

Low Voltage electric distribution

Prisma Plus System P

Cubicles up to 3200 A

Catalogue
2008



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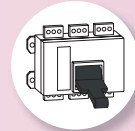
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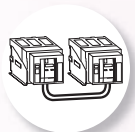
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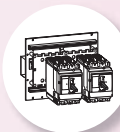
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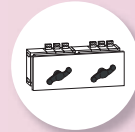
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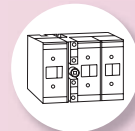
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Fupact ISFL



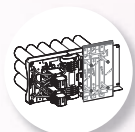
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Fupact ISFT



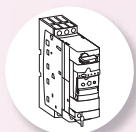
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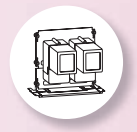
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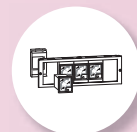
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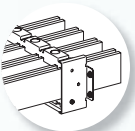
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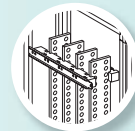
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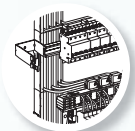
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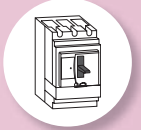
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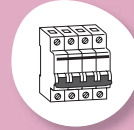
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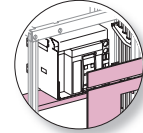
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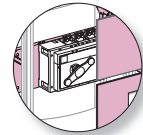
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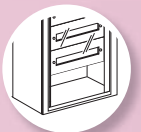
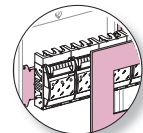
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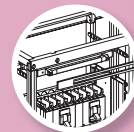
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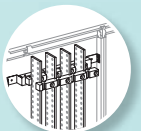
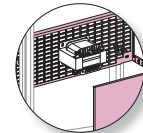
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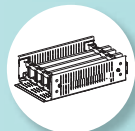
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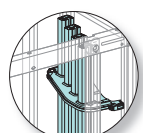
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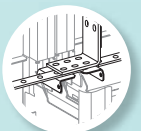
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Main distribution



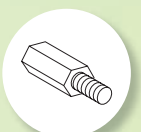
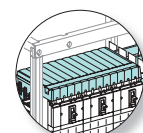
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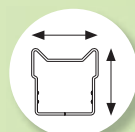
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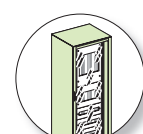
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08774	4 cable tie supports, W=400mm	A-12, A-17, B-55	14884	24-module comb busbar (9 mm modules) 4P	A-40
08776	4 cable tie supports, W=650mm	B-55	14891	Two 48-module comb busbars (9 mm modules) 1P	A-40
08778	4 cable tie supports, W=800mm	B-55	14892	Two 48-module comb busbars (9 mm modules) 2P	A-40
08783	Form C cable-tie support L 1600	B-56	14893	Two 48-module comb busbars (9 mm modules) 3P	A-40
08794	4 cable tie supports, D=400mm	A-12, A-17, B-55	14894	Two 48-module comb busbars (9 mm modules) 4P	A-40
08796	4 cable tie supports, D=600mm	A-12, A-17, B-55			
08900	Switchboard identification plate	C-24			
08903	12 adhesive label holders, H=24mm, W=432mm	C-24			

Our answers
to your
needs

System G



■ Small companies, etc.

630 A



■ Buildings
■ Offices
■ Residential, etc.



■ Laboratories
■ Healthcare centres, etc.



■ Shopping centres
■ Supermarkets
■ Malls, etc.

Pack enclosures

160 A



■ Schools
■ Hotels, etc.

System P

3200 A



- Hospitals
- Internet data centres, etc.



- Food industry
- Deary, etc.



- Bottling factories
- Packaging factories
- Automobile factories, etc.



- Logistics centres, etc.



Prisma Plus electrical switchboards

Prisma Plus - a comprehensive range of cubicles



PD391237

Prisma Plus - a tried and tested modular system

A dependable electrical installation

The total compatibility of Schneider devices with the Prisma Plus system is a key advantage in ensuring a high level of installation dependability. System design has been validated by type tests as per standard IEC 60439-1 and benefits from the combined experience of Schneider customers over many years.

An upgradeable electrical installation

Thanks to modular design, Prisma Plus switchboards can be modified easily to integrate new functions as needed.

Maintenance operations, carried out with the switchboard de-energised, are fast and straight-forward due to easy access to devices.

Total safety for personnel

Work in a Prisma Plus switchboard is risk-free when carried out by qualified persons in compliance with all applicable safety regulations.

Devices are installed behind protective front plates and only the operating handles are accessible.

Additional internal separations protect against direct contact with live parts. Terminal shields are mandatory for installation of Compact NSX and Interpact INS/INV devices in Prisma Plus enclosures.

Prisma Plus electrical switchboards

PD000180



IP30/31/55 cubicles

- Applications:
 - indoor cubicles for main or subdistribution low-voltage switchboards for commercial and industrial applications
 - supplied in kit form, can be combined side-by-side and back-to-back
 - rated operational current: 3200 A
- degree of protection:
 - IP30: with IP30 cover panels including a door or a cover frame
 - IP31: with IP30 cover panels including a door + gasket
 - IP55: with IP55 cover panels
- degree of protection against mechanical impacts:
 - IK07 with cover frame
 - IK08 (with IP30 door)
 - IK10 with IP55 door
- framework dimensions:
 - four widths:
 - W = 300: cable compartment
 - W = 400: cable compartment or device compartment
 - W = 650: device compartment or cable compartment
 - W = 800: device compartment with busbar compartment or cable compartment
 - two depths: 400, 600 mm
 - height: 2000 mm.

Electrical switchboards up to 3200 A

The Prisma Plus functional system

PD301238



The Prisma Plus functional system can be used for all types of low-voltage distribution switchboards (main, subdistribution and final) up to 3200 A, in commercial and industrial environments.

Switchboard design is very simple.

A metal structure

The switchboard is made up of one or more frameworks combined side-by-side or back-to-back, on which a complete selection of cover panels and doors can be mounted.

A distribution system

Horizontal busbars or vertical busbars positioned in a lateral compartment or at the rear of the cubicle are used to distribute electricity throughout the switchboard.

Complete functional units

Each device is part of a functional unit comprising:

- a dedicated mounting plate for device installation
- a front plate to block direct access to live parts
- prefabricated busbar connections
- devices for on-site connections.

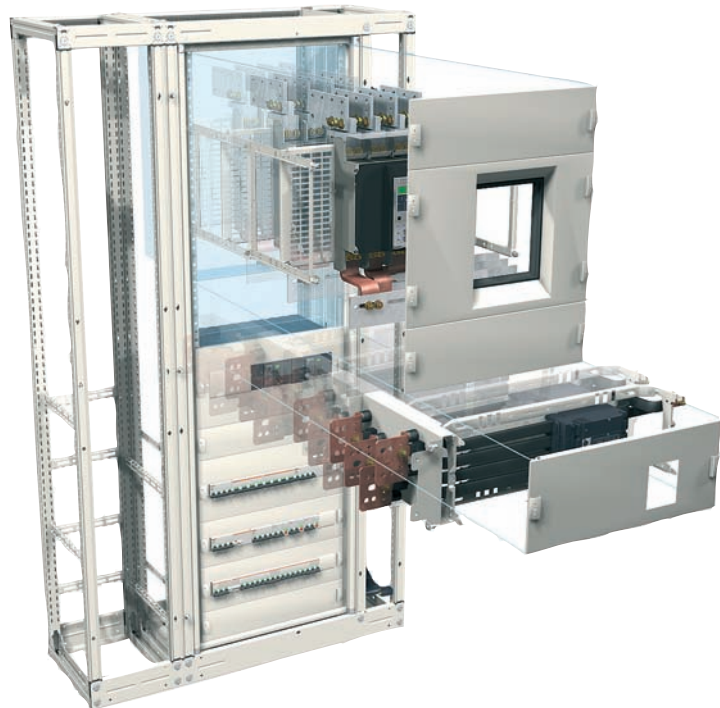
Each functional unit contributes to a function in the switchboard.

The functional units are modular and are arranged rationally, one on top of another, within the enclosure.

The system includes everything required for functional unit mounting, supply and on-site connection.

The components of the Prisma Plus system and those of the functional units in particular have been designed and tested taking into account device characteristics. This design approach ensures a high degree of reliability in system operation and optimum safety for personnel.

PD300150



Functional units are arranged rationally, one on top of another.

Electrical switchboards up to 3200 A

Prisma Plus enclosures



- steel sheet metal
- electrophoresis treatment + hot-polymerised polyester epoxy powder, white colour RAL 9001.
- can be dismantled
- can be combined side-by-side and back-to-back
- degree of protection:
 - IP30: with IP30 cover panels including a door or a cover frame
 - IP31 : with IP30 cover panels including a door + gasket
 - IP55: with IP55 cover panels
- degree of protection against mechanical impacts:
 - IK07: with cover frame
 - IK08: with IP30 door
 - IK10: with IP55 door
- framework dimensions:
 - four widths:
 - W = 300: cable compartment
 - W = 400: cable compartment or device compartment
 - W = 650: device compartment or cable compartment
 - W = 800: device compartment with busbar compartment or cable compartment
 - two depths: 400, 600 mm
 - height: 2000 mm
- indoor cubicles.

Advantages of Prisma Plus switchboards

A dependable electrical installation

The total compatibility of Schneider devices with the Prisma Plus system is a key advantage in ensuring a high level of installation dependability. System design has been validated by type tests as per standard IEC 60439-1 and benefits from the combined experience of Schneider customers over many years.

An upgradeable electrical installation

Thanks to modular design, Prisma Plus switchboards can be modified easily to integrate new functional units as needed. Maintenance operations, carried out with the switchboard de-energised, are fast and straight-forward due to easy access to devices.

Total safety for personnel

Work in a switchboard must be carried out by authorised persons in compliance with all applicable safety regulations.

To increase the safety of personnel, devices are installed behind protective front plates; only the operating handles are accessible. Additional internal protection (partitions, barriers) is available to create form 2, 3 or 4 separation to protect against direct contacts with live parts.

Terminal shields are mandatory for installation of Compact NSX and INS/INV devices in Prisma Plus enclosures.

Electrical switchboards built using the Prisma Plus functional system and Schneider recommendations fully comply with international standard IEC 60439-1.

Electrical characteristics

Use of the components in the Prisma Plus functional system ensures the creation of switchboards complying with standards IEC 50298, EN 50298, IEC 60439-1 and EN 60439-1, as well as local versions with the following electrical characteristics:

- rated insulation level of main busbars: 1000 V
- rated operational current I_e : 3200 A
- rated peak withstand current I_{pk} : 187 kA
- rated short-time withstand current I_{cw} : 85 kA rms / 1 second
- frequency: 50/60 Hz.

Examples of switchboard configurations

Incomer

Compact NSX1000 4P

Fixed, front connection
Toggle
Supply via cables

PD391288

Distribution

Lineryg busbars

Outgoing devices

Compact NSX250

Horizontal
Fixed, front connection
Toggle

Supply Prefabricated connection
Connection Transferred to cable compartment, W = 300 mm

Compact NSX250

Vertical
Fixed, front connection
Toggle

Supply Polypact distribution block
Connection Direct via cables

Multi 9 devices

Supply 80 A Multiclip
200 A Multiclip
Comb busbars

Cable running Cable straps
Trunking

Connection Terminal block in the cable compartment, W = 300 mm



Enclosure

Cubicle for devices W = 800 mm
D = 400 mm

Cable compartment W = 300 mm
D = 400 mm

PD391172



Fixed Compact NS1000, front connected with cables.

PD390382



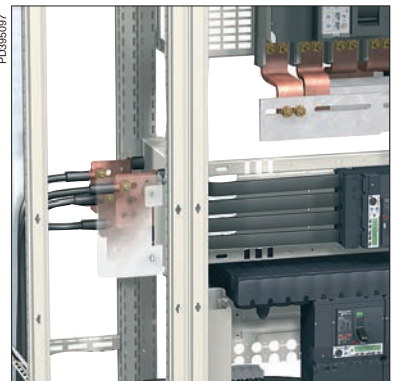
Prefabricated connection between an incoming device and Linergy busbars.

PD390383



Prefabricated connection between Linergy busbars and an NS250.

PD390507



Connection transfer assembly for connection in a cable compartment.

Examples of switchboard configurations

PD391385



PD391259



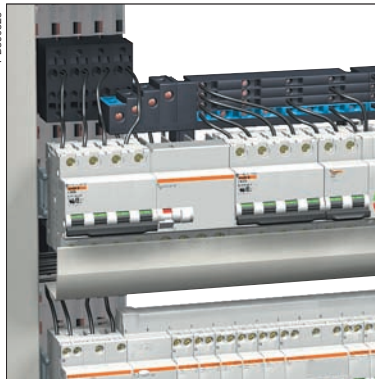
Two vertically mounted Compact NSX250 devices supplied by a Polypact.

PD391300



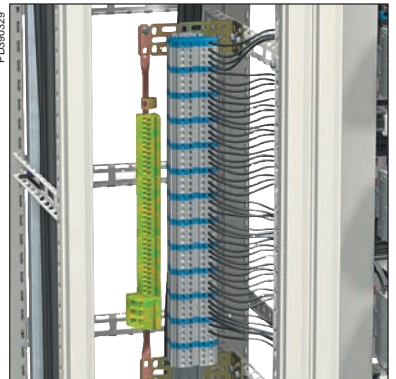
Supply of a row of Multi 9 devices by a 200 A Multiclip.

PD391328



A device supplying a group of outgoing via an 80 A Multiclip.

PD391329



Terminal block for Multi 9 devices in the cable compartment.

Examples of switchboard configurations

Incomer

Compact NSX630 4P

Fixed, front connection
Motor mechanism
Direct supply via cables

PD380388

Distribution

Powerclip busbars

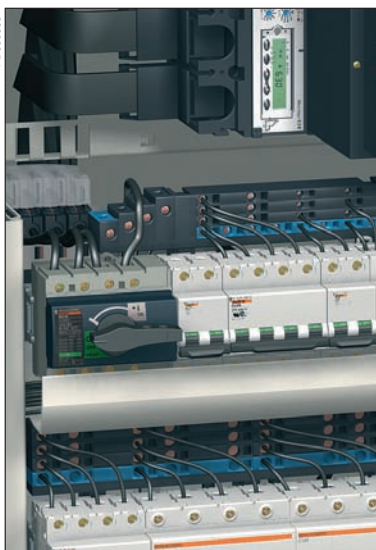
Outgoing devices

Multi 9 devices

Supply	80 A Multiclip 200 A Multiclip Comb busbars
Cable running	Cable straps Trunking
Connection	Terminal block + earth bar at bottom of the switchboard

Enclosure

Cubicle, W = 650 mm, D = 400 mm



PD380389



PD380563

Examples of switchboard configurations

PD380384



Examples of switchboard configurations

Incomer

Compact NS1000 4P

Fixed, front connection
Toggle
Supply via Canalis

Distribution

Lineryg busbars

Outgoing devices

Compact NSX250

Horizontal
Fixed, front connection
Toggle

Supply Prefabricated connection
Connection Transferred to cable compartment, W = 300 mm

Compact NSX400

Horizontal
Fixed, front connection
Toggle

Supply Prefabricated connection
Connection Transferred to cable compartment, W = 300 mm

Multi 9 devices

Supply Comb busbars
Cable running Cable straps
Trunking
Connection Terminal block at bottom of cubicle

Motor protection devices

Supply Comb busbars
Cable running Cable straps
Trunking
Connection Terminal block in the cable compartment, W = 300 mm

Enclosure

Cubicle for devices W = 800/650 mm
D = 400 mm
Cable compartment W = 300 mm
D = 400 mm

PD380388



PD380389



Examples of switchboard configurations

Incomer	
Masterpact NT1000 3P	
Drawout, front connection	
Supply via Canalis	

Distribution	
Linergy busbars	

Outgoing devices	
Compact NSX250	
Vertical	
Fixed, front connection	
Toggle	
Supply	Polypact distribution block
Connection	Direct via cables

Compact NSX250	
Horizontal	
Fixed, front connection	
Toggle	
Supply	Prefabricated connection
Connection	Transferred to cable compartment, W = 400 mm

Compact NSX400	
Horizontal	
Fixed, front connection	
Toggle	
Supply	Prefabricated connection
Connection	Transferred to cable compartment, W = 400 mm

Multi 9 devices	
Supply	80 A Multiclip Comb busbars
Cable running	Cable straps Trunking
Connection	Terminal block in the cable compartment, W = 300 mm

Motor protection devices	
Supply	Comb busbars
Cable running	Cable straps Trunking
Connection	Terminal block in the cable compartment, W = 300 mm

Enclosure	
Cubicle for devices	W = 800/650 mm D = 400 mm
Cable compartment	W = 300/400 mm D = 400 mm

PD381301

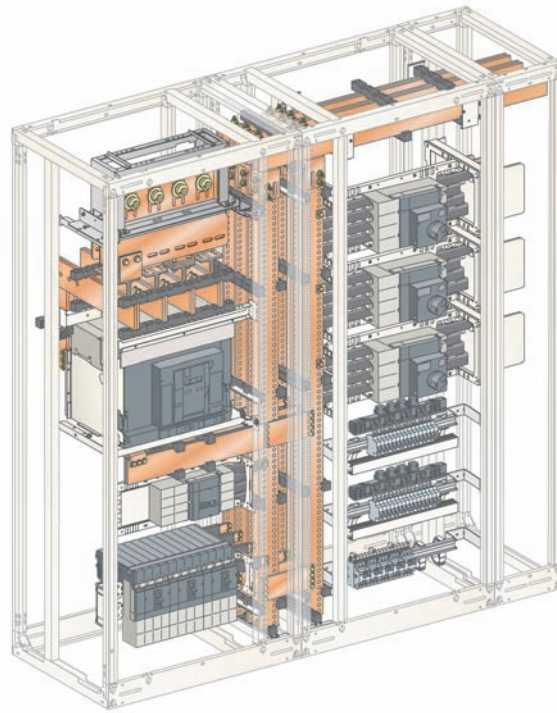


PD380407



Examples of switchboard configurations

DD383729



Incomer

Masterpact NW20 4P

Drawout
 Upstream terminals: vertical rear connection
 Downstream terminals: front connection
 Supply via Canalis from the top

Distribution

Double vertical flat 10 mm busbars
 Horizontal flat 10 mm busbars

Enclosure

Cubicle for devices	W = 800/800 mm D = 600 mm
Cable compartment	W = 300 mm D = 600 mm

Outgoing devices

Compact NSX

Horizontal
 Fixed, front connection
 Toggle

Supply	Flexible bars
Connection	Direct via cables

Compact NSX250

Vertical
 Fixed, front connection
 Toggle

Supply	Polypact distribution block
Connection	Direct via cables

Compact NSX400

Horizontal
 Fixed, front connection
 Rotary handle

Supply	Flexible bars
Connection	Transferred to cable compartment, W = 300 mm

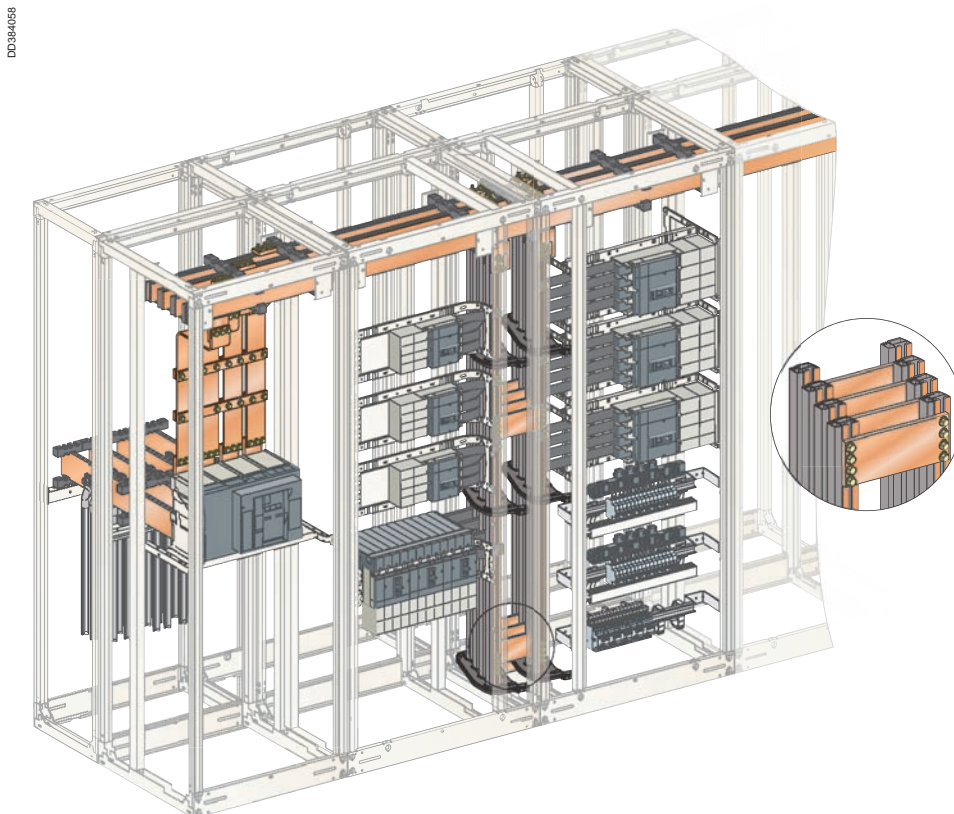
Multi 9 devices

Supply	200 A Multiclip
Cable running	Trunking
Connection	Terminal block in the cable compartment, W = 300 mm

Motor protection devices

Supply	Comb busbars
Cable running	Cable straps

Examples of switchboard configurations

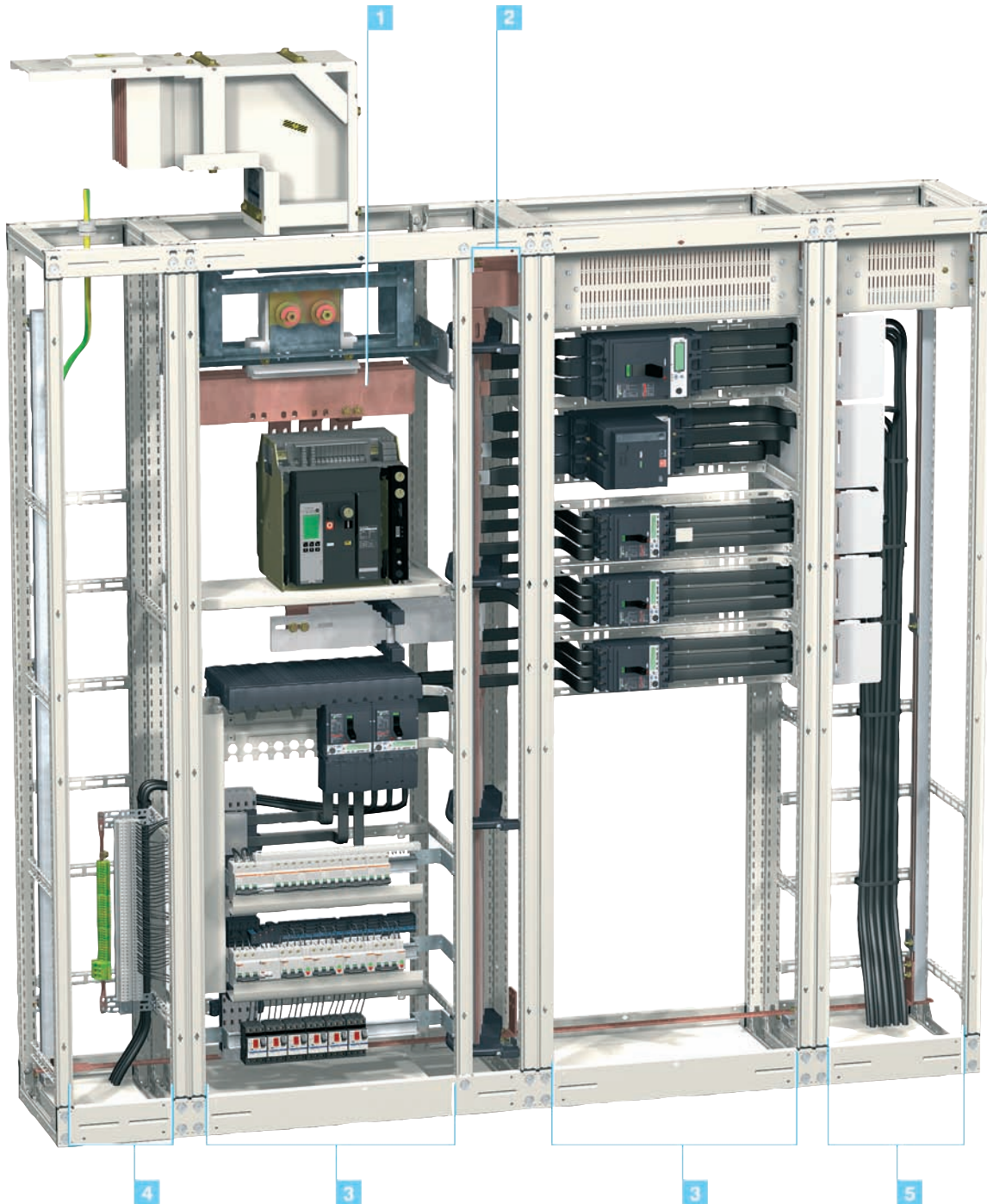


Incomer	
Masterpact NW32 4P	
Fixed	
Upstream terminals: front connection	
Downstream terminals: vertical rear connection	
Supply via cables from the bottom	
Distribution	
Vertical Linergy busbars	
Double horizontal flat 10 mm busbars	
Enclosure	
Cubicle for devices	W = 800/800 mm D = 1000 mm

Outgoing devices	
Compact NSX250	
Vertical	
Fixed, rear connection	
Toggle	
Supply	Polypact distribution block
Connection	Direct via cables
Compact NSX250	
Horizontal	
Fixed, rear connection	
Toggle	
Supply	Prefabricated connection
Connection	Direct via cables
Compact NSX400	
Horizontal	
Fixed, rear connection	
Toggle	
Supply	Prefabricated connection
Connection	Direct via cables
Multi 9 devices	
Supply	200 A Multiclip
Cable running	Trunking
Motor protection devices	
Supply	Comb busbars
Cable running	Cable straps

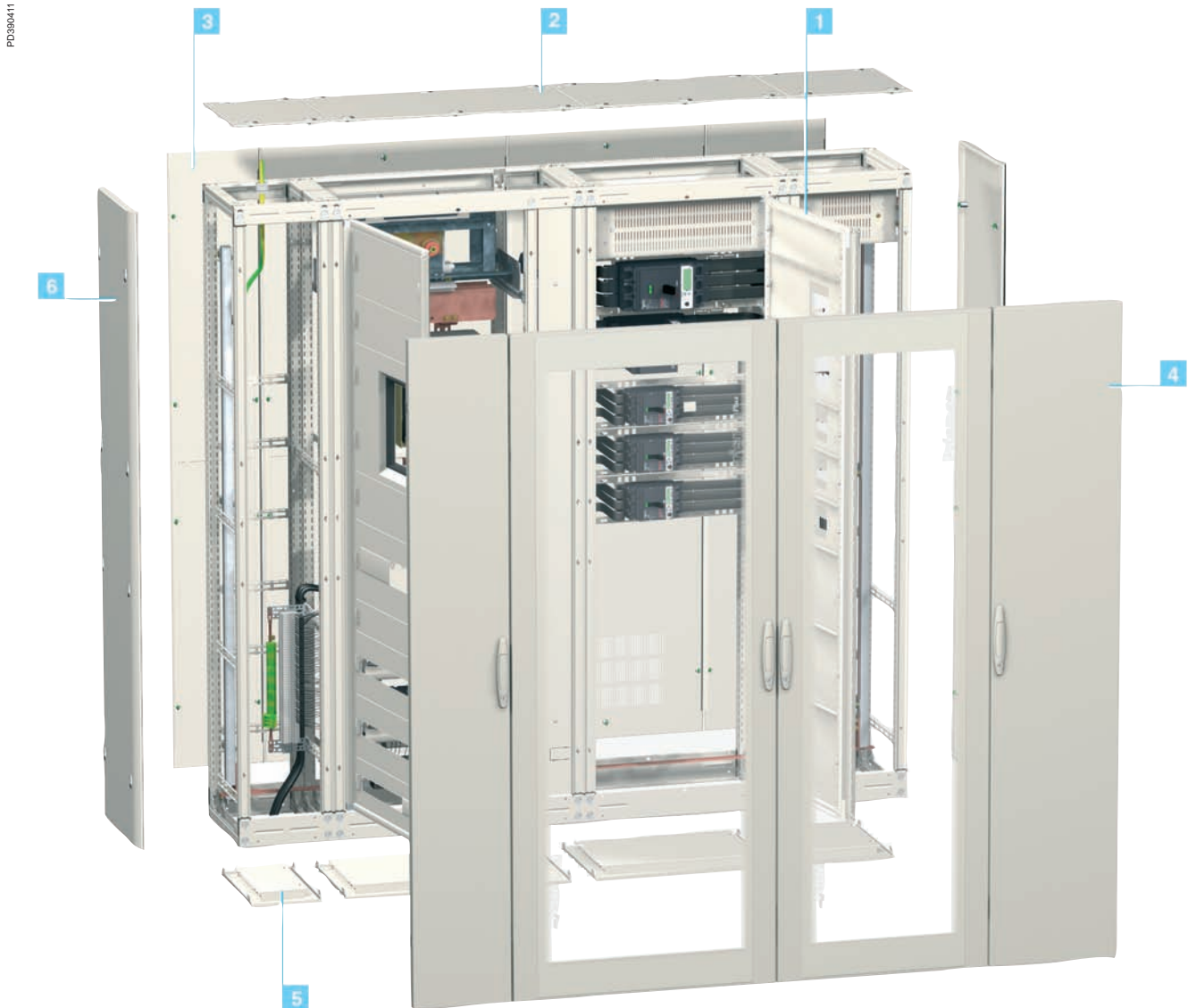
The functions of an electrical switchboard

PD391302



1	Incoming function Connection via Canalis	See page A-9
2	Distribution function Linergy busbars in busbar compartment, W = 150 mm Horizontal busbars	See page B-6 See page B-4
	Powerclip busbars	See page B-40
3	Device compartment, W = 650 mm	See page C-18
4	Connection compartment, W = 300 mm	See page C-18
5	Connection compartment, W = 400 mm	See page C-18

The functions of an electrical switchboard



1	Hinged front plate support frame	See page C-14
2	Roof	See page C-15
3	Rear panels	See page C-15
4	Front doors	See page C-14
5	Gland plates	See page C-18
6	Side panels	See page C-15



IEC international standards

IEC member countries

Argentina	Luxemburg
Australia	Malaysia
Austria	Mexico
Belarus	Netherlands
Belgium	New Zealand
Brazil	Norway
Bulgaria	Pakistan
Canada	Poland
China	Portugal
Croatia	Rumania
Czech Rep.	Russia
Denmark	Singapore
Egypt	Slovakia
Finland	Slovenia
France	South Africa
Germany	Spain
Greece	Sweden
Hungary	Switzerland
India	Thailand
Indonesia	Turkey
Iran	Ukraine
Ireland	United Kingdom
Israel	United States
Italy	Yugoslavia
Japan	
Korea (Rep. of)	

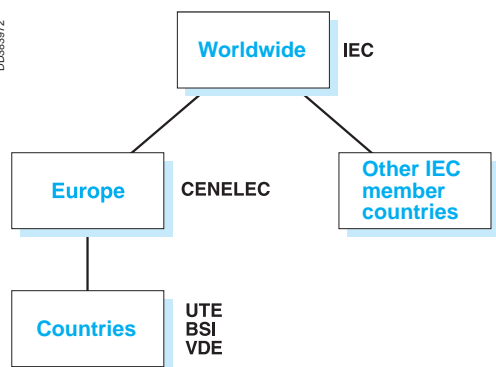
The IEC (International Electrotechnical Commission) is a worldwide organisation for standardisation comprising all national electrotechnical committees (IEC National Committees).

The object of the IEC is to promote international cooperation on all questions concerning standardisation in the electrical and electronic fields.

To that end, the IEC publishes International Standards.

Their preparation is entrusted to technical committees and any IEC National Committee interested in the subject dealt with may participate in the preparatory work.

National standards



In Europe

The IEC documents are first studied by CENELEC, which establishes:

- either a European standard (EN), often identical to the IEC standard, which then becomes the applicable national standard in all the member countries
- or, in the event of differences, a harmonisation document (HD).

Other IEC member countries

Each country is autonomous and can accept the IEC standard as the national standard, with or without modifications.

Even though they are IEC members, countries such as Japan and the United States continue to develop their own standardisation systems.

Countries without a standardisation system

It is possible to refer to an IEC standard in the framework of a project.

CEI / IEC

Commission Electrotechnique Internationale

CENELEC

Comité Européen de Normalisation ELECTrotechnique

UTE

Union Technique de l'Électricité

VDE

Verband der Elektrotechnik, Elektronik und Informationstechnik

e.v. (German electrotechnical, electronics and computer technology standardisation organisation)

BSI

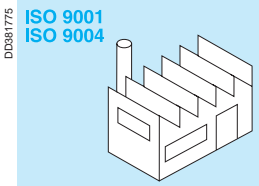
British Standards Institution



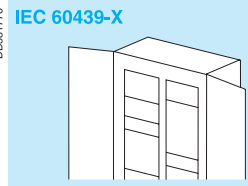
The different types of standards

There are different types of standards, including:

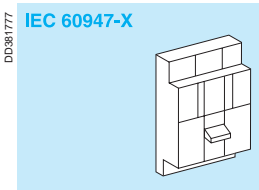
- management standards
- installation standards
- product standards.



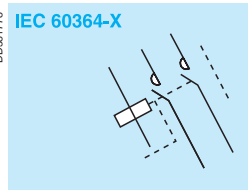
Design and manufacture.



Switchgear and controlgear assemblies.



Switchgear and controlgear.



Installation.

Management standards

ISO 9004: Quality-management systems - guidelines for performance improvements. Used in setting up a quality-management system.

ISO 9001: Quality management systems - requirements. Used for certification audits.

ISO 14004: Environmental-management systems. General guidelines on the principles, systems and supporting techniques.

ISO 14001: Environmental-management systems. Specification with guidance for use

The majority of Schneider Electric development centres and factories are certified ISO 9001 and ISO 14001.

Installation standards

The set of IEC 60364-X standards defines the main principles and rules on:

- determining general characteristics of installations
- protection
- selection and installation of equipment
- verification and maintenance of installations.

Product standards

They apply to devices or assemblies and are aimed at ensuring correct operation and safety of the concerned products.

■ standards on low-voltage switchgear and controlgear:

- IEC 60947-1 : general rules
- IEC 60947-2 : circuit breakers
- IEC 60947-3 : switches and disconnectors
- IEC 60947-4 : contactors
- IEC 62208 / EN 50298: empty enclosures.

■ standards on low-voltage switchgear and controlgear assemblies:

- IEC 60439-1: general rules
- IEC 60439-2: busbar trunking systems
- IEC 60439-3: distribution boards
- IEC 60439-4: assemblies on construction sites
- IEC 60439-5: power distribution in networks.

Regulations in a given country may make certain standards legally binding and may also create additional safety requirements.

In addition to providing proof of the conformity of its quality-management system, a product manufacturer can demonstrate the quality of products by providing proof that the design and manufacture comply with the requirements in the applicable standard.

Proof of conformity may be a declaration by the manufacturer or a certificate supplied by an independent organisation.



Standards

Enclosure standards

Standards IEC 62208 and EN 50298 lay down definitions, classifications, characteristics and test requirements for enclosures used for switchgear and controlgear assemblies.

They apply to empty enclosures before installation of the devices by the panelbuilder, as supplied by the manufacturer.

They apply to one-piece enclosures and to enclosures supplied in kit form.

Type tests of standard EN 50298

- 1 - Static load
- 2 - Hoisting
- 3 - Axial loads of metal inserts
- 4 - IK code
- 5 - IP code
- 6 - Thermal stability
- 7 - Resistance to heat
- 8 - Resistance to abnormal heat and to fire
- 9 - Dielectric strength
- 10 - Protective-circuit continuity
- 11 - Weather resistance
- 12 - Corrosion resistance
- 13 - Marking

CE marking

CE marking is a regulatory symbol attributed under the sole responsibility of the manufacturer and intended for the verification authorities of the European countries that enforce the European regulations.

It allows free circulation of a product in the European Union and certifies that it complies with the basic requirements in all the applicable European directives.

CE marking is not a quality symbol and does not indicate conformity with a standard

The CE declaration is intended exclusively for the authorities in charge of verifying compliance with the applicable regulations and it is drafted, signed and held for presentation to the authorities by the manufacturer.

For the Prisma Plus range, the declaration is the responsibility of the Schneider Electric unit that has designed and developed the product.

For LV switchboards, the declaration is the responsibility of the panelbuilder.

The following products receive CE marking:

- all products that are liable to endanger the safety of persons, animals and property (LV directive)
- all products likely to emit electromagnetic disturbances above a standardised threshold or to be disturbed during operation (EMC directive).

Consequences:

- the Prisma Plus range falls under the LV directive only
- LV switchboards are covered by the LV directive and may also fall under the EMC directive, depending on the type of devices incorporated.



For the Prisma Plus range, CE marking is applied:

- on the packing of "mechanical" components
- on the product itself for "electrical" components.

For the LV assemblies created by the panelbuilder, CE marking is applied:

- on the packing
- on the rating plate (if applicable)
- on one of the documents accompanying the switchboard when it is shipped.



Degree of protection

Standard IEC 60364-5-51 lists and codifies a large number of external influences to which electrical installations can be subjected, including the presence of water, solid objects, shocks, vibrations, corrosive substances, etc.

IP code

Standard IEC 60529 (IP code, February 2001) indicates the degrees of protection provided by an enclosure for electrical devices against access to hazardous parts, against penetration of solid foreign objects and against penetration of water.

These standards do not apply for the protection against the risks of explosion or conditions such a humidity, corrosive vapour, fungus or vermin.

The IP code is made up of two characteristic numerals and can include an additional letter when the actual protection for persons against access to the hazardous parts is better than that indicated by the first numeral.

The first numeral characterises the protection provided against the ingress of solid foreign objects and the protection of persons.

The second numeral characterises the protection provided against the ingress of water with harmful effects.

1 st numeral		2 nd numeral		
Protection of persons		Protection against ingress of solid objects		
1	Protected against access with back of hand DD381959 Ø50 mm	Protection against solid foreign objects larger than 50 mm DD381959 Ø50 mm	1	Protected against vertically dripping water (condensation) DD381966 DD381966
2	Protected against access with a finger DD381960 Ø12 mm	Protection against solid foreign objects larger than 12.5 mm DD381963 Ø12,5 mm	2	Protected against dripping water up to 15° from vertical DD381967 15° DD381967
3	Protected against access with a tool DD381961 Ø2,5 mm	Protection against solid foreign objects larger than 2.5 mm DD381961 Ø2,5 mm	3	Protected against spraying water up to 60° from vertical DD381968 60° DD381968
4	Protected against access with a wire DD381962 Ø1 mm	Protection against solid foreign objects larger than 1 mm DD381962 Ø1 mm	4	Protected against splashing water from all directions DD381969 DD381969
5	Protected against access with a wire DD381962 Ø1 mm	Protected against dust (dust protected) DD381964 DD381964	5	Protected against water jets from all directions DD381970 DD381970
6	Protected against access with a wire DD381962 Ø1 mm	Dust tight DD381965 DD381965	6	Protected against powerful water jets from all directions DD381971 DD381971
			7	Protected against the effects of temporary immersion in water DD381972 DD381972
			8	Protected against the effects of continuous immersion in water DD381973 DD381973



Standards

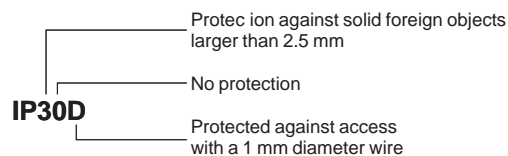
Additional letter

The additional letter is used only if the actual protection of persons is higher than that indicated by the first characteristic numeral of the IP code.

Additional letter	Protection
A	Protected against access with back of hand
B	Protected against access with a 12 mm diameter finger
C	Protected against access with a 2.5 mm diameter tool
D	Protected against access with a 1 mm diameter wire

If only the protection of persons is of interest, the two characteristic numerals are replaced by the letter "X", e.g. IPXXB.

Illustration of the above explanations:



Remarks

- The degree of protection IP must always be read and understood numeral by numeral and not as a whole. For example, an IP31 wall-mount enclosure is suitable for an environment that requires a minimum degree of protection IP21. However an IP30 wall-mount enclosure is not suitable.
- the degrees of protection indicated in this catalogue are valid for the enclosures as presented. However, the indicated degree of protection is guaranteed only when installation and device mounting are carried out in accordance with professional standards that conserve the initial degree of protection.

IK code

Standard IEC 62262 defines an IK code characterising the capacity of products to resist mechanical impacts from all sides.

IK code	Impact energy (joules)
01	0.14
02	0.2
03	0.35
04	0.5
05	0.7
06	1
07	2
08	5
09	10
10	20

IK codes can be selected according to the risks of impacts on a given site.

	Site	Recommended IK
No risk of major impact	Technical premises	07
Significant risk of impact that can damage devices	Hallways	08 (switchboard with door)
Maximum risk of impact that can damage the switchboard	Workshops	10



Prisma Plus tested switchboards

A switchboard must comply with the requirements of standard IEC 60439-1 to guarantee the safety and reliability of the installation.

Managers of installations, fully aware of the professional and legal liabilities weighing on their company and on themselves, demand a high level of safety for the electrical installation.

What is more, the serious economic consequences of prolonged halts in production mean that the electrical switchboard must provide excellent continuity of service, whatever the operating conditions.

The Schneider Electric solution

- specify switchboards that comply with standard IEC 60439-1
- guarantee a level of safety that has been 100% tested, from the day the switchboard is installed and throughout its service life
- ensure a lasting investment through easy upgrading of the installation in compliance with the standard
- guarantee that the switchboard complies with the technical specifications.

Prisma Plus tested switchboards

The conformity of the switchboard has been tested and proven.

A Prisma Plus switchboard is:

- made up of Schneider Electric low-voltage devices and components that all comply with the applicable standards
- based on configurations in our catalogue
- made up of Prisma Plus mechanical and electrical components that have been subjected to the seven "type" tests required by the standard
- mounted and wired by a pane builder in compliance with professional standards
- subjected to the three routine tests required by the standard.

Schneider Electric makes available to the pane builder everything required to create tested Prisma Plus switchboards, including the basic configurations in the low-voltage distribution catalogue, all the documentation for switchboard design and mounting, calculation and design software, etc.

Pane builders can demonstrate conformity with standard IEC 60439-1 by presenting the declarations or certificates of conformity for type tests carried out by independent laboratories (ASEFA, ASTA, KEMA, etc.) and supplied by Schneider Electric. The panelbuilder is responsible for the three routine tests and delivers the corresponding declarations of conformity.

DD210448



Certificat de conformité / certificate of conformity n°020-04BT

délivré à / issued to : SCHNEIDER ELECTRIC INDUSTRIES SAS
89, boulevard Franklin Roosevelt
92500 RUEIL MALMAISON
FRANCE

pour le matériel / for the apparatus : Ensemble basse tension / low-voltage assembly
référence / reference : LINERGY Busbar – PRISMA PLUS System P
(insèques commerciales / trade marks : MERLIN GERIN – SQUARE D – TELEMECANIQUE)

constructeur / manufacturer : SCHNEIDER ELECTRIC SA

selon le(s) référentiel(s) / according to standard(s) :
IEC 60439-1 (1999), tenue au court-circuit du circuit principal / short-circuit withstand strength of main circuit (§ 8.2.3)

caractéristiques assignées / rated characteristics :

Tension d'isolement / insulation voltage	: 1000 V
Tension d'emploi / Operational voltage	: 1500 V
Fréquence / Frequency	: 50/60 Hz
Courant / current	: 630 A à 1800 A pour barres simples/ for single bars 2000 A à 3200 A pour barres doubles/ for double bars
Courant de courte durée (I _{sc}) / Short-time withstand current (I _{sc})	: 25 kA / 15 kA à 85 kA / 51 kA (3-phase/1-phase)
Courant de crête admissible / Peak withstand current	: 52.5 kA / 30 kA à 187 kA / 112.2 kA (3-phase/1-phase)

document(s) pris en compte (s) / relevant document(s) :
Rapport(s) d'essai / Test report(s) : PD1.03.16

Ce certificat ne s'applique qu'à l'échantillon soumis à l'essai de type / This certificate applies only to the sample submitted to the type test.

Fontenay-aux-Roses, Le 1^{er} / on : 2004-03-08 Le Président de l'ASEFA / The chairman of ASEFA,


I. HELLER

Le titulaire de ce certificat est responsable des données fournies et de la validité permanente de l'essai / The holder of this certificate is responsible for the data and the continuous validity of the test.

33, av. de général de Gaulle
92200 Fontenay-aux-Roses - France
tel. 01 40 69 62 34
tel. 01 40 69 61 16
e-mail : asefa@scs.fr





The object of standard IEC 60439-1 is to lay down the definitions and to state the service conditions, construction requirements, technical characteristics and tests for low-voltage switchgear and controlgear assemblies ($U < 1000 \text{ V}$). All elements making up the electrical switchboard are concerned.

Note. The standard defines a low-voltage assembly (the electrical switchboard) as "a combination of one or more low-voltage switching devices together with associated control, measuring, signalling, protective, regulating equipment, etc., completely assembled under the responsibility of the manufacturer with all the internal electrical and mechanical inter-connections and structural parts".

Standard IEC 60439-1 defines ten mandatory tests

- 7 type tests carried out on typical configurations
 - no. 1 - temperature rise limits
 - no. 2 - dielectric properties
 - no. 3 - short-circuit withstand strength
 - no. 4 - effectiveness of the protective circuit
 - no. 5 - clearances and creepage distances
 - no. 6 - mechanical operation
 - no. 7 - degree of protection.
- 3 routine tests carried out on the finished switchboard (their purpose is to check that the characteristics validated by the type tests were not altered during manufacturing operations):
 - no. 8 - wiring and electrical operation
 - no. 9 - insulation/dielectric test
 - no. 10 - protective measures.



7 type tests

1 - Temperature-rise limits

Each device is loaded to its rated current, multiplied by the diversity factor. Once the temperature has stabilised, the temperature rise must not exceed the permissible temperatures for materials or risk causing burns:

- 70 K for terminals for external insulated conductors
- 15 K or 25 K, according to material type, for manual operating means
- 30 K or 40 K for accessible external enclosures and covers.

2 - Dielectric properties

The test voltage is applied between all live parts and the interconnected exposed conductive parts, as well as between each pole and all the other poles connected for this test to the interconnected exposed conductive parts.

- 3500 V for a rated insulation voltage of 1000 V for busbars in cubicles and rear busbars in enclosures
- 750 V for a rated insulation voltage of 3000 V according to the type of busbars in the enclosure
- 500 V for a rated insulation voltage of 2500 V according to the type of busbars in the enclosure
- test duration: 1 minute.

3 - Short-circuit withstand strength

In the event of a short-circuit, whether inside or outside the switchboard, the latter must handle the resulting constraints (temperature rise, attraction or repulsion forces exerted on conductors, etc.).

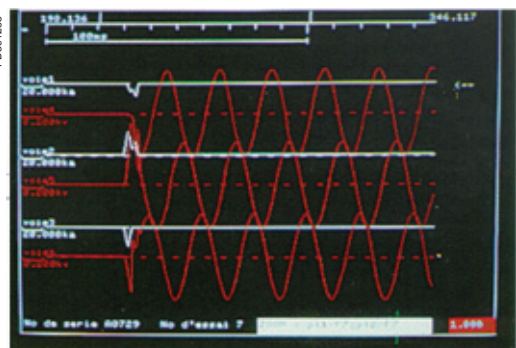
The capacity to handle the constraints is above all the means to avoid danger (rupture and projection of components, electric arcs and their propagation outside the switchboard).

However, it is also the means to ensure a rapid return to operation after the incident. Maximum rated short-time current obtained on the busbars: $I_{cw} 85 \text{ kA rms/1 s}$.

4 - Effectiveness of the protective circuit

The effectiveness of the protective circuit is verified by two tests :

- short-circuit withstand test carried out between the protective conductor and the nearest phase conductor
 - resistance measurement of the connection between the exposed conductive parts and the protective circuit.
- Result: 51 kA rms.



Short-circuit withstand strength.



5 - Clearance and creepage distances

The minimum clearance in air depends on the rated impulse withstand voltage and the degree of pollution in the switchboard.

The minimum creepage distance depends on the rated insulation voltage, the degree of pollution and the material group of the insulating material separating the live parts.

The tests carried out on typical Prisma Plus configurations, equipped with standard main busbars, confirm compliance with minimum clearances and creepage distances for a voltage of 1000V, degree of pollution 3 and material group IIIa:

- minimum clearance: 14 mm
- minimum creepage distance: 16 mm.

6 - Mechanical operation

The mechanical operation test is carried out on an assembled switchboard.

The standard requires that 50 operating cycles be carried out.

Verification of locking mechanisms are included in this range of tests.

For Prisma Plus:

- After 50 operating cycles, the interlocking mechanisms and other moving parts of the switchboard conserve their initial properties
- Certain more solicited moving parts (door handles, hinges, etc.) have been subjected to 10000 operating cycles with success.

7 - Degree of protection

The tests carried out define the capacity of an equipped switchboard to :

- protect persons against contact with live parts
- protect equipment against penetration of solid objects and liquids.

Results of tests confirm the characteristics of Prisma Plus switchboards: IP30 to IP55 and IK7 to IK10 depending on the configuration.



Degree of protection.

3 routine tests

The 3 routine tests must be carried out by the pane builder. They are fast and easy:

- inspection of the assembly according to the mounting instructions and technical documents (right device ratings, tightening torques, etc.)
- insulation checking by a dielectric test
- checking of protective measures and of the electrical continuity of the protective circuit.

They supplement the manufacturer type tests and guarantee the professionalism and responsibility of the panelbuilder.

Schneider Electric supplies a full range of tools for assistance in carrying out these tests:

- quality inspection guide
- installation guide
- assembly guides.

8 - Wiring and electrical operation

This test includes:

- Checking of conformity with:
 - drawings, part lists and diagrams
 - cabling (power and auxiliary connection)
 - wiring quality (cross-sectional areas of conductors, crimping, etc.)
 - marking of cables and devices.
- Visual inspection of :
 - degree of protection (presence of canopy, gaskets and front plates and absence of open cut-outs, holes, etc.) and creepage distances and clearances for connections and busbars
 - technical data document : diagrams, characteristics (voltage, current, system earthing arrangement, Isc, IP, switchboard dimensions and weights, etc.), name of the manufacturer, project number, etc.
- Mechanical and/or electrical functioning test :
 - check of wiring and most sensitive parts of the switchboard (mechanical control components, mechanical and electrical interlocks, relays, measurement and monitoring systems, etc.)

The design of Prisma Plus switchboards, based on functional units, ensures conformity to this test.



Prisma Plus tested switchboards

9 - Insulation resistance and dielectric test

To carry out either of these tests:

- all electrical equipment must be connected (except those apparatus which are designed for a lower test voltage)
- the test voltage must be applied:
 - between each pole and the interconnected exposed conductive parts
 - between each pole of the main circuit and the other poles
 - between each auxiliary control circuit and the main circuit and the exposed conductive parts
 - between the power side and the withdrawable part of a switchgear in disconnected position.

Insulation test: insulation measurement using an insulation measuring device at a voltage of at least 500V (e.g. Megger type tester). The test is passed if there is no puncture or disruptive discharge between the different tested parts

Dielectric test: for a rated operational voltage of 240/400 V, the dielectric test voltage of 2500 V must be applied during 1 s. The test is passed if the insulation resistance between circuits and exposed conductive parts is at least 1000 Ohms/V.



10 - Protective measures

This test involves checking the electrical continuity of the protective circuit connecting the various metal assemblies.

The presence of barriers protecting against direct and indirect contact with live parts must be checked and the following points must be inspected visually:

- the presence of earthing wires on the doors
- the presence of the PE conductor and contact washers on all metal assemblies.

Once the tests have been completed, the following operations must be carried out :

- clean the inside of the switchboard
- check that the switchboard identification markings are present
- check the outside appearance (scratches, paintwork, etc.)
- prepare the reports.

The first report must list any missing components or equipment that will be shipped separately from the switchboard.

The second report must indicate any problems detected during testing and the corrective action required.

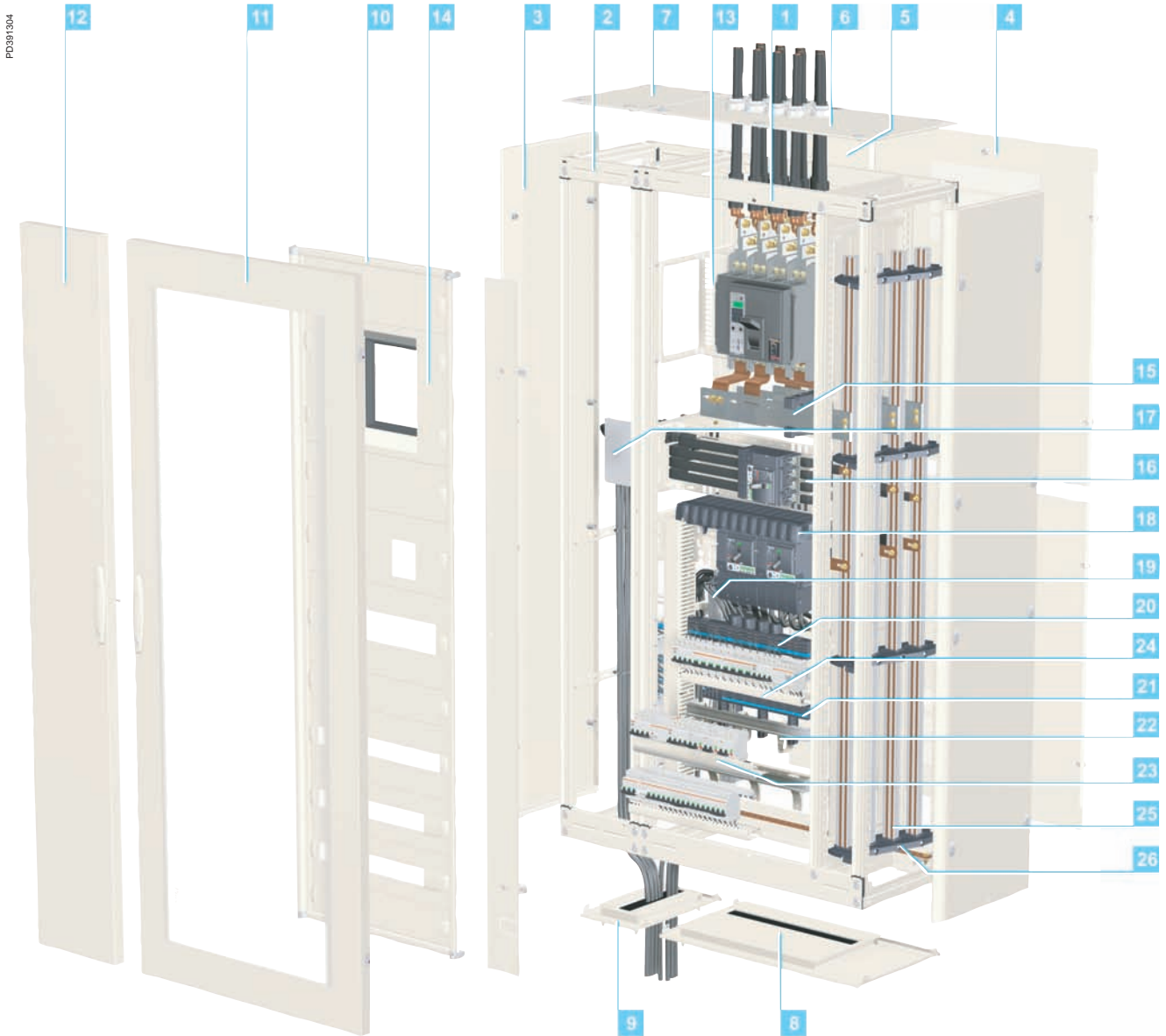
A test report (available from the panelbuilder) certifies that all the tests have been carried out.

client	n° d'affaire	n° de cde
contrôle effectué par	signatures	I.Q.
matériel	date	

opérations de contrôle	repères/tables/cellules	essais effectués par I.Q.
conformité appareillage BT		
sens d'enroulement et repous	T.C. T.P.	
fonctionnement individuel	commande protection signalisation contage chauffage mesure	
fonctionnement général	assez-voisement automatisme	
circuit de puissance	calibre serrage	
circuit secondaire	calibre serrage	
circuit de terre		
verrière de signalisation		
connexions - serrages		
repréage filaire + appareils		
essais diélectriques BT		
présence de tension		
dérangement		
interchangeabilité		
continuité des masses		
diagr. de protection		
verrouillage général		
synoptique		
plaques indicatrices		
présentation, aspect		
documents de référence	spécifications générales schéma unifilaire n° plan d'implantation et face avant n° schéma développé n°	



Typical configuration with catalogue numbers



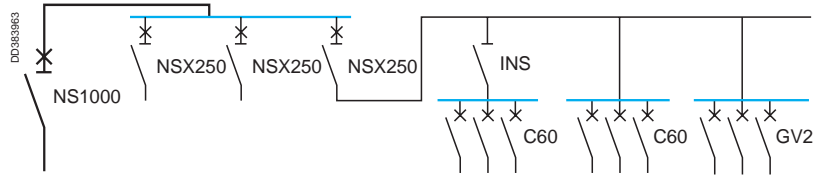
PD391304

1	Framework, W = 800, D = 400	08407	See page C-12	14	Front plate for vertical NS630b/1600	03690	See page A-14
2	Framework, W = 300, D = 400	08403	See page C-12	15	Connection for fixed NS630b/1250, 4P	04486	See page A-14
3	Side panel, D = 400	08750	See page C-15	16	Connection for horizontal NS250	04424	See page A-22
4	Rear panel, W = 800	08738	See page C-15	17	Connection transfer assembly for NS250	04426	See page A-22
5	Rear panel, W = 300	08733	See page C-15	18	Polypact for 4P fixed NS250 devices with toggles	04404	See page A-23
6	Roof, W = 800, D = 400	08438	See page C-15	19	Powerclip busbars, 250 A, 4P, L = 1000	04122	See page B-41
7	Roof, W = 300, D = 400	08433	See page C-15	20	200 A Multiclip, 4P	04014	See page B-51
8	IP30 gland plate, W = 800, D = 400	08497	See page C-18	21	80 A Multiclip, 4P	04004	See page B-50
9	IP30 gland plate, W = 300, D = 400	08493	See page C-18	22	12 horizontal cable straps	04239	See page B-69
10	Hinged front plate support frame	08566	See page C-12	23	4 covers for horizontal cable straps	04243	See page B-67
11	Transparent door, W = 800	08538	See page C-14	24	4 horizontal trunking sections, 60 x 30	04257	See page B-68
12	Plain door, W = 300	08513	See page C-14	25	1000 A Linergy busbars	04504	See page B-10
13	Mounting plate for vertical fixed NS630b/1600	03482	See page A-14	26	Linergy busbar supports	04651	See page B-11

P03091303

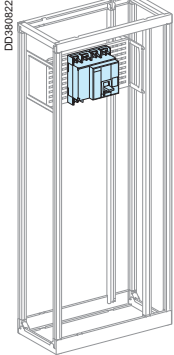


Starting with the electrical diagram: IP30 switchboard



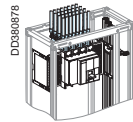
Install the incomer

see page A-13

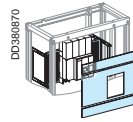


- Order:
- connection components
 - mounting plates and front plates
 - busbar connections.

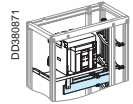
1 Front conn. using cables



2 Device installation



3 Linergy BB connection



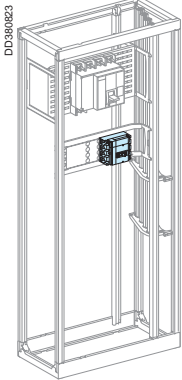
Device	Front conn.	Arc-chute cover	Vert. conn. adapters	Cable-lug adapters	Spacing rod	Cable cover
Fixed device						
NS630b/1000 3P	■	33596	33642			04851
4P	■	33597	33643			04851
NS1250/1600 3P	■	33596	33642	33644	04691	04851

Device	No of vert. mod	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Fixed device					
NS630b/1000 Cables front conn.	12	03482	03690	03802	03803
Canalis	17	03482	03690	03804 + 03803	03803

Device	Front connectors	Prefabricated connection	Capot for BB connectors
Fixed device			
NS630b/1250 3P	■	04485	04926
4P	■	04486	04926
NS1600 3P	■	04487	04926

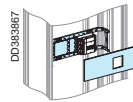
Install the Compact devices

see page A-22

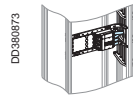


- Order:
- mounting plates and front plates
 - busbar connections
 - connection accessories.

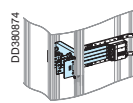
1 Installation



2 Linergy BB connection



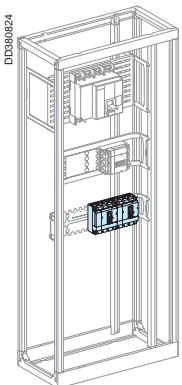
3 Connection



Device	No of vertical modules	Mounting plate	Cut-out front plate
Fixed Compact NSX and Vigicompact NSX			
NSX100/250 3P	3	03411	03611
4P	4	03412	03612

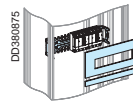
Device	Prefabricated connection
Fixed Compact NSX and Vigicompact NSX	
NSX100/250 3P	04423
4P	04424
NSX400/630 3P	04453
4P	04454

Device	Front connection		Rear connection
	Long terminal shields	or Connection transfer assembly	Short terminal shields
Fixed Compact NSX			
NSX100/250 3P	LV429517	04425	LV429515
4P	LV429518	04426	LV429516
NSX400/630 3P	LV432593	04455	LV432591

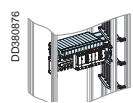


- Order:
- mounting plates and front plates
 - distribution block
 - connection accessories.

1 Installation



2 Linergy BB connection



3 Connection

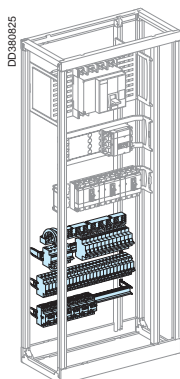


Device	No. of devices	No. of vertical modules (1)	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Fixed Compact NSX						
NSX100/160 3/4	6		03420	03243		03801
NSX250 3/4	7		03420	03243		03802

Device	No. of devices	Polycompact with connection
Fixed Compact NSX and Vigicompact NSX		
NSX100/250 4 x 3P		04403
3 x 4P		04404

Device	Front connection		Rear connection
	Long terminal shields		Short terminal shields
Fixed Compact NSX and Vigicompact NSX			
NSX100/250 3P	LV429517		LV429515
4P	LV429518		LV429516
NSX400/630 3P	LV432593		LV432591
4P	LV432594		LV432592

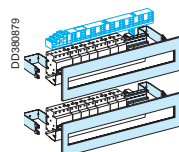
Install the modular devices



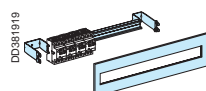
Order the mounting plates and front plates taking into account:

- supply to the rows
- cable running.

1 Multi 9 see page A-35



2 GV2 circuit breaker see page A-62



Device	No. of vertical modules	Modular rail	Modular front plate
All Multi 9 devices			
All supply systems (comb busbars, Multiclip) with cable straps and trunking sections	4	03401	03204
Multi 9 devices ≤ 40 A			
Connection via 63/80 A Multiclip or comb busbars with cable straps	3	03401	03203

Device	No. of vertical modules	Useful rail length	Modular rail	Cut-out front plate
GV2	3	432 mm	03401	03203
GV3	5	432 mm	03402	03205

- Multiclip distribution block, see page B-50
- cable running, see page B-66

Determine the size of the switchboard

- count the number of modules occupied
- determine the number of cubicles
- order the additional plain front plate.

32 modules

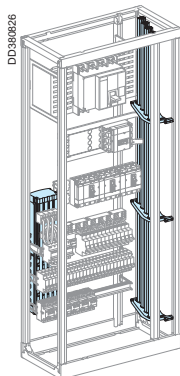
1 cubicle

Plain front plate
see page A-76

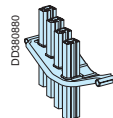
The capacity of a cubicle is 36 modules.

Device	Cat. no.
500 mm wide plain front plate	
1 module (H = 50 mm)	03801
2 modules (H = 100 mm)	03802
3 modules (H = 150 mm)	03803
4 modules (H = 200 mm)	03804
5 modules (H = 250 mm)	03805

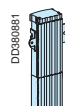
Plan the distribution system



1 Linergy busbars



2 Powerclip busbars see page B-41

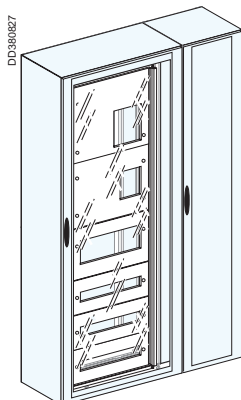


Permissible current (A)	Linergy busbars for switchboard		No. of supports l _{cw} (kA rms / 1 s)							
	IP ≤ 31	IP > 31	25	30	40	50	60	65	75	85
630	04502	04503								
800	04503	04504								
1000	04504		3							

Designation	Cat. no.
Busbar supports	04651

Designation	Powerclip busbars				
	160 A	250 A	400 A	630 A	
Three-pole	W = 1000 mm	04111	04112	04113	04114
	W = 1400 mm	04116	04117	04118	04119
Four-pole	W = 1000 mm	04121	04122	04123	04124
	W = 1400 mm	04126	04127	04128	04129

Select the enclosures



1 Frameworks

2 Hinged front plate support frame

3 Doors

4 Rear panels

5 Side panels

6 Rooves

7 Plinth, gland plates, finishing parts, etc.

Framework width	Cat. no.
W = 300 mm	08403
W = 400 mm	08404
W = 650 mm	08406
W = 800 mm	08408
W = 800 mm (650 + 150)	08407

Designation	Cat. no.
Hinged front plate support frame, W = 650 mm	08566

Designation	Cat. no.	
Transparent door	W = 650 mm	08536
	W = 800 mm	08538
Plain door	W = 300 mm	08513
	W = 400 mm	08514

Designation	Cat. no.	
Rear panel	W = 300 mm	08733
	W = 400 mm	08734
	W = 650 mm	08736
	W = 800 mm	08738

Designation	Cat. no.	
Set of two side panels	D = 400 mm	08750
	D = 600 mm	08760

Designation	Cat. no.	
IP30 roof, D = 400 mm	W = 300 mm	08433
	W = 800 mm	08438

TOOLS

schneider-electric.com

This international site allows you to access all the Schneider Electric products in just 2 clicks via comprehensive range data-sheets, with direct links to:

- complete library: technical documents, catalogs, FAQs, brochures...
- selection guides from the e-catalog.
- product discovery sites and their Flash animations.

You will also find illustrated overviews, news to which you can subscribe, the list of country contacts...



The technical guides

These technical guides help you comply with installation standards and rules i.e.: the electrical installation guide, the protection guide, the switchboard implementation guide, the technical booklets and the co-ordination tables all form genuine reference tools for the design of high performance electrical installations. For example, the LV protection co-ordination guide - discrimination and cascading - optimises choice of protection and connection devices while also increasing markedly continuity of supply in the installations.



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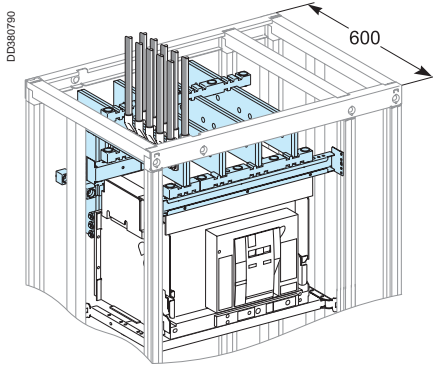
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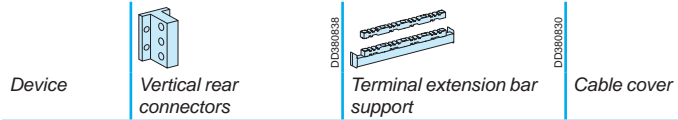


Circuit breakers

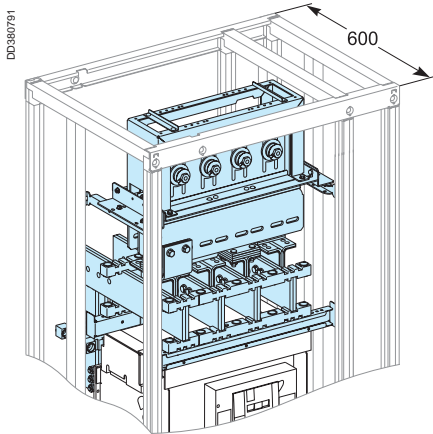
Front connection



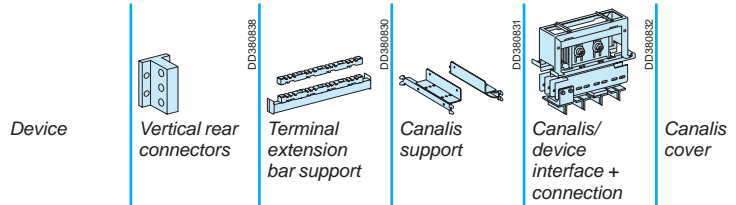
Cable connection



Fixed/drawout device			
NW08/32	■	04694 x 3	04861

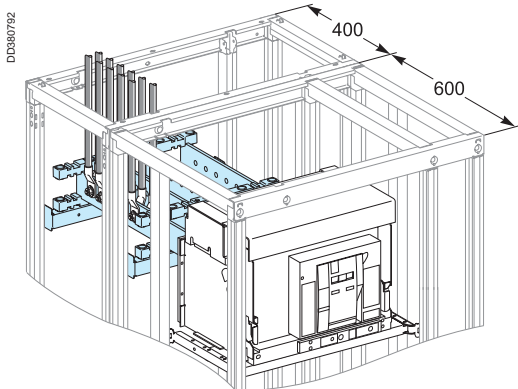


Canalis connection

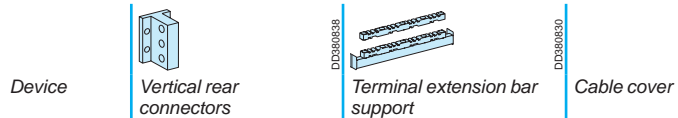


Fixed/drawout device						
NW08/16	3P	■	04694 x 3	03561	04715	04871 + 04861
	4P	■	04694 x 3	03561	04716	04871 + 04861
NW20/25	3P	■	04694 x 3	03561	04725	04871 + 04861
	4P	■	04694 x 3	03561	04726	04871 + 04861
NW32	3P	■	04694 x 3	03561	04735	04871 + 04861
	4P	■	04694 x 3	03561	04736	04871 + 04861

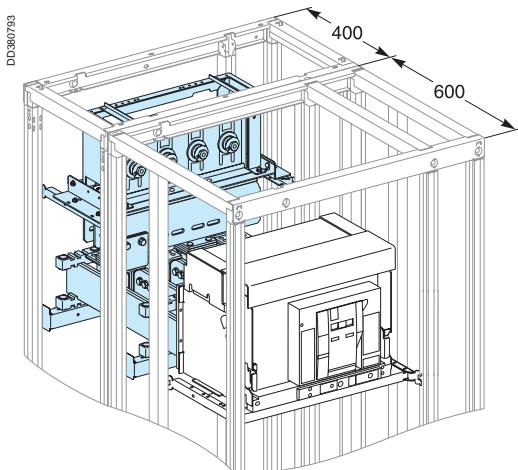
Rear connection



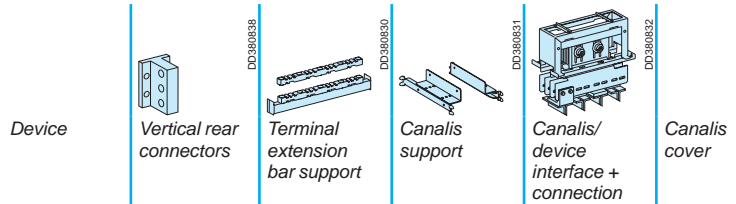
Cable connection



Fixed/drawout device			
NW08/32	■	04694 x 2	04863



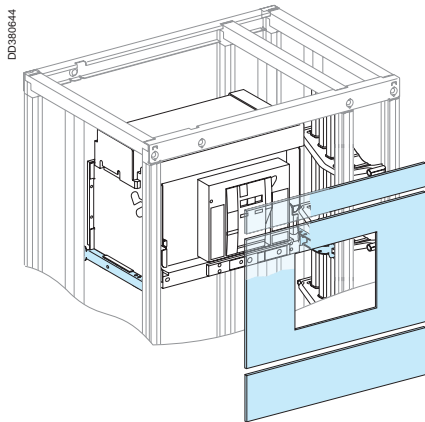
Canalis connection



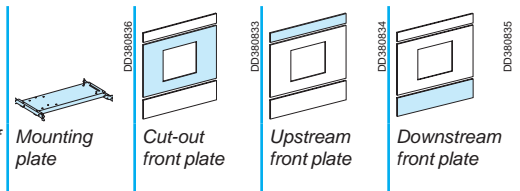
Fixed/drawout device						
NW08/16	3P	■	04694 x 2	03561	04715	04871 + 04863
	4P	■	04694 x 2	03561	04716	04871 + 04863
NW20/25	3P	■	04694 x 2	03561	04725	04871 + 04863
	4P	■	04694 x 2	03561	04726	04871 + 04863
NW32	3P	■	04694 x 2	03561	04735	04871 + 04863
	4P	■	04694 x 2	03561	04736	04871 + 04863

Circuit breakers

Device installation

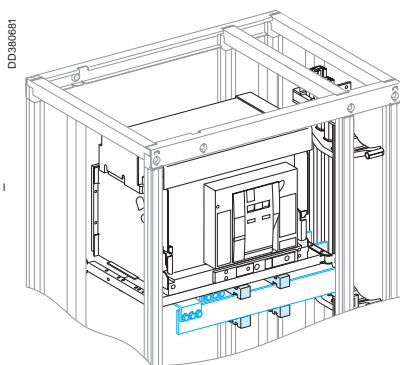


DD380644

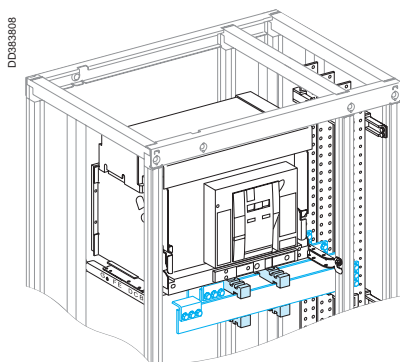


Device	No. of vert. mod.	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Fixed device					
NW08/16 front conn.	cables	18	03500	03711	03804
	Canalis	27	03500	03711	03805 + 03804 x 2
NW08/16 rear conn.	cables	14	03500	03711	03805
	Canalis	16	03500	03711	03804 + 03803
NW20/32 front conn.	cables	19	03500	03711	03805
	Canalis	28	03500	03711	03804 + 03805 x 2
NW20/32 rear conn.	cables	14	03500	03711	03805
	Canalis	16	03500	03711	03804 + 03803
Drawout device					
NW08/16 front conn.	cables	19	03500	03710	03804
	Canalis	27	03500	03710	03804 x 3
NW08/16 rear conn.	cables	15	03500	03710	03805
	Canalis	17	03500	03710	03804 + 03803
NW20/32 front conn.	cables	20	03500	03710	03805
	Canalis	28	03500	03710	03805 + 03804 x 2
NW20/32 rear conn.	cables	15	03500	03710	03805
	Canalis	17	03500	03710	03804 + 03803

Distribution

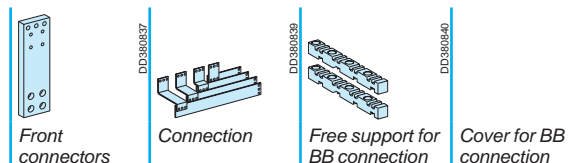


DD380681



DD383808

Flat or Linergy busbars



Device	Front connectors	Connection	Free support for BB connection	Cover for BB connection
Fixed/drawout device				
NW08/16	3P	■	must be made (2)	04662 x 2 (1) 04926 + 04927
	4P	■	must be made (2)	04662 x 2 (1) 04926 + 04927
NW20/32	3P	■	must be made (2)	04662 x 2 (1) 04926 + 04927
	4P	■	must be made (2)	04662 x 2 (1) 04926 + 04927

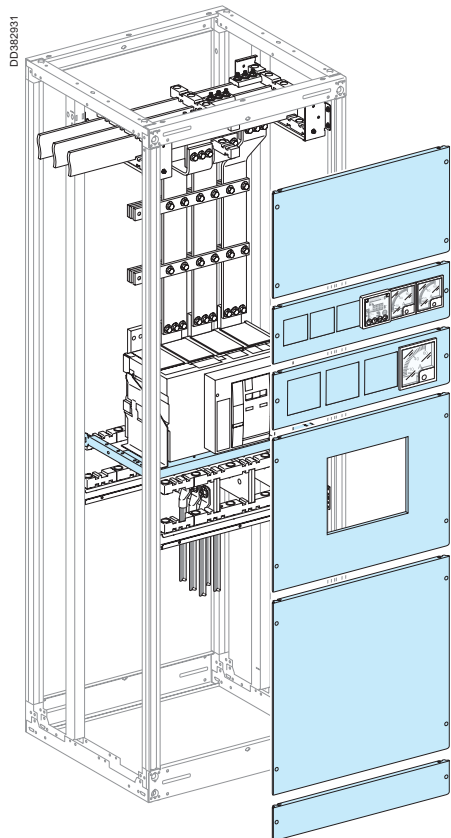
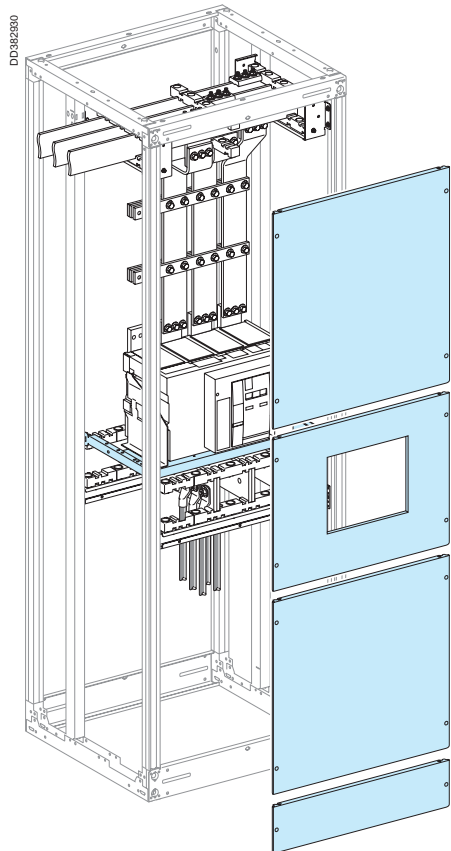
(1) For an $I_{cw} \geq 75$ kA rms, use three free supports (04662 x 3).
 (2) For the connection to flat busbars > 1600 A, order one joint per phase:
 □ 1 joint for busbars, $W = 50/60$ mm (04640)
 □ 1 joint for busbars, $W = 80/100$ mm (04641)

Note: To make measurements:
 ■ install the CTs preferably upstream, on the supply terminal extension bars
 ■ or install the CTs on the horizontal busbars (busbar connection). In this case, add one module and a plain front plate (03801)
 ■ or install a Micrologic control unit capable of displaying the values.

Selection of Linergy busbars: see page B-11.

Selection of flat busbars: see page B-18.

Device installation



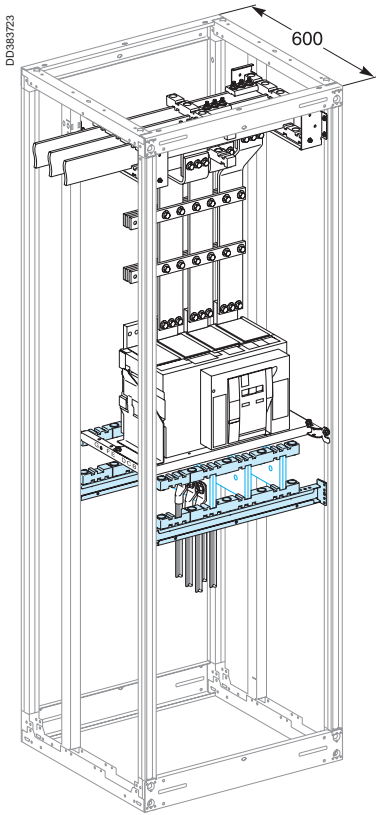
Device	No. of vertical modules	Mounting plate	Cut-out front plate	Upstream front plate ⁽¹⁾	Downstream front plate
Fixed device					
NW08/32	36	03500	03711	03808	03808 + 03803
Drawout device					
NW08/32	36	03500	03710	03808	03808 + 03802

(1) One or two 3-module front plates for 72 x 72 and 96 x 96 mm measurement devices can be installed just above the cut-out front plate:



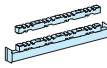

- 1 3-module front plate + 1 plain front plate 03807 (9 modules)
- 2 3-module front plates + 1 plain front plate 03806 (6 modules).

Human-switchboard interface, see page A-68.

Connection

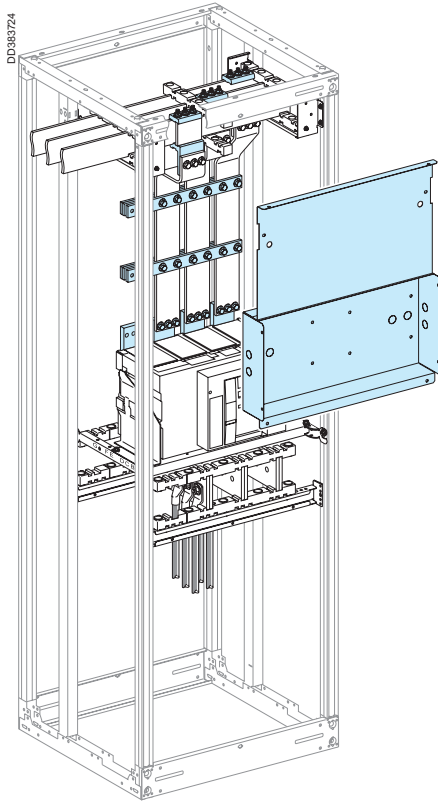


Bottom connection using cables

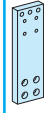
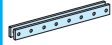


Device	 Vertical rear connection	 Terminal extension bars for connection	 Terminal extension bar supports	 Cable cover ⁽¹⁾
Fixed/drawout device				
NW08/32	■	must be made	04694 x 2	04861

(1) Form 1 cable cover, see page B-25.

Distribution



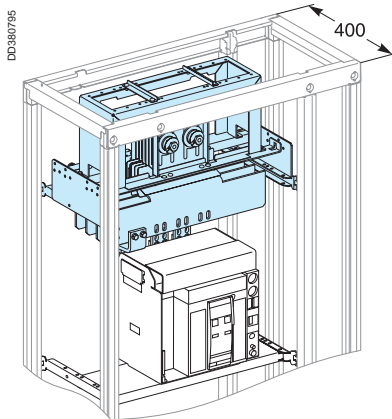
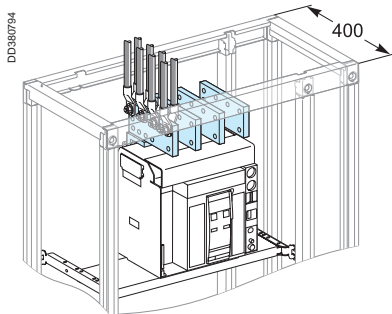
Connection to horizontal busbars

Device		 Front connection	 Spacing rods for flat bars	 Connection plates	 Busbar cover ⁽¹⁾
Fixed/drawout device					
NW08/25	3P/4P	■	04690 x 2	04637 ⁽²⁾ + must be made	04860
NW32	3P/4P	■	04690 x 2	04637 ⁽²⁾ + 04642 + must be made	04860

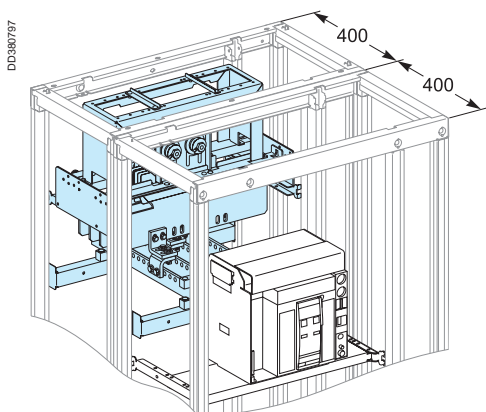
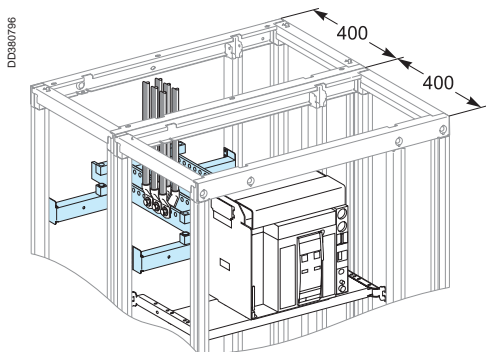
(1) The cover is compulsory behind front plates designed for measurement devices.

(2) Catalogue number 04637 includes 1 connection only. Order 1 connection per phase.







Front connection









Rear connection






Cable connection

Device	 DD380841	 DD380842	 DD380843	 DD380844	 DD380845	 DD380845
	Front conn.	Arc-chute cover	Vert. conn. adapters	Cable-lug adapters	Spacing rods	Cable cover
Fixed device						
NT06/10	3P	■	47335	33642		04852
	4P	■	47336	33643		04852
NT12/16	3P	■	47335	33642	33644	04691 04852
	4P	■	47336	33643	33645	04691 04852
Drawout device						
NT06/10	3P	■		33642		04852
	4P	■		33643		04852
NT12/16	3P	■		33642	33644	04691 04852
	4P	■		33643	33645	04691 04852







Canalis connection

Device	 DD380841	 DD380842	 DD380846	 DD380848	 DD380847	 DD380847
	Front conn.	Arc-chute cover	Canalis support	Canalis interfaces	Canalis/device connection	Canalis cover
Fixed device						
NT06/12	3P	■	47335	03561	04703	04711 04871 + 04852
	4P	■	47336	03561	04704	04712 04871 + 04852
Drawout device						
NT06/12	3P	■		03561	04703	04711 04871 + 04852
	4P	■		03561	04704	04712 04871 + 04852

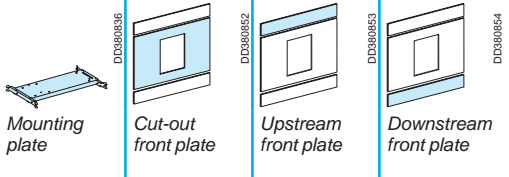
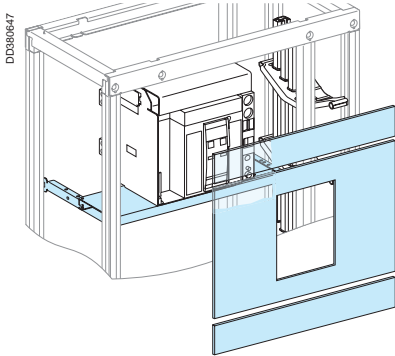
Cable connection

Device	 DD380849	 DD380850	 DD380850
	Vertical rear connectors	Terminal extension bar support	Cable cover
Fixed/drawout device			
NT06/16	■	04693 x 2	04854

Canalis connection

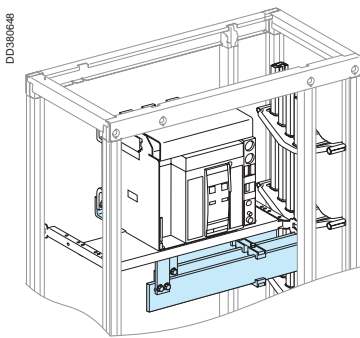
Device	 DD380849	 DD380850	 DD380846	 DD380848	 DD380847	 DD380847
	Vertical rear conn.	Terminal extension bar support	Canalis support	Canalis interfaces	Canalis/device connection	Canalis cover
Fixed/drawout device						
NT06/16	3P	■	04693 x 2	03561	04703	04713 04871 + 04854
	4P	■	04693 x 2	03561	04704	04714 04871 + 04854

Device installation

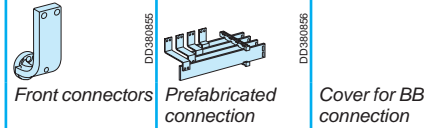


Device		No. of vert. mod.	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Fixed device						
NT06/10 front conn.	cables	12	03484	03692	03802	03803
	Canalis	17	03484	03692	03804 + 03803	03803
NT12 front conn.	cables	14	03484	03692	03804	03803
	Canalis	17	03484	03692	03804 + 03803	03803
NT16 front conn.	cables	14	03484	03692	03804	03803
NT06/16 rear conn.	cables	11	03484	03692	03801	03803
	Canalis	16	03484	03692	03806	03803
Drawout device						
NT06/10 front conn.	cables	13	03483	03691	03802	03803
	Canalis	18	03483	03691	03804 + 03803	03803
NT12 front conn.	cables	15	03483	03691	03804	03803
	Canalis	18	03483	03691	03804 + 03803	03803
NT16 front conn.	cables	15	03483	03691	03804	03803
NT06/16 rear conn.	cables	11	03483	03691		03803
	Canalis	16	03483	03691	03805	03803

Distribution



Linery busbars

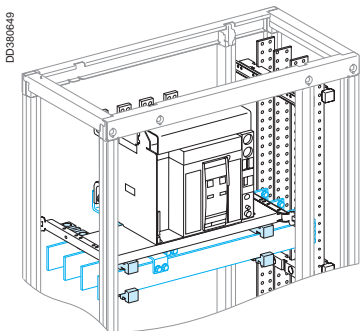


Device			Front connectors	Prefabricated connection	Cover for BB connection
Fixed device					
NT06/12	3P	■		04475	04926
	4P	■		04476	04926
NT16	3P	■		04489	04926
	4P	■		04490	04926
Drawout device					
NT06/12	3P	■		04477	04926
	4P	■		04478	04926
NT16	3P	■		04491	04926
	4P	■		04492	04926

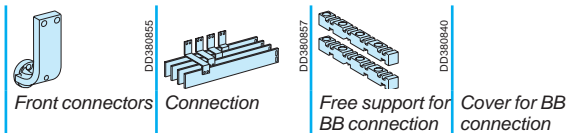
Note: To make measurements:

- install the CTs on the horizontal busbars (busbar connection); in this case, an additional module is required; add a plain front plate (03801)
- or install a Micrologic control unit capable of displaying the values.

Selection of Linery busbars: see page B-11.



Flat busbars



Device			Front connectors	Connection	Free support for BB connection	Cover for BB connection
Fixed device						
NT06/16		■		must be made	04662 x 2	04926
Drawout device						
NT06/16		■		must be made	04662 x 2	04926

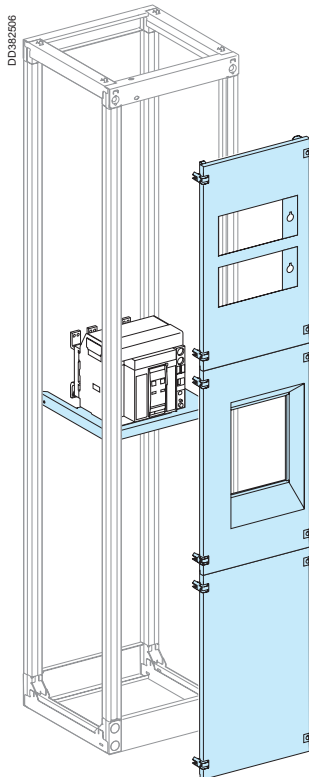
Note: To make measurements:

- install the CTs on the horizontal busbars (busbar connection); in this case, an additional module is required; add a plain front plate (03801)
- or install a Micrologic control unit capable of displaying the values.

Selection of flat busbars: see page B-18.

Masterpact NT06 to NT16 L400 dedicated cubicle 3P

Installation



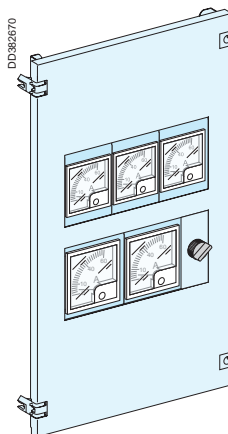
Device	No. of vertical modules	Mounting plate	Cut-out front plate	Upstream front plate ⁽¹⁾ cut-out for 72 x 72 mm or 96 x 96 mm meters	or plain	Downst. front plate ⁽¹⁾ plain
Designation						
Fixed Masterpact NT	36	03489	03698	03723	03722	03722
Drawout Masterpact NT	36	03488	03699	03723	03722	03722

(1) Hinged or reversible (left or right-hand opening) front plates connect directly to the framework, without a front-plate support frame.

Measurement-device installation

Measurement devices are installed on a front plate (03723) using plastic mounting plates with cut-outs. The front plate can hold:

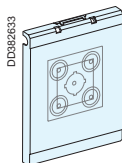
- six 72 x 72 mm cases
- or four 96 x 96 mm cases + 2 switches.



Installation of three devices (72 x 72 mm cases) using plastic mounting plates (03902) and two devices (96 x 96 mm cases) + a switch using plastic mounting plates (03903) on a hinged front plate (03723).

Cat. no. selection

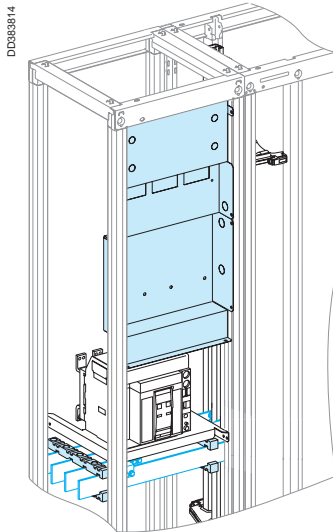
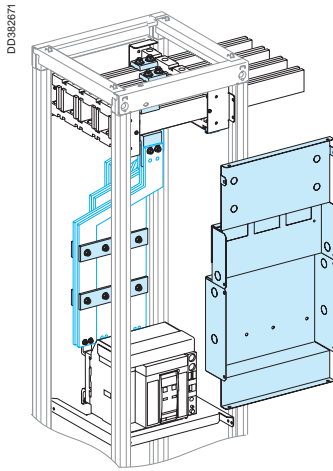
Designation		Cat. no.
Plastic mounting plate with cut-outs	for 72 x 72 mm devices	03902
	for 96 x 96 mm devices	03903
Plain plastic mounting plate (blinking plate)	for 72 x 72 mm holes	03900
	for 96 x 96 mm holes	03901



The plain mounting plates have knock-outs for lamps, pushbuttons, switches or devices. Knock-outs for 03900: 4 dia. 16 mm, 5 dia. 22 mm or one for a 45 x 45 mm device. Knock-outs for 03901: 4 dia. 16 mm, 5 dia. 22 mm or one for a 45 x 45 or 72 x 72 mm device.

Masterpact NT06 to NT16 L400 dedicated cubicle 3P

Distribution



Horizontal-busbar connections

Device	Front connect. DD382685	Flat busbars rods DD382688	Horizontal-busbar connections 60/80, 5 mm thick 50/60/80, 10 mm thick	Barrier ⁽¹⁾ DD382536
NT06/16	■	04692 x 2	must be made 10 mm thick	04636 ⁽²⁾ + connection must be made 10 mm thick

(1) A barrier must be installed behind front plate 03723 when measurement devices are installed.
(2) Catalogue number 04636 includes 1 connection only. Order 1 connection per phase.

Connection between device and horizontal busbars must be made by the customer.
Selection of copper bars for the connection: see page B-4.
Selection of horizontal busbars: see page B-4.

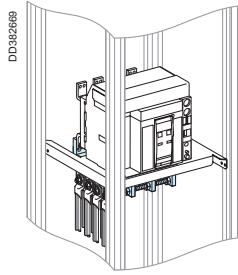
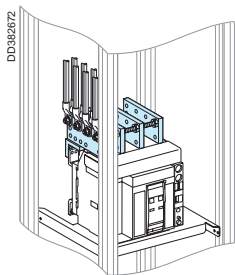
Connection to Linergy or flat busbars

Device	Front connect. DD382685	Free support DD382640	Connection DD382687	Barrier ⁽¹⁾ DD382515
NT06/16	■	04662	must be made	04855

(1) A barrier must be installed behind front plate 03723 when measurement devices are installed.

Connection between device and horizontal busbars must be made by the customer.
Selection of copper bars for the connection: see page B-4.
Selection of horizontal busbars: see page B-4.

Connection



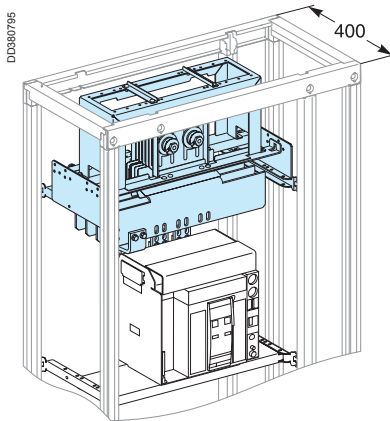
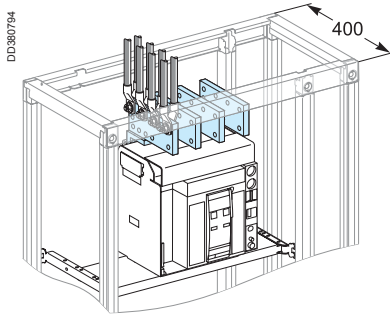
Front connection using cables

Device	Front connectors DD382685	Arc-chute cover DD382642	Vert. conn. adapters DD382645	Cable-lug adapters DD382644	Spacing rods DD382645
Fixed NT06/16	■	47335	33642	33644	04691
Drawout NT06/16	■		33642	33644	04691

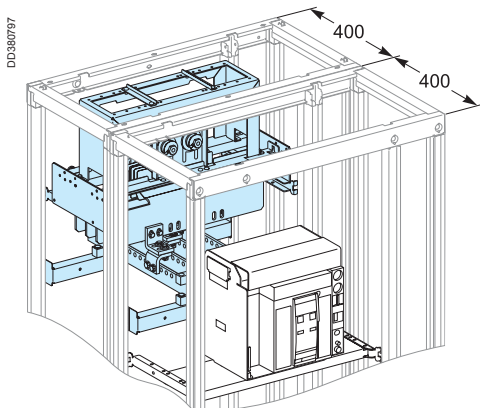
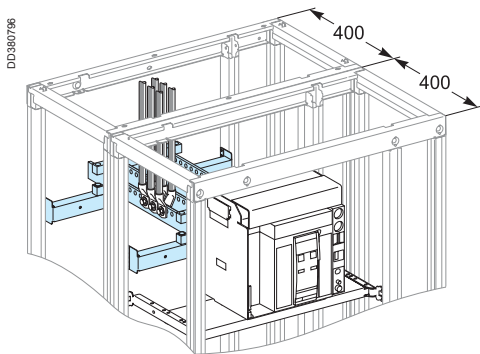
Accessories

DD382513	4 cable tie supports for a 400 mm wide framework	08774
	4 cable tie supports for a 400 mm deep framework	08794
	4 cable tie supports for a 600 mm deep framework	08794 + 08796
DD382514		08796
		08794

Front connection



Rear connection



Cable connection

Device	Front conn.	Arc-chute cover	Vert. conn. adapters	Cable-lug adapters	Spacing rods	Cable cover
Fixed device						
NS630b/1000 3P	■	33596	33642			04851
4P	■	33597	33643			04851
NS1250/1600 3P	■	33596	33642	33644	04691	04851
4P	■	33597	33643	33645	04691	04851
Drawout device						
NS630b/1000 3P	■		33642			04852
4P	■		33643			04852
NS1250/1600 3P	■		33642	33644	04691	04852
4P	■		33643	33645	04691	04852

Canalis connection

Device	Front conn.	Arc-chute cover	Canalis support	Canalis interfaces	Canalis/device connection	Canalis cover
Fixed device						
NS630b/1250 3P	■	33596	03561	04703	04711	04871 + 04851
4P	■	33597	03561	04704	04712	04871 + 04851
Drawout device						
NS630b/1250 3P	■		03561	04703	04711	04871 + 04852
4P	■		03561	04704	04712	04871 + 04852

Cable connection

Device	Vertical rear connectors	Terminal extension bar support	Cable cover
Fixed device			
NS630b/1600	■	04693 x 2	04853
Drawout device			
NS630b/1600	■	04693 x 2	04854

Canalis connection

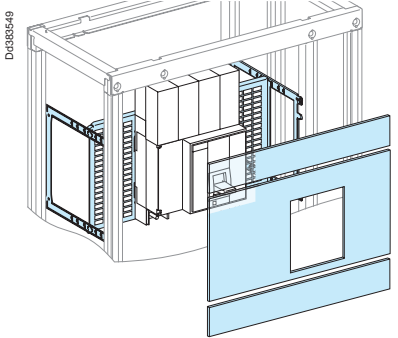
Device	Vert. rear conn.	Terminal extension bar support	Canalis support	Canalis interfaces	Canalis/device connection	Canalis cover
Fixed device						
NS630b/1600 3P	■	04693 x 2	03561	04703	04713	04871 + 04853
4P	■	04693 x 2	03561	04704	04714	04871 + 04853
Drawout device						
NS630b/1600 3P	■	04693 x 2	03561	04703	04713	04871 + 04854
4P	■	04693 x 2	03561	04704	04714	04871 + 04854

Compact NS630b to NS1600

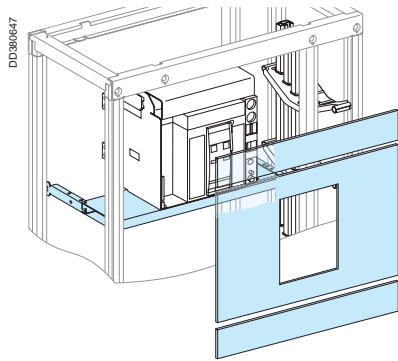
Vertical mounting

Toggle, rotary handle and motor mechanism

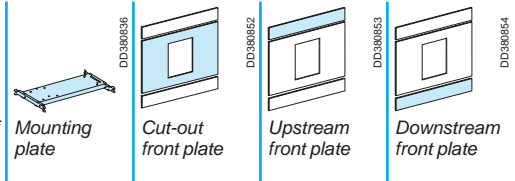
Device installation



Fixed Compact NS.

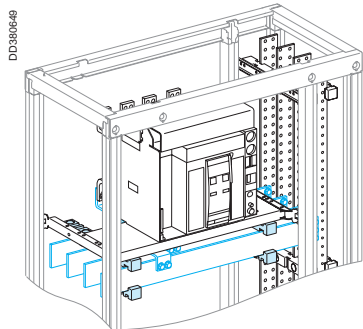
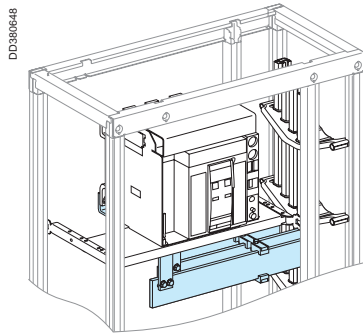


Withdrawable Compact NS.

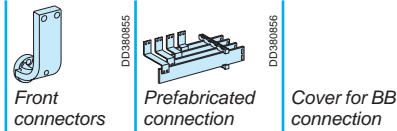


Device	No. of vert. mod.	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate	
Fixed device						
NS630b/1000 front conn.	cables	12	03482	03690	03802	03803
	Canalis	17	03482	03690	03804 + 03803	03803
NS1250 front conn.	cables	14	03482	03690	03804	03803
	Canalis	17	03482	03690	03804 + 03803	03803
NS1600 front conn.	cables	14	03482	03690	03804	03803
NS630b/1600 rear conn.	cables	10	03482	03690		03803
	Canalis	16	03482	03690	03806	03803
Drawout device						
NS630b/1000 front conn.	cables	13	03483	03691	03802	03803
	Canalis	18	03483	03691	03804 + 03803	03803
NS1250 front conn.	cables	15	03483	03691	03804	03803
	Canalis	18	03483	03691	03804 + 03803	03803
NS1600 front conn.	cables	15	03483	03691	03804	03803
NS630b/1600 rear conn.	cables	11	03483	03691		03803
	Canalis	16	03483	03691	03805	03803

Distribution



Linery busbars



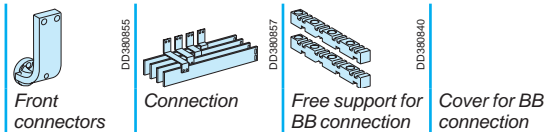
Device	Front connectors	Prefabricated connection	Cover for BB connection
Fixed device			
NS630b/1250	3P	04485	04926
	4P	04486	04926
NS1600	3P	04487	04926
	4P	04488	04926
Withdrawable device			
NS630b/1250	3P	04477	04926
	4P	04478	04926
NS1600	3P	04491	04926
	4P	04492	04926

Note: to make measurements:

- install a Micrologic control unit capable of displaying the values
- or install the CTs on the horizontal busbars; in this case, an additional module is required; add a plain front plate downstream (03801).

Selection of Linery busbars: see page B-10.

Flat busbars



Device	Front connectors	Connection	Free support for BB connection	Cover for BB connection
Fixed device				
NS630b/1600	■	must be made	04662 x 2	04926
Withdrawable device				
NS630b/1600	■	must be made	04662 x 2	04926

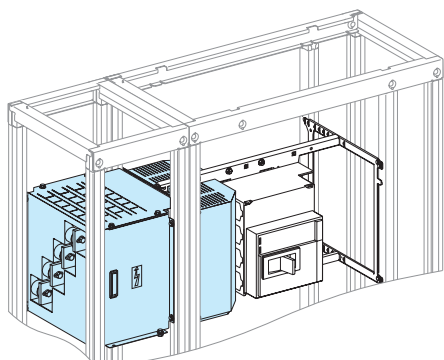
Note: to make measurements:

- install a Micrologic control unit capable of displaying the values
- or install the CTs on the horizontal busbars; in this case, an additional module is required; add a plain front plate downstream (03801).

Selection of flat busbars: see page B-18.

Connection

Dc83550



Connection transfer assembly.

Front connection in 400 mm deep framework

Device	Connection transfer assembly + cover
Fixed Compact NS	
NS630b/1000 3P	04483 ⁽¹⁾
4P	04484 ⁽¹⁾

Fixed Compact NS

NS630b/1000 3P	04483 ⁽¹⁾
4P	04484 ⁽¹⁾

(1) Three 300 mm² or six 185 mm² cables can be connected per phase with lugs that are not of the two-metal type.

