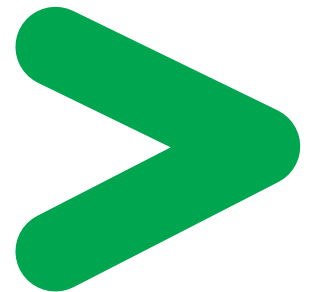
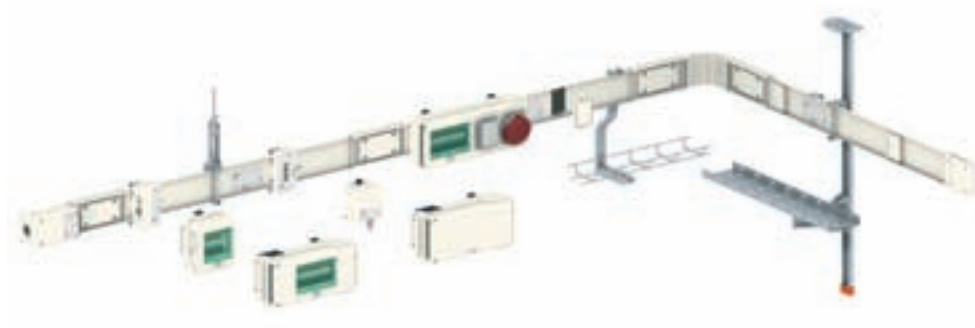


Low Voltage

Canalis[®] 20 to 1000 A

Prefabricated busbar trunking

Catalogue
2010



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Canalis,

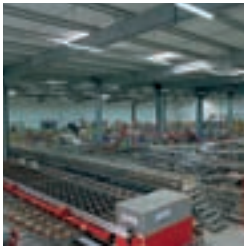
a comprehensive and consistent
for lighting and power distribution

A new path for achieving your electrical installations

Canalis is part of a comprehensive offer of products that are perfectly coordinated to meet all medium and low voltage electrical distribution requirements.

All of these products have been designed to work together: electrical, mechanical and communication compatibility.

The electrical installation is thus both optimised and high-performance.



Optimum system performance is ensured by coordination between the protection circuit breakers and the busbar trunking used for decentralised distribution.

Decentralised electrical distribution with total coordination perfectly satisfies all your requirements in terms of safety, continuity of service, upgradeability and simplicity.

Decentralised electrical distribution with total coordination is the ideal solution for a wide range of applications including factories, warehouses, commercial premises and laboratories.



busbar trunking system in all types of buildings

Easier

Coordination

Schneider Electric proposes coordinated busbar trunking and circuit breaker combinations for all your applications.

For typical applications with power ratings up to 630 kVA, a solution including the low-voltage electrical switchboard, circuit breakers and Canalis busbar trunking ensures an installation sized to handle all short-circuit levels encountered.

Design

With Canalis busbar trunking, electrical power is available throughout your installation.

The electrical installation can be designed without knowing the exact location of the equipment to be supplied.

Operation

Canalis opens the door to total upgradeability throughout the installation.

Tap-off units with standard performance circuit breakers can be installed at any point along the busbar trunking run, whatever the prospective short-circuit current.

Safer

Decentralised distribution system

When all aspects are coordinated, safety and continuity of service are maximised.

The combination of cascading and discrimination techniques guarantees optimum safety and continuity of service.

Design

Total discrimination for enhanced protection as standard and at a lower cost.

Operation

Any changes to your installation are carried out in complete safety.

Tap-off units can be plugged in and out with the trunking live. They are equipped with interlocking systems to prevent incorrect mounting.

Coordination guarantees their installation at any point on the busbar trunking system.



In decentralised distribution, Canalis hits the high note!

Canalis on its second world tour

To better meet your needs, Canalis extends its system solutions.

- New low and medium power busbar trunking products.
- Pre-equipped luminaires.
- Strip lighting.

Canalis, closer to you

Manufacturing sites on every continent.

A total coordination with the Schneider Electric system

Canalis is now part of a comprehensive offering of Schneider Electric products designed to operate together. This concept covers all low and medium voltage electrical distribution components. The result is an optimised electrical installation with even higher performance through full electrical, mechanical and communication compatibility.

With the new Canalis range, you get a complete, tested distribution solution that complies with standards. It is perfectly suited to traditional applications (factories, warehouses, etc.) and to the distribution of electrical power from the incoming transformer on through to all types of loads in offices, commercial premises, laboratories, etc.

Canalis is evolving to better integrate into your environment

The Canalis KN and KS ranges are changing to white.

They contribute to improving the working environment, whether in industrial buildings or retail outlets.

Canalis will now quite naturally fit into the Schneider Electric range of electric power distribution products (Prisma Plus, Kaedra, etc.).

PD210024



More than 50,000 km of Canalis busbar trunking has been sold around the world.

PD202311_SE



Canalis moves forward without changing the way you work

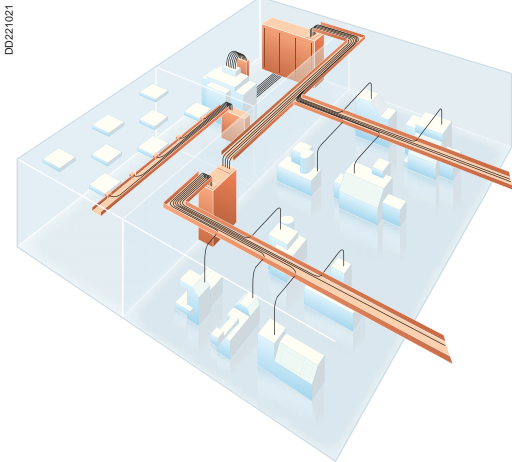
The new Canalis range is fully compatible with the existing range.

An existing installation can be upgraded without any problem.

With Canalis, you play all the right notes!

Distribution systems

Schneider Electric offers different distribution systems to fit your operating needs.



Centralised distribution

■ For all continuous processes:

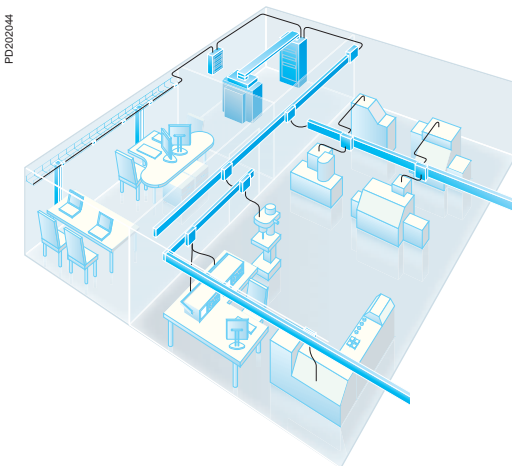
- cement plants
- oil and gas
- petrochemicals
- steel
- paper, etc.

■ Centralised distribution offers:

- continuity of service
- combined distribution of power, control and monitoring circuits
- supervision, etc.

Our solutions:

- Prisma Plus and Okken switchboards.



Decentralised distribution

■ For manufacturing industries:

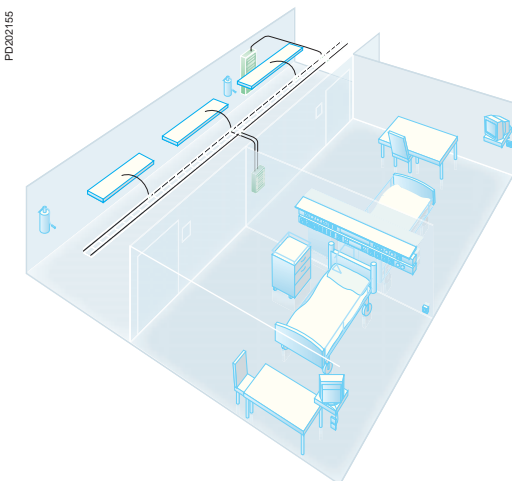
- mechanical
- textiles
- lumber
- injection moulding
- electronics
- pharmaceuticals
- livestock, etc.

■ Decentralised distribution lets you:

- design installations without layout details
- upgrade without shutting down production
- get systems up and running sooner thanks to faster installation
- generate savings depending on the number of loads.

Our solutions:

- Prisma Plus switchboards
- Canalis busbar trunking.



Combined distribution

Where the advantages of both centralised and decentralised distribution are required.

■ Commercial and service buildings:

- offices
- stores
- hospitals
- exhibition halls, etc.

■ Infrastructures:

- airports
- telecommunications
- internet data centres
- tunnels, etc.

■ Industrial facilities:

- pharmaceuticals
- food processing, etc.

Our solutions:

- Prisma Plus and Okken switchboards
- Canalis busbar trunking.

The **Canalis** decentralised distribution concept

PD202373



Electrical power available at all points, throughout the installation.

Exclusive features of the Schneider Electric system

Total coordination of the Schneider Electric system provides maximum safety of life and property, continuity of service, upgradeability and ease of installation. Total coordination is made easy by the tables in the "Selection Guide". They help you choose the right combination of circuit breakers and busbar trunking. Product characteristics are checked by calculations and tests carried out in our laboratories.

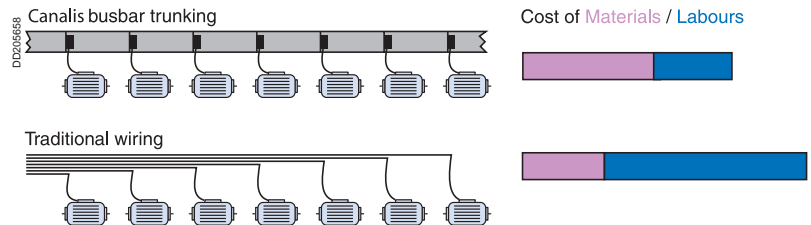
A competitive installation.

Simplicity, upgradeability, safety and continuity of service and operation.

Savings start with installation

With tap-off points every 3 metres, Canalis busbar trunking reduces installation costs.

Given the low cost of adding new circuits, savings increase as the number of loads increases, a natural consequence of the growth of your business.



Upgradeable during operation

In decentralised distribution, evolving operating requirements and costs are integrated right from the start.

- The addition, relocation or replacement of load equipment can be carried out quickly, without de-energising the supply trunking or shutting down operation.
- The cost of making such changes is greatly reduced:
 - loads are located close to supply points
 - tap-off points are always available
 - tap-units can be reused or new ones added quickly for load relocation or replacement needs.

Reusable in the event of major changes

When making major modifications to your installation, the existing trunking can be easily dismantled and reused.

For decentralised distribution in tune with your needs!

Decentralised distribution for **small sites**

Maximum power available throughout the installation.

The main busbar trunking distributes the full power of the source.

Continuity and flexibility

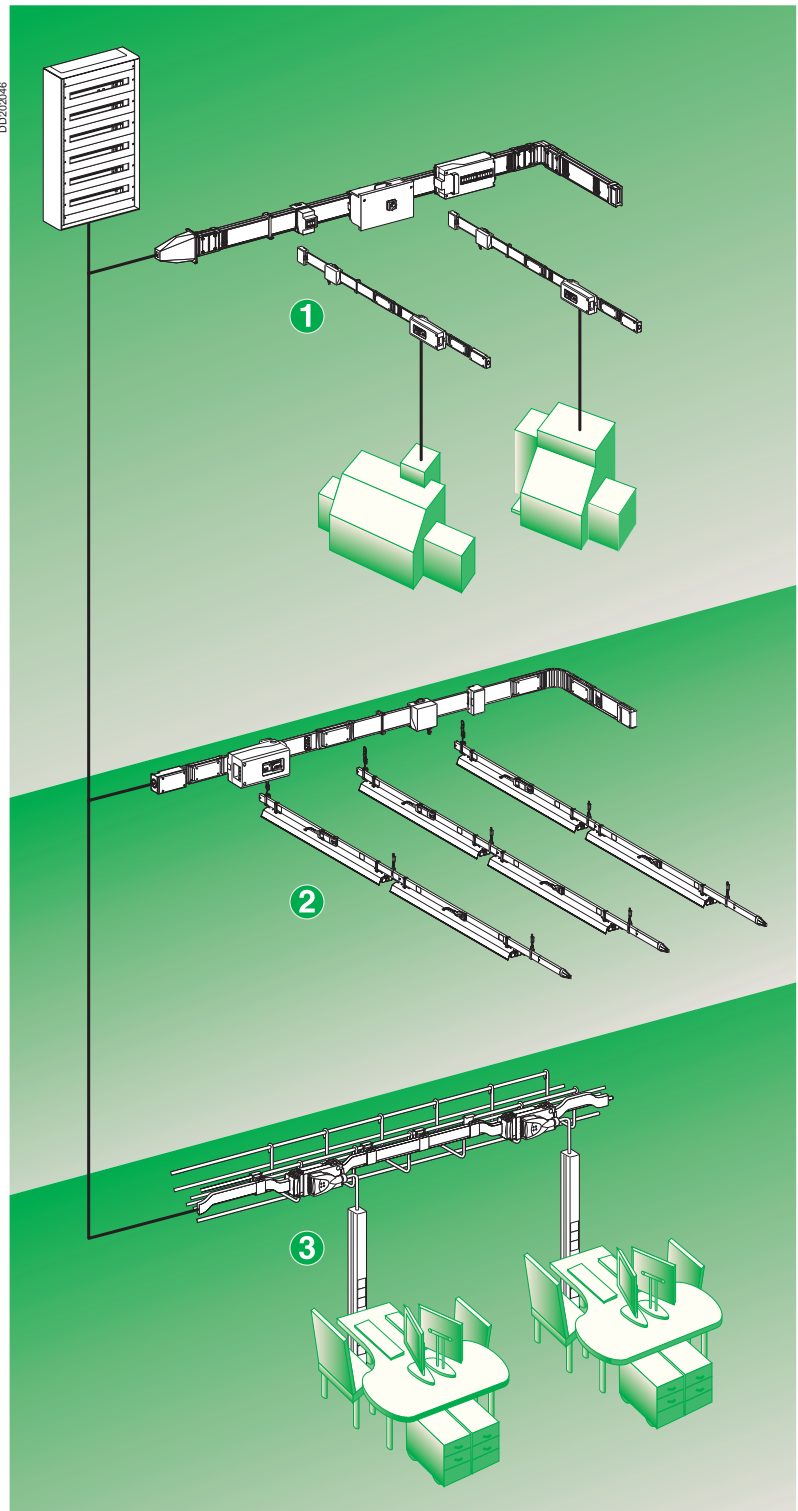
The large number of tap-off points makes it easy to supply new loads.

Anyone can connect and disconnect loads quickly and safely.

These additions or modifications are carried out without shutting down the installation.

Thanks to rational design, the reliability of Canalis trunking installations is far less dependent on installation skills.

Canalis is an industrial product. Stringent inspection at all stages of production ensures a long service life.



Small sites (buildings < 5000 m²)

- 1 Medium-power distribution.
- 2 Low-power distribution.
- 3 Lighting.

Decentralised distribution for large sites

The simplicity of decentralised distribution systems

The distribution system can be designed without detailed knowledge of load locations. Only the source and load characteristics are needed.

Trunking is selected in advance with optimum results.

Easy upgrading

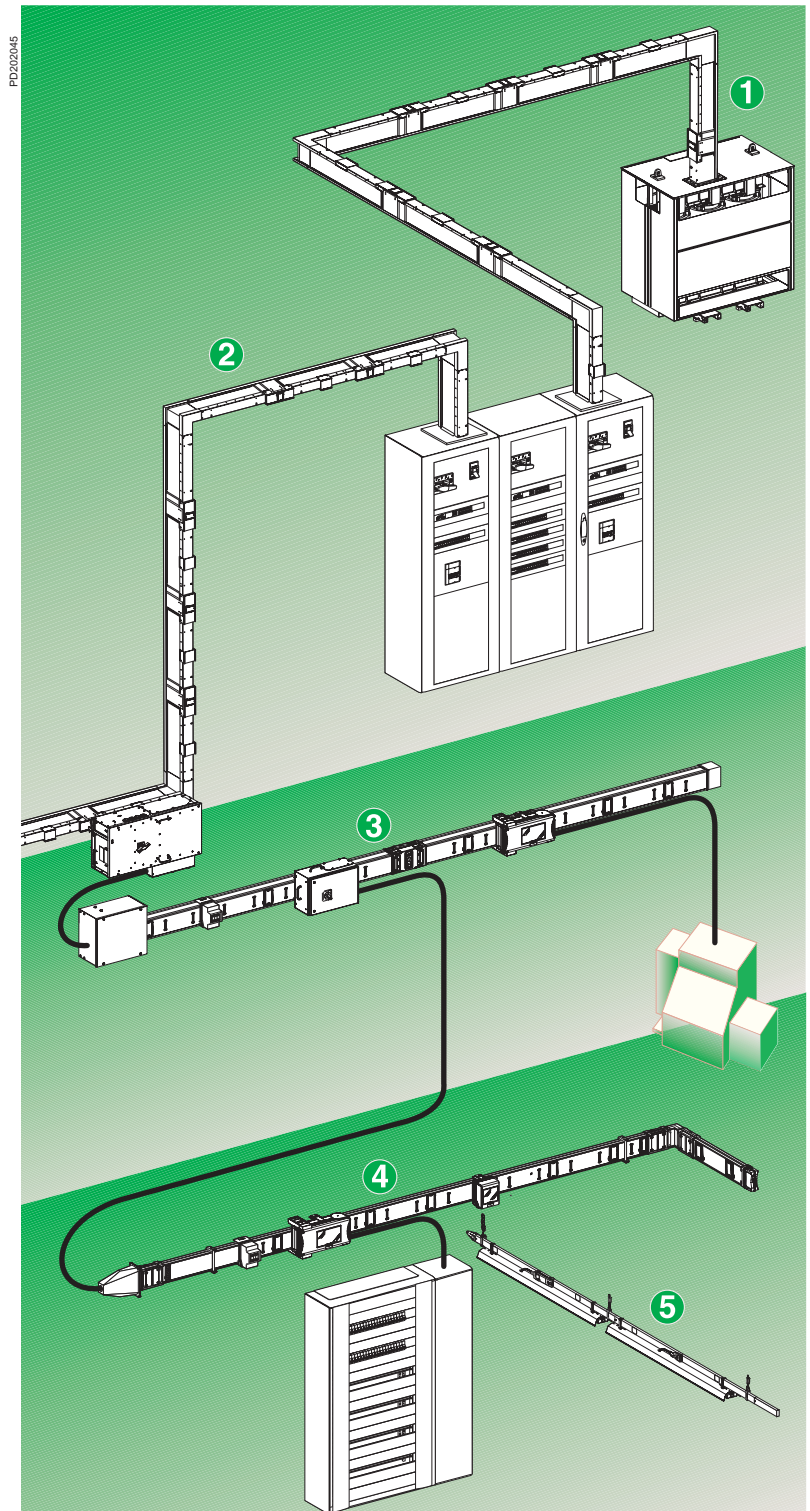
Canalis can easily adapt to installation modifications or extensions. Simply move an existing tap-off unit or add a new one at the desired location.

Total safety

Tap-units can be connected and disconnected without de-energising the trunking.

Changes can therefore be made safely on live installations:

- protection against direct contact
- mismatch prevention for tap-off units and automatic compatibility between the performance levels of tap-units equipped with circuit breakers and the prospective short-circuit current at the point of installation.



Large sites (buildings > 5000 m²)

- 1 Transformer to low-voltage switchboard supply.
- 2 High-power distribution.
- 3 Medium-power distribution.
- 4 Low-power distribution.
- 5 Lighting.

Canalis, in total harmony with the environment!

Safety of life and property



Example:

Consequences of a fire in a 100 m² office with electrical distribution by cables.

200 kg of cables (i.e. 20 kg of PVC) produces:

- 4400 m³ of smoke
- 7.5 m³ of hydrochloric acid
- 3.7 kg of corroded steel.

With Canalis, no toxic emission in case of fire

Canalis busbar trunking is halogen-free.

Halogen-sensitive applications

- Public buildings (infrastructures, hospitals, schools, etc.).
- Buildings with evacuation difficulties (high-rises, ships, etc.) and service-activity buildings.
- Sensitive processes (production of electronic components, etc.).

Canalis contains no PVCs

When PVCs burn, they produce large amounts of smoke that can be a serious safety hazard.

■ Reduced visibility:

- risk of panic
- complicates rescue work

■ Smoke toxicity:

- hydrogen chloride gas (highly toxic)
- carbon monoxide (danger of asphyxiation).

Health



Canalis reduces the risk of exposure to electromagnetic fields

According to the WHO (World Health Organisation), exposure to electromagnetic fields can be a health hazard starting at levels as low as 0.2 micro-Teslas and could represent a long-term risk of cancer. Some countries have created standards that stipulate limits (e.g. 0.2 µT at 1 metre in Sweden).

All electrical conductors generate magnetic fields proportional to the distance between them. The design of Canalis busbar trunking with tightly spaced conductors in a metal enclosure helps to considerably reduce radiated electromagnetic fields.

The electromagnetic field characteristics of Canalis busbar trunking are well-defined and measurements show that they are far below potentially dangerous levels. You will find the magnetic induction values of our products on the "Characteristics" pages.

Environment



Example:
1 kg of PVC generates 1 kg of waste.

Canalis is fully recyclable

- Canalis busbar trunking can be reused. Canalis busbar trunking is designed for a long service life and can easily be dismantled, cleaned and reused.
- All packaging materials can be recycled (cardboard or recyclable polyethylene film).
- All Canalis products are designed for safe end-of-life recycling. PVC, on the other hand, requires neutralisation of the hydrochloric acid produced using lime and generates dioxins that are extremely toxic.

Canalis helps conserve natural resources

The depletion of raw materials (copper, plastics, etc.) is one of our ongoing concerns. For this reason, we have optimised the use of all materials used to make our busbar trunking.

- Reduction of dangerous or polluting materials. We design our products to meet future European directives.
- Reduction in the weight of insulating materials.
- Reduction in the use of plastics for improved fire performance: less energy released during combustion, thereby limiting propagation and facilitating extinction (lower calorific value).

Conservation of natural resources

Canalis reduces your line losses by 20 %

Canalis divides your consumption of plastic by a factor of four

The cost of an electrical installation includes the initial investment for the equipment and its installation, the cost of maintenance and the cost of energy losses during operation.

The concept of decentralised distribution is a way to merge all the circuits in one and thus to reduce to the maximum the low cross-section lengths and the weight of insulating materials.

Example:
34 m of **Canalis KS 250 A** trunking equipped with 14-pole 25 A feeders.

Type of distribution	Insulation	Consumption
Decentralised <p>$\sum Ixk_s$</p> <p>k_s: diversity coefficient = 0.6</p>	<p>23 kg</p>	<p>1600 Joules</p>
Centralised <p>$\sum Ixk_s$</p> <p>k_s: diversity coefficient = 0.6</p>	<p>90 kg</p>	<p>2000 Joules</p>

Canalis, fortissimo throughout the range!

Panorama of Canalis lighting solutions

Lighting distribution

Range

Canalis KDP

PD020216



Run components

Degree of protection	IP55
Number of circuits	1
Rating	20 A
Tap-off intervals	1200 - 1350 - 1500 - 2400 - 2700 - 3000 mm
Standard lengths	24 and 192 meters
Finish	-
Maximum distance between fixing points	0.7 meter

Tap-off units

PD020225



Rating	10 and 16 A
--------	-------------

Option

-
-
-

Where to find the products

Run components	page 68
Feed components and end covers	page 68
Fixing devices	page 69
Tap-off units	page 72
Accessories	page 71 (VDI support)
	-
	-

Canalis KBA

PD202217



Canalis KBB



IP55

1

25 and 40 A

500 - 1000 - 1500 mm

2 and 3 meters

Galvanised steel

3 meters

IP55

1 or 2

25 and 40 A

500 and 1000 mm

2 and 3 meters

Galvanised steel

5 meters

PD202225



10 and 16 A



10 and 16 A

White RAL 9010

Bus conductor

-

White RAL 9010

Bus conductor

Clean earth

page 94

page 95

page 96

page 100

page 97 (VDI support)

page 97 (Cable duct)

page 98 (KBL luminaires)

page 122

page 122

page 124

page 126

page 125 (VDI support)



page 125 (Cable duct)

-

Canalis, fortissimo throughout the range!

Panorama of Canalis power solutions

Power distribution

Range	Canalis KN	Canalis KS
	 <p>PD202221</p>	 <p>PD202222</p>
Run components		
Degree of protection	IP55	IP55
Polarity	3L + N + PE	3L + N + PE
Rating	40, 63, 100 and 160 A	100, 160, 250, 400, 500, 630, 800 and 1000 A
Tap-off intervals	500 - 1000 - 3000 mm	1000 mm on each face
Standard lengths	3 meters	3 and 5 meters
Finish	White RAL 9001	White RAL 9001
Maximum distance between fixing points	3 meters	3 meters

Tap-off units

	 <p>PD202280</p>	 <p>PD202289</p>						
Rating	<table border="1"> <tr> <td>Plug-in</td> <td>16 to 63 A</td> </tr> <tr> <td>Bolt-on</td> <td>-</td> </tr> </table>	Plug-in	16 to 63 A	Bolt-on	-	<table border="1"> <tr> <td>25 to 400 A</td> </tr> <tr> <td>-</td> </tr> </table>	25 to 400 A	-
Plug-in	16 to 63 A							
Bolt-on	-							
25 to 400 A								
-								

Option

Remote control conductor	Yes	-
--------------------------	-----	---

Where to find the products

Run components	page 148	page 186
Feed components and end covers	page 149	page 187
Fixing devices	page 149	page 187
Tap-off units	page 154	page 204
Complementary products	page 153 (VDI support) page 150	page 188 page 297 (TRE)

Canalis, fortissimo throughout the range!

Canalis KS rising mains

PD020223



Canalis KT

PD020243



IP55
3L + N + PE
100, 250, 400, 500, 630, 800 and 1000 A
500 mm
Defined by the floor pitch
White RAL 9001
Depending on the distance between floors

IP55
3L + PE ; 3L + N + PE ; 3L + N + oversized PE
800, 1000, 1250, 1350, 1600, 2000, 2500, 3200 and 4000 and 5000 A
500 and 1000 mm
2 and 4 meters
White RAL 9001
3 meters

PD020214



25 to 400 A
-

PD020214



25 to 400 A
400 to 1000 A

page 232
page 234
page 234
page 204
-
-

See Canalis KT catalogue, reference DEBU021EN
See Canalis KT catalogue, reference DEBU021EN
See Canalis KT catalogue, reference DEBU021EN
See Canalis KT catalogue, reference DEBU021EN
See Canalis KT catalogue, reference DEBU021EN
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Canalis, an installation that matches your inspiration!

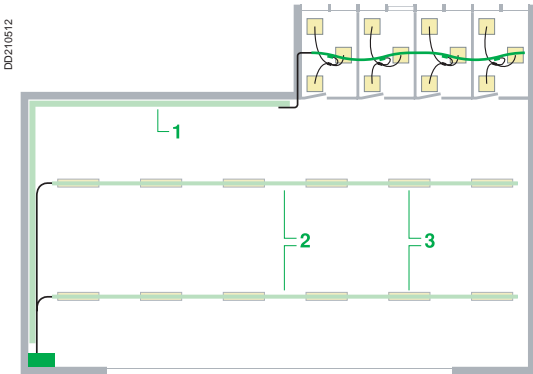
Where to use Canalis

Canalis in workshops and factories

In a garage

Characteristics of the garage:

- area 300 m² (20 x 15 m)
- loads:
 - 3 car lifts
 - 1 compressor
 - 1 wheel balancing machine
 - portable tools
 - fluorescent lighting.



■ Prisma Plus System G electrical distribution switchboard.



Canalis products installed:

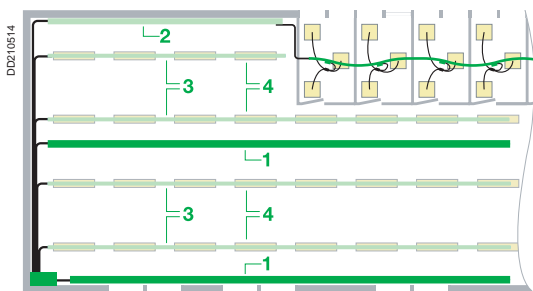
- for power distribution:
 - (1) 1 KN run, 30 m long, wall-mounted, with 10 single-phase tap-off units, 3 three-phase tap-off units and 5 power socket units.
- for lighting:
 - (2) 2 KBA lighting runs, 18 m long, each equipped with
 - (3) KBL industrial luminaires (2 x 58 W).



In a plastics factory

Characteristics of the factory:

- area 1500 m² (50 x 30 m)
- loads:
 - 30 plastic injection presses
 - fluorescent lighting.



■ Prisma Plus System G electrical distribution switchboard.

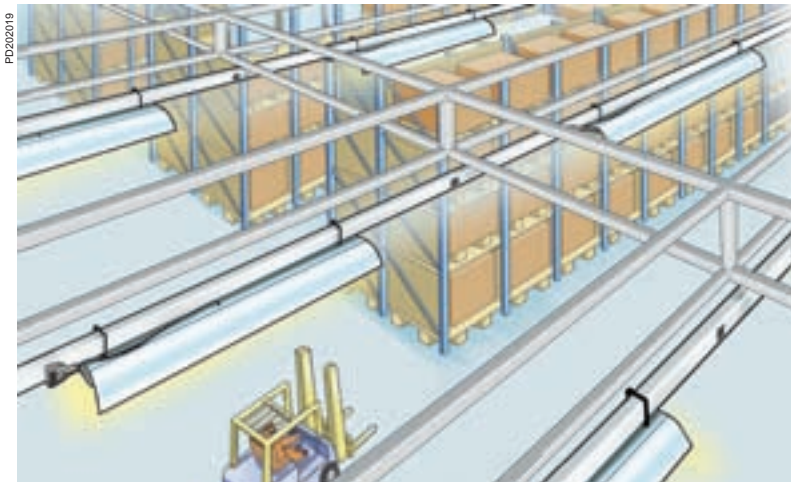


Canalis products installed:

- for power distribution:
 - (1) 2 KS 400 A runs, 48 m long, equipped with cable trays, 15 x 50 A tap-off units and 4 x 100 A tap-off units
 - (2) 1 KN 100 A run, 24 m long, equipped with 5 x 16 A tap-off units and 1 x 25 A tap-off unit.
- for lighting:
 - (3) 3 KBA lighting runs, 3 x 48 m and 1 x 21 m long to supply.
 - (4) 48 KBL industrial luminaires (2 x 58 W).



For office lighting, see "Canalis in offices", page 25.



Canalis products installed:

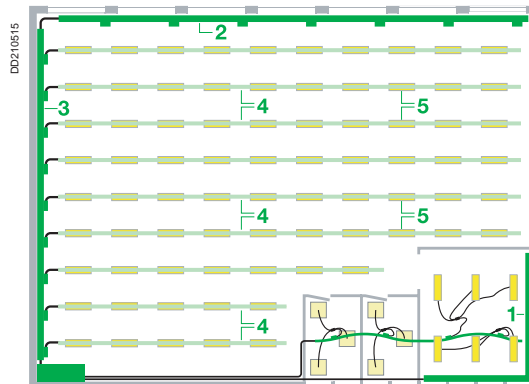
- for power distribution:
 - (1) 1 KNA 160 A run, 15 m long, to supply the battery chargers
 - (2) 1 KNA 63 A run, 75 m long, to supply the automatic doors.
- for lighting:
 - (3) 1 KNA run, 57 m long, to supply the lighting circuits
 - (4) 9 KBA 25 A runs, 6 x 75 m long, 1 x 42 m long and 2 x 29 m long, to supply.
 - (5) 90 KBL T5 2 x 80 W luminaires.

For office lighting, see “Canalis in offices”, page 25.

Canalis in warehouses

Characteristics of the warehouse:

- area 4800 m² (60 x 80 m)
- loads:
 - automatic doors
 - battery chargers for forklifts
 - T5 fluorescent lighting (2 x 80 W).



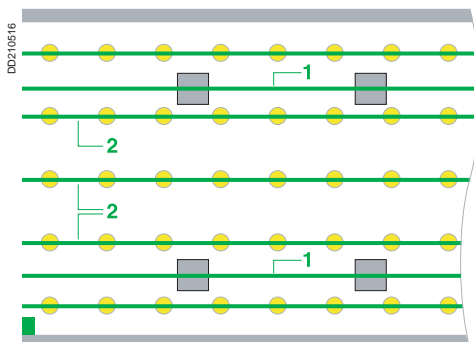
■ Prisma Plus System G electrical distribution switchboard

Even with few lighting points, Canalis is competitive.

Canalis in egg-laying facilities

Characteristics of the building:

- area 3000 m² (150 x 20 m).
- loads:
 - 60 air extractors
 - lighting by 40 W incandescent light bulbs.



■ Prisma Plus System G electrical distribution switchboard.



Canalis products installed:

- for power distribution:
 - (1) 2 KDP 20 A runs, 148 m long, equipped with 60 x 10 A tap-off units to supply the air extractors.
- for lighting:
 - (2) 5 KDP lighting runs, 148 m long, with 300 x 10 A tap-off units to supply 300 x 40 W incandescent light bulbs.

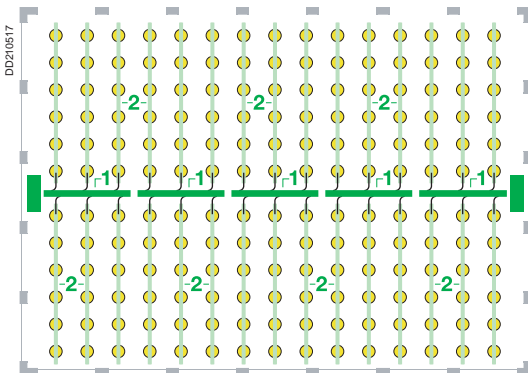
Canalis is fully sealed and easy to install.

Canalis, an installation that matches your inspiration!

Canalis in a greenhouse

Characteristics of the building:

- area 15000 m² (150 x 100 m)
- loads:
 - lighting by 600 W horticultural lamps
 - rolling shutters.



■ Prisma Plus System G electrical distribution switchboard.



KBB Canalis is strong: only 1 fixing point is needed every 5 metres

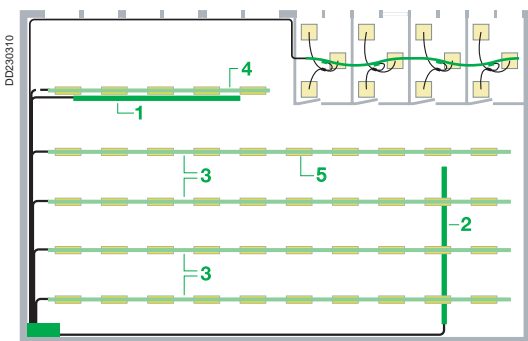
Canalis products installed:

- for power distribution:
 - (1) 5 KNA 250 A runs, 30 m long, installed as feeders to supply the lighting circuits
- for lighting:
 - (2) 30 two-circuit KBB runs, 21 m long, for 180 luminaires equipped with 600 W bulbs
 - 30 KDP runs, 15 m long, to supply the rolling shutters.

Canalis in a supermarket

Characteristics of the building:

- area 600 m² (30 x 20 m)
- loads:
 - refrigerated display cases and cash registers
 - fluorescent lighting.



■ Prisma Plus System G electrical distribution switchboard.

Canalis lights up your business.



Canalis products installed:

- for power distribution:
 - (1)(2) 2 KBA 25 A runs, 12 m long, to supply the cash registers and refrigerated display cases
- for lighting:
 - (3) 4 KBA 25 A runs, 25 m long, for the store
 - (4) 1 KBA run, 12 m long, for the cash registers.
 - (5) 32 KBL industrial luminaires (2 X 58W).

For the office lighting, see "Canalis in offices", page 25.

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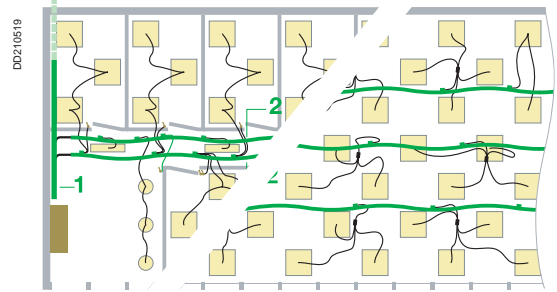


Canalis in offices

In a partitioned office / an open-plan office

Characteristics of the office:

- area 1000 m² (40 x 25 m)
- loads:
 - power: supply to power sockets and VDI network
 - fluorescent lighting (3 x 36 W).



■ Prisma Plus System G electrical distribution switchboard.

Canalis products installed:

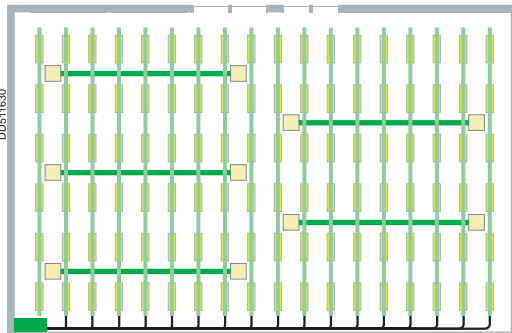
- for power distribution:
 - (1) 2 KN 63 A runs, 21 m long, installed as feeders to supply the lighting circuits
- for lighting:
 - (2) 4 KDP runs, 21 m long, to supply the 180 3 x 36 W luminaires
 - 7 KBC single-switch units for the offices
 - 1 KBC two-way switch unit for the meeting room
 - 3 timer switch units for the entrance, washrooms and hall.



In cold rooms (-25°C)

Characteristics of the cold room:

- area 5400 m² (60 x 90 m)
- Loads:
 - fluorescent lighting T5 4 x 40 W
 - refrigerating units.



DD511629



Canalis products installed:

- 18 KBB runs, 56 m long as feeders to supply 180 luminaires IP 55 KBL 249T5E
- 5 KBA runs to supply the refrigerating units.



Schneider Electric goes even further...

See global solutions for electrical distribution, VDI (Voice-Data-Image) and building automation on the next page.

Set the tempo with Schneider Electric office solutions!

Innovative distribution solutions for offices

You want efficiency

Building structures, partitions and facades generally show higher levels of industrialisation and are installed faster than electrical and VDI (Voice Data Image) distribution infrastructures.

Schneider Electric solutions

To better serve your needs, Schneider Electric offers electrical distribution infrastructures as efficient as those of the other building sectors.

The principle

- Fixed components: the Canalis power distribution network. The fixed installation components distribute the electricity throughout the building and provide connection points for the mobile components.
- Mobile components: tap-off units or columns for power and VDI outlets. Mobile components are used to connect fixed components to workstations.

Innovative architectures to boost your performance

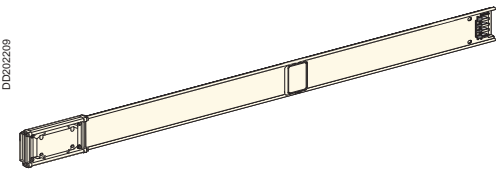
With the semi and fully decentralised architectures presented opposite, Schneider Electric offers you up to:

- 50 % saving on installation time through prefabricated trunking and connector solutions
- 10 % savings on initial investment for a solution with higher value
- 80 % savings on the cost of subsequent office space rearrangements
- Fewer risks and last-minute surprises during installation.

Special components



Flexible length.



Straight length.

Specially designed Canalis KN trunking

Three metre long straight lengths with a single tap-off outlet are perfectly suited to the application. Economical and easy to install, they are secured to false floor or false ceiling VDI supports.

Three-metre long flexible components are available for changes in direction or levels and detours around large obstacles.

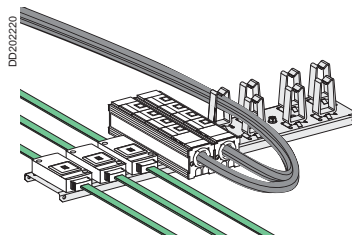
One support for both power and VDI circuits.

A specially designed assembly supports all circuits required for 20 office workstations.

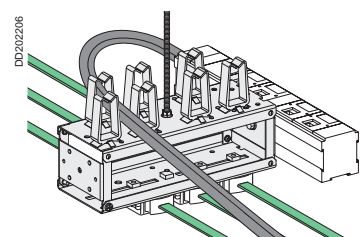
It supports:

- 3 Canalis KDP, KBA, KBB or KN power distribution circuits for lighting, power sockets and uninterruptible power (for Canalis KBA or KBB, universal fixings KB●40ZFU are also required and must be ordered separately).
- 5 bundles of 8 communication cables (4 data circuits and 4 telephone circuits) as well as 2 interfaces for four RJ45 connectors each.

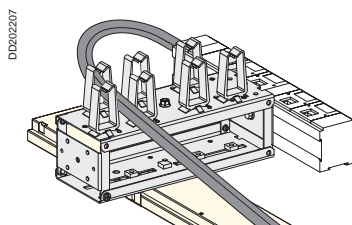
The support can be installed either above false ceilings (suspended on a threaded rod) or under false floors.



Canalis KDP and VDI via a false floor.



Canalis KDP and VDI via a false ceiling.

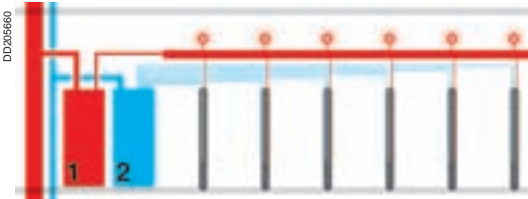


Canalis KN and VDI via a false ceiling.

Change the tempo with Schneider Electric office solutions!

Architecture examples

Semi-decentralised architecture



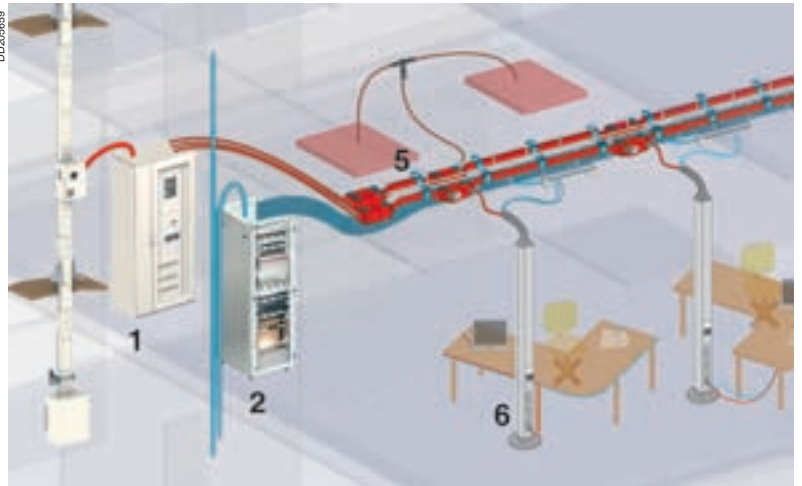
Description

- Lighting distribution by Canalis KDP
- Distribution of power sockets by Canalis KDP, with earth-leakage protection located in the distribution columns.
- All active VDI components are centralised in a patch bay. 2. RJ45 connectors are pre-installed at regular intervals (VDI interface points).

Advantages

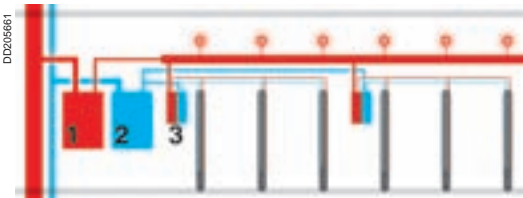
- Operating flexibility
- Major reduction in installation time.

The examples below present two types of office floor architectures for electrical (power sockets and lighting) and VDI (computer network, peripherals, telephone, etc.) distribution.



- 1 Prisma Plus (System P) power distribution switchboard.
- 2 Patch bay (computers +VDI).
- 5 Canalis KDP: lighting and power socket distribution.
- 6 Distribution column (earth-leakage protection + power sockets + VDI).

Fully-decentralised architecture

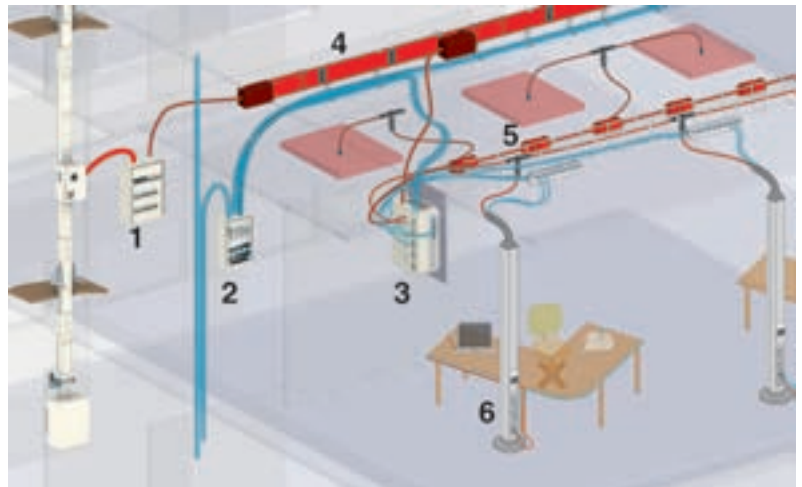


Description

- Electrical distribution decentralised in relay enclosures 3 installed in false ceilings and supplied by Canalis KN.
- VDI decentralised in the same enclosure 3 and supplied by optical fibre.

Advantages

- Greatly simplified installation: fewer cables and cable trays
- Easy division of office space between a number of users
- WiFi & ToIP ready
- Modification of the installation can be carried out locally, maximising continuity of service
- Major reduction in installation time
- Clear and organised layout
- Easier maintenance.



- 1 Prisma Plus (System G) power distribution switchboard for the entire floor.
- 2 Patch bay for the entire floor.
- 3 Relay enclosure dedicated to a given sector on the floor (lighting, power and active VDI component distribution).
- 4 Canalis KN.
- 5 Canalis KDP.
- 6 Distribution column (earth-leakage protection + power sockets + VDI).

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<i>Canalis KT</i>	249
<i>Technical specifications</i>	255
<i>Maintenance</i>	263
<i>Recommendations for special applications</i>	269
<i>Catalogue numbers</i>	269
<i>Canalis worldwide</i>	309

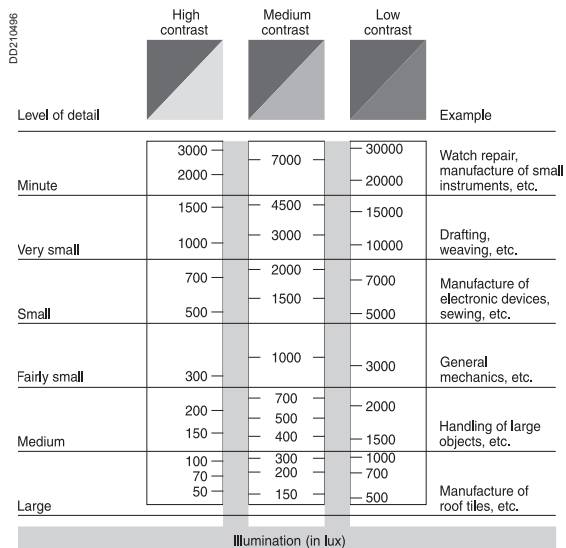
Simplified design guide for lighting distribution

Lighting-technology review

Selection of lighting levels

The table below indicates the necessary illumination in lux for different tasks. In general, a higher level of illumination is required when:

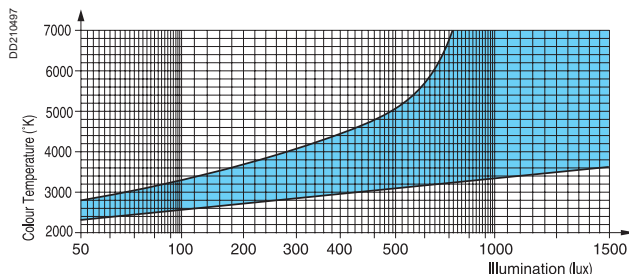
- work involves small parts,
- objects are dark,
- the task requires a high level of visual attention,
- work is carried out at high speeds.



Selection of light sources

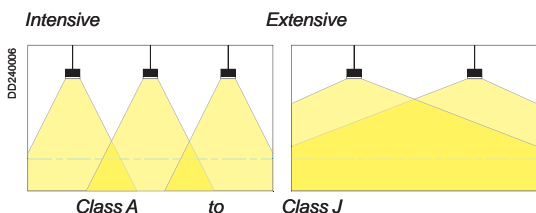
Visual comfort depends on the level of illumination (in lux) and the colour temperature (in degrees Kelvin).

The Kruithof diagram below can be used to make an optimum choice. The blue zone represents a comfortable environment.



The table below sums up the essential characteristics of the main types of light source.

Type of light source	Colour temperature (°K)	Length of tubes (m)	Power (W)	Luminous flux (Lm)	
Incandescent lamps	2800 to 3000	-	75	850	
		-	150	2100	
		-	300	4750	
		-	750	13500	
White industrial fluorescent tube	4250 to 4500	With starter	1.20	40	3200
			1.50	65	5100
			1.50	80	5900
		Instant start	1.20	40	2900
			1.50	65	4800
			2.40	105	8000
Mercury vapour	3300 to 4300	With starter	-	125	6500
			-	250	14000
			-	400	24000
			-	700	42000
			-	1000	60000



Selection of the lighting system

Direct lighting is used in offices, workshops and factories. Semi-direct and indirect lighting is generally reserved for exhibitions, auditoriums, etc.

On industrial premises, direct lighting is generally used, from the most intensive to the most extensive, i.e. from class A to class J according to standards UTE 71-120 and 121.

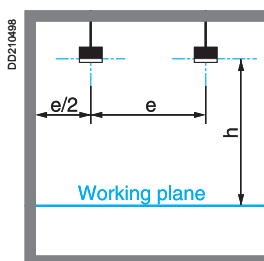
Tables A and B determine the photometric class of luminaires depending on the rating of the sources and the illuminance.

Table A - Lighting in offices

Illuminance in lux	Fluorescent tubes		
	40 W 1.20 m	65 W 1.50 m	105 W 2.40 m
0 to 600	E	E	-
800	D	D	-
1000	D	D	C
1200	C	C	C
1500	C	C	C

Table B - Lighting in workshops and factories

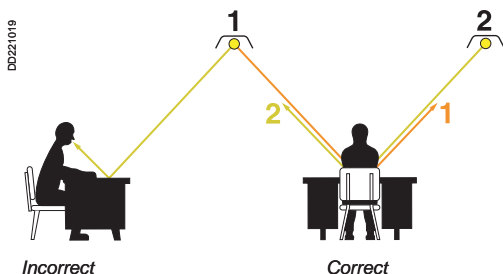
Illuminance in lux	Fluorescent tubes				
	40 W 1.20 m	65 W 1.50 m	80 W 1.50 m	105 W 2.40 m	Other lamps
0 to 200	G	G	-	-	E
400	F	F	-	-	D
600	E	E	-	-	C
800	D	D	-	-	C
1000	D	D	C	C	B
1200	C	C	C	C	B
1500	C	C	C	C	A



Distribution of light sources

The maximum distance between two luminaires is indicated in the table below, taking into account the photometric class and the height h.

Luminaire class	Maximum distance between two luminaires
A	$e = 0.90 \times h$
B	$e = 1.00 \times h$
C	$e = 1.10 \times h$
D	$e = 1.20 \times h$
E	$e = 1.30 \times h$
F	$e = 1.40 \times h$
G	$e = 1.45 \times h$
H	$e = 1.50 \times h$
I	$e = 1.50 \times h$
J	$e = 1.50 \times h$

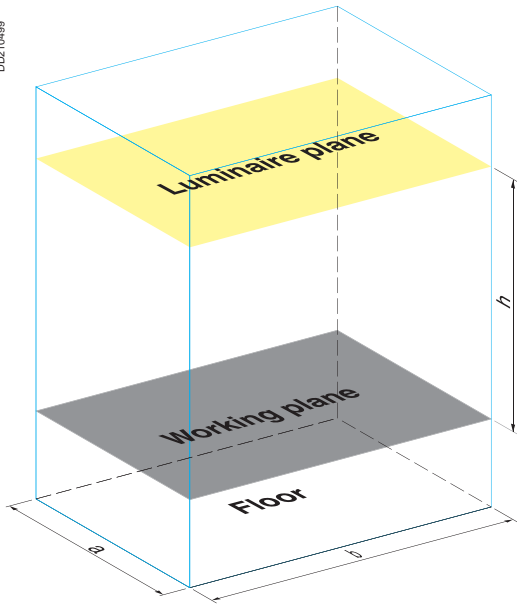


Distribution is determined by the position of work stations (caution concerning reflection), which in turn determines the number of luminaires, on the condition that the total luminous flux is sufficient (see next page).

Simplified design guide for lighting distribution

Lighting-technology review

DD210499



Total luminous flux

The total luminous flux required for the desired illuminance in a room is provided by the equation below:

$$F = \frac{E \times S \times d}{u}$$

F: Total luminous flux required (in lumens).

(Lumen: quantity of light per second reaching the working plane).

E: Illuminance (in lux).

(1 lux = 1 lumen/m²).

S: Surface area of room (in m²).

d: Depreciation factor taking into account ageing of light sources and of the room (1.3 to 1.5).

u: The walls and ceiling absorb a part of the flux emitted by the light sources. The utilisation factor is the ratio between the luminous flux reaching the working plane and that emitted by the lamps.

■ It depends on:

□ room proportions according to the K index:

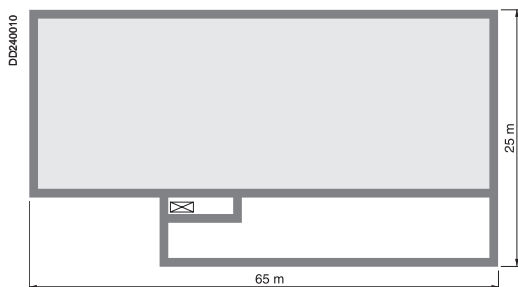
$$K = \frac{a \times b}{h(a + b)}$$

□ reflectance factors of the walls and ceiling,

□ flux distribution of the luminaires.

Determining the utilisation factor “u”

Type of lighting	Room index K	Reflectance factor					
		Ceiling 70 %			Ceiling 50 %		
		Walls 70 %	50 %	10 %	Walls 70 %	50 %	10 %
Direct lighting	0.6	0.49	0.42	0.39	0.46	0.42	0.39
Polished-aluminium industrial reflector for mercury-vapour lamps	0.8	0.58	0.51	0.48	0.54	0.51	0.48
	1	0.64	0.56	0.53	0.59	0.55	0.53
	1.25	0.69	0.60	0.58	0.62	0.60	0.57
	1.5	0.73	0.64	0.61	0.65	0.63	0.61
	2	0.78	0.68	0.66	0.69	0.67	0.65
	2.5	0.81	0.71	0.69	0.72	0.70	0.69
	3	0.84	0.73	0.72	0.73	0.72	0.71
	4	0.87	0.75	0.74	0.75	0.74	0.73
	5	0.88	0.76	0.75	0.76	0.75	0.74
Direct lighting	0.6	0.31	0.24	0.20	0.28	0.23	0.20
Lacquered sheet-metal industrial reflector for two fluorescent tubes	0.8	0.39	0.31	0.28	0.36	0.31	0.27
	1	0.45	0.37	0.33	0.41	0.36	0.33
	1.25	0.51	0.42	0.38	0.46	0.41	0.38
	1.5	0.56	0.46	0.43	0.50	0.45	0.42
	2	0.62	0.52	0.49	0.55	0.51	0.48
	2.5	0.67	0.56	0.53	0.58	0.55	0.53
	3	0.70	0.59	0.56	0.61	0.58	0.56
	4	0.74	0.63	0.61	0.64	0.62	0.60
	5	0.76	0.65	0.63	0.65	0.64	0.62



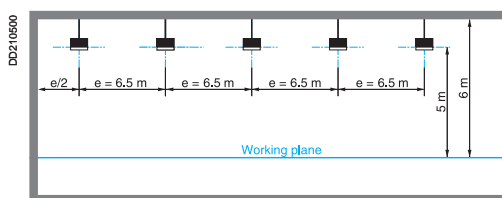
Example of a design project

Preliminary design of lighting for a factory:

- length: 65 m
- width: 25 m
- height: 6 m.

Selection of light sources taking into account the long daily use and the luminaire installation height set at 5 metres.

Luminaires in photometric class E are selected (table B, page 31).



Distribution of luminaires

Distance between two class E luminaires: $e = 1.30 \times h = 1.30 \times 5 = 6.5$ m.

Number of luminaires over the length: $65 / 6.5 = 10$ luminaires.

Number of luminaires over the width: $25 / 6.5 = 3.8$ (i.e. 4 rows of 10 luminaires).

Total luminous flux:

$$F = \frac{E \times S \times d}{u}$$

E: Illuminance: 250 lux.

S: Surface area: $65 \times 25 = 1\,625$ m².

d: Depreciation factor: 1.5.

u: Utilisation factor: the table on page 32 gives "u" directly as a function of K.

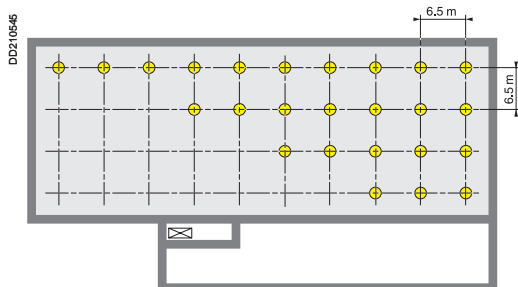
$$K = \frac{a \times b}{h(a + b)} = \frac{25 \times 65}{5(25 + 65)} = 3,6 \text{ that we round to } 4$$

Given a reflectance factor of 50 % for the ceiling and 10 % for the walls and the use mercury-vapour lamps:

u = 0.73.

Total luminous flux:

$$F = \frac{E \times S \times d}{u} = \frac{250 \times 1625 \times 1,5}{0,73} = 834760 \text{ lumens}$$



Rating of each source (f):

$$f = \frac{F}{\text{Number of luminaires}} = \frac{834760}{40} = 20869 \text{ lumens}$$

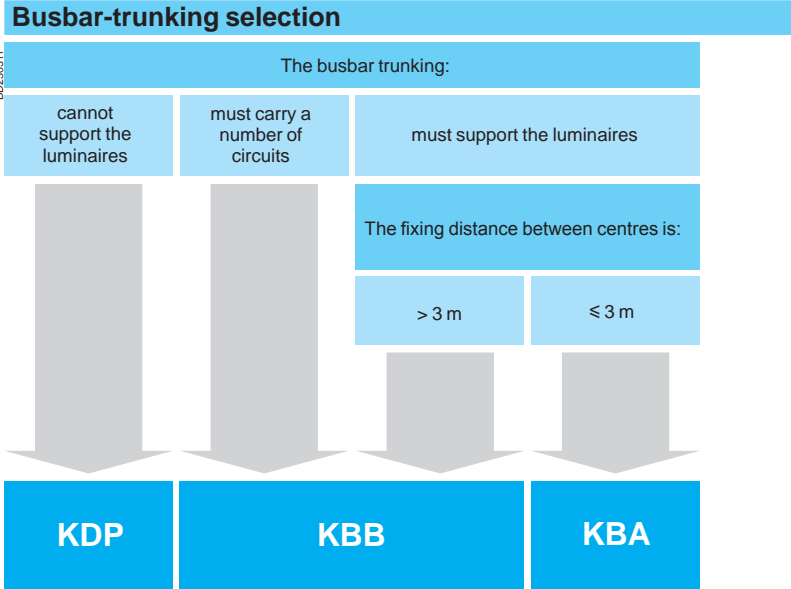
The table on page 30 allows you to choose 400 W (24 000 lumens) mercury-vapour lamps which provide a lighting level of slightly above 250 lux.

Note: if changes in workshop layout require modifications in the illumination on the working plane, Canalis makes it easy to add or remove luminaires.

Simplified design guide for lighting distribution Installation

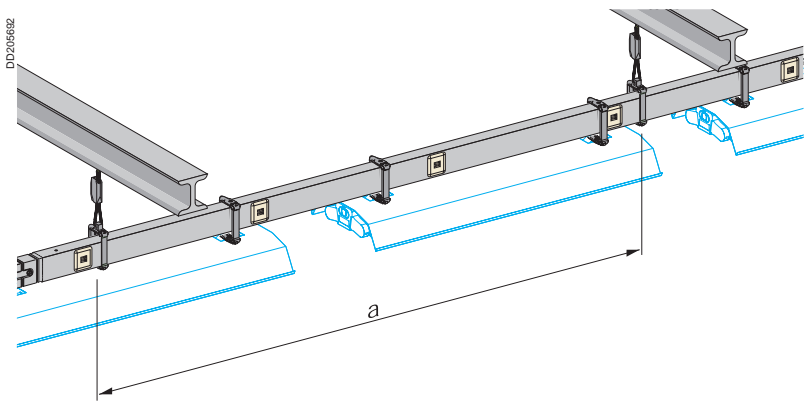
Due to its flexible design, KDP busbar trunking simplifies routing and thus reduces design and installation times. It is the optimum solution for installations with false ceilings or floors.

KBA and KBB busbar trunking is ideal where the building structure cannot support the luminaires. They offer an IP55 degree of protection which means they can be installed in all types of buildings.



Fixing distance

KBA and KBB busbar trunking



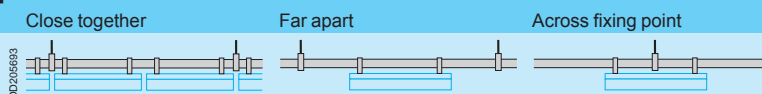
The fixing distance for KBA and KBB busbar trunking depends on the number and weight of the luminaires, as well as the building structure. The table below indicates the maximum permissible load (kg) between two fixing points for a deflection of 1/500. If the load is concentrated between two fixing points (mercury-vapour lamps), apply a coefficient of 0.6 to the values.

Maximum load (kg)										
Type of busbar trunking	tap-offs distance (m)	Fixing distance a (m)								
		2	2.5	3	3.5	4	4.5	5	5.5	6
KBA	1	34	22	15	no load					
	0.5	29	19	13	no load					
KBB	1 circuit	60	60	48	35	27	21	17	no load	
	2 circuits	60	51	41	30	23	18	15	no load	

Selection of Canalis busbar trunking

The tables below indicate the possible fixing distances in metres for a deflection of 1/350, depending on the type of luminaire used and the installation method (trunking installed edgewise).

Industrial reflector type fluorescent luminaires without protection grill Industrial reflector type fluorescent luminaires with protection grill Dust and damp-proof industrial reflector type fluorescent luminaires



Power (W)	Unit weight (kg)			Possible spacing (metre)					
	Without protection grill	With protection grill	Dust and damp-proof	KBA	KBB	KBA	KBB	KBA	KBB
1 x 36	4.20	5.20	3.30	3.00	5.00	3.00	5.00	4.00	6.00
1 x 58	5.30	6.50	4.20	3.00	5.00	3.00	5.00	4.00	6.00
2 x 36	4.90	5.90	5.20	3.00	5.00	3.00	5.00	4.00	6.00
2 x 49	4.90	5.90	5.20	3.00	5.00	3.00	5.00	3.00	5.00
2 x 58	6.30	7.50	5.39	3.00	5.00	3.00	5.00	4.00	6.00

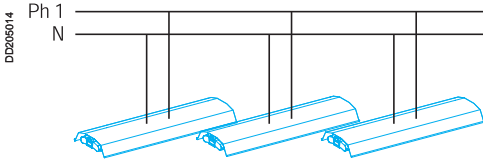
Mercury-vapour luminaires



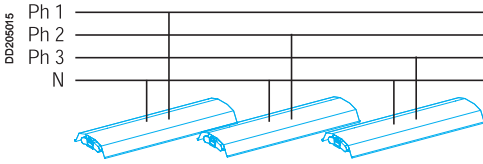
Power (W)	Unit weight (kg)	Possible spacing (metre)			
		KBA	KBB	KBA	KBB
250	6.00	3.00	5.00	4.00	6.00
	8.50	3.00	5.00	4.00	6.00
	10.00	3.00	5.00	4.00	6.00
400	6.50	3.00	5.00	4.00	6.00
	9.00	3.00	5.00	4.00	6.00
	11.00	3.00	5.00	4.00	6.00

Simplified design guide for lighting distribution

Determining the operational current



Ph + N distribution



3Ph + N balanced distribution

The tables below show the **operational current** as a function of the type and number of luminaires installed on a **single-phase line (L + N)** supplied with 230 V AC current. For a three-phase + N (AC, 400 V between phases) line, with equivalent phase current, the number of luminaires is three times higher.

Procedure:

- identify the type of luminaire (e.g. 2 x 58 W compensated fluorescent)
- on the corresponding line, select the number (or next highest) of installed luminaires (e.g. 26 if there are 23 luminaires)
- at the bottom of the table, read the corresponding operational current (e.g. 20 A).

Industrial reflector type fluorescent luminaires

Type of ballast	Power (W)	Number of luminaires on the line											
		Single-phase line						Three-phase + N line					
Electronic	1 x 36	33	53	66	-	-	-	99	-	-	-	-	-
	1 x 58	25	40	50	62	-	-	75	-	-	-	-	-
	2 x 36	21	33	42	52	67	-	63	99	-	-	-	-
	2 x 49	20	32	40	50	64	80	80	96	120	-	-	-
	2 x 58	13	20	26	32	41	52	39	60	78	96	-	-
Ferro-magnetic	1 x 36	22	35	44	55	-	-	66	105	-	-	-	-
	1 x 58	14	22	28	35	45	-	42	66	84	-	-	-
	2 x 36	11	17	22	27	35	44	33	51	66	81	-	-
	2 x 58	7	11	14	17	22	28	21	33	42	51	66	84
Operational current (A)		10	16	20	25	32	40	10	16	20	25	32	40

Mercury-vapour luminaires

Type of ballast	Power (W)	Number of luminaires on the line									
		Single-phase line					Three-phase + N line				
Compensated	250	7	11	14	17	22	21	33	42	51	66
	400	4	6	8	10	13	12	18	24	30	39
Non-compensated	250	4	7	9	11	14	12	21	27	33	42
	400	3	4	6	7	9	9	12	18	21	27
Operational current (A)		10	16	20	25⁽¹⁾	32	16	20	25⁽¹⁾	32	
Type of busbar trunking		20 A KDP		40 A KBA or KBB		40 A KBA or KBB		25 A KBA or KBB		40 A KBA or KBB	

High-pressure sodium-vapour luminaires

Type of ballast	Power (W)	Number of luminaires on the line									
		Single-phase line					Three-phase + N line				
Compensated	150	11	17	22	27	35	33	51	66	81	105
	250	7	11	14	17	22	21	33	42	51	66
	400	4	7	9	11	14	12	21	27	33	42
Non-compensated	150	5	8	11	13	17	15	24	33	39	51
	250	3	5	6	8	10	9	15	18	24	30
	400	2	3	4	5	6	3	9	12	15	18
Operational current (A)		10	16	20	25⁽¹⁾	32	10	16	20	25⁽¹⁾	32
Type of busbar trunking		20 A KDP		40 A KBA or KBB		40 A KBA or KBB		25 A KBA or KBB		40 A KBA or KBB	

■ Then refer to:

- page 38 to determine the type of busbar trunking and cables sizes as a function of type of protection (circuit breaker or fuse),
- page 41 to check voltage drop in the busbar trunking and the supply cable.

(1) For this type of luminaire, for 25 A and higher, select a 40 A KBA or KBB to take into account the overcurrent during starting.

Overload protection

Precalculating XLPE or PVC cables + Canalis

Drawn from the Ecodial low-voltage installation-calculation software, the information provided here assists in defining busbar trunking (cables and Canalis) and their protection in compliance with installation standards and calculation guide.

Protection of the main busbar trunking (cable + Canalis)

- The tables below may be used to determine:
 - the rated current (I_n) or the setting current (I_r) of the overload-protection devices,
 - the rated current (I_{nc}) of Canalis,
 - the thermal minimum cross-section of cables.
- These three characteristics are defined for the following installation conditions:
 - maximum ambient temperature 30°C,
 - cables placed in cable trays. Layout as a single horizontal layer or in groups of 2 or 3 cores.

Tap-off protection

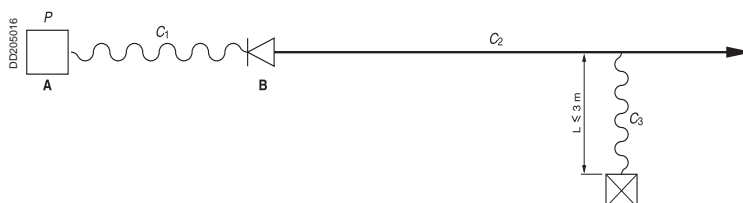
Canalis tap-offs must have overload protection. The tap-off is created using a fused tap-off unit to protect the cable (C_3) and the device against short-circuits. This protection offers good discrimination during operation (continuity of service, trouble-shooting, etc.).

For lighting, it may be useful to take advantage of the **possibilities for dispensing with or remotely locating** the protection, offered by standard IEC 60-364-4-43 (§ 433 and 434) and summarised in the texts below, drawn from UTE C 15-107. The tap-off is created using a pre-wired tap-off unit.

Supply to devices not subject to overloads

Exemption possibilities:

- the C_3 cable (connection to the device) does not need to be protected against overloads (NF C 15-100, 473.1.2b) or short-circuits (NF C 15-100, 473.2.2.1) because the cable :
 - is not subject to overload currents,
 - does not have tap-offs or power sockets,
 - is less than or equal to three metres,
 - is designed to reduce to a minimum the risk of short-circuits,
 - is not located near any flammable material.

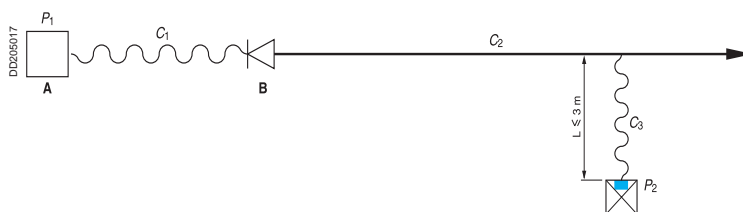


Example: *luminaires, convectors, etc.*

Supply to devices with built-in overload protection

Exemption possibilities:

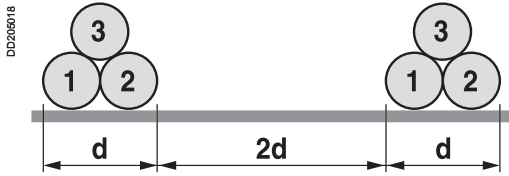
- the device P_2 protecting C_3 cable against overloads is not positioned at the head (NF C 15-100, 473.1.1.2 b) of C_3 because the latter:
 - does not have tap-offs or power sockets,
 - is less than or equal to three metres,
 - is designed to reduce to a minimum the risk of short-circuits,
 - is not located near any flammable material.



NB: P_1 - P_2 are short-circuit protection devices.

Simplified design guide for lighting distribution

Overload protection



Cables spaced in cable trays.



Cables touching in cable trays.

Precalculating XLPE or PVC cables + Canalis

The tables below determine, as a function of the type of overload protection (circuit breaker or fuse):

- the type of busbar trunking required
- the size of supply cables (in mm²) as a function of the installation method, for all conductor configurations.

Protection by Merlin Gerin C60 (curve C) modular circuit breaker

Type of busbar trunking	Operat. current Circuit-breaker rating (A)	XLPE cable		PVC cable			
		Spaced	Touching (number of cables) 2 to 5 6 or more	Spaced	Touching (number of cables) 2 3 4 or more		
20 A KDP	10	1.5	1.5	1.5	1.5	1.5	1.5
25 A KBA	16	1.5	1.5	1.5	2.5	2.5	2.5
25 A KBB	20	1.5	2.5	2.5	2.5	4	4
25 A KBA	25	2.5	4	4	4	4	6
25 A KBB		2.5 ⁽¹⁾	2.5 ⁽¹⁾				
40 A KBA	32	4	6	6	4	6	10
40 A KBB		2.5 ⁽¹⁾	4 ⁽¹⁾	4 ⁽¹⁾			
	40	4	6	10	6	10	10

Protection by gG fuses

Type of busbar trunking	Rated current (A)	XLPE cable		PVC cable		
		Spaced	Touching (number of cables) 2 to 5 6 or more	Spaced	Touching (number of cables) 2 3 4 or more	
20 A KDP	10	1.5	1.5	1.5	1.5	1.5
25 A KBA	16	1.5	2.5	2.5	2.5	2.5
25 A KBB		1.5 ⁽¹⁾				
	20	2.5	2.5	2.5	4	4
		1.5 ⁽¹⁾				
25 A KBA	25	2.5	4	4	6	6
25 A KBB				4 ⁽¹⁾		
40 A KBA	32	4	6	6	6	10
40 A KBB		2.5 ⁽¹⁾	4 ⁽¹⁾			

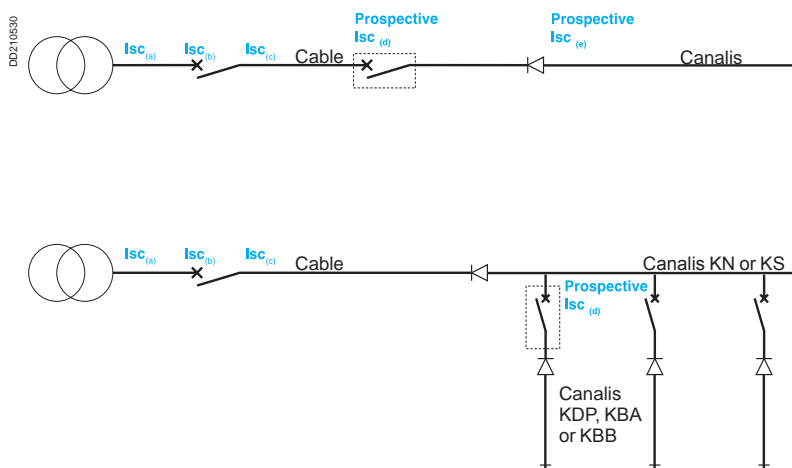
(1) Permissible cable cross-sections for single-phase distribution.

Short-circuit protection

Determining the prospective short-circuit current at the origin of the Canalis

There are two possible situations:

- the busbar trunking for lighting is supplied by a secondary switchboard.



I_{sc(a)}: rms short-circuit current across the transformer terminals.

Rms I_{sc(a)} values across the transformer terminals (U = 400 V)

Power (kVA)	50	100	150	200	250	315	400	500	630	800	1000	1250	1600
I_{sc(a)} (kA)	1.8	3.6	5.7	7.2	8.9	11.2	14.2	17.6	22.1	24.8	27.8	31.5	36.7

I_{sc(b)}: downstream short-circuit current, less than I_{sc(a)}, limited by cable impedance.

I_{sc(c)}: short-circuit current across circuit-breaker terminals, less than I_{sc(b)}, limited by circuit breaker.

I_{sc(d)}: prospective short-circuit current, limited by cable impedance (case 1) or by impedance of cable + Canalis (case 2).

I_{sc(e)}: prospective short-circuit current, at head of Canalis by the circuit breaker (d) and the impedance of the Canalis supply cable.

Drawn from the Ecodial low-voltage installation-calculation software, produced by Schneider Electric for fast and precise evaluation of prospective short-circuit currents at different points in the circuit.

Please consult your regional sales office.

Canalis and protection coordination

Drawn from tests specified in standards (used in our guides and software), the table below determines the type of Merlin Gerin circuit breaker or fuse required for a particular type of busbar trunking depending on the prospective short-circuit current at the head of the Canalis trunking.

Type of busbar trunking	Circuit-breaker protection					Fuse protection
	I _{sc(d)} (Prospective I _{sc})					
	10 kA	15 kA	20 kA	25 kA	50 kA	Prospective I _{sc}
20 A KDP	C60N20	C60H20	C60L20	C60L20	-	20 A gG
25 A KBA, 25 A KBB	C60N25	C60H25	C60L25	C60L25	NC100LH25	20 A gG
40 A KBA, 40 A KBB	C60N40	C60H40	C60L40	C60L40	NC100LH40	32 A gG

Characteristics of Canalis busbar trunking

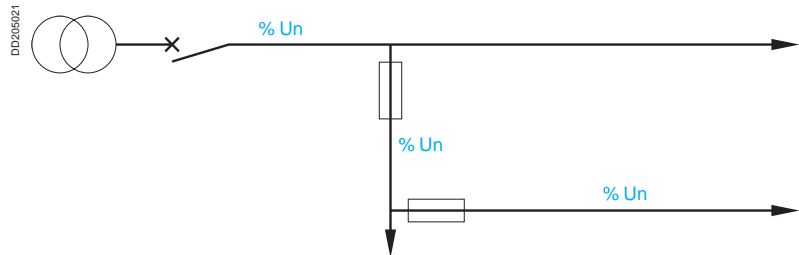
Type of busbar trunking	Short-circuit withstand Rated peak short-circuit current (kA)	Permissible thermal stress for 0.1 s ≤ t ≤ 3 s (A ² S)
20 A KDP	3.6	12 x 10 ⁴
25 A KBA	4.4	19.5 x 10 ⁴
40 A KBA	9.6	90 x 10 ⁴
25 A KBB	4.4	19.5 x 10 ⁴
40 A KBB	9.6	90 x 10 ⁴

Simplified design guide for lighting distribution

Check on voltage drop

Recommended design procedure

- Assign each circuit with a voltage-drop value expressed as a % of the rated voltage (U_n), given that the voltage drop between the head of the circuit and any point must not exceed the values in the table below.



Type of installation	Voltage drop (for lighting)
Installations supplied directly from a public low-voltage distribution network	3 %
Installations supplied by a subscriber substation or a transformer substation from a high-voltage installation ⁽¹⁾	6 %

(1) Wherever possible, voltage drops in final lighting circuits must not exceed 3 %. When the main busbar trunking in the installation is longer than 100 metres, the permissible values may be increased 0.005 % per metre of trunking over 100 metres, on the condition that the total addition not exceed 0.5 %.

- Convert into volts the % of the rated voltage (U_n) assigned to each circuit.
- Using the tables, check that the trunking and/or cables selected in the previous pages are compatible with the calculated voltage drops. Otherwise, it is necessary to increase the size of the cables.

Remarks

- In a mixed circuit, the most economical option is to increase the size of cables and avoid the use of prefabricated trunking with a higher rated current (I_{nc}).
- For certain loads, it may be necessary to take into account transient voltage drops.

Voltage drop in the Canalis busbar trunking

The table below indicates the single-phase voltage drop, in volts, in the Canalis busbar trunking (electrical power uniformly distributed). The three-phase voltage drop is obtained by multiplying the single-phase voltage drop indicated below by 0.866.

If the exact operational current (I_b) and length are not available, select the next highest.

Type of Canalis	Operational current (A)	Length of line (m)															
		6	8	10	12	15	20	25	30	35	40	45	50	60	70	80	100
20 A KDP cos 0.8	10	0.3	0.5	0.6	0.7	0.9	1.2	1.5	1.7	2	2.3	2.6	2.9	3.5	4.1	4.6	5.8
	16	0.6	0.7	0.9	1.1	1.4	1.9	2.3	2.8	3.2	3.7	4.2	4.6	5.6	6.5	7.4	9.3
	20	0.7	0.9	1.2	1.4	1.7	2.3	2.9	3.5	4.1	4.6	5.2	5.8	7	8.1	9.3	11.6
20 A KDP cos 0.9	10	0.4	0.5	0.7	0.8	1	1.3	1.6	2	2.3	2.6	2.9	3.3	3.9	4.6	5.2	6.5
	16	0.6	0.8	1	1.2	1.6	2.1	2.6	3.1	3.6	4.2	4.7	5.2	6.2	7.3	8.3	10.4
	20	0.8	1	1.3	1.6	2	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.8	9.1	10.4	13
20 A KDP cos 1	10	0.4	0.6	0.7	0.9	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.3	5	5.8	7.2
	16	0.7	0.9	1.2	1.4	1.7	2.3	2.9	3.5	4	4.6	5.2	5.8	6.9	8.1	9.2	11.5
	20	0.9	1.2	1.4	1.7	2.2	2.9	3.6	4.3	5	5.8	6.5	7.2	8.6	10.1	11.5	14.4
25 A KBA	10	0.4	0.5	0.6	0.7	0.9	1.2	1.5	1.8	2.1	2.4	2.8	3.1	3.7	4.3	4.9	6.1
25 A KBB cos 0.8	16	0.6	0.8	1	1.2	1.5	2	2.4	2.9	3.4	3.9	4.4	4.9	5.9	6.8	7.8	9.8
	20	0.7	1	1.3	1.5	1.8	2.4	3.1	3.7	4.3	4.9	5.5	6.1	7.3	8.6	9.8	12.2
	25	0.9	1.2	1.5	1.8	2.3	3.1	3.8	4.6	5.3	6.1	6.9	7.6	9.2	10.7	12.2	15.3
25 A KBA	10	0.4	0.5	0.7	0.8	1	1.3	1.7	2	2.3	2.7	3	3.4	4	4.7	5.4	6.7
25 A KBB cos 0.9	16	0.6	0.9	1.1	1.3	1.6	2.1	2.7	3.2	3.8	4.3	4.8	5.4	6.4	7.5	8.6	10.7
	20	0.8	1.1	1.3	1.6	2	2.7	3.4	4	4.7	5.4	6	6.7	8	9.4	10.7	13.4
	25	1	1.3	1.7	2	2.5	3.4	4.2	5	5.9	6.7	7.5	8.4	10.1	11.7	13.4	16.8
25 A KBA	10	0.4	0.6	0.7	0.9	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	4.3	5	5.8	7.2
25 A KBB cos 1	16	0.7	0.9	1.2	1.4	1.7	2.3	2.9	3.5	4	4.6	5.2	5.8	6.9	8.1	9.2	11.5
	20	0.9	1.2	1.4	1.7	2.2	2.9	3.6	4.3	5	5.8	6.5	7.2	8.6	10.1	11.5	14.4
	25	1.1	1.4	1.8	2.2	2.7	3.6	5.4	5.4	6.3	7.2	8.1	9	41.8	12.6	14.4	18
40 A KBA	16	0.2	0.3	0.4	0.5	0.6	0.8	1	1.2	1.4	1.6	1.8	2	2.4	2.8	3.2	4
40 A KBB cos 0.8	20	0.3	0.4	0.5	0.6	0.7	1	1.2	1.5	1.7	2	2.2	2.5	3	3.5	4	5
	25	0.4	0.5	0.6	0.7	0.9	1.2	1.6	1.9	2.2	2.5	2.8	3.1	3.7	4.4	5	6.2
	32	0.5	0.6	0.8	1	1.2	1.6	2	2.4	2.8	3.2	3.6	4	4.8	5.6	6.4	8
	40	0.6	0.8	1	1.2	1.5	2	2.5	3	3.5	4	4.5	5	6	7	8	10
40 A KBA	16	0.3	0.4	0.4	0.5	0.7	0.9	1.1	1.3	1.6	1.8	2	2.2	2.7	3.1	3.6	4.5
40 A KBB cos 0.9	20	0.3	0.4	0.6	0.7	0.8	1.1	1.4	1.7	2	2.2	2.5	2.8	3.4	3.9	4.5	5.6
	25	0.4	0.6	0.7	0.8	1.1	1.4	1.8	2.1	2.5	2.8	3.2	3.5	4.2	4.9	5.6	7
	32	0.5	0.7	0.9	1.1	1.3	1.8	2.2	2.7	3.1	3.6	4	4.5	5.4	6.3	7.2	9
	40	0.7	0.9	1.1	1.3	1.7	2.2	2.8	3.4	3.9	4.5	5	5.6	6.7	7.8	9	11.2
40 A KBA	16	0.3	0.4	0.5	0.6	0.7	1	1.2	1.4	1.7	1.9	2.2	2.4	2.9	3.4	3.8	4.8
40 A KBB cos 1	20	0.4	0.5	0.6	0.7	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3	3.6	4.2	4.8	6
	25	0.5	0.6	0.8	0.9	1.1	1.5	1.9	2.3	2.6	3	3.4	3.8	4.5	5.3	6	7.5
	32	0.6	0.8	1	1.2	1.4	1.9	2.4	2.9	3.4	3.8	4.3	4.8	5.8	6.7	7.7	9.6
	40	0.7	1	1.2	1.4	1.8	2.4	3	3.6	4.2	4.8	5.4	6	7.2	8.4	9.6	12

Voltage-drop conversion

Operational voltage (V)	Voltage drop in volts for a given %															
	0.3	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	6	7	8	9	10
230	0.7	1.2	2.3	3.5	4.6	5.8	6.9	8.1	9.2	10	12	14	16	18	21	23
400	1.2	2	4	6	8	10	12	14	16	18	20	24	28	32	36	40

Simplified design guide for power distribution

Power distribution via Canalis

Except for the most extreme environments, there is no reason to hesitate. Canalis can be installed everywhere.

The procedure presented below describes the steps in creating a simple installation. For a detailed design study, it is necessary to use the suitable tools, approved by certification organisations and in compliance with local installation standards. **Ecodial** software, published by Schneider Electric, is perfectly suited to the task.

Procedure

- 1 Identify external influences.
- 2 Layout the Canalis structure in the building according to the load locations.
- 3 Carry out a power sum.
- 4 Size the busbar trunking.

1 Identify external influences

The ambient temperature, the presence of dust or condensation, etc. are all factors in defining the degree of protection for the room containing the electrical installation. Canalis prefabricated busbar trunking provides an IP55 degree of protection and can be installed on virtually all sites.

- Examples:
 - mechanical workshops: IP32,
 - warehouses: IP30,
 - poultry farms: IP35,
 - greenhouses: IP23,
 - ...

2 Layout of Canalis busbar trunking

Layout of the distribution lines depends on load and source locations as well as trunking fixing possibilities.

- A single distribution line can supply a zone four to six metres long.
- Load protection is located in the tap-off units, as close as possible to the loads.
- A single Canalis feeder can supply a set of loads with different power ratings.

3 Power sum

Once the busbar trunking has been laid out, calculate the currents drawn by the Canalis lines.

Calculation of the total operational current drawn by the line

(I_n) is equal to the sum of the currents drawn by the loads (I_b): $I_n = \sum I_b$.

The loads do not all operate at the same time or continuously at full rated load, i.e. it is necessary to calculate the diversity coefficient (K_s): $I_n = \sum (I_b \times K_s)$.

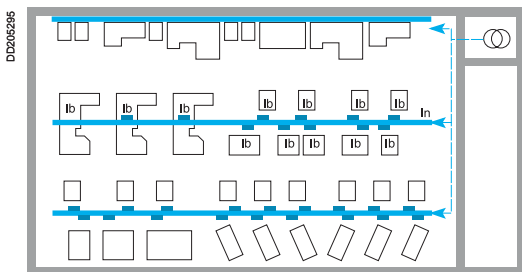
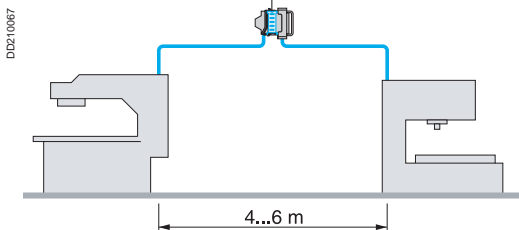
Diversity coefficient as a function of the number of loads

Application	Number of loads	K_s coefficient
Lighting, heating	-	1
Distribution (Mechanical workshop)	2...3	0.9
	4...5	0.8
	6...9	0.7
	10...40	0.6
	40 or more	0.5

Caution. For industrial installations, remember to allow for changes in types and numbers of machines. Similar to a switchboard, a margin of 20 % is recommended:
 $I_n = \sum I_b \times K_s \times 1.2$.

Selection of busbar trunking rating as a function of the operational current total I_n

Operational current total I_n (A)	Busbar trunking
0...40	KNA 40
40...63	KNA 63
63...100	KNA 100 or KSA 100
100...160	KNA 160 or KSA 160
160...250	KSA 250
250...400	KSA 400
400...500	KSA 500
500...630	KSA 630
630...800	KSA 800
800...1000	KSA 1000



4 Sizing the busbar trunking

Overload criterion

Ambient temperature

Canalis busbar trunking is sized for an ambient temperature of 35°C. For higher temperatures, the trunking must be derated as per the data in the tables on the technical characteristics.

Example: Canalis 400 A KSA at 45°C: $I_n = 400 \times 0.94 = 376 \text{ A}$.

Installation method

Canalis KN and KS trunking is designed to be installed edgewise.

In certain cases, it can also be installed flat (false floors) or vertically (KS rising mains).

These installation methods do not require derating for the KN and KS trunking.

Protection against trunking overloads

To enable future extensions, protection for prefabricated busbar trunking is generally sized for the rated current I_{nc} (or the permissible current I_z if coefficient K_1 is applied as a function of the ambient temperature).

■ Protection using gG (gl) fuses:

□ determine the standardised rated current I_n of the fuse such that $I_n \leq I_{nc}/1,1$ ($K_1=1,1$ for the fuses),

□ select the standardised rating I_n equal to that value or just below.

Check that $I_n \geq \Sigma (I_b \times K_s)$. If that is not the case, select the busbar trunking with the next highest rating.

Nota : Protection using gl fuses results in a reduction of the permissible current in the trunking.

■ Circuit-breaker protection: select the setting current I_r for the circuit breaker such that $\Sigma (I_b \times K_s) \leq I_r \leq I_{nc}$.

Nota : Circuit-breaker protection means Canalis busbar trunking can be used to the full rated load.

Voltage-drop criterion

The voltage drop between the head and any other KN point in the installation must not exceed the values in the table below:

Installation supplied by a distribution network	Lighting	Other application
LV public system	3 %	5 %
High voltage	6 %	8 %

For Canalis, voltage drops are indicated in V/100 m/A in the “Characteristics” section.

$$U = \Sigma (I_b \times K_s) \times L / 100$$

Example: “Characteristics” page for KN, 40 to 160 A

For a cos φ of	Canalis KN	Canalis KN			
		40 A	63 A	100 A	160 A
0,7	V/100 m/A	0.376	0.160	0.077	0.063
0,8	V/100 m/A	0.425	0.179	0.084	0.067
0,9	V/100 m/A	0.474	0.196	0.089	0.071
1	V/100 m/A	0,516	0.208	0.088	0.068

Short-circuit current criterion

For typical applications with power ratings up to 630 kVA, a Merlin Gerin solution including the low-voltage electrical switchboard, circuit breakers and Canalis busbar trunking ensures an installation sized to handle all short-circuit levels encountered.

To check the configuration of your installation (I_{sc} up to 150 kA), refer to the coordination tables on page 285 to page 292.

We also invite you to discover Ecodial, our complete design software for low-voltage installations (selection of circuit breakers and cables, calculation of breaking capacities, short-circuit currents and voltage drops, etc.), available from your Schneider Electric representative.

Simplified design guide

Determining the degree of protection

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

The importance of these influences depends on the installation conditions. For example, the presence of water can vary from a few drops to total immersion.

Degree of protection IP

Standard IEC 60529 (February 2001) indicates the degree of protection provided by electrical equipment enclosures against accidental direct contact with live parts and against the ingress of solid foreign objects or water.

This standard does not apply to protection against the risk of explosion or conditions such as humidity, corrosive gases, fungi or vermin.

The IP code comprises 2 characteristic numerals and may include an additional letter when the actual protection of persons against direct contact with live parts is better than that indicated by the first numeral.

The first numeral characterises the protection of the equipment against penetration of solid objects and the protection of people.

The second numeral characterises the protection of the equipment against penetration of water with harmful effects.

Remarks concerning the degree of protection IP

- The degree of protection IP must always be read and understood numeral by numeral and not as a whole.

For example, an IP31 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 the installation and device mounting are carried out in accordance with professional standard practice.

Additional letter

Protection of persons against direct contact with live parts.

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.

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

Degree of protection IK

Standard IEC 62262 defines a coding system (IK code) indicating the degree of protection provided by electrical equipment enclosures against external mechanical impact.

Installation standard IEC 60364 provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors.







IK code●●

The IK code comprises 2 characteristic numerals (e.g. IK05).









Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.

Meaning of the numerals and letters representing the degree of protection IP.

1st characteristic numeral: corresponds to protection of equipment against penetration of solid objects and protection of persons against direct contact with live parts.

Protection of equipment	Protection of persons		
Non-protected	Non-protected	0	
Protected against the penetration of solid objects having a diameter greater than or equal to 50 mm.	Protected against direct contact with the back of the hand (accidental contact).	1	
Protected against the penetration of solid objects having a diameter greater than or equal to 12.5 mm.	Protected against direct finger contact.	2	
Protected against the penetration of solid objects having a diameter greater than or equal to 2.5 mm.	Protected against direct contact with a 2.5 mm diameter tool.	3	
Protected against the penetration of solid objects having a diameter greater than 1 mm.	Protected against direct contact with a 1 mm diameter wire.	4	
Dust protected (no harmful deposits).	Protected against direct contact with a 1 mm diameter wire.	5	
Dust tight.	Protected against direct contact with a 1 mm diameter wire.	6	

2nd characteristic numeral: corresponds to protection of equipment against penetration of water with harmful effects.

Protection of equipment		
Non-protected	0	
Protected against vertical dripping water (condensation).	1	
Protected against dripping water at an angle of up to 15°.	2	
Protected against rain at an angle of up to 60°.	3	
Protected against splashing water in all directions.	4	
Protected against water jets in all directions.	5	
Protected against powerful jets of water and waves.	6	
Protected against the effects of temporary immersion.	7	
Protected against the effects of prolonged immersion under specified conditions.	8	

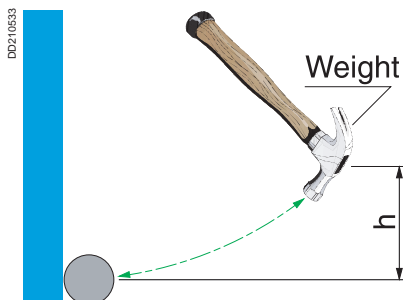
Additional letter

Corresponds to protection of persons against direct contact with live parts.

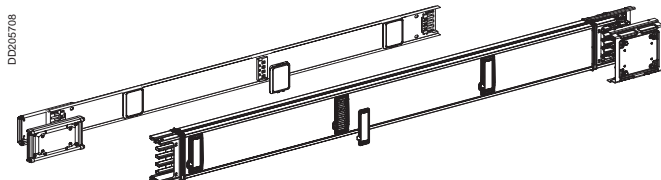
A	With the back of the hand.
B	With the finger.
C	With a 2.5 mm diameter tool.
D	With a 1.0 mm diameter tool.

Degrees of protection IK against mechanical impact

The IK code comprises 2 characteristic numerals corresponding to a value of impact energy, in joules.



	Weight (kg)	Height (cm)	Energy (J)
00	Non-protected		
01	0.20	7.50	0.15
02		10	0.20
03		17.50	0.35
04		25	0.50
05		35	0.70
06	0.50	20	1
07		40	2
08	1.70	30	5
09	5	20	10
10		40	20



The new Canalis KN and KS busbar trunking products are designed to provide IP55D and IK08 protection.

IP55

U_e = 230...400 V

Run component characteristics

Rating of trunking (A)	KDP	20
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General characteristics

Compliance with standards			IEC/EN 60439-2
Degree of protection:	IP		55
Mechanical impacts	IK		07
Rated current at an ambient temperature of 35 °C	I _{nc}	A	20
Rated insulation voltage	U _i	V	690
Rated operational voltage	U _e	V	230...400
Rated impulse voltage	U _{imp}	kV	4
Rated frequency	f	Hz	50/60

Conductor characteristics

Phase conductors

Mean resistance at an ambient temperature of 20 °C	R ₂₀	mΩ/m	6.80
Mean resistance at I _{nc} and 35 °C	R ₁	mΩ/m	8.30
Mean reactance at I _{nc} , 35 °C and 50 Hz	X ₁	mΩ/m	0.02
Mean impedance at I _{nc} , 35 °C and 50 Hz	Z ₁	mΩ/m	8.30

Protective conductor (PE)

Mean resistance at an ambient temperature of 20 °C		mΩ/m	7.25
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Fault loop characteristics

Symmetrical components method	Ph/N at 20 °C	Mean resistance	R _{0 ph/N}	mΩ/m	27.21	
		Mean reactance	X _{0 ph/N}	mΩ/m	0.85	
		Mean impedance	Z _{0 ph/N}	mΩ/m	27.22	
	Ph/PE at 20 °C	Mean resistance	R _{0 ph/PE}	mΩ/m	27.21	
		Mean reactance	X _{0 ph/PE}	mΩ/m	0.85	
		Mean impedance	Z _{0 ph/PE}	mΩ/m	27.22	
Impedance method	At 20 °C	Mean resistance	Ph/Ph	R _{b0 ph/ph}	mΩ/m	13.61
			Ph/N	R _{b0 ph/N}	mΩ/m	13.61
			Ph/PE	R _{b0 ph/PE}	mΩ/m	13.61
	For I _{nc} at 35 °C	Mean resistance	Ph/Ph	R _{b1 ph/ph}	mΩ/m	16.60
			Ph/N	R _{b1 ph/N}	mΩ/m	16.60
			Ph/PE	R _{b1 ph/PE}	mΩ/m	16.60
	For I _{nc} at 35 °C and 50 Hz	Mean reactance	Ph/Ph	X _{b ph/ph}	mΩ/m	0.04
			Ph/N	X _{b ph/N}	mΩ/m	0.04
			Ph/PE	X _{b ph/PE}	mΩ/m	0.04

Other characteristics

Short-circuit withstand capacity

Rated peak withstand current	I _{pk}	kA	3.6
Maximum thermal limit I ² t		A ² s	120 x 10 ³
Rated short-time withstand current (t = 1 s)	I _{cw}	kA	0.34

Voltage drop

Composite voltage drop (hot state) expressed in V/100 mA (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.

For a power factor of	1	V/100 mA	0.72
	0.9	V/100 mA	0.65
	0.8	V/100 mA	0.58
	0.7	V/100 mA	0.50

This table is given for three-phases network. The single phase voltage drop is obtained by dividing the three-phase voltage drop indicated below by 0.866

Radiated magnetic field

Radiated magnetic field strength 1 metre from the trunking	B	μT	< 2 x 10 ⁻³
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Product selection when harmonics are present (for details, see the "Special Applications" section)

Operational current as a function of 3rd-order harmonic content	THD ≤ 15 %	20
	15 % < THD ≤ 33 %	16
	THD > 33 %	14

Permissible current as a function of ambient temperature

Ambient temperature	°C	< 35	35	40	45	50	55
Coefficient K1	%	n/a	1	0.93	0.85	0.76	0.66

Tap-off unit characteristics

See KBC tap-off unit characteristics on page 50.

Canalis KBA, 25 and 40 A

Busbar trunking for lighting and power socket distribution

IP55

 $U_e = 230...400\text{ V}$

Galvanised or RAL 9010 white

Run component characteristics

Rating of trunking (A)		KBA	25	40
General characteristics				
Compliance with standards			IEC/EN 60439-2	IEC/EN 60439-2
Degree of protection:	IP		55	55
Mechanical impacts	IK		06	06
Number of live conductors			2 or 4	2 or 4
Rated current at an ambient temperature of 35 °C	I_{nc}	A	25	40
Rated insulation voltage	U_i	V	690	690
Rated operational voltage	U_e	V	230...400	230...400
Rated impulse voltage	U_{imp}	kV	4	4
Rated frequency	f	Hz	50/60	50/60

Conductor characteristics

Phase conductors				
Mean resistance at an ambient temperature of 20 °C	R_{20}	mΩ/m	6.80	2.83
Mean resistance at I_{nc} and 35 °C	R_1	mΩ/m	8.30	3.46
Mean reactance at I_{nc} , 35 °C and 50 Hz	X_1	mΩ/m	0.02	0.02
Mean impedance at I_{nc} , 35 °C and 50 Hz	Z_1	mΩ/m	8.33	3.46

Protective conductor (PE)

Mean resistance at an ambient temperature of 20 °C		mΩ/m	1.57	1.57
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Fault loop characteristics

Symmetrical components method	Ph/N at 20 °C	Mean resistance	$R_{0\text{ ph/N}}$	mΩ/m	27.21	19.40	
		Mean reactance	$X_{0\text{ ph/N}}$	mΩ/m	0.85	0.38	
		Mean impedance	$Z_{0\text{ ph/N}}$	mΩ/m	27.22	19.41	
	Ph/PE at 20 °C	Mean resistance	$R_{0\text{ ph/PE}}$	mΩ/m	19.40	13.83	
		Mean reactance	$X_{0\text{ ph/PE}}$	mΩ/m	0.38	0.73	
		Mean impedance	$Z_{0\text{ ph/PE}}$	mΩ/m	19.41	13.85	
Impedance method	At 20 °C	Mean resistance	Ph/Ph	$R_{b0\text{ ph/ph}}$	mΩ/m	13.61	5.68
			Ph/N	$R_{b0\text{ ph/N}}$	mΩ/m	13.61	5.68
			Ph/PE	$R_{b0\text{ ph/PE}}$	mΩ/m	11.01	7.66
	For I_{nc} at 35 °C	Mean resistance	Ph/Ph	$R_{b1\text{ ph/ph}}$	mΩ/m	16.60	6.91
			Ph/N	$R_{b1\text{ ph/N}}$	mΩ/m	16.60	6.91
			Ph/PE	$R_{b1\text{ ph/PE}}$	mΩ/m	12.50	8.70
	For I_{nc} at 35 °C and 50 Hz	Mean reactance	Ph/Ph	$X_{b\text{ ph/ph}}$	mΩ/m	0.04	0.90
			Ph/N	$X_{b\text{ ph/N}}$	mΩ/m	0.04	0.90
			Ph/PE	$X_{b\text{ ph/PE}}$	mΩ/m	0.035	0.035

Other characteristics

Short-circuit withstand capacity

Rated peak withstand current	I_{pk}	kA	4.40	9.60
Maximum thermal limit I^2t		A ² s	195×10^3	900×10^3
Rated short-time withstand current (t = 1 s)	I_{cw}	kA	0.44	0.94

Voltage drop

Composite voltage drop (hot state) expressed in V/100 mA (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.