Rear connection in 800 mm deep framework (2x400mm)

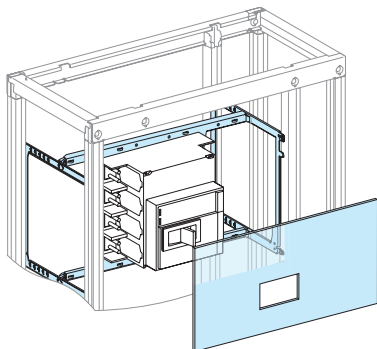
Device	Rear connection cover
Fixed Compact NS	
NS630b/1000 3P	04844
4P	04844

Fixed Compact NS

NS630b/1000 3P	04844
4P	04844

Installation

Dc83551



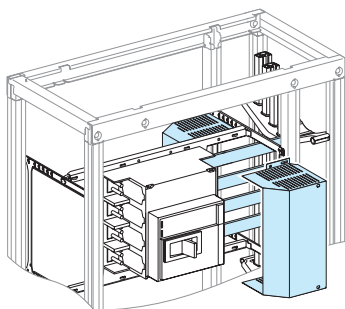
Device	No. of vertical modules	Mounting plate	Cut-out front plate
Fixed Compact NS			
NS630b/1000 3P/4P	7	03480	03687

Fixed Compact NS

NS630b/1000 3P/4P	7	03480	03687
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Distribution

Dc83552



Prefabricated connection + cover.

Linery busbars

Device	Prefabricated connection	Connection cover	Arc-chute cover
Fixed Compact NS			
NS630b/1000 3P	04473	04842	33596
4P	04474	04842	33597

Fixed Compact NS

NS630b/1000 3P	04473	04842	33596
4P	04474	04842	33597

Selection of Linery busbars: see page B-10.

Flat busbars

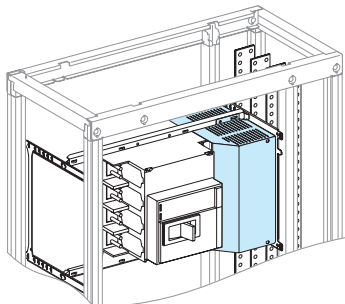
Device	Connection	Connection cover	Arc-chute cover
Fixed Compact NS, front connection			
NS630b/1000 3P	must be made	04842	33596
4P	must be made	04842	33597

Fixed Compact NS, front connection

NS630b/1000 3P	must be made	04842	33596
4P	must be made	04842	33597

Selection of flat busbars: see page B-18.

Dc83553

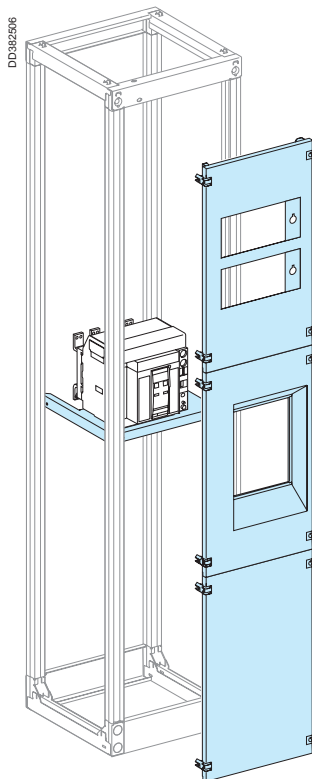


Compact NS630b/1600

L400 dedicated cubicle

Toggle, rotary handle and motor mechanism

Installation



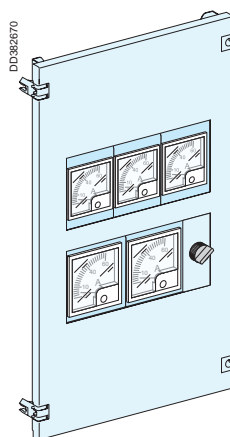
Device	No. of vertical modules	Mounting plate	Cut-out front plate	Upstream front plate ⁽¹⁾ cut-out for 72 x 72 mm or 96 x 96 mm meters	or plain	Downst. front plate ⁽¹⁾ plain
Designation						
Fixed NS630b/1600	3/4P 36	03487	03697	03723	03722	03722
Withdrawable NS630b/1600	3P 36	03488	03699	03723	03722	03722

(1) Hinged or reversible (left or right-hand opening) front plates connect directly to the framework, without a front-plate support frame.

Measurement-device installation

Measurement devices are installed on a front plate (03723) using plastic mounting plates with cut-outs. The front plate can hold:

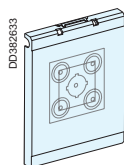
- six 72 x 72 mm cases
- or four 96 x 96 mm cases + 2 switches.



Installation of three devices (72 x 72 mm cases) using plastic mounting plates (03902) and two devices (96 x 96 mm cases) + a switch using plastic mounting plates (03903) on a hinged front plate (03723).

Cat. no. selection

Designation		Cat. no.
Plastic mounting plate with cut-outs	for 72 x 72 mm devices	03902
	for 96 x 96 mm devices	03903
Plain plastic mounting plate (blanking plate)	for 72 x 72 mm holes	03900
	for 96 x 96 mm holes	03901



The plain mounting plates have knock-outs for lamps, pushbuttons, switches or devices. Knock-outs for 03900: 4 dia. 16 mm, 5 dia. 22 mm or one for a 45x45 mm device. Knock-outs for 03901: 4 dia. 16 mm, 5 dia. 22 mm or one for a 45x45 or 72x72 mm device.

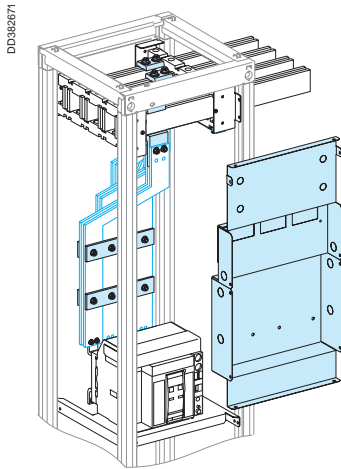
Functional units W = 400 mm

Circuit breakers

Compact NS630b/1600 L400 dedicated cubicle

Toggle, rotary handle and motor mechanism

Distribution



Horizontal-busbar connections

Device	Front connect.	Flat busbars rods	Horizontal-busbar connections 60/80, 5 mm thick	50/60/80, 10 mm thick	Barrier (1)	
Fixed/withdrawable device						
Fixed NS630b/1600	3P/4P	■	04692 x 2	must be made 10 mm thick	04636 (1) + connection must be made 10 mm thick	04855
Withdrawable NS630b/1600	3P	■	04692 x 2	must be made 10 mm thick	04636 + connection must be made 10 mm thick	04855

(1) A barrier must be installed behind front plate 03723 when measurement devices are installed.
(2) Catalogue number 04636 includes 1 connection only. Order 1 connection per phase.

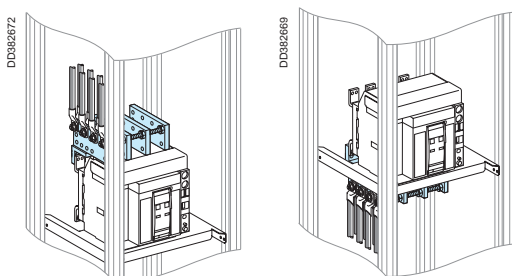
Connection between device and horizontal busbars must be made by the customer.
Selection of copper bars for the connection: see page B-4.
Selection of horizontal busbars: see page B-4.

Connection to Linergy or flat busbars

Device	Front connect.	Free support	Connection	Barrier (1)	
Designation					
Fixed NS630b/1600	3P/4P	■	04662	must be made	04855
Withdrawable NS630b/1600	3P	■	04662	must be made	04855

(1) A barrier must be installed behind front plate 03723 when measurement devices are installed.
Connection between device and horizontal busbars must be made by the customer.
Selection of copper bars for the connection: see page B-4.
Selection of horizontal busbars: see page B-4.

Connection



Front connection using cables

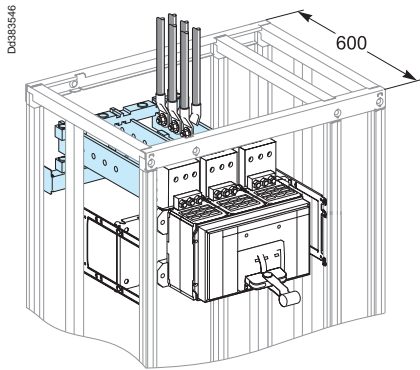
Device	Front connect.	Arc-chute cover	Vert. conn. adapters	Cable-lug adapters	Spacing rods	
Designation						
Fixed NS630b/1600	3P	■	33596	33642	33644	04691
NS630b/1600	4P	■	33597	33643	33645	04691
Withdrawable NS630b/1600	3P	■		33642	33644	04691

Accessories

DD382513		4 cable tie supports for a 400 mm wide framework	08774
		4 cable tie supports for a 400 mm deep framework	08794
		4 cable tie supports for a 600 mm deep framework	08794 + 08796
DD382514			08796
			08794

Circuit breakers

Connection

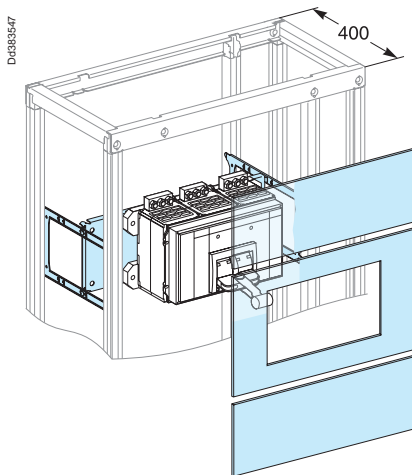


NS3200.

Front connection using cables

Device	Front connectors	Vertical-connection adapters	Terminal extension bar support	Cubicle depth (mm)	
Fixed device					
NS1600b	3P	■	33975	04694	400
	4P	■	33976	04694	400
NS2000/2500	3P	■	33975	04694	600
	4P	■	33976	04694	600
NS3200	3P	■		04694	600
	4P	■		04694	600

Device installation

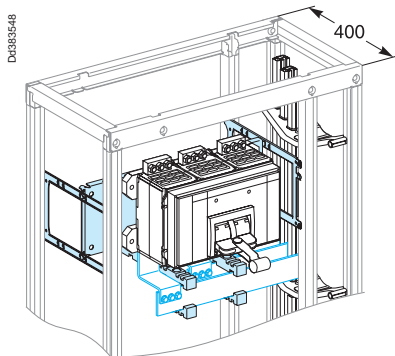


NS1600b.

Device	No. of vertical modules	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Fixed device					
NS1600b/3200	14	03501	03716	03803	03804

Circuit breakers

Distribution



NS1600b.

Flat or Linery busbars

Device	Connection	Free support for BB connection	Cover for BB connection
Fixed device			
NS1600b/3200	must be made ⁽¹⁾	04662 x 2	04926 + 04927

(1) For the connection to flat busbars > 1600 A, order one joint per phase:

- 1 joint for busbars, W = 50/60 mm (04640)
- 1 joint for busbars, W = 80/100 mm (04641)

Note: To make measurements:

- install the CTs on the horizontal busbars (busbar connection); in this case, an additional module is required; add a plain front plate (03801)
- or install a Micrologic control unit capable of displaying the values.

Selection of Linery busbars: see page B-10.

Selection of flat busbars: see page B-18.

Presentation of Compact NSX circuit breakers for Prisma Plus

Circuit breakers

PE10337125



The latest generation of a range that has set the standard in moulded-case circuit breakers, Compact NSX steps even further ahead to meet your needs in continuity of service and optimised energy use.

A high-performance range for each application

Breaking capacity at 415V

25 kA

36 kA

50 kA

70 kA

100 kA

150 kA

Performance level

NSX-B

NSX-F

NSX-N

NSX-H

NSX-S

NSX-L

Applications

Usual applications with low short-circuit levels, e.g. service sector applications, retail stores, etc.



Small industrial installations



High performance at a reasonable cost



Demanding applications, e.g. merchant marine, metallurgy, etc.



A range of intelligent circuit breakers

PD391292



Compact NSX improves management of electrical installations

In addition to protection functions, the new generation of Compact NSX moulded-case circuit breakers provides new features (analysis, measurements and communication) with access to information:

- either directly on the LCD screen of the trip unit to set the circuit breaker or read the main electrical values, including U, I, f, P(W) and E (kWh)
- or on the FDM 121 display on the front of the Prisma Plus switchboard (duct door with special front plate) for quick access to a greater wealth of information.

A cable connects the display to the trip unit without any special settings or configuration, making it easy to personalise alarms and displays or read event logs and maintenance indicators.

Presentation of Compact NSX circuit breakers for Prisma Plus

Integration of Compact NSX in Prisma Plus

PD381288-65



The Compact NSX range is perfectly **interchangeable** with Compact NSX. As for Compact NS, installation of Compact NSX devices in a Prisma Plus functional switchboard is very easy, based on the same functional-unit system:

- same mounting plates as for the Compact NSX
- same power connections (Polypact distribution block and prefabricated connections)
- identical control connections
- identical partitioning (form 2b to 4b)
- same modularity (taking into account the safety clearances).

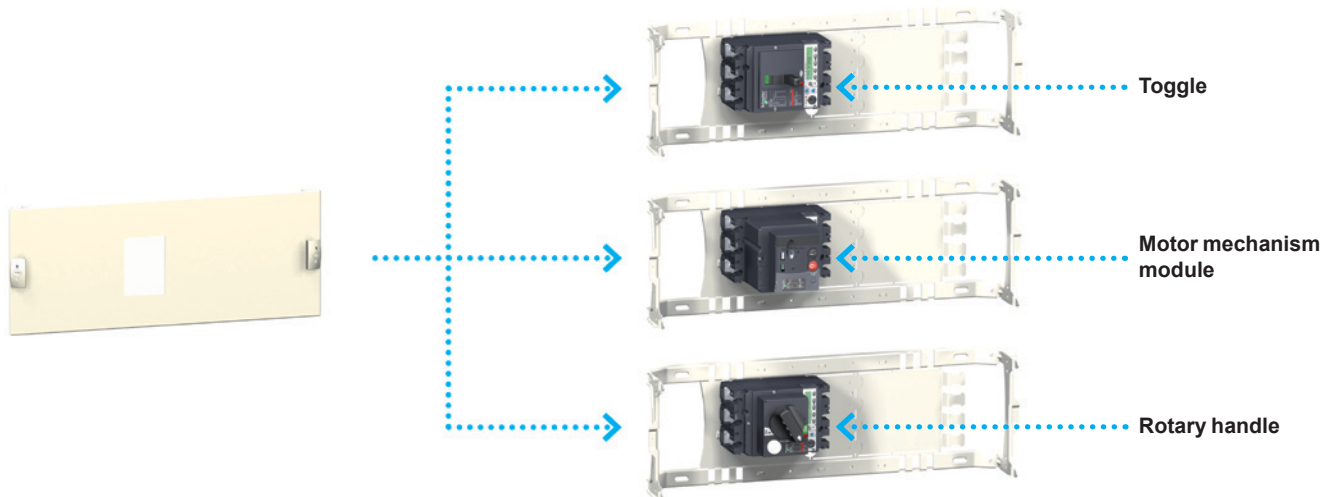
This greatly facilitates extension, maintenance and retrofitting operations in Prisma Plus switchboards.

- Only the front plates have been changed for this new range.

A new front plate for a new circuit breaker

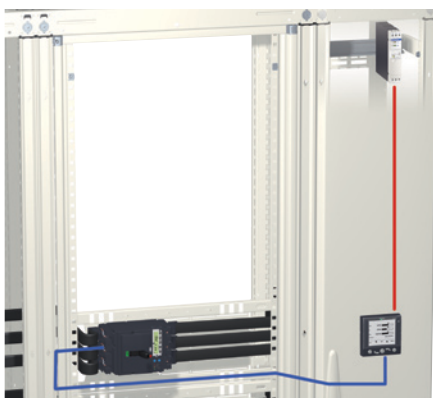
The front of Compact NSX circuit breakers has an eye-pleasing curved profile, making Prisma Plus switchboards even more attractive. This change is perfectly in step with the new cut-out for Prisma Plus front plates (the same cut-out for all types of controls).

PD381289-134



Installation architectures for the measurement function

PD381290-60



As mentioned above, Compact NSX circuit breakers equipped with Micrologic 5/6 A or E trip units provide measurements that can be read on the FDM 121 display module or directly on the circuit breaker. This makes it possible to optimise the space required by the functional unit.

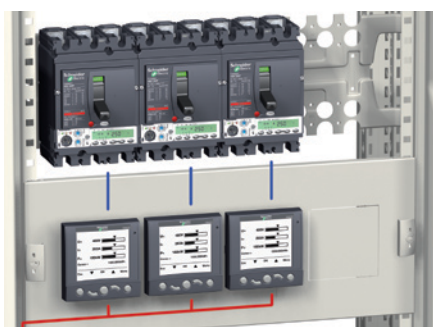
Installation times have also been reduced with respect to a system with current transformers.

What is more, installation and connections are made easier because the FDM 121 is installed just like the 96 x 96 mm Power Meter PM devices:

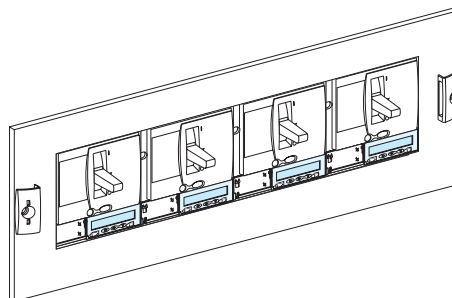
- direct cut-out in a plain door
- on a front for one or four 96 x 96 devices in the functional unit or the 300 mm wide duct door.

Note: a single 24 V DC power supply is required to power both the FDM 121 display and the Micrologic trip unit.

PD381291-57



DD384027



For more information on the communication functions of Compact NSX, see the ULP-system user manual, doc. no. TRV99100, and the Compact NSX catalogue, doc. no. LVPED208001_EN.



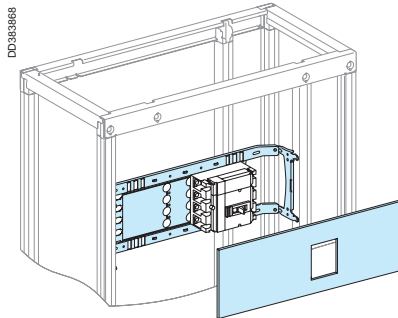
Compact NSX100 to NSX630

Horizontal

Toggle

Fixed

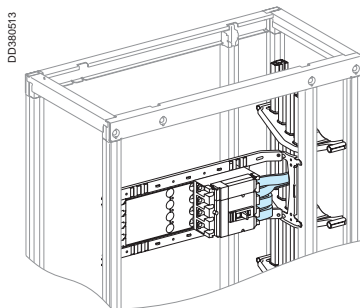
Installation



DD380868

Device	No. of vertical modules	Mounting plate	Cut-out front plate
Fixed Compact NSX and Vigicompact NSX			
NSX100/250	3P	03411	03604
	4P	03412	03606
NSX100/250 + ammeter	3P	03411	03604
	4P	03412	03604
NSX400/630	3P	03451	03643
	4P	03452	03644

Busbar connection

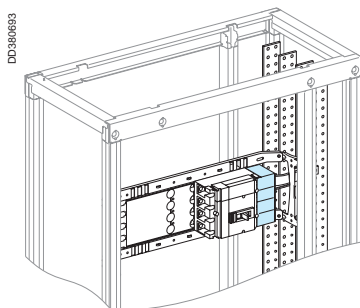


DD380953

Linerly busbars

Device	Prefabricated connection
Fixed Compact NSX and Vigicompact NSX	
NSX100/250	3P 04423
	4P 04424
NSX400/630	3P 04453
	4P 04454

Prefabricated connection.



DD380683

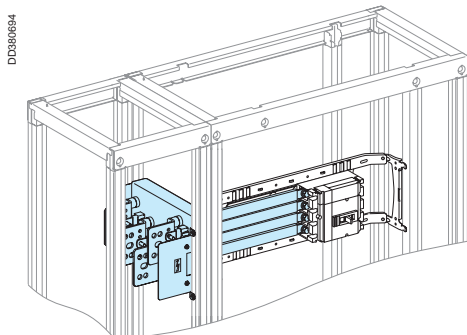
Flat busbars

Device	Connection	Short terminal shields
Fixed Compact NSX and Vigicompact NSX		
NSX100/250	3P <i>must be made</i>	LV429515
	4P <i>must be made</i>	LV429516
NSX400/630	3P <i>must be made</i>	LV432591
	4P <i>must be made</i>	LV432592

Selection of flexible bars for the connection: see page B-54.

Short terminal shields.

Connection



DD380694

Device	Front connection		Rear connection
	Long terminal shields	or Connection transfer assembly	Short terminal shields
Fixed Compact NSX			
NSX100/250	3P LV429515	04425	LV429515 ⁽¹⁾
	4P LV429516	04426	LV429516 ⁽¹⁾
NSX400/630	3P LV432591	04455	LV432591 ⁽¹⁾
	4P LV432592	04456	LV432592 ⁽¹⁾
Fixed Vigicompact NSX			
Vigi NSX100/250	3P LV429517	04429 ⁽²⁾ + LV429515	LV429515 ⁽¹⁾
	4P LV429518	04430 ⁽²⁾ + LV429516	LV429516 ⁽¹⁾
Vigi NSX400/630	3P LV432593	04459 ⁽²⁾ + LV432591	LV432591 ⁽¹⁾
	4P LV432594	04460 ⁽²⁾ + LV432592	LV432592 ⁽¹⁾

(1) Protection of terminals is ensured by Form 4 partitioning: see page B-32.

(2) No connection.

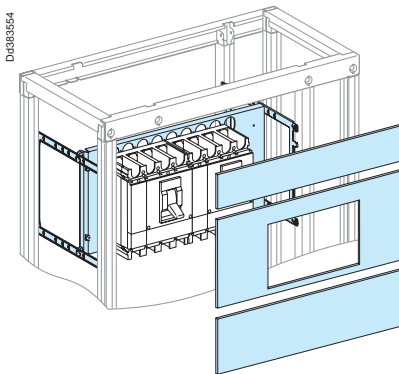
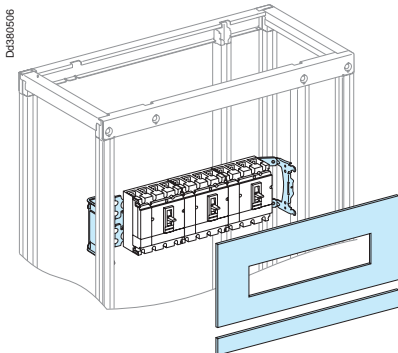
Connection transfer assembly.



Compact NSX100 to NSX630

Vertical Toggle Fixed

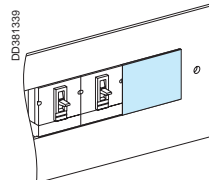
Installation



Device	No. of devices	No. of vertical modules ⁽¹⁾	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Fixed Compact NSX						
NSX100/160	3/4	6	03420	03243		03801
NSX250	3/4	7	03420	03243		03802
NSX400	1	11	03461	03275	03801	03801
NSX400	2	11	03461	03663	03802	03803
NSX630	1	13	03461	03275	03802	03802
NSX630	2	13	03461	03663	03803	03804
Fixed Vigicompact NSX						
Vigi NSX100/160	3/4	8	03420	03241		03801
Vigi NSX250	3/4	9	03420	03241		03802
Vigi NSX400	1	13	03461	03297		03802
Vigi NSX400	2	13	03461	03666	03802	03803
Vigi NSX630	1	15	03461	03297	03801	03803
Vigi NSX630	2	15	03461	03666	03803	03804

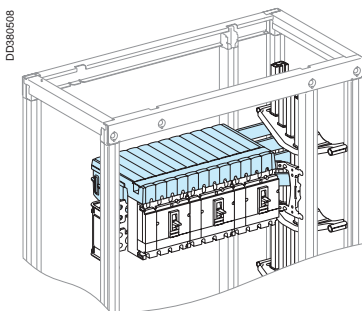
(1) For the Compact NSX100/250, the number of modules indicated is for supply via a Polypact distribution block. For supply via cables, two additional modules are required; add an upstream plain front plate (03802).

Accessories



Blanking plates: see page C-23.

Busbar connection



Insulated distribution block with connection.

Linery busbars

Device	No. of devices	Polypact with connection
Fixed Compact NSX and Vigicompact NSX		
NSX100/250	4 x 3P	04403
	3 x 4P	04404

Flat busbars

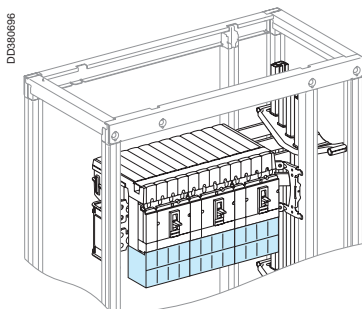
Device	No. of devices	Polypact without connection
Fixed Compact NSX and Vigicompact NSX		
NSX100/250	4 x 3P	04407
	3 x 4P	04408

Accessories

Polypact tooth-caps	Cat. no.
	04809

Polypact distribution block: see page B-52.

Connection



Front connection with terminal shields.

Device	Front connection		Rear connection	
		Long terminal shields		Short terminal shields
Fixed Compact NSX and Vigicompact NSX				
NSX100/250	3P	LV429517		LV429515 ⁽¹⁾
	4P	LV429518		LV429516 ⁽¹⁾
NSX400/630	3P	LV432593		LV432591 ⁽¹⁾
	4P	LV432594		LV432592 ⁽¹⁾

(1) Size reduced one module downstream.

Protection of terminals is ensured by Form 4 partitioning: see page B-32.



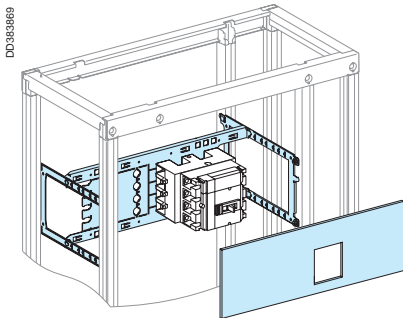
Compact NSX100 to NSX630

Horizontal

Toggle

Plug-in

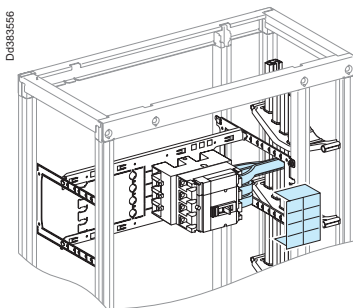
Installation



DD383869

Device	No. of vertical modules	Mounting plate	Cut-out front plate
Plug-in Compact NSX and Vigicompact NSX			
NSX100/250	3P	3	03413
	4P	4	03414
NSX400/630	3P	4	03453
	4P	5	03454

Busbar connection

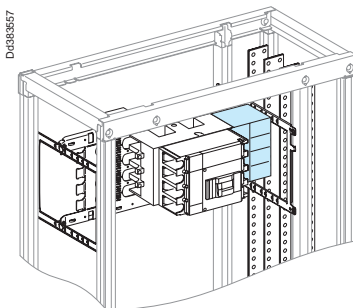


DD383556

Linerly busbars

Device	Prefabricated connection	Adaptator + terminal shields
Plug-in Compact NSX and Vigicompact NS X		
NSX100/250	3P	04431
	4P	04432
NSX400/630	3P	04461
	4P	04462

Prefabricated connection + terminal shields.



DD383557

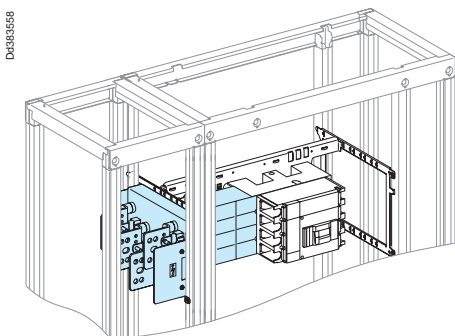
Flat busbars

Device	Connection	Adaptator + terminal shields
Plug-in Compact NSX and Vigicompact NSX		
NSX100/250	3P	<i>must be made</i>
	4P	<i>must be made</i>
NSX400/630	3P	<i>must be made</i>
	4P	<i>must be made</i>

Selection of flexible bars for the connection: see page B-54.

Terminal shields.

Connection



DD383558

Device	Front connection		Rear connection
	Adaptator + long terminal shields	or transfer assembly (w/o connection) + adaptator + long terminal shields	Long insulated terminals
Plug-in Compact NSX and Vigicompact NSX			
NSX100/250	3P	LV429306 + LV429517	04429 + LV429306 + LV429517
	4P	LV429307 + LV429518	04430 + LV429307 + LV429518
NSX400/630	3P	LV432584 + LV432593	04459 + LV432584 + LV432593
	4P	LV432585 + LV432594	04460 + LV432585 + LV432594

Transfer assembly (w/o connection) + long terminal shields.

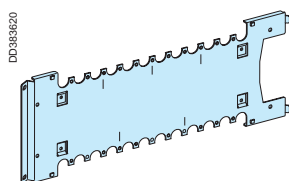
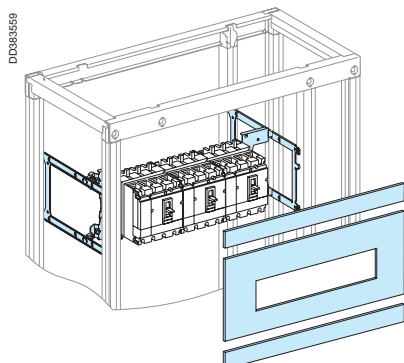
(1) Protection of terminals is ensured by Form 4 partitioning: see page B-32.



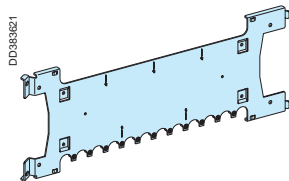
Compact NSX100 to NSX630

Vertical Toggle Plug-in

Installation



03421.

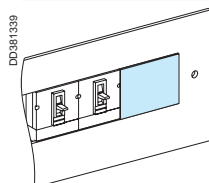


03423.

Device	No. of devices	No. of vertical modules ⁽²⁾	Mounting plate	Cut-out front plate	Upstream front plate	Downstr. front plate
Plug-in Compact NSX						
NSX100/160	3/4	9	03421 ⁽¹⁾	03243	03801 + 03802	03801
NSX250	3/4	10	03421 ⁽¹⁾	03243	03801 + 03802	03802
NSX100/160	3/4	7	03423	03243	03801	03801
NSX250	3/4	8	03423	03243	03801	03802
NSX400	1	11	03461	03275	03801	03801
NSX400	2	11	03461	03663	03802	03803
NSX630	1	13	03461	03275	03802	03802
NSX630	2	13	03461	03663	03803	03804
Plug-in Vigicompact NSX						
Vigi NSX100/160	3/4	11	03421 ⁽¹⁾	03241	03801 + 03802	03801
Vigi NSX250	3/4	12	03421 ⁽¹⁾	03241	03801 + 03802	03802
Vigi NSX100/160	3/4	9	03423	03241	03801	03801
Vigi NSX250	3/4	10	03423	03241	03801	03802
Vigi NSX400	1	13	03461	03297		03802
Vigi NSX400	2	13	03461	03666	03802	03803
Vigi NSX630	1	15	03461	03297	03801	03803
Vigi NSX630	2	15	03461	03666	03803	03804

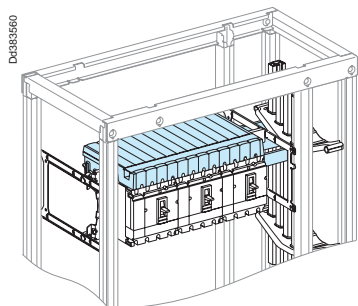
(1) Not compatible with Polypact distribution block. In this case, use mounting plate 03423.
 (2) For the Compact NSX100/250, the number of modules indicated is for supply via a Polypact distribution block. For supply via cables, two additional modules are required; add an upstream plain front plate (03802).

Accessories



Blanking plates: see page C-23.

Busbar connection



Linery busbars

Device	No. of devices	Polypact (with connection)	Adaptator
Plug-in Compact NSX and Vigicompact NSX			
NSX100/250	4 x 3P	04405	LV429306
	3 x 4P	04406	LV429307

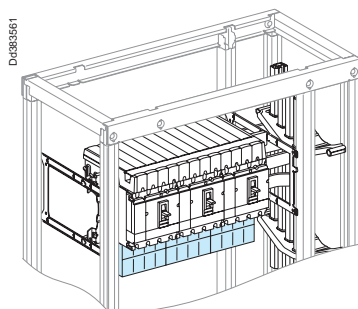
Flat busbars

Device	No. of devices	Polypact (w/o connection)	Adaptator
Plug-in Compact NSX and Vigicompact NSX			
NSX100/250	4 x 3P	04407	LV429306
	3 x 4P	04408	LV429307

Accessories

Polypact tooth-caps	Cat. no.
Polypact distribution block: see page B-52.	04809

Connection



Front connection with long terminal shields.

Device	No. of devices	Front connection	Rear connection
		Adaptator + long terminal shields	Long insulated terminals
Plug-in Compact NSX and Vigicompact NSX			
NSX100/250	3P	LV429306 + LV429517	LV429276 ⁽¹⁾ + 2 x LV429235 + LV429236 + LV429306
	4P	LV429307 + LV429518	LV429277 ⁽¹⁾ + 2 x LV429235 + 2 x LV429236 + LV429307
NSX400/630	3P	LV432584 + LV432593	LV432526 ⁽¹⁾ + 2 x LV432475 + LV432476 + LV432584
	4P	LV432585 + LV432594	LV432527 ⁽¹⁾ + 2 x LV432475 + 2 x LV432476 + LV432585

(1) Size reduced one module downstream.
 Protection of terminals is ensured by Form 4 partitioning: see page B-32.



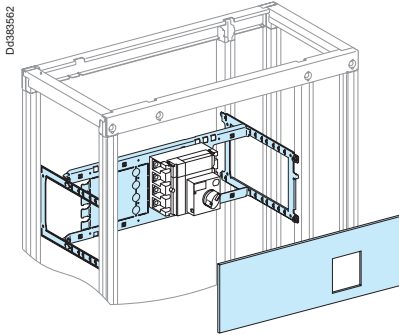
Compact NSX100 to NSX630

Horizontal

Rotary handle, motor mechanism

Fixed, plug-in

Installation

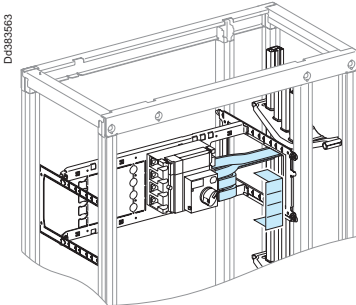


D04385662

Device	No. of vertical modules	Mounting plate	Cut-out front plate	Collar and raiser
Fixed or plug-in Compact NSX				
NSX100/250 3P	3	03413	03604	
4P	4	03414	03606	
NSX400/630 ⁽¹⁾ 3P	4	03453 ⁽²⁾	03643	
4P	5	03454 ⁽²⁾	03644	
Fixed or plug-in Vigicompact NSX				
NSX100/250 3P	3	03413	03604	LV429285
Rotary handle 4P	4	03414	03606	LV429285
NSX100/250 3P	3	03413	03604	LV429285
Motor mech. 4P	4	03414	03606	LV429285
NSX400/630 ⁽¹⁾ 3P	4	03453	03643	LV429285
Rotary handle 4P	5	03454	03644	LV429285

(1) For direct installation under horizontal busbars, the busbars must be covered: see page B-28.
 (2) Catalogue number **03460** is recommended when installing an NSX with a motor mechanism.

Busbar connection

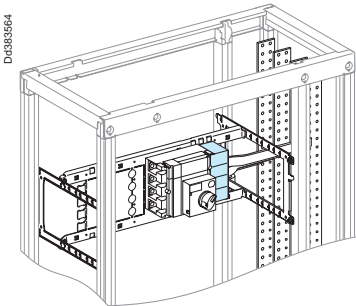


D03835653

Prefabricated connection + terminal shields.

Linery busbars

Device	Prefabricated connection	Terminal shields
Fixed Compact NSX and Vigicompact NSX		
NSX100/250 3P	04427	LV429515
4P	04428	LV429516
NSX400/630 3P	<i>must be made</i>	LV432591
4P	<i>must be made</i>	LV432592
Plug-in Compact NSX and Vigicompact NSX		
NSX100/250 3P	04427	LV429306 + LV429517
4P	04428	LV429307 + LV429518
NSX400/630 3P	<i>must be made</i>	LV432584 + LV432591
4P	<i>must be made</i>	LV432585 + LV432592



D03835654

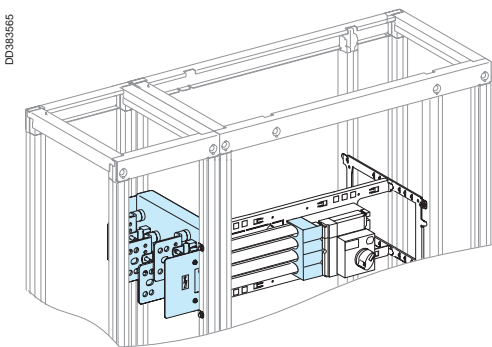
Terminal shields.

Flat busbars

Device	Connection	Terminal shields
Fixed Compact NSX and Vigicompact NSX		
NSX100/250 3P	<i>must be made</i>	LV429515
4P	<i>must be made</i>	LV429516
NSX400/630 3P	<i>must be made</i>	LV432591
4P	<i>must be made</i>	LV432592
Plug-in Compact NSX and Vigicompact NSX		
NSX100/250 3P	<i>must be made</i>	LV429306 + LV429517
4P	<i>must be made</i>	LV429307 + LV429518
NSX400/630 3P	<i>must be made</i>	LV432584 + LV432591
4P	<i>must be made</i>	LV432585 + LV432592

Selection of flexible bars for the connection: see page B-54.

Connection



D03835655

Transfer assembly (w/o connection) + long terminal shields

Device	Front connection Adaptator + or transfer assembly long terminal shields	Connection (w/o connection) + adaptator + long terminal shields	Rear connection Short terminal shields	Long insulated terminals
Fixed Compact NSX and Vigicompact NSX				
NSX100/250 3P	LV429517	04429 + LV429515	LV429515 ⁽¹⁾	
Vigi NSX100/250 4P	LV429518	04430 + LV429516	LV429516 ⁽¹⁾	
NSX400/630 3P	LV432593	04459 + LV432591	LV432591 ⁽¹⁾	
Vigi NSX400/630 4P	LV432594	04460 + LV432592	LV432592 ⁽¹⁾	
Plug-in Compact NSX and Vigicompact NSX				
NSX100/250 3P	LV429306 + LV429517	04429 + LV429306 + LV429517		LV429276 ⁽¹⁾ + 2 x LV429235 + LV429236 + LV429306
Vigi NSX100/250 4P	LV429307 + LV429518	04430 + LV429307 + LV429518		LV429277 ⁽¹⁾ + 2 x LV429235 + 2 x LV429236 + LV429307
NSX400/630 3P	LV432584 + LV432593	04459 + LV432584 + LV432591		LV432526 ⁽¹⁾ + 2 x LV432475 + LV432476 + LV432584
Vigi NSX400/630 4P	LV432585 + LV432594	04460 + LV432585 + LV432592		LV432527 ⁽¹⁾ + 2 x LV432475 + 2 x LV432476 + LV432585

(1) Protection of terminals is ensured by Form 4 partitioning: see page B-32.



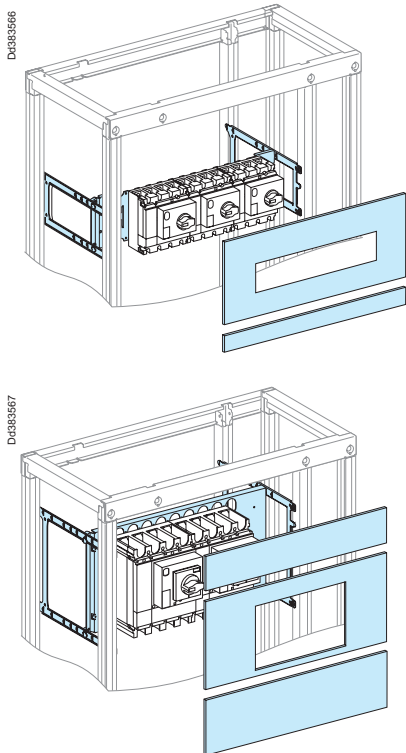
Compact NSX100 to NSX630

Vertical

Rotary handle, motor mechanism

Fixed, plug-in

Installation



Device	No. dev.	No. of vertical modules ⁽¹⁾	Mounting plate	Cut-out front plate	Upstream front plate	Downst. front plate	Collar and raiser
Fixed Compact NSX							
NSX100/160	3/4	6	03422	03243		03801	
NSX250	3/4	7	03422	03243		03802	
NSX400	1	11	03461 ⁽²⁾	03275	03801	03801	
NSX400	2	11	03461 ⁽²⁾	03663	03802	03803	
NSX630	1	13	03461 ⁽²⁾	03275	03802	03802	
NSX630	2	13	03461 ⁽²⁾	03663	03803	03804	
Fixed Vigicompact NSX							
Vigi NSX100/160	3/4	8	03422	03244		03801	LV429285
Vigi NSX250	3/4	9	03422	03244		03802	LV429285
Vigi NSX400 (rot)	1	13	03461	03297		03802	LV429285
Vigi NSX400 (rot)	2	13	03461	03666	03802	03803	LV429285
Vigi NSX630 (rot)	1	15	03461	03297	03801	03803	LV429285
Vigi NSX630 (rot)	2	15	03461	03666	03803	03804	LV429285
Plug-in Compact NSX							
NSX100/160	3/4	7	03421	03243	03801	03801	
NSX250	3/4	8	03421	03243	03801	03802	
NSX400	1	11	03461 ⁽²⁾	03275	03801	03801	
NSX400	2	11	03461 ⁽²⁾	03663	03802	03803	
NSX630	1	13	03461 ⁽²⁾	03275	03802	03802	
NSX630	2	13	03461 ⁽²⁾	03663	03803	03804	
Plug-in Vigicompact NSX							
Vigi NSX100/160	3/4	9	03421	03244	03801	03801	LV429285
Vigi NSX250	3/4	10	03421	03244	03801	03802	LV429285
Vigi NSX400 (rot)	1	13	03461	03297		03802	LV429285
Vigi NSX400 (rot)	2	13	03461	03666	03802	03803	LV429285
Vigi NSX630 (rot)	1	15	03461	03297	03801	03803	LV429285
Vigi NSX630 (rot)	2	15	03461	03666	03803	03804	LV429285

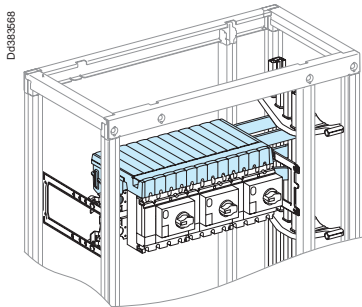
(1) For the Compact NSX100/250, the number of modules indicated is for supply via a Polypact distribution block. For supply via cables, two additional modules are required; add an upstream plain front plate (03802).

(2) Catalogue number 03460 is recommended when installing a NSX with a motor mechanism.

Accessories

Blanking plates: see page C-23.

Busbar connection



Insulated distribution block with connection.

Linery busbars

Device	No. of devices	Polypact (with connection) Fixed device	Polypact (with connection) Plug-in device	Adaptator
Fixed or plug-in Compact NSX and Vigicompact NSX				
NSX100/250	4 x 3P	04405	04405	+ LV429306
	3 x 4P	04406	04406	+ LV429307

Flat busbars

Device	No. of devices	Polypact (w/o connection) Fixed device	Polypact (w/o connection) Plug-in device	Adaptator
Fixed or plug-in Compact NSX and Vigicompact NSX				
NSX100/250	4 x 3P	04407	04407	+ LV429306
	3 x 4P	04408	04408	+ LV429307

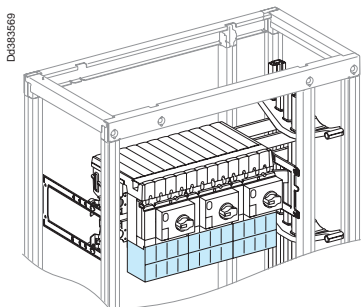
Accessories

Polypact tooth-caps

Cat. no. 04809

Polypact distribution block: see page B-52.

Connection



Front connection with long terminal shields.

Device		Front connection		Rear connection	
		Adaptator + long terminal shields	Short terminal shields	Long insulated terminals	
Fixed Compact NSX and Vigicompact NSX					
NSX100/250	3P	LV429517	LV429515 ⁽¹⁾		
	4P	LV429518	LV429516 ⁽¹⁾		
NSX400/630	3P	LV432593	LV432591 ⁽¹⁾		
	4P	LV432594	LV432592 ⁽¹⁾		
Plug-in Compact NSX and Vigicompact NSX					
NSX100/250	3P	LV429306 + LV429517		LV429276 ⁽¹⁾ + 2 x LV429235 + LV429236 + LV429306	
	4P	LV429307 + LV429518		LV429277 ⁽¹⁾ + 2 x LV429235 + 2 x LV429236 + LV429307	
NSX400/630	3P	LV432584 + LV432593		LV432526 ⁽¹⁾ + 2 x LV432475 + LV432476 + LV432584	
	4P	LV432585 + LV432595		LV432527 ⁽¹⁾ + 2 x LV432475 + 2 x LV432476 + LV432585	

(1) Size reduced one module downstream.

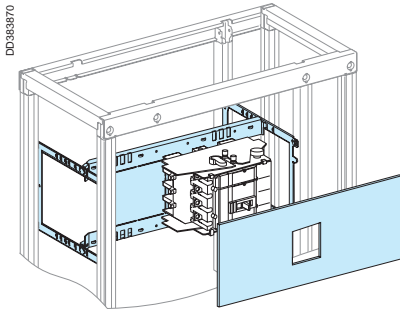
Protection of terminals is ensured by Form 4 partitioning: see page B-32.



Compact NSX100 to NSX630

Horizontal
All controls
Withdrawable

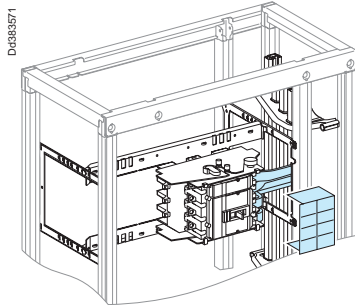
Installation



Device	No. of devices	No. of vertical modules	Mounting plate	Cut-out front plate	Collar and raiser
Compact NSX					
NSX100/250	1	5	03415	03618	LV429284
NSX400/630	1	6	03462 ⁽¹⁾	03657	LV432534
Vigicompact NSX					
Vigi NSX100/250	1	5	03415	03618	LV429285
Vigi NSX400/630	1	6	03462	03657	LV429285

(1) Catalogue number 03460 is recommended when installing an NSX with a motor mechanism.

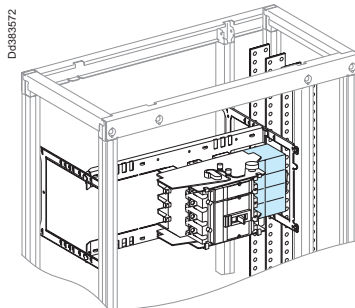
Busbar connection



Prefabricated connection + terminal shields.

Linerigy busbars

Device	Prefabricated connection	Adaptator + long terminal shields
Compact NSX and Vigicompact NSX		
NSX100/250	3P	04427
	4P	04428
NSX400/630	3P	must be made
	4P	must be made
Toggle Compact NSX and Vigicompact NSX		
NSX100/250	3P	04431
	4P	04432
NSX400/630	3P	04461
	4P	04462



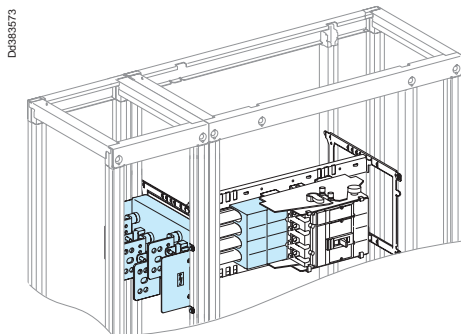
Long terminal shields.

Flat busbars

Device	Connection	Adaptator + long terminal shields
Compact NSX and Vigicompact NSX		
NSX100/250	3P	must be made
	4P	must be made
NSX400/630	3P	must be made
	4P	must be made

Selection of flexible bars for the connection: see page B-54.

Connection



Transfer assembly (w/o connection) + long terminal shields.

Device		Front connection		Rear connection
		Adaptator + long terminal shields	or transfer assembly (w/o connection) + adaptator + long terminal shields	Long insulated terminals
Compact NSX and Vigicompact NSX				
NSX100/250	3P	LV429306 + LV429517	04429 + LV429306 + LV429517	LV429276 ⁽¹⁾ + 2 x LV429235 + LV429236 + LV429306
	4P	LV429307 + LV429518	04430 + LV429307 + LV429518	LV429277 ⁽¹⁾ + 2 x LV429235 + 2 x LV429236 + LV429307
NSX400/630	3P	LV432584 + LV432593	04459 + LV432584 + LV432591	LV432526 ⁽¹⁾ + 2 x LV432475 + LV432476 + LV432584
	4P	LV432585 + LV432594	04460 + LV432585 + LV432592	LV432527 ⁽¹⁾ + 2 x LV432475 + 2 x LV432476 + LV432585

(1) Protection of terminals is ensured by Form 4 partitioning: see page B-32.

Compact NSX100 to NSX630

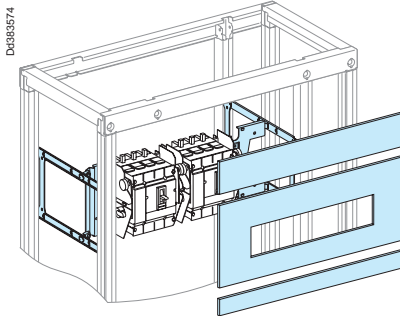
Vertical

All controls

Withdrawable



Installation

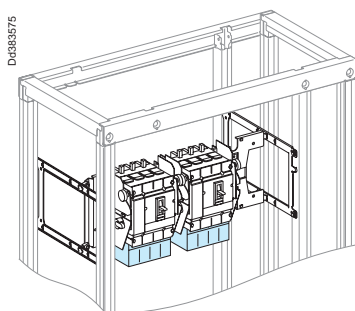


Device	No. of devices	No. of vert. mod.	Mounting plate	Cut-out front plate	Upstream front plate	Downst. front plate	Collar and raiser (1 per device)
Compact NSX							
NSX100/160	2	8	03421	03243	03802	03801	LV429284 ⁽¹⁾
NSX250	2	9	03421	03243	03802	03802	LV429284 ⁽¹⁾
NSX400 toggle	1	11	03461	03275	03801	03801	LV432534
NSX400 rotary handle, motor mech.	1	11	03461 ⁽²⁾	03275	03801	03801	
NSX400	2	11	03461 ⁽²⁾	03663	03802	03803	LV432534 ⁽¹⁾
NSX630 toggle	1	13	03461	03275	03802	03802	LV432534
NSX630 rotary handle, motor mech.	1	13	03461 ⁽²⁾	03275	03802	03802	
NSX630	2	13	03461 ⁽²⁾	03663	03803	03804	LV432534 ⁽¹⁾
Vigicompact NSX							
Vigi NSX100/160	2	10	03421	03244	03802	03801	LV429285 + LV429284 ⁽¹⁾
Vigi NXS250	2	11	03421	03244	03802	03802	LV429285 + LV429284 ⁽¹⁾
Vigi NSX400 toggle	1	13	03461	03297		03802	LV429285 + LV432534
Vigi NSX400 rotary handle	1	13	03461	03297		03802	LV429285
Vigi NSX400 toggle	2	13	03461	03666	03802	03803	LV429285 + LV432534
Vigi NSX400 rotary handle	2	13	03461	03666	03802	03803	LV429285
Vigi NSX630 toggle	1	15	03461	03297	03801	03803	LV429285 + LV432534
Vigi NSX630 rotary handle	1	15	03461	03297	03801	03803	LV429285
Vigi NSX630 toggle	2	15	03461	03666	03803	03804	LV429285 + LV432534
Vigi NSX630 rotary handle	2	15	03461	03666	03803	03804	LV429285

(1) For devices with toggle only.

(2) Catalogue number 03460 is recommended when installing an NSX with a motor mechanism.

Connection



Device	Front connection		Rear connection	
	Adaptator + long terminal shields		Long insulated terminals	
Withdrawable Compact NSX and Vigicompact NSX				
NSX100/250	3P	LV429306 + LV429517	LV429276 ⁽¹⁾ + 2 x LV429235 + LV429236 + LV429306	
	4P	LV429307 + LV429518	V429277 ⁽¹⁾ + 2 x LV429235 + 2 x LV429236 + LV429307	
NSX400/630	3P	LV432584 + LV432593	LV432526 ⁽¹⁾ + 2 x LV432475 + LV432476 + LV432584	
	4P	LV432585 + LV432594	LV432527 ⁽¹⁾ + 2 x LV432475 + 2 x LV432476 + LV432585	

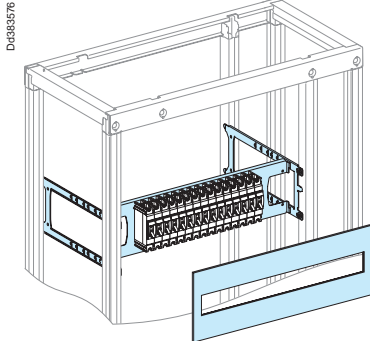
(1) Size reduced one module downstream.

Protection of terminals is ensured by Form 4 partitioning: see page B-32.

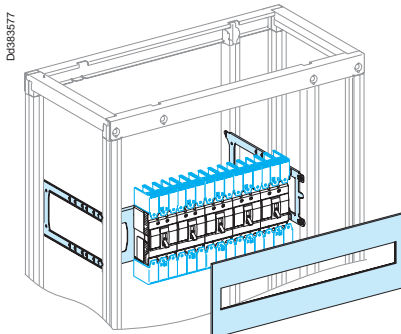
Easypact EZC100

Vertical Fixed Toggle

Installation



Easypact EZC100 1P



Easypact EZC100 3P

Device	No. of devices per row	No. of vertical modules	Mounting plate	Cut-out front plate	Long terminal shields (set of 2)
Easypact					
EZC100	15 x 1P	5	03502	03303	
	5 x 3P	5	03502	03303	EZATSHD3P
	3 x 4P	5	03502	03303	EZATSHD4P

Accessories

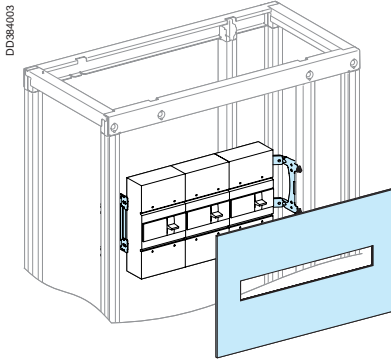
Designation	Cat. no.
1 divisible blanking plate, H = 85 mm, L = 147 mm colour: white RAL 9001	03249



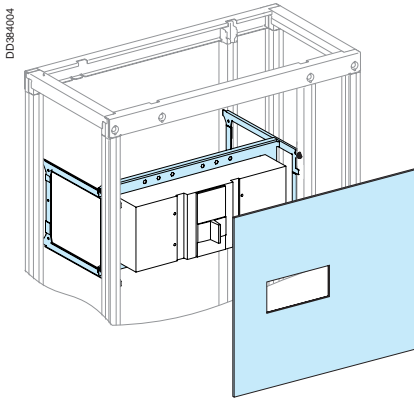
Easypact Ezc250

Easypact Ezc400

Installation



Easypact Ezc250



Easypact Ezc400

Vertical devices

Device	No. of devices per row	No. of vertical modules	Mounting plate	Cut-out front plate	Long terminal shields (set of 2)
Easypact					
Ezc250	4 x 3P	6	03504	03305	EZETSHD3PN
	3 x 4P	6	03504	03305	EZETSHD4PN
Ezc400	2 x 3P	10	03505	03307	EZ4TSHD3P
	2 x 4P	10	03505	03307	EZ4TSHD4P

Horizontal devices

Device	No. of devices per row	No. of vertical modules	Mounting plate	Cut-out front plate	Long terminal shields (set of 2)
Easypact					
Ezc250	1 x 3P	3	03504	03304	EZETSHD3P
	1 x 4P	3	03504	03304	EZETSHD4P
Ezc400	1 x 3P	5	03505	03306	EZ4TSHD3P
	1 x 4P	5	03505	03306	EZ4TSHD4P

Modular devices

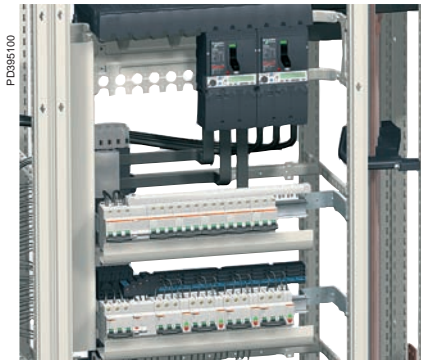
Multi 9

NG160, NG125, C120 circuit breakers
INS40/160 switch-disconnectors

Presentation



Compact NSX400 with motor mechanism, supplying rows of Multi 9 devices via Powerclip insulated busbars.



Presentation

A rigid modular rail

Made using an aluminium alloy, the rail design is extremely rigid. The rail supports are crimp mounted.

Fast mounting

The rail supports have positioning studs to guide the rail on the framework. Only two mounting screws are required.

Multiple functions

A number of devices clip directly onto the rails, including 80 A and 200 A Multiclip distribution blocks, all horizontal cable-running accessories such as cable straps and trunking supports, as well as the supports for earth bars.

What is more, for cable running to the terminal block at the top or bottom of the cubicle, the supports are designed to allow the passage to two vertical trunking sections on the left and right.

Supply from all directions

Supply to the rows, using comb busbars or Multiclip distribution blocks, can be via:

- flat or Powerclip insulated busbars installed behind the devices
- flat or Linergy busbars installed in a busbar compartment.

Distribution

80 and 200 A Multiclip distribution blocks

- fast and secure front connection using spring terminals
- reliable connections, will not loosen over time, insensitive to vibrations and thermal variations
- all types of modular devices can be mixed
- easy balancing of phases
- interchangeable devices
- easy installation upgrades
- fully insulated (IPxxB).

Comb busbars

- direct connection to device terminals or via a connector
- fully insulated
- can be cut to length.

Cable running

Straps

- easy and fast to install
- low cost
- perfectly organised and integrated cable running
- professional finish.

Trunking

- traditional solution.

Circuit breakers

Widths of Multi 9 devices (in number of 9 mm modules)

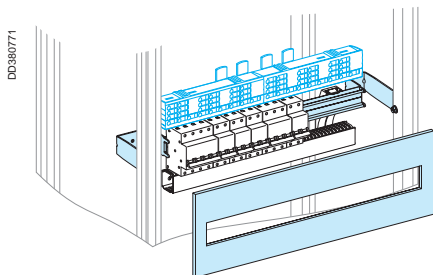
Description	Width in 9 mm modules			
	1P	1P + N 2P	3P 3P + N	4P
Alarm, ATo4x technical	8			
Ammeter, AMP analogue	8			
Ammeter, multi-rating	4			
Ammeter, AMP digital	4			
Auxiliaries, for ID, C60, C120	1-2-4			
Auxiliaries, for C32H-DC	1-2			
Auxiliaries, NO/NC	2			
Auxiliaries, ACTp and ACTr for contactor	2			
Auxiliaries, ACTo+f for contactor	1			
Auxiliaries, NTVo and TTVo for remote dimmer	2			
Bell or buzzer	2			
Circuit breaker, D'cl'ic, D'cl'ic XE		2		
Circuit breaker, D'cl'ic Vigi		4		
Circuit breaker, DT40, DT40N		2	6	
Circuit breaker, DT40 Vigi		4		
Circuit breaker, C32H-DC	2	4		
Circuit breaker, C60/N/H/L/LMA	2	4	6	8
Circuit breaker, C120/N/H	3	6	9	12
Circuit breaker, NG125	3	6	9	12
Auxiliary 2 OF or OF + SD	1			
Auxiliary MX + OF or MN	2			
Auxiliary MN s	4			
Circuit breaker, NG125 Vigi s		11	18	21
Circuit breaker, NG125 Vigi I/S/R		11	20	23
Circuit breaker, P25M			5	
Auxiliary MN	1			
Auxiliary MX + OF	2			
Circuit breaker, Reflex XC40		8	10	12
Contactor, CT 16/25 A	2	2	4	4
Contactor, CT 40/63/100 A		4-6	4-6	6-12
Contactor, ACTc auxiliary	2			
Contactor, CDS 1-ph load shedder	10			
Contactor, CDSc 1-ph load shedder	16			
Contactor, CDS 3-ph load shedder			16	
Contactor, CT+ silent	2			
Cooling spacer	1			
Counter, CI pulse	4			
Counter, CH time	4			
Dimmer, Vo1000	10			
Extension, ETL for TL impulse relay	2			
Extension, ERL	2			
Frequency meter, FREQ	4			
Fuse carriers, STI, SF'cl'ic	2	2-4	6	6
Fuse-holder, SBI 14 x 51	3	6	9	12
Fuse-holder, SBI 22 x 58	4	8	12	16
Impulse relay, TL 16 A and 32 A, ETL 16 and 32 A	2	2		
Impulse relay, TLI 16 A and TLc	2			
Impulse relay, Tlm and TLs	2			
Impulse relay auxiliaries, ATLc+c and ATLc+s	2			
Impulse relay auxiliaries, ATLt and ATLz	2			
Impulse relay auxiliaries, ATL4	4			
Impulse relay, TL+ silent	2			
Insulation monitor, SM21	8			
Kilowatt-hour meter, CE, CEr	12			
Load shedder, DSE'cl'ic 2-channel	6			
Load shedder, DSE'cl'ic 4-channel	8			
Multimeter, PM9	8			
Optical repeater, RPo	2 + 2			
Power sockets, PC, 10 A and 16 A		5		
Power sockets, PC, 20 A	8			
Pushbuttons	2			
Rccb, ID'cl'ic	4			
Rccb, ID'cl'icXE	4			
Rccb, ID		4		8
Rccb, ITG40		4		
Regulator, REGad1/REGad2	12			
Relay, RBN low level	2			

Circuit breakers

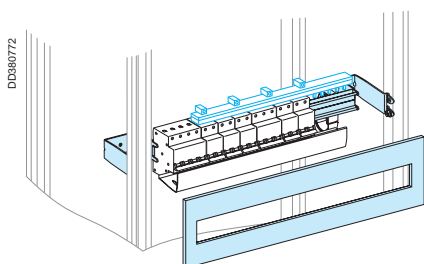
Description	Width in 9 mm modules			
	1P	1P + N 2P	3P 3P + N	4P
Relay, RCI/RCU/RCP and RCC	4			
Relay, imed-delayed, RTA, RTB, RTC, RTH, RTL, RTMF	2			
Relay, RLI	2			
Remote control, TBS	8			
Remote control, Tm60-Tm120		7	7	
Remote dimmer, TVo1000	10			
Remote dimmer, TVBo	6			
Remote dimmer, TV700, TVe700	6			
Selector switches, CM	2	4		
Selector, 2-position with return to OFF	4			
Selector switch, CMA for ammeters	4			
Selector switch, CMV for voltmeters	4			
Selector switch, CME 2-way	4			
Selector switch, CMD 4-way	4			
Signal lamps	2			
Surge arrester, PF'cl'ic Combi		6		
Surge arrester, 2P, PF8, PF15		4		
Surge arrester, 2P, PF30 (r)		6		
Surge arrester, 4P, PF8, PF15, PF30 (r)			8	
Surge arrester, 4P, PF65 (r)			14	
Surge arrester, 1P, PE65/40/15/8	2			
Surge arrester, PRC'cl'ic telephone	2			
Surge arrester, PRD	2	4	6	8
Switch, 20 A and 32 A	2	2	4	4
Switch, 40, 63, 100 and 125 A	2	4	6	8
Switch, IB double junction		4		
Switch, astronomic light sensitive	5			
Switch, IC200 light sensitive	5			
Switch, IC2000 light sensitive	7			
Switch, IC2000P light sensitive	10			
Switch, INA		5		9
Switch, ISO	6			
Switch-fuse combinations	2	4	6	8
Switch-off warning, PRE	2			
Thermostat, TH3 and TH6	8			
Thermostat, THP1	10			
Thermostat, THP2	10			
Time switch, IHP, IHH, IH	2			
Time switch, IH	6			
Time switch, IH	12			
Time switch, ITM multifunctional	10			
Time switch, IHP 24-hr/7-day. IHP'cl'ic	5			
Time switch, IHP impulse 24-hr/7-day	5			
Time switch, IHP 3-4 ch., impulse	10			
Time switch, IHP, annual	10			
Timer, MIN	2			
Timer, MINe, MINp, MINs	2			
Transformer, TR, 4 VA	4			
Transformer, TR, 8 and 16 VA	4			
Transformer, TR, 25 VA	6			
Transformer, TR, 16 VA to 63 VA	10			
Vigilohm, EM (9, 9B)	8			
Vigilohm, TRS5A and SM21	11			
Vigirex, RH (10A/AP, 320A/AP, 328A/AP)	8			
Vigi module C60 y 25 A		3	6	6
Vigi module C60 y 40 and 63 A		4	7	7
Vigi module C120 all ratings		7	10	10
Vigi module NG125		5	9	11
Vigi module XC40		3	4	5
Vigi module XC40 (30 mA)		3	5	5
Vigi module DT40		2	4	
Vigi module TG40		2	6	
Voltage adaptor module, MDU	1			
Voltmeter, VLT analogue	8			
Voltmeter, VLT digital	4			
Watt-hour meters, ME1, ME1z, ME1zr	4			
Watt-hour meters, ME3, ME3zr, ME3zrt			8	
Watt-hour meters, ME4, ME4zr, ME4zrt				8

Circuit breakers

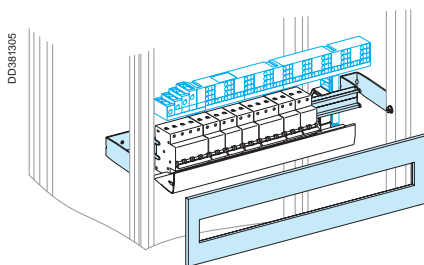
Multi 9 devices



200 A Multiclip.
Cable running: trunking.
Mounting requires 4 vertical modules.



Comb busbars.
Cable running: cable straps.
Mounting requires 3 vertical modules.



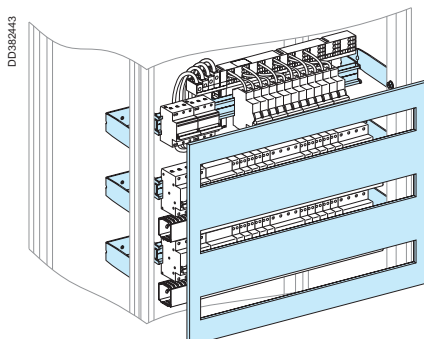
80 A Multiclip.
Cable running: cable straps.
Mounting requires 3 vertical modules.

Device	No. of vertical modules	Modular rail	Modular front plate
All Multi 9 devices			
All supply systems (comb busbars, Multiclip) with cable straps and trunking sections	4	03401	03204
Multi 9 devices ≤ 40 A			
Connection via 63/80 A Multiclip or comb busbars with cable straps	3	03401	03203

Capacity of modular rail: 48 x M9 modules.

Note: For a modular row with a 160 A (half row) and 200 A Multiclip distribution block positioned directly below a non-modular mounting plate (Compact, Interpact, etc), or at the top of a switchboard: add one module (i.e. 4 + 1) and a plain upstream front plate (03801).

3 rows of Multi 9 device



Device	No. of vertical modules	Modular rail	Modular front plate
Designation			
3 rows of Multi 9 devices ≤ 40 A supply via comb busbars or Multiclip distribution blocks (63/80 A) Cable running using cables straps	8	03401 x 3	03223

Capacity of modular rail: 48 x M9 modules.

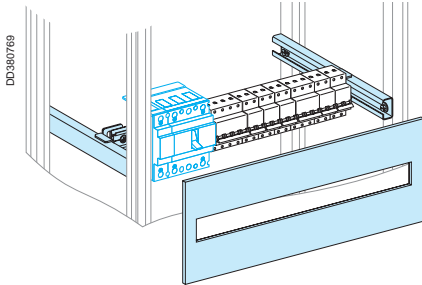
Modular devices

80/160 A

NG160, NG125, C120 circuit breakers

INS40/160 switch-disconnectors

NG160 circuit breaker



Device	No. of vertical modules	Modular rail adjustable (1)	Modular front plate
NG160 circuit breaker			
NG160, Vigi NG160	5	03402 + 04227	03205

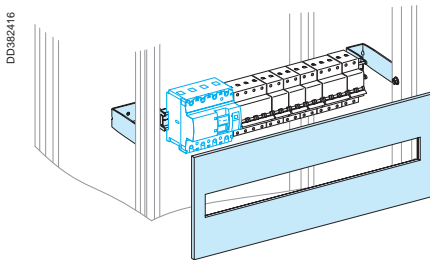
(1) To add modular devices to the row, order a raised DIN rail (04227).

Capacity of modular rail: 48 x M9 modules.

Width of NG160 circuit breakers:

- NG160 3P: 10 x M9 modules
- NG160 4P: 14 x M9 modules
- Vigi NG160 3P: 24 x M9 modules
- Vigi NG160 4P: 27 x M9 modules

NG125, C120 circuit breaker



Device	No. of vertical modules	Modular rail	Modular front plate
NG125, C120 circuit breaker			
NG125, Vigi NG125 C120, Vigi C120	5	03401	03205

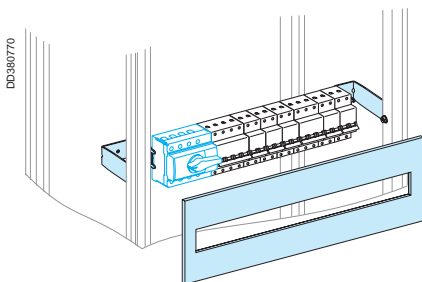
Direct supply via cables.

Capacity of modular rail: 48 x M9 modules.

Note: width of NG125 circuit breakers:

- NG125 3P: 9 x M9 modules
- NG125 4P: 12 x M9 modules
- Vigi NG125 3P ≤ 63 A: fixed sensitivity 18 x M9 modules
adjustable sensitivity 20 x M9 modules
- > 63 A: fixed sensitivity 20 x M9 modules
adjustable sensitivity 20 x M9 modules
- Vigi NG125 4P ≤ 63 A: fixed sensitivity 21 x M9 modules
adjustable sensitivity 23 x M9 modules
- > 63 A: fixed sensitivity 23 x M9 modules
adjustable sensitivity 23 x M9 modules
- C120 3P: 9 x M9 modules
- C120 4P: 12 x M9 modules
- Vigi C120 3P: 19 x M9 modules
- Vigi C120 4P: 22 x M9 modules

INS switch-disconnector



Device	No. of vertical modules	Modular rail	Modular front plate
INS160			
INS40/160	4	03401	03204
INS100/160 with long terminal shields	5	03401	03205

Direct supply via cables.

Capacity of modular rail: 48 Multi 9 modules.

Note: width of devices:

- INS40/80: width 10 x M9 modules
- INS100/160: width 15 x M9 modules

Functional units

W = 400 mm

Circuit breakers

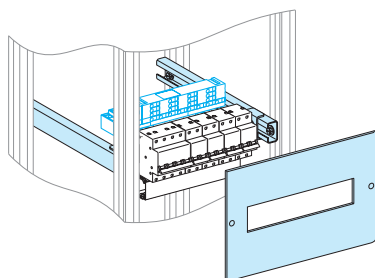
Modular devices

NG125 circuit breaker

NSA125/160 circuit breaker

INS40/160 switch-disconnector

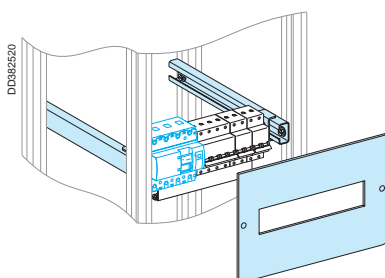
Multi 9 devices



Device	No. of vertical modules	Modular rail (adjustable)	Modular front plate
All Multi 9 devices			
All supply systems (comb busbars, 63/160 A 1/2 row Multiclip) with cable straps and trunking sections	4	03404	03214
Multi 9 devices ≤ 40 A			
Supply via 63 A Multiclip or comb busbars with cable straps	3	03404	03213

Capacity of modular rail: 20 x M9 modules.

NG125 circuit breaker

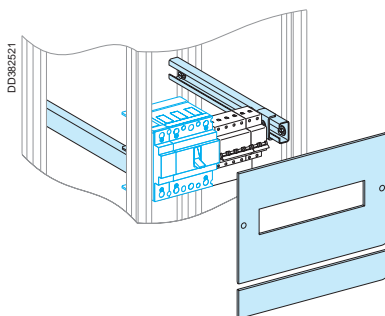


Device	No. of vertical modules	Modular rail (adjustable)	Modular front plate	Downstream front plate
Designation				
NG125 circuit breaker	3/4P	5	03404	03214
Vigi NG125	3P			03811

Capacity of modular rail: 20 x M9 modules.

Width of NG125 circuit breakers: NG125 3P: 9 x M9 modules
 NG125 4P: 12 x M9 modules
 Vigi NG125 3P ≤ 63 A: fixed sensitivity 18 x M9 modules
 adjustable sensitivity 20 x M9 modules
 > 63 A: fixed sensitivity 20 x M9 modules
 adjustable sensitivity 20 x M9 modules
 Vigi NG125 4P ≤ 63 A: fixed sensitivity 21 x M9 modules
 adjustable sensitivity 23 x M9 modules
 > 63 A: fixed sensitivity 23 x M9 modules
 adjustable sensitivity 23 x M9 modules

NSA125/160 circuit breaker



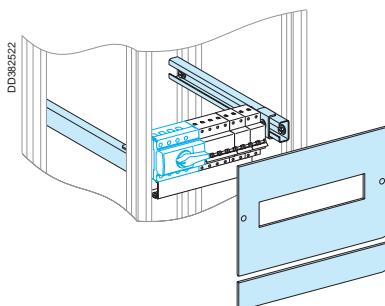
Device	No. of vertical modules	Modular rail (adjustable)	Modular front plate	Downstream front plate
Designation				
NSA125/160 circuit breaker	5	03404	03214	03811

Capacity of modular rail: 20 x M9 modules.

Note: to mix an NSA125/160 circuit breaker with Multi 9 modular devices, order (with the device) the symmetrical rail + raiser set (28041).

Width of devices: NSA125/160 3P: 10 x M9 modules
 NSA125/160 4P: 14 x M9 modules

INS40/160 switch-disconnector



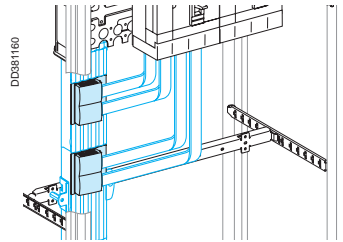
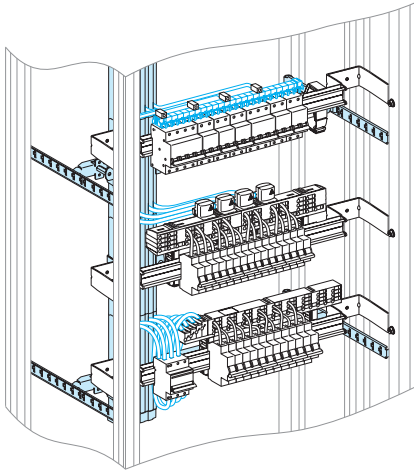
Device	No. of vertical modules	Modular rail (adjustable)	Modular front plate	Downstream front plate
Designation				
INS40/160 switch-disconnector	4	03404	03214	
INS100/160 switch-disconnector with long terminal shields	5	03404	03214	03811

Capacity of modular rail: 20 Multi 9 modules.

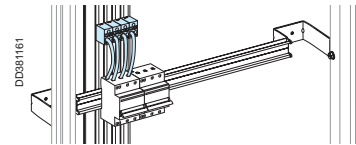
Width of devices: INS40/80: width 10 x M9 modules
 INS100/160: width 15 x M9 modules

Distribution via Powerclip busbars

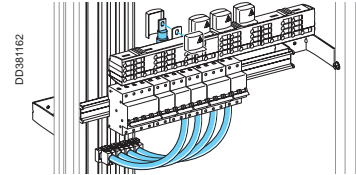
DD381306



Universal power supply block for the Powerclip insulated busbars.



Powerclip tap-off blocks.



200 A Multiclip connection (04021).

Presentation

The Powerclip insulated busbars are mounted using a System G adapter (03595) made up of four lateral cross-members and two longitudinal cross-members. The busbars can be positioned at precisely the desired spot, to the left (preferably), in the middle or to the right of the row of devices.

The depth adjustment of the longitudinal cross-members facilitates connections for all types of devices (fixed/withdrawable, toggle/rotary handle/motor mechanism, etc.).

For busbars:

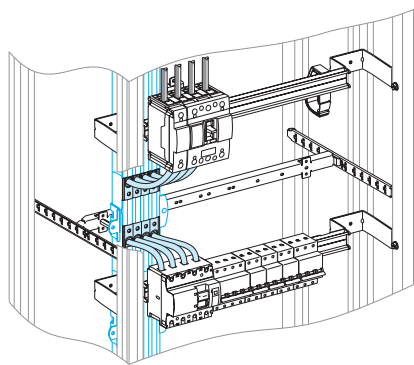
- ≤ 800 mm long, order one System G adapter (03595)
- > 800 mm long, order two System G adapters (03595 x 2).

Cat. no. selection

Designation

Powerclip insulated busbars	see page B-40
System G adapter, W= 500 mm (03595)	see page A-79

DD383289



One-piece device/Powerclip connection

Respects the degree of protection I_{pxxB} on both busbar and device ends. Neutral is clearly indicated (blue).

NG160 incoming device (located on left-hand side), NG125, INS160, C120

One-piece 3/4 P fast connection to busbars, equipped with male fittings one end for tunnel terminals.

Designation

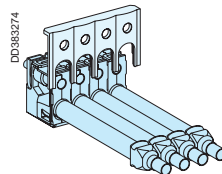
One-piece connection, 160A, L = 150 mm

Cat. no.

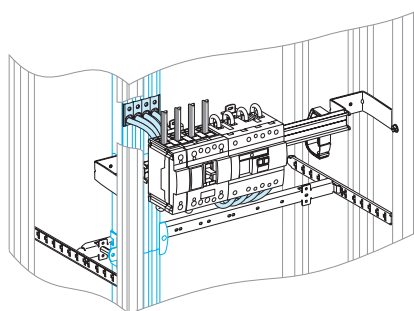
04147

A multi-purpose connection for:

- Supply to Powerclip busbars from a switchboard incomer
- Supply to a row incomer from Powerclip busbars.



DD383290



NG160 Vigi incoming device (located on left-hand side)

NG160 (without Vigi) incoming device (located in the middle)

NG125, INS160, C120

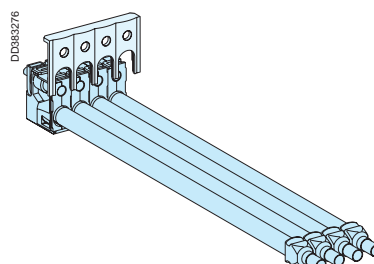
One-piece 3/4 P fast connection to busbars, equipped with male fittings one end for tunnel terminals.

Designation

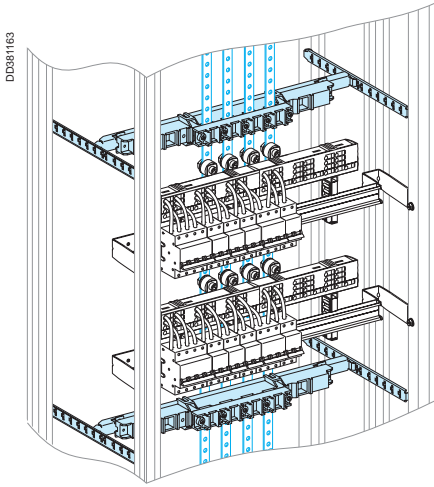
One-piece connection, 160A, L = 440 mm

Cat. no.

04148



Distribution via rear busbars



Installation

Solution 1

The rear flat busbars are mounted using a System G adapter (03595) made up of four lateral cross-members and two longitudinal cross-members.

The depth adjustment of the longitudinal cross-members facilitates connections for all types of devices (fixed/withdrawable, toggle/rotary handle/motor mechanism, etc.).

The number of adapters that must be ordered depends on the required number of supports.

Solution 2

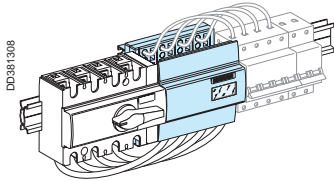
The support for the busbars clips to the rear of the modular rail.

Cat. no. selection

Designation

Rear busbars	<i>see page B-43</i>
System G adapter, L = 500 mm (03595)	<i>see page A-79</i>

Distribloc distribution block

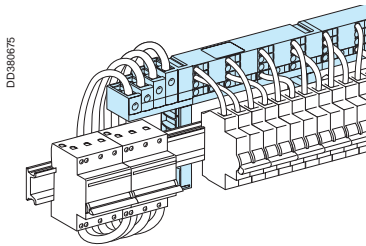


DD381308

Designation	Cat. no.
125 A Distribloc distribution block	04045
160 A Distribloc distribution block	04046

see page B-45.

63 A Multiclip distribution block

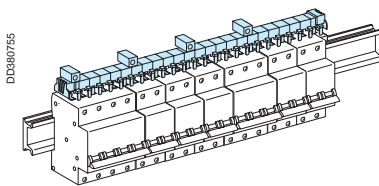


DD386075

Designation	Cat. no.
Multiclip, 63 A, 4P, 1/2 row	04008
Multiclip, 80 A, 4P	04004
Multiclip, 160 A, 4P, 1/2 row	04018
Multiclip, 200 A, 2P	04012
Multiclip, 200 A, 3P	04013
Multiclip, 200 A, 4P	04014
Connection between 200 A Multiclip 4P and Powerclip insulated busbars	04021
Connection between 160 A Multiclip (1/2 row) and devices	04030

see page B-50.

Comb busbars



DD386075

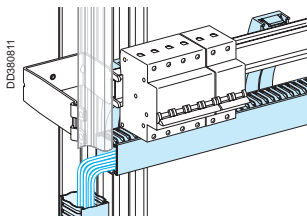
For C60 circuit breakers

Designation	Cat. no.
1P 24-module comb busbar (9 mm modules)	14481
Two 48-module comb busbars (9 mm modules)	14891
2P 24-module comb busbar (9 mm modules)	14482
Two 48-module comb busbars (9 mm modules)	14892
3P 24-module comb busbar (9 mm modules)	14483
Two 48-module comb busbars (9 mm modules)	14893
4P 24-module comb busbar (9 mm modules)	14484
Two 48-module comb busbars (9 mm modules)	14894

For C120 and NG125 circuit breakers

Designation	Cat. no.
1P (W = 430 mm, 16 poles)	14811
2P (W = 430 mm, 16 poles)	14812
3P (W = 430 mm, 16 poles)	14813
4P (W = 430 mm, 16 poles)	14814
Thoot caps (set of 20)	14818

Cable running

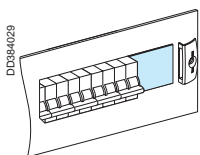


DD380811

Designation	Cat. no.
Cable straps	
12 vertical cable straps	04262
2 covers, 1-meter long, for vertical cable straps	04263
12 horizontal cable straps	04239
4 covers, 430 mm long, for horizontal cable straps	04243
Trunking	
4 horizontal sections, 60 x 30 mm, L = 450 mm	04257
12 horizontal trunking supports	04255
10 adaptable support for horizontal trunking	04256
Vertical section, 80 x 60 mm, L = 2 m	04267

see page B-66.

Blanking plates



DD384029

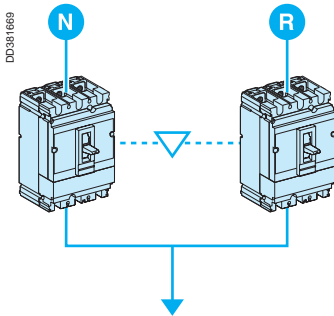
Designation	Cat. no.
Blanking strip, H = 46 mm, L = 1 m	03220
4 divisible blanking plates, H = 46 mm, L = 90 mm	03221

see page C-23.

Source-changeover systems

Compact / Masterpact

Source changeover



General

To ensure the supply of energy at all times, certain electrical installations are connected to two sources:

- the normal source
- the replacement source that steps in to supply the installation if the normal source is not available.

A mechanical and/or electrical interlocking system between two Interpact, Compact or Masterpact switch-disconnectors or circuit breakers (or a mixture) avoids simultaneous connection of the two sources during switching.

The source-changeover system can be:

- manual when the devices are mechanically interlocked
- remote operated when there is also an electrical interlocking system
- automatic, by adding an automatic controller that manages switching from one source to another according to a number of external parameters.

Manual source-changeover system

This is the most simple system. A human operator is required and consequently, the transfer from the normal source to the replacement source is delayed.

A manual source-changeover system comprises two or three manually controlled devices (circuit breakers or switch-disconnectors) that are mechanically interlocked. The interlocking system avoids simultaneous connection (even transient) of the two sources.

Remote-operated source-changeover system

This is the most commonly used system. No human intervention is required.

The transfer from the normal to the replacement source is managed electrically.

A remote-operated source-changeover system is made up of two or three devices linked by an electrical interlocking system implemented in a number of manners.

Device control is backed up by a mechanical interlocking system that protects against the consequences of an electrical malfunction and inhibits incorrect manual operation.

Automatic source-changeover system

When a remote-operated source-changeover system is combined with an automatic controller, the sources can be controlled automatically according to a number of programmed operating modes.

This solution provides optimum energy management:

- switching to a replacement source depending on any external conditions
- management of sources
- regulation
- emergency source replacement, etc.

A communications function for dialogue with a supervisor is available for the automatic controller.

See the catalogue dedicated to Compact, Interpact and Masterpact source-changeover systems (ref. ABTEDA-4101149EN).

Source-changeover systems

Possible combinations

Compact NSX100/630, NS630b/1600

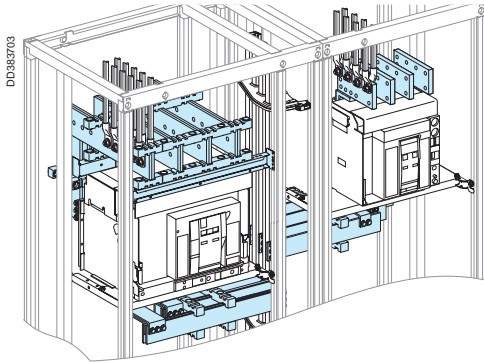
Masterpact NT06/16, NW08/32

Manual source-changeover

All possibilities for manual source-changeover systems

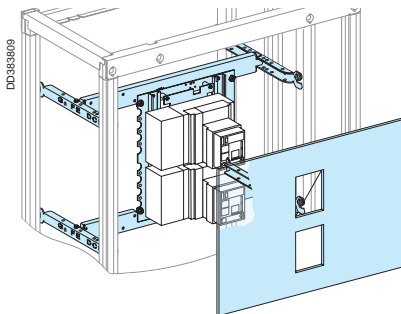
Type of device	Type of interlocking		Keylock	Rotary handle	On base plate	Cable-type with 2 devices side-by-side ⁽²⁾	Cable-type with 3 devices side-by-side ⁽²⁾	Cable-type with 2 devices one above another
	Complete assembly	Toggle						
INS250 (ratings 100 to 250)	■			■				
INV100 to INV250 ⁽¹⁾				■				
INS320 to INS630	■			■				
INV320 to INV630 ⁽¹⁾				■				
NSX100 to NSX250		■		■	■			
NSX400 to NSX630		■		■	■			
NS630b to NS1600			■	■		■		■
NT06 to NT16			■			■		■
NW08 to NW63						■	■	■

(1) Visible break function.
 (2) In 2 or 3 cubicles.

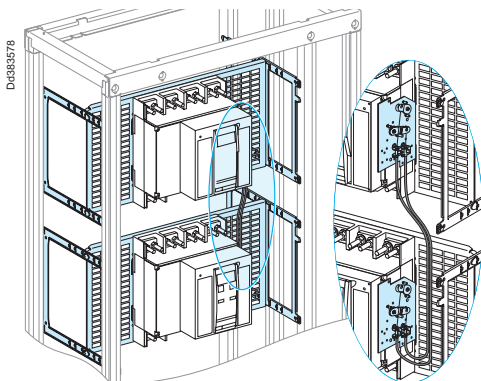


Devices side by side in two adjacent cubicles.

Remote-operated source-changeover systems Mechanical interlocking system



Horizontal NSX100/630.



NS630b/1600 device one above the other, mechanical interlocking using cables.

Combination of Compact “Normal” and “Replacement” source devices

	“Replacement” R				
	NSX100	NSX160	NSX250	NSX400	NSX630
NSX100					
Ratings 12 5... 100 A	■	■	■		
NSX160					
Ratings 12 5... 160 A	■	■	■		
NSX250					
Ratings 12 5... 250 A	■	■	■		
NSX400					
Ratings 160... 400 A				■	■
NSX630					
Ratings 250... 630 A				■	■

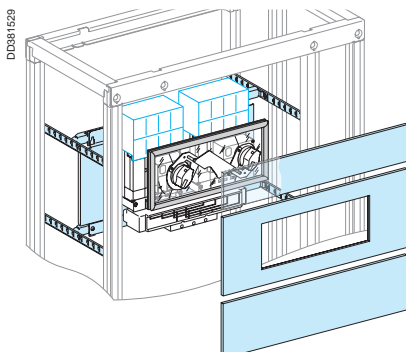
Combination of “Normal” and “Replacement” source devices (interlocking via cables)

“Normal N”	“Replacement” R		
	NS630b to NS1600	NT06 to NT16	NW08 to NW40
NS630b to NS1600	■		
NT06 to NT16		■	■
NW08 to NW40		■	■

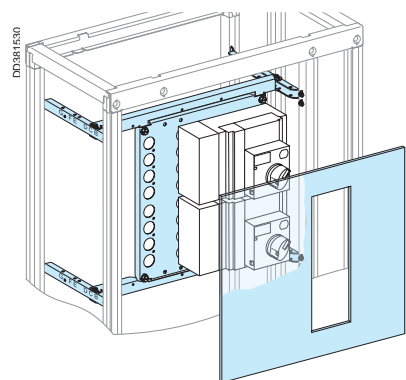
Manual source-changeover systems

Compact NSX100/630, NS630b/1000

NSX100 to 630



NSX100/250.



NSX400/630.

Interlocking of rotary handles

The devices are equipped with a rotary handle. They are mounted on a dedicated mounting plate:

- vertically for NSX100/250
- horizontally for NSX400/630.

	No. of vertical modules	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Compact NS, rotary handle					
NSX100/250	10	03428	03245	03802	03803
NSX400/630	10	03458	03659		

Incoming and busbar connections to be made.

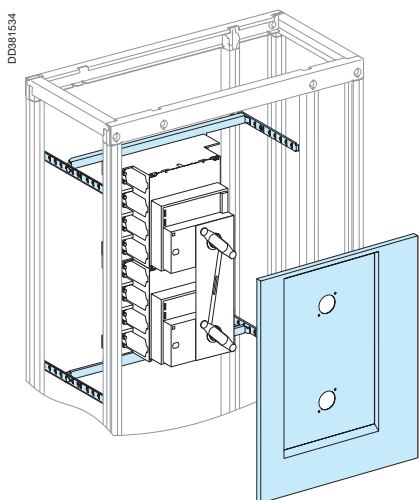
Designation		Front connection long terminal shields	Rear connection short terminal shields
NSX100/250	3P	LV429517	LV429515
	4P	LV429518	LV429516
NSX400/630	3P	LV432593	LV432591
	4P	LV432594	LV432592

Designation	Devices	For 3P device	For 4P device
Shields for spreaders	NSX400/630	LV432595	LV432596

Designation	Devices	Catalogue number
Mechanical interlock	NSX100/250	LV429369
	NSX400/630	LV432621

Designation	Devices	For 3P device	For 4P device
Coupling accessory	NSX100/250	29358	29359
	NSX400/630	32619	32620

Horizontal NS630b to 1000



NS630b/1000.

Interlocking of direct rotary handles

The devices are equipped with a direct rotary handle. They are mounted horizontally on a dedicated mounting plate.

	No. of vertical modules	Mounting plate	Cut-out front plate
Compact NS fixed			
NS630b/1000	13	03491	03695

Incoming and busbar connections to be made.

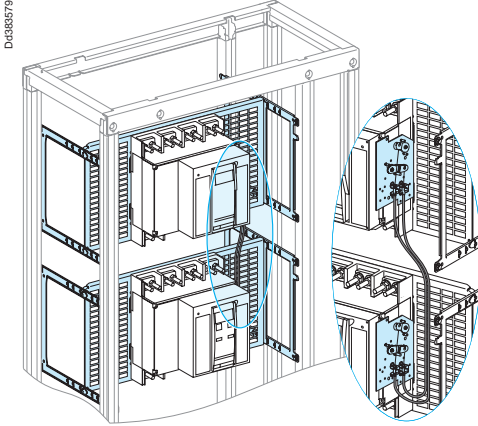
Designation	Devices	For 3P device	For 4P device
Long terminal shields	NS630b/1000	33628	33629
Mechanical interlock	NS630b/1000	33890	33890

Manual source-changeover systems

Compact NS630b/1600

Masterpact, NT06/16, NW08/32

Compact NS630b/1600 Masterpact NT06/16, NW08/32



Source-changeover system with 2 devices one above the other or side-by-side in two combined cubicles

■ these configurations correspond to two standard incoming devices in terms of:

- selection of functional units
- number of modules

To determine the number of modules required for installation of two devices one on top of another, add the number of modules required for each.

- incoming and busbar connection
- partitions and covers

Devices mounted vertically

■ type of interlocking:

- mechanical interlocking using cables
- interlocking of rotary handles (for NS630b/1600 only)

For possible combinations and details concerning installation, see the catalogue dedicated to Compact, Interpact and Masterpact source-changeover systems (ref. ART 29770).

Compact NS630b/1600

See page A-14.

Masterpact NT06/16

See page A-9.

Masterpact NW08/32

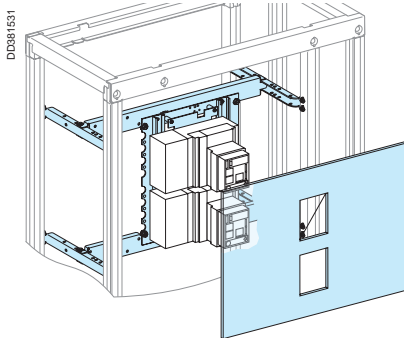
See page A-4

All combinations of Masterpact NT and NW fixed and drawout devices are possible.

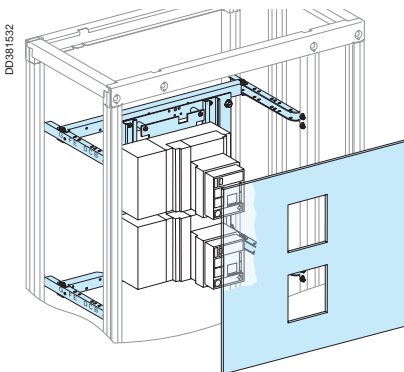
Remote-operated source-changeover system

Compact NSX100/630, NS630b/1600
Masterpact NW08/32, NT06/16

Compact NSX100/630



Compact NSX100/250.



Compact NSX400/630.

Device installation

The devices are equipped with motor mechanisms. They are mounted horizontally on a dedicated mounting plate.

	No. of vertical modules	Mounting plate	Cut-out front plate
Compact NS, fixed or withdrawable/sole			
NSX100/250	8	03417 ⁽¹⁾	03616
NSX400/630	10	03457 ⁽²⁾	03656

(1) Order mounting plate + IVE electrical interlocking unit for NSX100/250 (cat. no. 29350 for AC or 29351 for DC version).

(2) Order mounting plate + IVE electrical interlocking unit for NSX400/630 (cat. no. 32610 for AC or 32611 for DC version).

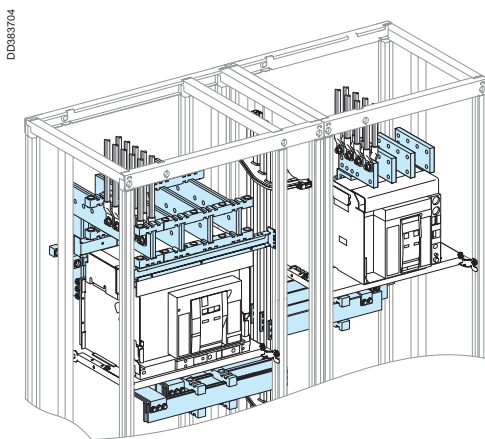
Incoming and busbar connections to be made.

Designation		Front connection long terminal shields	Rear connection short terminal shields
NSX100/250	3P	LV429517	LV429515
	4P	LV429518	LV429516
NSX400/630	3P	LV432593	LV432591
	4P	LV432594	LV432592

Designation	Devices	For 3P device	For 4P device
Shields for spreaders	NSX400/630	LV432595	LV43259

Designation	Devices	For 3P device	For 4P device
Coupling accessory	NSX100/250	29358	29359
	NSX400/630	32619	32620

Compact NS630b/1600 Masterpact NT06/16, NW08/32



Source-changeover system with 2 devices one above the other or side-by-side in two combined cubicles

- these configurations correspond to two standard incoming devices in terms of:
 - selection of functional units
 - number of modules

To determine the number of modules required for installation of two devices one on top of another, add the number of modules required for each.

- incoming and busbar connection
- partitions and covers.

Devices mounted vertically.

Mechanical interlocking using cables + electrical interlocking.

For possible combinations and details concerning installation, see the catalogue dedicated to Compact, Interpact and Masterpact source-changeover systems (ref. ART 29770).

Compact NS630b/1600

See page A-14.

All fixed and all withdrawable combinations are possible.

Masterpact NT06/16

See page A-9.

All fixed, drawout and fixed + drawout combinations are possible.

Masterpact NW08/32

See page A-4.

All fixed, drawout and fixed + drawout combinations are possible.

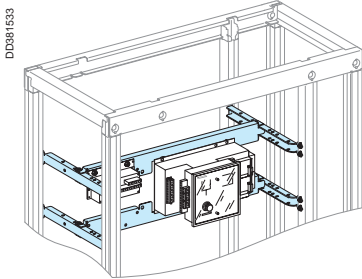
All combinations of Masterpact NT and NW fixed and drawout devices are possible.

Remote-operated source-changeover system

Compact NSX100/630, NS630b/1600
Masterpact NW08/32, NT06/16

Addition of an automatic controller

When a UA, BA or UA150 automatic controller is added together with an ACP mounting plate, the sources can be controlled automatically according to a number of programmed operating modes.



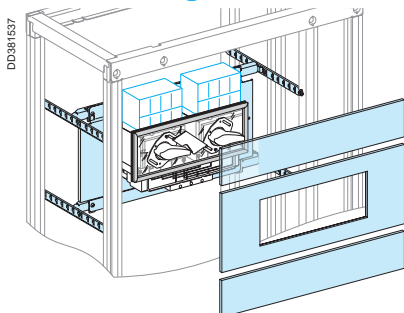
	No. of vertical modules	Mounting plate	Cut-out front plate
UA or BA controller			
UA or BA controller	4	03417	03671

Manual source-changeover systems

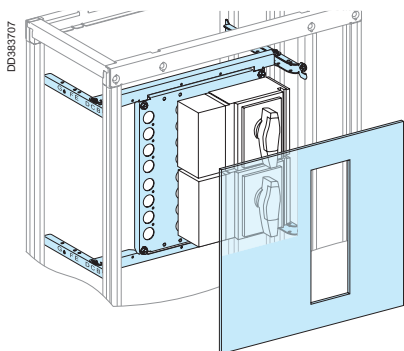
Interpact INS-INV250 to 630

Front direct rotary handle

Manual source-changeover system with mechanical interlocking



INS-INV250.



INS-INV320/630.

Interpact INS-INV250

Devices mounted vertically

Device	No. of vertical modules	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Interpact INS-INV switch-disconnector					
INS-INV250	9	03428	03235	03802	03802

Designation	Cat. no.
Long terminal shields (set of 2)	29324
Mechanical interlock	31073
Coupling accessory	29358 (for 3P device) 29359 (for 4P device)

Interpact INS-INV320/630

Devices mounted horizontally

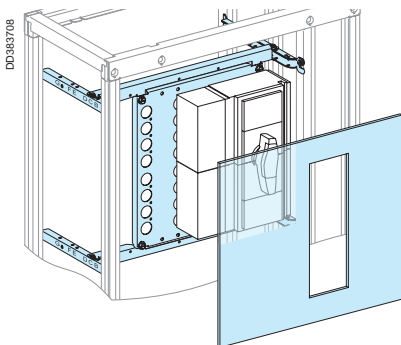
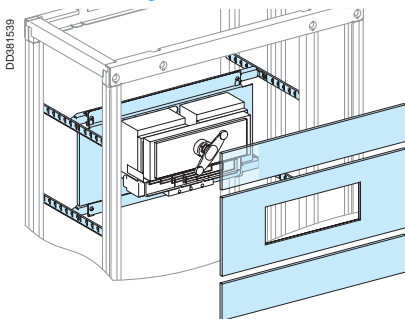
Device	No. of vertical modules	Mounting plate	Cut-out front plate
Interpact INS-INV switch-disconnector			
INS-INV320/630	10	03458	03659

Designation	Cat. no.
Long terminal shields (set of 2)	32565
Mechanical interlock	31074
Coupling accessory	32619 (for 3P device) 32620 (for 4P device)

Manual source-changeover systems

Interpact INS250 to 630

Complete source-changeover assembly



INS-INV320/630.

Interpact INS250

Devices mounted vertically

Device	No. of vertical modules	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Interpact INS switch-disconnector					
INS250	9	03428	03247	03802	03802

Designation	Rating	For 3P device	For 4P device
Complete source-changeover assembly	100 A	31140	31141
	160 A	31144	31145
	200 A	31142	31143
	250 A	31146	31147

Designation	Cat. no.
Coupling accessory	29358 (for 3P device)
	29359 (for 4P device)
Long terminal shields (set of 2)	29324

Interpact INS320/630

Devices mounted horizontally

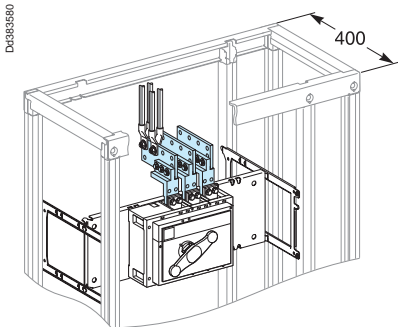
Device	No. of vertical modules	Mounting plate	Cut-out front plate
Interpact INS switch-disconnector			
INS320/630	10	03458	03661

Designation	Rating	For 3P device	For 4P device
Complete source-changeover assembly	320 A	31148	31149
	400 A	31150	31151
	500 A	31152	31153
	630 A	31154	31155

Designation	Cat. no.
Coupling accessory	32619 (for 3P device)
	32620 (for 4P device)
Long terminal shields (set of 2)	32625

Interpact INS-INV630b to 2500 INS-INV2000-2500

Connection



INS-INV630b/1600.

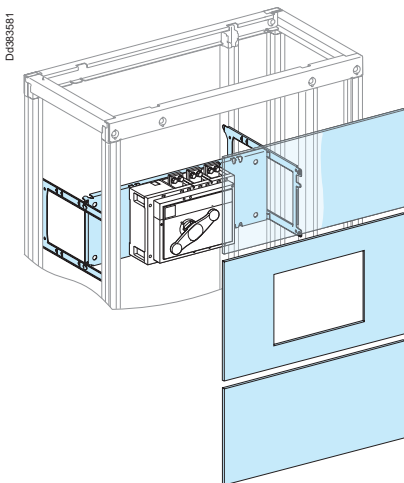
Cable connection

Device		Vert. conn. adapters	Vertical-connection adapters	Cable-lug adapters	Terminal extension bar support
Interpact INS-INV					
INS-INV630b/1600	3P	31301		33644	
	4P	31302		33645	
INS-INV2000-2500	3P		33975		04694
	4P		33976		04694

Depending on the type of front connection, an INS-INV2000-2500 can be mounted in a 400 mm or 600 mm deep enclosure.

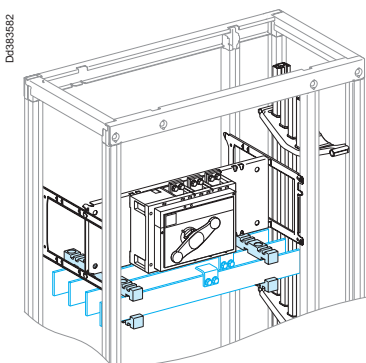
For rear connection, a 600 mm deep enclosure is required.

Device installation



Device		No. of modules	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Interpact INS-INV						
INS-INV630b/1600	3P	14	03501	03713	03804	03804
	4P	14	03501	03714	03804	03804
INS-INV2000-2500	3P/4P	14	03501	03715	03803	03803

Distribution



Flat or Lineryg busbars

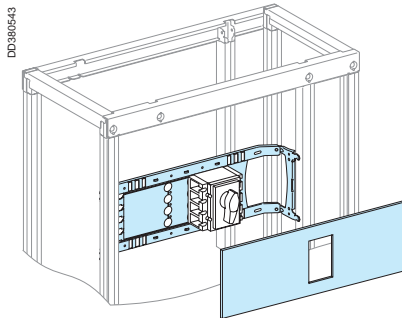
Device		Connection	Free supports	Cover for BB connection
Interpact INS-INV				
INS-INV630b/1600	3P	04481 (Lineryg)		04926 ⁽¹⁾
	4P	04482 (Lineryg)		04926 ⁽¹⁾
INS-INV2000-2500	3P/4P	must be made	04662 x 2	04926 ⁽¹⁾

(1) Partitioning of devices must be made.

Selection of Lineryg busbars: see page B-10.

Selection of flat busbars: see page B-18.