For a power factor of	1	V/100 mA	0.72	0.30
	0.9	V/100 mA	0.67	0.28
	0.8	V/100 mA	0.61	0.25
	0.7	V/100 mA	0.54	0.22

This table is given for three-phases network. The single phase voltage drop is obtained by dividing the three-phase voltage drop indicated below by 0.866

Radiated magnetic field

Radiated magnetic field strength 1 metre from the trunking	B	μT	$< 2 \times 10^{-3}$	$< 2 \times 10^{-3}$
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Product selection when harmonics are present (for details, see the "Special Applications" section)

Operational current as a function of 3rd harmonic content	THD ≤ 15 %	25	40
	15 % < THD ≤ 33 %	20	32
	THD > 33 %	16	28

Permissible current as a function of ambient temperature

Ambient temperature	°C	< 35	35	40	45	50	55
Coefficient K1	%	n/a	1	0.96	0.93	0.89	0.85

Tap-off unit characteristics

See KBC tap-off unit characteristics on page 50.

Ue = 230...400 V

RAL 90 10 white

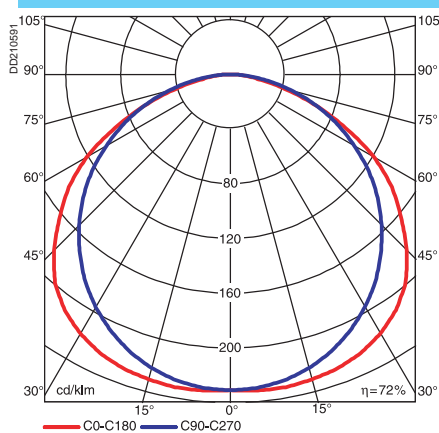
Luminaire characteristics

Type of luminaire	KBL	258C	258HF	249T5	280T5	258CE	258HFE	249T5E
General characteristics								
Compliance with standards	IEC/EN 60598-1							
Degree of protection	IP	20	20	20	20	55	55	55
Mechanical impacts	IK	07	07	07	07	10	10	10
Efficiency ⁽¹⁾	η	0.72	0.72	0.72	0.85	0.58G + 0.07T	0.58G + 0.07T	0.79G + 0.06T
Class		E	E	E	C	G	G	G
Operating temperature	°C	45	35	35	25	45	35	35

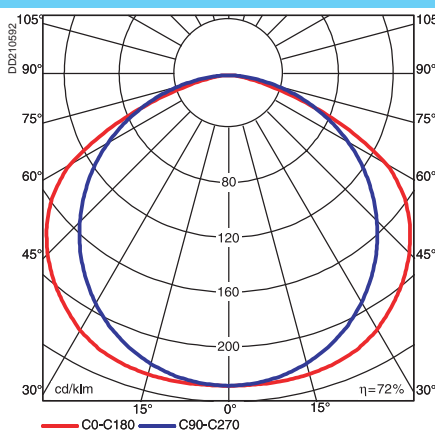
(1) G: Class of luminaires in direct lighting

T: Class of luminaires in indirect lighting

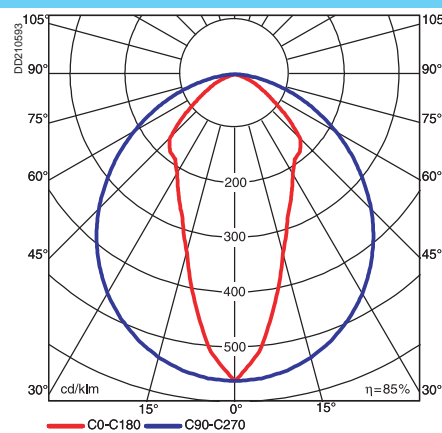
Photometric characteristics of fluorescent tubes



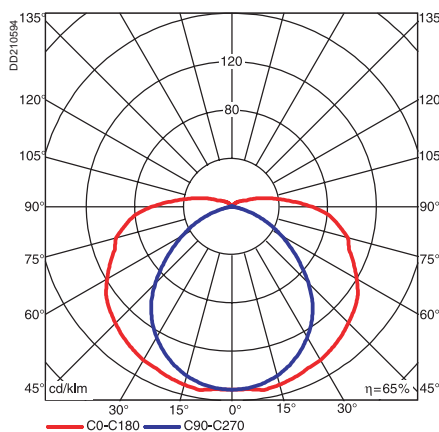
KBL 258C
KBL 258HF



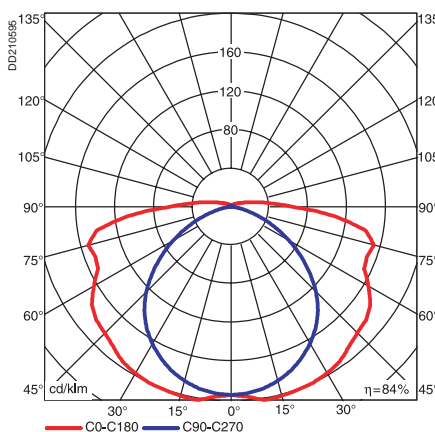
KBL 249T5



KBL 280T5



KBL 258CE
KBL 258HFE



KBL 249T5E

Canalis KBB, 25 and 40 A

Busbar trunking for lighting and power socket distribution

IP55

$U_e = 230...400\text{ V}$

Galvanised or RAL 9010 white

Run component characteristics

Rating of trunking (A)		KBB	25	40
General characteristics				
Compliance with standards			IEC/EN 60439-2	IEC/EN 60439-2
Degree of protection:	IP		55	55
Mechanical impacts	IK		06	06
Polarity			L+N 	3L+N
			or 3L+N 	and L+N
			and 3L+N 	and 3L+N
			or 3L+N 	and L+N
			and L+N 	and 3(L+N)
			and 3(L+N) 	and 3(L+N)
			If polarity Consult us.	
Number of circuits			1	2
Rated current at an ambient temperature of 35 °C	I_{nc}	A	25	25
Rated insulation voltage	U_i	V	690	690
Rated operational voltage	U_e	V	230...400	230...400
Rated impulse voltage	U_{imp}	kV	4	4
Rated frequency	f	Hz	50/60	50/60

Conductor characteristics

Phase conductors				
Mean resistance at an ambient temperature of 20 °C	R_{20}	mΩ/m	6.80	2.83
Mean resistance at I_{nc} and 35 °C	R_1	mΩ/m	8.30	3.46
Mean reactance at I_{nc} , 35 °C and 50 Hz	X_1	mΩ/m	0.02	0.02
Mean impedance at I_{nc} , 35 °C and 50 Hz	Z_1	mΩ/m	8.33	3.46
Protective conductor (PE)				
Mean resistance at an ambient temperature of 20 °C		mΩ/m	0.80	0.80

Fault loop characteristics

Symmetrical components method	Ph/N at 20 °C	Mean resistance	$R_{0\text{ ph/N}}$	mΩ/m	27.21	17.28	
		Mean reactance	$X_{0\text{ ph/N}}$	mΩ/m	0.85	5.25	
		Mean impedance	$Z_{0\text{ ph/N}}$	mΩ/m	27.22	18.06	
	Ph/PE at 20 °C	Mean resistance	$R_{0\text{ ph/PE}}$	mΩ/m	17.28	13.83	
		Mean reactance	$X_{0\text{ ph/PE}}$	mΩ/m	5.25	0.73	
		Mean impedance	$Z_{0\text{ ph/PE}}$	mΩ/m	18.06	13.85	
Impedance method	At 20 °C	Mean resistance	Ph/Ph	$R_{b0\text{ ph/ph}}$	mΩ/m	13.61	5.68
			Ph/N	$R_{b0\text{ ph/N}}$	mΩ/m	13.61	5.68
			Ph/PE	$R_{b0\text{ ph/PE}}$	mΩ/m	10.26	6.92
	For I_{nc} at 35 °C	Mean resistance	Ph/Ph	$R_{b1\text{ ph/ph}}$	mΩ/m	16.59	6.92
			Ph/N	$R_{b1\text{ ph/N}}$	mΩ/m	16.59	6.92
			Ph/PE	$R_{b1\text{ ph/PE}}$	mΩ/m	11.77	7.14
	For I_{nc} at 35 °C and 50 Hz	Mean reactance	Ph/Ph	$X_{b\text{ ph/ph}}$	mΩ/m	0.35	0.90
			Ph/N	$X_{b\text{ ph/N}}$	mΩ/m	0.35	0.90
			Ph/PE	$X_{b\text{ ph/PE}}$	mΩ/m	0.07	1.85

Other characteristics

Short-circuit withstand capacity				
Rated peak withstand current	I_{pk}	kA	4.40	9.60
Maximum thermal limit I^2t		A ² s	195×10^3	900×10^3
Rated short-time withstand current ($t = 1\text{ s}$)	I_{cw}	kA	0.44	0.94

Voltage drop

Composite voltage drop (hot state) expressed in V/100 mA (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.

For a power factor of	1	V/100 mA	0.72	0.30
	0.9	V/100 mA	0.67	0.28
	0.8	V/100 mA	0.61	0.25
	0.7	V/100 mA	0.55	0.22

Radiated magnetic field

Radiated magnetic field strength 1 metre from the trunking	B	μT	$< 2 \times 10^{-3}$	$< 2 \times 10^{-3}$
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Product selection when harmonics are present (for details, see the "Special Applications" section)

Operational current as a function of 3rd harmonic content	THD ≤ 15 %	25	40
	15 % < THD ≤ 33 %	20	32
	THD > 33 %	16	28

Permissible current as a function of ambient temperature

Ambient temperature	°C	< 35	35	40	45	50	55
Coefficient K1	%	n/a	1	0.96	0.93	0.89	0.85

Tap-off unit characteristics

See KBC tap-off unit characteristics on page 50

IP55

U_e = 230...400 V

Tap-off unit characteristics

Type of tap-off unit			KBC 10	KBC 10 Lighting control	KBC 16CB	KBC 16CF
General characteristics						
Compliance with standards	IEC/EN 60439-2					
Degree of protection:	IP		55	55	55	55
Rated current at an ambient temperature of 35 °C	I _{nc}	A	10	10	16	16
Rated insulation voltage	U _i	V	690	400	690	400
Rated operational voltage	U _e	V	230...400	230...400	230...400	230...400
Rated frequency	f	Hz	50/60	50/60	50/60	50/60

KDP connection characteristics

General characteristics						
Compliance with standards	EN 60320 and NFC 60050; IEC 227-53 for H05WF cable					
Degree of protection:	IP		40	40	40	40
Number of live conductors			2	2	2	2
Rated current at an ambient temperature of 35 °C	I _{nc}	A	16	16	16	16
Rated insulation voltage	U _i	V	250	250	250	250
Rated operational voltage	U _e	V	250	250	250	250
Rated frequency	F	Hz	50	50	50	50
Conductor characteristics						
Phase conductors						
Mean resistance at an ambient temperature of 20 °C	R ₂₀	mΩ/m	12.4	12.4	12.4	12.4
Mean resistance at I _{nc} and 35 °C	R ₁	mΩ/m	14.5	14.5	14.5	14.5
Mean reactance at I _{nc} , 35 °C and 50 Hz	X ₁	mΩ/m	3.1	3.1	3.1	3.1
Protective conductor (PE)						
Mean resistance at an ambient temperature of 20 °C		mΩ/m	12.4	12.4	12.4	12.4

Canalis KN, 40 to 160 A

Busbar trunking for low-power distribution

IP55
 $U_e = 230...500\text{ V}$
 RAL 9001 White

Run component characteristics

Rating of trunking (A)		KN	40	63	100	160			
General characteristics									
Compliance with standards			IEC/EN 60439-2						
Degree of protection:		IP	55	55	55	55			
Mechanical impacts		IK	08	08	08	08			
Rated current at an ambient temperature of 35 °C		I_{nc}	A	40	63	100	160		
Rated insulation voltage		U_i	V	500	500	500	500		
Rated operational voltage		U_e	V	500	500	500	500		
Rated impulse voltage		U_{imp}	kV	6	6	6	6		
Rated frequency		f	Hz	50/60	50/60	50/60	50/60		
Conductor characteristics									
Phase conductors									
Mean resistance at an ambient temperature of 20 °C		R_{20}	mΩ/m	4.97	2	0.85	0.61		
Mean resistance at I_{nc} and 35 °C		R_1	mΩ/m	5.96	2.4	1.02	0.79		
Mean reactance at I_{nc} , 35 °C and 50 Hz		X_1	mΩ/m	0.24	0.24	0.25	0.24		
Mean impedance at I_{nc} , 35 °C and 50 Hz		Z_1	mΩ/m	5.96	2.41	1.05	0.83		
Protective conductor (PE)									
Mean resistance at an ambient temperature of 20 °C			mΩ/m	1.09	1.09	1.09	1.09		
Fault loop characteristics									
Symmetrical components method	Ph/N at 20 °C	Mean resistance	$R_{0\text{ ph/N}}$	mΩ/m	19.96	8.16	3.72	2.67	
		Mean reactance	$X_{0\text{ ph/N}}$	mΩ/m	0.17	1.64	1.56	1.4	
		Mean impedance	$Z_{0\text{ ph/N}}$	mΩ/m	20.03	8.33	4.03	3.01	
	Ph/PE at 20 °C	Mean resistance	$R_{0\text{ ph/PE}}$	mΩ/m	8.43	5.23	3.84	3.34	
		Mean reactance	$X_{0\text{ ph/PE}}$	mΩ/m	2.31	2	1.66	1.29	
		Mean impedance	$Z_{0\text{ ph/PE}}$	mΩ/m	8.74	5.6	4.18	3.58	
Impedance method	At 20 °C	Mean resistance	Ph/Ph	$R_{b0\text{ ph/ph}}$	mΩ/m	9.93	4.01	1.71	1.21
			Ph/N	$R_{b0\text{ ph/N}}$	mΩ/m	9.95	4.1	1.73	1.24
			Ph/PE	$R_{b0\text{ ph/PE}}$	mΩ/m	6.245	3.24	2.03	1.71
	For I_{nc} at 35 °C	Mean resistance	Ph/Ph	$R_{b1\text{ ph/ph}}$	mΩ/m	11.88	4.81	2.05	1.58
			Ph/N	$R_{b1\text{ ph/N}}$	mΩ/m	11.9	4.83	2.07	1.61
			Ph/PE	$R_{b1\text{ ph/PE}}$	mΩ/m	6.24	3.89	2.43	2.22
	For I_{nc} at 35 °C and 50 Hz	Mean reactance	Ph/Ph	$X_{b\text{ ph/ph}}$	mΩ/m	0.48	0.5	0.52	0.79
			Ph/N	$X_{b\text{ ph/N}}$	mΩ/m	0.79	0.78	0.78	0.75
			Ph/PE	$X_{b\text{ ph/PE}}$	mΩ/m	1.13	1.05	0.96	0.84
Other characteristics									
Short-circuit withstand capacity									
Rated peak withstand current		I_{pk}	kA	6	11	14	20		
Maximum thermal limit I^2t			A ² s	0.29×10^6	1.8×10^6	8×10^6	8×10^6		
Rated short-time withstand current (t = 1 s)		I_{cw}	kA	0.5	1.3	2.8	2.8		
Voltage drop									
Composite voltage drop (hot state) expressed in V/100 mA (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.									
For a power factor of									
	1	V/100 mA	0.516	0.208	0.088	0.068			
	0.9	V/100 mA	0.474	0.196	0.089	0.071			
	0.8	V/100 mA	0.425	0.179	0.084	0.067			
	0.7	V/100 mA	0.376	0.160	0.077	0.063			
Radiated magnetic field									
Radiated magnetic field strength 1 metre from the trunking		B	μT	0.039	0.063	0.106	0.186		
Product selection when harmonics are present (for details, see the "Special Applications" section)									
Operational current as a function of 3rd harmonic content									
	THD ≤ 15 %			40	63	100	160		
	15 % < THD ≤ 33 %			32	50	80	130		
	THD > 33 %			28	40	63	100		
Permissible current as a function of ambient temperature									
Ambient temperature		°C		< 35	35	40	45	50	55
Coefficient K1		%		Without	1	0.97	0.94	0.91	0.87

IP55

$U_e = 230 \dots 500 \text{ V}$

RAL 9001 White

Tap-off unit characteristics

General characteristics

Degree of protection:	IP		55
Mechanical impacts	IK		08
Rated insulation voltage	U_i	V	400, 500 depending on protective device
Rated operational voltage	U_e	V	400, 500 depending on protective device
Rated impulse voltage	U_{imp}	kV	4.6
Rated frequency	f	Hz	50/60

Electrical characteristics of remote control circuit (KNT)

Number of conductors			3
Material			Copper
Rated operational voltage	U_e	V	500
Rated insulation voltage	U_i	V	500
Rated impulse voltage	U_{imp}	kV	6
Rated current at an ambient temperature of 35 °C	I_{nc}	A	6
Mean resistance at an ambient temperature of 20 °C	R_{20}	mΩ/m	7,6
Mean resistance at I_{nc} and 35 °C	R_1	mΩ/m	8,7

Canalis KS, 100 to 1000 A

Busbar trunking for medium-power distribution

IP55

U_e = 230...690 V

RAL 9001 White

Run component characteristics

Rating of trunking (A)		KS	100	160	250	400	500	630	800	1000			
General characteristics													
Compliance with standards			IEC/EN 60439-2										
Degree of protection:		IP	55	55	55	55	55	55	55	55			
Mechanical impacts		IK	08	08	08	08	08	08	08	08			
Rated current at an ambient temperature of 35 °C		I _{nc}	A	100	160	250	400	500	630	800	1000		
Rated insulation voltage		U _i	V	690	690	690	690	690	690	690	690		
Rated operational voltage		U _e	V	690	690	690	690	690	690	690	690		
Rated impulse voltage		U _{imp}	kV	8	8	8	8	8	8	8	8		
Rated frequency		f	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60		
Conductor characteristics													
Phase conductors													
Mean resistance at an ambient temperature of 20 °C		R ₂₀	mΩ/m	1.19	0.55	0.28	0.15	0.11	0.09	0.06	0.04		
Mean resistance at I _{nc} and 35 °C		R ₁	mΩ/m	1.59	0.77	0.39	0.21	0.15	0.13	0.09	0.06		
Mean reactance at I _{nc} , 35 °C and 50 Hz		X ₁	mΩ/m	0.15	0.15	0.16	0.14	0.07	0.07	0.06	0.06		
Mean impedance at I _{nc} , 35 °C and 50 Hz		Z ₁	mΩ/m	1.6	0.79	0.42	0.25	0.16	0.15	0.11	0.09		
Protective conductor (PE)													
Mean resistance at an ambient temperature of 20 °C			mΩ/m	0.42	0.42	0.35	0.19	0.07	0.07	0.07	0.06		
Fault loop characteristics													
Symmetrical components method	Ph/N at 20 °C	Mean resistance	R _{0 ph/N}	mΩ/m	4.85	1.1	1.28	0.74	0.5	0.45	0.32	0.23	
		Mean reactance	X _{0 ph/N}	mΩ/m	0.95	0.22	0.86	0.67	0.36	0.35	0.31	0.27	
		Mean impedance	Z _{0 ph/N}	mΩ/m	4.94	1.12	1.54	1	0.62	0.57	0.45	0.36	
	Ph/PE at 20 °C	Mean resistance	R _{0 ph/PE}	mΩ/m	2.75	2.01	1.34	0.88	0.4	0.51	0.35	0.32	
		Mean reactance	X _{0 ph/PE}	mΩ/m	1.11	0.93	0.7	0.67	0.48	0.55	0.43	0.4	
		Mean impedance	Z _{0 ph/PE}	mΩ/m	2.96	2.22	1.51	1.11	0.63	0.75	0.56	0.51	
Impedance method	At 20 °C	Mean resistance	Ph/Ph	R _{b0 ph/ph}	mΩ/m	2.4	1.15	0.65	0.41	0.25	0.23	0.18	0.15
			Ph/N	R _{b0 ph/N}	mΩ/m	2.44	1.21	0.74	0.51	0.3	0.28	0.23	0.2
			Ph/PE	R _{b0 ph/PE}	mΩ/m	1.87	1.3	0.78	0.55	0.31	0.3	0.28	0.26
	For I _{nc} at 35 °C	Mean resistance	Ph/Ph	R _{b1 ph/ph}	mΩ/m	3.19	1.55	0.78	0.57	0.35	0.32	0.25	0.21
			Ph/N	R _{b1 ph/N}	mΩ/m	3.21	1.57	0.82	0.7	0.41	0.39	0.32	0.28
			Ph/PE	R _{b1 ph/PE}	mΩ/m	2.38	1.46	0.91	0.76	0.43	0.41	0.39	0.37
	For I _{nc} at 35 °C and 50 Hz	Mean reactance	Ph/Ph	X _{b ph/ph}	mΩ/m	0.31	0.31	0.32	0.28	0.14	0.14	0.13	0.12
			Ph/N	X _{b ph/N}	mΩ/m	0.45	0.45	0.45	0.39	0.2	0.2	0.18	0.17
			Ph/PE	X _{b ph/PE}	mΩ/m	0.58	0.42	0.42	0.39	0.24	0.24	0.23	0.22
	Other characteristics												
	Short-circuit withstand capacity												
	Rated peak withstand current		I _{pk}	kA	15.7	22	28	49.2	55	67.5	78.7	78.7	
Maximum thermal limit I ² t (t = 1 s)			10 ⁶ A ² s	6.8	20.2	100	354	733	1225	1758	1758		
Rated short-time withstand current (t = 1 s)		I _{cw}	kA	2.6	4.45	10	18.8	26.2	32.1	37.4	37.4		
Voltage drop													
Composite voltage drop (hot state) expressed in V/100 mA (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.													
For a power factor of			V/100 mA	0.138	0.067	0.034	0.018	0.013	0.011	0.008	0.005		
			V/100 mA	0.130	0.066	0.036	0.022	0.014	0.013	0.009	0.007		
			V/100 mA	0.118	0.061	0.035	0.022	0.014	0.013	0.009	0.007		
			V/100 mA	0.106	0.056	0.034	0.021	0.013	0.012	0.009	0.008		
Radiated magnetic field													
Radiated magnetic field strength 1 metre from the trunking		B	μT	0.19	0.31	0.52	0.89	0.50	0.66	0.88	1.21		
Product selection when harmonics are present (for details, see the "Special Applications" section)													
Operational current as a function of 3rd harmonic content				100	160	250	400	500	630	800	1000		
				80	125	200	315	400	500	630	800		
				63	100	160	250	315	400	500	630		
Permissible current as a function of ambient temperature													
Ambient temperature		°C		< 35	35	40	45	50	55				
Coefficient K1		%		n/a	1	0.97	0.94	0.91	0.87				

IP55

U_e = 230...690 V

RAL 9001 White

Tap-off unit characteristics

General characteristics

Degree of protection:	IP		55
Mechanical impacts	IK		08
Rated insulation voltage	U _i	V	400, 500 or 690 depending on protective device
Rated operational voltage	U _e	V	400, 500 or 690 depending on protective device
Rated impulse voltage	U _{imp}	kV	6.8
Rated frequency	f	Hz	50/60

Schneider Electric offers comprehensive software to help you design Canalis installations and prepare quotations.

CanBrass brings you all the help you need.



Lighting design guide.

CanBrass software, from Schneider Electric, has been developed to accompany you when designing and preparing quotations for Canalis busbar trunking installations.

CanBrass, a comprehensive tool

CanBrass software helps you rapidly design the best installation for your project. It lets you:

- easily choose the right products,
- compare the busbar trunking solution with an equivalent cable-based solution,
- list the catalogue numbers and quantities required,
- prepare a complete quotation including parts and labour.

Functions

The user enters the following information:

- for lighting circuits: current, length, number of luminaires and identical lines,
- for power circuits: current, length, number of machines and the rating and type of protection for each line.



Data entry screen for a Canalis trunking line.

The software breaks the project down into quantities for the different product functions (fixings, straight lengths, etc.).



Breakdown of the line into product functions.

After confirming the breakdown of the line, the user accesses the costing table.



Breakdown of the line into catalogue numbers with price calculations and estimation of the time required for installation.

CanBrass software can be used to produce a complete quotation (quantities, catalogue numbers, unit price, total net price and manhours required for installation).



Comparison of a Canalis lighting installation and an equivalent cable-based solution.

A screenshot of a software window showing detailed costs for both solutions. The table includes columns for 'Description', 'Quantity', 'Unit Price', and 'Total Price'. The data is presented in a clear, tabular format.

Detailed costs for both solutions.

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Canalis KDP

For lighting and power socket distribution

1. Run components

- Rating: 20 A.
- 2 or 4 live conductors.
- Available in 24 or 192-metre reels.

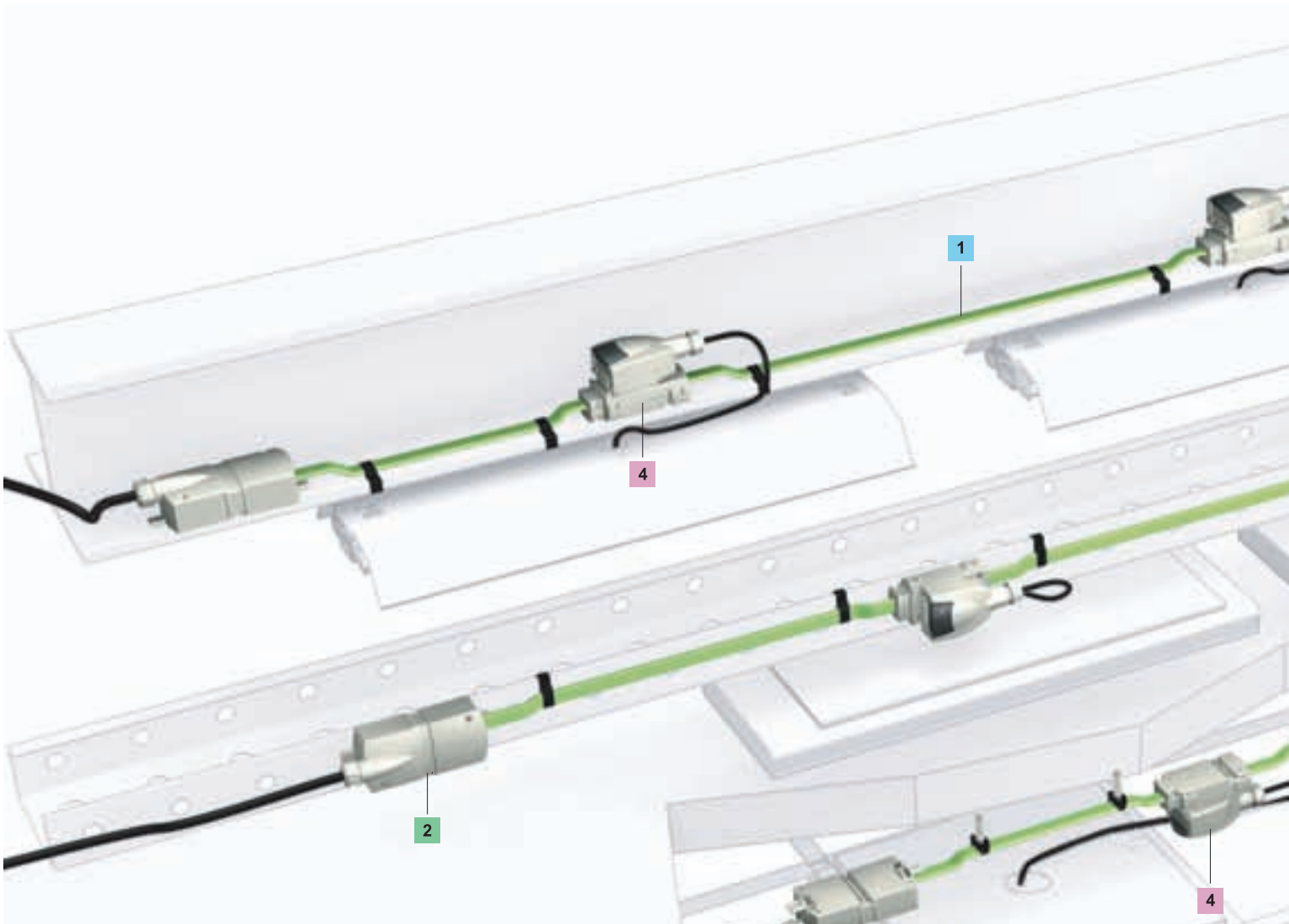
PD202156



2. Feed units and end covers

- The feed units delivered with end covers receive the cables supplying one end of Canalis KDP trunking.

PD202157



3. Fixing system

■ The fixing system is used to attach Canalis KDP to the sides of cable trays, metal structures or concrete slabs.



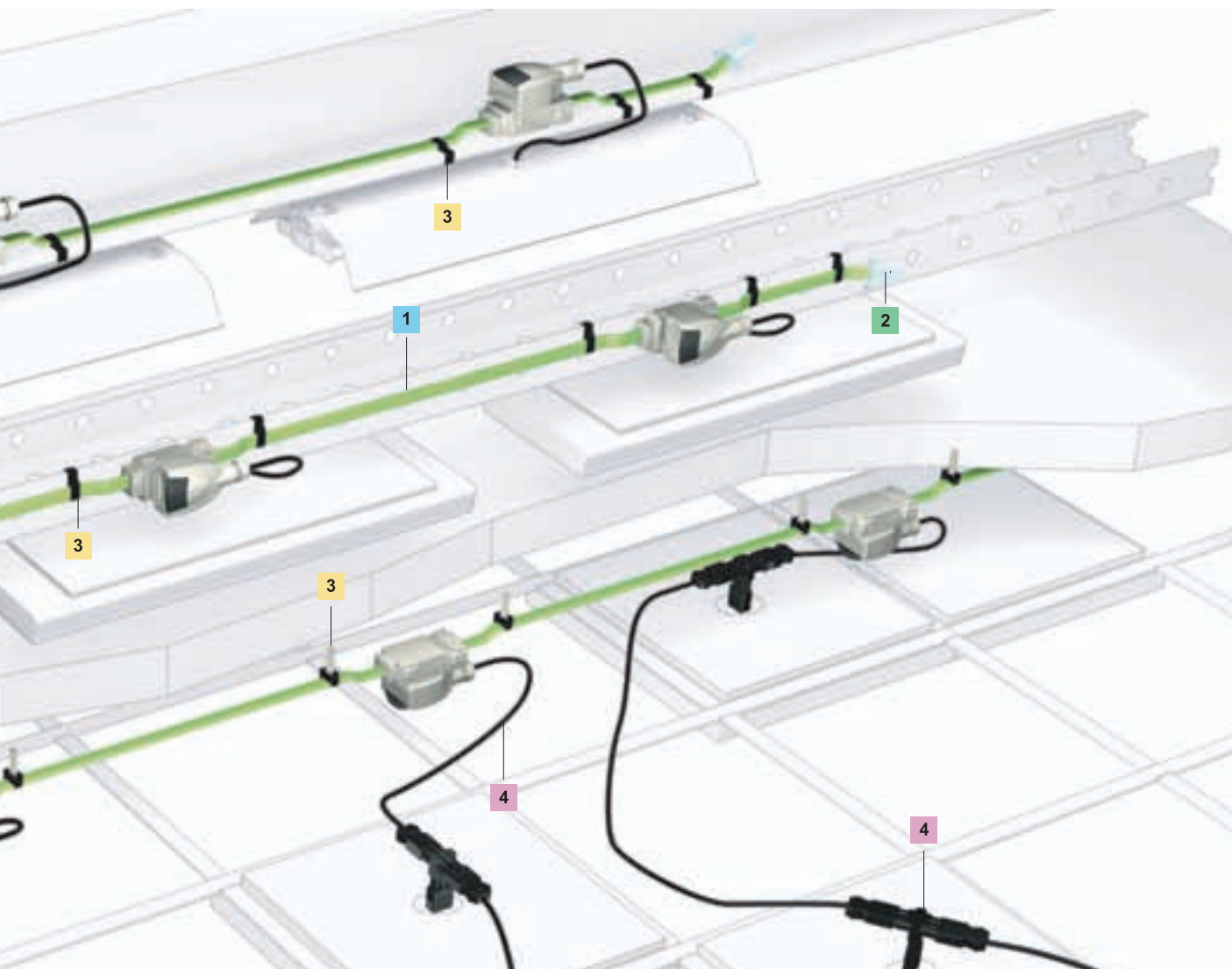
4. Tap-off units

■ The 10 and 16 A tap-off units (pre-wired or not) offer phase selection or fixed polarities, and can be used on the entire lighting range.



Prefabricated connections

■ Prefabricated connections can supply several luminaires from the same tap-off unit, for distribution in false ceilings.



Canalis KDP

For lighting and power socket distribution

No toxic emission in case of fire

All components in the KDP range are **halogen free**.

In case of fire, Canalis KDP does not release smoke or toxic gases.

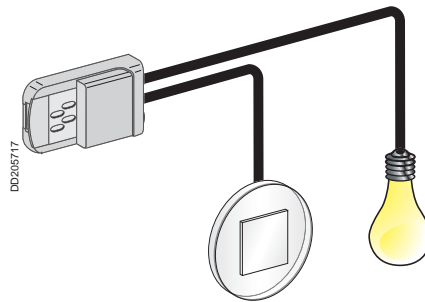


DD202141

A special tap-off unit for lighting control

This tap-off unit, designed for partitioned sites, is designed for:

- single-circuit switching
- double-circuit switching
- two-way switching
- control by impulse switch or timer.



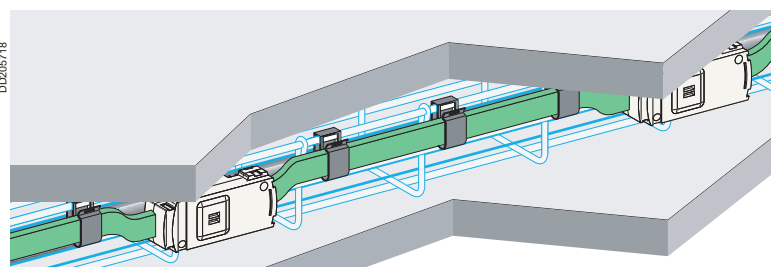
DD2025717

PD202182



Remarkably compact

The compact design of Canalis KDP ensures easy mounting in false floors or ceilings.

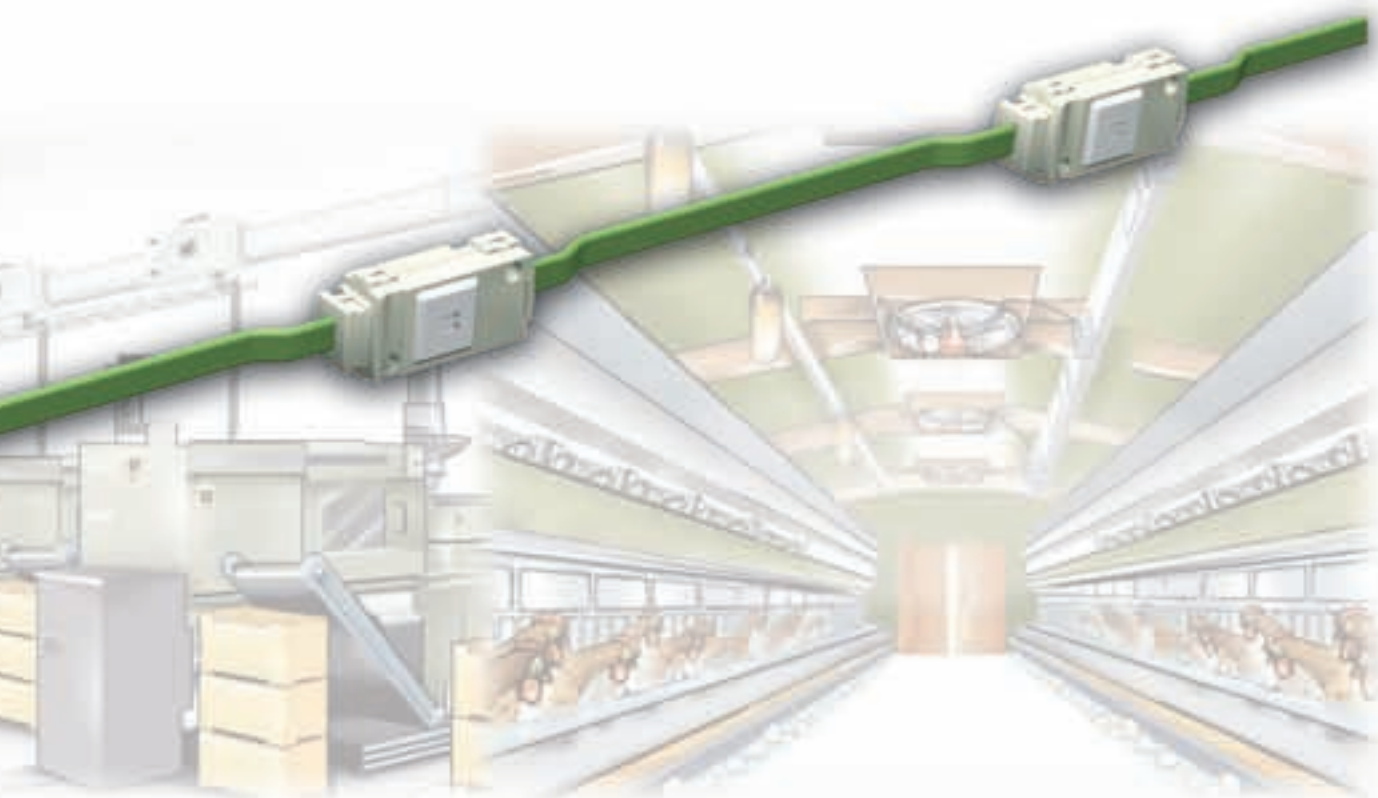
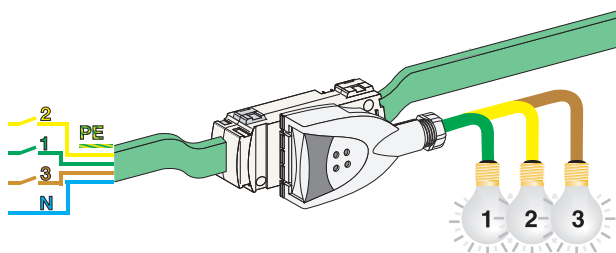


DD2025718

Three levels of illuminance

By using three-phase trunking, it is possible to create up to three levels of illuminance.

DD205719



A high degree of protection

■ IP55 guarantees trunking protection against splashes and dust.

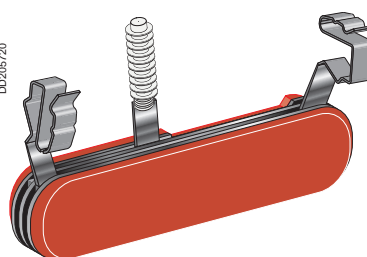
DD202142



The right fixings

With fixings designed to suit the building structure, Canalis KDP is easy to install.

DD205720



Description

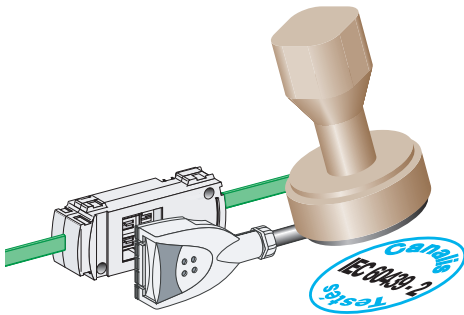
IP55

U_e = 230...400 V

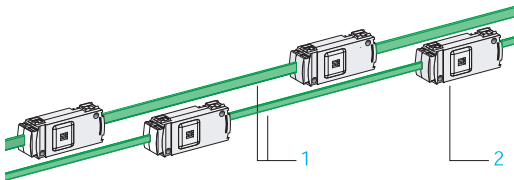
Canalis KDP, 20 A

Busbar trunking for lighting and power socket distribution

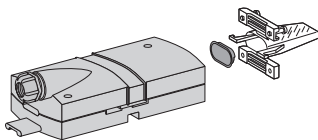
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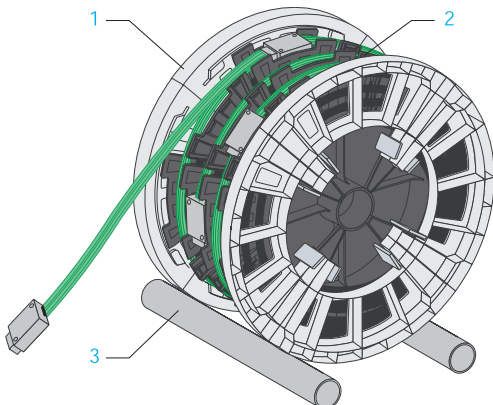
DD210155



DD210125



DD210154



Canalis KDP is halogen free

In the event of a fire, cable and conductor insulation containing halogens (chlorine, bromine, etc.) releases dark, toxic and corrosive smoke. The latter can cause panic, difficulties for rescue teams, intoxication and severe damage to electronic and computer equipment.

KDP trunking, halogen free, avoids the above risks.

Run components

Carry the current and supply lighting fixtures.

The run components consist of:

1 A flat ribbon cable conforming to standard IEC 60502-1 with 3 or 5 x 2.5 mm² conductors, including one protective conductor. The copper conductors are tinned to protect against corrosion. Canalis KDP is available in 24-metre, 183-metre (special for 1350 mm tap-off unit spacing) or 192-metre reels. The 192-metre reel contains eight spools, clipped together, each containing 24 metres of cable. For easy installation and use of the uncoiler kit (see above), it is recommended that KDP be ordered in multiples of 24 metres.

2 Tap-off outlets, factory fitted. These can receive all tap-off units in the KBA and KBB ranges and ensure electrical connection of the tap-off units.

The degree of protection of the assembly is IP55.

Available distances between tap-off outlets: 1.2 m, 1.35 m, 1.5 m, 2.4 m, 2.7 m and 3 m.

All the insulating and plastic materials have increased fire-retardant capacity:

■ incandescent-wire test in compliance with IEC 60695-2:

□ 960°C for components in contact with live parts,

□ 650°C for other components.

KDP is certified to be non-flame-propagating in compliance with standard IEC 60332-3.

The system as a whole complies with standard IEC 60439-2.

Feed units and end covers

After stripping the KDP cable, the connection is made by means of a screw terminal for copper cable with a maximum c.s.a. of 4 mm².

These components are fitted with a PG 16 cable gland. They are locked in the closed position by a screw.

They can be used to supply the run from either side and for connecting two KDP runs. Each feed unit is supplied with an end cover for the opposite end of the run.

The system as a whole complies with standard IEC 60439-2.

Uncoiler kit

Makes for easy installation of KDP trunking by allowing the cable to be rolled out from the reel.

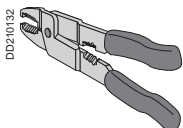
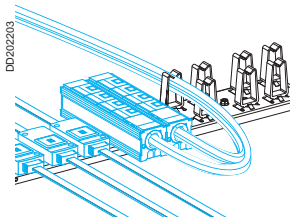
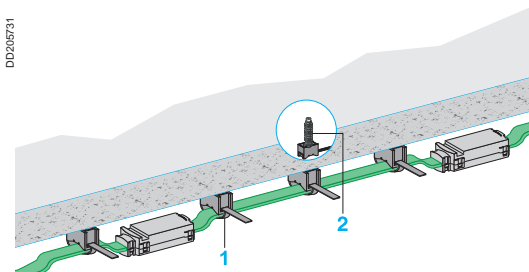
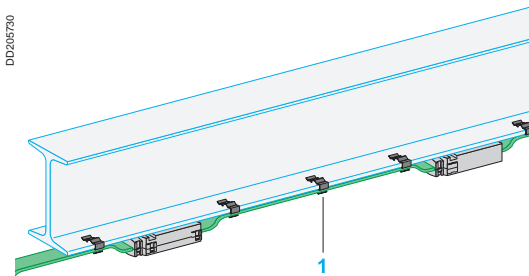
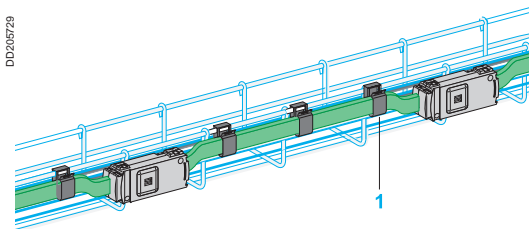
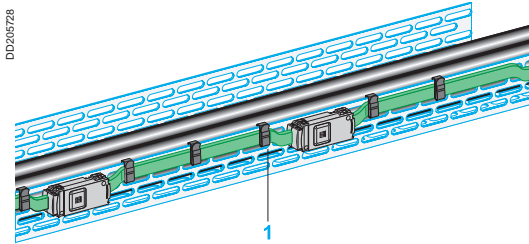
It can be used with all standard roller-type uncoilers.

It clips onto the packing spools and can be removed for re-use.

1 Uncoiler kit (8 parts)

2 Packing spools.

3 Cable uncoiler (not supplied).



Fixing systems

These systems are used to fix KDP in accordance with recommended installation methods.

Fixing to the edge of pre-slotted sheet-metal cable trays

1 Fixing to edge of sheet metal: KDP ZF10.

For the ribbon cable and the feed unit.

Fixing to the edge of mesh trays

1 Fixing for mesh trays: KDP ZF14.

For fixing the ribbon cable and feed unit to wire diameters between 5 and 8 mm.

Fixing to metal structures

1 Fixings for I-beams of the following thicknesses:

- KDP ZF10: 1 to 8 mm,
- KDP ZF11: 8 to 13 mm,
- KDP ZF12: 13 to 17 mm,
- KDP ZF13: 17 to 22 mm.

For $h \geq 120$ mm, the KDP may be fixed on top of the I-beam wing.

Fixing to concrete slabs or wooden structures

1 Fixing with cable tie for concrete or wood.

KDP ZF20: for the ribbon cable.

2 Concrete fixing plug.

KDP ZF21: for 8 mm diameter hole.

VDI Support

One support assembly for both power and VDI circuits.

A specially designed assembly supports all circuits required for 28 office-type workstations.

It supports:

- 3 Canalis KDP, KBA, KBB or KN power distribution circuits for lighting, power sockets and uninterruptible power. (for Canalis KBA or KBB, universal fixings KB.40ZFU are also required and must be ordered separately)
- 7 bundles of 8 communication cables (4 data circuits and 4 telephone circuits) as well as 2 interfaces for four RJ45 connectors each.

The support can be installed either above false ceilings (suspended on a threaded rod) or under false floors.

Stripping tool

Used to cut, remove the sheath and strip KDP 3 or 5-conductor cables.

Description

IP55

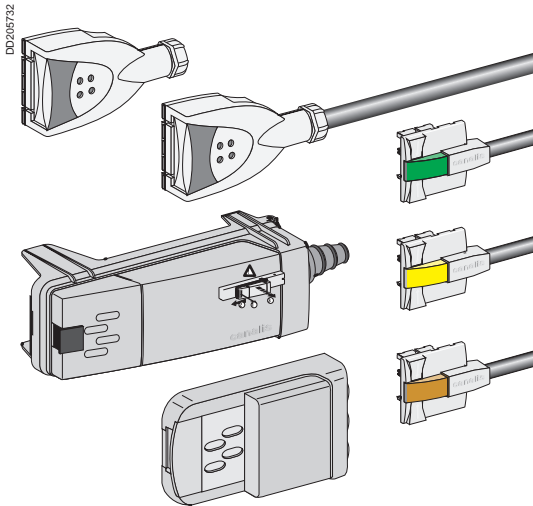
U_e = 230...400 V

Canalis KDP, KBA and KBB

Busbar trunking for lighting and

power socket distribution

Tap-off units

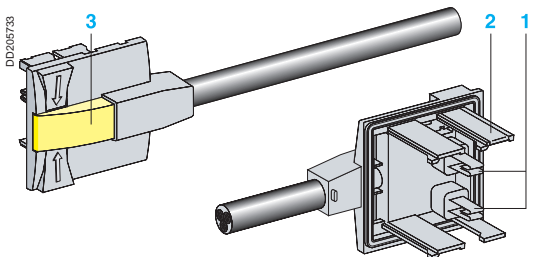


Tap-off units (general)

For instantaneous connection of luminaires to busbar trunking:

- they can be handled while energised and under live conditions
- the contacts for live conductors are of the clamp type
- PE connection occurs before that of the phases and neutral
- phase-selection system (clip-in contact studs) for balancing of 3-phase distribution systems
- selection is visible via a transparent window
- a coloured lock holds them in the tap-off outlet
- all the insulating and plastic materials have a high fire-retardant capacity:
 - incandescent-wire test in compliance with IEC 60695-2:
 - 960°C for components in contact with live parts,
 - 650°C for other components.

All the insulators and plastic components are **halogen free**.



Pre-wired 10 A tap-off unit with fixed polarity

Pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 0.80 m long, pre-stripped on luminaire end:

- 10 A rating
- fixed L + N + PE polarity
- the various models make it possible to balance 3-phase distribution systems.

The colour of the lock and the casing enable remote identification of the polarity.

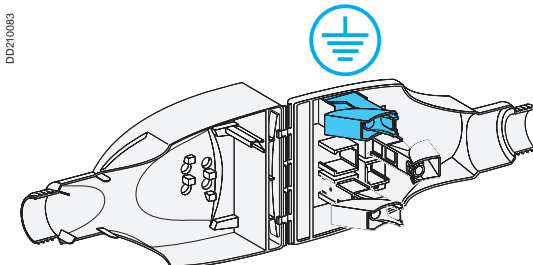
- 1 Live-conductor contacts.
- 2 Protective-conductor contact.
- 3 Lock.

Two-pole 10 A tap-off unit with phase selection

- The two contact studs are movable and can be used to set up both L + N + PE and 2L + PE distribution.
- Supplied complete with a cable gland.

10 A KBC-10DCB20 tap-off unit, 2-pole + PE, to be wired

- To be wired for connection of luminaires using a cable of specific type, size or length.
- Fast connection for 3 x 0.75 to 1.5 mm² cable. If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).

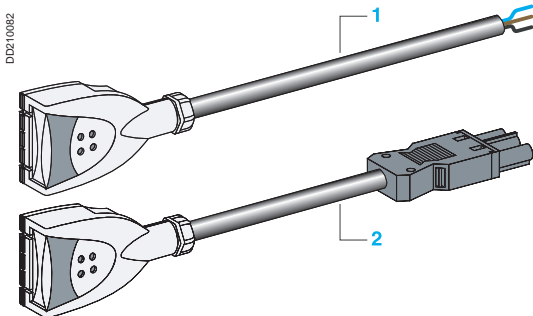


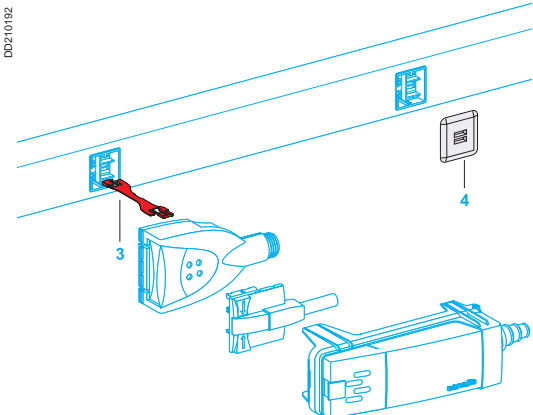
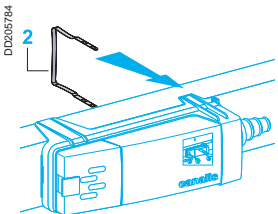
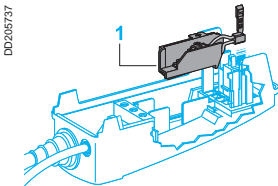
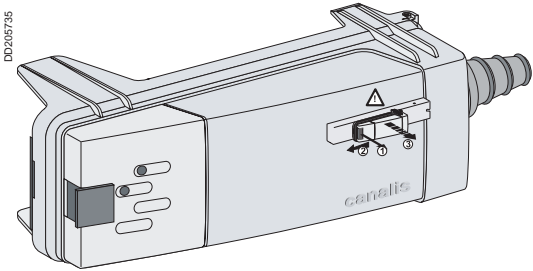
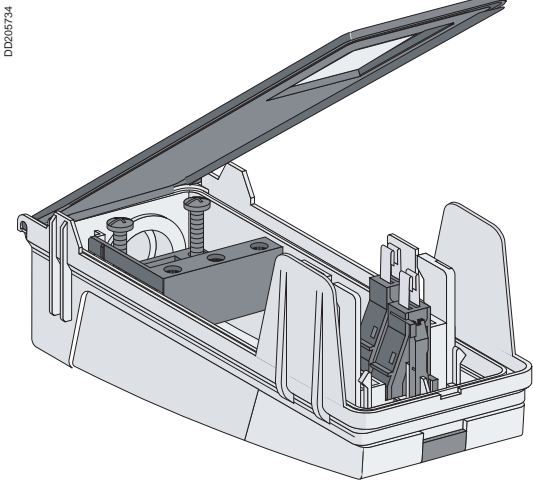
10 A KBC tap-off unit, 2-pole + PE, pre-wired

Two pre-wired versions are available:

- 1 pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long, pre-stripped on luminaire end,
- 2 for KDP, pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long and equipped with a female GST18i3 connector on the luminaire end (see prefabricated leads). In this case, The lead is IP40.

If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).





16 A KBC 16DCB/DCF21 tap-off unit with phase selection

For connection of luminaires using a cable of specific type, size and length.

- Two-pole: L + N + PE (1 mobile stud, fixed neutral) or 2L + PE (2 mobile studs).
- Installation is facilitated by the side guides.
- Supplied with a cable bushing. Terminal connections for 0.75 to 1.5 mm² cable.

KBC 16DCB tap-off unit with terminals, direct connection (no protection)

For direct connection (no protection) of luminaires using a specific cable. Can be equipped with the accessory to tap-off the remote-control circuit to the luminaires.

KBC 16DCF tap-off unit, with fuses

For protection of each luminaire.
 Fuse carrier on the phase (1 or 2 carriers depending on the model).
 For cylindrical fuse NF 8.5 x 31.5 (not supplied), 16 A gG maximum, breaking capacity 20 kA.

16 A L + N + PE tap-off unit with preselected polarity KBC 16DCB/DCF●●6

For tap-off and individual protection of luminaires assigned to two independent circuits of 4-conductor KDP trunking. Identical in design to the tap-off units on the opposite page, but with factory-set polarity.

Accessories

Specific to KBC 16DCF tap-off units

1 Additional remote-control contact block

- For tap-off of the remote-control circuit to the luminaire (KBB and KBA lines with T option).
- Clips onto KBC 16DCB or CF (except KBC 16DCF22) tap-off units.
- Terminals for data cable, max. size 2 X 0.75 mm².
- Supplied with cable bushing.

2 Rear support bracket

Additional fixing of KBC 16 tap-off units using the rear support bracket may be necessary, notably if there is a risk of accidental pulling on the cable or if the cable is very heavy (great length).

Other accessories

3 Interlocking device

For all 10 A and 16 A tap-off units.
 A set of three interlocking devices in different colours can be used to mechanically lock out tap-off units when two or three different distribution networks are present (load, voltage, frequency, etc.).
 ■ An interlocking device is made up of a handle and an interlocking device on each end. It can be used for a tap-off outlet and the corresponding tap-off unit.
 ■ Labels can be placed on the tap-off units and the trunking for remote identification.

4 Outlet blanking plate

Spare part intended to restore IP55 on a tap-off outlet following removal of the tap-off unit (if original blanking plate is lost).

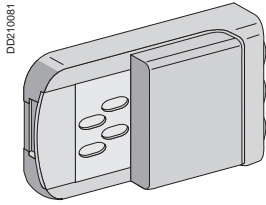
Description

IP55

U_e = 230...400 V

Canalis KDP, 20 A

Busbar trunking for lighting and power socket distribution Tap-off units

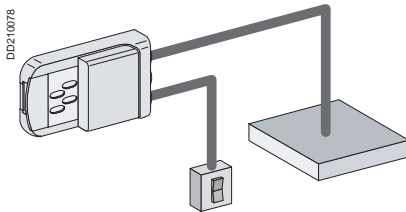


10 A units for lighting control

For the control and supply of luminaires in partitioned sites:

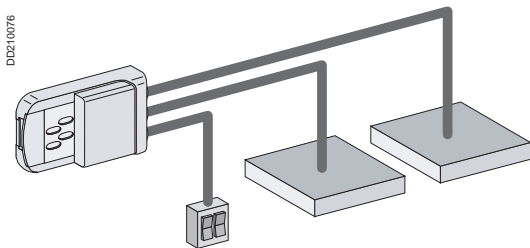
- rating 10 A
- phase-selection system for balancing of 3-phase distribution systems
- without pre-wiring, to allow connection of either luminaires or control devices
- cable connection to spring terminals for 0.75 to 2.5 mm² wires
- all units for lighting control are available in versions pre-equipped with GST18i3 connections. In this case, only the circuit supplying the luminaires is pre-equipped, In this case, the IP of lead is IP40.
- if prefabricated connections are used, the line must have 16 A protection (see possibilities of dispensing with protection on page K00E21000/37).

These units can also be connected to KBA and KBB busbar trunking.



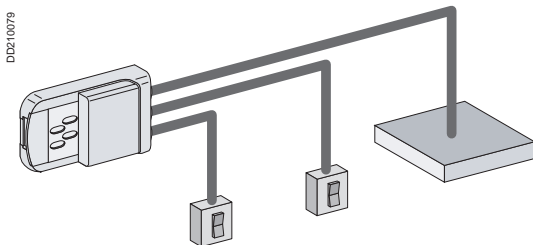
10 A units for single-circuit switching

Can be used to switch one lighting circuit from one location.



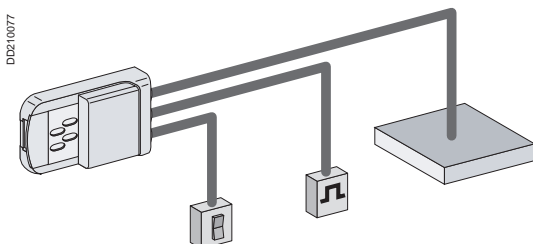
10 A units for double-circuit switching

Can be used to switch two lighting circuits from one location.



10 A units for two-way switching

Can be used to switch one lighting circuit from two locations.



10 A units for control by impulse switch or timer

Can be used to switch one lighting circuit remotely using impulses.

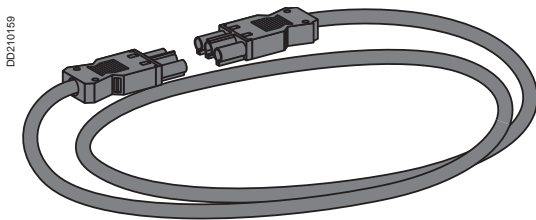
Prefabricated connections

Prefabricated connections

To supply several luminaires from the same KBC tap-off unit, for distribution in false ceilings.

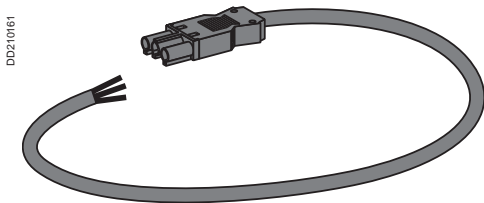
Prefabricated lead

■ Male-female extension lead **KBZ 31EFM●●●**.
 Cable type SO5Z1Z1-F 3 X 1.5 mm², available in 2, 3, 4, 5, 7 and 9 metre lengths.



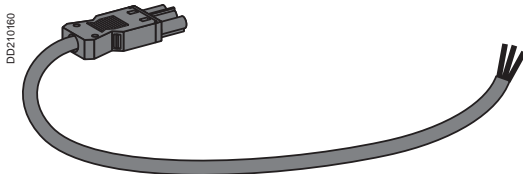
KBZ 31EFM●●●

■ Connection lead for luminaires **KBZ 31EMC●●●**.
 Connection lead with one male end and one end stripped for connection to a luminaire which is not pre-equipped.
 Cable type SO5Z1Z1-F 3 X 1.5 mm², available in 1 metre length.



KBZ 31EMC●●●

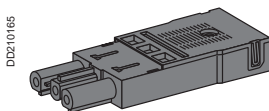
■ Connection lead for tap-off unit **KBZ 31EFC●●●**.
 Connection lead to be wired, with one female end and one stripped end.
 Cable type SO5Z1Z1-F 3 X 1.5 mm², available in 1, 3 and 5 metre lengths.



KBZ 31EFC●●●

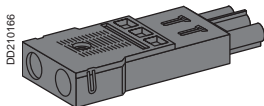
Connectors

■ Female connector **KBZ 32APFR2**.
 Spring connection for 2 rigid cables 3 x 1.5 to 2.5 mm² or 2 stranded cables 3 x 1.5 to 2.5 mm² fitted with ferrules.



KBZ 32APFR2

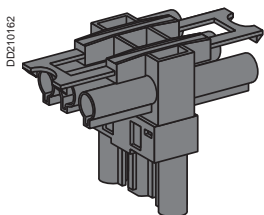
■ Male connector **KBZ 32APMR2**.
 Spring connection for 2 rigid cables 3 x 1.5 to 2.5 mm² or 2 stranded cables 3 x 1.5 to 2.5 mm² fitted with ferrules.



KBZ 32APMR2

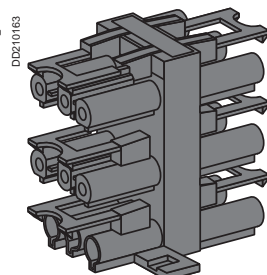
Splitter block

■ Splitter block, 2 outlets **KBZ 32DBA12**.
 One male input and two female outputs for connection to a pre-wired luminaire.



KBZ 32DBA12

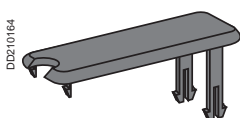
■ Splitter block, 5 outlets **KBZ 32DBA15**.
 One male input, five female outputs.



KBZ 32DBA15

Lock

■ Lock **KBZ 30ZVP01** for extension leads.
 Can withstand pulling forces greater than 20 N on the leads.

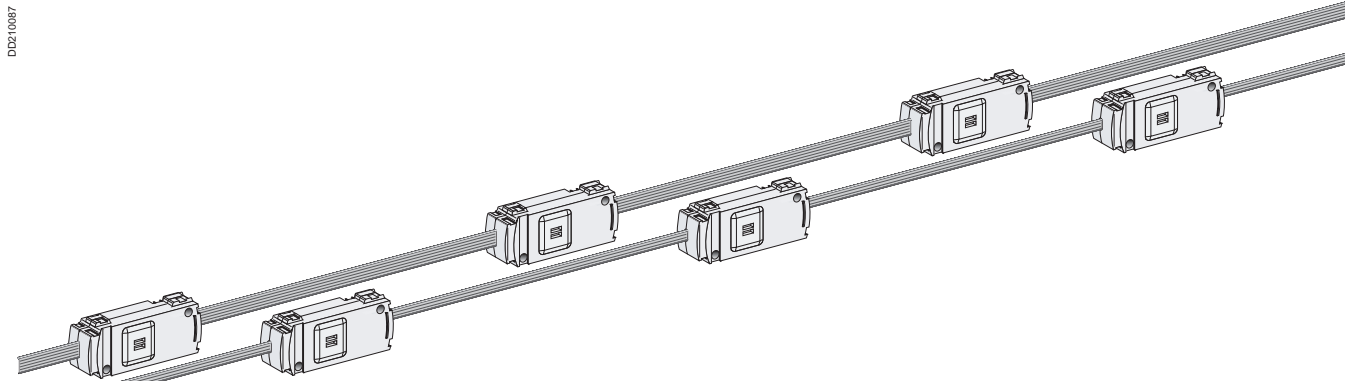


KBZ 30ZVP01

Canalis KDP, 20 A

Busbar trunking for lighting and power socket distribution

Run components



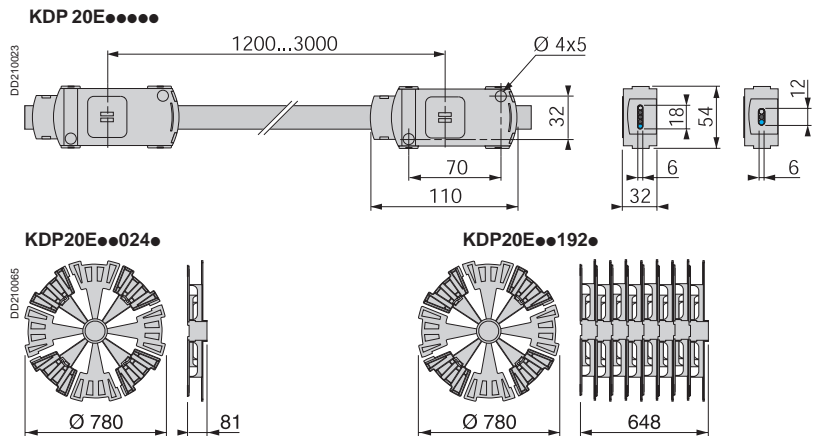
KDP 20E●●●●●

Polarity	Distance between tap-offs (mm)	Cat. no.		Weight (kg/m)
		24 m spool	192 m reel	
L + N + PE 	1200	KDP 20ED224120	KDP 20ED2192120	0.200
	1350	KDP 20ED223135 ⁽¹⁾	KDP 20ED2183135 ⁽²⁾	0.200
	1500	KDP 20ED224150	KDP 20ED2192150	0.200
	2400	KDP 20ED224240	KDP 20ED2192240	0.200
	2700	KDP 20ED224270	KDP 20ED2194270	0.200
	3000	KDP 20ED224300	KDP 20ED2192300	0.200
3L + N + PE 	1200	KDP 20ED424120	KDP 20ED4192120	0.320
	1350	KDP 20ED423135 ⁽¹⁾	KDP 20ED4183135 ⁽²⁾	0.320
	1500	KDP 20ED424150	KDP 20ED4192150	0.320
	2400	KDP 20ED424240	KDP 20ED4192240	0.320
	2700	KDP 20ED424270	KDP 20ED4194270	0.320
	3000	KDP 20ED424300	KDP 20ED4192300	0.320

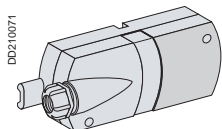
Special case for 1350 mm distance:

⁽¹⁾ Spool = 23 m

⁽²⁾ Reel = 183 m

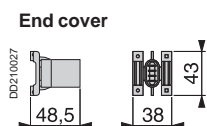
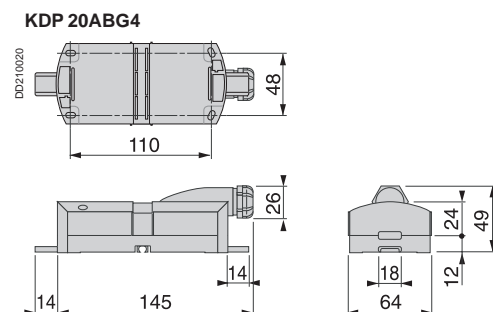


Feed units (supplied with end cover)



KDP 20ABG4

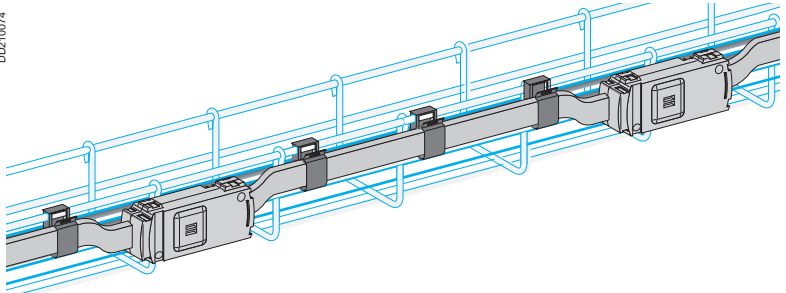
Designation	Mounting	Cable connection		Cat. no.	Weight (kg)
		Terminals mm ²	Cable gland Ø max. (mm)		
Feed unit	Left or right	4	PG 16, Ø 15	KDP 20ABG4	0.120



The end cover KDP is a spare part of the after-sales service ref KDP 20AF

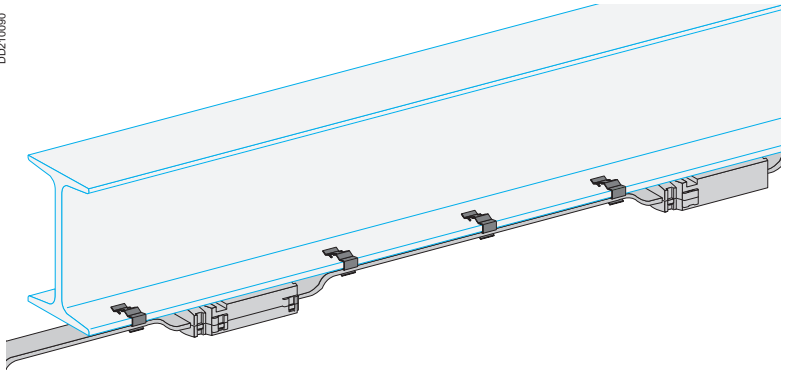
Fixing systems

DD210074



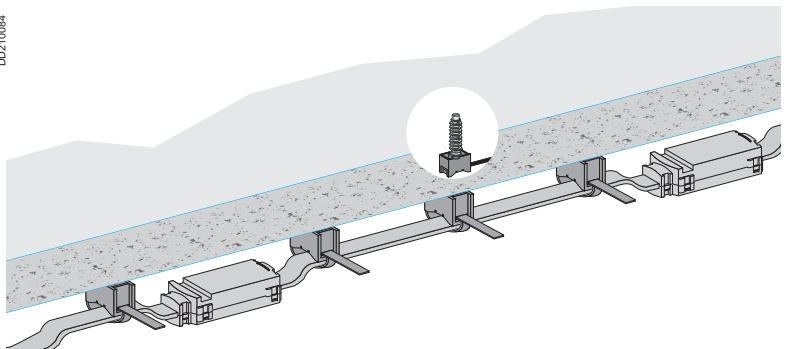
KDP on a mesh tray

DD210090



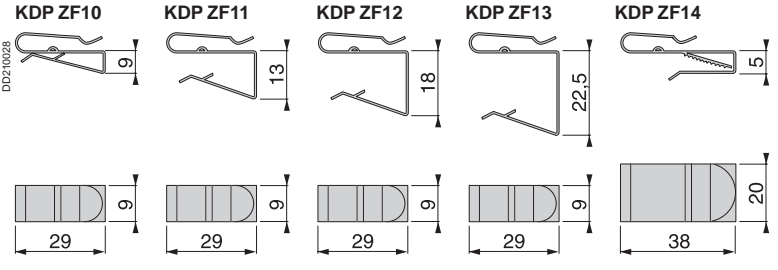
KDP on a metal structure

DD210084



KDP under a concrete slab

Fixing on	Thickness (mm)	Order in multiples of	Cat. no.	Weight (kg)
Pre-slotted sheet-metal cable trays	-	100	KDP ZF10	0.006
Mesh trays	Ø 4...Ø 6	100	KDP ZF14	0.006
Metal structure	1...8	100	KDP ZF10	0.006
	8...13	100	KDP ZF11	0.006
	13...17	50	KDP ZF12	0.006
	17...22	50	KDP ZF13	0.006
Wood or concrete	Fixing with cable tie	100	KDP ZF20	0.006
	Concrete fixing plug for Ø 8 mm hole	100	KDP ZF21	0.006



Canalis KDP, 20 A

Busbar trunking for lighting and

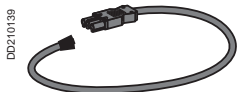
power socket distribution

Prefabricated connections

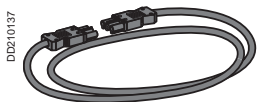
Prefabricated connections



KBZ 31EMC010



KBZ 31EFC000

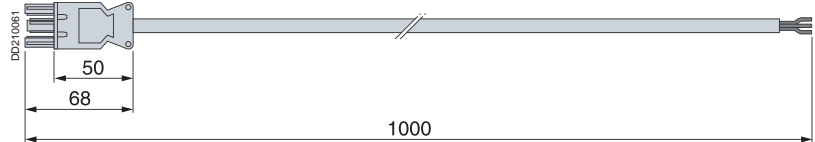


KBZ 31EFM000

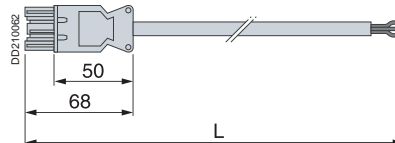
Connection leads

Designation	Used to	Length (m)	Order in multiples of	Cat. no.	Weight (kg)
Lead	Connect the luminaires	1	10	KBZ 31EMC010	0.100
	Connect to tap-off units	1	10	KBZ 31EFC010	0.100
		3	10	KBZ 31EFC030	0.300
		5	10	KBZ 31EFC050	0.500
	Connect between luminaires	2	10	KBZ 31EFM020	0.200
		3	10	KBZ 31EFM030	0.300
		4	10	KBZ 31EFM040	0.400
		5	10	KBZ 31EFM050	0.500
		7	10	KBZ 31EFM070	0.700
9		10	KBZ 31EFM090	0.900	

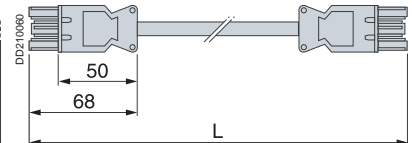
KBZ 31EMC10



KBZ 31EFC000



KBZ 31EFM000

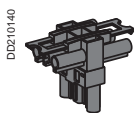


Cat. no.	Length L (m)
KBZ 31EFC010	1
KBZ 31EFC030	3
KBZ 31EFC050	5

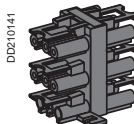
Cat. no.	Length L (m)
KBZ 31EFM020	2
KBZ 31EFM030	3
KBZ 31EFM040	4
KBZ 31EFM050	5
KBZ 31EFM070	7
KBZ 31EFM090	9

Connection accessories

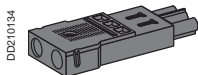
Designation	Function	Order in multiples of	Cat. no.	Weight (kg)
Splitter block	T-shape 1 male input, 2 female outputs	20	KBZ 32DBA12	0.025
	1 male input, 5 female outputs	10	KBZ 32DBA15	0.050
Connector to be wired	Female	50	KBZ 32APFR2	0.010
	Male	10	KBZ 32APMR2	0.010
Lock	Resist pulling forces	10	KBZ 32ZVP01	0.010



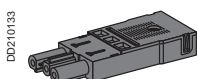
KBZ 32DBA12



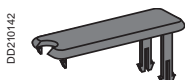
KBZ 32DBA15



KBZ 32APFR2

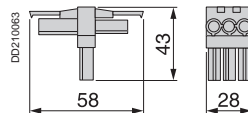


KBZ 32APMR2

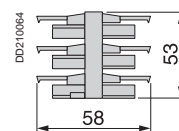


KBZ 32ZVP01

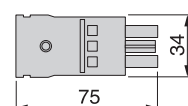
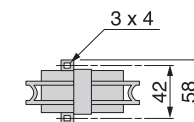
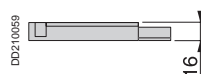
KBZ 32DBA12



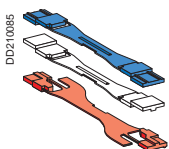
KBZ 32DBA15



KBZ 32APR2

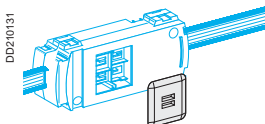


Accessories



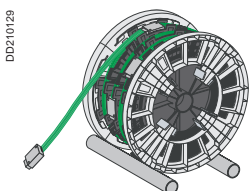
KBC 16ZL●

For tap-off units					
Designation	Function	Colour	Order in multiples of	Cat. no.	Weight (kg)
Outlet/tap-off unit interlocking device (2 parts)	Identification and mechanical interlocking between 1 to 3 different circuits	Blue	20	KBC 16ZL10	0.002
		White	20	KBC 16ZL20	0.002
		Red	20	KBC 16ZL30	0.002



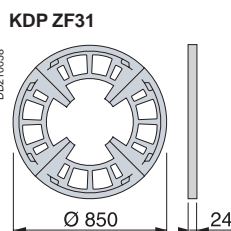
KBC 16ZB

Spare parts				
Designation	Function	Order in multiples of	Cat. no.	Weight (kg)
Blanking plate	Restores IP55 on tap-off outlet if original blanking plate is lost	10	KBC 16ZB1	0.005

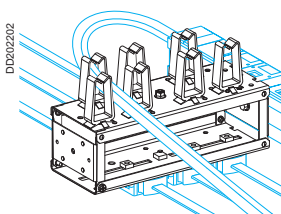


KDP ZF31

Accessories				
Designation	Function	Order in multiples of	Cat. no.	Weight (kg)
Stripping tool	Used to cut, remove the sheath and strip KDP 3 or 5-conductor cables.		KDP ZF30	0.200
Uncoiler kit	Uncoil 24 or 192 m reels		KDP ZF31	1.200

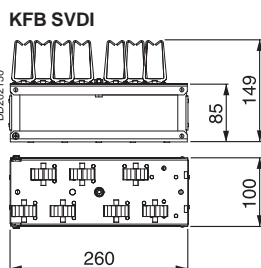


KDP and VDI supports

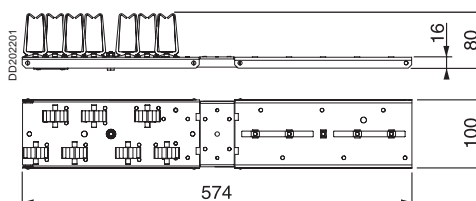


KFB SVDI

Designation	Rating (A)	Max. load (kg)	Mounting	Cat. no.	Weight (kg)
VDI support	40 to 160	60	Fixing for KDP+ VDI cables + consolidation point	KFB SVDI	1.10



Mounted above a false ceiling



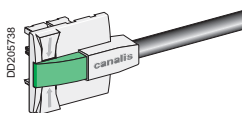
Mounted under a false floor



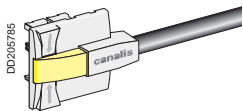
Canalis KDP, KBA and KBB tap-off units

For lighting and power socket distribution

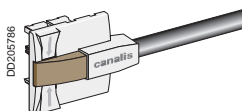
10 A tap-off unit, direct connection



KBC 10DCS101



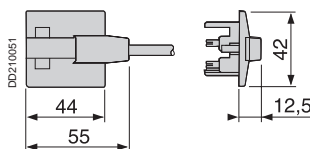
KBC 10DCS201



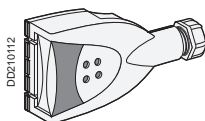
KBC 10DCS301

Type of busbar trunking	Polarity	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
DD210126 PE L1 N DD210121 PE L2 L1 L3 N	L1 + N	Green	10	KBC 10DCS101	0.100
DD210126 PE L1 N DD210121 PE L2 L1 L3 N	L2 + N	Yellow	10	KBC 10DCS201	0.100
DD210126 PE L1 N DD210121 PE L2 L1 L3 N	L3 + N	Brown	10	KBC 10DCS301	0.100

KBC 10CS●01



10 A tap-off unit, L + L + PE or L + N + PE, with phase selection

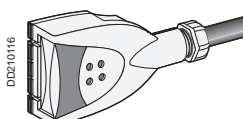


KBC 10DCB20

Type of busbar trunking	Polarity	Order in multiples of	Cat. no.	Weight (kg)
DD210126 PE L1 N DD210121 PE L2 L1 L3 N DD210128 PE L2 L3 N3	L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3	10	KBC 10DCB20	0.065

All types possible

10 A tap-off unit, L + L + PE or L + N + PE, with phase selection, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 1 m long

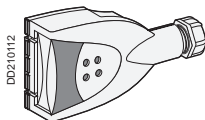


KBC 10DCC21●

Type of busbar trunking	Polarity	Pre-equipped with female GST18i3 connector	Order in multiples of	Cat. no.	Weight (kg)
DD210126 PE L1 N DD210121 PE L2 L1 L3 N DD210128 PE L2 L3 N3	L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3	No	10	KBC 10DCC211	0.165
		Yes ⁽¹⁾	10	KBC 10DCC21Z	0.165

All types possible

10 A tap-off unit, 3L + N + PE

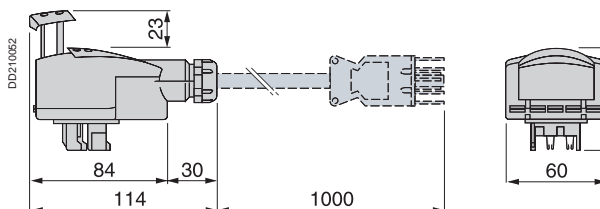


KBC 10DCB40

Type of busbar trunking	Polarity	Order in multiples of	Cat. no.	Weight (kg)
DD210126 PE L1 N DD210121 PE L2 L1 L3 N DD210124 PE L... L... L... L...	To be defined for each application (dimmer, emergency lighting, etc.)	10	KBC 10DCB40	0.065

All types possible

KBC 10DCB20, KBC 10DCC21●, KBC 10DCB40

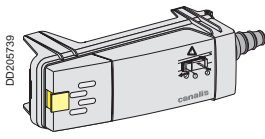


(1) For IP, see Canalis KDP, KBA and KBB Tap-off units description page 64

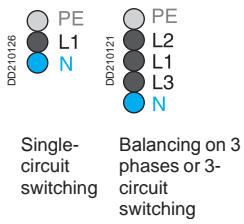


16 A single-phase tap-off unit, with or without fuses

16 A tap-off unit, L + N + PE, with phase selection

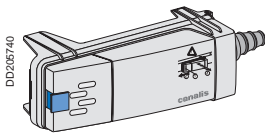


KBC 16DCB2●

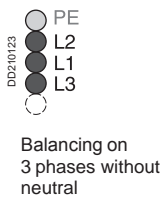


Type of busbar trunking	Polarity	Protection	Scheme	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
DD210126 Single-circuit switching	PE L1 N	DD210121 PE L2 L1 L3 N	DD210151	Blue	10	KBC 16DCB21	0.090
					10	KBC 16DCF21	0.090

16 A tap-off unit, L + L + PE, with phase selection

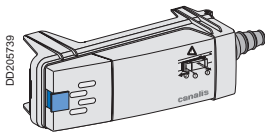


KBC 16DC●22

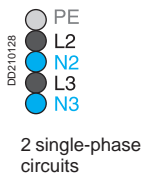


Type of busbar trunking	Polarity	Protection	Scheme	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
DD210123 Balancing on 3 phases without neutral	PE L2 L1 L3		DD210146	Yellow	10	KBC 16DCB22	0.090
					10	KBC 16DCF22	0.090

16 A tap-off unit, L + N + PE, with preselected polarity

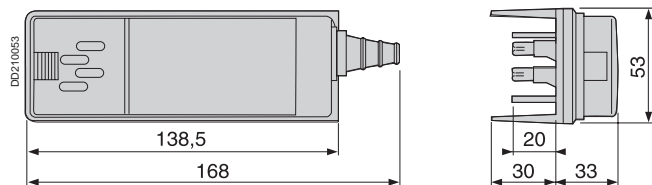


KBC 16DC●2●●6



Type of busbar trunking	Polarity	Protection	Scheme	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
DD210128 2 single-phase circuits	PE L2 N2 L3 N3	None	DD210147	Blue	10	KBC 16DCB226	0.090
					10	KBC 16DCF226	0.090
DD210149	PE L3 N3	None	DD210148	Blue	10	KBC 16DCB216	0.090
					10	KBC 16DCF216	0.090

KBC 16DCB2●●, KBC 16DCF2●●



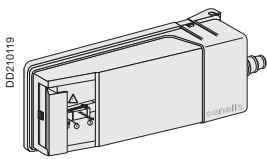


Canalis KDP, KBA and KBB tap-off units

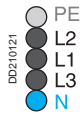
For lighting and power socket distribution

16 A three-phase tap-off unit, with or without fuses

16 A tap-off unit, 3L + N + PE



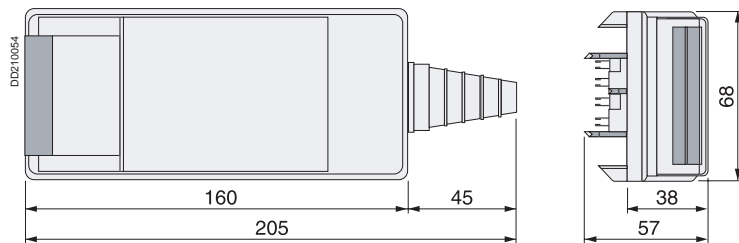
KBC 16DC•40



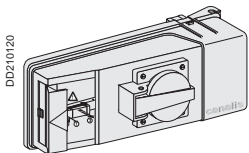
All types possible

Type of busbar trunking	Polarity	Protection	Scheme	Cat. no.	Weight (kg)
	3L + N	None		KBC 16DCB40	0.090
		Cylindrical fuse NF 8.5 x 31.5 15 A gG maximum (not supplied)		KBC 16DCF40	0.090

KBC 16DC•40



16 A tap-off unit, 3L + N + PE, with power socket

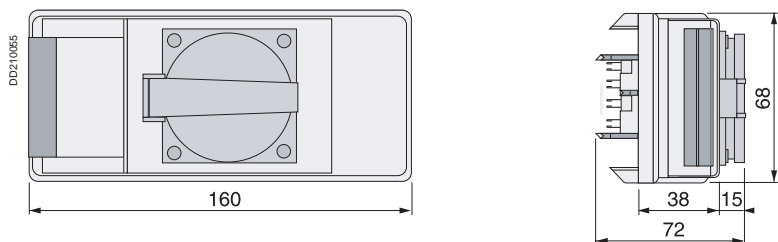


KBC 16DCP•



Type of busbar trunking	Polarity	Type of power socket	Protection	Scheme	Cat. no.	Weight (kg)
	3L + N	NF 2P + E 10/16 A, 250 V	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)		KBC 16DCP1	0.090
		VDE 2P + E 10/16 A, 250 V	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)		KBC 16DCP2	0.090

KBC 16DCP•



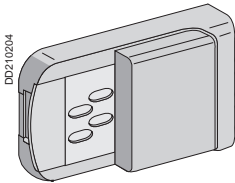


Canalis KDP tap-off units

For lighting and power socket distribution

10 A single-phase tap-off units for lighting control

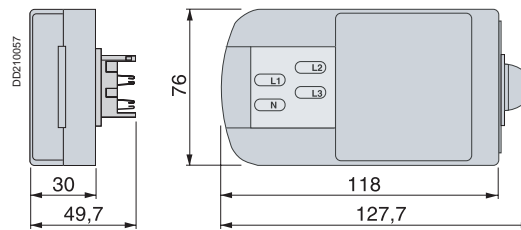
10 A tap-off unit, L + L + PE or L + N + PE, with phase selection



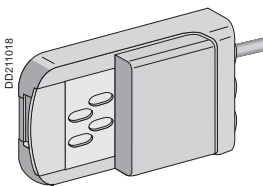
KBC 10D●●20

Type of busbar trunking	Polarity	Type of switching	Order in multiples of	Cat. no.	Weight (kg)
DD210126: PE, L1, N DD210121: PE, L2, L1, L3, N DD210128: PE, L2, L3, N3	L1 + N or L2 + N or L3 + N or L1 + L2 or L1 + L3 or L2 + L3 or L2 + N2 or L3 + N3	Single-circuit	10	KBC 10DSA20	0.085
		Double-circuit switching	10	KBC 10DDA20	0.085
		Two-way switching	10	KBC 10DVV20	0.085
		Timer or impulse switch	10	KBC 10DMT20	0.085

KBC 10D●●20



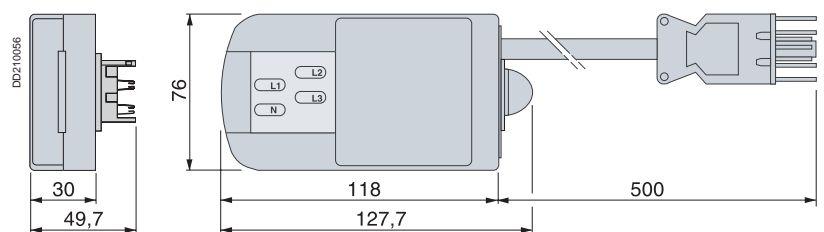
10 A tap-off unit, L + L + PE or L + N + PE, with phase selection, pre-wired SO5Z1Z1-F 3 x 1.5 mm², with female GST18i3 connector on luminaire supply circuit



KBC 10D●●21Z

Type of busbar trunking	Polarity	Type of switching	Length of cable (m)	Order in multiples of	Cat. no.	Weight (kg)
DD210126: PE, L1, N DD210121: PE, L2, L1, L3, N DD210128: PE, L2, L3, N3	L1 + N or L2 + N or L3 + N or L1 + L2 or L1 + L3 or L2 + L3 or L2 + N2 or L3 + N3	Single-circuit switching ⁽¹⁾	0.5	6	KBC 10DSA21Z	0.085
		Double-circuit switching ⁽¹⁾	0.5	6	KBC 10DDA21Z	0.085
		Two-way switching ⁽¹⁾	0.5	6	KBC 10DVV21Z	0.085
		Timer or impulse switch ⁽¹⁾	0.5	6	KBC 10DMT21Z	0.085

KBC 10D●●21Z



(1) For IP, see KDP, KBA and KBB Tap-off units description page 66

Canalis KDP, 20 A

Busbar trunking for lighting and power socket distribution

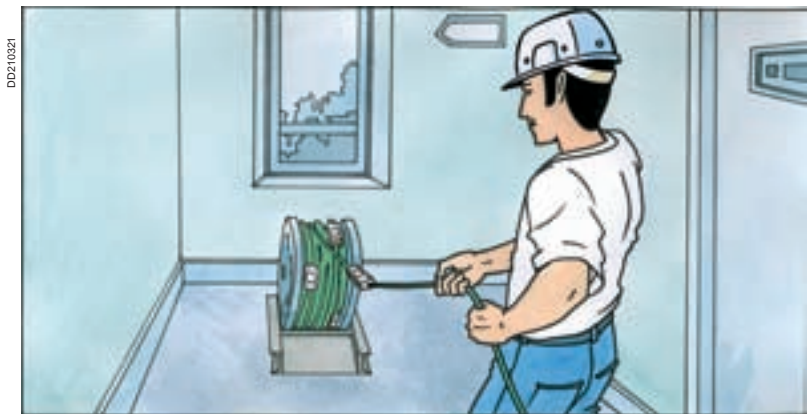
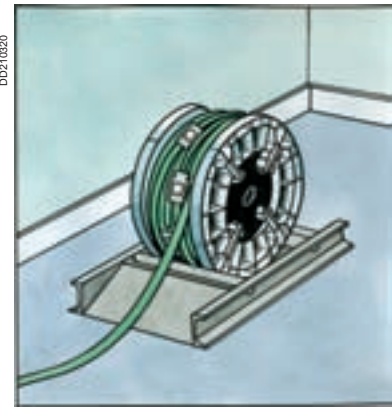
Installation scenario

Installation of a line

Unload and carry the products inside to an area where they are not exposed to dust or inclement weather.

Do not store the busbar trunking outside.

Prepare the uncoiler kit.



Mount Canalis KDP in the false ceiling. In a new installation, it is advised to install Canalis KDP before the false ceiling.

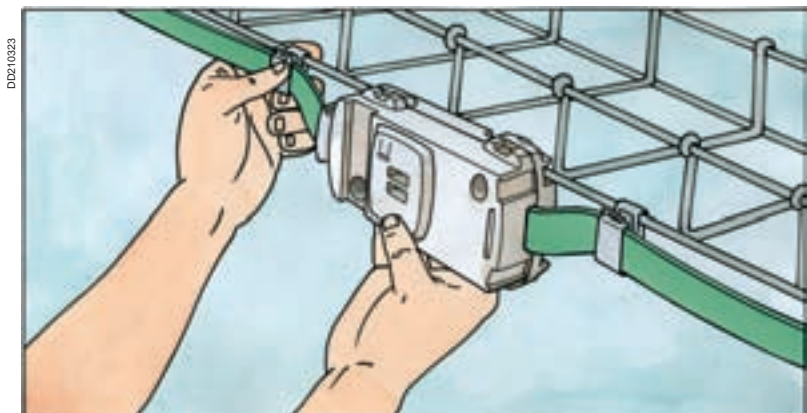


Attach Canalis KDP to the cable tray using the fixings.

There are other types of fixings specifically designed for the structure on which Canalis KDP is installed:

- metal structure,
- wooden structure,
- concrete slab.

You will also find a range of accessories to support all the cables associated with your installation.



Tap-off connections

Prepare the luminaires.
Connection of the tap-off units to the luminaires and phase selection **are carried out on the ground**. These operations can also be carried out in the workshop, before delivery to the site.



Then mount the luminaires on the false ceiling and connect the tap-off unit to the KDP trunking.



Using KDP connections, between two and five luminaires can be connected to a single tap-off unit (bridge or star connection).



Connect the feed unit and energise

Last installation step.
Connect the supply cable to the Canalis KDP feed unit, then to the switchboard.

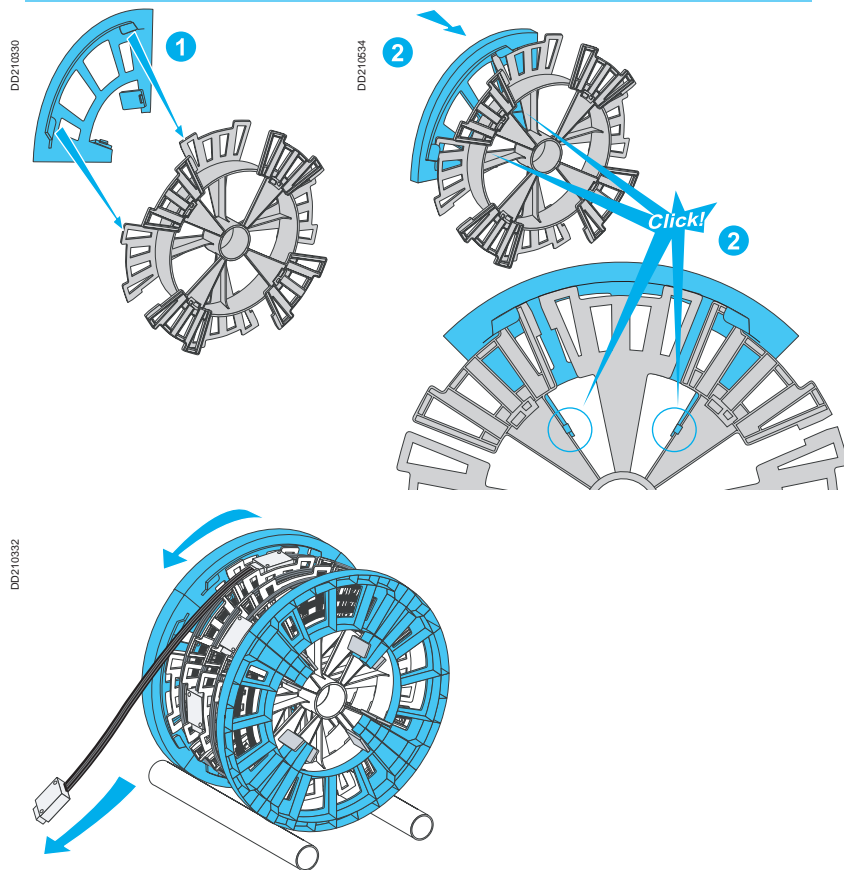
Energise the system to check operation.



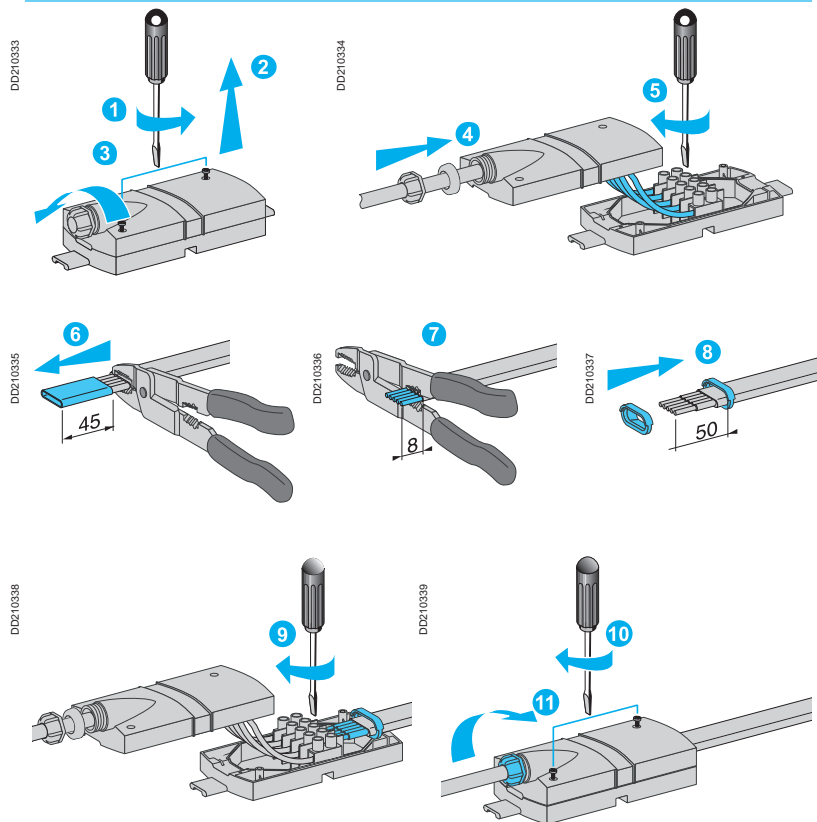
Canalis KDP, 20 A

Busbar trunking for lighting and power socket distribution
Assembly of trunking components

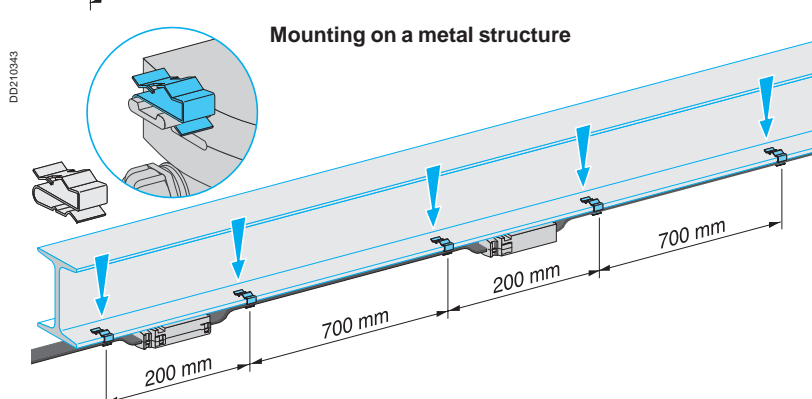
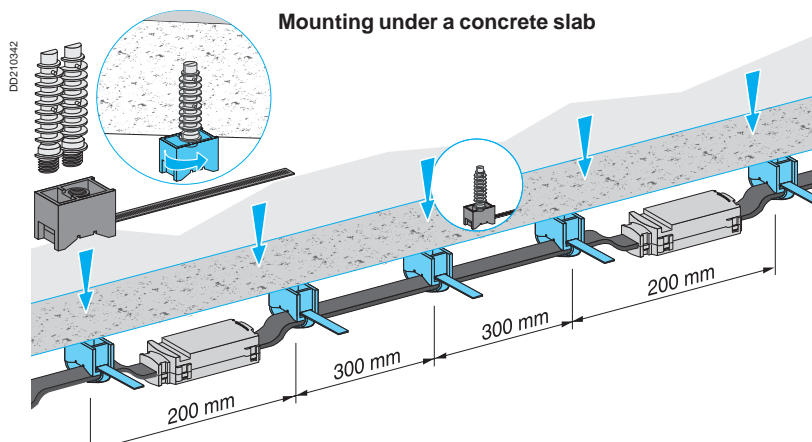
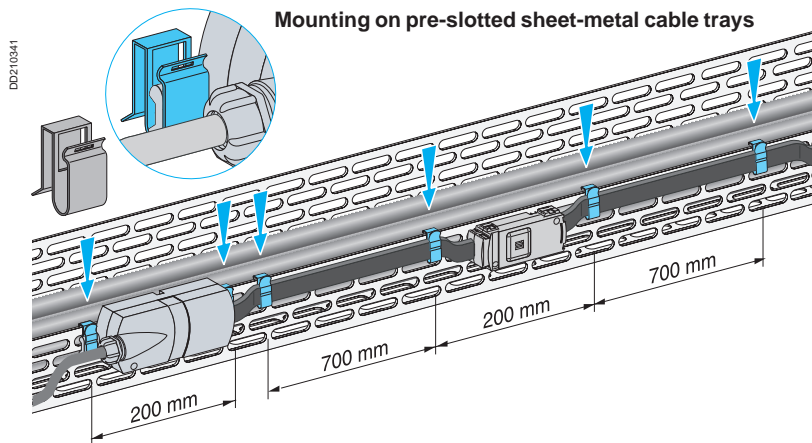
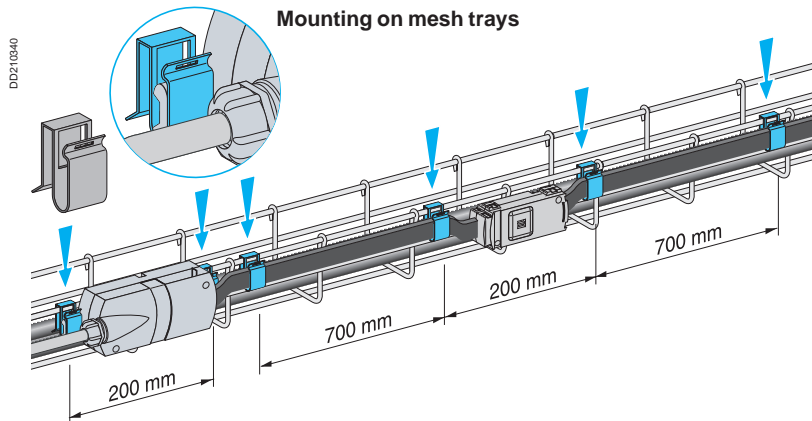
Assembling the uncoiler kit



Connecting the feed unit



Fixing Canalis KDP on its support

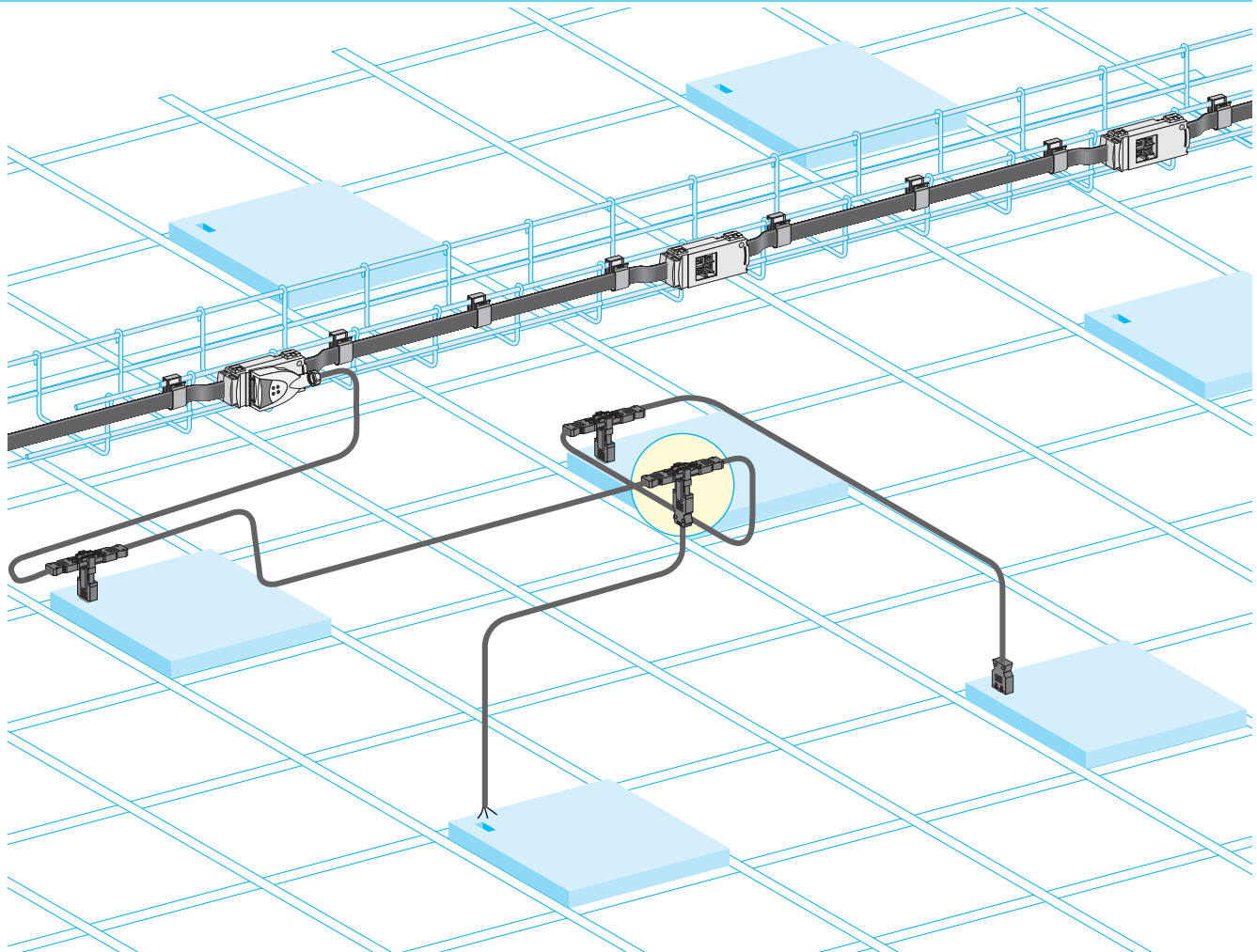


Canalis KDP, 20 A

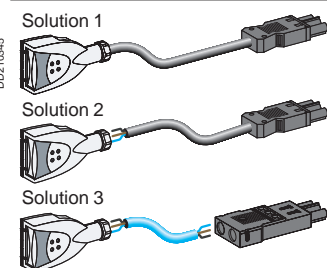
Busbar trunking for lighting and power socket distribution
 Assembly of trunking components

Assembling the prefabricated connections to supply luminaires by bridge connection

DD210344

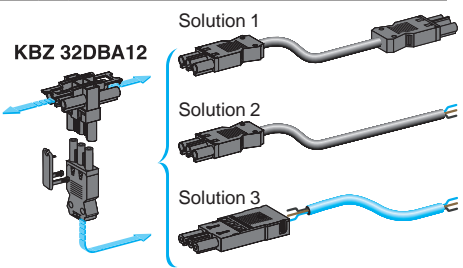


Connection to KDP



- Solution 1**
Pre-wired tap-off unit equipped with female GST18i3 connector.
- Solution 2**
Tap-off unit to be wired plus female lead with end stripped.
- Solution 3**
Tap-off unit to be wired plus female GST18i3 connector (cable not supplied).