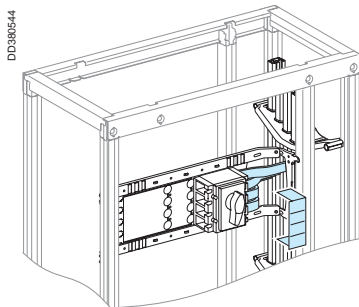
Installation



DD380543

Device	No. of vertical modules	Mounting plate	Cut-out front plate
Interpact INS-INV switch-disconnector			
INS-INV250	4	03412	03617
INS-INV320/630	5	03452	03658

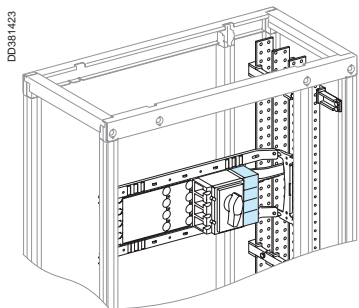
Busbar connection



DD380544

Linerly busbars

Device		Prefabricated connection	Short terminal shields (set of 2)
Interpact INS-INV switch-disconnector			
INS-INV250	3P	04427	29322
	4P	04428	29322
INS-INV320/630	3P	<i>must be made</i>	32563
	4P	<i>must be made</i>	32563

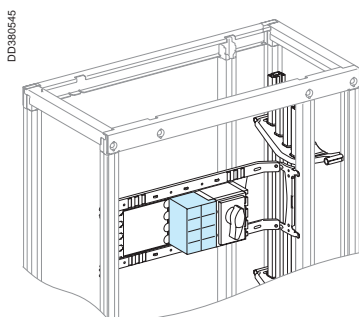


DD381423

Flat busbars

Device	Connection	Short terminal shields (set of 2)
Interpact INS-INV switch-disconnector		
INS-INV250	<i>must be made</i>	29322
INS-INV320/630	<i>must be made</i>	32563

Connection



DD380545

Device	Front connection Long terminal shields (set of 2)	Rear connection ⁽¹⁾ Short terminal shields (set of 2)
Interpact INS-INV switch-disconnector		
INS-INV250	29324	29322
INS-INV320/630	32565	32563

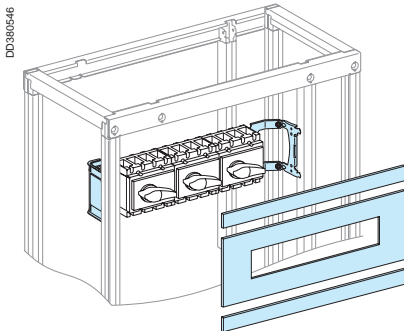
(1) For rear connection, protection of terminals is ensured by Form 4 partitioning: see page B-32.

Interpact INS-INV250 to 630

Vertical

Front handle

Installation

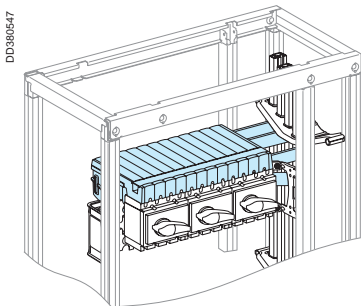


Device	No. of devices	No. of vertical modules ⁽¹⁾	Mounting plate	Cut-out front plate	Upstream front plate	Downstream front plate
Interpact INS-INV switch-disconnector						
INS-INV250	1	7	03420	03248	03801	03801
INS-INV250	2/3	7	03420	03620 ⁽²⁾	03801	03801
INS-INV320/400	1	10	03461	03274		
INS-INV500/630	1	11	03461	03274	03801	

⁽¹⁾ For the Interpact INS-INV250, the number of modules indicated is for supply via a Polycompact distribution block. For supply via cables, two additional modules are required; add a plain front plate upstream (03802).

⁽²⁾ Front plate 03620 is intended for 2 or 3 INS-INV250 devices.

Busbar connection

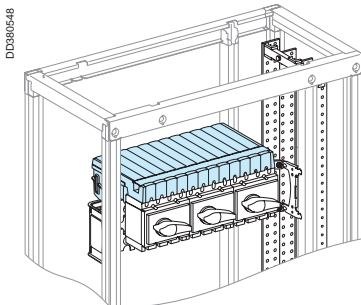


Linery busbars

Device	Polycompact (with connection)	Long terminal shields
Interpact INS-INV switch-disconnector		
INS-INV250	04404	
INS-INV320/630	must be made	32565

Selection of flexible bars for the connection: see page B-54.

Accessories	Cat. no.
Polycompact tooth-caps	04809



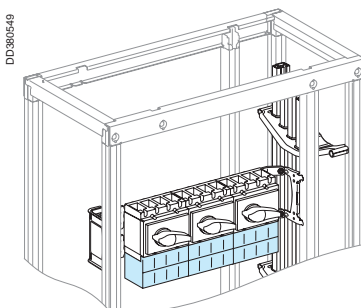
Flat busbars

Device	Polycompact (w/o connection)	Long terminal shields
Interpact INS-INV switch-disconnector		
INS-INV250	04408	
INS-INV320/630	must be made	32565

Selection of flexible bars for the connection: see page B-54.

Accessories	Cat. no.
Polycompact tooth-caps	04809

Connection



Device	Front connection Long terminal shields	Rear connection ⁽¹⁾ Short terminal shields
Interpact INS-INV switch-disconnector		
INS-INV250	29324	29322
INS-INV320/630	32565	32563

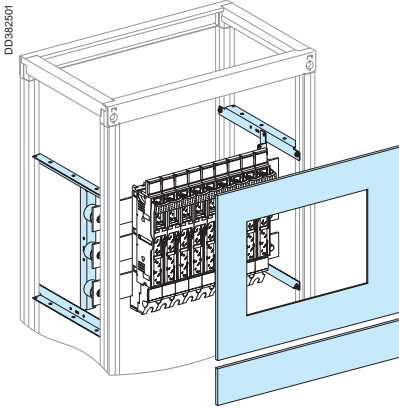
⁽¹⁾ For rear connection, size reduced one module; a plain downstream front plate (03801) is not needed. Protection of terminals is ensured by Form 4 partitioning: see page B-32.

Fupact ISFL

Vertical

3P

Installation through cut-out front plate in a 650 mm wide cubicle



Mounting principle

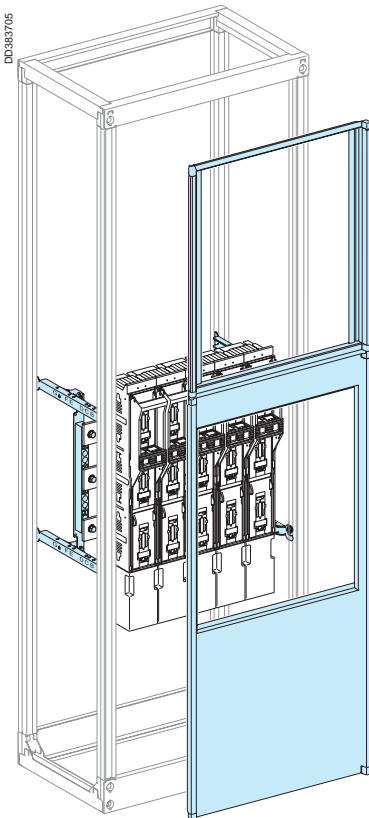
- the fuses are installed on the horizontal bars which are in turn supported by a mounting plate
- the front plates are secured to the hinged front plate support frame
- the front may be covered either by a cover frame or a plain or transparent door
- Current transformers can be installed behind ISFL fuse-switch disconnectors.

Cat. no. selection

Device	Qty per row	No. of modules occupied	Mounting plate + horizontal bars	Cut-out front plate	Downstream front plate
Fuse-switch disconnectors behind door or cover frame					
ISFL160	9	11	03545 + ⁽¹⁾	03736 + 49903 x 2	03801

(1) The bars are made by the customer: for choice of bars, see page B-4.

Installation through a 2/3 cut-out front plate in a 650 mm wide cubicle



Mounting principle

- the fuses are installed on the horizontal bars which are in turn supported by a mounting plate
- the front of the cubicle is made up of two parts:
 - 2/3 cut-out front plate allowing introduction of the fuses
 - 1/3 front plate support frame (12 modules) on which the functional units are mounted
- the front may be covered either by a cover frame or a plain or transparent door
- Current transformers can be installed behind ISFL fuse-switch disconnectors.

Cat. no. selection

Device	No. of devices per row	No. of vertical modules occupied	Mounting plate + horizontal bars	2/3 front plate + 1/3 frame
Fuse-switch disconnectors behind 2/3 front plate				
ISFL160	10	24	03546 + ⁽²⁾ + 49904 ⁽¹⁾ x 5 + 49852 ⁽¹⁾ x 5	03735 ⁽³⁾ + 49903 x 2
ISFL250 ISFL400 ISFL630	5	24	03546 ⁽¹⁾ + ⁽²⁾	03735 ⁽³⁾ + 49910 x 2

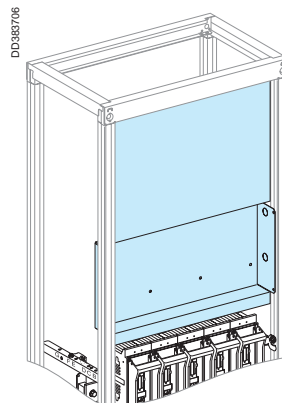
(1) Adaptation accessories 49904 + 49852 used to:

- install two ISFL 160 devices on a mounting plate 03546
- mix ISFL devices.

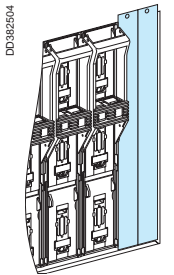
(2) The bars are made by the customer: for choice of bars, see page B-4.

(3) The cat. number 03735 (IP30 front plate for ISFL, 185 mm between centres, W = 650 mm) replaces the cat. number 03733.

Accessories	Cat. No.
Busbar barrier	04860



Accessories



Designation	Cat. no.
Blanking plate for ISFL160	03740
Blanking plate for ISFL250/630 ⁽¹⁾	03741

⁽¹⁾ Use 2 blanking plates per device.

Determining the horizontal rear busbars for ISFT/ISFL devices

Flat bars, 10 mm thick

Devices	Section/phase	Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
ISFL160	1 bar 60 x 10	1400	1250	1320	1160	1250	1070	1160	980	1070	880	980	■
	1 bar 80 x 10	1700	1500	1600	1400	1500	1280	1400	1160	1280	1030	1160	■
ISFL250/ 400/630	1 bar 80 x 10	1700	1500	1600	1400	1500	1280	1400	1160	1280	1030	1160	■
	1 bar 100 x 10	2050	1800	1930	1680	1800	1540	1680	1400	1540	1240	1400	■
	1 bar 120 x 10	2390	2100	2250	1950	2100	1800	1950	1630	1800	1440	1630	

■ connection impossible due to the operating-temperature limits of the devices installed in the switchboard.

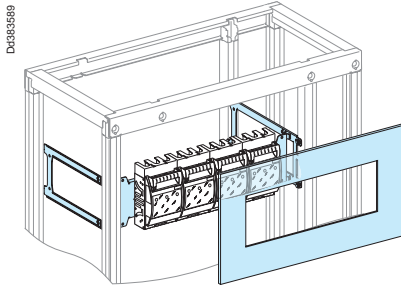
Fupact ISFT

Vertical

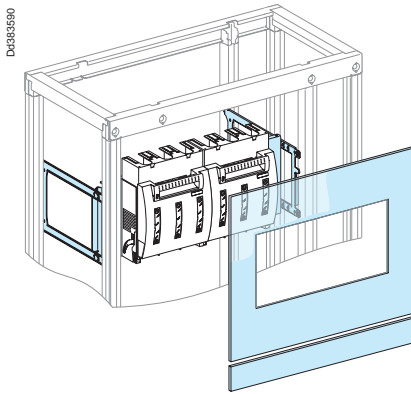
3P

Installation on mounting plate or busbars

Installation



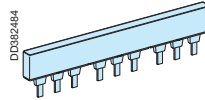
ISFT160 on mounting plate.



ISFT630.

Device	No. of devices per row	No. of vertical modules occupied	Mounting plate	Cut-out front plate	Downstream front plate	Long terminal shields (qty per device)
Fuse-switch disconnectors						
ISFT100 (installation on mounting plate)	5	6	03554	03320		
ISFT160 (installation on mounting plate)	4	6	03556	03321		49869 x 2
ISFT160 (installation on busbars)	4	6	03555	03321		49869 x 2
ISFT250 (installation on mounting plate)	2	9	03557	03322		49872 x 2
ISFT400 (installation on mounting plate)	2	9	03557	03323		49875 x 2
ISFT630 (installation on mounting plate)	1	10	03557	03324	03802	49876 x 2

Accessories



Comb busbars for ISFT100

for 2 devices	49861
for 3 devices	49862
for 4 devices	49863

Coupler to connect 2 busbars 49890

Tooth cover 49864

Set of 3 connectors (25 to 95 mm²) 49865

Set of 3 distribution connectors 3 x 10 mm² 49860

Busbar connection

Linery or flat busbars

Connection made by the customer.

Choice of flexible bars to be used for the connection: see page B-54.

Connection

Cable-tie supports: see page B-55.

Determining the horizontal rear busbars for ISFT/ISFL devices

Flat bars, 10 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
Section/phase		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
ISFT160	1 bar 30 x 10	730	680	680	630	630	570	570	510	510	450	450	■

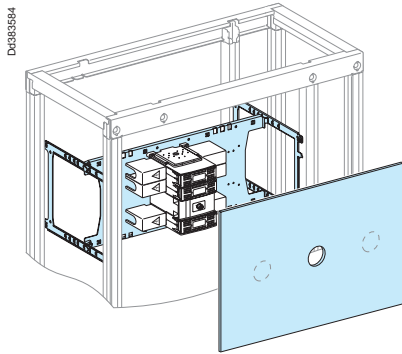
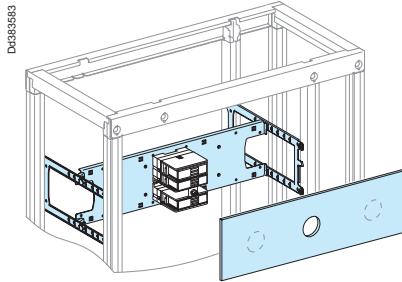
■ connection not possible.

Fupact INF

Horizontal

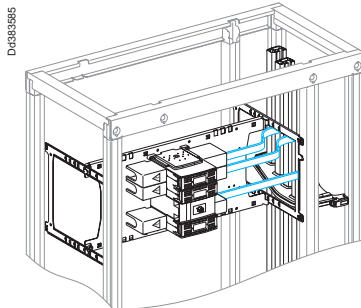
Extended rotary handle

Installation



Device	No. of devices per row	No. of vertical modules	Mounting plate	Cut-out front plate	Long terminal shields
Switch-disconnecteur fuses					
INF32/40	1 x 3/4P	3	03540	03313	
INF63	1 x 3P	5	03541	03314	49658
	1 x 4P	5	03541	03314	49658 x 2
INF100/160	1 x 3P	5	03541	03314	49659 x 6
	1 x 4P	5	03541	03314	49659 x 8
INF250	1 x 3P	7	03543	03727	49255 x 6
	1 x 4P	7	03543	03727	49255 x 8
INF400	1 x 3P	8	03538	03729	49255 x 6
	1 x 4P	8	03538	03729	49255 x 8
INF630	1 x 3P	11	03539	03730	49257 x 6
	1 x 4P	11	03539	03730	49257 x 8
INF800	1 x 3P	11	03539	03730	49257 x 6
	1 x 4P	11	03539	03730	49257 x 8

Busbar connection



Linery or flat busbars

Connection made by the customer.

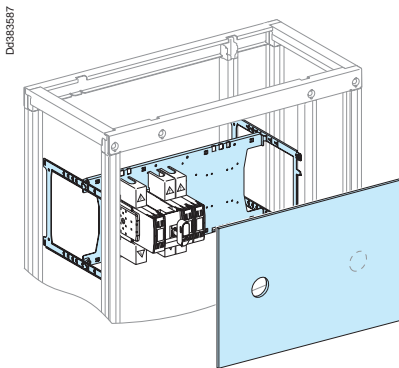
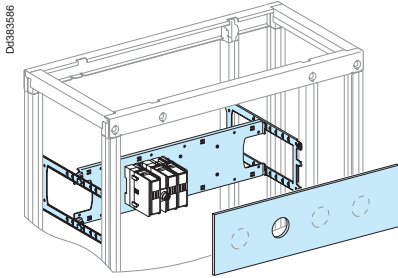
Choice of flexible bars to be used for the connection for INF ≤ 630 A: see page B-54.

Fupact INF

Vertical

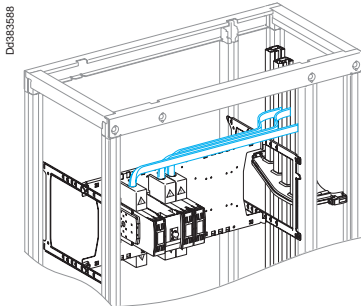
Extended rotary handle

Installation



Device	No. of devices per row	No. of vertical modules	Mounting plate	Cut-out front plate	Upst. front plate	Downst. front plate	Long terminal shields (qty per device)
Switch-disconnecteur fuses							
INF32/40	4 x 3P	3	03540	03312			
	3 x 4P	3	03540	03313			
INF63	3 x 3P	5	03541	03314			49658
	2 x 4P	5	03541	03315			49658 x 2
INF100/160	2 x 3P	5	03541	03315			49659 x 6
	2 x 4P	5	03541	03315			49659 x 8
INF250	1 x 3P	9	03542	03728	03801	03802	49255 x 6
	1 x 4P	9	03542	03728	03801	03802	49255 x 8
INF400	1 x 3P	9	03542	03728	03801	03802	49255 x 6
	1 x 4P	9	03542	03728	03801	03802	49255 x 8
INF630	1 x 3P	11	03542	03728	03802	03803	49257 x 6
	1 x 4P	11	03542	03728	03802	03803	49257 x 8
INF800	1 x 3P	11	03542	03728	03802	03803	49257 x 6
	1 x 4P	11	03542	03728	03802	03803	49257 x 8

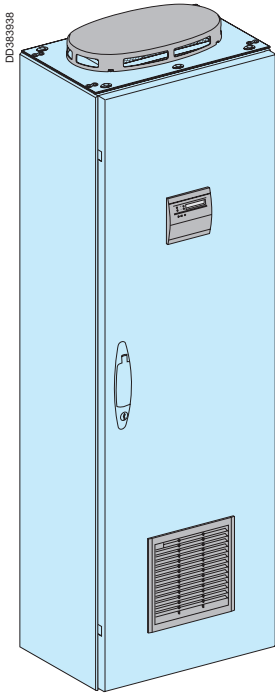
Busbar connection



Linergy or flat busbars

Connection made by the customer.

Choice of flexible bars to be used for the connection for INF ≤ 630 A: see page B-54.



Presentation

Schneider Electric offers power factor correction equipment that integrates perfectly in Prisma Plus switchboards.

The power factor correction modules are installed horizontally in a cubicle and electrically interconnected by a set of front busbars.

The busbars are supplied by a protection device installed outside the cubicle. Special Prisma Plus cubicles are used for power factor correction, given the temperature rise inside the cubicles.

They comply with and are tested according to standard IEC 60439-1.

Installation

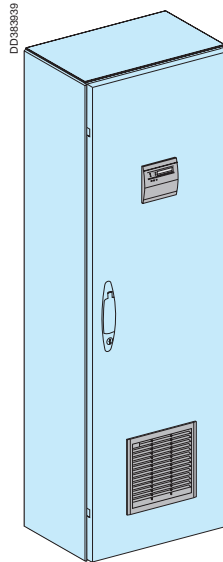
Mounting plates are equipped with the power factor correction modules, made up of a contactor, the corresponding protection fuses and a set of busbars.

They are installed in a 650 mm wide cubicle that is either 400 or 600 mm deep depending on the depth of the switchboard to which it will be added.

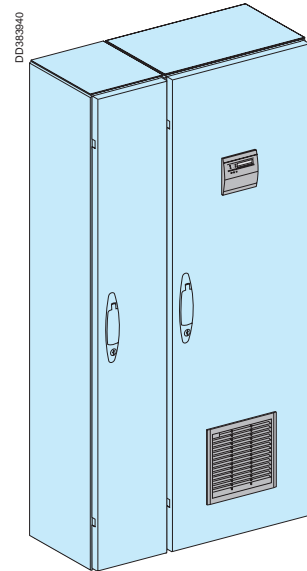
Each cubicle can be equipped with up to 5 or 4 Varpact Classic or Comfort power factor correction modules or up to five Varpact Harmony power factor correction modules, positioned one above the other.

The cubicle has a ventilated roof that can be equipped with one or two fans.

The door has cut-outs, one for the Varlogic power factor controller and another in the bottom for a filter.



Standard cubicle supplied via the bottom.

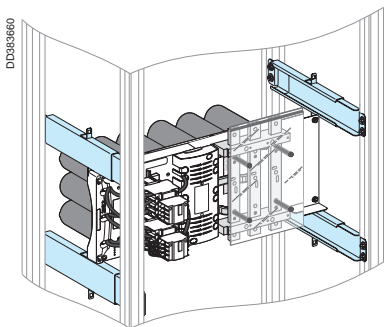


Cubicle with a 300 mm wide compartment for incoming cables via the top.

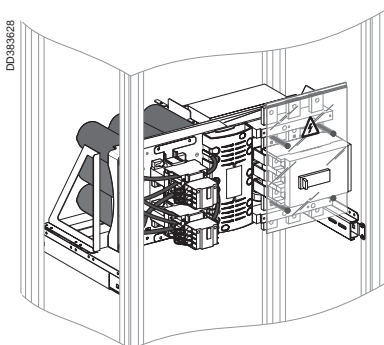
Power factor correction equipment

Varpact

Device installation



Varpact Classic and Comfort installation.



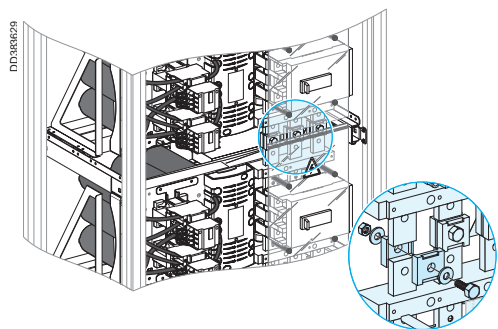
Varpact Harmony installation.

Prisma Plus cubicles can be used for installation of the new “Varpact” power factor correction modules designed to improve power system quality and reduce consumption of reactive energy. These modules are made up of capacitors, contactors and special protection against internal faults. Depending on the version, they come equipped with front busbars or not.

The following table indicates the maximum number of Varpact modules that can be installed in one cubicle (D=400 mm or 600 mm) without exceeding temperature rise limits, as well as the catalogue numbers of the necessary mounting accessories.

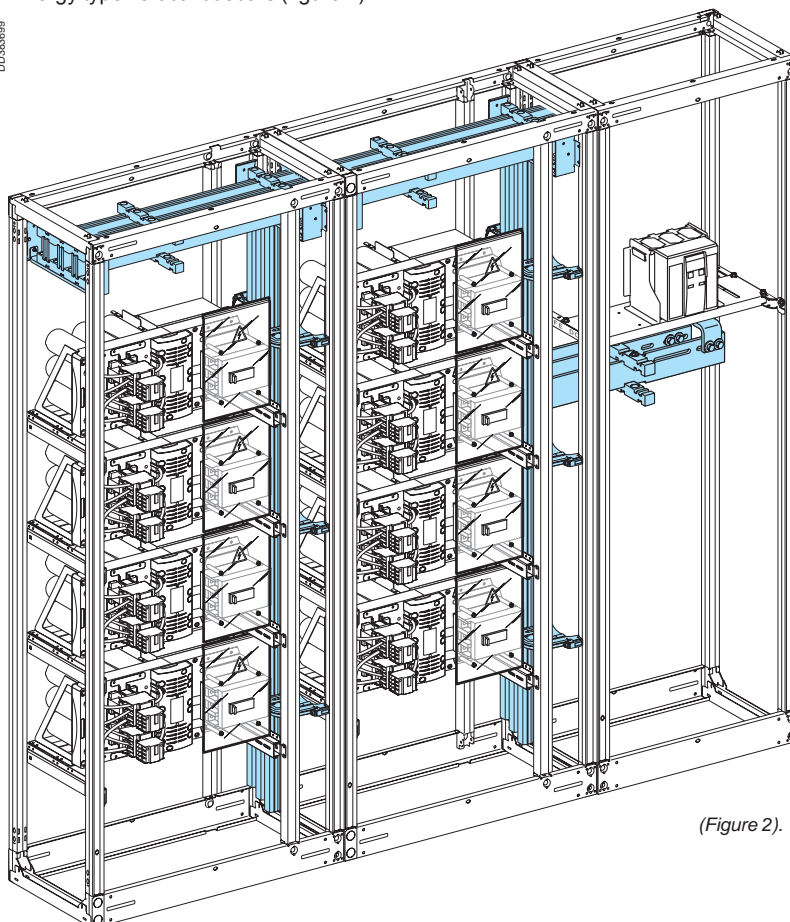
Type of equipment	No. of power factor correction modules per cubicle	Mounting plate cat. no.	Set of captive nuts
Varpact Classic	5	51670 + 51635	08921
Varpact Comfort	5	51670 + 51635	08921
Varpact Harmony	4	■	08921

Electrical connections



Electrical connections between modules. (Figure 1).

The power factor correction modules equipped with busbars can be interconnected by joining the bars (figure 1). Modules without busbars can be supplied using Linergy type vertical busbars (figure 2).

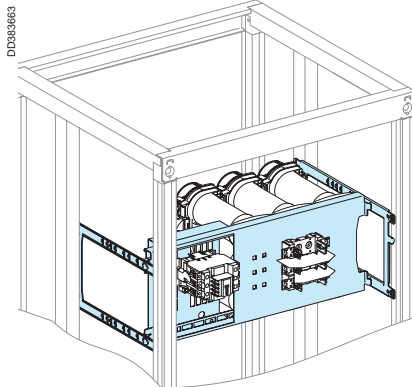


(Figure 2).

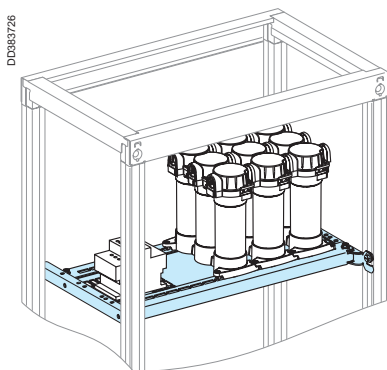
Power factor correction equipment

Varplus

Device installation



Vertical installation mounting plate Varplus (03975).



Horizontal installation mounting plate Varplus (03978).

Based on Prisma Plus modular design, the Varplus² system kit can be used to install power factor correction equipment in 650 mm wide cubicles.

The table below indicates the type of mounting plate to be used according to installation requirements.

Type of installation	Cubicle depth	Mounting plate cat. no.
Vertical installation	400 or 600 mm	03975
Horizontal installation	400 or 600 mm	03978

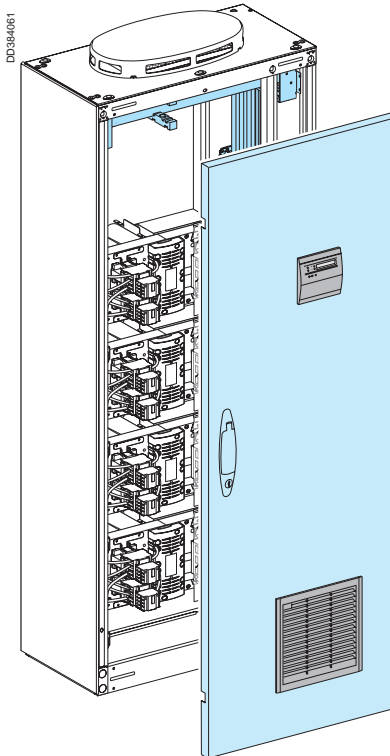
Reactive power Q per Varplus² functional unit depending on voltage.

The following table indicates the maximum permissible reactive power per functional unit (corresponding to three Varplus² capacitors).

Voltage	Q (kvar)
230 V	30 kvar
400 V	60 kvar

Power factor correction equipment

Door with cut-outs



Power factor correction equipment is mounted in special, 650 mm wide cubicles that are 400 or 600 mm deep. Standard cover panels are used. However, a special door is used (hinges on left only) that has cut-outs, one for the Varlogic power factor controller and another in the bottom for a filter.

Designation	Cat. no.
Door with cut-outs	03970

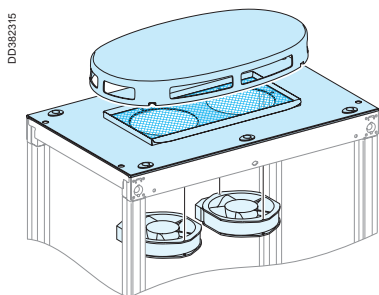
When several cubicles are combined to build a form 2 switchboard, inter-cubicle partitions must be used.

Cubicle depth	Partition designation	Cat. no.
400 mm	Inter-cubicle partition, D = 400 mm	04911
600 mm	Inter-cubicle partition, D = 600 mm	04931 ⁽¹⁾

⁽¹⁾ For inter-cubicle partitioning of 600 mm depth cubicles, order partitions 04931 + 04911.

Note: for further details, see page B-36.

IP30 / IP31 roof



A roof with a cut-out ensures natural ventilation of the equipment. It can also be equipped with one or two fans. It is supplied with a cover to protect the fans against dust, condensation or falling objects. It is available in 400 and 600 mm depths.

Selection guide

- switchboard IP ≤ 3x
- Varpact Classic or Comfort equipment > 180 kvar and Varpact Harmony - two fans are required
- switchboard IP > 3x
- two fans are required, whatever the type of equipment.

Cat. no. selection

Designation		Cat. no.
Roof with cut-out + cover, W = 650 mm	D = 400 mm	08476
	D = 600 mm	08676
Fan		08986

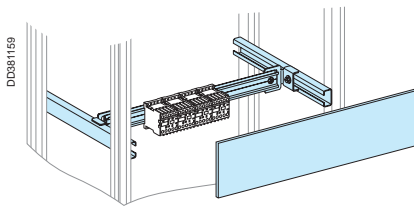
Fan characteristics

Power rating: 35 W
 Input voltage: 230 V
 Throughput via outlet grill: with standard filter: 300 m³/hr
 with fine filter: 220 m³/hr

Noise level: 52 dB.

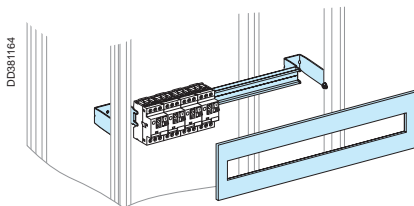
Others

Series D and K contactors



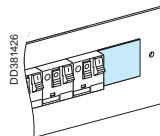
Device	No. of vertical modules	Useful rail length	Modular rail (adjustable)	Plain front plate
Series D and K contactors ≤ 40 A	3	432 mm	03402	03803

GV2/GV3 circuit breakers



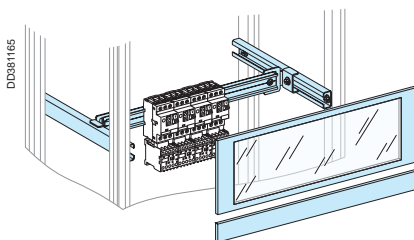
Device	No. of vertical modules	Useful rail length	Modular rail	Cut-out front plate
GV2	3	432 mm	03401	03203
GV3	5	432 mm	03402	03205

Width of devices without lateral auxiliaries: 45 mm.



Modular blanking plates: see page C-23.

GV2 + contactor combination

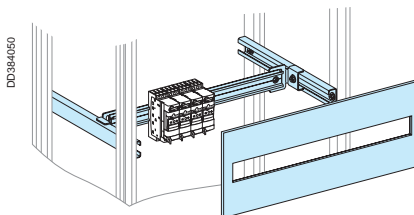


Device	No. of vertical modules	Useful rail length	Modular rail (adjustable)	Transparent front plate	Downstream front plate
Combination GV2 + Series D or K contactor ≤ 40 A					
GV2 + contactor	5	432 mm	03402	03342	03801

Width of devices without lateral auxiliaries: 45 mm.

GV2 motor circuit breaker + Series K contactor combination.

TeSys U model



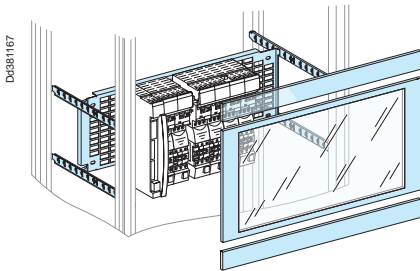
Device	No. of vertical modules	Useful rail length	Modular rail (adjustable)	Front plate
TeSys U model				
TeSys U model	5	432 mm	03402	03205
Tesys U model ⁽¹⁾	4	432 mm	03402	03342 - 03804

(1) Version without communication module, auxiliary contact and reversing module.

Width of devices without lateral auxiliaries: 45 mm.

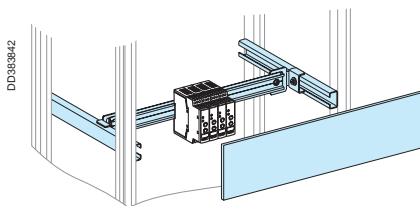
Others

Tego Power



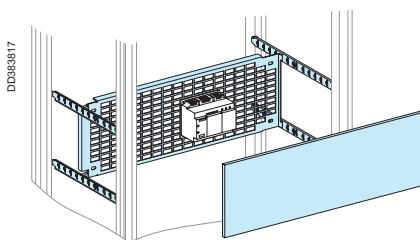
Device	No. of vertical modules	Mounting plate	Transparent front plate	Upstream front plate	Downstream front plate
Tego Power					
Tego Power 2 to 8 feeders	8	03576	03343	03801	03801

ATS01 soft starters



Device	No. of vertical modules	Useful length of rail (mm)	Modular rail (adjustable)	Plain front plate
On a modular rail				
ATS01N103/106FT	4	432 mm	03402	03804
ATS01N109/112FT	5	432 mm	03402	03805
ATS01N206 to 212	5	432 mm	03402	03805
ATS01N222 to 232	6	432 mm	03402	03806
ATS01N 230LY	5	432 mm	03402	03805
ATS01N 244LY	5	432 mm	03402	03805
ATS01N 244Q	5	432 mm	03402	03805

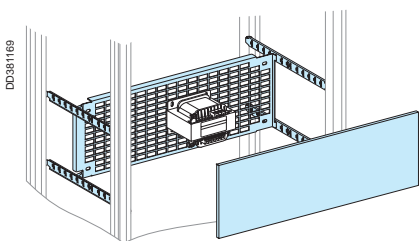
Width of devices: ATS01N103/106FT : 22.5 mm ATS01N230LY : 180 mm
 ATS01N109/112FT : 45 mm ATS01N244LY : 180 mm
 ATS01N206 to 212 : 45 mm ATS01N244Q : 180 mm
 ATS01N222 to 232 : 45 mm



Device	No. of vertical modules	Slotted mounting plate	Plain front plate
On a slotted plate			
ATS01N272LY	6	03572	03806
ATS01N285LY	6	03572	03806
ATS01N272Q	6	03572	03806
ATS01N285Q	6	03572	03806

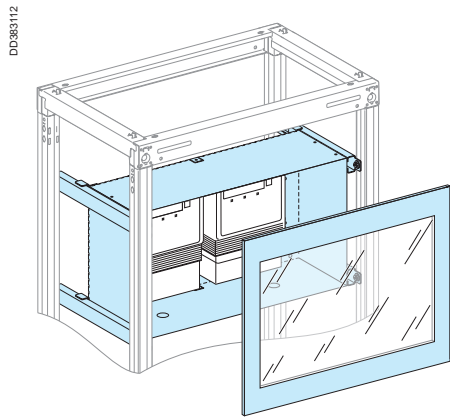
Width of devices: ATS01N272LY : 180 mm ATS01N272Q : 180 mm
 ATS01N285LY : 180 mm ATS01N285Q : 180 mm

Alimentation and LV/LV transformer

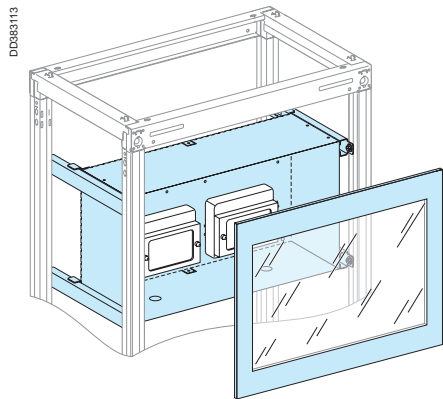


Device	No. of vertical modules	Slotted mounting plate	Plain front plate
LV/LV transformer			
ABL6-TS/TD up to 2500 VA	4	03571	03804
LV/LV alimentation			
ABL6-RT up to 960 W	4	03571	03804
ABL6-RF up to 480 W	4	03571	03804

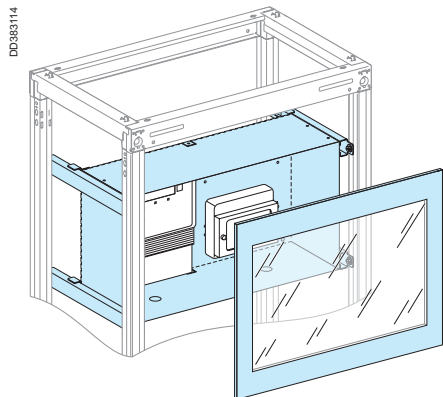
Installation



2 meters



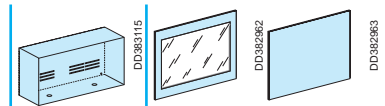
2 connection blocks



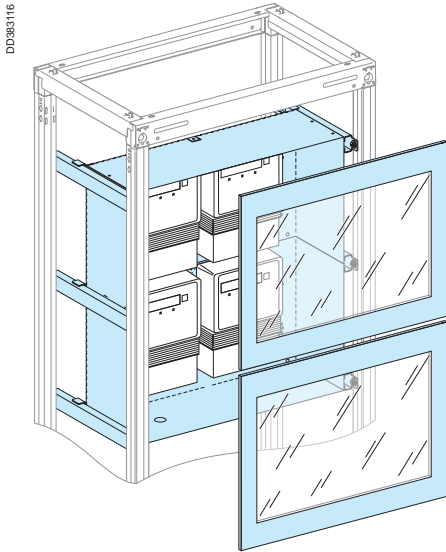
1 meter + 1 connection block

With 1 mounting plate

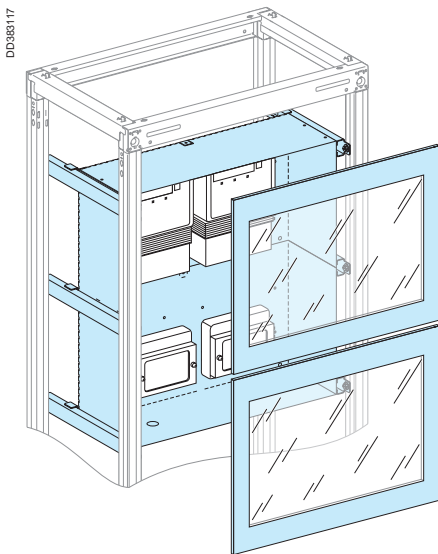
Device	No. per row	No. of vertical modules	Mounting plate	Front plate transparent or plain	
Meter and connection block					
Meter 3 Ph + N	2	6	03508	03343	03806
Connection block	2				
Meter + connection block	1 + 1				
Earthing wire, 6 mm ² : cat. no. 08911					



Installation



4 meters

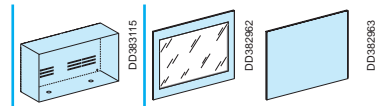


2 meters + 2 connection blocks

With 2 mounting plates

Device	No. per row	No. of vertical modules	Mounting plate	Front plate transparent or plain
Meter and connection block				
Meter 3 Ph + N	4	12	2 x 03508	2 x 03343 2 x 03806
Meter + connection block	2 + 2			

Earthing wire, 6 mm² : cat. no. **08911**

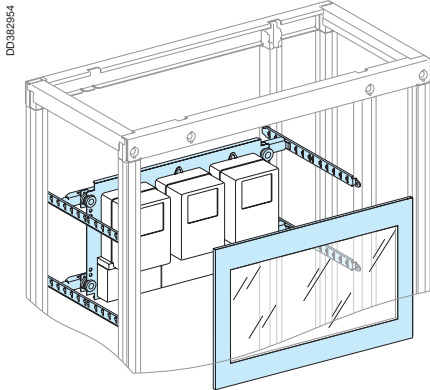


Metering

Single-phase kilowatt-hour meters

Class 2

Installation

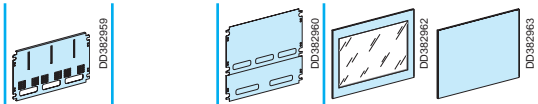


Meters can be installed at different levels on the functional uprights of frameworks. Class 1: Depending on preferences and needs, meters can be installed directly on mounting plates equipped with earthing braids and combined with partitioning or front plates.

The mounting plates can be raised using M5 spacers.

Meters behind front plate

Device	No. per row	No. of vertical modules	Mounting plate	Adapter	Insulating plate	Front plate transparent or plain
Meter						
Ph + N	3	6	03157	03595	03154	03343 03806
Earthing wire, 6mm ² : cat. no. 08911						

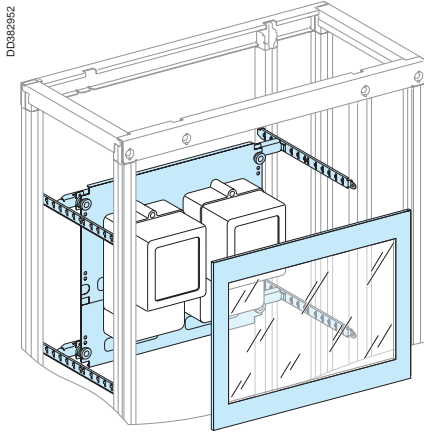


Metering

3-phase kilowatt-hour meters

Class 2

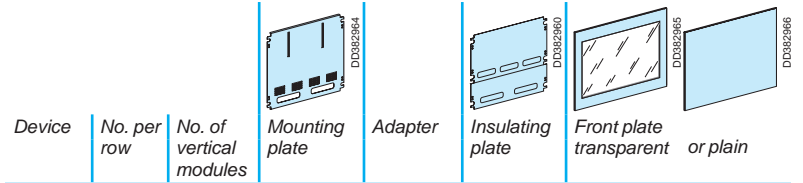
Installation



Meters can be installed at different levels on the functional uprights of frameworks. Class 1: Depending on preferences and needs, meters can be installed directly on mounting plates equipped with earthing braids and combined with partitioning or front plates.

The mounting plates can be raised using M5 spacers.

Meters behind front plate



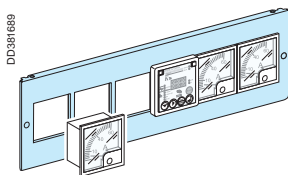
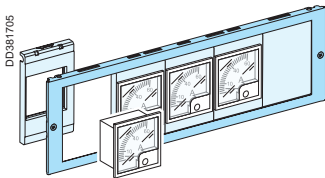
Device	No. per row	No. of vertical modules	Mounting plate	Adapter	Insulating plate	Front plate transparent or plain
Meter						
3 Ph + N	2	9	03152	03595	03154	03344 03807

Earthing wire, 6mm² : cat. no. **08911**

The human-switchboard interface mounting plates have been modified to ensure compatibility with the new front plates (catalogue numbers unchanged). The visor has also been changed to ensure compatibility with the new mounting plates.

The old human-switchboard interface mounting plates and visor are not compatible with the new front plates.

Presentation

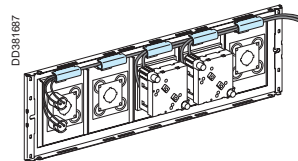


Device mounting

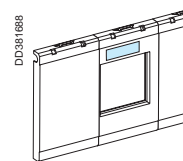
On an interface with plastic mounting plates, H = 150 mm (3 modules)

The interface is made up of a metal front plate and plastic mounting plates that clip onto the front plate:

- the devices are attached in the cut-outs of the plastic mounting plates and insulated from the front plate
- a system at the rear of the mounting plates guides the wires
- each mounting plate can receive an adhesive label
- plain mounting plates are available to blank off any unused locations.



The mounting plates have guides for auxiliary wires.



Mounting plates can be identified by a label.

On a metal front plate with cut-outs, H = 150 mm (3 modules)

- devices are attached directly to the metal front plate
- blanking plates are available to blank off any unused locations
- economical solution.

Installation in a switchboard

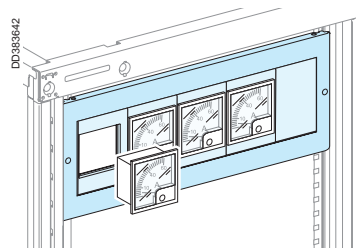
The mounted assembly can be installed:

- in the device zone of enclosures and cubicles, like a front plate
- on a door with cut-outs in a 300 or 400 mm wide cubicle
- on a partial door with cut-outs in wall-mounted and floor-standing enclosures (except IP55).

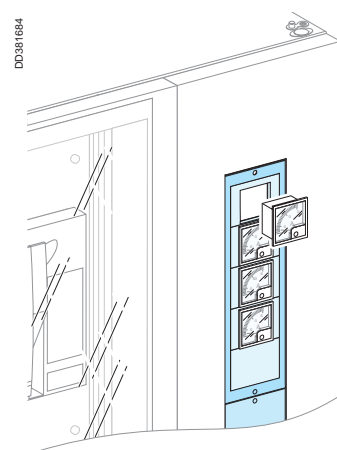
The degree of protection for installed devices is IP30.

Note: to maintain the IP55 degree of protection, the measurement devices must be installed behind a transparent door.

If they are installed on a plain door, use the corresponding mounting plates.

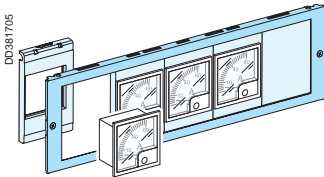


Mounting on a partial door with cut-outs.



Mounting on a 300 mm wide door in a cubicle.

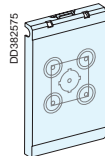
72 x 72 mm measurement devices



On an interface with plastic mounting plates

Cat. no. selection

Designation	Cat. no.
Front plate with cut-outs, 3 modules (for 5 plastic mounting plates)	03904
Plastic mounting plate with cut-out (for 72 x 72 mm device)	03902
Plain plastic mounting plate	03900



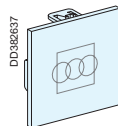
The plain plastic mounting plates have knock-outs:

- 4 holes, 16 mm diameter
- 5 holes, 22 mm diameter
- 1 hole, 45 x 45 mm

On a metal front plate with cut-outs

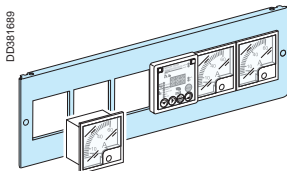
Cat. no. selection

Designation	Cat. no.
Metal front plate with cut-outs, 3 modules (for six 72 x 72 mm devices)	03910
Blanking plate (for 72 x 72 mm hole)	03907

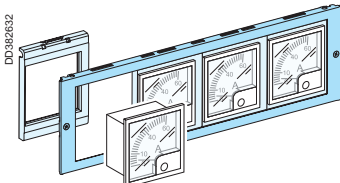


The blanking plates have knock-outs:

- 3 holes, 22 mm diameter
- 1 hole, 45 x 45 mm



96 x 96 mm measurement devices

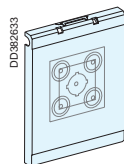


On an interface with plastic mounting plates

Cat. no. selection

Designation	Cat. no.
Front plate with cut-outs, 3 modules (for 4 plastic mounting plates)	03904
Plastic mounting plate with cut-out (for 96 x 96 mm device)	03903 ⁽¹⁾
Plain plastic mounting plate	03901

⁽¹⁾ Not designed for Power meter PM700/800 installation.



The plain plastic mounting plates have knock-outs:

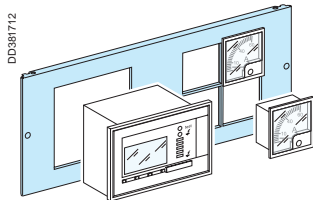
- 4 holes, 16 mm diameter
- 5 holes, 22 mm diameter
- 1 hole, 45 x 45 mm
- 1 hole, 72 x 72 mm

Human-switchboard interface

144 x 144 mm devices

22.2 mm diameter lamps, pushbuttons

One 144 x 144 mm device + four 72 x 72 mm devices

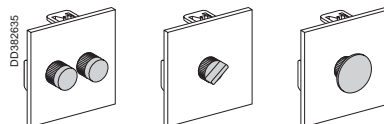


Installation

Devices are installed in the device compartment on a metal front plate with cut-outs. Blanking plates clip onto the unused 72 x 72 mm holes.

Cat. no. selection

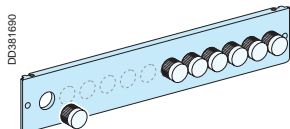
Designation	Cat. no.
Metal front plate with cut-outs, 4 modules (for one 144 x 144 mm device + four 72 x 72 mm devices)	03912
Blanking plate (for 72 x 72 mm hole)	03907



The blanking plates have knock-outs (22 mm diameter) to install:

- 1 to 2 lamps or pushbuttons
- 1 switch
- 1 emergency off (EPO) pushbutton.

Pushbuttons or lamps



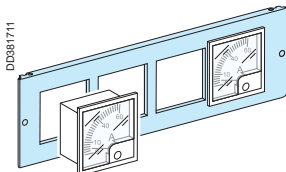
Installation

In the device compartment on a metal front plate with cut-outs.

Cat. no. selection

Designation	Cat. no.
Metal front plate with knock-outs (2 modules) for twelve 22 mm diameter lamps or pushbuttons	03914

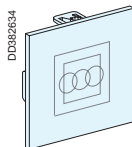
96 x 96 mm measurement devices



On a metal front plate with cut-outs

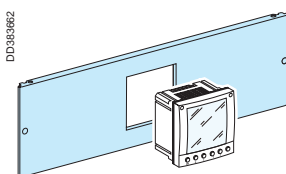
Cat. no. selection

Designation	Cat. no.
Metal front plate with cut-outs, 3 modules (for four 96 x 96 mm devices)	03911
Blanking plate (for 96 x 96 mm hole)	03908



The blanking plates have knock-outs:

- 3 holes, 22 mm diameter
- 1 hole, 45 x 45 mm
- 1 hole, 72 x 72 mm

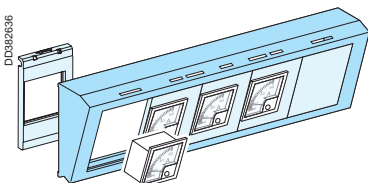


On a metal front plate with cut-outs

Cat. no. selection

Designation	Cat. no.
Metal front plate with cut-outs, 3 modules (for one 96 x 96 device)	03913

Visor for measurement devices on an interface with plastic mounting plates



The human-switchboard interface mounting plates have been modified to ensure compatibility with the new front plates (catalogue numbers unchanged). The visor has also been changed to ensure compatibility with the new mounting plates.

The old human-switchboard interface mounting plates and visor are not compatible with the new front plates.

Presentation

A visor can be used to incline 72 x 72 or 96 x 96 mm devices by 30°.

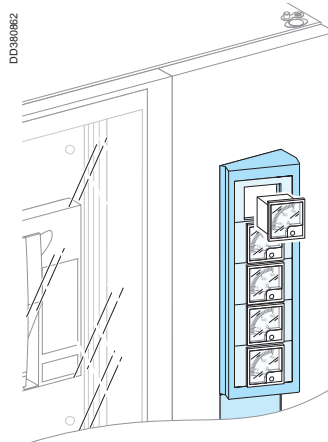
The devices are mounted on a cut-out plastic mounting plate (see previous page) that clips directly to the visor.

The visor can be installed on 300 and 400 mm wide doors with cut-outs in cubicles or on partial doors with cut-outs, in wall-mount and floor-standing enclosures.

It is supplied with a drilling diagram for mounting on a plain door.

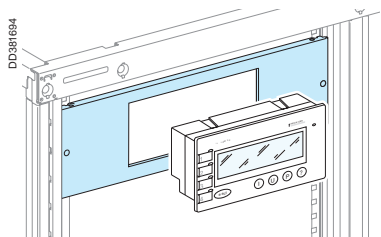
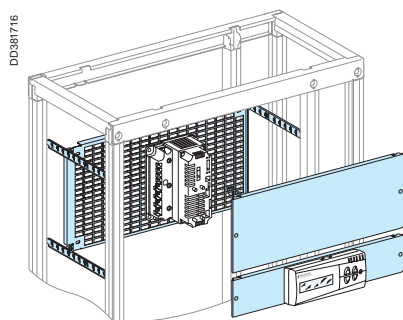
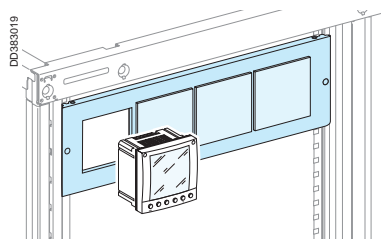
Cat. no. selection

Designation	Cat. no.
Visor	03928

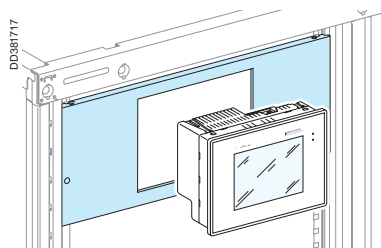


Others

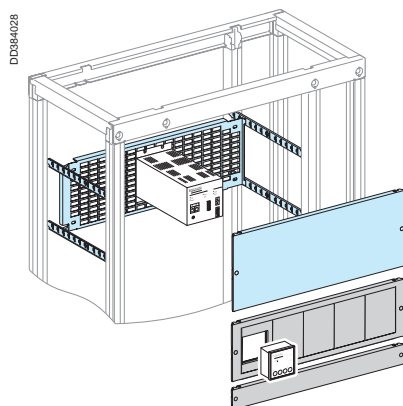
Powerlogic system



03916.



03917.



Device	No. of vertical modules	Cut-out front plate
--------	-------------------------	---------------------

PowerMeter PM		
Power Meter PM400/500/800 (96 x 96 mm case)	3	03911
FDM121	3	03911

Installation in the device compartment.

Device	No. of vertical modules	Mounting plate	Cut-out front plate	Plain front plate
--------	-------------------------	----------------	---------------------	-------------------

Circuit Monitor CM				
Circuit Monitor CM3000	4	03571	03918	03804
Circuit Monitor CM4000	6	03572	03918	03806

Installation in the device compartment.

Device	No. of vertical modules	Cut-out front plate
--------	-------------------------	---------------------

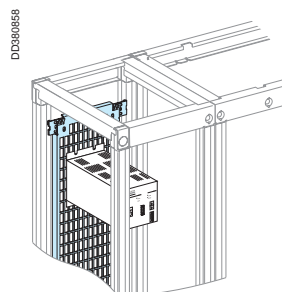
DMB300/400		
DMB300	3	03916
DMC300/400	4	03917

Installation in the device compartment.

Device	No. of vertical modules	Slotted mounting plate	Plain front plate
--------	-------------------------	------------------------	-------------------

Digipact			
DC150 data concentrator + SC150 indication and control module	4	03571	03804
CLS150, UM100, M100 (72 x 72 mm cases)	see page A-68		

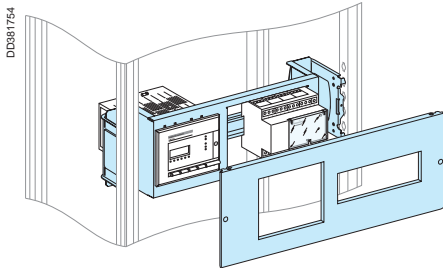
Installation in the device compartment or the connection compartment.



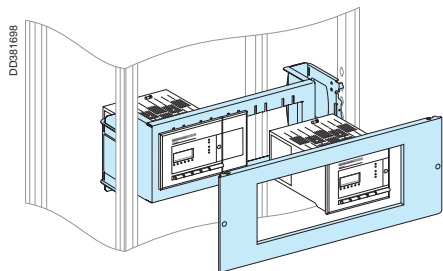
Data concentrator in a 300 mm wide compartment.

Others

Vigilohm system



03930 + 03932.

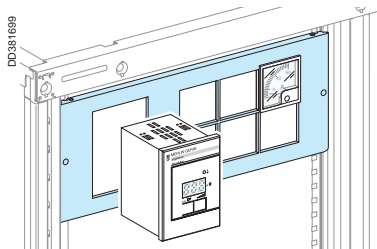


03931 + 03933.

Installation in the device compartment.

Device	No. of vertical modules	Mounting plate	Cut-out front plate
Vigilohm			
XM200 or XM300C	with 3 XD301 or with 2 XD312 or with XD301 + XD312	6	03930
XML308/316 or XM300C		4	03931
with two interfaces	XLI300 or XTU300 or XAS or XD308C		
XML308/316 or XM300C	with XL308 or with XL316	4	03931
			03933

Vigilohm

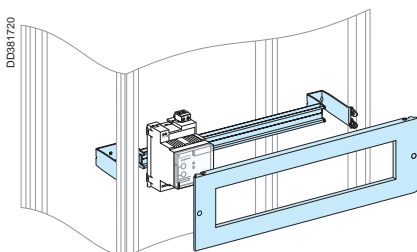


03934.

Installation in the device compartment.

Device	No. of vertical modules	Modular rail	Cut-out front plate
Vigilohm			
TR22A/AH (1 TR + 6 measurement devices, 72 x 72 mm)	4		03934
EM9, TR5A, SM21 (modular devices)	3	03401	03203

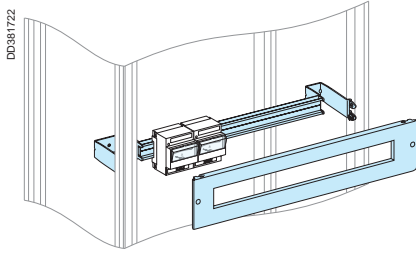
Vigirex



Installation in the device compartment.

Device	No. of vertical modules	Modular rail	Cut-out front plate
Vigirex			
RH10/RH21/RH99 relays			
Modular device	3	03401	03203
72 x 72 mm cases	see page A-69		
RHU relay (72 x 72 mm cases)	see page A-69		
RMH relay and RM12T multiplexer			
RMH (modular devices)	3	03401	03203
RM12T (72 x 72 mm cases)	see page A-69		

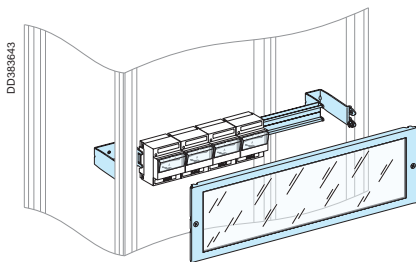
Multi 9 measurement device



Installation in the device compartment.

<i>Device</i>	<i>No. of vertical modules</i>	<i>Modular rail</i>	<i>Cut-out front plate</i>
Multi 9 measurement device			
Lamps, pushbuttons, etc.	2	03401	03202
Ammeter, voltmeter, etc.	3	03401	03203

Device behind transparent front plate

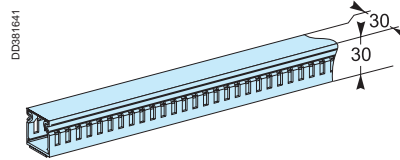


Installation in the device compartment.

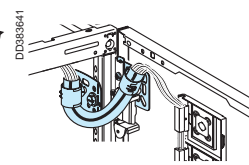
500 mm wide transparent front plate			
Transparent front plate, 4 modules, H = 200 mm			03342
Transparent front plate, 6 modules, H = 300 mm			03343
Transparent front plate, 9 modules, H = 450 mm			03344
Transparent front plate, 12 modules, H = 600 mm			03345

Cable running

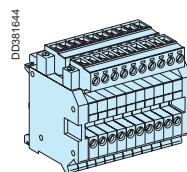
Designation	Cat. no.
Cable trunking for doors, L = 2000 mm	04233
Flexible trunking for wiring to door	04235
Terminal block for auxiliaries	04228
10 grommets for wiring through front	04234



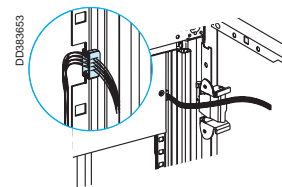
Trunking for a door.



Flexible trunking to protect and guide wires.

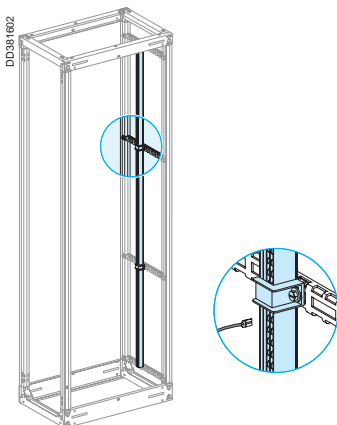


Terminal block for auxiliaries.



Grommets.

Four-pole auxiliary bus duct



A duct for four conductors, 1755 mm long, for the distribution of auxiliary voltages from the power and regulation devices to the automatic relay, control and indication systems.

Composition

- insulating duct
- four brass conductors offering 166 tap-off points per linear meter via 6.35 mm tab-terminals
- two clamps for mounting on cable-tie supports
- one lateral clamp.

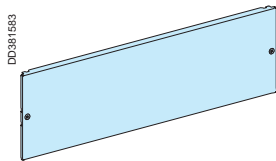
Characteristics

- rated insulation level: $U_i = 660\text{ V}$
- rated operational current (40°C): 32 A.

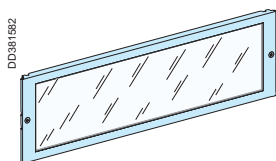
Cat. no. selection

Designation	Cat. no.
Four-pole auxiliary bus duct	04203

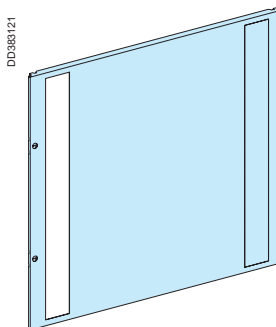
Device compartment, W = 600 mm



500 mm wide plain front plate	Cat. no.
1 module (H = 50 mm)	03801
2 modules (H = 100 mm)	03802
3 modules (H = 150 mm)	03803
4 modules (H = 200 mm)	03804
5 modules (H = 250 mm)	03805
6 modules (H = 300 mm)	03806
9 modules (H = 450 mm)	03807
12 modules (H = 600 mm)	03808

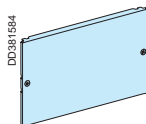


500 mm wide transparent front plate	Cat. no.
4 modules (H = 200 mm)	03342
6 modules (H = 300 mm)	03343
9 modules (H = 450 mm)	03344
12 modules (H = 600 mm)	03345

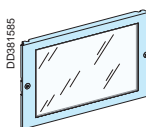


500 mm wide vertical modular front plate	Cat. no.
9 modules (H = 450 mm)	03228
12 modules (H = 600 mm)	03229

Lateral compartment W = 400 mm



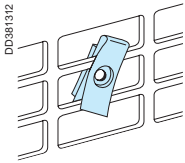
250 mm wide plain front plate	Cat. no.
1 module (H = 50 mm)	03811
2 modules (H = 100 mm)	03812
3 modules (H = 150 mm)	03813
4 modules (H = 200 mm)	03814
5 modules (H = 250 mm)	03815
6 modules (H = 300 mm)	03816
9 modules (H = 450 mm)	03817



250 mm wide transparent front plate	Cat. no.
4 modules (H = 200 mm)	03352
6 modules (H = 300 mm)	03353
9 modules (H = 450 mm)	03354

Others

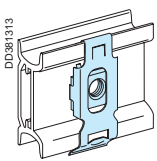
Clip-nuts for slotted mounting plates



These nuts are used to install various devices (contactors, transformers) on a slotted mounting plate. They can also be installed on the cable-tie supports in enclosures and cubicles, as well as on the universal lateral and longitudinal cross-members in cubicles.

Designation	Cat. no.
20 clip-nuts for slotted mounting plates	
M4	03180
M5	03181
M6	03182

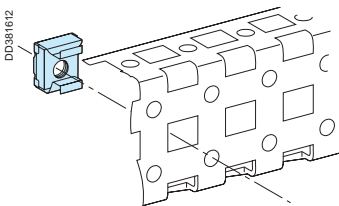
Clip-nuts for modular rails



These nuts are used to install various devices on a modular rail.

Designation	Cat. no.
20 clip-nuts for modular rails	
M4	03164
M5	03165
M6	03166

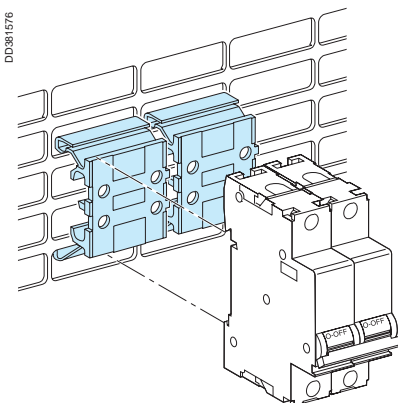
Clip-nuts for lateral and longitudinal cross-members



These nuts can be installed on the universal lateral and longitudinal cross-members in cubicles, as well as on the functional uprights in IP30/55 wall-mount and floor-standing enclosures.

Designation	Cat. no.
20 M6 captive nuts	03194

Pratic raiser



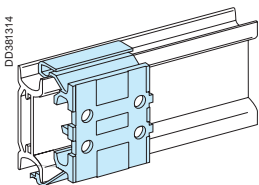
Colour RAL 9001.

The raiser clips onto a slotted mounting plate or a modular rail.

It is 27 mm wide and serves to raise a device 10 mm.

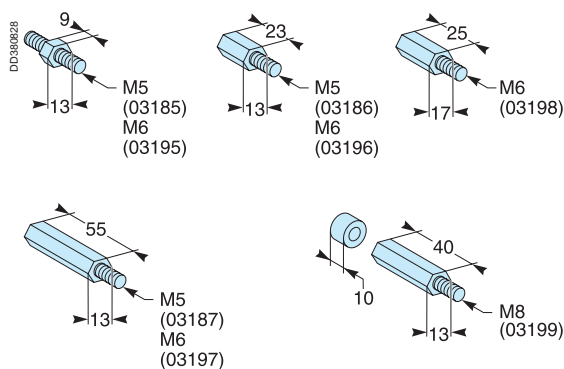
It is made of an insulating material and can directly receive terminal blocks, modular devices, etc.

Designation	Cat. no.
5 Pratic raisers	04224

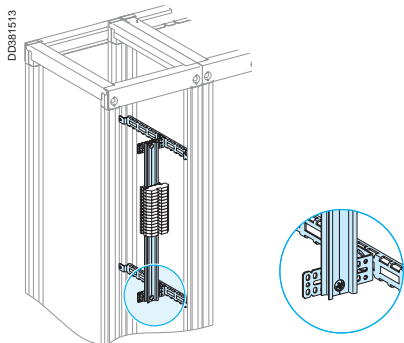


Hexagonal spacers

Designation		Cat. no.
M5 hexagonal spacers		
4 spacers	H = 9 mm	03185
	H = 23 mm	03186
	H = 55 mm	03187
M6 hexagonal spacers		
4 spacers	H = 9 mm	03195
	H = 23 mm	03196
	H = 25 mm	03198
	H = 55 mm	03197
M8 hexagonal spacers		
4 spacers	H = 40 + 10 mm	03199



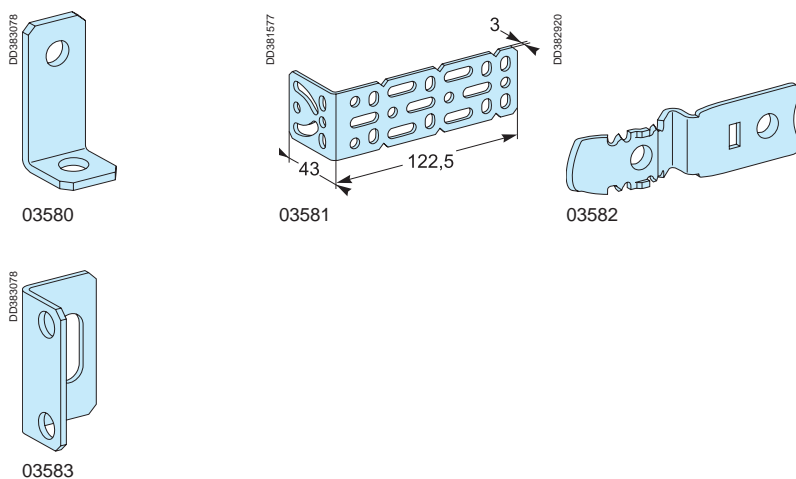
Universal angle brackets



Installation of a terminal block in a cubicle.

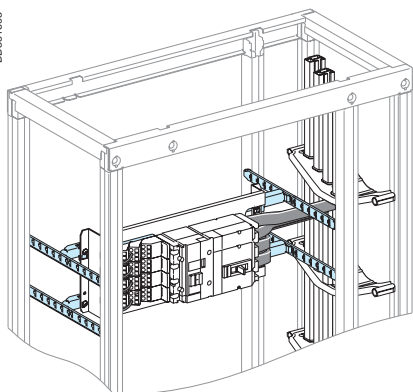
The angle brackets are used to install terminal blocks, trunking, etc.

Designation	Cat. no.
4 angle brackets + screws	03580
2 universal angle brackets	03581
6 universal inserts	03582
6 universal angle brackets	03583



System G adapter

DD381603



NSX250 circuit breaker installed with a Polybloc distribution block.

Kit with four lateral and two longitudinal cross-members that can be depth adjusted. It is used to install System G components, notably the functional mounting plates, the Powerclip insulated busbars and the 400 A rear busbars.

It is the means to enhance the flexibility of the Prisma Plus system.

It is available in two widths:

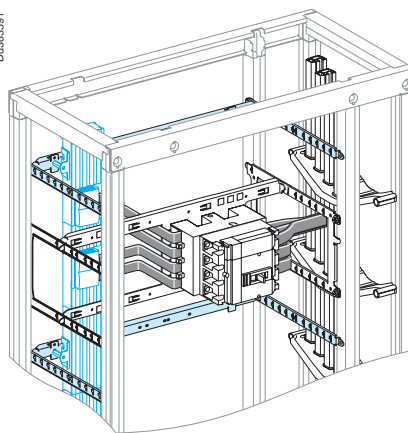
- 500 mm wide (for installation in a device compartment L = 650 mm)
- 250 mm wide (for installation in a device compartment L = 400 mm).

Cat. no. selection

Designation	Cat. no.
System G adapter, W= 500	03595
System G adapter, W= 250	03596

Note: the adapter 03595 can be used for all mounting plates, except 03030.

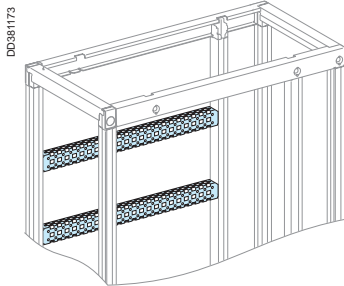
DD383591



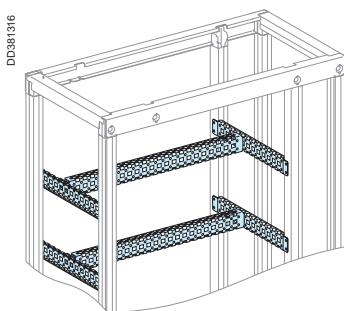
The Powerclip busbars can be positioned to the left, middle or right of the modular row. Depth adjustable, the busbars can be supplied by an Interpact INS switch-disconnector or a fixed/withdrawable Compact NSX circuit breaker, whatever the type of operating system (toggle, rotary handle, motor mechanism).

For Powerclip busbars, order two adapters (03595 x 2).

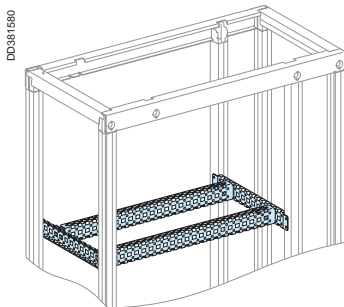
Universal cross-members



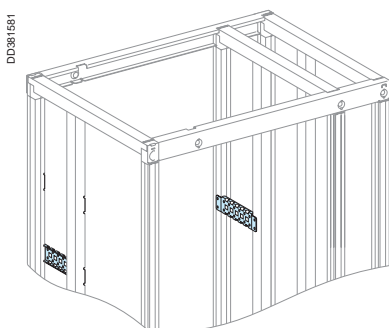
Longitudinal cross-members attached directly to the framework.



Longitudinal cross-members mounted on lateral cross-members, L = 400 mm.



Creation of a platform with two lateral and two longitudinal cross-members.



Set of two lateral cross-members, L = 200 mm.

Longitudinal cross-members

Set of two longitudinal cross-members, L = 650 mm.

They are connected directly to the framework (W = 650 mm or 800 mm (650 + 150 mm)).

They can also be mounted on the lateral cross-members (see opposite).

They are essentially used to position and support the cables of an incoming device or to install all types of devices.

Lateral cross-members

They are connected directly to the framework.

They offer numerous positioning holes and can be used to adjust the depth of longitudinal cross-members.

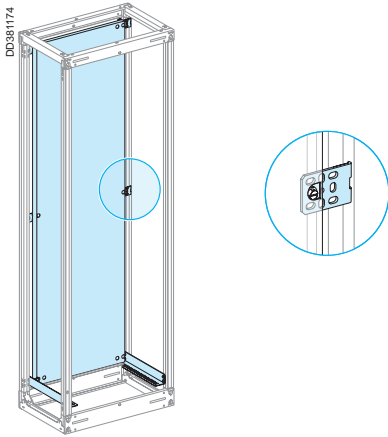
There are two lengths:

- Set of two lateral cross-members, L = 400 mm for frameworks that are 400 mm deep
- Set of two lateral cross-members, L = 200 mm, can be added to the 400 mm cross-members for frameworks that are 600 mm deep. They can also be installed separately.

Cat. no. selection

Designation		Cat. no.
Set of two lateral cross-members	L = 400 mm	03584
	L = 200 mm	03586
Set of two longitudinal cross-members	L = 650 mm	03587

Plain backplate

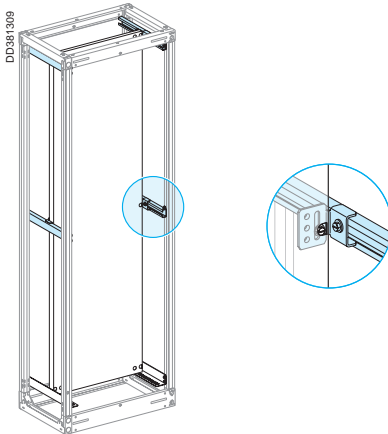


Metal plain backplate, H = 1780 mm for 36 modules cubicle.
 Supplied with four angle brackets and two slide rails to facilitate mounting.
 The four angle brackets can be replaced by two sets of two slide rails (03593 x 2) for depth adjustment.
 There are two widths
 ■ 510 mm wide for installation in a device compartment W = 650 mm or W = 800 mm (650 + 150)
 ■ 660 mm wide for installation for a cubicle W = 800 mm

Cat. no. selection

Designation	Cat. no.
Plain backplate, 36 modules 510 mm wide	03570
Plain backplate, 36 modules 660 mm wide	03569

2 slide rails + angle brackets



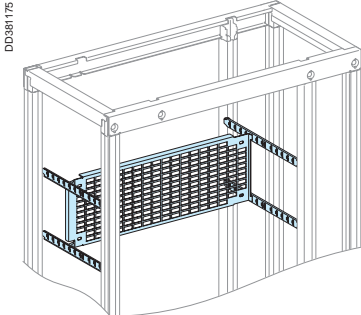
For the installation and depth adjustment of plain backplates and slotted mounting plates.

Cat. no. selection

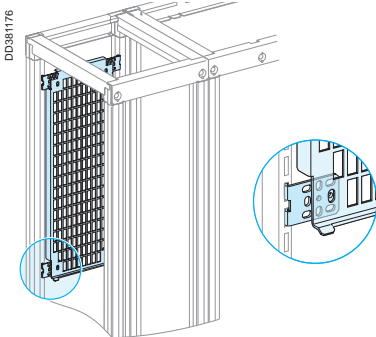
Designation	Cat. no.
Set of 2 slide rails + angle brackets	03593

Plain backplate mounted on slide rails.

Slotted mounting plates + 4 lateral cross-members



Slotted mounting plate in the device compartment.



Slotted mounting plate, H = 200 mm, installed vertically in a cable compartment, W = 300 mm, using four universal angle brackets. The height occupied is 600 mm (12 modules).

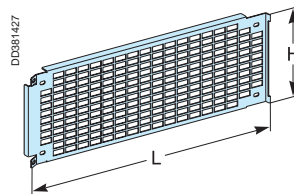
Galvanised, slotted metal mounting plate, supplied with four lateral cross-members.

Installation

- either in the device zone on the four lateral cross-members (depth adjustment is possible)
 - or vertically at the rear of a cable compartment, W = 300 mm (03571) or W = 400 mm (03572).
- In this case, use four universal angle brackets.

Cat. no. selection

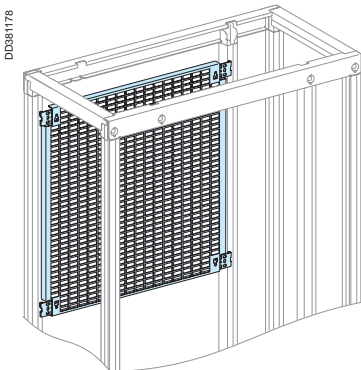
Designation	Cat. no.
Slotted mounting plate + 4 lateral cross-members	
H = 200 mm (4 modules)	03571
H = 300 mm (6 modules)	03572
2 universal angle brackets	03581



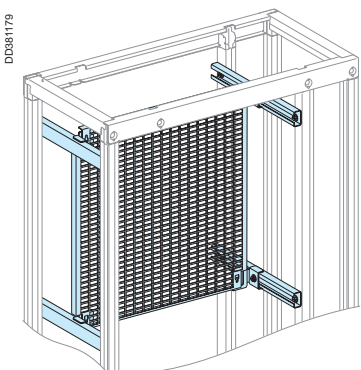
Useful dimensions of the mounting plate

Cat. number	H (mm)	L (mm)
03571	180	480
03572	280	480

Slotted mounting plate without lateral cross-members



Slotted mounting plate attached to the rear of the framework.



Slotted mounting plate, H = 600 mm, installed on slide rails (03593 x 2).

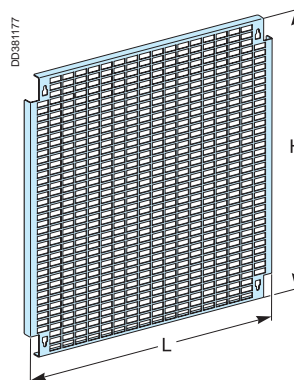
Galvanised metal, slotted mounting plate, H = 600 mm.

Supplied with four angle brackets, they connect directly to the rear of a framework, W = 650 mm or 800 mm (650 + 150 mm).

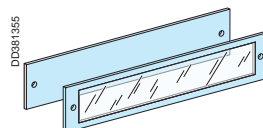
The mounting plate can also be installed using two sets of two slide rails (03593 x 2) for depth adjustment.

Cat. no. selection

Designation	Cat. no.
Slotted mounting plate, H = 600 mm (12 modules)	03574

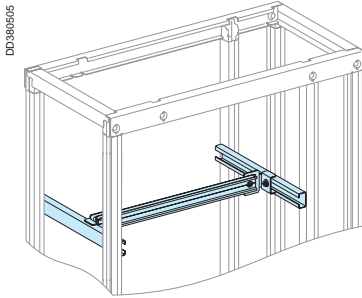


Useful dimensions of the mounting plate:
H = 580 mm, L = 420 mm.

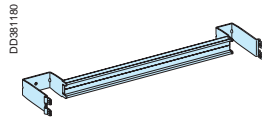


Plain and transparent front plates.

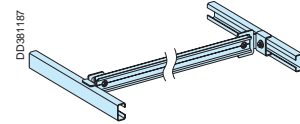
Modular rails



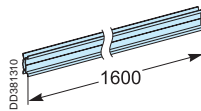
Modular rail	Useful length (mm)	Cat. no.
Modular rail	432	03401
Modular rail (adjustable)	432	03402
2 modular rails, with 4 holes, dia. 6.4 mm, 450 mm between centres	1600	04226



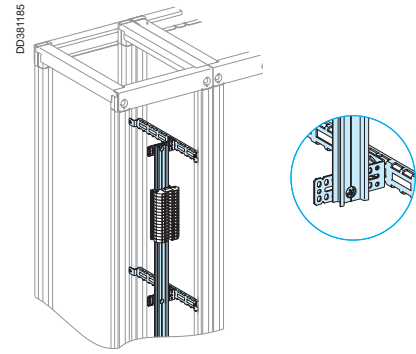
Modular device rail (03401).



Adjustable modular device rail (03402).

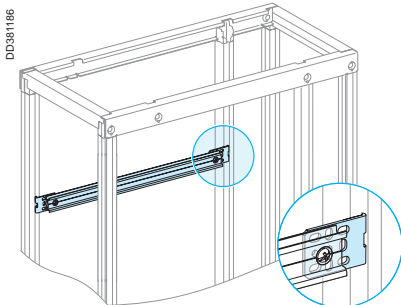


Modular device rail (04226).

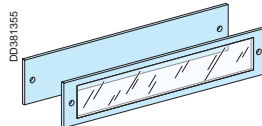


Terminal block in a compartment on a modular device rail (04226).

Modular rail, L = 650 mm

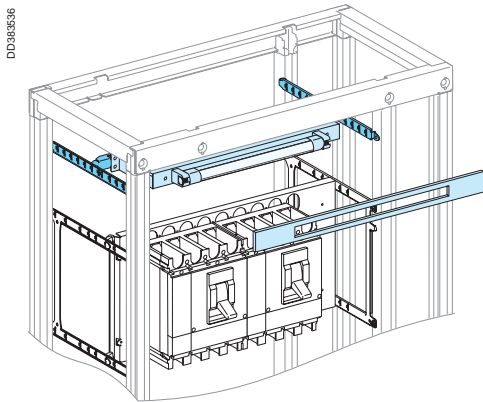


Designation	Cat. no.
Modular device rail, L = 650 mm (supplied with two angle brackets for mounting on the framework)	03590



Plain and transparent front plates.

Switchboard lighting



Installation in a cubicle (System P) using a System G adapter (03595).

This system is generally used to illuminate the front of a switchboard.

The kit is made up of:

- a base
- a neon tube
- a front plate with cut-out (1 module)
- a door contact.

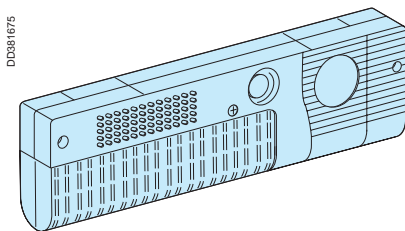
Characteristics

- supply voltage: 220/240 V
- power rating: 8 W.

Cat. no. selection

Designation	No. of modules	Cat. no.
Switchboard lighting	1	08964

Switchboard portable lamp



Lamp with a magnetic base for installation behind a door or directly on the cubicle framework.

Supplied without a power cord.

It does not take up any useful space in the switchboard.

Designation	Cat. no.
Switchboard portable lamp	08965

Characteristics

- supply voltage: 220/240 V
- power rating: 11 W.



TOOLS

schneider-electric.com

This international site allows you to access all the Schneider Electric products in just 2 clicks via comprehensive range data-sheets, with direct links to:

- complete library: technical documents, catalogs, FAQs, brochures...
- selection guides from the e-catalog.
- product discovery sites and their Flash animations.

You will also find illustrated overviews, news to which you can subscribe, the list of country contacts...

CAD software and tools

The CAD software and tools enhance productivity and safety. They help you create your installations by simplifying product choice through easy browsing in the Schneider Electric offers.

Last but not least, they optimise use of our products while also complying with standards and proper procedures.



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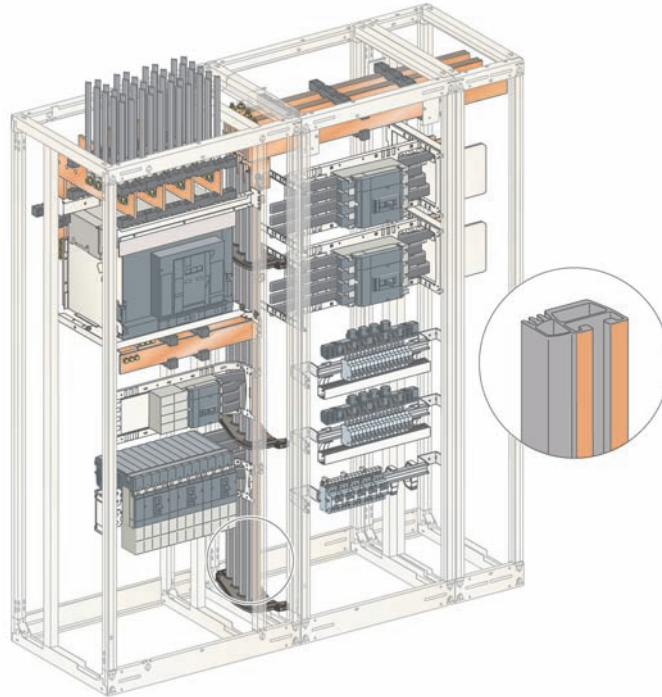
Main distribution

Prisma Plus provides electrical switchboards with a complete and consistent system capable of supplying electrical energy where it is needed:

- modern, high-performance busbars
- perfectly sized, prefabricated connections
- distribution blocks that blend perfectly with the devices.

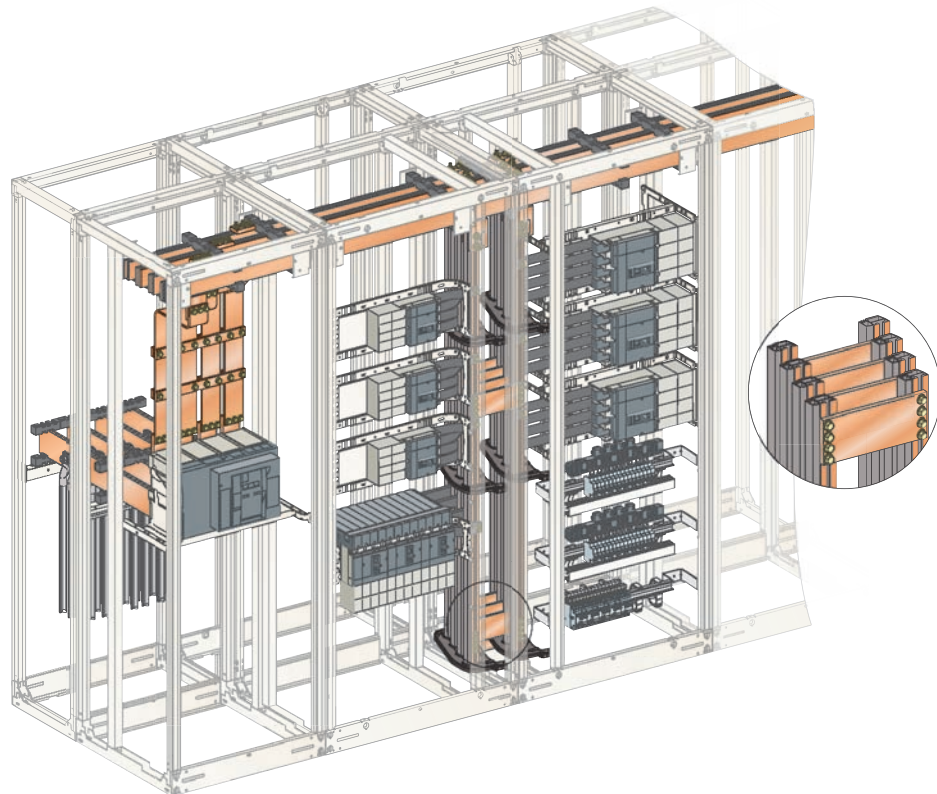
All components are put through rigorous tests with Schneider Electric devices to ensure that the resulting switchboards are dependable and comply with international standard IEC 60439-1.

DD363728



Lincage busbars for switchboards up to 1600 A.

DD364058

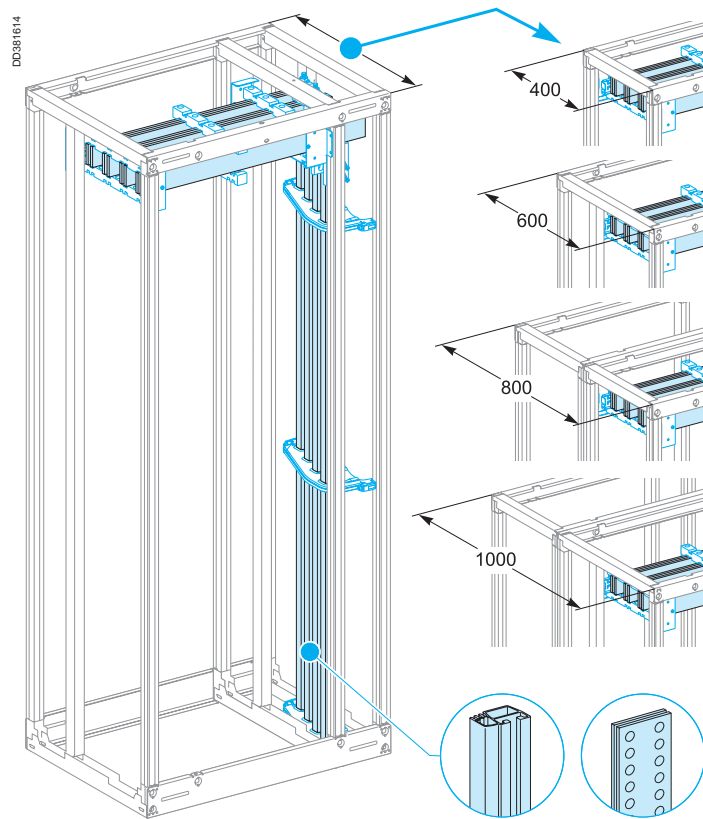


Lincage busbars for switchboards up to 3200 A.
Two parallel, vertical busbars must be interconnected by three equipotential links.

Main distribution

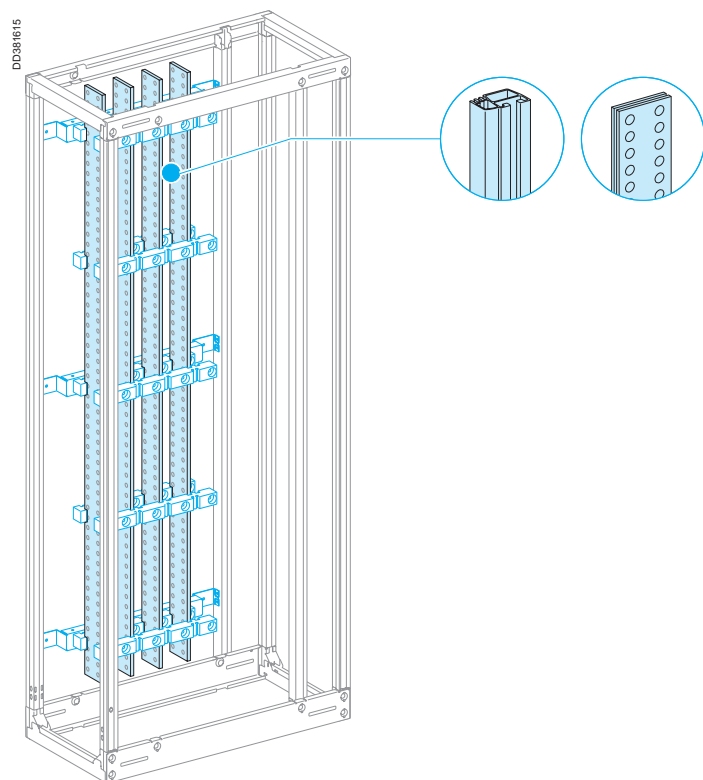
Horizontal and lateral busbars up to 3200 A require the same amount of space.

- horizontal busbars
 - flat copper bars without holes, L = 2000 mm, 5 mm thick
 - flat copper bars without holes, L = 2000 mm, 10 mm thick
 - flat aluminium bars without holes, L = 2000 mm, 10 mm thick
- lateral busbars
 - flat copper bars with holes, L = 1675 mm, 5 mm thick
 - flat copper bars with holes, L = 1675 mm, 10 mm thick
 - Linergy channelled aluminium busbars, L = 1675 mm.



Rear busbars up to 1600 A.

- flat copper bars with holes, L = 1675 mm, 5 mm thick
- flat copper bars with holes, L = 1675 mm, 10 mm thick
- Linergy channelled aluminium busbars, L = 1675 mm.



Horizontal busbars

Up to 1600 A

Flat copper bars 5 mm thick

Busbar calculation

The bars are secured by insulated supports attached to the framework.

The tables opposite indicate:

- the number and size of the bars to be used, depending on the permissible current level in the busbars
- the number of busbar supports for each type of framework, depending on:
 - the size of the busbars
 - the rated short-time withstand current I_{cw} .

For more information on busbar calculations, see page D-23.

Number and size of copper busbars

Permissible current (A)		No. of bars / phase
IP ≤ 31	IP > 31	
800	750	1 bar, 60 x 5
1000	900	1 bar, 80 x 5
1400	1250	2 bars, 60 x 5
1800	1600	2 bars, 80 x 5

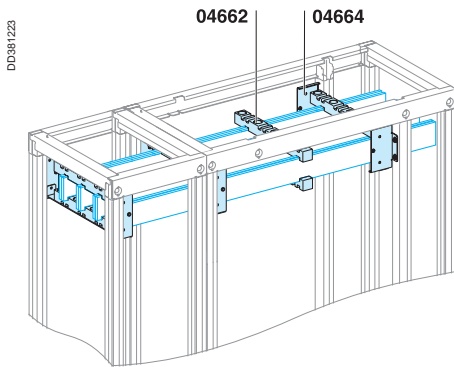
Note: the permissible current values for the busbars are given for an ambient temperature of 35°C around the switchboard.

Number of supports

Framework width (mm)	Size of bars (mm)	No. of supports				
		I_{cw} (kA rms / 1 s)				
		≤ 15	≤ 25	≤ 30	≤ 40	≤ 50
W = 650 mm	1 bar, 60 x 5					
W = 650 + 150 mm	1 bar, 80 x 5		2		3	
	2 bars, 60 x 5					
	2 bars, 80 x 5		3		4	
W = 300 mm	All sizes		1			2
W = 400 mm	All sizes		1			2

Note: for a W = 800 mm framework, add a free support to the number of fixed supports given by the table below.

Busbar selection



I_{cw} 30 kA rms / 1 s.

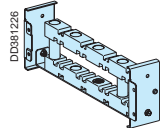
Flat busbars, L = 2000 mm

Designation	Cat. no.
Copper bar without holes, 60 x 5	04536
Copper bar without holes, 80 x 5	04538

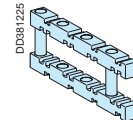
Busbar supports

Two fixed supports for 650 mm, 650 + 150 mm wide frameworks and one fixed support for 300/400 mm wide frameworks are mandatory. If more supports are required, use free supports.

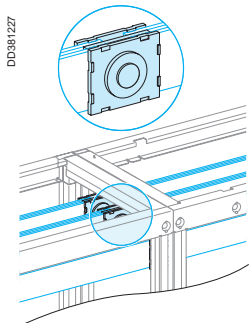
Designation	Cat. no.
Fixed support for horizontal bars	04664
Free support (additional)	04662



04664.



04662.



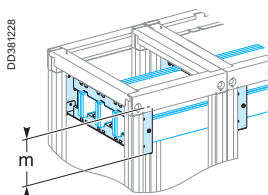
04640.

Joints

Designation		Cat. no.
1 joint for bars	W = 60 mm	04640
	W = 80 mm	04641

Note: when installed, at the bottom of cubicles, the busbars must be partitioned, see page B-28.

Busbar dimensions



Type of busbars	No. of vertical modules required
Top or bottom horizontal busbars	3

Horizontal busbars

Up to 3200 A

Flat copper bars 10 mm thick

Busbar calculation

The bars are secured by insulated supports attached to the framework.

The tables opposite indicate:

- the number and size of the bars to be used, depending on the permissible current level in the busbars

- the number of busbar supports for each type of framework, depending on:

- the size of the busbars
- the rated short-time withstand current I_{cw} .

For more information on busbar calculations, see page D-23.

Number and size of copper busbars

Permissible current (A)		No. of bars / phase
IP ≤ 31	IP > 31	
1800	1600	1 bar, 80 x 10
2050	1850	2 bars, 50 x 10
2300	2000	2 bars, 60 x 10
2820	2500	2 bars, 80 x 10
3300	2900	2 bars, 100 x 10

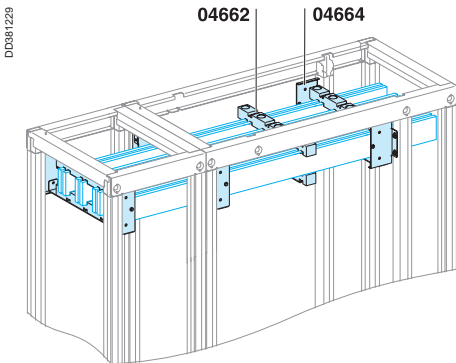
Note: the permissible current values for the busbars are given for an ambient temperature of 35°C around the switchboard.

Number of supports

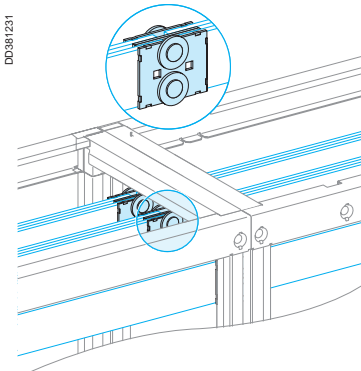
Framework width (mm)	Size of bars (mm)	No. of supports I_{cw} (kA rms / 1 s)							
		≤ 25	≤ 30	≤ 40	≤ 50	≤ 60	≤ 65	≤ 75	≤ 85
W = 650 mm	1 bar, 80 x 10								4
W = 650 + 150 mm	2 bars, 50 x 10	2				3			
	2 bars, 60 x 10								
	2 bars, 80 x 10								
	2 bars, 100 x 10	3						4	
W = 300 mm	All sizes	1			2				
W = 400 mm	All sizes	1		2					

Note: for a W = 800 mm framework, add a free support to the number of fixed supports given by the table below.

Busbar selection



I_{cw} 50 kA rms / 1 s.



04641.

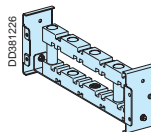
Flat busbars, L = 2000 mm

Designation	Cat. no.
Copper bar without holes, 50 x 10	04545
Copper bar without holes, 60 x 10	04546
Copper bar without holes, 80 x 10	04548
Copper bar without holes, 100 x 10	04550

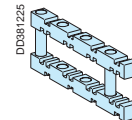
Busbar supports

Two fixed supports for 650 mm, 650 + 150 mm wide frameworks and one fixed support for 300/400 mm wide frameworks are mandatory. If more supports are required, use free supports.

Designation	Width	Cat. no.
Fixed support for horizontal bars	Width ≤ 80 mm	04664
	Width > 80 mm	04664 + 04671
Free support (additional) for bars	Width ≤ 80 mm	04662
	Width > 80 mm	04662 + 04671



04664.



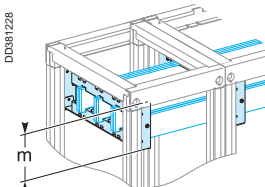
04662.

Joints

Designation	Width	Cat. no.
1 joint for bars	Width 50 and 60 mm	04640
	Width 80 and 100 mm	04641

Note: when installed, at the bottom of cubicles, the busbars must be partitioned, see page B-28.

Busbar dimensions



Type of busbars	No. of vertical modules required
Top or bottom horizontal busbars	3

Main distribution

Linergy busbars up to 1600 A

Type of busbar

Very rigid profile to improve withstand to electrodynamic forces.
 Connection points accessible from the front and adjustable from top to bottom.
 Compatible with all Prisma Plus prefabricated connections.

Installation

Can be installed independently on either the left or right-hand side of an 800 mm wide framework (650 + 150 mm) for distribution on either side.
 For an $I_{cw} \leq 40 \text{ kA rms} / 1 \text{ s}$, two supports in the "device" zone are sufficient to maintain the bars. A third support is required as the bottom support for the bars.



Linergy busbars up to 1600 A.

Linergy busbars up to 3200 A

Type of busbar

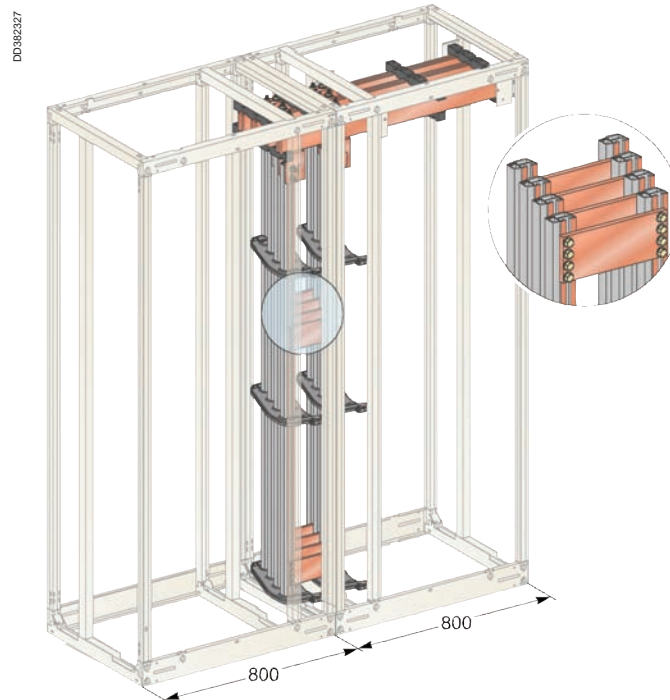
Very rigid profile to improve withstand to electrodynamic forces.
 Connection points accessible from the front and adjustable from top to bottom.
 Compatible with all Prisma Plus prefabricated connections.

Installation

Two sets of busbars are installed in parallel in two adjacent frameworks, each 800 mm wide (650 + 150 mm). They must be interconnected by three equipotential links. Generally speaking, these links are provided by:

- the horizontal busbars
- connections in the middle and at the bottom of the vertical busbars.

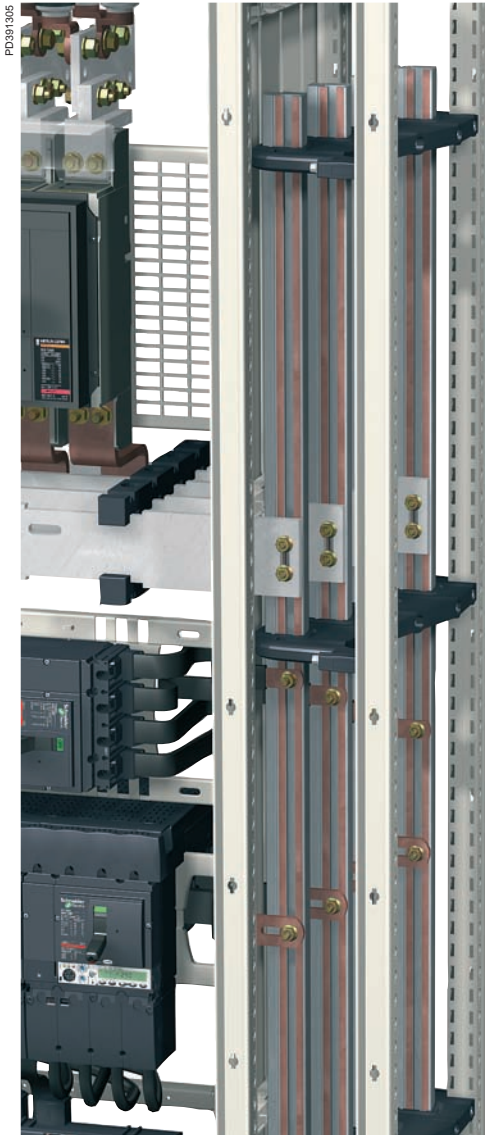
For an $I_{cw} \leq 40 \text{ kA rms} / 1 \text{ s}$, two supports in the "device" zone are sufficient to maintain the bars. A third support is required as the bottom support for the bars.



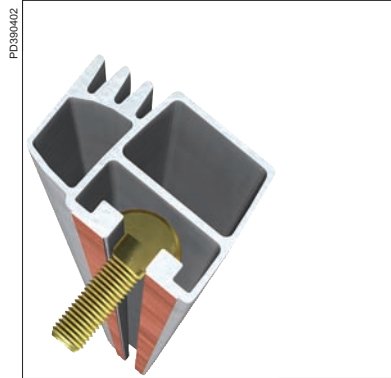
Linergy busbars up to 3200 A.

Main distribution

Presentation of busbars



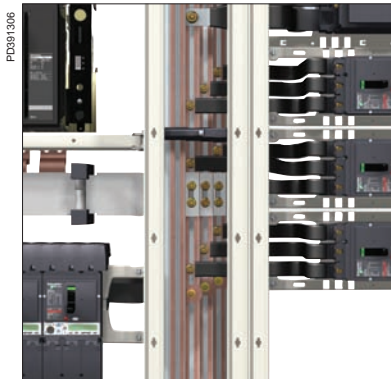
Linergy busbars are installed in a busbar zone to the left or right of the device zone. The busbars are secured to the framework by supports that maintain the distances between busbars. All connection points are directly accessible from the front of the switchboard. The bars are channelled and the devices, installed on either side, can be connected at any height, without drilling.



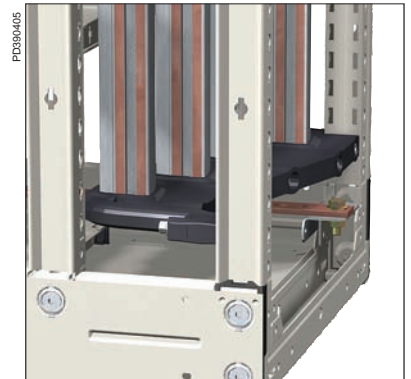
Sliding bolts enable connections at any height, without drilling.



All connection points are directly accessible from the front of the switchboard.



Prefabricated connections supply the devices mounted to the left or right of the busbars.

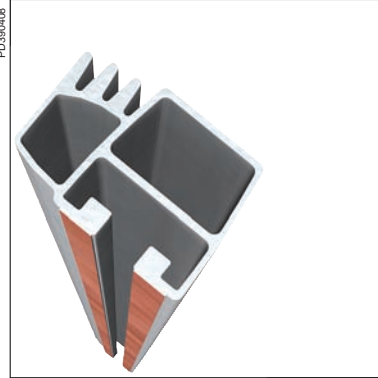


The bottom support maintains the bars in position.

Main distribution

A new generation of channelled busbars

Linergy channelled busbars implement advanced technology and are made of aluminium, a material widely used for electrical conduction. Ductile and malleable, aluminium can be used to create complex shapes that improve electrical conduction, rigidity, ventilation and appearance.



Ergonomic shape

The low density of aluminium and its malleability make it possible to produce high-tech sections offering both exceptional rigidity and minimum weight.

Twice as light as copper for the same current ratings, the busbars can be held easily in one hand. What is more, their shape is ideal for handling and installation.

Maximum power in less space

The manufacturing process allows great flexibility in terms of the shape, notably for the creation of internal partitions that increase the current-flow perimeter. In this way, busbar efficiency is optimised and external dimensions reduced.

As a result, up to 1600 A, these channelled busbars can be installed in compartments just 150 mm wide and 400 mm deep.

Very rigid shapes

The ease and flexibility of the extrusion process makes it possible to create closed and ribbed sections offering exceptional rigidity.

Two supports spaced over the bars and one at the bottom are sufficient to cover most installation needs ($I_{cw} \leq 40 \text{ kA rms} / 1 \text{ s}$).