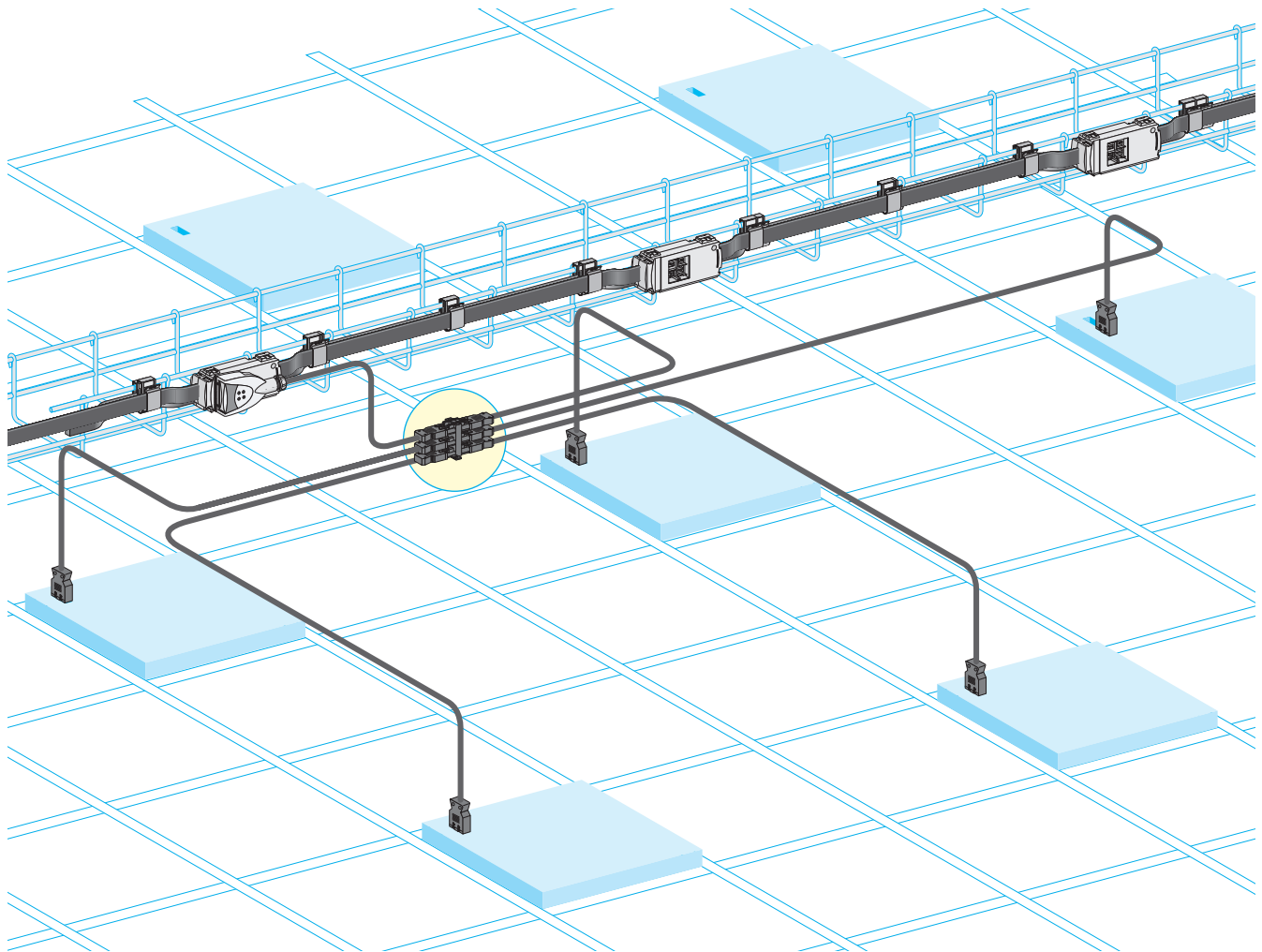
Connection to luminaires



- Solution 1**
Male/female lead for luminaires equipped with a GST18i3 connection.
- Solution 2**
Male lead with end stripped for connection to a luminaire.
- Solution 3**
Male plus female connectors to be wired (cable not supplied).

Assembling the prefabricated leads to supply luminaires by star connection

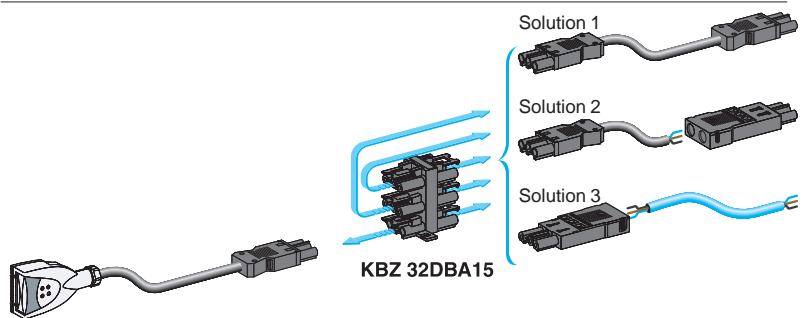
DD210346



Connection to KDP

Connection to luminaires

DD210347



- Solution 1**
Male/female lead for luminaires equipped with a GST18i3 connection.

- Solution 2**
Male lead with end stripped for connection to a luminaire.

- Solution 3**
Male connector to be wired (cable not supplied).

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1 - Run components

- Rating: 25 or 40 A.
- 2 or 4 live conductors.
- Basic lengths: 2 and 3 metres.

PD202163



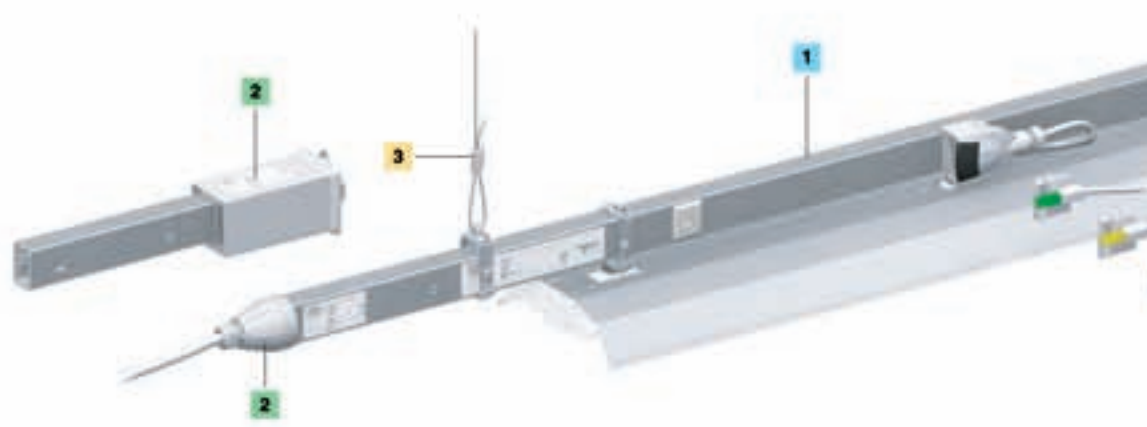
2 - Feed units and end covers

The feed units delivered with the end coverry receive the cables supplying one end of Canalis KBA trunking.

PD202164



DD205760



3 - Fixing system and cable trays

- The fixing system ensures that Canalis KBA is well secured, whatever the type of building structure. There are also fixings to secure the luminaires to Canalis KBA.
- A metal duct is available for running other circuits such as emergency lighting, low-current circuits, etc.



PDX02165

4 - Tap-off units

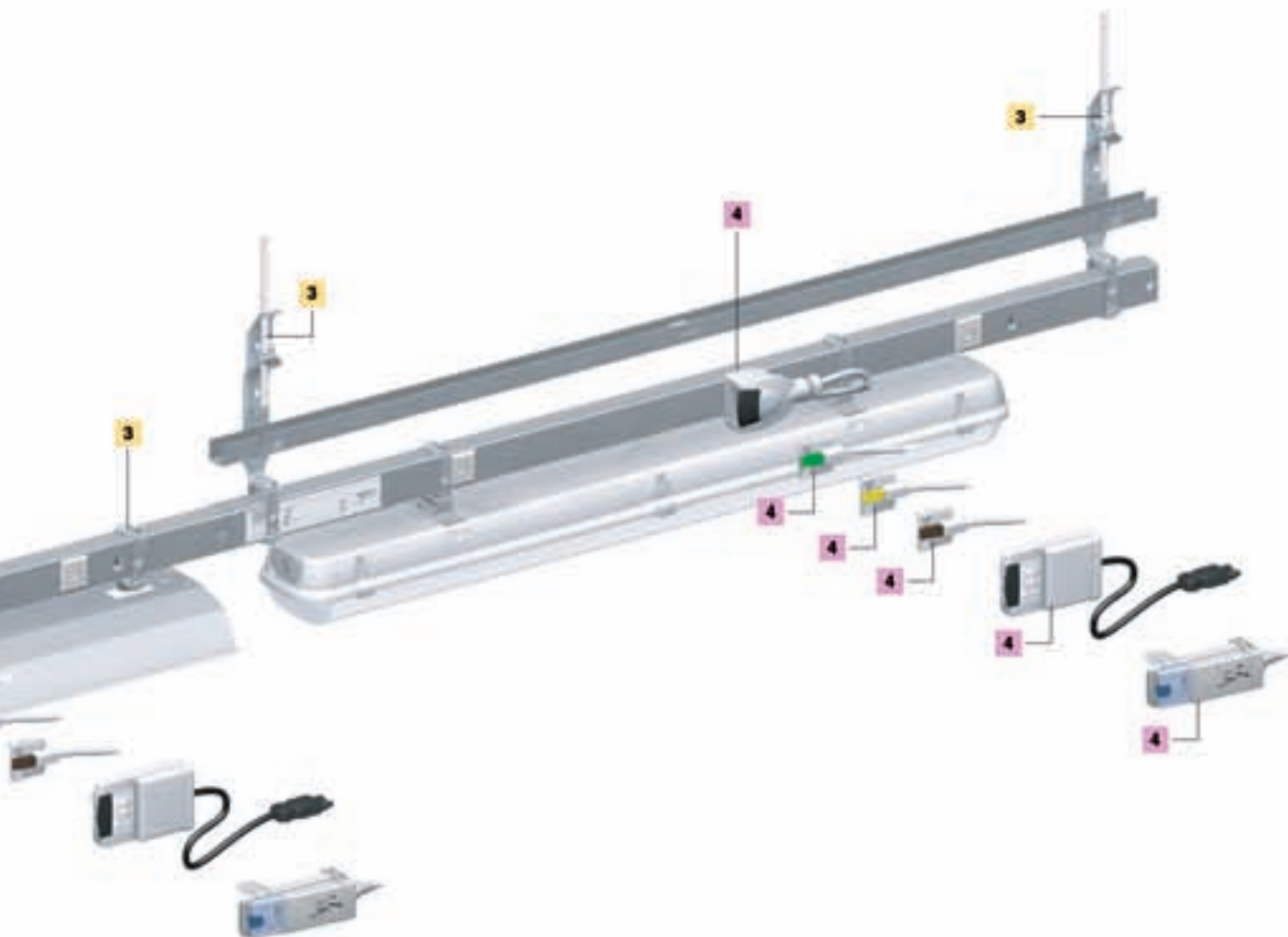
The 10 and 16 A tap-off units pre-wired or not, offer phase selection or fixed polarities, and can be used on KDP, KDA and KBB ranges.



PDX02159

Luminaires

- Industrial IP20 luminaires are designed for promises of all heights.
- IP55 dust and damp-proof luminaires are designed for promises of low to medium height with severe environments.



Canalis KBA

For lighting and power socket distribution

Ready-to-install luminaires

Canalis KBL luminaires have been designed for easy installation on KBA trunking.

With just a few catalogue numbers, you have a complete range of luminaires suited to all types of buildings.

No toxic emission in case of fire

All components in the KBA range are

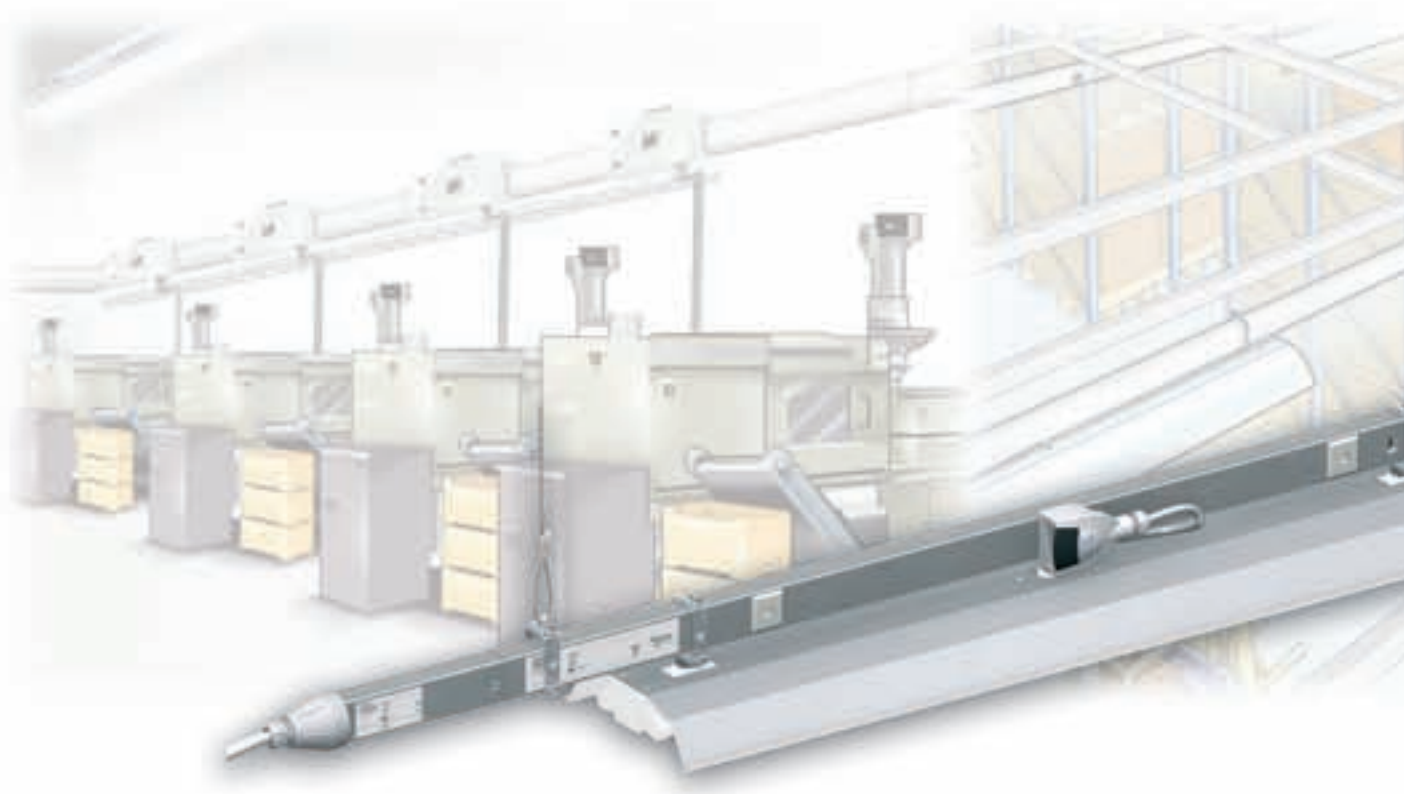
halogen free.

In case of fire, Canalis KBA does not release smoke or toxic gases.



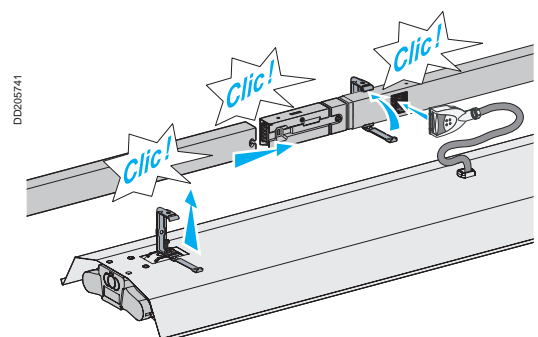
DD202441

PD202169



Fast and easy mounting

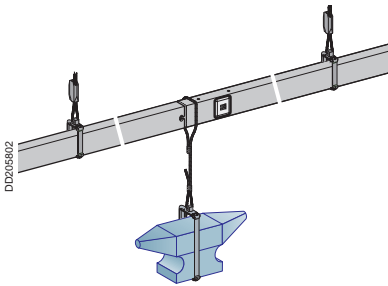
Canalis KBA components can be assembled in just a few clicks.



DD202741

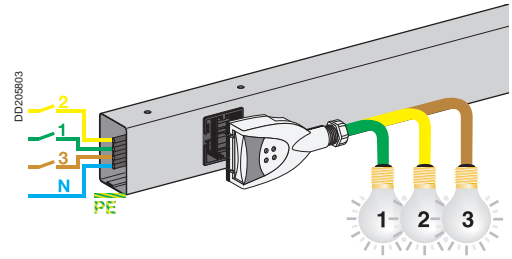
Very rigid

Canalis KBA trunking forms a rigid beam, even at the junction between two lengths.

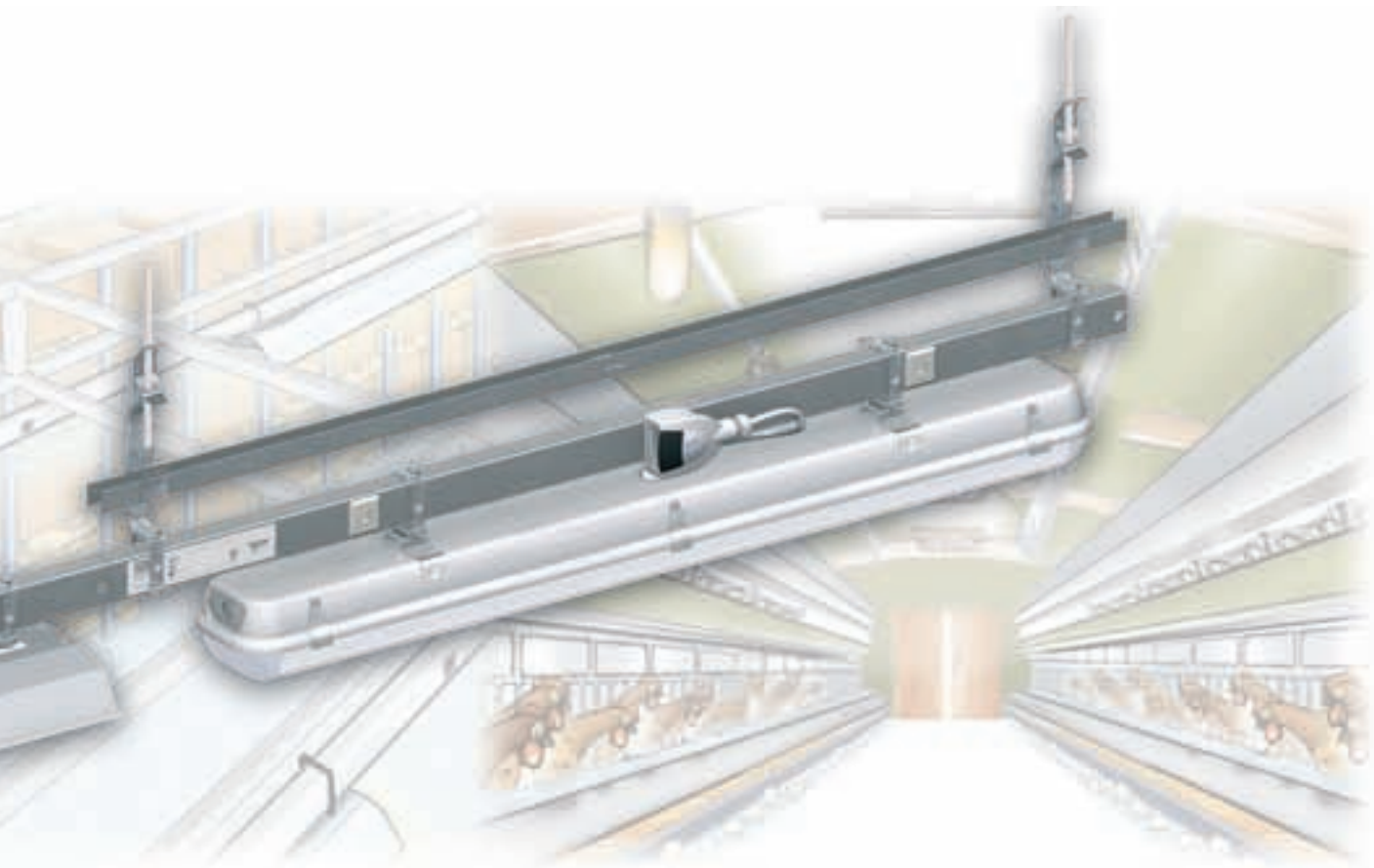


Three levels of illumination

By using three-phase trunking, it is possible to create up to three levels of illumination.



Canalis
KBA



A high degree of protection

- **IP55** guarantees trunking protection against splashes and dust.
- Canalis KBA complies with **sprinkler tests**, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

The high degree of protection for Canalis KBA means it can be installed in all types of buildings.

Description

IP55

U_e = 230...400 V

Galvanised or RAL 9010 white

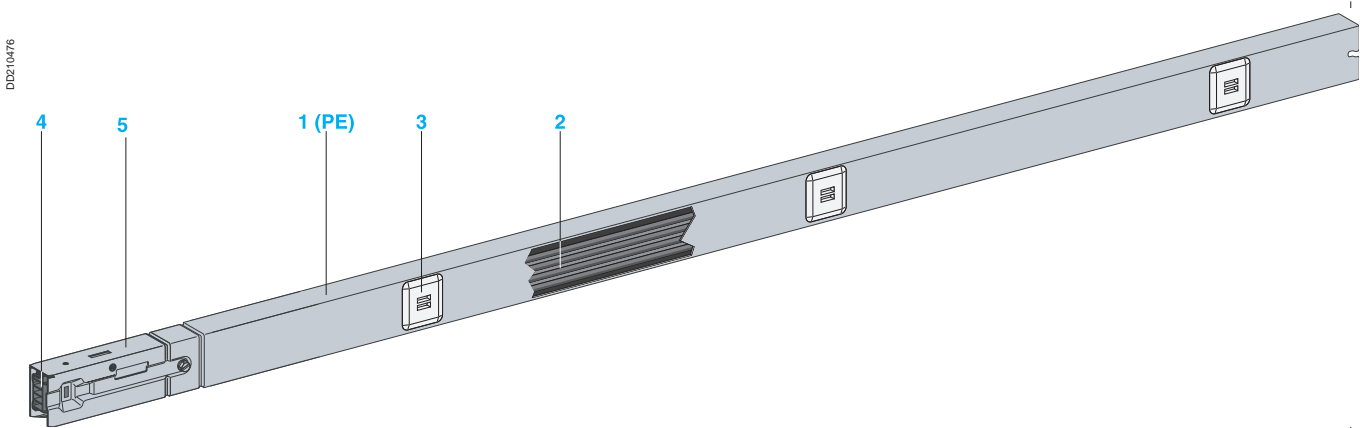
Canalis KBA, 25 and 40 A

Busbar trunking for lighting and power socket distribution

Run components

Carry current, support and supply the luminaires.

Straight lengths



Straight lengths constitute the basic structure of the line and are made up of:

- 1 an all-in-one carrier casing, crimp closed, forming a rigid beam made of sheet steel, hot galvanised on both sides. This casing also acts as the protective earth conductor (PE). As an option (code W), the casing is available in RAL 9010 white lacquered sheet steel,
- 2 a ribbon cable with two or four copper conductors, protected against corrosion by tinning,
- 3 one, two, three or five tap-off outlets,
- 4 an electrical jointing unit ensuring automatic and simultaneous connection of all live conductors,
- 5 a mechanical joining device made of galvanised sheet steel that makes the connection of two lengths rigid and resistant to bending.

The degree of protection is IP55 (without accessories).

The busbar trunking is non-flame-propagating as per the recommendations of standard IEC 60332-3. All the insulating and plastic materials are **halogen-free** and have enhanced fire-withstand capabilities (incandescent wire test as per standard IEC 60695-2).

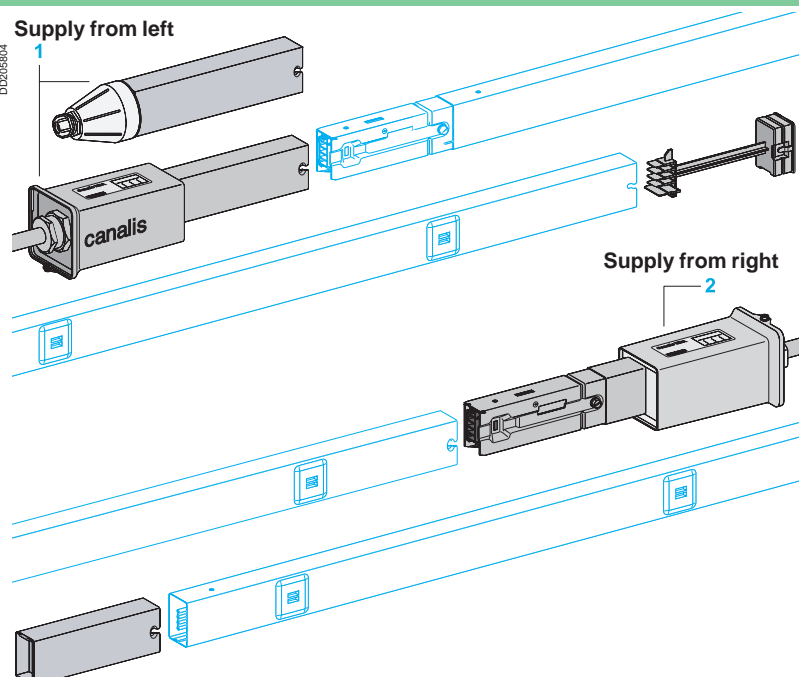
- 960°C for components in contact with live parts.
- 650°C for other components.

Feed units and end covers

Supply a Canalis KBA line.
They clip on (jointing unit) to the end of the line.

The end cover for the opposite end of the line is supplied with each feed unit.

- 1 Feed unit, 1 circuit (25 and 40 A ratings).
- 2 Line outlet box (for rating 40 A only).



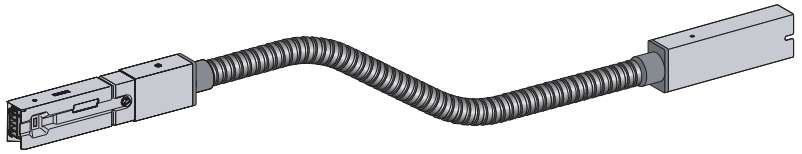
Flexible lengths

Flexible length

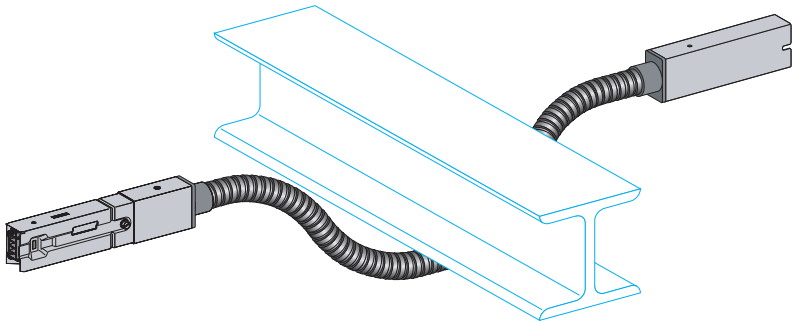
For changes in direction or levels and detours around obstacles.

It is mounted in the same way as a straight length.

DD205905



DD205906



Fixing systems

Busbar trunking

For attachment of the busbar trunking to the structure of the building, either directly or via a threaded rod, chain or steel cable (the latter two with a pigtail hook or a closed ring).

- Designed to relieve the installer of the weight of the busbar trunking once placed in a bracket.
- Automatic locking of moving part on closing (unlocking requires a tool).
- The maximum recommended fixing distance is: 3 metres.

1 Universal fixing bracket bracket

For suspension on a threaded rod, diameter 6 mm.
For horizontal mounting on a beam, pendant, wall, etc.

2 Cable suspension system

Cuts mounting time of the fixing system to one-third of that required for threaded rods.
Enables height adjustment of the trunking.

3 Adjustable, threaded-rod suspension system

For suspension on a threaded rod, diameter 6 mm.
A spring system locks the threaded rod in position for fast adjustment of the trunking.

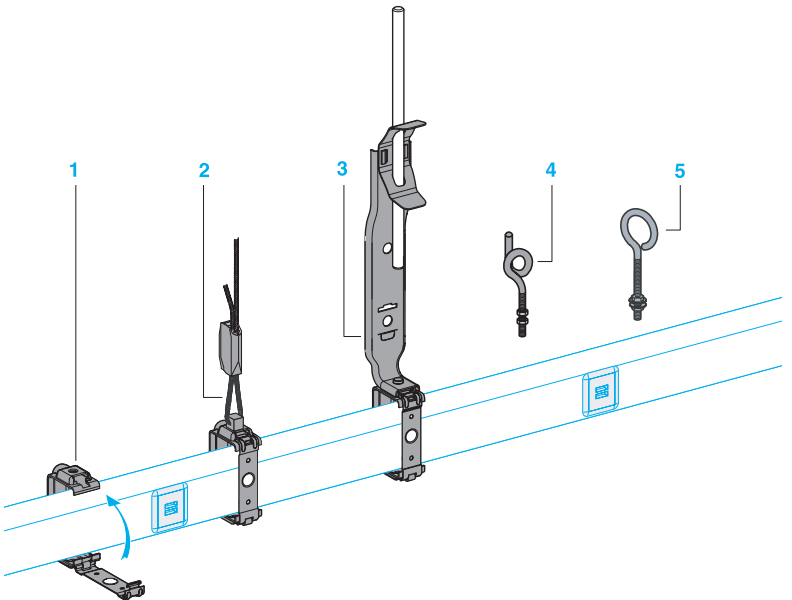
4 Pigtail hook

For suspension by a chain.

5 Closed ring

For suspension by a steel cable.

DD20924

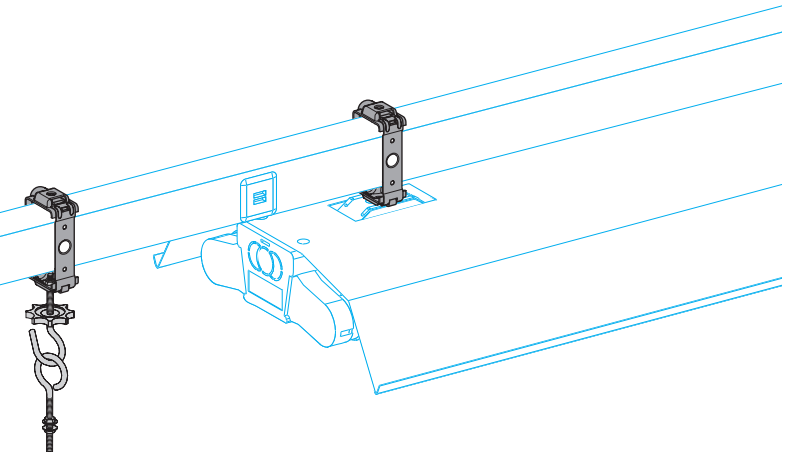


Luminaires

Attached to the luminaires before mounting, these fixings ensure fast and direct fixing to Canalis KBA.

- Same catalogue numbers as the busbar fixings.
- Automatic locking of moving part on closing.
- Use with an open hook and/or closed ring enables suspension.

DD210481



Description

IP55

U_e = 230...400 V

Galvanised or RAL 9010 white

Canalis KBA, 25 and 40 A

Busbar trunking for lighting and power socket distribution

Cable support

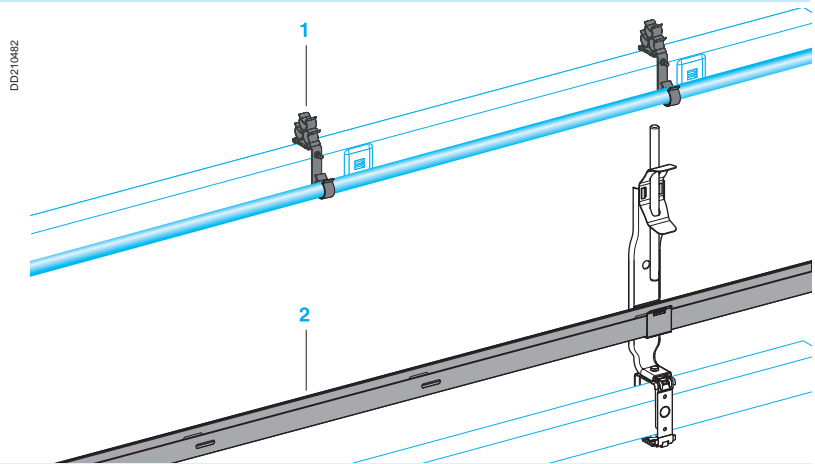
For running adjacent circuits such as emergency lighting, low-current circuits, etc.

1 Cable brackets

Clips to trunking for fast mounting. It is possible to run three cables (diameter 5 to 16 mm) and two IRL tubes.

2 Cable duct

The cable duct fits on support KBB 40ZFG1, which in turn fits onto a threaded rod suspension system KBA 40ZFPU. An intermediate support is placed between the duct and the trunking if the distance between the suspension points exceeds 2 metres. Each duct is equipped with a connection device.

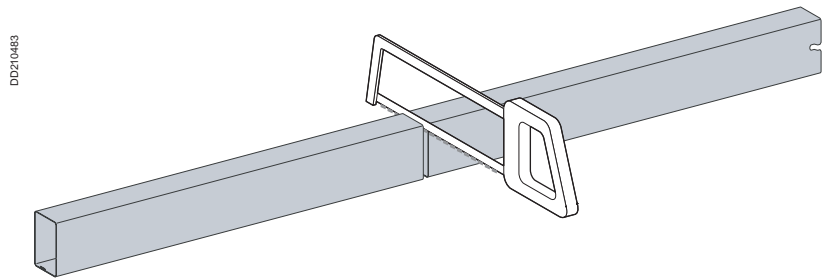


Options

Empty length (no electric circuit)

Used to adjust line length to building dimensions (e.g. to reach a fixing point).

Two metres long, can be cut on site.



Optional remote-control circuit (code T)

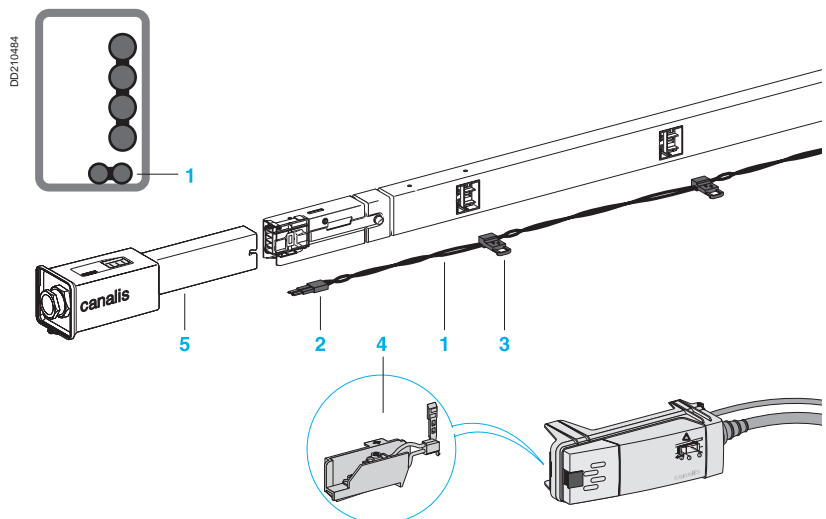
Factory mounted, an SELV remote-control circuit (U 50 V) is available for the loads supplied by the KBA trunking. The main applications are:

- remote control (rest mode or testing) of self-contained emergency lighting units,
- dimmer control,
- transmission on a building automation bus (please contact us).

The system is built in compliance with CEI 60439-2 and the LV and EMC directives.

Electrical characteristics of the remote-control circuit

Composition	Twisted pair, unshielded (10 twists/m)
Cross-section and type of conductor	mm ² 2 x 0.75 copper
Rated insulation voltage U _i (between power circuit and bus)	V 500
Rated operational voltage U _e (max. U between bus + and - poles)	V 50
Maximum operational current I _e	A 2
Linear resistance	mΩ/m 52
Linear capacitance	pF/m 30



- 1 The remote-control circuit is factory mounted next to the main circuit in the trunking (in front for two-circuit trunking).
- 2 Electrical jointing unit equipped with additional bus contacts. Installation of components fitted with option T requires no additional assembly operations.
- 3 Each tap-off outlet is equipped with dual output contacts to tap-off the remote-control circuit to the receiver.
- 4 Connection of the remote-control receiver using a KBC-16DCB or DCF tap-off unit equipped with a KBC 16ZT1 contact-block accessory.
- 5 Feed units equipped with an additional bus terminal block.

KBL Industrial luminaires

For Canalis KBA

IP20 industrial luminaires

IP20 industrial fluorescent luminaires

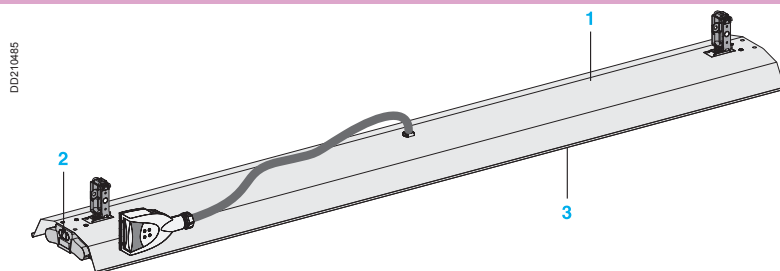
Industrial fluorescent luminaires are designed for industrial buildings of low to medium height.

They are supplied:

- pre-mounted
- pre-wired with a KBC 10DCB20 tap-off unit and one metre of SO5Z1Z1-F 3G1.5 cable
- pre-equipped with two KBA 40ZFU fixings.

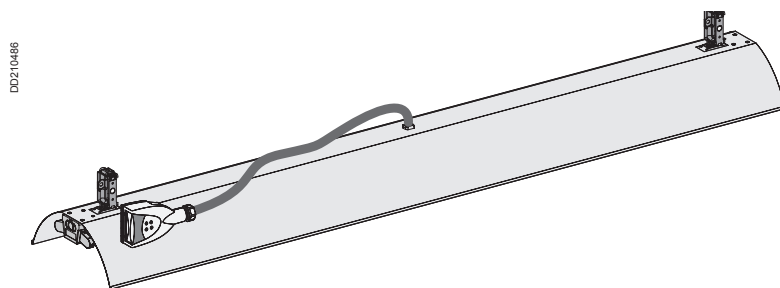
Supplied without tubes, the run components are made up of:

- 1 a **sheet-steel body**, electro-galvanised and pre-lacquered white,
- 2 a **ballast**:
 - for T8 tubes (diameter 26 mm), an electronic ballast (HF), dual 2 x 58 W version
 - for T5 tubes (diameter 16 mm), an electronic ballast, dual 2 x 49 W version.
- 3 **industrial fluorescent reflectors** made of sheet metal, electro-galvanised and pre-lacquered white for industrial buildings of low to medium height.



IP20 high-intensity fluorescent luminaires

High-intensity industrial fluorescent luminaires are designed for industrial buildings with high ceilings. They may be equipped exclusively with 80 W T5 tubes (diameter 16 mm) and an electronic ballast (HF), dual 2 x 80 W version.



IP55 dust and damp-proof luminaires

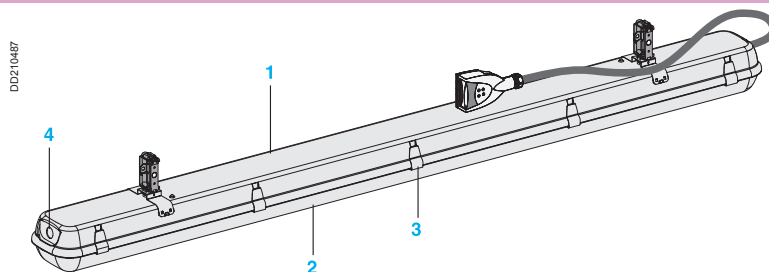
These industrial fluorescent luminaires are designed for industrial buildings of low to medium height with severe environments (dust, humidity, etc.), farm buildings, parking lots, sawmills, etc. The combination of polyester and polycarbonate makes them particularly versatile.

They are supplied:

- pre-mounted
- pre-wired with a KBC 10DCB20 tap-off unit and one metre of SO5Z1Z1-F 3G1.5 cable
- pre-equipped with two KBA 40ZFU fixings.

Supplied without tubes, the run components are made up of:

- 1 a **body** made of polyester, RAL 7035 grey,
- 2 a **cover** made of striated polycarbonate,
- 3 **cover clips** made of stainless steel,
- 4 a **ballast**:
 - for T8 tubes, an electronic ballast (HF), dual 2 x 58 W version
 - for T5 tubes, an electronic ballast, dual 2 x 49 W version.



Description

IP55

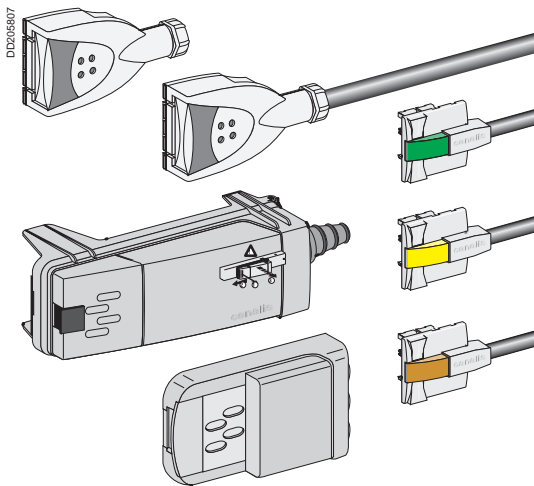
U_e = 230...400 V

Canalis KDP, KBA and KBB

Busbar trunking for lighting and

power socket distribution

Tap-off units

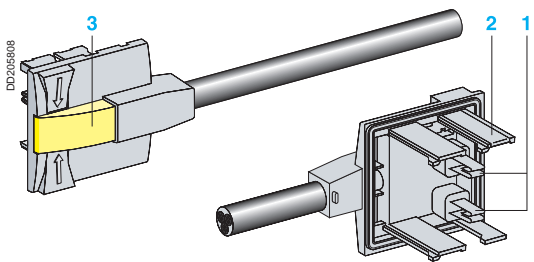


Tap-off units (general)

For instantaneous connection of luminaires to KDP busbar trunking:

- they can be handled while energised and under live conditions,
- the contacts for live conductors are of the clamp type,
- PE connection occurs before that of the phases and neutral,
- phase-selection system (clip-in contact studs) for balancing of 3-phase distribution systems,
- selection is visible via a transparent window,
- a coloured lock holds them in the tap-off outlet,
- all the insulating and plastic materials have a high fire-retardant capacity:
 - incandescent-wire test in compliance with IEC 60695-2 :
 - 960°C for components in contact with live parts,
 - 650°C for other components.

All the insulators and plastic components are **halogen free**.



Pre-wired 10 A tap-off unit with fixed polarity

Pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 0.80 m long, pre-stripped on luminaire end:

- 10 A rating,
- fixed L + N + PE polarity,
- the various models make it possible to balance 3-phase distribution systems.

The colour of the lock and the casing enable remote identification of the polarity.

- 1 Live-conductor contacts.
- 2 Protective-conductor contact.
- 3 Lock.

Two-pole 10 A tap-off unit with phase selection

- The two contact studs are movable and can be used to set up both L + N + PE and 2L + PE distribution.
- Supplied complete with a cable gland.

10 A KBC-10DCB20 tap-off unit, 2-pole + PE, to be wired

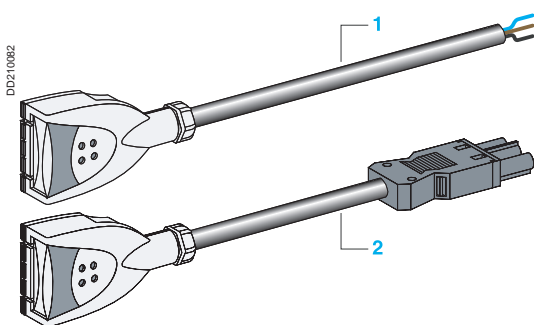
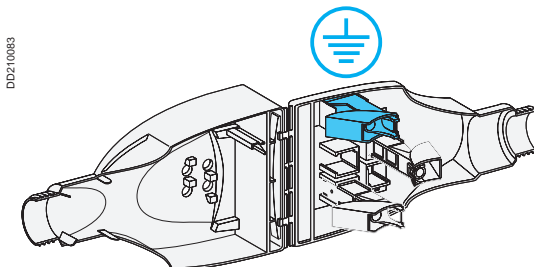
- To be wired for connection of luminaires using a cable of specific type, size or length.
- Fast connection for 3 x 0.75 to 1.5 mm² cable. If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).

10 A KBC tap-off unit, 2-pole + PE, pre-wired

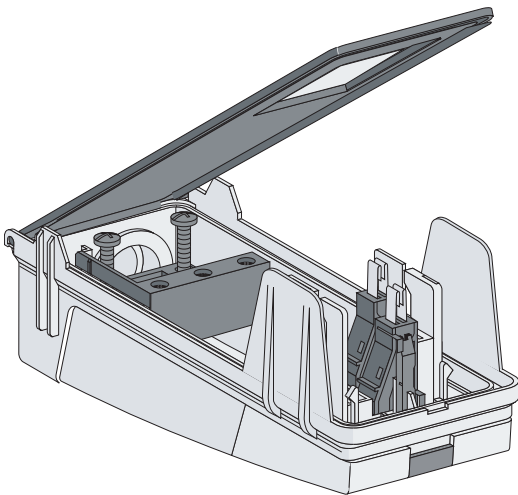
Two pre-wired versions are available:

- 1 pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long, pre-stripped on luminaire end,
- 2 for KDP, pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long and equipped with a female GST18i3 connector on the luminaire end (see prefabricated leads). In this case, the lead is IP40.

If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).



DD205809



16 A KBC 16DCB/DCF21 tap-off unit with phase selection

For connection of luminaires using a cable of specific type, size and length.

- Two-pole: L + N + PE (1 mobile stud, fixed neutral) or 2L + PE (2 mobile studs).
- Installation is facilitated by the side guides.
- Supplied with a cable bushing. Terminal connections for 0.75 to 1.5 mm² cable.

KBC 16DCB tap-off unit with terminals, direct connection (no protection)

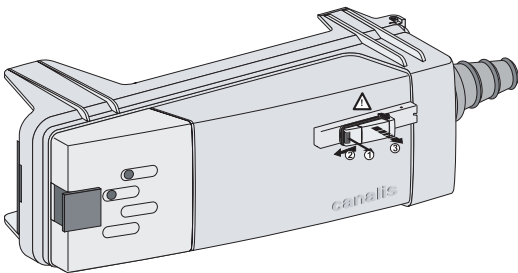
For direct connection (no protection) of luminaires using a specific cable. Can be equipped with the accessory to tap-off the remote-control circuit to the luminaires.

KBC 16DCF tap-off unit, with fuses

For protection of each luminaire.

Fuse carrier on the phase (1 or 2 carriers depending on the model). For cylindrical fuse NF 8.5 x 31.5 (not supplied), 16 A gG maximum, breaking capacity 20 kA.

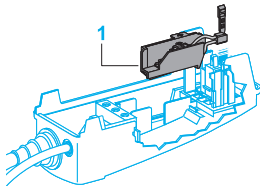
DD205810



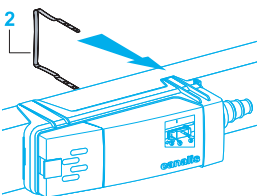
16 A L + N + PE tap-off unit with preselected polarity KBC 16DCB/DCF●●6

For tap-off and individual protection of luminaires assigned to two independent circuits of 4-conductor KBA trunking. Identical in design to the tap-off units on the opposite page, but with factory-set polarity.

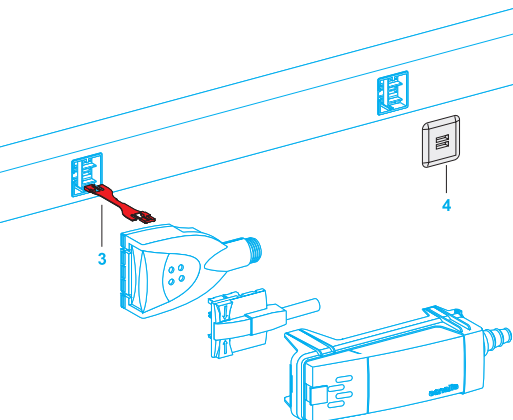
DD205811



DD205812



DD210192



Accessories

Specific to KBC 16DCF tap-off units

1 Additional remote-control contact block

- For tap-off of the remote-control circuit to the luminaire (KBA and KBB lines with T option).
- Clips onto KBC 16DCB or CF (except KBC 16DCF22) tap-off units.
- Terminals for data cable, max. size 2 X 0.75 mm².
- Supplied with cable bushing.

2 Rear support bracket

Additional fixing of KBC 16 tap-off units using the rear support bracket may be necessary, notably if there is a risk of accidental pulling on the cable or if the cable is very heavy (great length).

Other accessories

3 Interlocking device

For all 10 A and 16 A tap-off units.

A set of three interlocking devices in different colours can be used to mechanically lock out tap-off units when two or three different distribution networks are present (load, voltage, frequency, etc.).

- An interlocking device is made up of a handle and an interlocking device on each end. It can be used for a tap-off outlet and the corresponding tap-off unit.
- Labels can be placed on the tap-off units and the trunking for remote identification.

4 Outlet blanking plate

Spare part intended to restore IP55 on a tap-off outlet following removal of the tap-off unit (if original blanking plate is lost).

Catalogue numbers Dimensions

IP55

U_e = 230...400 V

Galvanised or RAL 9010 white



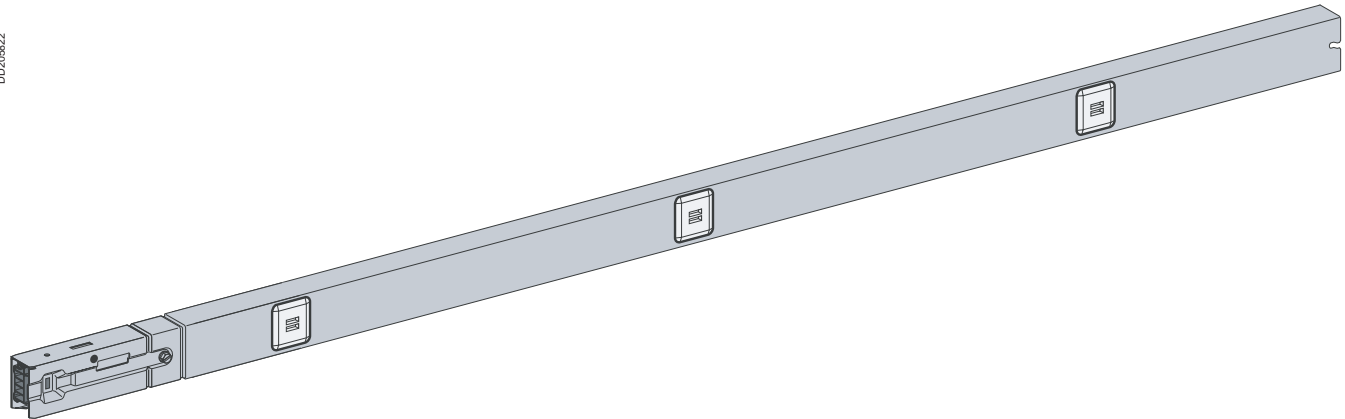
Canalis KBA, 25 and 40 A

Busbar trunking for lighting and power socket distribution

Optional remote-control circuit (code T)

Optional white-lacquered metal enclosure (code W)

Straight lengths

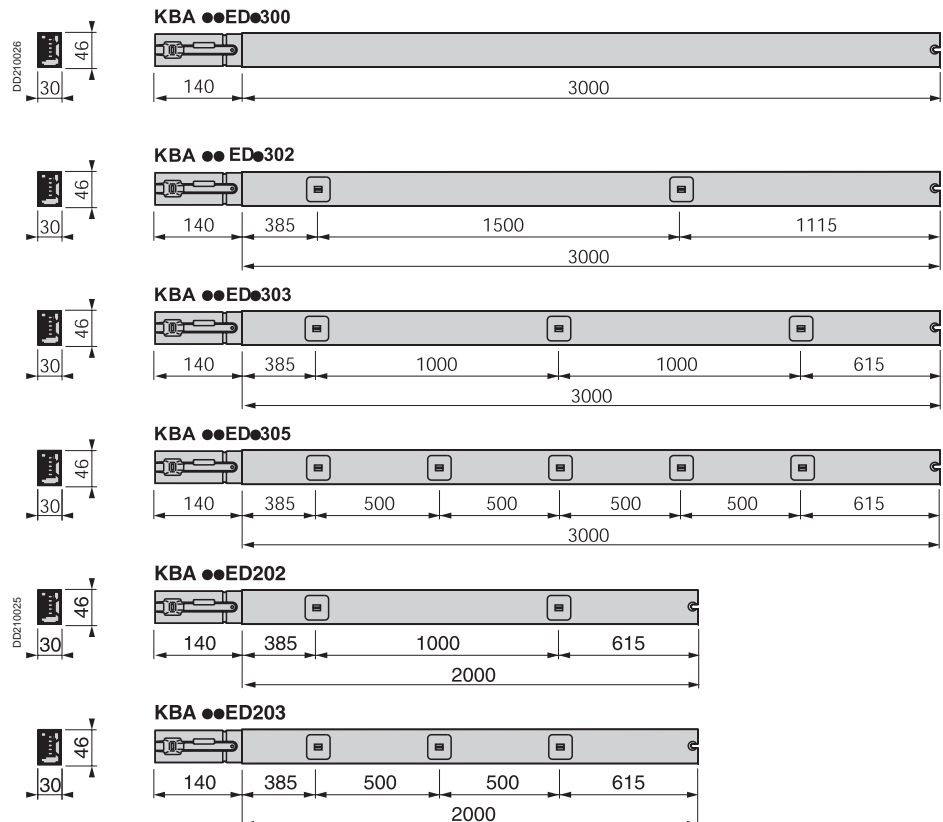


KBA ●●ED●●●

Type of component	Trunking polarity	Length (m)	Number of tap-offs	Order in multiples of ⁽¹⁾	25 A rating Cat. no.	Weight (kg)	40 A rating Cat. no.	Weight (kg)	Option ⁽²⁾	
Straight length Standard Ph + N + PE		3	0	6	KBA 25ED2300	2.400	KBA 40ED2300	2.700	-	-
			2	6	KBA 25ED2302	2.400	-	-	-	-
			3	6	KBA 25ED2303	2.400	KBA 40ED2303	2.700	■	■
			5	6	KBA 25ED2305	2.400	KBA 40ED2305	2.700	■	-
			2	6	KBA 25ED4202	1.900	-	-	-	-
Straight length Standard 3Ph + N + PE		3	0	6	KBA 25ED4300	2.600	KBA 40ED4300	3.100	-	-
			2	6	KBA 25ED4302	2.400	-	-	-	-
			3	6	KBA 25ED4303	2.600	KBA 40ED4303	3.100	■	■
			5	6	KBA 25ED4305	2.600	KBA 40ED4305	3.100	■	-
			2	6	KBA 25ED4202	1.900	-	-	-	-
Empty length		2	0	6	KBA 40EDA20	1.600	KBA 40EDA20	1.600	-	■
			3	6	KBA 40ED4203	1.900	KBA 40ED4203	1.900	■	■

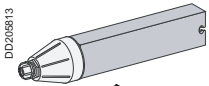
(1) Quantity may not be split.

(2) ■ the two options may be combined. Add T and/or W to cat. no. Ex: KBA 25ED2303TW.

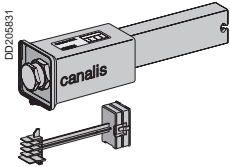




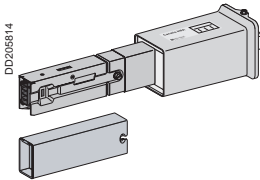
Feed units (supplied with end cover)



KBA 25ABG4



KBA 40ABG4

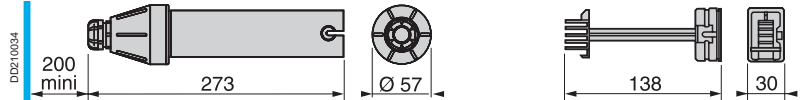


KBA 40ABD4

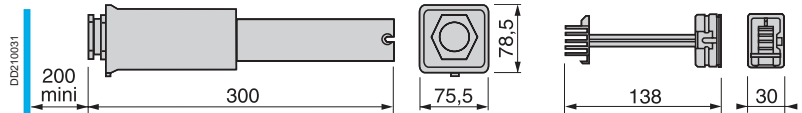
Designation	Rating (A)	Mounting	Cable connection		Cat. no.	Weight (kg)	Option ⁽¹⁾	
			Terminals (mm ²)	Cable gland max. Ø (mm)			T	W
Feed unit	25	Left	4	PG 16, Ø 15	KBA 25ABG4	0.200	-	-
	25 or 40	Left	10	PG 21, Ø 19	KBA 40ABG4	0.400	■	■
	25 or 40	Right	10	PG 21, Ø 19	KBA 40ABD4	0.500	■	■

(1) ■ the two options may be combined. Add **T** and/or **W** to cat. no. Ex: **KBA 40ABG4TW**.
The end cover KBA is a spare part of the after-sales service ref **KBA 40AF**

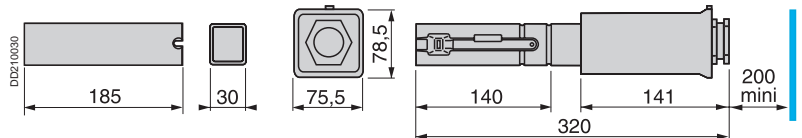
KBA 25ABG4 with end cover



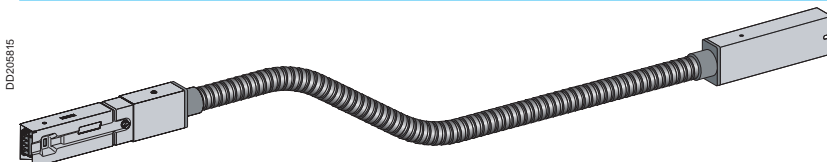
KBA 40ABG4 with end cover



KBA 40ABD4 with end cover



Flexible lengths

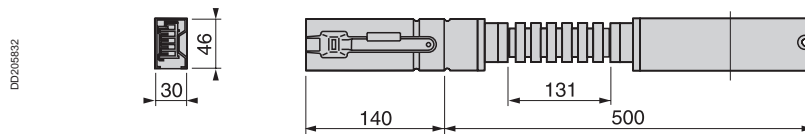


KBA 40DF4●●

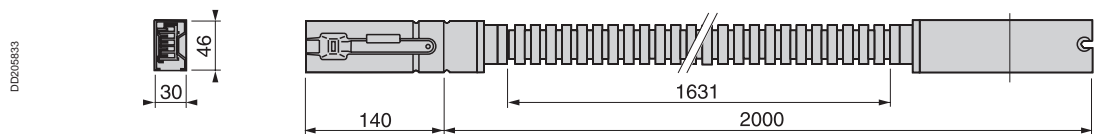
Designation	Mounting	Length (m)	Cat. no.	Weight (kg)	Option ⁽¹⁾	
Flexible length	For elbows, changing levels, detours around obstacles, etc.	0.5	KBA 40DF405	0.050	■	■
		2	KBA 40DF420	0.105	■	■

(1) ■ the two options may be combined. Add **T** and/or **W** to cat. no. Ex: **KBA 40ABG4TW**.

KBA 40DF405



KBA 40DF420





Canalis KBA, 25 and 40 A

Busbar trunking for lighting and

power socket distribution

Optional white-lacquered metal enclosure (code W)

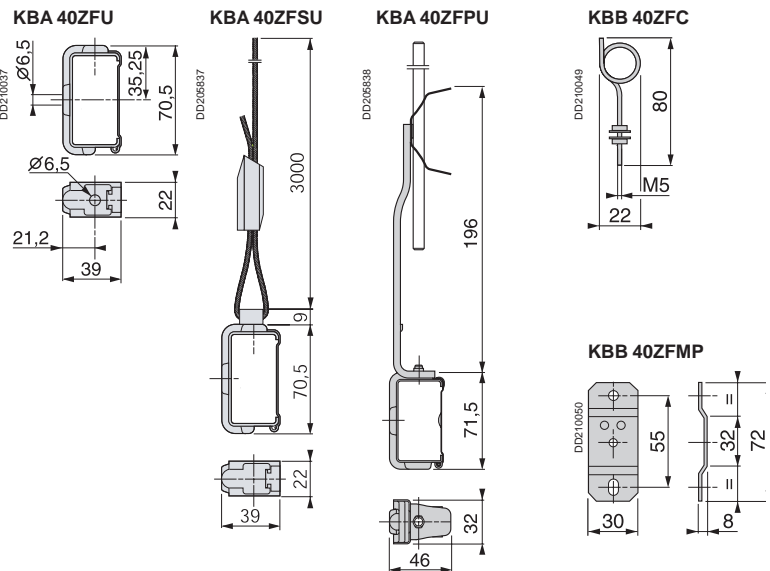
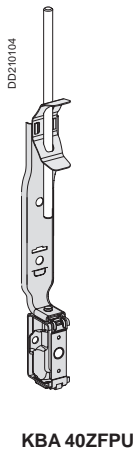
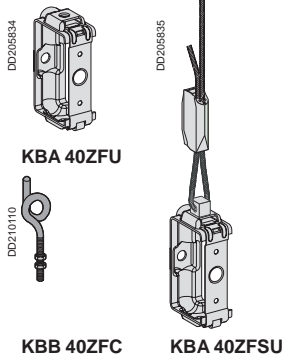
Fixing systems

Busbar trunking fixings

Designation	Mounting	Max. load (kg)	Order in multiples of	Cat. no.	Weight (kg)	Option ⁽²⁾ W
Universal fixing bracket⁽¹⁾	Suspended on threaded rod or lateral (except wall)	60	10	KBA 40ZFU	0.050	■
Cable suspension system⁽¹⁾	Universal fixing bracket and steel cable, 3 m long	60	10	KBA 40ZFSU	0.105	-
	Cable alone, 3 m long	60	10	KBB 40ZFS23	0.070	-
Spring fixing bracket⁽¹⁾	Adjustable suspension for threaded rod, M6	50	10	KBA 40ZFPU	0.100	-
Pigtail hook	Suspended by small chain	60	10	KBB 40ZFC	0.020	-
Raiser	For mounting on wall or false floor	60	10	KBB 40ZFMP	0.040	-

(1) Maximun recommended distance between fixings: 3 meters.

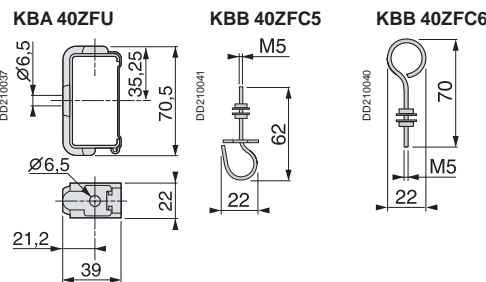
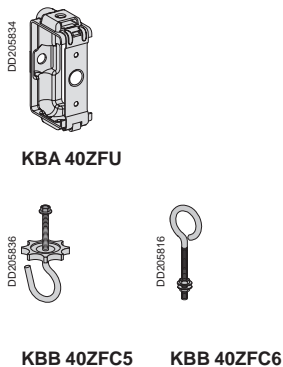
(2) ■ Option: Add W to cat. no. Example: **KBA 40ZFUW**.



Luminaire fixings

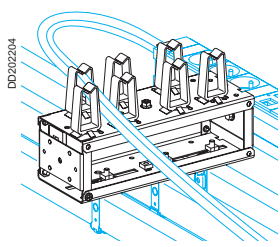
Designation	Mounting	Max. load (kg)	Order in multiples of	Cat. no.	Weight (kg)	Option ⁽¹⁾ W
Universal fixing bracket	For direct suspension under trunking	60	10	KBA 40ZFU	0.050	■
Open hook	To suspend the luminaire	45	10	KBB 40ZFC5	0.050	-
Ring	Mounted on the luminaire	45	10	KBB 40ZFC6	0.050	-

(1) ■ Option: Add W to cat. no. Example: **KBA 40ZFUW**.

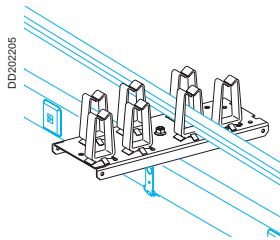




KBA and VDI supports

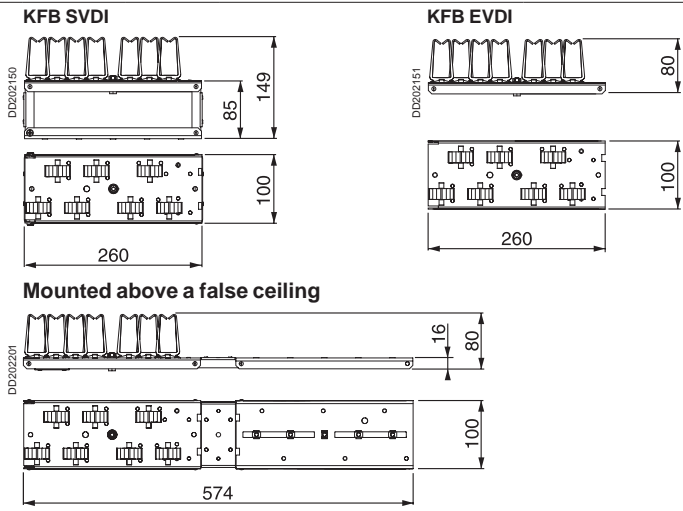


KFB SVDI



KFB EVDI

Designation	Rating (A)	Max. load (kg)	Mounting	Cat. no.	Weight (kg)
VDI support	40 to 160	60	Fixing for KBA+ VDI cables + consolidation point	KFB SVDI	1.1
Intermediate VDI support	40 to 160	60	Fixing for KBA+ VDI cables + consolidation point	KFB EVDI	0.5

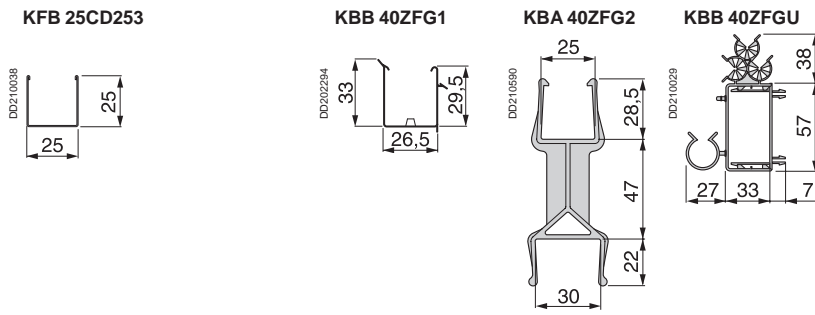
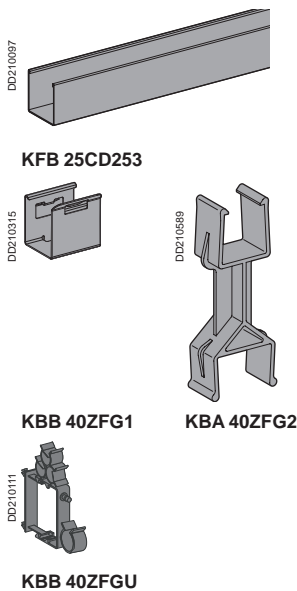


Accessories

Cable duct, support

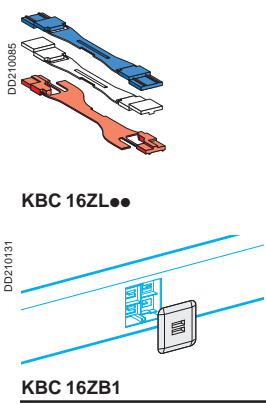
Designation	Function	Order in multiples of	Cat. no.	Weight (kg)
Cable duct	Width 25 mm, length 3 m	6	KFB 25CD253	1.115
Cable bracket	Cable duct support to be mounted on a spring fixing bracket ⁽¹⁾	10	KBB 40ZFG1	0.100
	Cable duct support + intermediate support ⁽²⁾	10	KBA 40ZFG2	0.200
	For adjacent circuits	20	KBB 40ZFGU	0.005

(1) Maximum recommended distance between fixings: 2 meters.
 (2) Maximum recommended distance between fixings: 3 meters.



Other accessories

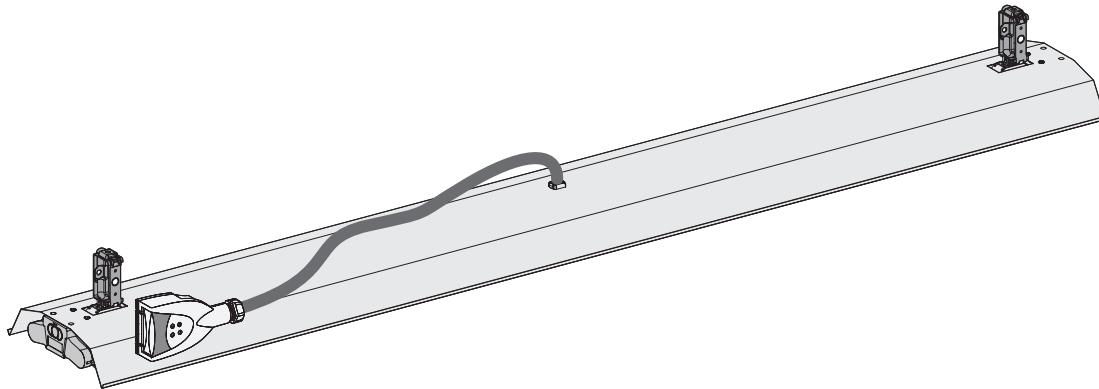
Designation	Function	Colour	Order in multiples of	Cat. no.	Weight (kg)
Outlet/tap-off unit interlocking device (2 parts)	Identification and mechanical interlocking between 1 to 3 different circuits	Blue	20	KBC 16ZL10	0.002
		White	20	KBC 16ZL20	0.002
		Red	20	KBC 16ZL30	0.002
Blanking plate	Restore IP55 on tap-off outlet if original blanking plate is lost		10	KBC 16ZB1	0.005
Cutting pliers	To cut steel cable used for cable suspension system		1	KBB 40ZFS	0.300



U_e = 230...400 V
RAL 9010 white

IP20 industrial luminaires for T5/T8 fluorescent tubes (not supplied)

DD210207



KBL 2●●●●

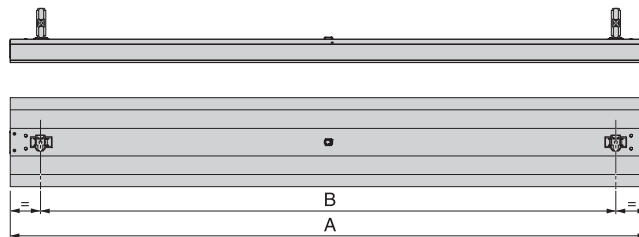
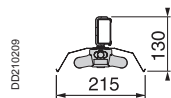
IP20 industrial luminaires

Pre equipped with 10 A tap-off unit with phase selection, pre-wired with S05Z1Z1 - F 3 x 1.5 mm².
Delivered with fixing bracket.

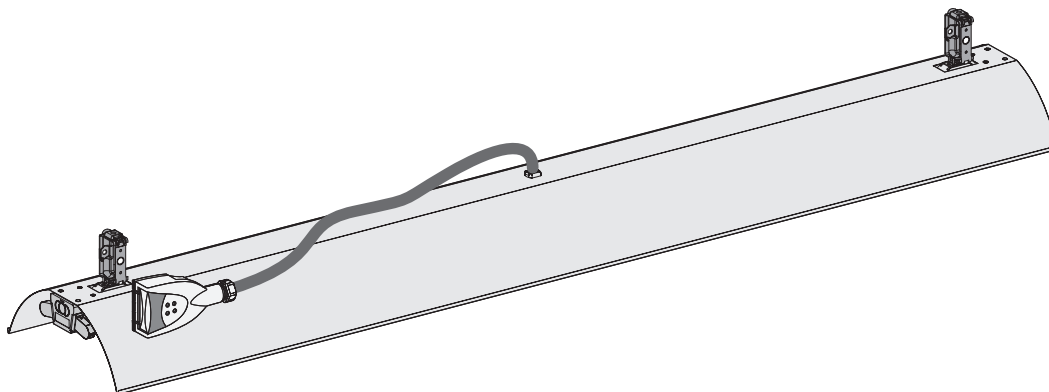
Type of tube	Type of ballast	Mini. qty included	Power (W)	Cat. no.	Weight (kg)
T8	Compensated ferro-magnetic	30	2 x 58	KBL 258C	3.70
	Electronic	30	2 x 58	KBL 258HF	3.00
T5	Electronic	30	2 x 35	KBL 235T5	2.80
T5	Electronic	30	2 x 49	KBL 249T5	2.80

KBL 258, KBL 258HF, KBL 234T5, KBL 249T5

Cotes	A	B
KBL 258C	1526	1375
KBL 258HF	1526	1375
KBL 235T5	1475	1325
KBL 249T5	1475	1325



DD210208



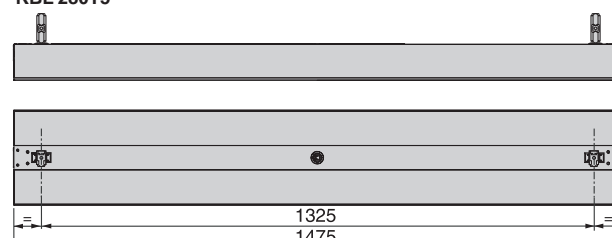
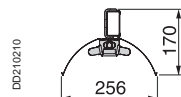
KBL 280T5

IP20 high-intensity luminaires

Pre equipped with 10 A tap-off unit with phase selection, pre-wired with S05Z1Z1 - F 3 x 1.5 mm².
Delivered with fixing bracket.

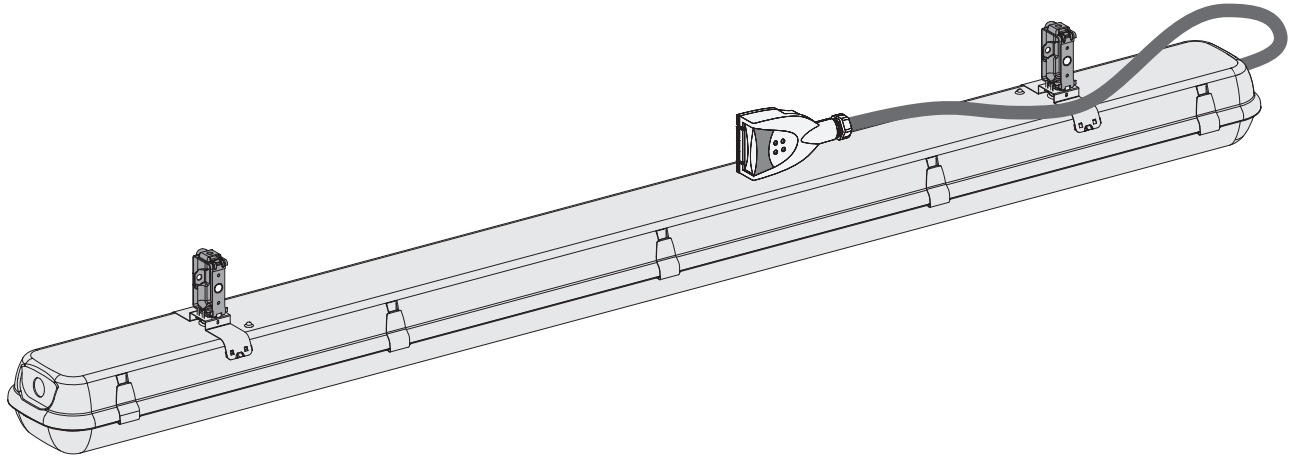
Type of tube	Type of ballast	Mini. qty included	Power (W)	Cat. no.	Weight (kg)
T5	Electronic	30	2 x 80	KBL 280T5	2.10

KBL 280T5



IP55 dust-proof and damp-proof fluorescent luminaires

DD210211



Canalis
KBL

KBL 2●●●●E

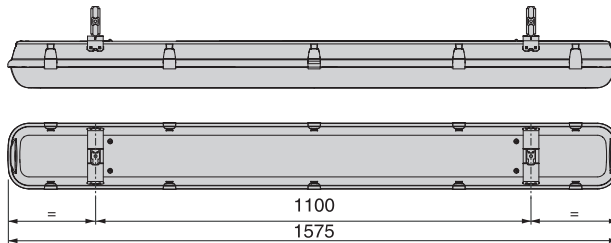
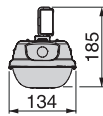
IP55 polycarbonate dust-proof and damp-proof fluorescent luminaires

Pre equipped with 10 A tap-off unit with phase selection, pre-wired with S05Z1Z1 - F 3 x 1.5 mm²
Delivered with fixing bracket.

Type of tube	Type of ballast	Mini. qty included	Power (W)	Cat. no.	Weight (kg)
T8	Compensated ferro-magnetic	30	2 x 58	KBL 258CE	4.60
	Electronic	30	2 x 58	KBL 258HFE	3.80
T5	Electronic	30	2 x 35	KBL 235T5E	3.80
T5	Electronic	30	2 x 49	KBL 249T5E	3.80

KBL 258E, KBL 258HFE, KBL235T5E, KBL 249T5E

DD202046

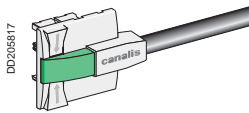




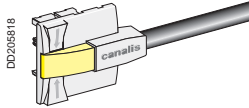
Canalis KDP, KBA and KBB tap-off units

For lighting and power socket distribution

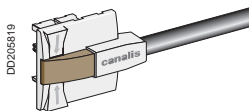
10 A tap-off unit, direct connection



KBC 10DCS101



KBC 10DCS201



KBC 10DCS301

Type of busbar trunking



Single-circuit switching

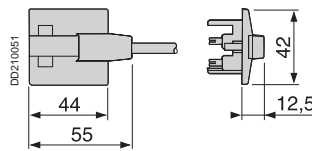


Balancing on 3 phases or 3-circuit switching

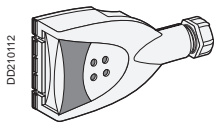
10 A tap-off unit, L + N + PE, with fixed polarity, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 0.8 m long

Polarity	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
L1 + N	Green	10	KBC 10DCS101	0.100
L2 + N	Yellow	10	KBC 10DCS201	0.100
L3 + N	Brown	10	KBC 10DCS301	0.100

KBC 10CS●01



10 A tap-off unit, L + L + PE or L + N + PE, with phase selection

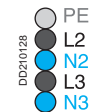
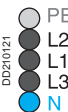


KBC 10DCB20

Type of busbar trunking

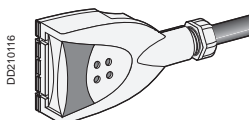


All types possible



Polarity	Order in multiples of	Cat. no.	Weight (kg)
L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3	10	KBC 10DCB20	0.065

10 A tap-off unit, L + L + PE or L + N + PE, with phase selection, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 1 m long

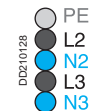
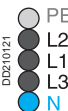


KBC 10DCC21●

Type of busbar trunking

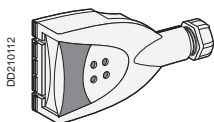


All types possible



Polarity	Pre-equipped with female GST18i3 connector	Order in multiples of	Cat. no.	Weight (kg)
L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3	No	10	KBC 10DCC211	0.165
	Yes ⁽¹⁾	10	KBC 10DCC21Z	0.165

10 A tap-off unit, 3L + N + PE



KBC 10DCB40

Type of busbar trunking

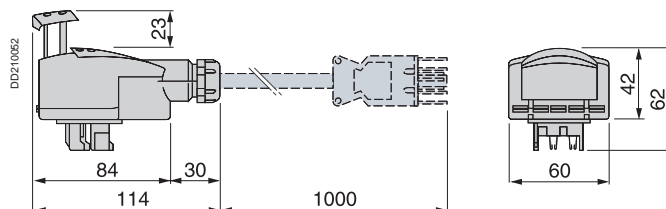


All types possible



Polarity	Order in multiples of	Cat. no.	Weight (kg)
To be defined for each application (dimmer, emergency lighting, etc.)	10	KBC 10DCB40	0.065

KBC 10DCB20, KBC 10DCC21●, KBC 10DCB40

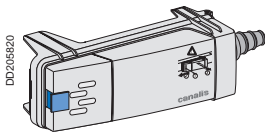


(1) For IP, see KDP, KBA and KBB Tap-off units description page 92

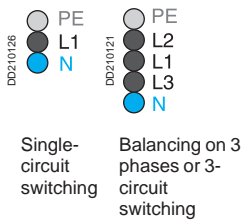


16 A single-phase tap-off unit, with or without fuses

16 A tap-off unit, L + N + PE, with phase selection

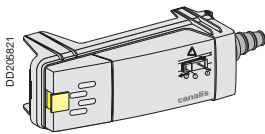


KBC 16DCB2●

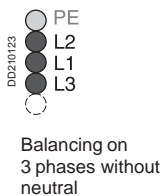


Type of busbar trunking	Polarity	Protection	Scheme	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
	L1 + N or L2 + N or L3 + N	None		Blue	10	KBC 16DCB21	0.090
		Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)		Blue	10	KBC 16DCF21	0.090

16 A tap-off unit, L + L + PE, with phase selection

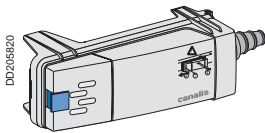


KBC 16DC●22

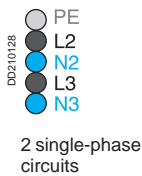


Type of busbar trunking	Polarity	Protection	Scheme	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
	L1 + L2 or L1 + L3 or L2 + L3	None		Yellow	10	KBC 16DCB22	0.090
		Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)		Yellow	10	KBC 16DCF22	0.090

16 A tap-off unit, L + N + PE, with preselected polarity

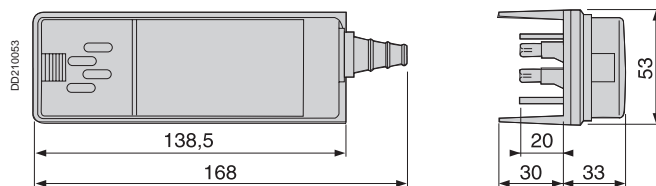


KBC 16DC●2●●6



Type of busbar trunking	Polarity	Protection	Scheme	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
	L2 + N2	None		Blue	10	KBC 16DCB226	0.090
		Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)		Blue	10	KBC 16DCF226	0.090
	L3 + N3	None		Blue	10	KBC 16DCB216	0.090
		Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)		Blue	10	KBC 16DCF216	0.090

KBC 16DCB2●●, KBC 16DCF2●●



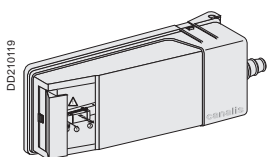


Canalis KDP, KBA and KBB tap-off units

For lighting and power socket distribution

16 A three-phase tap-off unit, with or without fuses

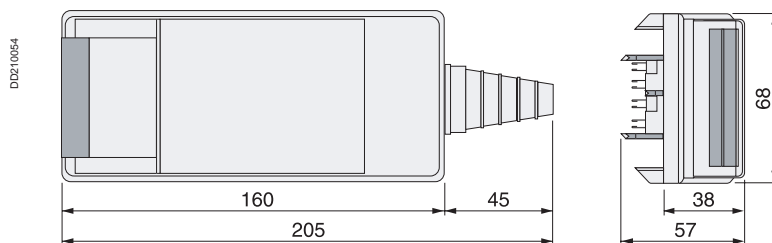
16 A tap-off unit, 3L + N + PE



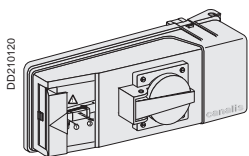
KBC 16DC•40

Type of busbar trunking	Polarity	Protection	Scheme	Cat. no.	Weight (kg)
DD210119 DD210121 All types possible	3L + N	None		KBC 16DCB40	0.090
		Cylindrical fuse NF 8.5 x 31.5 15 A gG maximum (not supplied)		KBC 16DCF40	0.090

KBC 16DC•40



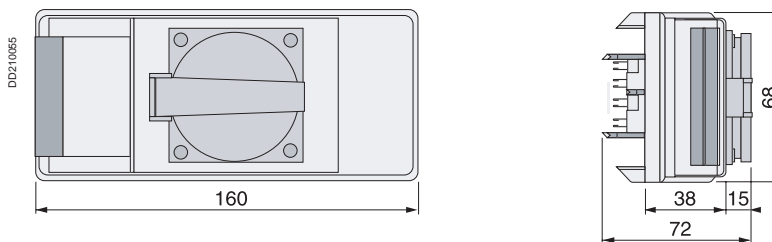
16 A tap-off unit, 3L + N + PE, with power socket



KBC 16DCP•

Type of busbar trunking	Polarity	Type of power socket	Protection	Scheme	Cat. no.	Weight (kg)
DD210120 DD210121	3L + N	NF 2P + E 10/16 A, 250 V	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)		KBC 16DCP1	0.090
		VDE 2P + E 10/16 A, 250 V	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)		KBC 16DCP2	0.090

KBC 16DCP•

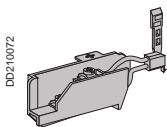


10 A single-phase tap-off unit for lighting control

For KDP description, see page 66. For KDP catalogue numbers and dimensions, see page 72.



Accessories for KBA and KBB tap-off units



DD210072

KBC 16ZT1



DD206823

KBC 16ZC1

Designation	Function	Order in multiples of	Cat. no.	Weight (kg)
Bus connection device	For 16 A single-phase or three-phase tap-off units to tap off the remote control circuit of the trunking to the remote receiver	10	KBC 16ZT1	0.010
Rear support bracket	For securing 16 A single-phase tap-off units to the trunking	10	KBC 16ZC1	0.020

Canalis
KBC

Installation

IP55

U_e = 230...400 V

Galvanised or RAL 9010 white

Canalis KBA, 25 and 40 A

Busbar trunking for lighting and power socket distribution

Installation scenario

Installation of a line

Unload and carry the products inside to an area where they are not exposed to dust or inclement weather.

Do not store the busbar trunking outdoors.



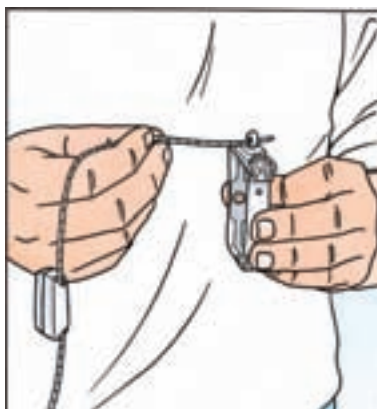
Unpack and layout on the floor the trunking components required to mount the line. Make sure that the feed unit is on the end closest to the switchboard.



Preparation of fixings

Install the suspension cable around the I-beam and mount the adjustment fixture on the KBA bracket.

In this catalogue, you will find a number of fixings suited to different building structures. You will also find a range of accessories to support all the cables associated with your installation.



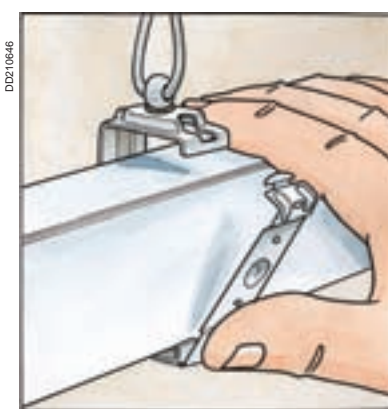
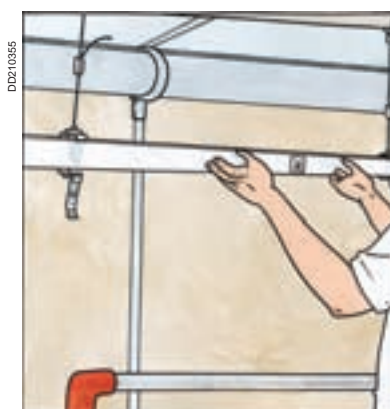
Preparation of a line segment on the floor

Assemble two or three lengths (clip together) and lock with the joint screw.



Position the line segment in the fixing brackets. They are designed to immediately relieve the installer of the weight. The busbar trunking is held in place as soon as the KBA lengths are positioned in the brackets.

The brackets lock when clipped closed.



Installation

IP55

U_e = 230...400 V

Galvanised or RAL 9010 white

Canalis KBA, 25 and 40 A

Busbar trunking for lighting and power socket distribution

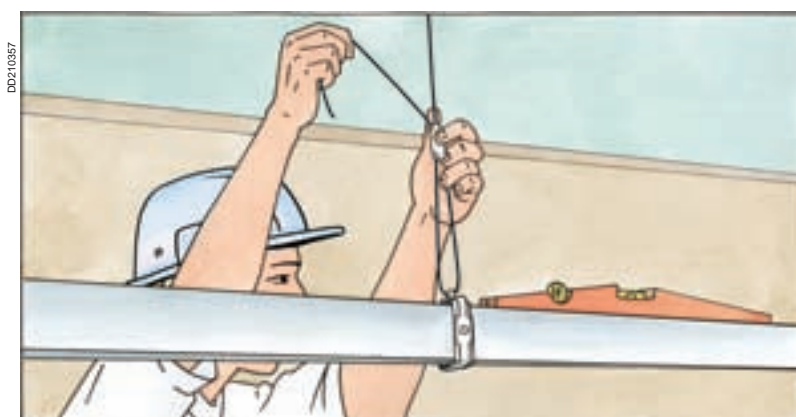
Installation scenario

The following segments can be mounted effortlessly, due to the ease of assembling the mechanical and electrical connections.



Adjusting the level of the KBA line

The suspension system using a steel cable makes for easy and fast adjustments.



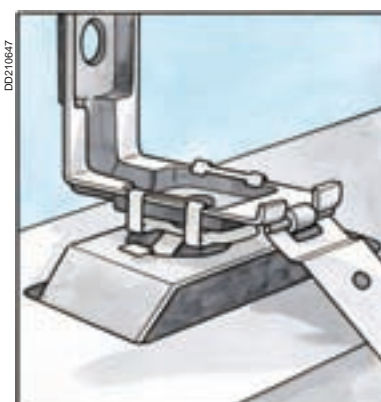
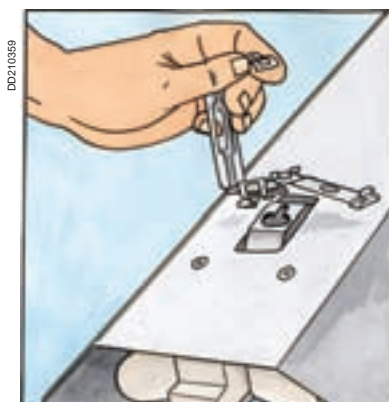
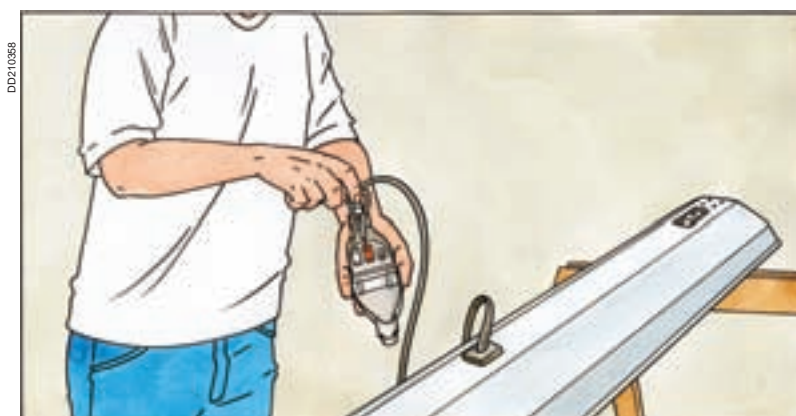
Tap-off connections

Preparation of the luminaires

Connection of the tap-off units to the luminaires, phase selection and mounting of the fixings **are carried out on the ground**.

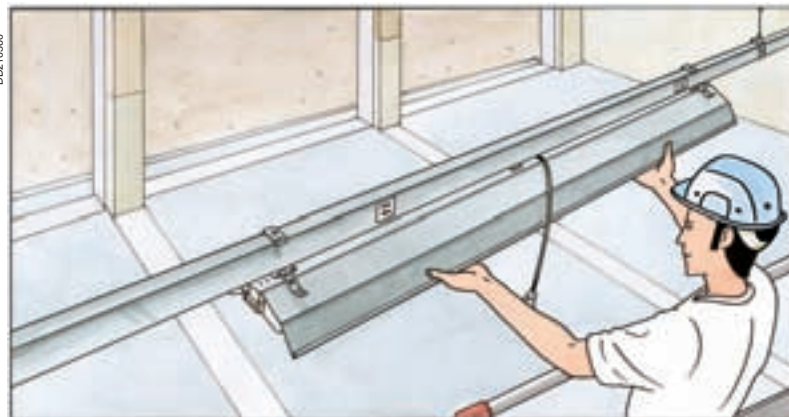
These operations can also be carried out in the workshop, before delivery to the site.

In this catalogue, you will find ready-to-use luminaires. They are supplied prewired, equipped with a tap-off unit with phase-selection.



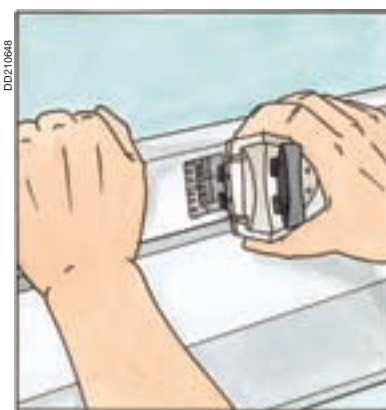
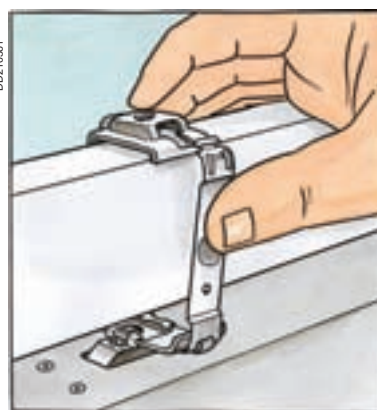
Mounting the luminaires on the trunking

Once again, the fixing brackets are designed to immediately relieve the installer of the weight. The luminaire is held in place as soon as the bracket is placed on the trunking.



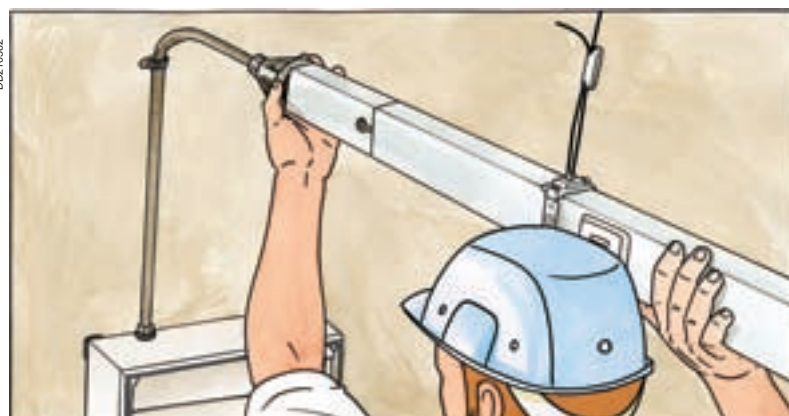
The brackets lock when clipped closed.

Connect the tap-off unit to the trunking

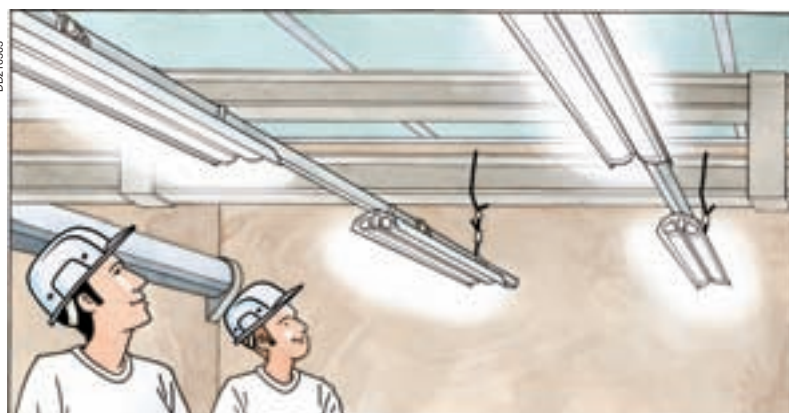


Connect the feed unit and energise

Last installation step.
Connect the supply cable to the Canalis KBA feed unit, then to the switchboard.