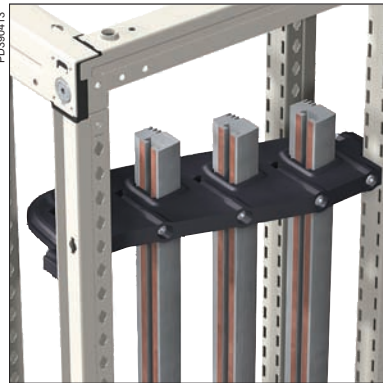
Always at the right temperature

The increased heat exchange surface enhances the natural convection of the bars. The bars are anodised to enhance emission and radiation, and thus the evacuation of heat.

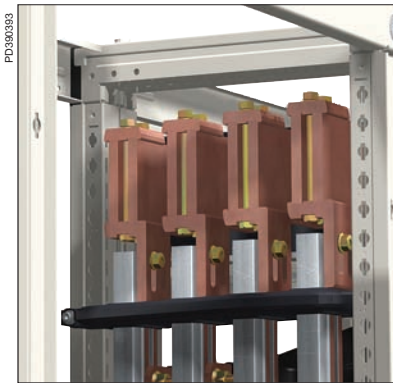
Whatever the switchboard configuration, the bars maintain their performance level.

Main distribution

Designed to resist ageing and creep, the busbar supports, made of a heat-setting, insulating material, offer a particularly high level of performance, notably their withstand to high temperatures. Their remarkable mechanical withstand means fewer are required, thus freeing maximum space along the busbars for the connection of devices.

**Multi-function busbar supports**

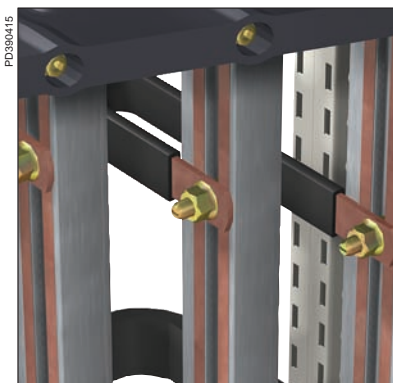
The same support is used for all busbars up to 1600 A and can also be used as the bottom support. As a result, ordering is easy and stocking costs are reduced.

**Electrical connections without drilling**

Tested in special test stations, copper connections are used to interconnect two sets of busbars.

Connections are fast with 10 mm thick horizontal busbars.

Drilling is not required; the connections are made by clamping the busbars.

**An aluminium bar with a high-quality copper contact surface**

A copper powder is thermally projected at high speed along the entire length of the bar. It forms a rough, exceptionally hard surface. The quality of the electrical connection is enhanced by the many contact points. The result is convincing and even better than a traditional copper/copper connection.

Modern busbars

Linergy busbars are produced in a number of different shapes offering both a high level of performance and good appearance. The anodisation process protects against ageing and provides an attractive finish. The copper-coloured bands along the entire length reflect the modern design and high technology of these busbars.

Lateral Linergy busbars up to 3200 A

Main distribution

Busbar calculation

The table opposite indicates:

- the catalogue numbers of the bars to be used, depending on the permissible current level in the busbars
- the number of supports required, depending on the rated short-time withstand current (I_{cw} in kA rms / 1 second).

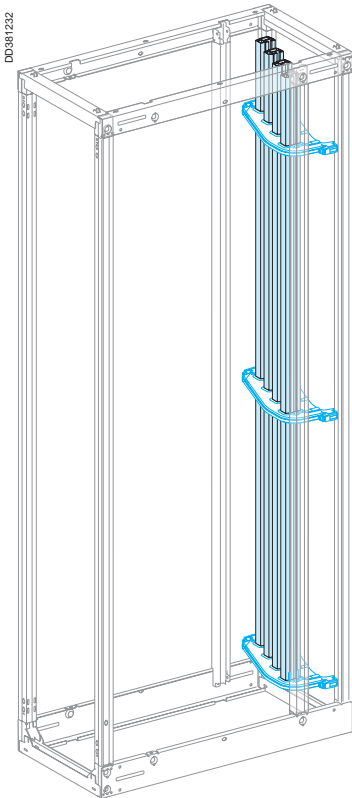
Above 1600 A, the busbars must be doubled and installed in two busbar sections, side by side. In this case, they must be interconnected by three equipotential links.

For more information on other ambient temperatures, see page D-24.

Linerage busbars	Cat. no.	Permissible current at 35 °C for switchboard		No. of supports I _{cw} (kA rms / 1 s)									
		IP ≤ 31	IP > 31	≤ 25	≤ 30	≤ 40	≤ 50	≤ 60	≤ 65	≤ 75	≤ 85		
Linerage 630	04502	680	590										
Linerage 800	04503	840	760										
Linerage 1000	04504	1040	950		3								
Linerage 1250	04505	1290	1170				4	5					
Linerage 1600	04506	1650	1480							7	8		
Double busbars													
Linerage 2000	04504 x 2	2000	1820	2 x 3									
Linerage 2500	04505 x 2	2500	2260				2 x 4						
Linerage 3200	04506 x 2	3200	2920						2 x 5				

Note: The permissible current values for the busbars are given for an ambient temperature of 35°C around the switchboard.
The bottom support also maintains the bars in position.
Each catalogue number represents one bar.

Busbar selection

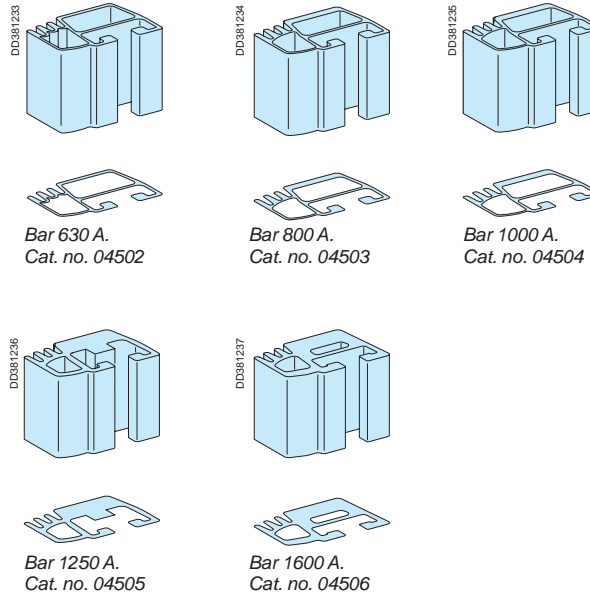


Linerage busbars, L = 1670 mm

Cat. no. selection

See the table below.

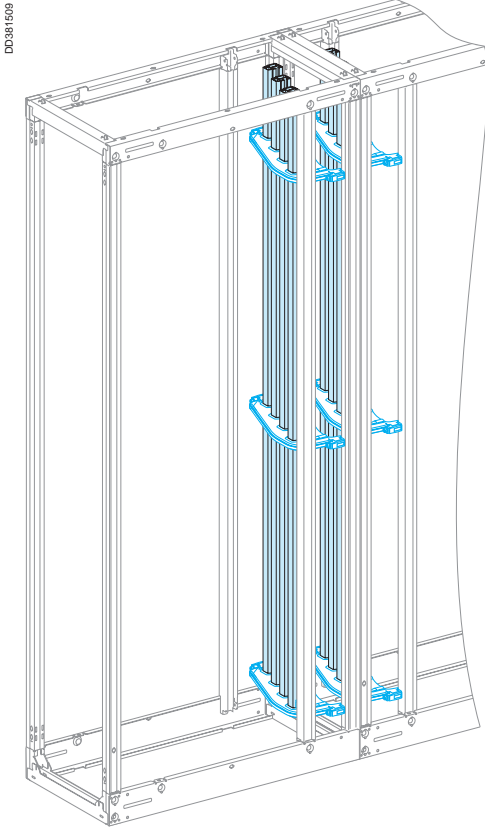
Each bar is supplied with a stop for the bottom support.



Busbars up to 1600 A.

The bottom support also maintains the bars in position.

Lateral Linergy busbars up to 3200 A

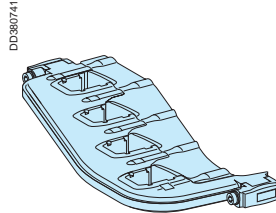


Double busbars up to 3200 A.
Install three equipotential links between the busbars.

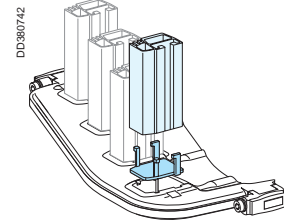
Busbar supports

Supports are used to install busbars to the left or right of the device zone. They are supplied with 8.8 class mounting hardware.

Designation	Cat. no.
Busbar supports	04651

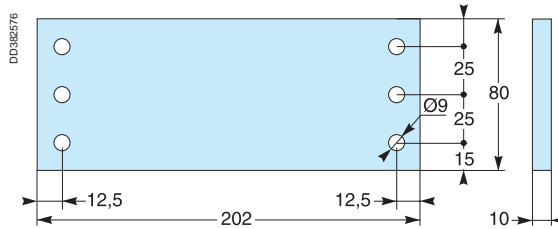


Busbar supports.



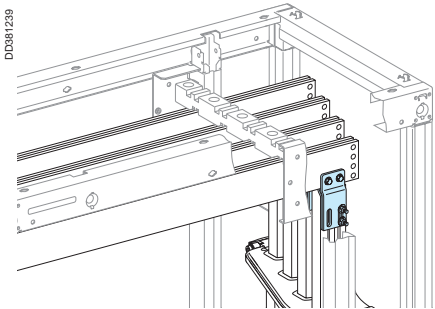
Each bar is supplied with a stop for installation on the bottom support.

Equipotential connection



Note: equipotential connection must be made.

Horizontal-busbar connections

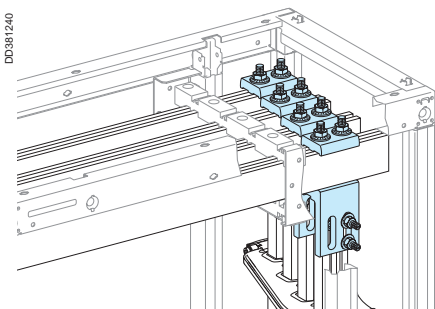


Connection 04635 to horizontal busbars, 5 mm thick.

These connections are used to connect horizontal busbars, 5 or 10 mm thick, to lateral Linergy busbars. Supplied with mounting hardware.

Designation	Cat. no.
Connection to horizontal busbars, 5 mm thick	
1000 A connection	04634 ⁽¹⁾
1600 A connection	04635 ⁽¹⁾
Connection to horizontal busbars, 10 mm thick	
width of horizontal bars ≤ 80 mm	04636 ⁽¹⁾
width of horizontal bars > 80 mm	04636 ⁽¹⁾ + 04642

⁽¹⁾ Catalogue numbers 04634, 04635 and 04636 include 1 connection only. Order 1 connection per phase.



Connection 04636 to horizontal busbars, 10 mm thick.

Main distribution

Busbar calculation

The table opposite indicates:

- the catalogue numbers of the bars to be used, depending on the permissible current level in the busbars
- the number of supports required, depending on the rated short-time withstand current (I_{cw} in kA rms / 1 second).

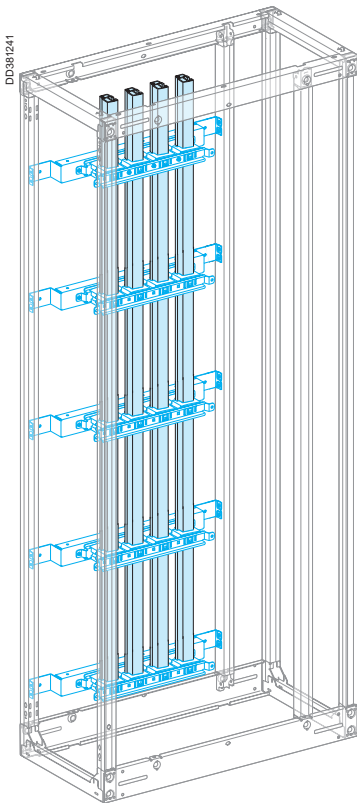
Busbars are installed in cubicles 650 or 800 mm wide, whatever the depth.

For more information on other ambient temperatures and on the depth available for devices, see page D-24.

Profil Linergy	Cat. no.	Permissible current at 35 °C for switchboard		No. of supports I _{cw} (kA rms / 1 s)			
		IP ≤ 31	IP > 31	≤ 25	≤ 30	≤ 40	≤ 50
Lineray 630	04502	680	590	3	4	5	7
Lineray 800	04503	840	760				
Lineray 1000	04504	1040	950				
Lineray 1250	04505	1290	1170				
Lineray 1600	04506	1650	1480				

Note: the permissible current values for the busbars are given for an ambient temperature of 35 °C around the switchboard. The bottom support also maintains the bars in position. Each catalogue number represents one bar.

Busbar selection



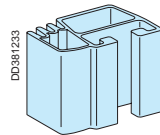
The bottom support also maintains the bars in position.

Lineray busbars, L = 1670 mm

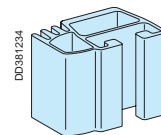
Cat. no. selection

See the table below.

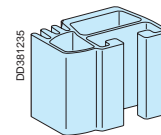
Each bar is supplied with a stop for the bottom support.



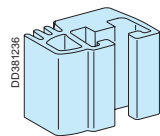
Bar 630 A.
Cat. no. 04502.



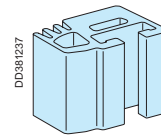
Bar 800 A.
Cat. no. 04503.



Bar 1000 A.
Cat. no. 04504.



Bar 1250 A.
Cat. no. 04505.



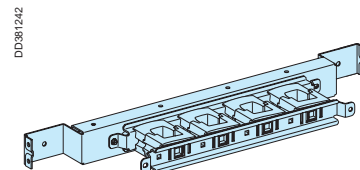
Bar 1600 A.
Cat. no. 04506.

Busbar supports

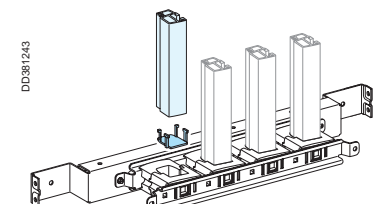
The bottom support maintains the bars in position.

They are supplied with 8.8 class mounting hardware.

Designation	Cat. no.
Busbar supports	04652



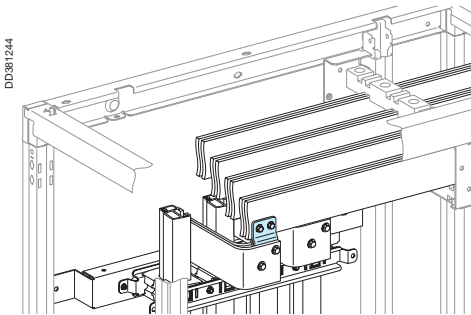
Busbar supports.



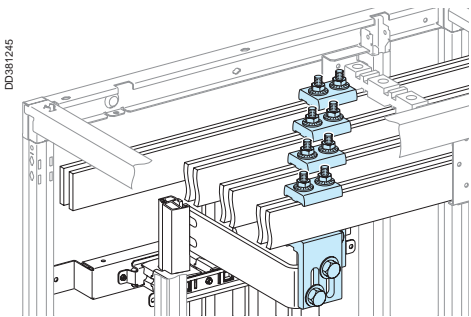
Each bar is supplied with a stop for installation on the bottom support.

Rear Linergy busbars up to 1600 A

Horizontal-busbar connections



Connection to horizontal busbars, 5 mm thick.



Connection to horizontal busbars, 10 mm thick.

These connections are used to connect horizontal busbars, 5 or 10 mm thick, to vertical rear Linergy busbars.

Designation	Cat. no.
Connection to horizontal busbars, 5 mm thick	04635 ⁽¹⁾ ⁽²⁾
Connection to horizontal busbars, 10 mm thick	
width of horizontal bars ≤ 80 mm	04636 ⁽¹⁾ ⁽²⁾
width of horizontal bars > 80 mm	04636 ⁽²⁾ + 04642 ⁽¹⁾

(1) A part of the connection must be made.

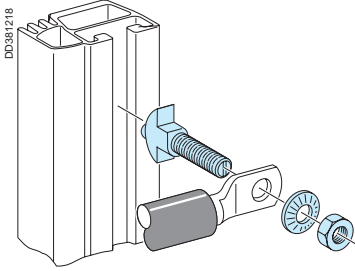
(2) Catalogue numbers 04635 and 04636 include 1 connection only. Order 1 connection per phase.

Presentation

For secure connections, without drilling:

- Linery bolts clip into the channel of the busbar
- they can slide along the entire length of the busbar
- they cannot fall to the bottom of the switchboard because they are held in place by the ball in the head, thus facilitating connections
- a mark at the end of the bolt indicates whether the bolt is correctly positioned
- 8.8 class hardware guarantees withstand to tightening torques and to premature ageing of the electrical contact.

Linery hardware

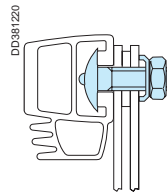


Composition of sets:

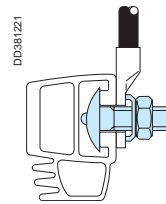
- set of hardware including 20 bolts + 20 nuts + 20 contact washers.

Cat. no. selection

Designation	Cat. no.
Set of 20 M8 Linery bolts, L = 25 mm (for cable lugs and flexible bars)	04766
Set of 20 M8 Linery bolts, L = 39 mm (for copper bars)	04767

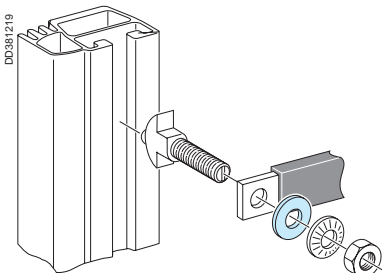


Copper bar connected to Linery busbar using bolt (04767).



Cable lug connected to Linery busbar using bolt (04766).

Flat washers



Presentation

These washers, sold separately, are required for connection of flexible bars to Linery busbars. They spread the tightening forces and avoid creep of the copper.

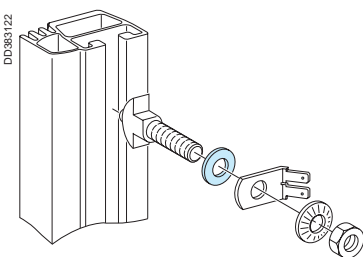
Composition of sets:

- set of 20 flat washers for M8 bolts.

Cat. no. selection

Designation	Cat. no.
Set of 20 M8 flat washers, 20 mm external diameter	04772
Set of 20 M8 flat washers, 24 mm external diameter	04773
Set of 20 M8 flat washers, 28 mm external diameter	04774

Conducting washers



Flat washers

For M8 bold and lugs $\leq 25 \text{ mm}^2$, 20 mm external diameter.

Composition of sets:

- set of 20 flat washers.

Designation	Cat. no.
20 flat washers for lugs $\leq 25 \text{ mm}^2$	04775

Connection cross-section

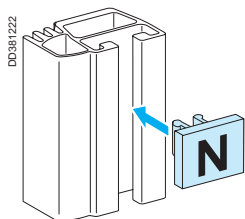
Determining connections using cables

see page D-46.

Determining connections using flexible bars

see page D-44.

Markers



Designation	Cat. no.
Set of 12 phase markers (12 clip-in supports + N, L1, L2, L3, PE, PEN labels)	04794

Main distribution

Lateral busbars up to 2500 A

Type of busbar

Flat copper busbars with holes, 5 mm thick (up to 1600 A).

Flat copper busbars with holes, 10 mm thick (up to 2500 A).

Two 10 mm holes every 25 mm along the entire length of the busbars.

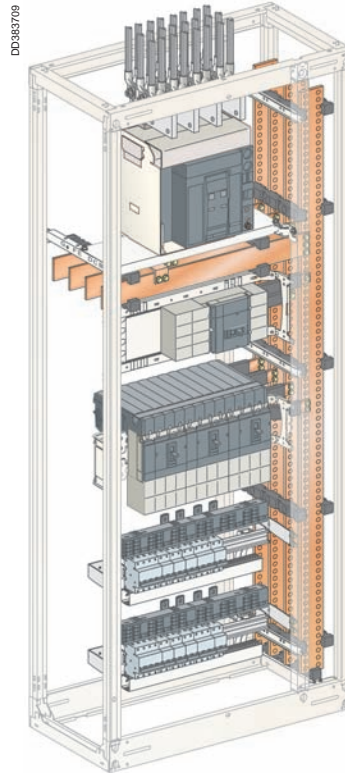
Prisma Plus prefabricated connections cannot be used with these busbars.

Installation

Can be installed independently on either the left or right-hand side of an 800 mm wide framework for distribution on either side.

Three fixed supports (04661) are mandatory. When more than three supports are required (see the tables for busbar calculations on the following pages), use free supports (04662).

Busbars are positioned on the bottom support (04663).



Lateral busbars up to 3200 A

Type of busbar

Flat copper busbars with holes, 10 mm thick.

Two 10 mm holes every 25 mm along the entire length of the busbars.

Prisma Plus prefabricated connections cannot be used with these busbars.

Installation

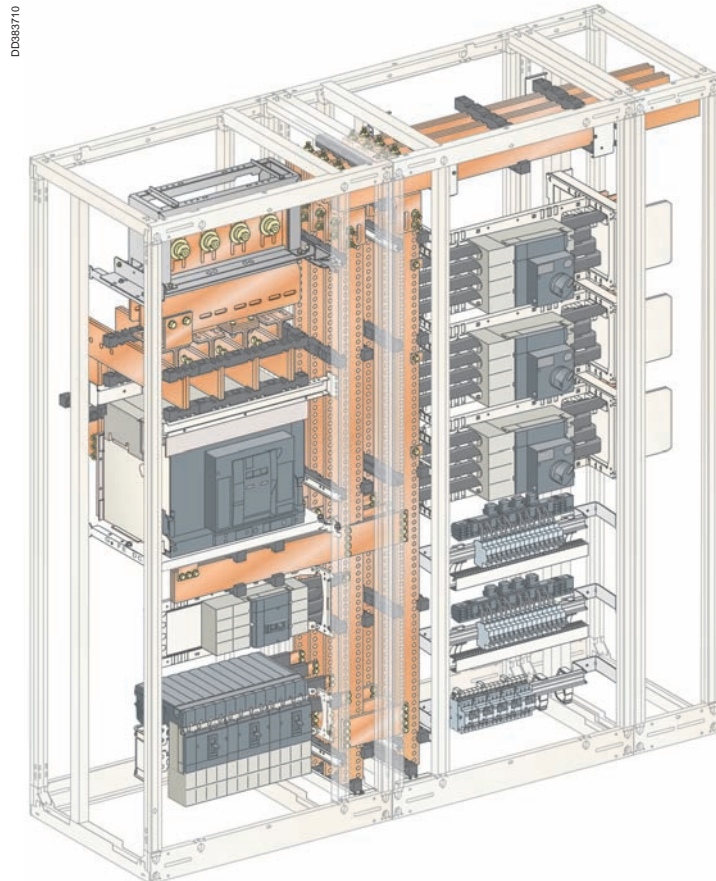
Two sets of busbars are installed in parallel in two adjacent frameworks, each 800 mm wide. They must be interconnected by three equipotential links.

Generally speaking, these connections are made up of:

- the horizontal busbars
- the connection of the incoming device
- a connection at the bottom of the vertical busbars (see opposite).

For each set of busbars, three fixed supports (04661) are mandatory. When more than three supports are required (see the tables for busbar calculations on the following pages), use free supports (04662).

Busbars are positioned on the bottom support (04663).



Main distribution

Rear busbars up to 1600 A

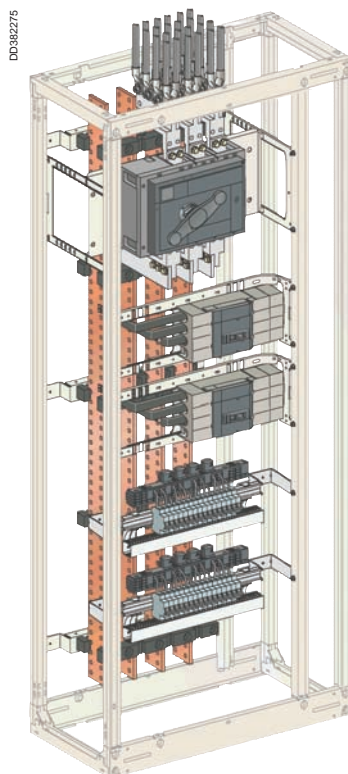
Type of busbar

Flat copper busbars with holes, 5 or 10 mm thick.
Two 10 mm holes every 25 mm along the entire length of the busbars.

Installation

Three fixed supports (04653) are mandatory. When more than three supports are required (see the tables for busbar calculations on the following pages), use free supports (04662).

Mounting chocks (04669) screwed to the busbars rest on one of the fixed supports.



Lateral flat busbars up to 1600 A Busbars 5 mm thick

Main distribution

Busbar calculation

The bars are secured by insulated supports. Three fixed supports, attached to the framework, are mandatory.

If necessary, additional free supports may be used. The bars rest on a bottom support.

The table opposite indicates:

- the number and size of the bars to be used, depending on the permissible current level in the busbars
- the number of supports required in a cubicle, depending on the rated short-time withstand current (Icw).

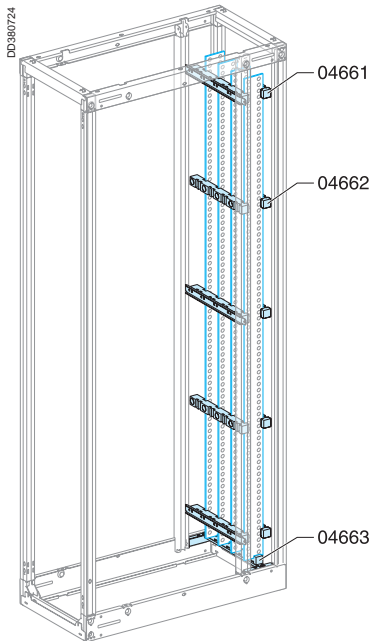
Permissible current for switchboards		No. of bars / phase	No. of supports Icw (kA rms / 1 s)					
IP ≤ 31	IP > 31		≤ 15	≤ 20	≤ 25	≤ 30	≤ 40	≤ 50
290	240	1 bar, 20 x 5 mm	7 ⁽¹⁾					
430	350	1 bar, 32 x 5 mm	5	7	9 ⁽¹⁾			
800	750	1 bar, 60 x 5 mm	3	5	7	9	11	13
1000	900	1 bar, 80 x 5 mm						
1400	1250	2 bars, 60 x 5 mm						
1800	1600	2 bars, 80 x 5 mm						

(1) (kA rms / 0,6s)

Note: the permissible current values for the busbars are given for an ambient temperature of 35 °C around the switchboard.

For more information on busbar calculations, see page D-25.

Busbar selection

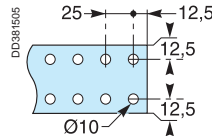


Icw 30 kA rms / 1 s.

The bars are secured by three mandatory fixed supports and two free supports.

Flat busbars, L = 1675 mm

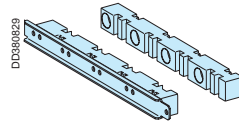
Designation	Cat. No.
Copper bar with holes, 60 x 5 mm	04516
Copper bar with holes, 80 x 5 mm	04518



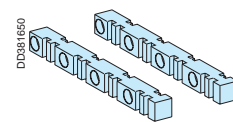
Busbar supports

Three fixed supports are required to maintain the busbars. If more than three supports are required, use additional free supports.

Designation	Cat. No.
Fixed support for lateral flat busbars	04661
Free support (additional)	04662



04661.

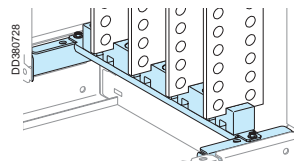


04662.

Busbar chocks

The bottom support maintains the bars in position. It is not considered a busbar support.

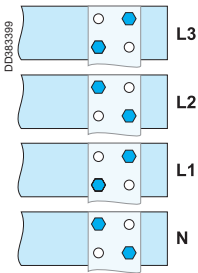
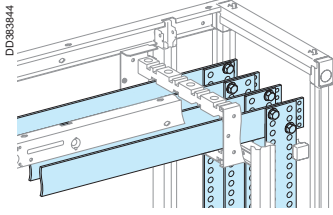
Designation	Cat. No.
Bottom support for lateral flat busbars	04663



Note: when connecting 5 mm flat bars to horizontal busbars, part no. 04663 is not required.

Lateral flat busbars up to 1600 A Busbars 5 mm thick

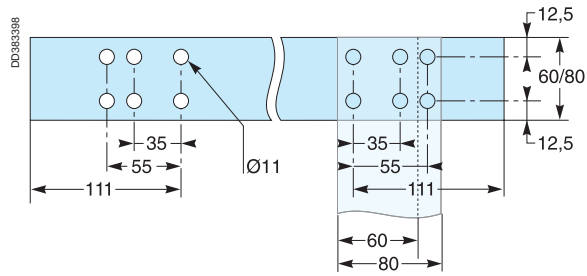
Horizontal-busbar connections



To satisfy safety clearances, the assembly points on adjacent bars must be staggered as shown above.

Direct connection (75 mm between centres)

For busbars with 75 mm between centres, the bars must fully overlap.



Drilling diagram for horizontal busbars, 5 mm thick.

Number of assembly screws (04645) (20 screws for vertical/horizontal busbars connection)

Horizontal bars (mm)	Vertical bars (mm)		
	50	60	80
50	2	2	2
60	-	2	2
80	-	-	3

Lateral flat busbars up to 3200 A

Busbars 10 mm thick

Busbar calculation

The bars are secured by insulated supports. Three fixed supports, attached to the framework, are mandatory. If necessary, additional free supports may be used.

The bars rest on a bottom support.

The table opposite indicates:

- the number and size of the bars to be used, depending on the permissible current level in the busbars

- the number of supports required in a cubicle, depending on the rated short-time withstand current (I_{cw}).

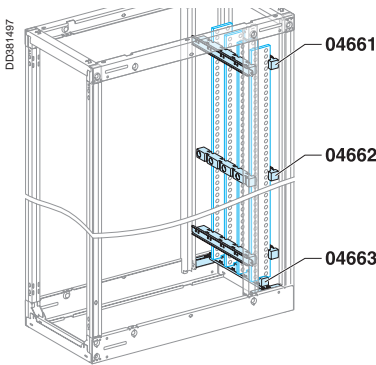
Above 2800 A (2500 A with IP > 31), the busbars must be doubled and installed in two busbar sections, side by side. In this case, they must be interconnected by three equipotential links.

Permissible current for switchboards		No. of bars / phase	No. of supports I _{cw} (kA rms / 1 s)							
IP ≤ 31	IP > 31		≤ 25	≤ 30	≤ 40	≤ 50	≤ 60	≤ 65	≤ 75	≤ 85
1200	1080	1 bar, 50 x 10 mm	3	5	7	9				
1400	1250	1 bar, 60 x 10 mm								
1800	1600	1 bar, 80 x 10 mm								
2050	1850	2 bars, 50 x 10 mm								
2300	2000	2 bars, 60 x 10 mm								
2820	2500	2 bars, 80 x 10 mm								
Double busbars										
3200	2820	2 x 1 bar, 80 x 10 mm	2 x 3				2 x 5			

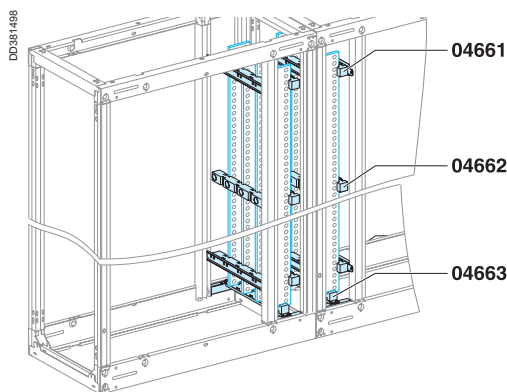
Note: the permissible current values for the busbars are given for an ambient temperature of 35 °C around the switchboard.

For more information on busbar calculations, see page D-25.

Busbar selection



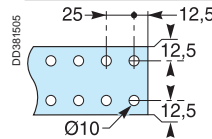
Busbars ≤ 1600 A (IP ≤ 31).



Busbars up to 3200 A.

Flat busbars, L = 1675 mm

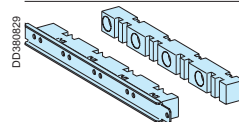
Designation	Cat. no.
Copper bar with holes, 50 x 10 mm	04525
Copper bar with holes, 60 x 10 mm	04526
Copper bar with holes, 80 x 10 mm	04528



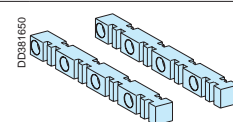
Busbar supports

Three fixed supports are required to maintain the busbars. If more than three supports are required, use additional free supports.

Designation	Cat. no.
Fixed support for lateral flat busbars	04661
Free support (additional)	04662



04661.

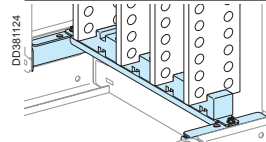


04662.

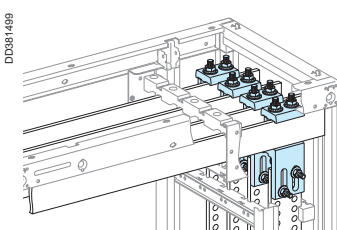
Busbar chocks

The bottom support maintains the bars in position. It is not considered a busbar support.

Designation	Cat. no.
Bottom support for lateral flat busbars	04663



Horizontal-busbar connections



Connection to horizontal busbars, 10 mm thick.

Designation	Horizontal busbars	Vertical busbars	Cat. no.
Connection between vertical busbars (1 bar/phase) and horizontal busbars	W ≤ 80 mm	50/60 mm	04636 ⁽¹⁾
	W > 80 mm	50/60 mm	04636 ⁽¹⁾ + 04642
	W ≤ 80 mm	80 mm	04637 ⁽¹⁾
	W > 80 mm	80 mm	04637 ⁽¹⁾ + 04642
Connection between vertical busbars (2 bars/phase) and horizontal busbars	W ≤ 80 mm	50/80 mm	04637 ⁽¹⁾
	W > 80 mm	50/80 mm	04637 ⁽¹⁾ + 04642
Connection between double vertical busbars and horizontal busbars	W ≤ 80 mm	80 mm	04636 ⁽¹⁾ x 2
	W > 80 mm	80 mm	(04636 ⁽¹⁾ + 04642) x 2

(1) Catalogue numbers 04636 and 04637 include 1 connection only. Order 1 connection per phase.

Lateral flat busbars up to 3200 A For 300 mm width framework

Main distribution

Busbar calculation

The bars are secured by insulated supports. Three fixed supports, attached to the framework, are mandatory. If necessary, additional free supports may be used.

The bars rest on a bottom support.

The table opposite indicates:

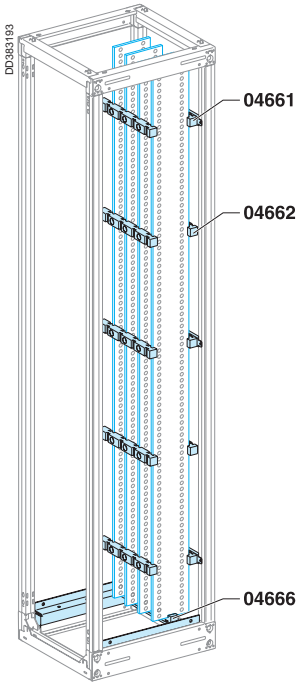
- the number and size of the bars to be used, depending on the permissible current level in the busbars
- the number of supports required in a cubicle, depending on the rated short-time withstand current (I_{cw}).

Permissible current for switchboards		No. of bars / phase	No. of supports I _{cw} (kA rms / 1 s)					
IP ≤ 31	IP > 31		≤ 15	≤ 20	≤ 25	≤ 30	≤ 40	≤ 50
800	750	1 bar, 60 x 5 mm	3			5	7	
1000	900	1 bar, 80 x 5 mm						
1400	1250	2 bars, 60 x 5 mm						
1800	1600	2 bars, 80 x 5 mm						

Permissible current for switchboards		No. of bars / phase	No. of supports I _{cw} (kA rms / 1 s)							
IP ≤ 31	IP > 31		≤ 25	≤ 30	≤ 40	≤ 50	≤ 60	≤ 65	≤ 75	≤ 85
1800	1600	1 bar, 80 x 10 mm	3			5	7	9		
2150	1900	1 bar, 100 x 10 mm								
2820	2500	2 bars, 80 x 10 mm								
3300	2900	2 bars, 100 x 10 mm								7

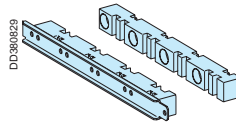
Note: the permissible current values for the busbars are given for an ambient temperature of 35 °C around the switchboard.

Busbar supports

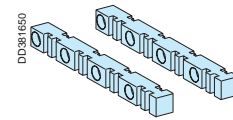


Three fixed supports are required to maintain the busbars. If more than three supports are required, use additional free supports.

Designation	Cat. no.
Fixed support for lateral flat busbars	04661
Free support (additional)	04662



04661.

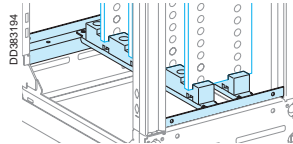


04662.

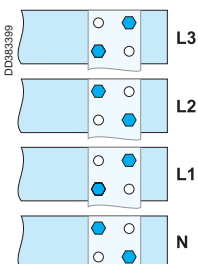
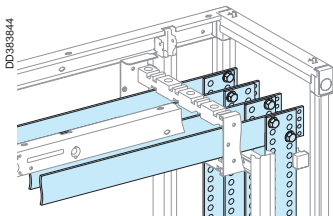
Busbar chocks

The bottom support maintains the bars in position. It is not considered a busbar support.

Designation	Cat. no.
Bottom support for lateral flat busbars W = 300 mm all bars 5 mm width 1 bar, 80 x 10 mm 2 bars, 80 x 10 mm	04666
Bottom support for busbar 100 x 10 mm	04666 + 04661



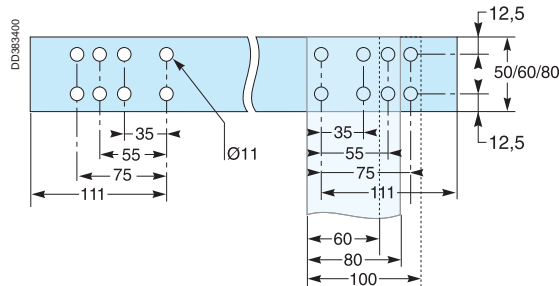
Horizontal-busbar connections



To satisfy safety clearances, the assembly points on adjacent bars must be staggered as shown above.

Direct connection (75 mm between centres)

For busbars with 75 mm between centres, the bars must fully overlap.



Drilling diagram for horizontal busbars, 10 mm thick.

Number of assembly screws (04645)	Vertical bars (mm)		
	50	60	80
Horizontal bars (mm)			
50	2	2	2
60	-	2	2
80	-	-	3

For direction connection (75 or 115 mm between centres) with top horizontal busbars, do not use the bottom support (06263, 06273 or 06283).

Main distribution

Busbar calculation

The bars are secured by insulated supports. Three fixed supports, attached to the framework, are mandatory.

If necessary, additional free supports may be used. Mounting chocks screwed to the busbars rest on one of the fixed supports.

The table opposite indicates:

- the number and size of the bars to be used, depending on the permissible current level in the busbars
- the number of supports required, depending on the rated short-time withstand current (I_{cw}).

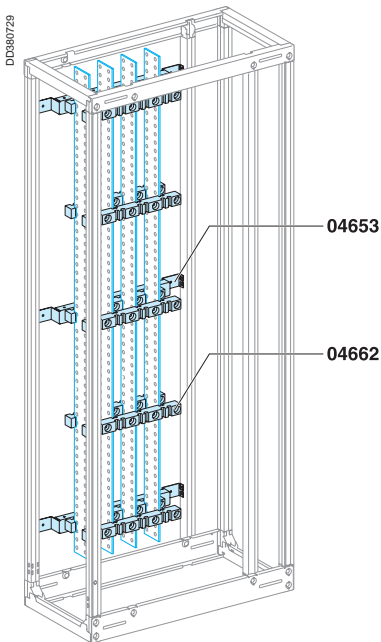
For more information on busbar calculations, see page D-25.

Permissible current for switchboards		Bars / phase	No. of supports I _{cw} (kA rms / 1 s)				
IP ≤ 31	IP > 31		≤ 15	≤ 25	≤ 30	≤ 40	≤ 50
800	750	1 bar, 60 x 5 mm	3	5	7	7	7
1000	900	1 bar, 80 x 5 mm					
1400	1250	2 bars, 60 x 5 mm					
1800	1600	2 bars, 80 x 5 mm					

Note: the permissible current values for the busbars are given for an ambient temperature of 35 °C around the switchboard.

A set of busbars made up of two 80 x 5 mm bars per phase must be installed in a cubicle 600 mm deep.

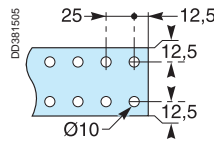
Busbar selection



I_{cw} 30 kA rms / 1 s.
The bars are secured by three mandatory fixed supports (3 x 04653) and two free supports (2 x 04662).

Flat busbars, L = 1675 mm

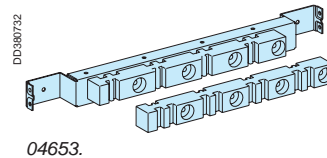
Designation	Cat. no.
Copper bar with holes, 60 x 5 mm	04516
Copper bar with holes, 80 x 5 mm	04518



Busbar supports

Three fixed supports are required to maintain the vertical busbars. If more than three supports are required, use additional free supports.

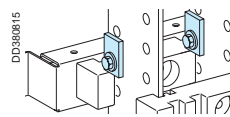
Designation	Cat. no.
Fixed support for rear flat busbars	04653
Free support (additional)	04662



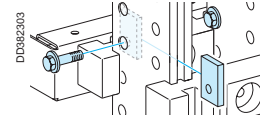
Busbar chocks

A metal mounting chock, 5 mm thick, is screwed to the bar. It rests on a fixed support and maintains the position of the bar.

Designation	Cat. no.
100 mounting chocks (5 mm) for busbars	04669

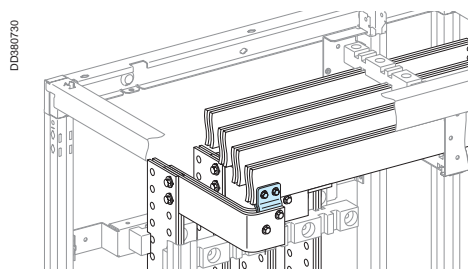


Chocking for one bar per phase.



Chocking for two bars per phase.

Horizontal-busbar connections



Designation	Cat. no.
1600 A connection	
connection to horizontal busbars, 5 mm thick	04635 ^{(1) (2)}
connection to horizontal busbars, 10 mm thick	04636 ^{(1) (2)}
thick	Width ≤ 80 mm
	Width > 80 mm
	04636 ⁽²⁾ + 04642 ⁽¹⁾

⁽¹⁾ A part of the connection must be made.

⁽²⁾ Catalogue numbers 04635 and 04636 include 1 connection only. Order 1 connection per phase.

Main distribution

Busbar calculation

The bars are secured by insulated supports. Three fixed supports, attached to the framework, are mandatory.

If necessary, additional free supports may be used.

Mounting chocks screwed to the busbars rest on one of the fixed supports.

The table opposite indicates:

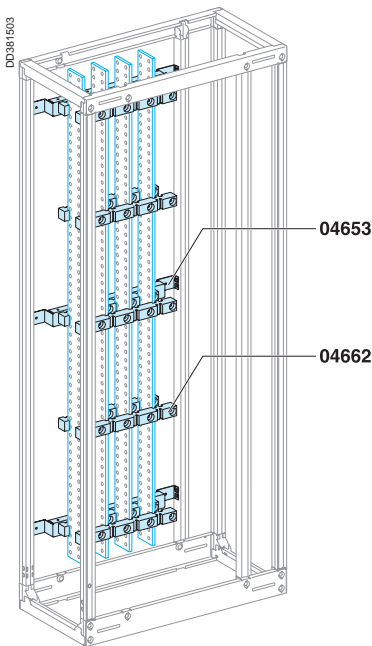
- the number and size of the bars to be used, depending on the permissible current level in the busbars
- the number of supports required, depending on the rated short-time withstand current (I_{cw}).

For more information on busbar calculations, see page D-25.

Permissible current for switchboards		Size of bars	No. of supports I _{cw} (kA rms / 1 s)							
IP ≤ 31	IP > 31		≤ 25	≤ 30	≤ 40	≤ 50	≤ 60	≤ 65	≤ 75	≤ 85
1200	1080	1 bar, 50 x 10	3	5	7	9				
1400	1250	1 bar, 60 x 10								
1800	1600	1 bar, 80 x 10								

Note: the permissible current values for the busbars are given for an ambient temperature of 35 °C around the switchboard.

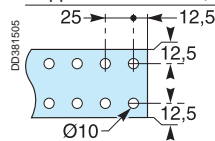
Busbar selection



I_{cw} 40 kA rms / 1 s.
The bars are secured by three mandatory fixed supports (3 x 04653) and two free supports (2 x 04662).

Flat busbars, L = 1675 mm

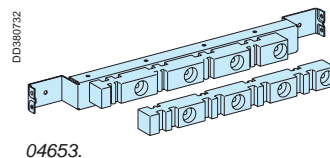
Designation	Cat. no.
Copper bar with holes, 50 x 10 mm	04525
Copper bar with holes, 60 x 10 mm	04526
Copper bar with holes, 80 x 10 mm	04528



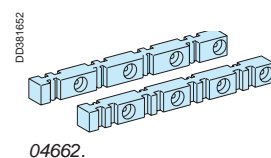
Busbar supports

Three fixed supports are required to maintain the vertical busbars. If more than three supports are required, use additional free supports.

Designation	Cat. no.
Fixed support for rear flat busbars	04653
Free support (additional)	04662



04653.

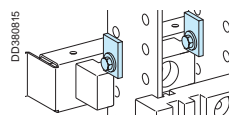


04662.

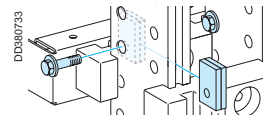
Busbar chocks

A metal mounting chock, 5 mm thick, is screwed to the bar. It rests on a fixed support and maintains the position of the bar.

Designation	Cat. no.
100 mounting chocks (5 mm) for busbars	04669

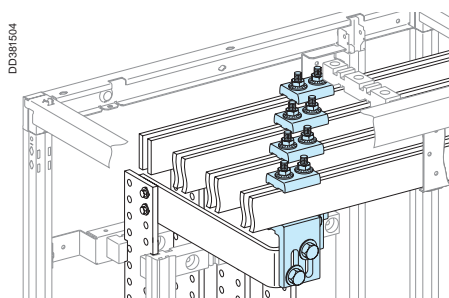


Chocking for one bar per phase.



Chocking for two bars per phase.

Horizontal-busbar connections



Designation	Cat. no.
Connection ≤ 1600 A for horizontal bars, 10 mm thick	
width of horizontal bars ≤ 80 mm	04636 ⁽¹⁾⁽²⁾
width of horizontal bars > 80 mm	04636 ⁽²⁾ + 04642 ⁽¹⁾

⁽¹⁾ A part of the connection must be made.

⁽²⁾ Catalogue number 04636 includes 1 connection only. Order 1 connection per phase.

Main distribution

Presentation

Decisions concerning the Form of separation and the degree of protection are the subject of an agreement between the manufacturer and the user.

In most installations, Prisma Plus cubicles do not require partitioning. In this case, the switchboard is a Form 1.

Safety being one of its foremost goals, Schneider Electric offers options and features that go well beyond the recommendations of the standard.

The protection of life and property is a standard feature due to:

- front plates that require a tool to be removed
- keylocks on doors, some of which provide access to live parts
- the systematic installation of terminal shields on Compact NSX circuit breakers and Interpact INS and INV switch-disconnectors
- covering of the upstream and downstream terminals on the incoming device so that operators are perfectly safe at all points in the switchboard when the incoming device is off (open).

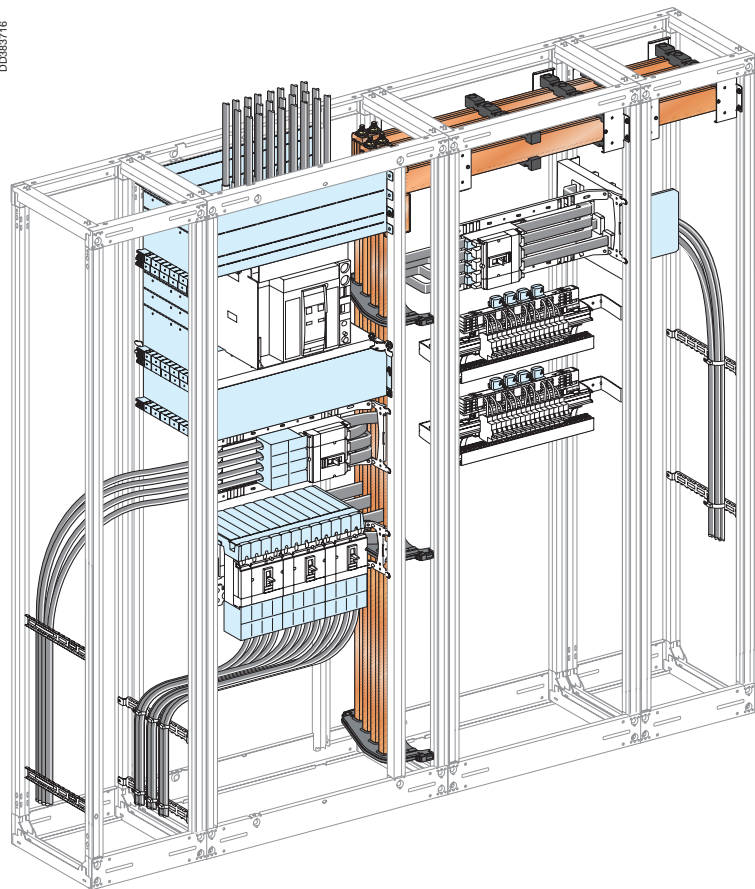
What is more, Prisma Plus offers different levels of partitioning to create separations inside the cubicles and thus create Form 2, 3 and 4 electrical switchboards.

Electrical switchboards must meet the degree of protection IP2X to comply with standard IEC 60439-1.

Form 1 configuration

Covering of upstream and downstream terminals on all devices

DD0883716

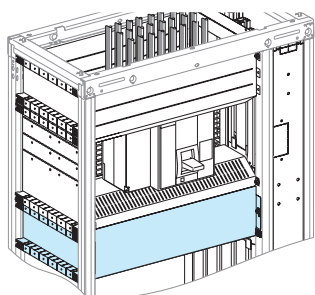


The protection of life and property is ensured by:

- the systematic installation of terminal shields on Compact NSX circuit breakers and on Interpact INS and INV switch-disconnectors (see the pages on the functional units)
- covering of the upstream and downstream terminals of the incoming device.

Covering of the connection between an incoming device and lateral busbars

DD382041



04926.

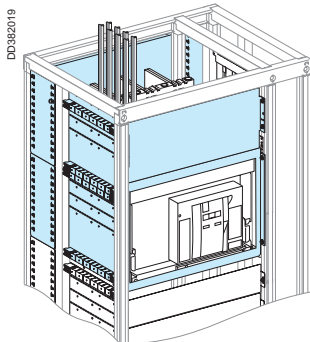
Cat. no. selection

Device	Cover
Masterpact NW	04926 + 04927
Masterpact NT	04926
Compact NS630b/1600	04926
Compact NS1600b/3200	04926
Interpact INS-INV630b/2500	04926

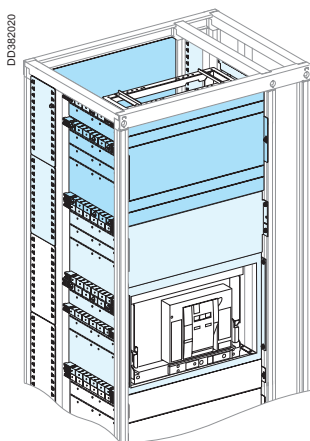
Form 1 electrical switchboards

Covering the supply terminals on the incoming device

Front connection.

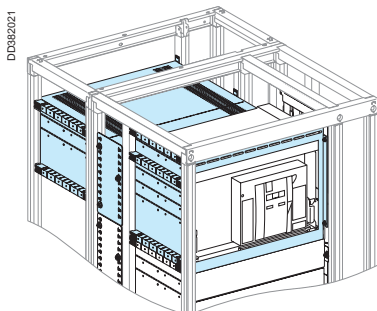


04861.

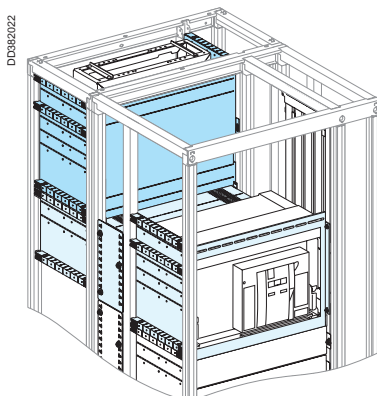


04861 + 04871.

Rear connection



04863.



04863 + 04871.

Cable connection

Device	Form 1 cover
Fixed or drawout Masterpact circuit breaker	
NW08/32	04861
NT06/16	04852
Fixed or withdrawable Compact circuit breaker	
Fixed NS630b/1600	04851
Withdrawable NS630b/1600	04852

Canalis connection

Device	Form 1 cover
Fixed or drawout Masterpact circuit breaker	
NW08/32	04861 + 04871
NT06/16	04852 + 04871
Fixed or withdrawable Compact circuit breaker	
Fixed NS630b/1600	04851 + 04871
Withdrawable NS630b/1600	04852 + 04871

Cable connection

Device	Form 1 cover
Fixed or drawout Masterpact circuit breaker	
NW08/32	04863
NT06/16	04854
Fixed or withdrawable Compact circuit breaker	
Fixed NS630b/1600	04853
Withdrawable NS630b/1600	04854

Canalis connection

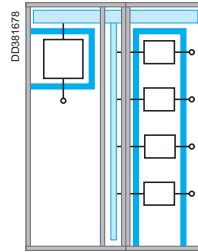
Device	Form 1 cover
Fixed or drawout Masterpact circuit breaker	
NW08/32	04863 + 04871
NT06/16	04854 + 04871
Fixed or withdrawable Compact circuit breaker	
Fixed NS630b/1600	04853 + 04871
Withdrawable NS630b/1600	04854 + 04871

Definition of Form 2

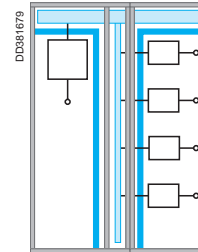
Separation of busbars from the functional units:

- protection against contact with live parts upstream of the outgoing circuits
- protection against penetration of foreign solid bodies.

The two types of Form 2 separation as defined by IEC 60439-1



Form 2a.



Form 2b.

■ Form 2a

Terminals for external conductors not separated from busbars. The functional units are separated from the busbars, but not the terminals.

■ Form 2b

Terminals for external conductors separated from busbars. The functional units and the terminals are separated from the busbars.

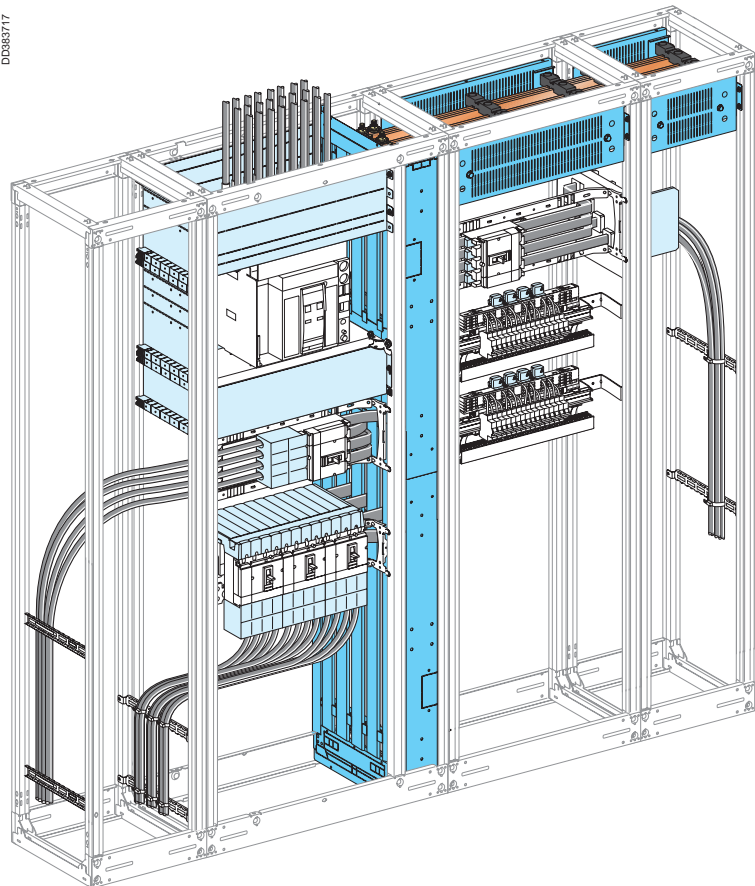
Form 2 configuration

Separation of busbars from the functional units

Form 2 partitioning is essential to ensure excellent protection for the installation and operators working in the switchboard.

When added to standard protection features (terminal shields, prefabricated connections, etc.), it eliminates the risk of direct contacts with live parts. Prisma Plus offers Form 2b.

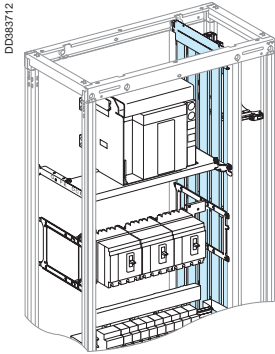
Form 2b provides much better safety than Form 2a, notably during connection, because the terminals are separated from the busbars.



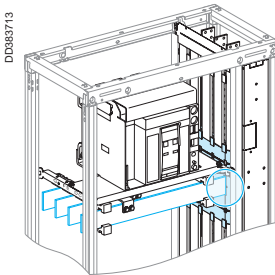
Form 2b partitioning.

Main distribution

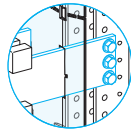
Partitioning of lateral vertical busbars



04922.



04924.



Lateral partitioning

- vertical barrier made of insulating slats
- can be installed on both sides of Linergy and flat busbars
- made up of:
 - four supports that clip to the framework
 - five extruded slats that clip to the supports
 - two metal plates at the top and bottom that can be cut out to pass a PE or PEN conductor, or one or two 30 x 60 mm trunking sections
- the space between the slats is sufficient for prefabricated connections (one copper bar, 5 or 10 mm thick, or insulated flexible bars) or for cables up to 35 mm², while maintaining the degree of protection IP2X
- compliance with standard IEC 695.2.1 concerning withstand to fire.

Form 2 restoration for side-barrier cut-out

This kit enables passage of the connection between a device > 1600 A (NW, INS) and lateral vertical busbars.

It is made up of an insulated plate (six modules high = 300 mm) that can be cut as required, supplied with supports and the necessary hardware.

It can be installed at any height in the switchboard.

Cat. no. selection

Designation	Cat. no.
Form 2 side barrier	04922
Form 2 restoration kit	04924

Front and rear barrier

Barrier, W = 150 mm or W = 300 mm, from top to bottom of the cubicle.

Can be installed in the front and rear of the busbar compartment.

Protects against direct contact with the busbars.

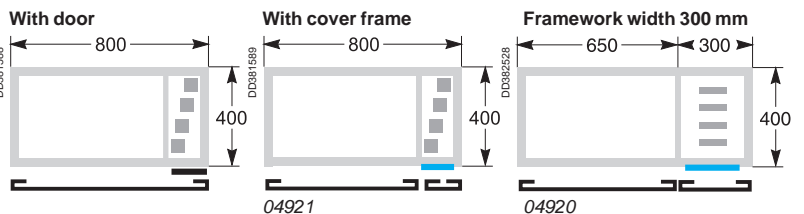
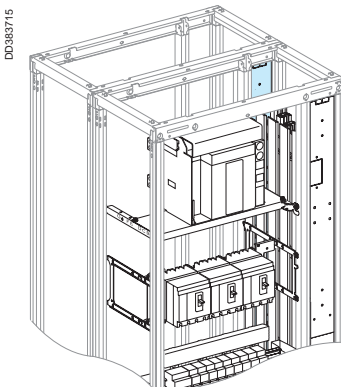
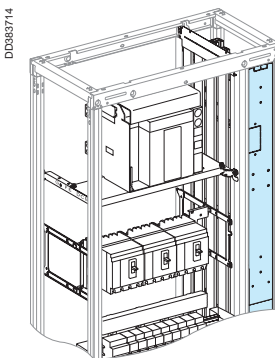
Cat. no. selection

Designation	Cat. no.
Front or rear barrier for lateral vertical busbars	04921
Front or rear barrier for lateral vertical busbars W = 300 mm ⁽¹⁾	04920

⁽¹⁾ A busbar support (04666) must be mounted for the bottom fixture of the 300 mm wide barrier.

Front protection

This barrier is not required in front when the cubicle is equipped with a plain or transparent door.

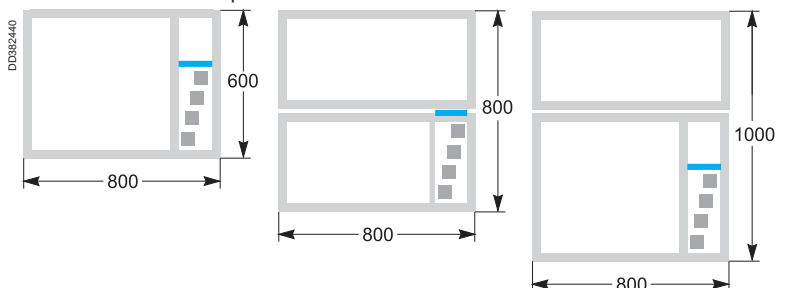


For 800 mm cubicles :

- the door is systematically supplied with a barrier.
- the cover frame is supplied with a wicket door, W = 150 mm, on which devices can be mounted. A front barrier is indispensable.

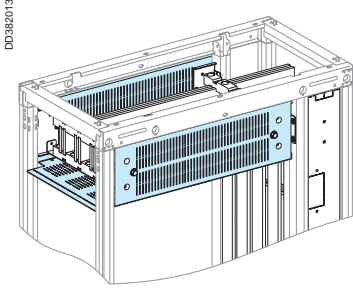
Rear protection

A barrier is required at the rear of the busbar compartment in cubicles that are 600, 800 and 1000 mm deep.

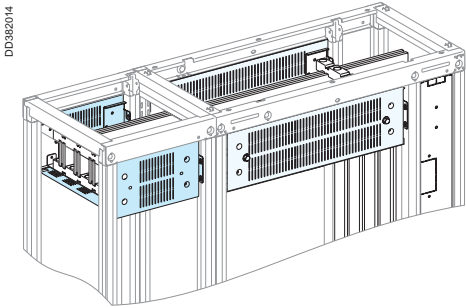


Main distribution

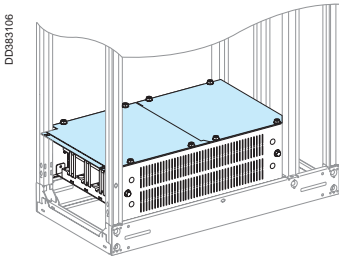
Partitioning of horizontal busbars



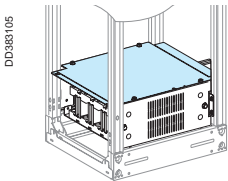
04916
For framework, W = 650 mm, W = 800 mm (650 + 150).



04914
For framework, W = 400 mm.



04919
For framework, W = 650 mm, W = 800 mm (650 + 150).



04915
For framework, W = 300 mm, W = 400 mm.

Set of two barriers (front and rear), plus a slotted rear panel for efficient natural convection in the switchboard.
The set can be used to partition horizontal busbars installed at the top or bottom of the cubicle.

The space required for the busbars is not increased.

Cat. no. selection

Framework dimensions		Cat. no.
Framework, D = 400 mm	W = 300 mm	04913
	W = 400 mm	04914
	W = 650 mm	04916
	W = 800 mm (650 + 150)	04916
	W = 800 mm	04918
Framework, D = 600 mm	W = 300 mm	04933
	W = 400 mm	04934
	W = 650 mm	04936
	W = 800mm (650 + 150)	04936
	W = 800 mm	04938

Note: when the busbars are at the bottom of the cubicle, gland plates are mandatory, see page C-12.

To protect horizontal busbars installed at the bottom of the cubicle, the slotted horizontal panel can be replaced by a plain barrier.

Designation	Cat. no.
Plain barrier W = 300, W = 400	04915
Plain barrier W = 650, W = 800	04919

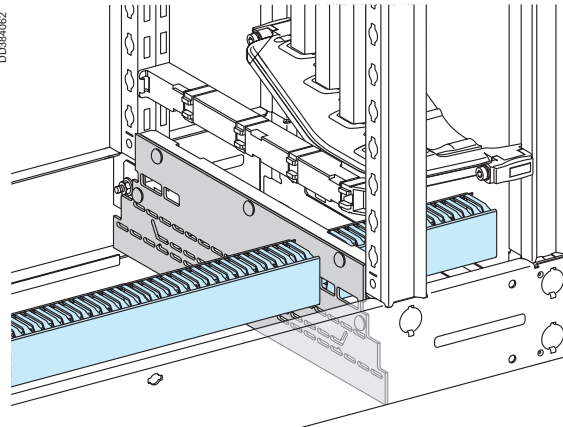
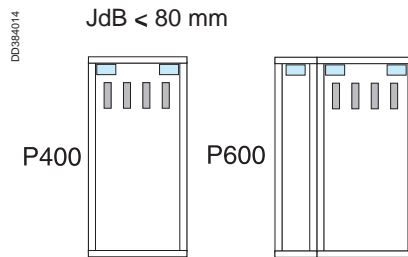
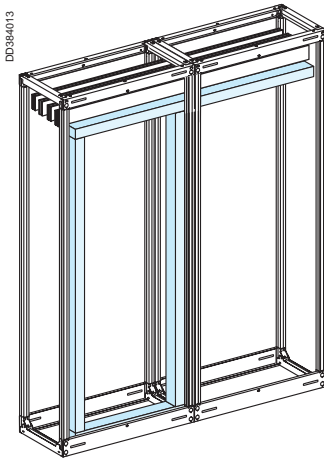
Main distribution

Running of auxiliary wires

We recommend running all auxiliary wires in trunking or straps. In Prisma Plus cubicles, the wires can be run in any combination of three directions (vertical, horizontal widthwise and horizontal depthwise) to ensure optimum and rational wiring layouts.

Auxiliary wiring knock-outs

With Prisma Plus, the top and bottom partitioning plates of the lateral vertical busbars are equipped with knock-outs designed for the passage of two 30 x 60 mm trunking sections. These plates are reversible front and back to adapt to auxiliary wires running in the front or rear of the cubicles.



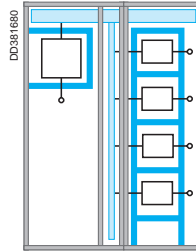
Definition of Form 3

Separation of busbars from the functional units and separation of all functional units from one another.

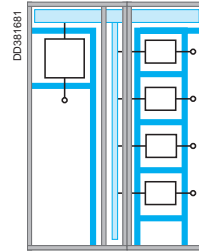
Separation of the terminals for external conductors from the functional units, but not from each other.

- protection against contact with live parts
- reduction in the risk of faults between the functional units (propagation of electrical arcs, etc.).

The two types of Form 3 separation as defined by IEC 60439-1.



Form 3a.



Form 3b.

■ Form 3a

Terminals for external conductors not separated from busbars.

The functional units are separated from each other and from the busbars, but not the terminals.

■ Form 3b

Terminals for external conductors separated from busbars.

The functional units are separated from each other and from the busbars.

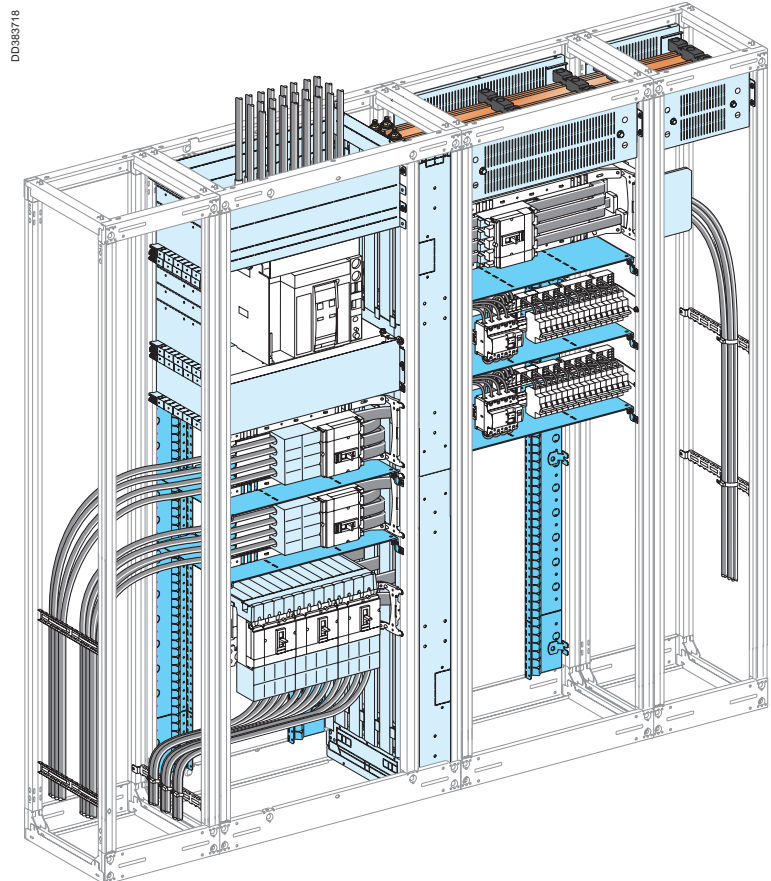
The terminals are separated from the busbars, but not from each other.

Form 3 configuration

Form 2 switchboard with:

- separation of the functional units from one another
- separation of the terminals for external conductors from the functional units.

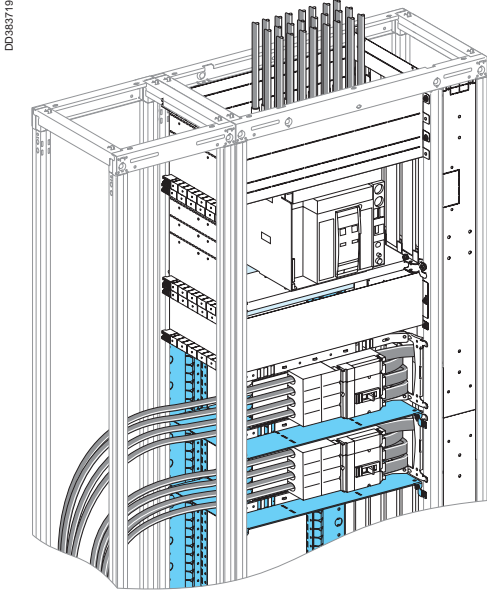
Prisma Plus offers Form 3b because it provides much better safety than Form 3a, because the terminals are separated from the busbars.



Form 3b partitioning.

Main distribution

Form 3 partitioning



04901 + 04943

Front connection.

Presentation

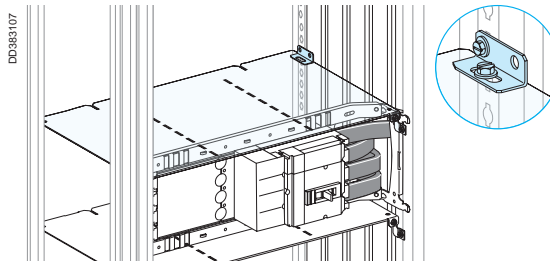
A horizontal metal partition can be used to physically separate functional units from one another.

It is fixed at the rear by a support (two uprights) secured to the framework (400 mm deep) or to the intermediate uprights (600 mm deep frameworks).

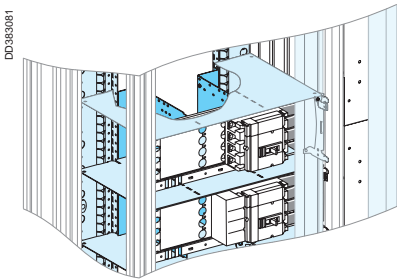
A set of brackets can be used to install partial Form 3 partitioning in the cubicle. It does not take up any useful space in the switchboard.

Cat. no. selection

Designation	Cat. no.
Horizontal metal partition, W = 650 mm	04901
Rear support for partitions, W=650 mm	04943
6 universal angle brackets	03583



04901 + 03583



DD383081

Rear connection

Presentation

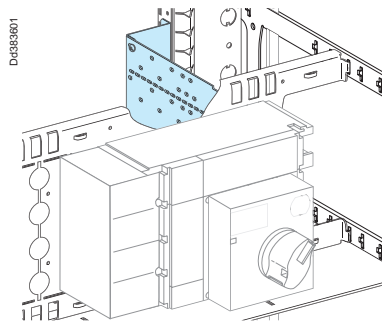
For rear connection, in addition to the horizontal partitions, vertical partitions are required at the rear of each functional unit.

There are two heights:

- 3 to 4 modules
- 5 to 6 modules.

Cat. no. selection

Designation	Cat. no.
Vertical partitions (one cat. no. per functional unit)	
3 to 4 modules	04955
5 to 6 modules	04956



DD383081

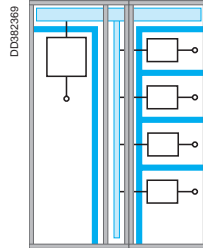
Vertical partitions for rear connected Compact NSX250.

Main distribution

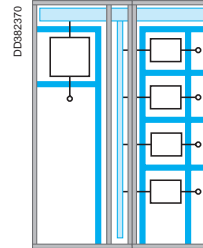
Definition of Form 4

- separation of busbars from the functional units and separation of all functional units from one another, including the terminals for external conductors which are an integral part of the functional unit
- protection against contacts with live parts and reduction in the risk of faults between the functional units (propagation of electrical arcs, etc.).

The two types of Form 4 separation as defined by IEC 60439-1



Form 4a.



Form 4b.

- Form 4a
Terminals for external conductors in the same compartment as the associated functional unit.
- Form 4b
Terminals for external conductors not in the same compartment as the associated functional unit, but in individual, separate, enclosed protected spaces or compartments.

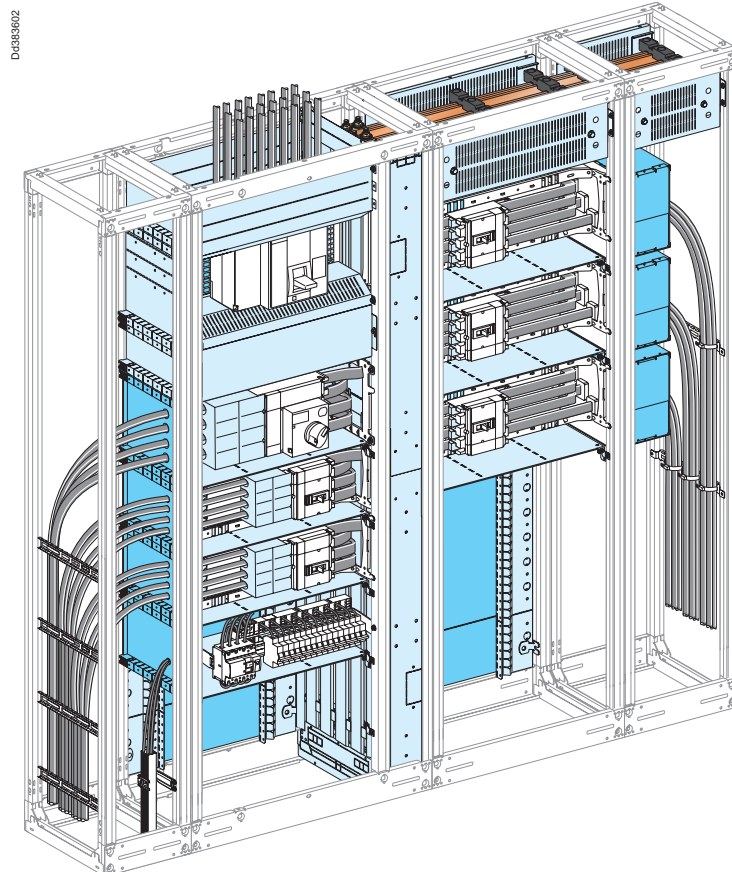
Form 4 configuration

Form 3 switchboard with covers over the terminals for external conductors.

Prisma Plus offers both Form 4a and Form 4b.

In addition to partitioning of the main busbars (Form 2) and installation of the horizontal partitions between functional units (Form 3), the cubicle must be equipped with:

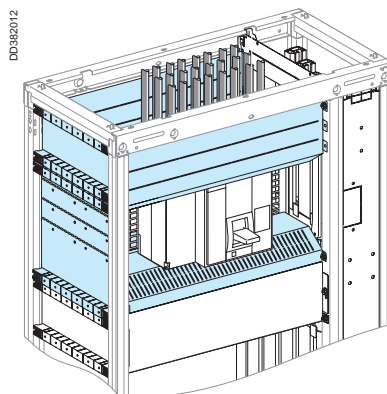
- Form 4 gland plates to achieve Form 4a
- Form 4 covers for connection transfer assemblies to achieve Form 4b.



Form 4 partitioning: Form 4a (cubicle on left) and Form 4b (cubicle on right).

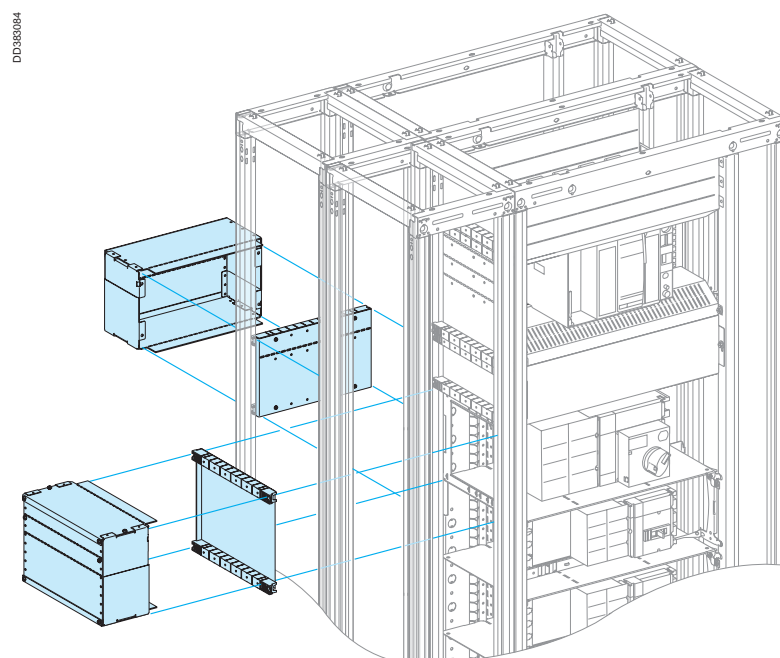
Main distribution

Covering the connection terminals on the incoming device



See the pages on functional units or page B-24.

Covering the connection terminals of outgoing devices



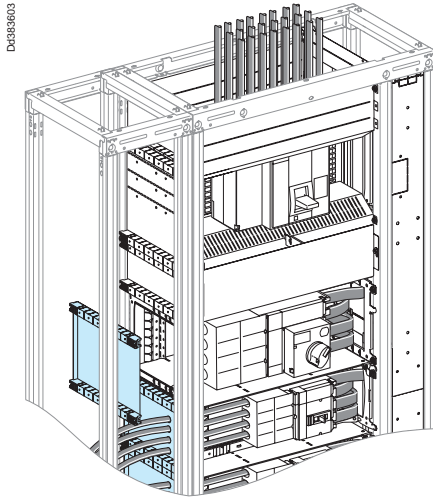
See the following pages.

Form 4 partitioning

Outgoing device

Main distribution

Front connection



Form 4a - direct connection to the device

Presentation

On a cubicle already equipped with Form 2 and 3 partitions, Form 4 is achieved by installing:

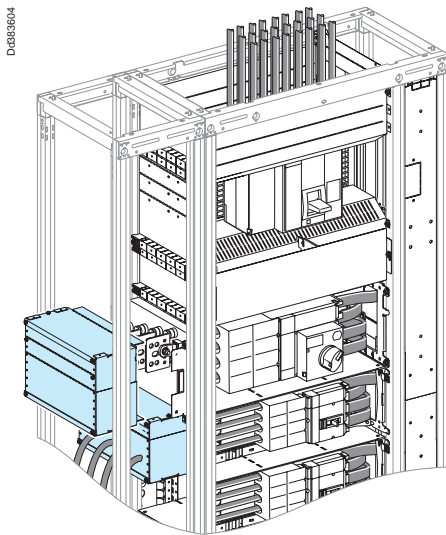
- a backplate (one cat. no. per cubicle) made up to two metal half panels mounted on the rear supports for Form 3 partitions. This backplate is not indispensable for 400 mm deep frameworks
- a plastic gland plate that can be easily cut out (one for each functional unit) and is mounted on the framework.

There are two heights:

- 3 to 4 modules
- 5 to 6 modules.

Cat. no. selection

Designation		Cat. no.
Form 4 backplate (one cat. no. per cubicle)		04946
Form 4 gland plate	3 to 4 modules	04951
	5 to 6 modules	04952



Form 4b - connection in a lateral compartment

Presentation

On a cubicle already equipped with Form 2 and 3 partitions, Form 4 is achieved by installing:

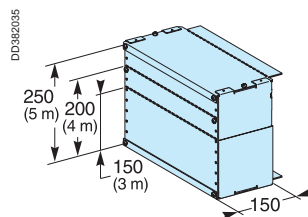
- a backplate (one cat. no. per cubicle) made up to two metal half panels mounted on the rear supports for Form 3 partitions. This backplate is not indispensable for 400 mm deep frameworks
- a cover with plastic gland plates that can be easily cut out on the side and bottom.

It is available in two heights:

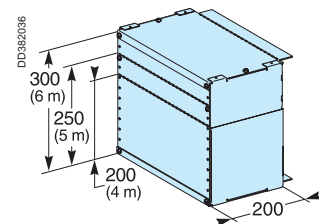
- 3 to 5 modules, 150 mm wide
- 4 to 6 modules, 200 mm wide.

Cat. no. selection

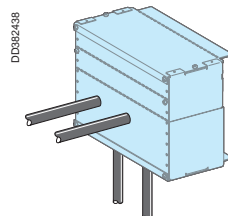
Designation		Cat. no.
Form 4 backplate (one cat. no. per cubicle)		04946
Form 4 cover for connection transfer assembly	3 to 5 modules (W = 150 mm)	04953
	4 to 6 modules (W = 200 mm)	04954



04953.



04954.



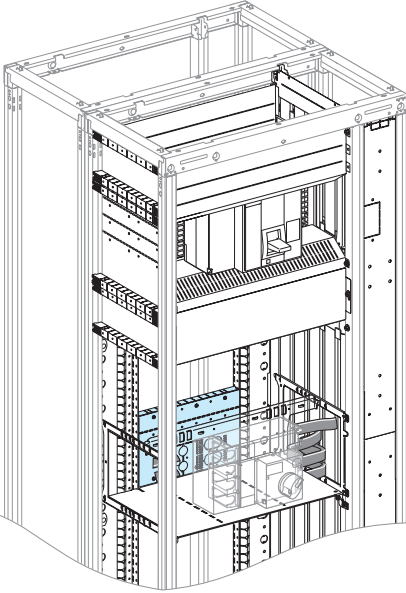
Form 4 partitioning

Outgoing device

Main distribution

Rear connection

DD383605



Form 4a - direct connection to the device

Presentation

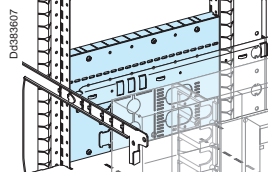
On a cubicle already equipped with Form 2 and 3 partitions, Form 4 is achieved by installing a gland plate at the rear of each functional unit. They are connected directly to the rear supports for Form 3 partitions.

It is available in two heights:

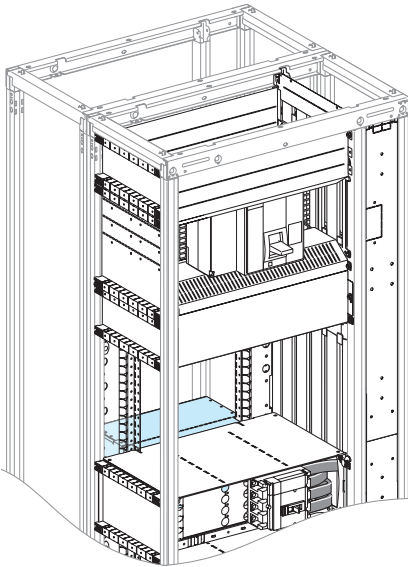
- 3 to 4 modules
- 5 to 6 modules.

Cat. no. selection

Designation		Cat. no.
Form 4 gland plate	3 to 4 modules	04951
	5 to 6 modules	04952



DD383606



Form 4b - connection at the rear of the cubicle

Presentation

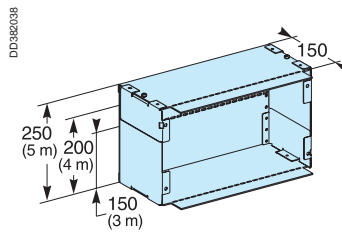
On a cubicle already equipped with Form 2 and 3 partitions, Form 4 is achieved by installing a Form 4 cover. It comprises two height-adjustable metal flanges and plastic gland plates that can be easily cut out at the rear and bottom.

It is available in two versions:

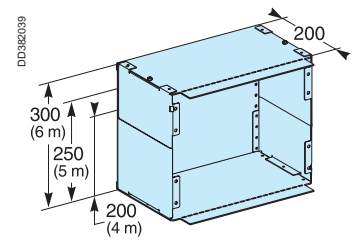
- 3 to 5 modules (D = 150 mm)
- 4 to 6 modules (D = 200 mm).

Cat. no. selection

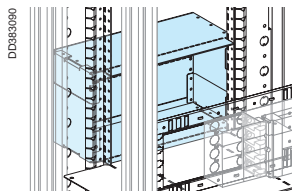
Designation		Cat. no.
Form 4 cover for connection transfer assembly	3 to 5 modules	04953
	4 to 6 modules	04954



04954.

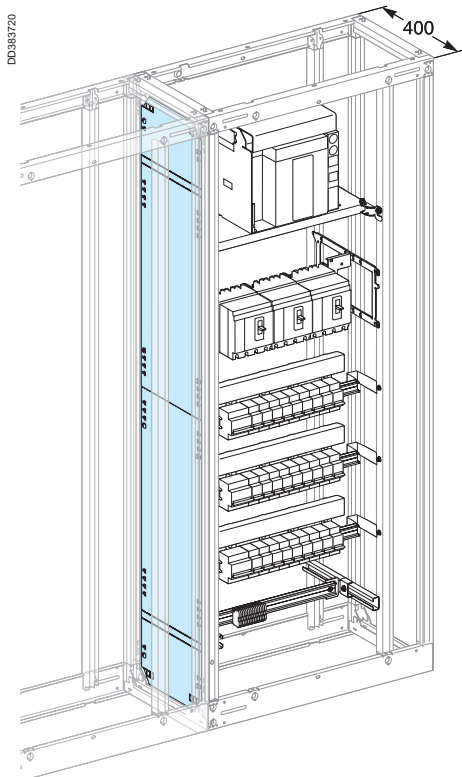


04953.

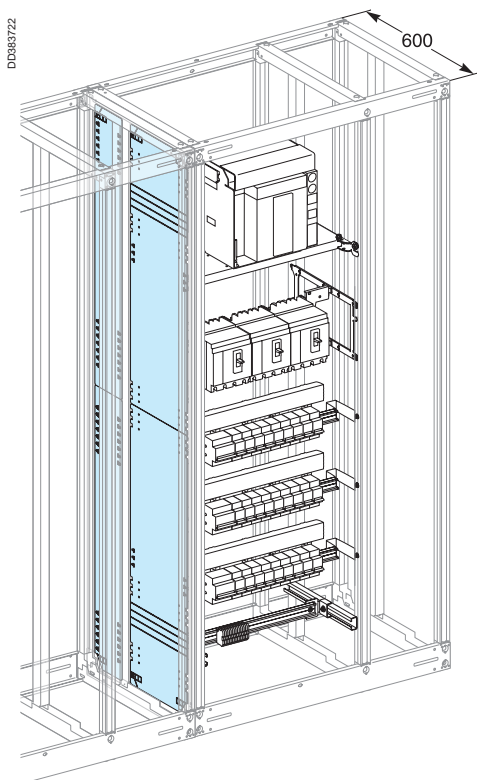


Main distribution

Inter-cubicle partition



04911.



04911 + 04931.

Metal partition, used to separate two adjacent cubicles.

It is made up of two panels, each 850 mm high.

The top and bottom ends have knock-outs for busbars, PE/PEN conductors or auxiliary wiring.

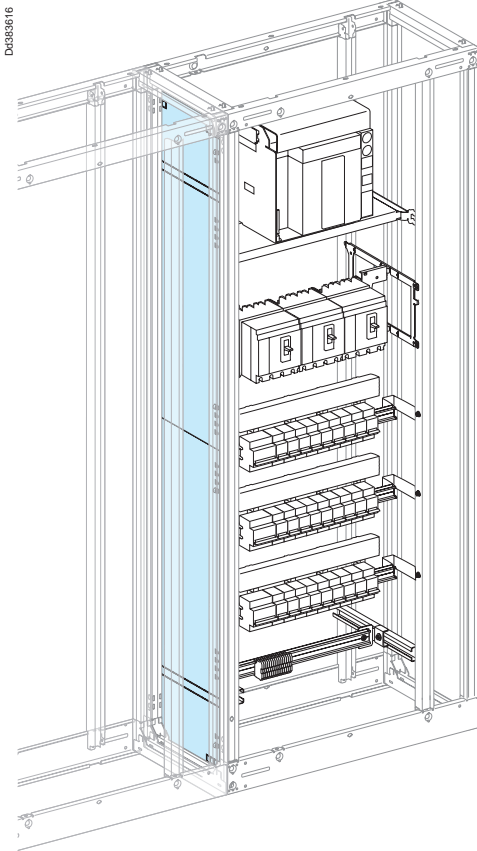
Supplied with the necessary supports and hardware, the partition is mounted on the framework and does not hinder installation of the functional mounting plates.

Cat. no. selection

Designation	Cat. no.
Inter-cubicle partition	
depth 400 mm	04911
depth 600 mm	04911 + 04931

Main distribution

Inter-cubicle partition



Metal partition used to separate two adjacent cubicles (for example, when the power factor correction cubicle is combined with a main low-voltage switchboard).

It is made up of two panels, each 850 mm high.

The top and bottom have knock-outs for horizontal busbars.

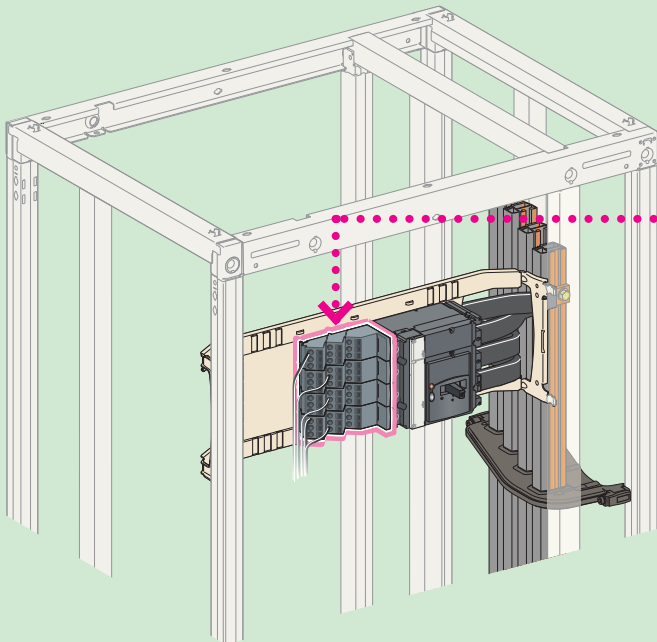
Supplied with the necessary supports and mounting hardware, the partition is mounted on the framework and does not hinder installation of the power factor correction modules.

Cat. no. selection

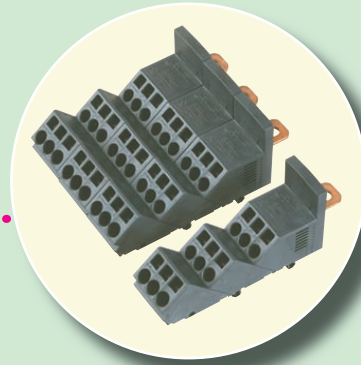
Designation	Cat. no.
Inter-cubicle partition	
depth 400 mm	04911
depth 600 mm	04931 + 04911

Prisma Plus System P

For incoming devices up to 630 A

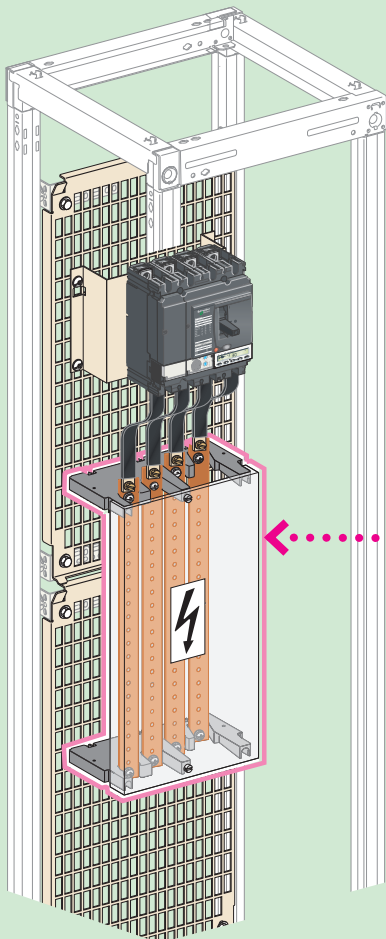


160 to 250 A Polybloc

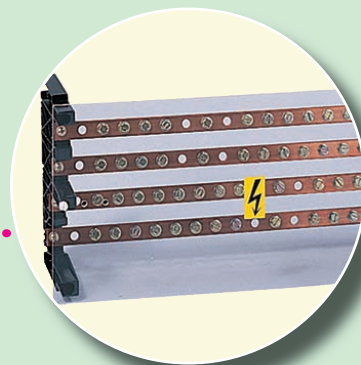


- Reliable spring-terminal connections for outgoing circuits, requiring no maintenance
- Horizontal or vertical installation in minimum space

► B-47



160 to 630 A multi-stage distribution block

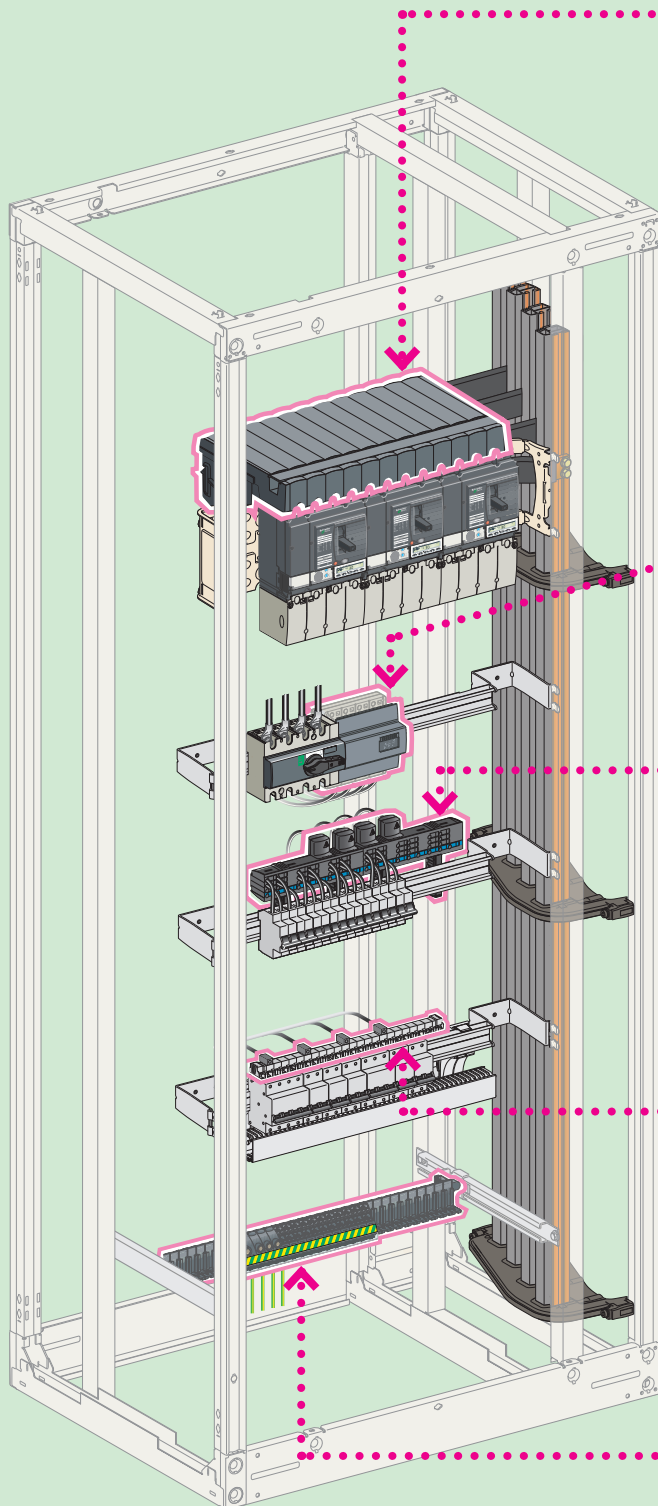


- Traditional, highly versatile solution
- Many installation possibilities

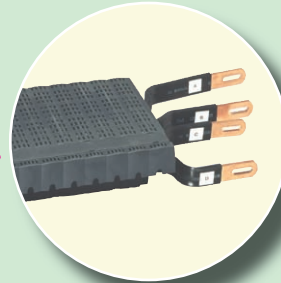
► B-49

distribution blocks

For rows of devices



100/250 A Polypact



- Tested solution for all needs up to 800 A
- High-quality connections requiring no maintenance
- Easy switchboard upgrades

▶ B-52

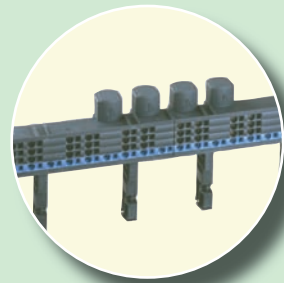
125 to 160 A Distribloc



- Spring terminals for electrical connections that stay tight
- Front designed to integrate perfectly with modular devices

▶ B-45

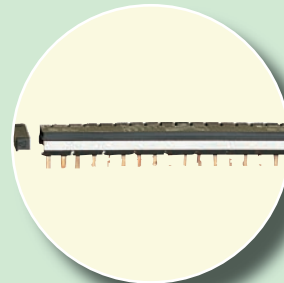
63/200 A Multiclip



- Reliable spring-terminal connections requiring no maintenance
- Fast installation
- Easy upgrades through replacement or addition of devices
- Easy balancing of phases

▶ B-50

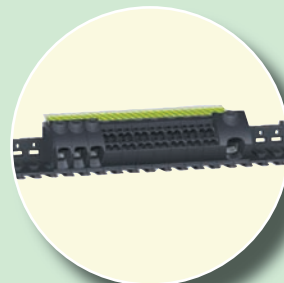
80 to 125 A comb busbars



- Fast and direct connections, adaptable to all needs
- Fast, economical connections

▶ A-39

Adaptable earthing terminal cks 63/160 A



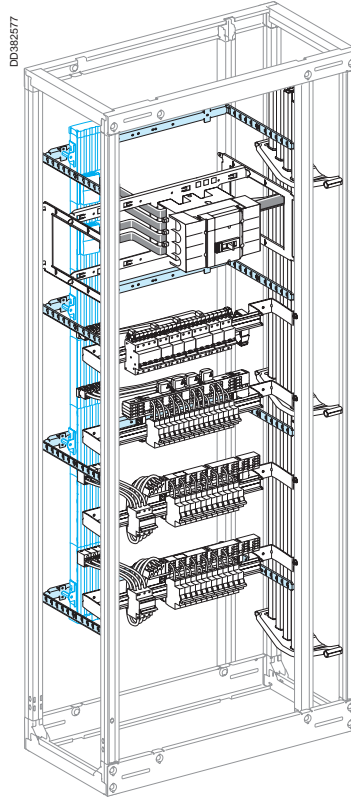
- Innovative solution

▶ B-62

Secondary distribution

Presentation

Powerclip busbars are compact and fully insulated (IPxxB). They are supplied ready for installation in the switchboard. There are three and four-pole versions with ratings from 125 to 630 A. Available in four lengths, they can be cut every 150 or 200 mm, depending on the rating.



Composition

Powerclip busbars are made up of ETP H12 channelled copper bars with threaded M6 holes every 25 mm. They are mounted on insulated bases and can be cut every 150 or 200 mm, depending on the rating. The ends of the busbars are plugged. Clip-on covers protect against direct contact from the front. The covers can be easily cut for the connections to the devices.

Installation

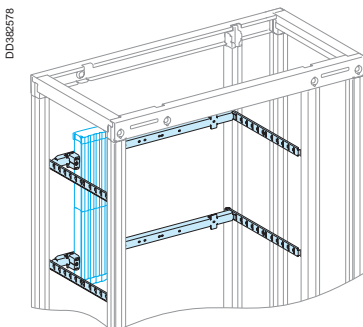
The busbars are supplied with supports that screw to the functional uprights of enclosures or to an adapter in a cubicle. They can be cut every 150 or 200 mm, depending on the rating.

Electrical characteristics

Permissible current of the busbars (A)	Rated short-time withstand current I _{cw} (kA rms / 1 s)	Rated peak withstand current I _{pk} (kA)
125	8.5	20
160	10	30
250	13	30
400	20	52.5
630	25	52.5

- rated insulation voltage:
 - Powerclip 125 A busbars: U_i = 500 V
 - Powerclip 160/400 A busbars: U_i = 750 V
 - Powerclip 630 A busbars: U_i = 1000 V
- impulse withstand voltage:
 - Powerclip 125/630 A busbars: U_{imp} = 8 kV.

125 A Powerclip busbars



Available in two lengths (450 and 750 mm) in three and four-pole versions. The busbars can be cut to length every 150 mm. They are supplied with clip-on covers that block off the connected cable lugs and can be cut as needed.

Cat. no. selection

Powerclip busbars 125 A		Cat. no.
Three-pole	L = 450 mm	04103
	L = 750 mm	04107
Four-pole	L = 450 mm	04104
	L = 750 mm	04108

Busbar connection

Four 125 A connections, L = 230 mm

(for NG125, NSA and INS equipped with tunnel terminals)

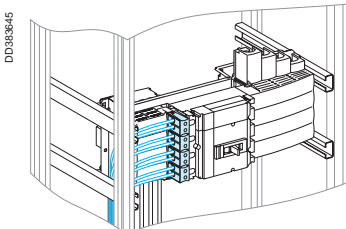
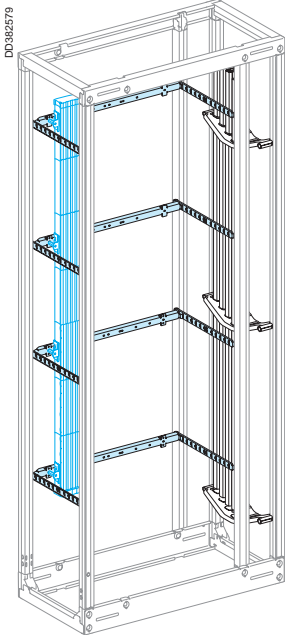
A 35 mm² ferrule for connection to tunnel terminals is crimped to one end.

A 45° ring lug is crimped to the other end.

95 mm² tunnel terminals for INS : cat. no. 28947 (set of 3)
cat. no. 28948 (set of 4)

Secondary distribution

160/630 A Powerclip busbars

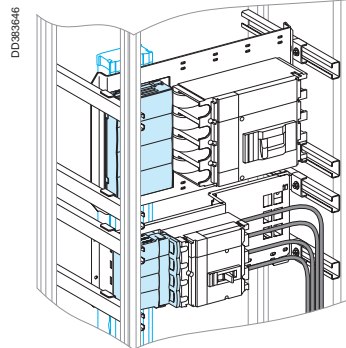


35 mm² 4P additional blocks (04156).

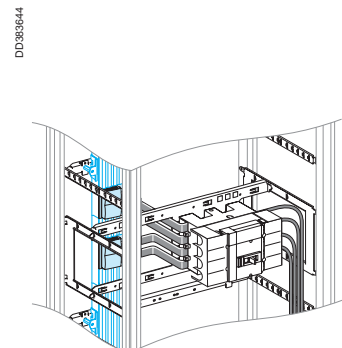
Available in two lengths (1000 and 1400 mm) in three and four-pole versions. The busbars can be cut to length every 200 mm. Prefabricated connections are available for the devices.

Powerclip busbars		160 A	250 A	400 A	630 A
Three-pole	L = 1000 mm	04111	04112	04113	04114
	L = 1400 mm	04116	04117	04118	04119
Four-pole	L = 1000 mm	04121	04122	04123	04124
	L = 1400 mm	04126	04127	04128	04129

Connection between incoming device and Powerclip busbars		Cat. no.
Power supply block (with connection)	NSX250	04060
	NSX400	04070
	NSX630	04071
Universal power supply block (without connection)	100/250 A	04061
	400/630 A	04074
Connection for universal power supply block	Vertical NSX100/250	04062
	Vertical NSX100/250 in duct	04064
	Vertical NSX400/630 in duct	04073



NSX400 power supply block (04070) between incoming device and busbars.
NSX250 power supply block (04060) between busbars and Compact NS250.



250 A universal power supply block (04061) + 250 A connection (04062) between incoming device and busbars.

Connection between 200 A Multiclip and Powerclip busbars		Cat. no.
200 A 4P connection for Multiclip (supplied with mounting hardware)		04021
35 mm² additional blocks		Cat. no.
35 mm ² additional blocks	3P	04155
	4P	04156

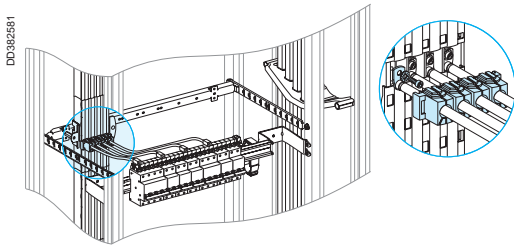
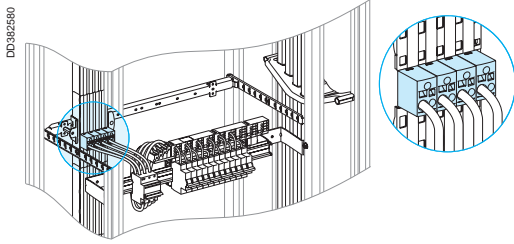
Busbar connection	Cat. no.
4 160 A connections, L = 230 mm (for NSA160)	04146

A 45 mm² ferrule for connection to tunnel terminals is crimped to one end.
A 45° ring lug is crimped to the other end.