Energise the system to check operation.

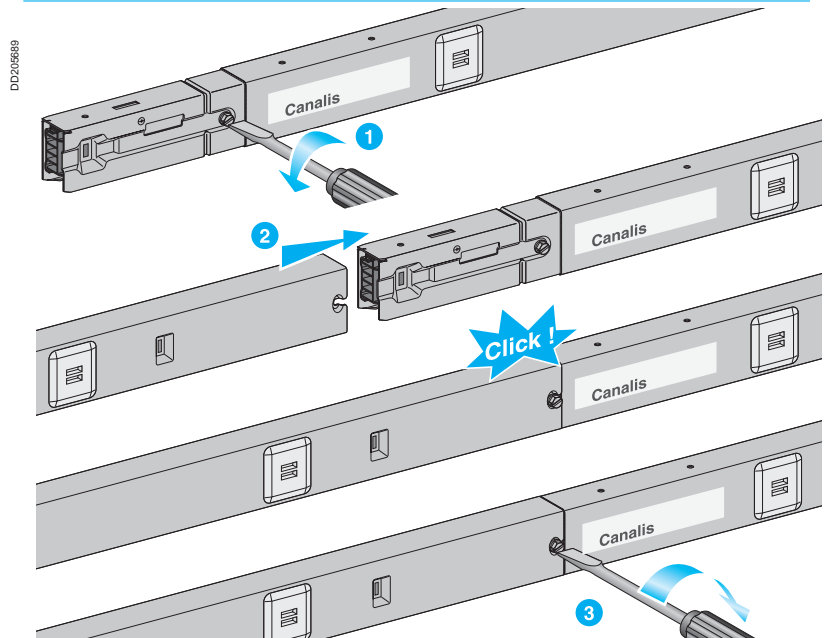


Canalis KBA, 25 and 40 A

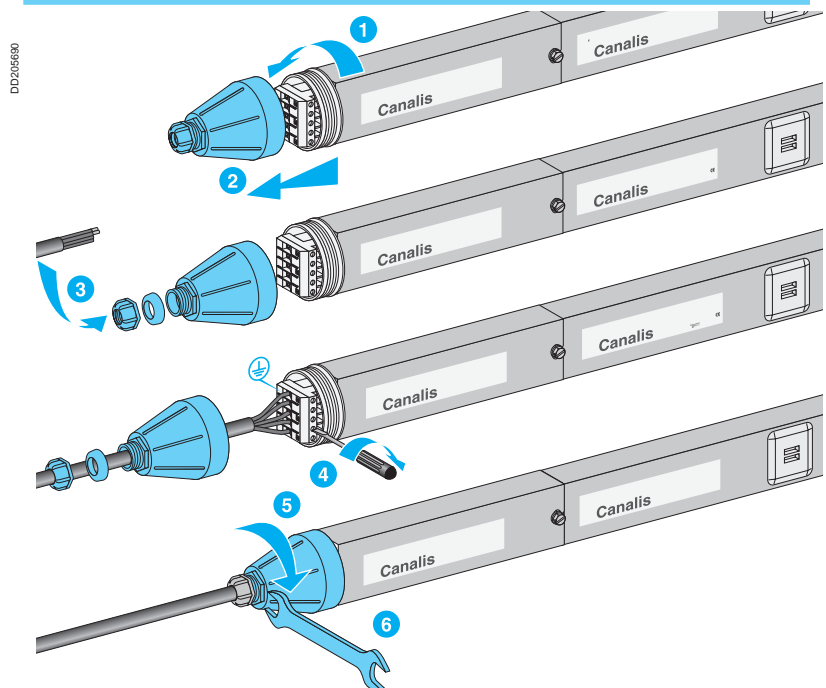
Busbar trunking for lighting and power socket distribution

Assembly of trunking components

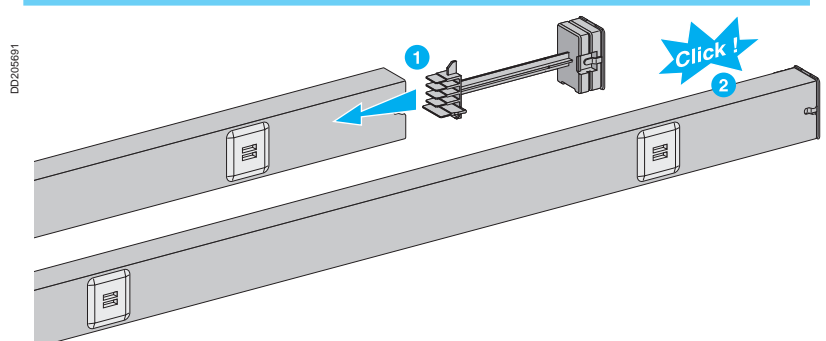
Assemble the straight lengths



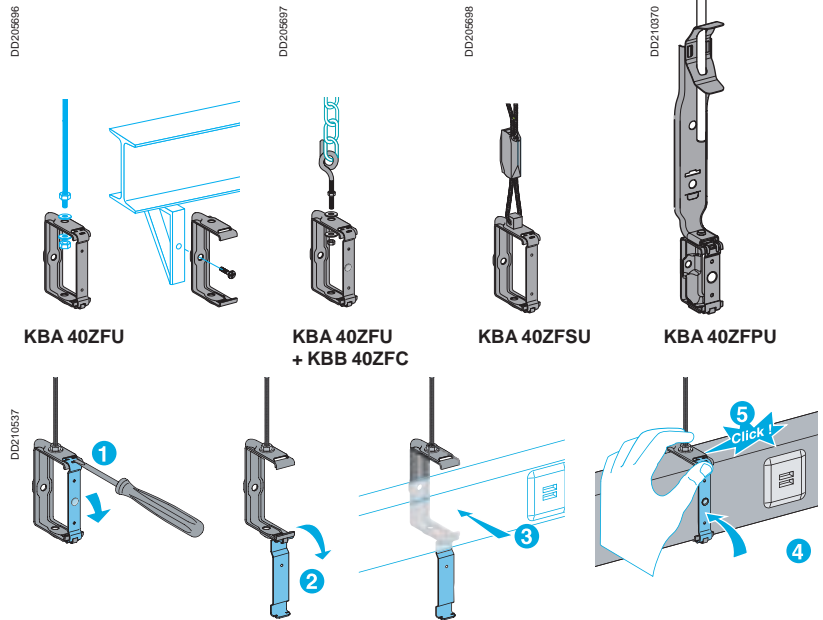
Connect the feed unit



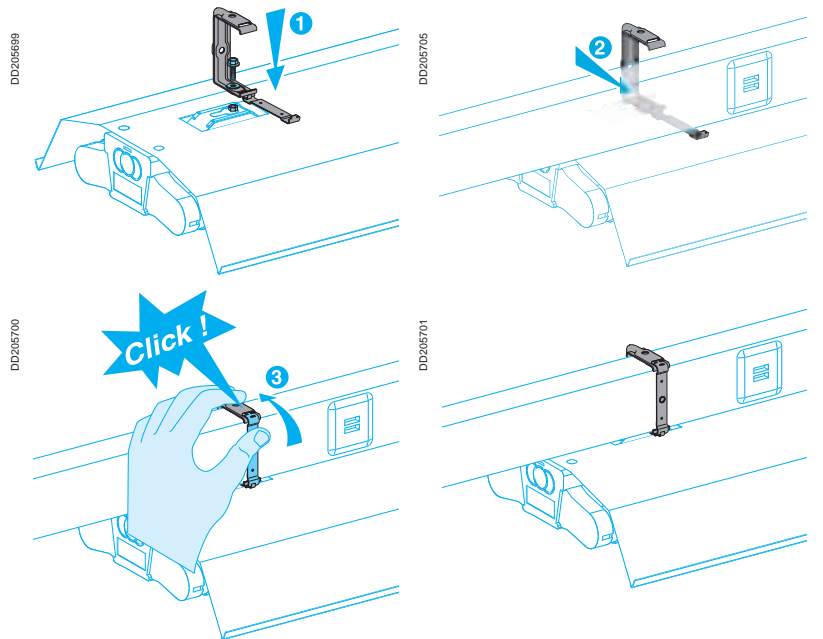
Assemble the end cover



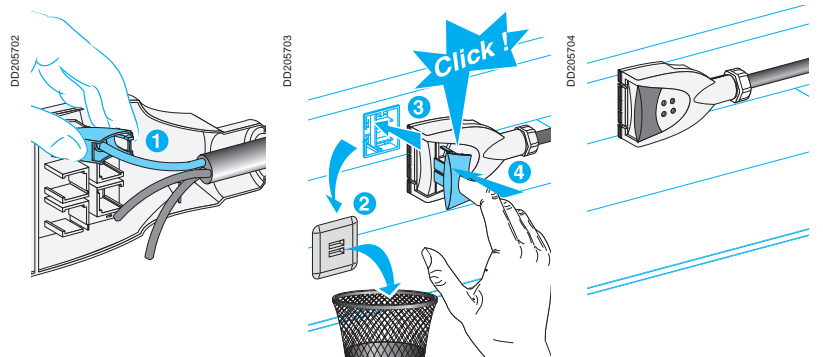
Fix Canalis KBA in the brackets



Mount the luminaires on the trunking



Connect the luminaires

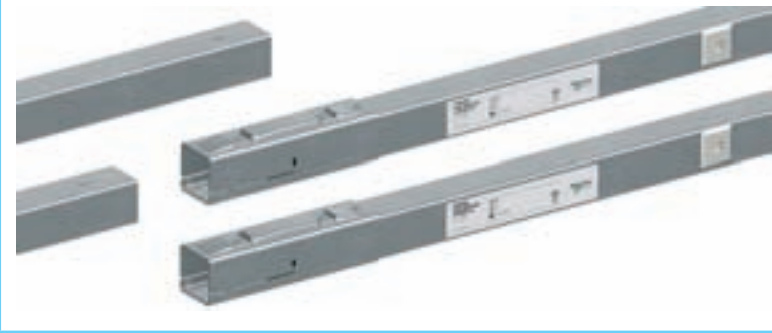


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1 - Run components

- Rating: 25 or 40 A.
- 2 or 4 live conductors.
- Length:
 - Basic lengths: 2 and 3 metres.

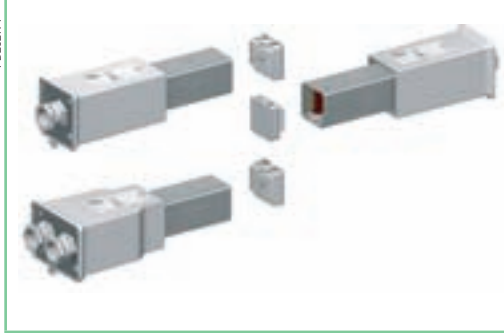
PD202170



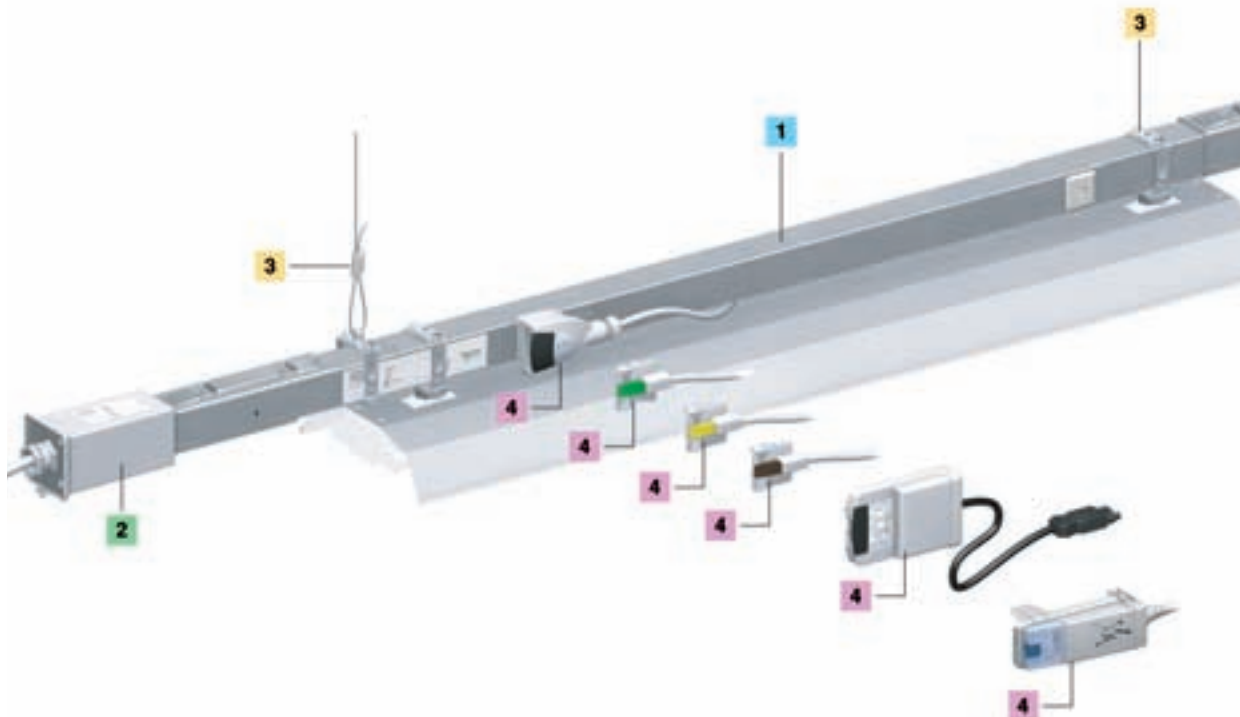
2 - Feed units and end covers

- The feed units delivered with end covers, receive the cables supplying one end of Canalis KBB trunking.
- The end covers supplied with the feed units terminate the signal length and insure the IP level.

PD202171



PD202173



3 - Fixing system and cable trays

- The fixing system ensures that Canalis KBB is well secured, whatever the type of building structure. There are also fixings to secure the luminaires to Canalis KBB.
- A metal duct is available for running other circuits such as emergency lighting, low-current circuits, etc.

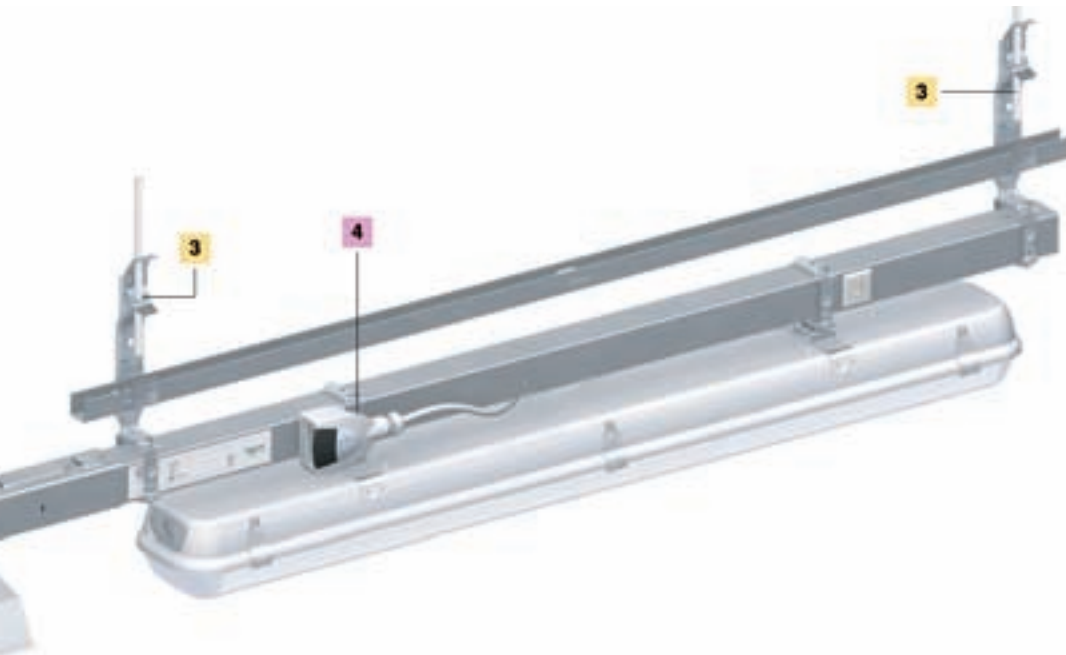
PD2024172



4 - Tap-off units

- The 10 and 16 A tap-off units, pre-wired or not, single-phase with fixed polarity or multi-phase with phase selection, can be used on the entire lighting range.

PD2024339



Canalis KBB

for lighting and power socket distribution

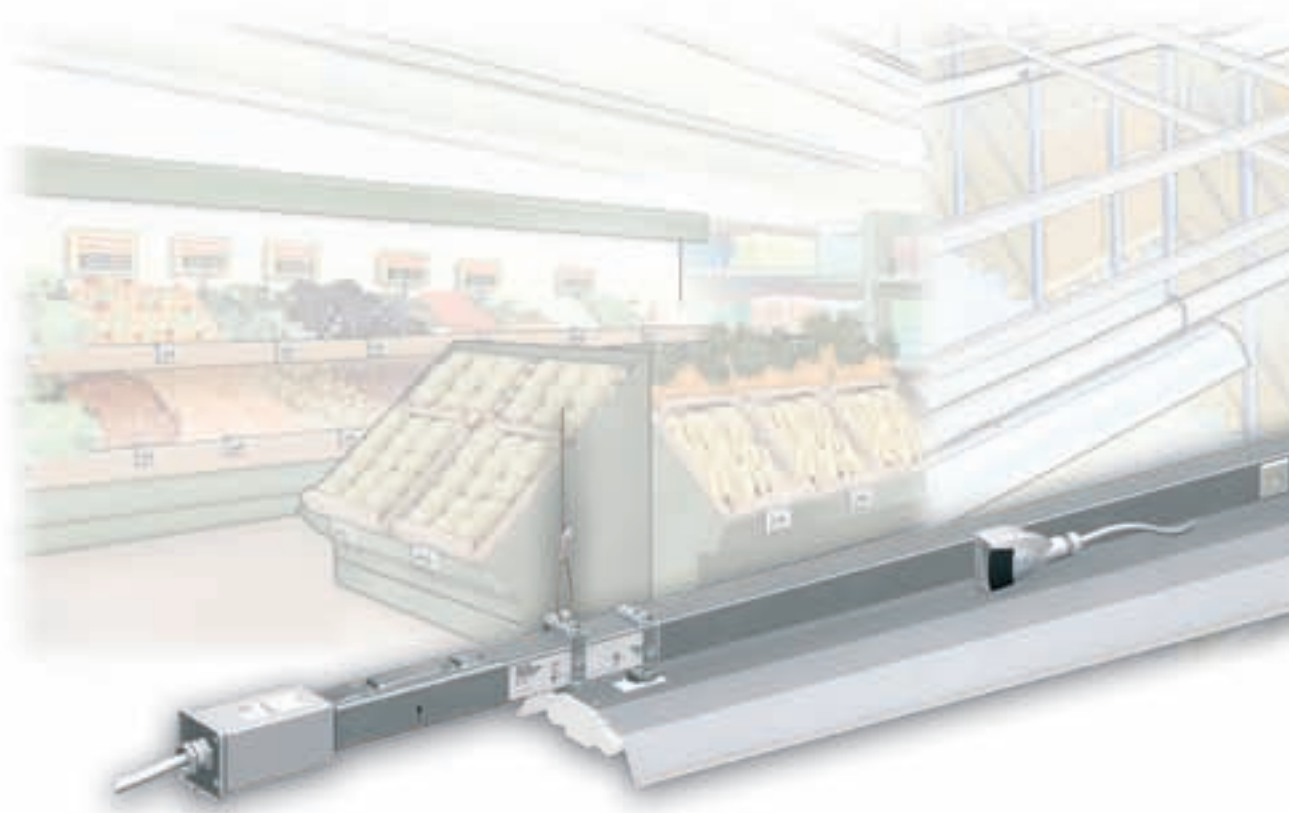
No toxic emission in case of fire

All components in the KBB range are **halogen free**.
In case of fire, Canalis KBB does not release smoke or toxic gases.

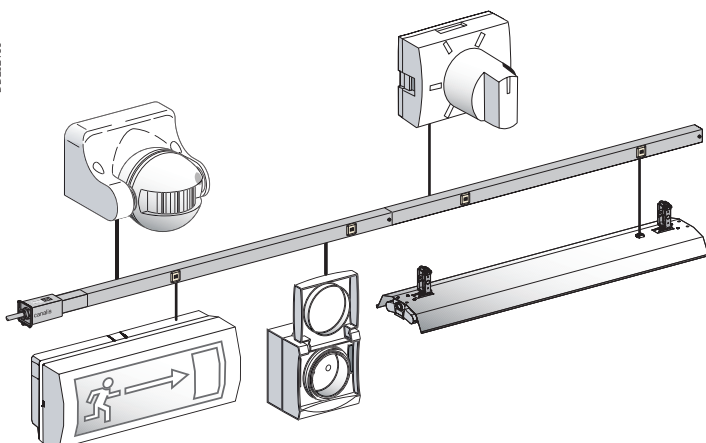


DD202141

PD202174



DD202169



A large number of conductors

Canalis KBB offers up to 11 conductors for all applications:

- emergency lighting,
- dimmers,
- detection of presence, lighting and power-socket circuits, etc.

A high degree of protection

■ **IP55** guarantees trunking protection against splashes and dust.

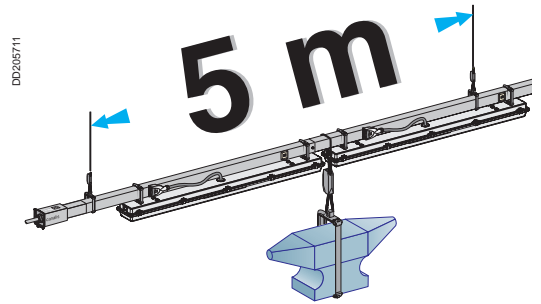
■ Canalis KBB complies with **sprinkler tests**, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

The high degree of protection for Canalis KBB means it can be installed in all types of buildings.

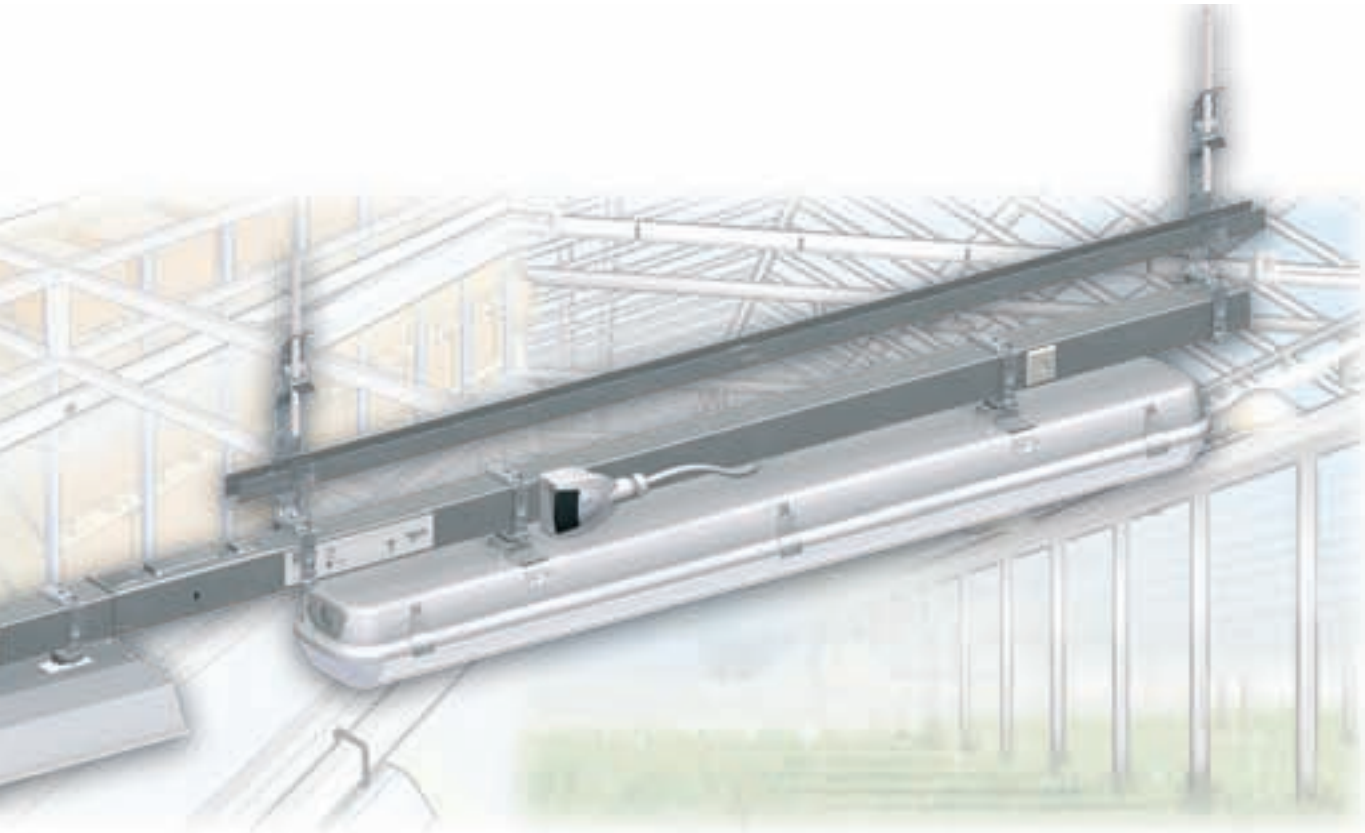


Very rigid

Canalis KBB offers fixing distances of up to 5 metres, including the jointing units.



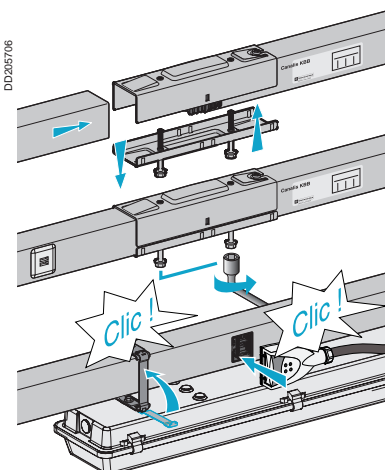
Canalis
KBB



Unmatched upgrading possibilities

It is particularly simple to add or modify a Canalis KBB installation since components can be easily mounted or dismantled.

All parts can be reused.



Description

IP55

U_e = 230...400 V

Galvanised or RAL 9010 white

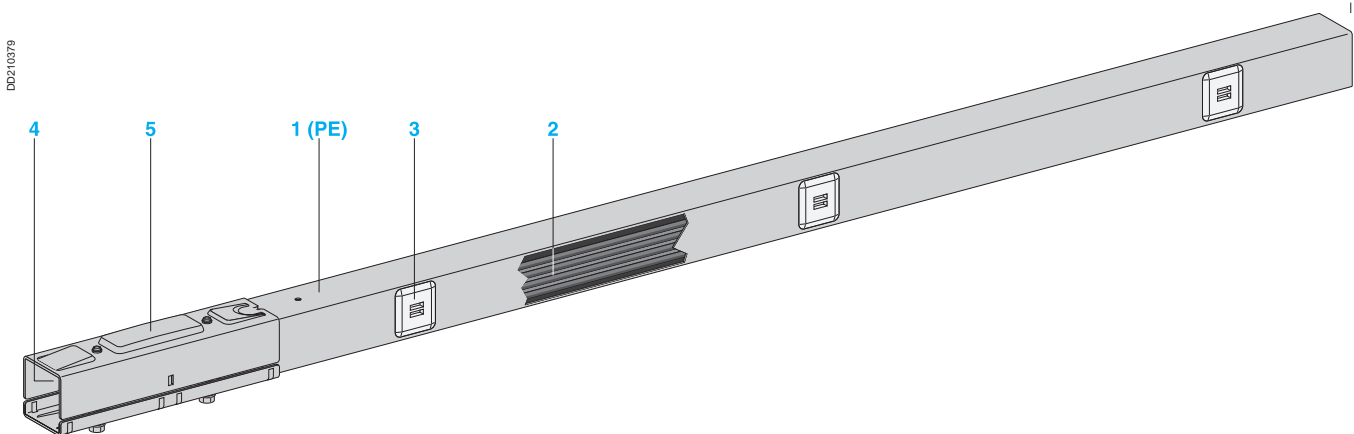
Canalis KBB, 25 and 40 A

Busbar trunking for lighting and power socket distribution

Run components

Carry current, support and supply the luminaires. Particularly strong, Canalis KBB is specially intended for installations with large fixing distances and/or heavy or numerous luminaires.

Straight lengths

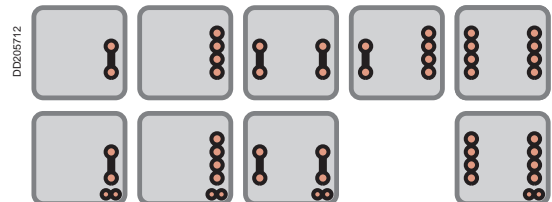


Straight lengths constitute the basic structure of the line and are made up of:

- 1 an all-in-one carrier casing, crimp closed, forming a rigid beam made of sheet steel, hot galvanised on both sides. This casing also acts as the protective earth conductor (PE). As an option (code W), the casing is available in RAL 9010 white lacquered sheet steel,
- 2 one or two ribbon cable with two or four copper conductors, protected against corrosion by tinning, making up one or two independent circuits,
- 3 three tap-off outlets maxi spaced every metre on the main circuit (front), two tap-off outlets maxi on the adjacent circuit (rear),
- 4 an electrical joint unit ensuring automatic and simultaneous connection of all live conductors,
- 5 a mechanical joint device in two parts, made of stamped sheet steel, that makes the connection of two lengths rigid and resistant to bending.

Multi-circuit possibilities

The many possibilities offered by KBB trunking means specialised circuits can be created, e.g. for emergency lighting, presence detection, dimming.



The degree of protection is IP55 (without accessories).

The busbar trunking is non-flame-propagating as per the recommendations of standard IEC 60332-3. All the insulating and plastic materials are **halogen-free** and have enhanced fire-withstand capabilities (incandescent wire test as per standard IEC 60695-2).

- 960°C for components in contact with live parts.
- 650°C for other components.

Feed units and end covers

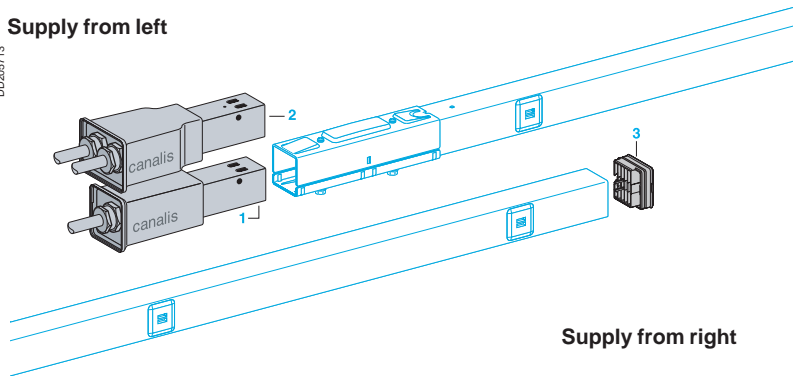
Supply a Canalis KBB line.
They clip on (jointing unit) to the end of the line.

The end cover for the opposite end of the line is supplied with each feed unit.

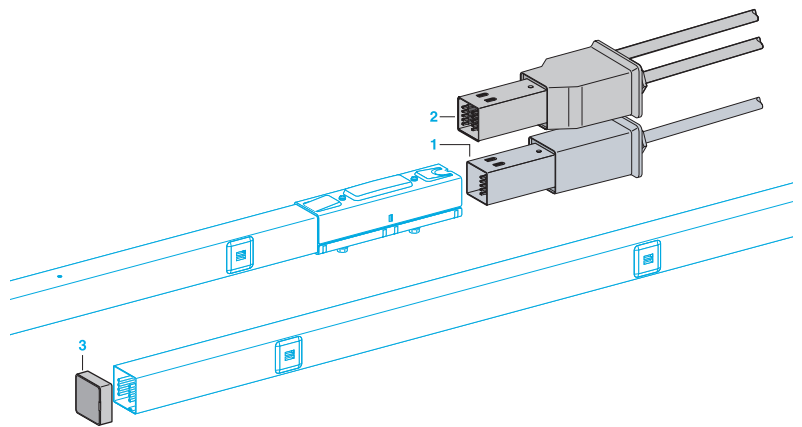
- 1 Feed unit, one circuit
- 2 Feed unit, two circuits
- 3 End cover.

Supply from left

DD205713



Supply from right



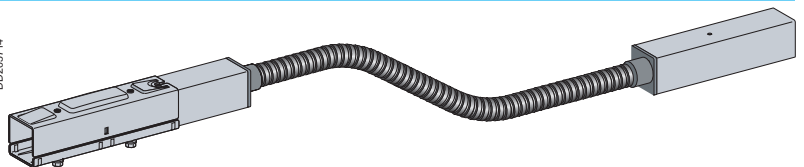
Flexible lengths

Flexible length

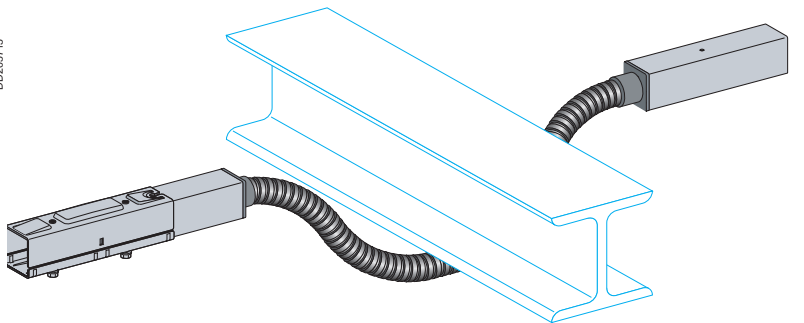
For changes in direction or levels and detours around obstacles.

It is mounted in the same way as a straight length.

DD205714



DD205715



Canalis KBB, 25 and 40 A

Busbar trunking for lighting and power socket distribution

Fixing systems

Busbar trunking

For attachment of the busbar trunking to the structure of the building, either directly or via a threaded rod, chain or steel cable.

- Designed to relieve the installer of the weight of the busbar trunking once placed in a bracket.
- Automatic locking of moving part on closing (unlocking requires a 3 mm flat screwdriver).
- The maximum recommended fixing distance is five metres.

1 Universal fixing bracket

For suspension on a threaded rod, diameter 6 mm.
For horizontal mounting on a beam, pendant, wall, etc.

2 Cable suspension system

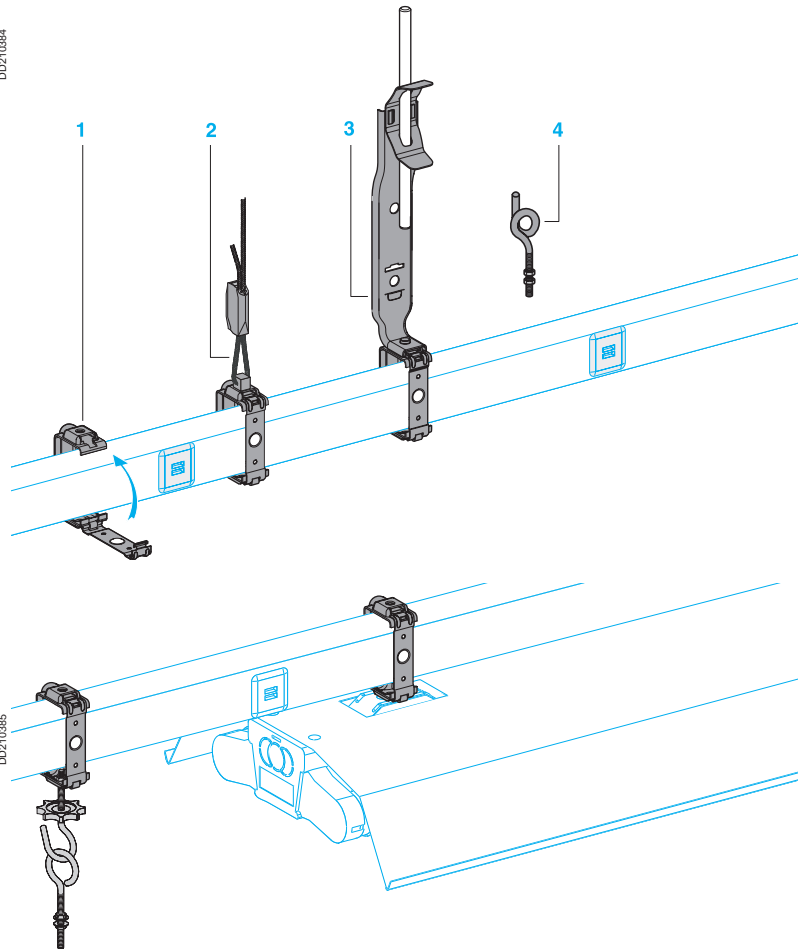
Cuts the mounting time of the fixing system to one-third of that required for threaded rods.
Enables adjustment of the height of the trunking.

3 Adjustable threaded-rod suspension system

For suspension on a threaded rod, diameter 6 mm.
A spring system locks the threaded rod in position for fast adjustment of the trunking.

4 Pigtail hook

For suspension by a chain.



Luminaires

Attached to the luminaires before mounting, these fixings ensure fast and direct fixing to Canalis KBB.

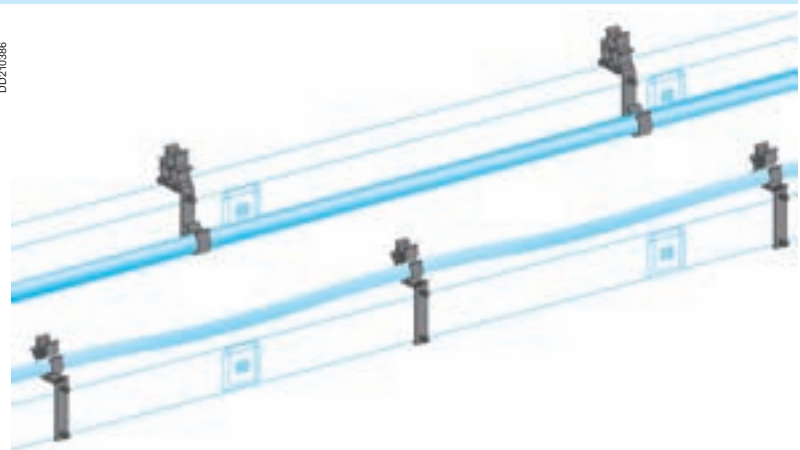
- Fixing systems with automatic locking of moving part on closing.
- To be completed according to the luminaire with suspension accessories (open hook, closed ring...)

Cable support

For running adjacent circuits such as emergency lighting, low-current circuits, etc.

Cable brackets

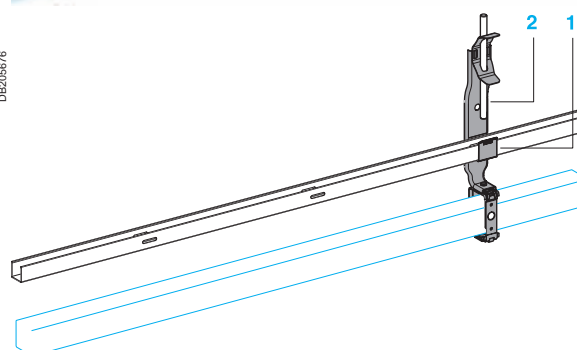
Clips to trunking for fast mounting. It is possible to run three cables (diameter 5 to 16 mm) and two IRL tubes.



Cable duct

The cable duct fits on support (1), which in turn fits onto a threaded rod suspension system (2). An intermediate support is placed between the duct and the trunking if the distance between the suspension points exceeds 2 metres.

Each duct is equipped with a mechanical joint system.

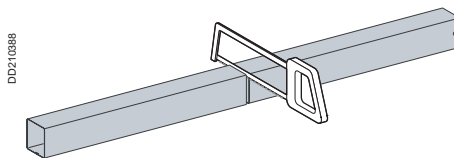


Options

Empty lengths (no electric circuit)

Used to adjust line length to building dimensions (e.g. to reach a fixing point).

Two metres long, can be cut on site.

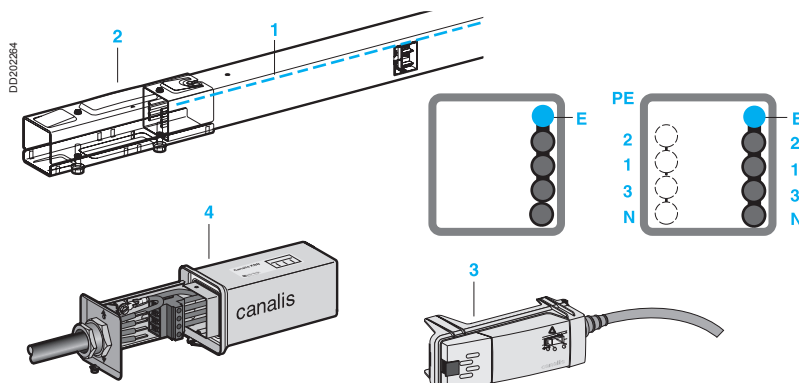


DD210388

Clean earth option (Code E)

As an option, a factory-fitted dedicated earth conductor isolated from the grounding is available. This is known as a Clean Earth and has a cross-section of 6 mm².

- 1 The clean earth is always provided on the main circuit of KBB busbar trunking, on the front panel (side with label and 3 tap-offs on KBB with 2 circuits). The ⚡ symbol, which appears at regular intervals near to the tap-off outlets, serves as a reminder of the special nature of this circuit.
- 2 The electrical jointing unit is supplied with additional clean earth contacts. Thus, installation of components fitted with option E does not require any additional assembly operation.
- 3 The receivers are connected using a standard 16 A (KBC 16DCB●● ou DCF●●).
- 4 The feed boxes are fitted with clean earth (labelled ⚡) et PE (labelled ⊕) terminals.



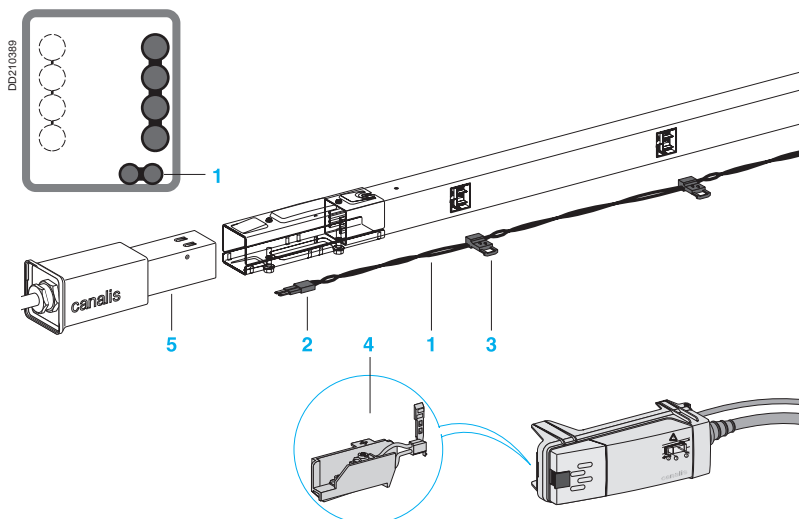
DD202264

Optional remote-control circuit (code T)

Factory mounted, an SELV remote-control circuit (U 50 V) is available for the loads supplied by the KBB trunking. The main applications are:

- remote control (rest mode or testing) of self-contained emergency lighting units,
- dimmer control,
- transmission on a building automation bus (please contact us).

The system is built in compliance with European standard EN 60439-2 and the LV and EMC directives.



DD210389

Electrical characteristics of the remote-control circuit

Composition	Twisted pair, unshielded (10 twists/m)	
Cross-section and type of conductor	mm ²	2 x 0.75 copper
Rated insulation voltage U _i (between power circuit and bus)	V	500
Rated operational voltage U _e (max. U between bus + and - poles)	V	50
Maximum operational current I _e	A	2
Linear resistance	mΩ/m	52
Linear capacitance	pF/m	30

- 1 The remote-control circuit is factory mounted next to the main circuit in the trunking (in front for two-circuit trunking).
- 2 Electrical jointing unit equipped with additional bus contacts. Installation of components fitted with option T requires no additional assembly operations.
- 3 Each tap-off outlet is equipped with dual output contacts to tap-off the remote-control circuit to the receiver.
- 4 Connection of the remote-control receiver using a KBC-16DCB or DCF tap-off unit equipped with a KBC 16ZT1 contact-block accessory.
- 5 Feed units equipped with an additional bus terminal block.

Description

IP55

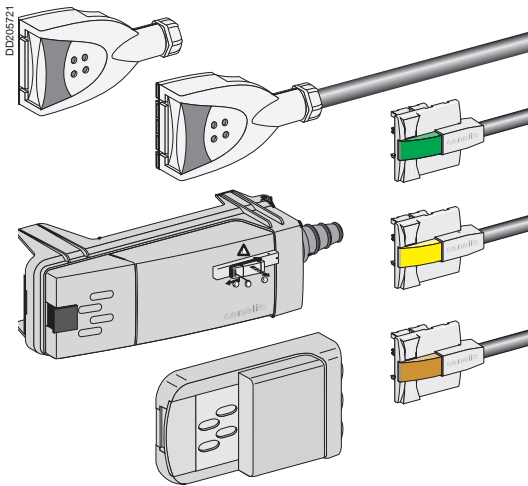
U_e = 230...400 V

Canalis KDP, KBA and KBB

Busbar trunking for lighting and

power socket distribution

Tap-off units

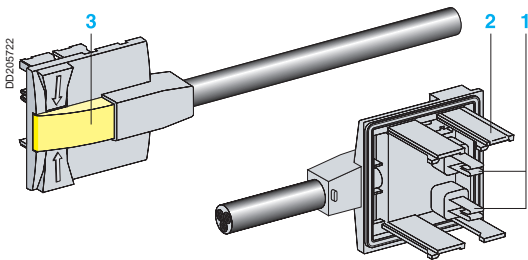


Tap-off units (general)

For instantaneous connection of luminaires to KDP busbar trunking:

- they can be handled while energised and under live conditions,
- the contacts for live conductors are of the clamp type,
- PE connection occurs before that of the phases and neutral,
- phase-selection system (clip-in contact studs) for balancing of 3-phase distribution systems,
- selection is visible via a transparent window,
- a coloured lock holds them in the tap-off outlet,
- all the insulating and plastic materials have a high fire-retardant capacity:
 - incandescent-wire test in compliance with IEC 60695-2-1:
 - 960 °C for components in contact with live parts,
 - 650 °C for other components.

All the insulators and plastic components are **halogen free**.



Pre-wired 10 A tap-off unit with fixed polarity

Pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 0.80 m long, pre-stripped on luminaire end:

- 10 A rating,
- fixed L + N + PE polarity,
- the various models make it possible to balance 3-phase distribution systems.

The colour of the lock and the casing enable remote identification of the polarity.

- 1 Live-conductor contacts.
- 2 Protective-conductor contact.
- 3 Lock.

Two-pole 10 A tap-off unit with phase selection

- The two contact studs are movable and can be used to set up both L + N + PE and 2L + PE distribution.
- Supplied complete with a cable gland.

10 A KBC-10DCB20 tap-off unit, 2-pole + PE, to be wired

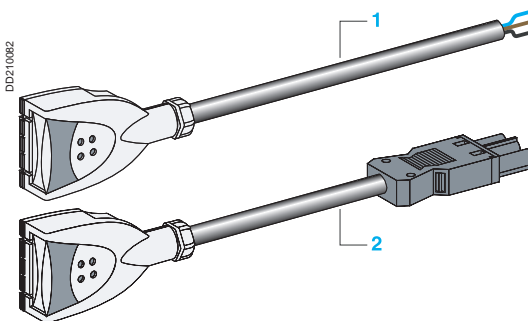
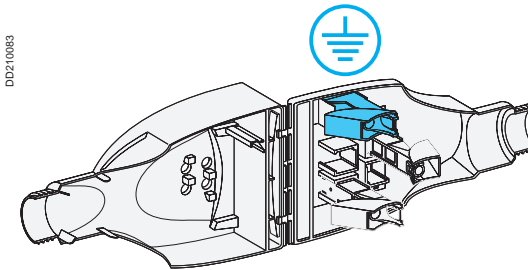
- To be wired for connection of luminaires using a cable of specific type, size or length.
- Fast connection for 3 x 0.75 to 1.5 mm² cable. If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).

10 A KBC tap-off unit, 2-pole + PE, pre-wired

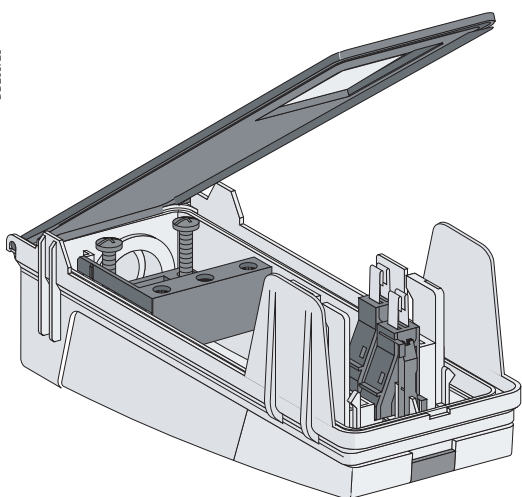
Two pre-wired versions are available:

- 1 pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long, pre-stripped on luminaire end,
- 2 for KDP, pre-wired with SO5Z1Z1-F 3 x 1.5 mm² cable, 1 m long and equipped with a female GST18i3 connector on the luminaire end (see prefabricated leads). In this case, the lead is IP40.

If prefabricated leads are used, the line must have 16 A protection (see possibilities of dispensing with protection in the simplified design guide for lighting distribution, in the section on protection against overloads).



DD205723



16 A KBC 16DCB/DCF21 tap-off unit with phase selection

For connection of luminaires using a cable of specific type, size and length.

- Two-pole: L + N + PE (1 mobile stud, fixed neutral) or 2L + PE (2 mobile studs).
- Installation is facilitated by the side guides.
- Supplied with a cable bushing. Terminal connections for 0.75 to 1.5 mm² cable.

KBC 16DCB tap-off unit with terminals, direct connection (no protection)

For direct connection (no protection) of luminaires using a specific cable.

Can be equipped with the accessory to tap-off the remote-control circuit to the luminaires.

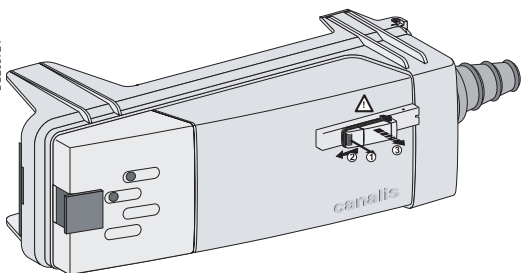
KBC 16DCF tap-off unit, with fuses

For protection of each luminaire.

Fuse carrier on the phase (1 or 2 carriers depending on the model).

For cylindrical fuse NF 8.5 x 31.5 (not supplied), 16 A gG maximum, breaking capacity 20 kA.

DD205724

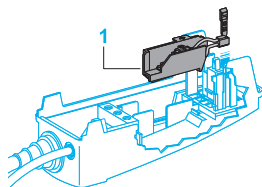


16 A L + N + PE tap-off unit with preselected polarity KBC 16DCB/DCF●●6

For tap-off and individual protection of luminaires assigned to two independent circuits of 4-conductor KBB trunking.

Identical in design to the tap-off units on the opposite page, but with factory-set polarity.

DD205725



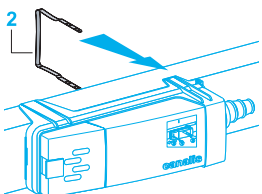
Accessories

Specific to KBC 16DCF tap-off units

1 Additional remote-control contact block

- For tap-off of the remote-control circuit to the luminaire (KBA and KBB lines with T option).
- Clips onto KBC 16DCB or CF (except KBC 16DCF22) tap-off units.
- Terminals for data cable, max. size 2 X 0.75 mm².
- Supplied with cable bushing.

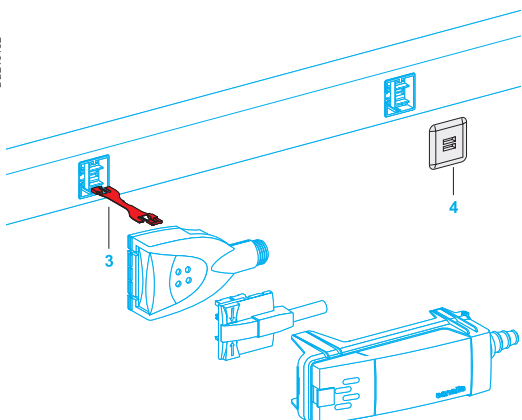
DD205726



2 Rear support bracket

Additional fixing of KBC 16 tap-off units using the rear support bracket may be necessary, notably if there is a risk of accidental pulling on the cable or if the cable is very heavy (great length).

DD210192



Other accessories

3 Interlocking device

For all 10 A and 16 A tap-off units.

A set of three interlocking devices in different colours can be used to mechanically lock out tap-off units when two or three different distribution networks are present (load, voltage, frequency, etc.).

- An interlocking device is made up of a handle and an interlocking device on each end. It can be used for a tap-off outlet and the corresponding tap-off unit.
- Labels can be placed on the tap-off units and the trunking for remote identification.

4 Outlet blanking plate

Spare part intended to restore IP55 on a tap-off outlet following removal of the tap-off unit (if original blanking plate is lost).

Catalogue numbers Dimensions

IP55

U_e = 230...400 V

Galvanised or RAL 9010 white



Canalis KBB, 25 and 40 A, 1 circuit

Busbar trunking for lighting and power socket distribution

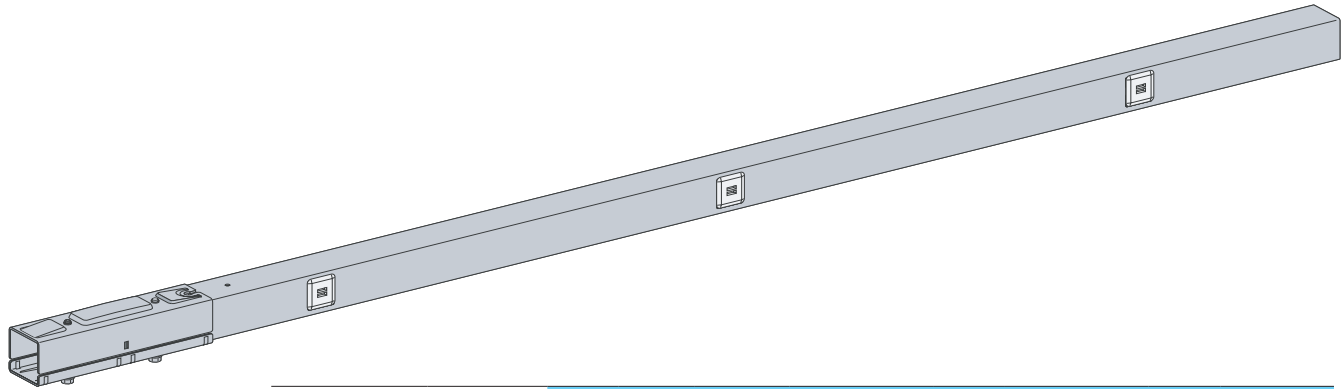
Optional remote-control circuit (code T)

Optional white-lacquered metal enclosure (code W)

Optional isolated earth (code E)

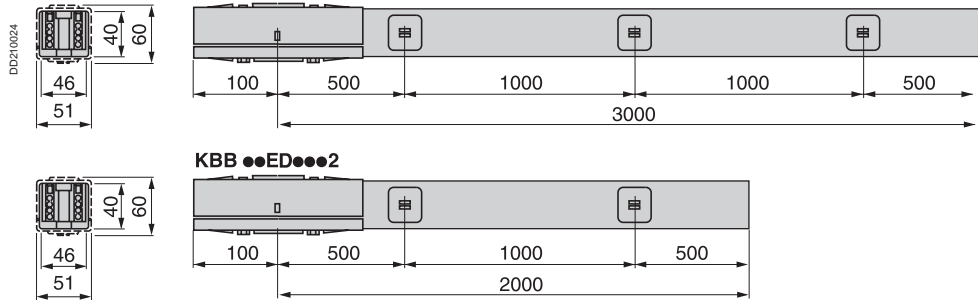
Straight lengths, one circuit

DD210088



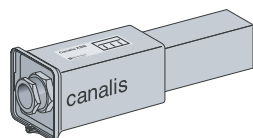
KBB ●●ED●●●●

Type of busbar trunking	Length (m)	Number of tap-offs	Order in multiples of ⁽²⁾	25 A rating Cat. no.	Weight (kg)	40 A rating Cat. no.	Weight (kg)	Option ⁽¹⁾
								T W E
Standard straight length L + N + PE	3	0	6	KBB 25ED2300	2.400	KBB 40ED2300	2.700	- - -
		3	6	KBB 25ED2303	2.400	KBB 40ED2303	2.700	■ ■ ■
	2	2	6	KBB 40ED2202	1.700	KBB 40ED2202	1.700	■ ■ ■
Standard straight length 3L + N + PE	3	0	6	KBB 25ED4300	2.600	KBB 40ED4300	3.100	- - -
		3	6	KBB 25ED4303	2.600	KBB 40ED4303	3.100	■ ■ ■
	2	2	6	KBB 40ED4202	1.900	KBB 40ED4202	1.900	■ ■ ■
Empty length	2	0	6	KBB 40EDA20	1.600	KBB 40EDA20	1.600	- ■ -



Feed units (supplied with end cover)

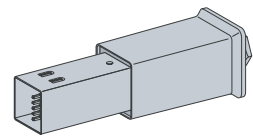
DD210070



Designation	Mounting	Cable connection		Cat. no.	Weight (kg)	Option ⁽¹⁾		
		Terminals (mm ²)	Cable gland Ø maxi (mm)			T	W	E
Feed unit	Left	10	PG 21, Ø 19	KBB 40ABG4	0.400	■	■	■
	Right	10	PG 21, Ø 19	KBB 40ABD4	0.500	■	■	■
Additional jointing unit				KBB 40ZJ4 ⁽³⁾	0.640	-	-	-

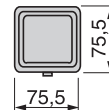
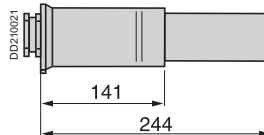
KBB 40ABG4

DD210069

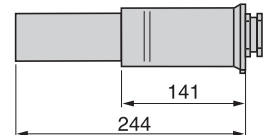


KBB 40ABD4

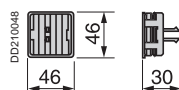
KBB 40ABG4



KBB 40ABD4



End cover



The end cover KBB is a spare part of the after-sales service ref **KBB 40AF**

(1) ■ Options T and W may be combined. Add T, W or TW to the cat. no.

Example: **KBB 40AA4TW**.

■ Option E may not be combined with options T and W. Add E to the cat. no.

Example: **KBB 40AA4E**.

(2) Quantity may not be split.

(3) For T W E options, take ref. **KBB 40ZJ44**.



Canalis KBB, 25 and 40 A, 2 circuits

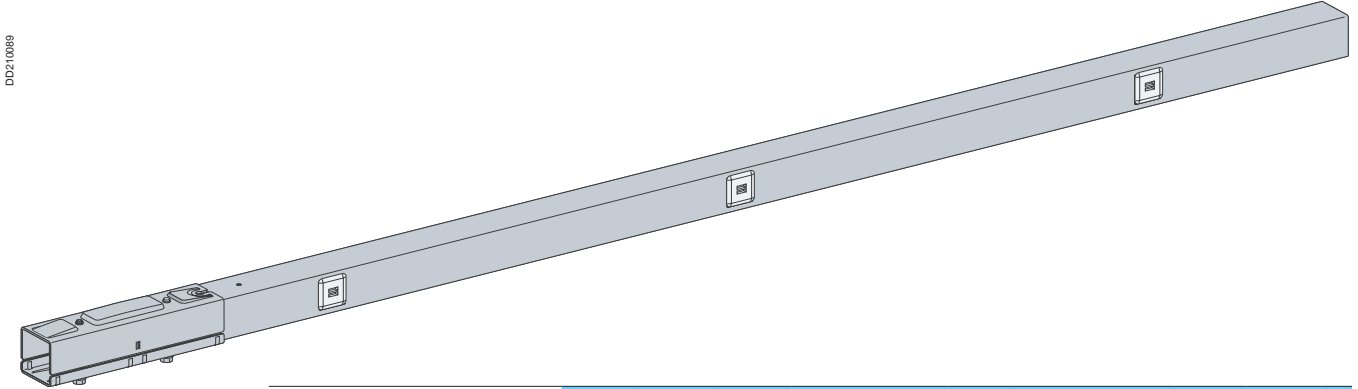
Busbar trunking for lighting and power socket distribution

Optional remote-control circuit (code T)

Optional white-lacquered metal enclosure (code W)

Optional isolated earth (code E)

Straight lengths, two circuits

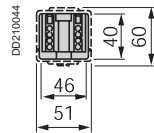


DD210089

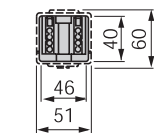
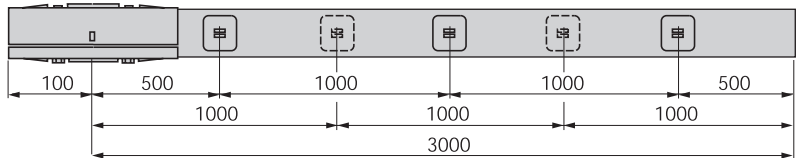
Canalis
KBB

KBB ●●ED●●●●●

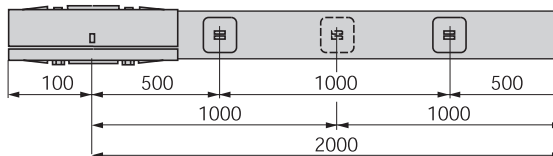
Type of busbar trunking	Length (m)	Number of tap-offs	Order in multiples of ⁽³⁾	25 A rating Cat. no.	Weight (kg)	40 A rating Cat. no.	Weight (kg)	Option ⁽¹⁾	T	W	E
Standard straight length	DD210108	3	0	6	KBB 25ED22300	4,600	KBB 40ED22300	5,200	-	-	-
			3+2	6	KBB 25ED22305	4,600	KBB 40ED22305	5,200	■	■	■
		2	2+1	6	KBB 40ED22203	3,600	KBB 40ED22203	3,600	■	■	■
	DD210107	3	0	6	KBB 25ED42300	4,700	KBB 40ED42300	5,700	-	-	-
			3+2	6	KBB 25ED42305	4,700	KBB 40ED42305	5,700	-	■	-
		2	2+1	6	KBB 40ED42203	3,800	KBB 40ED42203	3,800	■	■	■
DD210109	3	0	6	KBB 25ED44300	4,800	KBB 40ED44300	6,100	-	-	-	
		3+2	6	KBB 25ED44305	4,800	KBB 40ED44305	6,100	■	■	■	
	2	2+1	6	KBB 40ED44203	3,800	KBB 40ED44203	3,800	■	■	■	
Empty length	2	0	6	KBB 40EDA20	1,600	KBB 40EDA20	1,600	-	■	-	



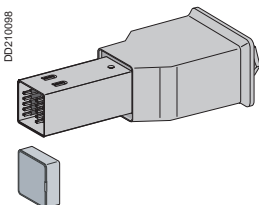
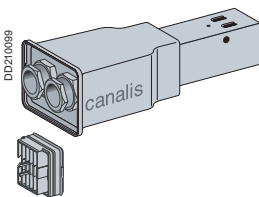
KBB ●●ED●●305



KBB 40ED●●203



Feed units (supplied with end cover)

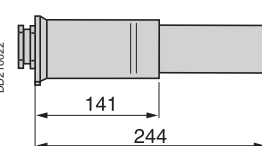


KBB 40ABG44

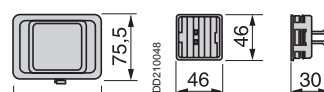
KBB 40ABD44●

Designation	Mounting	Cable connection		Options	Cat. no.	Weight (kg)	Option ^(1,2)		
		Terminals (mm ²)	Cable gland Ø maxi (mm)				T	W	E
Feed unit	Left / right	6 to 10	PG 21, Ø 19	All	KBB 40ABG44	0.400	■	■	■
	Right	6 to 10	PG 21, Ø 19	E	KBB 40ABD44E	0.500	-	-	□
Additional jointing unit				T	KBB 40ABD44T	0.500	□	■	-
					KBB 40ZJ44	0.640	■	■	■

KBB 40●● 44●



End cover



The end cover KBB is a spare part of the after-sales service ref KBB 40AF

(1) ■ Options T and W may be combined. Add T, W or TW to the cat. no.

Example: KBB 40ABG44TW.

■ Option E may not be combined with options T and W. Add E to the cat. no.

Example: KBB 40ABG44E.

(2) □ Cat. no. for which the option is automatically included.

(3) Quantity may not be split.

Catalogue numbers

Dimensions

IP55

U_e = 230...400 V

Galvanised or RAL 9010 white



Canalis KBB, 25 and 40 A

Busbar trunking for lighting and power socket distribution

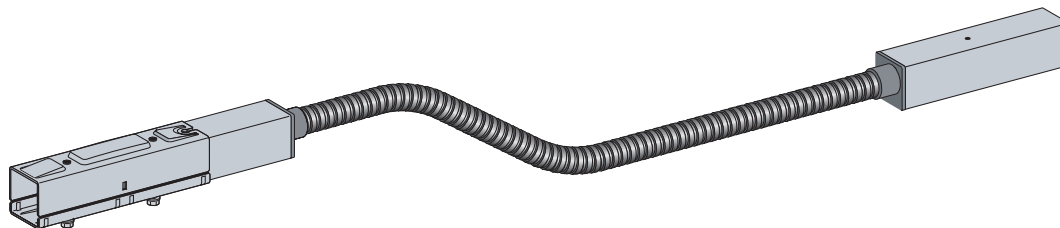
Optional remote-control circuit (code T)

Optional white-lacquered metal enclosure (code W)

Optional isolated earth (code E)

Flexible lengths

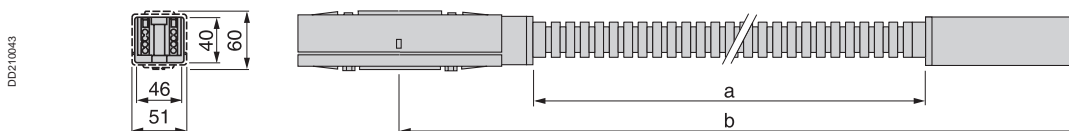
DD210102



KBB 40DF4●●●

Designation	Mounting	For trunking	Length (m)	Cat. no.	Weight (kg)	Option ⁽¹⁾		
						T	W	E
Flexible lengths	For elbows, changing levels, detours around obstacles, etc.		0.5	KBB 40DF405	0.800	■	■	■
			2	KBB 40DF420	1.900	■	■	■
			0.5	KBB 40DF4405	0.800	■	■	■
			2	KBB 40DF4420	1.900	■	■	■

KBB 40DF4●●●



DD210043

Length (mm)	KBB 40DF4●●5	KBB 40DF4●●0
a	153	1653
b	500	2000

(1) ■ Options T and W may be combined. Add T, W or TW to the cat. no.

Example: KBB 40AA4TW.

■ Option E may not be combined with options T and W. Add E to the cat. no.

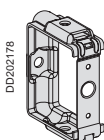
Example: KBB 40AA4E.

Fixing systems

Busbar-trunking fixings

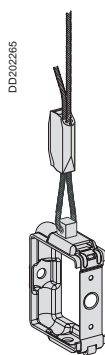
Designation	Mounting	Maximum load (kg)	Order in multiples of	Cat. no.	Weight (kg)
Universal fixing bracket ⁽¹⁾	Suspended on threaded rod or lateral (except wall)	60	10	KBB 40ZFU	0.050
Cable suspension system	Universal fixing bracket and steel cable, 3 m long	60	10	KBB 40ZFSU	0.105
	Cable alone, 3 m long	60	10	KBB 40ZFS23	0.070
Spring fixing bracket ⁽²⁾	Adjustable suspension for threaded rod, Ø M6	50	10	KBB 40ZFPU	0.160
Pigtail hook	For suspension by a chain	60	10	KBB 40ZFC	0.020
Raiser	For mounting on wall or false floor	60	10	KBB 40ZFMP	0.040

(1) W option available. (2) Maximum recommended distance between fixings: 5 meters.



DD202178

KBB 40ZFU



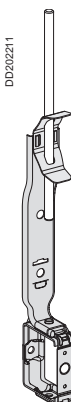
DD202285

KBB 40ZFSU



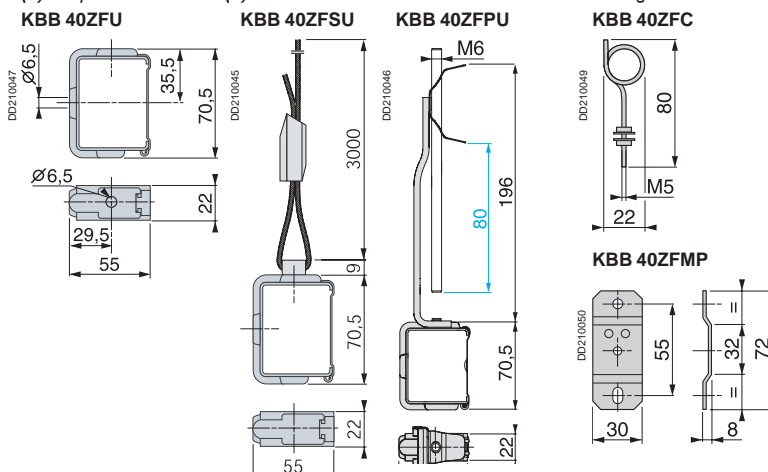
DD210110

KBB 40ZFC



DD210211

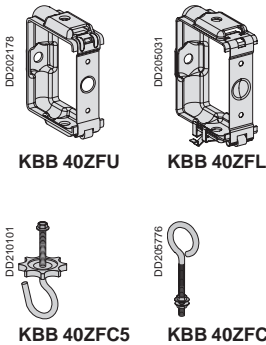
KBB 40ZFPU





Optional white-lacquered metal enclosure (code W)

Fixing system (cont.)

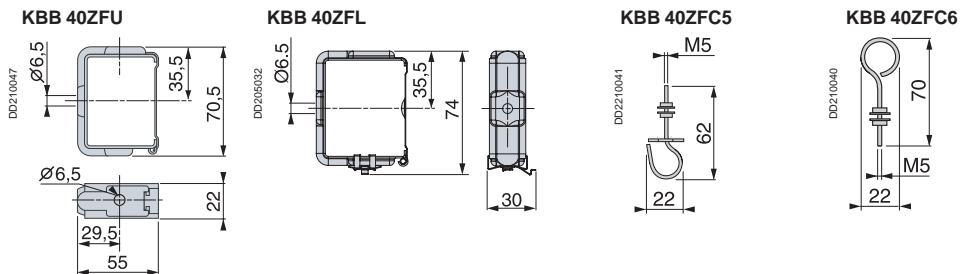


Luminaire fixings

Designation	Mounting	Maximum load (kg)	Order in multiples of	Cat. no.	Weight (kg)
Fixing bracket for KBL luminaire onto KBB	For direct suspension of luminaires KBL IP 20 on KBB	45	12	KBB 40ZFL	0.055
Universal fixing bracket⁽¹⁾	For direct suspension under trunking	60	10	KBB 40ZFU	0.050
Open hook	To suspend the luminaire	45	10	KBB 40ZFC5	0.050
Ring	Mounted on the luminaire	45	10	KBB 40ZFC6	0.050

(1) ■ Option: Add **W** to cat. no. Example **KBB 40ZFU**.

(2) ■ For suspension of luminaire KBL IP55 on KBB, please order two universal brackets **KBB 40ZFU** to be screwed on anchoring clips, instead of the two brackets delivered in kit form, with the luminaire.



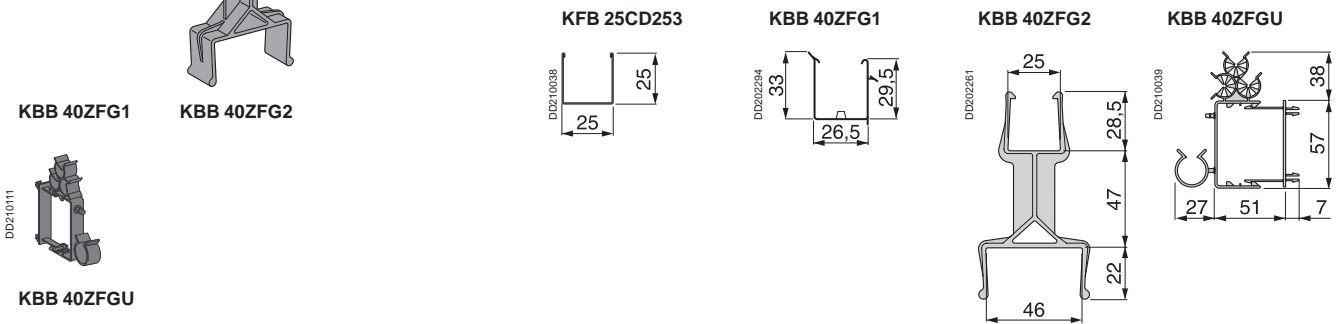
Accessories

Cable duct, support

Designation	Function	Order in multiples of	Cat. no.	Weight (kg)
Cable duct	Width 25 mm, length 3 m	6	KFB 25CD253	1.115
Cable brackets	Cable duct support to be mounted on a spring fixing bracket ⁽¹⁾	10	KBB 40ZFG1	0.100
	Cable duct support + intermediate support ⁽²⁾	10	KBB 40ZFG2	0.200
	For adjacent circuits	20	KBB 40ZFGU	0.005

(1) Maxium recommended distance between fixings: 2 meters.

(2) Maxium recommended distance between fixings: 3 meters.



Other accessories

Designation	Function	Colour	Order in multiples of	Cat. no.	Weight (kg)
Outlet/tap-off unit interlocking device (2 parts)	Identification and mechanical interlocking between 1 to 3 different circuits	Blue	20	KBC 16ZL10	0.002
		White	20	KBC 16ZL20	0.002
		Red	20	KBC 16ZL30	0.002
Blanking plate	Restore IP55 on tap-off outlet if original blanking plate is lost		10	KBC 16ZB1	0.005
Cutting pliers	To cut steel cable used for cable suspension system		1	KBB 40ZFS	0.300

KBB and VDI supports

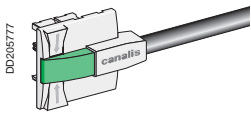
See KBA and VDI supports for catalogue numbers and dimensions page (97).



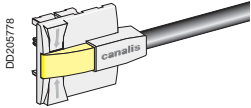
Canalis KDP, KBA and KBB tap-off units

For lighting and power socket distribution

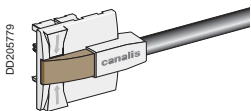
10 A tap-off unit, direct connection



KBC 10DCS101



KBC 10DCS201



KBC 10DCS301

Type of busbar trunking



Single-circuit switching

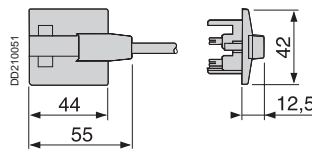


Balancing on 3 phases or 3-circuit switching

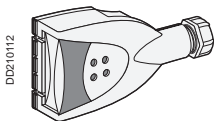
10 A tap-off unit, L + N + PE, with fixed polarity, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 0.8 m long

Polarity	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
L1 + N	Green	10	KBC 10DCS101	0.100
L2 + N	Yellow	10	KBC 10DCS201	0.100
L3 + N	Brown	10	KBC 10DCS301	0.100

KBC 10CS●01



10 A tap-off unit, L + L + PE or L + N + PE, with phase selection

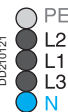


KBC 10DCB20

Type of busbar trunking

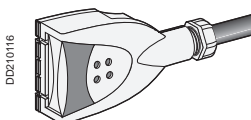


All types possible



Polarity	Order in multiples of	Cat. no.	Weight (kg)
L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3	10	KBC 10DCB20	0.065

10 A tap-off unit, L + L + PE or L + N + PE, with phase selection, pre-wired SO5Z1Z1-F 3 x 1.5 mm², 1 m long



KBC 10DCC21●

Type of busbar trunking

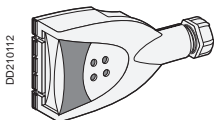


All types possible



Polarity	Pre-equipped with female GST18i3 connector	Order in multiples of	Cat. no.	Weight (kg)
L1 + N or L2 + N or L3 + N L1 + L2 or L1 + L3 or L2 + L3 L2 + N2 or L3 + N3	No	10	KBC 10DCC211	0.165
	Yes ⁽¹⁾	10	KBC 10DCC21Z	0.165

10 A tap-off unit, 3L + N + PE



KBC 10DCB40

Type of busbar trunking

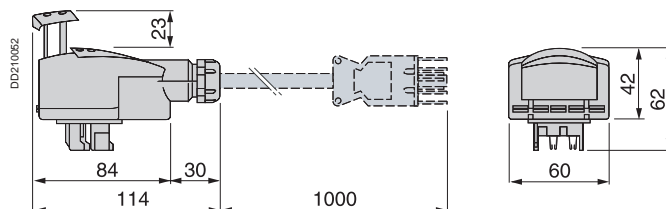


All types possible



Polarity	Order in multiples of	Cat. no.	Weight (kg)
To be defined for each application (dimmer, emergency lighting, etc.)	10	KBC 10DCB40	0.065

KBC 10DCB20, KBC 10DCC21●, KBC 10DCB40

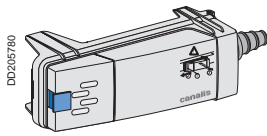


(1) For IP, see KDP, KBA and KBB Tap-off units description 120.

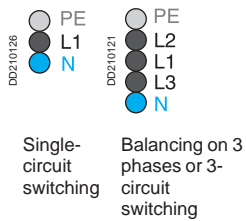


16 A single-phase tap-off unit, with or without fuses

16 A tap-off unit, L + N + PE, with phase selection

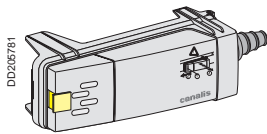


KBC 16DCB2●

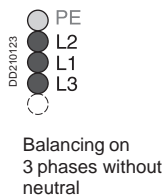


Type of busbar trunking	Polarity	Protection	Scheme	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
	L1 + N or L2 + N or L3 + N	None	DD210151	Blue	10	KBC 16DCB21	0.090
		Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)	DD210153	Blue	10	KBC 16DCF21	0.090

16 A tap-off unit, L + L + PE, with phase selection

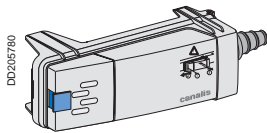


KBC 16DC●22



Type of busbar trunking	Polarity	Protection	Scheme	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
	L1 + L2 or L1 + L3 or L2 + L3	None	DD210145	Yellow	10	KBC 16DCB22	0.090
		Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)	DD210146	Yellow	10	KBC 16DCF22	0.090

16 A tap-off unit, L + N + PE, with preselected polarity

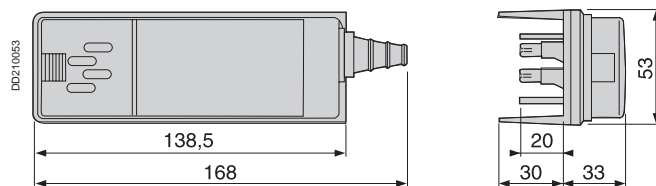


KBC 16DC●2●●6



Type of busbar trunking	Polarity	Protection	Scheme	Colour of lock	Order in multiples of	Cat. no.	Weight (kg)
	L2 + N2	None	DD210147	Blue	10	KBC 16DCB226	0.090
		Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)	DD210148	Blue	10	KBC 16DCF226	0.090
	L3 + N3	None	DD210149	Blue	10	KBC 16DCB216	0.090
		Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)	DD210150	Blue	10	KBC 16DCF216	0.090

KBC 16DCB2●●, KBC 16DCF2●●



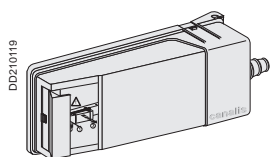


Canalis KDP, KBA and KBB tap-off units

For lighting and power socket distribution

16 A three-phase tap-off unit, with or without fuses

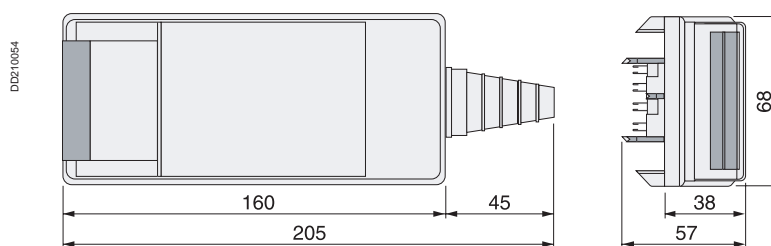
16 A tap-off unit, 3L + N + PE



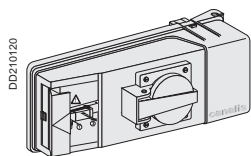
KBC 16DC40

Type of busbar trunking	Polarity	Protection	Scheme	Cat. no.	Weight (kg)
DD210119 DD210121 All types possible	3L + N	None		KBC 16DCB40	0.090
		Cylindrical fuse NF 8.5 x 31.5 15 A gG maximum (not supplied)		KBC 16DCF40	0.090

KBC 16DC40



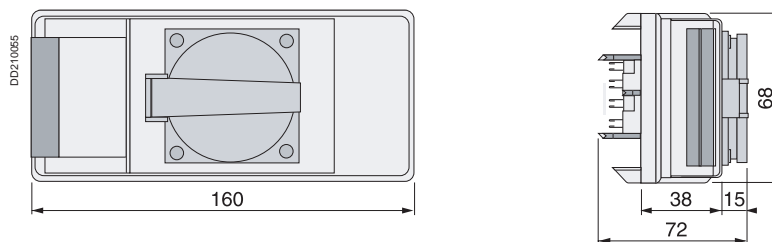
16 A tap-off unit, 3L + N + PE, with power socket



KBC 16DCP

Type of busbar trunking	Polarity	Type of power socket	Protection	Scheme	Cat. no.	Weight (kg)
DD210120 DD210121	3L + N	NF 2P + E 10/16 A, 250 V	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)		KBC 16DCP1	0.090
		VDE 2P + E 10/16 A, 250 V	Cylindrical fuse NF 8.5 x 31.5 16 A gG maximum (not supplied)		KBC 16DCP2	0.090

KBC 16DCP



10 A single-phase tap-off unit for lighting control

For KDP description, see page 66. For KDP catalogue numbers and dimensions, see page 72.

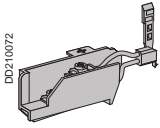
IP55
U_e = 230...400 V



Canalis KBA and KBB tap-off units

For lighting and power socket distribution

Accessories for KBA and KBB tap-off units



KBC 16ZT1



KBC 16ZC1

Designation	Function	Order in multiples of	Cat. no.	Weight (kg)
Bus connection device	For 16 A single-phase or three-phase tap-off units to tap off the remote control circuit of the trunking to the remote receiver	10	KBC 16ZT1	0.010
Rear support bracket	For securing 16 A single-phase tap-off units to the trunking	10	KBC 16ZC1	0.020

Installation

IP55

Ue = 230...400 V

Galvanised or RAL 9010 white

Canalis KBB, 25 and 40 A

Busbar trunking for lighting and power socket distribution

Installation scenario

Installation of a line

Unload and carry the products inside to an area where no work is going on.

Do not store the busbar trunking outdoors.

Take care not to knock or drag the busbar trunking on the ground. That could damage the ends and render connections impossible.



Unpack and layout on the floor the trunking components required to mount the first line.

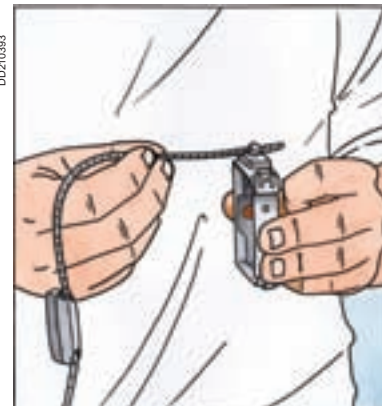
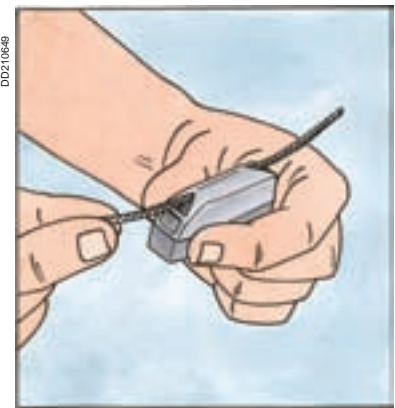
Check the position of the feed unit.
It must be as close as possible to the switchboard.



Preparation of fixings

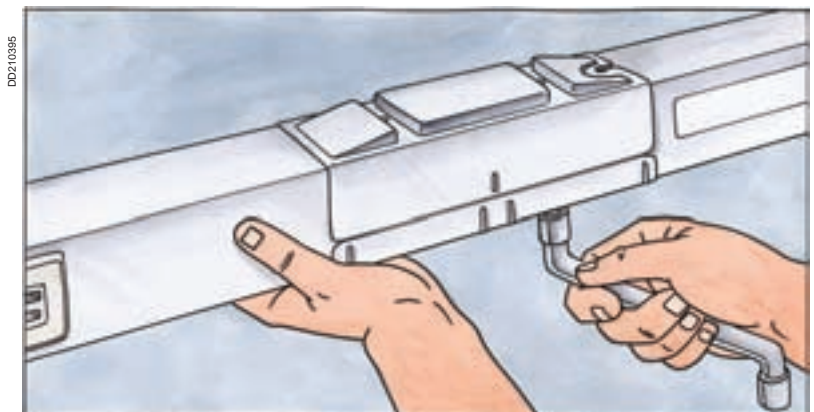
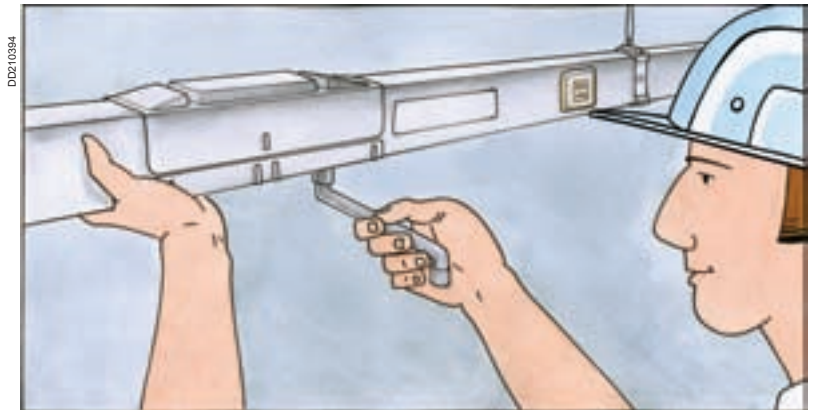
Install the suspension cable around the I-beam and mount the adjustment fixture on the KBB bracket.

In this catalogue, you will find a number of fixings suited to different building structures. You will also find a range of accessories to support all the cables associated with your installation.



Preparation of a line segment on the floor

Assemble two or three lengths (clip together) and lock with the joint screw.

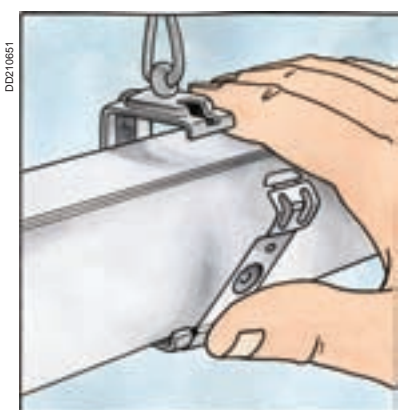
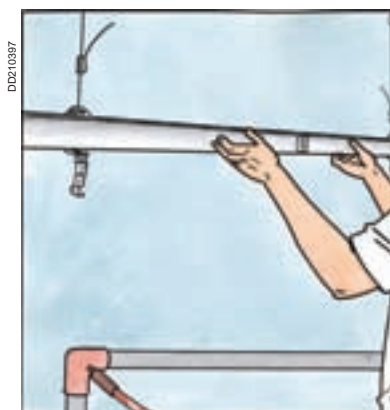


Lift and position the line segment in the fixing brackets.

They are designed to immediately relieve the installer of the weight. The busbar trunking is held in place as soon as the KBB lengths are positioned in the brackets.

The brackets lock when clipped closed.

To unlock the brackets, use 3 mm flat screwdriver.



Installation

IP55

Ue = 230...400 V

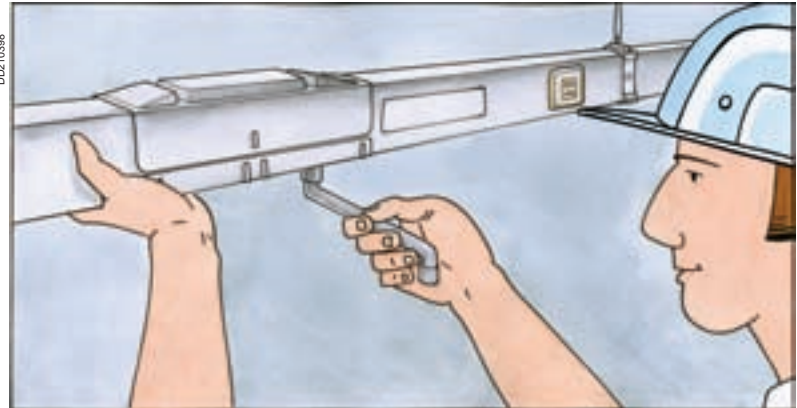
Galvanised or RAL 9010 white

Canalis KBB, 25 and 40 A

Busbar trunking for lighting and power socket distribution

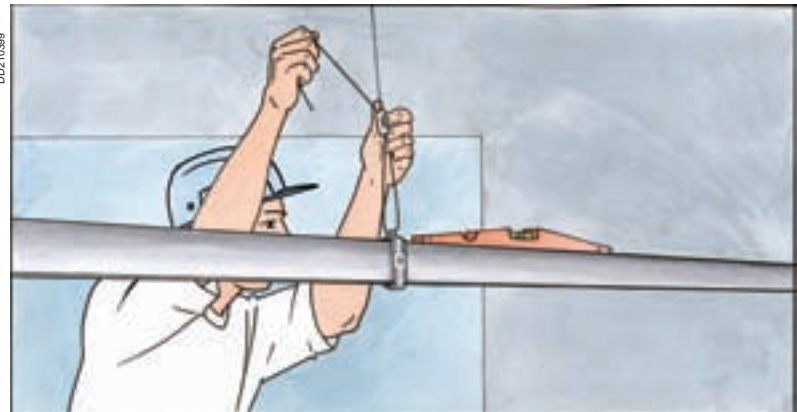
Installation scenario

The following segments can be mounted effortlessly, due to the ease of assembling the mechanical and electrical connections.



Adjusting the level of the KBB line

The suspension system using a steel cable makes for easy and fast adjustments.



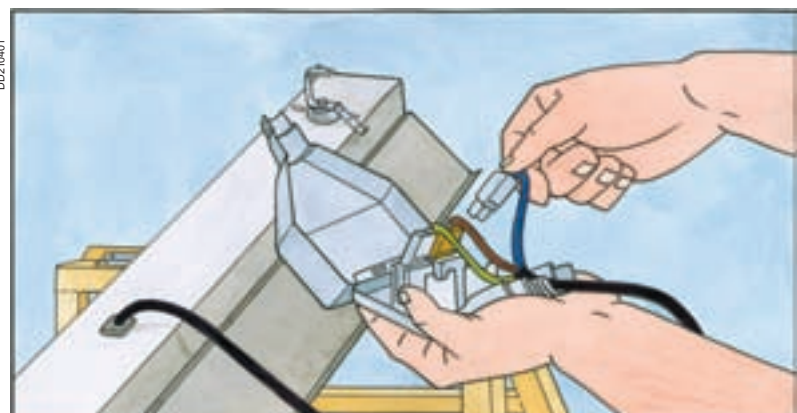
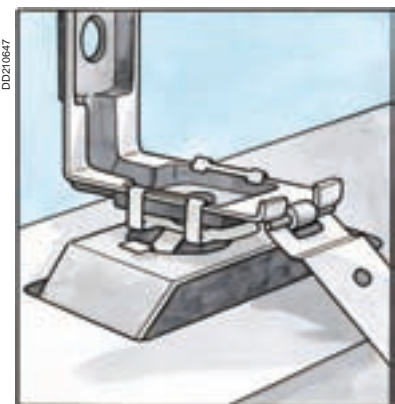
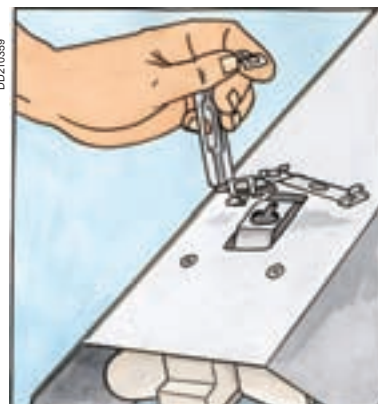
Tap-off connections

Prepare the luminaires

Connection of the tap-off units to the luminaires, phase selection and mounting of the fixings **are carried out on the ground.**

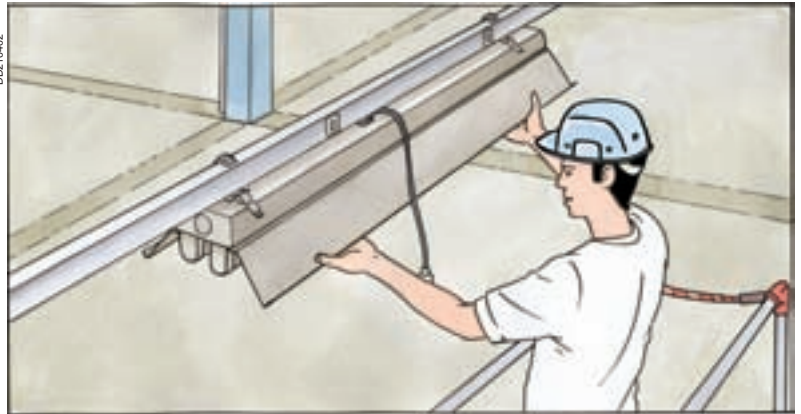
These operations can also be carried out in the workshop, before delivery to the site.

In this catalogue, you will find ready-to-use luminaires. They are supplied prewired, equipped with a tap-off unit with phase-selection.



Mounting the luminaires on the trunking

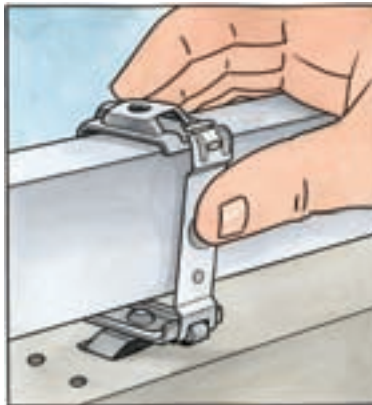
Once again, the fixing brackets are designed to immediately relieve the installer of the weight. The luminaire is held in place as soon as the bracket is placed on the trunking.



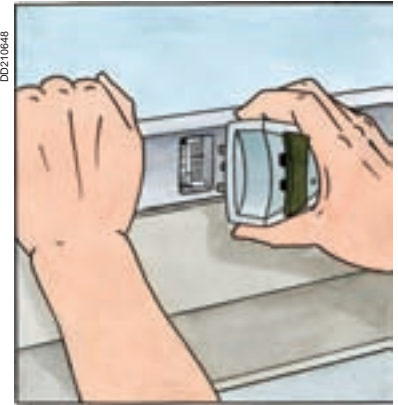
DD210402

The brackets lock when clipped closed.

Connect the tap-off unit to the trunking



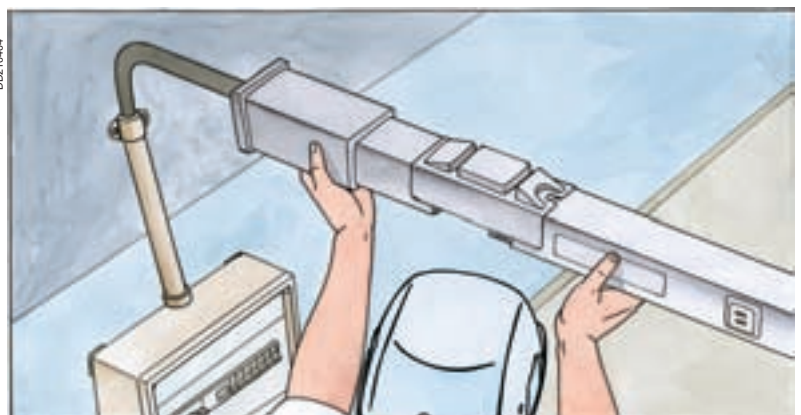
DD210403



DD210648

Connect the feed unit and energise

Last installation step.
Connect the supply cable to the Canalis KBB feed unit, then to the switchboard.



DD210404

Energise the system to check operation.