Cable lugs
Bare tubular elbow cable lugs: see page D-46

Secondary distribution

Accessories

**Powerclip tap-off blocks**

Each block can be used to connect:

- one 6 mm² and one 10 mm² cable (04151)
- one 16 mm² cables (04152).

Equipped with spring terminals.

Designation	Cat. no.
12 Powerclip tap-off blocks with 6 mm ² + 10 mm ² terminals	04151
12 Powerclip tap-off blocks with 16 mm ² terminals	04152

Connection cover

Clip-on covers that block off the connected cable lugs and can be cut as needed.

They maintain IPxxB with 90° angle lugs and/or cable sizes from 10 to 25 mm².

Designation	Cat. no.
8 IPxxB covers for Powerclip busbars	04150

8.8 class mounting hardware

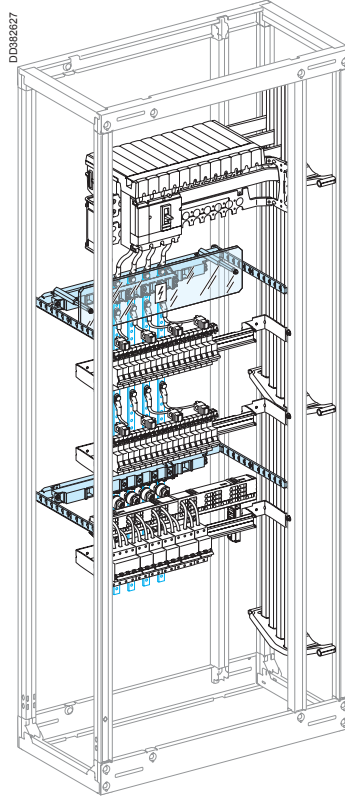
Used for electrical connections to the copper bars.

Designation	Cat. no.
Set of 20 CHC M6 x 12 mm screws for Powerclip busbars	04158

Secondary distribution

Presentation

The rear busbars are mounted directly on the uprights of the framework.
 There are three and four-pole versions with ratings from 160 to 400 A.
 Available in two lengths, 1000 and 1400 mm, they can be cut as needed.
 The connection with a Compact or Interpact incoming device occupies two vertical modules (50 mm each).



Composition

Flat, copper bars with threaded M6 holes every 25 mm for connection along the entire length of the busbars.
 The insulating supports can receive a fifth bar, 15 x 5 mm or 20 x 5 mm, to create an earth bar.

Installation

The busbars are mounted directly on the functional uprights of enclosures or on an adapter (03595) in a cubicle.

Connection

- 16 mm² to 50 mm² flexible cables, with crimped lugs
- insulated flexible bars (see page B-54).

Electrical characteristics

- rated peak withstand current I_{pk} (kÅ)
 - 30 kÅ for 160 A busbars
 - 40 kÅ for 250 A busbars
 - 55 kÅ for 400 A busbars
- rated insulation level U_i = 1000 V

Busbar calculation

Busbar size and distance between supports

The table below indicates:

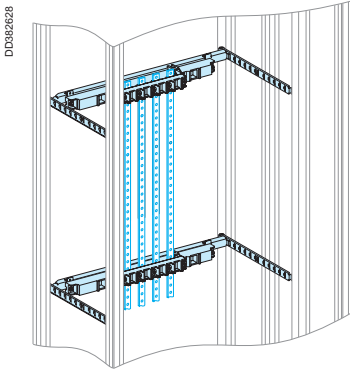
- the size of the bars to be used, depending on the permissible current level in the busbars
- the distance between supports, depending on the rated short-time withstand current (I_{cw}).

Rating (A)	Size of bars (mm)	Distance between support centres ⁽¹⁾ (mm)				
		I _{cw} (kA rms / 1 s)				
		10	13	15	20	25
160	15 x 5					
250	20 x 5					
400	32 x 5		450		300	225

⁽¹⁾ Multiclip 200 A distribution blocks equipped with connections (04029) can be used as intermediate supports (200 mm max. distance between centres) in addition to the top and bottom supports.

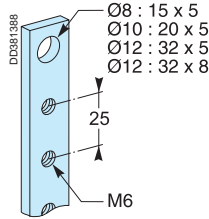
Secondary distribution

Busbar selection

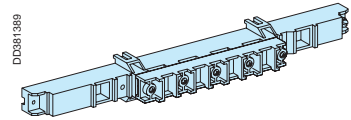


DD382628

Copper bars	Rating (A)	Size of bars (mm)	Cat. no.
Four copper bars, L = 1000	160	15 x 5	04161
	250	20 x 5	04162
	400	32 x 5	04163
Four copper bars, L = 1400	160	15 x 5	04171
	250	20 x 5	04172
	400	32 x 5	04173
Busbar supports			
Rear busbar support			04191

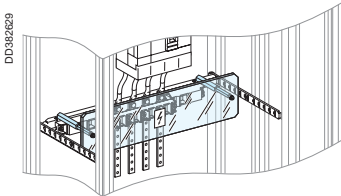


Copper bars.



Busbar supports.

Accessories



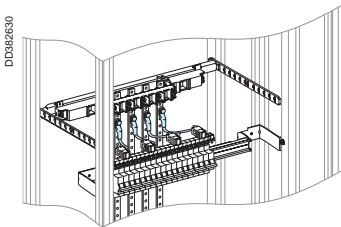
DD382629

04198.

Rear busbar barrier

Protects against direct contact with the busbar connections.
Supplied with mounting hardware.

Designation	Cat. no.
Rear busbar barrier, H = 100 mm	04198



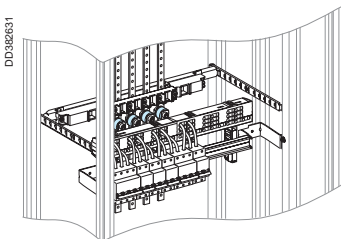
DD482630

04145.

125 A connection

For direct supply to comb busbars from the rear busbars in the switchboard.

Designation	Cat. no.
Four 125 A connections, L = 230 mm (for NG125, NSA and INS equipped with tunnel terminals) A 35 mm ² ferrule for connection to tunnel terminals is crimped to one end. A 45° ring lug is crimped to the other end. 95 mm ² tunnel terminals for INS : cat. no. 28947 (set of 3) cat. no. 28948 (set of 4)	04145



DD382631

04029.

160 A connection

For direct supply to an NSA160 from the rear busbars in the switchboard.

Designation	Cat. no.
4 160 A connections A 45 mm ² ferrule for connection to tunnel terminals is crimped to one end. A 45° ring lug is crimped to the other end.	04146

200 A connection

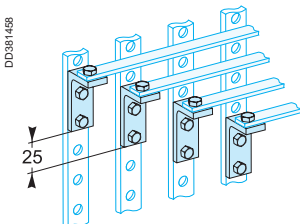
For supply of a 200 A Multiclip distribution block from the rear busbars in the switchboard.

Designation	Cat. no.
Rear busbar connection for 200A Multiclip distribution block	04029

Connection between busbars

For electrical connections between two sets of rear busbars.

Designation	Cat. no.
4 copper angle brackets, 250A	04190



DD381458

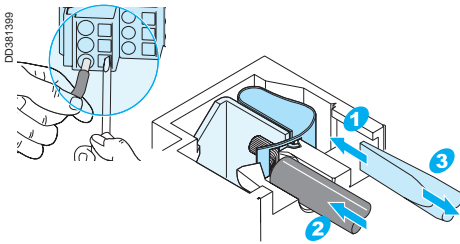
04190.

8.8 class mounting hardware

Designation	Cat. no.
Set of 20 M6 x 20 bolts (20 bolts + 20 nuts + 40 contact washers)	04194
Set of 40 M6 x 16 screws (40 screws + 40 contact washers)	04195

Secondary distribution

General



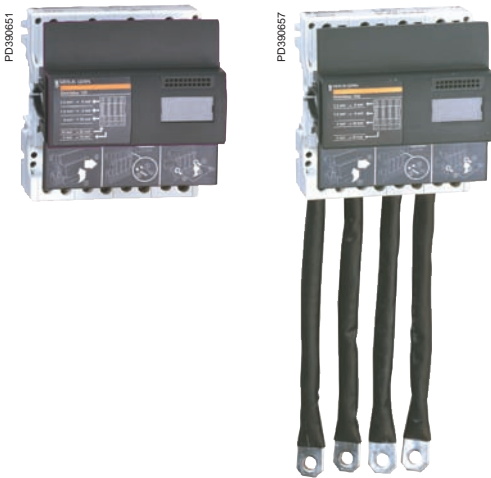
Cable connection.

Downstream circuits are connected from the front, to spring terminals. Contact pressure automatically adapts to the size of the conductor. It does not depend on the operator. Contacts are insensitive to vibrations and thermal variations. Only one cable (flexible or rigid, without a metal ferrule) can be inserted in a spring terminal. Degree of protection: IPxxB.

Advantages

- a reliable electrical connection, no maintenance required (tightness guaranteed over time)
- very fast connection
- easy phase balancing
- rewiring is very easy if the switchboard is expanded or modified.

Distribloc distribution block



The four-pole distribution block is made up of:

- a fully insulated, one-piece distribution block complying with the degree of protection IPxxB (protection against direct contacts)
- a modular cover.

The design of the front (45 mm nose) blends perfectly into a row comprising modular devices.

Designation	Cat. no.
125 A Distribloc distribution block	04045
160 A Distribloc distribution block + connection	04046

Electrical characteristics

- rated insulation level: $U_i = 750 \text{ V}$
- rated operational current $I_e (40^\circ\text{C})$:
 - 125 A for the 125 A Distr bloc
 - 160 A for the 160 A Distr bloc with its prefabricated connection for INS160 or NSA160
- short-circuit withstand current: the reinforced breaking capacity due to cascading in circuit-breaker combinations is maintained. The worst-case situations have been tested.
- complies with the low-voltage device standard IEC 60947.7.1 and/or IEC 60439.1
- impulse withstand voltage $U_{imp} = 8 \text{ kV}$.

Supply

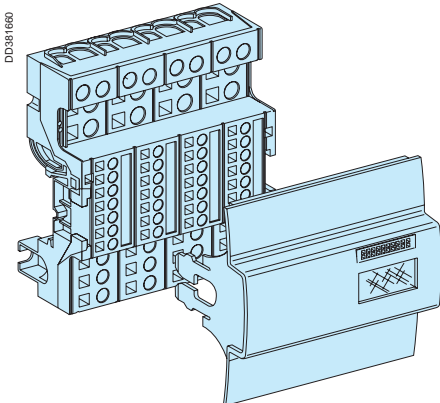
- tunnel terminal on 125 A Distribloc 125 for 6 to 35^{mm} flexible cables (10 to 35^{mm} rigid cables)
- the 160 A Distribloc is supplied with a prefabricated flexible connection. It is designed for an INS100/160 or NSA160 switch-disconnector, installed on the left or right.

Distribution (125 and 160 A Distribloc)

- spring terminals:
 - 2 outgoing from 1 to 10^{mm}, flexible or rigid
 - 3 outgoing from 1 to 6^{mm}, flexible or rigid
 - 7 outgoing from 1 to 4^{mm}, flexible or rigid
- tunnel terminals:
 - 1 outgoing from 4 to 16^{mm}, flexible (4 to 25^{mm} rigid)

Supply

- an identification label
- adhesive labels for phase identification
- a prefabricated flexible connection for the INS160 or NSA160 (160 A Distribloc only).

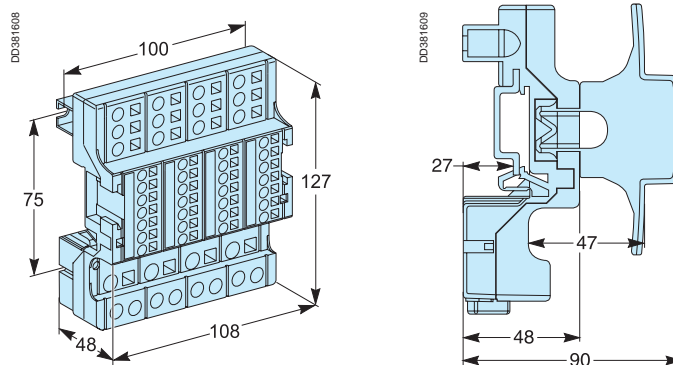


Secondary distribution

Installation

- clipped onto a modular rail
- width occupied is 12 modules (9 mm each)
- screwed to plain or slotted backplate. Distances between centres = 100 x 75 mm.

Dimensions



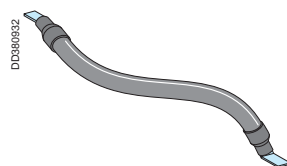
125 A connection



Set of four flexible connections, 35^{sq}, L = 210 mm.
To supply a 125 A Distribloc from an NG125 or an INS125.

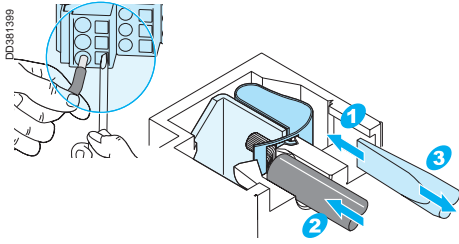
Designation
4 NG-INS125 connections for Distribloc

Cat. no.
04047



Secondary distribution

General



Downstream circuits are connected from the front, without screws, to spring terminals. Contact pressure automatically adapts to the size of the conductor (minimum size = 1 mm²). Contacts are insensitive to vibrations and thermal variations.

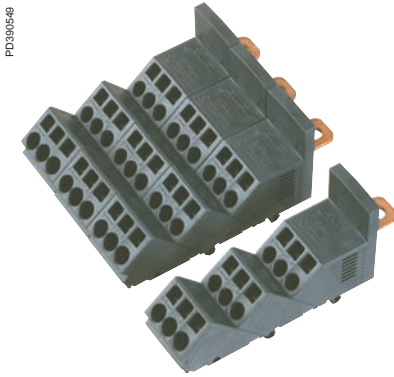
Only one cable (flexible or rigid, without a metal ferrule) can be inserted in a spring terminal.

Degree of protection: IPxxB.

Advantages of spring terminals

- a reliable electrical connection, no maintenance required
- the fast connections make phase balancing very easy.
- rewiring is very easy if the switchboard is expanded or modified.

250 A Polybloc distribution block



Applications

The Polybloc distribution block is designed for installation directly downstream of Compact circuit breakers and Interpact switch-disconnectors devices up to 250 A. It can be rapidly mounted in the horizontal position. Electrical connections are made directly to the device terminals.

It has the same width as the devices and does not take up any additional space in the switchboard.

The connection terminals are slanted to facilitate cable entry and not exceed the bending radius of the flexible and rigid cables.

Cat. no. selection

Designation	Cat. no.
Polybloc distribution block, 3P, 250 A	04033
Polybloc distribution block, 4P, 250 A	04034

Electrical characteristics

The electrical characteristics are perfectly compatible with the connected devices. Neither the temperature derating curves nor the performance levels of the circuit breakers and switch-disconnectors are altered.

- rated insulation level $U_i = 750\text{ V}$
- short-circuit withstand current: the reinforced breaking capacity due to cascading in circuit-breaker combinations is maintained. The worst-case situations have been tested.

impulse withstand voltage $U_{imp} = 8\text{ kV}$.

Supply

Directly to the terminals of the Compact NSX and Interpact INS devices up to 250 A.

Distribution

Via cables, up to six 10 mm² cables and three 16 mm² cables per phase.

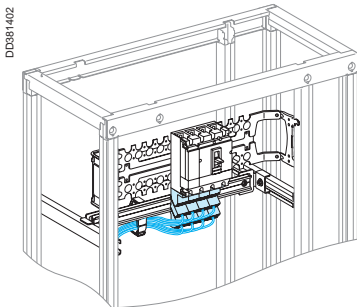
Installation

Directly on the mounting plates of horizontally mounted Compact NSX100/250 and Interpact INS250 devices in the enclosures.

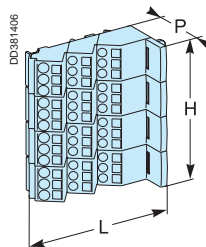
It can also be mounted downstream of vertically mounted Compact NSX100/250 and Interpact INS250 devices in the enclosures. In this case, the Polybloc is mounted on a depth-adjustable modular rail (03402).

Dimensions

	H (mm)	L (mm)	P (mm)
Polybloc, 3P	105	138	63
Polybloc, 4P	140	138	63

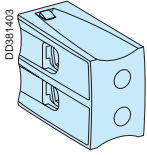


Vertically mounted Polybloc on a depth-adjustable modular rail (03402) in a cubicle.



Secondary distribution

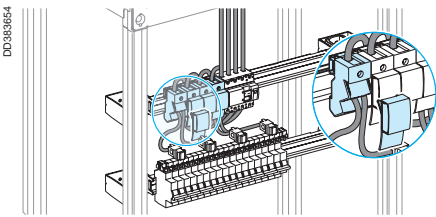
35 mm² additional blocks



These blocks with screw terminals can be mounted on the 250 A Polybloc for connection of two 35 mm² cables per phase.

Designation	Cat. no.
35 mm ² 3P additional blocks (3 blocks)	04155
35 mm ² 4P additional blocks (4 blocks)	04156

160 A Polybloc distribution block



Three 160 A Polybloc distribution blocks in the vertical position on a modular rail, supplied by an NG125.

The 160 A Polybloc is made up of individual elements that can be used alone or with others to make two-pole, three-pole or four-pole distribution blocks. Mounting is very fast. It clips onto a modular rail and is supplied by cables via a tunnel terminal.

The connection spring terminals are slanted to facilitate cable entry and bending of the flexible and rigid cables.

It is supplied with a cover that also guides the cables.

Cat. no. selection

Designation	Cat. no.
Polybloc distribution block, 1P, 160 A	04031

Electrical characteristics

- rated insulation level $U_i = 750$ V
- short-circuit withstand current: the reinforced breaking capacity due to cascading in circuit-breaker combinations is maintained. The worst-case situations were tested. The electrical characteristics are perfectly compatible with the connected devices. Neither the temperature derating curves nor the performance levels of the circuit breakers and switch-disconnectors are altered.
- impulse withstand voltage $U_{imp} = 8$ kV.

Supply

Direct to a tunnel terminal, for cables up to 70 mm².

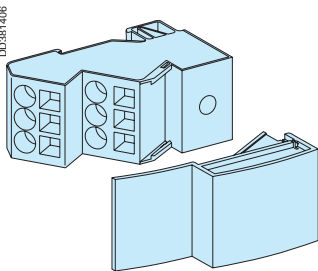
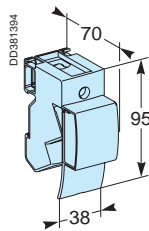
Distribution

Via cables, up to six 16 mm² cables.

Installation

The blocks clip onto a modular rail.

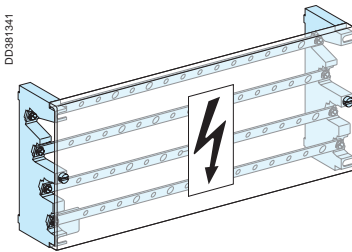
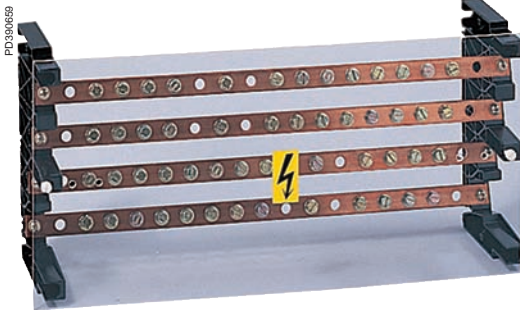
Dimensions



160/630 A multi-stage distribution block

Secondary distribution

160/630 A four-pole multi-stage distribution block



The distribution block can be installed horizontally in the device zone or vertically in the 300 mm wide duct of wall-mounted and floor-standing enclosures. It is not compatible with Pack enclosures.

The distribution block is made up of:

- two staggered supports made of an insulating material
- four slanted copper bars with holes every 25 mm
- 13 threaded M6 holes for outgoing
- four 12.2 mm diameter holes to supply the distribution block.

It is supplied with:

- M6 hardware
- one IPxxB insulating barrier for the front.

Cat. no. selection

Multi-stage distri. block	Size of bars (mm)	Cat. no.
160 A Distribloc (40 °C)	15 x 5	04052
250 A Distribloc (40 °C)	20 x 5	04053
400 A Distribloc (40 °C)	32 x 5	04054
630 A Distribloc (40 °C)	32 x 8	04055

Electrical characteristics

- rated operational current I_e (40 °C):
 - 160 A for distribution block 04052
 - 250 A for distribution block 04053
 - 400 A for distribution block 04054
 - 630 A for distribution block 04055
- rated insulation level $U_i = 750$ V
- rated short-time withstand current I_{cw} :
 - 10 kA rms / 1 s for 160 A block
 - 13 kA rms / 1 s for 250 A block
 - 20 kA rms / 1 s for 400 A block
 - 25 kA rms / 1 s for 630 A block
- rated peak withstand current I_{pk} :
 - 30 kA for 160 A block
 - 30 kA for 250 A block
 - 40 kA for 400 A block
 - 40 kA for 630 A block
- impulse withstand voltage $U_{imp} = 8$ kV.

Supply

- 16 mm² to 50 mm² cables with crimped lugs
- 20 x 2 mm flexible bars for NSX100/160
- 20 x 3 mm flexible bars for NSX250
- 32 x 5 mm flexible bars for NSX400
- 32 x 8 mm flexible bars for NSX630.

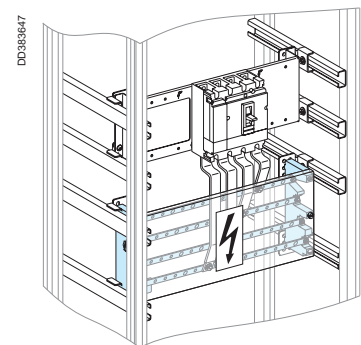
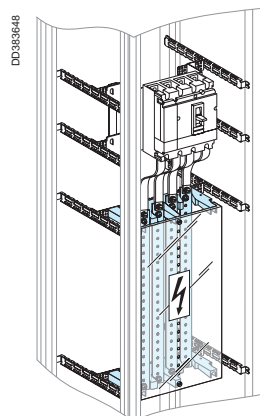
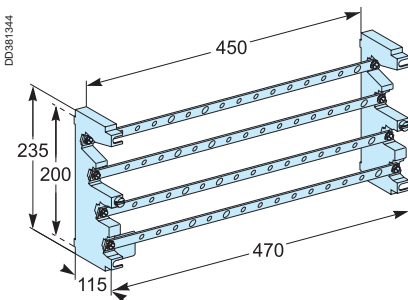
Distribution

13 outgoing per phase, max. 50 mm².

Installation

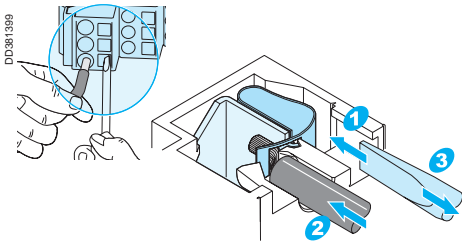
- screwed to plain or slotted backplate
- screwed onto the adapter 03595.

Dimensions



Secondary distribution

General



Cable connection.

For connections, the distribution block uses a proven technique, i.e. spring terminals. Downstream circuits are connected from the front, without screws, to spring terminals. Contact pressure does not depend on the operator. It automatically adapts to the size of the conductor (minimum size = 1 mm²). Contacts are insensitive to vibrations and thermal variations.

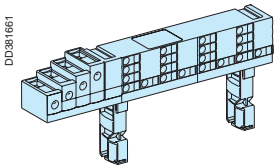
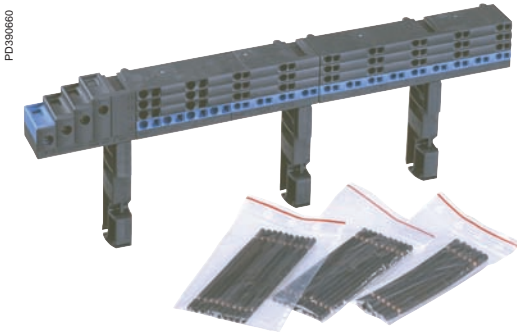
Only one cable (flexible or rigid, without a metal ferrule) can be inserted in a spring terminal.

Degree of protection: IPxxB.

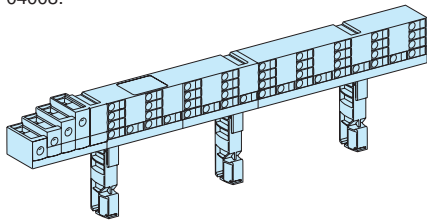
Advantages

- a reliable electrical connection, no maintenance required (tightness guaranteed over time)
- the fast connections make phase balancing very easy.
- rewiring is very easy if the switchboard is expanded or modified.

63/80 A Multiclip distribution blocks



04008.



04004.

Application

Distribution over half or full rows of modular devices. It is generally supplied by a device at the head of a group of outgoing (NG125, INS, C60, etc.).

Cat. no. selection

Designation	Cat. no.
80 A Multiclip distribution block, 4P	04004
63 A Multiclip distribution block, 4P, 1/2 row	04008

Electrical characteristics

- rated insulation level $U_i = 500$ V
- impulse withstand voltage $U_{imp} = 6$ kV
- short-circuit withstand current: the reinforced breaking capacity due to cascading in circuit-breaker combinations is maintained. The worst-case situations have been tested.
- 63/80 A Multiclip distribution blocks:
 - 4 mm² cable outgoing: $I_{max} = 32$ A
 - 6 mm² cable outgoing: $I_{max} = 40$ A
 - two 6 mm² cables: $I_{max} = 63$ A.

Supply

Via tunnel terminals up to 25 mm², generally from a device supplying a group of outgoing.

The tunnel terminals are positioned to facilitate cable entry and screw tightening. They are designed for cables arriving from the top or bottom.

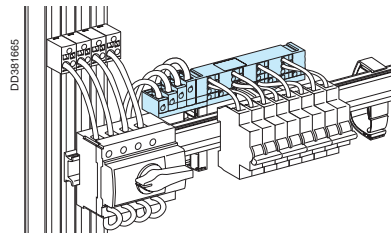
Distribution

- for the full-row Multiclip, 4P (04004), each phase offers:
 - 2 connection points for 6 mm² max. cable
 - 7 connection points for 4 mm² max. cable
 the neutral offers:
 - 4 connection points for 6 mm² max. cable
 - 13 connection points for 4 mm² max. cable
- for the half-row Multiclip, 4P (04008), each phase offers:
 - 2 connection points for 6 mm² max. cable
 - 2 connection points for 4 mm² max. cable
 the neutral offers:
 - 4 connection points for 6 mm² max. cable
 - 4 connection points for 4 mm² max. cable

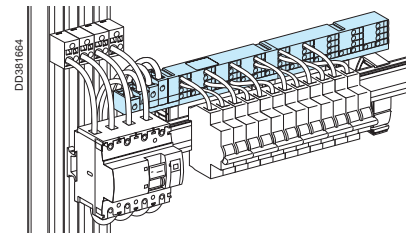
Each connection point can receive a single cable, either flexible or rigid.

Installation

- clipped onto the rear of modular rail
- screwed to plain or slotted backplate



Half-row Multiclip distribution block supplied by an INS switch-disconnector.



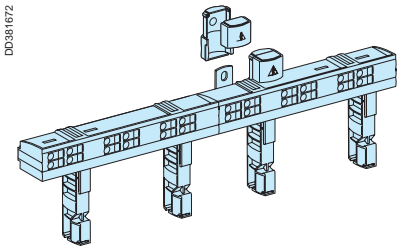
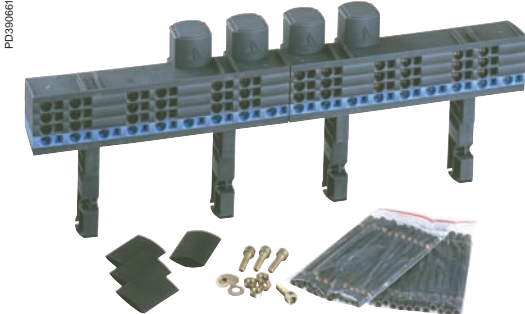
Multiclip distribution block supplied by a Vigi NG125 circuit breaker.

Supplied with 100 mm long bared copper connections

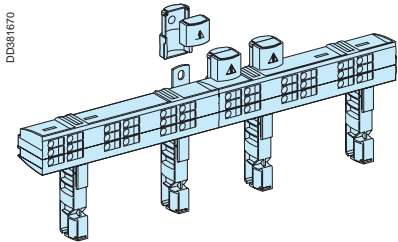
- for full-row Multiclip (04004):
 - 2 sets of ten 4 mm² connections + 1 set of six 6 mm² connections
- for half-row Multiclip (04008):
 - 1 set of ten 4 mm² connections + 1 set of six 6 mm² connections.

Secondary distribution

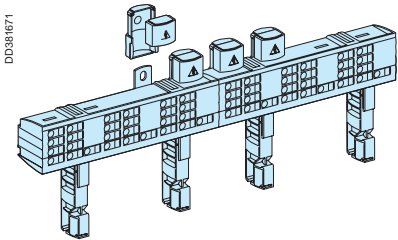
160/200 A Multiclip distribution blocks



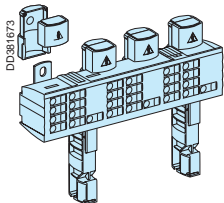
04012.



04013.



04014.



04018.

Application

Distribution over full rows of modular devices. The distribution block is generally supplied by busbars in enclosures and cubicles.

Cat. no. selection

Designation	Cat. no.
200 A Multiclip, 2P	04012
200 A Multiclip, 3P	04013
200 A Multiclip, 4P	04014
160 A Multiclip, 4P, 1/2 row	04018

Electrical characteristics

- rated insulation level $U_i = 750\text{ V}$
- impulse withstand voltage $U_{imp} = 8\text{ kV}$
- short-circuit withstand current: the reinforced breaking capacity due to cascading in circuit-breaker combinations is maintained. The worst-case situations have been:
- 160/200 A Multiclip distribution blocks:
 - 10 mm² cable outgoer: $I_{max} = 50\text{ A}$
 - two 10 mm² cables: $I_{max} = 63\text{ A}$.

Supply

- direct to terminals:
 - 50 mm² cables with crimped lugs
 - 20 x 3 mm flexible bars
- from Powerclip insulated busbars in a wall-mount or floor-standing enclosure (04021)
- from lateral, channelled busbars in a cubicle (connection must be made)
- from busbars in the duct of a wall-mount or floor-standing enclosure (04024)
- from busbars in the rear of a wall-mount or floor-standing enclosure (04029).

Busbar connection

Designation	Cat. no.
Connection between 200 A Multiclip and Powerclip insulated busbars (enclosure)	04021
Connection between 200 A Multiclip and busbars in a duct (enclosure)	04024
Connection between 200 A Multiclip and rear busbars (enclosure)	04029

Distribution

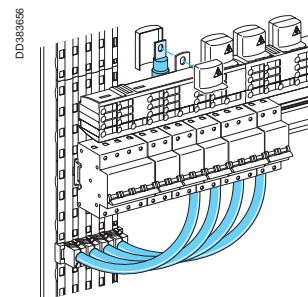
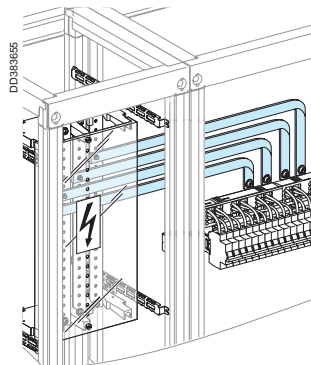
- 200 A Multiclip, 2P (04012):
 - 12 connection points for phase and neutral
 - 200 A Multiclip, 3P and 4P (04013 and 04014):
 - 12 connection points for each phase
 - 18 connection points for the neutral
 - 160 A Multiclip, 4P, 1/2 row (04018):
 - 6 connection points for each phase
 - 9 connection points for the neutral
- Each connection point can receive a single 10 mm² cable, either flexible or rigid.

Installation

- clipped onto the rear of modular rail
- screwed to plain or slotted backplate.

Supplied with:

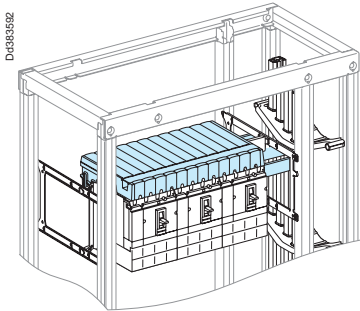
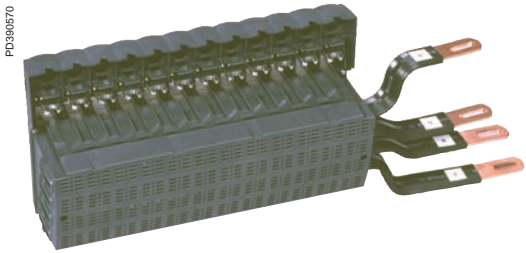
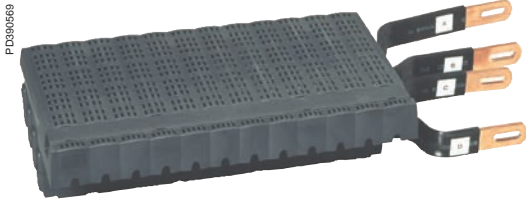
- 100 mm long, bared 10 mm² copper connections
- 200 A Multiclip, 2P, 3P and 4P (04012, 04013 et 04014): 2 sets of 12 connections
- 160 A Multiclip, 1/2 row (04018): 1 set of 12 connections
- protection covers for the supply terminals (IPxxB)
- the hardware required for the supply terminals.



Supply from busbars in the duct of a wall-mount or floor-standing enclosure (connection 04024).

Secondary distribution

Polypact distribution block



Presentation

Polypact is a horizontal distribution block. It connects directly to the mounting plate and can supply:

- three four-pole and four three-pole Compact NSX circuit breakers, whatever the ratings (100, 160 or 250 A), the operating systems (toggle, rotary handle, motor mechanism), whether fixed or plug-in, front or rear connection (the circuit breakers must be equipped with long terminal shields downstream)
 - three three-pole or four-pole Interpact INS switch-disconnectors, whatever the ratings (100, 160 or 250 A), whether front or rear connection.
- The design and small size blend perfectly with the devices.
It can be supplied by flat or Linergy busbars positioned to the left or right.

A dependable switchboard

Fully insulated, Polypact contributes to the safety of life and property. The prefabricated connections supplied separately are secured using torque nuts to ensure the correct tightness over time, without maintenance. Numerous and well distributed vents ensure natural convection and optimum cooling of the conductors.

An upgradeable switchboard

The circuit breakers can be easily connected from the front. It is simple to interchange a device or to add a device in a reserve slot.

Functional features

There are markings (N, L1, L2, L3) on the front and the sides for the phases. The running of auxiliary cables between the devices and the corresponding terminal blocks is also taken into account. Spacious trunking is built into the blocks for the auxiliary wiring.

Cat. no. selection

Fixed Compact NSX100/250 with toggle and Interpact INS250	
Connection to Linergy busbars	Cat. no.
Polypact with prefabricated connections	
Three-pole distribution block	04403
Four-pole distribution block	04404
Fixed/plug-in Compact NSX, all operating systems ^{(1) (2)}	
Connection to flat or Linergy busbars	Cat. no.
Polypact with prefabricated connections	
Three-pole distribution block	04405
Four-pole distribution block	04406
Polypact without connection ⁽³⁾	
Three-pole distribution block	04407
Four-pole distribution block	04408

(1) For plug-in Compact NSX circuit breakers, order the adapter 29306 (3P) or 29307 (4P) with the base.

(2) The connection of a Polypact distribution block using prefabricated connections or insulated flexible bars is not compatible with Form 2 partitioning (04922).

In this case, use the form 2 restoration kit (04924) : see page B-26.

(3) Make the connection with flexible bars, 32 x 8 mm (04753) : see page B-54.

Electrical characteristics

- rated operational current: distribution-block derating follows the normal derating curves of Compact NSX and Interpact INS devices.
- rated insulation level: 750 V
- impulse withstand voltage $U_{imp} = 8 \text{ kV}$
- short-circuit withstand current compatible with the breaking capacity of the Compact NS circuit breakers connected to the distribution block.

Remark

For most installations, the temperature around the switchboard is 40 °C, corresponding to an average temperature of 60 °C inside the switchboard. Under certain conditions, the temperature inside the switchboard may be different, for example if the room temperature is higher than 40 °C or if the cubicle is equipped with a fan.

Secondary distribution

Polypact selection table for special cases

Rated operational current as a function of the temperature inside the switchboard								
Temperature (°C)		40	45	50	55	60	65	70
Rated operational current: I _e (A)	Polypact 3P	800	800	775	750	725	700	675
	Polypact 4P	675	675	655	635	615	595	570

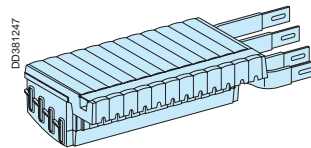
To obtain the maximum permissible current for the Polypact distribution block, apply the diversity factor K:

Polypact 3P: K = 0.8

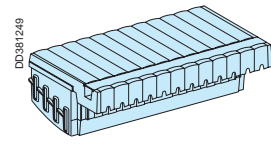
Polypact 4P: K = 0.9.

Supplied with:

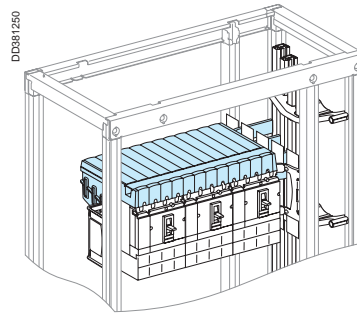
- self-adhesive labels to mark the phases for the connections to the busbars.



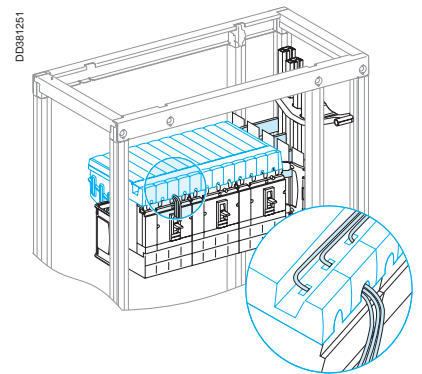
04404.



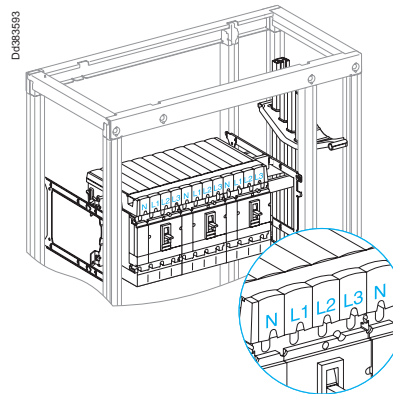
04408.



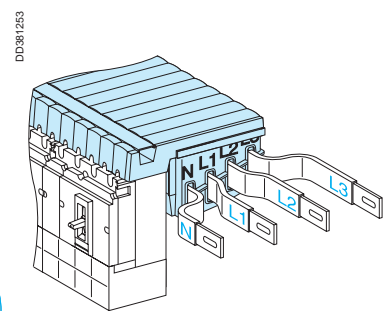
Supply of three NSX100/250 four-pole devices equipped with long terminal shields downstream.



Auxiliary wires running in the built-in trunking.

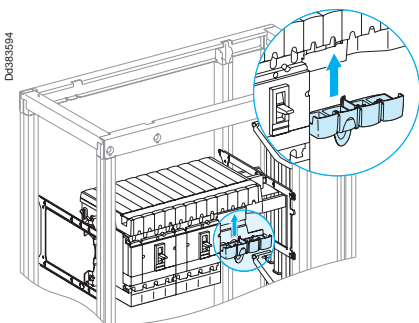


Phase marking on the front of the distribution block.



Phase marking on the side of the distribution block. Identification labels on the flexible connections.

Tooth-caps



Designation

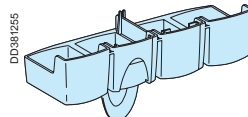
Polypact tooth-caps

Cat. no.

04809

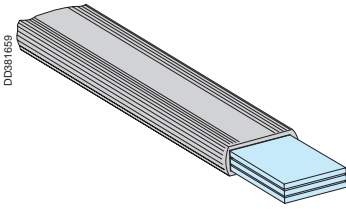
The caps block off the reserve terminals on a Polypact three-pole or four-pole distribution block.

Made of an insulating material, they simply clip on from the front.



Secondary distribution

Presentation



The insulated flexible bars are tested in a type-tested switchboard environment. Their design takes into account the switchboard architecture where they are often in close proximity to a protection device (circuit breaker or fuse) with significant heat losses.

In-depth knowledge of switchboard architecture and the connected devices led to the establishment of a selection table based on the type of device.

Flexible bars are 1800 mm long and made of copper with an insulating sheath. Rated insulation level $U_i = 1000\text{ V}$.

The sizes for the flexible bars indicated below take into account the heat losses of Schneider devices in a Prisma Plus switchboard.

Catalogue number selection

Connection between device and busbars

The flexible bars are determined taking into account the connected device, whatever the internal temperature of the switchboard.

The bar sizes indicated below take into account the derating curves of devices.

Device	Size (mm)	Cat. no.
NSX100	20 x 2	04742
NSX160/250	20 x 3 ⁽¹⁾	04743
NSX400	32 x 5	04751
NSX630	32 x 8	04753
INS125/160	20 x 2	04742
INS250	20 x 3	04743
INS400	32 x 5	04751
INS630	32 x 6	04752
200 A Multiclip	20 x 3	04743
Polypact, 3P ⁽²⁾	32 x 8	04753
Polypact, 4P ⁽²⁾	32 x 8	04753
Fupact 250	24 x 5	04746
Fupact 400	32 x 5	04751
Fupact 630	32 x 8	04753

(1) To connect a Compact NSX250 to Powerclip busbars, use a 24 x 5 mm flexible bar (04746).

(2) The connection of a Polypact distribution block using insulated flexible bars is not compatible with Form 2 partitioning (04922).

In this case, use the form 2 restoration kit 04924 (see page B-28).

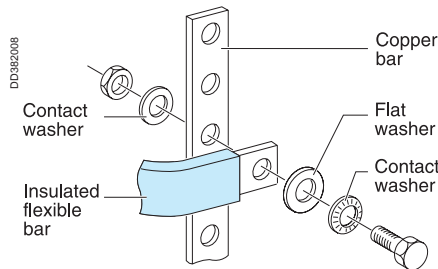
Connection between busbars

Flexible bars are designed for connections between busbars taking into account the following characteristics:

a maximum temperature of 60 °C inside the switchboard. This corresponds to the average temperature inside a switchboard for an ambient temperature of 35 °C

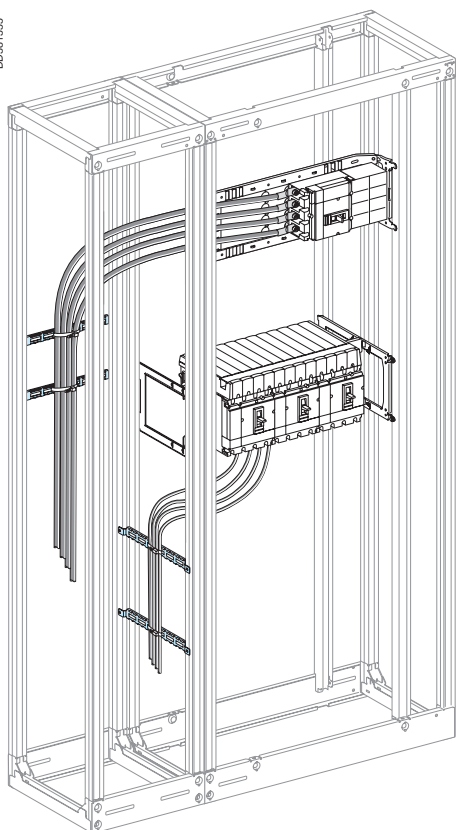
■ the maximum withstand temperature for the insulating material is 125 °C.

Ie max. (A)	Size (mm)	Cat. no.
200	20 x 2	04742
250	20 x 3	04743
400	24 x 5	04746
520	32 x 5	04751
580	32 x 6	04752
660	32 x 8	04753



Cable-tie supports

DD381555

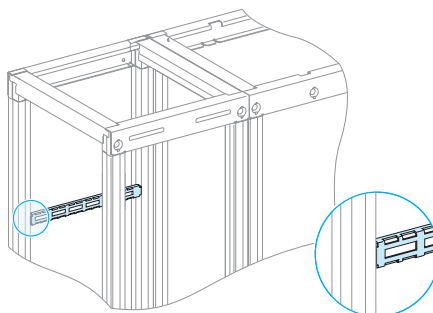


Cable-tie supports are used to correctly position the cables in the connection compartment. They are sold in sets of four and supplied with the necessary hardware for connection to the framework.

Longitudinal cable-tie supports

Width of cable compartment	Set of four cable-tie supports
W = 300 mm	08773
W = 400 mm	08774
W = 650 mm	08776
W = 800 mm	08778

DD381556



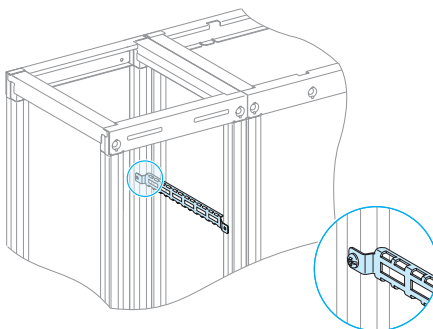
Lateral cable-tie supports

There are two sizes:

- D = 400 mm for frameworks that are 400 mm deep
- D = 200 mm, this support is added to the 400 mm support for frameworks that are 650 mm deep. It can also be installed alone.

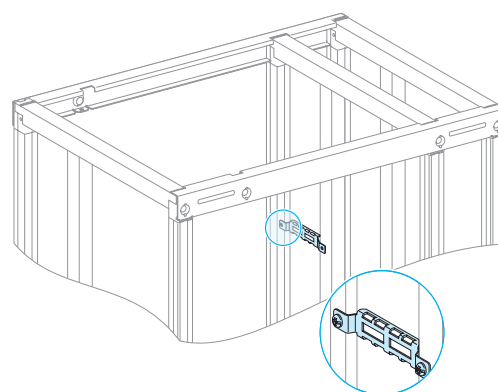
Depth of cable compartment	Set of four cable-tie supports
D = 400 mm	08794
D = 600 mm	08796 + 08794

DD381557



08794.

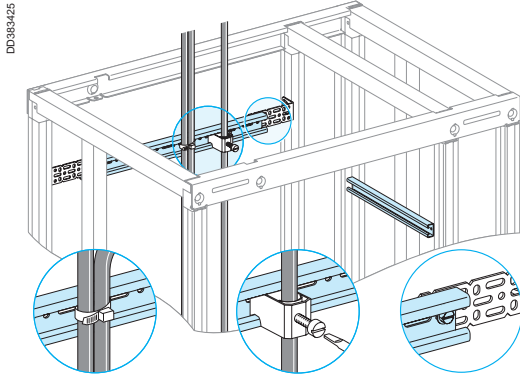
DD381638



08796.

Secondary distribution

C-shaped cable-tie supports



C-shaped longitudinal and lateral cable-tie supports

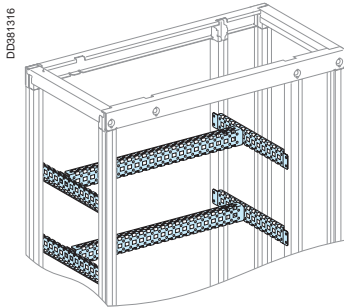
1600 mm long support that can be cut to length as needed.
Can be secured to:

- universal angle bracket 03581 (for the longitudinal support)
- universal angle bracket 03582 (for the lateral support)
- modular rail 03593 (for depth adjustment).

Designation		Cat. no.
Cable-tie support	L = 1600 mm	08783

Supplied with hardware for mounting on universal angle brackets and modular rails.
Cables can be attached by ties or clamps.

Universal cross-members



Longitudinal cross-members

Set of two longitudinal cross-members, L = 650 mm.
They are connected directly to the framework (W = 650 mm or 650 + 150 mm).
They can also be mounted on the lateral cross-members (see opposite).
They are used to position and support the cables of an incoming device.

Lateral cross-members

They are connected directly to the uprights of the framework.
They offer numerous positioning holes and can be used to adjust the depth of longitudinal cross-members.

There are two lengths:

- Set of two lateral cross-members, L = 400 mm for frameworks that are 400 mm deep
- Set of two lateral cross-members, L = 200 mm, can be added to the 400 mm cross-members for frameworks that are 600 mm deep. They can also be installed separately.

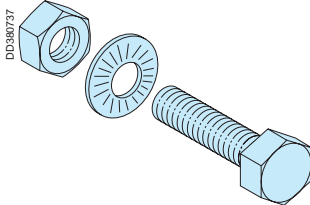
Designation		Cat. no.
Set of two lateral cross-members	L = 400 mm	03584
	L = 200 mm	03586
Set of two longitudinal cross-members	L = 650 mm	03587

General

The 8.8 class (64 N/mm²) hardware ensures precise tightening torques and a reliable contact over time.

The hardware is designed to resist creep and ageing of the electrical contact. It is protected against corrosion by a Zn8c treatment.

M8 bolts



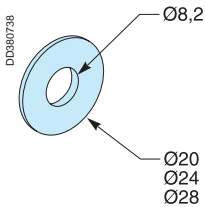
Composition of sets:

- set of 20 bolts + 20 nuts + 40 contact washers.

Cat. no. selection

Designation	Cat. no.
Set of 20 bolts, M8 x 20 mm	04782
Set of 20 bolts, M8 x 25 mm	04783
Set of 20 bolts, M8 x 30 mm	04784
Set of 20 bolts, M8 x 35 mm	04785
Set of 20 bolts, M8 x 40 mm	04786
Set of 20 bolts, M8 x 45 mm	04787
Set of 20 bolts, M8 x 50 mm	04788

Flat washers



Presentation

These washers, sold separately, are required for connection between flexible bars and flat or Linergy busbars.

They spread the tightening forces and avoid creep of the copper.

Composition of sets:

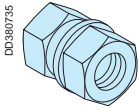
- set of 20 flat washers for M8 bolts.

Cat. no. selection

Designation	Cat. no.
Set of 20 M8 flat washers, 20 mm external diameter	04772
Set of 20 M8 flat washers, 24 mm external diameter	04773
Set of 20 M8 flat washers, 28 mm external diameter	04774

Secondary distribution

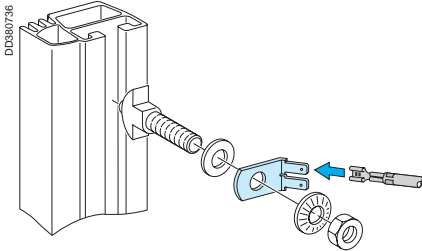
Torque nuts



Can be used to obtain the correct tightening torque (28 Nm) recommended by the manufacturer, without using a torque wrench.
Torque nuts may be used for all electrical connections.

Designation	Cat. no.
20 M8 torque nuts	04759

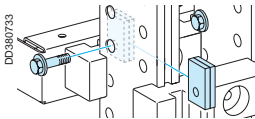
Voltage tap-offs



Designation	Cat. no.
20 M10 voltage tap-offs for two 6.35 mm tab connectors	04229

Note: For small lugs (on low-current cables or measurement tap-offs), insert a conducting washer (cat. no. 04775) between the busbar and the lug.

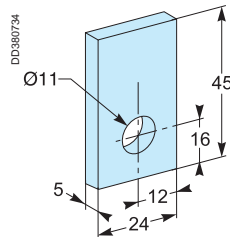
Mounting chocks (5 mm) for flat busbars



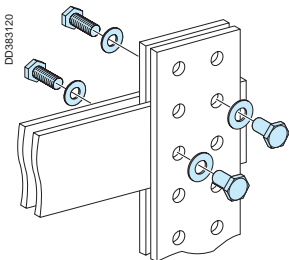
Chock for rear, vertical, flat busbars.

Metal chock, 5 mm thick.
Chocks are used to maintain the position of rear, vertical, flat busbars.

Designation	Cat. no.
100 mounting chocks (5 mm) for busbars	04669



Mounting hardware



Special mounting hardware for the connection of flat lateral busbars to horizontal busbars.
Assembly of 10 mm thick bars for configurations with 2 bars/phase (1850 A to 3200 A).

Designation	Cat. no.
20 screws for connection of two 10 mm thick horizontal/vertical busbars	04645

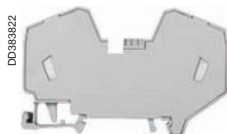
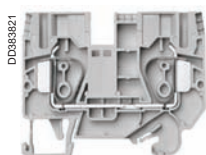
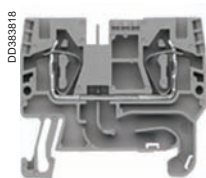
Terminal blocks

Terminal blocks for 4 to 16[□] cables, flexible or rigid, without a metal ferrule.

- connection to spring terminals, no screws
- contact pressure automatically adapts to the size of the conductor
- only one cable can be inserted in a spring terminal
- two versions:
 - 4 - 6 - 10 - 16[□]: one in-come and one out-goer for cables
 - 4[□]: one in-come and two out-goers for cables
- three colours: grey for phases, blue for neutral and green/yellow for earth
- mounting by clipping onto a modular rail
- rated insulation level $U_i = 800\text{ V}$
- rated impulse withstand voltage $U_{imp} = 8\text{ kV}$.

Advantages

- the quality of the connection does not depend on the operator and remains stable over time without maintenance
- contacts are insensitive to vibrations and thermal variations
- less expensive to apply
- permits a frontal connection.



Terminal blocks for 4 [□] cables 6 mm wide		Number per set	Cat. no.
1 in-come, 1 out-goer			
Grey block	2 x 4 [□]	100	AB1 RRN435U2GR
Blue block	2 x 4 [□]	100	AB1 RRN435U2BL
Green/yellow block	2 x 4 [□]	100	AB1 RRNTP435U2
Partition		10	AB1 RRNTPAC442
Grey end plate		10	AB1 RRNAC443GR
Blue end plate		10	AB1 RRNAC443BL
1 in-come, 2 out-goers			
Grey block	3 x 4 [□]	100	AB1 RRN435U3GR
Blue block	3 x 4 [□]	100	AB1 RRN435U3BL
Partition		10	AB1 RRNTPAC443
Commoning link	2 pole	10	AB1 RRAL42
Grey end plate		10	AB1 RRNAC443GR
Blue end plate		10	AB1 RRNAC443BL

Terminal blocks for 6 [□] cables 8 mm wide		Number per set	Cat. no.
Grey block	2 x 6 [□]	100	AB1 RRN635U2GR
Blue block	2 x 6 [□]	100	AB1 RRN635U2BL
Green/yellow block	2 x 6 [□]	100	AB1 RRNTP635U2
Commoning link		10	AB1 RRNAL62

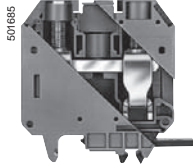
Terminal blocks for 10 [□] cables 10 mm wide		Number per set	Cat. no.
Grey block	2 x 10 [□]	50	AB1 RRN1035U2GR
Blue block	2 x 10 [□]	50	AB1 RRN1035U2BL
Green/yellow block	2 x 10 [□]	50	AB1 RRNTP1035U2
Commoning link		10	AB1 RRAL102

Terminal blocks for 16 [□] cables 12 mm wide		Number per set	Cat. no.
Grey block	2 x 16 [□]	50	AB1 RRN1635U2GR
Blue block	2 x 16 [□]	50	AB1 RRN1635U2BL
Green/yellow block	2 x 16 [□]	50	AB1 RRNTP1635U2
Commoning link		50	AB1 RRAL162

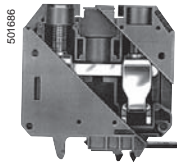
Terminal blocks

Terminal blocks for 35 to 150² cables, flexible or rigid, without a metal ferrule. Complementary offer "terminal blocks spring technology" for cables up to 16².

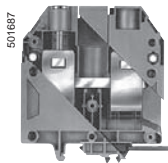
- two colours: grey for phases, blue for neutral
- mounting by clipping onto a modular rail
- rated insulation level:
 - terminal blocks for 35 to 70² cables: $U_i = 800\text{ V}$
 - terminal blocks for 150² cables: $U_i = 1000\text{ V}$
- rated impulse withstand voltage:
 - terminal blocks for 35 to 150² cables: $U_{imp} = 8\text{ kV}$.



Terminal blocks for 35 ² cables 16 mm wide		Number per set	Cat. no.
Grey block	2 x 35 ²	20	AB1 VVN3535U
Blue block	2 x 35 ²	20	AB1 VVN3535UBL
Commoning link	2 pole	10	AB1 ALN352



Terminal blocks for 70 ² cables 24 mm wide		Number per set	Cat. no.
Grey block	2 x 70 ²	20	AB1 VVN7035U
Blue block	2 x 70 ²	20	AB1 VVN7035UBL
Commoning link	2 pole	10	AB1 ALN702



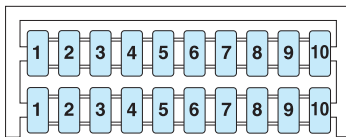
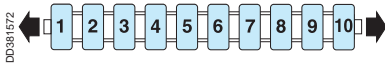
Terminal blocks for 150 ² cables 28 mm wide		Number per set	Cat. no.
Grey block	2 x 150 ²	10	AB1 VVN15035U
Blue block	2 x 150 ²	10	AB1 VVN15035UBL
Commoning link	2 pole	10	AB1 ALN1502

Secondary distribution

Stop plate

Stop plate	Number per set	Cat. no.
Stop plate	100	AB1 AB8P35

Markers



Sold in lots of 25 identical strips.

Marking	6 mm pitch	8 mm pitch
Blank	AB1-BV6	AB1-BV8
1 to 10	AB1-B610	AB1-B810
11...20	AB1-B620	AB1-B820
21...30	AB1-B630	AB1-B830
31...40	AB1-B640	AB1-B840
41...50	AB1-B650	AB1-B850
51...60	AB1-B660	AB1-B860
61...70	AB1-B6670	AB1-B870
71...80	AB1-B680	AB1-B880
81...90	AB1-B690	AB1-B890
91...100	AB1-B6100	AB1-B8100
L1	AB1-B6L1	
L2	AB1-B6L2	
L3	AB1-B6L3	
+ red	AB1-BV6RP	
- blue	AB1-BV6BM	

Marking	Number per set	Cat. no.
Blank clip-on marker (4.5 x 8 3 mm)	500	AB1-SA1

Marker strips with numbers 101 to 110, etc. up to 991 à 999.

Please consult "Terminal blocks" catalogue, reference number: ART960061.

Spring-technology terminal blocks

AB1 XX XXXXX XX XX

Colour	Grey GR	Blue BL	
No. of points	2 U2	3 U3 ⁽¹⁾	4 U4 ⁽¹⁾ For 4 mm ² only.
Block type	Pass-through		For protective earth
Conductor size	4 mm ² 435	6 mm ² 635	10 mm ² 1035
	16 mm ² 1635	4 mm ² TP435	6 mm ² TP635
		10 mm ² TP1035	16 mm ² TP1635
Technology	Spring RRN		

Example: AB1RR635U2GR: grey 2-point spring-type terminal block for 6 mm² conductors.

Screw-technology terminal blocks

AB1 XX XXXXX XX XX

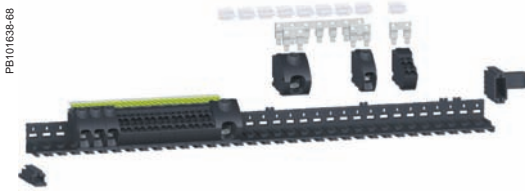
Colour	Grey GR	Blue BL
No. of points	2 U	
Block type	Pass-through	
Conductor size	35 mm ² N3535	
	70 mm ² N7075	
	150 mm ² N15035	
Technology	Screw VV	

Example: AB1VVN3535UBL: blue 2-point screw-type terminal block for 35 mm² conductors.

Adjustable earth + neutral terminal blocks

Spring or screw technology

Terminal block components

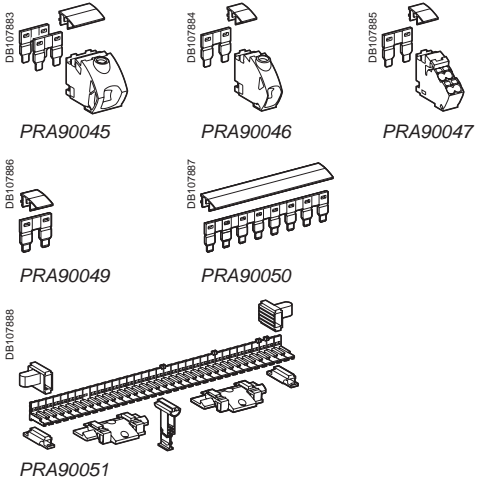


These components are used to build and install a terminal block:

- on the framework near the conductor entry point
- on a DIN rail mounted on the enclosure framework
- at the rear of the enclosure or the interface
- on the functional uprights in Prisma Plus switchboards.

Permissible current:

- 50 mm² terminal block kit: 160 A max. at 40 °C
- 25 mm² terminal block kit: 90 A max. at 40 °C
- 6 x 4 mm² terminal block kit: 63 A max. at 40 °C
- 8-block junction kit:
- 90 A with 1 junction
- 160 A with 2 junctions mounted in parallel
- 2-block junction kit: 90



Terminal blocks				Cat. no.
50 mm ² terminal block kit	W = 2 blocks	Batch of 2		PRA90045
25 mm ² terminal block kit	W = 1 block	Batch of 5		PRA90046
4 x 6 mm ² terminal block kit	W = 1 block	Batch of 10		PRA90047
Terminal block junction				
8-block junction kit	W = 8 blocks	Batch of 1		PRA90050
2-block junction kit	W = 2 blocks	Batch of 10		PRA90049
Terminal block support				
Terminal block support kit	W = 34 blocks maximum	Batch of 1		PRA90051

Use as incoming splitter block



Incoming splitter block kit	W = 1 block	Batch of 4		PRA90048
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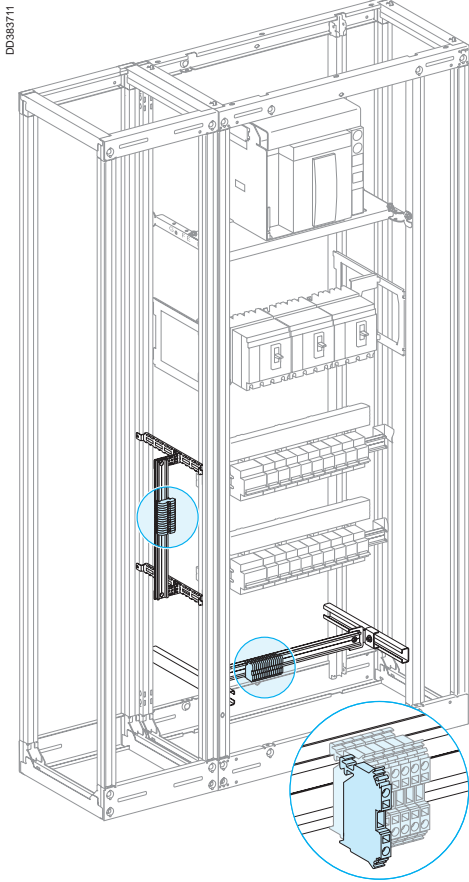
For converting terminal block kits PRA90045/PRA90046/PRA90047 into an incoming splitter block up to 125 A and 50 mm².

Permissible current:

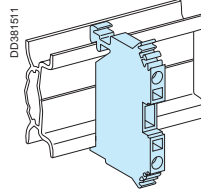
- entry via PRA90046 (1 x 25 mm² - 1 block): 80 A
 - entry via PRA90045 (1 x 50 mm² - 2 blocks): 125 A
- Ui: 400 V and Uimp: 6 kV

Secondary distribution

Introduction



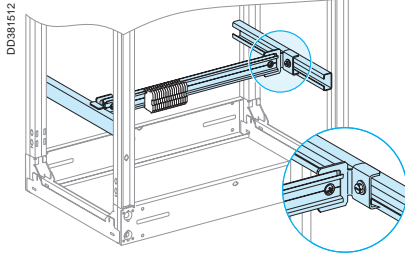
In Prisma Plus cubicles, terminal blocks are commonly installed in a lateral compartment, generally 300 or 400 mm wide. They may also be installed at the top or bottom of the cubicle.



Terminal blocks, see page B-59.

Secondary distribution

Installation at top or bottom of a cubicle



Terminal blocks are grouped on modular rails that can be depth adjusted behind a plain front plate.

Designation	Cat. no.
Modular rail, depth adjustable (L = 432 mm)	03402

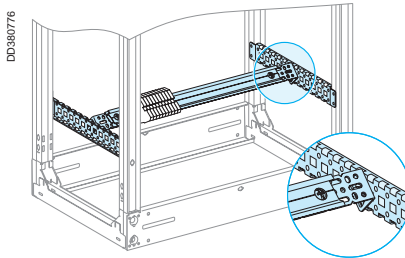
Width of standard terminal blocks

Max. cable CSA	Width of terminal block
4 mm ²	6 mm
6 mm ²	8 mm
10 mm ²	10 mm
16 mm ²	12 mm

Height required in switchboard

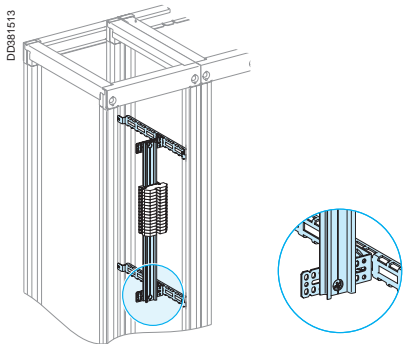
Max. cable CSA	No. of vertical modules	Corresponding plain front plate
4 mm ²	3	03803
6 mm ²	3	03803
10 mm ²	5	03805
16 mm ²	6	03806

Terminal blocks can also be installed on a modular rail turned using universal angle brackets and mounted on lateral cross-members.



Designation	Cat. no.
2 modular rails, L = 1600 mm	04226
2 universal angle brackets	03581
Set of two lateral cross-members, L = 400 mm	03584

Installation in a lateral compartment

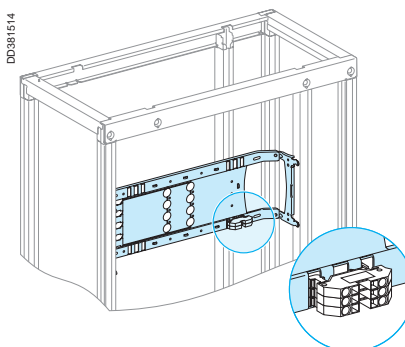


The terminal block is generally installed in the cable compartment, L = 300 or 400 mm.

The terminal blocks clip onto a modular rail. The rail is secured to cable-tie supports using universal angle brackets for precise positioning of the terminal blocks.

Designation	Cat. no.
2 modular rails, L = 1600 mm	04226
2 universal angle brackets	03581
Cable-tie supports	see page B-55

Installation on a device mounting plate



Terminal blocks can be directly installed on the mounting plates for horizontally mounted Compact NSX100/630 and vertically mounted Compact NS630b/1600 for connection of auxiliary wires.

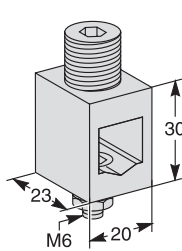
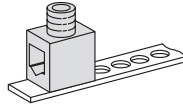
Connector



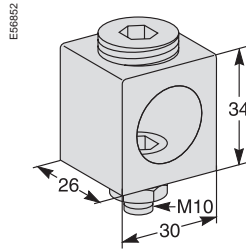
4 connectors for copper or aluminium cables.

Designation	Cat. no.
180 A for rigid cables 70 mm ²	07051 ⁽¹⁾
250 A for rigid cables 185 mm ²	07052 ⁽¹⁾
400 A for rigid cables 300 mm ²	07053 ⁽¹⁾

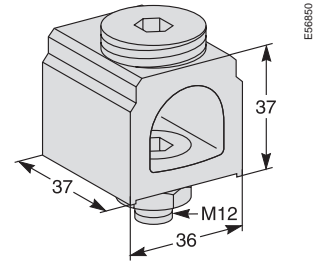
(1) These connectors are designed for use on rear busbars only.



07051

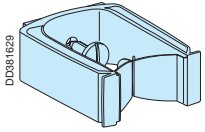


07052

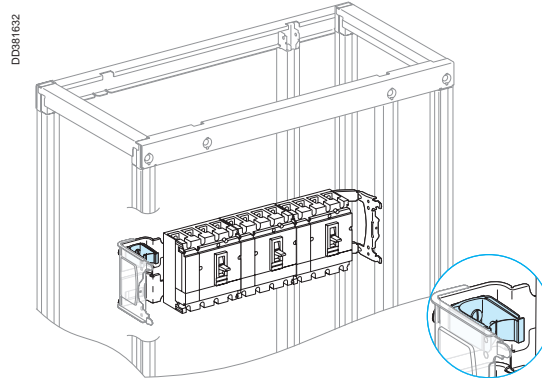


07053

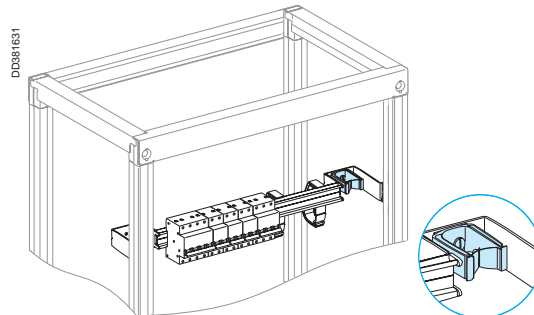
Vertical cable straps



Designation	Cat. no.
12 cable straps for vertical cables	04262

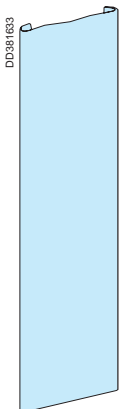


Installation on a mounting plate.

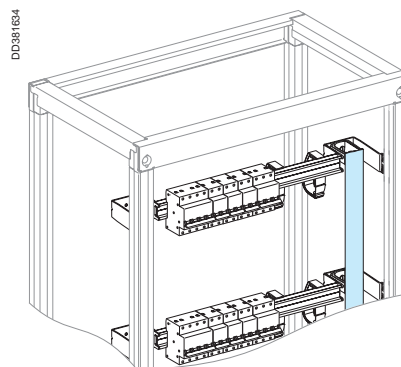


Installation on a modular rail support.

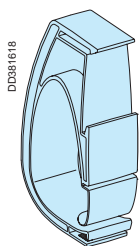
Cover for vertical cable straps



Designation	Cat. no.
2 covers for vertical cable straps L = 1 m	04263

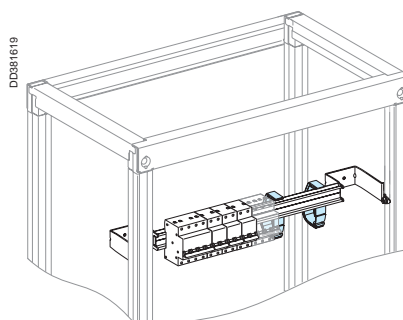


Horizontal cable straps

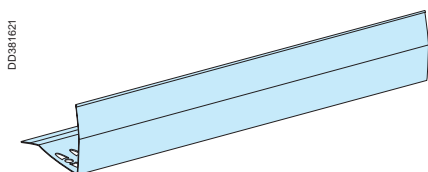


Designation	Cat. no.
12 cable straps for horizontal cables	04239

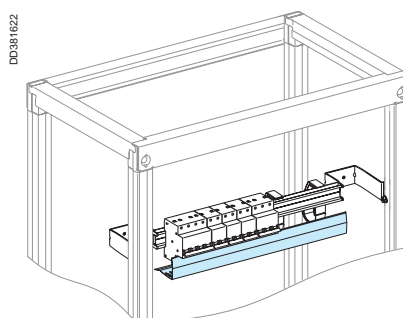
Horizontal cable straps have the same capacity as 60 x 30 mm trunking.



Cover for horizontal cable straps

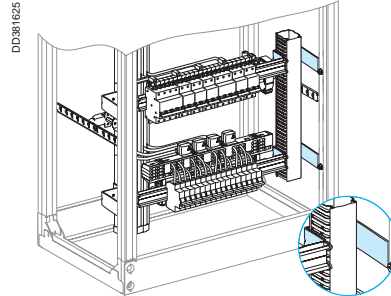


Designation	Cat. no.
4 covers for horizontal cable straps L = 430 mm	04243

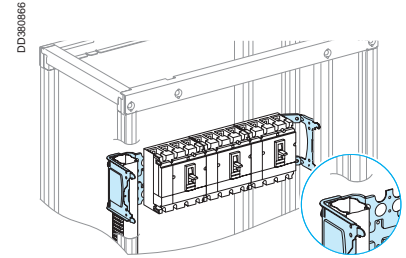


Vertical trunking support

The 30 or 60 mm deep trunking sections can be installed directly on the modular-rail supports or on the mounting plates of vertically mounted Compact NSX circuit breakers.

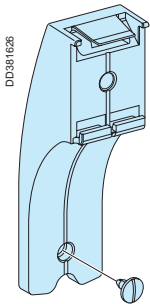


Trunking installed on a modular rail.

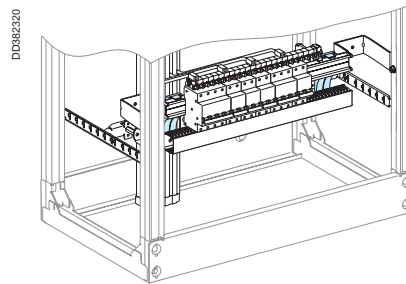


Trunking installed on a mounting plate.

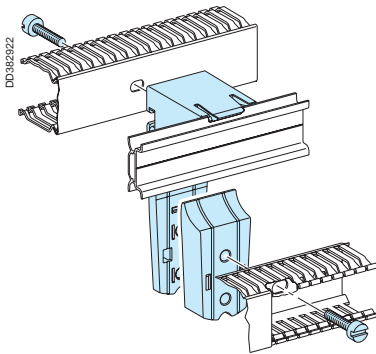
Horizontal trunking support



Designation	Cat. no.
12 horizontal trunking supports	04255

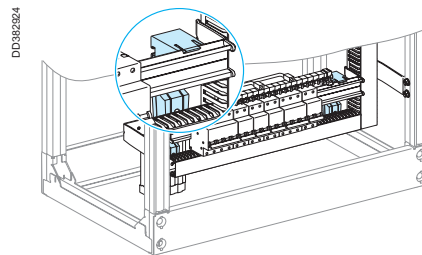


Trunking installed horizontally on the rear of a modular rail.



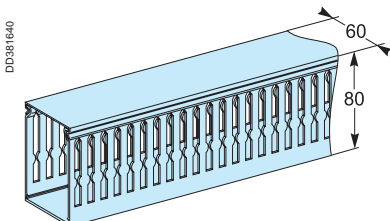
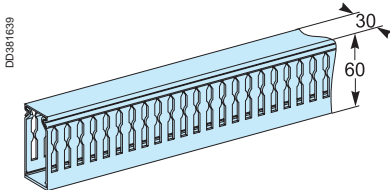
Aligns the cover of a horizontal trunking section (H = 60 or 80 mm) with that of a vertical trunking section (H = 80mm).

Designation	Cat. no.
10 adaptable support for horizontal trunking	04256



Note: not designed for use with Pack enclosures.

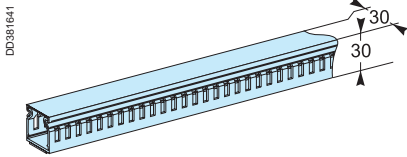
Trunking



Designation	Cat. no.
4 horizontal sections, 60 x 30 mm, L = 450 mm (with supports)	04257
Vertical trunking, 80 x 60 mm, L = 2000 mm (sold in sets of 18)	04267

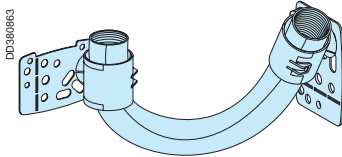
Secondary distribution

Cable trunking for doors

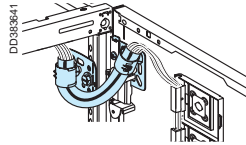


Designation	Cat. no.
Cable trunking for doors, L = 2000 mm (sold in sets of 30) Adhesive trunking, 30 x 30 mm	04233

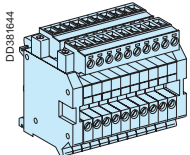
Flexible trunking



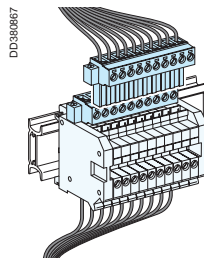
Designation	Cat. no.
Flexible trunking for wiring to door Length = 500 mm, inner diameter = 19mm.	04235



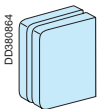
Terminal block for auxiliaries



Designation	Cat. no.
Disconnectable terminal block for auxiliaries	04228



Grommets for wiring through front

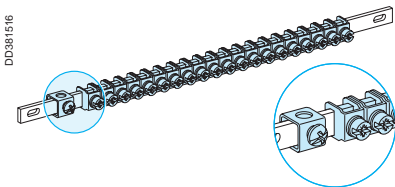
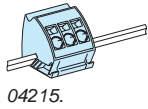
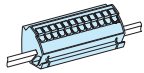
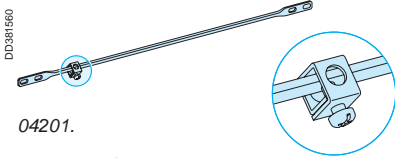


Designation	Cat. no.
10 grommets for wiring through front	04234



Secondary distribution

Earth bar



Presentation

The earth bar can be:

- a bare earth bar, 12 x 3 mm with 330 mm of connection space, equipped with a 35 mm² terminal and on which earth blocks with spring terminals can be clipped
- an earth bar (200 or 450 mm long), equipped with a 35 mm² terminal and clamps with captive screws.

Earth bar with spring terminals

Designation	Cat. no.
Bare earth bar, 12 x 3 mm with 330 mm of connection space, equipped with a 35 mm ² tunnel terminal (for earth blocks with spring terminals)	04201
4 earth blocks with 12 x 4 mm ² spring terminals (L = 75 mm)	04214
4 earth blocks with 3 x 16 mm ² spring terminals (L = 37 mm)	04215

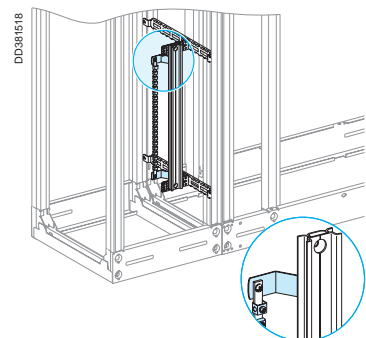
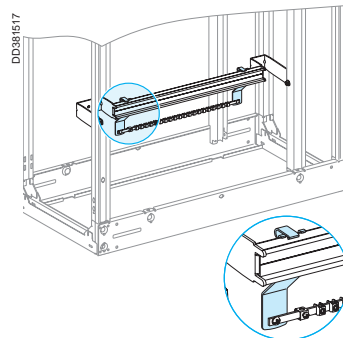
Earth bar with clamps

Designation	Cat. no.
Ear h bar with 40 clamps + one 35 mm ² terminal (L = 450 mm)	04200
2 earth bars with 20 clamps + one 35 mm ² terminal (L = 200 mm)	04202

Installation

The earth bar is mounted on two supports that clip onto the rear of a modular rail installed horizontally in the device compartment or vertically in the cable compartment.

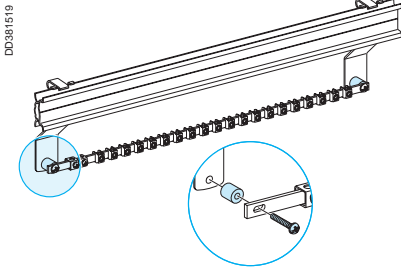
Designation	Cat. no.
2 supports for earth bar on modular rail	04205



Earth bar mounted on rear of modular rail using supports (04205).

Secondary distribution

Neutral bar



A neutral bar is created by inserting insulating spacers behind an earth bar.

Designation

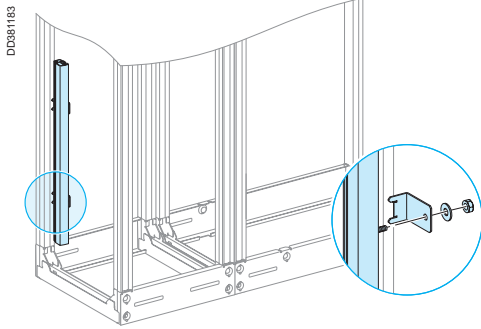
Kit for neutral bar

Cat. no.

04210

Secondary distribution

Vertical PE conductor



Mounting of a vertical PE (Linergy).

Linergy L = 1670

The conductor is generally installed in the cable compartment. A Linergy bar is secured to the framework using three supports.

Selection

Icw (kA rms / 1 s)	Permissible current (A)	Cat. no. for bars
≤ 40	630	04502
> 40	800	04503

Support selection

Set of three supports for a vertical PE (supplied with PE marking)	04657
--------------------------------------------------------------------	-------

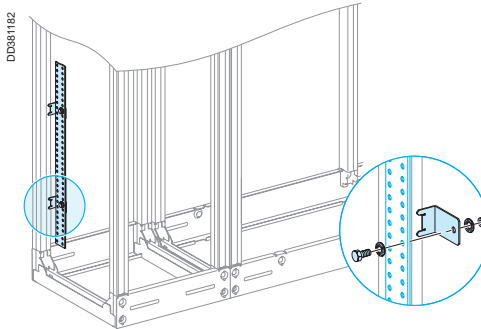
Linergy connection hardware

Composition of set:

Set including 20 M8 bolts (L = 25 mm) + 20 nuts + 20 contact washers for connection to cable lugs or flexible bars.

Cat. no. selection

Designation	Cat. no.
20 bolts for lug connection to Linergy busbars	04766



Mounting of a vertical PE (flat bar).

Flat bar L = 1675

The conductor is generally installed in the cable compartment. A flat bar is secured to the framework using three supports.

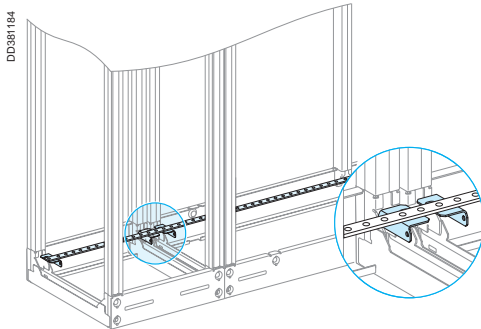
Selection

Icw (kA rms / 1 s)	Selection (mm)	Cat. no. for bars
≤ 40	25 x 5	04512
> 40	50 x 5	04515

Support selection

Set of three supports for a vertical PE (supplied with PE marking)	04657
--------------------------------------------------------------------	-------

Horizontal PE conductor



Mounting of a horizontal PE (flat bar).

A flat bar is mounted at the top or bottom of a switchboard (contrary to horizontal busbars) using supports.

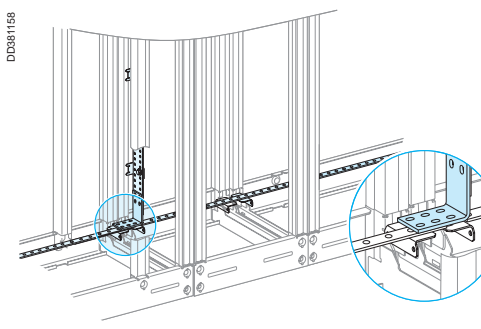
Selection

Icw (kA rms / 1 s)	Selection (mm)	Cat. no. for bars
≤ 40	25 x 5	04512
> 40	50 x 5	04515

Support selection

Set of two supports for a horizontal PE	04667
-----------------------------------------	-------

Connection between PE conductors



Connection between horizontal PE bars or horizontal/vertical PE bars.

A copper connection plate can be used to connect:

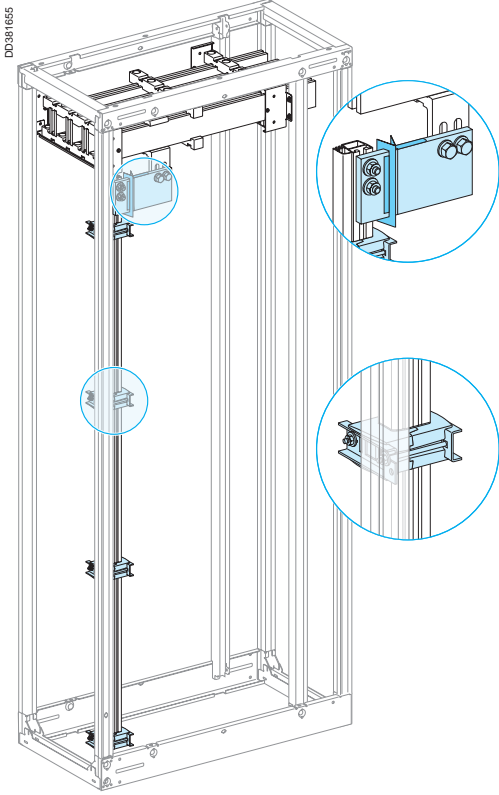
- a vertical PE bar to a horizontal PE bar
- two horizontal PE bars.

Cat. no. selection

Designation	Cat. no.
Set of two connection plates for horizontal/vertical PE bars	04672

Secondary distribution

Vertical Linergy PEN conductor



The conductor is generally installed in the cable compartment. A Linergy bar is secured to the framework using a mounting kit.

Cat. no. selection

Designation	Cat. no.
Linergy bar	see page D-49
Linergy vertical PEN kit	04656
1600 A connection plate for 10 mm horizontal bar	04636

Contents of Linergy PEN kit

- 4 insulating supports
- 1 neutral disconnecting device
- 1 connection between a horizontal PEN and a vertical PEN ≤ 1600 A.

TOOLS

schneider-electric.com

This international site allows you to access all the Schneider Electric products in just 2 clicks via comprehensive range data-sheets, with direct links to:

- complete library: technical documents, catalogs, FAQs, brochures...
- selection guides from the e-catalog.
- product discovery sites and their Flash animations.

You will also find illustrated overviews, news to which you can subscribe, the list of country contacts...

Training

Training allows you to acquire the Schneider Electric expertise (installation design, work with power on, etc.) for increased efficiency and a guarantee of improved customer service.

The training catalogue includes beginner's courses in electrical distribution, knowledge of MV and LV switchgear, operation and maintenance of installations, design of LV installations to give but a few examples.



<i>Presentation</i>	20
<i>Functional units</i>	A-1
<i>Distribution</i>	B-1
IP30/31/55 cubicles - Presentation	C-2
Cover panels	C-8
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IP30/31 cover panels	C-14
IP55 cover panels	C-16
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Cubicle handling and rolling base - Lifting reinforcement kit for combined cubicles	C-19
Right-angle kit	C-20
Installation accessories	C-21
Front plate accessories	C-23
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Door handles and locks	C-25
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Cubicles	C-30
<i>Additional information</i>	D-1

IP30/31/55 cubicles Presentation

Carefully designed in every detail, Prisma Plus cubicles are the solution for all common switchboard configurations up to 3200 A.

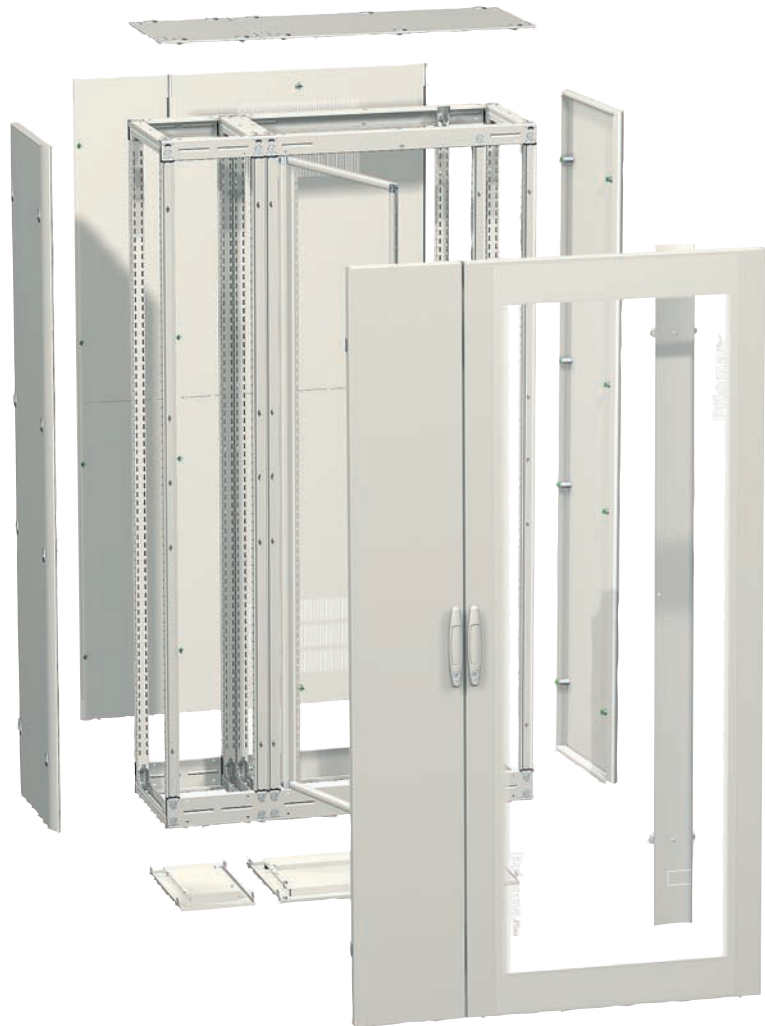
A reduced number of catalogue numbers facilitates selection, while offering the essential functions such as:

- multiple combination possibilities
- an array of interchangeable cover panels and doors, IP30 or IP55, without adding gaskets
- total accessibility to all connection points in the switchboard
- wide cable compartments
- high for large capacity (36 modules, each 50 mm high).

The discreet design, with simple lines and oval shapes in the RAL 9001 colour, mean Prisma Plus cubicles blend in naturally on all commercial and industrial sites. They offer 36 modules, each 50 mm high, of useful space.

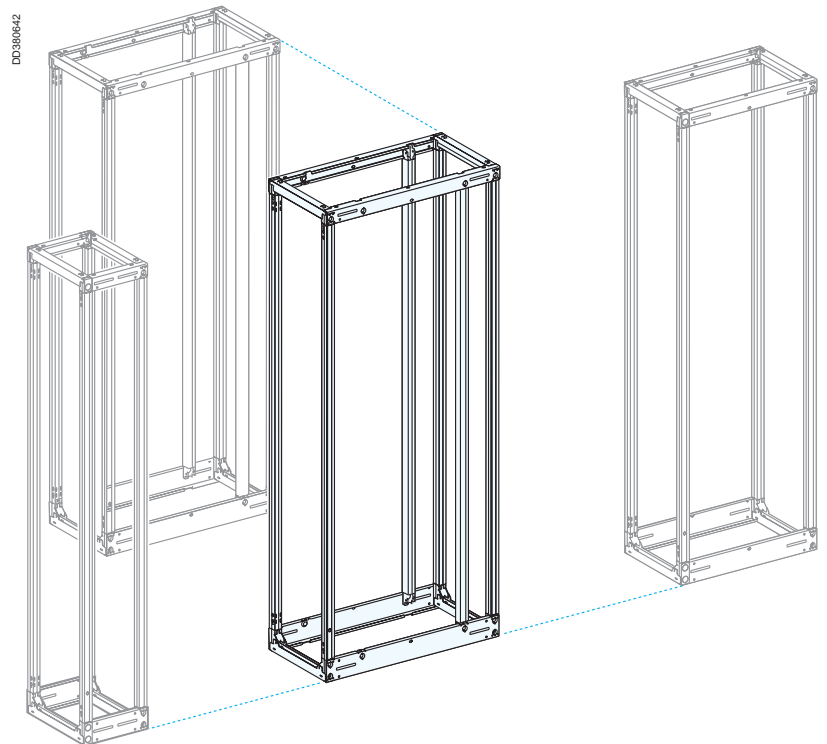
They comply with standard EN 50298.

PD300422

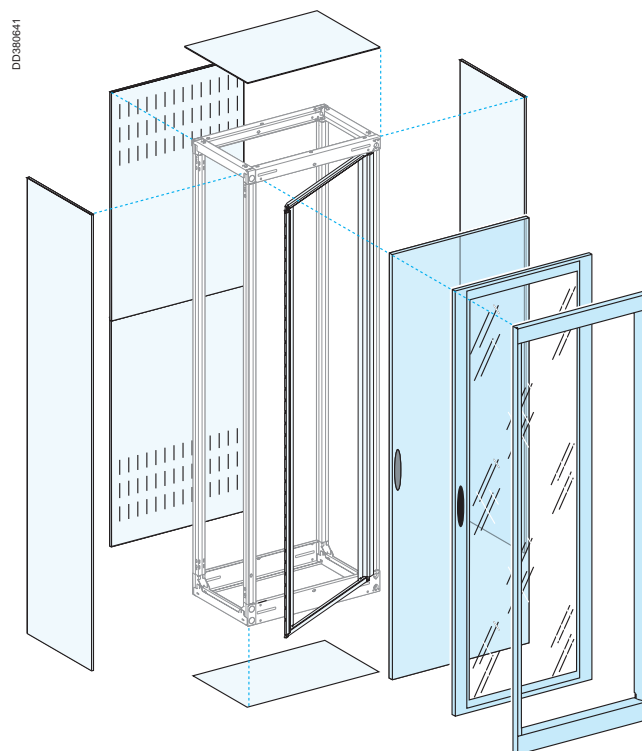


All cover panels and doors (IP30 or IP55) are secured using quarter-turn fasteners. Electrical continuity is achieved naturally, without having to add clips or earthing braids.

IP30/31/55 cubicles Presentation



Frameworks can be combined side-by-side or back-to-back to create all switchboard configurations up to 3200 A.



Front plates are installed on a frame that can pivot on the framework.

The front can be:

- a plain door (IP30/55)
- a transparent door (IP30/55)
- a cover frame (IP30).

IP30/31/55 cubicles Presentation



Cross-pieces can be removed to facilitate work.

The framework

The framework is both light and rigid due to the closed sections used for the uprights. The compact design of the framework means there is 15% more space available for devices.

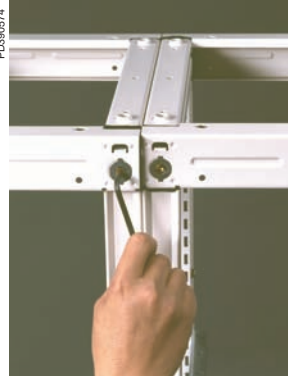
There are no sharp edges.

Assembly is particularly fast with only 12 screws, all directly accessible.

Uprights have wing holes every 25 mm.

A measuring tape can be hooked to a slot marking the starting point for measurements on the heights required to mount devices. Marks every 50 mm and double marks every 100 mm make it easy to count modules.

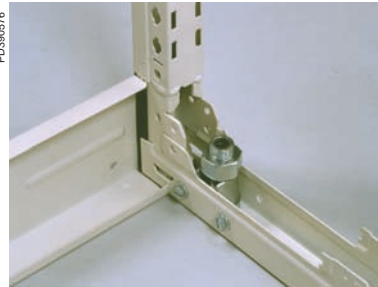
The floor fixing kit can also be used to level the cubicles.



Only 12 screws, all directly accessible, are required for assembly.



Marks make it easy to count the vertical modules.



The floor fixing kit can also be used to level the cubicles.



By pivoting, the front plate support frame provides direct access to devices.

The front plates are equipped with clip-mount grips with a built-in quarter-turn fastening system for fast handling and installation.

The lead-sealing function is directly integrated in the grip mechanism.

Hinged front plate support frame

This frame provides direct and fast access to the devices.

It is reversible and has two factory-mounted hinges.

Only two screws are required to secure it to the framework.

IP30/31/55 cubicles Presentation

Doors

Both plain and transparent doors are reversible and designed for quick and easy left or right-hand mounting by a single person.

The factory-mounted hinges are secured on quarter-turn studs. The one-piece handle clips firmly into place.

All connection points are located on the front of the uprights and do not take up any useful space for devices.

For 800 mm wide cubicles, the doors are supplied with a 150 mm wide barrier to block access to the busbars.

A wide range of locks are available for the "push and pull" handle.



A discreet, user-friendly handle.



Vented IP30 panels.

Rear panels

The IP30 panels are made up of two identical and interchangeable half panels that are easy to handle.

They are flat to occupy minimum of floor space.

Vents ensure natural ventilation of the switchboard.

The IP55 panels are reinforced (IK10) and have positioning studs to facilitate mounting.

Side panels

They are easy to handle given their ergonomic design and rounded edges. Mounting is guided at the base by hooking onto special studs.

Similar to all the cover panels, the side panels are rapidly secured by quarter-turn fasteners.

The roof

The roof panel is flat for passage under all doorways and includes four holes for the lifting rings.

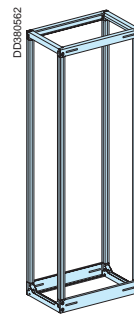
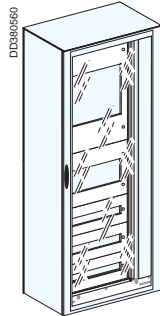
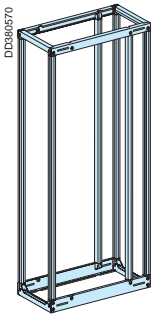
The lifting rings can be installed and removed without removing the roof.



The lifting rings can be installed without removing the roof.

IP30/31/55 cubicles Presentation

D400 frameworks (depth 400 mm)



W = 300/400

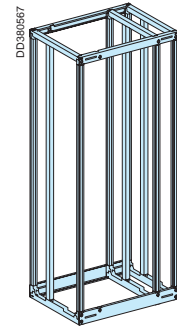
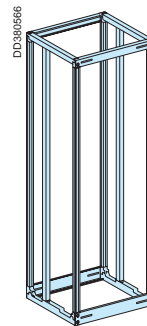
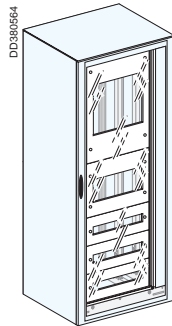
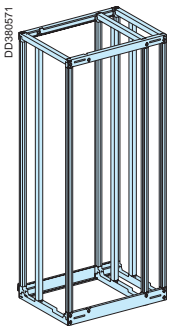
W = 650/800

W = 800 with a busbar compartment

Dimensions of cubicle with cover panels

Height	2006 mm (capacity = 36 modules, each 50 mm high)
Width	Width of the framework + 56 mm
Depth	450 mm with screw-on rear panel + front door 476 mm with front and rear doors

D600 frameworks (depth 600 mm)



W = 300/400

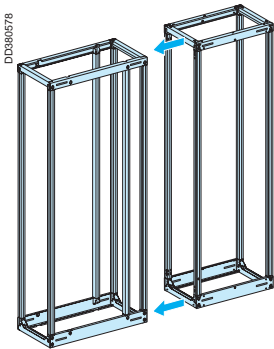
W = 650/800

W = 800 with a busbar compartment

Dimensions of cubicle with cover panels

Height	2006 mm (capacity = 36 modules, each 50 mm high)
Width	Width of the framework + 56 mm
Depth	650 mm with screw-on rear panel + front door 676 mm with front and rear doors

Framework combinations

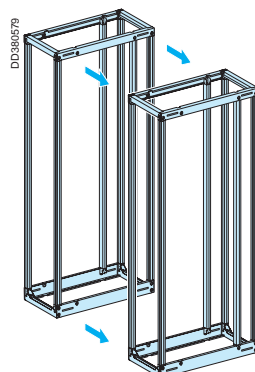


Side-by-side

The 650 and 800 mm wide frameworks are supplied with a combination kit. To maintain the IP55 degree of protection, an optional gasket must be installed between the combined cubicles.

Back-to-back

An optional kit for back-to-back combinations is available. It is used to mechanically connect the frameworks. It is supplied with a gasket to be installed between the cubicles (for IP55).



IP30/31/55 cubicles

Presentation

Cover panels

Front panels

- for frameworks 650 and 800 mm wide.
- Any of the following can be installed in front of the hinged front plate support frame:
 - a plain door (IP30 or IP55)
 - a transparent door (IP30 or IP55)
 - a cover frame (IP30)
- for frameworks 300 and 400 mm wide.
- A plain door is used (IP30 or IP55).

Rear panels

- The rear panel can be made up of:
 - two parts for IP30 panels
 - one reinforced part for IP55 panels.
- A plain door can also be used, notably for switchboards with rear connections (800 and 1000 mm deep).

Side panels

- A set of two panels is used (IP30 or IP55).
- If frameworks are installed back to back (double depth), two sets of two panels are required.

Roof

- There is a plain roof (IP30 or IP55) for each size of framework.

Gland plates

- They are mandatory, whatever the desired degree of protection for the switchboard.
- For each size of framework, there are plain gland plates (IP55) or two-part gland plates (IP30).

Degree of protection

IP30 switchboard

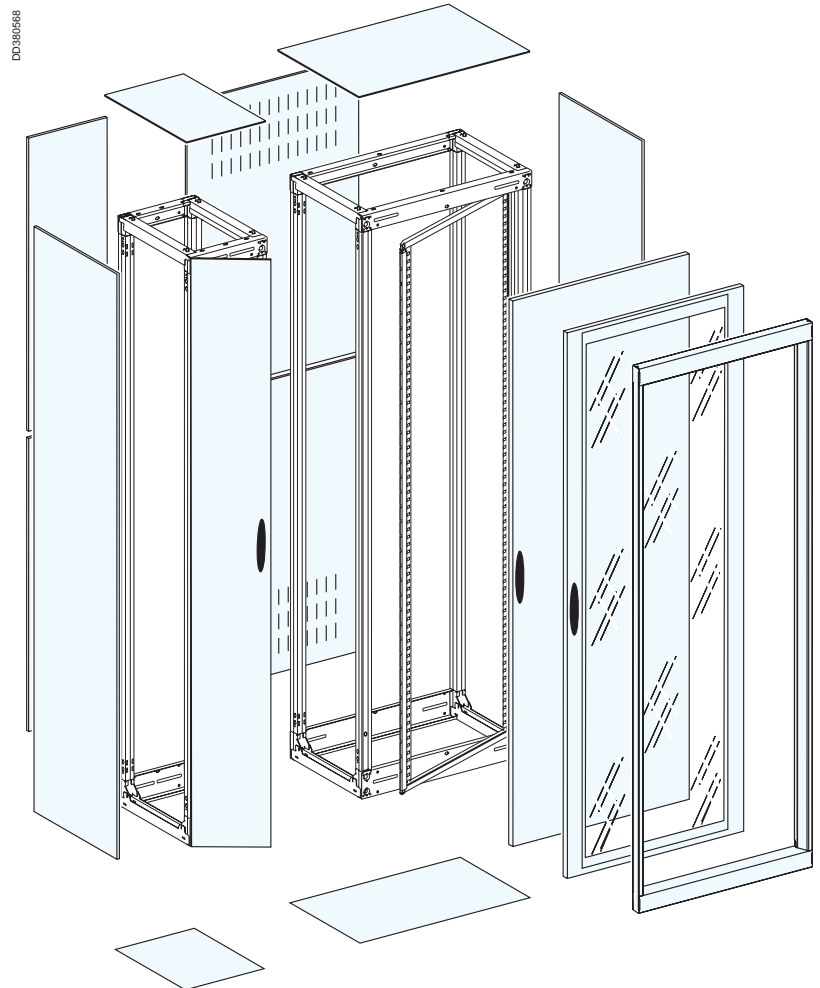
- Use:
 - the IP30 cover panels with a door or cover frame
 - IP30 plain roof
 - gland plates (plain or in two parts).

IP31 switchboard

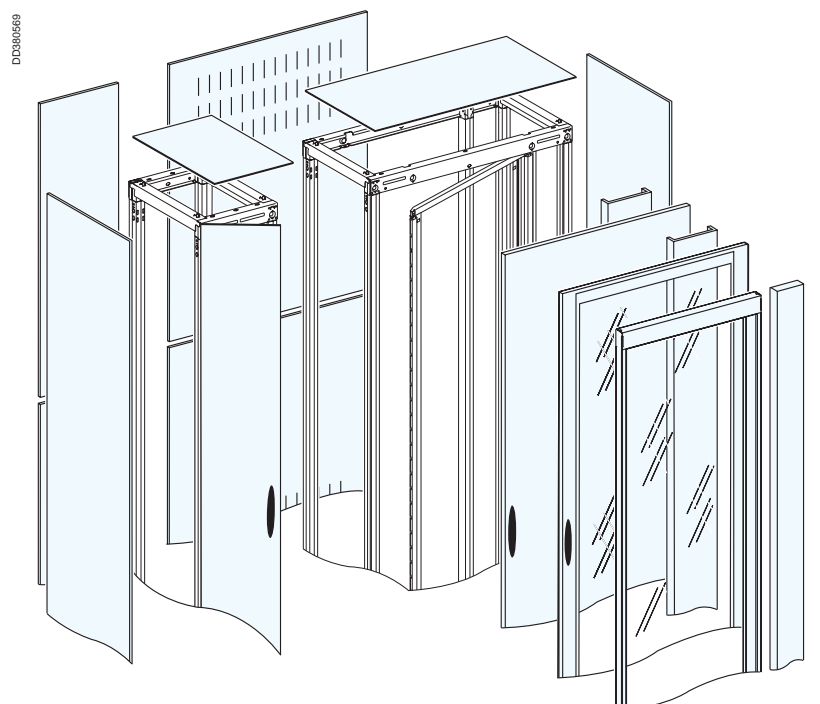
- Use:
 - the IP30 cover panels with a door
 - IP30 plain roof
 - IP31 sealing kit
 - gland plates (plain or in two parts).

IP55 switchboard

- Use:
 - the IP55 cover panels with a door
 - IP55 plain roof
 - plain gland plates.
- If frameworks are combined, use the IP55 sealing kit for side-by-side combinations.



Prisma Plus cubicle, W = 650 mm + cable compartment, W = 300 mm.



Prisma Plus cubicle, W = 800 mm + cable compartment, W = 300 mm.

400 mm deep switchboard

For switchboards with front connections.

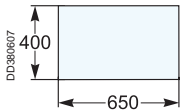
■ front panels

Any of the following can be installed in front of the hinged front plate support frame:

- a transparent door (IP30 or IP55)
- a plain door (IP30 or IP55)
- a fixed cover frame (IP30)
- rear panel = screw-on panel
- side panels = set of two panels
- plain roof
- gland plates (plain or in two parts).

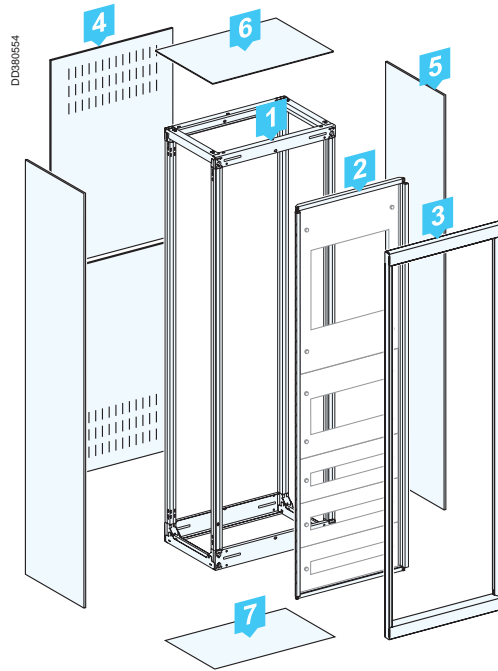
Parts list for switchboard 1

- 1 08406:** framework, W = 650, D = 400, H = 2000
- 2 08566:** front plate support frame, W = 650
- 3 08576:** cover frame, W = 650
- 4 08736:** rear panel, W = 650 (two half panels)
- 5 08750:** set of two side panels, D = 400
- 6 08436:** plain roof, W = 650, D = 400
- 7 08486:** plain gland plate, W = 650, D = 400

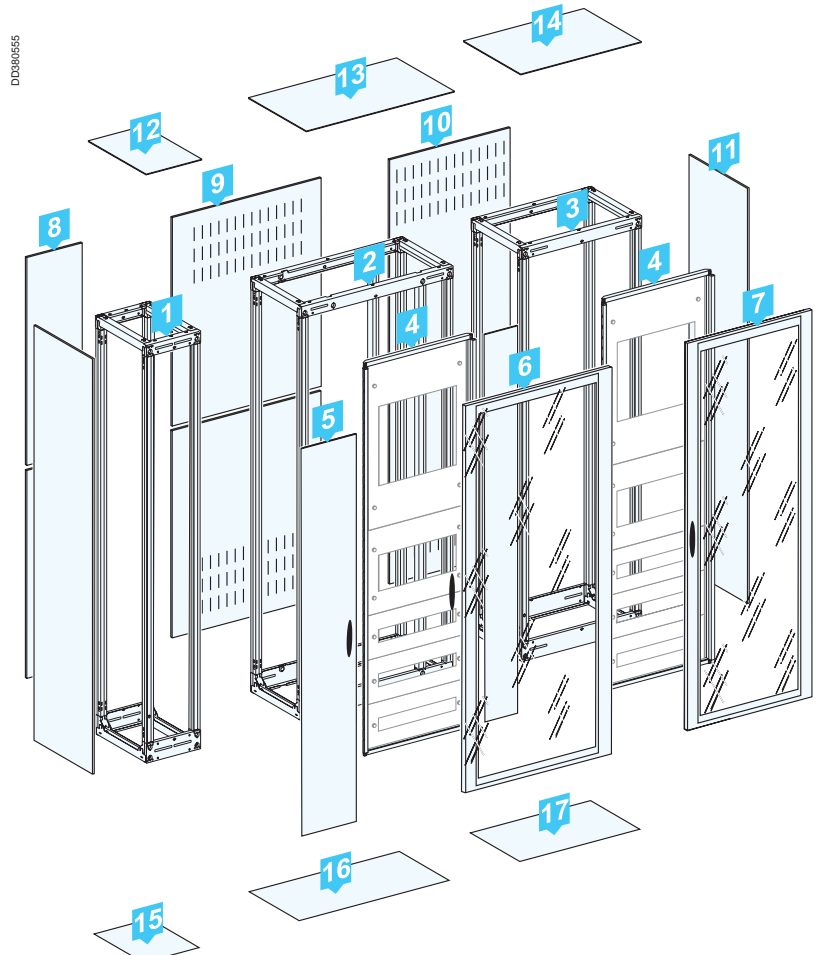


Parts list for switchboard 2

- 1 08403:** framework, W = 300, D = 400, H = 2000
- 2 08407:** framework, W = 800, D = 400, H = 2000
- 3 08406:** framework, W = 650, D = 400, H = 2000
- 4 08566:** front plate support frame, W = 650
- 5 08513:** plain door, W = 300
- 6 08538:** transparent door, W = 800 (supplied with barrier for busbar compartment, W = 150)
- 7 08536:** transparent door, W = 650
- 8 08733:** rear panel, W = 300 (two half panels)
- 9 08738:** rear panel, W = 800 (two half panels)
- 10 08736:** rear panel, W = 650 (two half panels)
- 11 08750:** set of two side panels, D = 400
- 12 08433:** plain roof, W = 300, D = 400
- 13 08438:** plain roof, W = 800, D = 400
- 14 08436:** plain roof, W = 650, D = 400
- 15 08483:** plain gland plate, W = 300, D = 400
- 16 08487:** plain gland plate, W = 800, D = 400
- 17 08486:** plain gland plate, W = 650, D = 400



Switchboard 1 - IP30 cubicle with cover frame, W = 650.



Switchboard 2 - combination of IP30 cubicles with transparent doors.

600 mm deep switchboard

For switchboards with front connections.

■ front panels

Any of the following can be installed in front of the hinged front plate support frame:

- a transparent door (IP30 or IP55)
- a plain door (IP30 or IP55)
- a fixed cover frame (IP30)

■ rear panel = screw-on panel

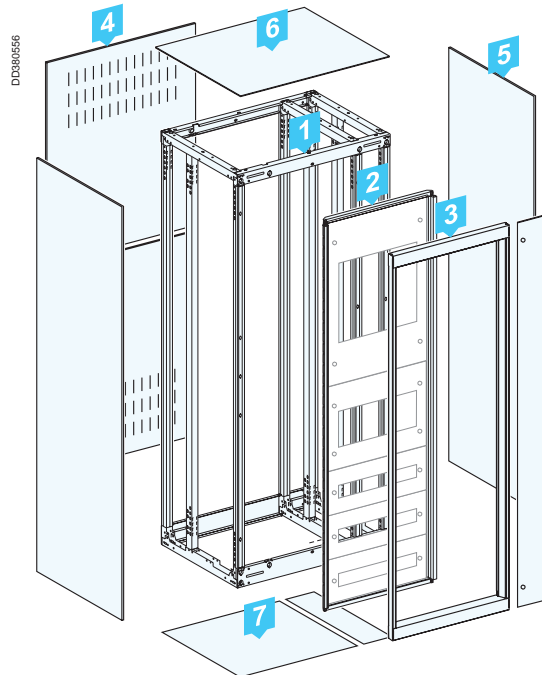
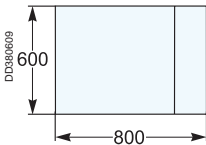
■ side panels = set of two panels

■ plain roof

■ gland plates (plain or in two parts).

Parts list for switchboard 1

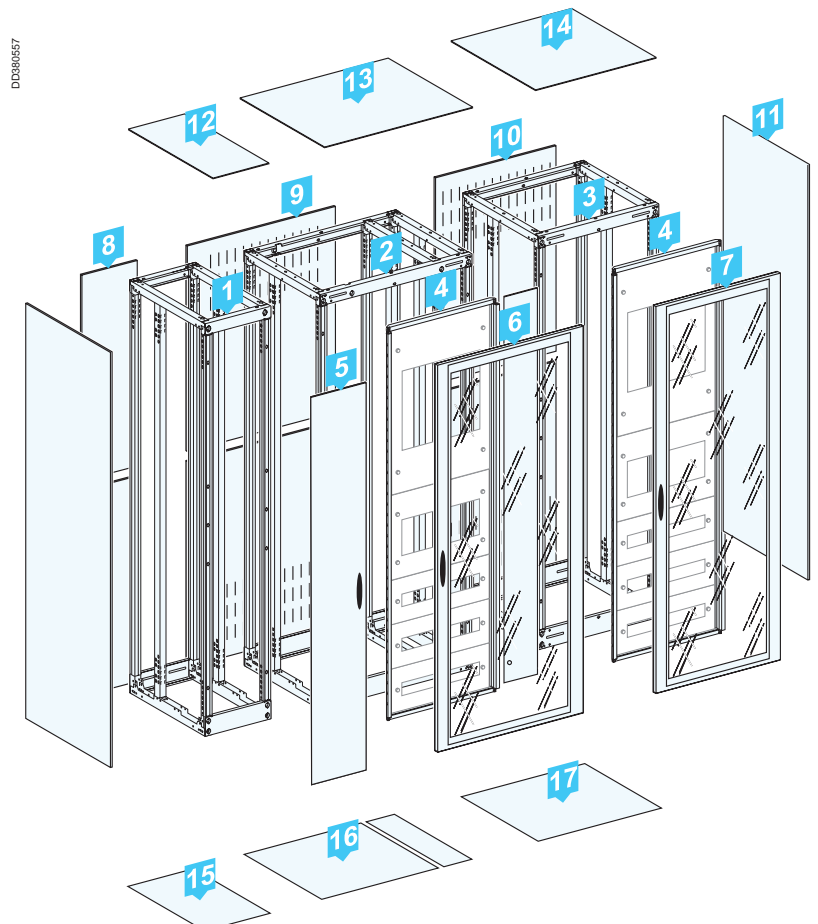
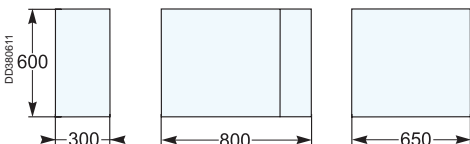
- 1 **08607**: framework, W = 800, D = 600, H = 2000
- 2 **08566**: front plate support frame, W = 650
- 3 **08578**: fixed cover frame, W = 800 (supplied with a wicket door, W = 150)
- 4 **08738**: rear panel, W = 800 (two half panels)
- 5 **08760**: set of two side panels, D = 600
- 6 **08638**: plain roof, W = 800, D = 600
- 7 **08687**: plain gland plate, W = 800, D = 600



Switchboard 1 - IP30 cubicle with cover frame, W = 800.

Parts list for switchboard 2

- 1 **08603**: framework, W = 300, D = 600, H = 2000
- 2 **08607**: framework, W = 800, D = 600, H = 2000
- 3 **08606**: framework, W = 650, D = 600, H = 2000
- 4 **08566**: front plate support frame, W = 650
- 5 **08513**: plain door, W = 300
- 6 **08538**: transparent door, W = 800 (supplied with barrier for busbar compartment, W = 150)
- 7 **08536**: transparent door, W = 650
- 8 **08733**: rear panel, W = 300 (two half panels)
- 9 **08738**: rear panel, W = 800 (two half panels)
- 10 **08736**: rear panel, W = 650 (two half panels)
- 11 **08760**: set of two side panels, D = 600
- 12 **08633**: plain roof, W = 300, D = 600
- 13 **08638**: plain roof, W = 800, D = 600
- 14 **08636**: plain roof, W = 650, D = 600
- 15 **08683**: plain gland plate, W = 300, D = 600
- 16 **08687**: plain gland plate, W = 800, D = 600
- 17 **08686**: plain gland plate, W = 650, D = 600



Switchboard 2 - combination of IP30 cubicles with transparent doors.

800 mm deep switchboard

Made up of two cubicles
back-to-back.

Rear connections are possible.

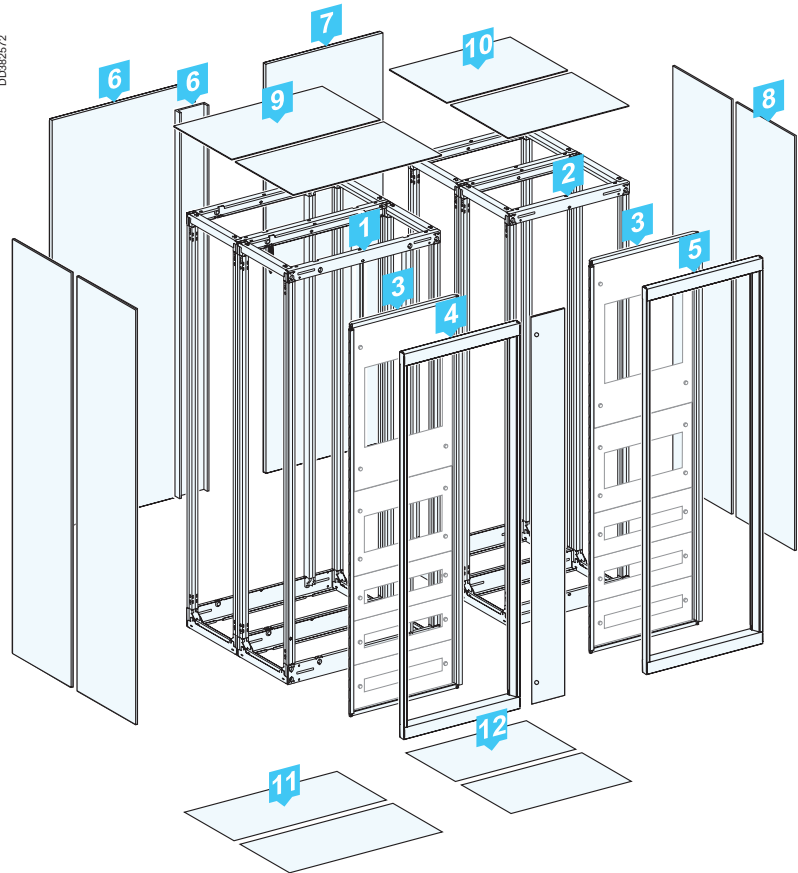
■ front panels

Any of the following can be installed
in front of the hinged front plate support frame:

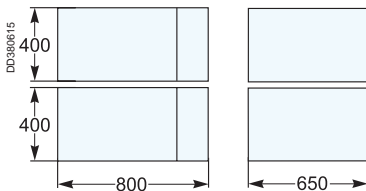
- a transparent door (IP30 or IP55)
- a plain door (IP30 or IP55)
- a fixed cover frame (IP30)
- rear panel = screw-on panel
- side panels = set of two panels
- plain roof
- gland plates (plain or in two parts).

Parts list

- 1 08407 x 2:** 2 frameworks, W = 800, D = 400, H = 2000
- 2 08406 x 2:** 2 frameworks, W = 650, D = 400, H = 2000
- 3 08566:** front plate support frame, W = 650
- 4 08578:** fixed cover frame, W = 800 (supplied with a wicket door, W = 150)
- 5 08576:** cover frame, W = 650
- 6 08518:** plain door, W = 800 (supplied with barrier for busbar compartment, W = 150)
- 7 08516:** plain door, W = 650
- 8 08750 x 2:** 2 sets of two side panels, D = 400
- 9 08438 x 2:** 2 plain rooves, W = 800, D = 400
- 10 08436 x 2:** 2 plain rooves, W = 650, D = 400
- 11 08487 x 2:** 2 plain gland plates W = 800, D = 400
- 12 08486 x 2:** 2 plain gland plates W = 650, D = 400
- 08719 x 2:** double depth combination kit



Combination of IP30 cubicles with cover frames.



1000 mm deep switchboard

Made up of two cubicles back-to-back.

Rear connections are possible.

■ front panels

Any of the following can be installed in front of the hinged front plate support frame:

□ a transparent door (IP30 or IP55)

□ a plain door (IP30 or IP55)

□ a fixed cover frame (IP30)

■ rear panel = screw-on panel

■ side panels = set of two panels

■ plain roof

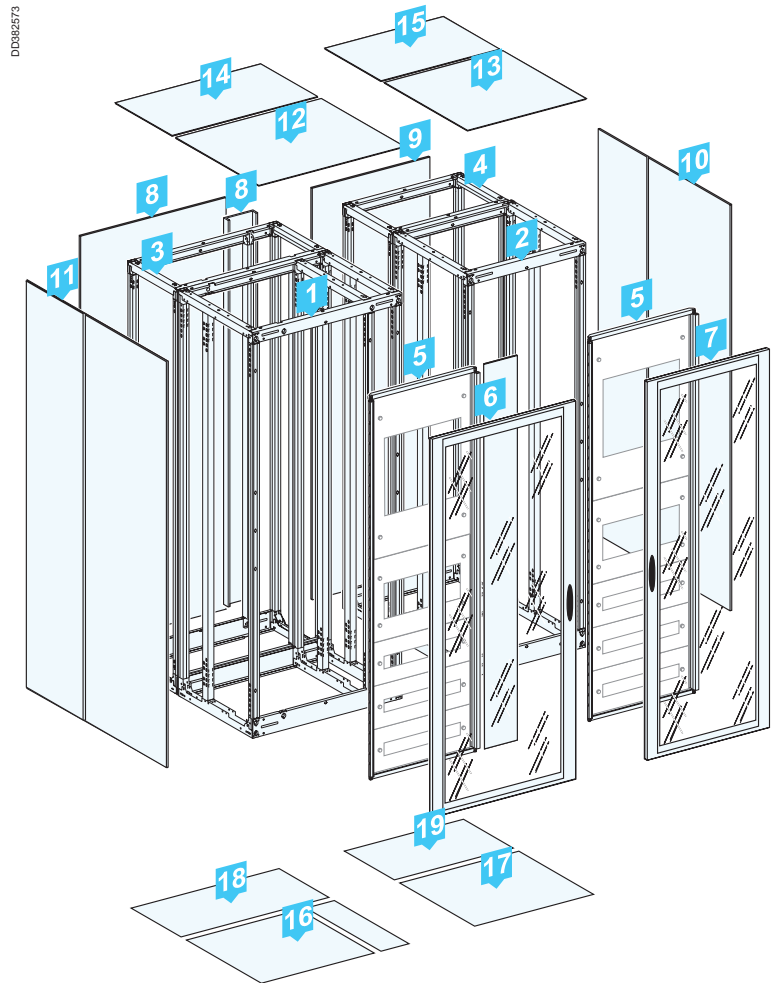
■ gland plates (plain or in two parts).

Parts list for IP30 switchboard

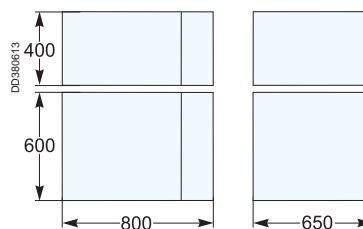
- | | | |
|---------------|---------------|--------------------------------------------------------------------------------------|
| 1 | 08607: | framework, W = 800, D = 600, H = 2000 |
| 2 | 08606: | framework, W = 650, D = 600, H = 2000 |
| 3 | 08407: | framework, W = 800, D = 400, H = 2000 |
| 4 | 08406: | framework, W = 650, D = 400, H = 2000 |
| 5 | 08566: | front plate support frame, W = 650 |
| 6 | 08538: | transparent door, W = 800
(supplied with barrier for busbar compartment, W = 150) |
| 7 | 08536: | transparent door, W = 650 |
| 8 | 08518: | plain door, W = 800
(supplied with barrier for busbar compartment, W = 150) |
| 9 | 08516: | plain door, W = 650 |
| 10 | 08760: | set of two side panels, D = 600 |
| 11 | 08750: | set of two side panels, D = 400 |
| 12 | 08638: | plain roof, W = 800, D = 600 |
| 13 | 08636: | plain roof, W = 650, D = 600 |
| 14 | 08438: | plain roof, W = 800, D = 400 |
| 15 | 08436: | plain roof, W = 650, D = 400 |
| 16 | 08687: | plain gland plate, W = 800, D = 600 |
| 17 | 08686: | plain gland plate, W = 650, D = 600 |
| 18 | 08487: | plain gland plate, W = 800, D = 400 |
| 19 | 08486: | plain gland plate, W = 650, D = 400 |
| 08719: | | double depth combination kit |

Parts list for IP55 switchboard

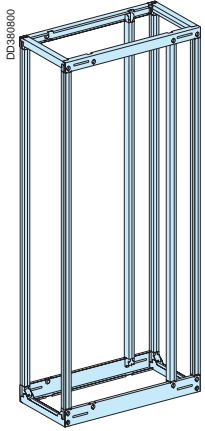
- | | | |
|-------------------|---------------|-----------------------------------------------------------------------------------|
| 1 | 08607: | framework, W = 800, D = 600, H = 2000 |
| 2 | 08606: | framework, W = 650, D = 600, H = 2000 |
| 3 | 08407: | framework, W = 800, D = 400, H = 2000 |
| 4 | 08406: | framework, W = 650, D = 400, H = 2000 |
| 5 | 08566: | front plate support frame, W = 650 |
| 6 | 08548: | transparent door, W = 800 (supplied with barrier for busbar compartment, W = 150) |
| 7 | 08546: | transparent door, W = 650 |
| 8 | 08528: | plain door, W = 800
(supplied with barrier for busbar compartment, W = 150) |
| 9 | 08526: | plain door, W = 650 |
| 10 | 08765: | set of two side panels, D = 600 |
| 11 | 08755: | set of two side panels, D = 400 |
| 12 | 08658: | plain roof, W = 800, D = 600 |
| 13 | 08656: | plain roof, W = 650, D = 600 |
| 14 | 08458: | plain roof, W = 800, D = 400 |
| 15 | 08456: | plain roof, W = 650, D = 400 |
| 16 | 08687: | plain gland plate, W = 800, D = 600 |
| 17 | 08686: | plain gland plate, W = 650, D = 600 |
| 18 | 08487: | plain gland plate, W = 800, D = 400 |
| 19 | 08486: | plain gland plate, W = 650, D = 400 |
| 08717 x 2: | | IP55 sealing kit for side-by-side combinations |
| 08719 x 2: | | double depth combination kit |



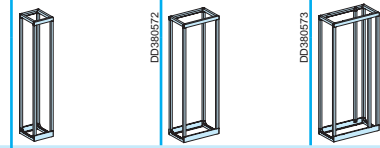
Combination of cubicles with transparent doors.



400 mm deep framework



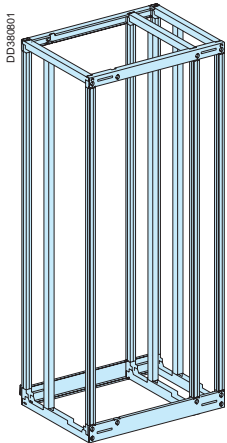
08407.



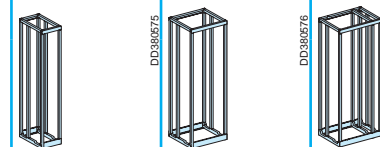
Framework width	Cat. no.		
W = 300 mm	08403		
W = 400 mm	08404		
W = 650 mm		08406	
W = 800 mm		08408	
W = 800 mm (650 + 150)			08407

- composition of catalogue numbers:
 - two frames (with two additional uprights for W = 650 + 150 mm cubicles for the mounting plates and to separate the busbar compartment)
 - four cross-pieces
 - mounting hardware
 - side-by-side combination kit
- for the 800 mm width, the busbar compartment can be on the left or right
- cubicles can be combined side-by-side and back-to-back
- can be equipped with IP30 or IP55 cover panels.

600 mm deep framework



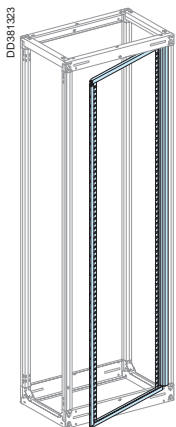
08607.



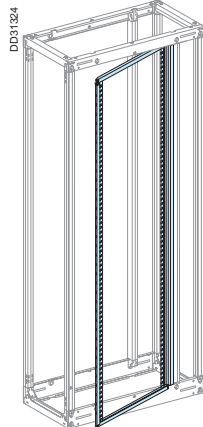
Framework width	Cat. no.		
W = 300 mm	08603		
W = 400 mm	08604		
W = 650 mm		08606	
W = 800 mm		08608	
W = 800 mm (650 + 150)			08607

- composition of catalogue numbers:
 - two frames (three for W = 650 + 150 mm cubicles), equipped with intermediate uprights for the mounting plates
 - four cross-pieces
 - mounting hardware
 - side-by-side combination kit
- for the 800 mm width, the busbar compartment can be on the left or right
- cubicles can be combined side-by-side and back-to-back
- can be equipped with IP30 or IP55 cover panels.

Hinged front plate support frame



08564 ⁽¹⁾.

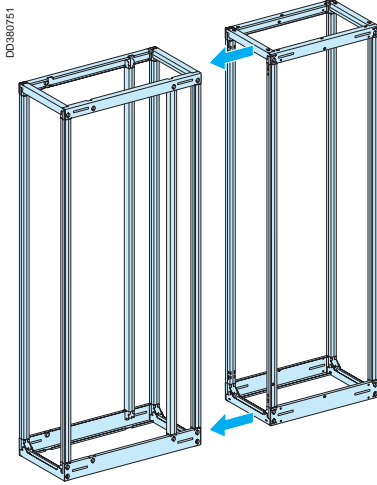


08566 ⁽²⁾.

Designation	Cat. no.
Hinged front plate support frame, W = 400mm	08564 ⁽¹⁾
Hinged front plate support frame, W = 650mm	08566 ⁽²⁾

- (1) Replaces catalogue number 08504.*
- (2) Replaces catalogue number 08506.*
- reversible for left or right-hand opening
- secured at two points
- can be mounted on 650 mm and 800 mm (650 + 150) wide cubicles.

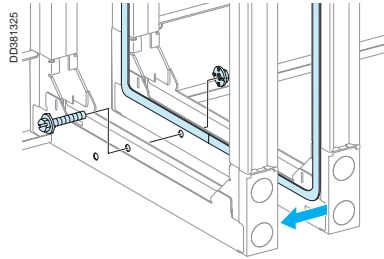
Framework combinations



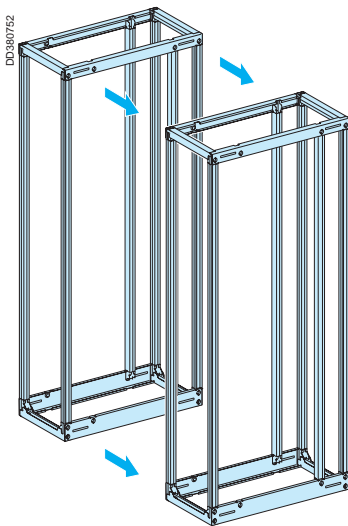
Side-by-side

The 650 and 800 mm wide frameworks are supplied with a combination kit comprising six M6 bolts.
To maintain the IP55 degree of protection, an optional gasket must be installed between the combined cubicles.

Designation	Cat. no.
IP55 sealing kit for side-by-side combinations (1 kit per combination)	08717



Note: for Prisma/Prisma Plus side-by-side combinations, see page C-22.

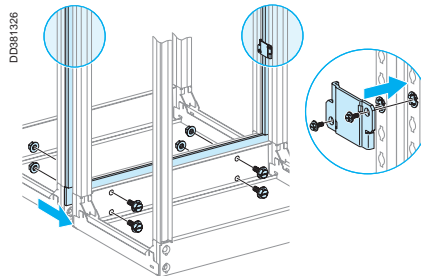


Back-to-back

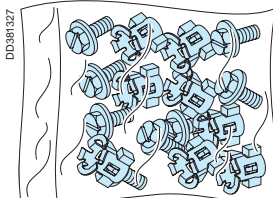
Designation	Cat. no.
Double depth combination kit	08719

The kit is made up of:

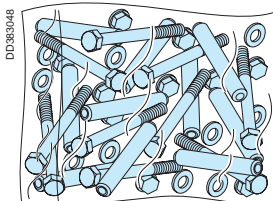
- a set of hardware for the mechanical connections between the cross-pieces
- two assembly plates to connect the uprights
- the IP55 sealing kit.



Accessories



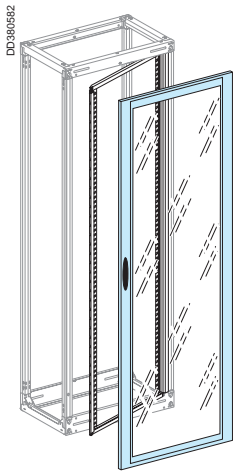
Designation	Cat. no.
Set of 20 screws + wing nuts for framework	08921
Set of 10 screws + combination accessories	08718



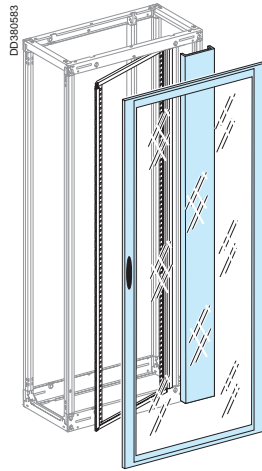
Cubicles

IP30/31 cover panels

Front panels



08536.



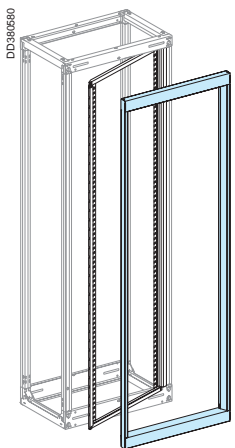
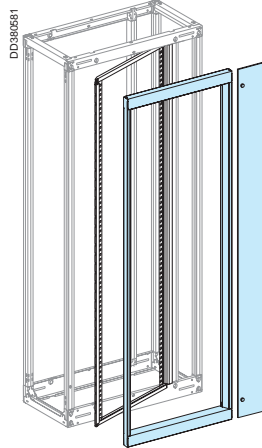
08538.

Door, W = 650/800 mm

Designation		Cat. no.
Plain door	W = 650 mm	08516
	W = 800 mm	08518
Transparent door	W = 650 mm	08536
	W = 800 mm	08538

- reversible for left or right-hand opening
 - equipped with a handle and keylock (key 405).
- For other possibilities, see page C-25.

Note: the 800 mm door is supplied with a 150 mm barrier for the side compartment, plus a finishing accessory to improve the appearance of the upright.

08576 ⁽¹⁾.08578 ⁽³⁾.

Cover frame

Designation		Cat. no.
Cover frame	W = 400 mm	08574 ⁽¹⁾
	W = 650 mm	08576 ⁽²⁾
	W = 800 mm (650 +150)	08578 ⁽³⁾

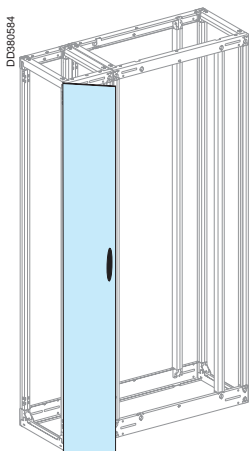
⁽¹⁾ Replaces catalogue number 08554.

⁽²⁾ Replaces catalogue number 08556.

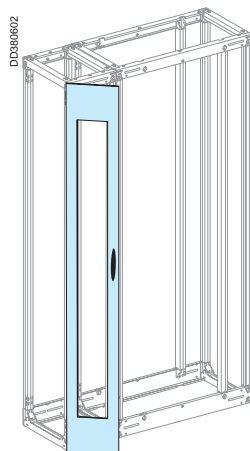
⁽³⁾ Replaces catalogue number 08558.

- secured using four screws.

Note: for 800 mm wide frameworks, the 650 mm frame is supplied with a plain wicket door, 150 mm wide.



08513.



08593.

Door, W = 300/400 mm.

Designation		Cat. no.
Plain door	W = 300 mm	08513
	W = 400 mm	08514
Transparent door	W = 400 mm	08534
Door with cut-out	W = 300 mm	08593
	W = 400 mm	08594

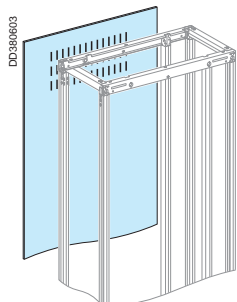
- reversible for left or right-hand opening
 - equipped with a handle and keylock (key 405).
- For other possibilities, see page C-25.

Note: the door with cut-out can be equipped with front plates for 72 x 72 or 96 x 96 instruments, see page A-68.

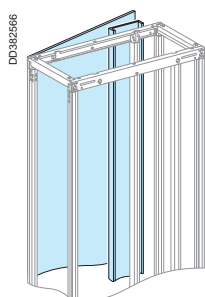
Cubicles

IP30/31 cover panels

Rear panels

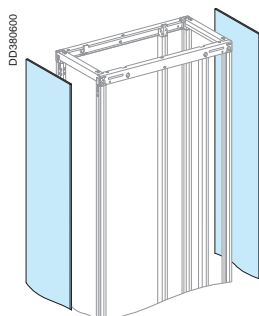


08738.



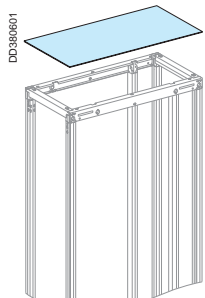
08518.

Side panels



08750.

Roof



08438.

Rear panel

Designation		Cat. no.
Rear panel	W = 300 mm	08733
	W = 400 mm	08734
	W = 650 mm	08736
	W = 800 mm	08738

- made up of two half panels with vents
- supplied with quarter-turn fasteners.

Plain door

Designation		Cat. no.
Plain door	W = 300 mm	08513
	W = 400 mm	08514
	W = 650 mm	08516
	W = 800 mm	08518

- equipped with a handle and keylock (key 405). For other possibilities, see page C-25
- reversible for left or right-hand opening.

Note: the 800 mm door is supplied with a 150 mm barrier for the side compartment, plus a finishing accessory to improve the appearance of the upright.

Side panels

Designation		Cat. no.
Set of two side panels	D = 400 mm	08750
	D = 600 mm	08760

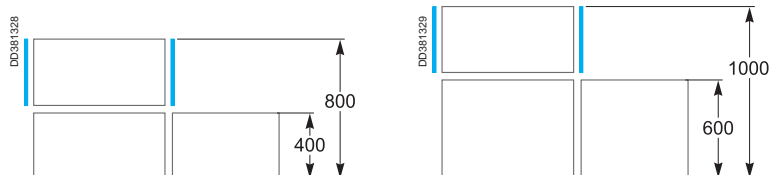
Supplied with quarter-turn fasteners.

Side panels for "L" combinations

Left or right combinations of two cubicles with different depths (800 + 400 or 1000 + 600).

Designation		Cat. no.
Set of two side panels for "L" combinations	D = 400 mm	08756

These panels simply replace the standard side panels.



Designation		Cat. no.
Plain IP30 roof, D = 400 mm	W = 300 mm	08433
	W = 400 mm	08434
	W = 650 mm	08436
	W = 800 mm	08438
Plain IP30 roof, D = 600 mm	W = 300 mm	08633
	W = 400 mm	08634
	W = 650 mm	08636
	W = 800 mm	08638

- supplied with quarter-turn fasteners for mounting on the framework
- with markings for cut-outs, if necessary.

IP31 sealing kit

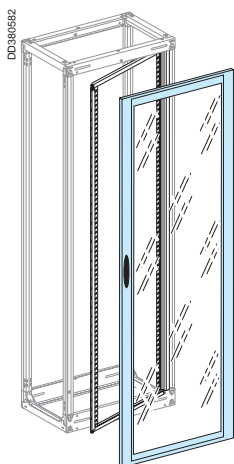
The kit is made up of a self-adhesive gasket that attaches to the roof and a deflector. It ensures the IP31 degree of protection for a 650 or 800 mm wide cubicle, or for two cubicles (800 + 400) when they are equipped with plain or transparent front doors.

Designation	Cat. no.
IP31 sealing kit	08711

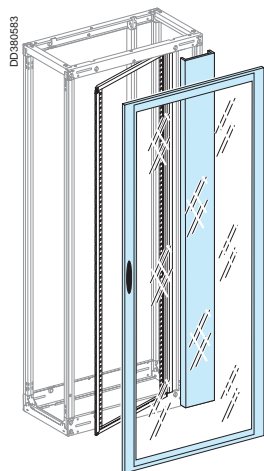
Cubicles

IP55 cover panels

Front panels



08546.



08548.

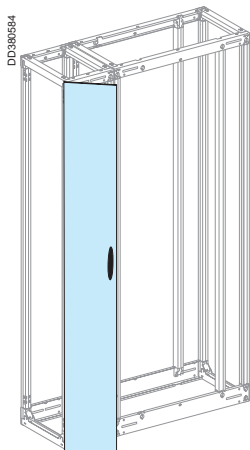
Door, W = 650/800 mm

Designation		Cat. no.
Plain door	W = 650 mm	08526
	W = 800 mm	08528
Transparent door	W = 650 mm	08546
	W = 800 mm	08548

- equipped with a factory-mounted polyurethane (PUR) gasket
- reversible for left or right-hand opening
- equipped with a handle and keylock (key 405).

For other possibilities, see page C-25.

Note: the 800 mm door is supplied with a 150 mm barrier for the side compartment, plus a finishing accessory to improve the appearance of the upright.



08523.

Door, W = 300/400 mm

Designation		Cat. no.
Plain door	W = 300 mm	08523
	W = 400 mm	08524

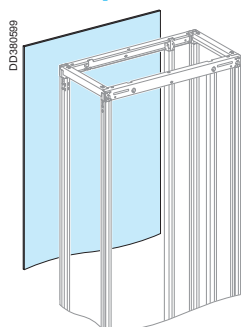
- equipped with a factory-mounted polyurethane (PUR) gasket
- reversible for left or right-hand opening
- equipped with a handle and keylock (key 405).

For other possibilities, see page C-25.

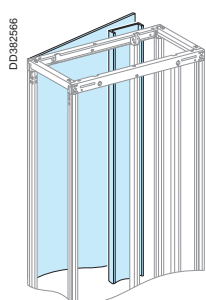
Cubicles

IP55 cover panels

Rear panels



08748.



08528.

Rear panel

Designation		Cat. no.
Rear panel	W = 300 mm	08743
	W = 400 mm	08744
	W = 650 mm	08746
	W = 800 mm	08748

- equipped with a factory-mounted polyurethane (PUR) gasket
- supplied with mounting hardware
- one-piece, reinforced panel designed to ensure the degree of protection.

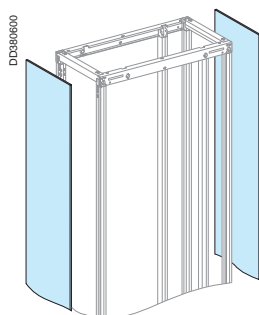
Plain door

Designation		Cat. no.
Plain door	W = 300 mm	08523
	W = 400 mm	08524
	W = 650 mm	08526
	W = 800 mm	08528

- equipped with a factory-mounted polyurethane (PUR) gasket
 - equipped with a handle and keylock (key 405).
- For other possibilities, see page C-25
- reversible for left or right-hand opening.

Note: the 800 mm door is supplied with a 150 mm barrier for the side compartment, plus a finishing accessory to improve the appearance of the upright.

Side panels



08755.

Side panels

Designation		Cat. no.
Set of two side panels	D = 400 mm	08755
	D = 600 mm	08765

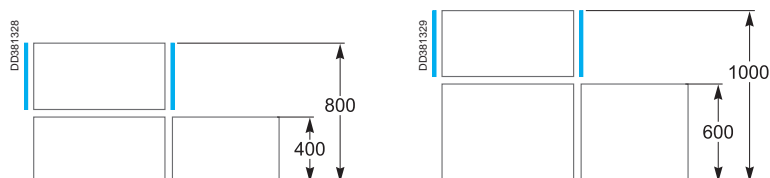
- equipped with a factory-mounted polyurethane (PUR) gasket
- supplied with mounting hardware.

Side panels for "L" combinations

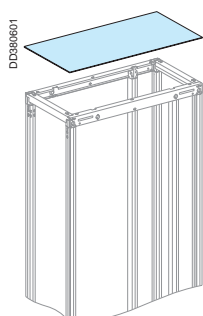
Left or right combinations of two cubicles with different depths (800 + 400 or 1000 + 600).

Designation		Cat. no.
Set of two side panels for "L" combinations	D = 400 mm	08756

- these panels simply replace the standard side panels
- equipped with a factory-mounted polyurethane (PUR) gasket.



Roof



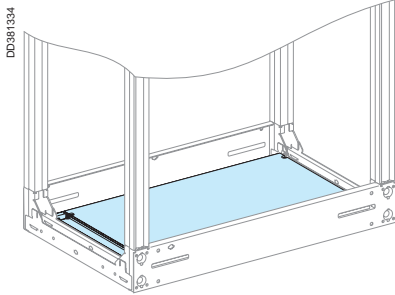
08458.

Designation		Cat. no.
Plain roof, D = 400 mm	W = 300 mm	08453
	W = 400 mm	08454
	W = 650 mm	08456
	W = 800 mm	08458
Plain roof, D = 600 mm	W = 300 mm	08653
	W = 400 mm	08654
	W = 650 mm	08656
	W = 800 mm	08658

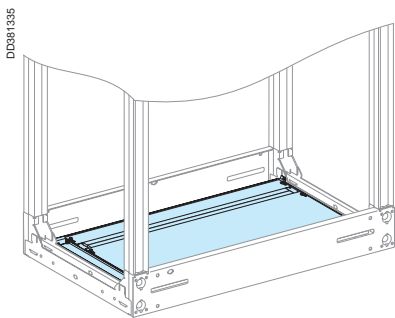
- equipped with a factory-mounted polyurethane (PUR) gasket
- supplied with mounting hardware
- with markings for clear identification of cable-running zones, if necessary.

Cubicles Plinth

Gland plates



08486.



08496.

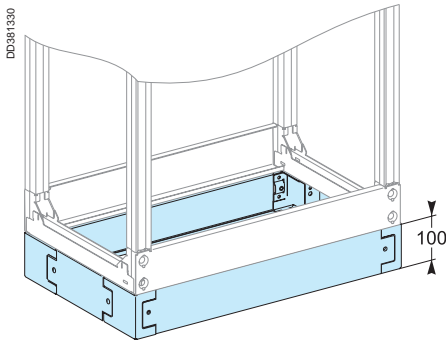
Gland plates (IP55)

Designation		Cat. no.
Gland plates, D = 400	W = 300 mm	08483
	W = 400 mm	08484
	W = 650 mm	08486
	W = 800 mm (650 + 150)	08487
	W = 800 mm	08488
Gland plates, D = 600	W = 300 mm	08683
	W = 400 mm	08684
	W = 650 mm	08686
	W = 800 mm (650 + 150)	08687
	W = 800 mm	08688

Two-part gland plates (IP30)

Designation		Cat. no.
Two-part gland plates, D = 400 mm	W = 300 mm	08493
	W = 400 mm	08494
	W = 650 mm	08496
	W = 800 mm (650 + 150)	08497
	W = 800 mm	08498
Two-part gland plates, D = 600 mm	W = 300 mm	08693
	W = 400 mm	08694
	W = 650 mm	08696
	W = 800 mm (650 + 150)	08697
	W = 800 mm	08698

Plinth, H = 100 mm

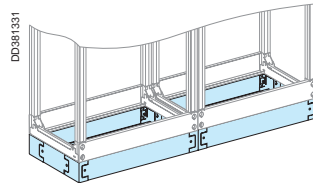


08726 + 08720.

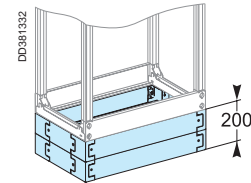
The plinth is made up of two catalogue numbers:

- one catalogue number comprising four corner posts + two cross-pieces (front and rear), that can be used in side-by-side combinations or stacked to form a plinth 200 mm high (maximum)
- one catalogue number comprising two side plates (400 or 600 mm). Each catalogue number is supplied with the necessary hardware.

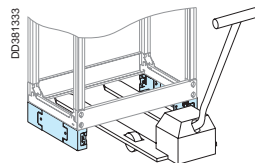
Designation		Cat. no.
Four corner posts + two cross-pieces (front and rear)	W = 300 mm	08723
	W = 400 mm	08724
	W = 650 mm	08726
	W = 800 mm	08728
Two side plates	D = 400 mm	08720
	D = 600 mm	08721



Side-by-side combination of two cubicles with a plinth.



Two stacked plinths.

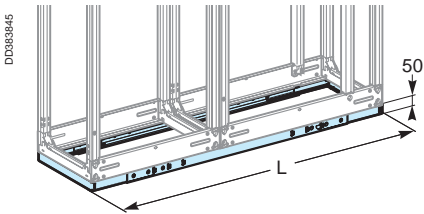


The front and rear cross-pieces can be easily removed for a pallet-mover.

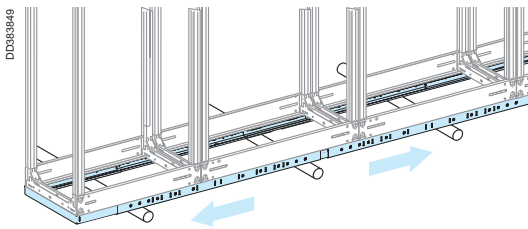
Cubicles

Cubicle handling and rolling base Lifting reinforcement kit for combined cubicles

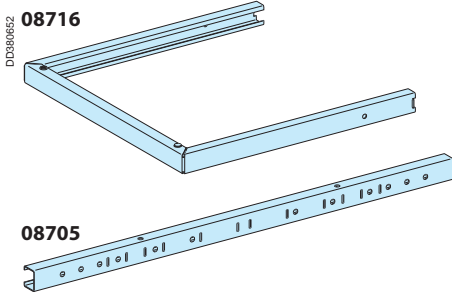
Cubicle handling and rolling base



08714 + 08705.



Combined cubicles equipped with a handling base can be moved easily and safely on rollers.



This type of base is designed to avoid any risk of cubicle deformation during transport and handling.

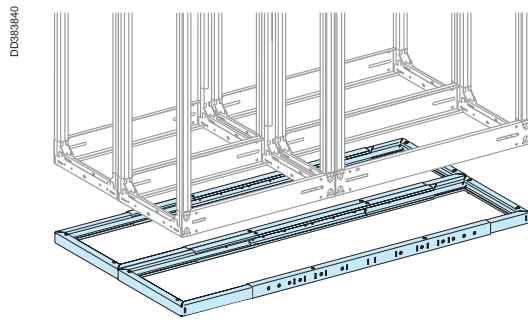
Five different catalogue numbers offer 27 width possibilities (1200 to 3050 mm) for 400 and 600 mm deep cubicles.

- Two catalogue numbers each include 2 end-pieces for handling bases for 400 and 600 mm deep cubicles respectively and the corresponding mounting hardware.
- Three catalogue numbers each include 2 lengths for the sides of handling bases for 1200 to 3050 mm wide cubicles respectively and the corresponding mounting hardware.

Handling bases can be used for both side-by-side and back-to-back cubicle combinations.

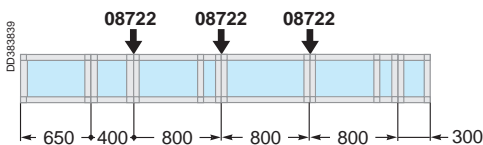
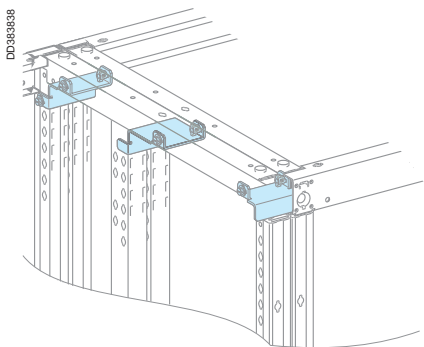
In this case, the mounting hardware for one of the sets is used.

Designation		Cat. no.
2 cubicle handling base end-pieces	D = 400 mm	08714
	D = 600 mm	08716
2 cubicle handling base side-lengths	W = 1200 to 900 mm	08705
	W = 2000 to 2550 mm	08706
	W = 2650 to 3030 mm	08707



Side-by-side and back-to-back combination of 4 cubicles equipped with a handling base.

Lifting reinforcement kit



A lifting reinforcement kit should be installed every 800 mm.

Kit 08722 is recommended for lifting combined cubicles and can be used together with handling base end-pieces 08714 or 08716 for severe transport or handling conditions.

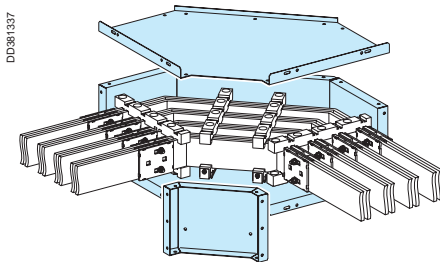
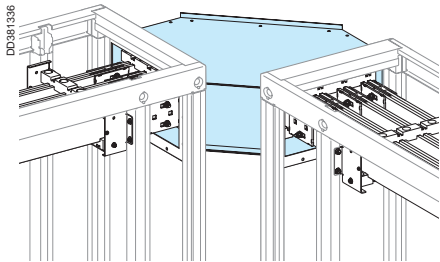
Catalogue number 08722 includes 3 reinforcement brackets for 400 or 600 mm deep cubicles and the corresponding mounting hardware.

Designation		Cat. no.
Lifting reinforcement kit	W = 400/600 mm	08722

Cubicles

Right-angle kit

IP30 right-angle kit



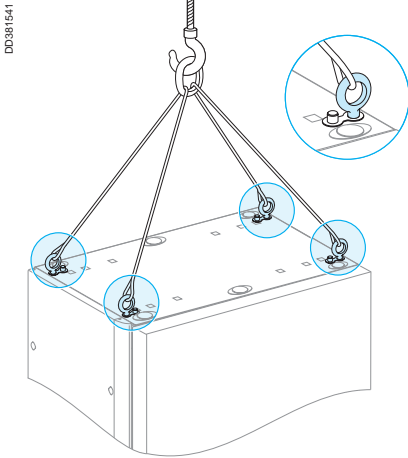
Metal duct

Used to create and protect the connection of horizontal busbars between two cubicles installed at right angles.

Designation	Cat. no.
IP30 right-angle kit	08713

Free support and joints, see page B-4.

Lifting rings



Set of four lifting rings screwed to the framework.
Use a set of lifting rings for each framework (W = 650 and 800 mm) containing devices.

When two cubicles with devices have been combined, use a lifting beam.

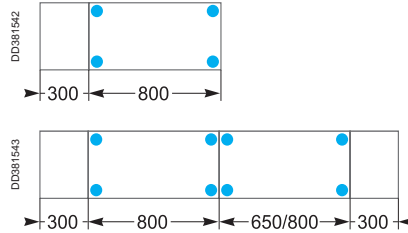
Designation

Cat. no.

4 lifting rings

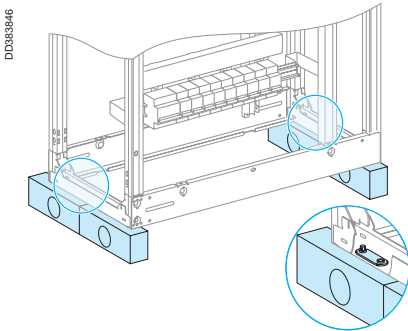
08700

- can be installed and removed without removing the roof
- even if they are left attached, the switchboard conserves its original degree of protection.



Positions of the lifting rings for two combined cubicles containing devices. In this case, a lifting beam must be used.

Framework stabiliser kit



Designation

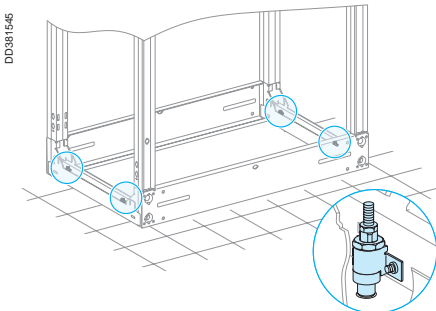
Cat. no.

Stabiliser kit

08701

- made up of four blocks under the framework
- suitable for all types of cubicles, whatever the width and depth
- increases the stability of the cubicle during mounting of devices
- makes possible cubicle handling using a pallet mover or a forklift
- protects the front, side and rear cover panels during handling
- can be reused.

Levelling kit



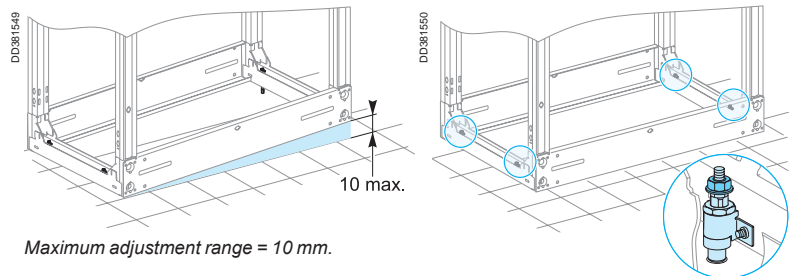
Designation

Cat. no.

Levelling kit (set of 4 fixtures)

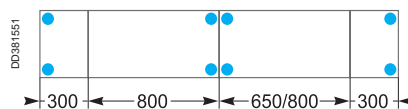
08702

- can be installed at any time, even when the cubicle is already in position
- maximum adjustment range = 10 mm
- secures the cubicle to the floor.



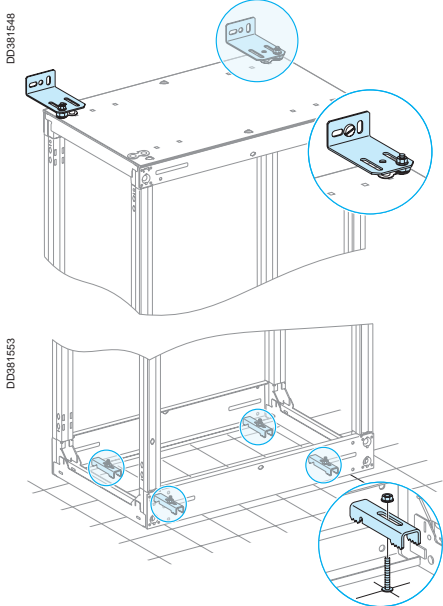
Maximum adjustment range = 10 mm.

Secures the cubicle to the floor.



Recommended positions of the fixtures for combined cubicles.

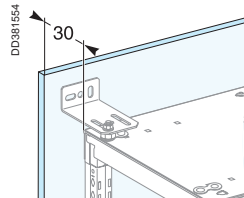
Floor/wall fixing kit



The offset floor fixing points are easily accessible.

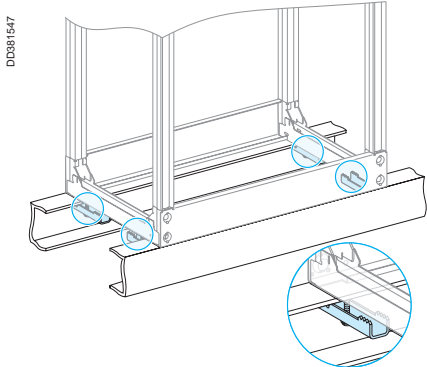
Designation	Cat. no.
Floor/wall fixing kit	08704

- made up of two brackets and four clamps
- can be used to offset the switchboard fixing points for easier access
- the wall brackets ensure sufficient wall clearance (at least 30 mm) for natural convection.



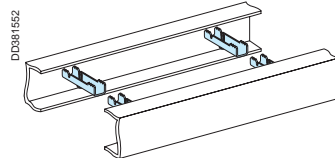
At least 30 mm of clearance between the wall and a cubicle with a vented rear panel is required for natural convection.

False floor fixing kit

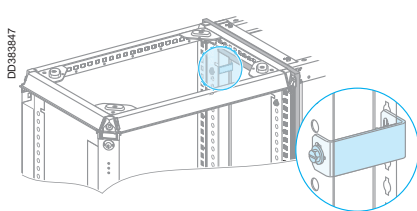


Designation	Cat. no.
False floor fixing kit	08703

- made up of four independent clamps
- clamp on "U" sections (H = 175 mm, W = 70 mm) or "I" sections (H = 120 mm, W = 64 mm)
- clamp travel = 11 mm.



Prisma ph/Prisma Plus side-by-side combinations



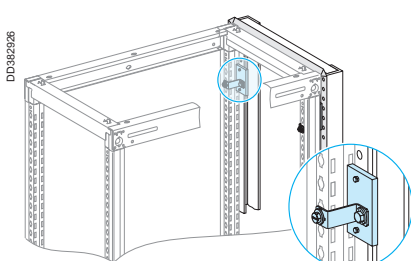
To add a Prisma Plus cubicle to an existing Prisma PH installation, use the following combination kit

Designation	Cat. no.
Prisma PH/Prisma Plus side-by-side combination kit	01198

When combining Prisma PH and Prisma Plus IP55 enclosures, use the IP55 sealing kit for side-by-side combinations (08717) together with the side-by-side combination kit (01198).

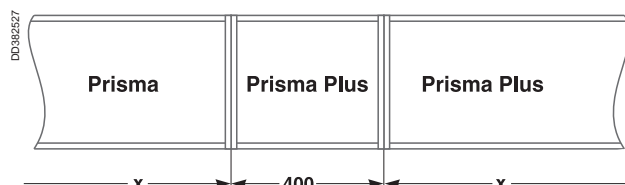


Prisma/Prisma Plus side-by-side combinations

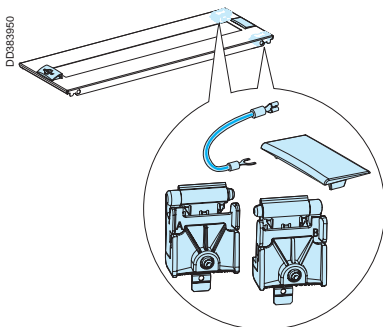


To add a Prisma Plus cubicle to an existing Prisma installation, use the following combination kit and a 400 mm wide frame.

Designation	Cat. no.
Prisma/Prisma Plus side-by-side combination kit	01199

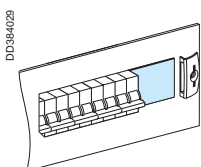


Front plate accessories



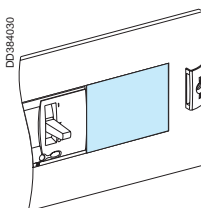
Designation	Cat. no.
Front plate hinge kit (set of 2 hinges)	08585

Blanking plates



For modular devices

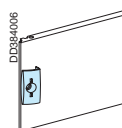
Designation	Cat. no.
Blanking strip, H = 46 mm, L = 1000 mm	03220
4 divisible blanking plates, H = 46 mm, L = 90 mm colour: white RAL 9001	03221



For Compact NSX100/250

Designation	Cat. no.
1 divisible blanking plates, H = 85 mm, L = 147 mm colour: white RAL 9001	03249

Front plate grips



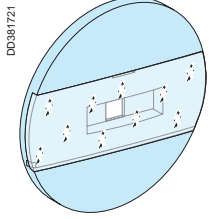
Designation	Cat. no.
20 self adhesive front plate grips colour: white (RAL 9001)	01093

- easily fitted using double-face adhesive tabs, to harmonise the front plates of your switchboards.

Adhesive labels for mimic diagrams

Designation	Black
10 lines, 900 mm long and 7 mm thick	01005
10 outgoing arrows	01006
10 incoming arrows	01007
10 transformers	01008
10 earth symbols	01009

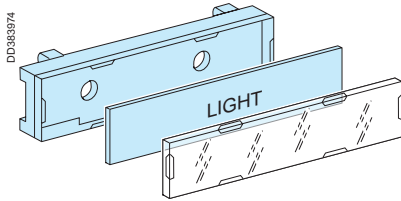
Switchboard identification plate



DD381721

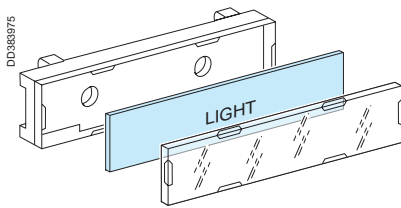
Designation	Cat. no.
Switchboard identification plate	08900

Identification labels



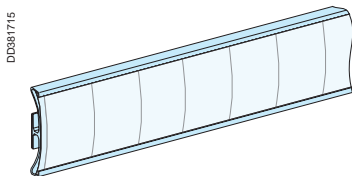
DD383974

Clip-on label.

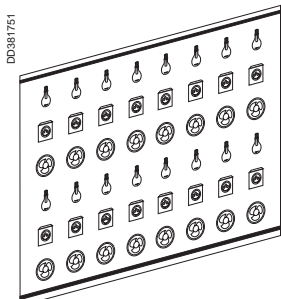


DD383975

Engraving plate.

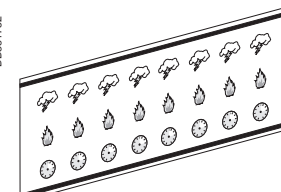


DD381715



DD381751

Standard symbols.



DD381752

Special symbols.

Clip-on labels

Clip-on labels

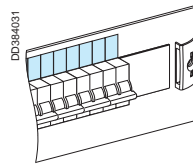
The clip-on support is supplied with a paper label and a transparent cover. It clips onto the front plate horizontally or vertically and can be screwed to any support (plain door, plain front plate, etc.).

Engraving plates

Supplied separately, these plates simply replace the paper labels.

Cat. no. selection

Designation		Cat. no.
12 clip-on labels	18 x 35	08913
	18 x 72	08915
	25 x 85	08917
12 engraving plates	18 x 35	08914
	18 x 72	08916
	25 x 85	08918



DD384031

Adhesive labels

The adhesive label holders are supplied with a paper label and a transparent cover.

Designation		Cat. no.
12 label holders, W = 180 mm	H = 24 mm	08905
	H = 36 mm	08906
12 label holders, W = 432 mm	H = 24 mm	08903
	H = 36 mm	08904

Symbol sheets

Each sheet comprises adhesive symbols that can be positioned on the identification labels to immediately identify the type of circuit.

Standard symbols:

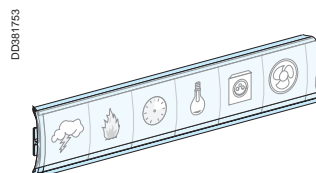
- loads: sockets, lights, heating units, etc.
- rooms: bedroom, bathroom, etc.

Special symbols:

- loads: lightning arrestor, gate, swimming pool, etc.
- rooms: technical room, computer room, etc.

Cat. no. selection

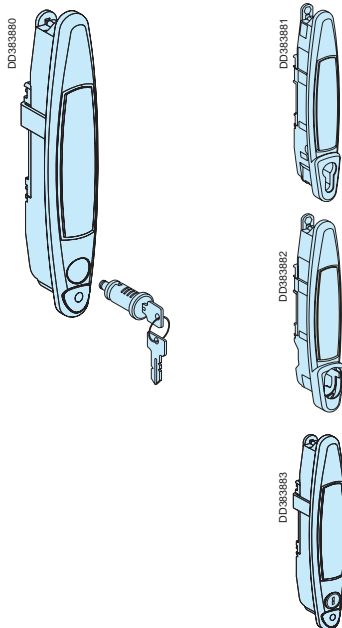
Designation		Cat. no.
Set of ten symbol sheets	standard	13735
	special	13736



DD381753

Symbols on an adhesive label holder.

Handles

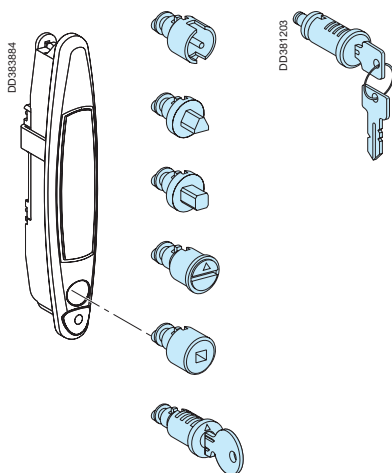


Designation	Cat. no.
EURO handle without barrel	08932

Designation	Cat. no.
ASSA/ABLOY handle without barrel	08933

Designation	Cat. no.
System G/P Ral 7016 standard handle	08931
Can be equipped with all the barrel locks and inserts presented below.	

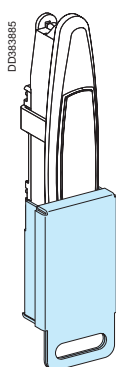
Barrel locks, inserts



The barrel locks and inserts below can be mounted on handle 08930 and on all the door handles of the Prisma Plus range after removing the standard barrel lock (key no. 405).

Designation	Cat. no.
Barrel locks	
Barrel lock + 1 keys no. 405	08940
Barrel lock + 2 keys no. 455	08941
Barrel lock + 2 keys no. 1242E	08942
Barrel lock + 2 keys no. 3113A	08943
Barrel lock + 2 keys no. 2433A	08944
Barrel lock + 2 keys no.2432E	08956
Inserts	
DIN double bar insert	08945
Screwdriver slot insert	08946
6.5 mm male triangle insert	08947
7 mm male triangle insert	08948
8 mm male triangle insert	08949
9 mm male triangle insert	08950
6 mm male square insert	08951
7 mm male square insert	08952
8 mm male square insert	08953
6 mm female square insert	08955

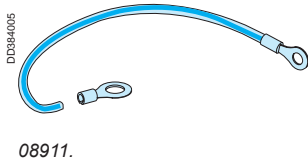
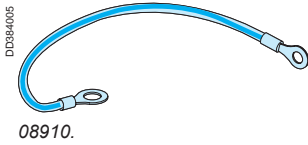
Padlocking



Designation	Cat. no.
Handle padlocking kit	08938

The kit can be installed on the door handles of the Prisma Plus range equipped with any of the barrel locks and inserts above.

Earthing braid

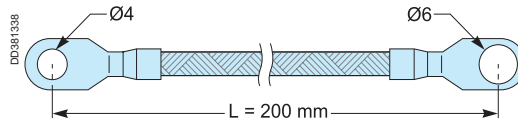


Designation	Cat. no.
Earthing braid, 6 mm ²	08910

The braid is equipped with a 4 mm diameter lug at one end and a 6 mm diameter lug on the other.

It is used to earth:

- a door or wicket door with devices
- a front-plate support frame equipped with switchgear in a cubicle.



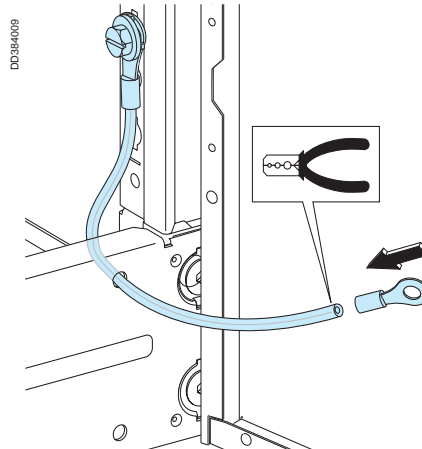
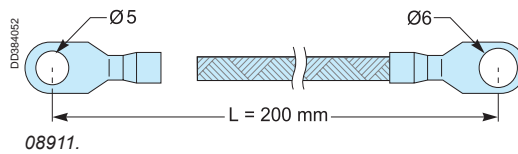
Designation	Cat. no.
Earthing wire, 6 mm ²	08911

The wire is equipped with a 5 mm diameter lug at one end and a 6 mm diameter lug on the other.

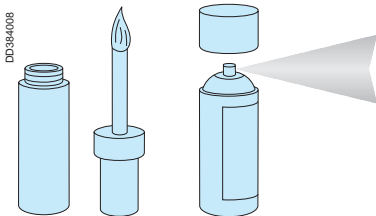
The earthing wire is used to earth:

- a door or wicket door with devices
- a front-plate support frame equipped with switchgear in a cubicle.

Highly recommended for mounting on doors of System P cubicles.

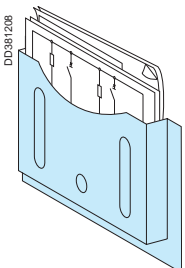


Touch-up accessories



Designation	Cat. no.
Touch-up spray paint, colour RAL 9001	08962
Touch-up paint brush, colour RAL 9001	08961

Drawing holder

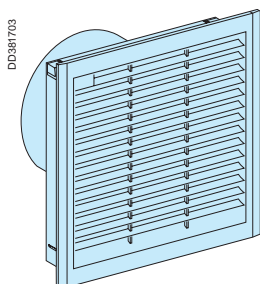


Designation	Cat. no.
Adhesive drawing holder, colour RAL 9001	08963

Presentation

In most cases and notably for IP30 switchboards, convection takes place naturally and does not require fans.
However, when the switchboard is installed in temperate environments or when the degree of protection is high (IP55), ventilation accessories are indispensable. For more in-depth information on selecting air-conditioning accessories and the thermal management of switchboards, see page D-78.

Front or side fan



The switchboard is cooled by drawing in cool external air.

Presentation

The set comprises the fan with a grill and a filter.
It can be clipped directly on the cut-out front plate.

Installation

These fans are generally installed at the bottom of floor-standing enclosures:

- by cutting out a side panel
- or on the front, using the front plate with cut-out for a fan.

Designation	Cat. no.
Fan	08987
Front plate with cut-out for fan or filter (7 modules)	03890

Characteristics

Power rating: 70 W.

Input voltage: 230 V.

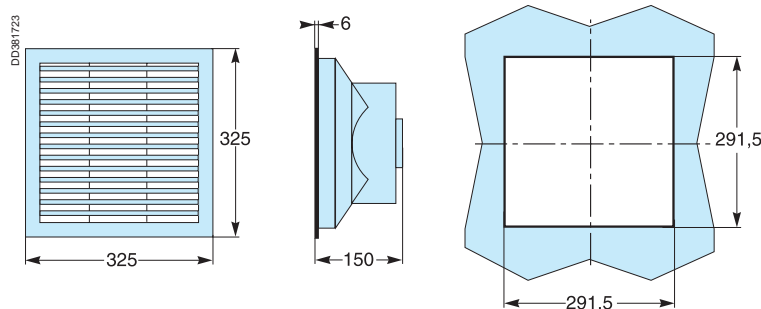
Noise level: 69 dB.

Degree of protection: IP54.

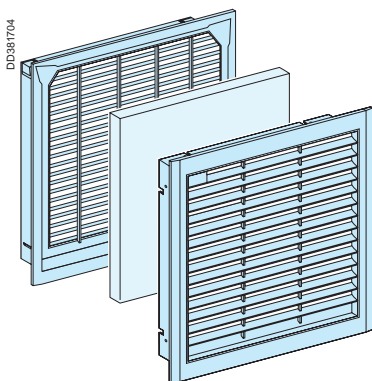
Weight: 3 kg.

Unimpeded throughput: 460 m³/h.

Throughput with counterpressure (grill + standard filter, cat. no. 08988): 350 m³/h.



Filter for front or side fan



Presentation

The grill is supplied with a standard filter that can be replaced or exchanged for a finer filter.

The grill can be clipped directly on the cut-out front plate.

Installation

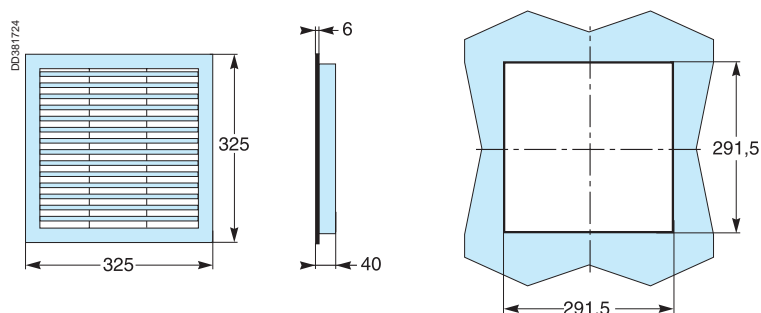
The grill/filter can be installed:

- by cutting out a side panel
- or on the front, using the front plate with cut-out for a fan.

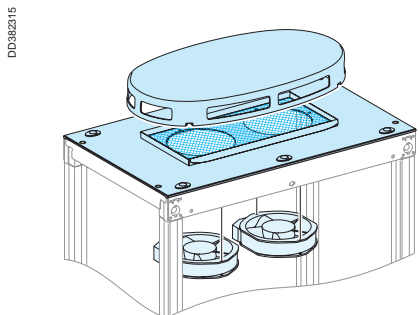
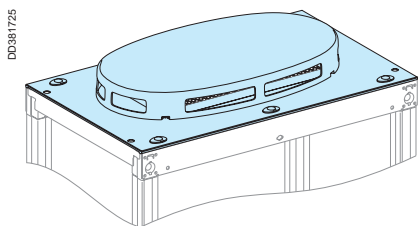
Characteristics

Degree of protection: IP54.

Designation	Cat. no.
Grill with filter (supplied with standard filter, maximum throughput = 350 m ³ /h)	08988
5 standard filters (replacement)	08989
5 fine filters	08990
Front plate with cut-out for fan or filter (7 modules)	03890



Roof fan



Presentation

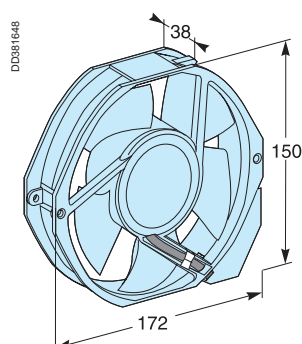
A roof with a cut-out (IP31) can also be equipped with one or two fans. It is supplied with a cover to protect the fans against dust or falling objects. It is available in 400 and 600 mm depths.

Cat. no. selection

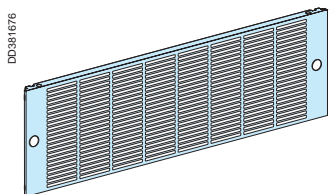
Designation		Cat. no.
Ventilated roof, W = 650 mm	D = 400 mm	08476
	D = 600 mm	08676
Fan		08986

Fan characteristics

Power rating: 35 W.
 Input voltage: 230 V.
 Noise level: 52 dB.
 Throughput: 300 m³/h.



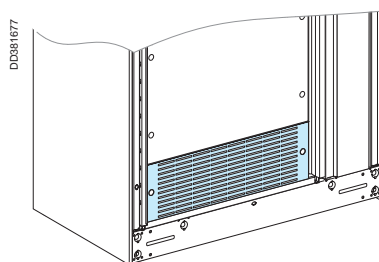
Ventilated front plate



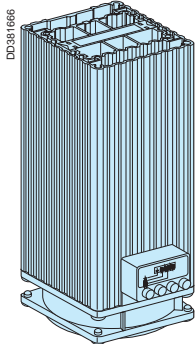
Designation	Cat. no.
IP30 ventilated front plate, H = 50 mm (1 module), S = 80 cm ²	03891
IP30 ventilated front plate, H = 150 mm (3 modules), S = 250 cm ²	03895

Located at the top and bottom of the switchboard, IP30 ventilated front plates facilitate natural convection in the switchboard.

S is the surface area of the openings.



Heating elements



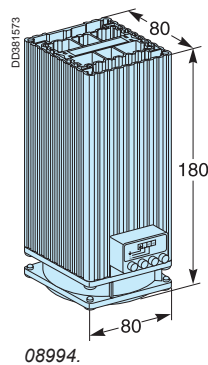
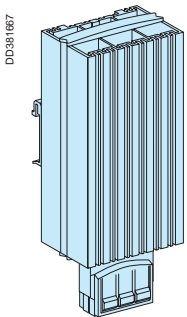
Designation	H	W	D (mm)	Cat. no.
55 W heating resistor	184	70	60	08992
90 W heating resistor	184	70	60	08993
250 W heating resistor	180	80	80	08994

The resistors can be mounted horizontally or vertically. They prevent condensation, corrosion and superficial leakage currents.

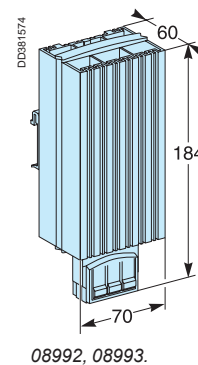
They maintain a positive temperature in the enclosures and cubicles when external temperatures drop very low.

Characteristics

- aluminium case with fins
- turns off at 60 °C, turns on at 25-30 °C (temperature of the resistor itself)
- equipped with a symmetrical rail for rapid mounting (clips on)
- input voltage: 230 V.

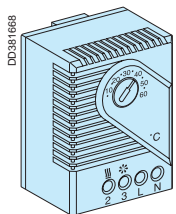


08994.



08992, 08993.

Thermostat



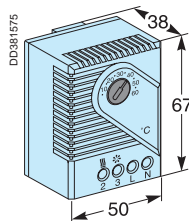
Designation	Cat. no.
Thermostat	08998

Used to control the temperature inside electrical switchboards in conjunction with heating resistors and fans.

Setting range: +5 °C to +60 °C.

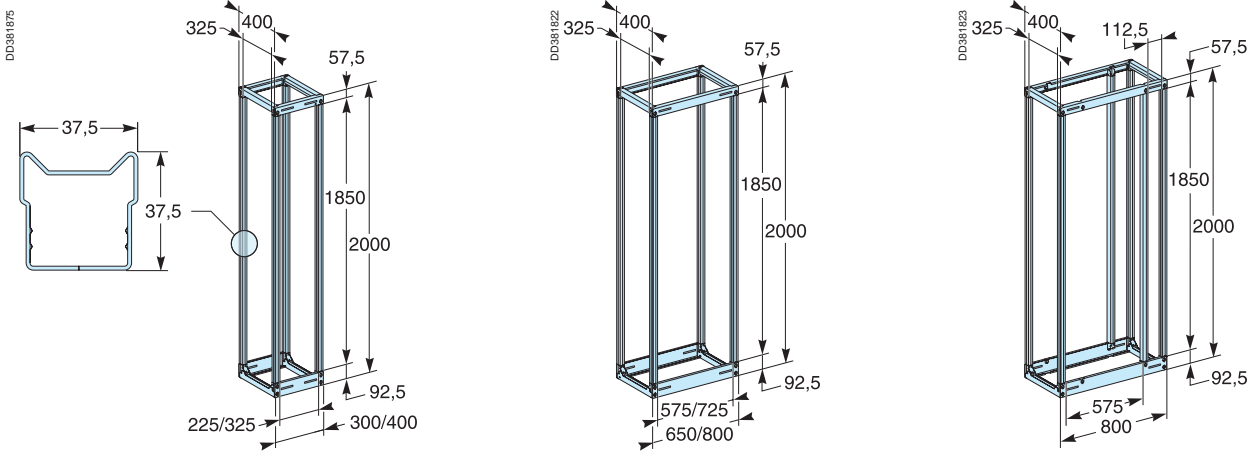
Input voltage: 230 V.

Fixing: clips onto a modular rail.

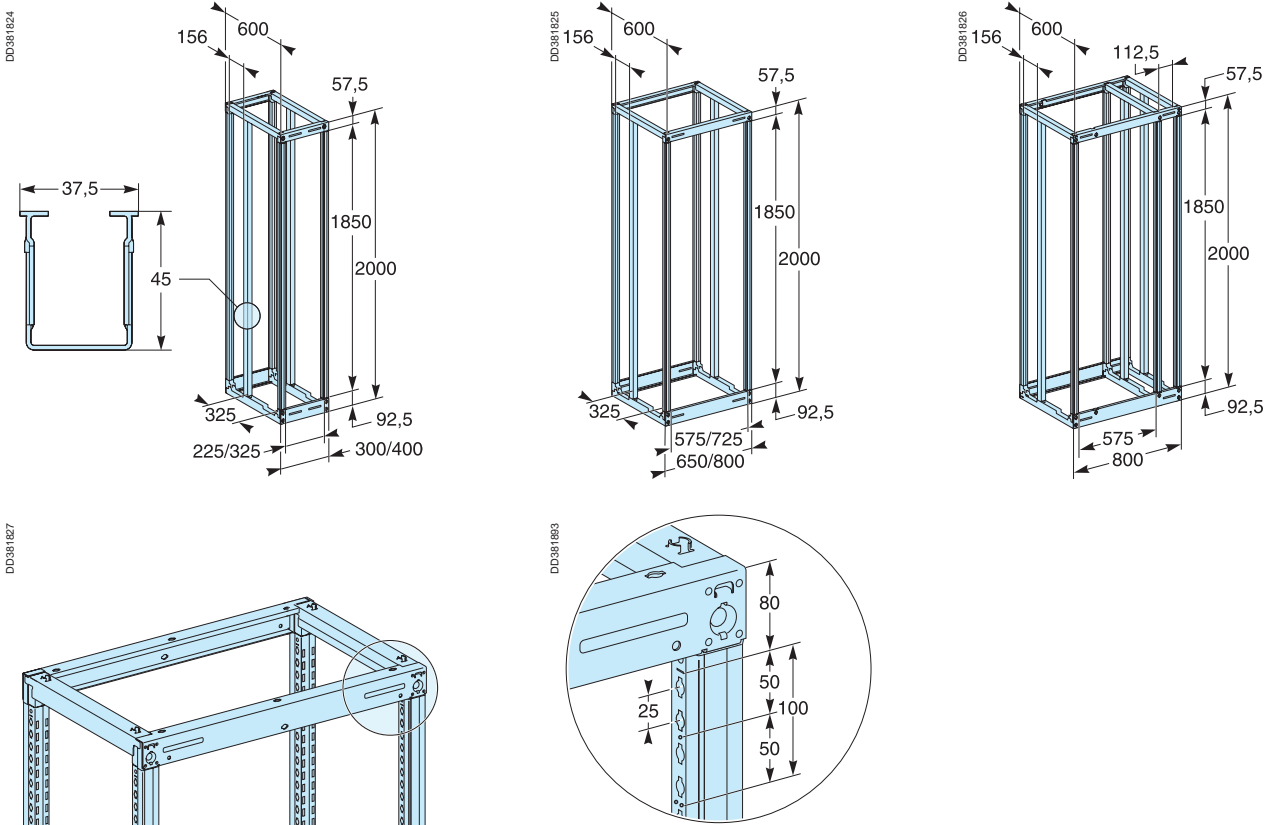


Dimensions

Frameworks, D = 400 mm

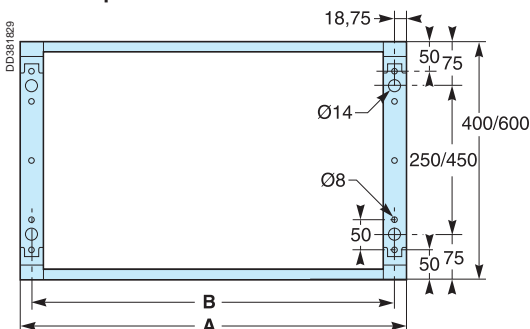


Frameworks, D = 600 mm

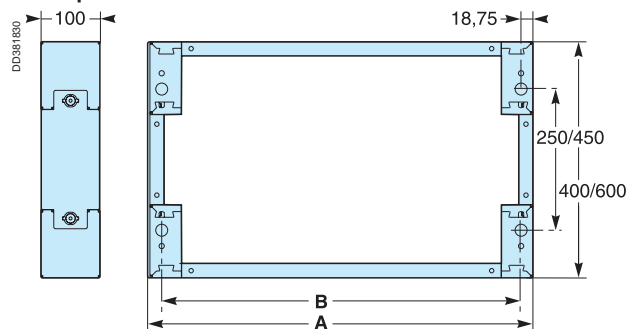


Fixing to floor

Without plinth



With plinth

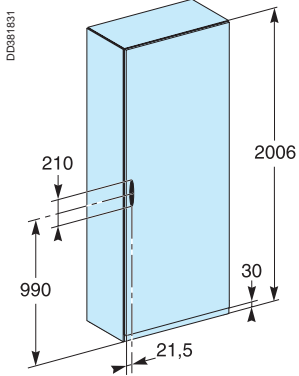


A	B
300	262.5
400	362.5
650	612.5
800	762.5

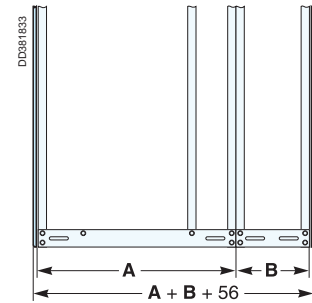
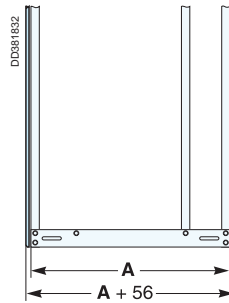
Dimensions

Cubicle with cover panels

Height

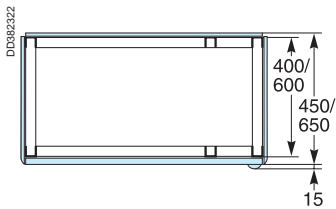


Width

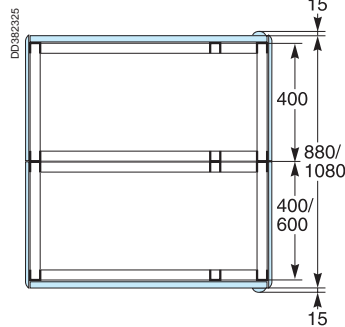
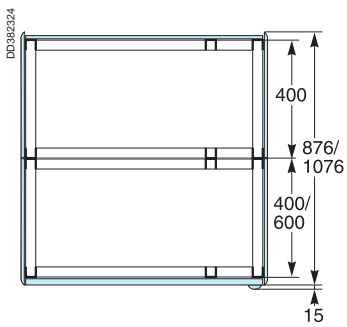
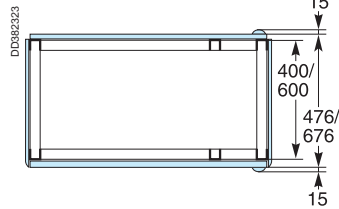


Depth

Door in front and panel in rear

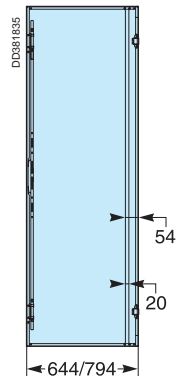
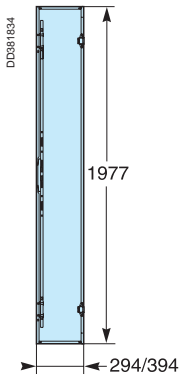


Doors front and rear

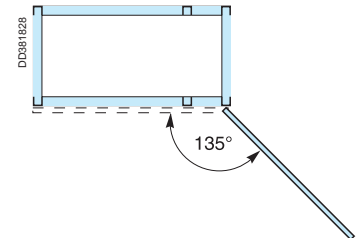
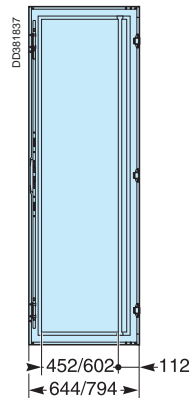
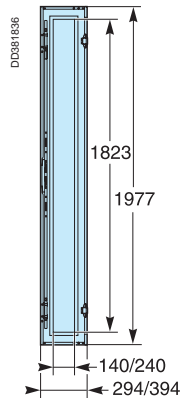


Door

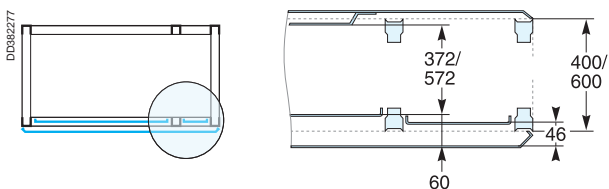
IP30 door



IP55 door

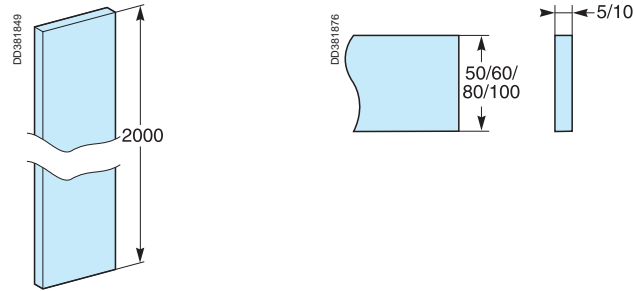


Available space behind door

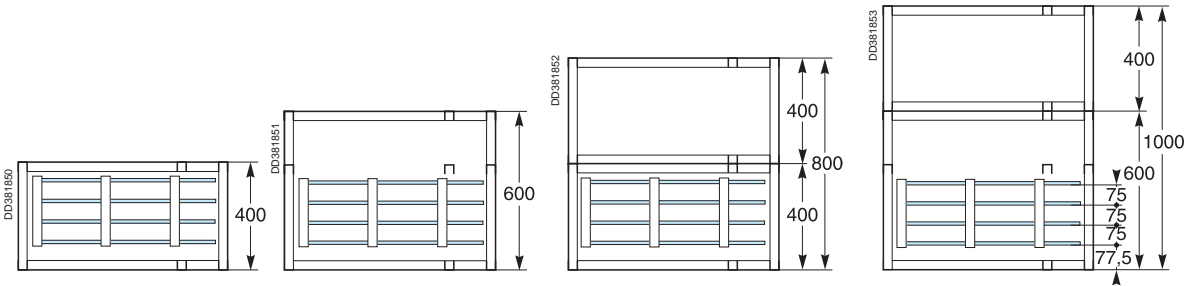


Dimensions

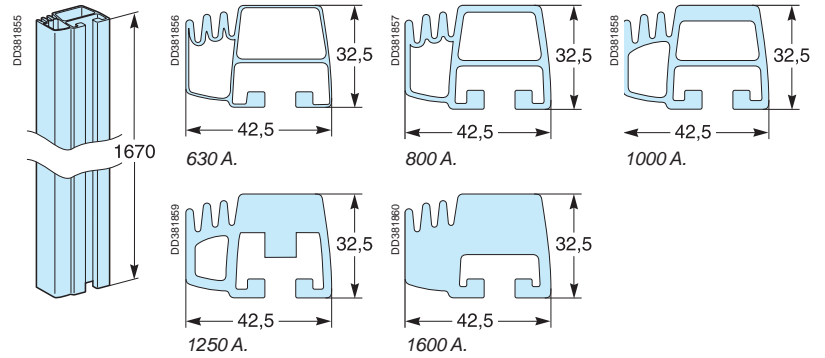
Horizontal flat busbars



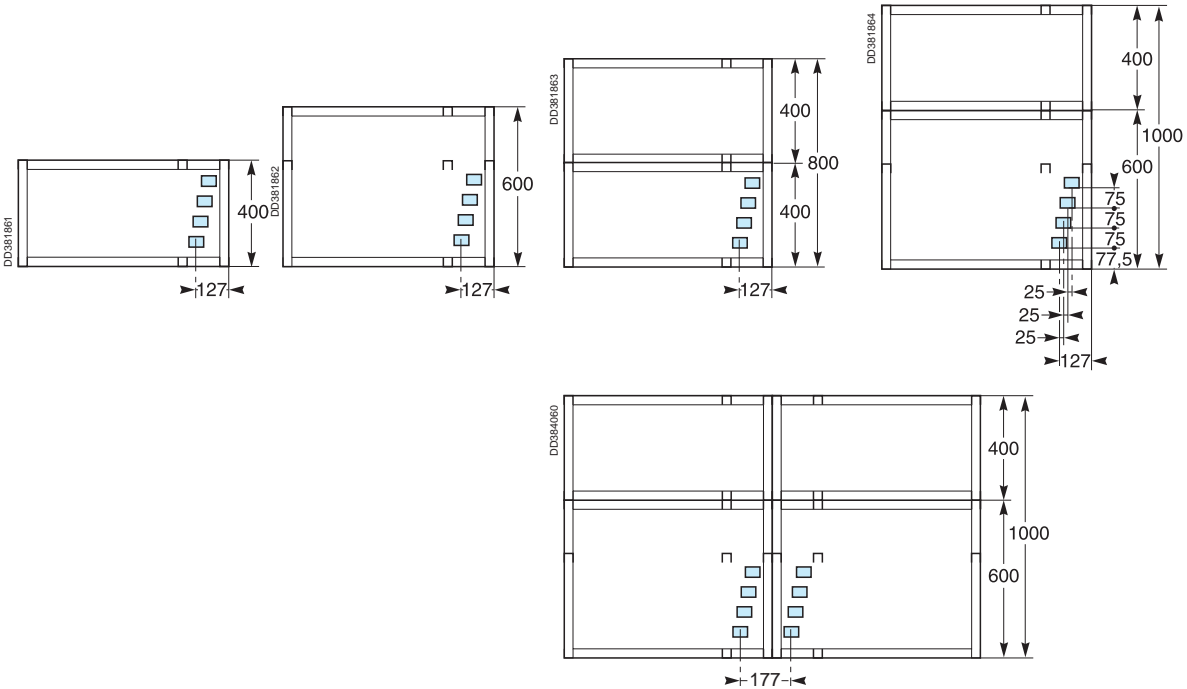
Layout of horizontal flat busbars:



Linery busbars



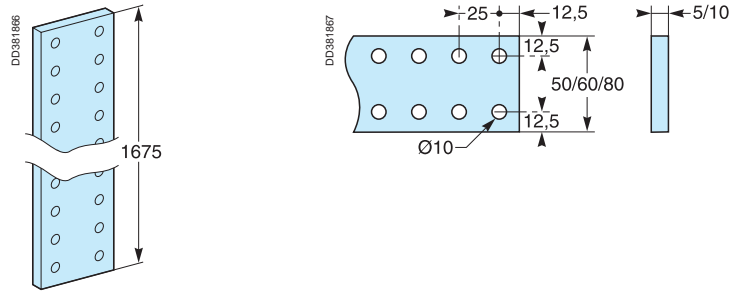
Layout of Linery busbars



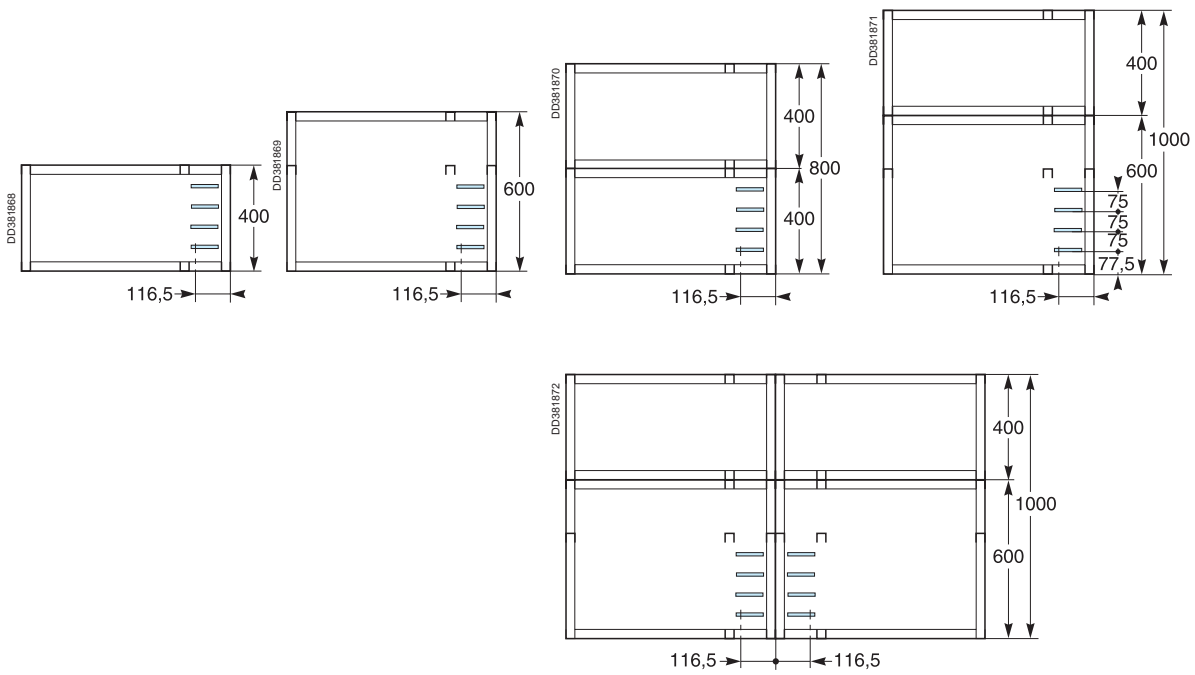
Double Linery busbars.

Dimensions

Vertical flat busbars

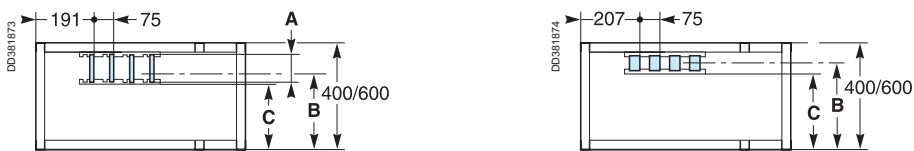


Layout of lateral busbars



Double flat busbars.

Layout of rear busbars



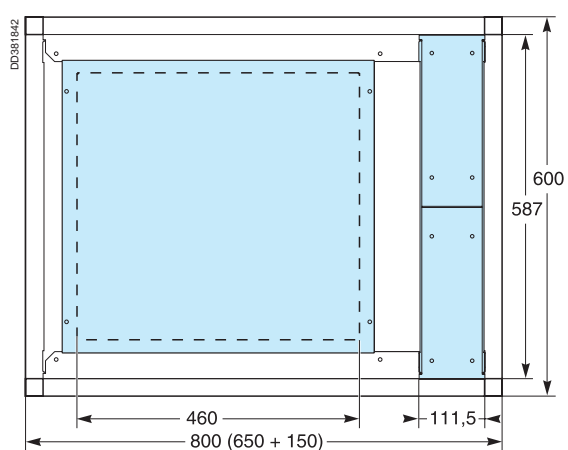
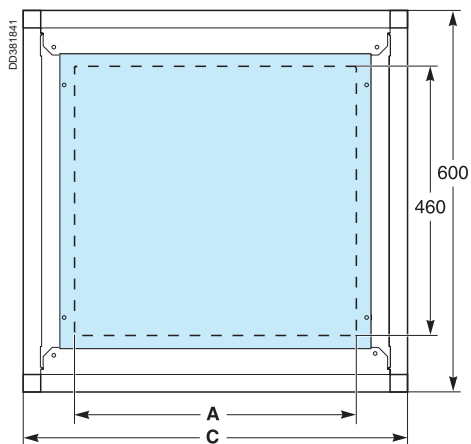
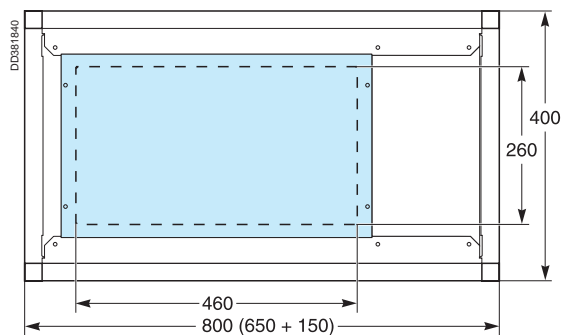
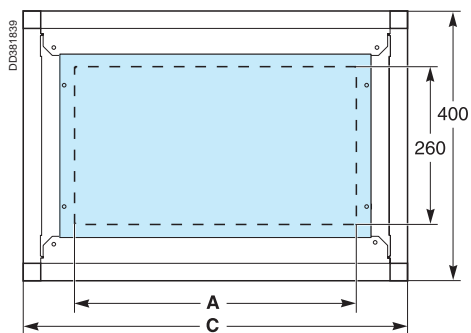
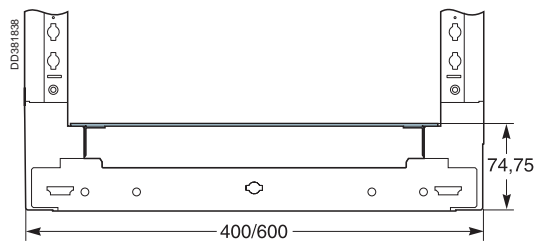
		A		
		50	60	80
D = 400 mm	B	284	274	254
	C	250	240	220
D = 600 mm	B	484	474	454
	C	450	440	420

		A	
		50	60
D = 400 mm	B	284	
	C	242	
D = 600 mm	B	484	
	C	442	

Dimensions

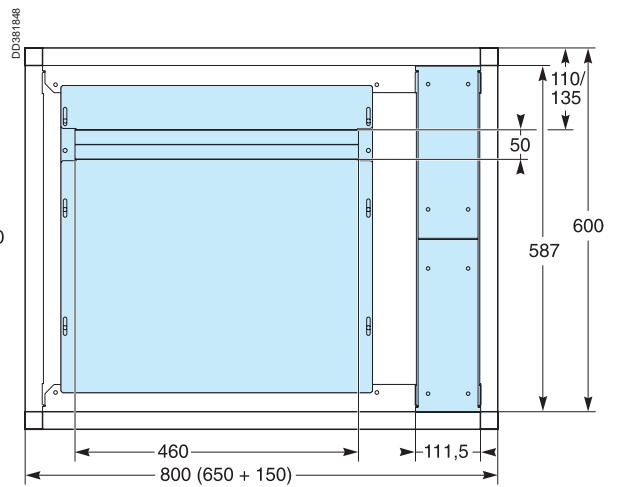
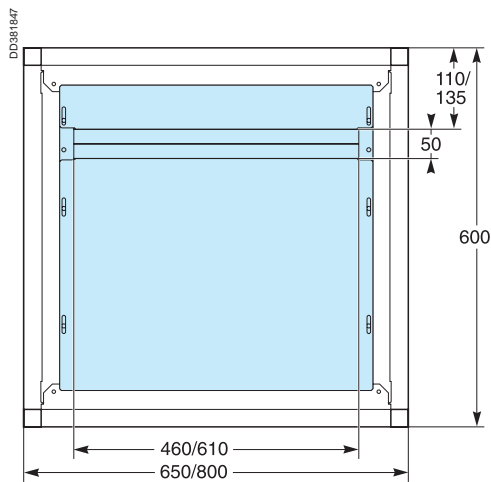
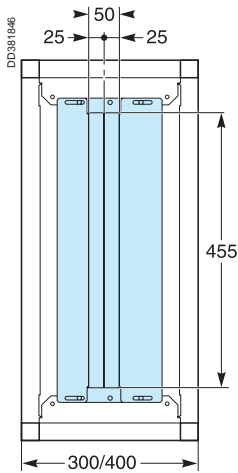
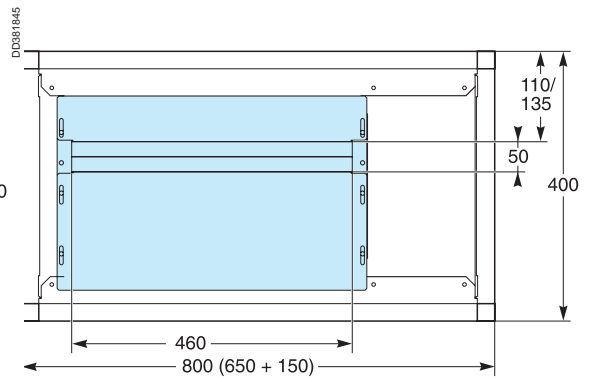
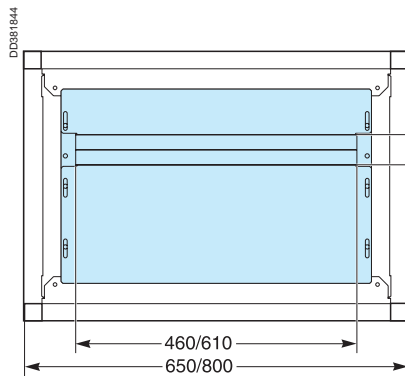
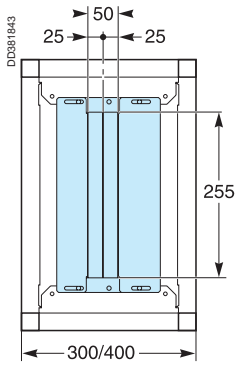
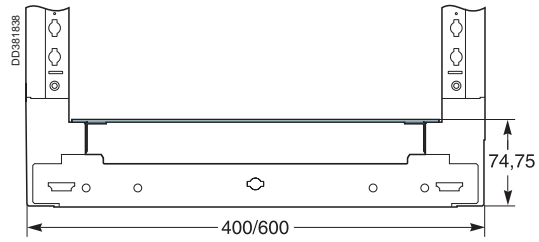
Plain gland plates

A	C
300	110
400	210
650	460
800	610



Dimensions

Two-part gland plates



TOOLS

schneider-electric.com

This international site allows you to access all the Schneider Electric products in just 2 clicks via comprehensive range data-sheets, with direct links to:

- complete library: technical documents, catalogs, FAQs, brochures...

- selection guides from the e-catalog.

- product discovery sites and their Flash animations.

You will also find illustrated overviews, news to which you can subscribe, the list of country contacts...



The electrical installation guide

According to IEC 60364

This guide, part of the Schneider Electric offer, is the essential tool to "guide" you any time in your business:

- design office, consultant
- contractor, panelbuilder
- teacher, trainer.

Comprehensive and concrete information on:

- all the new technical solutions
- all the components
- of an installation from a global point of view
- all the IEC standards modifications
- all the fundamental electrotechnical knowledge
- all the design stages, from medium to low voltage.



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Front-plate accessories

Grips

Quarter-turn closing accessories	01094
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Powerclip busbar accessories

Designation

Powerclip busbar accessories, 160 to 400A Mounting hardware 2 end plugs 2 Powerclip supports	01210
Powerclip busbar accessories, 630A	01211

Plain wicket doors

Designation

Plain wicket door, W = 150 mm	01110
-------------------------------	--------------

Rear accessories

Designation

Accessories (IP55) 2 roof/rear panel spacers 6 rear panel spacers 4 IP55 framework plugs 3 white grommet plugs	01101
Accessories for rear panel 2 IP30 roof and rear panel fixing systems 8 IP30 rear panel fixing systems 10 IP30 1/4 turn spacers 10 IP30 gaskets	01106

Door accessories

Designation

Door accessories	01105
Retrofit handle	01221

Roof accessories

Designation

Roof accessories 4 lifting ring plugs 6 IP30 roof and rear panel fixing systems 1/4 turn spacer	01112
----------------------------------------------------------------------------------------------------------	--------------

Front plate support frames

Designation

Fixing for front plate support frame	01107
--------------------------------------	--------------

Side panel accessories

Designation

Side panel accessories 16 gaskets + sealed plug 16 1/4 turn screws Cover panels 16 1/4 turn spacers	01100
-----------------------------------------------------------------------------------------------------------------	--------------

Mounting hardware

Designation

Accessories for IP55 side panel 16 gaskets+ sealed plug 16 1/4 turn spacers Mounting hardware	01102
Accessories for IP55 roof 4 lifting ring plugs 6 sheetmetal nuts	01103
Framework accessories 4 top sealing components 4 bottom sealing components 12 conical washers 2 adjacent mounting spacer tubes 4 bottom cross-piece plugs Mounting hardware	01104
Mounting hardware for System P D=400mm or D=600mm framework	01108

Busbars**Designation**

4 chocks for Linergy busbars

01109

Mounting hardware**Designation**

12 1/4 turn front plate screws

01200

Busbars**Designation**

2 IPxxB clipon covers for Powerclip busbars

01201

4 terminal covers for 200A Multiclip

01202

The Prisma Plus functional system can be used for low-voltage MCC switchboards in commercial (IP30) and industrial (IP55) environments. It has been tested taking into account device characteristics. This ensures a high degree of reliability in system operation and optimum safety. Devices can be premounted on mounting plates on a workbench to simplify installation in the switchboard. The fixed functional system for Motor Control Centers is designed for installation of motor feeders up to 37 kW.

PB59M423



For all information on:

- motors
- coordination
- starting
- motor-feeder solutions
- products
- mounting/wiring systems
- doors with cut-outs, front plates
- mechanical and electrical characteristics
- selection guide
- costing, ordering

contact your local Schneider Electric representative or check the special catalogue (doc. no. DESW49FR).

For more information, visit our sites:

- www.schneider-electric.com

Motor Control Centers (MCC)

A Motor Control Center is a switchboard comprising a group of motor feeders, each used to:

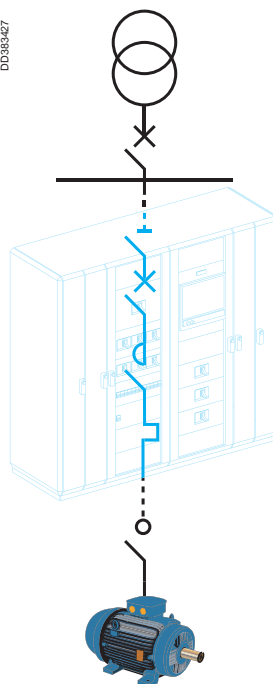
- control a motor
- protect personnel
- protect all devices and equipment against electrical faults.