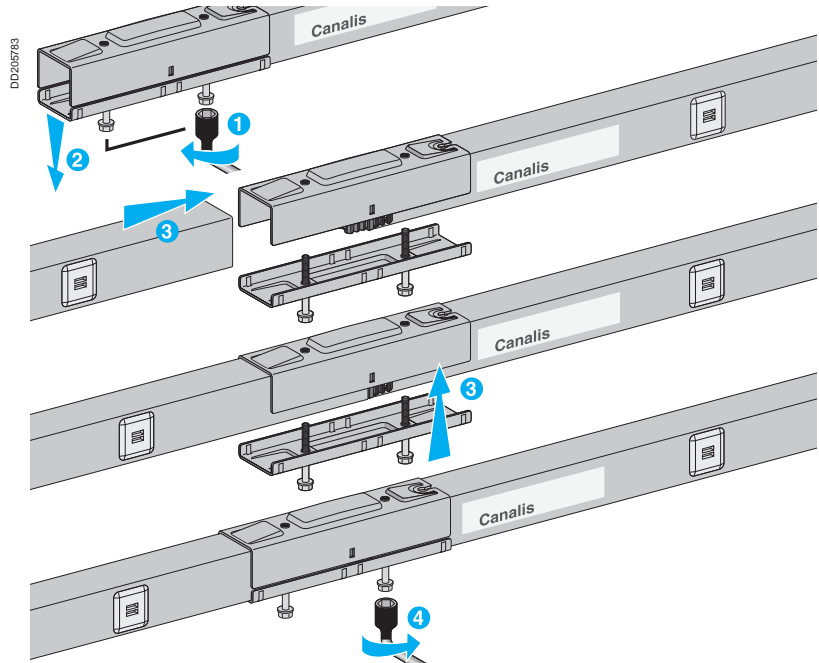
DD210405

Canalis KBB, 25 and 40 A

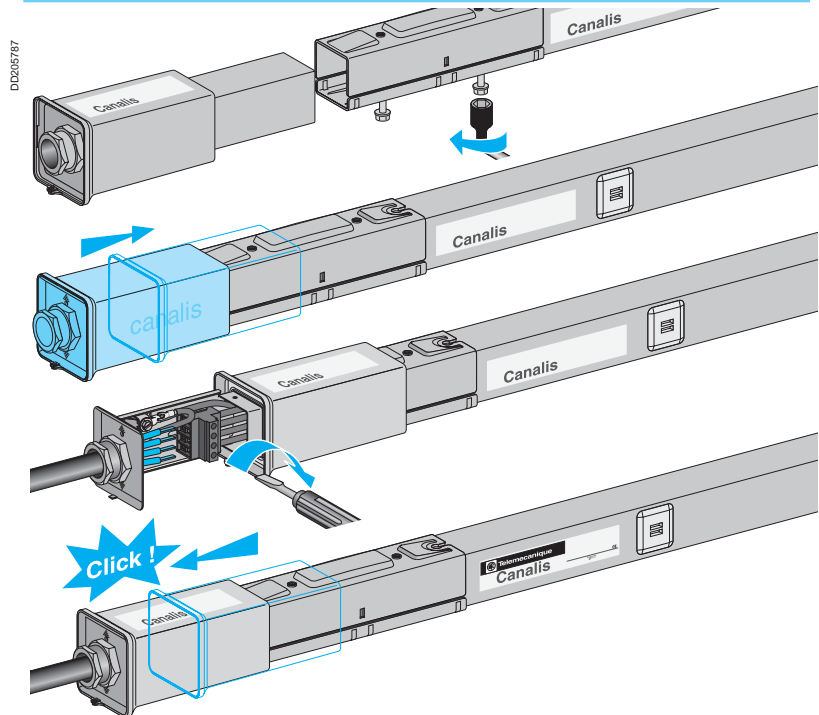
Busbar trunking for lighting and power socket distribution

Assembly of trunking components

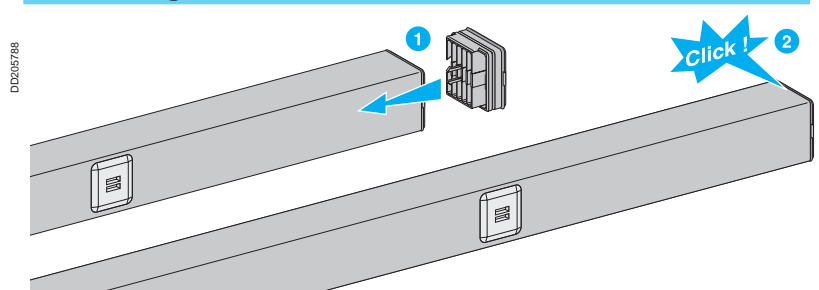
Assembling the straight lengths



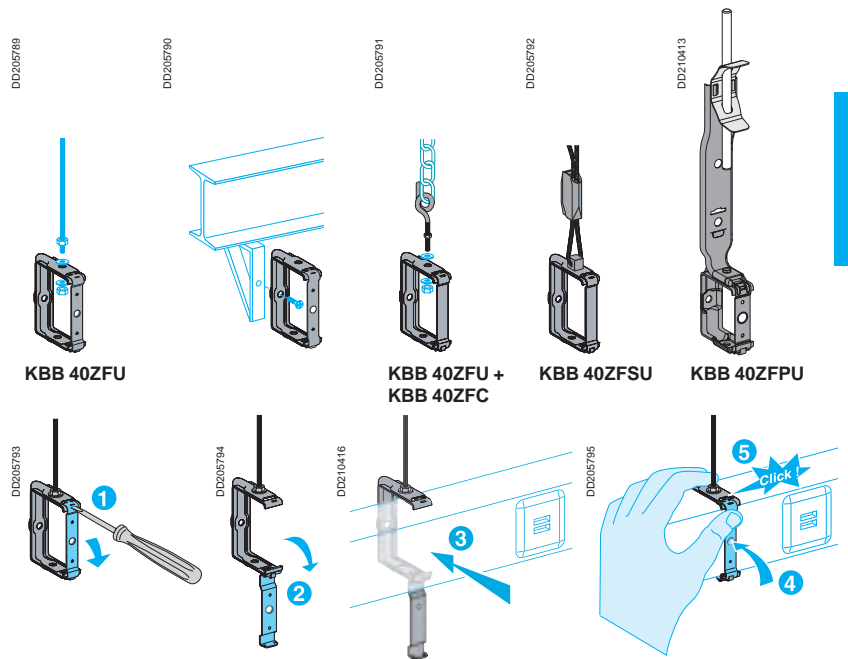
Connecting the feed-unit



Assembling the end cover

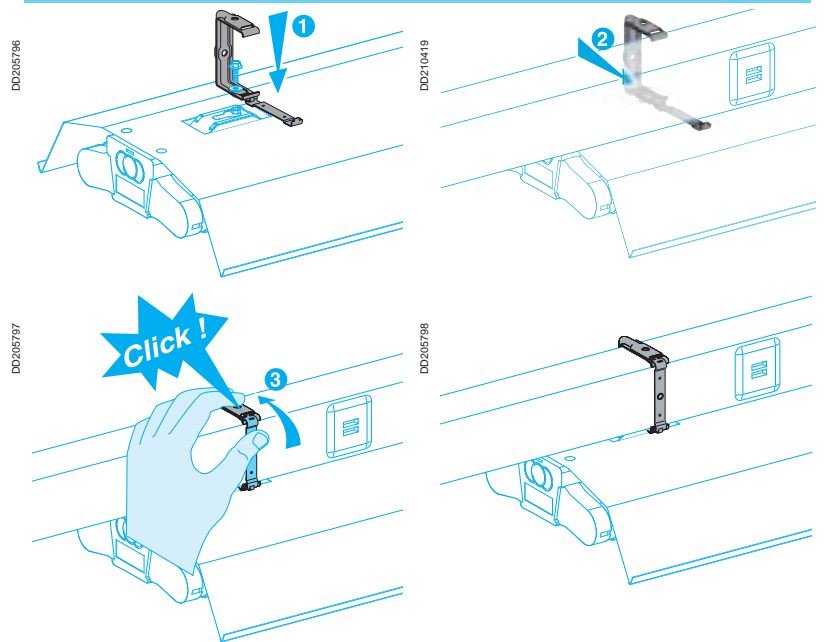


Fixing Canalis KBB in the brackets

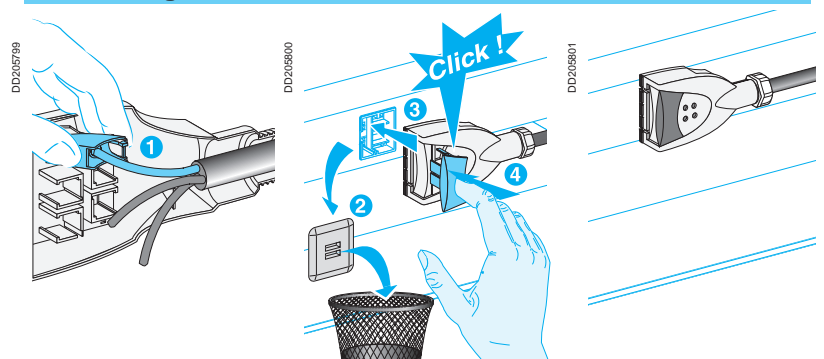


Canalis
KBB

Mounting the luminaires on the trunking



Connecting the luminaires



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Canalis KN

For low-power distribution
from 40 to 160 A

1. Run components

- Rating: 40, 63, 100 and 160 A.
- 4 live conductors.
- Length:
 - Basic components: 3 metres.
 - Additional lengths: 2 and 3 metres.

P.DC02198



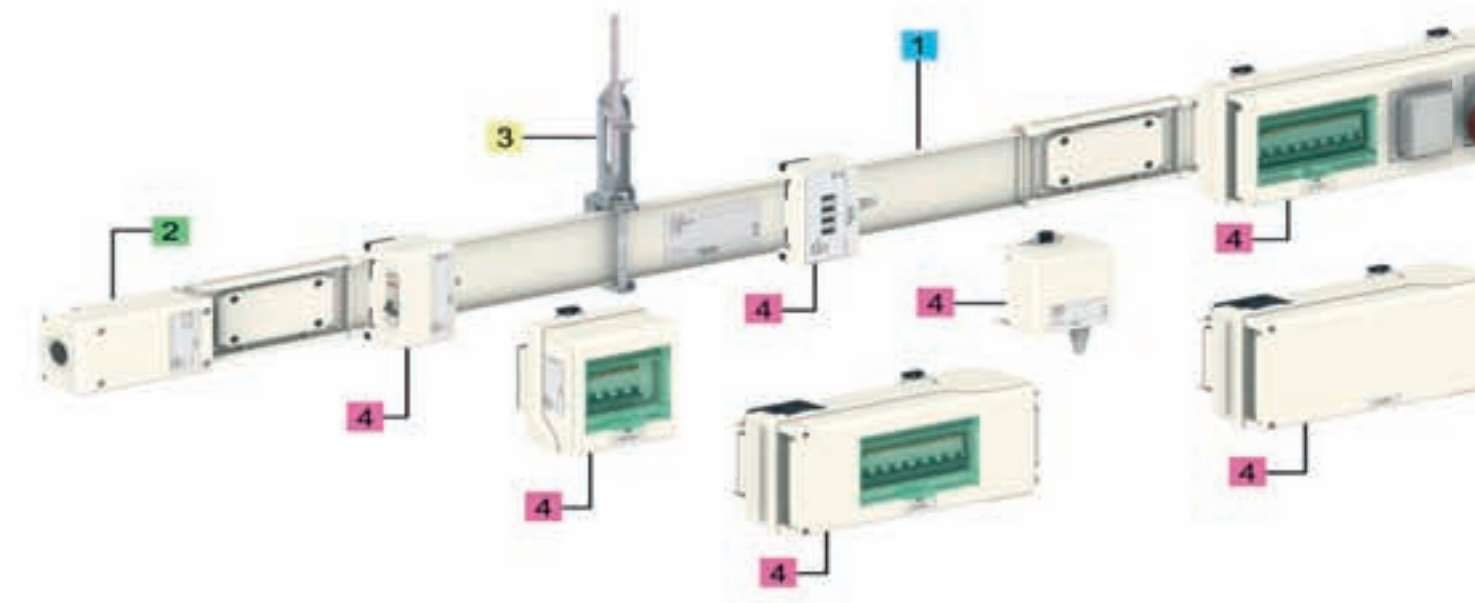
2. Feed units and end covers

- The feed units delivered with end covers, receive the cables supplying one end or any other point of Canalis KN trunking.

P.DC02198



PD202202



3. Fixing system

- The fixing system ensures that Canalis KN is well secured, whatever the type of building structure.

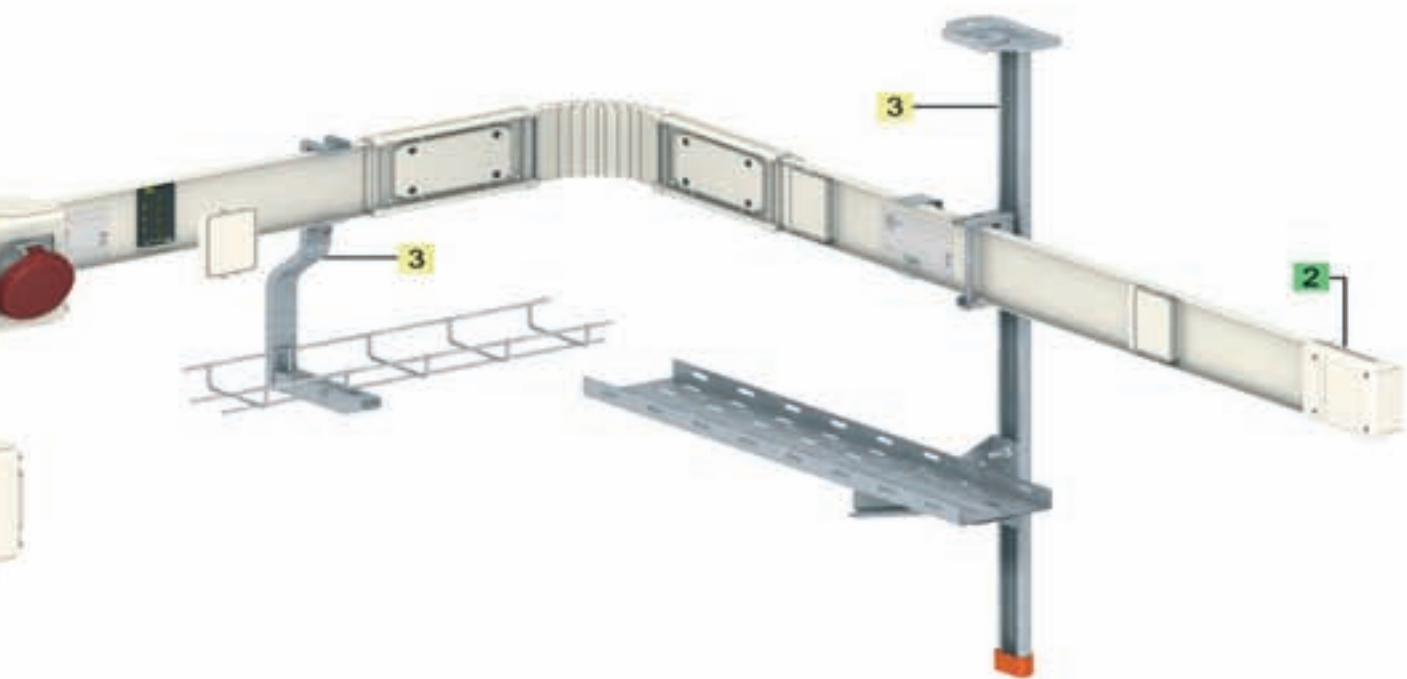
P D002200



4. Tap-off units

- The tap-off units (with and without isolators) are used to:
 - supply loads from 16 to 63 A
 - or protect nearby loads against overloads due to lightning strikes
- Protection using modular circuit breakers or fuses.

P D002201



Canalis KN

For low-power distribution from 40 to 160 A

Excellent contact

Contacts are silver-plated. The level of performance remains the same throughout the life of the product.

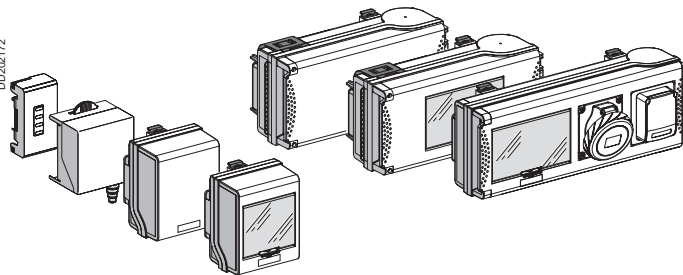
P10 10018



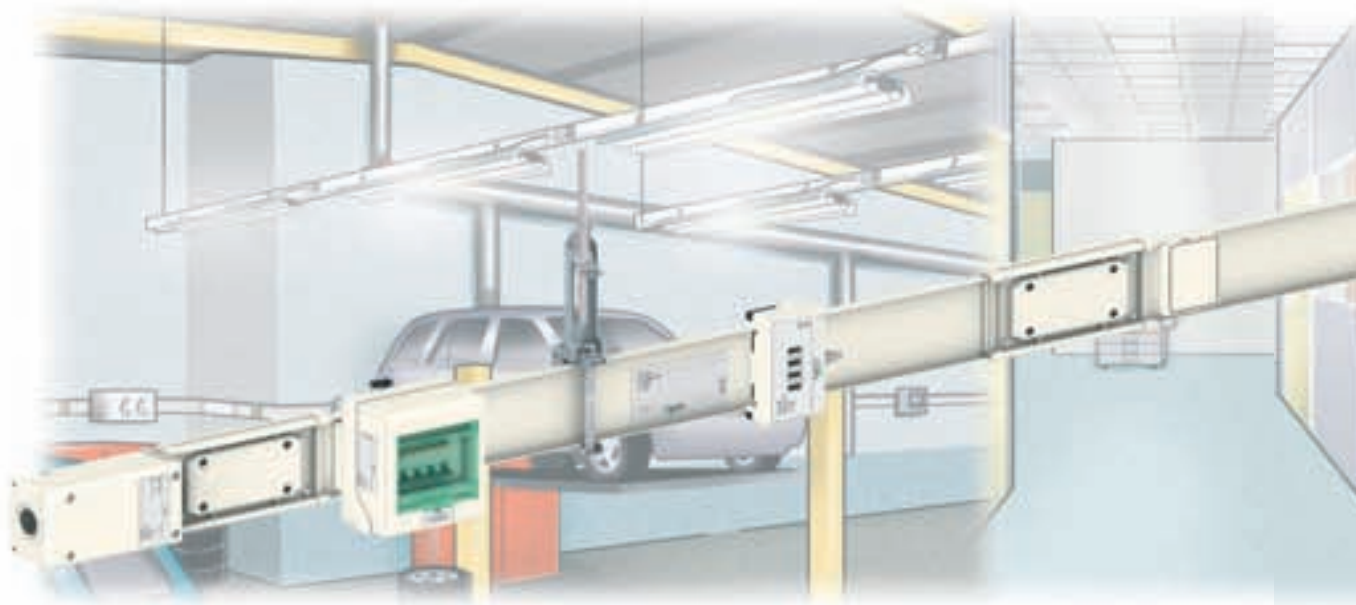
A complete range of tap-off units

- The range covers all needs from 16 to 63 A.
- Protection is possible using circuit breakers, fuses or SPD (Surge Protection Device).
- Also available are tap-off units equipped with household and industrial power sockets.

DD202172



PD202162



DD202142



DD202143



DD202144



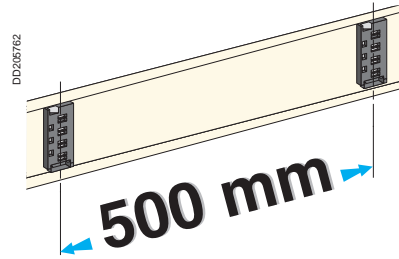
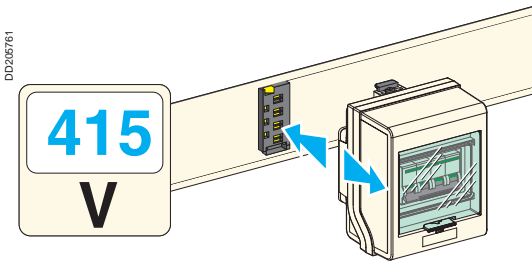
A high degree of protection

The high degree of protection for Canalis KN means it can be installed in all types of buildings.

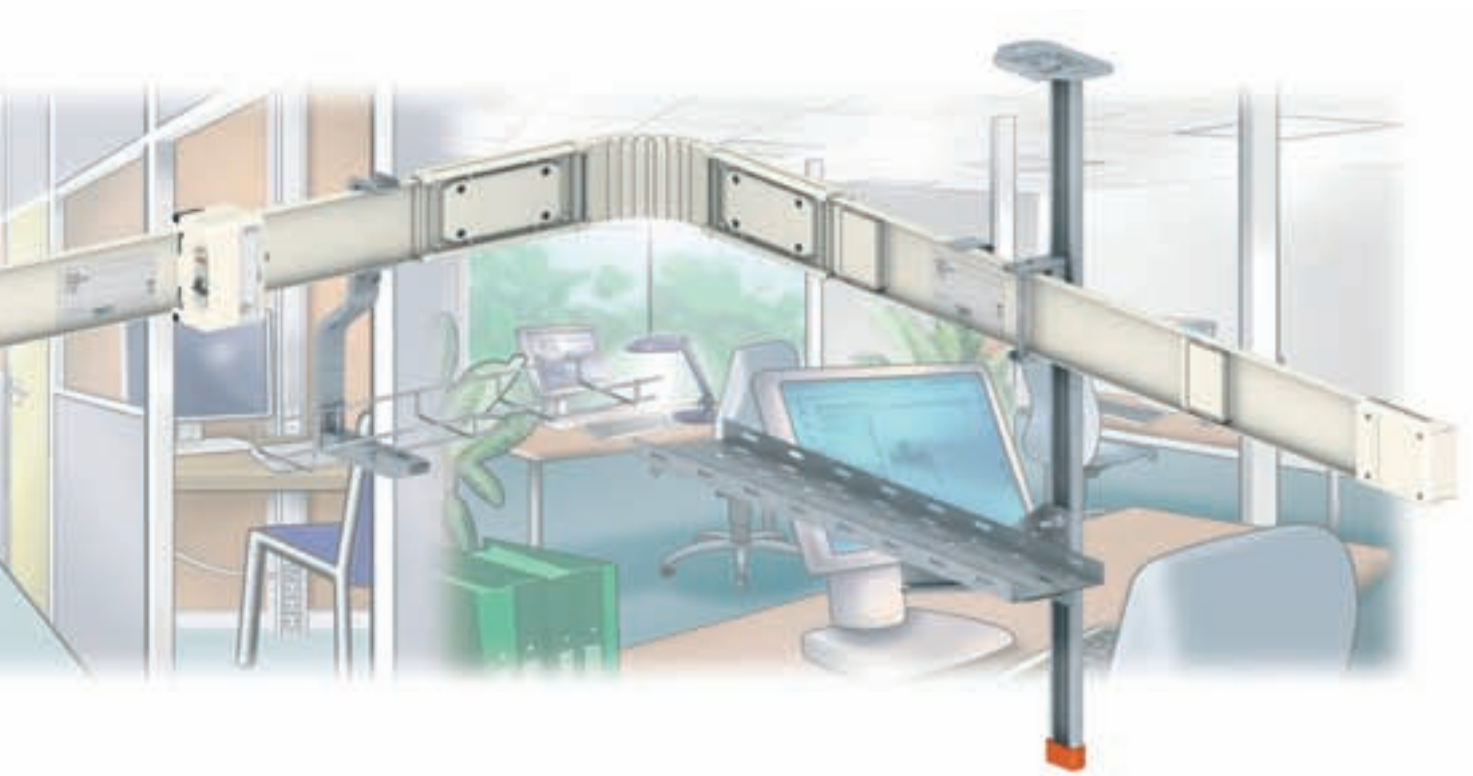
- **IP55** guarantees trunking protection against splashes, dust.
- **IK08** guarantees the strength of the trunking (resistance to shocks).
- **IPxxD** ensures totally safe working conditions for maintenance personnel.
- Canalis KN complies with **sprinkler tests**, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Unmatched upgrading possibilities

Tap-off outlets are positioned every 0.5 metres to ensure availability of an outgoer as close as possible to loads throughout the life of the installation. Tap-off units can be added or removed on live installations, without interrupting the supply to the other loads.



Canalis
KN



No toxic emission in case of fire

All components in the KN range are **halogen free**. In case of fire, Canalis KN releases very small quantities of smoke and no toxic gases.

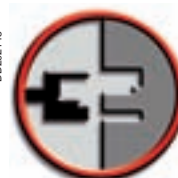
DD202141



Total safety

An interlocking device prevents mounting errors and makes it impossible to install or remove an energised tap-off unit.

DD202145



Description

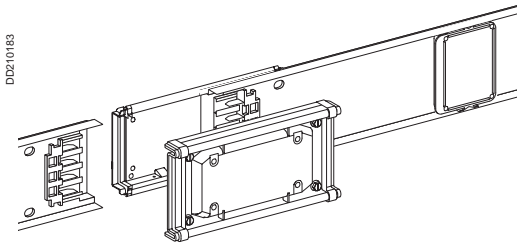
IP55

U_e = 230...500 V

RAL 9001 white

Canalis KN, 40 to 160 A

Low-power distribution



Canalis KN is designed for low-power distribution.

There are two versions:

- Canalis KNA: busbar trunking with four live conductors (3L + N + PE), for distribution up to 160 A,
 - Canalis KNT: identical to KNA, but equipped with a transmission bus with three 2.5 mm² conductors (except 160 A).
- This bus can be used to set up simple control/monitoring systems (lighting or other loads).

The degree of protection of KNA and KNT trunking is IP55.

All the insulating and plastic materials are **halogen-free** and have enhanced fire-withstand capabilities

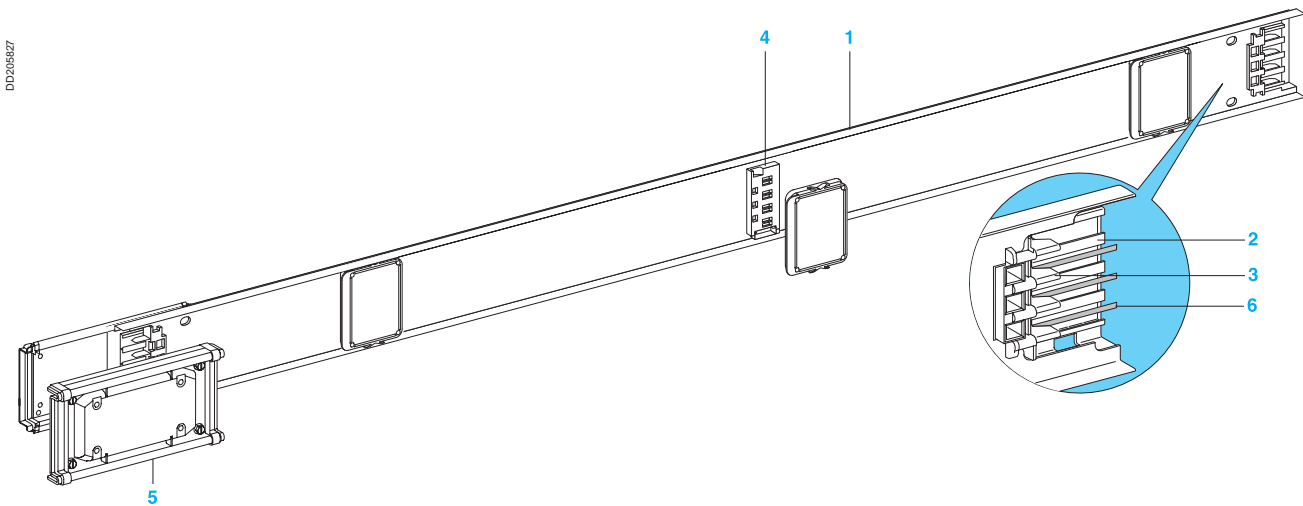
- incandescent wire test as per standard IEC 60695-2:
- 960°C for components in contact with live parts,
- 650°C for other components.

Straight lengths

Carry the current and supply low-power loads.

Straight lengths constitute the basic structure of the line and are made up of:

- 1 a **carrier casing**, crimp closed, made of hot-galvanised sheet steel, pre-lacquered RAL 9001 white. This rail also acts as the protective earth conductor (PE),
- 2 an **insulated mounting casing**, supporting the live conductors,
- 3 **four live aluminium conductors**, equipped with silver-plated aluminium/copper bimetal contacts at junctions and tap-off points,
- 4 **tap-off outlets** with automatic shutters that open and close automatically when tap-off units are installed or removed. They are equipped with blanking plugs to maintain the degree of protection IP55. There are one or two tap-offs per metre, depending on the version,
- 5 a **mechanical and electrical jointing system**. Electrical connection is via flexible grip contacts made of silver-plated copper. The system ensures automatic and simultaneous connection of all live conductors and the continuity of the protective earth conductor,
- 6 **three copper bus conductors** (Canalis KNT for the complementary offer).



Feed units

Supply a Canalis KN line, via a cable.

They can be mounted at the end of a line (end feed) or in the middle (central feed).

These units are made of moulded plastic for the 40, 63 and 100 A ratings and metal for the 160 A rating.

They are equipped with:

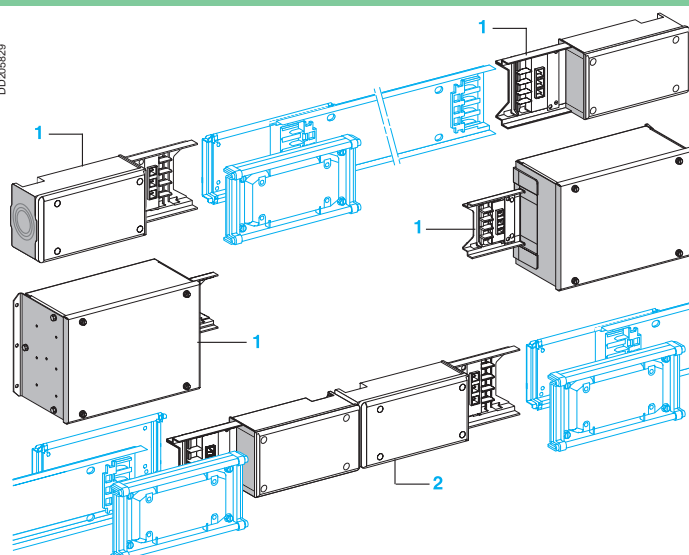
- terminals for 16 mm² copper cables on the 63 A feed units, copper contacts for 35 mm² lugs on the 100 A feed units and for 95 mm² lugs on the 160 A feed units,
- multi-diameter knock-outs until 100 A rating and cable-gland plates for the 160 A rating,
- a 3 x 2.5 mm² terminal block for connection of the remote-transmission cable (Canalis KNT).

1 End feed units

They are equipped with a mechanical and electrical locating system (polarisation), making it possible to supply a run from the right or the left. They are supplied with an end cover.

2 Central feed units

They are supplied with two end covers.



Components for changing direction

For changes in direction and detours around obstacles (posts, pipes). They can be shaped by hand, on site, to follow any path.

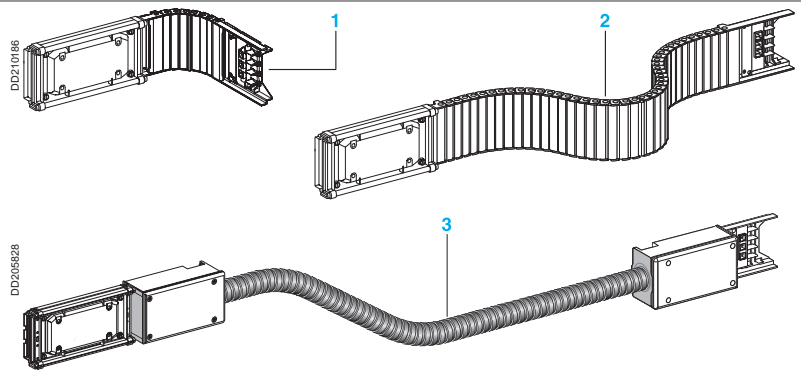
1 Flexible elbow

2 Flexible length

One metre long, these components can be used in corners to adjust to the lengths of the straight components running along three walls, regardless of the dimensions of the premises.

3 3D flexible length

Three metres long, it can be bent in any direction to avoid major obstacles, particularly useful in false ceilings.



Fixing system and additional cable duct

Fixing system

For attachment of the busbar trunking to the structure of the building, either directly or via threaded rods (8 mm diameter), brackets, etc.

The fixings are suitable for all types of mounting: on ceilings, suspended, on walls, etc.

1 Universal fixing bracket

For edgewise or flat trunking installation.

The recommended fixing distance is three metres for trunking installed edgewise and 1.5 metres when installed flat.

2 Wall brackets

For edgewise mounting only. The recommended fixing distance is two metres.

3 Spring fixing bracket

These brackets are used to suspend the KN line on threaded rods M8 and do not require tools. The bracket is attached to the threaded rod by the spring mechanism, without nuts or bolts. Adjustment of the length of the threaded rod is simplified and the KN trunking can be installed three times faster. They are suitable for all ratings.

4 Pendant Kit

The pendant kit includes:

- a perforated pendant (length: 1 meter, width: 80 mm) used to suspend a KN line from the building structure, an IPN or the ceiling.

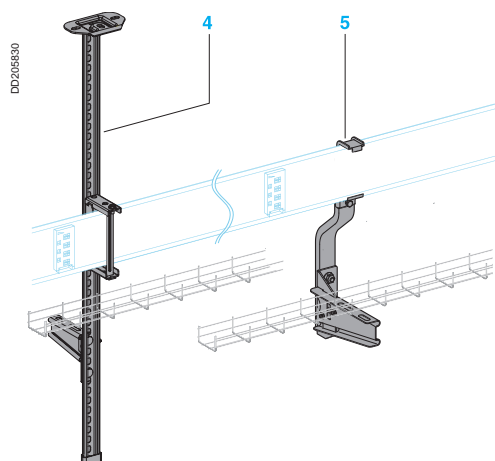
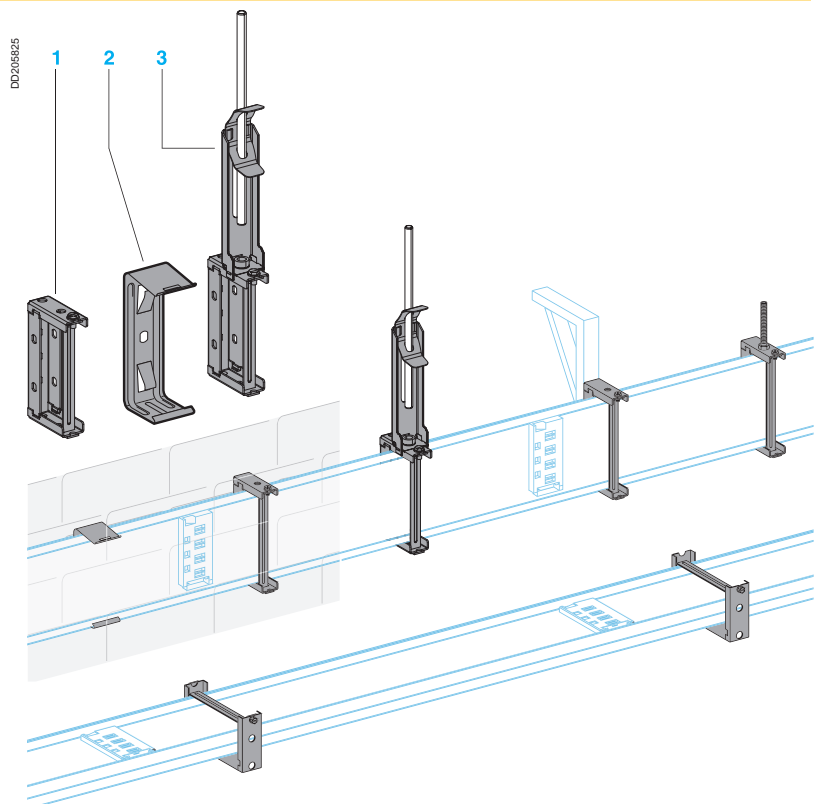
- a cantilever arm that supports the cable tray under the KN line.

- the mounting hardware required to secure the KN bracket and the cantilever arm to the pendant. If necessary, additional cantilever arms can be ordered.

5 Fixing bracket for tracking

Designed for fast mounting, it supports the 100 mm cable trays made of perforated sheet-metal or wire mesh.

Can be directly installed on Canalis trunking: no additional fixing points required.



Description

IP55

U_e = 230...500 V

RAL 9001 white

Canalis KN, 40 to 160 A

Low-power distribution

Tap-off units (not equipped)

For rapid connection of loads or secondary lines (e.g. lighting), in compliance with installation standards CEI 60364 and regulations concerning TT, IT and TNS systems.

They can be handled under off-load conditions with the trunking energised.

All contacts are made of silver-plated copper.

Tap-off units with disconnection by unplugging

Disconnection by unplugging the tap-off unit.

Access to the electrical equipment and the terminals is possible only when the tap-off unit is unplugged (i.e. not energised).

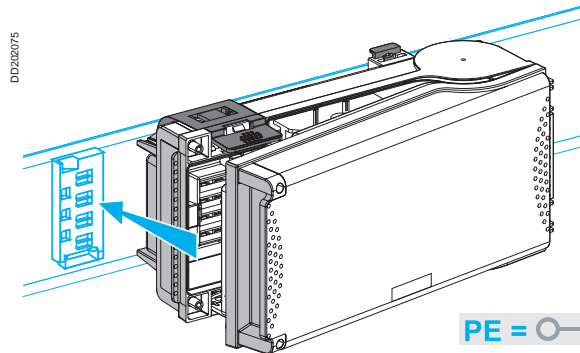
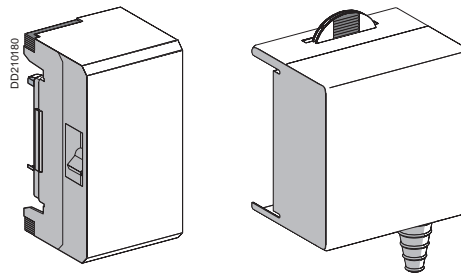
A safety device prevents connection to the trunking when the cover has been removed.

Tap-off units with isolators

Category AC 20 disconnection is obtained by opening the tap-off unit cover. **Tap-off unit disconnection by opening or closing the cover should be carried out only if the downstream load is de-energised.**

With the cover open, no live parts are accessible.

The degree of protection is IPxxB. (protected against access with a finger).



A number of safety devices prevent the operator from:

- plugging in the tap-off unit when the cover is closed,
- closing the cover before the tap-off unit is locked onto the trunking,
- unplugging the tap-off unit when the cover is closed.

1 Moulded plastic casing insulating material which is self-extinguishing and halogen free.

2 Power socket

3 Cover equipped with contact blades

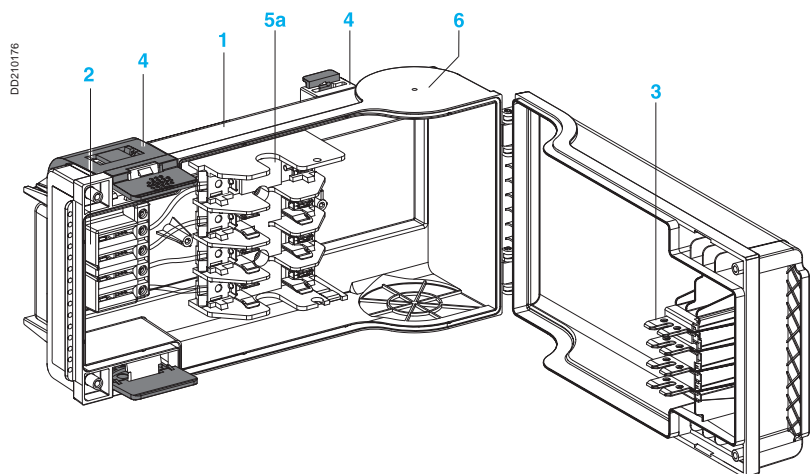
4 Trunking locking device (four points)

5 Protection device area:

5a for fuses

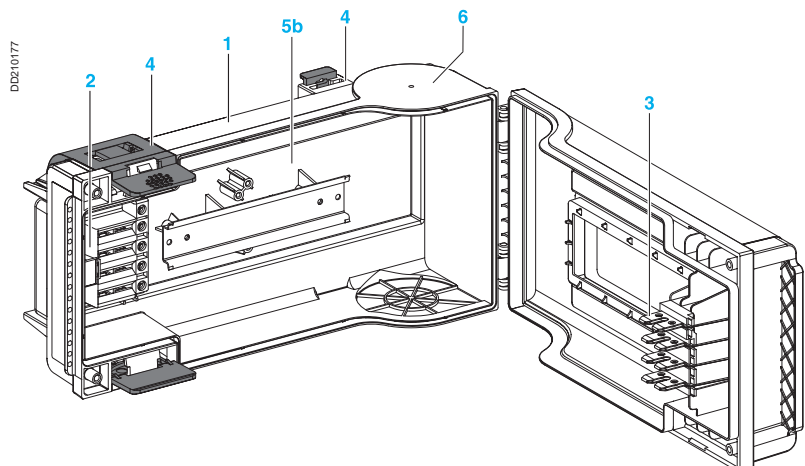
5b for C60 type modular devices

6 Cable exit knockouts



All tap-off units are manufactured in the KNA version (without a remote transmission bus).

They can be converted to the KNT version by adding an "Remote control power socket block" KNT 63ZT1 (see Accessories page) that must be ordered separately.

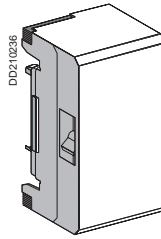


Single-phase tap-off units with phase selection, equipped with a C60 circuit breaker

They are equipped with a phase selection system (L1, L2 or L3 + N + PE).
Positioned as close as possible to the loads; extension leads are not required.

Tap-off unit with circuit breaker

For protection of the tap-off circuit by a circuit breaker. It is equipped with a Multi 9 single-pole C60 type circuit breaker.



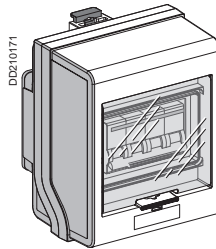
Four-pole tap-off units for modular devices (not equipped)

Tap-off unit for modular devices

This tap-off unit accepts most devices available in multiples of 18 mm wide modules:

- rated current: 32 A,
- maximum capacity: 5 modules.

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.



Tap-off units, with isolators, for modular devices (not equipped)

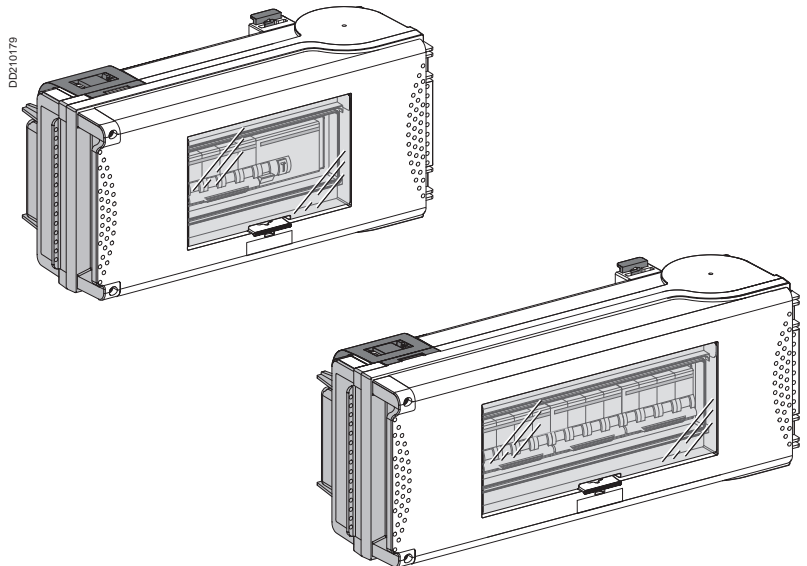
They can be equipped with modular Multi 9 C60 type devices.

Rated current: 63 A

2 sizes available: 8 or 12 18 mm modules.

They are available with windows and blanking plates (devices visible and accessible) or with a plain cover (devices not accessible when energised).

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.



Tap-off units (with and without isolators) equipped with a SPD (Surge Protection Device)

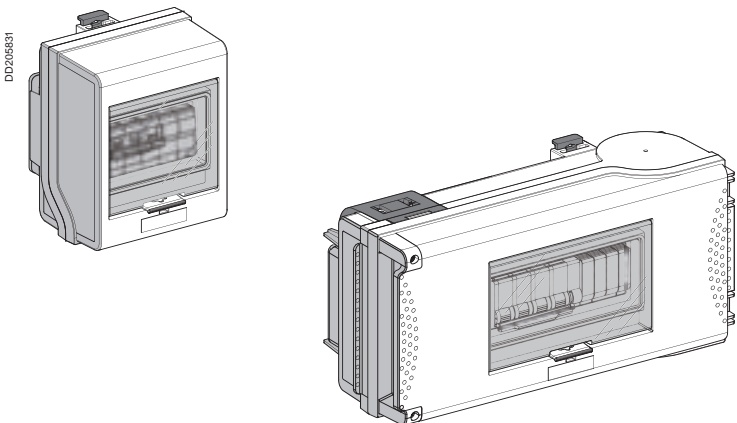
These tap-off units (with and without isolators) are pre-equipped with a modular Type 2 SPD (Surge Protection Device), with integrated disconnection device.

2 versions of 3P+N protection are available, based on Quick PF10 or Quick PRD40r.

These units are ready for use, can be plugged directly into the busbar trunking and do not require any additional wiring.

They should be positioned at least 30 m upstream of each load to be protected.

Tap-off unit covers can be lead sealed to prevent the SPD (Surge Protection Device) being tampered with by unauthorised persons.



Description

IP55

U_e = 230...500 V

RAL 9001 white

Canalis KN, 40 to 160 A

Low-power distribution

Tap-off units with power sockets (not equipped)

For the supply of portable loads equipped with household or industrial plugs in a:

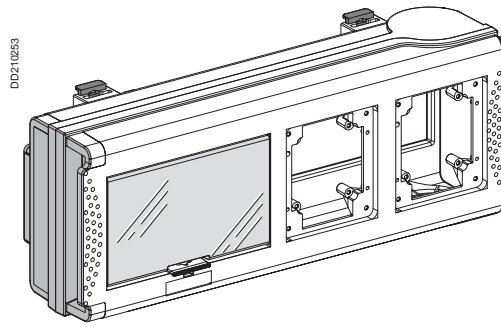
- garage,
- maintenance workshop,
- laboratory,
- battery charging room, etc.

Rated current: 32 A

Capacity: 8 modules in multiple of 18 mm wide

Two versions are available:

- pre-equipped with 2 PK or PratiKa power sockets
- customisable:
 - two 90 x 100 mm openings for PK-type (screw connections) or PratiKa (fast and reliable connection without stripping) industrial or household sockets.
 - direct mounting for industrial IEC 16 A 5P or IEC 32 A 3, 4 or 5P sockets.
 - mounting on 65 x 85 mm clip-on adapter plate for industrial IEC 16 A 3P or 5P and household 10/16 A 2P + PE sockets.



Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.

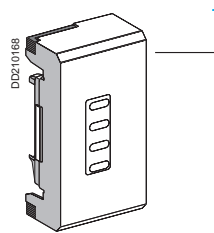
Tap-off units with fuse holders (not equipped)

For protection of the tap-off by a fuse (not supplied).

1 Single-phase tap-off unit

Can be equipped with fuse holders for:

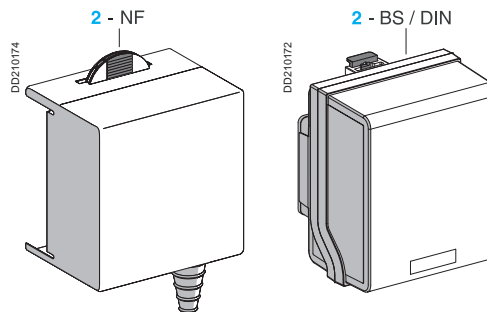
- NF 8.5 x 31.5 fuse, 16 A maximum, gG and aM type,
- BS 88A1 fuse, 20 A maximum.



2 Four-pole tap-off unit

Can be equipped with fuse holders for:

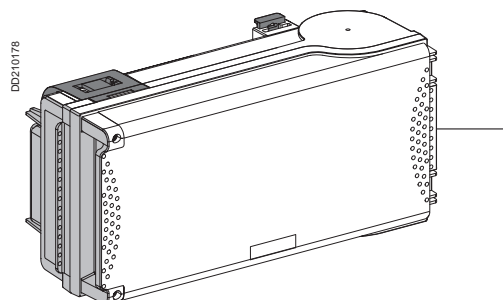
- NF 10 x 38 fuse, 20 A maximum, gG type,
- NF 10 x 38 fuse, 25 A maximum, aM type,
- BS 88A1 fuse, 20 A maximum,
- DIN Neozed E14 fuse, 16 A maximum.



3 Tap-off unit with isolator

Can be equipped with fuse holders for:

- NF 14 x 51 fuse, gG and aM type 50 A maxi.,
- BS 88A1 fuse, 30 A,
- DIN fuse, type Diazed E27 25 A or Diazed E33 50 A or Neozed E18, 50 A.

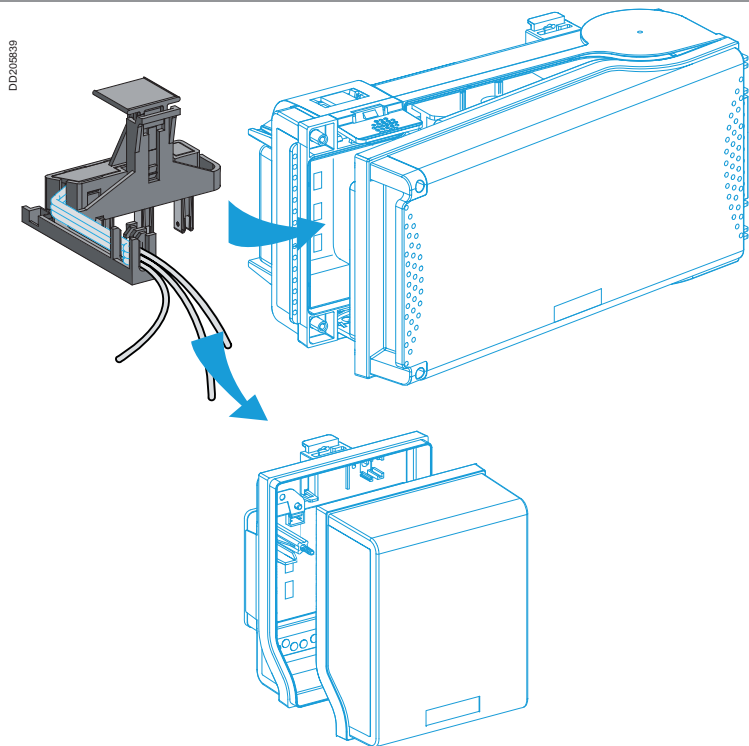


Accessories

Add-on bus connection block

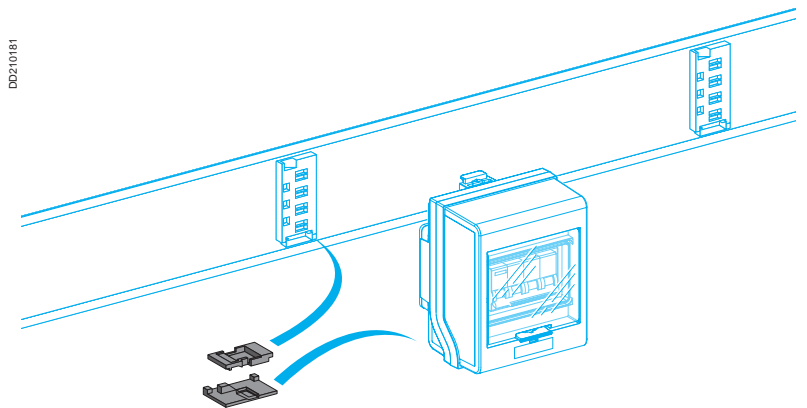
Used to tap off the KNT bus.

Clips into all tap-offs with isolators and can be used to control the equipment via a bus (BatiBus...).



Outlet/tap-off unit interlocking device

Used to differentiate and mechanically lock out tap-off units when up to four different Canalis KN lines are present (voltage, frequency, etc.).



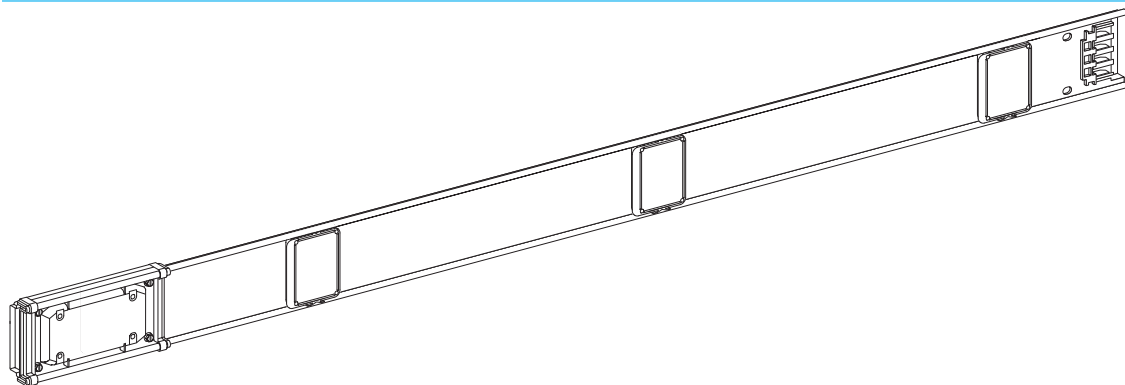


Canalis KN, 40 to 160 A

Busbar trunking for low-power distribution

Straight lengths with tap-off outlets

DD205840

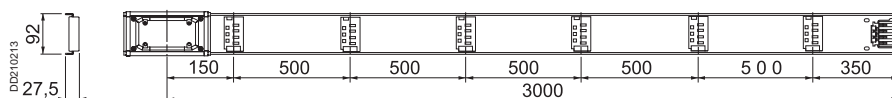


Standard lengths

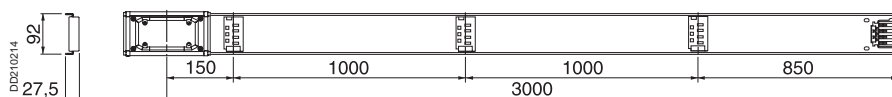
KNA ●●●ED4●●●

Polarity	Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
3L + N + PE or 3L + PEN	40	3000	3	KNA 40ED4303	5.60
			6	KNA 40ED4306	5.60
	63	3000	3	KNA 63ED4303	5.70
			6	KNA 63ED4306	5.70
	100	3000	3	KNA 100ED4303	6.70
			6	KNA 100ED4306	6.70
160	3000	3	KNA 160ED4303	7.30	
		6	KNA 160ED4306	7.30	

KNA ●●●ED4306



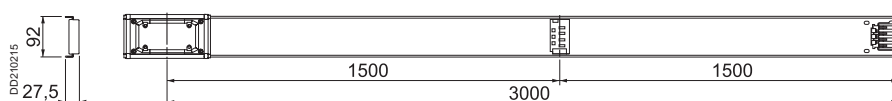
KNA ●●●ED4303



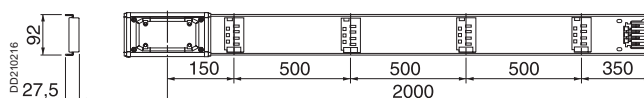
Additional lengths

Polarity	Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
3L + N + PE or 3L + PEN	40	3000	1	KNA 40ED4301	5.50
			1	KNA 63ED4301	5.60
	63	2000	4	KNA 63ED4204	4.10
			1	KNA 100ED4301	6.60
	100	2000	4	KNA 100ED4204	4.80
			4	KNA 160ED4204	5.20

KNA ●●●ED4301

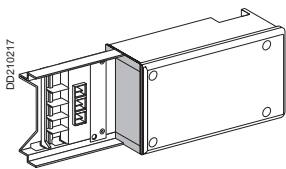


KNA ●●●ED4204



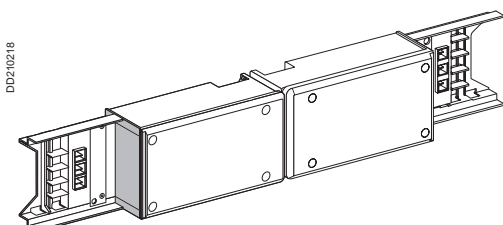


Feed units (supplied with end cover)



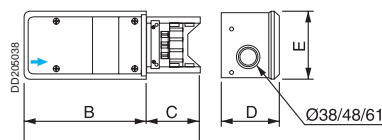
KNA ●●●AB4

Designation	Rating (A)	Mounting	Connection	Max. size (mm ²)		Cat. no.	Weight (kg)
				Flexible	Rigid		
Feed unit	40 and 63	Left or right	Terminals	16	25	KNA 63AB4	0.58
		Central	Terminals	16	25	KNA 63ABT4	1.47
	100	Left or right	Lugs (M8 screws)	35	50	KNA 100AB4	1.12
		Central	Lugs (M8 screws)	35	35	KNA 100ABT4	2.94
	160	Left or right	Lugs (M8 screws)	95	95	KNA 160AB4	2.80
		Central	Lugs (M8 screws)	95	95	KNA 160ABT4	5.50



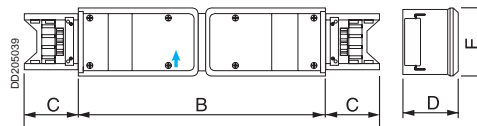
KNA ●●●ABT4

KNA ●●●AB4



Dim.	40 to 63 A	100 A	160 A
A	265	340	256
B	165	238	258
C	100	102	98
D	71	112	130
E	92	127	185

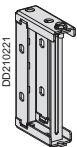
KNA ●●●ABT4



Dim.	40 to 63 A	100 A	160 A
A	535	685	600
B	335	481	502
C	100	102	98
D	71	112	122
E	92	127	243

→ Cable entry

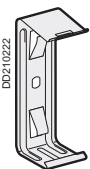
Fixing system and routing system



KNB 160ZF1

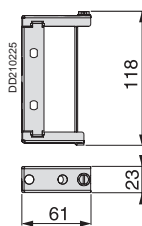
Designation	Rating (A)	Max. load (kg)	Mounting	Order in multiple of	Cat. no.	Weight (kg)
Fixing bracket	40 to 160	80	Suspended on M8 threaded rod ⁽¹⁾	10	KNB 160ZF1	0,126
		39	Wall mounting ⁽²⁾	10	KNB 160ZF2	0,032
Spring fixing bracket	40 to 160	100	Suspended on M8 threaded rod ⁽¹⁾	10	KNB 160ZFPU	0,26
Fixing bracket for tracking	40 to 160	11	Clipped on trunking ⁽³⁾	4	KNB 160ZFG100	0,82

- (1) Maximum recommended distance between fixings : 3 meters.
 (2) Maximum recommended distance between fixings : 2 meters.
 (3) Maximum recommended distance between fixings : 1,5 meters.

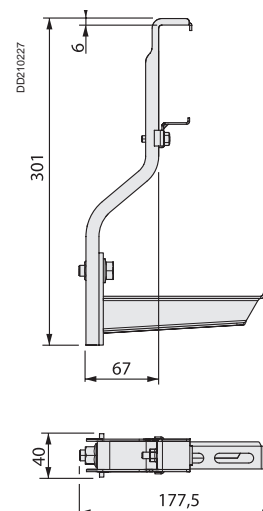


KNB 160ZF2

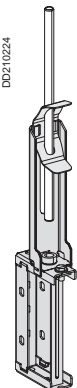
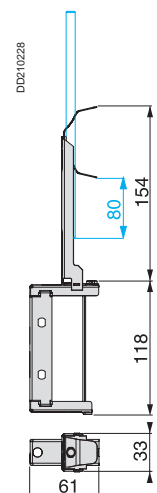
KNB 160ZF1



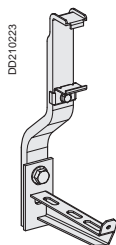
KNB 160ZFG100



KNB 160ZFPU

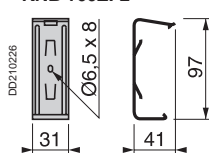


KNB 160ZFP1



KNB 160ZFG100

KNB 160ZF2





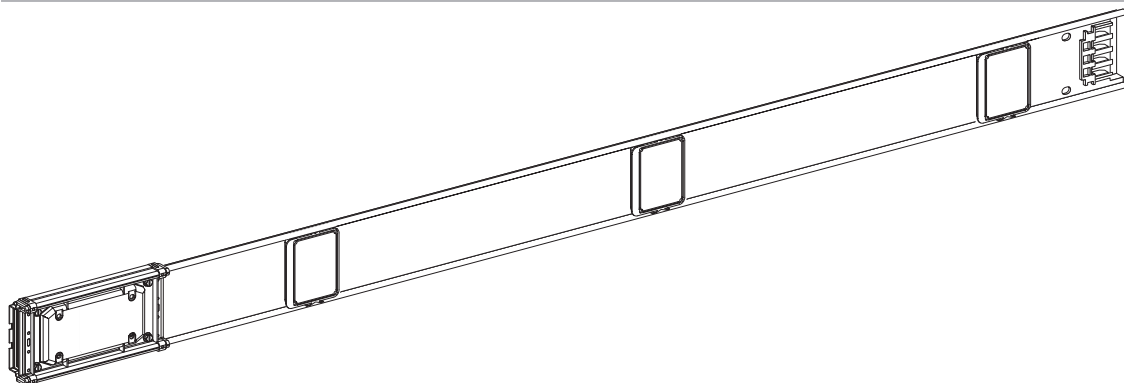
Canalis KN, 40 to 160 A

Busbar trunking for low-power distribution

Complementary products

Straight lengths with built-in transmission bus

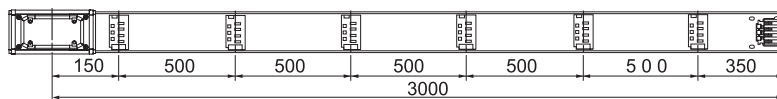
DD205841



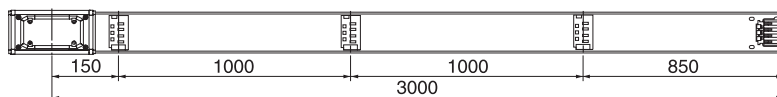
KNT ●●●ED4●●●

Polarity	Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
3L + N + PE or 3L + PEN	40	3000	3	KNT 40ED4303	5.60
			6	KNT 40ED4306	5.60
	63	3000	3	KNT 63ED4303	5.70
			6	KNT 63ED4306	5.70
	100	2000	4	KNT 63ED4204	4.10
			6	KNT 100ED4303	6.70
		2000	4	KNT 100ED4204	4.80

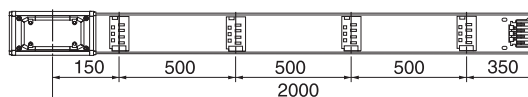
KNT ●●●ED4306



KNT ●●●ED4303

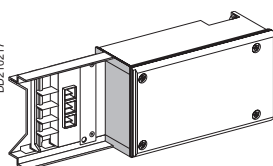


KNT ●●●ED4204



Feed units with built-in transmission bus (supplied with end cover)

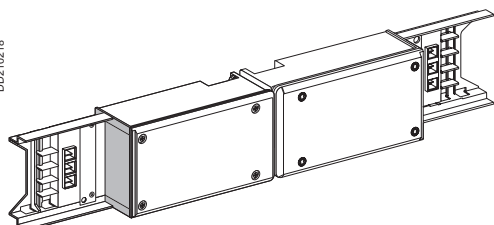
DD210217



KNT ●●●AB4

Designation	Rating (A)	Mounting	Connection	Max. size (mm ²)		Cat. no.	Weight (kg)
				Flexible	Rigid		
Feed unit	40 to 63	Left or right	Terminals	16	25	KNT 63AB4	0.58
		Central	Terminals	16	25	KNT 63ABT4	1.47
	100	Left or right	Lugs (M8 screws)	35	50	KNT 100AB4	1.12
		Central	Lugs (M8 screws)	35	35	KNT 100ABT4	2.94

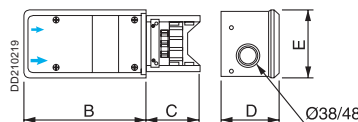
DD210218



KNT ●●●ABT4

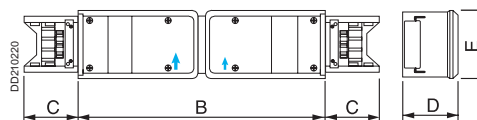
→ Cable entry
→ Transmission bus cable entry

KNA ●●●AB4



Dim.	40 à 63 A	100 A
A	265	340
B	165	238
C	100	102
D	71	112
E	92	127

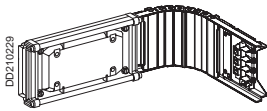
KNA ●●●ABT4



Dim.	40 à 63 A	100 A
A	535	685
B	335	481
C	100	102
D	71	112
E	92	127

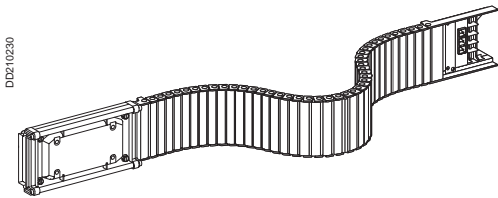


Component for changing direction (2 dimensions)



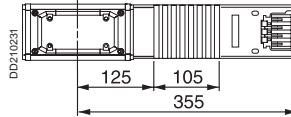
KNA ●●●DL4

Designation	Standard			
	Rating (A)	Direction (edgewise)	Cat. no.	Weight (kg)
Flexible elbow, for internal or external angle, 80° to 180°	40 to 63	Left or right	KNA 63DL4	1.20
	100	Left or right	KNA 100DL4	1.30
	160	Left or right	KNA 160DL4	1.50
Flexible length, 1 m for detours around obstacles	40 to 63	Left or right	KNA 63DF410	2.10
	100	Left or right	KNA 100DF410	2.30
	160	Left or right	KNA 160DF410	2.50

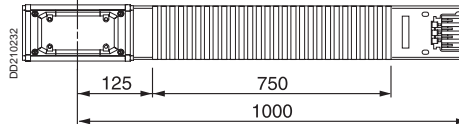


KNA ●●●DF410

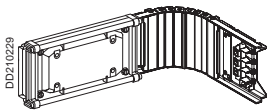
KNA ●●●DL4



KNA ●●●DF410

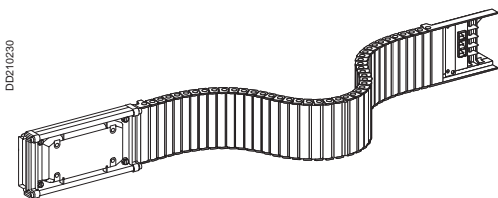


With built-in transmission bus



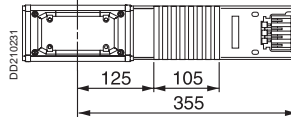
KNT ●●●DL4

Designation	With built-in transmission bus			
	Rating (A)	Direction (edgewise)	Cat. no.	Weight (kg)
Flexible elbow, for internal or external angle, 80° to 180°	40 to 63	Left or right	KNT 63DL4	1.20
	100	Left or right	KNT 100DL4	1.30
Flexible length, 1 m for detours around obstacles	40 to 63	Left or right	KNT 63DF410	2.10
	100	Left or right	KNT 100DF410	2.30

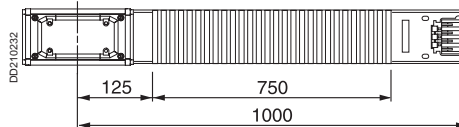


KNT ●●●DF410

KNA ●●●DL4



KNA ●●●DF410





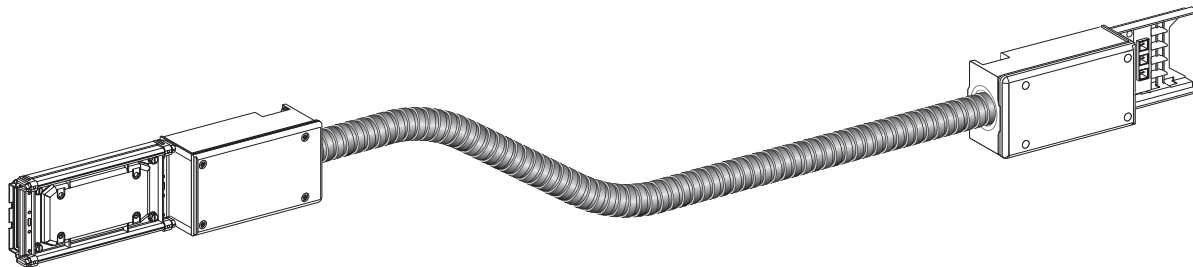
Canalis KN, 40 to 160 A

Busbar trunking for low-power distribution

Complementary products

Components for changing direction (three dimensions)

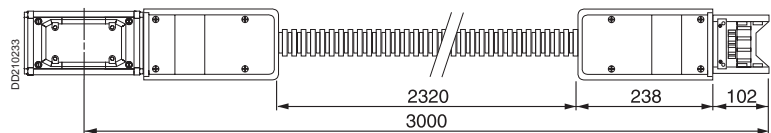
DD205842



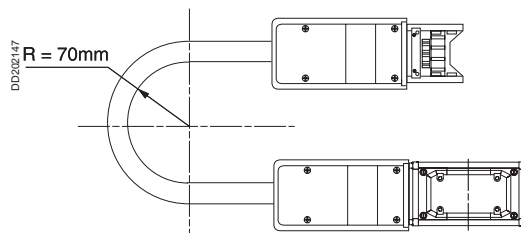
KNA 100EDF430

Designation	Rating (A)	Direction (edgewise)	Cat. no.	Weight (kg)
Flexible length, 3 m	100	Left or right Up or down	KNA 100EDF430	5.00

KNA 100EDF430



Minimum curve radius



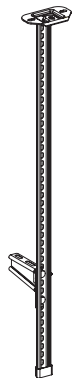
Fixing system

Trunking fixing system

Designation	Rating (A)	Max. load (kg)	Mounting	Order in multiple of	Cat. no.	Weight (kg)
Pendant kit ⁽¹⁾	40 to 160	16	Under ceiling or I-beam	4	KNB 160ZFKP1	1.60
Cantilever arm, 100 mm	40 to 160	250	Wall or pendant	4	KFB CA81100	0.35

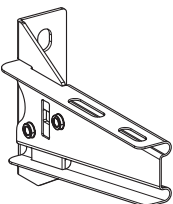
(1) Maximum recommended distance between fixings: 3 meters.

DD202216



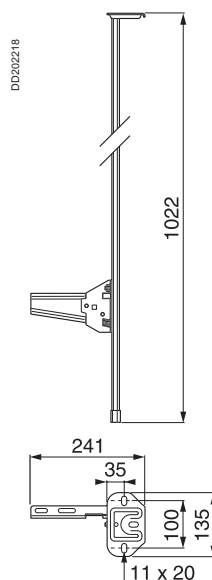
KNB 160ZFKP1

DD202217

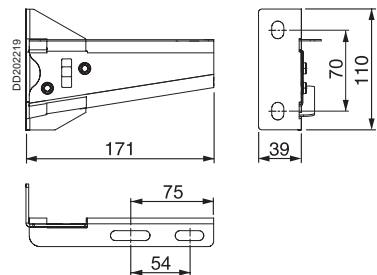


KFB CA81100

KNB 160ZFKP1

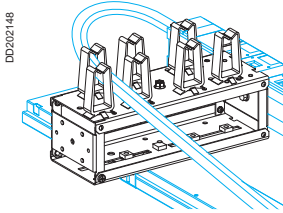


KFB CA81100

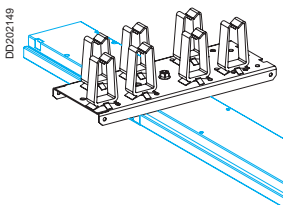




KN and VDI supports

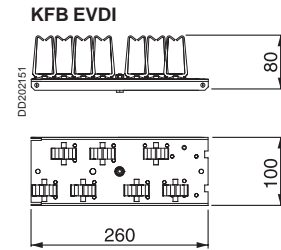
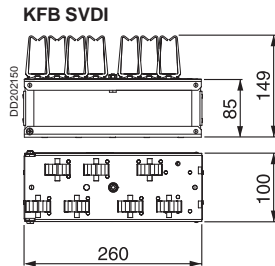


KFB SVDI

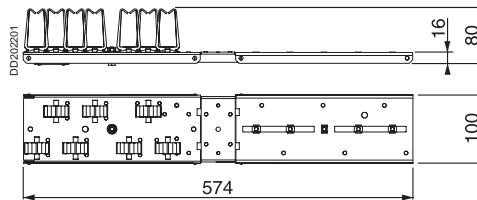


KFB EVDI

Designation	Rating (A)	Max. load (kg)x	Mounting	Cat. no.	Weight (kg)
VDI support	40 to 160	60	Fixing for KN+ VDI cables + consolidation point	KFB SVDI	1.10
Intermediate VDI support	40 to 160	60	Fixing for KN+ VDI cables + consolidation point	KFB EVDI	0.50

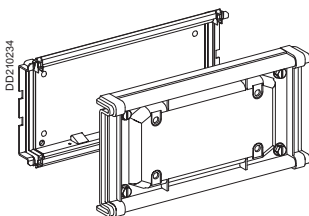


Mounted above a false ceiling



Mounted above a false floor

Accessories



KNA ●●●ZJ4, KNT ●●●ZJ4



KNB 160ZB1

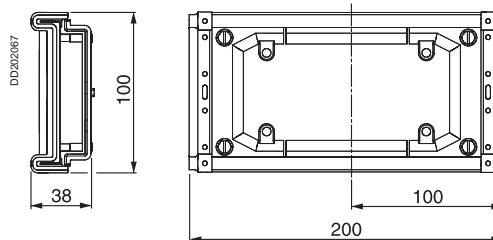
Spare parts

Designation	Rating (A)	Order in multiple of	Cat. no.	Weight (kg)
Electrical and mechanical jointing unit	40 to 63	1	KNA 63ZJ4	0.60
	100 to 160	1	KNA 160ZJ4	0.60
IP55 blanking plate	All	10	KNB 160ZB1	0.02

Spare parts with built-in transmission bus

Designation	Rating (A)	Cat. no.	Weight (kg)
Electrical and mechanical jointing unit	40 to 63	KNT 63ZJ4	0.60
	100	KNT 100ZJ4	0.60

KNA ●●●ZJ4, KNT ●●●ZJ4





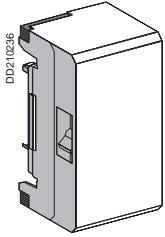
Canalis KN, 40 to 160 A

Busbar trunking for low-power distribution

16 to 32 A tap-off units for modular devices

Single-phase IP41 tap-off unit with phase selection, equipped with a C60 circuit breaker

Disconnection by unplugging the tap-off unit



KNB 16CM2

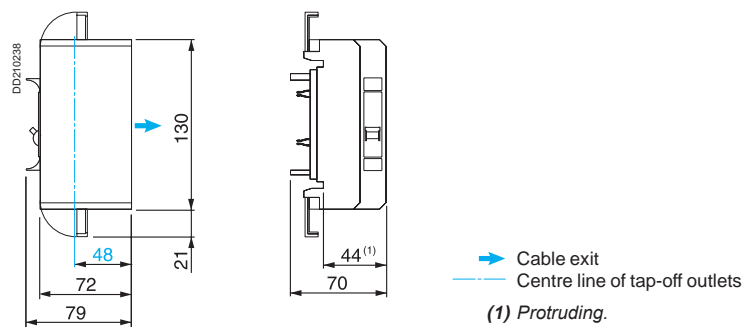
Earthing system arrangement	Busbar trunking	TT - TNS - TNC
	Tap-off unit	TT - TNS - TNS
Tap-off polarity		L + N + PE
Tap-off diagram (e.g. circuit-breaker protection)		

Rating (A)	Circuit breaker (supplied)	Connection	Max. size (mm ²)		Cable gland (not supplied)	Cat. no.	Weight (kg)
			Flexible	Rigid			
16	C60N, 1P, curve C	C60	4	6	Cable clamp supplied	KNB 16CM2*	0.34
	C60H, 1P, curve C	C60	4	6	Cable clamp supplied	KNB 16CM2H*	0.34

* Adaptation for transmission bus (KNT) with remote control power socket block KNT 63ZT1 not possible.

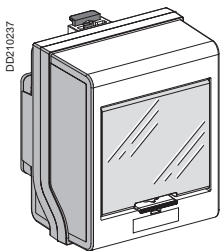
KNB 16CM2H

KNB 16CM2



Four-pole tap-off unit (not equipped) ⁽¹⁾

Disconnection by unplugging the tap-off unit



KNB 32CM55

Earthing system arrangement	Busbar trunking	TT - TNS - TNC - IT ⁽²⁾
	Tap-off unit	TT - TNS - TNS - IT ⁽²⁾
Tap-off polarity		3L + N + PE ⁽³⁾
Tap-off diagram (e.g. circuit-breaker protection)		

Rating (A)	Number of 18 mm modules	Connection	Max. size (mm ²)		Cable gland ⁽⁴⁾ (not supplied)	Cat. no.	Weight (kg)
			Flexible	Rigid			
32	5 ⁽¹⁾	Pre wired	6	10	ISO 32 max.	KNB 32CM55	0.60

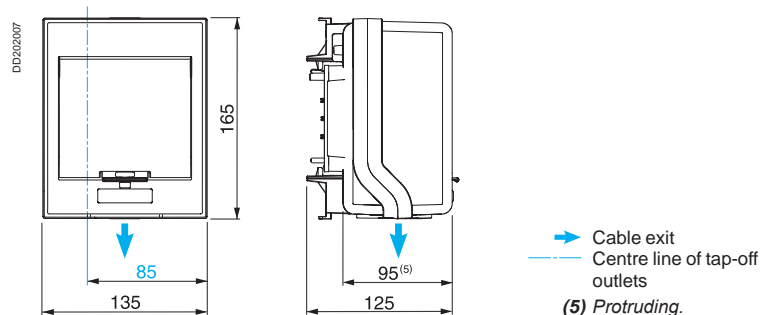
(1) Supplied with blanking plate (1x5 divisible).

(2) The neutral must be protected or not distributed (3L + PE) for IT system.

(3) Also suitable for tap-off unit 3L + PE (N not distributed).

(4) Maximum diameter for a multipolar cable.

KNB 32CM55

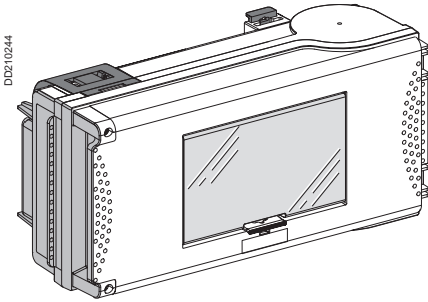




63 A tap-off units for modular devices

Tap-off unit with isolator (not equipped)⁽¹⁾

Disconnection by opening the tap-off unit cover



Earthing system arrangement	Busbar trunking	TT - TNS - TNC - IT ⁽²⁾
	Tap-off unit	TT - TNS - TNS - IT ⁽²⁾
Tap-off polarity	3L + N + PE ⁽³⁾	
Tap-off diagram (e.g. circuit-breaker protection)		

KNB 63SM4●●

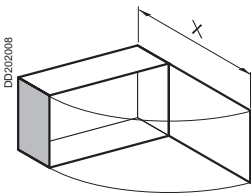
Rating (A)	Number of 18 mm modules	Connection	Max. size (mm ²)		Cable gland ⁽⁴⁾ (not supplied)	Cat. no.	Weigh (kg)
			Flexible	Rigid			
63	8 ⁽¹⁾	Tunnel terminals	25	25	ISO 50 max.	KNB 63SM48	2.40
	12 ⁽¹⁾	Tunnel terminals	25	25	ISO 50 max. ou 1 x 32 + 2 x 25	KNB 63SM412	2.70

⁽¹⁾ Supplied with blanking plates (1x5 divisible (8 modules) or 2x5 divisible (12 modules)).

⁽²⁾ The neutral must be protected or not distributed (3L + PE) for IT system.

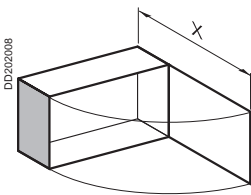
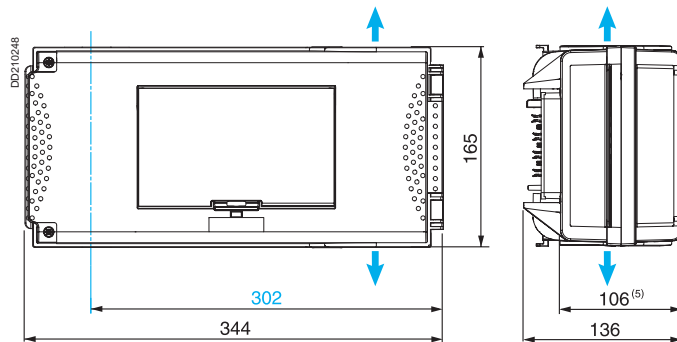
⁽³⁾ Also suitable for tap-off unit 3L + PE (N not distributed).

⁽⁴⁾ Maximum diameter for a multipolar cable.



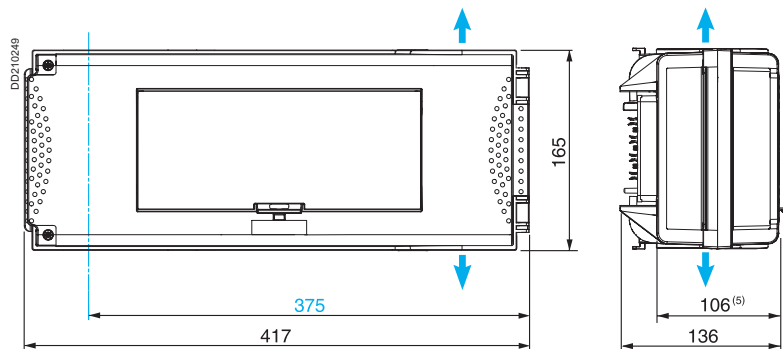
X = 432.5

KNB 63SM48



X = 491

KNB 63SM412



➔ Cable exit
— Centre line of tap-off outlets

⁽⁵⁾ Protruding.



Canalis KN, 40 to 160 A

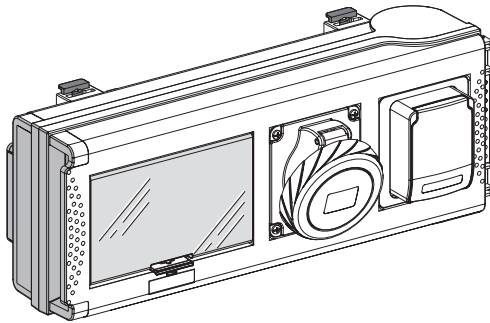
Busbar trunking for low-power distribution

32 A tap-off unit, with power sockets protected by modular devices

Tap-off unit with power sockets⁽¹⁾

Disconnection by unplugging the tap-off unit

DD210250



These tap-off units are equipped with flush-mounted power sockets.

Earthing system arrangement	Busbar trunking	TT - TNS - TNC - IT ²		
	Tap-off unit	TT - TNS - TNS - IT ²		
Tap-off polarity	3L + N + PE			
Tap-off diagram (e.g. circuit-breaker protection)	Tap-off unit wiring depends on the sockets used			
Rating (A)	Number of modules (18 mm)	Equipment	Cat. no.	Weight (kg)
32	8 ⁽¹⁾	2 Household socket Schuko	KNB 32CP11D*	2.90
		2 Household socket NF		
		1 Household socket NF	KNB 32CP15F*	3.00
		1 Industrial socket		
		1 Household socket Schuko	KNB 32CP15D*	3.00
		1 Industrial socket		
		1 Industrial socket	KNB 32CP35*	3.10
		1 Industrial socket		

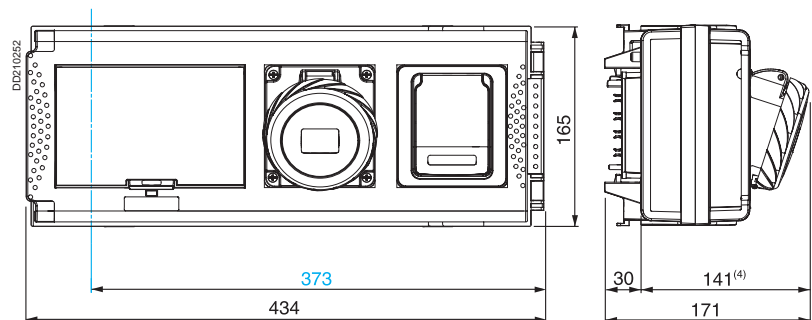
(1) Supplied with blanking plate (1x5 divisible).

(2) The neutral must be protected or not distributed (3L + PE) for IT system.

(3) Quantity.

* Adaptation for transmission bus (KNT) with remote control power socket block KNT 63ZT1 not possible.

KNB 32CP●●●



— Centre line of tap-off outlets

(4) Protruding

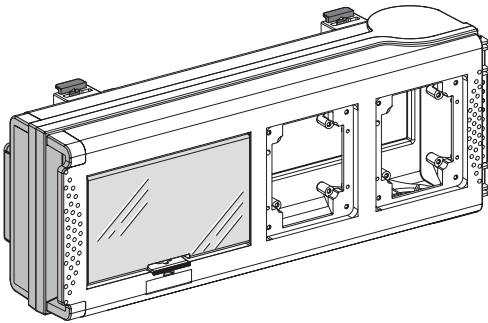


32 A tap-off unit, for power sockets protected by modular devices

Empty tap-off units⁽¹⁾

Disconnection by unplugging the tap-off unit

DD210253



KNB 32CP

This tap-off unit is equipped with an adapter plate for flush-mounted power sockets.

Earthing system arrangement	Busbar trunking Tap-off unit	TT - TNS - TNC - IT ⁽²⁾ TT - TNS - TNS - IT ⁽²⁾
Tap-off polarity	3L + N + PE	
Tap-off diagram (e.g. circuit-breaker protection)	Tap-off unit wiring depends on the sockets used	

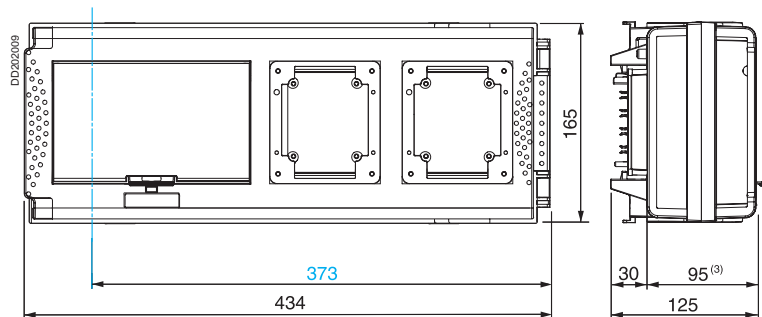
Rating (A)	Number of modules (18 mm)	Equipment	.Cat. no.	Weight (kg)
32	8 ⁽¹⁾	Tap-off unit not equipped. Free choice of equipment and power sockets	KNB 32CP*	2.70

(1) Supplied with blanking plate (1x5 divisible).

(2) The neutral must be protected or not distributed (3L + PE) for IT system.

* Adaptation for transmission bus (KNT) with remote control power socket block KNT 63ZT1 not possible.

KNB 32CP



— Centre line of tap-off outlets

(3) Protruding

Power sockets

Designation	Rated current (A)	Rated voltage (V AC)	Number of poles	Dimensions (W x H in mm)	Cat. no.	Weight (kg)	
Industrial sockets	16	200-250	2P + T	65 x 85	PKY16F723	-	
			3P + N + T	90 x 100	PKY16F725	-	
	32	200-250	380-415	2P + T	65 x 85	PKY16F733	-
				3P + N + T	90 x 100	PKY16F735	-
			200-250	2P + T	90 x 100	PKY32F723	-
				3P + N + T	90 x 100	PKY32F725	-
Household NF sockets	10 to 16	250	2P + T	65 x 85	81140	-	
			2P + T	65 x 85	81141	-	
Household Schuko sockets	10 to 16	250	2P + T	65 x 85	81141	-	
			For blanking of unused openings		13137	0.10	
Screw-on plate			For adapting 65 x 85 mm power-socket bases		13136	0.09	



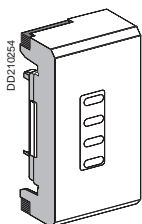
Canalis KN, 40 to 160 A

Busbar trunking for low-power distribution

16 to 25 A tap-off units for NF fuses

Single-phase tap-off unit with phase selection for cylindrical fuses

Disconnection by unplugging the tap-off unit



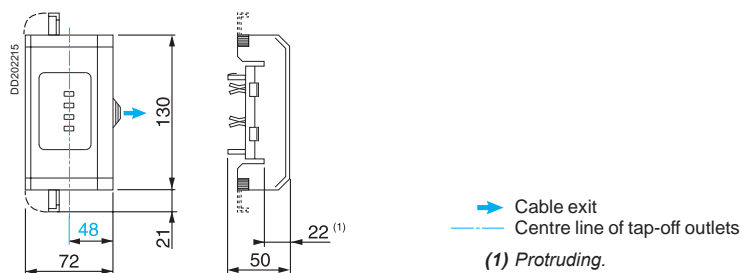
KNB 16CF2

Earthing system arrangement	Busbar trunking Tap-off unit	TT - TNS - TNC TT - TNS - TNS
Tap-off polarity	L + N + PE	
Tap-off diagram (e.g. fuse protection)		

Rating (A)	For fuses (not supplied)	Connection	Max. size (mm ²)		Cable gland (not supplied)	Cat. no.	Weigh (kg)
			Flexible	Rigid			
16	NF 8,5 x 31,5 Type gG : 16 A maxi. Type aM : 16 A maxi.	Cable clamp terminals	4	6	Cable clamp supplied	KNB 16CF2*	0.16

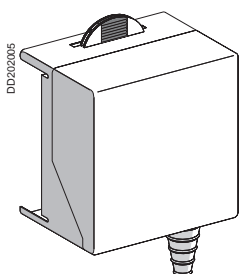
* Adaptation for transmission bus (KNT) with remote control power socket block KNT 63ZT1 not possible.

KNB 16CF2



Four-pole tap-off unit for cylindrical fuses

Disconnection by unplugging the tap-off unit



KNB 25CF5

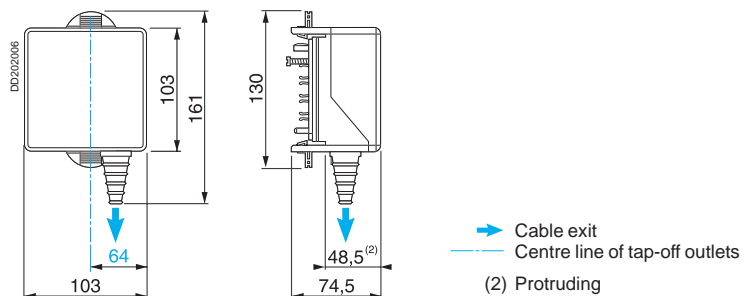
Earthing system arrangement	Busbar trunking Tap-off unit	TT - TNS - TNC TT - TNS - TNS	IT IT
Tap-off polarity	3L + N + PE ⁽¹⁾		3L + PE
Tap-off diagram (e.g. fuse protection)			

Rating (A)	For fuses (not supplied)	Connection	Max. size (mm ²)		Cable gland (not supplied)	Cat. no.	Weigh (kg)
			Flexible	Rigid			
25	NF 10 x 38 Type gG, 20 A max. Type aM, 25 A max.	Cable clamp terminals	6	10	Cable clamp supplied	KNB 25CF5*	0.38

(1) Also suitable for tap-off unit 3L + PE (N not distributed).

* Adaptation for transmission bus (KNT) with remote control power socket block KNT 63ZT1 not possible.

KNB 25CF5

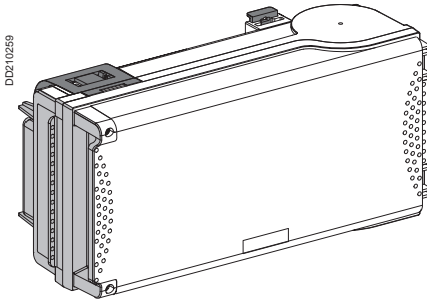




50 A tap-off units for NF fuses

Tap-off unit with isolator for cylindrical fuses

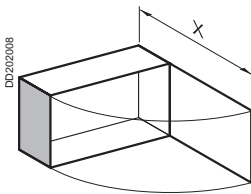
Disconnection by opening the tap-off unit cover



KNB 50SF4

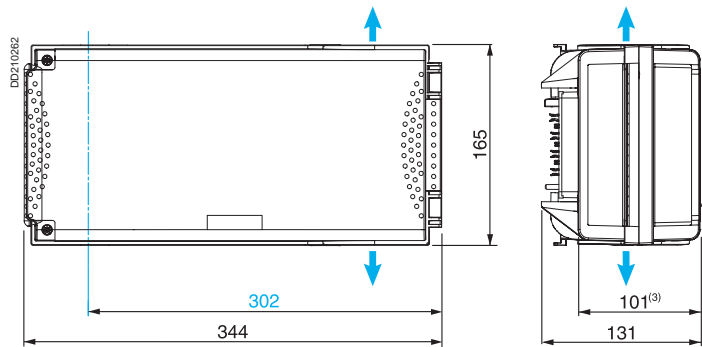
Earthing system arrangement	Busbar trunking	TT - TNS - TNC	IT			
	Tap-off unit	TT - TNS - TNS	IT			
Tap-off polarity		3L + N + PE ⁽¹⁾	3L + PE			
Tap-off diagram (e.g. fuse protection)						
Rating (A)	For fuses (not supplied)	Connection	Max. size (mm ²)	Cable gland ⁽²⁾ (not supplied)	Cat. no.	Weight (kg)
50	NF 14 x 51 Type gG, 50 A max. Type aM, 50 A max.	Cable clamp terminals	16 16	ISO 50 max.	KNB 50SF4	1.50

(1) Also suitable for tap-off unit 3L + PE (N not distributed)
 (2) Maximum diameter for a multipolar cable.



X = 420

KNB 50SF4



- Cable exit
- Centre line of tap-off outlets
- (3) Protruding



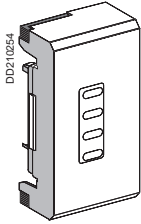
Canalis KN, 40 to 160

Busbar trunking for low-power distribution

16 to 20 A tap-off units for BS fuses

Single-phase tap-off unit with phase selection for screw-mounted fuses

Disconnection by unplugging the tap-off unit



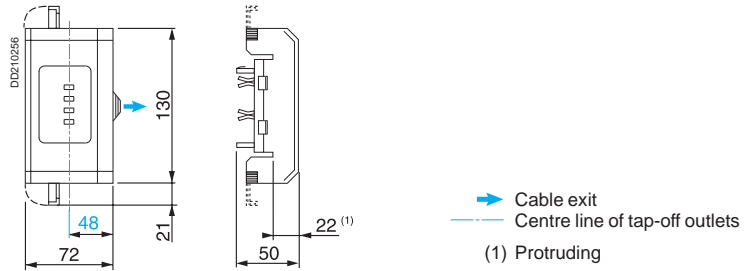
KNB 16CG2

Earthing system arrangement	Busbar trunking	TT - TNS - TNC
	Tap-off unit	TT - TNS - TNS
Tap-off polarity		L + N + PE
Tap-off diagram (e.g. fuse protection)		

Rating (A)	For fuses (not supplied)	Connection	Max. size (mm ²)		Cable gland (not supplied)	Cat. no.	Weight (kg)
			Flexible	Rigid			
16	BS88 A1	Cable clamp terminals	4	6	Cable clamp supplied	KNB 16CG2*	0.18

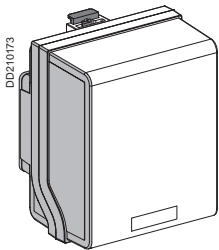
* Adaptation for transmission bus (KNT) with remote control power socket block KNT 63ZT1 not possible.

KNB 16CG2



Four-pole tap-off unit for screw-mounted fuses

Disconnection by unplugging the tap-off unit



KNB 20CG5

Earthing system arrangement	Busbar trunking	TT - TNS - TNC	IT
	Tap-off unit	TT - TNS - TNS	IT
Tap-off polarity		3L + N + PE ⁽¹⁾	3L + PE
Tap-off diagram (e.g. fuse protection)			

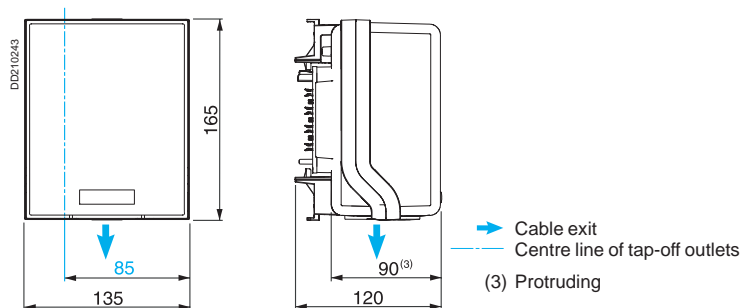
Rating (A)	For fuses (not supplied)	Connection	Max. size (mm ²)		Cable gland ⁽²⁾ (not supplied)	Cat. no.	Weight (kg)
			Flexible	Rigid			
20	BS88 A1	Cable clamp terminals	4	6	ISO 32 max.	KNB 20CG5*	0.60

(1) Also suitable for tap-off unit 3L + PE (N not distributed)

(2) Maximum diameter for a multipolar cable.

* Adaptation for transmission bus (KNT) with remote control power socket block KNT 63ZT1 not possible.

KNB 20CG5

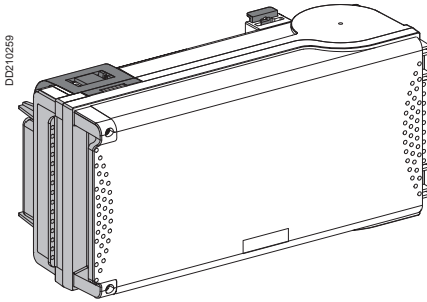




32 A tap-off units for BS fuses

Tap-off unit with isolator for screw-mounted fuses

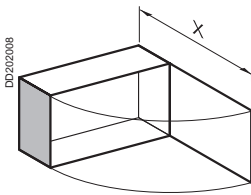
Disconnection by opening the tap-off unit cover



KNB 32SG4

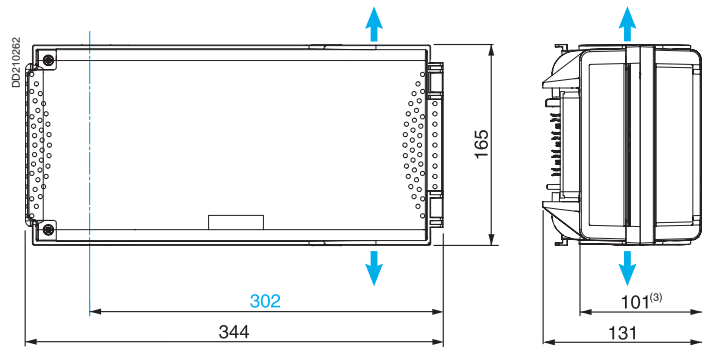
Earthing system arrangement	Busbar trunking	TT - TNS - TNC	IT			
	Tap-off unit	TT - TNS - TNS	IT			
Tap-off polarity		3L + N + PE ⁽¹⁾	3L + PE			
Tap-off diagram (e.g. fuse protection)						
Rating (A)	For fuses (not supplied)	Connection	Max. size (mm ²)	Cable gland ⁽²⁾ (not supplied)	Cat. no.	Weight (kg)
32	BS88 A1	Cable clamp terminals	10 Flexible 10 Rigid	ISO 50 max.	KNB 32SG4	1.50

(1) Also suitable for tap-off unit 3L + PE (N not distributed).
 (2) Maximum diameter for a multipolar cable.



X = 432.5

KNB 32SG4



- Cable exit
- Centre line of tap-off outlets
- (3) Protruding



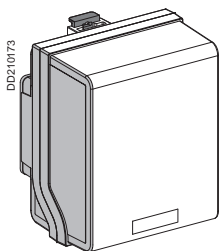
Canalis KN, 40 to 160 A

Busbar trunking for low-power distribution

16 A tap-off units and 25 to 50 A tap-off units for DIN fuses

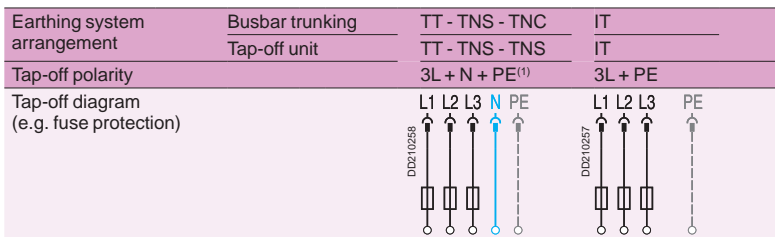
Four-pole tap-off unit for screw-type fuses

Disconnection by unplugging the tap-off unit



KNB 16CN5

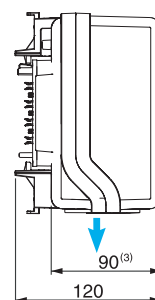
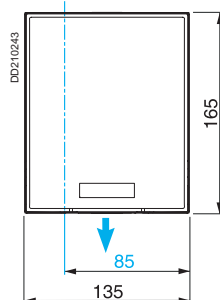
Rating (A)	For fuses (not supplied)	Connection	Max. size (mm ²)		Cable gland ⁽²⁾ (not supplied)	Cat. no.	Weight (kg)
			Flexible	Rigid			
16	Néozed E14	Tunnel terminals	4	6	ISO 32 max.	KNB 16CN5*	0.60



(1) Also suitable for tap-off unit 3L + PE (N not distributed).

(2) Maximum diameter for a multipolar cable.

KNB 16CN5

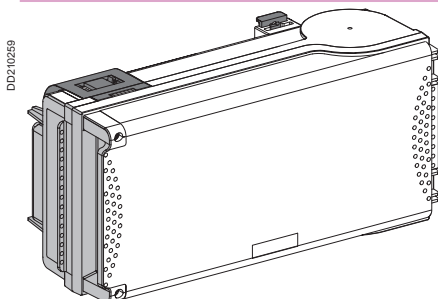


* Adaptation for transmission bus (KNT) with remote control power socket block KNT 63ZT1 not possible.

→ Cable exit
 - - - Centre line of tap-off outlets
 (3) Protruding.

Tap-off units for for screw-type fuses

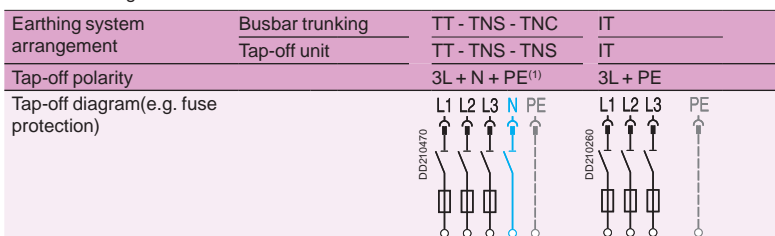
Disconnection by unplugging the tap-off unit



KNB ●●S●4

Rating (A)	For fuses (not supplied)	Connection	Max. size (mm ²)		Cable gland ⁽²⁾ (not supplied)	Cat. no.	Weight (kg)
			Flexible	Rigid			
25	Diazed E27	Tunnel terminals	16	16	ISO 50 max.	KNB 25SD4	1.50
50	Néozed E18	Tunnel terminals	16	16	ISO 50 max.	KNB 50SN4	1.50
	Diazed E33	Tunnel terminals	16	16	ISO 50 max.	KNB 50SD4	1.50

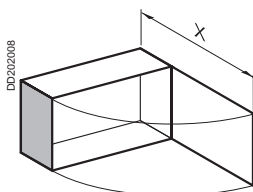
Tap-off unit disconnection by opening the cover should be carried out only if the downstream load is de-energised.



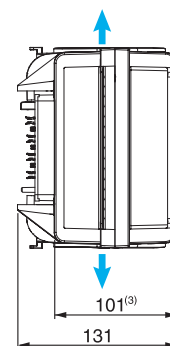
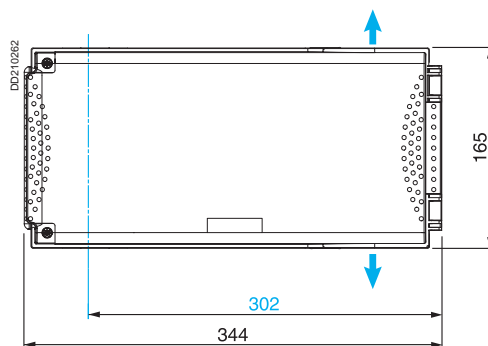
(1) Also suitable for tap-off unit 3L + PE (N not distributed).

(2) Maximum diameter for a multipolar cable.

KNB ●●S●4



X = 432.5



→ Cable exit
 - - - Centre line of tap-off outlets

(3) Protruding.