The basic functions implemented to achieve these objectives are:

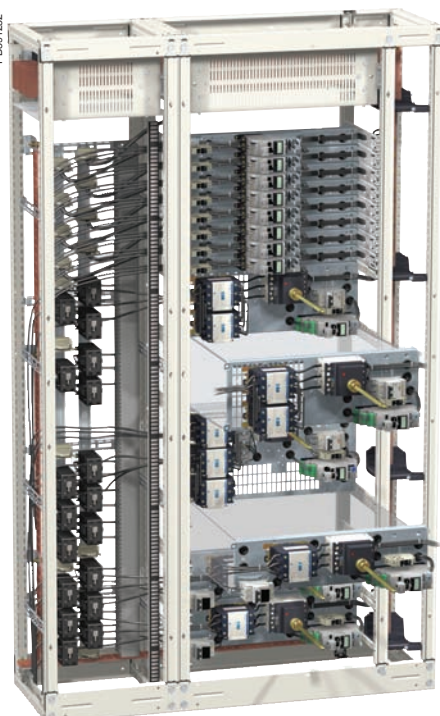
- disconnection to isolate the motor feeder from the main power supply, generally associated with an emergency-off switch
- protection against short-circuits to avoid equipment damage
- power control to allow on-load making and breaking of the electric current
- thermal protection to prevent overheating.

Isolation is a complementary function that allows work to be carried out safely on the motor. This function is generally implemented near the motor.

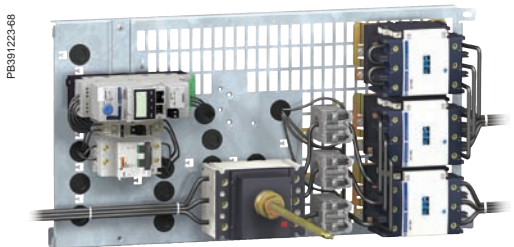
DD365427



PB59T202



Motor control functional units



Mounting plates can be used to install all the devices making up an MCC/iMCC motor feeder on a single support.

Easy installation

Motor feeders can be prepared on a bench. A mounting and wiring support holds the mounting plate during device installation and wiring.

Switchboard upgradeability

Motor feeders can be added quickly using pre-equipped and pre-wired mounting plates.

Mounting plate optimal stacking density

The rigorous layout of devices ensures optimum cubicle filling.

Functional unit reliability

Carefully designed layout to respect safety standards (clearances, etc.).

The unit of height for the mounting plates is the 50 mm module.

1 to 6 module (50 to 300 mm) mounting plates are installed in 650 mm wide cubicles.

Capacity of Prisma Plus cubicles: 36 modules (50 mm each).

Cables are run in dedicated 300 or 400 mm wide lateral compartments.

LCDD unit (local control and display device)



The LCDD is a local control and display unit dedicated to a motor feeder. It is designed for installation in a cut-out on either the functional unit front plate or the door of the cable compartment (W = 300 or 400 mm).

LEDs indicate feeder status and signal any operating faults (thermal, overload, etc.)

A three-position switch can turn off PLC control for local control:

- to test the settings of the feeders if for example the system is being expanded
- to carry out no-load tests following maintenance
- etc.

The LCDD is equipped with a removable transparent cover.

It is supplied with labels already marked on one side and blank on the other to identify faults.

Energy efficiency with Prisma Plus

Energy efficiency the easy way.

Prisma Plus contributes to energy efficiency by integrating electrical installation supervision solutions. Simple and fast access to key information concerning the electrical equipment makes it possible to:

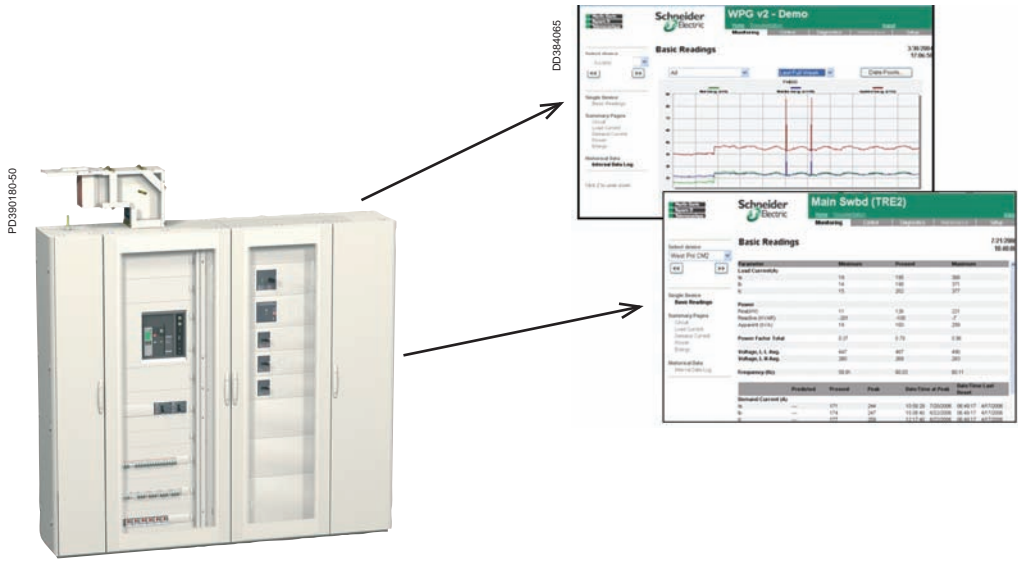
- monitor electrical network status to maintain power quality
- optimise electrical networks using suitable equipment

Solutions designed for Prisma Plus

All the proposed energy-efficiency solutions have been designed for use with Prisma Plus. This ensures easy installation and operation, compatible front plates and mounting plates, fast and easy connections, etc.

A comprehensive approach

The new energy-efficiency solutions are accompanied by catalogues and guides covering aspects such as special software and communicating devices.



Monitor electrical network status

Power monitoring solutions

Schneider Electric's comprehensive approach to power monitoring makes it possible to supervise installation status in real time.

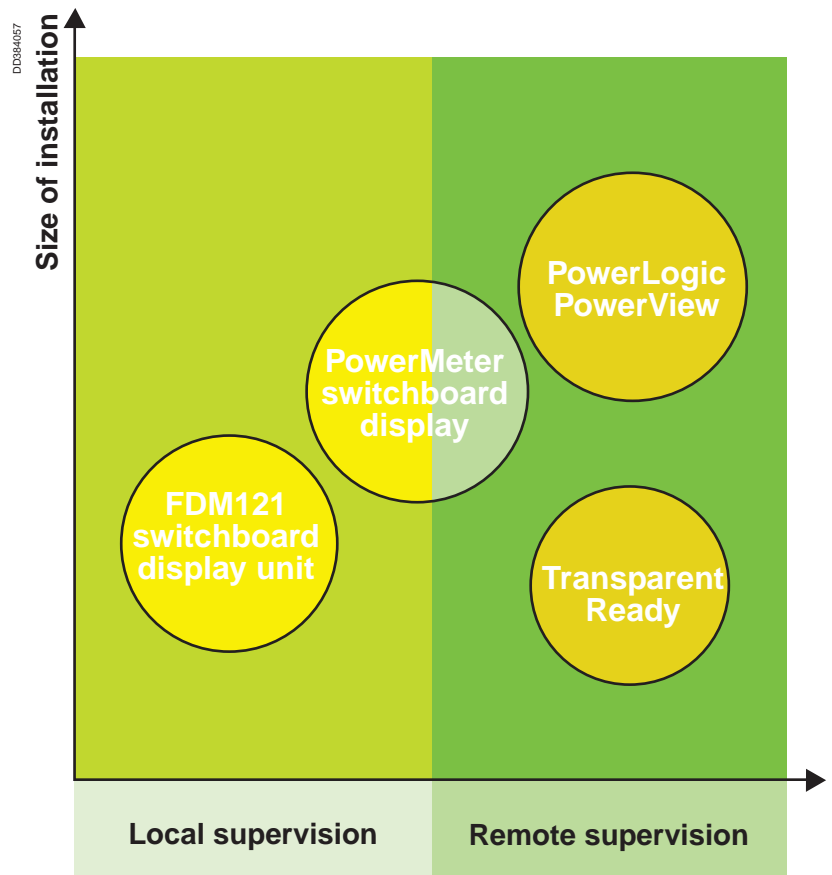
Two solution levels cover the needs of all types of electrical installations.

A. Local supervision for all types of installations via switchboard display units

- Display of data, e.g. current, voltage, power and energy in real time.
- Improved operation via alarms indicating equipment problems.

B. Remote supervision for small to mid-sized installations with Transparent Ready and PowerLogic PowerView solutions

- Display of data, e.g. current, voltage, power, power factor, energy and harmonics in real time.
- Data recording for trend analysis.
- Curve plotting and preparation of reports.



Monitor electrical network status

Energy efficiency with Prisma Plus

Local supervision

Switchboard display units

Switchboard display units are a simple, low-cost solution for basic monitoring of electrical switchboards. They can be rapidly installed for direct readout of data through specially designed front plates.

FDM121 switchboard display unit for Compact NSX

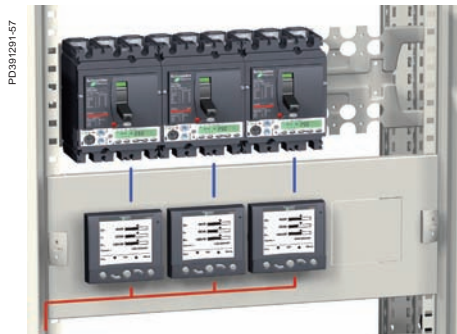
The FDM121 displays the measurement, alarm and operating information of the intelligent functional unit.

Two possibilities for door installation

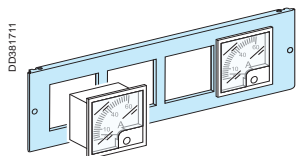
- Surface mounting using a fixing accessory (requires door drilling).
- Installation in door cutout using clips.

Installation on metal front plates with cutouts

Designation	Cat. no.
Metal front plate with cut-outs, 3 modules (for four 96 x 96 mm devices)	03911
Blanking plate (for 96 x 96 mm hole)	03908



P0391291-57



DD381711



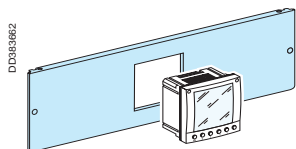
PE661548-37

PowerMeter switchboard display

PowerMeter devices are compatible with all intelligent functional units via their Modbus communication port (except Compact NSX) and can also be used as an interface between the communication gateway and the intelligent device to combine both local and remote monitoring.

Installation on metal front plates with cutouts

Designation	Cat. no.
Metal front plate with cut-outs, 3 modules (for one 96 x 96 device)	03913



DD381862

Monitor electrical network status

Remote supervision
Transparent Ready

DD394065

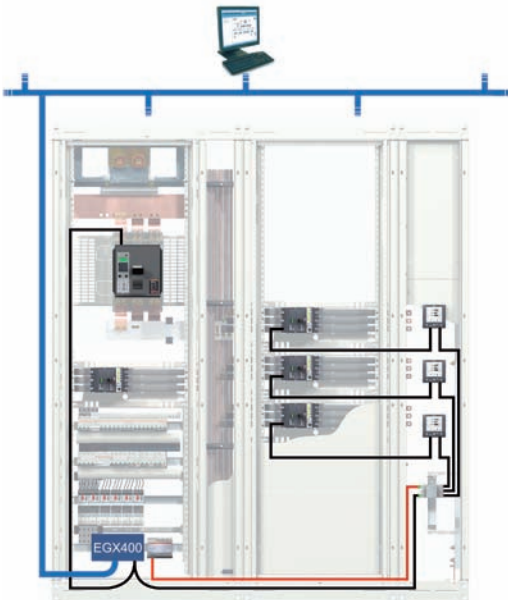


Transparent Ready is the Schneider Electric solution to access information without specific software. With a simple interface and a standard web browser, users can choose the information they want to display via web pages.

Functions

- Energy management using Transparent Ready to forward information on current, voltage, power factor, etc.
- Equipment management through monitoring of equipment state and maintenance needs.
- Monitoring of power quality with a full panorama of energy characteristics that are updated daily

DD394066



Typical solution

- Intelligent devices.
- Modbus interface module for each Compact NSX.
- Modbus network for all devices in the switchboard.
- Connection of the entire network to an **EGX400** communication gateway including web pages and an Ethernet connection.

Monitor electrical network status

Energy efficiency with Prisma Plus

Remote supervision PowerLogic PowerView

PE66106



PowerLogic PowerView is a complete power monitoring solution for small to mid-sized sites.

The software, easy to install and use, includes the drivers required for serial and Ethernet connections. It is ideal for monitoring small to mid-sized sites.

Functions

Energy management with real-time display of current, voltage, power, power factor, energy, demand power, demand current and total harmonic distortion (THD).

- Supervision of equipment and preventive maintenance.
- Strategic planning to avoid system down time.
- Display of curves in Excel.
- Preparation of reports.

Typical solution

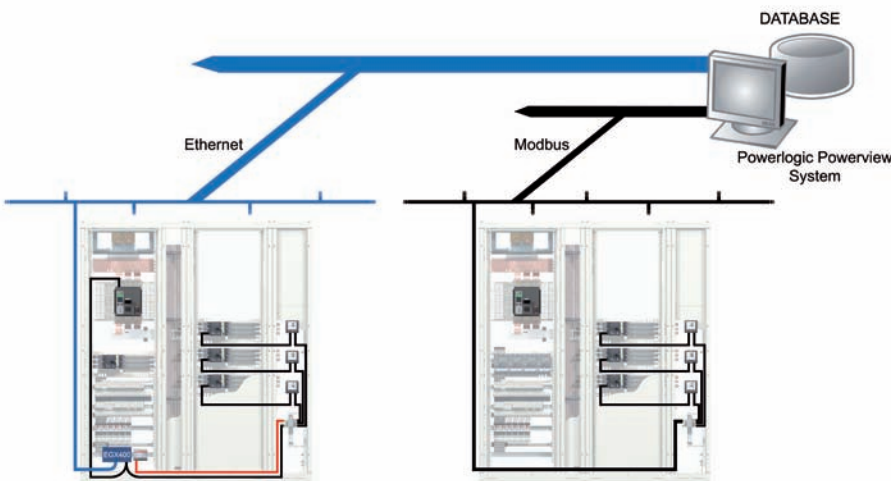
Serial link

- Intelligent devices.
- Modbus interface module for each Compact NSX
- Modbus network for all devices in the switchboard.
- Connection of switchboard to local Modbus network.

Ethernet link

- Intelligent devices.
- Modbus interface module for each Compact NSX.
- Modbus network for all devices in the switchboard.
- Connection of switchboard via an **EGX100** communication gateway to the Ethernet network.

DD384067



Monitor electrical network status

Power monitoring solutions

Communicating devices



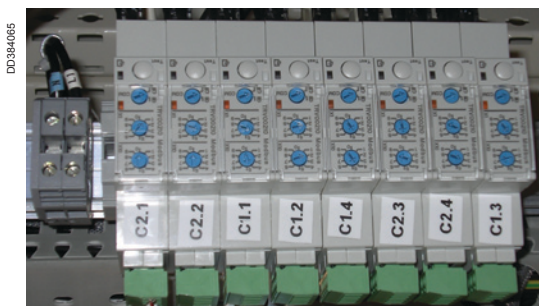
Intelligent functional units (e.g. Masterpact, Compact NSX) in the switchboard can provide power monitoring functions without any additional installation requirements. Prisma Plus is perfectly suited in terms of device layout, installation on mounting plates, use of specially designed front plates, etc.

Device	Installation
Designation	
Masterpact	See page A-5
Compact NSX	-

Other intelligent functional units from the motor control range such as TeSys U are also very easy to install and set up.

Note: for more information, see pages 212-213 in the catalogue and the catalogue *Contrôle Commande Moteur*

Modbus interface module

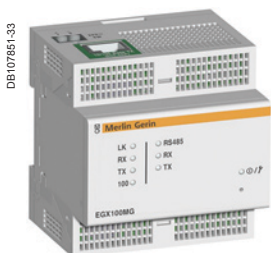


Compact NSX devices require a Modbus interface module for data transmission. The devices are installed on a stacking accessory that can be clip-mounted on a modular rail.

Device	Installation		
	No. of vertical modules	Modular rail	Modular front plate
Designation			
Modbus interface Module	4	03401	03805

Note: Modbus interface modules are set up either manually or using RSU software (see the ULP guide).

Communication gateway



EGX100.

For remote operation, the Prisma Plus intelligent-switchboard offers two communication gateways, the EGX100 and 400. The EGX400 is also a web server with a 16 MB memory. They transmit data over Ethernet networks and can be easily installed in the switchboard on a modular rail.

Device	Installation		
	No. of vertical modules	Modular rail	Modular front plate
Designation			
EGX100	4	03401	03805
EGX400	8	03401	03807

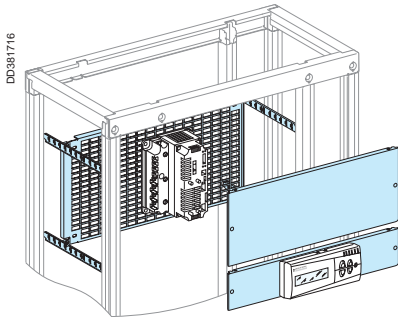


EGX400.

Monitor electrical network status

Power monitoring solutions

Power monitoring units



Circuit monitor CM

PowerLogic CM3000 and CM4000 circuit monitors are high-performance power monitoring units that can be installed on incoming devices, at the head of the switchboard, or on critical outgoing circuits. They offer a wide range of measurement possibilities and integrate easily in supervision systems thanks to their Ethernet capabilities and on-board web server. They are Transparent Ready.

Functions

- Recording of electrical installation parameters.
- Cost control.
- Power quality improvement and reduced downtime

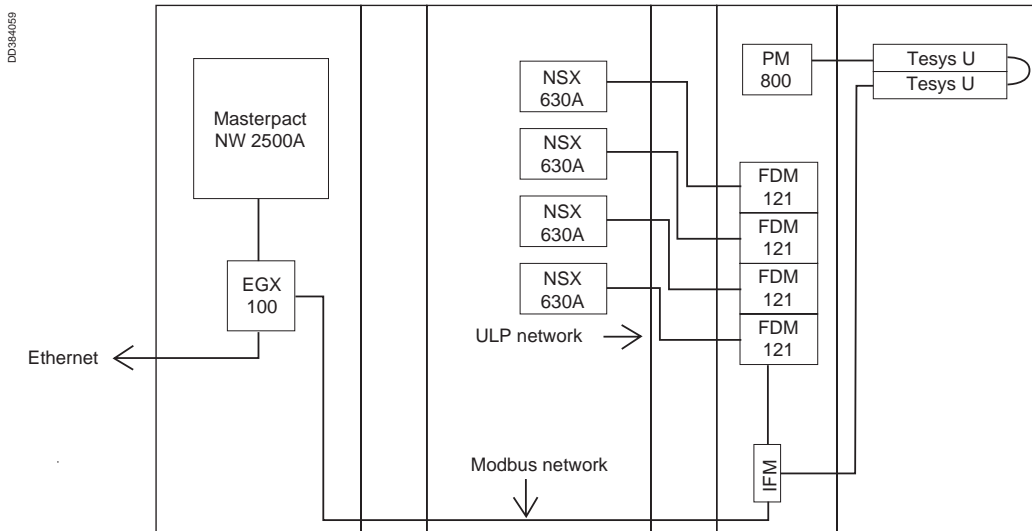
Installation

Device	No. of vertical modules	Mounting plate	Cut-out front plate	Plain front plate
Circuit Monitor CM				
Circuit Monitor CM3000	4	03571	03918	03804
Circuit Monitor CM4000	6	03572	03918	03806

Installation in the device compartment.

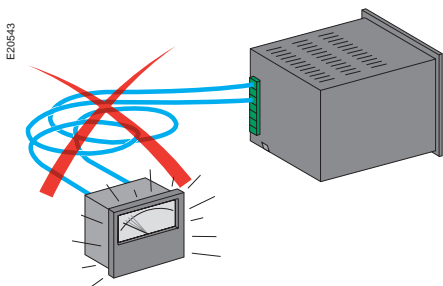
Energy efficiency with Prisma Plus

Simple wiring makes for fast and easy installation of the supervision system in the switchboard. Schneider Electric provides all the tools required to produce intelligent switchboards while maintaining the criteria that make Prisma Plus stand out, i.e. safety, quality and simplicity.



Example of a communication network in a switchboard combining power distribution and motor control.

Wiring rules



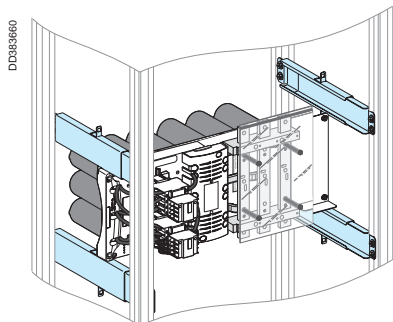
Some care is required in setting up a communicating circuit in a switchboard. The cables must be as short as possible to avoid loops that cause stray currents generated by magnetic fields. For more information on wiring rules, please see the installation guide.

Energy efficiency with Prisma Plus

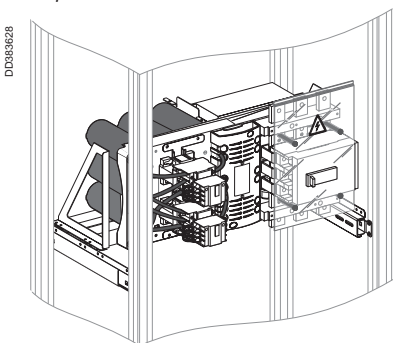
To improve power quality, Schneider-Electric proposes two power-factor correction systems, Varpact and Varplus².

Both are designed for optimum installation in Prisma Plus.

Varpact



Varpact Classic and Comfort installation.



Varpact Harmony installation.

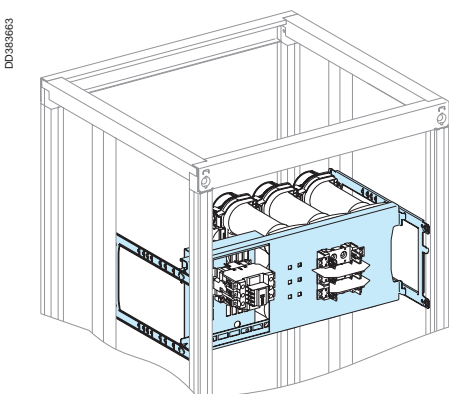
Prisma Plus enclosures are designed for installation of the new Varpact power-factor correction modules that improve the quality of the electrical distribution system and reduce consumption of reactive energy.

The modules are made up of capacitors, contactors and devices protecting against internal faults.

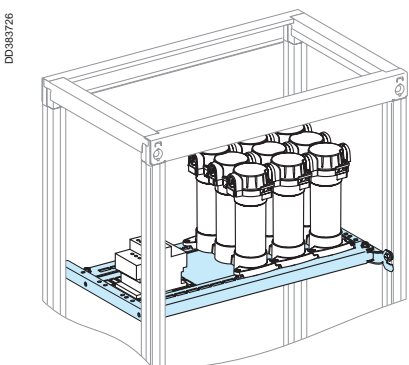
Installation

See page A-59 for information on installation in the enclosure.

Varplus²



Vertical installation mounting plate Varplus² (03975).



Horizontal installation mounting plate Varplus² (03978).

The Varplus² kit system combines capacitors, contactors and a fuse holder.

It is intended for the installation of power-factor correction equipment in enclosures 650 mm wide.

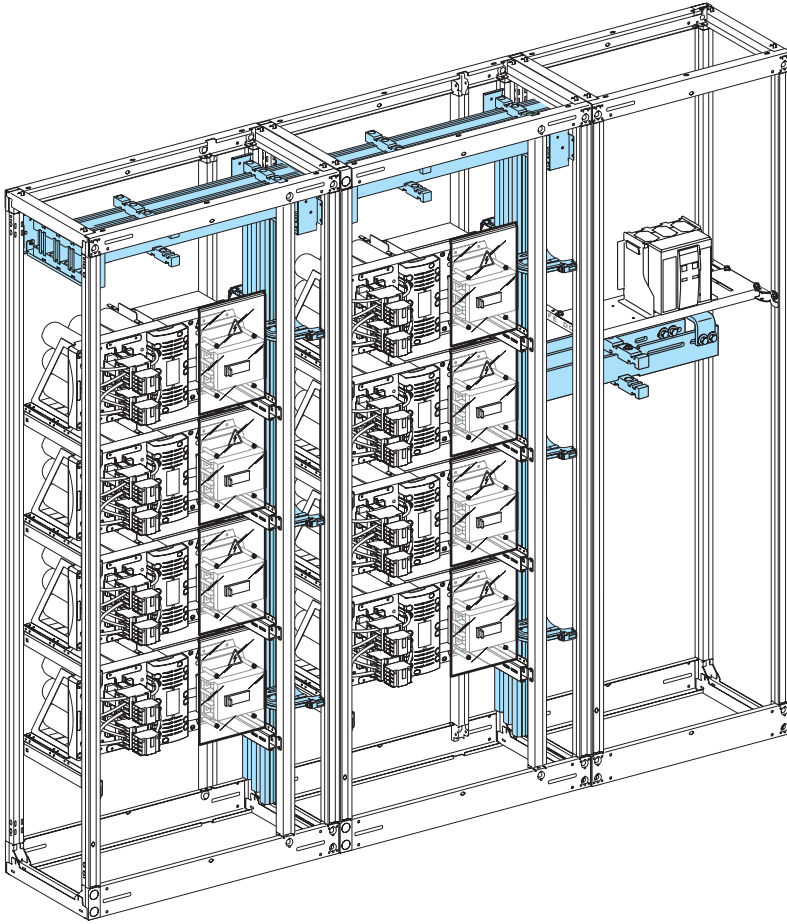
Installation

See page A-60 for information on installation in the enclosure.

Energy efficiency with Prisma Plus

Power-factor correction modules equipped with busbars can be connected by busbar joints.
The modules without busbars can be supplied by vertical busbars, e.g. Linergy.

DD305099



Energy efficiency with Prisma Plus

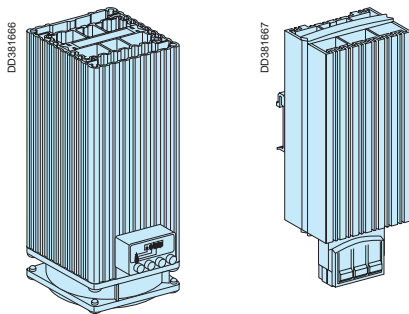
During design or during subsequent operation, electrical installations are increasingly outfitted with components designed to optimise energy consumption.

With Prisma Plus, most of these products can already be added to the switchboard.

By limiting the temperature within the switchboard, it is possible to extend the life of the equipment and optimise its use.

In addition, electricity consumption is reduced because equipment in good condition has lower losses.

Heaters

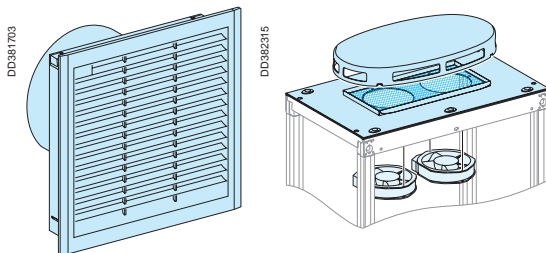


Heaters contribute to equipment optimisation by limiting condensation, corrosion and, above all, leakage currents along surfaces.

Installation and characteristics

See page C-29.

Fans



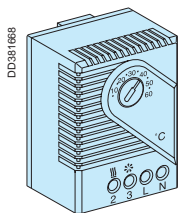
Several types of fans are available: enclosure wall or roof-mount versions.

They are particularly useful for switchboards installed in temperate environments or when the degree of protection of the enclosure is high (IP55).

Installation and characteristics

See pages C-27 and C-28.

Thermostat

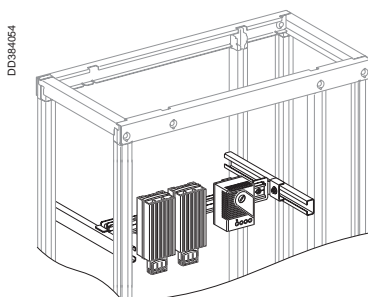


Thermostats are used to limit the temperature inside switchboards when heaters and fans are installed, thus reducing heat losses.

Installation and characteristics

See page C-29.

Installation



Heaters and thermostats simply clip onto a modular rail.



Designing electrical characteristics

The Prisma Plus system takes into account the installation and connection conditions of Schneider Electric devices.

The entire installation complies with standard IEC 60439-1. The result is a type tested switchboard.



Designing Prisma Plus power circuits

Presentation and approach

In the following pages you will find a number of examples, validated for Prisma Plus switchboards, intended to assist in determining the busbars as well as the upstream and downstream connections for the installation.

The examples assume that the devices have already been selected.

A complete process involves a number of steps before making final choices (transformer, conductors, protection, etc.).

Schneider Electric offers a number of tools to assist in designing a complete installation (technical guides, software).

Busbar sizing

The factors that must be taken into account in determining the size of busbars include:

- the diversity factor.

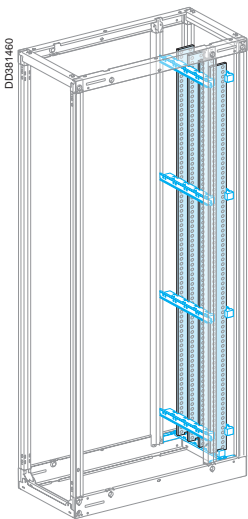
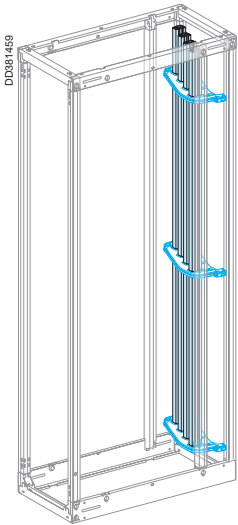
Not all the loads supplied by a set of busbars are used at full rated load or at the same time. The diversity factor is the means to determine the maximum load current used to size the busbars.

Standard IEC 60439-1 §4.7 specifies the table below.

Number of circuits	Diversity factor
2 and 3	0.9
4 and 5	0.8
6 to 9	0.7
10 and more	0.6

- the degree of protection IP
- the ambient temperature around the switchboard.

Busbars



The maximum load current for a set of busbars is a function of the thermal environment.

The type and the size of the conductors must be determined in view of carrying the required currents taking into account the temperatures reached in the switchboard. These conductors are subjected to additional heat rise caused by the flowing current (joule effect) and the connected devices.

The temperatures reached by the conductors and the insulating materials, etc. must not exceed the maximum temperatures for which the products were designed. Merlin Gerin busbars and distribution blocks are sized to operate without any particular constraints for the assemblies in Prisma Plus switchboards operating under normal environmental conditions (standard switchboard configuration, 35 °C outside the switchboard, etc.).

To determine the **Linery busbars** required, see the tables on page D-24.

They can be used to determine:

- the type of Linery busbars, as a function of:
 - the current
 - the IP value
 - the ambient temperature around the switchboard.

Linery busbars: $I \leq 1600$ A.

Double Linery busbars: 1600 A < $I \leq 3200$ A.

To determine the required **flat busbars**, see the tables on page D-23 (horizontal busbars) and on page D-25 (vertical busbars)

They can be used to determine:

- the permissible current as a function of:
 - the size of the busbars
 - the number of bars
 - the ambient temperature around the switchboard
 - the IP value.

Flat copper busbars **5 mm thick: $I \leq 1600$ A.**

Flat copper busbars **10 mm thick: $I \leq 3200$ A.**

Connection of devices ≥ 630 and busbar connections

To determine the **size of upstream and downstream connections** for devices, see the tables starting on page D-27.

They can be used to determine:

- the size of copper busbars
- the maximum permissible current.

As a function of:

- the type of circuit breaker
- the IP value
- the ambient temperature around the switchboard
- the type of installation.

PE and PEN conductors

To determine the required **size of the PE conductor**, see page D-48.

Two possibilities:

- either the equation indicated by standard IEC 60439-1 to obtain an optimised value:

$$S_{PE} = \frac{\sqrt{I^2 t}}{k}$$

Example

- $I_{sc} = 36 \text{ kA rms} \Rightarrow$ the value of the phase-to-earth fault current = 60 % of the value of the phase-to-phase fault current (standard IEC 60439-1 §8.2.4.2), i.e.:

$$36 \times 0.6 = 21.6 \text{ kA}$$

- maximum time delay for the control unit: 0.5 s

- $k = 143$ for copper conductors with PVC insulation.

The calculation is therefore:

$$S_{PE} = \frac{\sqrt{21600^2 \times 0.5}}{143} = 106.8 \text{ mm}^2$$

The PE conductor must therefore be a 25 x 5 mm bar (= 125 mm²).

- or the Schneider Electric table based on the standard.

To determine the required **size of the PEN conductor**, see page D-49.

Designing electrical characteristics

Permissible current and selection of horizontal busbars

The goal is to optimise busbar size according to the installation and operating criteria.

Up to 1600 A

Flat busbars, 5 mm thick

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1 bar, 60 x 5 mm	890	840	850	790	800	750	760	700	710	650	660	■
1 bar, 80 x 5 mm	1130	1050	1080	990	1000	900	970	870	910	810	860	■
2 bars, 60 x 5 mm	1580	1420	1500	1350	1400	1250	1350	1180	1260	1090	1180	■
2 bars, 80 x 5 mm	2010	1820	1920	1720	1800	1600	1720	1510	1610	1390	1510	■

Up to 3200 A

Flat busbars, 10 mm thick

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1 bar, 50 x 10 mm	1330	1220	1260	1160	1200	1080	1130	1010	1060	940	990	■
1 bar, 60 x 10 mm	1550	1400	1470	1320	1400	1250	1320	1160	1240	1070	1160	■
1 bar, 80 x 10 mm	1990	1800	1890	1700	1800	1600	1700	1500	1600	1390	1500	■
2 bars, 50 x 10 mm	2270	2090	2160	1980	2050	1850	1930	1740	1810	1610	1690	■
2 bars, 60 x 10 mm	2550	2270	2420	2140	2300	2000	2170	1870	2030	1720	1900	■
2 bars, 80 x 10 mm	3110	2820	2970	2660	2820	2500	2660	2330	2500	2160	2330	■
2 bars, 100 x 10 mm	3650	3280	3490	3100	3300	2900	3130	2720	2950	2510	2750	■

■ connection impossible due to the operating-temperature limits of the devices installed in the switchboard.

Example

Two 50 x 10 mm bars can be used for a 2160 A current with an IP ≤ 31 and an ambient temperature of 30 °C around the switchboard.

Where possible, use of 10 mm bars is worthwhile in terms of the In/Isc:

- gain in time during switchboard mounting given, where applicable, the lesser number of bars installed
- for short-circuits, the rigidity of the bars means fewer busbar supports.

Recommendation

Use 5 mm bars for In ≤ 1600 A and low Icw values (40 kA rms).

Use 10 mm bars for In > 1600 A and medium to high Icw values (> 40 kA rms).

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing electrical characteristics

Permissible current and selection of Linergy busbars

The goal is to optimise busbar size according to the installation and operating criteria.

Lateral Linergy busbars

Linerger bar

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
Linerger 630	750	680	710	630	680	590	630	550	590	530	550	■
Linerger 800	920	840	880	800	840	760	800	720	760	680	720	■
Linerger 1000	1140	1040	1090	990	1040	950	990	900	950	850	900	■
Linerger 1250	1410	1290	1350	1230	1290	1170	1230	1100	1170	1050	1100	■
Linerger 1600	1800	1650	1720	1580	1650	1480	1580	1390	1480	1320	1390	■
Linerger 2000 (2 x 1000)	2200	2000	2100	1900	2000	1820	1900	1720	1820	1620	1720	■
Linerger 2500 (2 x 1250)	2740	2500	2620	2380	2500	2260	2380	2120	2260	2020	2120	■
Linerger 3200 (2 x 1600)	3480	3200	3340	3060	3200	2920	3060	2780	2920	2640	2780	■

Example

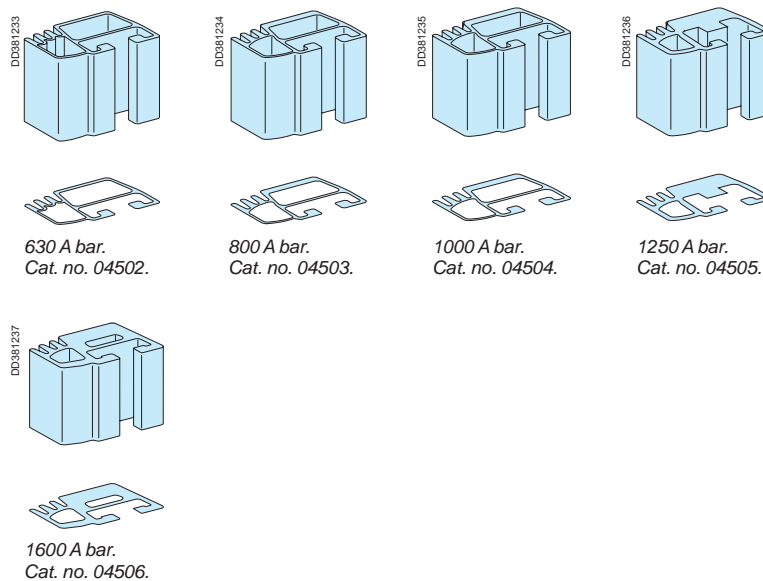
A Linergy channelled bar can be used for a 1650 A current with an IP ≤ 31 and an ambient temperature around the switchboard of 35 °C.

Rear Linergy busbars

Linerger bar

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
Linerger 630	750	680	710	630	680	590	630	550	590	530	550	■
Linerger 800	920	840	880	800	840	760	800	720	760	680	720	■
Linerger 1000	1140	1040	1090	990	1040	950	990	900	950	850	900	■
Linerger 1250	1410	1290	1350	1230	1290	1170	1230	1100	1170	1050	1100	■
Linerger 1600	1800	1650	1720	1580	1650	1480	1580	1390	1480	1320	1390	■

■ connection impossible due to the operating-temperature limits of the devices installed in the switchboard.



Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing electrical characteristics

Permissible current and selection of vertical busbars

The goal is to optimise busbar size according to the installation and operating criteria.

Up to 1600 A

Flat busbars, 5 mm thick

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1 bar, 60 x 5 mm	890	840	850	790	800	750	760	700	710	650	660	■
1 bar, 80 x 5 mm	1130	1050	1080	990	1000	900	970	870	910	810	860	■
2 bars, 60 x 5 mm	1580	1420	1500	1350	1400	1250	1350	1180	1260	1090	1180	■
2 bars, 80 x 5 mm	2010	1820	1920	1720	1800	1600	1720	1510	1610	1390	1510	■

Up to 3200 A

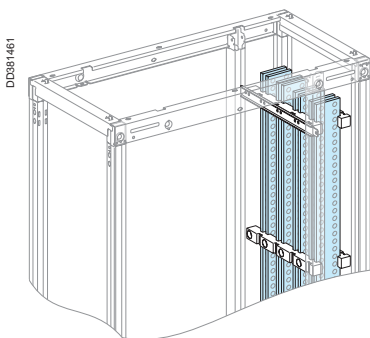
Flat busbars, 10 mm thick

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1 bar, 50 x 10 mm	1330	1220	1260	1160	1200	1080	1130	1010	1060	940	990	■
1 bar, 60 x 10 mm	1550	1400	1470	1320	1400	1250	1320	1160	1240	1070	1160	■
1 bar, 80 x 10 mm	1990	1800	1890	1700	1800	1600	1700	1500	1600	1390	1500	■
2 bars, 50 x 10 mm	2270	2090	2160	1980	2050	1850	1930	1740	1810	1610	1690	■
2 bars, 60 x 10 mm	2550	2270	2420	2140	2300	2000	2170	1870	2030	1720	1900	■
2 bars, 80 x 10 mm	3110	2820	2970	2660	2820	2500	2660	2330	2500	2160	2330	■
2 x 1 bar, 80 x 10 mm	3540	3200	3370	3020	3200	2800	3020	2650	2840	2450	2650	■

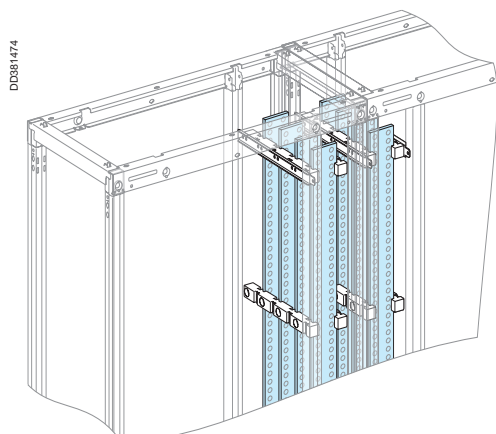
■ connection impossible due to the operating-temperature limits of the devices installed in the switchboard..

Example

Two 80 x 10 mm bars can be used for a 2820 A current with an IP ≤ 31 and an ambient temperature of 35 °C around the switchboard.



Two 80 x 10 mm bars installed separately in two busbar compartments can be used for a 3200 A current with an IP ≤ 31 and an ambient temperature of 35 °C around the switchboard.



Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing electrical characteristics

Permissible current and selection of vertical busbars

The goal is to optimise busbar size according to the installation and operating criteria.

Up to 1600 A

Flat busbars, 5 mm thick

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1 bar, 60 x 5 mm	890	840	850	790	800	750	760	700	710	650	660	■
1 bar, 80 x 5 mm	1130	1050	1080	990	1000	900	970	870	910	810	860	■
2 bars, 60 x 5 mm	1580	1420	1500	1350	1400	1250	1350	1180	1260	1090	1180	■
2 bars, 80 x 5 mm	2010	1820	1920	1720	1800	1600	1720	1510	1610	1390	1510	■

Up to 3200 A

Flat busbars, 10 mm thick

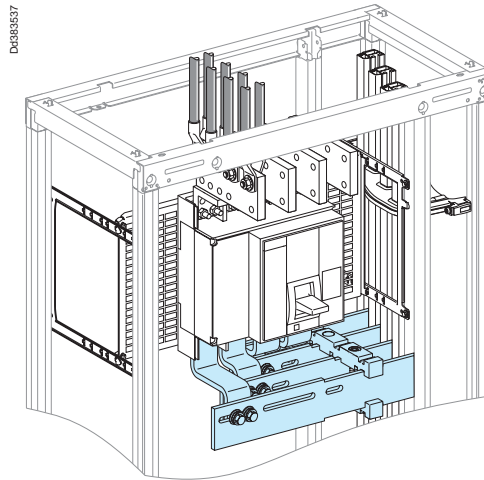
Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1 bar, 50 x 10 mm	1330	1220	1260	1160	1200	1080	1130	1010	1060	940	990	■
1 bar, 60 x 10 mm	1550	1400	1470	1320	1400	1250	1320	1160	1240	1070	1160	■
1 bar, 80 x 10 mm	1990	1800	1890	1700	1800	1600	1700	1500	1600	1390	1500	■
2 bars, 50 x 10 mm	2270	2090	2160	1980	2050	1850	1930	1740	1810	1610	1690	■
2 bars, 60 x 10 mm	2550	2270	2420	2140	2300	2000	2170	1870	2030	1720	1900	■
2 bars, 80 x 10 mm	3110	2820	2970	2660	2820	2500	2660	2330	2500	2160	2330	■

■ connection impossible due to the operating-temperature limits of the devices installed in the switchboard.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing electrical characteristics

Compact NS630b to NS1600, vertically mounted



Using the data below, it is possible to determine the permissible current for a prefabricated connection between a vertical Compact NS630b/NS1600, fixed or withdrawable, and Linergy busbars depending on the ambient temperature around the switchboard and the IP value.

Fixed

Prefabricated connections

Device and Cat. no.		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b	3P Cat. no. 04485	630	630	630	630	630	630	630	630	630	630	630	630	■
	4P Cat. no. 04486													
NS800	3P Cat. no. 04485	800	800	800	800	800	800	800	800	800	800	800	800	■
	4P Cat. no. 04486													
NS1000	3P Cat. no. 04485	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	■
	4P Cat. no. 04486													
NS1250	3P Cat. no. 04485	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200	1200	■
	4P Cat. no. 04486													
NS1600	3P Cat. no. 04487	1600	1550	1600	1500	1550	1450	1500	1400	1450	1350	1400	1400	■
	4P Cat. no. 04488													

Withdrawable

Prefabricated connections

Device and Cat. no.		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b	3P Cat. no. 04477	630	630	630	630	630	630	630	630	630	630	630	630	■
	4P Cat. no. 04478													
NS800	3P Cat. no. 04477	800	800	800	800	800	800	800	800	800	800	800	800	■
	4P Cat. no. 04478													
NS1000	3P Cat. no. 04477	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	■
	4P Cat. no. 04478													
NS1250	3P Cat. no. 04477	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200	1200	■
	4P Cat. no. 04478													
NS1600	3P Cat. no. 04491	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	1330	■
	4P Cat. no. 04492													

■ connection not possible.

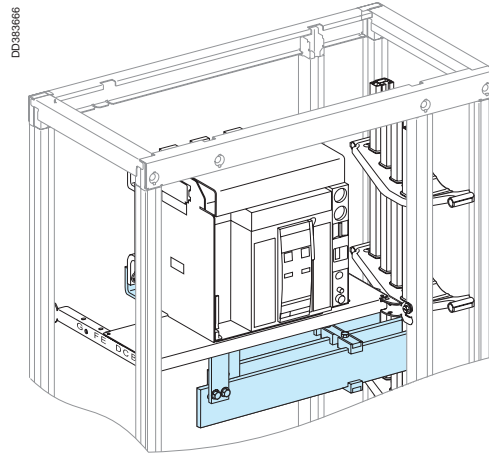
Example

For a fixed Compact NS1600, 4P, where the ambient temperature around the switchboard is 35 °C and the IP > 31:
The maximum permissible current for the prefabricated connection (04488) is 1450 A.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing electrical characteristics

Masterpact NT06 to NT16, vertically mounted



Using the data below, it is possible to determine the permissible current for a prefabricated connection between a vertical Masterpact NT06/NT16, fixed or drawout, and Linergy busbars depending on the ambient temperature around the switchboard and the IP value.

Fixed

Prefabricated connections

Device and Cat. no.		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NT06	3P Cat. no. 04475	630	630	630	630	630	630	630	630	630	630	630	630	■
	4P Cat. no. 04476													
NT08	3P Cat. no. 04475	800	800	800	800	800	800	800	800	800	800	800	800	■
	4P Cat. no. 04476													
NT10	3P Cat. no. 04475	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	■
	4P Cat. no. 04476													
NT12	3P Cat. no. 04475	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200	■	
	4P Cat. no. 04476													
NT16	3P Cat. no. 04489	1600	1570	1600	1520	1570	1470	1520	1420	1470	1370	1420	■	
	4P Cat. no. 04490													

Withdrawable

Prefabricated connections

Device and Cat. no.		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NT06	3P Cat. no. 04477	630	630	630	630	630	630	630	630	630	630	630	630	■
	4P Cat. no. 04478													
NT08	3P Cat. no. 04477	800	800	800	800	800	800	800	800	800	800	800	800	■
	4P Cat. no. 04478													
NT10	3P Cat. no. 04477	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	■
	4P Cat. no. 04478													
NT12	3P Cat. no. 04477	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200	■	
	4P Cat. no. 04478													
NT16	3P Cat. no. 04491	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	■	
	4P Cat. no. 04492													

■ connection not possible.

Example

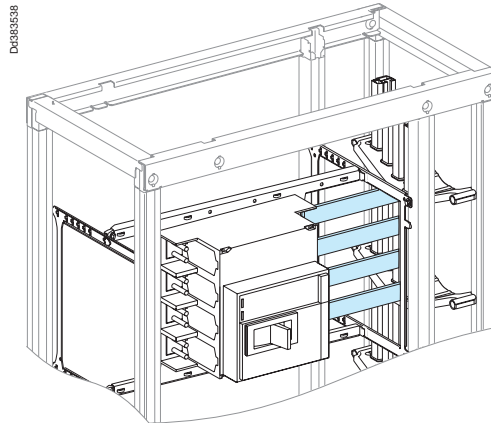
For a drawout Masterpact NT16, 4P, where the ambient temperature around the switchboard is 35 °C and the IP > 31:

The maximum permissible current for the prefabricated connection (04492) is 1380 A.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing electrical characteristics

Compact NS630b to NS1600, horizontally mounted, fixed



Using the data below, it is possible to determine the permissible current for a prefabricated connection between a horizontal, fixed Compact NS630b/NS1000 and Linergy busbars depending on the ambient temperature around the switchboard and the IP value.

Prefabricated connections

Device and Cat. no.		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP \leq 31	IP $>$ 31	IP \leq 31	IP $>$ 31	IP \leq 31	IP $>$ 31	IP \leq 31	IP $>$ 31	IP \leq 31	IP $>$ 31	IP \leq 31	IP $>$ 31	
NS630b	3P Cat. no. 04473	630	630	630	630	630	630	630	630	630	630	630	630	■
	4P Cat. no. 04474													
NS800	3P Cat. no. 04473	800	800	800	800	800	800	800	800	800	800	800	800	■
	4P Cat. no. 04474													
NS1000	3P Cat. no. 04473	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	■
	4P Cat. no. 04474													

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

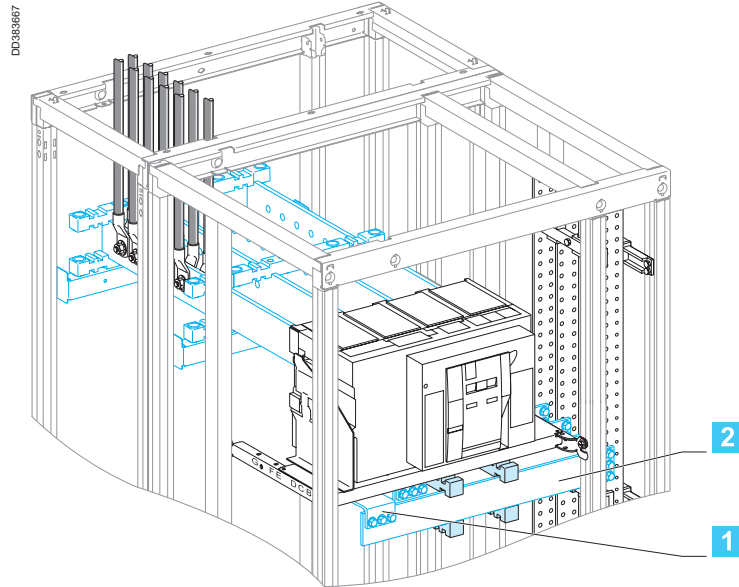
Designing connections ≥ 630 A between a device and busbars

Fixed Masterpact NW08 to NW32

Front or rear connection

Designing electrical characteristics

Masterpact NW08 to NW32 Fixed, top or bottom connection



- 1 Connection.
- 2 Horizontal link.

Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making the connections to busbars for a vertical, fixed Masterpact NW08/NW32, front or rear connection, taking into account the ambient temperature around the switchboard and the IP value.

Connection

Flat bars, 5 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NW08	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	
NW16	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1600	1600	1600	1570	1600	1520	1570	1470	1520	1420	1470		

Horizontal link

Flat bars, 5 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NW08	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	
NW16	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1600	1600	1600	1570	1600	1520	1570	1470	1520	1420	1470		

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

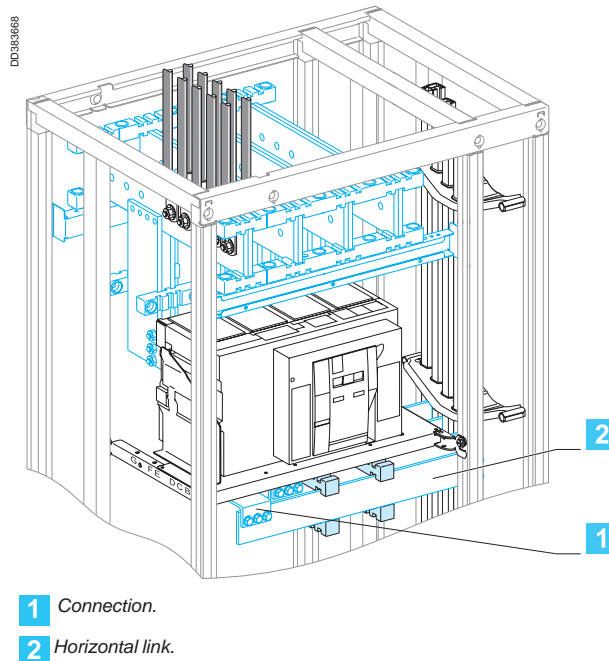
Designing connections ≥ 630 A between a device and busbars

Fixed Masterpact NW08 to NW32

Front or rear connection

Masterpact NW08 to NW32

Fixed, top or bottom connection



Connection

Flat bars, 10 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NW08	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	
NW16	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1600	1600	1600	1570	1600	1520	1570	1470	1520	1420	1470		
NW20	Size per phase	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	■
	I (A)	2000	2000	2000	2000	2000	2000	2000	1950	2000	1900	1950		
NW25	Size per phase	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	■
	I (A)	2500	2500	2500	2500	2500	2460	2500	2380	2500	2300	2460		
NW32	Size per phase	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	■
	I (A)	3200	3000	3170	2910	3080	2820	3000	2730	2910	2630	2820		

Horizontal link

Flat bars, 10 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NW08	Size per phase	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	
NW16	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1600	1600	1600	1570	1600	1520	1570	1470	1520	1420	1470		
NW20	Size per phase	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	■
	I (A)	2000	2000	2000	2000	2000	2000	2000	1950	2000	1900	1950		
NW25	Size per phase	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	■
	I (A)	2500	2500	2500	2500	2500	2460	2500	2380	2500	2300	2460		
NW32	Size per phase	2b 100 x 10	2b 100 x 10	2b 100 x 10	2b 100 x 10	2b 100 x 10	2b 100 x 10	2b 100 x 10	2b 100 x 10	2b 100 x 10	2b 100 x 10	2b 100 x 10	2b 100 x 10	■
	I (A)	3200	3000	3170	2910	3080	2820	3000	2730	2910	2630	2820		

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

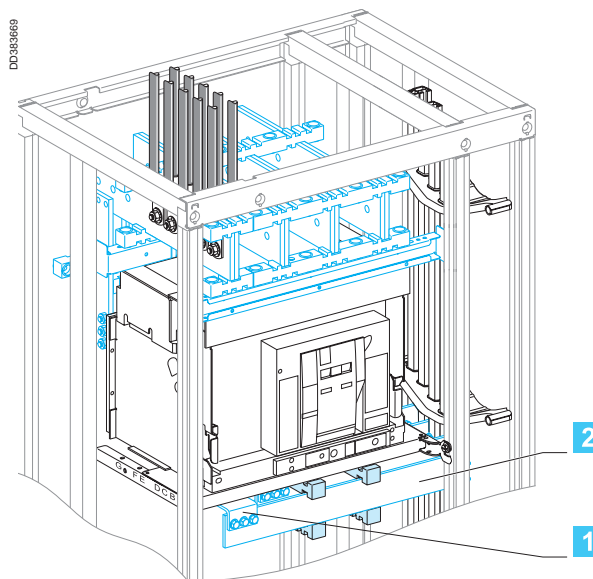
Designing connections ≥ 630 A between a device and busbars

Drawout Masterpact NW08 to NW32

Front or rear connection

Masterpact NW08 to NW32

Drawout, top or bottom connection



- 1** Connection.
- 2** Horizontal link.

Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making the connections to busbars for a vertical, drawout Masterpact NW08/NW32, front or rear connection, taking into account the ambient temperature around the switchboard and the IP value.

Connection

Flat bars, 5 mm thick

Device	Permissible current (A)	Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NW08	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1250	1250	1250	1250	1250	1230	1250	1200	1230	1160	1200	
NW16	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	

Horizontal link

Flat bars, 5 mm thick

Device	Permissible current (A)	Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NW08	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1250	1250	1250	1250	1250	1230	1250	1200	1230	1160	1200	
NW16	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

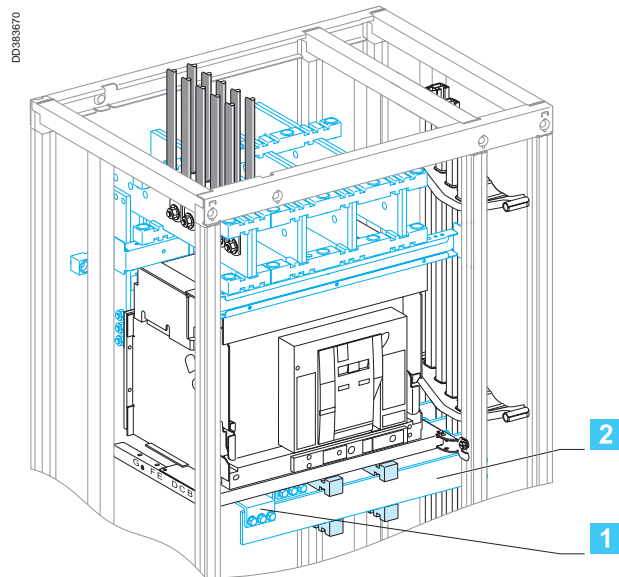
Designing connections ≥ 630 A between a device and busbars

Drawout Masterpact NW08 to NW32

Front or rear connection

Masterpact NW08 to NW32

Drawout, top or bottom connection



- 1 Connection.
- 2 Horizontal link.

Connection

Flat bars, 10 mm thick

Device	Permissible current (A)	Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NW08	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1250	1250	1250	1210	1250	1180	1210	1140	1180	1100	1140	
NW16	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	
NW20	Size per phase	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	■
	I (A)	2000	2000	2000	1950	2000	1900	1950	1830	1900	1760	1830	
NW25	Size per phase	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	■
	I (A)	2470	2280	2410	2210	2350	2140	2280	2070	2210	2000	2140	
NW32	Size per phase	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	■
	I (A)	2960	2730	2890	2630	2820	2530	2730	2450	2630	2370	2530	

Horizontal link

Flat bars, 10 mm thick

Device	Permissible current (A)	Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NW08	Size per phase	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	■
	I (A)	1250	1250	1250	1210	1250	1180	1210	1140	1180	1100	1140	
NW16	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	
NW20	Size per phase	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	■
	I (A)	2000	2000	2000	1950	2000	1900	1950	1830	1900	1760	1830	
NW25	Size per phase	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	■
	I (A)	2470	2280	2410	2210	2350	2140	2280	2070	2210	2000	2140	
NW32	Size per phase	2b 100x10	2b 100x10	2b 100x10	2b 100x10	2b 100x10	2b 100x10	2b 100x10	2b 100x10	2b 100x10	2b 100x10	2b 100x10	■
	I (A)	2960	2730	2890	2630	2820	2530	2730	2450	2630	2370	2530	

■ connection not possible.

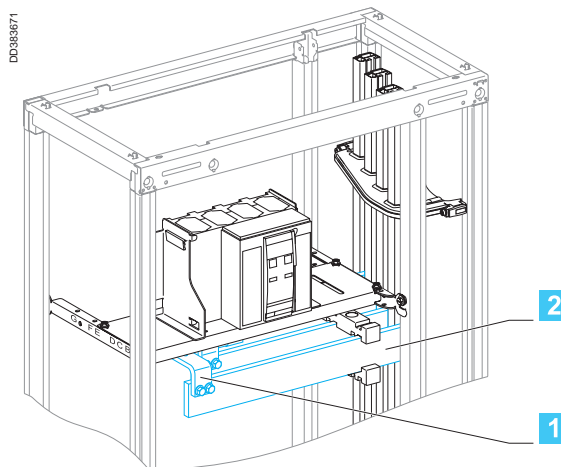
Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing connections ≥ 630 A between a device and busbars

Masterpact circuit breakers

Fixed NT06 to NT16

Masterpact NT06 to NT16 Fixed



- 1 Connection.
- 2 Horizontal link.

Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making the connections to busbars for a vertical, fixed Masterpact NT06/NT16, taking into account the ambient temperature around the switchboard and the IP value.

Connection

Flat bars, 5 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NT06	Size per phase	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NT12	Size per phase	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1200	1250	
NT16 ⁽¹⁾	Size per phase	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	■
	I (A)	1600	1570	1600	1520	1570	1470	1520	1420	1470	1370	1420	

(1) Make the neutral connection with two bars, 50 x 5 mm.

Horizontal link

Flat bars, 5 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NT06	Size per phase	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NT12	Size per phase	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1200	1250	
NT16	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1600	1570	1600	1520	1570	1470	1520	1420	1470	1370	1420	

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Connection

Flat bars, 10 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP \leq 31	IP > 31	IP \leq 31	IP > 31	IP \leq 31	IP > 31	IP \leq 31	IP > 31	IP \leq 31	IP > 31	IP \leq 31	IP > 31	
NT06	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NT12	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1180	1230	
NT16 ⁽¹⁾	Size per phase	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	■
	I (A)	1600	1570	1600	1520	1570	1470	1520	1420	1470	1370	1420		

(1) Make the neutral connection with one bar, 50 x 10 mm.

Horizontal link

Flat bars, 10 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP \leq 31	IP > 31	IP \leq 31	IP > 31	IP \leq 31	IP > 31	IP \leq 31	IP > 31	IP \leq 31	IP > 31	IP \leq 31	IP > 31	
NT06	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NT12	Size per phase	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1180	1230	
NT16	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1600	1570	1600	1520	1570	1470	1520	1420	1470	1370	1420		

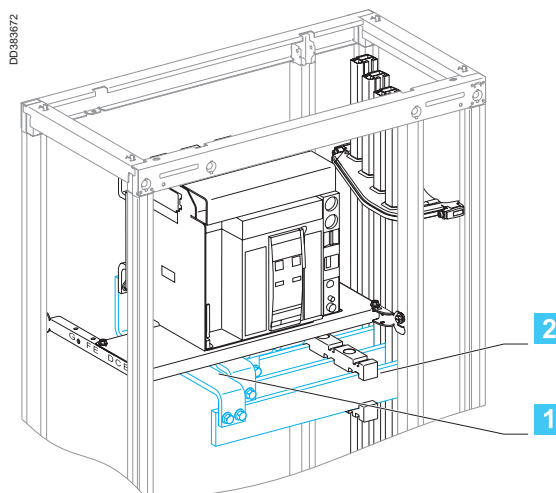
■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing connections ≥ 630 A between a device and busbars Masterpact circuit breakers Drawout NT06 to NT16

Designing electrical
characteristics

Masterpact NT06 to NT16 Drawout



- 1 Connection.
- 2 Horizontal link.

Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making the connections to busbars for a vertical, drawout Masterpact NT06/NT16, taking into account the ambient temperature around the switchboard and the IP value.

Connection

Flat bars, 5 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NT06	Size per phase	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000	
NT12	Size per phase	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	■
	I (A)	1250	1250	1250	1250	1250	1230	1250	1180	1230	1130	1180	
NT16 ⁽¹⁾	Size per phase	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	■
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	

(1) Make the neutral connection with two bars, 50 x 5 mm.

Horizontal link

Flat bars, 5 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NT06	Size per phase	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000	
NT12	Size per phase	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	■
	I (A)	1250	1250	1250	1250	1250	1230	1250	1180	1230	1130	1180	
NT16	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing connections ≥ 630 A between a device and busbars

Masterpact circuit breakers

Drawout NT06 to NT16

Designing electrical characteristics

Connection

Flat bars, 10 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NT06	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000	
NT12	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1250	1250	1250	1250	1250	1210	1250	1160	1210	1110	1160	
NT16 ⁽¹⁾	Size per phase	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	■
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	

(1) Make the neutral connection with one bar, 50 x 10 mm.

Horizontal link

Flat bars, 10 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NT06	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000	
NT12	Size per phase	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	■
	I (A)	1250	1250	1250	1250	1250	1210	1250	1160	1210	1110	1160	
NT16	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing connections ≥ 630 A between a device and busbars

Fixed NS1600b to NS3200

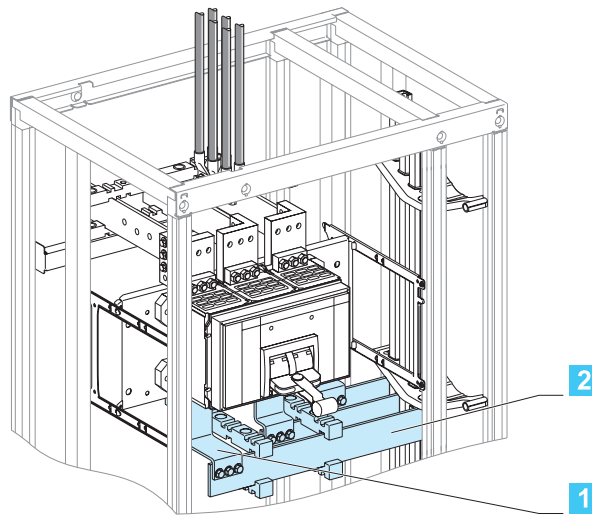
Front or rear connection

Designing electrical characteristics

Compact NS1600b/3200

Fixed, top or bottom connection

D683539



- 1** Connection.
- 2** Horizontal link.

Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making the connections to busbars for a vertical, fixed Compact NS1600b/3200, front or rear connection, taking into account the ambient temperature around the switchboard and the IP value.

Connection

Flat bars, 10 mm thick

Device	Permissible current (A)	Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NS1600b	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	
NS2000	Size per phase	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	■
	I (A)	2000	2000	2000	1950	2000	1900	1950	1830	1900	1760	1830	
NS2500	Size per phase	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	■
	I (A)	2470	2280	2410	2210	2350	2140	2280	2070	2210	2000	2140	
NS3200	Size per phase	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	3b 80 x 10	■
	I (A)	2860	2630	2790	2530	2720	2430	2630	2350	2530	2270	2430	

Horizontal link

Flat bars, 10 mm thick

Device	Permissible current (A)	Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NS1600b	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	
NS2000	Size per phase	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	2b 60 x 10	■
	I (A)	2000	2000	2000	1950	2000	1900	1950	1830	1900	1760	1830	
NS2500	Size per phase	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	■
	I (A)	2470	2280	2410	2210	2350	2140	2280	2070	2210	2000	2140	
NS3200	Size per phase	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	■
	I (A)	2860	2630	2790	2530	2720	2430	2630	2350	2530	2270	2430	

■ connection not possible.

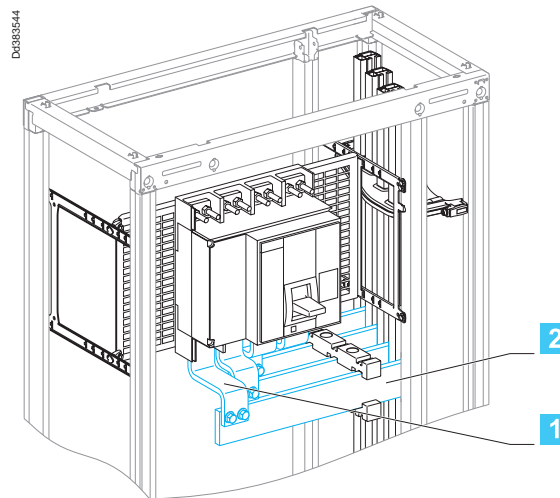
Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing connections ≥ 630 A between a device and busbars

Compact circuit breakers

Fixed NS630b to NS1600

Compact NS630b to NS1600 Fixed



- 1 Connection.
- 2 Horizontal link.

Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making the connections to busbars for a vertical, fixed Compact NS630b/NS1600, taking into account the ambient temperature around the switchboard and the IP value.

Connection

Flat bars, 5 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NS630b	Size per phase	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	970	1000	
NS1250	Size per phase	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200	
NS1600 ⁽¹⁾	Size per phase	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	■
	I (A)	1600	1550	1600	1500	1550	1450	1500	1400	1450	1350	1400	

(1) Make the neutral connection with two bars, 50 x 5 mm.

Horizontal link

Flat bars, 5 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NS630b	Size per phase	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	970	1000	
NS1250	Size per phase	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200	
NS1600	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1600	1550	1600	1500	1550	1450	1500	1400	1450	1350	1400	

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing electrical characteristics

Connection

Flat bars, 10 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NS630b	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630
NS800	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800
NS1000	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	970	1000	1000
NS1250	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	1250	1250	1250	1250	1250	1250	1250	1180	1230	1130	1180	1180
NS1600 ⁽¹⁾	Size per phase	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10
	I (A)	1600	1550	1600	1500	1550	1450	1500	1400	1450	1350	1400	1400

(1) Make the neutral connection with one bar, 50 x 10 mm.

Horizontal link

Flat bars, 10 mm thick

Device		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NS630b	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630
NS800	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800
NS1000	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	970	1000	1000
NS1250	Size per phase	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10
	I (A)	1250	1250	1250	1250	1250	1250	1250	1180	1230	1130	1180	1180
NS1600	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10
	I (A)	1600	1550	1600	1500	1550	1450	1500	1400	1450	1350	1400	1400

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing connections ≥ 630 A

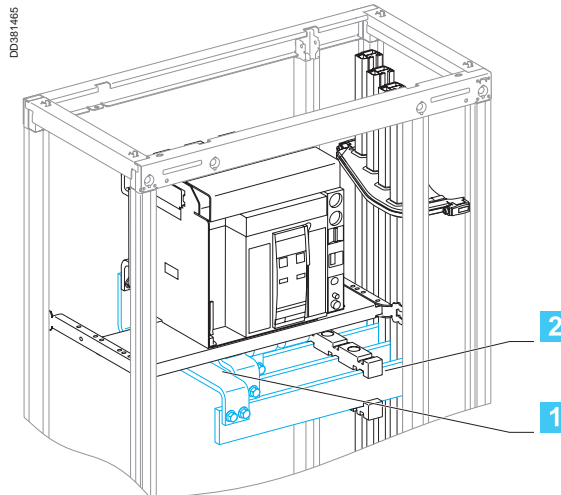
between a device and busbars

Compact circuit breakers

Withdrawable NS630b to NS1600

Compact NS630b to NS1600

Withdrawable



- 1** Connection.
- 2** Horizontal link.

Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making the connections to busbars for a vertical, withdrawable Compact NS630b/NS1600, taking into account the ambient temperature around the switchboard and the IP value.

Connection

Flat bars, 5 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b	Size per phase	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	1b 50 x 5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000	1000	
NS1250	Size per phase	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	■
	I (A)	1250	1250	1250	1250	1250	1230	1250	1180	1230	1130	1180	1180	
NS1600 ⁽¹⁾	Size per phase	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	■
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	1330	

(1) Make the neutral connection with two bars, 50 x 5 mm.

Horizontal link

Flat bars, 5 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b	Size per phase	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	1b 60 x 5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	1b 80 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000	1000	
NS1250	Size per phase	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	■
	I (A)	1250	1250	1250	1250	1250	1230	1250	1180	1230	1130	1180	1180	
NS1600	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	1330	

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing connections ≥ 630 A between a device and busbars

Compact circuit breakers Withdrawable NS630b to NS1600

Designing electrical
characteristics

Connection

Flat bars, 10 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000	1000	
NS1250	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1250	1250	1250	1250	1250	1210	1250	1160	1210	1110	1160	1160	
NS1600 ⁽¹⁾	Size per phase	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	■
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	1330	

(1) Make the neutral connection with one bar, 50 x 10 mm.

Horizontal link

Flat bars, 10 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	970	1000	1000	
NS1250	Size per phase	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	1b 60 x 10	■
	I (A)	1250	1250	1250	1250	1250	1210	1250	1160	1210	1110	1160	1160	
NS1600	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	1330	

■ connection not possible.

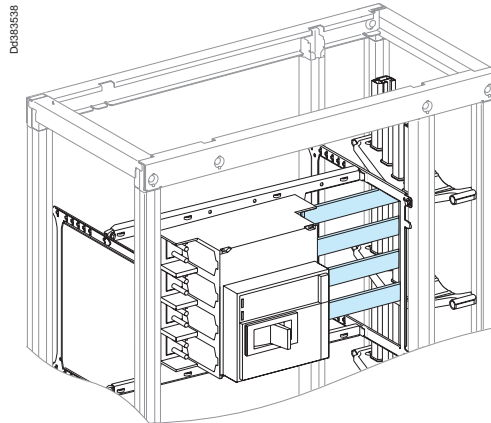
Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing connections ≥ 630 A between a device and busbars

Compact circuit breakers

Horizontal, fixed NS630b to NS1600

Compact NS630b to NS1600 Horizontal, fixed



Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making the connections to busbars for a horizontal, fixed Compact NS630b/NS1600, taking into account the ambient temperature around the switchboard and the IP value.

Flat bars, 5 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NS1250	Size per phase	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	3b 50 x 5	■
	I (A)	1250	1250	1250	1250	1250	1170	1250	1090	1170	■	1000	1000	
NS1600	Size per phase	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	4b 50 x 5	■
	I (A)	1600	1510	1560	1470	1510	1420	1470	1360	1420	■	1360	1360	

Flat bars, 10 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
NS630b	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NS1250	Size per phase	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	■
	I (A)	1250	1250	1250	1250	1250	1170	1250	1090	1170	■	1090	1090	
NS1600	Size per phase	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	2b 50 x 10	■
	I (A)	1600	1510	1560	1470	1510	1420	1470	1360	1420	■	1360	1360	

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing electrical characteristics

Flexible copper bars with an insulating sheath

Switchboards that comply with standard IEC 60439-1

It is imperative to use the values indicated below that have been validated for the installation of devices in Prisma Plus switchboards.

The parameters determining the size of flexible bars are:

- the environment in which the devices are installed:
 - position in the enclosure
 - dimensions of other conductors in the circuit
 - ambient temperature around the switchboard
- the characteristics of the connected devices:
 - device heat losses
 - the type of installation (horizontal or vertical)
 - the type of device (fixed or withdrawable).

Only the equipment manufacturer with in-depth knowledge on:

- the characteristics of the installed devices
 - the configuration of the installation in the enclosure
- can provide the correct sizes of flexible bars for a given permissible current.

Insulated, flexible bars make for easy, fast and flexible implementation up to 630 A, but higher ratings require sizes that cancel these advantages.

For high I_{sc} values, it is advised to use rigid bars which require fewer supports.

Insulated flexible bars are better than cables, they offer:

- better insulation temperature withstand (125 °C for bars, 105 °C for cables) and a larger exchange surface for an equivalent size, i.e. a smaller size for a given current
- greater rigidity offering better electrodynamic characteristics for short-circuit currents
- no intermediate parts (lugs) for a direct connection between the device and the busbars therefore less temperature rise and less risk of error
- fast implementation of prefabricated connections already cut to length, formed and drilled.

Technical characteristics

- thickness of the insulation: variable depending on the bar size, 2 mm on average
- rated insulation level U_i = 1000 V
- impulse withstand voltage U_{imp} = 12 kV
- maximum withstand temperature of insulating material = 125 °C.

Connection

In all cubicles with IP ≤ 55

- the switchboard internal temperature is 60 °C
- the withstand temperature of the insulating material is 125 °C.

If the withstand temperature of the insulation is only 105 °C, use the next largest flexible bar.

The bar sizes indicated below take into account the derating curves of devices.

Connection of devices and distribution blocks to busbars

Device	INS125	INS160	INS250	INS320 INS400	INS500 INS630	NSX100 ⁽¹⁾	NSX160 ⁽¹⁾
S (mm)	20 x 2	20 x 2	20 x 3	32 x 5	32 x 6	20 x 2	20 x 3
Device	NSX250 ⁽¹⁾	NSX400 ⁽¹⁾	NSX630	INF250 ISFT250	INF400 ISFT400	INF630 ISFT630	
S (mm)	20 x 3	32 x 5	32 x 8	24 x 5	32 x 5	32 x 8	

⁽¹⁾ The values for circuit breakers apply to contactors with the same ratings.

To connect a Compact NSX250 to Powerclip busbars, use a 24 x 5 mm flexible bar (04746).

Device	Multiclip distribution block (200 A)	Polypact distribution block (3P)	Polypact distribution block (4P)
S (mm)	20 x 3	32 x 6	32 x 5

Disconnectors, terminal blocks, connections, busbars to busbars

I max. (60 °C)	200 A	250 A	400 A	400 A	480 A	520 A	580 A	660 A
S (mm)	20 x 2	20 x 3	24 x 5	24 x 5	24 x 6	32 x 5	32 x 6	32 x 8

Note: the values indicated above have been validated for Prisma Plus switchboards.

Compact NSX100 to NSX250

Insulated flexible copper bars

Devices		Permissible current (A)					
		Ambient temperature around the switchboard					
		25 °C	30 °C	35 °C	40 °C	45 °C	50 °C
IP ≤ 55							
NSX100 TMD-TMG	Size per phase	20 x 2	20 x 2	20 x 2	20 x 2	20 x 2	20 x 2
	I (A)	100	97.5	95	92.5	90	85
NSX125 TMD-TMG	Size per phase	20 x 2	20 x 2	20 x 2	20 x 2	20 x 2	20 x 2
	I (A)	125	122	119	116	113	100
NSX160 ⁽¹⁾ TMD-TMG	Size per phase	20 x 3	20 x 3	20 x 3	20 x 3	20 x 3	20 x 3
	I (A)	160	156	152	147	144	140
NSX250 ⁽¹⁾ TMD-TMG	Size per phase	20 x 3	20 x 3	20 x 3	20 x 3	20 x 3	20 x 3
	I (A)	250	244	238	231	225	198
NSX100 STR	Size per phase	20 x 2	20 x 2	20 x 2	20 x 2	20 x 2	20 x 2
	I (A)	100	100	100	100	100	100
NSX160 STR	Size per phase	20 x 3	20 x 3	20 x 3	20 x 3	20 x 3	20 x 3
	I (A)	160	160	160	160	160	160
NSX250 ⁽²⁾ STR	Size per phase	20 x 3	20 x 3	20 x 3	20 x 3	20 x 3	20 x 3
	I (A)	250	250	237.5	237.5	225	225

(1) For a withdrawable NSX160 or NSX250 equipped with a Vigi or an insulation-monitoring module, multiply the I_n values by 0.9.

(2) For a withdrawable NS250 equipped with a Vigi or an insulation-monitoring module, multiply the I_n values by 0.86.

Compact NSX400 to NSX630

Permissible current (A)

Insulated flexible copper bars

Devices		Permissible current (A)					
		Ambient temperature around the switchboard					
		25 °C	30 °C	35 °C	40 °C	45 °C	50 °C
IP ≤ 55							
NSX400N/H/L fixed	Size per phase	32 x 5	32 x 5	32 x 5	32 x 5	32 x 5	32 x 5
	I (A)	400	400	400	390	380	370
NSX400N/H/L with Vigi	Size per phase	32 x 5	32 x 5	32 x 5	32 x 5	32 x 5	32 x 5
	I (A)	400	390	380	370	360	350
NSX400N/H/L withdrawable	Size per phase	32 x 5	32 x 5	32 x 5	32 x 5	32 x 5	32 x 5
	I (A)	400	390	380	370	360	350
NSX630N/H/L fixed	Size per phase	32 x 6	32 x 6	32 x 6	32 x 6	32 x 6	32 x 6
	I (A)	630	615	600	585	570	550
NSX630N/H/L Vigi or withdrawable	Size per phase	32 x 8	32 x 8	32 x 8	32 x 8	32 x 8	32 x 8
	I (A)	570	550	535	520	505	490

Note: The values indicated above have been validated for Prisma Plus switchboards.

Cables

Practical guidelines

Schneider Electric provides cabling recommendations according to the rating of the circuit breaker.

The size of cables must be selected according to:

- the level of current
- the ambient temperature around the conductors
- the degree of protection for the switchboard.

The tables below take into account the installation conditions for each type of device (permissible temperature at connection terminals, etc.).

They follow the temperature derating values for installed devices in all cubicles with cover panels rated IP ≤ 55.

- switchboard internal temperature 60 °C
- connections using copper cables.

Connection of circuit breakers

Size of cables (mm ²)	Permissible current (A) Cables tied individually		Cable tied together	
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1.5	16	14	14	12
2.5	25	25	22	20
4	32	29	28	24
6	40	39	36	33
10	63	55	55	50
16	90	77	80	70
25	110	100	100	93
35	135	125	125	120
50	180	150		
70	230	190		
95	275	230		

Connection of other devices

Size of cables (mm ²)	Permissible current (A) Cables tied individually		Cable tied together	
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1.5	13	12	12	10
2.5	23	21	20	19
4	28	26	25	22
6	36	35	32	30
10	55	50	50	46
16	80	70	72	63
25	100	90	90	84
35	120	115	110	103
50	165	135		
70	210	176		
95	250	210		

Connection of NSX100 to 630 A

Device	NSX100	NSX160	NSX250
Size (mm ²)	25	50	95

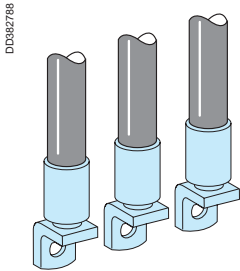
Note: Schneider Electric recommends connecting NSX400/630 circuit breakers with insulated flexible bars or rigid bars, see page D-44.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing connections with cables

Tubular lugs

Tubular lugs for incoming connection blocks



D0382788

Maximum size of lugs for connection to the different incoming connection blocks.

	Standard Cu lugs	Narrow Cu lugs	Narrow bimetal lugs
Incoming connection block for NSX-INS250 supplied via the top or bottom, cat. no. 04066 and 04067	150 mm ²	240 mm ²	185 mm ²
In-duct incoming connection block for NSX630, cat. no. 04076	240 mm ²	300 mm ²	300 mm ²

Narrow bimetal lugs

Cat. no. selection

Cat. no.	Cable size (mm ²)	Quantity
Lugs for aluminium cable⁽¹⁾		
29504	150	3
29505	150	4
29506	185	3
29507	185	4
32504	240	3
32505	240	4
32506	300	3
32507	300	4

⁽¹⁾ Supplied with 2 or 3 interphase barriers.

Customer connection of devices ≥ 630 A

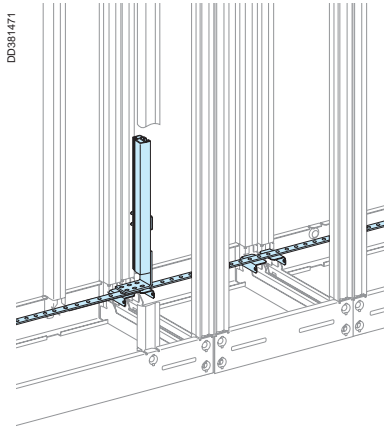
Maximum size and number of cables for connection to terminal extension bars (according to busbar drawing supplied) for customer connection of Compact NSX and Masterpact NT/NW devices.

	Cable size. (mm ²)	Quantity
Size and number of cables		
Copper lugs	300	12
Bimetal lugs	240	12

Designing the PE protective conductor

Power circuit

Size of PE protective conductor



Practical guidelines

The conductor must be sufficiently sized and securely installed in the switchboard to accept the thermal and electrodynamic stresses of the fault current. It must be connected to the exposed conductive parts of the switchboard. It must be accessible to enable connections both in the factory and on site.

Optimised calculation method

Use the calculation equation indicated in standard IEC 60439-1.

$$S_{PE} = \frac{\sqrt{I^2 t}}{k}$$

- S_{PE} : cross-sectional area of PE in mm²
- I : value of the phase-to-earth fault current = 60 % of the value of the phase-to-phase fault current (IEC 60439-1 §8.2.4.2)
- t : time the fault current flows in seconds
- k : coefficient that depends on the type of metal, $k = 143$ for a copper conductor with PVC insulation.

Simplified method (based on the equation above)

Use the table below to determine the size of the PE conductor as a function of the device I_{sc} .

Size of PE conductor	All Schneider Electric devices	
$I_{sc} \leq 40$ kA	1 bar, 25 x 5 mm	Linery 630
$I_{sc} \leq 65$ kA	1 bar, 50 x 5 mm	Linery 630
$I_{sc} > 65$ kA	1 bar, 50 x 5 mm	Linery 800

Schneider Electric prefabricated solution

For all Schneider Electric devices for an I_{sc} up to 85 kA: see page B-72.

Size of PEN protective conductor

Practical guidelines

The size of the PEN is determined in the same manner as a neutral conductor, i.e.:

- for copper single-phase circuits or sized $\leq 16\text{mm}^2$, it must be the same size as the phase conductors
- for copper three-phase circuits sized $> 16\text{mm}^2$, it can be:
 - the same size as the phase conductors
 - smaller on the condition that:
 - the current likely to flow in the neutral during normal operation is less than the permissible current for the conductor
 - the power rating of single-phase loads does not exceed 10 % of the total rating.

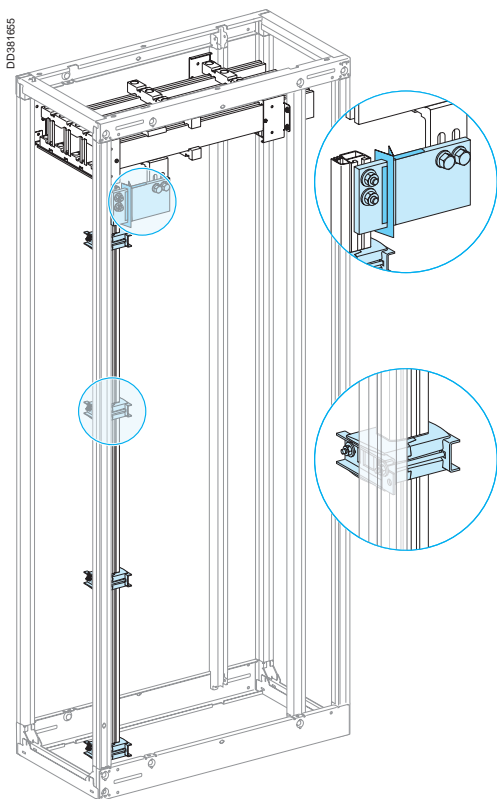
The conductor must be accessible to enable connections both in the factory and on site, as well as checks on the tightness of connections.

Implementing the PEN protective conductor

Practical guidelines

According to standard IEC 60439-1, the practical guidelines for implementing the PEN are the following:

- at the entry to the assembly, the PEN connection must be next to the phase connections
 - within the assembly, the PEN does not need to be insulated from the exposed conductive parts (except on sites where there is a risk of fire or explosion)
 - the size of the conductor must be at least equal to that of the neutral
 - the size must remain constant throughout the main busbars
 - the change from a TNC to a TNS system must take place at a single point in the switchboard, via a marked neutral-disconnection bar that is accessible and can be dismantled to facilitate the impedance measurement of the fault loop
 - after the TNS creation point, it is forbidden to recreate a TNC system.
- The PE and the neutral must meet their specific requirements.



Linergy PEN kit

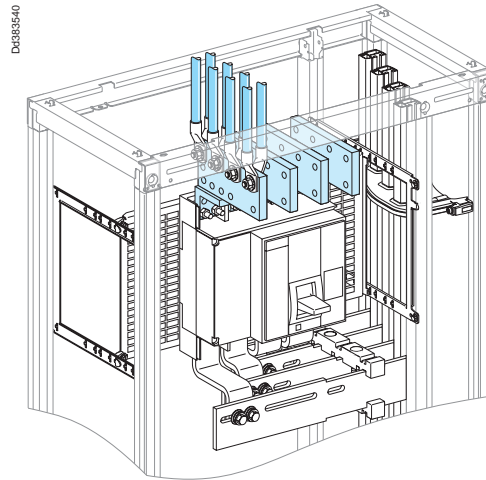
see page B-73.

Designing customer connections

Designing electrical characteristics

Prefabricated connections for Compact NS630b to NS1600 Top or bottom front connection

Compact NS630b to NS1600, vertically mounted



Using the data below, it is possible to determine the permissible current for a prefabricated connection between a vertical Compact NS630b/NS1600, fixed or withdrawable, and Linergy busbars depending on the ambient temperature around the switchboard and the IP value.

Fixed

Prefabricated connections

Device and Cat. no.	Permissible current (A)												
	Ambient temperature around the switchboard												
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b 3P cat. no. 33642	630	630	630	630	630	630	630	630	630	630	630	630	■
4P cat. no. 33643													
NS800 3P cat. no. 33642	800	800	800	800	800	800	800	800	800	800	800	800	■
4P cat. no. 33643													
NS1000 3P cat. no. 33642	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	■
4P cat. no. 33643													
NS1250 3P cat. no. 33642 + 33644	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200	1200	■
4P cat. no. 33643 + 33645													
NS1600 3P cat. no. 33642 + 33644	1600	1550	1600	1500	1550	1450	1500	1400	1450	1350	1400	1400	■
4P cat. no. 33643 + 33645													

Withdrawable

Prefabricated connections

Device and Cat. no.	Permissible current (A)												
	Ambient temperature around the switchboard												
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b 3P cat. no. 33642	630	630	630	630	630	630	630	630	630	630	630	630	■
4P cat. no. 33643													
NS800 3P cat. no. 33642	800	800	800	800	800	800	800	800	800	800	800	800	■
4P cat. no. 33643													
NS1000 3P cat. no. 33642	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	■
4P cat. no. 33643													
NS1250 3P cat. no. 33642 + 33644	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200	1200	■
4P cat. no. 33643 + 33645													
NS1600 3P cat. no. 33642 + 33644	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	1330	■
4P cat. no. 33643 + 33645													

■ connection not possible.

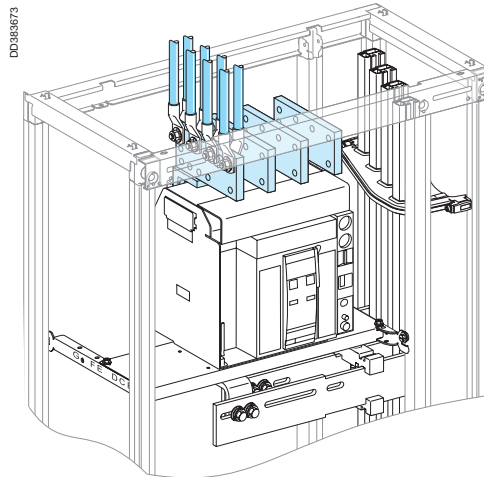
Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing customer connections

Prefabricated connections for Masterpact NT06 to NT16

Top or bottom front connection

Masterpact NT06 to NT16, vertically mounted



Using the data below, it is possible to determine the permissible current for a prefabricated connection between a vertical Masterpact NT06/NT16, fixed or drawout, and Linergy busbars depending on the ambient temperature around the switchboard and the IP value.

Fixed

Prefabricated connections

Device and Cat. no.	Permissible current (A)												
	Ambient temperature around the switchboard												
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NT06 3P cat. no. 33642 4P cat. no. 33643	630	630	630	630	630	630	630	630	630	630	630	630	■
NT08 3P cat. no. 33642 4P cat. no. 33643	800	800	800	800	800	800	800	800	800	800	800	800	■
NT10 3P cat. no.33642 4P cat. no.33643	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	■
NT12 3P cat. no.33642 + 33644 4P cat. no.33643 + 33645	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200	1200	■
NT16 3P 33642 + 33644 4P cat. no.33643 + 33645	1600	1570	1600	1520	1570	1470	1520	1420	1470	1370	1420	1420	■

Drawout

Prefabricated connections

Device and Cat. no.	Permissible current (A)												
	Ambient temperature around the switchboard												
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NT06 3P cat. no. 33642 4P cat. no. 33643	630	630	630	630	630	630	630	630	630	630	630	630	■
NT08 3P cat. no. 33642 4P cat. no. 33643	800	800	800	800	800	800	800	800	800	800	800	800	■
NT10 3P cat. no.33642 4P cat. no.33643	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	■
NT12 3P cat. no.33642 + 33644 4P cat. no.33643 + 33645	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200	1200	■
NT16 3P 33642 + 33644 4P cat. no.33643 + 33645	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	1330	■

■ connection not possible.

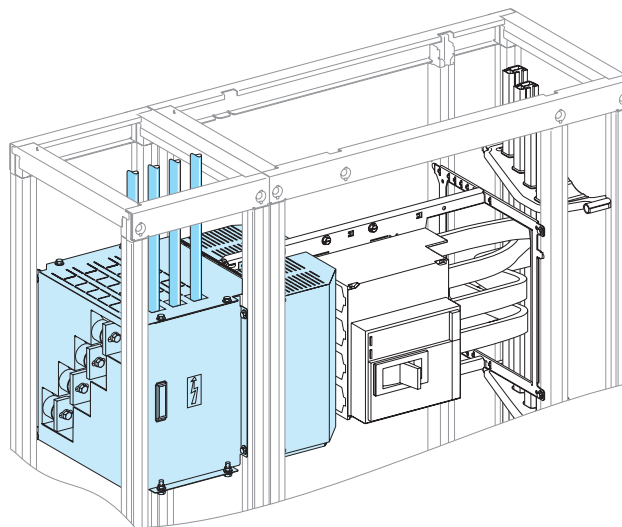
Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing customer connections

Connection transfer assembly for horizontal fixed Compact NS630b to NS1600

Compact NS630b to NS1600, horizontally mounted, fixed

D63B541



Using the data below, it is possible to determine the permissible current for a prefabricated connection between a horizontal, fixed Compact NS630b/NS1000 and Linergy busbars depending on the ambient temperature around the switchboard and the IP value.

Connection transfer assemblies

Device and Cat. no.		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b	3P cat. no. 04483	630	630	630	630	630	630	630	630	630	630	630	630	■
	4P cat. no. 04484													
NS800	3P cat. no. 04483	800	800	800	800	800	800	800	800	800	800	800	800	■
	4P cat. no. 04484													
NS1000	3P cat. no. 04483	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	■
	4P cat. no. 04484													

■ connection not possible.

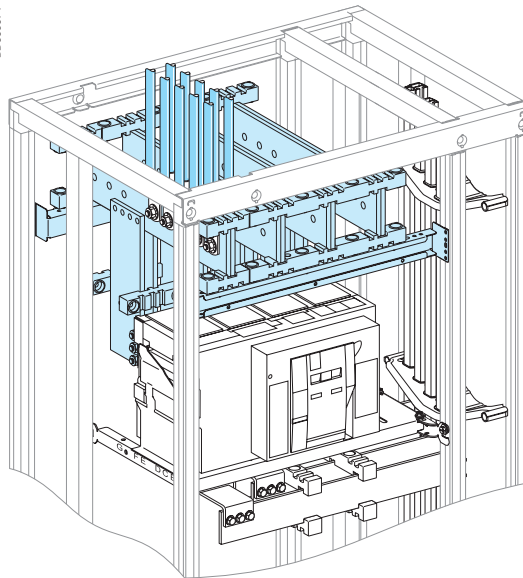
Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing customer connections

Fixed Masterpact NW08 to NW32 Front or rear connection

Masterpact NW08 to NW32 Fixed, top or bottom connection

DD389874



Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making a front or rear customer connection for a vertical, fixed NW08/NW32, taking into account the ambient temperature around the switchboard and the IP value.

Connection to be made according to the busbar drawings supplied.

For connection cable cross-sections and quantities, see page D-46.

Customer connection

Flat bars, 5 mm thick

Devices		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NW08	Size per phase	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	
NW16	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1600	1600	1600	1570	1600	1520	1570	1470	1520	1420	1470		

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

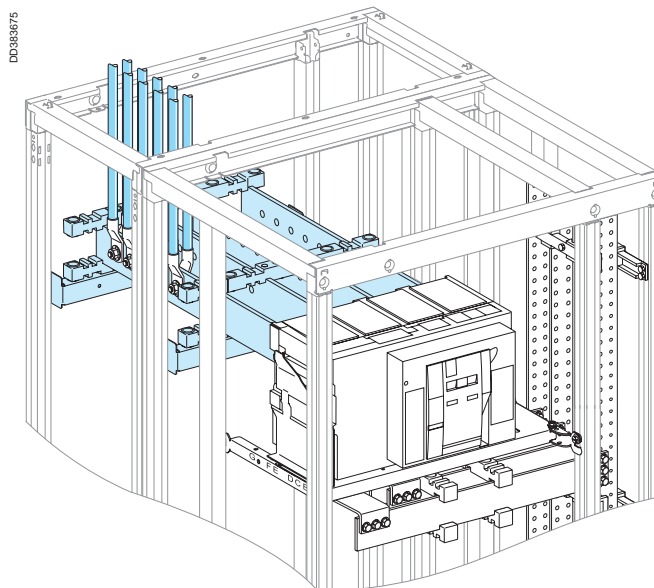
Designing customer connections

Fixed Masterpact NW08 to NW32

Front or rear connection

Masterpact NW08 to NW32

Fixed, top or bottom connection



Customer connection

Flat bars, 10 mm thick

Devices		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NW08	Size per phase	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x10	1b 60x 10	1b 60x 10	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	
NW16	Size per phase	1b 80x 10	1b 80x 10	1b 80x 10	1b 80x 10	1b 80x 10	1b 80x 10	1b 80x 10	1b 80x 10	1b 80x 10	1b 80x 10	1b 80x 10	1b 80x 10	■
	I (A)	1600	1600	1600	1570	1600	1520	1570	1470	1520	1420	1470		
NW20	Size per phase	2b 80x 10	2b 80x 10	2b 80x 10	2b 80x 10	2b 80x 10	2b 80x 10	2b 80x 10	2b 80x 10	2b 80x 10	2b 80x 10	2b 80x 10	2b 80x 10	■
	I (A)	2000	2000	2000	2000	2000	2000	2000	1950	2000	1900	1950		
NW25	Size per phase	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	■
	I (A)	2500	2500	2500	2500	2500	2460	2500	2380	2500	2300	2460		
NW32	Size per phase	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	■
	I (A)	3200	3000	3170	2910	3080	2820	3000	2730	2910	2630	2820		

■ connection not possible.

Canalis connection

For Canalis connections, apply the appropriate derating coefficient K.

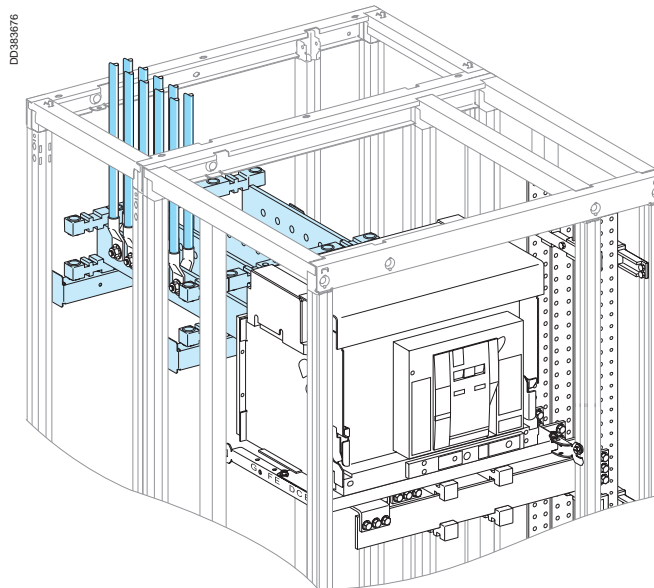
Devices	NW08	NW10	NW12	NW16	NW20	NW25	NW32
Derating coefficient K	1	1	1	0.98	0.98	0.97	0.97

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing customer connections

Drawout Masterpact NW08 to NW32 Front or rear connection

Masterpact NW08 to NW32 Drawout, top or bottom connection



Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making a front or rear customer connection for a vertical, drawout NW08/NW32, taking into account the ambient temperature around the switchboard and the IP value.

Connection to be made according to the busbar drawings supplied.
For connection cable cross-sections and quantities, see page D-46.

Customer connection

Flat bars, 5 mm thick

Devices		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NW08	Size per phase	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	2b 60 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1250	1250	1250	1250	1250	1230	1250	1200	1230	1160	1200	1200	
NW16	Size per phase	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	2b 80 x 5	■
	I (A)	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330	1330	

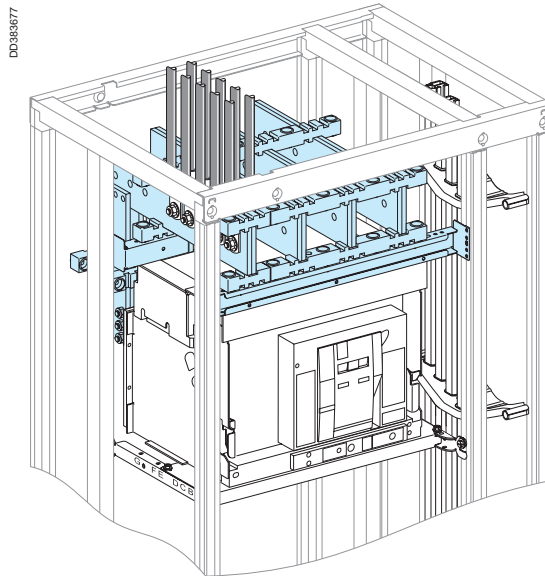
■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing customer connections

Drawout Masterpact NW08 to NW32 Front or rear connection

Masterpact NW08 to NW32 Drawout, top or bottom connection



Customer connection

Flat bars, 10 mm thick

Devices		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NW08	Size per phase	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NW10	Size per phase	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NW12	Size per phase	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	1b 60x10	■
	I (A)	1250	1250	1250	1210	1250	1180	1210	1140	1180	1100	1140		
NW16	Size per phase	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	■
	I (A)	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330		
NW20	Size per phase	2b 80x10	2b 80x10	2b 80x10	2b 80x10	2b 80x10	2b 80x10	2b 80x10	2b 80x10	2b 80x10	2b 80x10	2b 80x10	2b 80x10	■
	I (A)	2000	2000	2000	1950	2000	1900	1950	1830	1900	1760	1830		
NW25	Size per phase	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	2b100x10	■
	I (A)	2470	2280	2410	2210	2350	2140	2280	2070	2210	2000	2140		
NW32	Size per phase	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	2b120x10	■
	I (A)	2960	2730	2890	2630	2820	2530	2730	2450	2630	2370	2530		

■ connection not possible.

Canalis connection

For Canalis connections, apply the appropriate derating coefficient K.

Devices	NW08	NW10	NW12	NW16	NW20	NW25	NW32
Derating coefficient K	1	1	1	0.98	0.98	0.97	0.97

Note: the values indicated above have been validated for Prisma Plus switchboards.

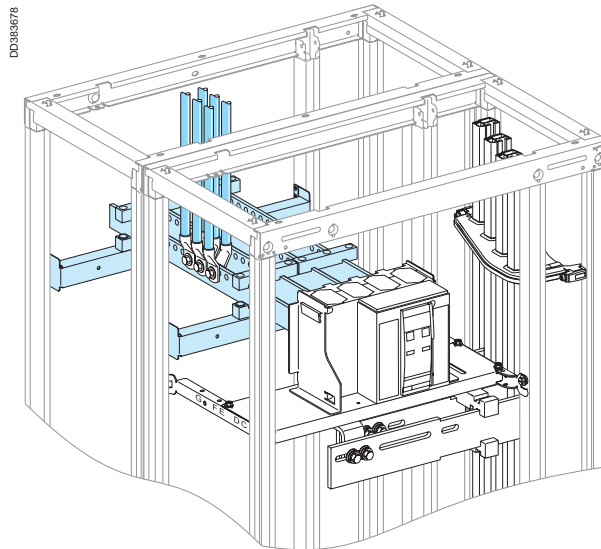
Designing customer connections

Fixed Masterpact NT06 to NT16

Rear connection

Masterpact NT06 to NT16

Fixed



Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making a customer connection for a vertical, fixed Masterpact NT06/NT16, taking into account the ambient temperature around the switchboard and the IP value. Connection to be made according to the busbar drawings supplied. For connection cable cross-sections and quantities, see page D-46.

Customer connection

Flat busbars, 5 mm thick

Devices		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NT06	Size per phase	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	2b 50x5	2b 50x5	2b 50x5	2b 50x5	2b 50x5	2b 50x5	2b 50x5	2b 50x5	2b 50x5	2b 50x5	2b 50x5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NT12	Size per phase	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1200	1250	
NT16	Size per phase	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	■
	I (A)	1600	1570	1600	1520	1570	1470	1520	1420	1470	1370	1420	

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing customer connections

Designing electrical characteristics

Fixed Masterpact NT06 to NT16 Rear connection

Customer connection

Flat bars, 10 mm thick

Devices		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NT06	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
NT12	Size per phase	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1180	1230	
NT16	Size per phase	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	■
	I (A)	1600	1570	1600	1520	1570	1470	1520	1420	1470	1370	1420		

■ connection not possible.

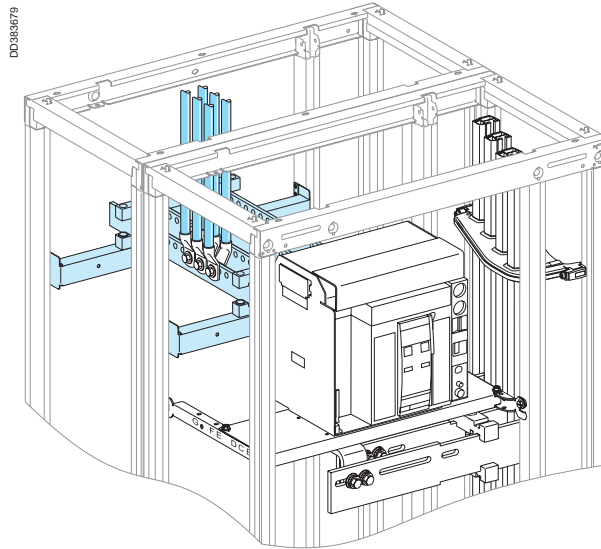
Canalis connection

For Canalis connections, apply the appropriate derating coefficient K.

Devices	NT06b	NT08	NT10	NT12	NT16
Derating coefficient K	1	1	1	1	0.98

Note: the values indicated above have been validated for Prisma Plus switchboards.

Masterpact NT06 to NT16 Drawout



Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making the connections to busbars for a vertical, drawout Masterpact NT06/NT16, taking into account the ambient temperature around the switchboard and the IP value. Connection to be made according to the busbar drawings supplied. For connection cable cross-sections and quantities, see page D-46.

Customer connection

Flat bars, 5 mm thick

Devices		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NT06	Size per phase	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NT08	Size per phase	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NT10	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000		
NT12	Size per phase	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	■
	I (A)	1250	1250	1250	1250	1250	1230	1250	1180	1230	1130	1180		
NT16	Size per phase	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	■
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330		

■ connection not possible.

Customer connection

Flat bars, 10 mm thick

Devices		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NT06	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630
NT08	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800
NT10	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000	
NT12	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10
	I (A)	1250	1250	1250	1250	1250	1210	1250	1160	1210	1110	1160	
NT16	Size per phase	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	

■ connection not possible.

Canalis connection

For Canalis connections, apply the appropriate derating coefficient K.

Devices	NT06	NT08	NT10	NT12	NT16
Derating coefficient K	1	1	1	1	0.98

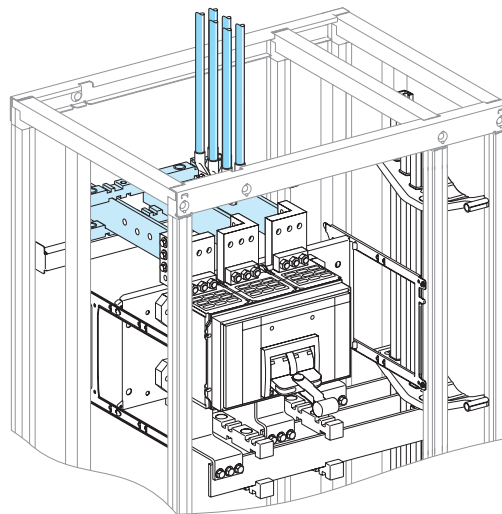
Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing customer connections

Fixed NS1600b to NS3200 Front or rear connection

Compact NS1600b/3200 Fixed, top or bottom connection

Dx383542



Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making a front or rear customer connection for a vertical, fixed Compact NS1600b/3200, taking into account the ambient temperature around the switchboard and the IP value. Connection to be made according to the busbar drawings supplied. For connection cable cross-sections and quantities, see page D-46.

Customer connection

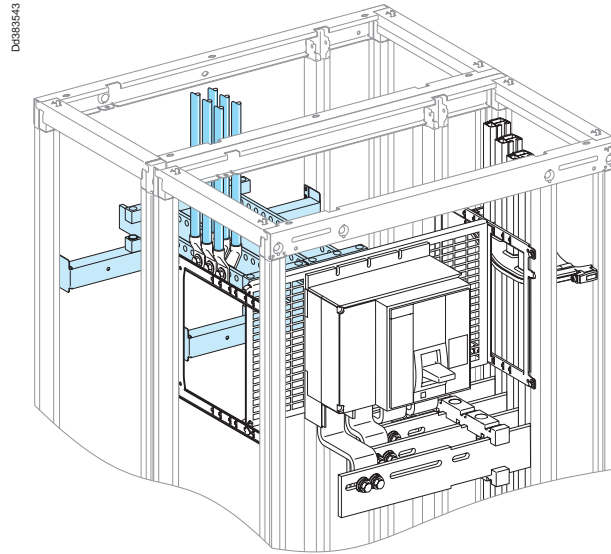
Flat bars, 10 mm thick

Devices		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS1600b	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	■
	I (A)	1560	1480	1520	1430	1480	1380	1430	1330	1380	1280	1330		
NS2000	Size per phase	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	2b 80 x 10	■
	I (A)	2000	2000	2000	1950	2000	1900	1950	1830	1900	1760	1830		
NS2500	Size per phase	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	2b100 x 10	■
	I (A)	2470	2280	2410	2210	2350	2140	2280	2070	2210	2000	2140		
NS3200	Size per phase	2b120 x 10	2b120 x 10	2b120 x 10	2b120 x 10	2b120 x 10	2b120 x 10	2b120 x 10	2b120 x 10	2b120 x 10	2b120 x 10	2b120 x 10	2b120 x 10	■
	I (A)	2860	2630	2790	2530	2720	2430	2630	2350	2530	2270	2430		

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Compact NS630b to NS1600 Fixed



Determining the size of the copper bars and the maximum permissible currents when making a customer connection for a vertical, fixed Compact NS630b/NS1600, taking into account the ambient temperature around the switchboard and the IP value. Connection to be made according to the busbar drawings supplied. For connection cable cross-sections and quantities, see page D-46.

Customer connection

Flat bars, 5 mm thick

Devices		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b	Size per phase	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630		
NS800	Size per phase	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800		
NS1000	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	970	1000		
NS1250	Size per phase	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1200	1250	1150	1200		
NS1600	Size per phase	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	■
	I (A)	1600	1550	1600	1500	1550	1450	1500	1400	1450	1350	1400		

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing customer connections

Fixed Compact NS630b to NS1600

Rear connection

Designing electrical characteristics

Customer connection

Flat bars, 10 mm thick

Devices		Permissible current (A)															
		Ambient temperature around the switchboard															
		25 °C				30 °C				35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NS630b	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	970	1000	1000	1000		
NS1250	Size per phase	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	1b 80x10	■
	I (A)	1250	1250	1250	1250	1250	1250	1250	1180	1230	1130	1180	1180	1180	1180		
NS1600	Size per phase	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	■
	I (A)	1600	1550	1600	1500	1550	1450	1500	1400	1450	1350	1400	1400	1400	1400		

■ connection not possible.

Canalis connection

For Canalis connections, apply the appropriate derating coefficient K.

Devices	NS630b	NS800	NS1000	NS1250	NS1600
Derating coefficient K	1	1	1	1	0.98

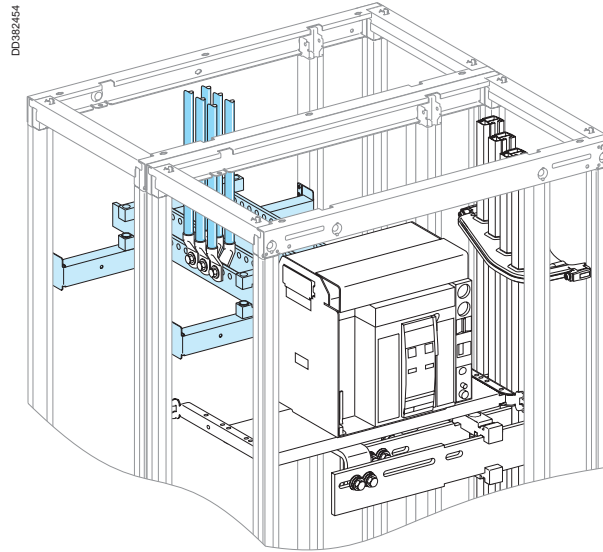
Note: the values indicated above have been validated for Prisma Plus switchboards.

Designing customer connections

Designing electrical characteristics

Withdrawable Compact NS630b to NS1600, rear connection

Compact NS630b to NS1600 Withdrawable



Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making a rear customer connection for a vertical, withdrawable Compact NS630b/NS1600, taking into account the ambient temperature around the switchboard and the IP value.
 Connection to be made according to the busbar drawings supplied.
 For connection cable cross-sections and quantities, see page D-46.

Customer connection

Flat bars, 5 mm thick

Devices		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NS630b	Size per phase	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	1b 60x5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	1b 80x5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000	
NS1250	Size per phase	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	2b 80x5	■
	I (A)	1250	1250	1250	1250	1250	1230	1250	1180	1230	1130	1180	
NS1600	Size per phase	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	2b 100x5	■
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Customer connection

Flat bars, 10 mm thick

Devices		Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
NS630b	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630
NS800	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800
NS1000	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	960	1000	
NS1250	Size per phase	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10	1b 80 x 10
	I (A)	1250	1250	1250	1250	1250	1210	1250	1160	1210	1110	1160	
NS1600	Size per phase	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10	1b100x10
	I (A)	1560	1430	1520	1430	1480	1380	1430	1330	1380	1280	1330	

■ connection not possible.

Canalis connection

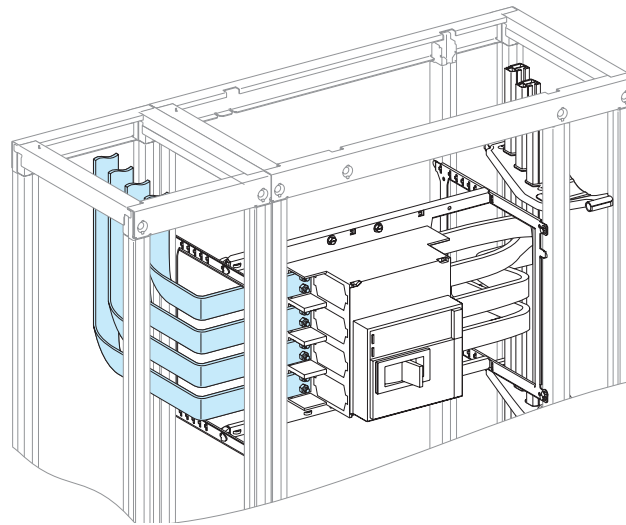
For Canalis connections, apply the appropriate derating coefficient K.

Appareil/Devices	NS630b	NS800	NS1000	NS1250	NS1600
Derating coefficient K	1	1	1	1	0.98

Note: the values indicated above have been validated for Prisma Plus switchboards.

Compact NS630b to NS1600 Horizontal, fixed

Dx839545



Using the data below, it is possible to determine the size of the copper bars and the maximum permissible currents when making the connections to busbars for a horizontal, fixed Compact NS630b/NS1600, taking into account the ambient temperature around the switchboard and the IP value. Connection to be made according to the busbar drawings supplied.

Customer connection

Flat bars, 5 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	
NS630b	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	2b 50 x 5	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	

Flat bars, 10 mm thick

Device		Permissible current (A)												
		Ambient temperature around the switchboard												
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C		
		1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
NS630b	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	630	630	630	630	630	630	630	630	630	630	630	630	
NS800	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	800	800	800	800	800	800	800	800	800	800	800	800	
NS1000	Size per phase	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	1b 50 x 10	■
	I (A)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	

■ connection not possible.

Note: the values indicated above have been validated for Prisma Plus switchboards.

Permissible current and selection of horizontal busbars

The goal is to optimise busbar size according to the installation and operating criteria.

Horizontal busbars

Fupact INF/ISFT/ISFL

Flat busbars, 5 mm thick

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1 bar, 60 x 5 mm	800	750	760	700	710	650	660	600	610	550	560	■
1 bar, 80 x 5 mm	1000	910	970	860	910	810	860	750	810	700	750	■
2 bars, 60 x 5 mm	1400	1250	1320	1160	1250	1070	1160	980	1070	880	980	■
2 bars, 80 x 5 mm	1700	1500	1600	1400	1500	1280	1400	1160	1280	1030	1160	■

Flat busbars, 10 mm thick

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1 bar, 50 x 10 mm	1150	1000	1080	930	1000	850	930	760	850	670	760	■
1 bar, 60 x 10 mm	1400	1250	1320	1160	1250	1070	1160	980	1070	880	980	■
1 bar, 80 x 10 mm	1700	1500	1600	1400	1500	1280	1400	1160	1280	1030	1160	■
2 bars, 50 x 10 mm	1940	1690	1840	1560	1700	1420	1560	1270	1420	1100	1270	■
2 bars, 60 x 10 mm	2170	1900	2040	1750	1900	1590	1750	1420	1590	1240	1420	■
2 bars, 80 x 10 mm	2670	2340	2500	2160	2340	1970	2160	1770	1970	1550	1770	■
2 bars, 100 x 10 mm	3120	2750	2930	2520	2750	2310	2520	2070	2310	1820	2070	■

Rear horizontal busbars

ISFT/ISFL

Flat busbars, 10 mm thick

Device	Size per phase	Permissible current (A)											
		Ambient temperature around the switchboard											
		25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
		IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
ISFT 160	1bar, 50 x 10 mm	730	680	680	630	630	570	570	510	510	450	450	■
ISFL 160	1bar, 60 x 10 mm	1400	1250	1320	1160	1250	1070	1160	980	1070	880	980	■
	1bar, 80 x 10 mm	1700	1500	1600	1400	1500	1280	1400	1160	1280	1030	1160	■
ISFL 250/400/630	1bar, 80 x 10 mm	1700	1500	1600	1400	1500	1280	1400	1160	1280	1030	1160	■
	1bar, 100 x 10 mm	2050	1800	1930	1680	1800	1540	1680	1400	1540	1240	1400	■
	1bar, 120 x 10 mm	2390	2100	2250	1950	2100	1800	1950	1630	1800	1440	1630	■

■ connection impossible due to operating-temperature limits of the devices installed in the switchboard.

Permissible current and selection of horizontal busbars

The goal is to optimise busbar size according to the installation and operating criteria.

Lateral flat busbars

Fupact INF/ISFT

Flat busbars, 5 mm thick

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1 bar, 60 x 5 mm	800	750	760	700	710	650	660	600	610	550	560	■
1 bar, 80 x 5 mm	1000	910	970	860	910	810	860	750	810	700	750	■
2 bars, 60 x 5 mm	1400	1250	1320	1160	1250	1070	1160	980	1070	880	980	■
2 bars, 80 x 5 mm	1700	1500	1600	1400	1500	1280	1400	1160	1280	1030	1160	■

Flat busbars, 10 mm thick

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1 bar, 50 x 10 mm	1150	1000	1080	930	1000	850	930	760	850	670	760	■
1 bar, 60 x 10 mm	1400	1250	1320	1160	1250	1070	1160	980	1070	880	980	■
1 bar, 80 x 10 mm	1700	1500	1600	1400	1500	1280	1400	1160	1280	1030	1160	■
2 bars, 50 x 10 mm	1940	1690	1810	1560	1700	1420	1560	1270	1420	1100	1270	■
2 bars, 60 x 10 mm	2170	1900	2040	1750	1900	1590	1750	1420	1590	1240	1420	■
2 bars, 80 x 10 mm	2670	2340	2500	2160	2340	1970	2160	1770	1970	1550	1770	■
2 x 1 bar, 80 x 10 mm	3020	2650	2840	2450	2650	2230	2450	2010	2230	1760	2010	■

Lateral Linergy busbars

Fupact INF/ISFT

Linerigy bar

Type of bars	Permissible current (A)											
	Ambient temperature around the switchboard											
	25 °C		30 °C		35 °C		40 °C		45 °C		50 °C	
Size per phase	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
Linerigy 630	680	590	630	550	590	530	550	500	530	460	460	■
Linerigy 800	840	760	800	720	760	680	720	640	680	600	640	■
Linerigy 1000	1040	950	990	900	950	850	900	800	850	750	800	■
Linerigy 1250	1290	1170	1230	1100	1170	1030	1100	970	1050	910	980	■
Linerigy 1600	1580	1390	1480	1320	1390	1250	1320	1180	1250	1110	1180	■
Linerigy 2000 (2 x 1000)	1900	1720	1820	1620	1720	1520	1620	1420	1520	1320	1420	■
Linerigy 2500 (2 x 1250)	2380	2120	2260	2020	2120	1900	2020	1780	1900	1660	1780	■
Linerigy 3200 (2 x 1600)	3060	2780	2920	2640	2780	2500	2640	2360	2500	2220	2360	■

■ connection impossible due to operating-temperature limits of the devices installed in the switchboard.

The IP and IK degrees of protection provided by an enclosure must be specified as a function of the various external influences defined by standard IEC 30364-5-51, in particular:

- presence of foreign solid bodies (code AE)
- presence of water (code AD)
- mechanical stress (code not specified)
- capability of persons (code BA)
-

Prisma Plus switchboards are designed for indoor installation.

Unless the rules, standards and regulations of a specific country stipulate otherwise, Schneider Electric recommends the following IP and IK values based on French guide UTE C 15-103 (March 2004).

Using the table

- 1 Opposite the relevant premises, read the recommended IP and IK values.
- 2 The ■ symbol indicates the enclosure or cubicle satisfying the criteria of the UTE guide.
Any enclosure or cubicle with a higher degree of protection can also be used.
- 3 If several degrees of protection are possible (refer to the standard for more details) and the □ and ■ symbols are indicated (e.g. 24[□]/25[■]), enclosures that correspond to the higher degree of protection (■) are suitable for the lower degree of protection (□).

Example:

Selection of an enclosure for a laundry room.

Minimum degree of protection: IP21/IK02

A wall-mount enclosure with a door (plain or transparent), a canopy and a gasket offer IP31/IK08 degrees of protection and are therefore suitable for this application.

Type of premises	Enclosure or cubicle					
	Wall-mounted enclosure	without door	with door	with door + canopy	with door + canopy + gasket	IP55
	Floor-standing enclosure	without door	with door	with door + canopy	with door + canopy + gasket	
	Cubicle	with fixed frame	with door + IP30 cover	with door + gasket + IP30 cover		with door + IP55 cover
Min. IP/IK required		IP30/IK07	IP30/IK08	IP31/IK08	IP43/IK08	IP55/IK10
	IP	IK				
Domestic or comparable premises or locations						
Porch	24	07				■
Bathrooms (see washrooms)						
Bicycles, motorcycles, tricycles, etc. (premises for)	20	07	■			
Water, sewer and heating connections	23	02			■	
Laundries	21	02		■		
Cellars, garages, furnace rooms	20	02/07	■			
Bedrooms	20	02	■			
Trash rooms	25	07				■
Halls in cellars	20	07	■			
Courtyards	24/25	02/07				■
Kitchens	20	02	■			
Shower rooms (see washrooms)						
Indoor stairways and alleys	20	02/07	■			
Outdoor stairways and outdoor alleys without roofs	24	07				
Outdoor alleys with roofs	21	02		■		
Attics (roof space)	20	02	■			
Garden shelters	24/25	02/07				■
Latrines	20	02	■			
Dustbin rooms	25	02/07				■
Ironing room	20	02	■			
Access ramps to garages	25	07				■

Selection of enclosures according to the premises

Enclosure characteristics

Type of premises		Enclosure or cubicle					
		Wall-mounted enclosure	with door	with door	with door + canopy	with door + canopy + gasket	IP55
		Floor-standing enclosure	with door	with door	with door + canopy	with door + canopy + gasket	
		Cubicle	with fixed frame	with door + IP30 cover	with door + gasket + IP30 cover		with door + IP55 cover
		Min. IP/IK required	IP30/IK07	IP30/IK08	IP31/IK08	IP43/IK08	IP55/IK10
		IP	IK				
Washrooms, rooms containing a bathtub or shower	volume 0	27	02				
	volume 1	24	02				■
	volume 2	23	02			■	
	volume 3	21	02		■		
Lounges, living rooms, etc		20	02	■			
Drying rooms		21	02			■	
Covered terraces		21	02			■	
WCs		20	02	■			
Verandas		20	02	■			
Crawl spaces		23	07			■	
Commercial premises and adjoining areas							
Gunsmiths (storage area, workshop)		30	08		■		
Laundries (wash room)		24	07				■
Butchers	shop	24	07				■
	cold room ≤ -10 °C	23	07			■	
Bakers, cake shops (kitchens)		50	07				■
Coffee roasters		21	02			■	
Coal, wood, oil		20	08		■		
Delicatessen (production)		24	07				■
Sweets (production)		20	02	■			
Shoe repair shops		20	02	■			
Dairies		24	02				■
Hardware stores (storage areas for chemicals and paint)		33	07			■	
Wood workers		50	07				■
Art galleries		20	02/07	■			
Florists		24	07				■
Furriers		20	07	■			
Fruit and vegetable merchants		24	07				■
Grain shops		50	07				■
Bookshops, stationers		20	02	■			
Motorcycle and bicycle repairs and accessories		20	08		■		
Messenger services		20	08		■		
Furniture shops (antiques, second-hand)		20	07	■			
Glass and mirror merchants (workshop)		20	07	■			
Wallpaper shop (storage area)		20	07	■			
Cosmetics shop (storage area)		20	02	■			
Chemists (storage area)		20	02	■			
Photographers (dark room)		23	02			■	
Plumbers (storage area)		20	08		■		
Fishmongers		25	07				■
Dry cleaners		23	02			■	
Hardware stores (without paint, chemicals, etc)		20	07	■			
Locksmiths		20	07 ² /08 ²	□	■		
Vintners, spirits		20	07	■			
Interior decorator (carding)		50	07				■
Tailors, clothing retailers (storage area)		20	02	■			
Pet care		35	07				■

Enclosure characteristics

Type of premises		Enclosure or cubicle					
		Wall-mounted enclosure	without door	with door	with door + canopy	with door + canopy + gasket	IP55
		Floor-standing enclosure	without door	with door	with door + canopy	with door + canopy + gasket	
		Cubicle	with fixed frame	with door + IP30 cover	with door + gasket + IP30 cover		with door + IP55 cover
Min. IP/IK required			IP30/IK07	IP30/IK08	IP31/IK08	IP43/IK08	IP55/IK10
		IP	IK				
Buildings open to the general public							
Shared premises of buildings open to the general public	storage rooms	20	08		■		
	packing rooms	20	08		■		
	archive rooms	20	02	■			
	film and magnetic media storage	20	02	■			
	linen rooms	20	02	■			
	laundry rooms	24	07				■
	misc. shops	21	07/08			■	
	kitchens (large)						
J	Reception old and handicapped people	20	02	■			
L	Lecture halls, meeting rooms, auditoriums, halls used for several purposes	20	02/07	■			
	stage areas	20	08		■		
	scenery storage rooms	20	08		■		
M	Retail premises, shopping malls	20	08		■		
	sales premises	20	08		■		
N	Restaurants and cafes	20	08		■		
	areas for storage and handling of packing	20	08		■		
O	Hotels and boarding houses	20	02	■			
P	Dance halls and gaming parlours	20	07	■			
R	Teaching establishments, holiday camps	20	02	■			
	classrooms	20	08		■		
S	Libraries and documentation centres	20	02	■			
T	Exhibitions	20	02	■			
	halls and rooms	20	07	■			
U	Healthcare establishments	20	02	■			
	bedrooms	21	07/08			■	
	operating rooms	20	07	■			
	centralised sterilisation	24	02/07				■
	pharmacies and labs with more than 10 l of inflammable liquids	21 ² /23 ²	02 ² /07 ²			□	■
V	Places of worship	20	02	■			
W	Administrative premises, banks	20	02	■			
X	Indoor sports facilities	20	07 ² /08 ²	□	■		
	halls	21	08			■	
	premises containing refrigeration facilities						
Y	Museums	20	02	■			
PA	Covered open air facilities	23 ² /25 ²	08 ² /10 ²			□	■
CTS	Marquees and tents	44	08				■
SG	Inflatable structures	44	08				■
PS	Covered parking lots	21	08 ² /10 ²			□	■

Selection of enclosures according to the premises

Enclosure characteristics

Type of premises		Enclosure or cubicle							
		Wall-mounted enclosure		without door	with door	with door + canopy	with door + canopy + gasket	IP55	
		Floor-standing enclosure		without door	with door	with door + canopy	with door + canopy + gasket		
		Cubicle		with fixed frame	with door + IP30 cover	with door + gasket + IP30 cover		with door + IP55 cover	
Min. IP/IK required		IP30/IK07	IP30/IK08	IP31/IK08	IP43/IK08	IP55/IK10			
IP		IK							
Technical premises									
Battery rooms	23	02/07					■		
Lifts (machine rooms and pulley rooms)	20	07 [□] /08 [■]	□	■					
Electrical rooms	20	07	■						
Control rooms	20	02	■						
Workshops	21 [□] /23 [■]	07 [□] /08 [■]				□	■		
Laboratories	21 [□] /23 [■]	02 [□] /07 [■]				□	■		
Air conditioning washers	24	07							■
Garages (used exclusively for parking vehicles) of an area not exceeding 100 m ²	21	07				■			
Machine rooms	31	07/08				■			
Water pressurisers	23	07/08					■		
Boiler houses and adjoining premises (power in excess of 70 kW)									
Boiler rooms	coal fuel	51 [□] /61 [■]	07 [□] /08 [■]						□
	other fuel	21	07/08				■		
	electrical	21	07/08				■		
Fuel storage areas	coal	50 [□] /60 [■]	08						□
	oil	20	07 [□] /08 [■]	□	■				
	liquefied gas	20	07 [□] /08 [■]	□	■				
Cinder tips	50	08							■
Pump rooms	21 [□] /23 [■]	07 [□] /08 [■]				□	■		
Pressure reduction rooms (gas)	20	07 [□] /08 [■]	□	■					
Steam or hot water facilities	21 [□] /23 [■]	07 [□] /08 [■]				□	■		
Expansion vessel rooms	21	02				■			
Garages and car parks of an area exceeding 100 m²									
Parking lots	21	07 [□] /10 [■]				□			■
Carwash areas (inside premises)	25	07							■
Petrol stations	inside	21	07				■		
	outside								
Lubrication areas	23	08					■		
Battery recharging areas	23	07					■		
Workshops	21	08				■			
Public building (other than for the general public)									
Offices	20	02	■						
Libraries	20	02	■						
Archives	20	02	■						
Computer rooms	20	02	■						
Design offices	20	02	■						
Rooms containing reprographic machines	20	02	■						
Sorting rooms	20	07	■						
Refectories in restaurants or canteens	21	07				■			
Large kitchens									
Sports rooms	20	07 [□] /08 [■]	□	■					
Barracks	20	07	■						
Meeting rooms	20	02	■						
Waiting rooms, lounges, halls	20	02	■						
Medical consulting rooms, not fitted with specific equipment	20	02	■						
Demonstration and exhibition rooms	20	02/07	■						

Selection of enclosures according to the premises

Enclosure characteristics

Type of premises		Enclosure or cubicle					
		Wall-mounted enclosure	without door	with door	with door + canopy	with door + canopy + gasket	IP55
Floor-standing enclosure		without door	with door	with door + canopy	with door + canopy + gasket		
		Cubicle	with fixed frame	with door + IP30 cover	with door + gasket + IP30 cover		with door + IP55 cover
Min. IP/IK required		IP30/IK07	IP30/IK08	IP31/IK08	IP43/IK08	IP55/IK10	
IP		IK					
Farm premises or locations							
Alcohol (storage)	23	07				■	
Closed cattle sheds	35	07				■	
Laundries	24	07				■	
Wood storage rooms	30	10				■	
Threshing floors	50	07				■	
Distilling cellars	23	07				■	
Vat rooms (wine)	23	07				■	
Courtyards	35	07				■	
Poultry barns	35	07				■	
Stables	35	07				■	
Fertiliser (storage)	50	07				■	
Stables	35	07				■	
Manure heaps	24	07				■	
Haylofts	50	07				■	
Haystacks, forage (storage)	50	07				■	
Granaries, barns	50	07				■	
Straw (storage)	50	07				■	
Greenhouses	23	07				■	
Grain silos	50	07				■	
Milking rooms	35	07				■	
Pig sties	35	07				■	
Chicken houses	35	07				■	
Miscellaneous installations							
Fair facilities	33	08				■	
Water treatment facilities	24/25	07/08				■	
Thermodynamic installations, air-conditioned rooms and cold rooms							
Height above ground	from 0 to 1.10 m	25	07			■	
	from 1.10 to 2 m	24	07			■	
	above 2 m under evaporator or water drain pipe	21	07			■	
	ceiling and up to 10 cm underneath	23	07			■	
Temperature ≤ -10 °C	23	07				■	
Compressor	room	21	08			■	
	integral unit located outside or on a terrace	34	08				

Selection of enclosures according to the premises

Enclosure characteristics

Type of premises	Enclosure or cubicle					
	Wall-mounted enclosure	without door	with door	with door + canopy	with door + canopy + gasket	IP55
	Floor-standing enclosure	without door	with door	with door + canopy	with door + canopy + gasket	
	Cubicle	with fixed frame	with door + IP30 cover	with door + gasket + IP30 cover		with door + IP55 cover
	Min. IP/IK required	IP30/IK07	IP30/IK08	IP31/IK08	IP43/IK08	IP55/IK10
	IP	IK				
Industrial facilities						
Slaughter houses	55	08				■
Batteries (manufacture)	33	07				■
Acid (manufacture and storage)	33	07				■
Alcohol (manufacture and storage)	33	07				■
Aluminium (manufacture and storage)	51	08				■
Livestock (raising, fattening and sale)	45	07				■
Asphalt and bitumen storage	53	07				■
Wool beating and carding	50	08				■
Industrial laundry	24/25	07				■
Wood (processing)	50	08				■
Meat packers	24/25	07				■
Bakeries	50	07				■
Breweries	24	07				■
Brickworks	53	08				■
Rubber (production and processing)	54	07				■
Carbide (manufacture and storage)	51	07				■
Ammunition factories	53	08				■
Carton board (production)	33	07			■	
Quarries	55	08				■
Celluloid (manufacture of objects)	30	08		■		
Cellulose (manufacture)	34	08				■
Coal (depots)	53	08				■
Pork products	24/25	07				■
Boiler-making works	30	08		■		
Lime kilns	50	08				■
Rag (storage)	30	07	■			
Chlorine (manufacture and storage)	33	07			■	
Chrome-plating	33	07			■	
Cement works	50	08				■
Coking plant	53	08				■
Adhesives (production)	33	07			■	
Bottling lines	35	08				■
Liquid fuels (storage)	31 [□] /33 [■]	08		□	■	
Fats (processing)	51	07				■
Leather (tanning and storage)	31	08		■		
Copper (ore processing)	31	08		■		
Paint stripping	54	08				■
Detergents (manufacture)	53	07				■
Distilleries	33	07			■	
Electrolysis	33	08			■	
Ink manufacturing	31	07		■		
Fertilisers (manufacture and storage)	53	07				■
Explosives (manufacture and storage)	55	08				■
Iron (production and processing)	51	08				■
Spinning mills	50	07				■
Furriers (beating process)	50	07				■
Cheese factories	25	07				■
Gas (production and storage)	31	08		■		
tar (processing)	33	05			■	
Seed production	50	07				■
Metal engraving	33	07			■	
Oils (extrac ion)	31	07		■		
Petroleum products (manufacture)	33 [□] /34 [■]	08			□	■
Printworks	20	08		■		

Selection of enclosures according to the premises

Enclosure characteristics

Type of premises	Enclosure or cubicle					
	Wall-mounted enclosure	without door	with door	with door + canopy	with door + canopy + gasket	IP55
	Floor-standing enclosure	without door	with door	with door + canopy	with door + canopy + gasket	
	Cubicle	with fixed frame	with door + IP30 cover	with door + gasket + IP30 cover		with door + IP55 cover
	Min. IP/IK required	IP30/IK07	IP30/IK08	IP31/IK08	IP43/IK08	IP55/IK10
	IP	IK				
Industrial establishments (continued)						
Dairies	25	07				■
Public wash-houses	25	07				■
Liqueurs (production)	21	07			■	
Halogenated liquids (use)	21	08			■	
Inflammable products (storage and workshops where they are used)	21	08			■	
Magnesium (production, storage and use)	31	08			■	
Machine rooms	20	08	■			
Plastics (production)	51	08				■
Cabinet makers	50	08				■
Metals (processing)	31 [□] /33 [■]	08		□	■	
Combustion engines (testing of)	30	08	■			
Ammunition storage	33	08			■	
Nickel (ore processing)	33	08			■	
Household waste (processing)	54	07				■
Paper (production)	33 [□] /34 [■]	07			□	■
Paper (storage)	31	07		■		
Perfume (production and storage)	31	07		■		
Pulp mill	34/35	07				■
Paint (production and storage)	33	08			■	
Plaster (processing and storage)	50	07				■
Gunpowder factory	55	08				■
Chemicals (production)	30 [□] /50 [■]	08	□			■
Oil refineries	34/35	07				■
Salt preserve factories	33	07			■	
Soap (production)	31	07		■		
Saw mills	50	08				■
Metalwork shops	30	08	■			
Grain or sugar silos	50	07				■
Silk and artificial hair factories	50	08				■
Sodium carbonate (processing and storage)	33	07			■	
Sulphur (processing)	51	07				■
Spirits (storage)	33	07			■	
Sugar mills	55	07				■
Tanners	35	07				■
Dye works	35	07				■
Textile and fabric (production)	51	08				■
Varnish (production and application)	33	08			■	
Glass works	33	08			■	
Zinc works	31	08		■		

Enclosure characteristics

Merlin Gerin enclosures comply with standard EN 50298 for empty enclosures. The sheet metal used for Merlin Gerin enclosures receives an anti-corrosion epoxy electrophoresis treatment and a coating of a thermosetting, polyester-resin-modified epoxy powder for colour and appearance. This two-coat system provides excellent finish and corrosion protection. The characteristics of this coating are much better than those of traditional epoxy powders:

- improved colour stability
- wider operating temperature range.

Mechanical properties of enclosures

Static load on doors, wall-mount and floor-standing enclosures and cubicles

Cubicle	400 kg
Floor-standing enclosure	64 kg
Wall-mount enclosure	48 kg
Cubicle door	12 kg
Floor-standing enclosure door	4 kg
Wall-mount enclosure door	4 kg

Mechanical properties of powder coated surfaces

Test conditions

Test piece made of 1 mm thick steel sheet, degreased, iron phosphated, final rinsing with 100000 Ω cm DI water, 15 microns of anti-corrosion electrophoresis treatment and 35 microns of powder paint.

Adhesion (cross-hatch and pull-off)	class 0 required	(ISO 2409)
Impact strength ⁽¹⁾	> 1 kg/50 cm	(ISO 6272)
Mandrel bending test ⁽²⁾	< 10 mm	(ISO 6860)
Persoz hardness	300 s	(ISO 1522)

(1) No cracking of the paint film after dropping a weight of one kilogram on the test piece from a height of 50 centimetres.

(2) Film cracks over a length of 10 millimetres maximum.

Artificial ageing test on powder coating

Test conditions:

Two tests carried out on the same 1 mm thick steel sheet test piece.

■ cyclical damp-heat test:

- as per standard IEC 68-2-30
- six 24-hour cycles at temperatures higher than 40 °C

■ continuous resistance to neutral salt mist:

- the tests were carried out over a period of 400 hours, far more than the 48 hours required by the standard for indoor installations
- as per standard IEC 68-2-11 and ISO 7253
- 400 hours without blistering for normal surface on test piece
- 250 hours for a scratched surface.

Evaluation of corrosion as per ISO 4628:

- adhesion: class ≤ 1
- blistering: degree 1 dim.1
- rusting: Ri 1
- cracking: class 1
- flaking imp. 1 dim. 1

propagation of corrosion under scratch with respect to the scratch axis: 3 mm max.

Enclosure characteristics

Chemical properties of powder coating

Tests carried out at ambient temperature on phosphated test pieces coated with a 150 to 200 micron film.

Test duration (months)		2	4	6	8	10	12
Acids	Concentration						
	Acetic 20 %						
	Sulphuric 30 %						
	Nitric 30 %						
	Phosphoric 30 %						
	Hydrochloric 30 %						
	Lactic 10 %						
	Citric 10 %						
Bases	Soda 10 %						
	Ammonia 10 %						
Water	Distilled water						
	Seawater						
	Tap water						
	Diluted bleach						
Solvents	Petrol						
	High alcohols						
	Aliphatics						
	Aromatics						
	Ketones, esters						
	Tri-perchloroethylene						

 Film intact.

 Film damaged (blisters, yellowing, loss of shine).

Thermal management of switchboards

General

Thermal characteristics of switchboards

A switchboard is designed for operation under normal ambient conditions. Most devices do not operation correctly outside a temperature range of -10 and +70 °C.

It is therefore important to maintain the switchboard internal temperature within this temperature range by:

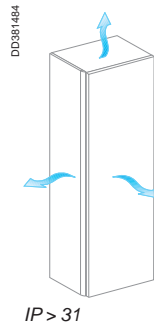
- correctly sizing the switchboard during design
- correcting the temperature using suitable means.

Management of the internal temperature

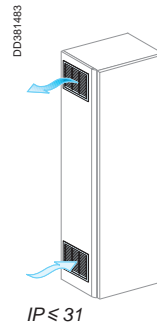
Cooling

There are a number of way to dissipate heat from the switchboard. The drawings below present the various means.

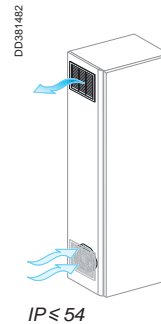
Convection



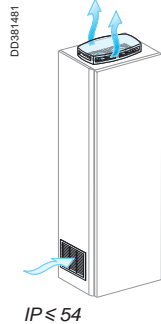
Ensured naturally in Prisma Plus enclosures



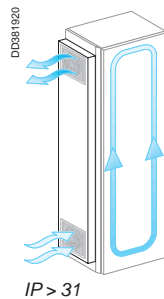
Forced-air ventilation



Using fans, it significantly increases the thermal capacity of an enclosure.

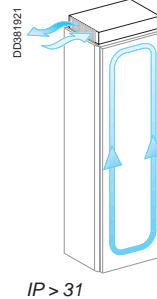


Forced-air ventilation with air-air exchanger



On special request.

Forced convection and cooling



For these extreme cases, many installers prefer to set up the switchboards with other electrotechnical and electronic devices in air-conditioned electrical rooms.

Heating

The means employed to raise the internal temperature in a switchboard is a resistor-based heater, used to:

- avoid condensation by limiting variations in temperature
- ensure that the switchboard does not freeze.

Thermal characteristics of switchboards

Calculation of the internal temperature

Calculation of the temperature is the means to check that the enclosure can evacuate the dissipated power of the installed devices.

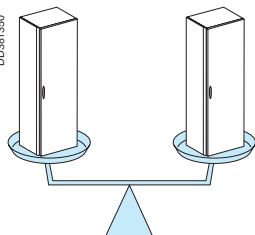
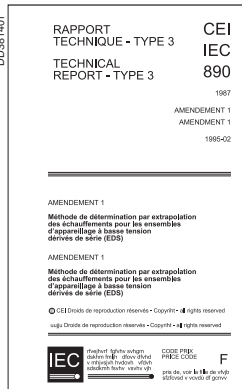
Important note

Correct thermal management of the switchboard depends on compliance with the installation requirements for the distribution system (power circuits). Incorrect installation will have major consequences on the connected device, but almost none on the internal temperature of the enclosure. Once the circuit has been correctly sized, it is necessary to check whether the assembly (devices + distribution system + cables) have a level of dissipated power $P(W) \leq$ the $P(W)$ that the enclosure can handle.

Method defined by IEC 890 technical report

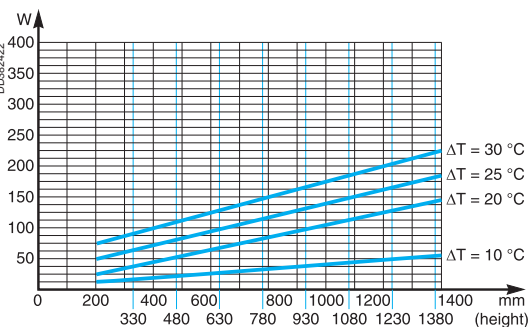
This IEC guide for switchboards proposes a calculation method to determine three levels of internal temperature, depending on the dissipated power of the devices and distribution blocks installed in the switchboard. Users can consult this document when it is necessary to determine precisely the internal temperature in view of optimising the switchboard.

On request, Schneider Electric can carry out a thermal study to check that the installed assembly and the thermal capacity of the enclosure are compatible.



Comparative method

A number of qualified and tested configurations serve as the basis for indicating the thermal capacity of Prisma Plus enclosures. This is an empirical means to check whether the dissipated power of the desired configuration is close to that of a tested configuration.



Method using charts taking into account enclosure characteristics

To speed up calculations, Schneider Electric produces charts based on the company's experience and a number of assumptions on the installation. They can be used sufficiently precisely to determine the variations in temperature and the dissipated-power levels for the different types of wall-mount enclosures, floor-standing enclosures and cubicles.

For details on the calculation of the dissipated power in the **device** zone, see page D-81.

Thermal management of switchboards

Comparative method

Thermal characteristics of switchboards

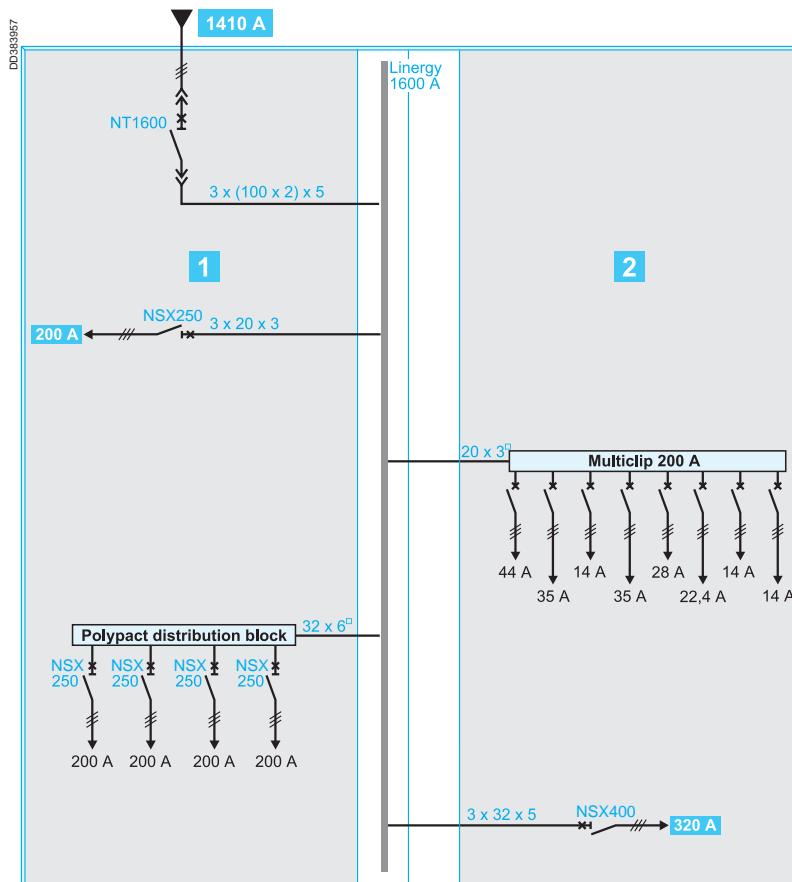
Two cubicles with busbar compartment, 800 mm wide, 400 mm deep, IP30

Diversity factor: 0.7 and 0.8

Ambient temperature around the switchboard: 35 °C

Cubicle 1 : P(W) of device zone = 580 W

Cubicle 2 : P(W) of device zone = 180 W



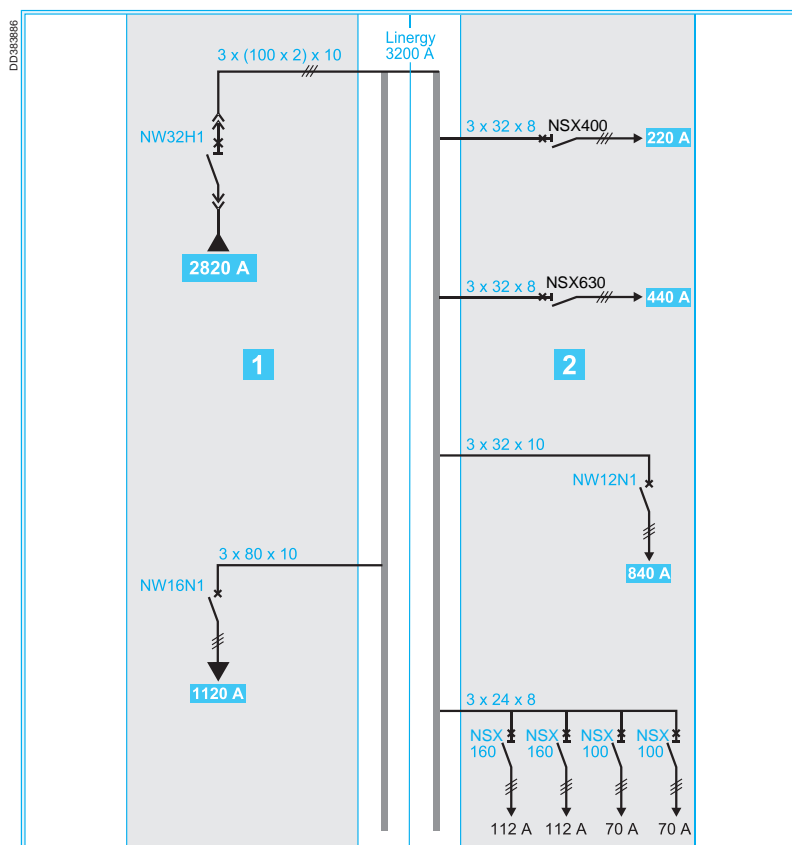
Two cubicles with busbar compartment, 800 mm wide, 1000 mm deep, two 300 mm wide ducts, IP30

Diversity factor: 0.7

Ambient temperature around the switchboard: 35 °C

Cubicle 1 : P(W) of device zone = 880 W

Cubicle 2 : P(W) of device zone = 330 W

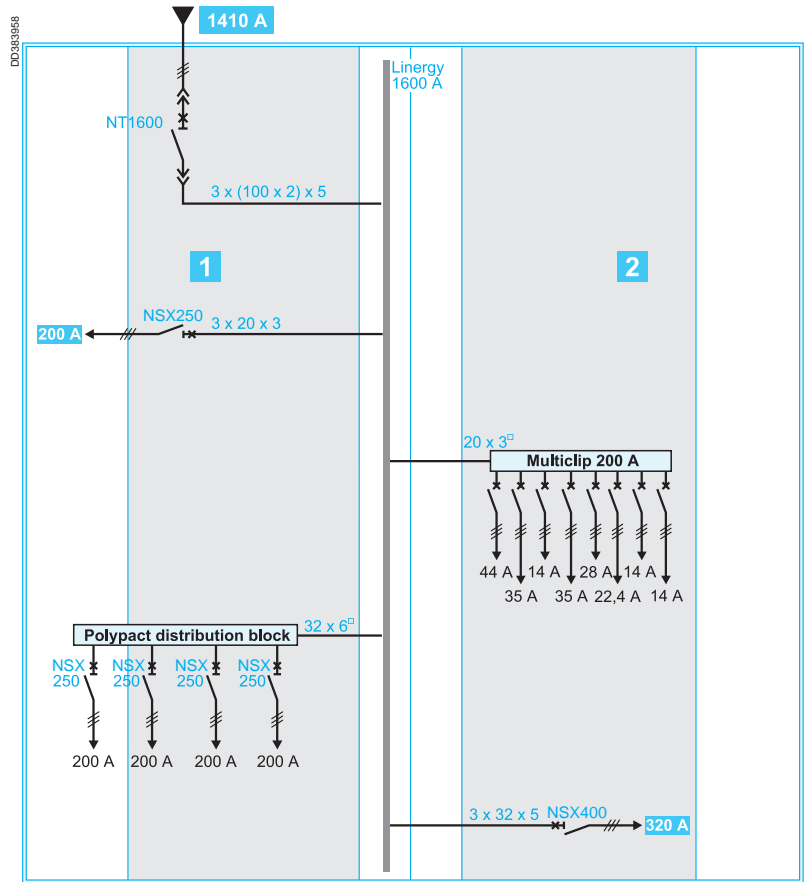


Thermal management of switchboards

Example

Thermal characteristics of switchboards

Two cubicles with busbar compartment, 800 mm wide, 1000 mm deep, two 300 mm wide ducts, IP30
 Diversity factor: 0.7
 Ambient temperature around the switchboard: 35 °C
 Cubicle **1** : P(W) of device zone = 580 W
 Cubicle **2** : P(W) of device zone = 180 W



Application of the diversity factor

In the configuration below, the standardised diversity factor (K div.) for a total of 14 outgoing circuits is 0.6, i.e. 60 % of In for each outgoing circuit. Merlin Gerin prefers a more conservative approach and therefore divides the installation into four main circuits:

- NSX250
- 200 A Multiclip: 8 outgoers → K div. = 0.7
- Polypact: 4 outgoers → K div. = 0.8
- NSX400.

1 NSX250 + 1 Multiclip 200 A + 1 Polypact + 1 NSX400 → 4 outgoers, i.e. a diversity factor of 0.8.
 As a result, the current flowing in each circuit is at least 70 % and up to 80 % of In.

Calculation of the power dissipated by devices in the incoming cubicle

Dissipated power of the NT1600 indicated by the manufacturer: 460 W.
 The power dissipated by the connections is approximately 30 % of the device P(W):
 $0.3 \times 460 = 138 \text{ W}$.
 Power of circuit breaker + connections = 460 + 138 = 598 W at 1600 A.
 For I² (the Watts are proportional to the square of the current) at 1410 A (In of the incoming device):

$$\frac{598}{1600^2} \times 1410^2 = 405 \text{ W}$$

Dissipated power of the NSX250 indicated by the manufacturer: 42 W.
 Dissipated power of the connections: $0.3 \times 42 = 12.6 \text{ W}$.
 Power of circuit breaker + connections = 42 + 12.6 = 54.6 W at 250 A.
 For 200 A (the tested value):

$$\frac{54.6}{250^2} \times 200^2 = 35 \text{ W}$$

Dissipated power of the Polypact and its four NSX250 circuit breakers:
 $4 \times 35 \text{ W}$ (same calculation as above) = 140 W

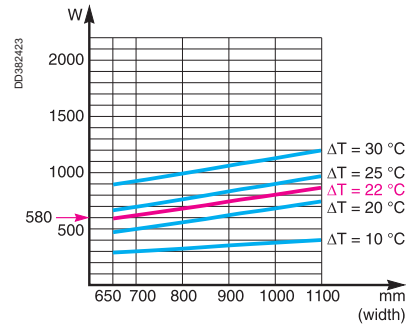
Sum of the dissipated power in the incoming cubicle:
P(W) = 405 + 35 + 140 = 580 W

Thermal management of switchboards

Thermal characteristics of switchboards

Example

Once the dissipated power of the devices has been determined and the enclosure with its IP selected, transfer the results (sum of the dissipated power and width of the device zone) to the chart corresponding to the enclosure IP.



Draw a line parallel to the others on the chart and read the corresponding difference in temperature.

For the given example, the heat rise is 22 °C at mid-height in the enclosure.

The internal temperature = external temperature + heat rise

$$= 35\text{ °C} + 22\text{ °C} = 57\text{ °C}$$

57 °C < 60 °C stipulated by the standard, i.e. the result is acceptable for an IP3 cubicle.

This gives roughly:

Internal temperature = 60 °C at mid-height in the enclosure for a low IP value.

Internal temperature = 70 °C at mid-height in the enclosure for a high IP value.

Thermal characteristics of switchboards

Quick calculation charts for internal temperatures

For the enclosures not mentioned on the previous pages, use the equation:

$$\Delta T = \frac{P}{S \times K}$$

where:

ΔT: internal temperature - external temperature

P: power dissipated by the devices, connections and busbars (in Watts)

S: total free surface area of the enclosure (expressed in m²)

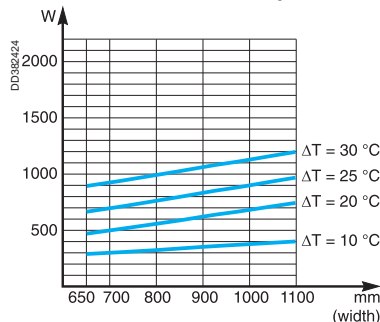
K: thermal-conduction coefficient of the material (W/m² °C)

K = 5.5 W/m² °C for painted sheet metal.

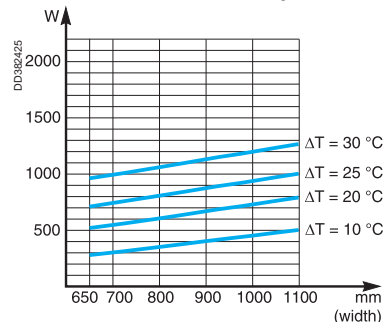
Note: the dissipated power of each device is provided by the manufacturer. Add approximately 30 % to account for the connections and the busbars.

Test conditions: the cubicle is on the floor against a wall, the indicated internal heat rise is that measured at mid-height in the enclosure.

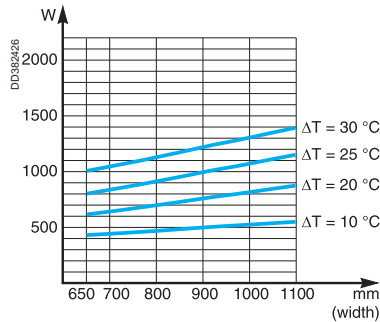
IP3X cubicle, 400 mm deep



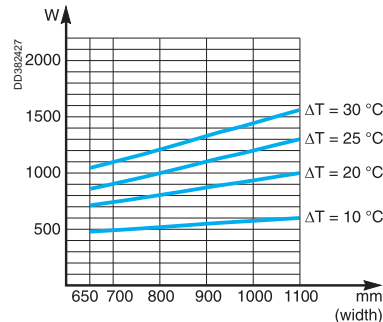
IP3X cubicle, 600 mm deep



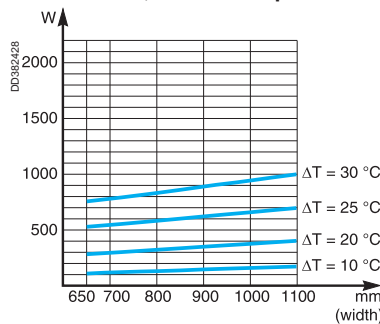
IP3X cubicle, 800 mm deep



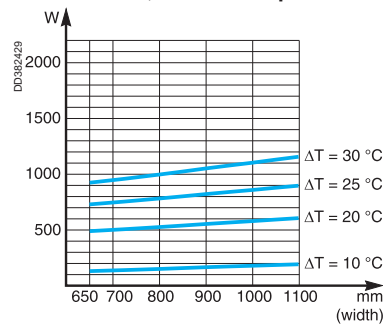
IP3X cubicle, 1000 mm deep



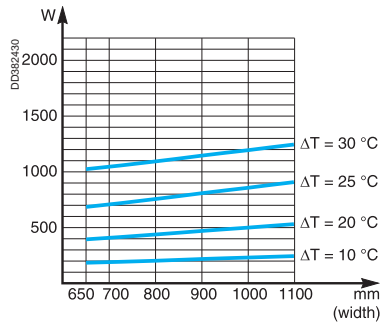
IP55 cubicle, 400 mm deep



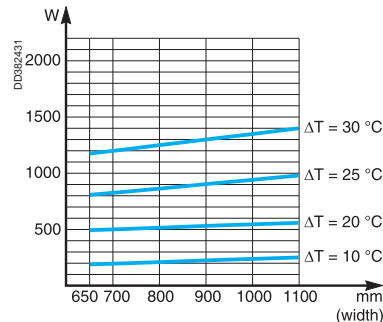
IP55 cubicle, 600 mm deep



IP55 cubicle, 800 mm deep



IP55 cubicle, 1000 mm deep



Thermal management of switchboards Ventilation

Thermal characteristics of switchboards

Switchboard ventilation

The air enters the lower section via the fans and exits the upper section:

- through a ventilated roof
- or through a ventilation opening.

The air throughput of the fans is determined by the equation:

$$D = 3.1 \times \left(\frac{P}{\Delta T} - KS \right)$$

The chart below can be used to determine the necessary throughput, based on the dissipated power, the difference in temperature (internal - external) and the exposed surface area of the enclosure.

Example

Consider an IP3X cubicle, 650 mm wide and 400 mm deep, containing components (devices, connections, busbars, etc.) dissipating 1000 W.

The ambient temperature around the cubicle is 50 °C.

Given that the average temperature at mid-height should not exceed 60 °C, the difference in temperature ΔT is equal to 60 - 50 = 10 °C.

The exposed surface of the cubicle (non adjacent to a wall or other cubicle) is 4.46 m².

(back = 1.3 m², front = 1.3 m², roof = 0.26 m², side panels = 1.6 m²).

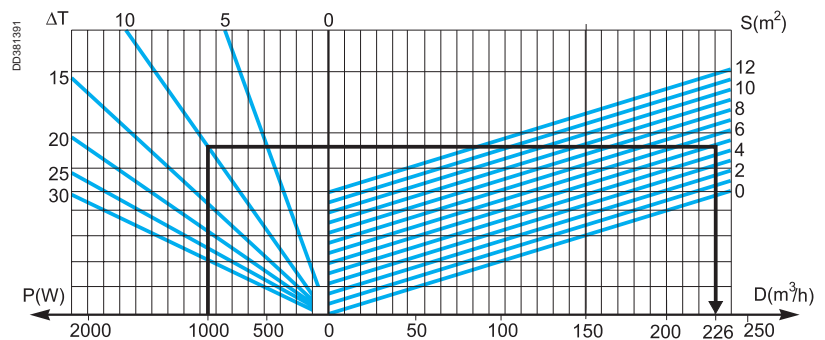
What is the necessary throughput of the ventilation system?

The throughput can be calculated as:

$$D = 3.1 \times \left(\frac{1000}{10} - 5.5 \times 4.46 \right)$$

D = 234 m³/h.

In the range of Prisma Plus accessories, select a system with a throughput of 300 m³/h.



Calculation data

P : power dissipated by the devices, connections and busbars (in Watts)

P_r : power of the heating resistor (in Watts)

T_m : maximum internal temperature in the device zone (in °C)

T_i : average internal temperature (in °C)

T_e : average external temperature (in °C)

$$\Delta T_m = T_m - T_e$$

$$\Delta T = T_i - T_e$$

S : total free surface area of the enclosure (expressed in m²)

K : thermal-conduction coefficient of the material (W/m² °C)

K = 5.5 W/m² °C for painted sheet metal

D : ventilation throughput (in m³/h)

Note: the dissipated power of each device is provided by the manufacturer.
Add approximately 30 % to account for the connections and the busbars.

Thermal management of switchboards

Heating

Thermal characteristics of switchboards

Switchboard heating

The heating resistor, placed in the bottom of the switchboard, maintains the internal temperature 10 °C higher than the external temperature. When the switchboard is not in operation, the heater compensates the dissipated power normally emitted by the switchboard.

The power of the heating resistor is calculated:

- using the equation: $P_r = (\Delta T \times S \times K) - P$
- or using the charts below, based on the exposed surface area of the enclosure and the desired difference in temperature.

Chart to determine the heating resistor for small wall-mount enclosures (exposed surfaces ≤ 1 m²)

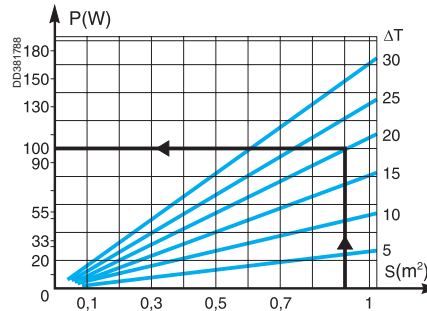
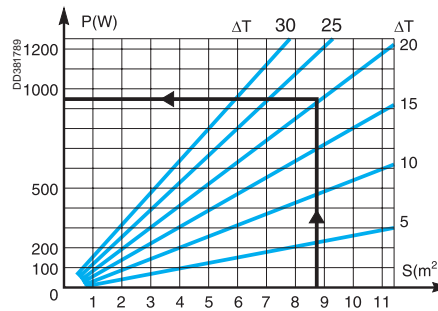


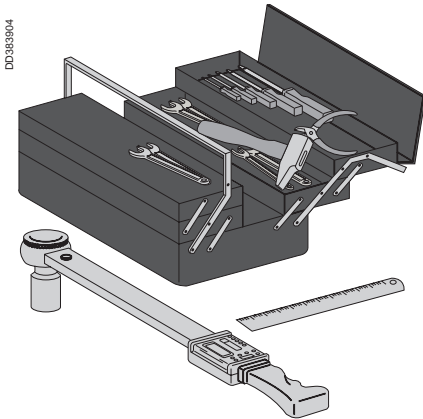
Chart to determine the heating resistor for all types of enclosures and cubicles



Calculation data

- P** : power dissipated by the devices, connections and busbars (in Watts)
- P_r** : power of the heating resistor (in Watts)
- T_m** : maximum internal temperature in the device zone (in °C)
- T_i** : average internal temperature (in °C)
- T_e** : average external temperature (in °C)
- $\Delta T_m = T_m - T_e$
- $\Delta T = T_i - T_e$
- S** : total free surface area of the enclosure (expressed in m²)
- K** : thermal-conduction coefficient of the material (W/m² °C)
K = 5.5 W/m² °C for painted sheet metal
- D**: ventilation throughput (in m³/h)

Note: the dissipated power of each device is provided by the manufacturer. Add approximately 30 % to account for the connections and the busbars.



- Vacuum cleaner to clean the switchboards
- Ratchet wrench with sockets
- Torque wrench with sockets and ring bits to tighten the electrical connections to the correct torque (max. torque 50 Nm)
- Open-ended spanners (15 to 27 mm).
- Electrician's knife
- 7, 8, 10, 13, 16, 17 and 19 mm sockets
- Bit holder socket
- 4, 5, 6, 8 and 10 mm hexagonal-head bits
- Pozidriv no. 1, 2 and 3 bits
- Rubber mallet
- Level.
- Measurement and inspection tools and instruments
- Drill
- Semi-circuit nosed pliers
- Cable-tie pliers
- Wire stripper
- Crimping tool
- Diagonal cutter
- Wire cutters
- Flat-nosed pliers
- Bit holder for screwdriver
- Extension
- Electric saw
- Jig saw
- Clamp for cubicle alignment
- Buzzer or tester
- 3, 5, 4, 5.5 and 8 mm flat screwdrivers
- Posidriv no. 2 crosshead screwdriver (to mount handle)
- Hydraulic jacks that can be operated in horizontal position to lift cubicles and move them sideways if necessary.
- Coloured, indelible and temperature resistant acrylic varnish.
- Electric screwdriver

Note: a Facom brand torque wrench is available with a capacity of 75 Nm and a thin shape. It is recommended for tightening under difficult access conditions.

Part numbers:

- SP3723 = wrench handle (essential)
- SP3721 = extra-flat ratchet adapter (essential)
- SP3722 = ratchet for ordinary sockets (optional) for mounting on handle SP3723
- SP2709 = extra-flat 13 mm short socket
- SP2709A = extra-flat 13 mm long socket
- SP4369 = extra-flat 16 mm short socket
- SP4370 = extra-flat 16 mm long socket
- SP2710 = extra-flat 17 mm short socket
- SP4371 = extra-flat 19 mm short socket
- SP4372 = extra-flat 19 mm long socket

Schneider Electric provides cabling recommendations according to the rating of the circuit breaker.

The size of cables must be selected according to:

- the level of current
- the ambient temperature around the conductors
- the degree of protection of the switchboard.

The tables below take into account the installation conditions for each type of device (permissible temperature at connection terminals, etc.).

They follow the temperature derating values for installed devices in all cubicles with cover panels rated IP ≤ 55

- switchboard internal temperature is 60 °C
- connections using copper cables.

Connection of circuit breakers

Size of cables (mm ²)	Permissible current (A) Cables tied individually		Cable tied together	
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1.5	16	14	14	12
2.5	25	25	22	20
4	32	29	28	24
6	40	39	36	33
10	63	55	55	50
16	90	77	80	70
25	110	100	100	93
35	135	125	125	120
50	180	150		
70	230	190		
95	275	230		

Connection of other devices

Size of cables (mm ²)	Permissible current (A) Cables tied individually		Cable tied together	
	IP ≤ 31	IP > 31	IP ≤ 31	IP > 31
1.5	13	12	12	10
2.5	23	21	20	19
4	28	26	25	22
6	36	35	32	30
10	55	50	50	46
16	80	70	72	63
25	100	90	90	84
35	120	115	110	103
50	165	135		
70	210	176		
95	250	210		

Connection of NSX100 to 630 A

Devices	NSX100	NSX160	NSX250
Size (mm ²)	25	50	95

Note: Schneider Electric recommends connecting NSX400/630 circuit breakers with insulated flexible bars or rigid bars, see page D-44.

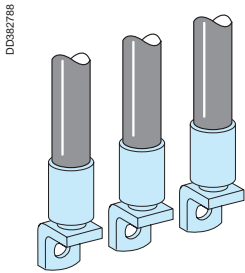
Note: the values indicated above have been validated for Prisma Plus switchboards.

Practical information

Tubular lugs for incoming connection blocks

Maximum size of lugs for connection to the different incoming connection blocks.

	Standard Cu lugs	Narrow Cu lugs	Bimetal narrow lugs
Incoming connection block for NSX-INS250 supplied via the top or bottom, cat. no. 04066 or 04067	150 mm ²	240 mm ²	185 mm ²
In-duct incoming connection block for NSX630 supplied via the top or bottom, cat. no. 04076	240 mm ²	300 mm ²	300 mm ²



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Narrow bimetal lugs

Cat. no. selection

Cat. no.	Cable size (mm ²)	Quantity
Lugs for aluminium cables⁽¹⁾		
29504	150	3
29505	150	4
29506	185	3
29507	185	4
32504	240	3
32505	240	4
32506	300	3
32507	300	4

(1) Supplied with 2 or 3 interphase barriers.

Customer connection of devices ≥ 630 A

Maximum size and number of cables for connection to terminal extension bars (as per busbar drawing supplied) for customer connection of Compact NSX and Masterpact NT/NW devices.

	Max. size (mm ²)	Quantity
Maximum size and number of cables		
Copper lugs	300	12
Bimetal lugs	240	12

Practical information

Designing the PEN conductor

The size of the PEN is determined in the same manner as a neutral conductor, i.e.:

- for copper single-phase circuits or circuits with conductors sized $\leq 16 \text{ mm}^2$, the PEN conductor must be the same size as the phase conductors
- for copper three-phase circuits with conductors sized $> 16 \text{ mm}^2$, it can be:
 - the same size as the phase conductors
 - smaller on the condition that:
 - the current likely to flow in the neutral during normal operation is less than the permissible current for the conductor
 - the power rating of single-phase loads does not exceed 10 % of the total rating.

The PEN conductor must be accessible to enable connections both in the factory and on site, as well as checks on the tightness of connections.

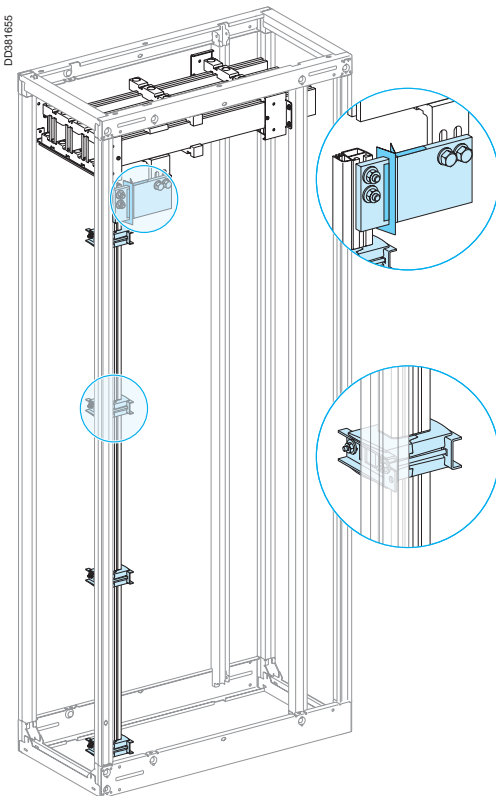
Implementing the PEN protective conductor

According to standard IEC 60439-1, the practical guidelines for implementing the PEN are the following:

- at the head of the assembly, the PEN connection must be near the phase connections
 - within the assembly, the PEN does not need to be insulated from the exposed conductive parts (except on sites where there is a risk of fire or explosion)
 - the size of the conductor must be at least equal to that of the neutral
 - the size must remain constant throughout the main busbars
 - the change from the TNC to the TNS system must take place at a single place in the switchboard, via a marked neutral-disconnection bar that is accessible and can be dismantled to facilitate the impedance measurement of the fault loop
 - after the TNS creation point, it is forbidden to recreate a TNC system.
- The PE and the neutral must meet their individual constraints.

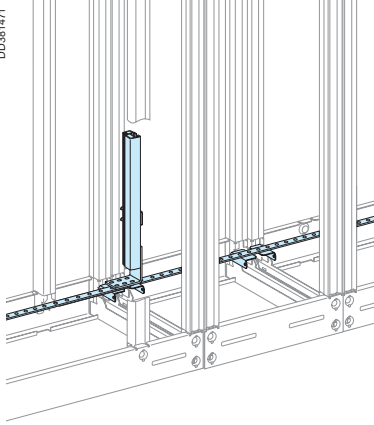
PEN kit for Linergy busbars

see page B-73.



Practical information

Designing the PE protective conductor



The protective conductor must be sufficiently sized and securely installed in the switchboard to accept the thermal and electrodynamic constraints of the fault current.

It must be connected to the exposed conductive parts of the switchboard. It must be accessible to enable connections both in the factory and on site.

Optimised calculation method

Use the calculation equation indicated in standard IEC 60439-1.

- **SPE** : cross-sectional area of the PE in mm²
- **I** : value of the phase-to-earth fault current = 60 % of the value of the phase-to-phase fault current (IEC 60439-1 §8.2.4.2)
- **t** : time the fault current flows in seconds
- **k** : coefficient that depends on the type of metal, k = 143 for a copper conductor with PVC insulation.

Simplified method (based on the equation above)

Use the table below to determine the size of the PE conductor as a function of device short-circuit current I_{sc} .

Size of PE conductor	All Schneider Electric devices	
$I_{sc} \leq 40$ kA	1 bar, 25 x 5 mm	Linergy 630
$I_{sc} \leq 65$ kA	1 bar, 50 x 5 mm	Linergy 630
$I_{sc} > 65$ kA	1 bar, 50 x 5 mm	Linergy 800

Schneider Electric prefabricated solution

For Schneider Electric devices up to I_{sc} values of 85 kA, see page B-72.

Connection of horizontal to vertical busbars

Practical information

Horizontal busbars can be connected to vertical busbars (Linergy or flat bars) in two ways:

- in a duct (by a direct connection ordered from the catalogue)
- in the rear (with part of the connection to be fabricated by the installer).

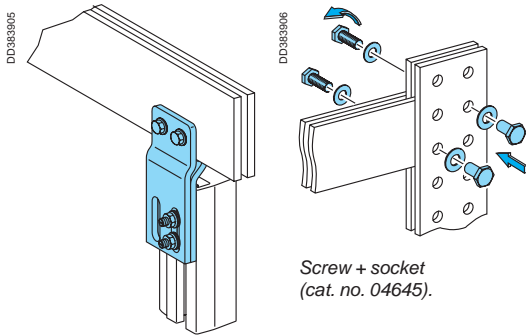
5 mm thick horizontal busbars can be connected to vertical busbars using connection plate 04634 (≤ 1000 A) or 04635 (> 1000 A) after drilling holes in the horizontal bars.

10 mm thick horizontal busbars can be connected to vertical busbars in 2 ways:

- using connection plate 04636 (≤ 1600 A) or 04637 (> 1600 A) without drilling holes in the horizontal bars
- or with a screw and socket assembly (04645) designed for assembly on a busbar that has already been mounted.

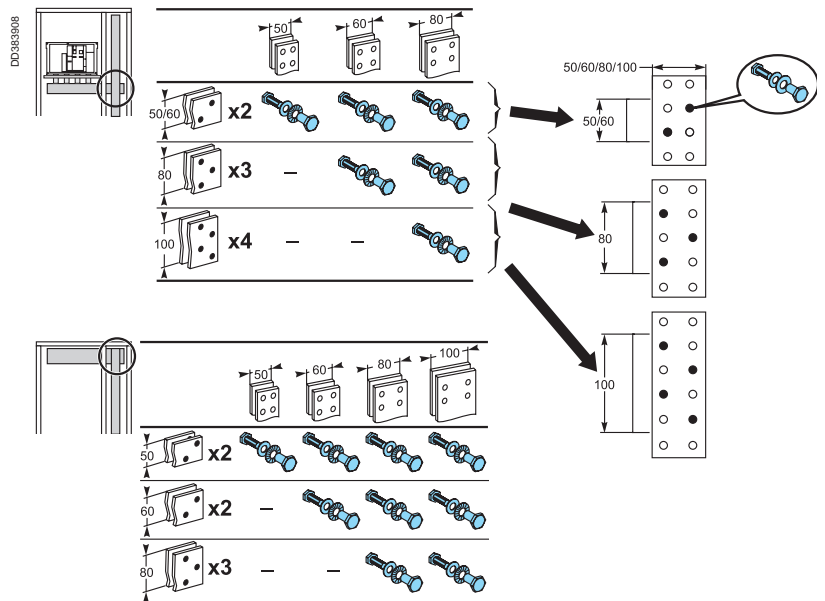
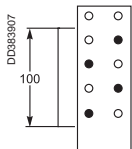
This bolted solution requires:

- holes drilled in the bars ($\varnothing 16$ mm) for diagonal mounting of the sockets and screws
- conformity with the following mounting rules:
 - respect the overlap length (2.5 to 5 times the bar thickness)
 - tighten to a torque of 50 Nm
 - fit the recommended number of screws, depending on the bar width as explained below.



Screw + socket
(cat. no. 04645).

Connection plate
(cat. no. 04635).



In practice, the real contact area is limited to regions in which the pressure is applied effectively.

In a bolted overlap assembly, these areas are made up of the areas adjacent to the bolts, and more precisely under the washers.

Salt spray tests have demonstrated these contact areas.

The number of screws thus determines the effective cross-sectional area through which the current flows,

which corresponds to the area under the washer (minus the screw hole).

This cross-section area must be close to that of the bar.

Controlled temperature rise

Whatever the connection solution used, the quality and reliability of the contact is guaranteed, in particular with respect to temperature rise, as long as assembly is carried out according to our recommendations.

The current transformers can be installed either on the main busbars or on the circuits upstream or downstream of devices.
Installation must not affect the insulation level or the reliability of the busbars.

Choice of a CT model depends on the type of installation:

- insulated cables
- Prisma Plus vertical busbars
- insulated flexible busbars
- Linergy vertical busbars
- rigid busbars.

When installing a CT, we recommend that you comply with the following mounting rules:

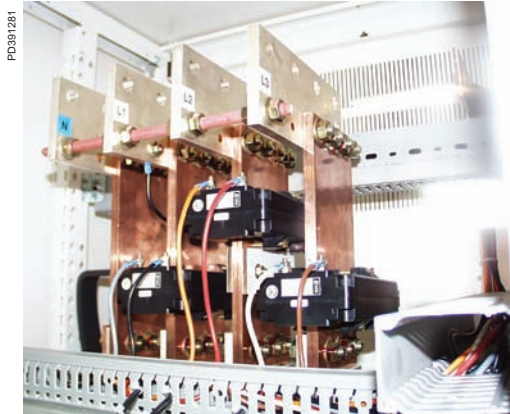
- install current transformers:
 - on an easily dismantlable busbars or copper connections
 - between 2 connection points, by joints or bolted connection
 - place the current transformer so that the identification markings remain readable.
- For large current transformers, a staggered installation is recommended to prevent arcing on fixing screws or excessive spacing between phase conductors.
If they are installed on vertical busbars, secure the current transformers in place to prevent them from slipping downwards (for example using a bolt or a pin)
- when there are several busbars per phase, fit spacers between the busbars in order to:
 - resist the tightening forces when installing the current transformer
 - avoid vibrations that lead to current transformer breakdowns.



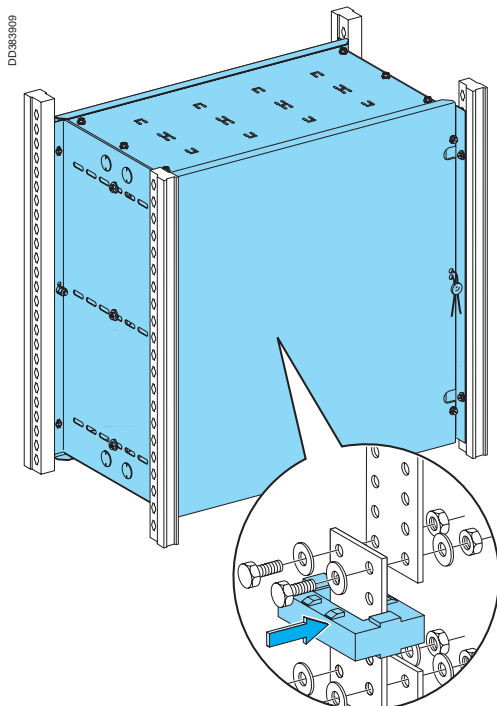
Dismountable vertical busbars.



CT on vertical busbars.



Spacers between the bars.

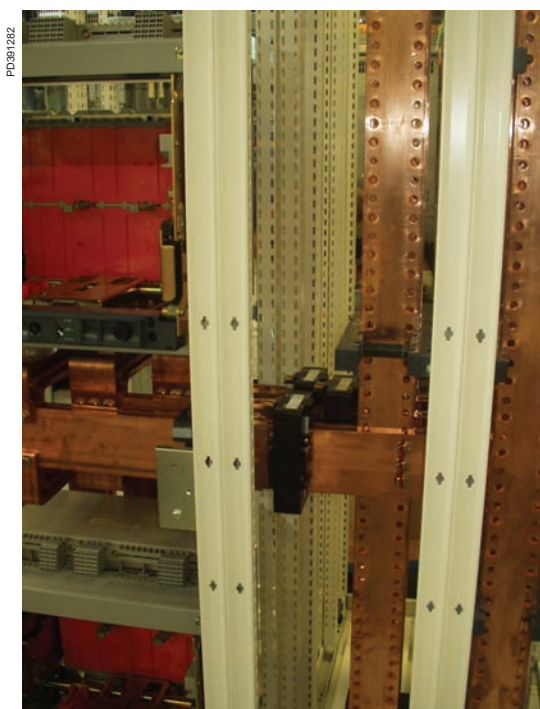


Sealable CT casing with current transformers on bolted connections.

Our circuit breakers have trip units with a **built-in ammeter** (see Micrologic catalogue). Their use eliminates the need for installing a CT on the busbars.

The CT casing is a solution for installation of CTs up to 1600 A. CTs can be installed in the casing (cat. no. 03506). It is equipped with a frame made up of 2 uprights, adjustable in depth and 2 slotted cross-members to fix the cables, install CTs or install a busbar support with 75 mm spacing. It is secured in the switchgear compartment of a 400 or 600 mm deep cubicle.

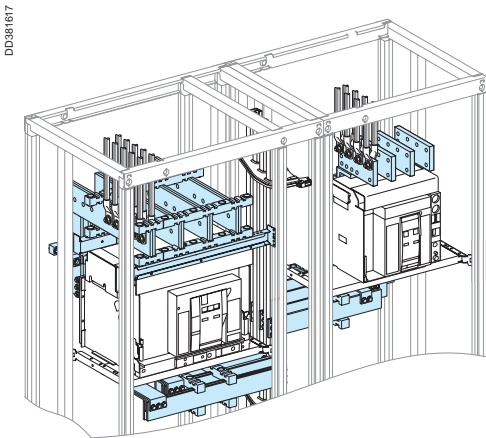
The 300 mm duct allows easier mounting of CTs. To install 2 CTs, downstream from a circuit-breaker for example, it is often easier to use a 300 mm wide duct (cat. no. 08403 for 400 mm depth or cat. no. 08603 for 600 mm depth).



CT on circuit-breaker downstream connection busbars.



Source changeover system in the same cubicle.



Source changeover system in 2 combined cubicles.



Principle of the Prisma Plus solution

Prisma Plus system P simplifies the installation of source changeover systems.

The “source changeover” solution is an integral part of the Prisma Plus offering and is designed for all installation cases: 2 or 3 devices side by side or 2 superimposed devices.

The page opposite shows a few examples of installation in cubicles:

- 1 normal source/1 replacement source
- 2 normal sources with coupling (priority and non-priority circuits)
- 2 normal sources + 1 replacement source with coupling (priority and non-priority circuits).

Note that our configuration software can be used to produce the switchboard front panel drawings.

For each source changeover configuration, various combinations of normal and replacement source circuit breakers and switch-disconnectors are possible:

- 1 normal source/1 replacement source:
 - NS630b to NS1600 / NS630b to NS1600
 - NT / NT
 - NT / NW
 - NW / NT
 - NW / NW

- 2 normal sources with coupling:
 - NW / NW / NW
 - NT / NT / NT
 - NW / NW / NW

- 2 normal sources + 1 replacement source with coupling:
 - NW / NW / NW / NW or NT.

Tables in the catalogue indicate the possible combinations “normal” and “replacement” devices according to the rating as well as the types of interlocking available for the different types of devices.

Highly economical vertical configurations are possible even for the largest devices.

In this case, interlocking may be:

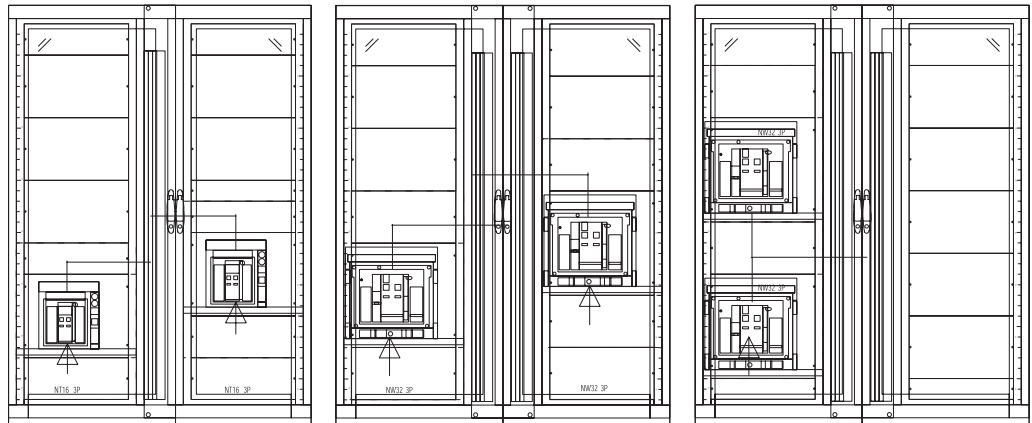
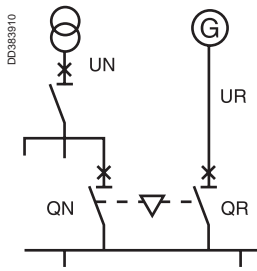
- mechanical by cable + motor mechanism
- via rotary handles (for NS630b/1600 only).

To define the number of modules required to install superimposed devices, all you have to do is add up the number of modules required for each device with:

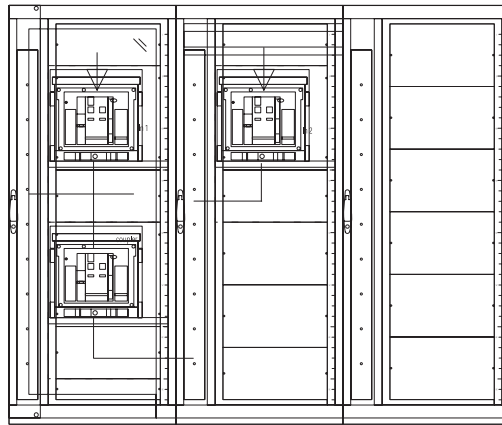
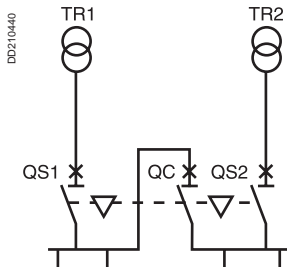
- its connections
- its cover and its partitioning.

For combination possibilities and installation details, refer to the “Compact, Interpact and Masterpact source changeover systems” catalogue ABTED201149EN or ABTED201149FR.

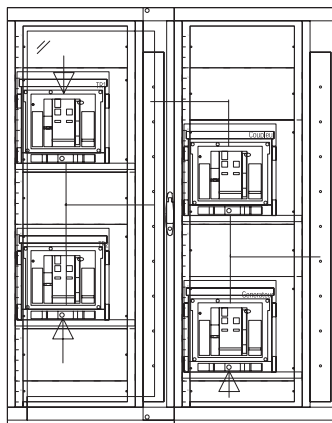
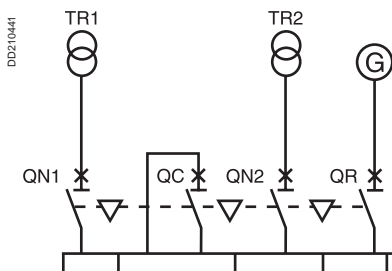
Practical information



1 normal source
1 replacement source



2 normal sources and coupling on busbars



2 normal sources
1 replacement source and coupling on busbars

Practical information

Cubicles must be stored in upright position in a dry and ventilated location, sheltered from rain, weather, dripping and running water, dust and chemical agents.

Apart from IP55 cubicles, never store enclosures outdoors, even under an awning or tarp.

The cubicles should if possible be left in their packing until they are installed. In this way they are protected against all risks that may be encountered on the site (impacts, splashes, etc.).

Acceptable storage temperatures are -25 °C to $+55\text{ °C}$ (or up to $+70\text{ °C}$ for short periods not exceeding 24 hours).

Given their heavy weight, cubicles should be stored on a stable, rigid and flat floor to avoid any risk of tipping during storage or handling.

Practical information

Receiving the switchboard

On receipt of the equipment and before handling it, check that the cases and packing materials used for transportation have not been damaged and that all items on the packing list have been effectively delivered.

- Even if the packing appears to be in good condition, do not hesitate to unpack the equipment in the presence of an authorised transport agent.
- Check the contents and weights of the shipping units. Thoroughly check the equipment to make sure that no damage or shocks have occurred that could impair insulation or operation.
- If necessary, check that the information on the switchboard nameplate, located on the incoming cubicle, complies with the information indicated on the delivery slip.
- In case of damage or missing parts, inform the transport agent by registered mail.
- After this inspection, refit the plastic protective cover.

Prisma Plus switchboards are generally shipped as separate cubicles or in transport units comprising 2 cubicles side by side. Shipping units may exceptionally comprise 3 cubicles (see precautions given in the "On-site handling" chapter).

Each shipping unit is marked with:

- project number
- weight
- packing unit information (packing unit number and total quantity)
- position of the centre of gravity
- storage and handling instructions.

Standard packing

The cubicles are protected by a plastic cover in a crate.

The following accessories are attached inside the switchboard:

- installation accessories (lifting/fixing cross-members and external fixing lugs)
- preliminary installation accessories: plinth raisers
- horizontal busbar joints (if required)
- additional nuts and bolts and other mounting hardware
- panels to be fitted after on-site connection: canopies, roof panels, gland plates
- a set of drawings
- device user manuals
- a tube of Swiss white varnish.

Large withdrawable or drawout circuit breakers installed at the top of the cubicle (Masterpact and Compact NS) are generally delivered separately.

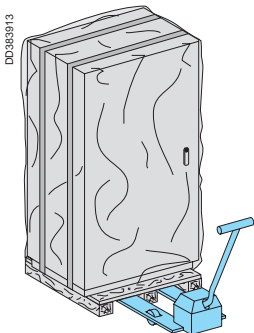
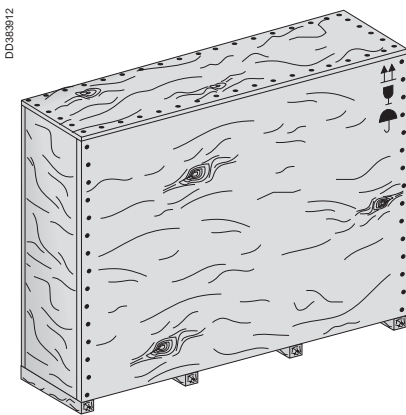
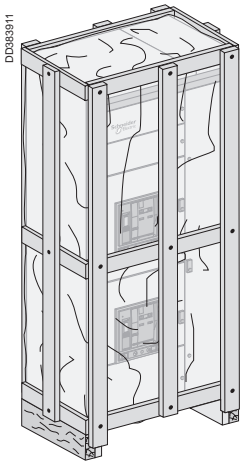
Sea packing

The cubicles are protected by a heat-sealed plastic cover containing desiccant bags and are installed in a ventilated wooden or plywood crate.

As a rule sea crates do not weigh more than 5 tons.

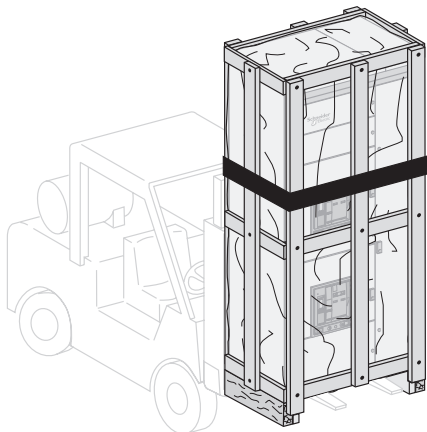
Sorting

In order to sort the different types of packing material, specific waste recovery bins are required.



Practical information

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Final unpacking of the equipment will preferably take place just before the switchboard is installed, as close as possible to its final installation location.

As a general guideline, the weight of an average 3200 A cubicle is around 400 kg. Cubicles should always be handled in the **upright position** with care, if possible **by 2 persons**. There is a risk of overtipping the cubicle due to the high position of the centre of gravity.

When moving the cubicles, always turn slowly and smoothly, avoiding all bumps and jerks. Enclosures moved using a forklift truck must be lifted carefully and held in position or fastened to the forklift truck using slings during transport.

Handling by the bottom

Wooden beams (or framework stabilizers) are generally attached to the base of the cubicle framework. This allows the cubicles to be moved using a pallet mover or forklift truck.

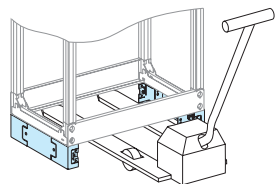
 The forks must be placed symmetrically with respect to the cubicle's axis so as not to distort the base of the frame.

For cubicles fitted with a plinth, the front and rear base panels must be removed to allow insertion of the pallet mover forks.

Cubicles must be lifted with care and held in place during transport by strapping them onto the handling machine, especially for large distances or bumpy terrain.

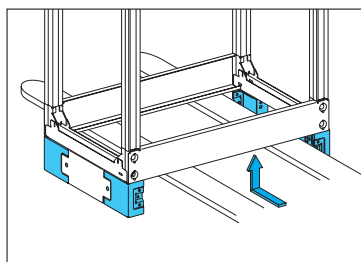
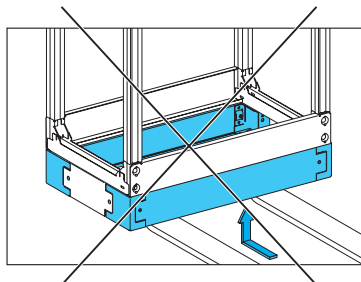
For a Prisma Plus switchboard with a busbar compartment, lifting points must be shifted towards the busbars.

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Framework stabiliser.

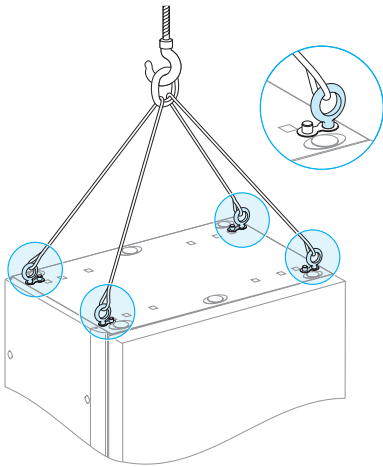
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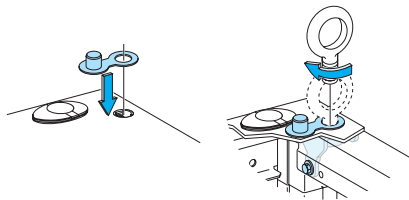
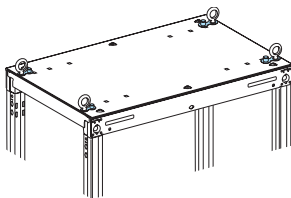
Cubicle with base.

Practical information

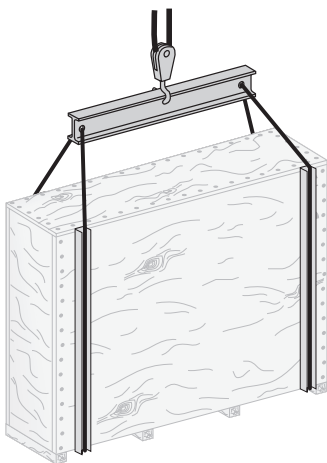
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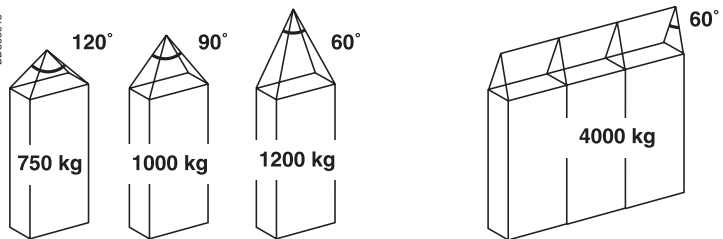


Handling by the top

If cranes or overhead hoists are used, only slings that are sufficiently strong and in good condition should be used.

- The slings must be attached to the 4 cubicle lifting lugs.
- Adjust the length of the slings according to the switchboard dimensions so that the angle formed does not exceed the angle indicated below depending on the switchboard weight. When 2 switchgear cubicles are combined, a lifting beam must be used.
- Never tilt the cubicle during handling.
- Take care to equally distribute the load on the 4 rings.

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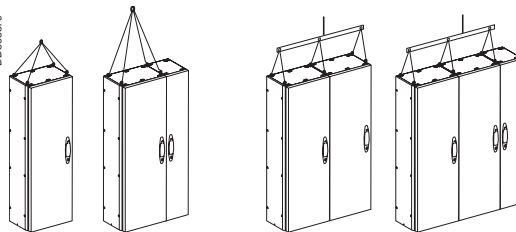


Position of lifting rings

The lifting rings can be installed and removed without dismantling the roof. Even with the lifting rings permanently installed, the switchboard retains its original degree of protection.

For combined cubicles, only install lifting rings on cubicles with switchgear.

DD383379



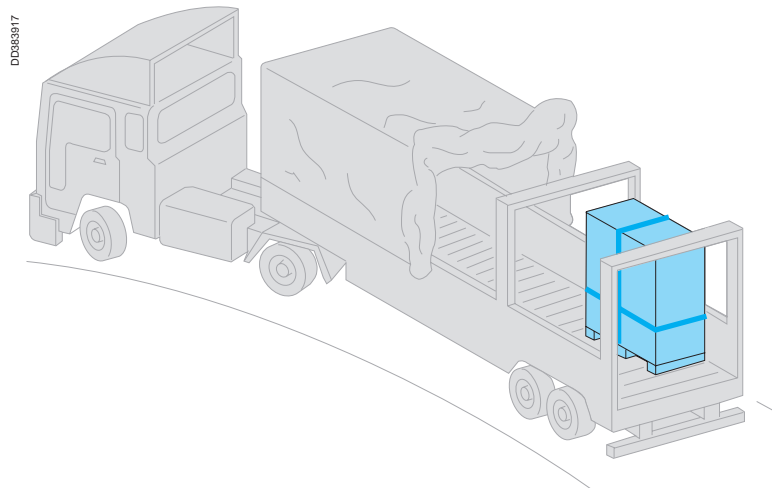
Lifting several cubicles packed together

In the special case of an assembly with more than 2 cubicles, you must:

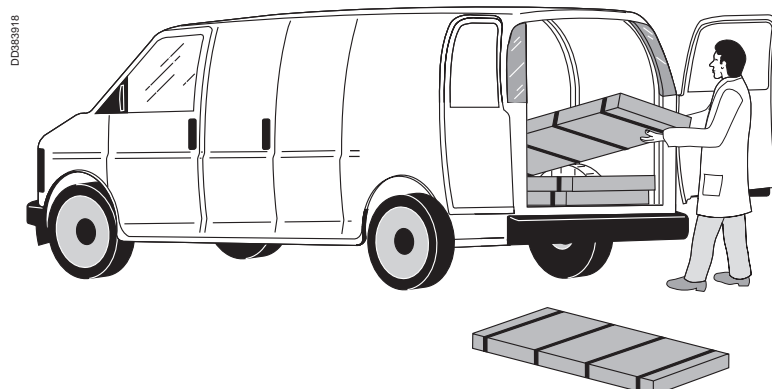
- first of all move the assembly in its original packing as close as possible to where it is to be installed
- use a lifting beam and slings to support the switchboard from underneath.

Practical information

After loading, check that the equipment is firmly secured in the truck to avoid any risk of damage during transport.



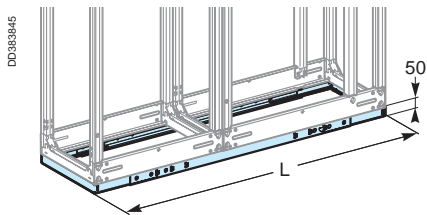
Enclosures supplied as kits should be transported horizontally if possible.



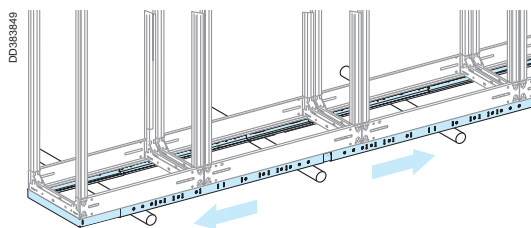
Cubicle handling and rolling base

Lifting reinforcement kit for combined cubicles

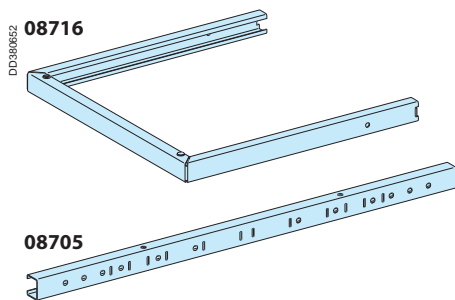
50 mm high base



08714 + 08705.



Combined cubicles equipped with a handling base can be moved easily and safely on rollers.



This type of base is designed to increase the rigidity of cubicle frameworks to avoid any risk of deformation during transport and handling.

Five different catalogue numbers offer 27 width possibilities (1200 to 3050 mm) for 400 and 600 mm deep cubicles.

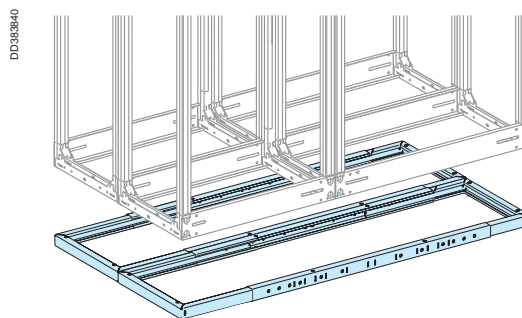
- Two catalogue numbers each include 2 end-pieces for handling bases for 400 and 600 mm deep cubicles respectively and the corresponding mounting hardware.

- Three catalogue numbers each include 2 lengths for the sides of handling bases for 1200 to 3050 mm wide cubicles respectively and the corresponding mounting hardware.

Handling bases can be used for both side-by-side and back-to-back cubicle combinations.

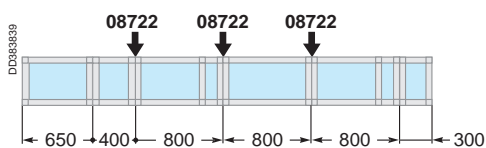
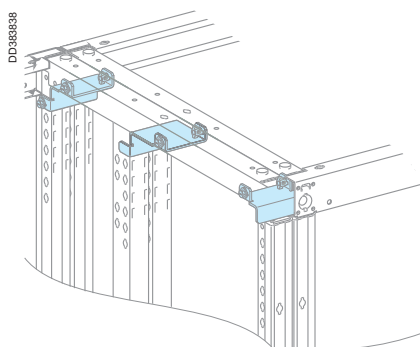
In this case, the mounting hardware for one of the sets is used.

Designation		Cat. no.
2 cubicle handling base end-pieces	D = 400 mm	08714
	D = 600 mm	08716
2 cubicle handling base side-lengths	W = 1200 to 1900 mm	08705
	W = 2000 to 2550 mm	08706
	W = 2650 to 3050 mm	08707



Side-by-side and back-to-back combination of 4 cubicles equipped with a handling base.

Lifting reinforcement kit



A lifting reinforcement kit should be installed every 800 mm.

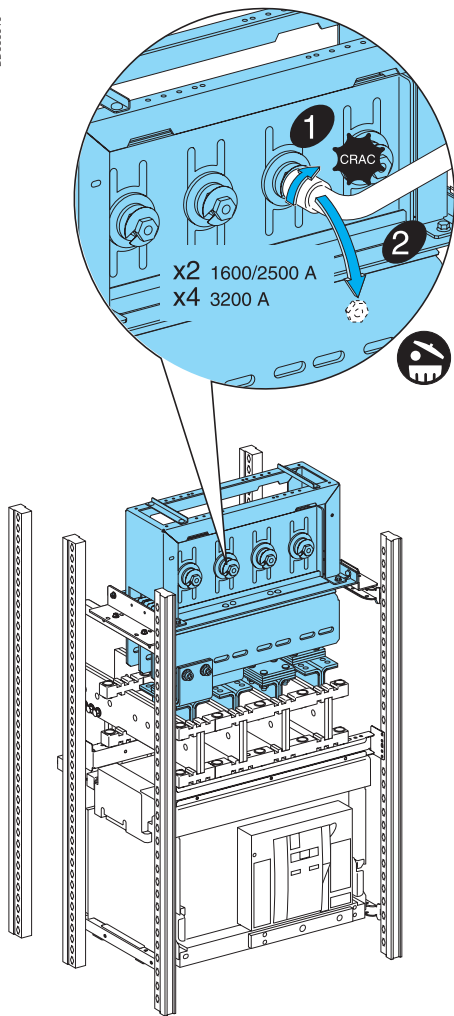
Kit 08722 is recommended for lifting combined cubicles and can be used together with handling base end-pieces 08714 for severe transport or handling conditions.

- Catalogue number 08722 includes 3 reinforcement brackets for 400 or 600 mm deep cubicles and the corresponding mounting hardware.

Designation		Cat. no.
Lifting reinforcement kit for combined cubicles	W = 400/600 mm	08722

Practical information

DD383919



Prisma Plus switchboards come equipped with a special interface that allows them to be directly connected to Canalis KT trunking.

The electrical connection between the Canalis KT trunking and the Prisma Plus switchboard is just as easy to carry out as jointing between two busbar trunking sections.

The Canalis KT interface is totally integrated in the Prisma Plus switchboard volume. It comprises a Canalis KT joint block and interface/circuit breaker connection terminals.

Trunking connection via the top

- Dismantle the roof.
- Cut out a passage for the busbar trunking.
- Adjust the guides according to the KT width that will be connected.
- Unscrew the junction block screws.
- Ensure that the busbar trunking length to be connected to the switchboard is correctly supported and that it is not resting on the interface.
- Lower the element until it is in contact with the interface frame, without bearing on it.
- Tighten the junction torque nuts. When the head breaks, the torque of 60 Nm has been reached.

⚠ In certain cases, it is recommended to only tighten the 2 middle nuts to 60 Nm and the 2 outer nuts to 10 Nm.

- A red plastic washer that is ejected when the head breaks provides visual evidence that the joint tightening operation has been carried out correctly.
- For dismantling or maintenance operations, a second head is available on the nut and can be retightened using a conventional torque wrench. The recommended tightening torque is then 60 Nm.
- Reassemble the roof.

Sealing kit

- In order to retain the original IP index, use the roof sealing kit ordered with the busbar trunking. This kit guarantees an IP52 degree of protection at the trunking passage.
- The kit is installed by cutting out the roof of the Prisma Plus switchboard. This cut-out, which is the same dimension for all Canalis KT busbar trunking ratings, is made using the template delivered with the sealing kit.

Practical information

- To ensure protection of persons, first connect the switchboard protective conductor to the earth electrode.
- Tie the cables as close as possible to the connections to avoid any mechanical stresses on the device terminals. When not using cable glands, also attach the cables near to the cubicle entry point.
- Cables must never be in contact with or passed between live conductors.
- Sharp edges of the framework must be protected where cables pass to avoid damaging the conductors.
- Comply with a minimum radius of curvature of 6 to 8 times the cable outside diameter.
- All power connections must be made with class 8.8 mounting hardware and elastic contact washers, tightened to the torque indicated in the table below.
- When connecting aluminium cables to copper terminals, use bimetal lugs or interfaces.
- Separate the different types of circuits into separate cable bundles (power, control, 48 V, 24 V, DC, AC, etc).

Cable bundles

Cable cross-sectional area (mm ²)	Max. number of cables per bundle
CSA ≤ 10	8
16 < CSA ≤ 50	4
CSA ≥ 50	Tie individually

Tying the cable bundles

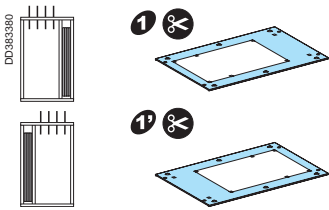
Type of tie	Maximum lcw (kA/rms 1s)	Distance between ties (mm)
Width: 4.5 mm Load: 22 kg	10	200
	15	100
	20	50
Width: 9 mm Load: 80 kg	20	350
	25	200
	35	100
	45	70

For cable sizes of 50 mm² or more, use 9 mm wide fixing ties.

Recommended tightening torque for mechanical and electrical connections with 8.8 class screws.

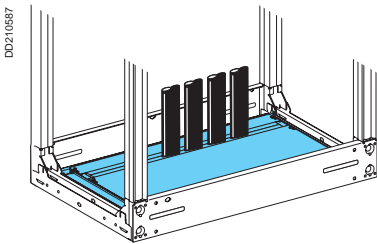
Diameter of screw	Tightening torque (Nm) (with nut + contact washer)
M3	1.5
M4	3.5
M5	7
M6	13
M8	28
M10	50
M12	75

Practical information



Connection via the top

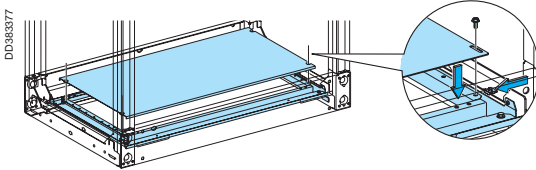
- Remove the roof.
- Drill the holes required to install cable glands or grommets.
- Install the cable glands or grommets. They must comply with the switchboard's degree of protection (IP).
- Refit the roof.
- Run the cables through the glands or grommets.
- Run the cables in the intended compartments and secure them to cable tie-bars every 400 mm.
- Crimp the lugs and connect.
- When sealing does not call for cable glands or when sealing is achieved by means of foam, cables can be routed in a rectangular cut-out in the roof. The removable cross-member simplifies insertion of cables in the cubicle.



Connection via the bottom

Using a 2-part gland plate

- Drilling is not necessary with this type of gland plate.
- The gland plate avoids producing an induced current.
- The cables are protected by a polyurethane foam seal which provides a sealing function.



Using a 1-part gland plate

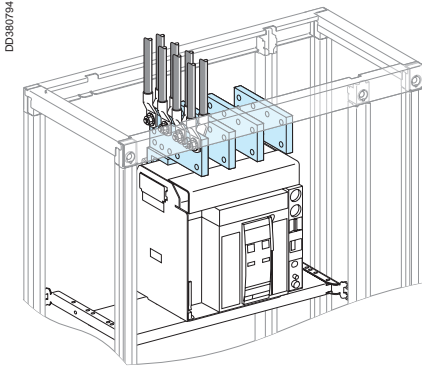
- Remove the bottom plate.
- Drill the appropriate holes to assemble the cable glands or grommets (1-part gland plates should not be drilled within 30 mm of the edges).
- Install the cable glands or grommets. They must comply with the required degree of protection (IP).
- Refit the bottom plate.
- Run the cables through the glands or grommets.
- Run the cables in the intended compartments and secure them to cable tie-bars every 400 mm.
- If cable glands are not used, it may be easier to prepare the cable terminations outside the switchboard (e.g. lug crimping) and then to drop them inside the cubicle having first disassembled the bottom removable cross-member.

Covering a Masterpact incomer

For Masterpact NW/NT/NS1600b-3200 / Compact NS630b-1600

- Disassemble the cover plate to access to the device connection terminals.
- Connect the cables, respecting the required electrical clearances.
- Cut out the part of the cover disassembled in order to let the cables pass through it, while preserving the necessary degree of protection.

Practical information



Removable upper cross-member.

Connecting to terminal extension bars

- Check that the circuit and switchgear identification indications match.
- When connections are made to terminal extensions made up of several bars for each phase, position the lugs opposite one another and insert copper spacers between the bars.
- Comply with the minimum required electrical clearances between phases of 14 mm (conforming with IEC 60439-1).
- Mark all nuts and the terminal extension bars with a dot of varnish after tightening to the defined torque.
- Remove the top cross-member of the cubicle to simplify connection of the cables to the bars.
- Tie cables of the same phase together.

Connection directly to device terminals

- When connections are made directly to the switchgear terminals, comply with the tightening torque recommended by the device manufacturer.
- Check that the length of the screws delivered with the switchgear is compatible with the lug thickness.
- Comply with the safety clearances around the switchgear devices, defined by the manufacturer to ensure correct operation.
- Refit the interphase barriers and terminal shields if applicable after connection the power cables.
- For the special case of connection with armoured cable, please consult us.

Notes

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