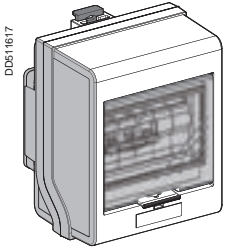
IP55
 Ue = 230...415 V
 RAL 9001 white



Tap-off units equipped with a surge arrester

Tap-off units equipped with a surge arrester

Disconnection by unplugging the tap-off unit

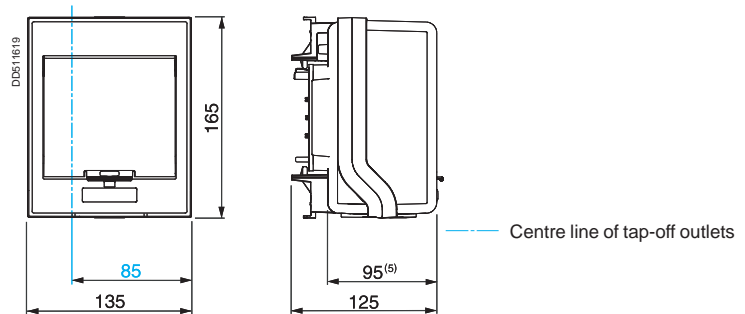


KNB QPF

		Earthing system arrangement	Busbar trunking	TT - TNS - TNC	
		Tap-off polarity	3L + N + PE ⁽¹⁾		
		Diagram			
Protection type	Surge arrester cartridges (supplied)	Connection	Permissible short-circuit Isc (kA)	Max. discharge current Imax (kA)	Cat. no.
Type 2	Fixed	Pre-wired	6	10	KNB QPF
					Weight (kg)
					1.3

Surge arrester installed: Quick PF10 surge arrester, 3P+N, cat. no. 16618 (Type 2 monoblock surge arrester, with fixed cartridges and integrated disconnection device, certified IEC 81643-1, EN 61643-11).

(1) Also suitable for tap-off unit 3L + PE (N not distributed).



(5) Side projection.



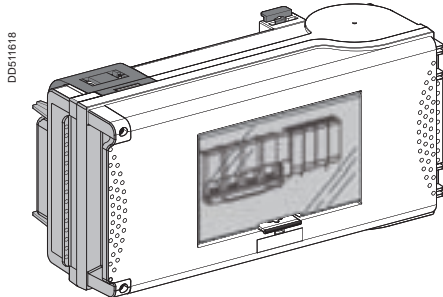
Canalis KN - 40 to 160 A

Busbar trunking for low-power distribution

Tap-off units equipped with a surge arrester

Tap-off units with isolator equipped with a surge arrester

Disconnection by opening the tap-off unit cover

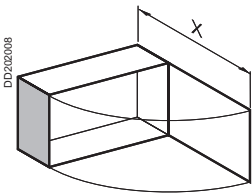


KNB QPRD

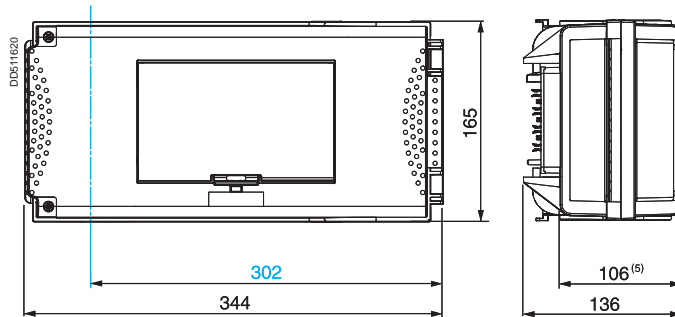
Earthing system arrangement	Busbar trunking	TT - TNS - TNC				
Tap-off polarity	3L + N + PE ⁽¹⁾					
Diagram						
Protection type	Surge arrester cartridges (supplied)	Connection	Permissible short-circuit Isc (kA)	Max. discharge current I _{max} (kA)	Cat. no.	Weight (kg)
Type 2	Removable	Pre-wired	25	40	KNB QPRD	3.40

Surge arrester installed: Quick PRD40r surge arrester, 3P+N, cat. no. 16294 (Type 2 monoblock surge arrester, with fixed cartridges and integrated disconnection device, certified IEC 81643-1, EN 61643-11).

(1) Also suitable for tap-off unit 3L + PE (N not distributed).



X = 432.5



— Centre line of tap-off outlets

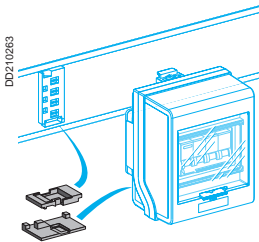
(5) Side projection.



Accessories

Accessories

For all tap-off units



KNB 160Z●●

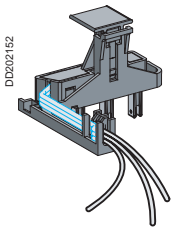
Designation	Colour	Order in multiple of	Cat. no.	Weight (kg)
Outlet/tap-off unit interlocking device	White	10	KNB 160ZL10	0.01
	Red	10	KNB 160ZL20	0.01
	Yellow	10	KNB 160ZL30	0.01
	Blue	10	KNB 160ZL40	0.01

For tap-off units with modular devices

Designation	Description	Cat. no.	Weight (kg)
Modular blanking plate	Divisible set of 10 x 5	13940	0.08
Screw-on plate	For blanking of unused openings	13137	0.10
	For adapting 65 x 85 mm power-socket bases	13136	0.09
Adhesive label⁽¹⁾	Set of 12 label-holders (height 24 mm)	08905	0.50
	Set of 12 labels (height 24 mm)	08903	0.50
	Set of 12 divisible labels (height 24 mm)	08907	0.50

(1) Self-adhesive support complete with transparent cover and paper label.

For tap-off units*



KNT 63ZT1

Designation	Order in multiple of	Cat. no.	Weight (kg)
Remote control power socket block	1	KNT 63ZT1	0.035

* KNT 63ZT1 is compatible with the following tap-off units:

- Four-pole tap-off unit
- Tap-off unit with isolator
- Tap-off unit with isolator for cylindrical fuses
- Tap-off unit with isolator for screw-mounted fuses
- Tap-off units for screw-type fuses

Canalis KN, 40 to 160 A

Busbar trunking for low-power distribution

Installation scenario

Installation of a line

Unload and carry the products inside to an area where they are not exposed to dust or inclement weather.

Do not store the busbar trunking outdoors.

Take care not to knock or drag the busbar trunking on the ground. That could damage the ends and render connections impossible.



Unpack and layout on the floor the trunking components required to mount the first line.

Check the position of the feed unit. It must be as close as possible to the switchboard.



Preparation of fixings

Count the number of fixings required to install the trunking components.

In this catalogue, you will find a number of fixings suited to different building structures.

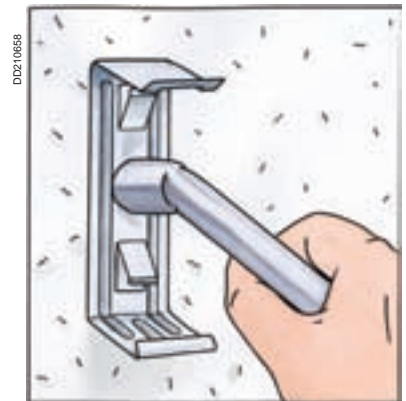
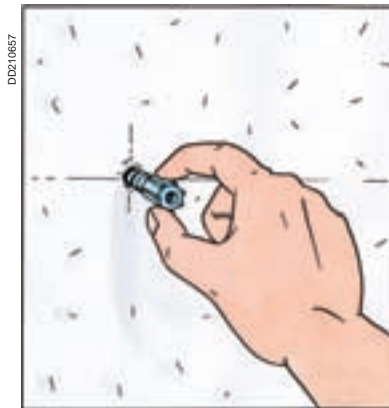


Drill the holes used to mount the brackets on the wall.

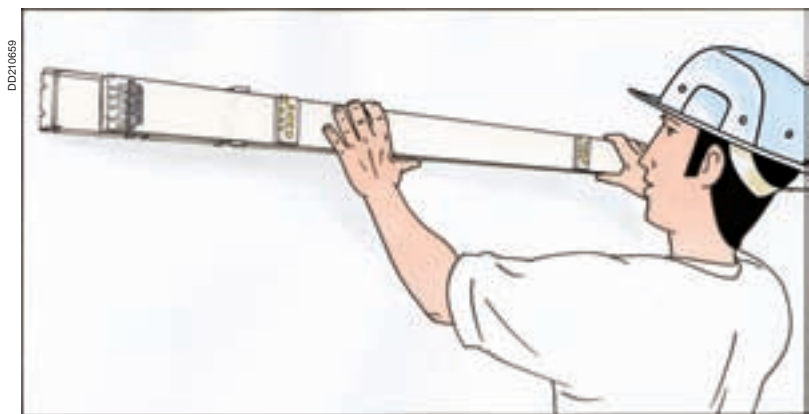


Insert fixing plugs in the holes.

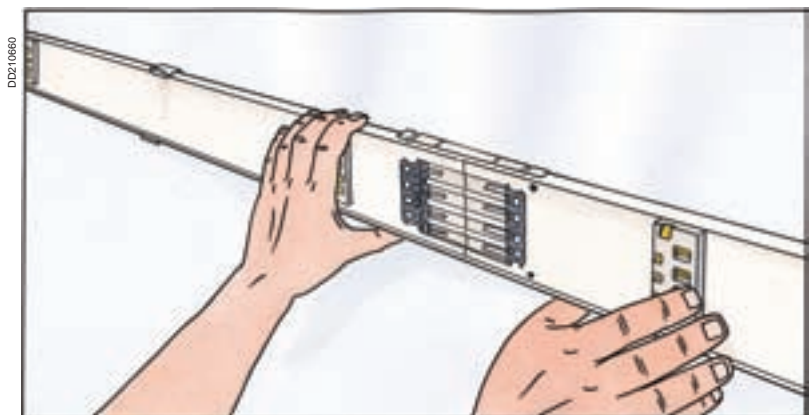
Position and secure the fixing brackets.



Position the Canalis KN trunking in the fixing brackets.



Assemble the components.



Interconnect the lengths using the mechanical and electrical jointing system.



Installation

IP55

Ue = 230...500 V

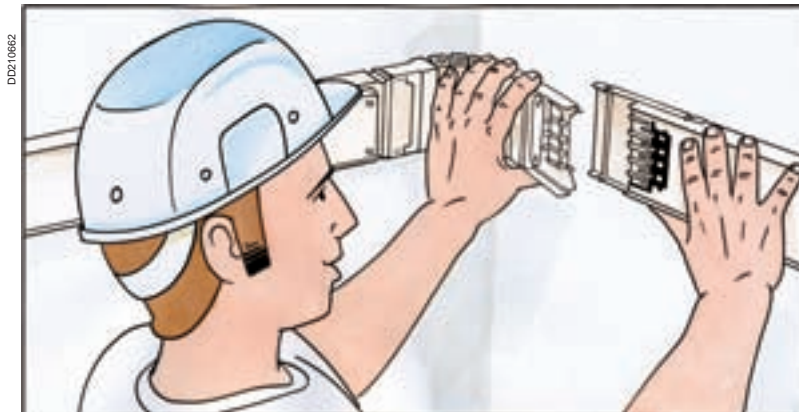
RAL 9001 white

Canalis KN, 40 to 160 A

Busbar trunking for low-power distribution

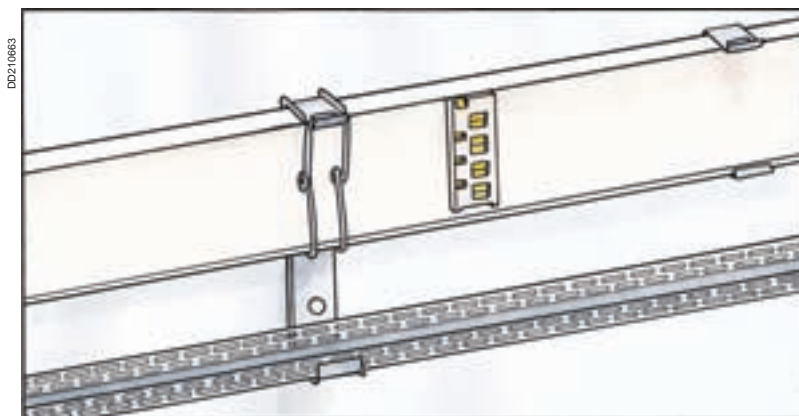
Installation scenario

Assemble a run component and a component for changing direction.



Install a cable duct.

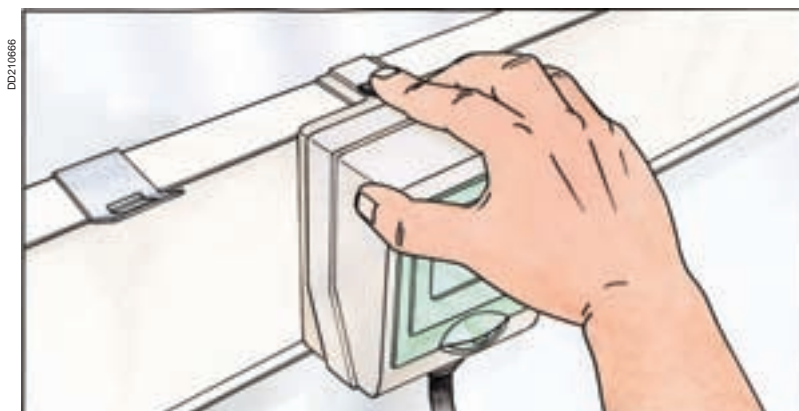
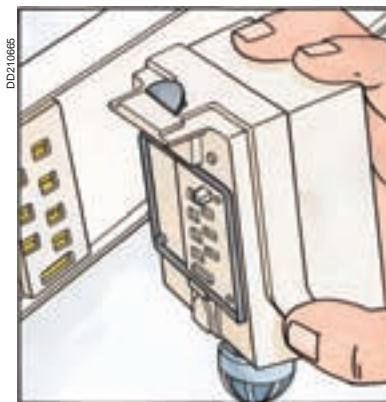
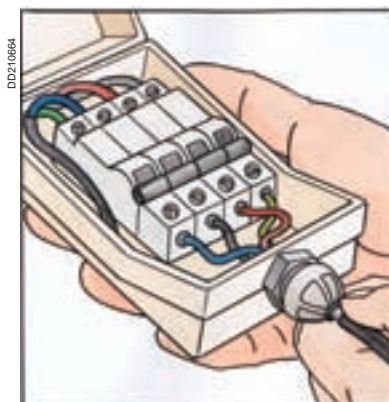
In this catalogue, you will find a full range of accessories for running all the adjacent circuits of the installation.



Tap-off connections

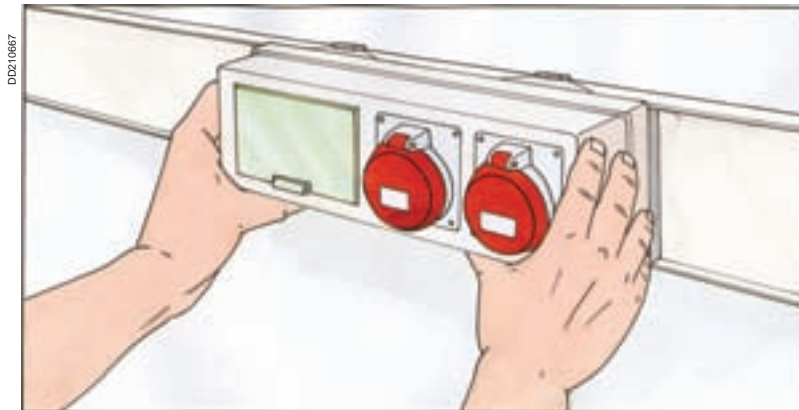
Wire the modular devices and then clip in the tap-off unit.

In this catalogue, you will find a full range of tap-off units to cover all protection needs using either circuit breakers or fuses.



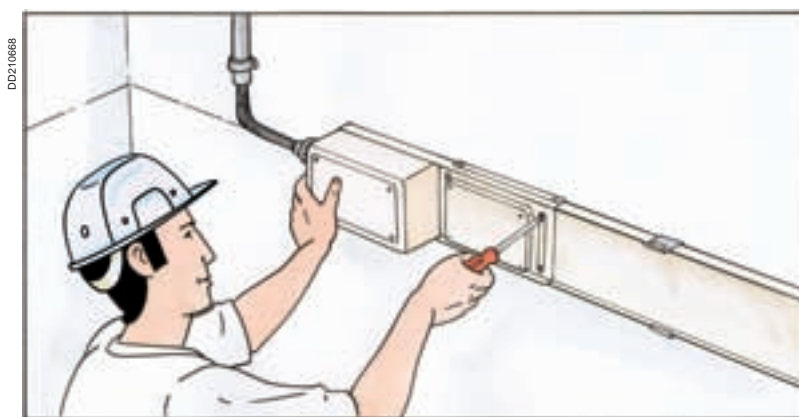
Industrial power sockets can be simply clipped on.

In this catalogue, you will find a full range of power-socket units with household and industrial sockets that are compatible with the entire PK socket range.

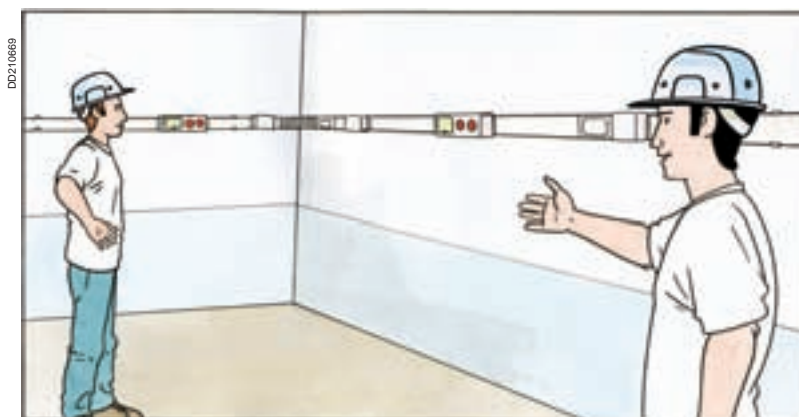


Connect the feed unit and energise

Last installation step.
Connect the supply cable to the Canalis KN feed unit,
then to the switchboard.



Energise the system to check operation.

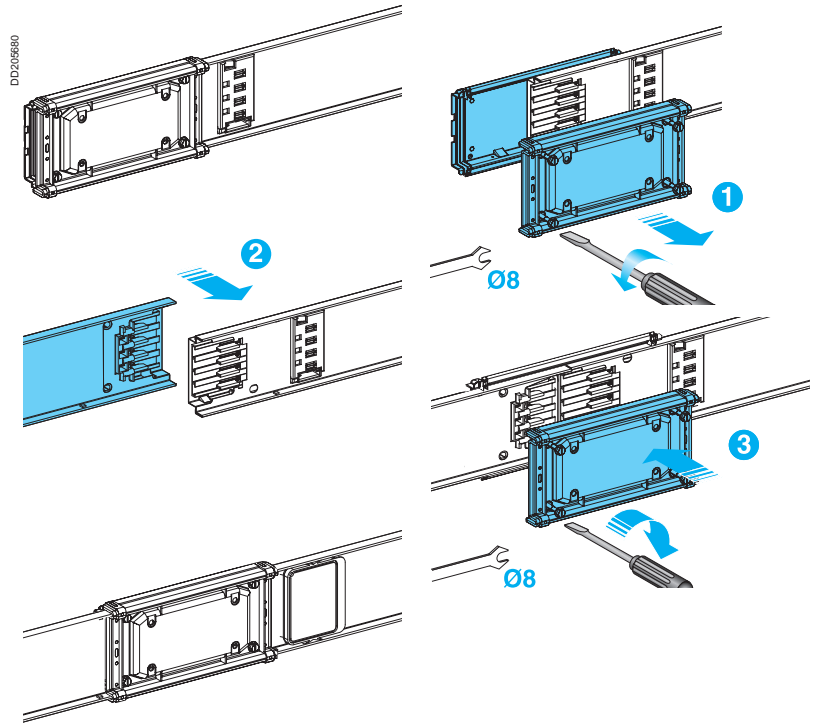


Canalis KN, 40 to 160 A

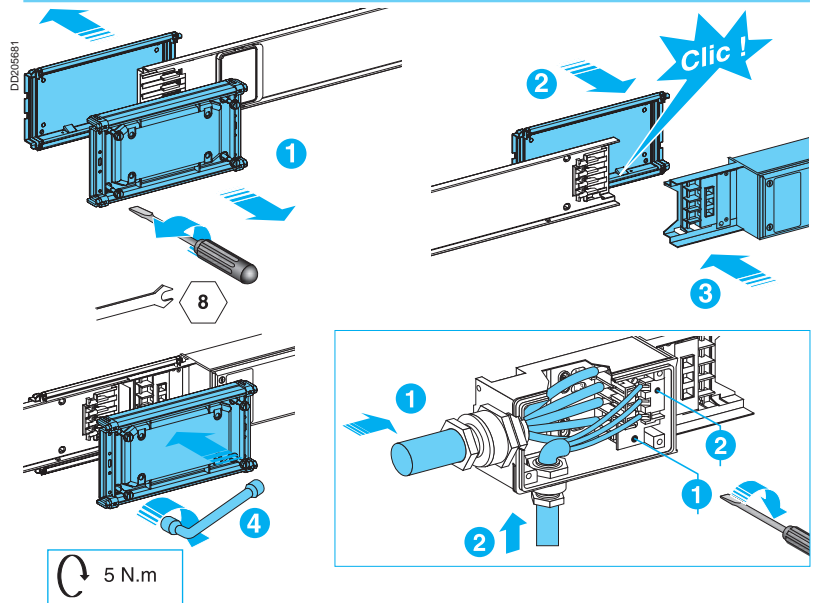
Busbar trunking for low-power distribution

Assembly of trunking components

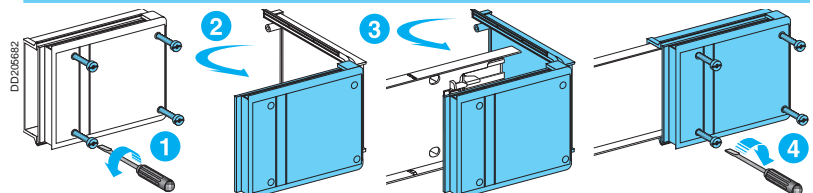
Assembling the straight lengths



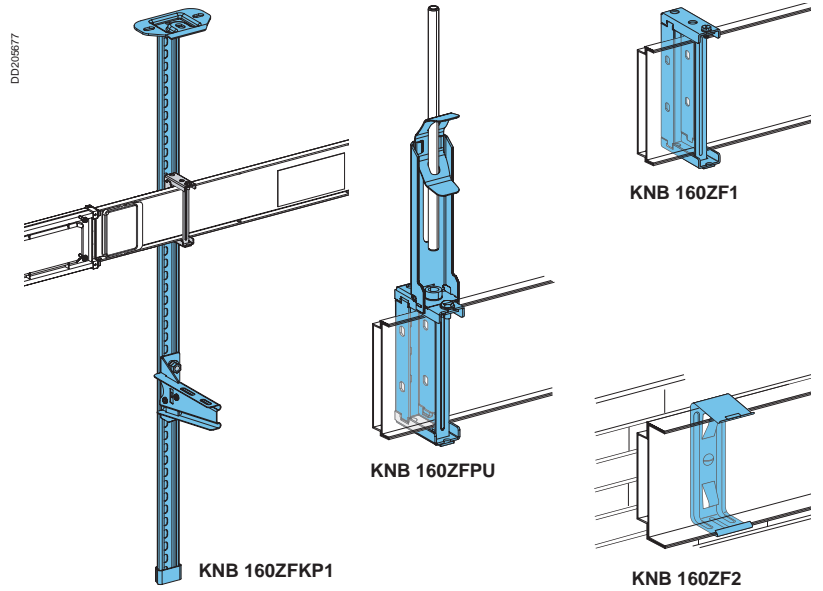
Connecting the feed-unit



Assembling the end cover

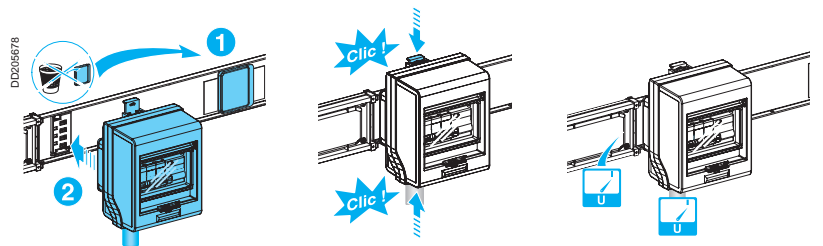


Fixing Canalis KN in the brackets

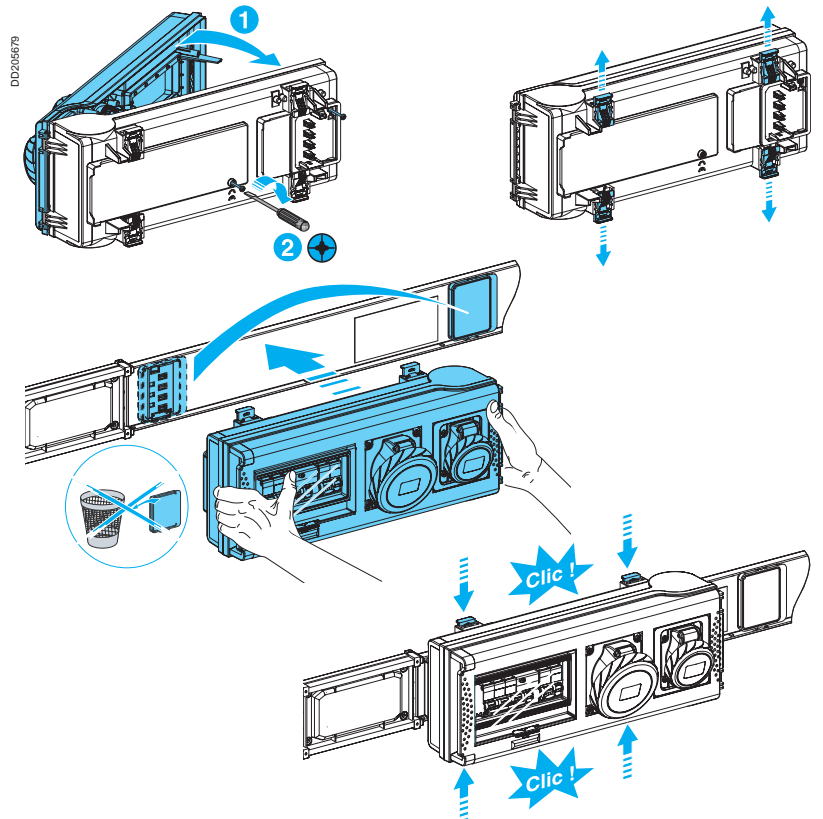


Canalis
KN

Mounting the tap-off unit



Mounting the tap-off unit with power sockets



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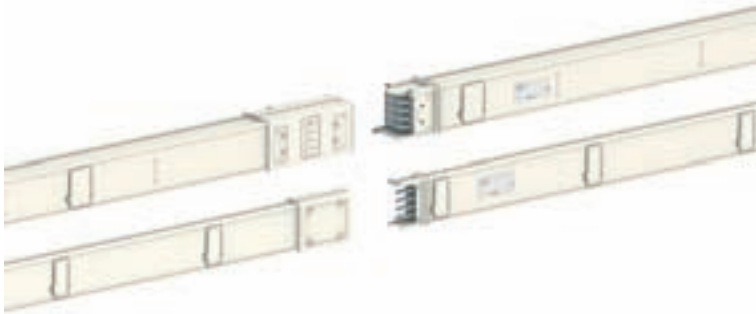
Canalis KS

For medium-power distribution
from 100 to 1000 A

1. Run components

- Rating: 100,160,250,400,500,630,800,1000 A.
- 4 live conductors.
- Length:
 - basic components: 3 and 5 metres.
 - additional lengths: 1.5 and 2 metres.

PD02204



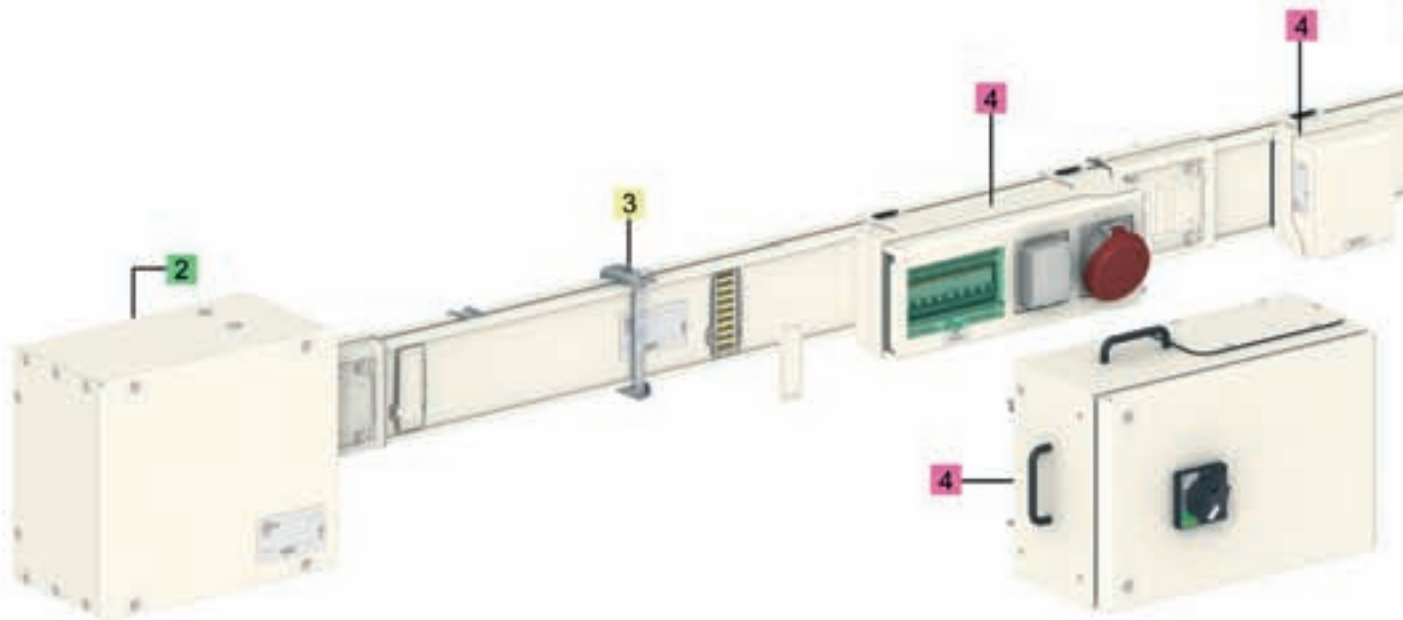
PD02205

2. Feed units and end covers

- The feed units delivered with end covers, receive the cables supplying one end or any other point of Canalis KS trunking.



PD202218



3. Fixing system

■ The fixing system ensures that Canalis KS is well secured, whatever the type of building structure.

P.DC02206



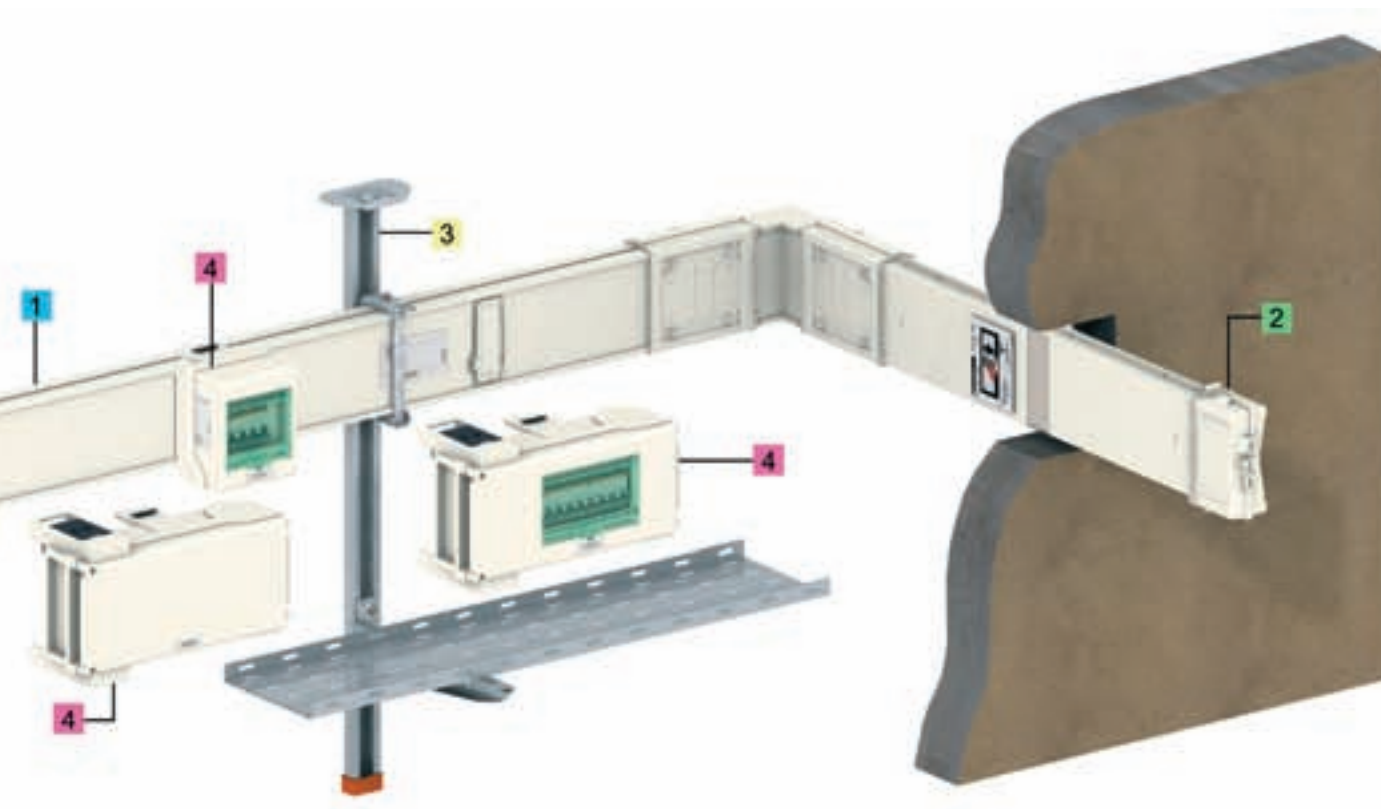
4. Tap-off units

- The tap-off units (with and without isolators) are used to:
 - supply loads from 25 to 400 A
 - or protect nearby loads against overloads due to lightning strikes.
- Protection is ensured with modular or Compact NSX circuit breakers or fuses.

P.DC02207



Canalis
KS



Canalis KS

for medium-power distribution
from 100 to 1000 A

No toxic emission in case of fire

All components in the KS range are **halogen free**.
In case of fire, Canalis KS does not release smoke or toxic gases.



Excellent contact

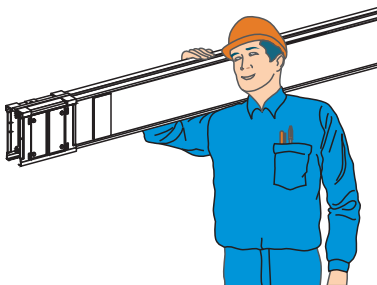
Contacts are silver-plated.
The level of performance remains the same throughout the life of the product.



PD0202209



DD0202171



Light and easy to handle

Canalis trunking is light and easy to handle due to the use of aluminium conductors.
For equal power ratings, trunking equipped with copper conductors is 40% heavier.
The low weight of Canalis KS simplifies installation and greatly reduces the time required. Fewer workers and resources are required, whatever the type of installation.

DD202142



DD202143



DD202144



A high degree of protection

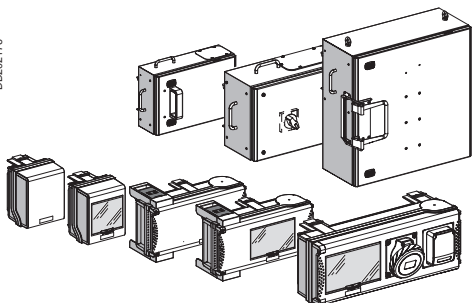
The high degree of protection for Canalis KS means it can be installed in all types of buildings.

- **IP55** guarantees trunking protection against splashes, and dust.
- **IK08** guarantees the strength of the trunking (resistance to shocks).
- **IPxxD** ensures totally safe working conditions for maintenance personnel.
- Canalis KS complies with **sprinkler tests**, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.



Canalis
KS

DD202176



A complete range of tap-off units

- The range covers all needs from 25 to 400 A.
- Protection is possible using circuit breakers or fuses.
- Also available are 32 A tap-off units equipped with household and industrial power sockets.

Intelligent tap-off units

- They monitor the installation to avoid overloads and ensure continuity of service.
- They can meter the energy consumed for precise management (cost allocation for each consumer).

Description

Canalis KS, 100 to 1000 A

Medium-power distribution

IP55

U_e = 230...690 V

RAL 9001 white

Canalis KS is designed for medium-power distribution with high tap-off densities in industrial and commercial buildings (factories, exhibition halls, supermarkets, etc.).

The range is available in eight ratings: 100, 160, 250, 400, 500, 630, 800 et 1000 A.

Canalis KS provides an IP55 degree of protection, whatever the installation method. Consequently it can be installed in virtually any type of building.

Tap-offs are implemented by tap-off units from 25 to 400 A that may be removed in complete safety under energised conditions, from 25 to 400 A. Busbar trunking rated 100 to 400 A may be equipped with tap-off units up to 250 A.

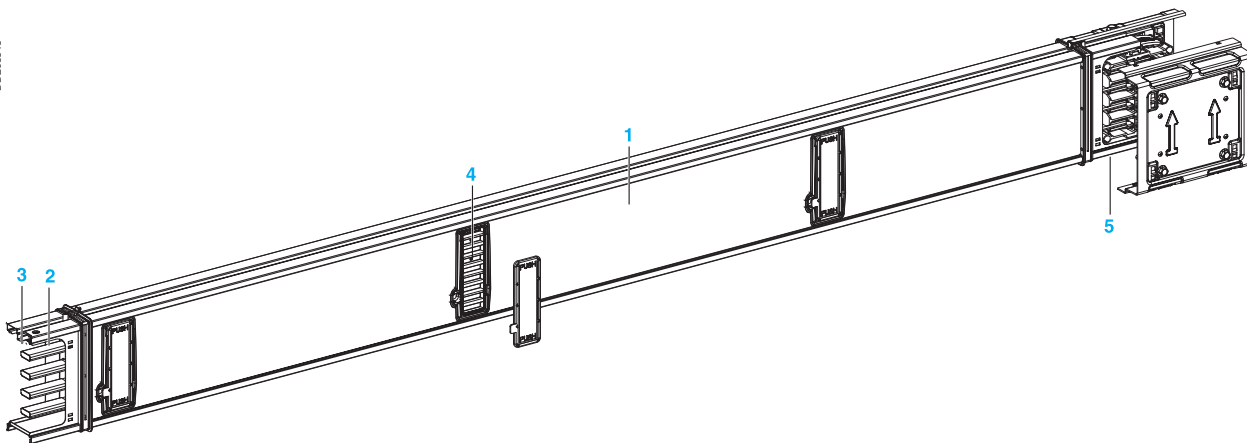
Busbar trunking with higher ratings may be equipped with the entire range of tap-off units.

All the insulating and plastic materials are **halogen-free** and have enhanced fire-withstand capabilities.

- incandescent wire test as per standard IEC 60695-2 :
- 960 °C for components in contact with live parts,
- 650 °C for other components.

Straight lengths

Distribution components



These components carry the current and supply loads up to 400 A. They constitute the basic structure of the line and are made up of:

- 1 a casing, crimp closed, made of hot-galvanised sheet steel**, pre-lacquered RAL 9001 white. This casing, shaped and ribbed by roller burnishing, provides excellent resistance to bending and twisting. Two sizes cover the entire range of ratings: 54 mm wide for the 100, 160, 250 and 400 A ratings and 113 mm wide for the 500, 630, 800 and 1000 A ratings, live conductors made up of four identically sized bars.
- 2 silver-plated aluminium/copper bimetal laminate for the 100 and 160 A ratings**, aluminium equipped with silver-plated aluminium/copper bimetal laminate contacts electrically welded at junctions and tap-off points for the 250 and 1000 A ratings.
- 3 a protective conductor (PE)** sized $\geq 50\%$ with respect to the cross-section of phases. It is connected to the casing at each junction.
- 4 tap-off outlets** every meter on both sides of the trunking.
- 5 a mechanical and electrical jointing system:** Electrical jointing is ensured by a block with flexible grip contacts made of silver-plated copper. This block equally absorbs the difference in conductor and casing thermal expansion for each length. For the 100 to 250 A ratings, it ensures automatic and simultaneous jointing of all live conductors and the continuity of the protective earth conductor, as well as its connection with the casing. For the 400 to 1000 A ratings, electrical jointing is ensured by a quarter-turn locking mechanism for each conductor.

Special components

1 Custom-length run components

Used to adjust the length of a line (e.g. between two changes in direction).

These components are made to order and do not have tap-off outlets.

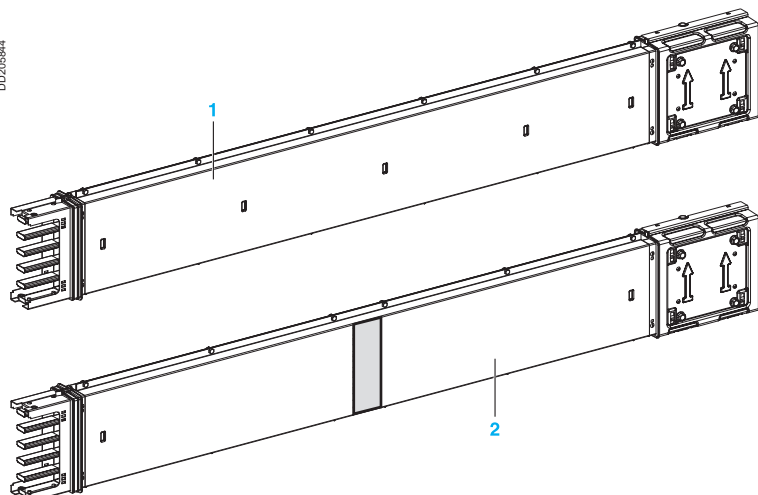
2 Fire barrier

This type of length is used to transit a fire-proof wall (e.g. between two rooms in a building).

It has been tested in a certified laboratory and complies with standard EN 1363-1.

The laboratory report lists the following results:

- thermal insulation: ≥ 120 minutes,
- resistance to flames: ≥ 120 minutes,
- stability: ≥ 120 minutes.



Feed units and end covers

Used to feed a KS line by cables or directly from the busbars in a switchboard. They can be mounted at the end of a line (end feed, left or right) or in the middle (central feed).

1 End feed unit for KS 100 A trunking

For KS 100 A trunking only. It can be mounted on either side of a straight length. It is equipped with a PG 29 cable gland and supplied with an end cover.

2 End feed unit for trunking up to 1000 A

For 250 to 400 A ratings. It can be mounted on either end of a straight length by inverting the initial section of the trunking, and supplied with an end cover. For 500 to 1000 A ratings, there are right and left-hand versions.

3 Centre feed unit

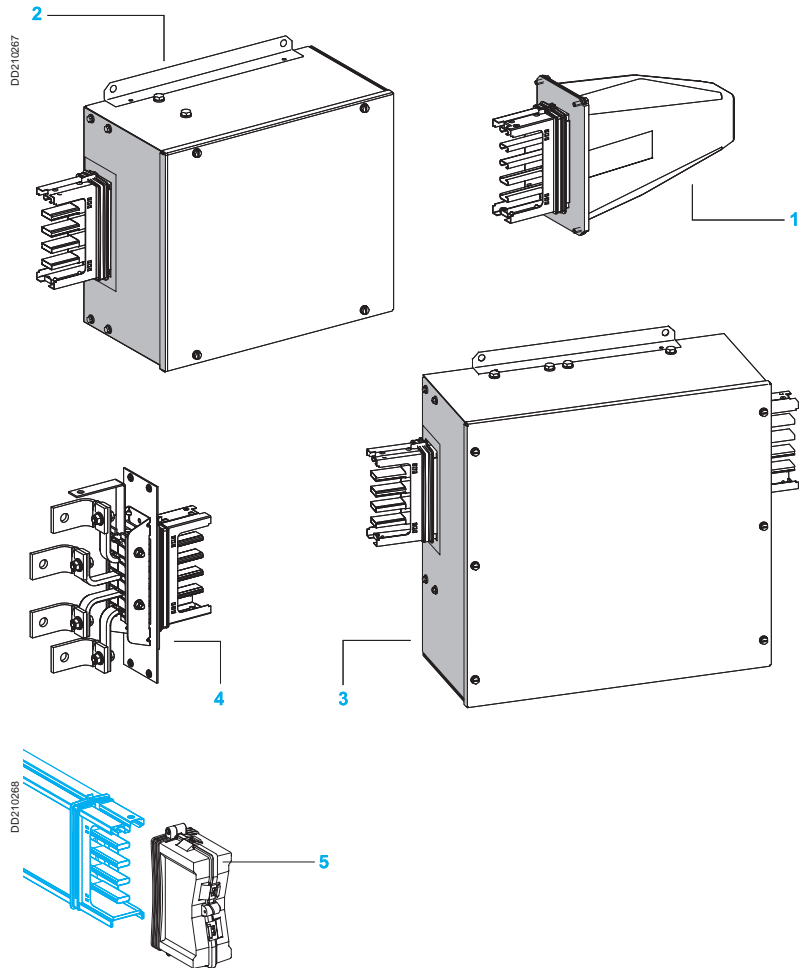
Using a single cable, it is possible to feed both the right and left-hand sections. It is mounted between two straight lengths in the line and is supplied with two end covers.

4 Flange feed unit

Equipped with splayed bars and a mounting plate for direct connection to the busbars of a switchboard. It can be mounted on either end of a component and is supplied with an end cover.

5 End cover

The end cover protects and isolates the ends of the conductors. It is mounted on the last component. Supplied with end feet unit and feed unit.



Components for changing direction

All components for changing direction are supplied with a junction block.

1 Edgewise elbow

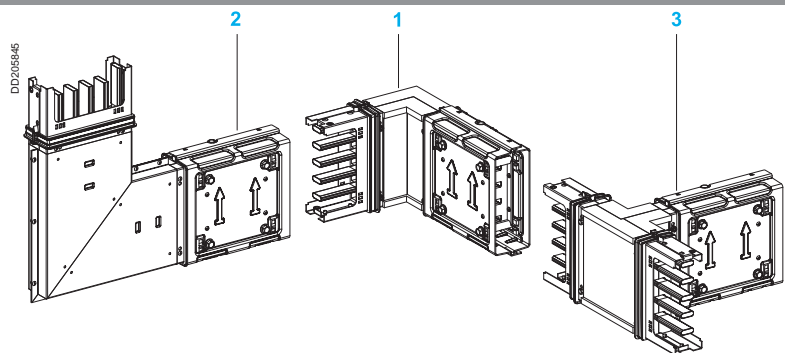
One model for turning right or left.

2 Flat elbows

Two models, one for turning up and the other for turning down.

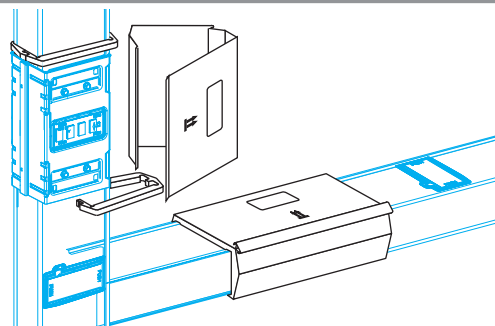
3 Edgewise tee

To create branches perpendicular to the main line.



Sprinkler kit

To comply with the sprinkler tests (guaranteeing operation under vertically and horizontally sprayed water for 50 minutes), each electrical jointing system should be fitted with a reinforced protection kit (the jointing sleeve).



Description

IP55

U_e = 230...690 V

RAL 9001 white

Canalis KS, 100 to 1000 A

Medium-power distribution

Fixing systems

The maximum recommended fixing distance is three metres.

1 Universal fixing bracket

For attachment of the busbar trunking to the structure of the building, either directly or via a threaded rod M8, brackets, etc.
Suspension using chains or steel cables is not advised.

2 Pendant kit

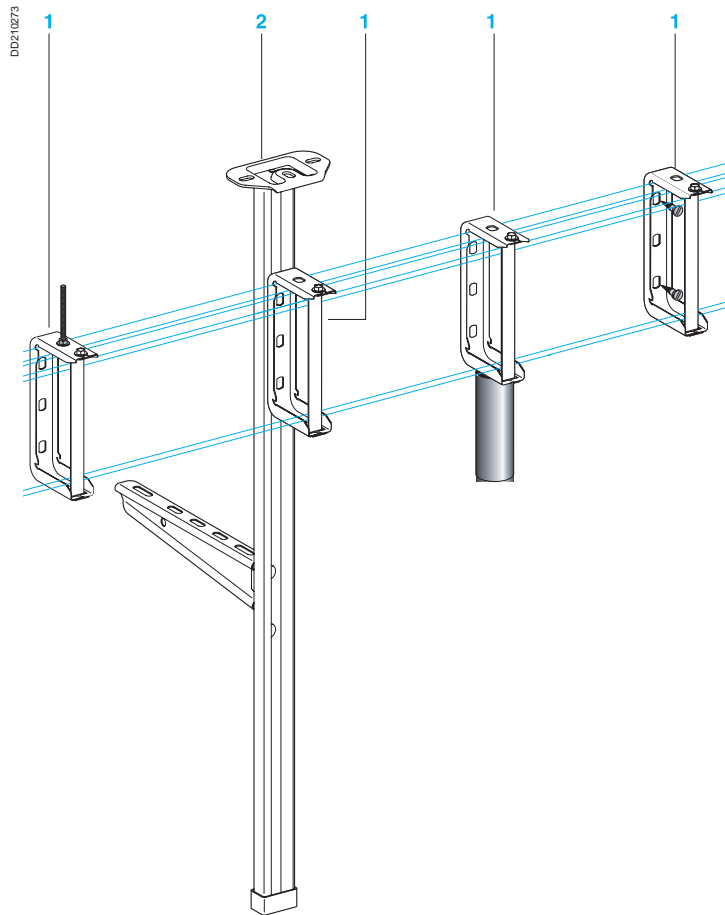
The pendant kit includes:

- a perforated pendant used to suspend a KS line from the building structure, an IPN or the ceiling. Length: 1 meter
Width: 80 mm
- a cantilever arm that supports the cable tray under the KS line.
- the mounting hardware required to secure the KS bracket and the cantilever arm to the pendant.

Two kits are available:

- KS ratings up to 400 A: 200 mm cantilever arm
- KS ratings from 500 A to 1000 A: 300 mm cantilever arm.

If necessary, additional cantilever arms can be ordered.



Tap-off units

For rapid connection of loads or secondary lines, in compliance with installation standards CEI 60364 and regulations, whatever the system earthing arrangement (TT, TNS, TNC or IT).

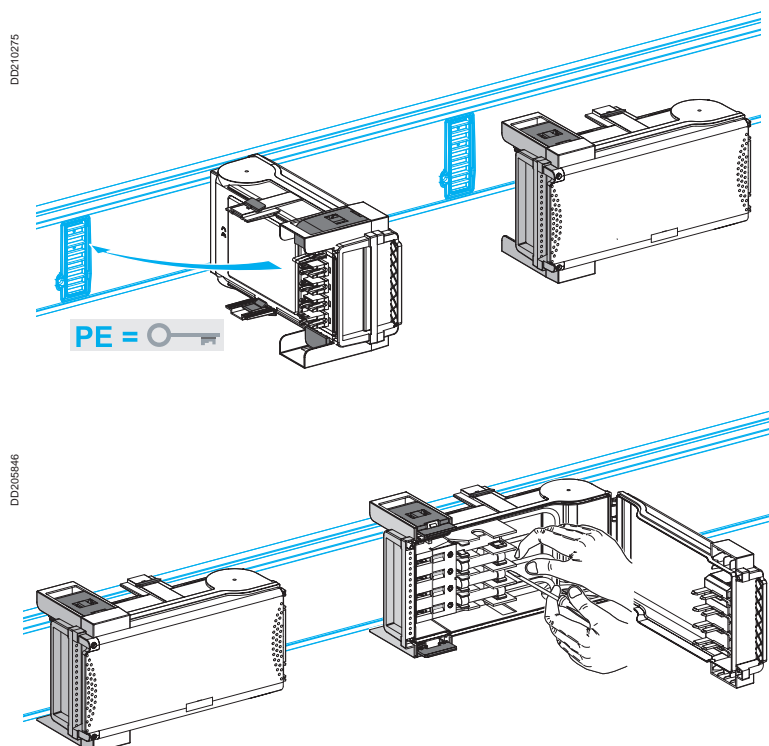
They can be handled and removed under off-load conditions with the trunking energised.

The tap-off outlets are automatically opened or closed when tap-off units are connected or removed.

With the cover open, no live parts are accessible.

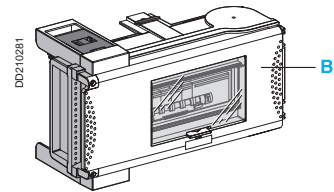
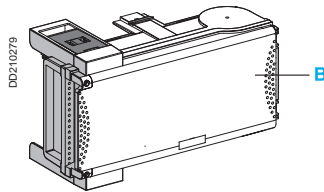
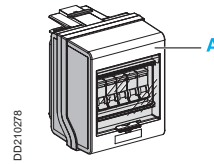
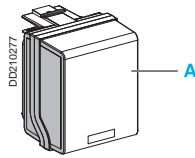
The degree of protection is IPxxB (protected against access with a finger).

The degree of protection is IP55 as standard (no accessories are required).



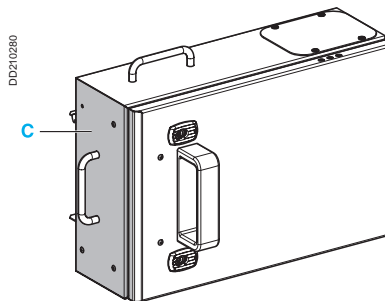
Tap-off units (A) and tap-off units with isolators (B) up to 100 A are made of plastic:

- Colour: RAL 9001 white for the casing and the grip zones and transparent green for the cover (design based on Kaedra enclosures), The fixing mechanisms are in RAL 7016
- Material: self-extinguishing, **halogen free** insulating plastic (fire resistant and very high temperature withstand).
- Other characteristics: cable gland drilling zone, stainless steel screws and the door can be lead sealed.



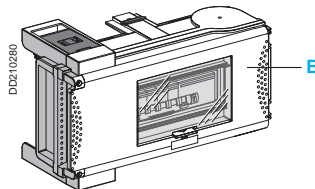
Tap-off units from 160 to 400 A are made of sheet steel (C):

- Colour: RAL 9001 white for the casing, RAL 9005 black for the grip zones (100% polyester paint on galvanised sheet steel)
- Other characteristics:
 - Removable cover with hinges enabling opening up to 120°, vertically bevelled cover with double bends for enhanced rigidity (design based on Sarel Spatial 3D enclosures), polyurethane gaskets.
 - Equipped with cable-gland plates marked every 25 mm and designed for maximum access.



Disconnection principle:

Disconnection by unplugging the tap-off unit.
The access to the electrical devices and the terminals is possible only when the tap-off unit is unplugged (i.e. not energised).
A safety device prevents connection to the trunking when the cover has been removed.



Disconnection of tap-off units with fuses and modular devices (category AC22 to AC20) is obtained by opening the tap-unit cover.

Tap-off unit disconnection by opening or closing the cover should be carried out only if the downstream load is de-energised.

For tap-units with circuit breakers, a number of safety devices prevents from:

- Plugging and unplugging in the tap-off unit when the cover is closed
- Closing the cover before the tap-off unit is locked onto the trunking
- having access to the electrical equipment and the terminals when energised.
- opening the cover in the position "ON" (tap-off units equipped with a Compact NSX or NG circuit breaker).

These tap-off units can be equipped with certain accessories such as circuit-opening contacts on the cover, lead seals, etc.

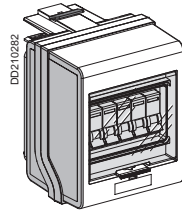
Tap-off units for circuit-breakers (not equipped)

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.

Tap-off unit for modular devices

This tap-off unit can be equipped with most modular devices (18 mm wide) of the Multi 9 type:

- rated current: 32 A,
- capacity: 5 modules,
- with a window in front for visual and physical access to the devices. A transparent cover seals the window.

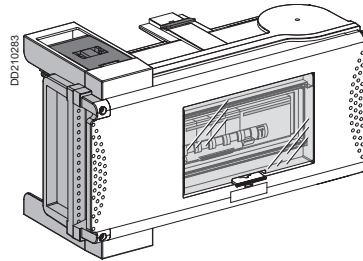


Tap-off units, with isolators, for modular devices

These tap-off units accept most modular devices of the Multi 9 type available in multiples of 18 mm wide modules. They have a window in front for visual and physical access to the devices. A transparent cover seals the window.

Two ratings are available:

- rated current 63 A for eight modules,
- rated current 100 A for twelve modules (can accept C120 circuit breakers).

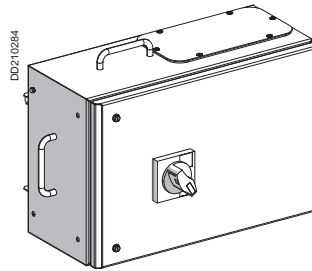


Tap-off units for NG type modular devices

These tap-off units are equipped with a DIN rail and upstream connections to accept modular devices available in multiples of 18 mm wide modules.

The devices are operated by rotary handles that prevent door opening with the circuit breaker in "On" position.

- rated current: 160 A,
- capacity: 13 modules (accepts NG125 or NG160 devices equipped with Vigi modules).



Tap-off units, with isolators, for Compact NSX circuit breaker

These tap-off units are equipped with mounting plates and upstream connections for Compact NSX circuit breakers:

- rated current: 100 to 400 A, N, H or L versions,
- fixed, front connection, rotary handle,
- For Compact NSX + Vigi module, use Tap-off units for measurements and metering (see below)

400 A tap-off units can be only installed on straight lengths > 400 A.

Note: For options such as withdrawable circuit breakers, earth-leakage protection, etc, call your Schneider Electric contact.

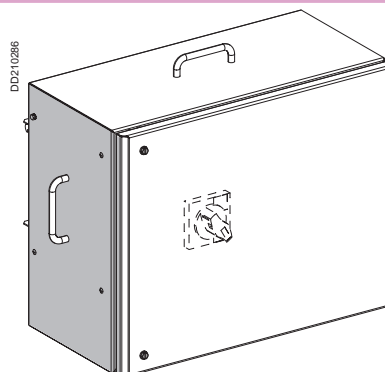
Tap-off units for measurements and metering (not equipped)

Tap-off units, with isolators, for measurements and metering

These tap-off units are used for sub-billing and monitoring of secondary lines. The values measured by the TI module of the Compact NSX are transmitted to the power-monitoring unit that forwards the information to a central unit via a bus. (see Special measurement and metering applications)

They are equipped with:

- a mounting plate for a Compact NSX type circuit breaker with an extended rotary handle and a Compact NSX current transformer module.
- a DIN rail for installation of a Powerlogic PM810, a set of terminals, etc.



Under severe operating conditions (> 40 °C ambient temperature), we recommend using a PM810 without a display.

Tap-off units for power sockets (not equipped)

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.

Canalis 32 A tap-off unit for power sockets

For the supply of portable loads equipped with household or industrial plugs in a garage, maintenance workshop, laboratory, battery charging room, etc
For installation on trunking mounted on a wall for better access.

For easy access, install on trunking mounted at an appropriate height on the wall.

Flexibility, upgradeability: positioned as close as possible to the loads, extension leads are not required

Degree of protection: IP55, IK08.

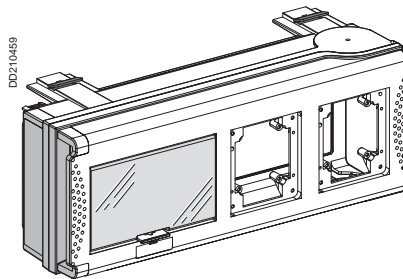
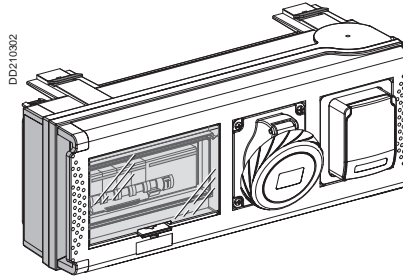
Safety of persons: IPxxD, earth-leakage protection.

Rated current: 32 A

Capacity: 8 modules in multiples of 18 mm wide

Two versions are available:

- pre-equipped with 2 PK or PratiKa power sockets
- customisable:
 - two 90 x 100 mm openings for PK-type (screw connections) or PratiKa (fast and reliable connection without stripping) industrial or household sockets.
 - direct mounting for industrial IEC 16 A 5P or IEC 32 A 3, 4 or 5P sockets.
 - mounting on a 65 x 85 mm clip-on adapter plate for industrial IEC 16 A 3P or 5P and household 10/16 A 2P + PE sockets.



Description

IP55

U_e = 230...690 V

RAL 9001 white

Canalis KS, 100 to 1000 A

Medium-power distribution

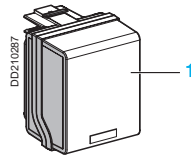
Tap-off units for fuses (not equipped)

For protection of the tap-off by fuses (not supplied).

1 Tap-off unit with fuse holders

This tap-off unit exists in three versions:

- for NF 10 x 38 fuses
- for BS type 88 A1 fuses
- for DIN type Neozed E14 fuses.



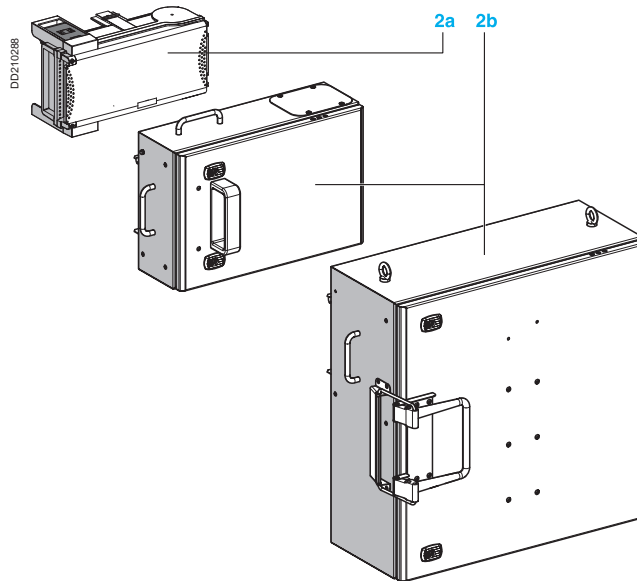
2a and 2b Tap-off units, with isolator, for fuses

There are two types of tap-off units:

Plastic tap-off units (2a) equipped with fuse holders for:

- NF 50 to 100 A cylindrical fuses
- BS 32 to 80 A screw fuses
- DIN 25 to 63 A screw fuses
- 100 A blade-type fuses.

Sheet-metal tap-off units (2b) equipped with fuse holders for 160 to 400 A blade-type fuses.



Tap-off units (with and without isolators) equipped with a surge arrester

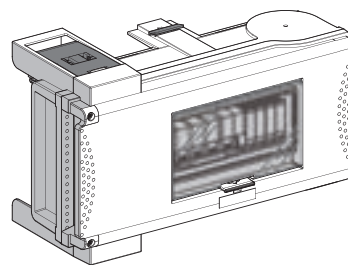
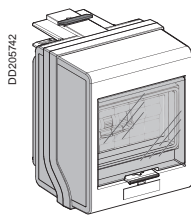
These tap-off units (with and without isolators) are pre-equipped with a modular Type 2 surge arrester, with integrated disconnection device.

2 versions of 3P+N protection are available, based on Quick PF10 or Quick PRD40r.

These units are ready for use, can be plugged directly into the busbar trunking and do not require any additional wiring.

They should be positioned at least 30 m upstream of each load to be protected.

Tap-off unit covers can be lead sealed to prevent the surge arrester being tampered with by unauthorised persons.

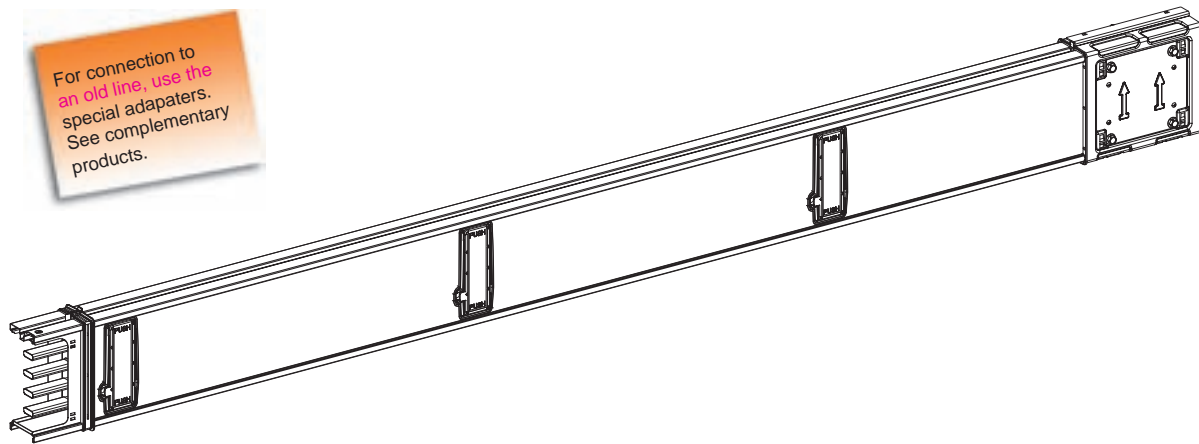


Canalis KS, 100 to 400 A

Busbar trunking for medium-power distribution

Straight lengths with tap-off outlets

For connection to an old line, use the special adaptaters. See complementary products.

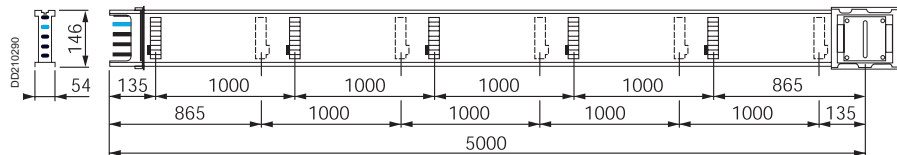


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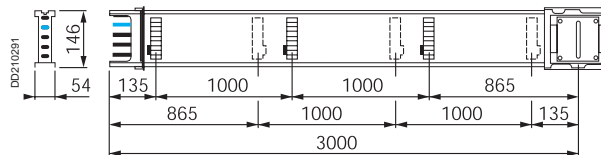
Standard lengths

KSA ●●●ED4●●●	Polarity	Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
	3L + N + PE or 3 L + PEN	100	5000	10	KSA 100ED45010	19.20
			3000	6	KSA 100ED4306	12.10
		160	5000	10	KSA 160ED45010	21.40
			3000	6	KSA 160ED4306	13.40
		250	5000	10	KSA 250ED45010	25.20
			3000	6	KSA 250ED4306	15.70
400	5000	10	KSA 400ED45010	32.85		
	3000	6	KSA 400ED4306	20.40		

KSA ●●●ED45010



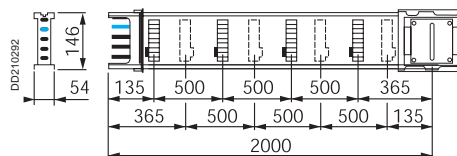
KSA ●●●ED4306



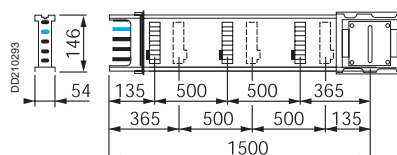
Other lengths

Polarity	Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
3L + N + PE or 3 L + PEN	100 to 250	2000	8	KSA 250ED4208	10.85
		1500	6	KSA 250ED4156	8.55
	400	2000	8	KSA 400ED4208	13.90
		1500	6	KSA 400ED4156	10.85

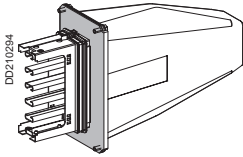
KSA ●●●ED4208



KSA ●●●ED4156

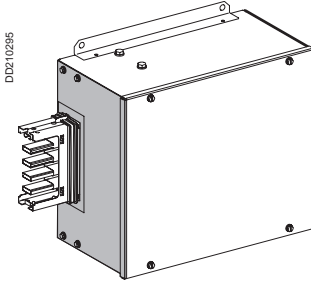


Feed units (supplied with end cover)

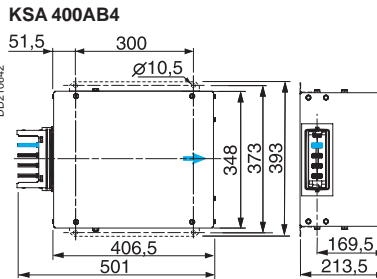
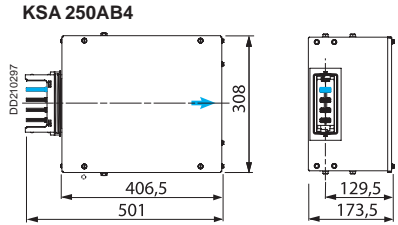
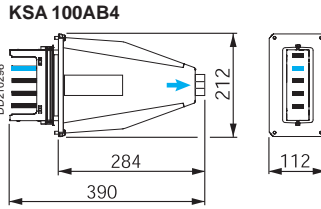


KSA 100AB4

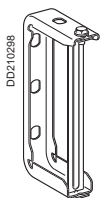
Designation	Rating (A)	Mounting	Connection	Max. size (mm ²)		Cat. no.	Weight (kg)
				Flexible	Rigid		
End feed unit	100	Right or left	Terminals	5 x 16		KSA 100AB4	1.85
	100 to 250	Right or left	Lugs (M10 screws)	240		KSA 250AB4	7.20
	400	Right or left	Lugs (M10 screws)	1 x 300 or 2 x 120		KSA 400AB4	8.80



KSA 250AB4



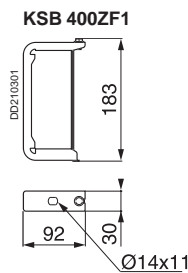
Fixing system



KSB 400ZF1

Designation	Rating (A)	Max. load (kg)	Mounting	Order in multiples of	Cat. no.	Weight (kg)
Fixing bracket ⁽¹⁾	100 to 400	70	Wall or suspended on threaded rod	10	KSB 400ZF1	0.3

⁽¹⁾ Maximum recommended distance between fixings: 3 meters.

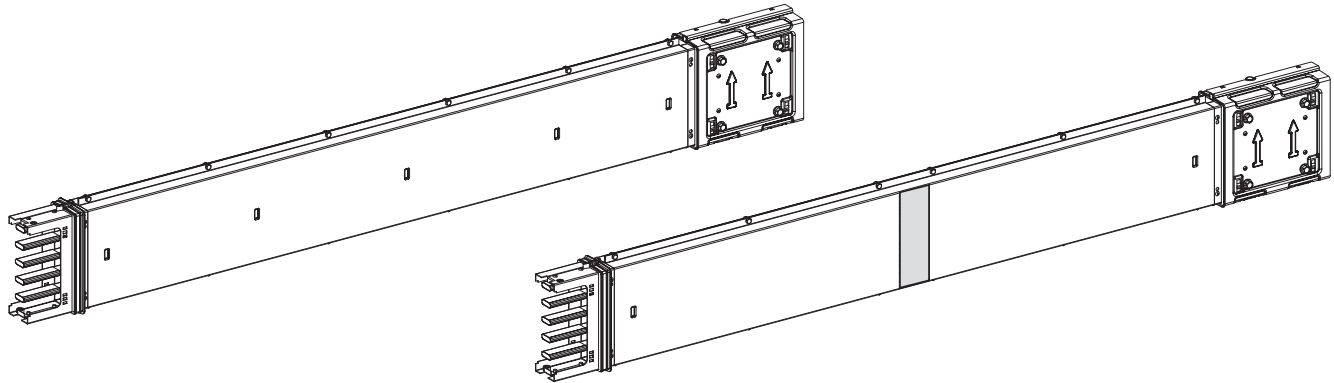


Canalis KS, 100 to 400 A

Busbar trunking for medium-power distribution
Complementary products

Special straight lengths without tap-off outlets

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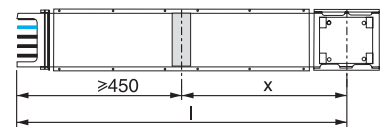
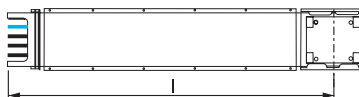


KSA ●●●ET4●●

Polarity	Rating (A)	Length (mm)	Option	Cat. no.	Weight (kg/m)
3L + N + PE or 3L + PEN	100 to 250	500 to 1995	-	KSA 250ET4A	8,00
		900 to 2200	With fire barrier	KSA 250ET4AF	8,4
	400	500 to 1995	-	KSA 400ET4A	9,5
		900 to 2200	With fire barrier	KSA 400ET4AF	9,90

KSA ●●●ET4A

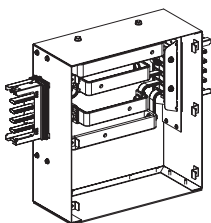
KSA ●●●ET4AF



Dim.	ET4A	ET4AF
l	500 to 1995	900 à 2200
x		450 à 1750

Feed units (supplied with end cover)

DD205745

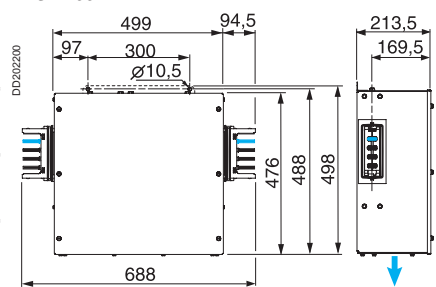
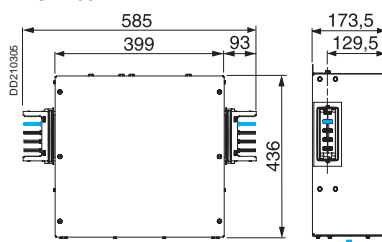


KSA ●●●ABT4

Designation	Rating (A)	Mounting	Connection	Max. size (mm ²)		Cat. no.	Weight (kg)
				Flexible	Rigid		
Centre feed unit	100 to 250	Central	Lugs (M10)	240	240	KSA 250ABT4	12.90
	400	Central	Lugs (M10)	2 x 240	2 x 240	KSA 400ABT4	15.50
Flange feed unit	100 to 250	Left or right	Bars (M10 screws)	-	-	KSA 250AE4	1.70
	400	Left or right	Bars (M10 screws)	-	-	KSA 400AE4	1.90

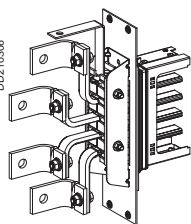
KSA 250ABT4

KSA 400ABT4



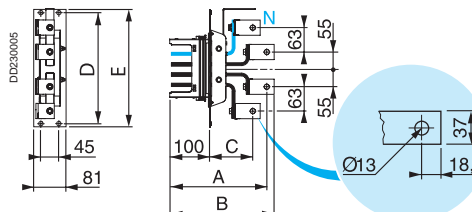
→ Cable exit

DD210306



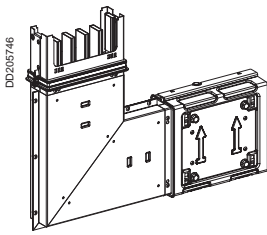
KSA ●●●AE4

KSA ●●●AE4



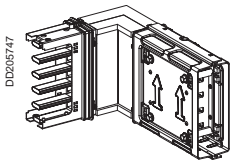
Dim.	100 to 250 A	400 A
A	243	261
B	261.5	279.5
C	108	117
D	278	318
E	294	334

Components for changing direction



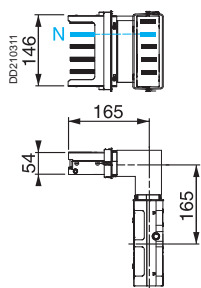
KSA ●●●DL●40

Designation	Rating (A)	Direction (edgewise)	Cat. no.	Weight (kg)
Elbow	100 to 250	Right or left	KSA 250DLC40	3.15
		Upward	KSA 250DLE40	5.00
		Downward	KSA 250DLF40	5.00
	400	Right or left	KSA 400DLC40	3.80
		Upward	KSA 400DLE40	5.60
		Downward	KSA 400DLF40	5.60
Tee	100 to 250	Perpendicular	KSA 250DTC40	4.30
	400	Perpendicular	KSA 400DTC40	5.20

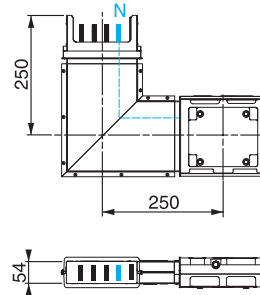


KSA ●●●DLC40

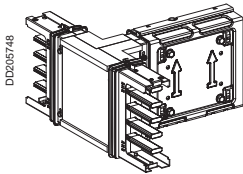
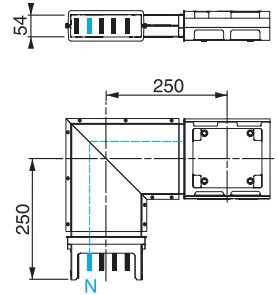
KSA ●●●DLC40



KSA ●●●DLE40

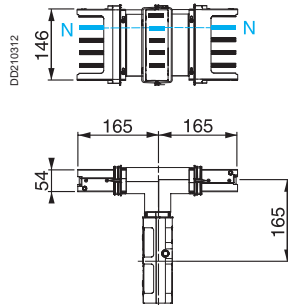


KSA ●●●DLF40



KSA ●●●DTC40

KSA ●●●DTC40



Canalis KS, 100 to 400 A

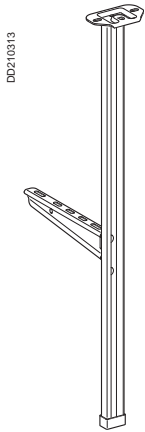
Busbar trunking for medium-power distribution

Complementary products

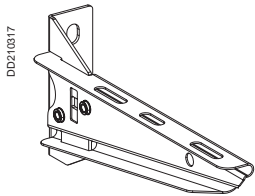
Fixing system

Designation	Rating (A)	Max. load (kg)	Mounting	Order in multiples of	Cat. no.	Weight (kg)
Pendant kit	100 to 400	80	Under ceiling or I-beam ⁽¹⁾	4	KSB 400ZFKP1	2.70
Cantilever arm, 200 mm	100 to 400	220	Wall or pendant	4	KFB CA81200	0.60

⁽¹⁾ Maximum recommended distance between fixings: 3 meters.

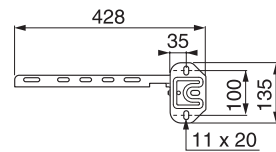
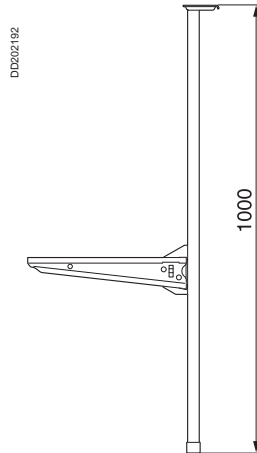


KSB 400ZFKP1

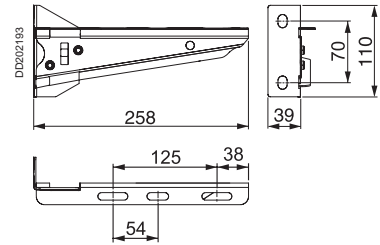


KFB CA81200

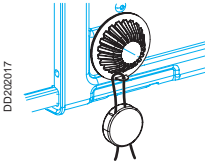
KSB 400ZFKP1



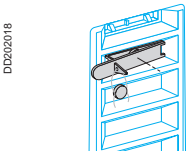
KFB CA81200



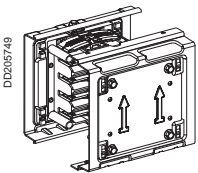
Accessories



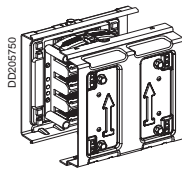
DD202017
KSB 1000ZP1



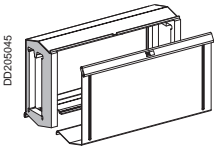
DD202018
KSB 1000ZP2



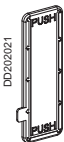
DD202049
KSA 250ZJ4



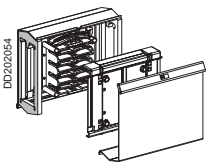
DD202050
KSA 400ZJ4



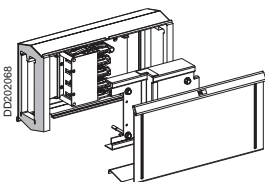
DD202045
KSB 400ZB2



DD202021
KSA 400ZB1



DD202054
KSA 250FA4



DD202068
KSA 400FA4

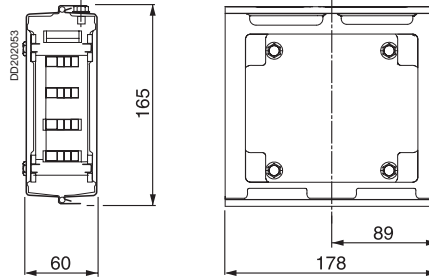
Lead sealing kit

Designation	Rating (A)	For	Order in multiples of	Cat. no.	Weight (kg)
Lead sealing kit	All	Feed unit cover and jointing screws	20	KSB 1000ZP1	0,0035
		Tap-off outlets	20	KSB 1000ZP2	0,002

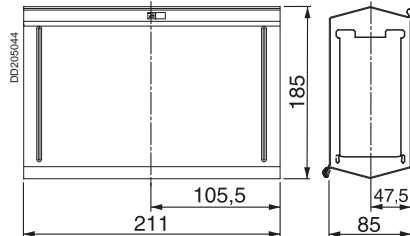
Spare parts

Designation	Rating (A)	Order in multiples of	Cat. no.	Weight (kg)
Electrical and mechanical jointing unit	100 to 250	1	KSA 250ZJ4	1.60
	400	1	KSA 400ZJ4	2.00
IP55 blanking plate	100 to 400	15	KSB 400ZB1	0.015
Sprinkler proofing accessory	100 to 400	1	KSB 400ZB2	1

KSA 400ZJ4



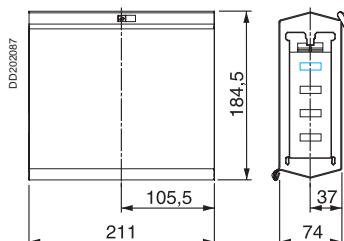
KSB 400ZB2



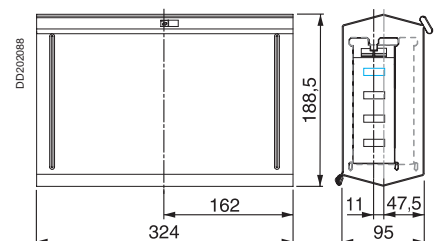
Adapters

Designation	Rating (A)	For	Cat. no.	Weight (kg)
Adapter	250	Connection to old KS lines	KSA 250FA4	1.35
	400	Connection to old KS lines	KSA 400FA4	2,90

KSA 250FA4



KSA 400FA4



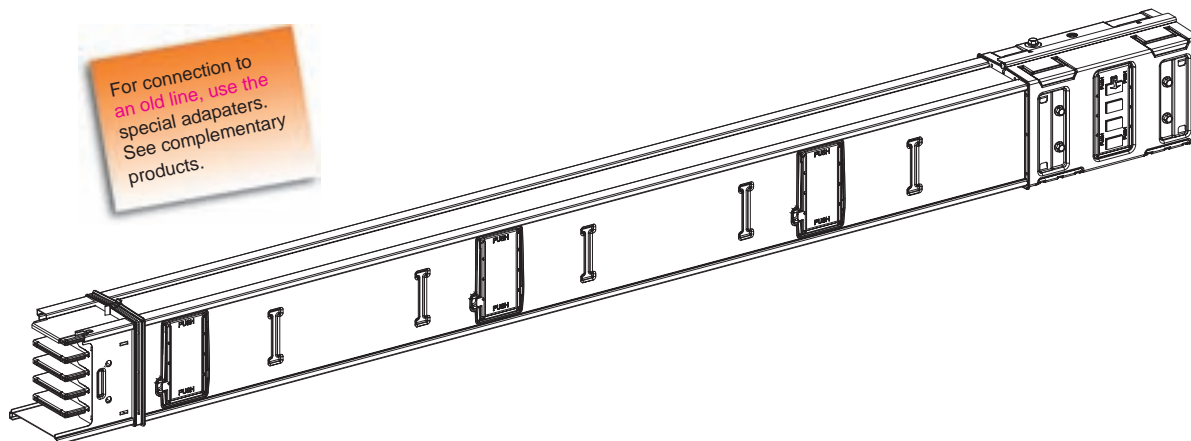
Canalis KS, 500 to 630 A

Busbar trunking for medium-power distribution

Straight lengths with tap-off outlets

DD202022

For connection to an old line, use the special adaptors. See complementary products.

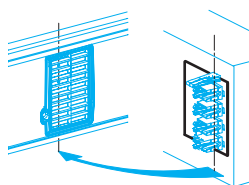


Standard lengths

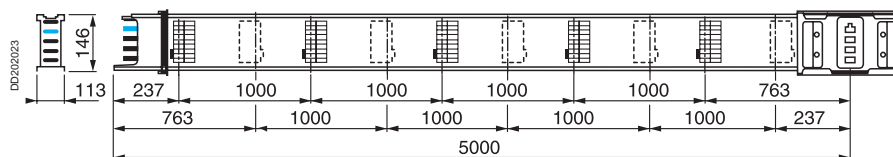
KSA ●●●ED4●●●●

Polarity	Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
3L + N + PE or 3L + PEN	500	5000	10	KSA 500ED45010	54.50
		3000	6	KSA 500ED4306	34.90
	630	5000	10	KSA 630ED45010	58.20
		3000	6	KSA 630ED4306	36.40

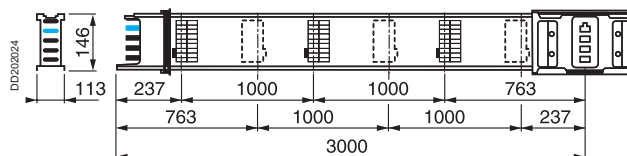
DD210638



KSA ●●●ED45010



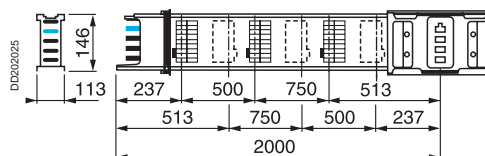
KSA ●●●ED4306



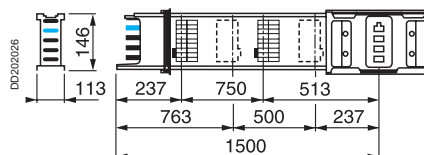
Additional lengths

Polarity	Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
3L + N + PE or 3L + PEN	500 to 630	2000	6	KSA 630ED4206	26.00
		1500	4	KSA 630ED4154	20.50

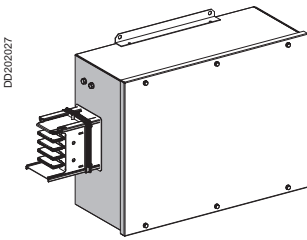
KSA 630D4206



KSA 630D4154



Feed units (supplied with end cover)

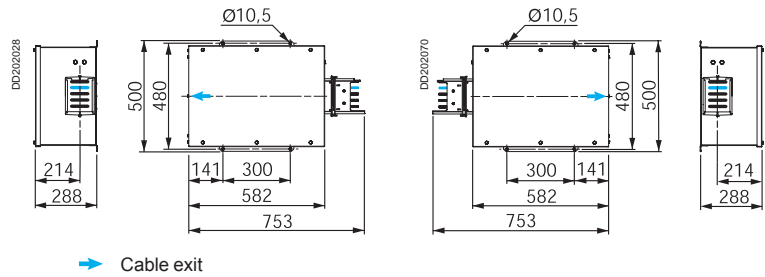


KSA 630AB4

Designation	Rating (A)	Mounting	Connection	Max. size (mm ²)	Cat. no.	Weight (kg)
				Flexible or rigid		
End feed unit	500 to 630	Right	Lugs (M12 screws)	1 x 300 or 2 x 240	KSA 630ABD4	18.50
		Left	Lugs (M12 screws)	1 x 300 or 2 x 240	KSA 630ABG4	18.50

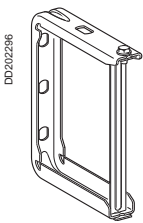
KSA 630ABG4

KSA 630ABD4



→ Cable exit

Fixing system

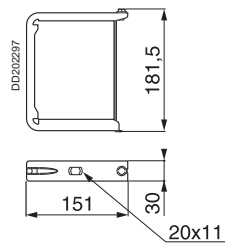


KSB 1000ZF1

Designation	Rating (A)	Max. load (kg)	Mounting	Order in multiples of	Cat. no.	Weight (kg)
Fixing bracket ⁽¹⁾	500 to 630	135	Wall or suspended on threaded rod	10	KSB 1000ZF1	0.4

(1) Maximum recommended distance between fixings: 3 meters.

KSB 1000ZF1

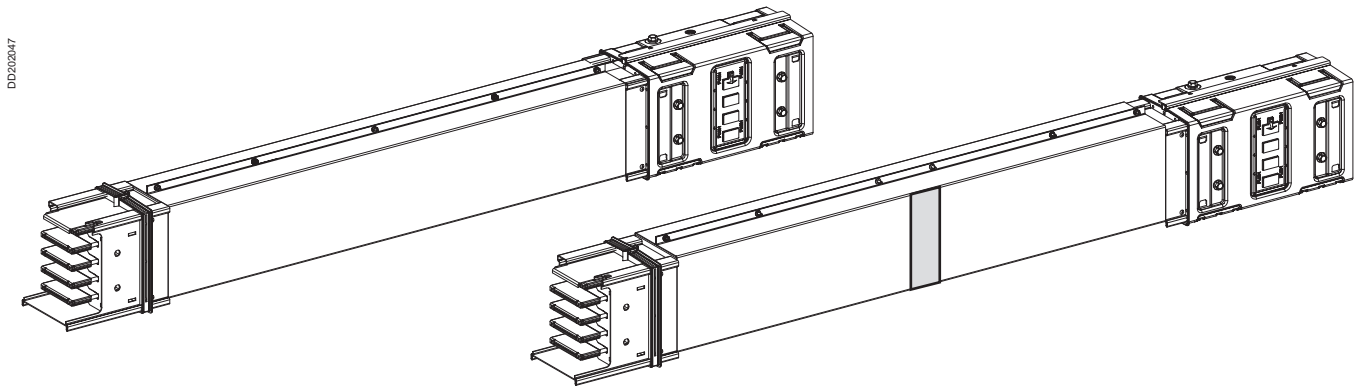


Canalis KS, 500 to 630 A

Busbar trunking medium-power distribution

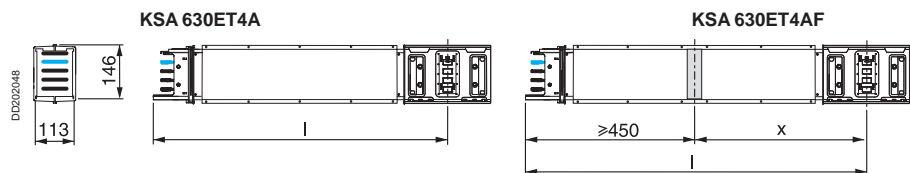
Complementary products

Special straight lengths without tap-off outlets



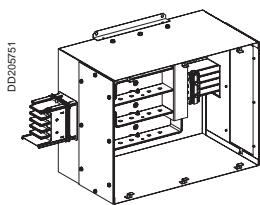
KSA 630ET4●

Polarity	Rating (A)	Length (mm)	Option	Cat. no.	Weight (kg/m)
3L + N + PE or 3L + PEN	500 to 630	500 to 1995	-	KSA 630ET4A	17,4
		900 to 2340	With fire barrier	KSA 630ET4AF	18



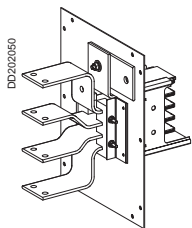
Dim.	ET4A	ET4AF
l	500 to 1995	900 to 2340
x		450 to 1890

Feed units (supplied with end cover)

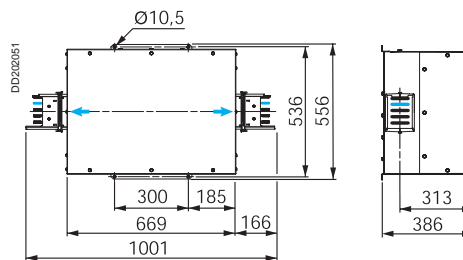


Designation	Rating (A)	Mounting	Connection	Max. size (mm ²)		Cat. no.	Weight (kg)
				Flexible	Rigid		
Centre feed box	500 to 630	Central	Lugs (M12 screws)	3 x 240	3 x 300	KSA 630ABT4	30.50
Flange feed unit	500 to 630	Left or right	Bars (2 x M10 screws)	-	-	KSA 630AE4	4.70

KSA 630ABT4



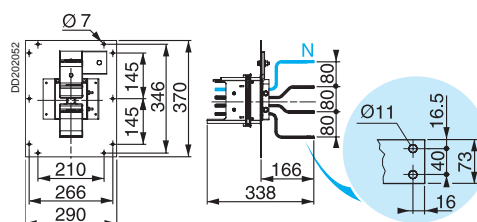
KSA 630ABT4



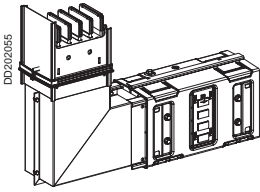
➔ Cable exit

KSA 630AE4

KSA 630AE4

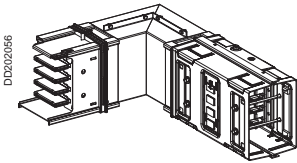


Components for changing direction

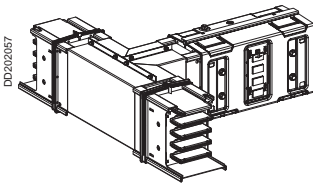


Designation	Rating (A)	Direction (edgewise)	Cat. no.	Weight (kg)
Elbow	500 to 630	Right or left	KSA 630DLC40	13.40
		Upward	KSA 630DLE40	12.10
		Downward	KSA 630DLF40	12.10
Tee	500 to 630	Perpendicular	KSA 630DTC40	15.80

KSA 630DL●40

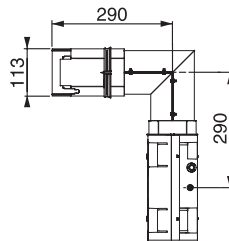
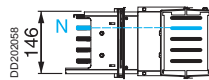


KSA 630DLC40

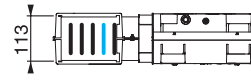
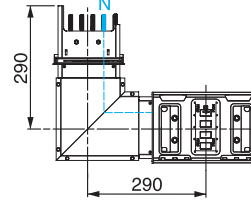


KSA 630DTC40

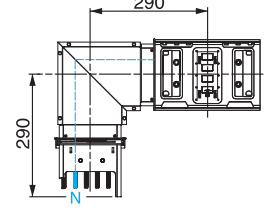
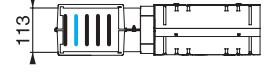
KSA 630DLC40



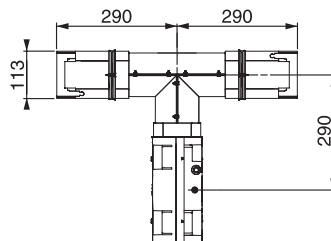
KSA 630DLE40



KSA 630DLF40



KSA 630DTC40



Canalis KS, 500 to 630 A

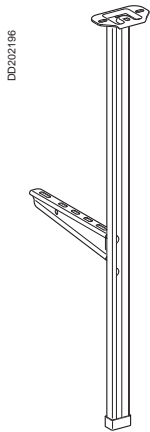
Busbar trunking medium-power distribution

Complementary products

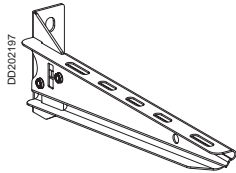
Fixing system

Designation	Rating (A)	Max. load (kg)	Mounting	Cat. no.	Weight (kg)
Pendant kit	500 to 630	80	Under ceiling or I-beam ⁽¹⁾	KSB 1000ZFKP1	2.80
Cantilever arm, 300 mm	500 to 630	200	Wall or pendant	KFB CA81300	0.60

(1) Maximum recommended distance between fixings: 3 meters.

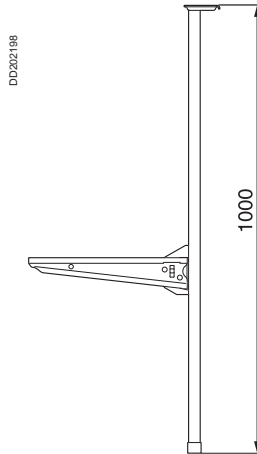


KSB 1000ZFKP1

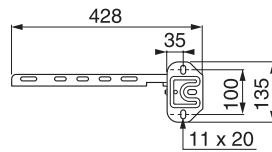
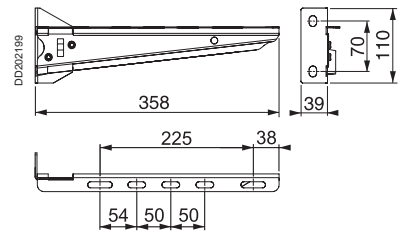


KFB CA81300

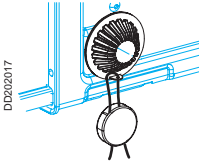
KSB 1000ZFKP1



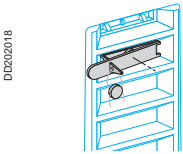
KFB CA81300



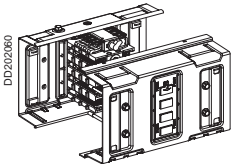
Accessories



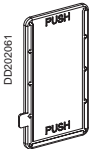
KSB 1000ZP1



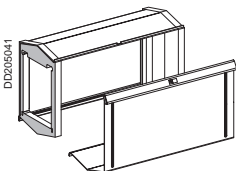
KSB 1000ZP2



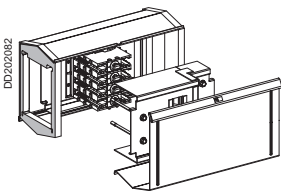
KSA 630ZJ4



KSB 1000ZB1



KSB 1000ZB2



KSA ●●●FA4

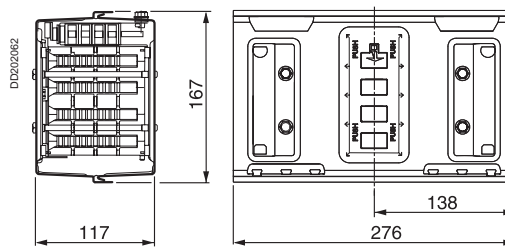
Sealing kit

Designation	Rating (A)	For	Order in multiples of	Cat. no.	Weight (kg)
Sealing kit	All	Feed unit cover and jointing screws	20	KSB 1000ZP1	0.07
		Tap-off outlets	20	KSB 1000ZP2	0.04

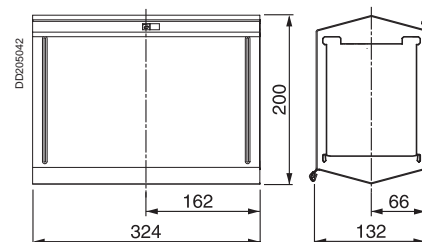
Spare parts

Designation	Rating (A)	Order in multiples of	Cat. no.	Weight (kg)
Electrical and mechanical jointing unit	500 to 630	1	KSA 630ZJ4	3.50
IP55 outlet plug	500 to 1000	15	KSB 1000ZB1	0.020
Sprinkler proofing accessory	500 to 1000	1	KSB 1000ZB2	1

KSA 630ZJ4



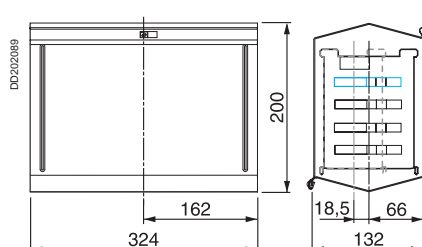
KSA 630ZJ4



Adaptors

Designation	Rating (A)	For	Cat. no.	Weight (kg)
Adaptors	500	Connection to old KS 500 A lines	KSA 500FA4	3.65
	630	Connection to old KS 630 A lines	KSA 800FA4	4.00

KSA ●●●FA4



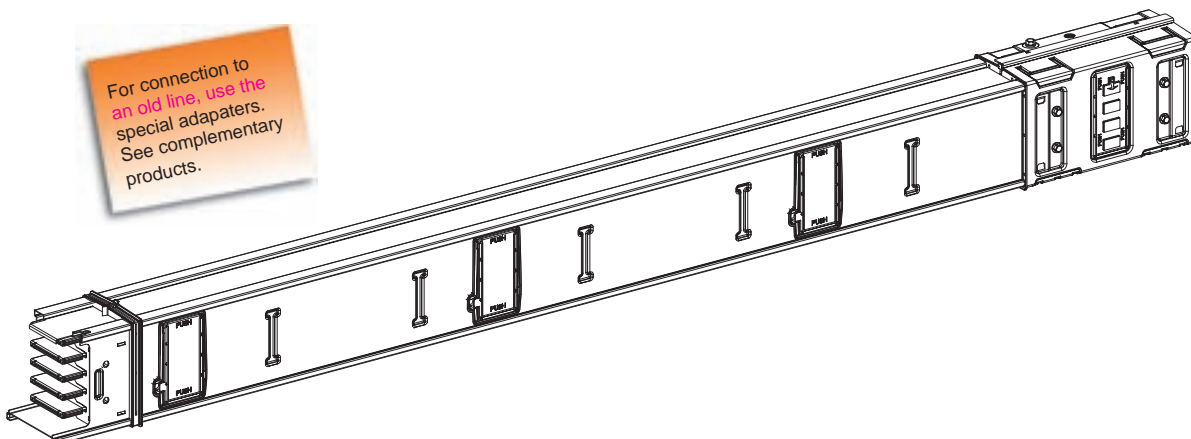
Canalis KS, 800 to 1000 A

Busbar trunking medium-power distribution

Straight lengths with tap-off outlets

DD2202022

For connection to an old line, use the special adaptaters. See complementary products.

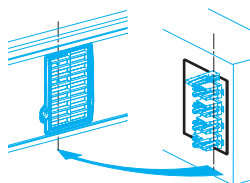


KSA ●●●ED4●●●●

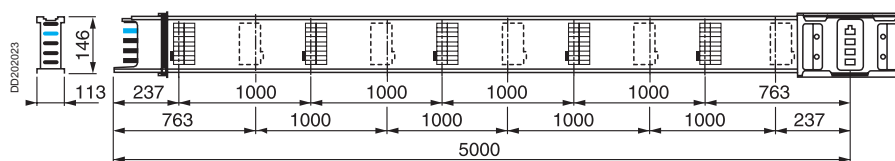
Standard lengths

Polarity	Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
3L + N + PE or 3L + PEN	800	5000	10	KSA 800ED45010	69.20
		3000	6	KSA 800ED4306	43.10
	1000	5000	10	KSA 1000ED45010	89.50
		3000	6	KSA 1000ED4306	55.20

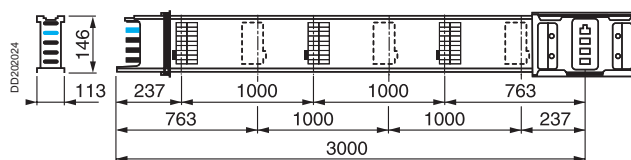
DD210638



KSA ●●●ED45010



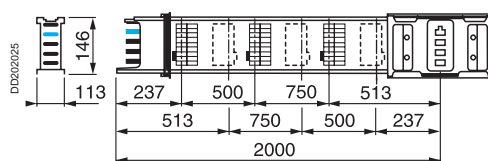
KSA ●●●ED4306



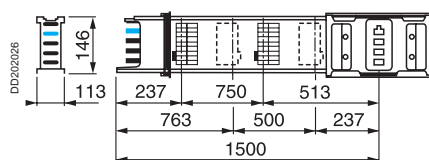
Additional lengths

Polarity	Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
3L + N + PE or 3L + PEN	800 to 1000	2000	6	KSA 1000ED4206	38.50
		1500	4	KSA 1000ED4154	29.90

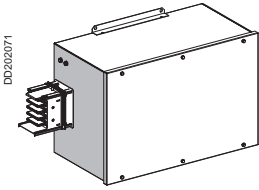
KSA 1000ED4206



KSA 1000ED4154



Feed units (supplied with end cover)

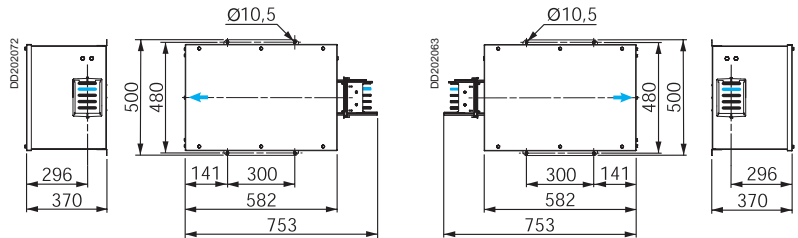


Designation	Rating (A)	Mounting	Connection	Max. size (mm ²)		Cat. no.	Weight (kg)
				Flexible	Rigid		
End feed box	800 to 1000	Right	Lugs (M12 screws)	4 x 240	4 x 300	KSA 1000ABD4	24.50
		Left	Lugs (M12 screws)	4 x 240	4 x 300	KSA 1000ABG4	24.50

KSA 1000AB●4

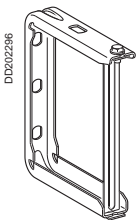
KSA 1000ABG4

KSA 1000ABD4



→ Cable exit

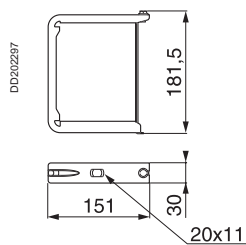
Fixing system



Designation	Rating (A)	Max. load (kg)	Mounting	Order in multiples of	Cat. no.	Weight (kg)
Fixing bracket ⁽¹⁾	800 to 1000	135	Wall or suspended on threaded rod	10	KSB 1000ZF1	0.4

(1) Maximum recommended distance between fixings: 3 meters.

KSB 1000ZF1



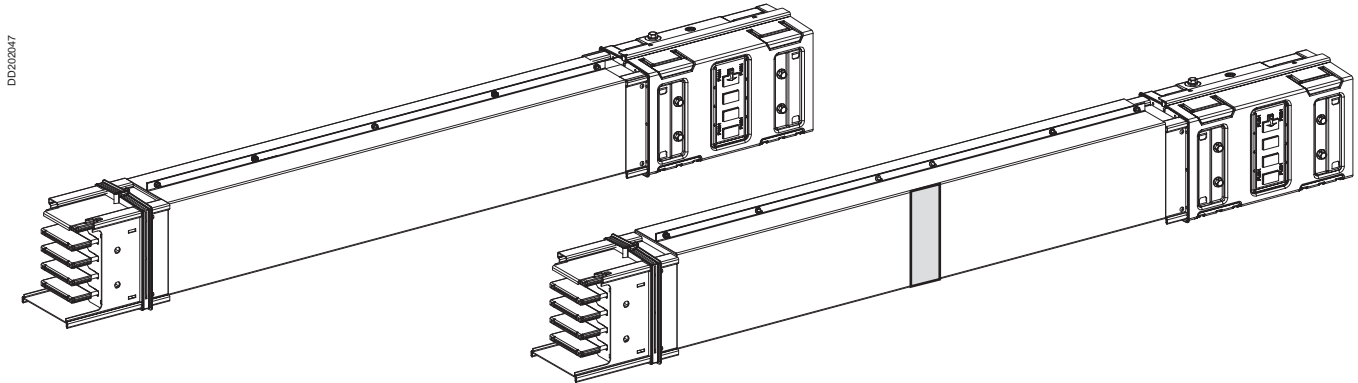
KSB 1000ZF1

Canalis KS, 800 to 1000 A

Busbar trunking medium-power distribution

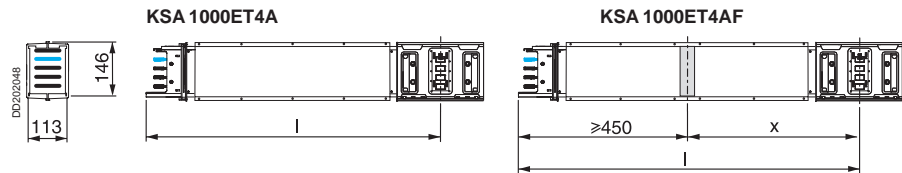
Complementary products

Special straight lengths without tap-off outlets



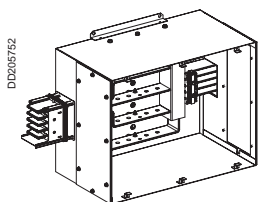
KSA 1000ET4A

Polarity	Rating (A)	Length (mm)	Option	Cat. no.	Weight (kg/m)
3L + N + PE or 3L + PEN	800 to 1000	500 to 1995	-	KSA 1000ET4A	23.6
		900 to 2340	With fire barrier	KSA 1000ET4AF	24.2



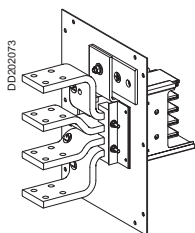
Dim.	ET4A	ET4AF
l	500 to 1995	900 to 2340
x		450 to 1890

Feed units (supplied with end cover)

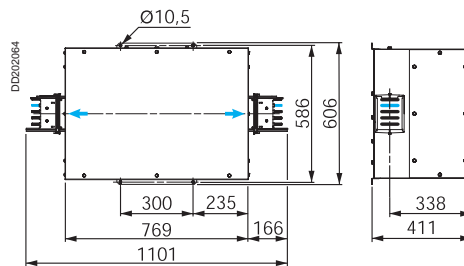


Designation	Rating (A)	Mounting	Connection	Max. size (mm ²)		Cat. no.	Weight (kg)
				Flexible	Rigid		
Centre feed box	800 to 1000	Central	Lugs (M12 screws)	4 x 240	4 x 300	KSA 1000ABT4	41.50
Flange feed unit	800 to 1000	Left or right	Bars (4 x M10 screws)	-	-	KSA 1000AE4	6.60

KSA 1000ABT4



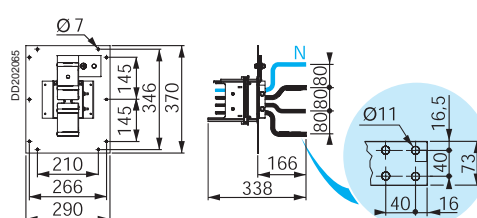
KSA 1000ABT4



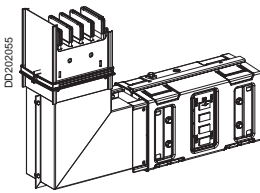
→ Cable exit

KSA 1000AE4

KSA 1000AE4

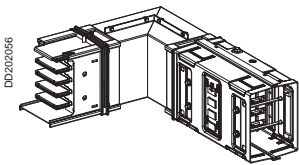


Components for changing direction

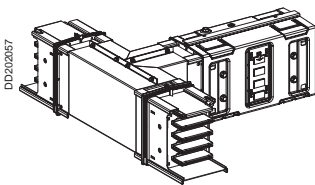


Designation	Rating (A)	Direction (edgewise)	Cat. no.	Weight (kg)
Elbow	800 to 1000	Right or left	KSA 1000DLC40	19.00
		Upward	KSA 1000DLE40	16.70
		Downward	KSA 1000DLF40	16.70
Tee	800 to 1000	Perpendicular	KSA 1000DTC40	22.60

KSA 1000DLI40

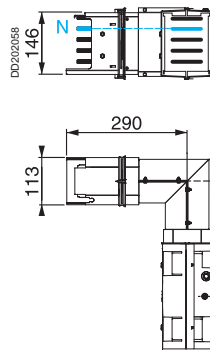


KSA 1000DLC40

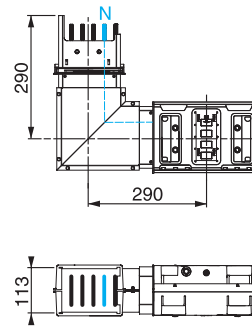


KSA 1000DTC40

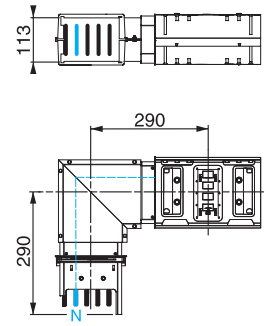
KSA 1000DLC40



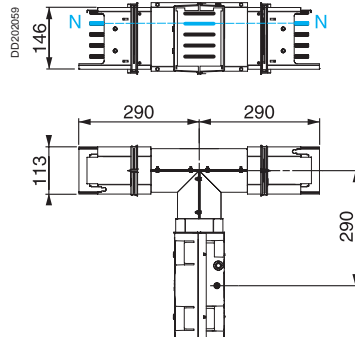
KSA 1000DLE40



KSA 1000DLF40



KSA 1000DTC40



Canalis KS, 800 to 1000 A

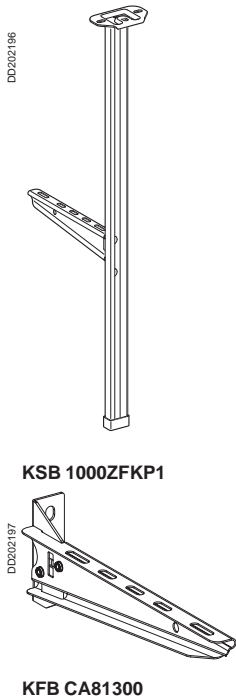
Busbar trunking medium-power distribution

Complementary products

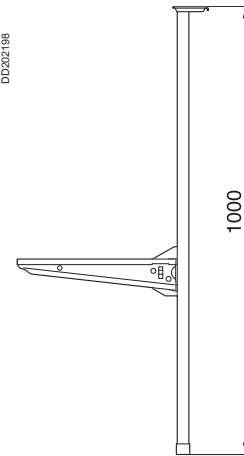
Fixing system

Designation	Rating (A)	Max. load (kg)	Mounting	Order in multiple of	Cat. no.	Weight (kg)
Pendant kit ⁽¹⁾	800 to 1000	80	Under ceiling or I-beam	4	KSB 1000ZFKP1	2.80
Cantilever arm, 300 mm	800 to 1000	200	Wall or pendant ⁽¹⁾	4	KFB CA81300	0.60

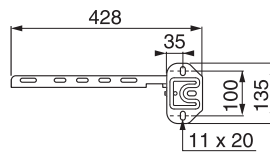
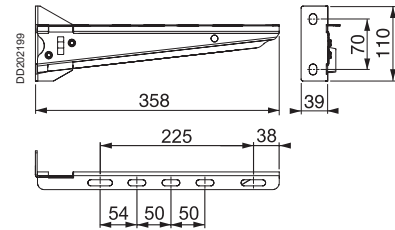
⁽¹⁾ Maximum recommended distance between fixings: 3 meters.



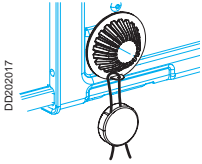
KSB 1000ZFKP1



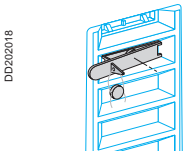
KFB CA81300



Accessories



KSB 1000ZP1

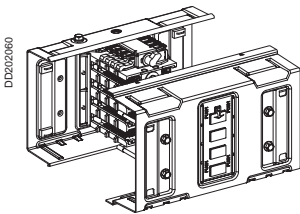


KSB 1000ZP2

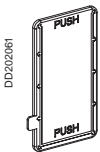
Lead sealing kit

Designation	Rating (A)	For	Order in multiples of	Cat. no.	Weight (kg)
Lead sealing kit	All	Feed unit cover and jointing screws	20	KSB 1000ZP1	0.07
		Tap-off outlets	20	KSB 1000ZP2	0.04

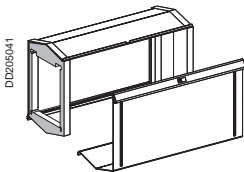
Spare parts



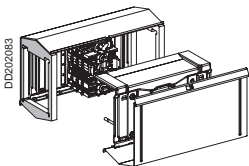
KSA 1000ZJ4



KSB 1000ZB1



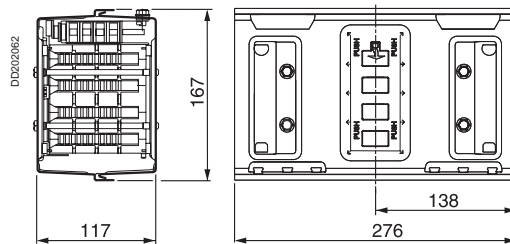
KSB 1000ZB2



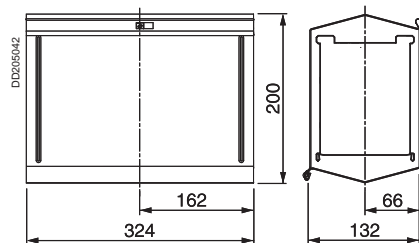
KSA 800FA4

Designation	Rating (A)	Order in multiples of	Cat. no.	Weight (kg)
Electrical and mechanical jointing unit	800 to 1000	1	KSA 1000ZJ4	4.50
IP55 outlet plug	500 to 1000	15	KSB 1000ZB1	0.020
Sprinkler proofing accessory	500 to 1000	1	KSB 1000ZB2	1

KSA 1000ZJ4



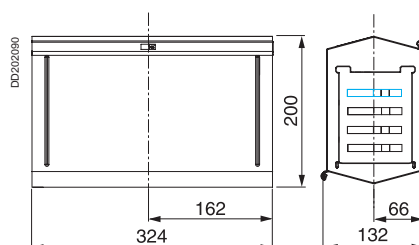
KSB 1000ZB2



Adapters

Designation	Rating (A)	For	Cat. no.	Weight (kg)
Adapter	800	Connection to old KS lines	KSA 800FA4	4.00

KSA 800FA4





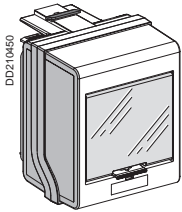
Canalis KS, 100 to 1000 A

Busbar trunking for medium-power distribution

32 to 100 A tap-off units for modular devices

Tap-off units

Disconnection by unplugging the tap-off unit

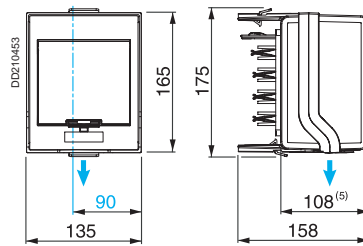


KSB 32CM55

Rating (A)	Number of 18 mm modules ⁽³⁾	Earthing system arrangement		Busbar trunking Tap-off unit		TT-TNS-TNC-IT ⁽¹⁾		Weight (kg)
		Connection	Max. size (mm ²)	Cable gland ⁽⁴⁾ (not supplied)	Cat. no.	TT-TNS-TNS-IT ⁽¹⁾	Cat. no.	
32	5	Pre wired	6 10	ISO 32 max.	KSB 32CM55	3L + N + PE ⁽²⁾		0.60

(1) The neutral must be protected or not distributed (3L+PE) for the IT system.
 (2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible).
 (3) Supplied with blanking plate (1x5 divisible).
 (4) Maximum diameter for a multipolar cable.

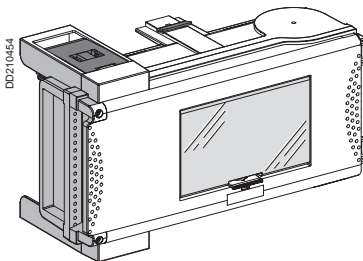
KSB 32CM55



→ Cable exit
 — Centre line of tap-off outlets
 (5) Protruding.

Tap-off unit with isolator

Disconnection by opening the tap-off unit cover

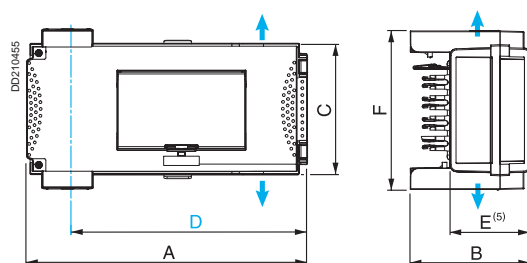


KSB 63SM8,
KSB 100SM12

Rating (A)	Number of 18 mm modules ⁽³⁾	Earthing system arrangement		Busbar trunking Tap-off unit		TT-TNS-TNC-IT ⁽¹⁾		TNC		Weight (kg)
		Connection	Max. size (mm ²)	Cable gland ⁽⁴⁾ (not supplied)	Cat. no.	TT-TNS-TNS-IT ⁽¹⁾	Cat. no.	Cat. no.		
63	8	Copper cable lugs	16 16	ISO 50 max.	KSB 63SM48	3L + N + PE ⁽²⁾		KSB 63SM58	2.40	
100	12	Copper cable lugs	35 35	ISO 63 max.	KSB 100SM412	3L + N + PE ⁽²⁾		KSB 100SM512	5.00	

(1) The neutral must be protected or not distributed (3L+PE) for the IT system.
 (2) Also suitable for tap-off unit 3L + PE (N not distributed).
 (3) Supplied with blanking plates: (1x5 divisible (8 modules) or 2x5 divisible (12 modules)).
 (4) Maximum diameter for a multipolar cable.

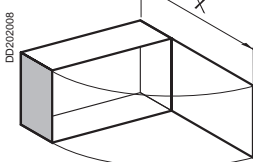
KSB 63SM8, KSB 100SM12



→ Cable exit
 — Centre line of tap-off outlets

(5) Protruding.

Dim.	63A	100A
A	357	444
B	158	183
C	167	202
D	309	397
E	108	133
F	202	220



X = 432.5 (KSB 63SM8)
 X = 545.5 (KSB 100SM12)



32 A tap-off unit with power sockets protected by modular devices

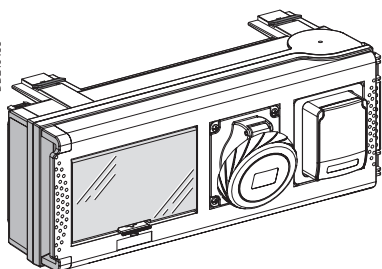
Tap-off units for power sockets

Disconnection by unplugging the tap-off unit

Earthing system arrangement	Busbar trunking Tap-off unit	TT-TNS-TNC ⁽¹⁾ TT-TNS-TNS ⁽¹⁾
Tap-off polarity	3L + N + PE	
Tap-off diagram (e.g. circuit-breaker protection)	Tap-off unit wiring depends on the sockets used	

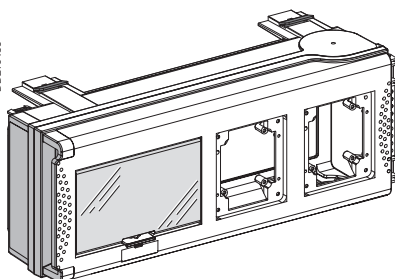
Designation	Rating (A)	Number of 18 mm modules ⁽²⁾	Equipment				Cat. no.	Weight (kg)	
			Q. ⁽³⁾	Type	Current (A)	Voltage (V)			Polarity
Tap-off unit with flush-mounted power sockets	32	8	2	Household socket Schuko	10/16	230	2P + T	KSB 32CP11D	2.90
			2	Household socket NF	10/16	230	2P + T	KSB 32CP11F	2.90
			1	Household socket NF	10/16	230	2P + T	KSB 32CP15F	3.00
			1	Industrial socket	16	415	3P+N+T		
			1	Household socket Schuko	10/16	230	2P + T	KSB 32CP15D	3.00
			1	Industrial socket	16	415	3P+N+T		
			1	Industrial socket	16	230	2P + T	KSB 32CP35	3.10
1	Industrial socket	16	415	3P+N+T					
Empty tap-off unit	32	8	To be equipped				KSB 32CP	2.70	

DD210456



KSB 32CP

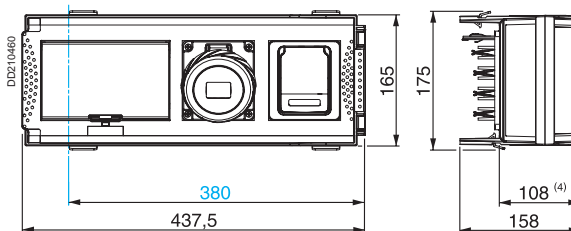
DD210459



KSB 32CP

- (1) The neutral must be protected or not distributed (3L+PE) for the IT system.
 (2) Supplied with blanking plate (1x5 divisible).
 (3) Quantity.

KSB 32CP●●●



— Centre line of tap-off outlets

(4) Protruding.

Power sockets

Designation	Rated current (A)	Rated voltage (V AC)	Number of poles	Dimensions (W x H in mm)	Cat. no.	Weight (kg)
Industrial sockets	16	200-250	2P + T	65 x 85	PKY16F723	-
			3P + N + T	90 x 100	PKY16F725	-
		380-415	2P + T	65 x 85	PKY16F733	-
			3P + N + T	90 x 100	PKY16F735	-
	32	200-250	2P + T	90 x 100	PKY32F723	-
			3P + N + T	90 x 100	PKY32F725	-
380-415		2P + T	90 x 100	PKY32F733	-	
		3P + N + T	90 x 100	PKY32F735	-	
Household NF sockets	10 to 16	250	2P + T	65 x 85	81140	-
Household Schuko sockets	10 to 16	250	2P + T	65 x 85	81141	-
Screw-on plate	For blanking of unused openings				13137	0.10
	For adapting 65 x 85 mm power-socket bases				13136	0.09

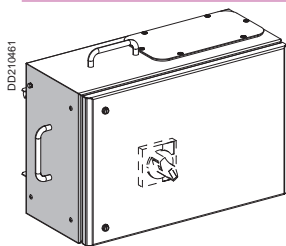


Canalis KS, 100 to 1000 A

Busbar trunking for medium-power distribution

160 to 400 A tap-off units for Compact NSX circuit breakers

Tap-off units for Compact NSX, fixed, front-connected circuit breakers



KSB ●●●DC●

The cover of the tap-off unit may be opened only when the circuit breaker is in the Off position.

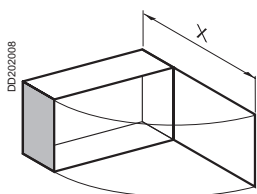
Earthing system arrangement	Busbar trunking Tap-off unit	TT-TNS-TNC-IT ⁽¹⁾ TT-TNS-TNS-IT ⁽¹⁾	TNC TNC
Tap-off polarity		3L + N + PE ⁽²⁾	3L + PEN
Tap-off diagram (e.g. circuit-breaker protection)			

Rating (A)	Type of circuit breaker	Connection	Max. size (mm ²)		Cable gland ⁽³⁾ (not supplied)	Cat. no.	Cat. no.	Weight (kg)
			Flexible	Rigid				
160	NSX 100 or NSX 160 Curve N, H or L Rotary handle LV429338	NSX	50	70	ISO 25 max.	KSB 160DC4	KSB 160DC5	9.00
250	NSX 250 Curve N, H or L Rotary handle LV429338	NSX	70	150	ISO 32 max.	KSB 250DC4	KSB 250DC5	12.50
400	NSX 400 Curve N, H or L Rotary handle LV432598	NSX	150	240	ISO 40 max.	KSB 400DC4	KSB 400DC5	18.00

(1) The neutral must be protected or not distributed (3L+PE) for the IT system.

(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible).

(3) Maximum diameter by unipolar cable.

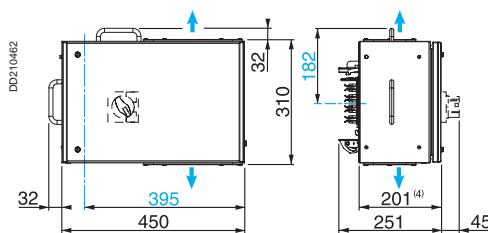


X = 625.5 (KSB 160DC●)

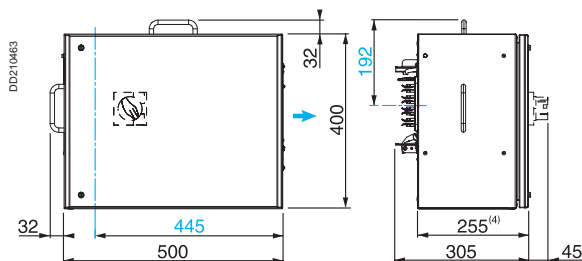
X = 726.5 (KSB 250DC●)

X = 976.5 (KSB 400DC●)

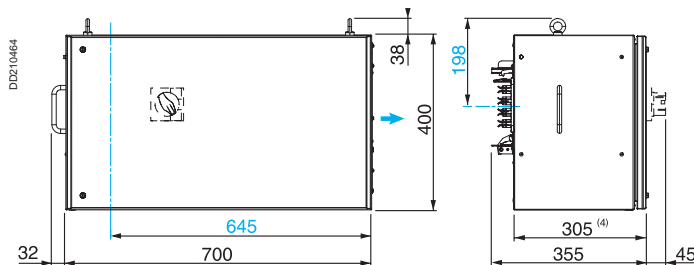
KSB 160DC●



KSB 250DC●



KSB 400DC●



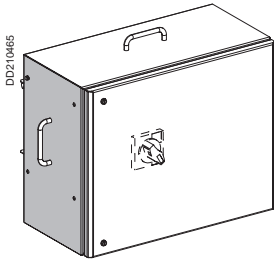
➔ Cable exit
— Centre line of tap-off outlets

(4) Protruding.



250 and 400 A tap-off units for measurements and metering

Tap-off units for measurements and metering



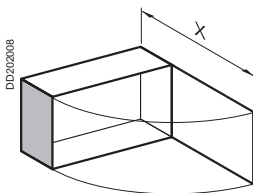
KSB ●●●DC●TRE

The cover of the tap-off unit may be opened only when the circuit breaker is in the Off position.

Earthing system arrangement	Busbar trunking	TT-TNS-TNC-IT ⁽¹⁾	TNC
	Tap-off unit	TT-TNS-TNS-IT ⁽¹⁾	TNC
Tap-off polarity		3L + N + PE ⁽²⁾	3L + PEN
Tap-off diagram (e.g. circuit-breaker protection)			

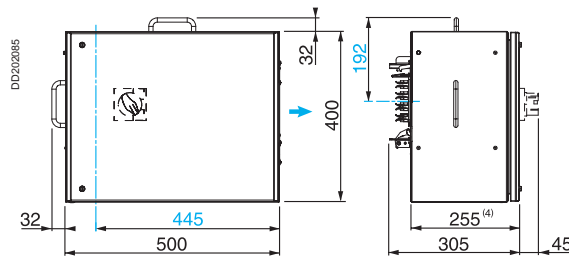
Rating (A)	Type of circuit breaker	Connection	Max. size (mm ²)		Cable gland ⁽³⁾ (not supplied)	Cat. no.	Cat. no.	Weight (kg)
			Flexible	Rigid				
250	NSX 250 Type N, H or L Rotary handle LV429338	NSX CT block	70	150	ISO 32 max.	KSB 250DC4TRE	KSB 250DC5TRE	13.50
400	NSX 400 Type N, H or L Rotary handle LV432598	NSX CT block	150	240	ISO 40 max.	KSB 400DC4TRE	KSB 400DC5TRE	19.50

- (1) The neutral must be protected or not distributed (3L+PE) for the IT system.
- (2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible).
- (3) Maximum diameter by unipolar cable.

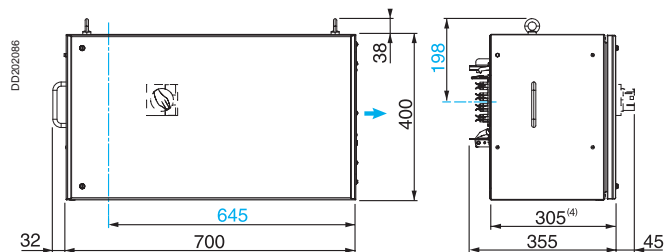


X = 726.5 (KSB 250DC●TRE)
X = 976.5 (KSB 400DC●TRE)

KSB 250DC●TRE



KSB 400DC●TRE



→ Cable exit
— Centre line of tap-off outlets

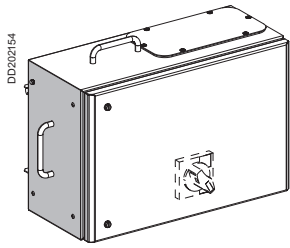
(4) Protruding.



Canalis KS, 100 to 1000 A

Busbar trunking for medium-power distribution

Tap-off units for NG modular devices



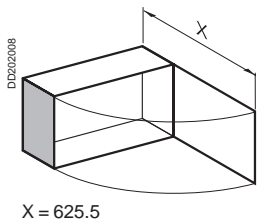
KSB 160SM•13

Rating (A)	Type of circuit breaker	Connection	Max. size (mm ²)		Cable gland ⁽³⁾ (not supplied)	Cat. no.	Cat. no.	Weight (kg)
			Flexible	Rigid				
160	NG160 with rotary handle 28060	NG	50	70	ISO 25 max.	KSB 160SM413	KSB 160SM513	8.50
125	NG125 with rotary handle 19088							

The cover of the tap-off unit may be opened only when the circuit breaker is in the Off position.

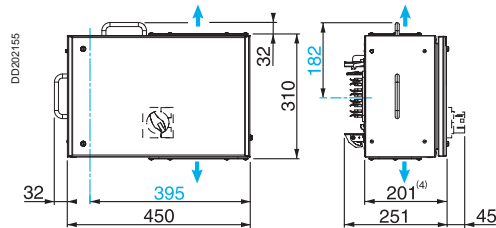
Earthing system arrangement	Busbar trunking Tap-off unit	TT-TNS-TNC-IT ⁽¹⁾	TNC
		TT-TNS-TNS-IT ⁽¹⁾	TNC
Tap-off polarity		3L + N + PE ⁽²⁾	3L + PEN
Tap-off diagram (e.g. circuit-breaker protection)			

- (1) The neutral must be protected or not distributed (3L+PE) for the IT system.
- (2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible).
- (3) Maximum diameter by unipolar cable.



→ Cable exit
 → Centre line of tap-off outlets
 (4) Protruding.

KSB 160SM•13

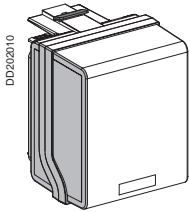




32 to 100 A tap-off units for NF fuses

Tap-off units for cylindrical fuses

Disconnection by unplugging the tap-off unit



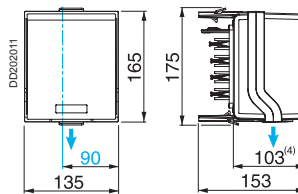
KSB 32CF5

Rating (A)	For fuses (not supplied)	Connection	Max. size (mm ²)		Cable gland ⁽³⁾ (not supplied)	Cat. no.	Weight (kg)
			Flexible	Rigid			
32	NF 10 x 38 Type gG: 25 A max. Type aM: 32 A max.	Cable clamp terminals	6	10	ISO 32 max.	KSB 32CF5	0.60

Earthing system arrangement	Busbar trunking Tap-off unit	TT-TNS-TNC-IT ⁽¹⁾ TT-TNS-TNS-IT ⁽¹⁾
Tap-off polarity		3L + N + PE ⁽²⁾
Tap-off diagram (e.g. fuse protection)		

- (1) The neutral must be not distributed (3L+PE) for the IT system.
 (2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
 (3) Maximum diameter for a multipolar cable.

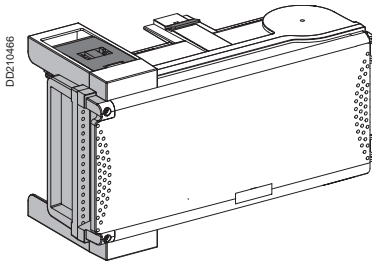
KSB 32CF5



→ Cable exit
 - - - Centre line of tap-off outlets
 (4) Protruding.

Tap-off unit with isolator for cylindrical fuses

Disconnection by opening the tap-off unit cover



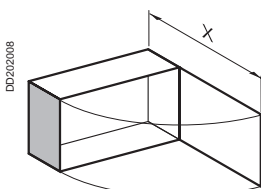
KSB ●●●SF●

Rating (A)	For fuses (not supplied)	Connection	Max. size (mm ²)		Cable gland ⁽³⁾ (not supplied)	Cat. no.		Weight (kg)
			Flexible	Rigid				
50	NF 14 x 51 Type gG, 50 A max. Type aM, 50 A max.	Cable clamp terminals	25	25	ISO 50 max.	KSB 50SF4	KSB 50SF5	2.40
100	NF 22 x 58 Type gG, 100 A max. Type aM, 100 A max.	Copper cable lugs	50	50	ISO 63 max.	KSB 100SF4	KSB 100SF5	5.00

Earthing system arrangement	Busbar trunking Tap-off unit	TT-TNS-TNC-IT ⁽¹⁾ TT-TNS-TNS-IT ⁽¹⁾	TNC TNC
Tap-off polarity		3L + N + PE ⁽²⁾	3L + PEN
Tap-off diagram (e.g. fuse protection)			

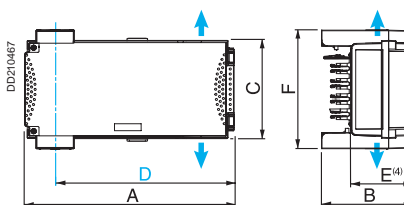
- (1) The neutral must be not distributed (3L+PE) for the IT system.
 (2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
 (3) Maximum diameter for a multipolar cable.

KSB 50SF●, KSB 100SF●



X = 432.5 (KSB 50SF●)

X = 545.5 (KSB 100SF●)



→ Cable exit
 - - - Centre line of tap-off outlets

(4) Protruding.

Dim.	50 A	100 A
A	356	444
B	153	178
C	167	202
D	309	397
E	103	128
F	202	220



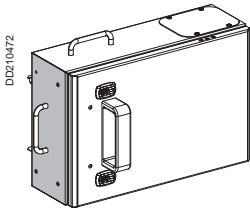
Canalis KS, 100 to 1000 A

Busbar trunking for medium-power distribution

100 to 400 A tap-off units for NF fuses

Tap-off unit with isolator for blade-type fuses

Disconnection by opening the tap-off unit cover



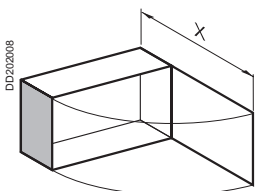
- KSB 160SE●
- KSB 250SE●
- KSB 400SE●

Earthing system arrangement	Busbar trunking		TT-TNS-TNC-IT ⁽¹⁾	TNC
	Tap-off unit		TT-TNS-TNS-IT ⁽¹⁾	TNC
Tap-off polarity			3L + N + PE ⁽²⁾	3L + PEN
Tap-off diagram (e.g. fuse protection)				

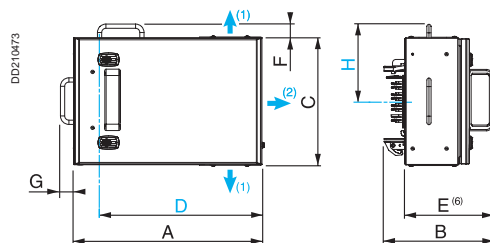
Rating (A)	For blade-type fuses (not supplied)	Connection	Max. size (mm ²)		Cable gland (not supplied)	Cat. no.	Cat. no.	Weight (kg)
			Flexible	Rigid				
100	Size 00 Type gG, 100 A max. Type aM, 100 A max.	Copper cable lugs	50	50	ISO 63 ⁽³⁾ max.	KSB 100SE4 ⁽⁵⁾	KSB 100SE5 ⁽⁵⁾	5.00
160	Size 00 Type gG, 160 A max. Type aM, 160 A max.	Copper cable lugs	35	50	ISO 20 ⁽⁴⁾ max.	KSB 160SE4	KSB 160SE5	11.00
	Size 0 Type gG, 160 A max. Type aM, 160 A max.	Copper cable lugs	35	50	ISO 20 ⁽⁴⁾ max.	KSB 160SF4	KSB 160SF5	11.00
250	Size 1 Type gG, 250 A max. Type aM, 250 A max.	Copper cable lugs	150	150	ISO 32 ⁽⁴⁾ max.	KSB 250SE4	KSB 250SE5	20.00
400	Size 2 Type gG, 400 A max. Type aM, 400 A max.	Copper cable lugs	240	240	ISO 40 ⁽⁴⁾ max.	KSB 400SE4	KSB 400SE5	29.20

- (1) The neutral must be not distributed (3L+PE) for the IT system.
- (2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
- (3) Maximum diameter for a unipolar cable.
- (4) Cable gland for multipolar cable only.
- (5) For 100A dimensions, see "Tap-off units with insulators for cylindrical fuses", page 209, cat. no. KSB 100SF●.

KSB 160S●●, KSB 250SE●



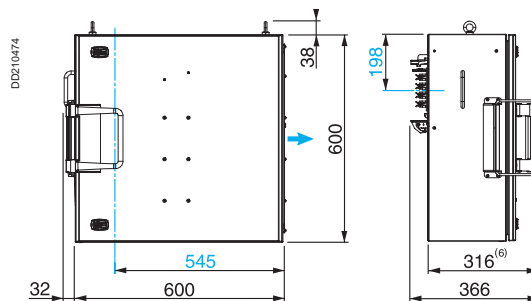
- X = 577.5 (KSB 160S●●)
- X = 777 (KSB 250SE●)
- X = 855 (KSB 400SE●)



Dim.	160 A	250 A
A	450	600
B	257	308
C	300	400
D	395	548
E	207	258
F	032	032
G	032	032
H	182	192

- (1) Cable exit of KSB 160S●●
- (2) Cable exit of KSB 250SE●
- (6) Protruding

KSB 400SE●



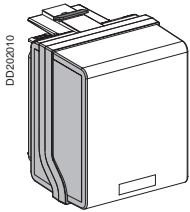
- (6) Protruding



16 to 63 A Tap-off units for DIN fuses

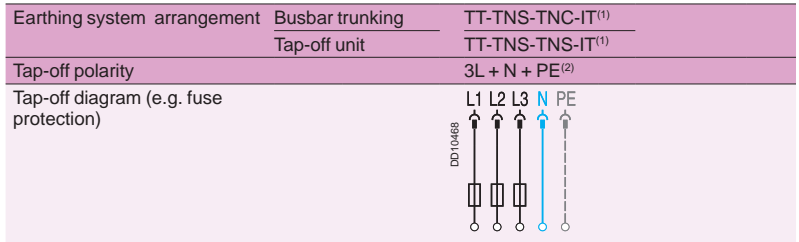
Tap-off units for screw-type fuses

Disconnection by unplugging the tap-off unit



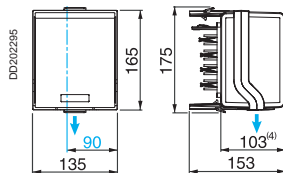
KSB 16CN5

Rating (A)	For fuses (not supplied)	Connection	Busbar trunking		Cable gland ⁽³⁾ (not supplied)	Cat. no.	Weight (kg)
			Tap-off unit	TT-TNS-TNC-IT ⁽¹⁾			
16	Neozed E14	Tunnel terminals	6	10	ISO 32 max.	KSB 16CN5	0.60



(1) The neutral must be not distributed (3L+PE) for the IT system.
 (2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
 (3) Maximum diameter for a multipolar cable.

KSB 16CN5

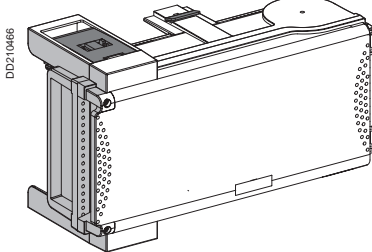


➔ Cable exit
 - - - Centre line of tap-off outlets

(4) Protruding

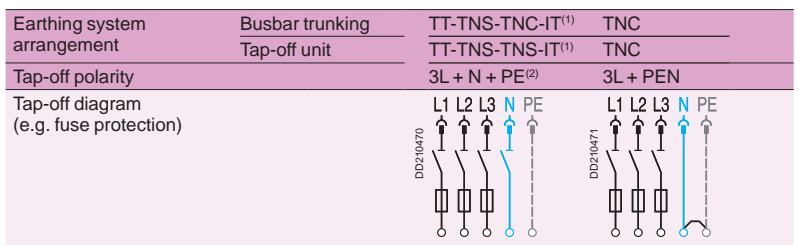
Tap-off unit with isolator for screw-type fuses

Disconnection by opening the tap-off unit cover



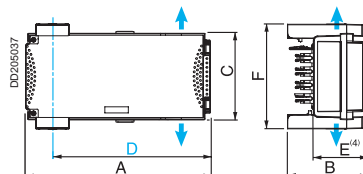
DD210466

Rating (A)	For fuses (not supplied)	Connection	Busbar trunking		Cable gland ⁽³⁾ (not supplied)	Cat. no.	Cat. no.	Weight (kg)
			Tap-off unit	TT-TNS-TNC-IT ⁽¹⁾				
25	Diazed E27	Tunnel terminals	25	25	ISO 50 max.	KSB 25SD4	KSB 25SD5	2.40
50	Neozed E18	Tunnel terminals	25	25	ISO 50 max.	KSB 50SN4	KSB 50SN5	2.40
63	Diazed E33	Tunnel terminals	25	25	ISO 63 max.	KSB 63SD4	KSB 63SD5	2.40



(1) The neutral must be not distributed (3L+PE) for the IT system.
 (2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
 (3) Maximum diameter for a multipolar cable.

KSB ●●S●●



Dim.	25 and 50 A	63 A
A	356	444
B	153	178
C	167	202
D	309	397
E	103	128
F	202	220

X = 432.5 (KSB 25SD●, KSB 50SN●)
 X = 545.5 (KSB 63SD●)

➔ Cable exit
 - - - Centre line of tap-off outlets

(4) Protruding



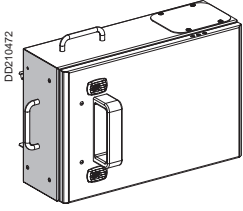
Canalis KS, 100 to 1000 A

Busbar trunking for medium-power distribution

100 to 400 A tap-off units for DIN fuses

Tap-off unit with isolator for blade-type fuses

Disconnection by opening the tap-off unit cover



KSB160SE●
KSB 250SE●

Earthing system arrangement	Busbar trunking	TT-TNS-TNC-IT ⁽¹⁾	TNC
	Tap-off unit	TT-TNS-TNS-IT ⁽¹⁾	TNC
Tap-off polarity		3L + N + PE ⁽²⁾	3L + PEN
Tap-off diagram (e.g. fuse protection)			

Rating (A)	For blade-type fuses (not supplied)	Connection	Max. size (mm ²)		Cable gland (not supplied)	Cat. no.	Cat. no.	Weight (kg)
			Flexible	Rigid				
100	Size 00 Type gG, 100 A max. Type aM, 100 A max.	Copper cable lugs	50	50	ISO 63 ⁽³⁾ max.	KSB 100SE4⁽⁵⁾	KSB 100SE5⁽⁵⁾	5.00
160	Size 00 Type gG, 160 A max. Type aM, 160 A max.	Copper cable lugs	35	50	ISO 20 ⁽⁴⁾ max.	KSB 160SE4	KSB 160SE5	11.00
250	Size 1 Type gG, 250 A max. Type aM, 250 A max.	Copper cable lugs	150	150	ISO 32 ⁽⁴⁾ max.	KSB 250SE4	KSB 250SE5	20.00
400	Size 2 Type gG, 400 A max. Type aM, 250 A max.	Copper cable lugs	240	240	ISO 40 ⁽⁴⁾ max.	KSB 400SE4	KSB 400SE5	29.20

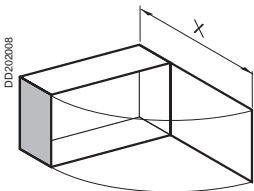
(1) The neutral must be not distributed (3L+PE) for the IT system.

(2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).

(3) Maximum diameter for a unipolar cable.

(4) Cable gland for multipolar cable only.

(5) For 100A dimensions, see "Tap-off units with insulators for cylindrical fuses", page 209, cat. no. KSB 100SF●.

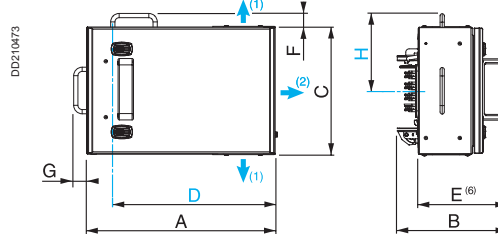


X = 577.5 (KSB 160SE●)

X = 777 (KSB 250SE●)

X = 855 (KSB 400SE●)

KSB 160SE●, KSB 250SE●

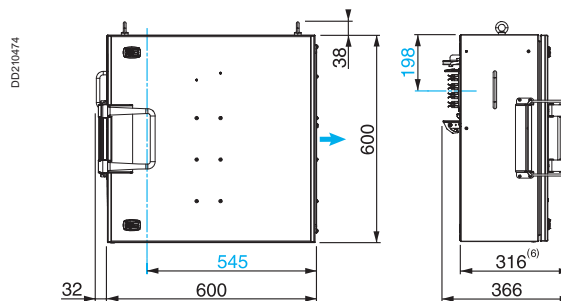


Dim.	160 A	250 A
A	450	600
B	257	308
C	300	400
D	395	548
E	207	258
F	032	032
G	032	032
H	182	192

➔ Cable exit of KSB 160S●●
➔ Cable exit of KSB 250SE●

— Centre line of tap-off outlets
(6) Protruding

KSB 400SE●



➔ Cable exit
— Centre line of tap-off outlets

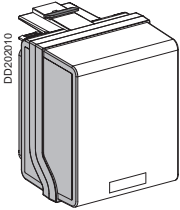
(6) Protruding



20 to 160 A tap-off units for BS fuses

Tap-off units for screw-mounted fuses

Disconnection by unplugging the tap-off unit

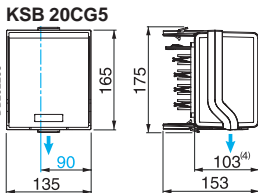


KSB 20CG5

Rating (A)	For fuses (not supplied)
20	BS88 A1

Earthing system arrangement	Busbar trunking		TT-TNS-TNC-IT ⁽¹⁾		Cat. no.	Weight (kg)
	Tap-off unit		TT-TNS-TNS-IT ⁽¹⁾			
Tap-off polarity			3L + N + PE ⁽²⁾			
Tap-off diagram (e.g. fuse protection)						
Connection	Max. size (mm ²)	Cable gland ⁽³⁾				
	Flexible Rigid	(not supplied)				
Cable clamp terminals	6	10	ISO 32 max.		KSB 20CG5	0.60

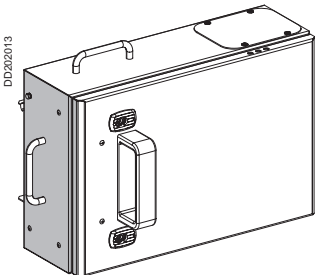
- (1) The neutral must be not distributed (3L+PE) for the IT system.
 (2) Also suitable for tap-off unit 3L + PE (N not distributed, IT system also possible only if N not distributed).
 (3) Maximum diameter for a multipolar cable.



- ➔ Cable exit
 — Centre line of tap-off outlets
 (4) Protruding.

Tap-off unit with isolator for screw-mounted fuses

Disconnection by opening the tap-off unit cover



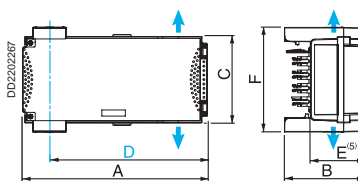
KSB 160SG4

Rating (A)	For fuses (not supplied)
32	BS88 A1
80	BS88 A1 ou A3
160	BS88 B1 ou B2

Earthing system arrangement	Busbar trunking		TT-TNS-TNC-IT ⁽¹⁾		Cat. no.	Weight (kg)
	Tap-off unit		TT-TNS-TNS-IT ⁽¹⁾			
Tap-off polarity			3L + N + PE ⁽²⁾			
Tap-off diagram (e.g. fuse protection)						
Connection	Max. size	Cable gland				
	Flexible or rigid	(not supplied)				
Cable clamp terminals	25	ISO 50 max. ⁽³⁾	ISO 20 max. ⁽⁴⁾		KSB 32SG4	2.40
Copper cable lugs	50	ISO 63 max. ⁽³⁾ or ISO 20 max. ⁽⁴⁾			KSB 80SG4	5.00
Copper cable lugs	50	ISO 20 max. ⁽⁴⁾			KSB 160SG4	11.00

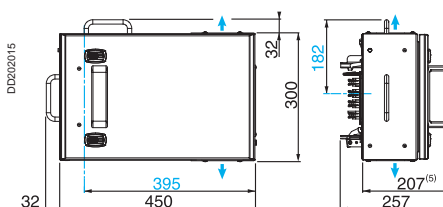
- (1) The neutral must be not distributed (3L+PE) for the IT system.
 (2) Also suitable for tap-off unit 3L + PE (N not distributed).
 (3) Maximum diameter for a multipolar cable.
 (4) Maximum diameter for a unipolar cable.

KSB 32SG4, KSB 80SG4

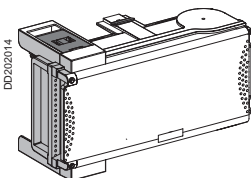


Dim.	32 A	80 A
A	356	444
B	153	178
C	167	202
D	309	397
E	103	128
F	202	220

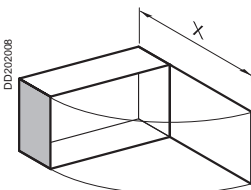
KSB 160SG4



- ➔ Cable exit
 — Centre line of tap-off outlets
 (5) Protruding



KSB 32SG4



- X = 432.5 (KSB 32SG4)
 X = 545.5 (KSB 80SG4)
 X = 577.5 (KSB 160SG4)



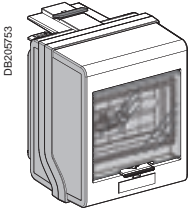
Canalis KS - 100 to 1000 A

Busbar trunking for medium-power distribution

Tap-off units equipped with a surge arrester

Tap-off units equipped with a surge arrester

Disconnection by unplugging the tap-off unit

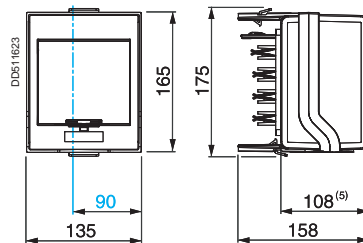


KSB QPF

		Earthing system arrangement	Busbar trunking	TT - TNS - TNC		
Protection type		Lightning arrester cartridges (supplied)		3L + N + PE ⁽¹⁾		
Type 2		Fixed		KSB QPF		
Connection		Pre-wired	6	10	1.3	
Permissible short-circuit Isc (kA)		Max. discharge current I _{max} (kA)		Cat. no.		
Diagram						

SPD (Surge Protection Device) installed: Quick PF10 SPD, 3P+N, cat. no. 16618 (Type 2 monoblock surge arrester, with fixed cartridges and integrated disconnection device, certified IEC 81643-1, EN 61643-11).

(1) Also suitable for tap-off unit 3L + PE (N not distributed).

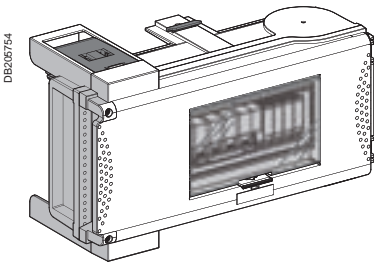


(5) Side projection.

Centre line of tap-off outlets

Tap-off units with isolator equipped with a surge arrester

Disconnection by opening the tap-off unit cover

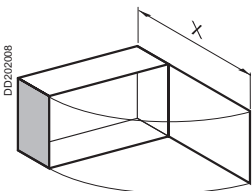


KSB QPRD

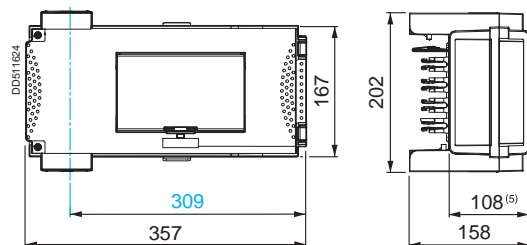
		Earthing system arrangement	Busbar trunking	TT - TNS - TNC		
Protection type		Surge arrester cartridges (supplied)		3L + N + PE ⁽¹⁾		
Type 2		Removable		KSB QPRD		
Connection		Pre-wired	25	40	3.40	
Permissible short-circuit Isc (kA)		Max. discharge current I _{max} (kA)		Cat. no.		
Diagram						

Surge arrester installed: Quick PRD40r surge arrester, 3P+N, cat. no. 16294 (Type 2 monoblock surge arrester, with fixed cartridges and integrated disconnection device, certified IEC 81643-1, EN 61643-11).

(1) Also suitable for tap-off unit 3L + PE (N not distributed).



X = 432.5



Centre line of tap-off outlets

(5) Side projection.



Accessories

Accessories

For all tap-off units for modular devices

Designation	Description	Cat. no.	Weight (kg)
Modular blanking plat	Divisible set of 10 x 5	13940	0.08
Adhesive label⁽¹⁾	Set of 12 label-holders (H = 24 mm - L = 180 mm)	08905	0.50
	Set of 12 labels-holders (H = 24 mm - L = 432 mm)	08903	0.50
	Set of 12 divisible labels-holders (H = 24 mm - L = 650 mm)	08907	0.50

(1) Self-adhesive support complete with transparent cover and paper label.

For sheet-metal tap-off units

Designation	For tap-off unit	Order in multiples of	Cat. no.	Weight (kg)
Cover contact (break before opening)	KSB 100S● to KSB 400S●	1	KSB 400ZC1	0.03

Installation

IP55

U_e = 230..0.690 V

RAL 9001 white

Canalis KS, 100 to 1000 A

Busbar trunking for medium power distribution

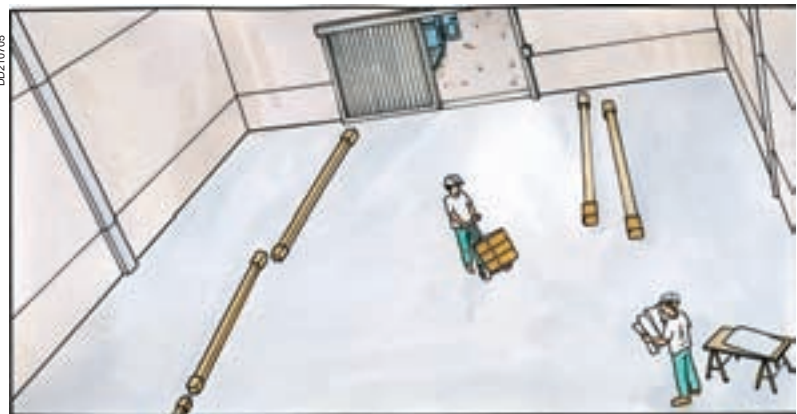
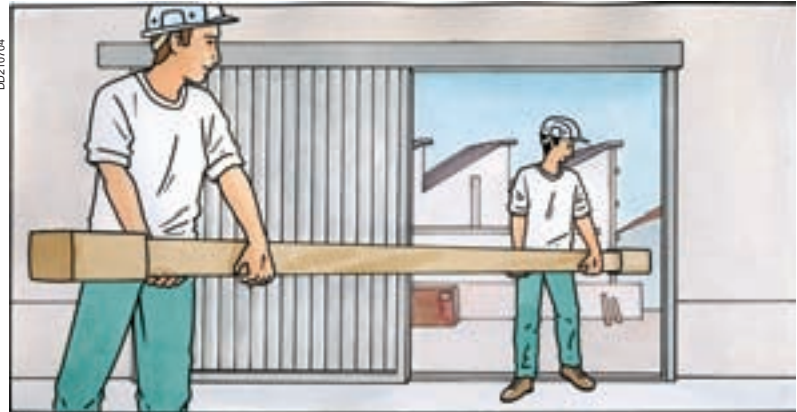
Installation scenario

Installation of a line

Unload and carry the products inside to an area where they are not exposed to dust or inclement weather.

Do not store the busbar trunking outdoors.

Take care not to knock or drag the busbar trunking on the ground. That could damage the ends and render connections impossible.

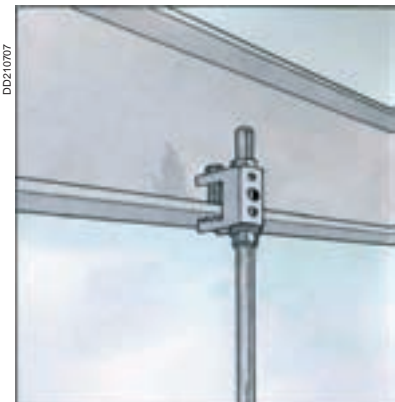


Preparation of fixings

Assemble the fixing brackets required to install the trunking components.

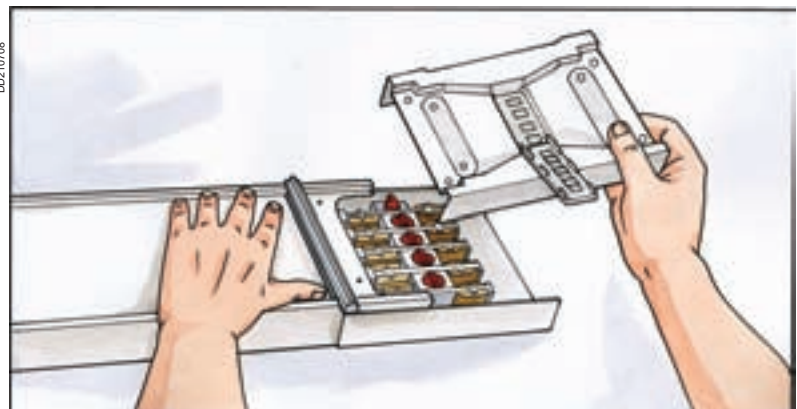
Secure the fixing brackets to steel beams.

In this catalogue, you will find a number of fixings suited to different building structures.

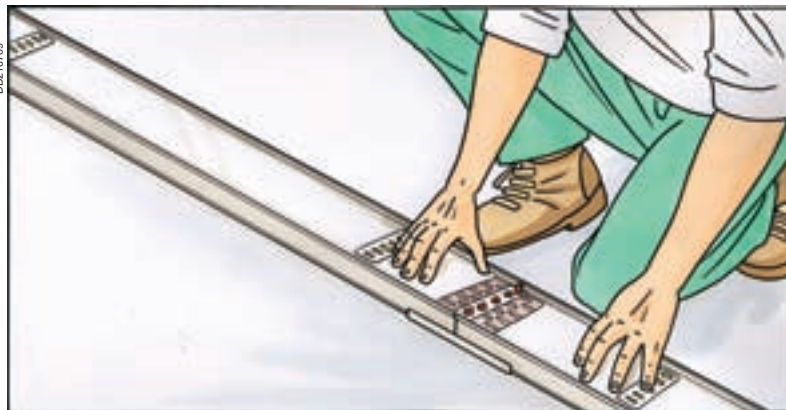


Preparation of a line segment on the floor

Remove the cover from the jointing unit.

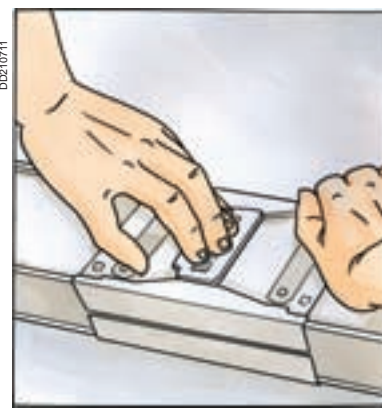
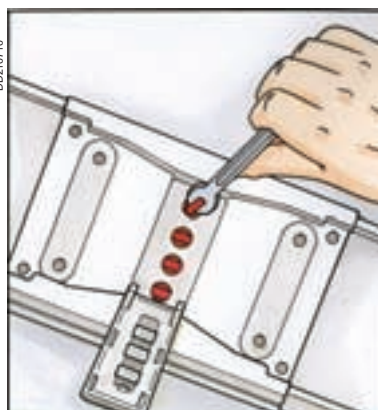


Assemble the two lengths on the floor.



Fit the cover and interconnect the lengths using the mechanical and electrical jointing system.

Close the shutter.

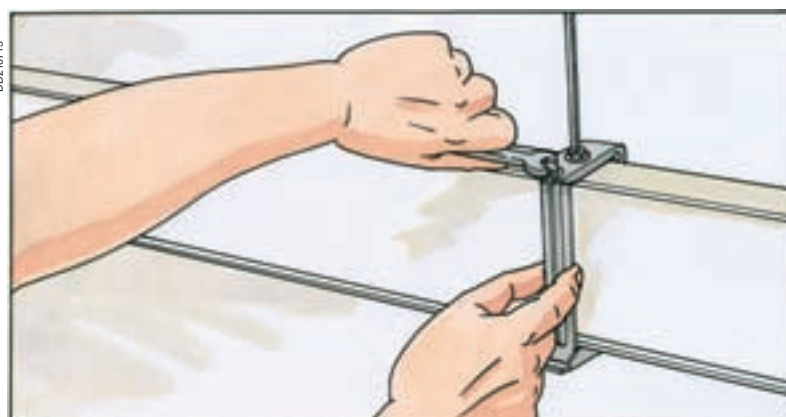


Lift and position the line segment in the fixing brackets.

They are designed to immediately relieve the installer of the weight. The busbar trunking is held in place as soon as the KS lengths are positioned in the brackets.



The brackets are closed by bolts.



Installation

IP55

$U_e = 230..0.690\text{ V}$

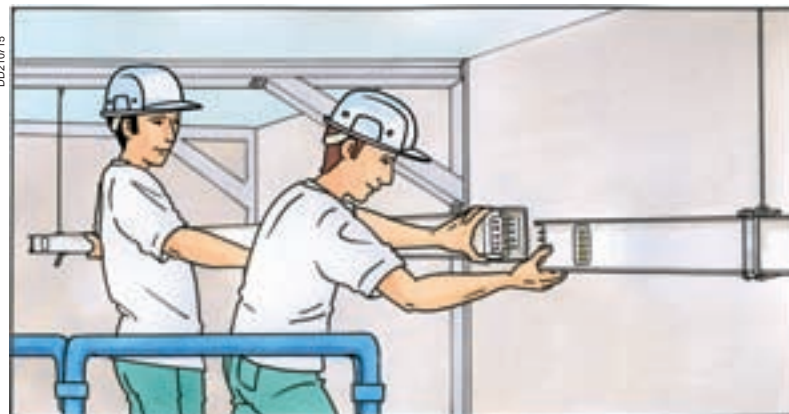
RAL 9001 white

Canalis KS, 100 to 1000 A

Busbar trunking for medium power distribution

Installation scenario

Assemble the mounted trunking sections.

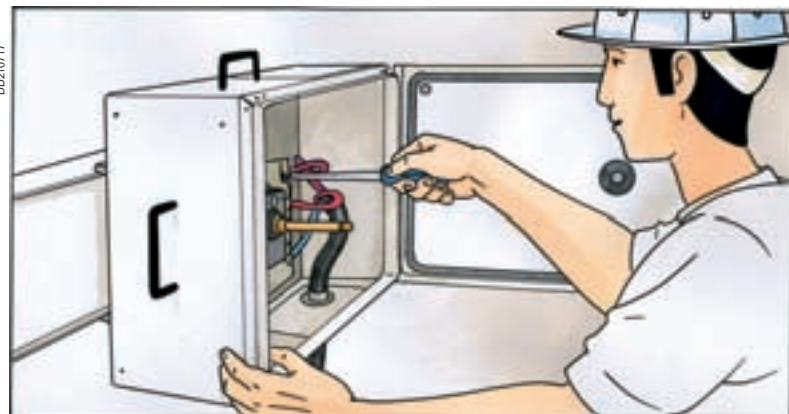


Tap-off connections

Place the tap-off unit on the trunking.

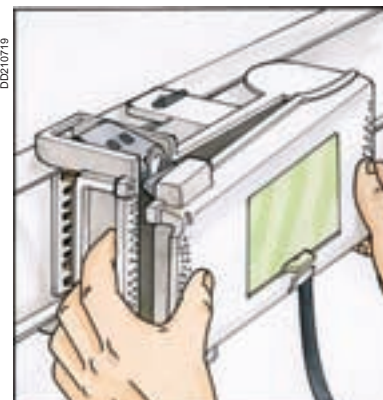
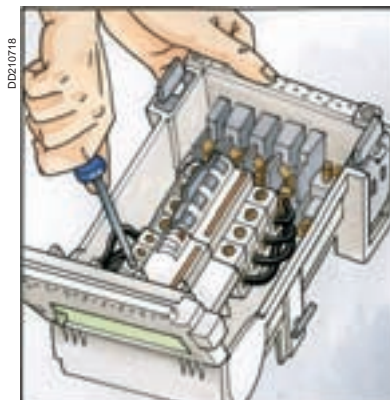


Wire the circuit breaker inside the tap-off unit.

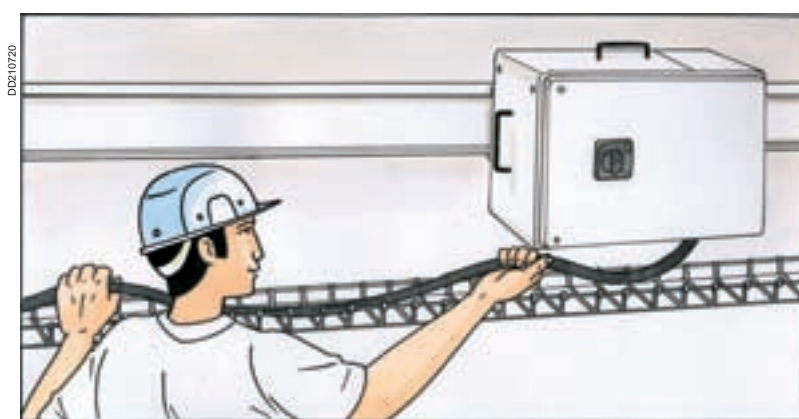


Wire the modular devices and then clip in the tap-off unit.

In this catalogue, you will find a full range of tap-off units to cover all protection needs using either circuit breakers or fuses.



Run the cable in the cable tray.



Canalis
KS

Connection of the feed unit and energisation

Last installation step.
Connect the supply cable to the Canalis KS feed unit,
then to the switchboard.



Energise the system to check operation.



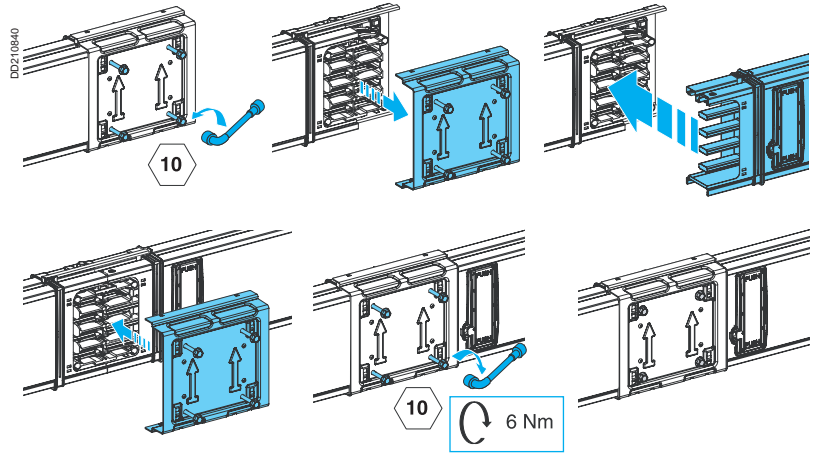
Canalis KS, 100 to 1000 A

Busbar trunking for medium power distribution

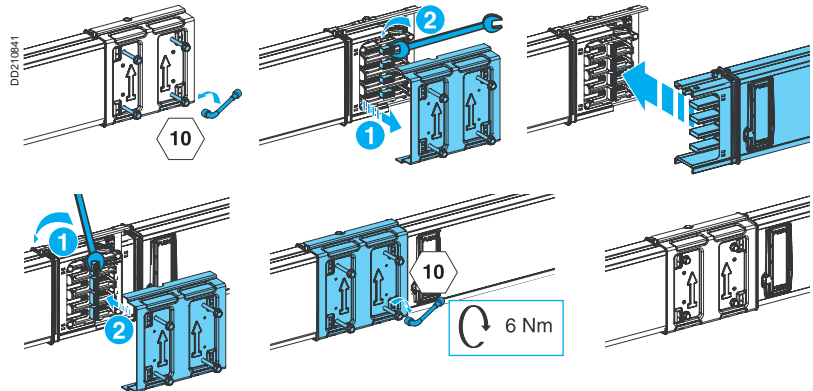
Assembly of trunking components

Assembling the straight lengths

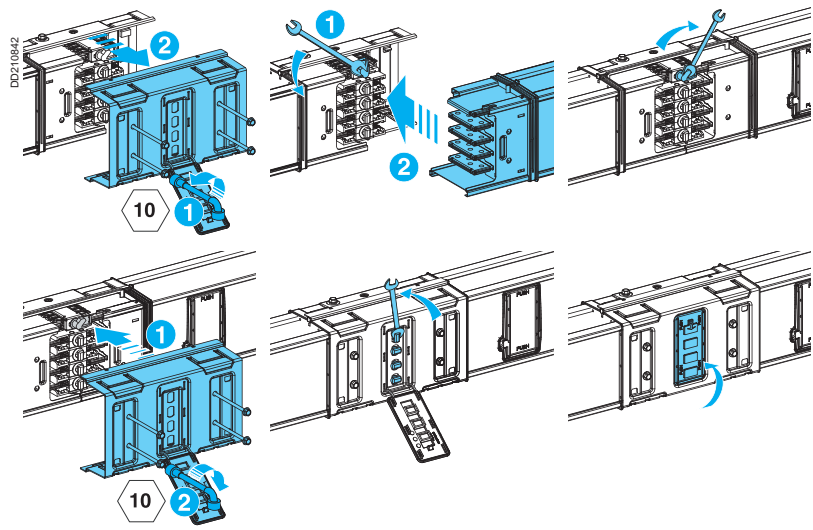
100 and 250 A



400 A

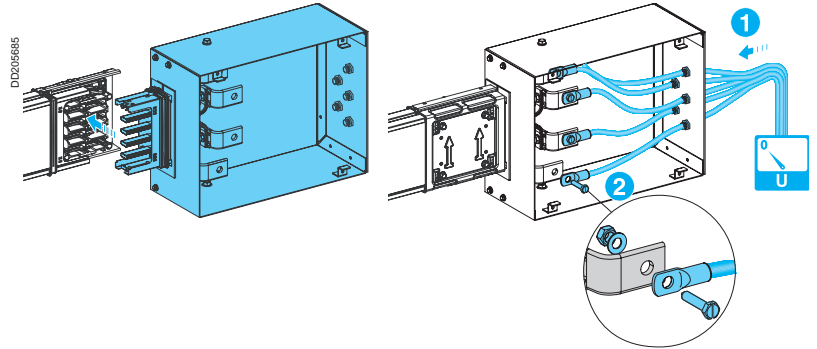


500 to 1000 A

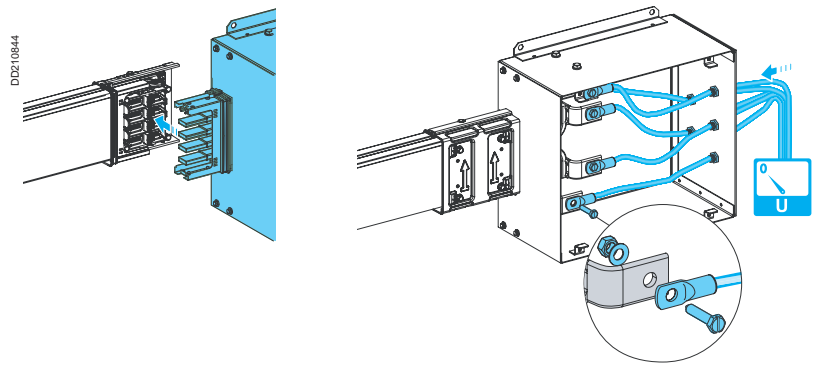


Connecting the feed-units

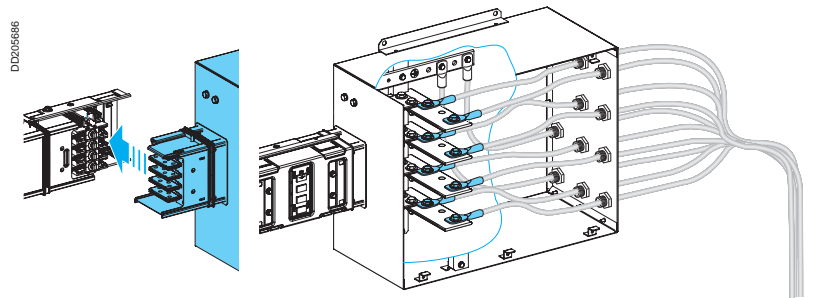
100 and 250 A



400 A

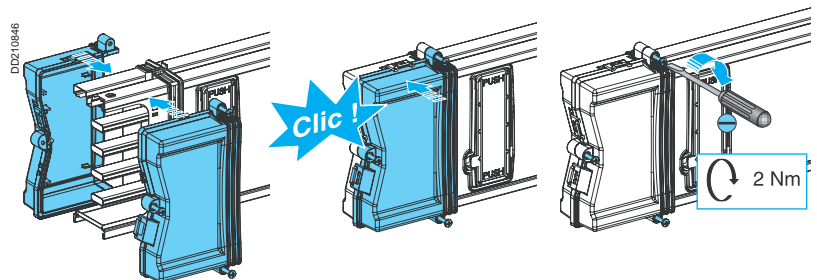


500 to 1000 A

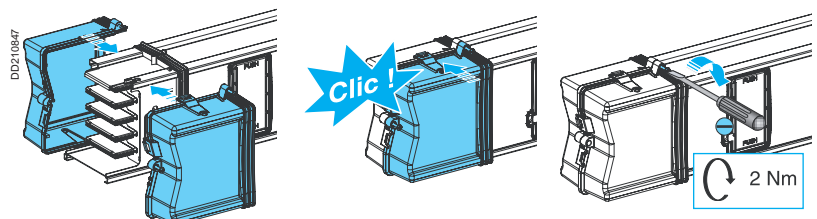


Assembling the end covers

100 to 400 A



500 to 1000

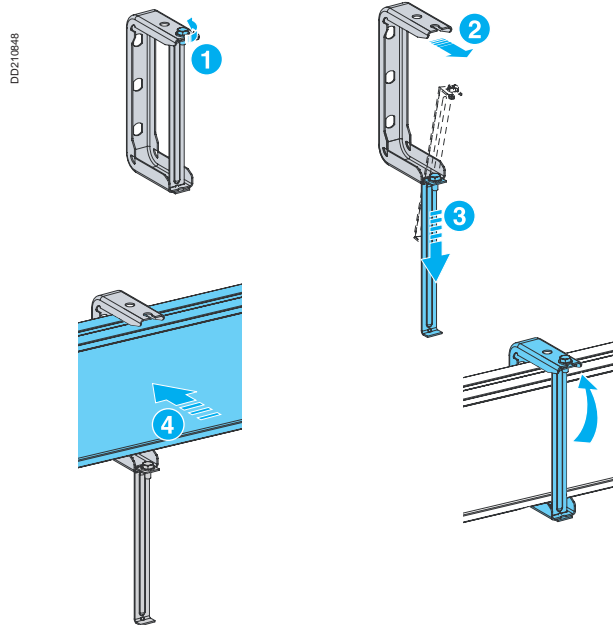


Canalis KS, 100 to 1000 A

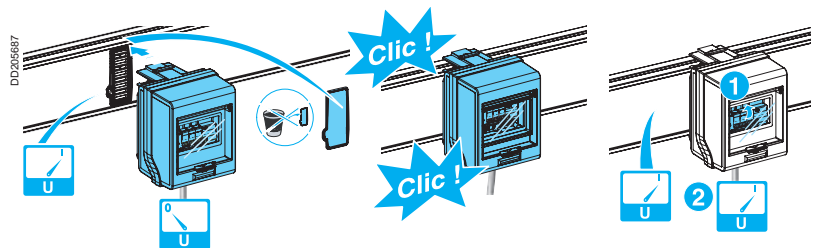
Busbar trunking for medium power distribution

Assembly of trunking components

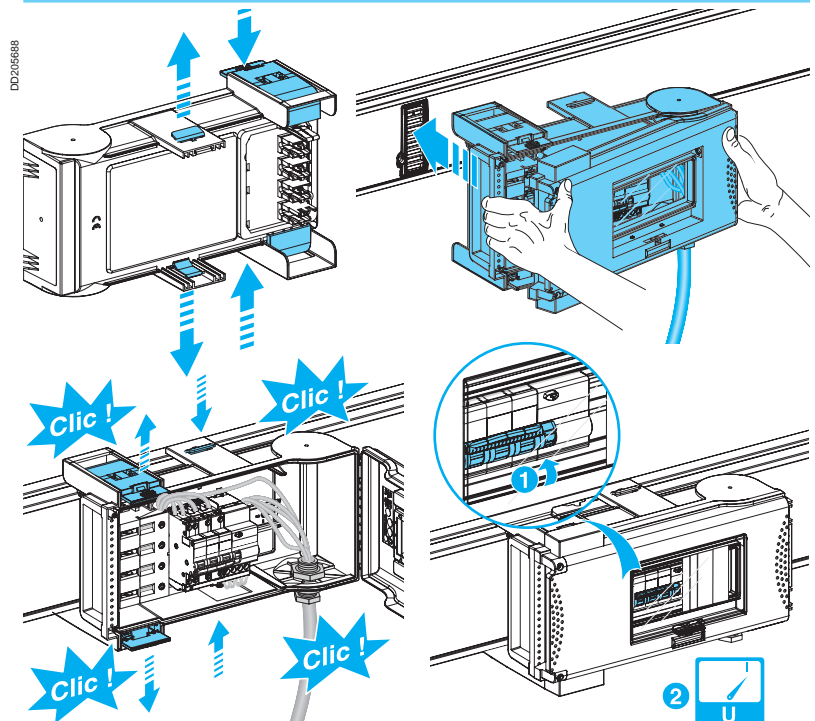
Fixing Canalis KS in the brackets



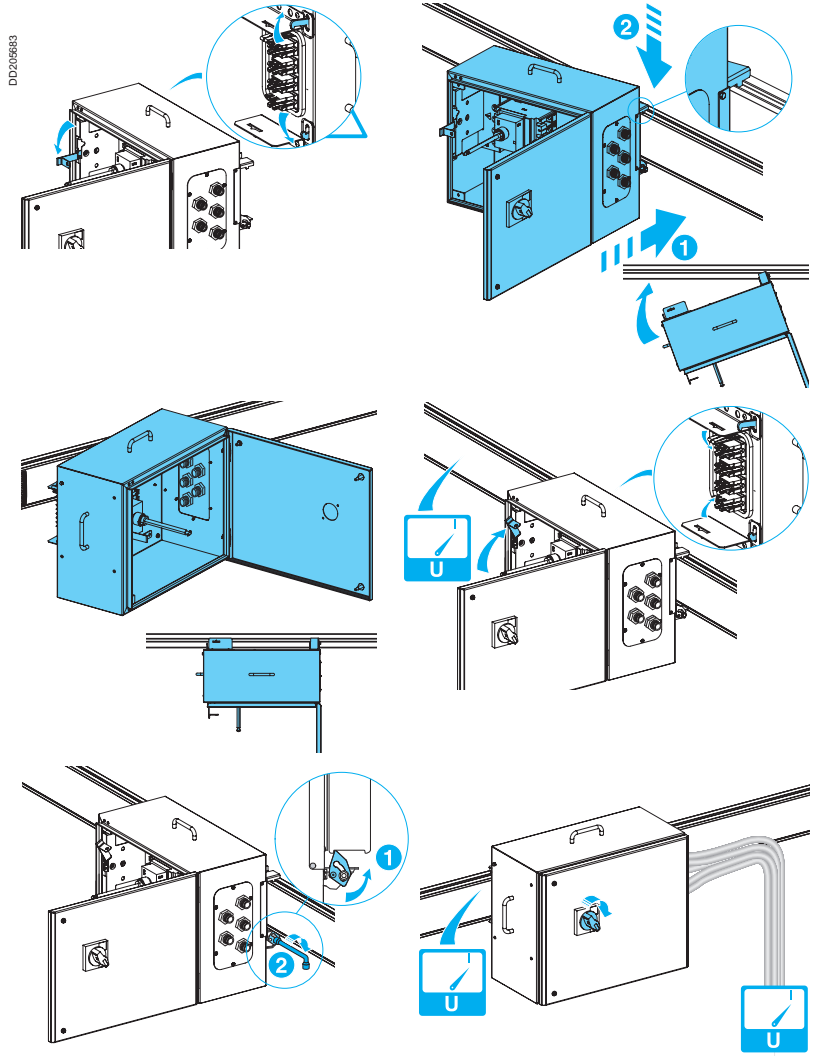
Mounting the tap-off unit



Mounting the tap-off unit with modular devices



Mounting the tap-off unit with Compact NSX circuit breaker



DD205883

Canalis
KS

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<i>Introduction</i>	8
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Medium-power busbar trunking for multi-storey building	237
Rising mains	237

Installation

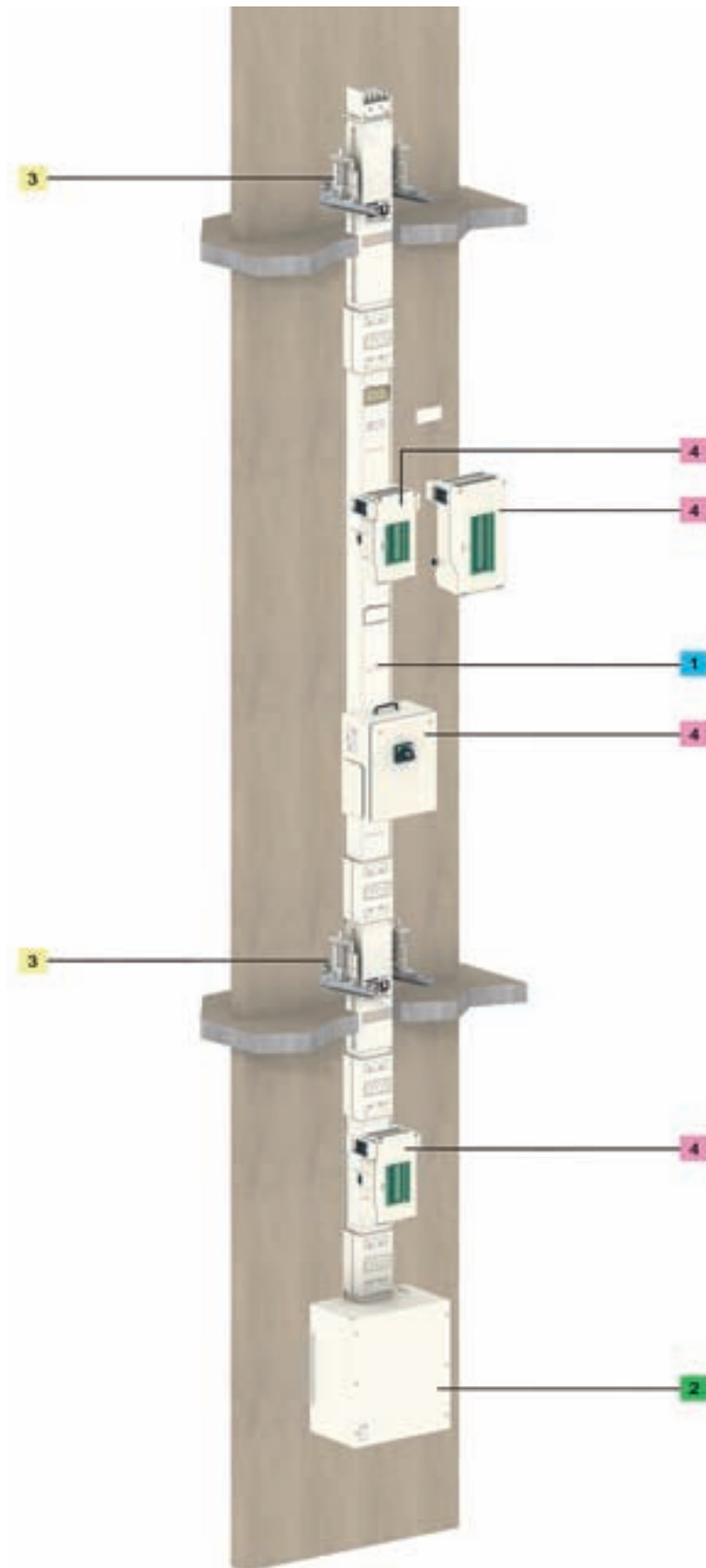
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Canalis KS rising mains

Medium-power busbar trunking
for multi-storey building
from 100 to 1000 A

PID002210



1. Run components

- Rating: 100, 250, 400, 500, 630, 800 and 1000 A.
- 4 live conductors.
- 2 types of riser components for:
 - power-distribution between floors,
 - horizontal sections.

PD002211



2. Feed units and end covers

- The feed units delivered with end covers, receive the cables supplying one end or any other point of Canalis KS trunking

PD002212



3. Fixing system

- The fixing system is made up of
 - bottom support,
 - floor guide,
 - floor supports for the riser.

PD002213



4. Tap-off units

- The tap-off units (with and without isolators) are used to supply loads from 25 to 400 A.
- Protection using modular or Compact NSX circuit breakers or fuses.

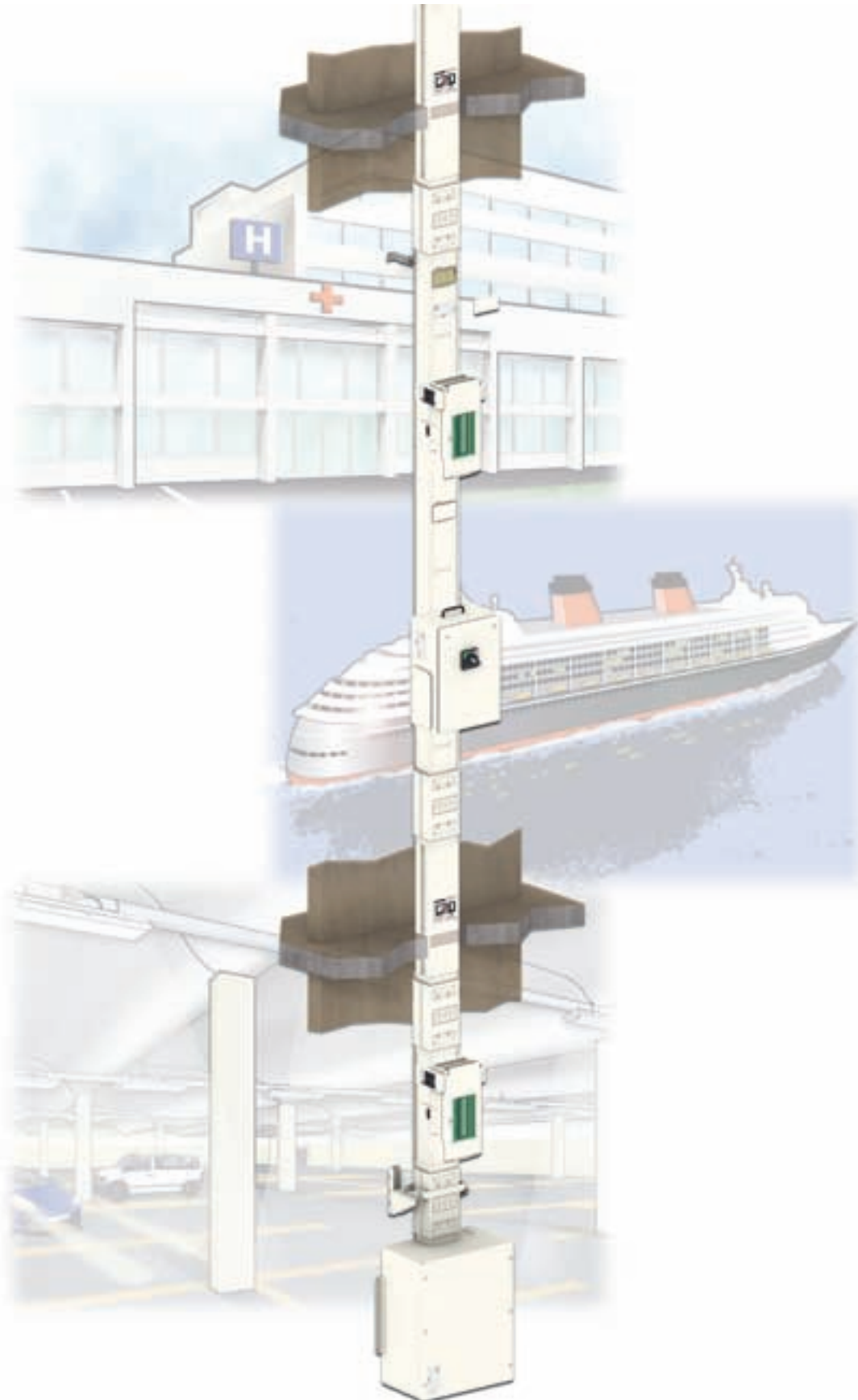
PD002214



Canalis KS rising mains

Medium-power busbar trunking
for multi-storey building
from 100 to 1000 A

PD0202215



Dependable and reliable

Canalis KS benefits from a number of marine certifications, including Bureau Veritas (BV), Lloyd's (GL) and Norske Veritas (DNV).

DD202210



No risk in case of fire

All components in the KS range are **halogen free** and contain no PVCs. In case of fire, Canalis KS releases very small quantities of smoke and no toxic gases. Due to the two-hour fire barrier, **flames cannot spread**. The trunking thus contributes to containing the fire for two hours.

A high degree of protection

Canalis KS offers an IP55 degree of protection.

Thus, it can be installed in all types of buildings and in all positions.

Even installed vertically, it retains the IP55 degree of protection without requiring any accessories.

Canalis KS complies with **sprinkler tests**, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Unmatched upgrading possibilities

Canalis KS makes it fast and easy to upgrade the installation. The tap-off units can be removed and handled under energised conditions. What is more, a line **does not require expansion joints** since the expansion of straight lengths is absorbed automatically by the electrical junctions. This technique ensures that the tap-off outlets on all floors remain available.

Easy handling and installation

Floor-distribution components are designed to facilitate:

- **access to the straight lengths on floors** given the narrowness of lift shafts and stairways,
 - **installation of the straight lengths** given the height of doors and the size of shafts and technical ducts.
- Because the available space in technical ducts is limited, Canalis KS gives the advantage to use **significantly less room** compared to a centralised distribution system using cables.

Installation is made easy due to the design of the **jointing units that facilitate alignment** of the straight lengths.

PD202233



Very flexible

The floor-distribution components in the Canalis KS range offer **3 or 4 tap-off outlets per floor**, enough to have reserve outlets for future upgrades.

DD202146



Maintenance free

Canalis KS enhances the continuity of service because **no maintenance is required on the line**. All sliding jointing contacts are lubricated for the life of the product.

Light and easy to handle

Canalis trunking is **light and easy to handle** due to the use of aluminium conductors.

For equal power ratings, trunking equipped with copper conductors is 40% heavier.

The low weight of Canalis KS simplifies installation and greatly reduces the time required. Fewer workers and resources are required, whatever the type of installation.

DD202212



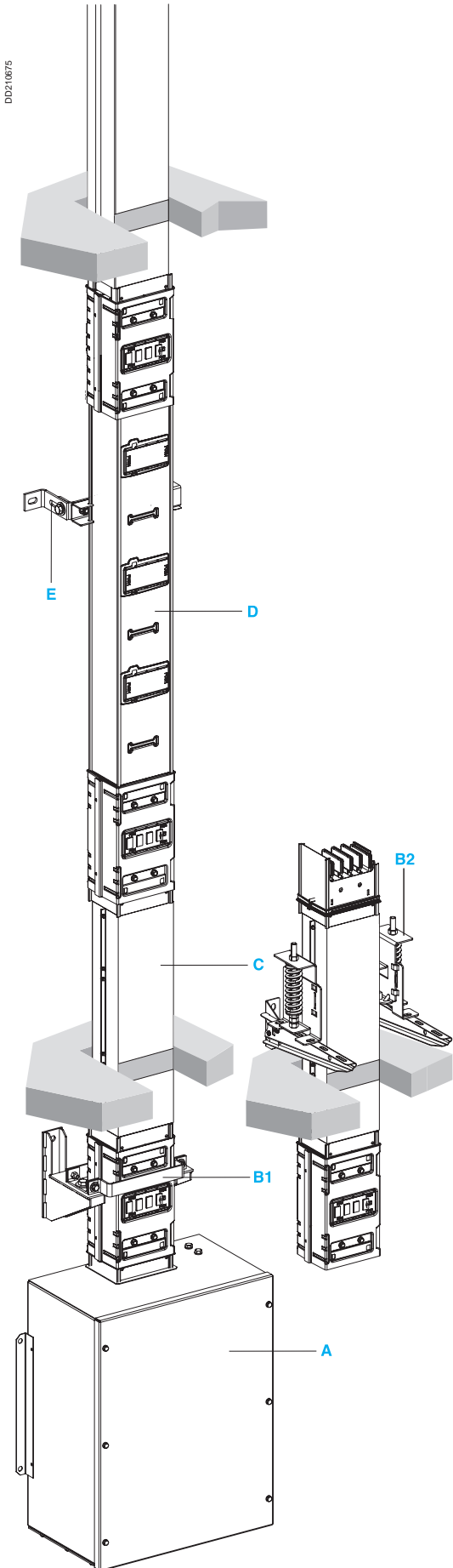
Description

IP55
 Ue = 230...690 V
 RAL 9001 white

Canalis KS, 100 to 1000 A

Rising mains

Medium-power busbar trunking for multi-storey buildings



General

Canalis KS risers distribute power to each floor in multi-level buildings (office buildings, hotels, hospitals, car parks and ships).

In this application, Canalis KS offers its many advantages:

- aluminium conductors, equipped with bimetal aluminium/silver-plated copper contacts at junctions and tap-off points,
- a mechanical and electrical jointing system that ensures automatic and simultaneous jointing of all live conductors and the continuity of the protective earth conductor, as well as its connection with the casing. This jointing block also absorbs the difference in conductor and casing thermal expansion for each length,
- tap-off outlets with automatic shutters.

For more detailed description, see "Canalis 100 to 1000 A for power distribution", in the "Description" chapter, page 178.

When installed vertically, the Canalis KS degree of protection is IP55.

How to build rising mains

A Use an end feed unit, type **KSA ●●●ABD4** in order to have the neutral on the right-hand side in the riser.

B Two solutions are available to support the riser.

B1 Use the **KSB ●●●ZV1** bottom support for risers. Placed at the bottom of the riser and secured to the wall, this support takes the entire weight of the rising mains. Consequently, depending on the rating, the maximum height of the rising mains is limited as indicated opposite,

Rating (A)	Max. recommended height	Max. recommended weight by support
100 and 250	40 m	680 kg
400	30 m	680 kg
500	70 m	1760 kg
630	50 m	1760 kg
800	50 m	1760 kg
1000	40 m	1760 kg

B2 Use floor supports **KSB ●●●ZV3**, only compatible with special elements **KSA****ET4AF** and **KSA***ZV3**. They are used to support the riser on each floor of the building, for enhanced flexibility in carrying out the various installation phases. With this support, riser sections can be installed even when the lower floors have not been completed.

Floor supports must never be used together with a bottom support.

Rating (A)	Max. recommended height	Recommended weight by support
All	150 m	440 kg

Above 100 m, avoid the use of fixed components (e.g. elbows) and supply power using cables wherever possible.

C Use custom-length fire barriers to block fire propagation between floors. They also provide the means to adjust to the distance between floors.

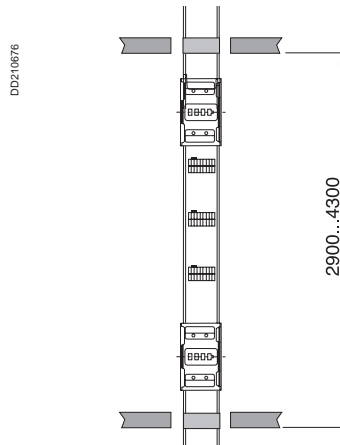
D Use standard straight lengths, 2 or 2.50 metres long. Lengths and fire barriers can be combined to provide:

Solution 1 : for a distance of 2900 mm to 4300 mm between floors, three tap-off outlets with **KSA ●●●EV4203** straight lengths,

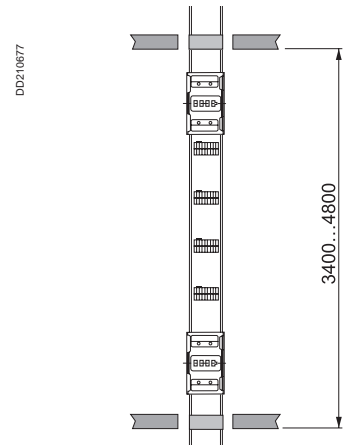
Solution 2 : for a distance of 3400 mm to 4800 mm between floors, four tap-off outlets with **KSA ●●●EV4254** straight lengths,

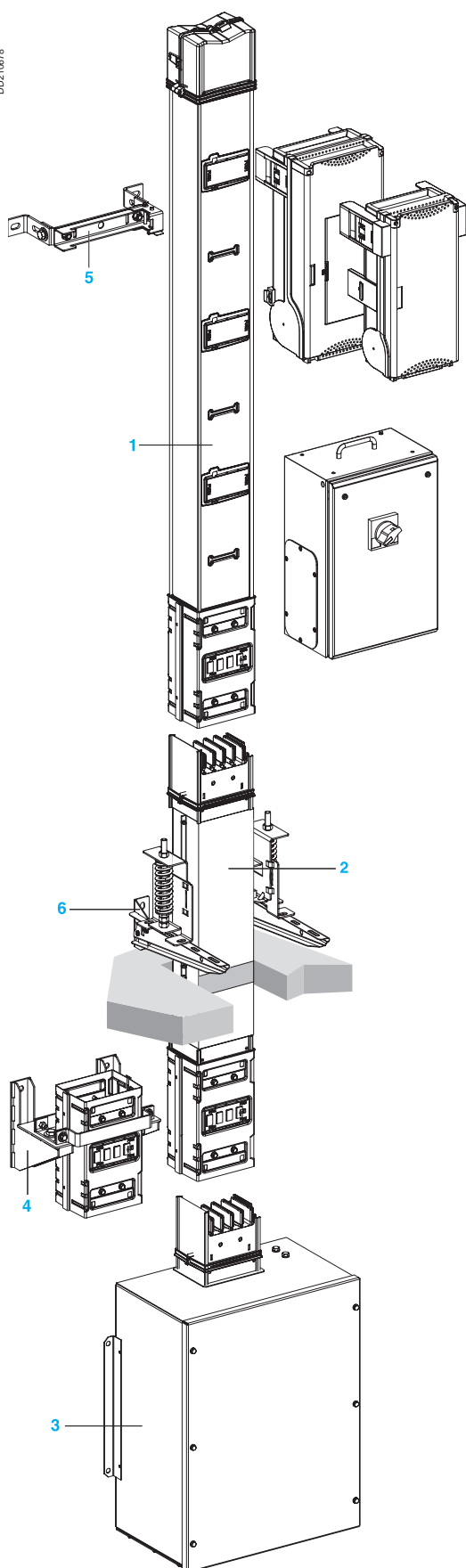
E Use **KSB 1000ZV2** fixings to guide the riser on each floor.

Solution 1:



Solution 2:





Riser components

1 Straight lengths for distribution

Specially designed for rising mains, they are available in two lengths (2 and 2.5 metres).

They have three or four tap-off outlets, all on the same side. The outlets are positioned to enable connection of up to three 160 A tap-off units for Compact NSX circuit breakers on the two-metre lengths and up to four on the 2.5-metre lengths.

2 Custom-length fire-barrier lengths

Installed at each floor level, these lengths eliminate any risk of fire propagation from one floor to another via the trunking. These fire barriers have been tested in a certified laboratory and comply with standard EN 1363-1. The laboratory report lists the following results:

- thermal insulation: ≥ 120 minutes,
- resistance to flames: ≥ 120 minutes,
- stability: ≥ 120 minutes.

Provided in custom lengths, these barriers are used with the straight lengths to adjust to the exact height of each floor.

Feed units

Direct supply

The trunking connects directly to a switchboard via a spreader. In this configuration, the riser is supplied through a horizontal section made of lengths without tap-off outlets.

3 Supply via cables

Equipped with terminals made of tinned aluminium, this feed unit is designed for connection to copper or aluminium cables equipped with the necessary lugs. The feed unit is also equipped with an aluminium gland plate. The plate can be removed and is not pre-drilled.

Fixing systems

4 Bottom support

This component attaches to the first jointing unit at the base of the riser and is secured to the wall by two brackets. It supports the entire riser (see height limitations on the previous page).

Note. The foot of the riser is a special jointing unit to which a wall bracket is installed.

5 Guides

These guides, clipped to the riser, maintain it in the vertical position on each floor. They do not block access to the tap-off outlets.

6 Floor supports

Secured to the floor or wall (via Canalis 200 mm cantilever arms), they attach to the sides of a special component (with or without fire barrier).

Tap-off units

Standard KS tap-off units are used (see Catalogue page 204).

Accessories

Sprinkler kit

To comply with the sprinkler tests (guaranteeing operation under vertically and horizontally sprayed water for 50 minutes), each electrical jointing system should be fitted with a reinforced protection kit (the jointing sleeve).

Lead sealing kit

A number of devices can be used to seal the tap-off units or outlets on the KS riser.

Catalogue numbers Dimensions

IP55

U_e = 230...690 V

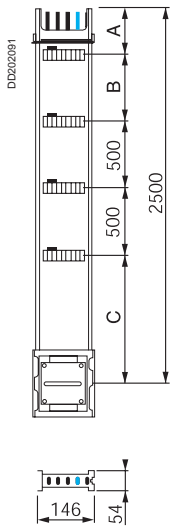
RAL 9001 white

Canalis KS, 100 to 400 A

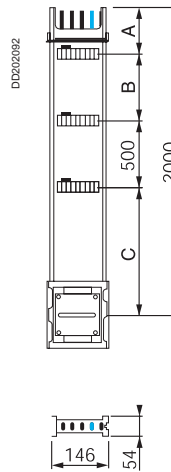
Medium-power busbar trunking for multi-storey building Rising mains

Riser components - Distribution to floors

KSA ●●●EV4254



KSA ●●●EV4203



Dim.	100 A / 250 A	400 A
A	135	150
B	500	485
C	865	865

Riser lengths

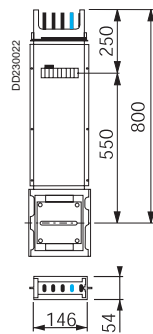
Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
100	2000	3	KSA 100EV4203	8.1
	2500	4	KSA 100EV4254	10.40
250	2000	3	KSA 250EV4203	10.85
	2500	4	KSA 250EV4254	13.35
400	2000	3	KSA 400EV4203	13.90
	2500	4	KSA 400EV4254	17.40

It is also possible to use standard 1.5 metre long straight lengths (KSA ●●●ED4156).

Distribution length at foot of riser

Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
100	800	1	KSA 100ED4081	5.40
250	800	1	KSA 250ED4081	5.40
400	800	1	KSA 400ED4081	7.00

KSA ●●●ED4081

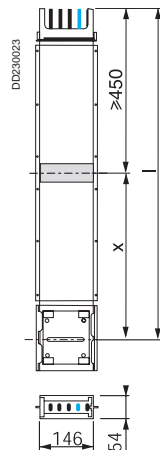


Fire barriers

Without tap-off outlets

Rating (A)	Length Dim. l (mm)	Barrier position Dim. x (mm)	Cat. no.	Weight (kg/m)
250	900 to 2200	450 to 1750	KSA 250ET4AF	8.40
400	900 to 2200	450 to 1750	KSA 400ET4AF	9.90

KSA ●●●ET4AF

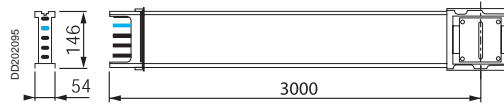


Run components for horizontal sections

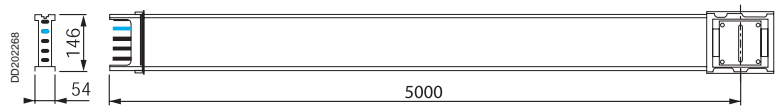
Transport lengths

Designation	Rating (A)	Length Dim. B (mm)	Cat. no.	Weight (kg)
Transport length	400	3000	KSA 400ET430	18.80
		5000	KSA 400ET450	30.00

KSA 400ET430



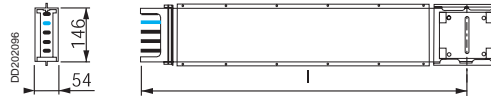
KSA 400ET450



Custom-length transport lengths

Designation	Rating (A)	Length Dim. l (mm)	Cat. no.	Weight (kg/m)
Transport length	400	500 to 1995	KSA 400ET4A	9.50

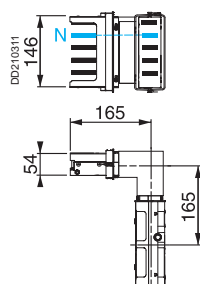
KSA 400ET4A



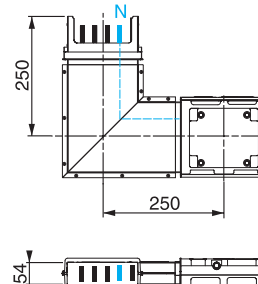
Components for changing direction

Designation	Rating (A)	Direction (edgewise)	Cat. no.	Weight (kg)
Elbow	100 to 250	Left or right	KSA 250DLC40	3.15
		Upward	KSA 250DLE40	5.00
		Downward	KSA 250DLF40	5.00
	400	Left or right	KSA 400DLC40	3.80
		Upward	KSA 400DLE40	5.60
		Downward	KSA 400DLF40	5.60

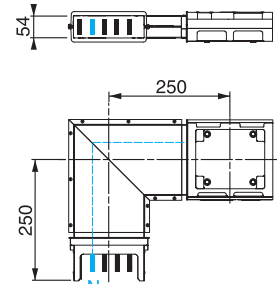
KSA ●●●DLC40



KSA ●●●DLE40



KSA ●●●DLF40



Other changes in direction can be made on special order, please consult us.

Canalis KS, 100 to 400 A

Medium-power busbar trunking

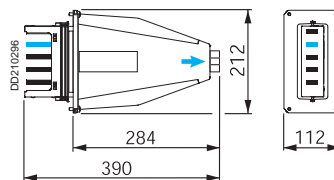
for multi-storey building

Rising mains

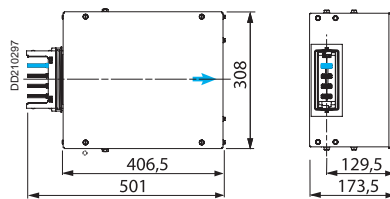
Feed units (supplied with end cover)

Designation	Rating (A)	Mounting	Connection	Max. size (mm ²)		Cat. no.	Weight (kg)
				Flexible	Rigid		
End feed unit	100	Left or right	Terminals	5 x 16	-	KSA 100AB4	1.85
	100 to 250	Left or right	Lugs (M10 screws)	-	240	KSA 250AB4	7.20
	400	Right or left	Lugs (M10 screws)	1 x 300 or 2 x 120	-	KSA 400AB4	8.80
Flange feed unit	100 to 250	Left or right	Bars (M10 screws)	-	-	KSA 250AE4	1.70
	400	Left or right	Bars (M10 screws)	-	-	KSA 400AE4	1.90

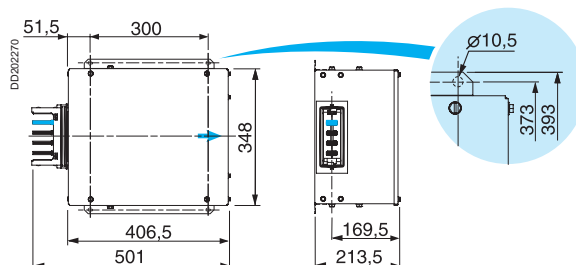
KSA 100AB4



KSA 250AB4

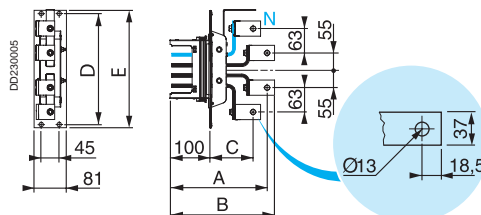


KSA 400AB4



→ Cable exit

KSA ●●●AE4



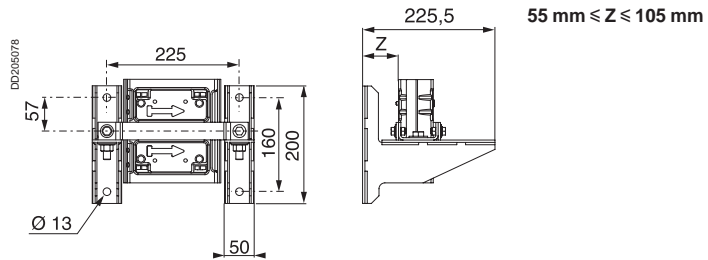
Dim.	100 to 250 A	400 A
A	243	261
B	261.5	279.5
C	108	117
D	278	318
E	294	334

Fixing systems

Bottom support

Designation	Rating (A)	Max. permissible weight (kg)	Cat. no.	Weight (kg)
Bottom support	250	680	KSB 250ZV1	4.50
	400	680	KSB 400ZV1	5.00

KSB ●●●ZV1



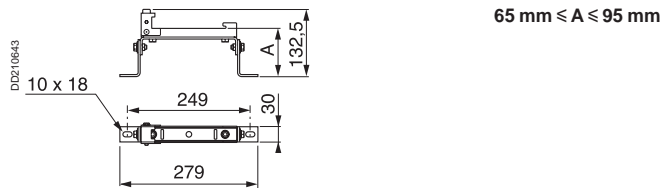
Floor guide

Used with the bottom support.

Designation	Rating (A)	Cat. no.	Qty included	Weight (kg)
Floor guide	All	KSB 1000ZV2	5	0.70

For floors higher than 3.5 metres, it is advised to use two guides per floor.

KSB 1000ZV2

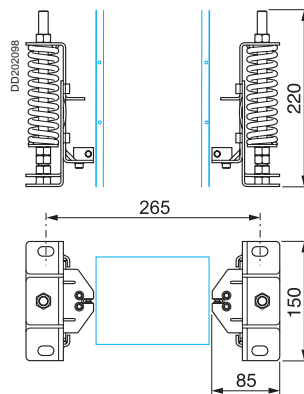


Floor supports

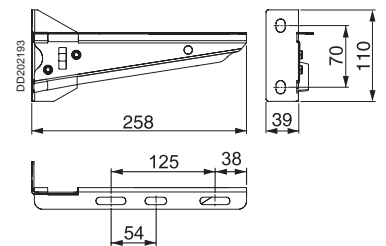
Designation	Rating (A)	Max. permissible weight (kg)	Mounting	Cat. no.	Qty included	Weight (kg)
Set of 2 floor supports	All	440	Floor or cantilever arm	KSB 1000ZV3	1	1.80
Cantilever arm, 200 mm		220	Wall	KFB CA81200	4	0.40

For floors higher than 3.5 metres, it is advised to use a floor guide in addition to the support.

KSB 1000ZV3



KFB CA81200



Canalis KS, 100 to 400 A

Medium-power busbar trunking

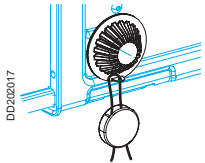
for multi-storey building

Rising mains

Tap-off units

Use the standard tap-off units (page 204).

Accessories

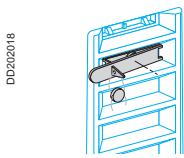


DD202017

Lead sealing kit

Designation	Rating (A)	For	Qty included	Cat. no.	Weight (kg)
Lead sealing kit	All	Feed unit cover and jointing screws	20	KSB 1000ZP1	0.0035
		Tap-off outlets	20	KSB 1000ZP2	0.002

KSB 1000ZP1

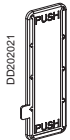


DD202018

Spare parts

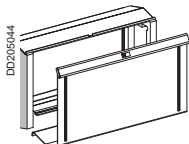
Designation	Rating (A)	Qty included	Cat. no.	Weight (kg)
Electrical and mechanical jointing unit	100 to 250	1	KSA 250ZJ4	1.60
	400	1	KSA 400ZJ4	2.00
IP55 outlet plug	100 to 400	15	KSB 400ZB1	0.015
Sprinkler proofing accessory	100 to 400	1	KSB 400ZB2	1

KSB 1000ZP2



DD202021

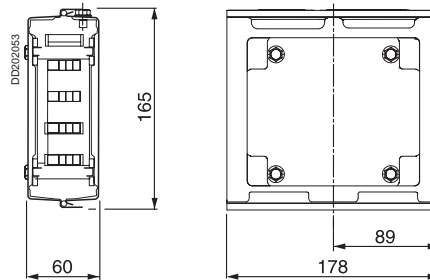
KSB 400ZB1



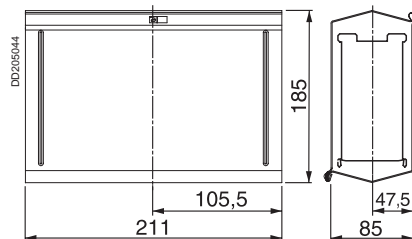
DD205044

KSB 400ZB2

KSA ***ZJ4



KSB 400ZB2



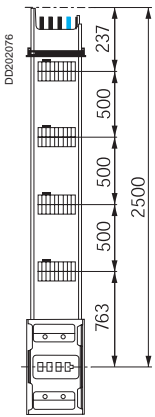
Canalis KS, 500 to 1000 A

Medium-power busbar trunking for multi-storey building

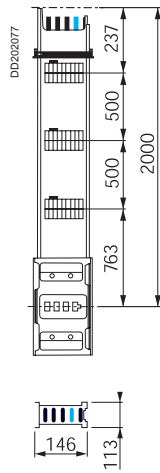
Rising mains

Straight lengths with tap-off outlets

KSA ●●●EV4254



KSA ●●●EV4203



Riser lengths

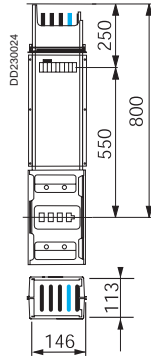
Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
500	2000	3	KSA 500EV4203	25.20
	2500	4	KSA 500EV4254	30.70
630	2000	3	KSA 630EV4203	25.30
	2500	4	KSA 630EV4254	30.80
800	2000	3	KSA 800EV4203	30.50
	2500	4	KSA 800EV4254	37.00
1000	2000	3	KSA 1000EV4203	38.60
	2500	4	KSA 1000EV4254	47.10

It is also possible to use standard 1.5 metre long straight lengths (KSA ●●●ED4156).

Distribution length at foot of riser

Rating (A)	Length (mm)	Number of tap-off outlets	Cat. no.	Weight (kg)
500 to 630	800	1	KSA 630ED4081	12.10
800 to 1000	800	1	KSA 1000ED4081	18.20

KSA ●●●ED4081

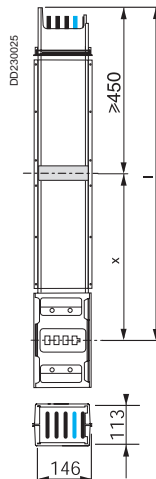


Fire barriers

Without tap-off outlets

Rating (A)	Length Dim. l (mm)	Barrier position Dim. x (mm)	Cat. no.	Weight (kg/m)
500	900 to 2340	450 to 1890	KSA 500ET4AF	16.60
630	900 to 2340	450 to 1890	KSA 630ET4AF	18.00
800	900 to 2340	450 to 1890	KSA 800ET4AF	19.50
1000	900 to 2340	450 to 1890	KSA 1000ET4AF	24.20

KSA ●●●ET4AF



Canalis KS, 500 to 1000 A

Medium-power busbar trunking

for multi-storey building

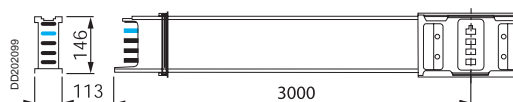
Rising mains

Run components for horizontal sections

Transport lengths

Designation	Rating (A)	Length (mm)	Cat. no.	Weight (kg)
Transport length	500	3000	KSA 500ET430	33.10
		5000	KSA 500ET450	51.50
	630	3000	KSA 630ET430	34.60
		5000	KSA 630ET450	55.20
	800	3000	KSA 800ET430	41.30
		5000	KSA 800ET450	66.20
1000	3000	KSA 1000ET430	53.40	
	5000	KSA 1000ET450	86.50	

KSA ...ET430



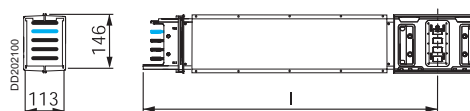
KSA ...ET450



Custom-length transport lengths

Designation	Rating (A)	Length Dim. l (mm)	Cat. no.	Weight (kg/m)
Transport length	500 to 630	500 to 1995	KSA 630ET4A	17.40
	800 to 1000	500 to 1995	KSA 1000ET4A	23.60

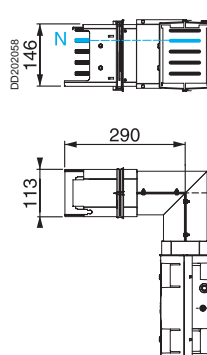
KSA ...ET4A



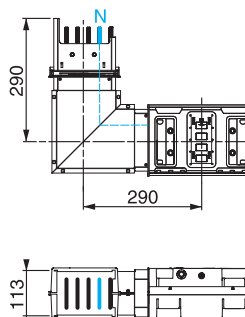
Components for changing direction

Designation	Rating (A)	Direction (edgewise)	Cat. no.	Weight (kg)
Elbow	500 to 630	Left or right	KSA 630DLC40	13.40
		Upward	KSA 630DLE40	12.10
		Downward	KSA 630DLF40	12.10
	800 to 1000	Left or right	KSA 1000DLC40	19.00
		Upward	KSA 1000DLE40	16.70
		Downward	KSA 1000DLF40	16.70

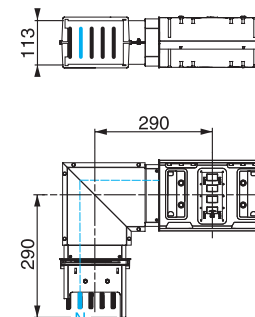
KSA ...DLC40



KSA ...DLE40



KSA ...DLF40

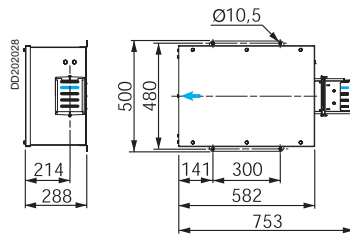


Other changes in direction can be made on special order, please consult us.

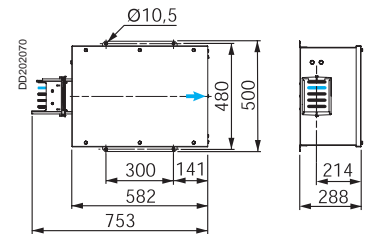
Feed units (supplied with end cover)

Designation	Rating (A)	Mounting	Connection	Max. size (mm ²)		Cat. no.	Weight (kg)
				Flexible	Rigid		
End feed unit	500 to 630	Right	Lugs (M12 screws)	1 x 300 or 2 x 240		KSA 630ABD4	18.50
		Left	Lugs (M12 screws)	1 x 300 or 2 x 240		KSA 630ABG4	18.50
	800 to 1000	Right	Lugs (M12 screws)	4 x 240 4 x 300		KSA 1000ABD4	24.50
		Left	Lugs (M12 screws)	4 x 240 4 x 300		KSA 1000ABG4	24.50
Flange feed unit	500 to 630	Left or right	Bars (2 x M10 screws)	-	-	KSA 630AE4	4.70
	800 to 1000	Left or right	Bars (4 x M10 screws)	-	-	KSA 1000AE4	6.60

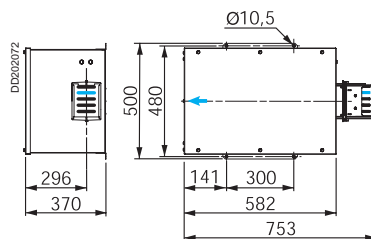
KSA 630ABG4



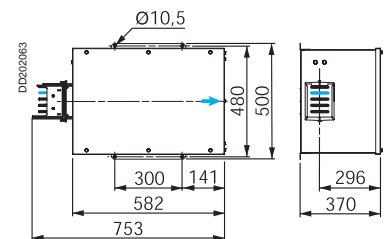
KSA 630ABD4



KSA 1000ABG4

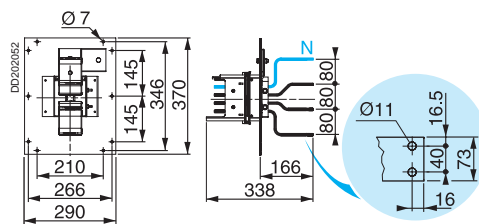


KSA 1000ABD4

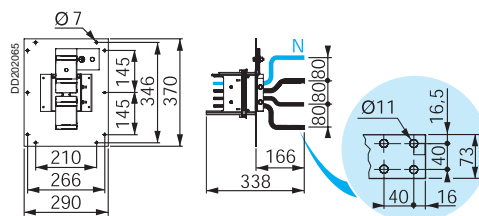


→ Cable exit

KSA 630AE4



KSA 1000AE4



Canalis KS, 500 to 1000 A

Medium-power busbar trunking

for multi-storey building

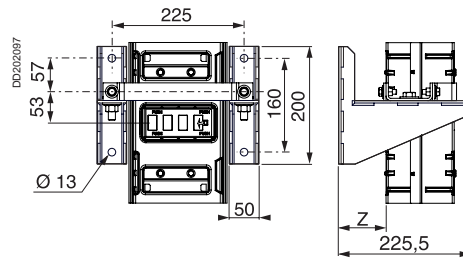
Rising mains

Fixing system

Bottom support

Designation	Rating (A)	Max. permissible weight (kg)	Cat. no.	Weight (kg)
Bottom support	500 to 630	1760	KSB 630ZV1	7.00
	800 to 1000	1760	KSB 1000ZV1	7.30

KSB ●●●ZV1



55 mm ≤ Z ≤ 105 mm

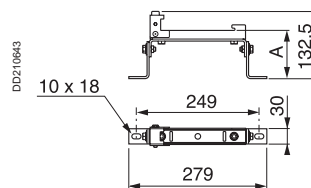
Floor guide

Used with the bottom support.

Designation	Rating (A)	Cat. no.	Qty included	Weight (kg)
Floor guide	All	KSB 1000ZV2	5	0.70

For floors higher than 3.5 metres, it is advised to use two guides per floor.

KSB 1000ZV2



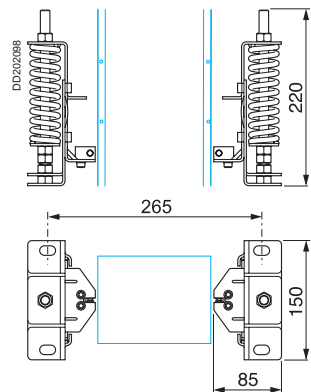
65 mm ≤ A ≤ 95 mm

Floor support

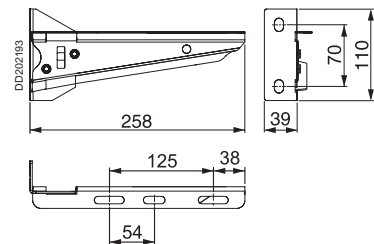
Designation	Rating (A)	Max. permissible weight (kg)	Mounting	Cat. no.	Qty included	Weight (kg)
Set of 2 floor supports	All	440	Floor or cantilever arm	KSB 1000ZV3	1	1.80
Cantilever arm, 200 mm		220	Wall	KFB CA81200	4	0.60

For floors higher than 3.5 metres, it is advised to use a floor guide in addition to the support.

KSB 1000ZV3



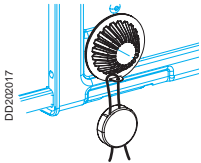
KSB CA81200



Tap-off units

Use the standard tap-off units (page 204)

Accessories

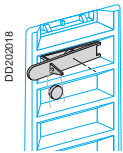


DD202017

Lead sealing kit

Designation	Rating (A)	For	Qty included	Cat. no.	Weight (kg)
Lead sealing kit	All	Feed unit cover and jointing screws	20	KSB 1000ZP1	0.0035
		Tap-off outlets	20	KSB 1000ZP2	0.002

KSB 1000ZP1

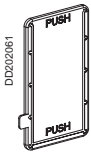


DD202018

Spare parts

Designation	Rating (A)	Qty included	Cat. no.	Weight (kg)
Electrical and mechanical jointing unit	500 to 630	1	KSA 630ZJ4	4.35
	800 to 1000	1	KSA 1000ZJ4	4.50
IP55 outlet plug	500 to 1000	15	KSB 1000ZB1	0.020
Sprinkler proofing accessory	500 to 1000	1	KSB 1000ZB2	1

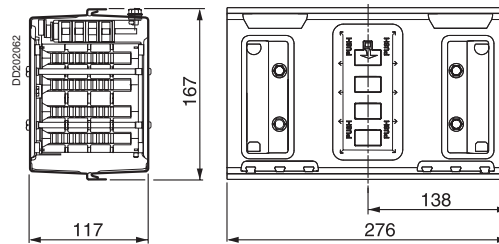
KSB 1000ZP2



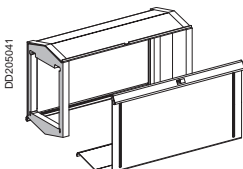
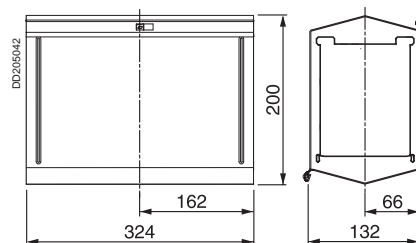
DD202061

KSB 1000ZB1

KSA ***ZJ4

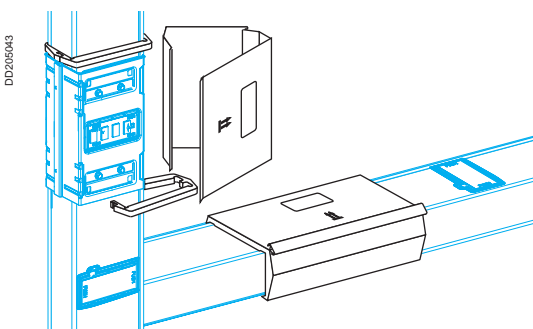


KSB 1000ZB2



DD205041

KSB 1000ZB2



DD205043

Installation of a line

Unload and carry the products inside the building.
Cover the components with plastic tarpaulins to protect them from dust and moisture.

Do not store the busbar trunking outdoors.

Take care not to knock or drag the busbar trunking on the ground. That could damage the ends and render connections impossible.

Busbar trunking for rising mains should be installed if possible during building constructions, once the masonry has been finished.



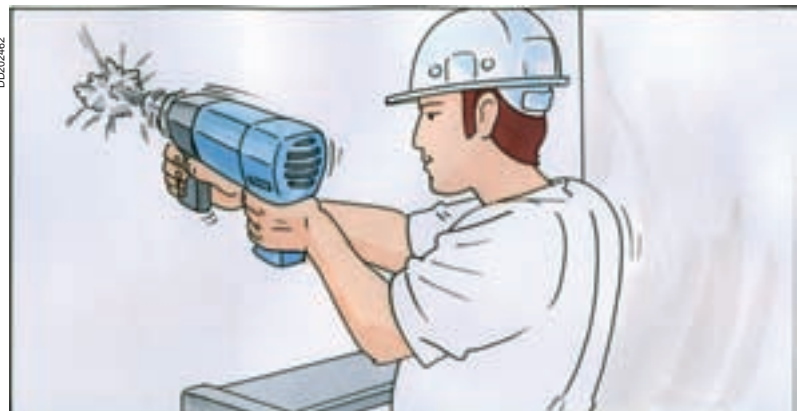
Preparing for installation on each storey

Place a run component and a fire barrier on each storey of the building.
For protection, leave the trunking components in their packaging until ready to install.

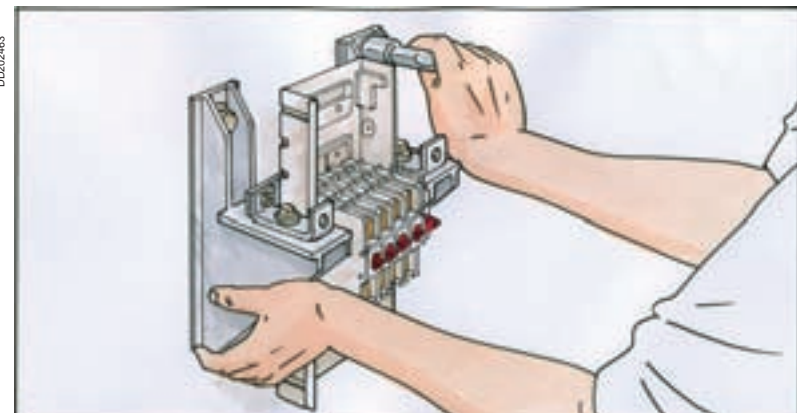


Drill the holes required to secure the trunking supports and guides.. A drilling template is supplied facilitate this task.

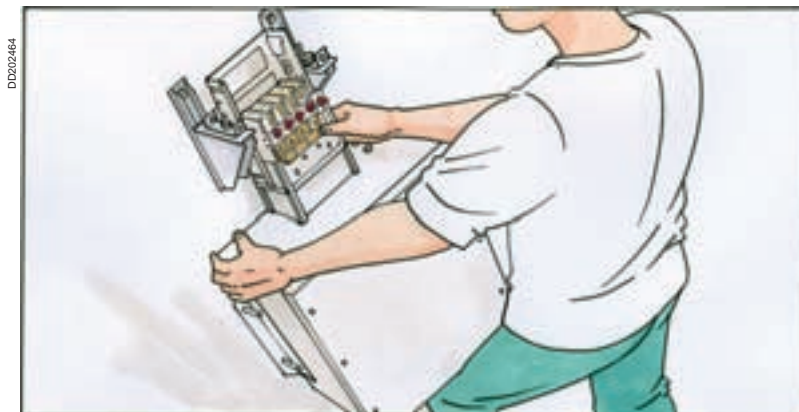
The bottom support of the riser must mounted in such a way as to support a load of several hundred kilograms.



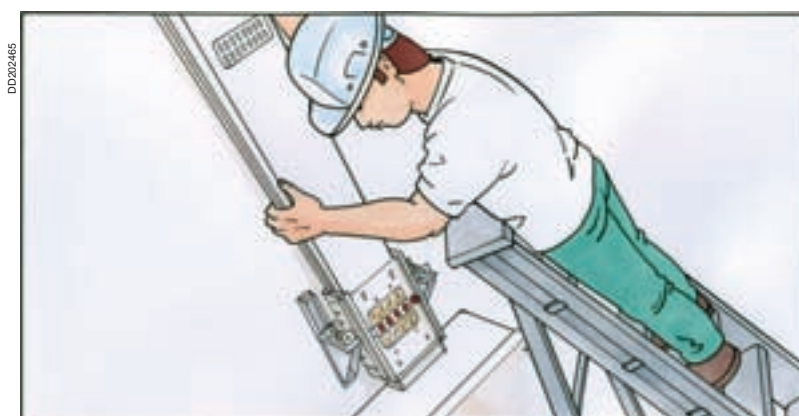
Installation of the bottom support of the riser.



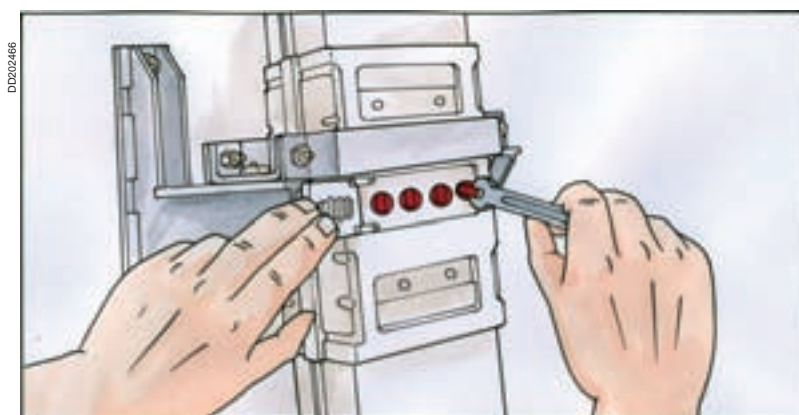
Install the feed-unit. It can be wall-mounted using the rods.



Install the first run component of the rising main. An 800 mm long straight length equipped with a tap-off outlet makes it possible to supply loads even before passing through the first floor.



Fit the cover and interconnect the components using the mechanical and electrical jointing system.



Install a fire barrier in the floor between each storey of the building.



Installation

IP55

Ue = 230...690 V

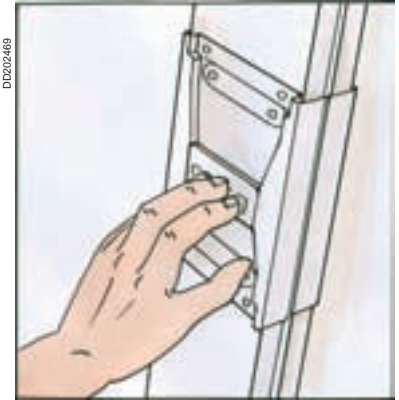
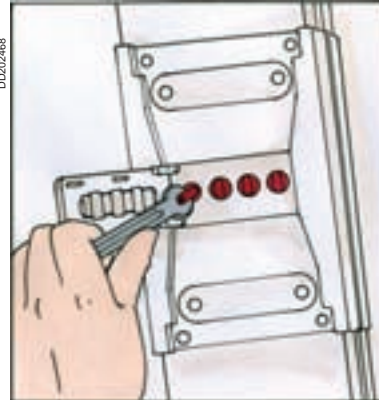
RAL 9001 white

Canalis KS, 100 to 1000 A

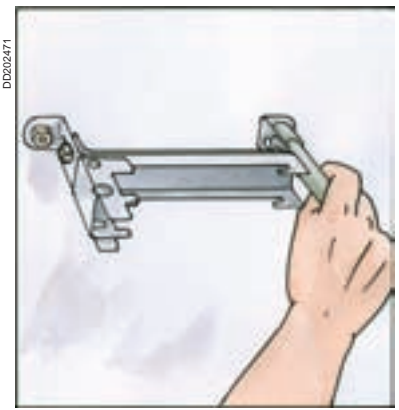
Busbar trunking for medium power distribution

Installation scenario

Fit the cover and interconnect the components using the mechanical and electrical jointing system.



Mount the guide brackets on the wall.



Position the Canalis KS trunking in the guide brackets.

Recommended: To prevent water from entering the trunking, always cover the end of the trunking (using the end cover supplied with the feed unit, a plastic tarpaulin or a plastic bag) at the end of each work-day.



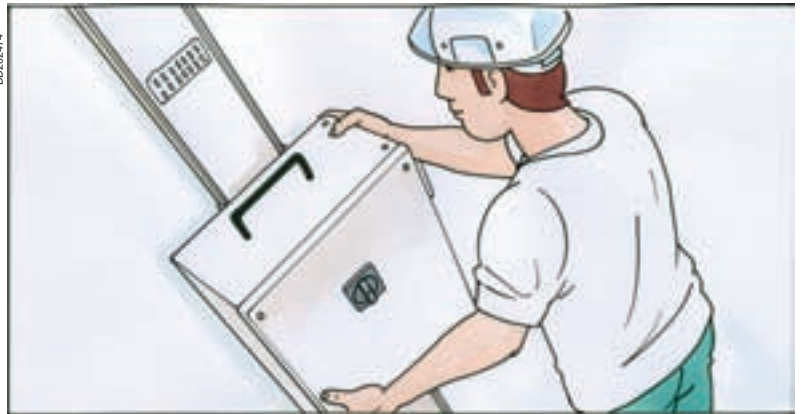
Installation and connection of tap-off units

Place the packed tap-off units on each storey of the building.

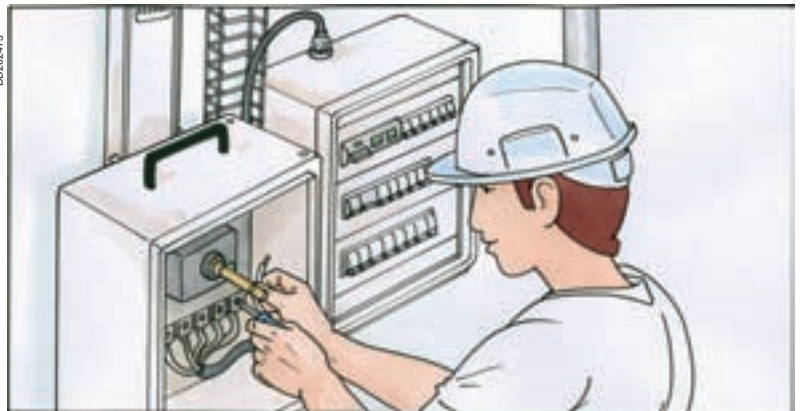
The tap-off units should be installed if possible once all construction work has been finished.



Connect the tap-off unit to the trunking.

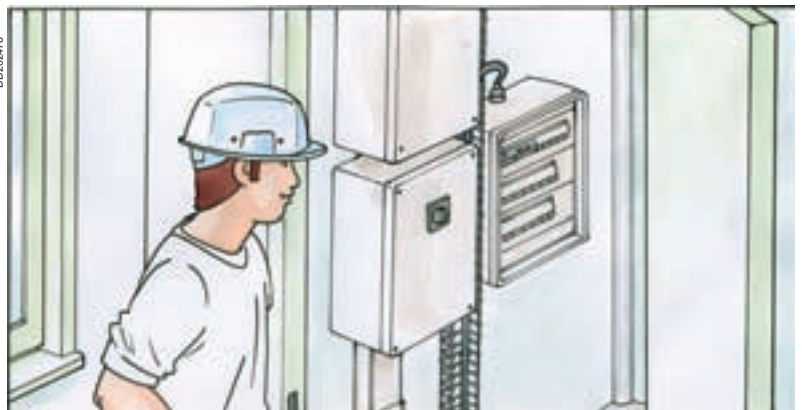


Last installation phase.
Connect the outgoing circuits to the tap-off units...



Switch-on

... and energise them to carry out the usual tests.

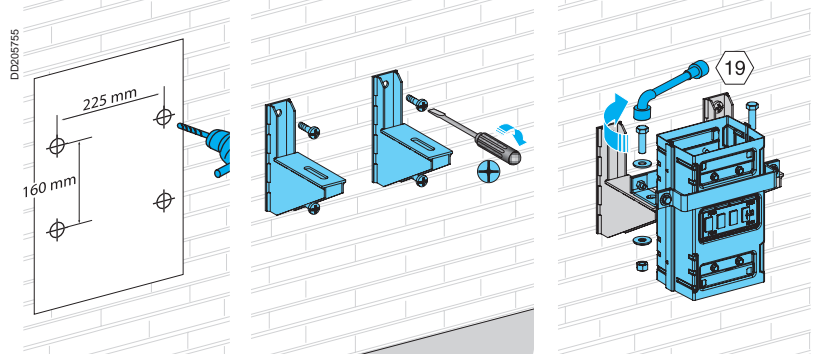


Canalis KS, 100 to 1000 A

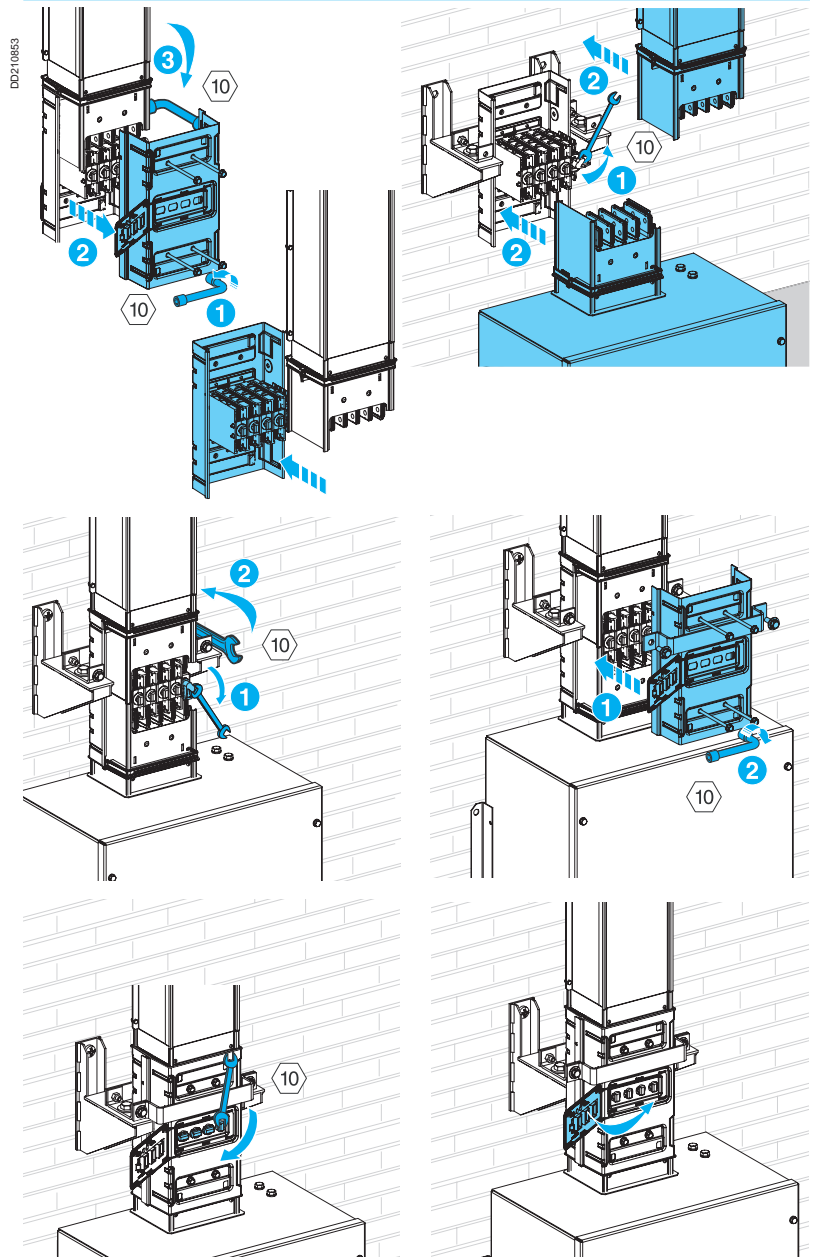
Busbar trunking for medium power distribution

Assembly of trunking components

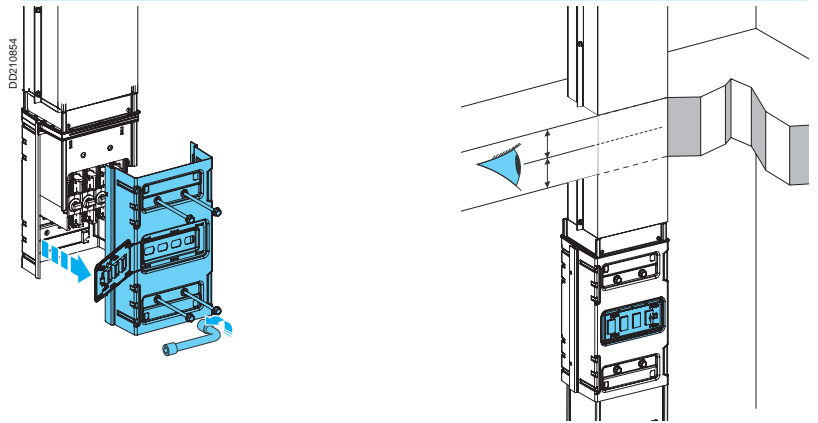
Mounting the bottom support



Connecting the feed-unit



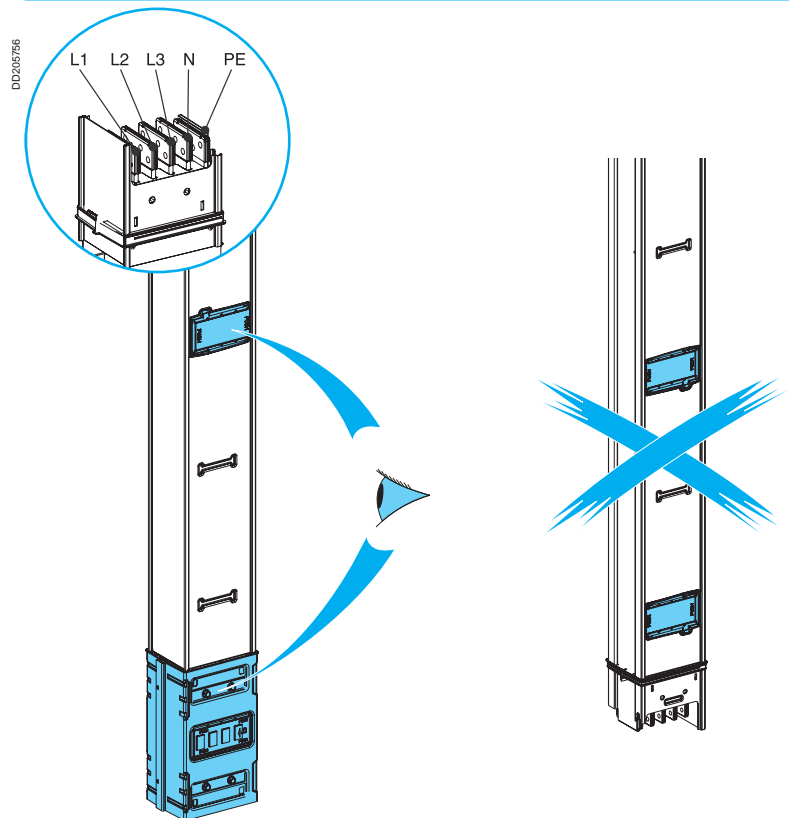
Mounting the fire barrier



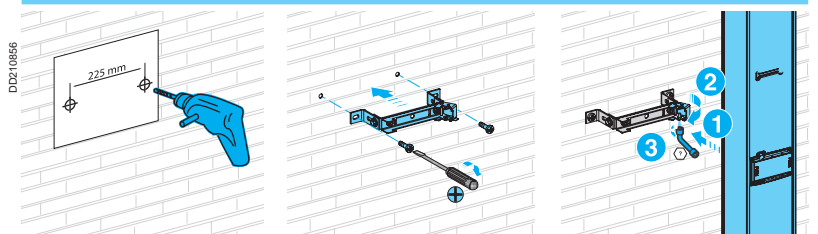
Assembling the straight lengths

For the assembling of Canalis KS risers, see page 220

Position of the tap-off outlets



Fixing Canalis KS in the brackets



Mounting the tap-off units

For the mounting of Canalis KS tap-off units, see page 222

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Canalis KT busbar trunking

for high power feeders and distribution
from 800 to 5000 A

1. Run components

- Ratings : 800 to 5000 A.
- Feeder lengths:
 - fixed lengths: 2 and 4 metres,
 - made to measure lengths: 0.5 and 3 metres.
- Distribution lengths:
 - fixed lengths: 2 and 4 metres.
 - adjustable lengths (adjustable from 1.10 to 1.50 metres).

PD202313

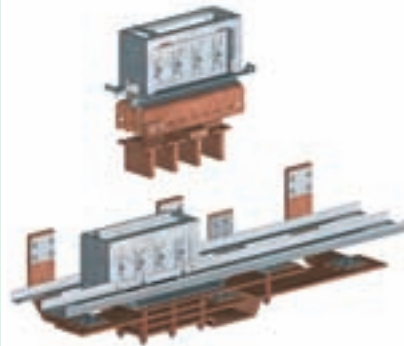


2. Connection components

Connection via interfaces

- Prefabricated connection blocks for:
 - Prisma Plus and Okken switchboards,
 - France Transfo dry-type transformers.

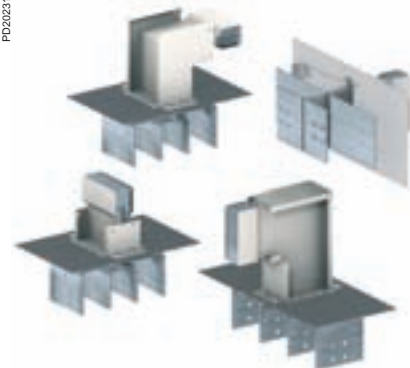
PD202316



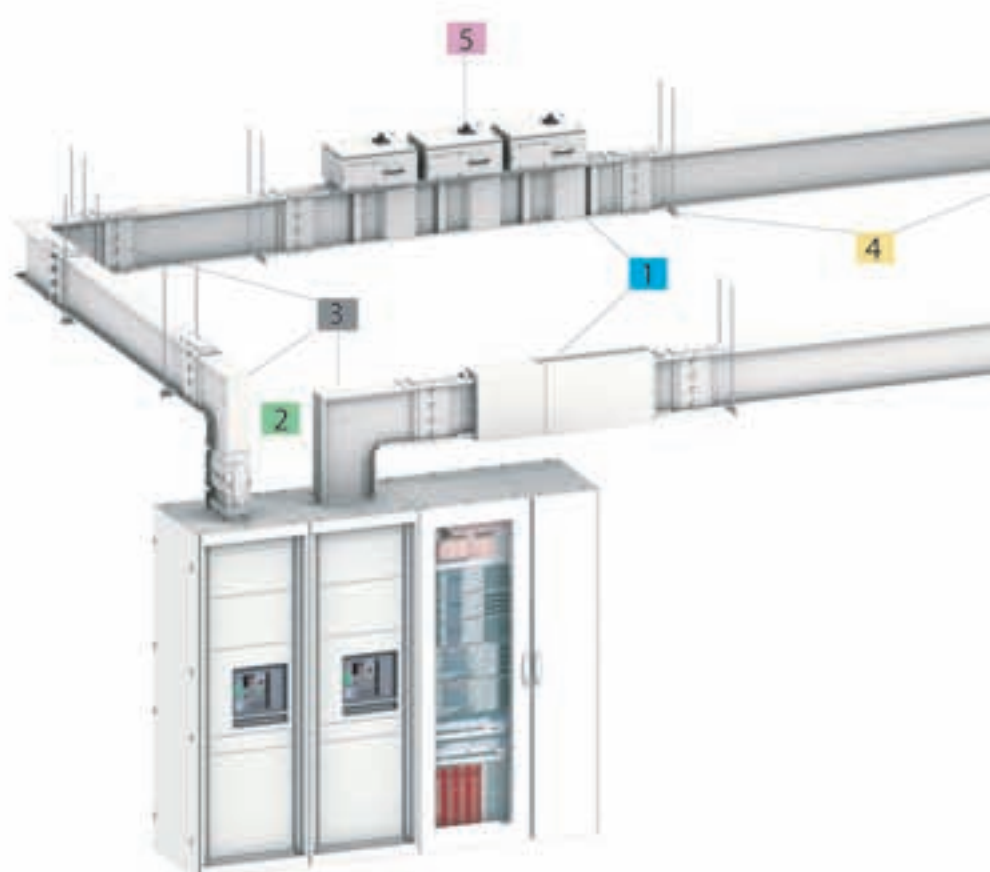
Universal connection via end feed units

- Connection components are used to connect the trunking to the busbars of the switchboard or transformer.

PD202317



PD202312



PD202328



3. Changing direction

- Direction changing components can be used to adapt the trunking to all paths.
- They are available in fixed or made to measure lengths.

PD202315



4. Horizontal fixing systems

- Two support models are available for mounting horizontal trunking.
- One fixing system model is available to secure the trunking to the supports.

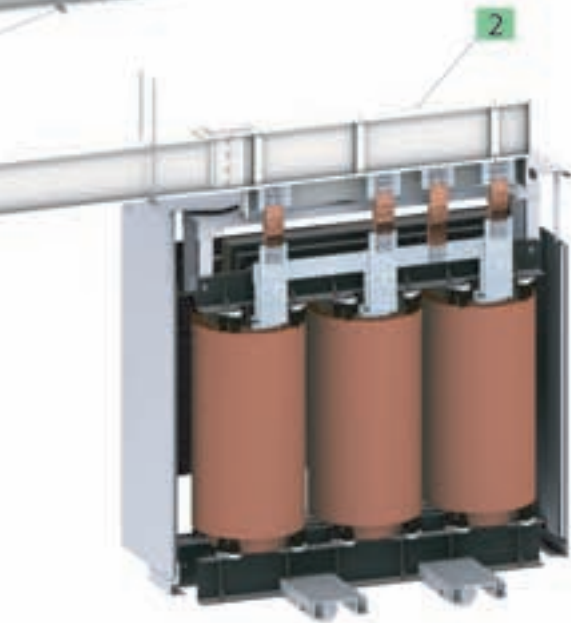
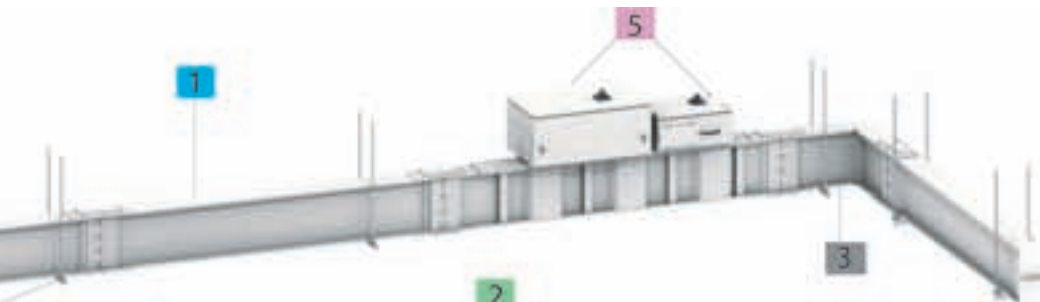
PD202318



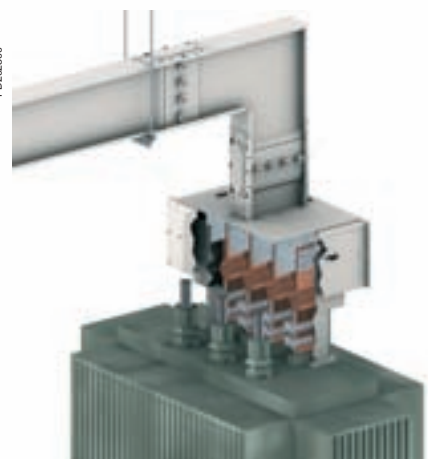
5 - Tap-off units

- Tap-off units of the Canalis KS range are compatible with those of the Canalis KT range:
 - protection by 25 to 400 A fuses,
 - protection by 100 to 400 A Compact NSX circuit breakers.
- Canalis KT fixed tap-off units:
 - protection by 400 to 1000 A Compact NSX circuit breakers.

PD202314



PD202300



Canalis KT busbar trunking for high power feeders and distribution from 800 to 5000 A

No toxic emission in case of fire

All components in the KT range are **halogen free** and contain **no PVCs**. In case of fire, Canalis KT does not release smoke or toxic gases. Canalis KT is also a **basic fire barrier**. The trunking thus contributes to containing a fire by preventing the propagation of flames for two hours.



DD202141

A high degree of protection

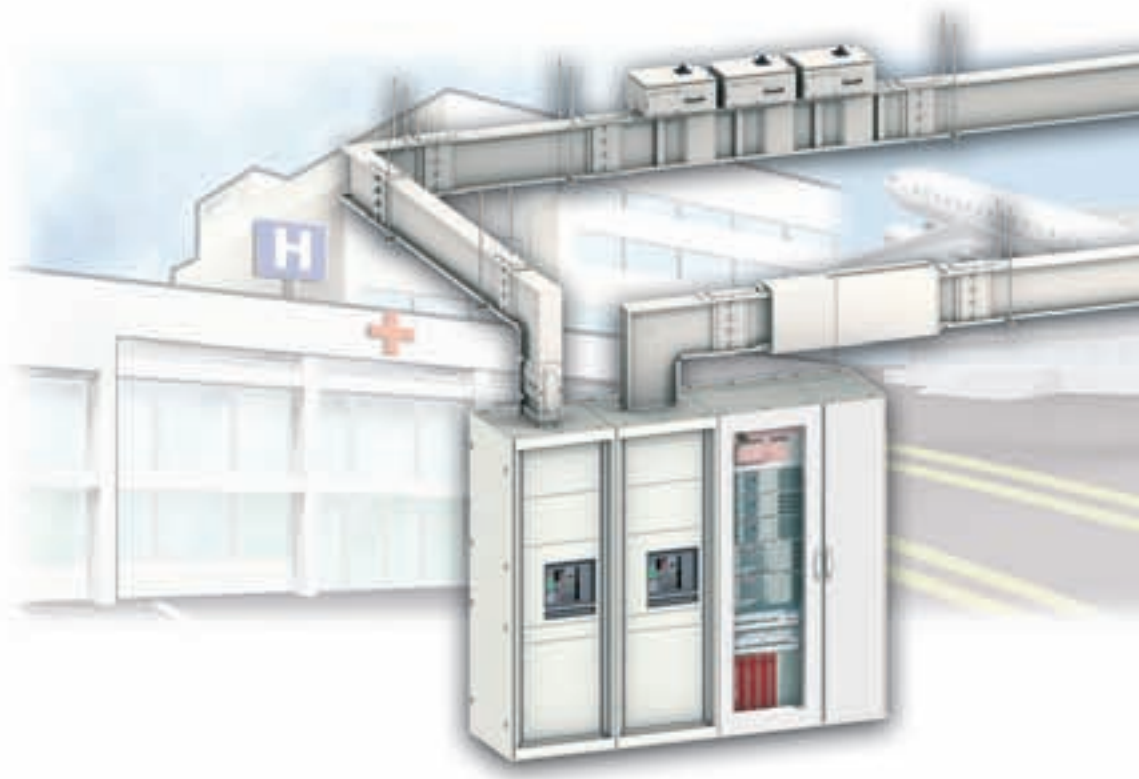
Canalis KT busbar trunking offers an **IP55** degree of protection. It is designed to prevent the entry of water from fire protection **sprinklers**. This high degree of protection means it can be installed in all types of buildings and in all positions.



DD202142

Excellent contact

Excellent contact is ensured by the use of **Copral-inside** technology. The electrical contacts are made of a silver-plated aluminium/copper laminate (Copral). The initial performance level is maintained throughout the entire life of the installation.



Easy installation

The equipment comes ready to install. Easy to connect and test, the trunking solution cuts installation time in half compared to cable solutions. In addition, the small size of Canalis KT reduces the space requirements to a minimum



An adjustable trunking length for maximum flexibility

To allow easy adaptation to last-minute changes on the work site, Canalis KT offers a 1.3 metre run component that can be adjusted in length by plus or minus 20 cm. This component can be installed in place of a standard component of the same size to allow fast and easy adaptation to any last-minute changes required on the work site.

Total safety

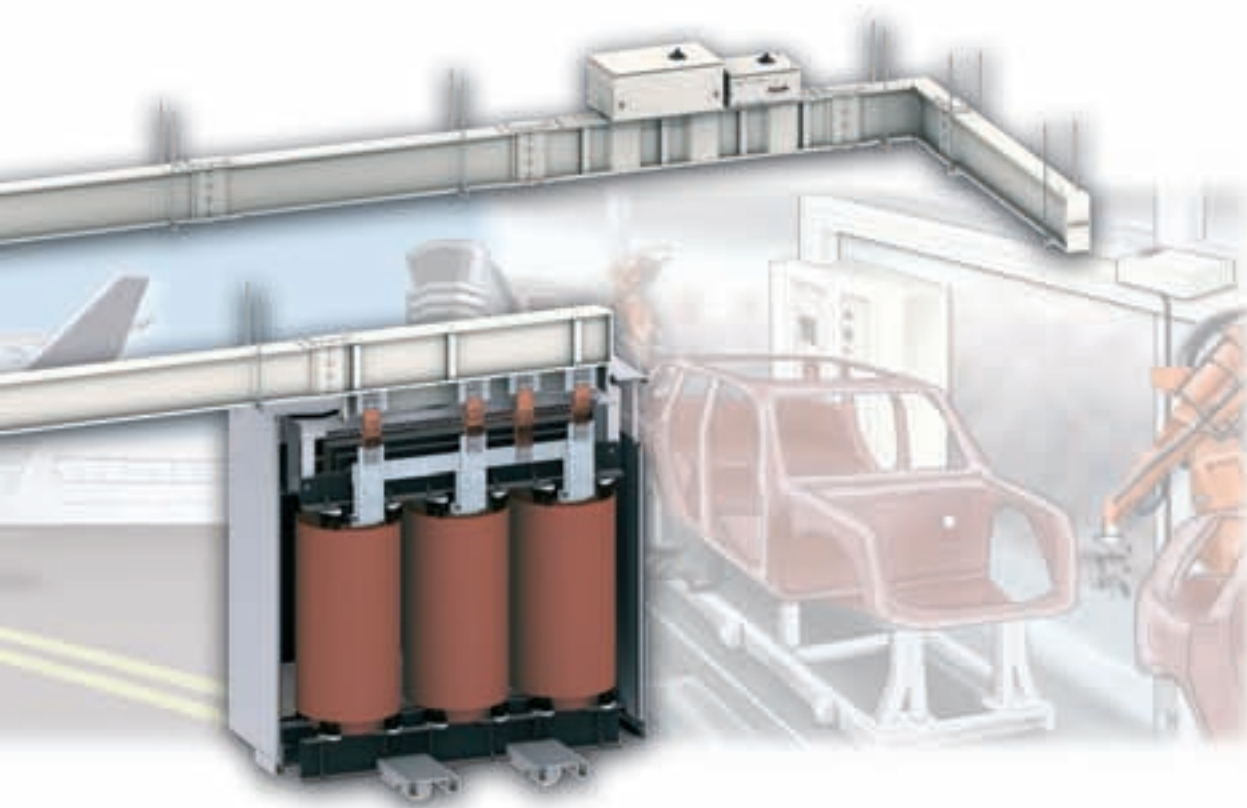
An interlocking device prevents mounting errors and makes it impossible to install or remove an energised tap-off unit. IPxxD ensures totally safe working conditions for maintenance personnel because live parts are not accessible.

DD2023145



Tools and assistance, by your side

Our staff and tools are available to help you in choosing and installing Canalis KT busbar trunking. Our specialists and our production and distribution centres guarantee fast service and quality.



Unmatched upgrading possibilities

Canalis KT makes it fast and easy to upgrade the installation. Tap-off units can be added or removed on live installations, without stopping operations.

A large range of tap-off units

Tap-off units of the Canalis KS range are totally compatible with those of the Canalis KT range:

- they cover all your needs:
- Canalis KS tap-off units: 25 A to 400 A,
- Canalis KT tap-off units: 400 A to 1000 A,
- protection is possible using circuit breakers or fuses.

PD202314

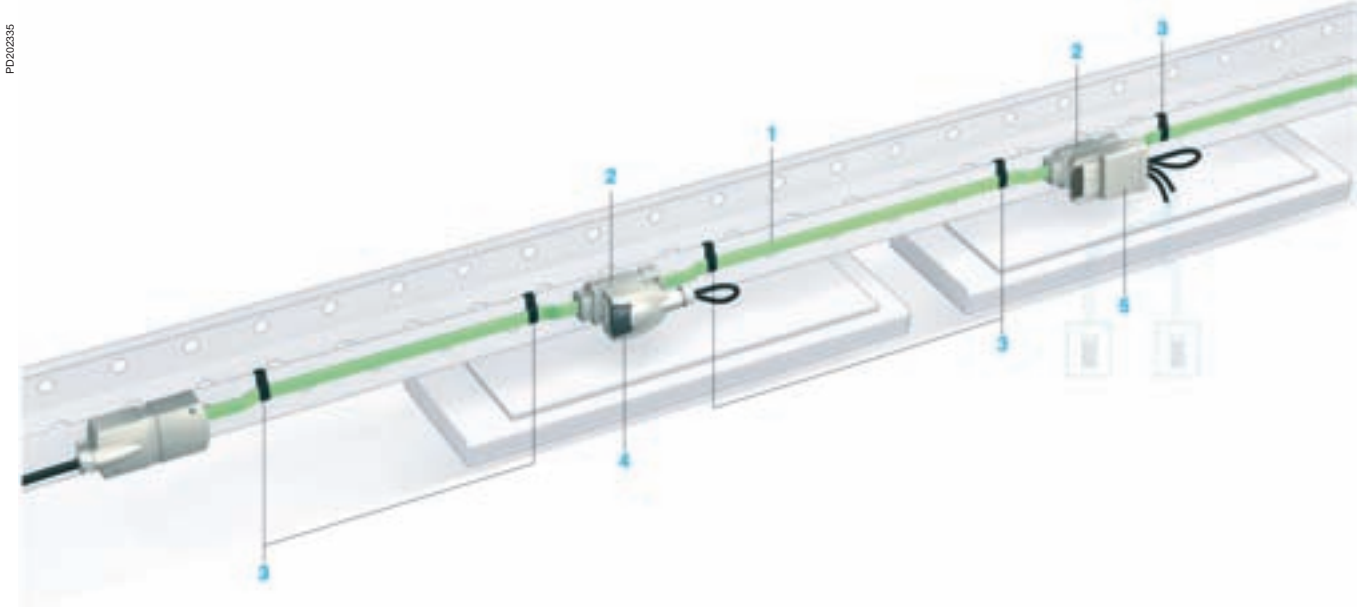


Intelligent tap-off units

- They monitor the installation to avoid overloads and ensure continuity of service.
- They can meter the energy consumed for precise management of your electrical distribution system (cost allocation for each consumer).

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Cable with prefabricated tap-offs for lighting distribution



PD0202335

Complies with standards IEC 60439-2 and EN 60439-2.
 Complies with standard IEC 60502-1 for the cable (double insulation, 1000 V).
 Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.
 Number of live conductors: 2 or 4.
 Rated insulation voltage: 690 V.
 Rated current (I_{nc}): 20 A.

Fire resistance:

- Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).
- Class C2 for the halogen free version.

All plastic components are halogen free.

Straight lengths constitute the basic structure of the line and are made up of:

- a ribbon cable (1) with three or five 2.5 mm² conductors made of tinned copper. Conductor insulation and sheathing are made of cross-linked polyethylene (XLPE),
- tap-off outlets (2), factory fitted at regular intervals. Compliant with standard IEC 60439-2, they can supply luminaires under live conditions using KBA and KBB tap-off units.

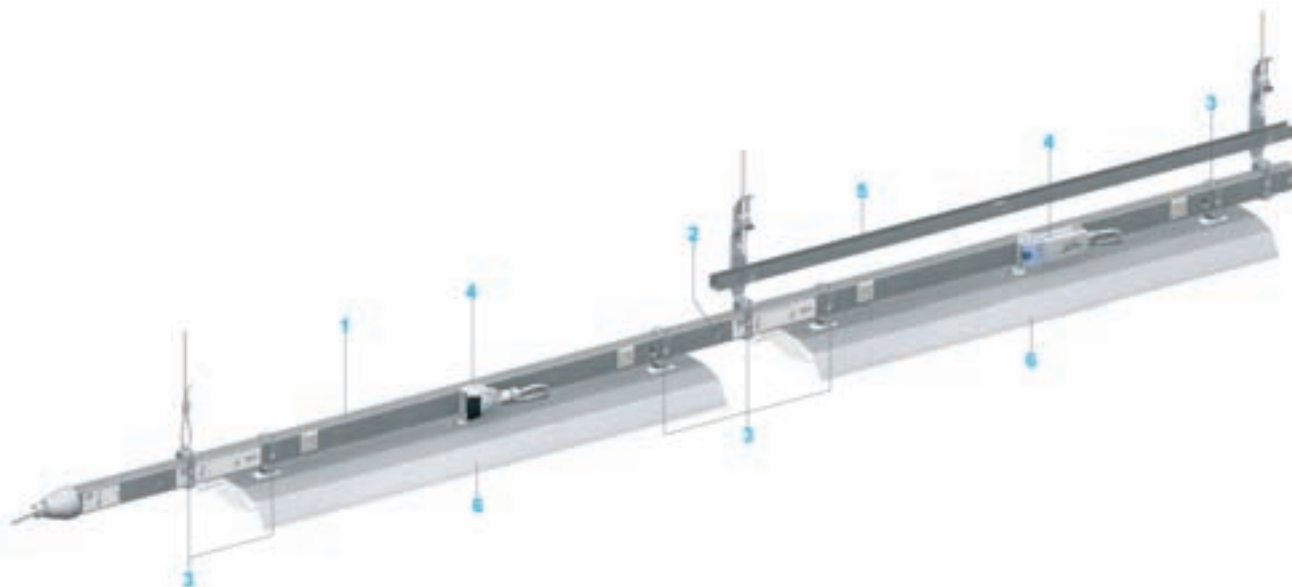
Other line components:

- the fixing system (3) used to attach the line to the sides of cable trays, metal structures or directly to concrete slabs,
- 10 A tap-off units (4), pre-wired or not, with phase selection, or 16 A tap-off units with or without fuses, used to supply luminaires under live conditions,
- a range of prefabricated tap-off units for local control of luminaires for single and double-circuit switching, two-way switching and impulse switches.

Canalis KBA, 25 and 40 A

Busbar trunking for lighting distribution

PD2022346



Complies with standards IEC 60439-2 and EN 6039-2.

Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.

Number of live conductors: 2 or 4.

Rated insulation voltage: 690 V.

Rated current (Inc): 25 and 40 A.

Fire resistance:

- Resistant to flame propagation in compliance with standard IEC 60332 - part 3.
- Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).

All plastic components are halogen free.

Straight lengths constitute the basic structure of the line and are made up of:

- a carrier casing (1), crimp closed, made of hot-galvanised sheet steel, pre-lacquered RAL 9010 white. This casing also serves as the protective earth conductor (PE),
- a ribbon cable with two or four insulated conductors made of tin-plated copper, 2.5 mm² for 25 A and 6 mm² for 40 A,
- tap-off outlets every 0.5, 1 or 1.5 metre, on both sides of the trunking,
- an additional twisted cable (2 x 0.75 mm², remote-control circuit) on request.
- an electrical jointing unit ensuring automatic and simultaneous connection of all live conductors. The contacts are clamp + spring type and exert no forces on the plastic parts. The jointing unit is maintenance free.
- a mechanical jointing unit ensuring rigid assembly of two components.

The continuity of the protection conductor is ensured automatically. Proper tightening at the end of the assembly operation is ensured by a captive screw with a notched base (2). The two components are instantly assembled. Electrical and mechanical jointing is carried out simultaneously.

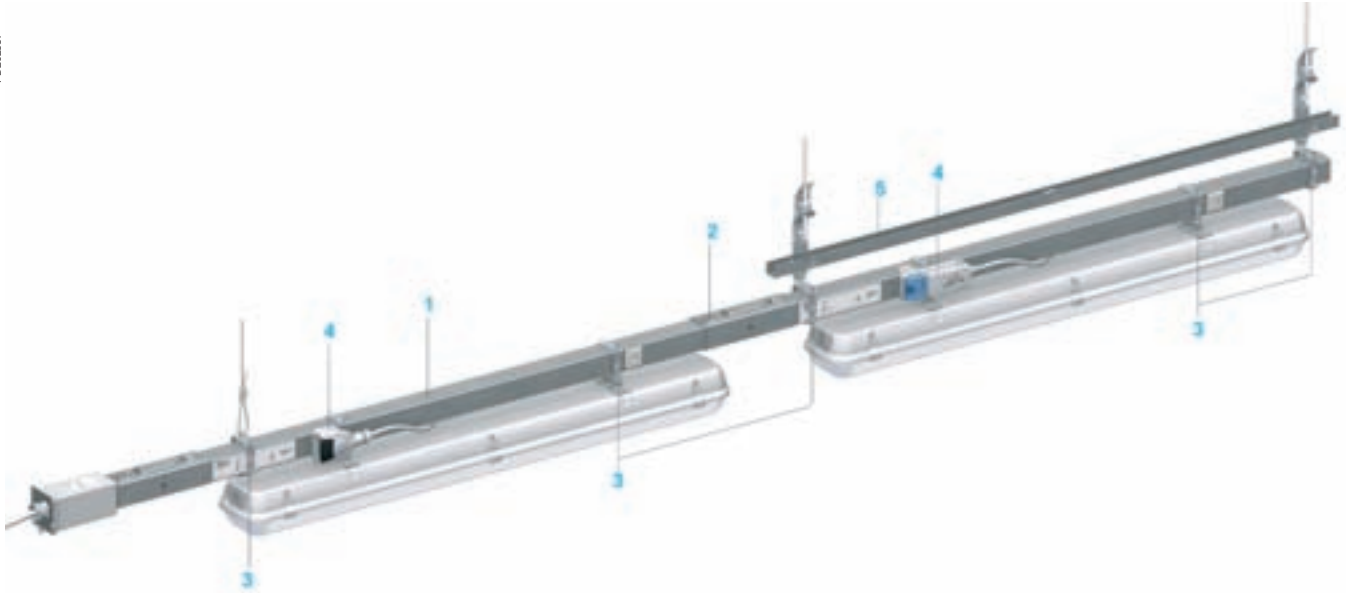
Other line components:

- the fixing system (3) for supporting of both trunking and luminaires, with final automatic locking around the trunking.
- The maximum distance between two fixing points is three metres.
- The luminaires can be installed at any point on the line (including the jointing units),
- 10 A tap-off units (4), pre-wired or not, with phase selection, or 16 A tap-off units with or without fuses, used to supply luminaires under live conditions,
 - the cable-support system (5) for running adjacent circuits such as telephone lines, emergency lighting, etc.,
 - flexible lengths to change direction or avoid obstacles.

Canalis KBL luminaires (6) installed under the trunking are pre-wired and pre-equipped with mechanical fixings.

Busbar trunking for lighting distribution

PD020237



Complies with standards IEC 60439-2 and EN 60439-2.

Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.

Number of live conductors: 2 or 4, 2 + 2, 2 + 4 or 4 + 4.

Rated insulation voltage: 690 V.

Rated current (Inc): 25 and 40 A.

Fire resistance:

- Resistant to flame propagation in compliance with standard IEC 60332 - part 3.
- Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).

All plastic components are halogen free.

Straight lengths constitute the basic structure of the line and are made up of:

- a carrier casing (1), crimp closed, made of hot-galvanised sheet steel, pre-lacquered RAL 9001 white. This casing also serves as the protective earth conductor (PE),
- one or two ribbon cables with two or four insulated conductors made of tin-plated copper, 2.5 mm² for 25 A and 6 mm² for 40 A,
- tap-off outlets every 0.5 or 1 metre, on both sides of the trunking,
- an additional twisted cable (2 x 0.75 mm², remote-control circuit) on request,
- an electrical jointing unit ensuring automatic and simultaneous connection of all live conductors. The contacts are clamp + spring type and exert no forces on the plastic parts. The jointing unit is maintenance free.
- a mechanical jointing unit ensuring rigid assembly of two components.

The continuity of the protection conductor is ensured automatically. Proper tightening at the end of the assembly operation is ensured by a captive screw with a notched base.

The two components are instantly assembled.

Electrical and mechanical jointing is carried out simultaneously (2).

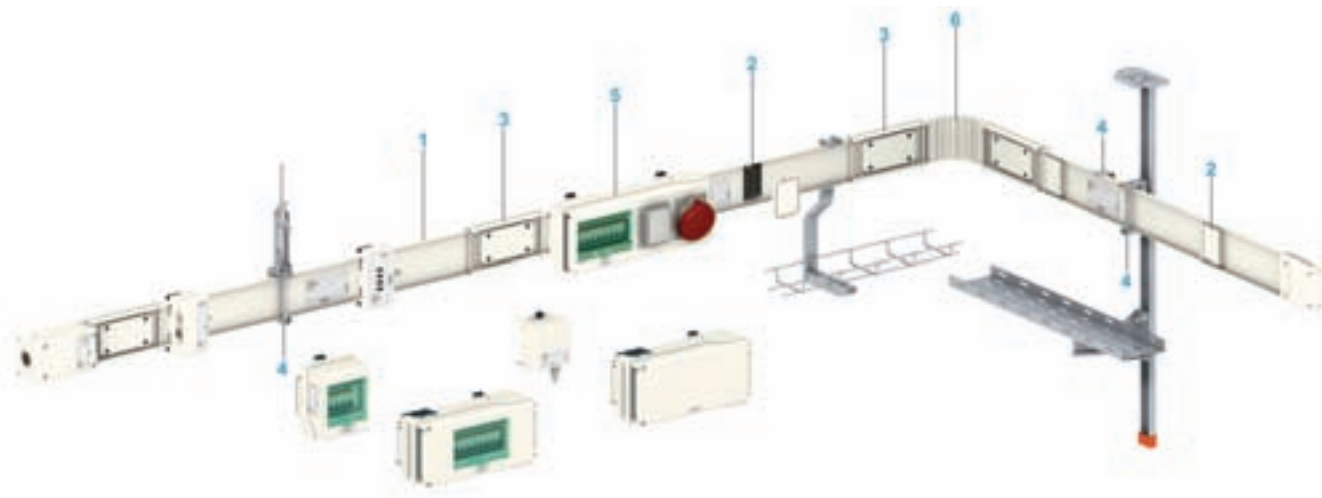
Other line components:

- the fixing system (3) for supporting of both trunking and luminaires, with final automatic locking around the trunking. The maximum distance between two fixing points is five metres. The luminaires can be installed at any point on the line (including the jointing units).
- 10 A tap-off units (4), pre-wired or not, with phase selection, or 16 A tap-off units with or without fuses, used to supply luminaires under live conditions,
- the cable-support system (5) for running adjacent circuits such as telephone lines, emergency lighting, etc.,
- flexible lengths to change direction or avoid obstacles.

Canalis KN, 40 to 160 A

Busbar trunking for low power distribution

PD202239



Complies with standards IEC 60439-2 and EN 60439-2.

Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.

Number of live conductors: 4.

Rated insulation voltage: 500 V.

Rated current (Inc): 40 A, 63 A, 100 A and 160 A.

Fire resistance:

- Resistant to flame propagation in compliance with standard IEC 60332 - part 3.
- Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).

All plastic components are halogen free.

Straight lengths constitute the basic structure of the line and are made up of:

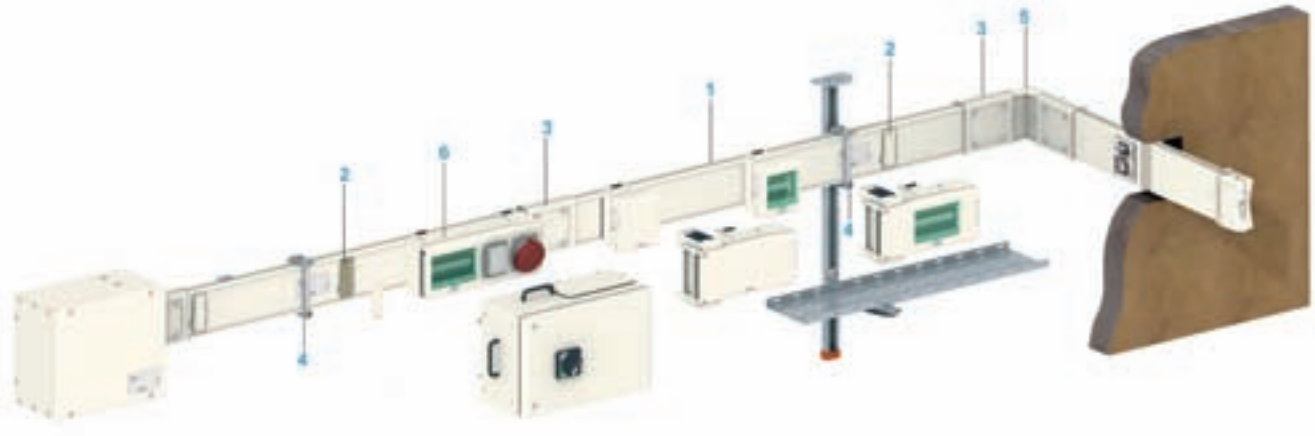
- an enclosure (1), made of sheet steel, galvanised and painted RAL 9001, serving as the protective conductor (PE),
- four aluminium conductors supported along their entire length by an insulator. All electrical contacts are made of silver-plated copper,
- three additional copper conductors (remote-control circuit) on request,
- tap-off outlets every 0.5 or 1 metre, on one side of the trunking. The tap-off outlets (2) are equipped with automatic shutters that avoid accidental contact with live parts,
- a electrical jointing unit (3) with flexible contacts for the electrical junction between two components. These contacts are designed to adapt to the difference in expansion between the conductors and the enclosure,
- an mechanical jointing unit (3) for the mechanical junction between two components with four captive screws that also ensure the continuity of the protective conductor. The jointing unit is maintenance free.

Other line components:

- the fixing brackets (4) designed for suspension or fixing to a wall every 3 metres (unless otherwise specified),
- the tap-off units (5) with the following characteristics:
 - the contact of the protective conductor ensures automatic opening of the shutters and feeds the tap-off unit,
 - when the tap-off unit is plugged in, the earthing contact connects first, followed by the phases,
 - there is no access to live parts when the cover of the tap-off unit is open (no finger access, IPxxD),
 - tap-off units can be equipped with fuses or modular devices,
 - trunking and tap-off units can be equipped with colour-coded interlocking devices to restrict connection to certain tap-off units,
- flexible lengths (6) to change direction or avoid obstacles.

Busbar trunking for medium-power distribution

PD0202340



Complies with standards IEC 60439-2 and EN 60439-2.

Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.

Number of live conductors: 4.

Rated insulation voltage: 690 V.

Rated current (I_{nc}): 100 A, 160 A, 250 A, 400 A, 500 A, 630 A, 800 A and 1000 A.

The cross-sectional area of the protective conductor is at least 50% that of the phases.

Fire resistance:

- Fire barriers as per standard ISO 834 (DIN 4102-part 9) for passages through partitions.

- Resistant to flame propagation in compliance with standard IEC 60332 - part 3.

- Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).

All plastic components are halogen free.

- The enclosure (1), made of sheet steel, galvanised and pre-lacquered RAL 9001 white.

- The four aluminium conductors are mounted on fibreglass reinforced polyester insulators. All electrical contacts are made of silver-plated copper.

- The straight lengths have a tap-off unit (2) every metre on both sides.

The tap-off outlets are equipped with automatic shutters that avoid accidental contact with live parts. The protective conductor is electrically connected to the enclosure at each jointing unit,

- Electrical contact between two components is ensured by flexible contacts designed to adapt to the difference in expansion between the conductors and the enclosure. It is possible to check visually that the electrical contact is effective.

The mechanical junction between two components is ensured by four captive screws. The jointing unit (3) is maintenance free.

- The rigidity of the straight lengths is sufficient that fixing points (4) are required only every three metres (excepting special conditions).

- Special components (5) are available to change direction or avoid obstacles.

- The tap-off units (6) have the following characteristics:

- connection and disconnection are possible only with the cover open,
- the contact of the protective conductor ensures automatic opening of the shutters and feeds the tap-off unit,
- there is no access to live parts when the cover of the tap-off unit is open (no finger access, IPxxD),
- when the tap-off unit is plugged in, the earthing contact connects first, followed by the phases,
- it is not possible to close the cover before the tap-off unit is mechanically locked on the trunking,
- tap-off units can be equipped with fuses, modular devices or moulded case circuit breakers.

Rising mains

Rising mains for power distribution in buildings with more than one floor

PD0202341



Complies with standards IEC 60439-2 and EN 60439-2.

Complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Degree of protection: IP55.

Number of live conductors: 4.

Rated insulation voltage: 690 V.

Rated current (Inc): 100 A, 250 A, 400 A, 500 A, 630 A, 800 A and 1000 A.

The cross-sectional area of the protective conductor is at least 50 % that of the phases.

Fire resistance:

- Fire barriers as per standard ISO 834 (DIN 4102-part 9) for passages through partitions (slabs for example).
- Resistant to flame propagation in compliance with standard IEC 60332 - part 3.
- Materials resistant to abnormal heat (glow-wire test as per IEC 60695-2).

All plastic components are halogen free.

■ The enclosure (1), made of sheet steel, galvanised and pre-lacquered RAL 9001 white.

■ The four aluminium conductors are mounted on fibreglass reinforced polyester insulators. All electrical contacts are made of silver-plated copper.

■ The straight lengths have a tap-off unit (2) every 0.5 metre on one side. There are four tap-off units per floor for floor heights between 3.5 and 4.8 metres, or three tap-off units per floor for floor heights less than 3.5 metres. The tap-off outlets are equipped with automatic shutters that avoid accidental contact with live parts.

The protective conductor is electrically connected to the enclosure at each jointing unit.

■ Electrical contact between two components is ensured by flexible contacts designed to adapt to the difference in expansion between the conductors and the enclosure. It is possible to check visually that the electrical contact is effective. The mechanical junction between two components is ensured by four captive screws. The jointing unit (3) is maintenance free.

■ A fire barrier (4) can be installed when the riser passes through a slab to avoid any risk of fire propagation from one floor to another via Canalis KS trunking. Two-hour fire resistance (A120) is provided in compliance with standard ISO834 (DIN 41-2-part 9).

■ Special components (5) are available to change direction or avoid obstacles.

■ The riser can be maintained by a special bottom support (6) or a spring-based fixing device on each floor of the building (depending on the height of the building).

■ The tap-off units (7) have the following characteristics:

- connection and disconnection are possible only with the cover open,
- the contact of the protective conductor ensures automatic opening of the shutters and feeds the tap-off unit,
- there is no access to live parts when the cover of the tap-off unit is open (no finger access, IPxxD),
- when the tap-off unit is plugged in, the earthing contact connects first, followed by the phases,
- it is not possible to close the cover before the tap-off unit is mechanically locked on the trunking,
- tap-off units can be equipped with modular devices or moulded case circuit breakers.

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Maintenance

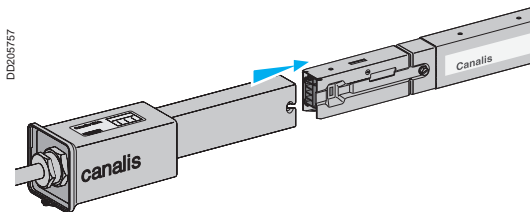
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Maintenance of Canalis lighting systems

Maintenance of Canalis KDP, KBA and KBB trunking components

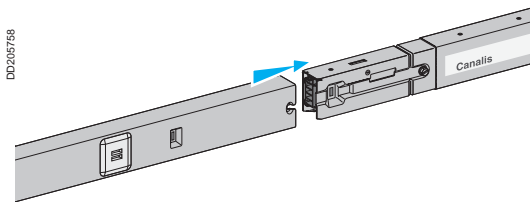
KBA and KBB are similar in design and consequently have the same maintenance requirements.



Feed units

They are equipped with anti-shear tunnel terminals for copper cables up to 10 mm². As for all screw-type connections, it is advised to check tightness one year after installation and then at longer intervals.

For KBA and KBB trunking, the feed units are jointed to the first run component of the line (see next paragraph). This connection is maintenance free.



Run components

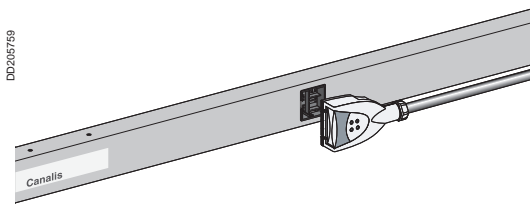
For Canalis KDP, the run components are one-piece lengths drawn from a 192-metre reel. No joints are required.

For Canalis KBA and KBB, run components are interconnected by electrical jointing units ensuring automatic and simultaneous connection of all live conductors.

The contacts are clamp + spring type and exert no forces on the plastic parts.

The electrical contacts of the jointing unit and the conductors are made of tinned copper. Components can be dismantled and reused.

Run components for all types of busbar trunking are maintenance free.

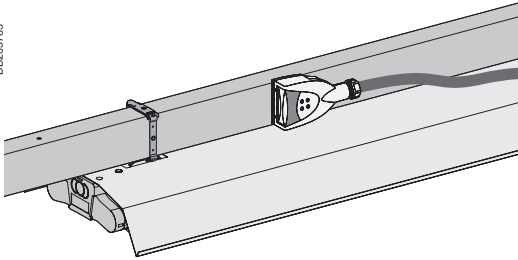


Tap-off units

They are the clamp type, made of bronze with tinned beryllium to ensure optimum mechanical rigidity and contact quality. The contacts do not press or apply any forces on the plastic parts. They connect to the active line conductors at the tap-off outlets. The conductors are made of tinned copper.

These components are maintenance free.

For Canalis KBA and KBB, circuits supplied by the 16 A tap-off units are connected via tunnel terminals. As for all screw-type connections, it is advised to check tightness one year after installation and then run checks at longer intervals.



Maintenance of Canalis KBL

There are two types of maintenance.

■ Luminaire cleaning

During operation, in both industrial and commercial environments, the luminaires become dirty and illuminance is reduced. Cleaning of luminaires restores the initial level of illuminance.

Good lighting contributes to the profitability of any business:

- financial gains, because attention paid to the quality of lighting is part of a wider analysis on operating costs and installation maintenance,
- productivity gains, because good lighting improves working conditions and quality control of products or operations,
- gains in employee satisfaction, through enhanced comfort and less visual fatigue and risk of accidents,
- environmental gains, because good lighting means less energy consumed and often fewer lamps to replace and dispose of.

■ Tube replacement

This consists of changing tubes and starters for fluorescent luminaires and bulbs for discharge lamps.

Two types of maintenance are possible.

■ Preventive maintenance

Depending on the service life (e.g. two years), it is possible to schedule a cleaning program and, at the same time, systematically change all bulbs, tubes and starters.

■ Corrective maintenance

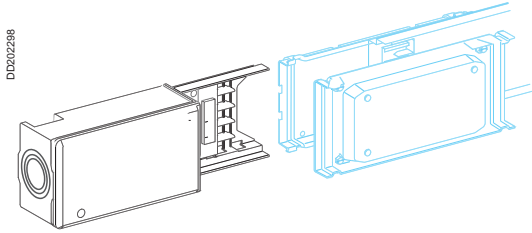
The maintenance operations are the same, but are carried out when users report a problem.

Advantages of Canalis

Because the luminaires are mounted on trunking and supplied by tap-off units, they can be easily removed for cleaning and changing at ground level, then put back. It is also possible to have spare units for immediate replacement of luminaires, followed by cleaning and bulb changing of the removed luminaires that then become the spare units.

Maintenance on power-distribution lines

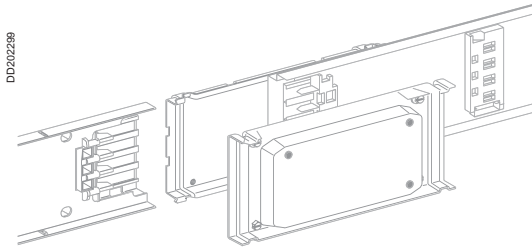
Maintenance of Canalis KN trunking components



Feed units

They are equipped with junction blocks for copper cable up to 16 mm² for 63 A and for lugs (M8) for 100 A units. As for all screw-type connections, it is advised to check tightness one year after installation and then run checks at longer intervals.

The feed units are jointed to the first run component of the line (see next paragraph). This connection is maintenance free



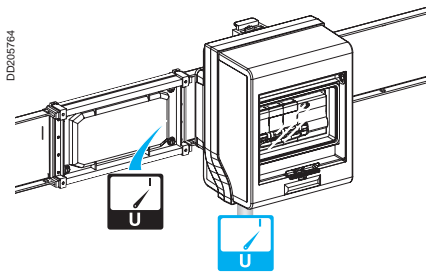
Run components

They are interconnected by electrical jointing units ensuring automatic and simultaneous connection of all live conductors.

The contacts are clamp + spring type and exert no forces on the plastic parts. The electrical contacts of the jointing unit and the conductors are silver-plated copper.

This type of sliding connection is maintenance free.

Components can be dismantled and reused.



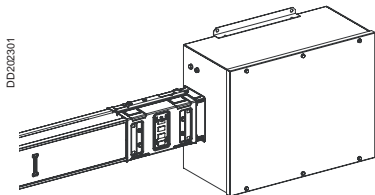
Tap-off units

Trunking contacts are flexible, made of silver-plated clamps providing optimum contact quality. The contacts do not press or apply any forces on the plastic parts.

They connect to the live line conductors at the tap-off outlets. Conductors are made of silver-plated copper at the point of contact.

These components are maintenance free.

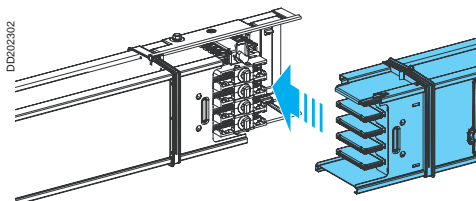
The connections for outgoing cables are made to terminals or using lugs. As for all screw-type connections, it is advised to check tightness one year after installation and then run checks at longer intervals.



Feed units

They are equipped with terminals up to 100 A and lug connectors for higher ratings. As for all screw-type connections, it is advised to check tightness one year after installation and then run checks at longer intervals.

The feed units are jointed to the first run component of the line (see next paragraph). This connection is maintenance free



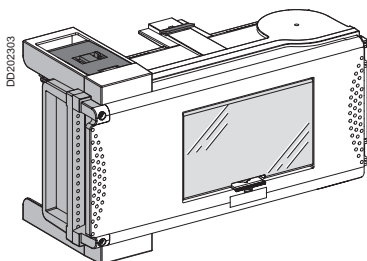
Run components

They are interconnected by electrical jointing units ensuring automatic and simultaneous connection of all live conductors.

The contacts are clamp + spring type and exert no forces on the plastic parts. The electrical contacts of the jointing unit for the conductors are silver-plated copper.

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Tap-off units

Trunking contacts are flexible, made of silver-plated clamps providing optimum contact quality. The contacts do not press or apply any forces on the plastic parts.

They connect to the live line conductors at the tap-off outlets. Conductors are made of silver-plated copper at the point of contact.

These components are maintenance free.

The connections for outgoing cables are made to terminals or using lugs. As for all screw-type connections, it is advised to check tightness one year after installation and then run checks at longer intervals.

Other recommendations

Maintenance of devices

For all devices installed in Canalis tap-off units, follow the manufacturer's instructions (as for installation in a switchboard).

Visual check

Cleaning

It is advised to check annually that trunking is clean and to remove any dust, water, oil or other conducting substances or objects from sensitive zones such as junctions, tap-off outlets and tap-off units.

External appearance

Check the external appearance of the trunking to detect:

- signs of shocks, in which case it is necessary to check the degree of protection to avoid any risk of insulation faults
- anomalies, i.e. incorrect implementation of the trunking (incorrect supports, etc.)
- traces of corrosion (in particular on supports).

Reuse after exposure to water

If a Canalis line is exposed to water during installation, it is necessary to measure the insulation resistance of the line by isolating the supply and the loads.

- If $R < 0.69 \text{ M}\Omega$, the installation must not be energised:
 - cut the line in two by removing the jointing unit in the middle,
 - locate the faulty zone,
 - remove all jointing covers and dry the parts using compressed air,
 - continue until the insulation resistance is greater than $0.69 \text{ M}\Omega$,
 - the system can then be energised.

Recommendations for special applications

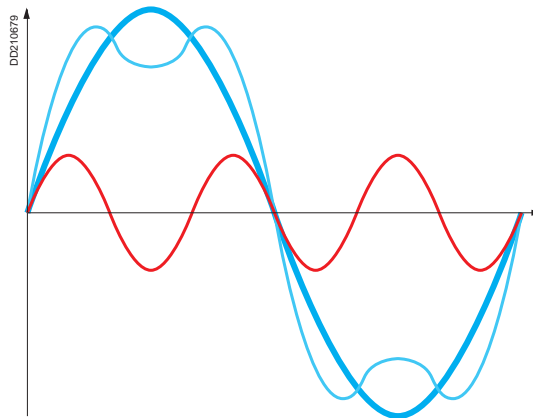
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Origin of harmonic currents

Harmonic currents are caused by non-linear loads connected to distribution systems, i.e. by loads that draw current with a waveform different that that of the voltage that supplies them.

The most common non-linear loads are equipment including rectifiers, fluorescent lighting and computer hardware.

In installations with a distributed neutral, non-linear loads may cause significant overloads in the neutral conductor due to the presence of third-order harmonics.



Harmonic order

The order is the ratio between the harmonic frequency f_n and the fundamental frequency (generally the power frequency, 50 or 60 Hz):
 $n = f_n / f_1$

By definition, the fundamental f_1 is order 1 (H1).

Third-order harmonics (H3) have a frequency of 150 Hz (when $f_1 = 50$ Hz).

Estimating THD (total harmonic distortion)

The presence of third-order harmonics depends on the applications involved. It is necessary to carry out an in-depth study on each non-linear load to determine the level of H3:

$$ih3 (\%) = 100 \times i3 / i1$$

- $i3$ = rms current of H3
- $i1$ = rms current of the fundamental

Assuming that H3 is preponderant among harmonics, the THD is close to the value of H3 ($ih3(\%)$).

There are two decisive factors:

- the types of connected devices:
 - disturbing loads: fluorescent lighting, computer hardware, rectifiers, arc furnaces, etc.,
 - non-disturbing loads: heating, motors, pumps, etc.,
- the ratio between the two types of disturbing loads.



Workshops

Mix of disturbing loads (computers, UPSs, fluorescent lighting) and non-disturbing loads (motors, pumps, heating).

Low probability of harmonics

THD \leq 15 %.



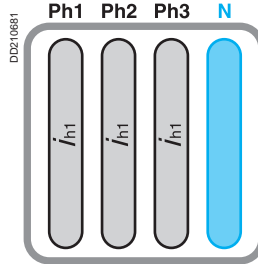
Offices

Numerous disturbing loads (computers, UPSs, fluorescent lighting).

High probability of harmonics

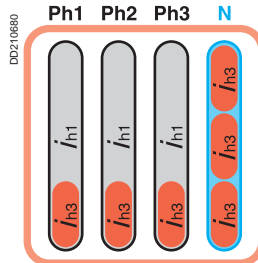
15 % < THD \leq 33 %.

Effects of harmonics on Canalis busbar trunking



Fundamental frequency: i_{h1} (50 Hz)

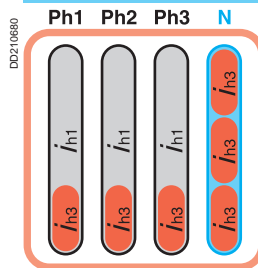
No current in the neutral.
The conductors are correctly sized.



Fundamental frequency: i_{h1} (50 Hz) and 33 % of H3

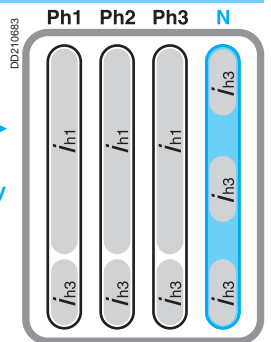
Abnormal temperature rise in the conductors caused by current at a higher frequency in the phases (skin effect) and current in the neutral caused by summing of the H3 harmonics.

The only effective solution



Fundamental frequency: i_{h1} (50 Hz) and 33 % H3

Reduce the current density in ALL conductors by using appropriately sized trunking.



Busbar-trunking selection

THD ≤ 15 %	15 % < THD ≤ 33 %	THD > 33 %	Busbar trunking	Rating (A)
25	20	16	KBA / KBB	25
40	32	25	KBA / KBB	40
			KN	40
63	50	40	KN	63
100	80	63	KN	100
			KS	100
160	125	100	KS	160
250	200	160	KS	250
400	315	250	KS	400
500	400	315	KS	500
630	500	400	KS	630
800	630	500	KS	800
1000	800	630	KS	1000

Example: for a total rms current of **376 A**, (estimation based on power drawn by loads, including harmonics), the operational current is **400 A**. THD is estimated at 30 %. The appropriate trunking is **KS 500 A**.

For more information on harmonics

See the Cahier Technique publications on the Schneider Electric web site: www.schneider-electric.com

Foreword

Prefabricated electrical trunking components expand and contract due to:

- changes in ambient temperature (e.g. summer and winter)
- current flowing in the conductors (e.g. 0 to In).

For example, consider a 30 metre long 800 A Canalis KS line equipped with ten 160 A tap-off units and installed under the roof of a building where the ambient temperature varies by more than 30 °C between summer and winter:

- just the change in the ambient temperature results in an expansion of 20 mm for the conductors and the 10 mm for the casing
- at a constant ambient temperature, the temperature rise in the conductors every morning when the installation is started (increase in current from 0 to In = 800 A) results in an expansion of 55 mm for the conductors and 7 mm for the casing.

The lengths of the sheet steel (1) and the aluminium conductors (2) therefore vary as a function of the changes in temperature and their specific thermal expansion coefficients.

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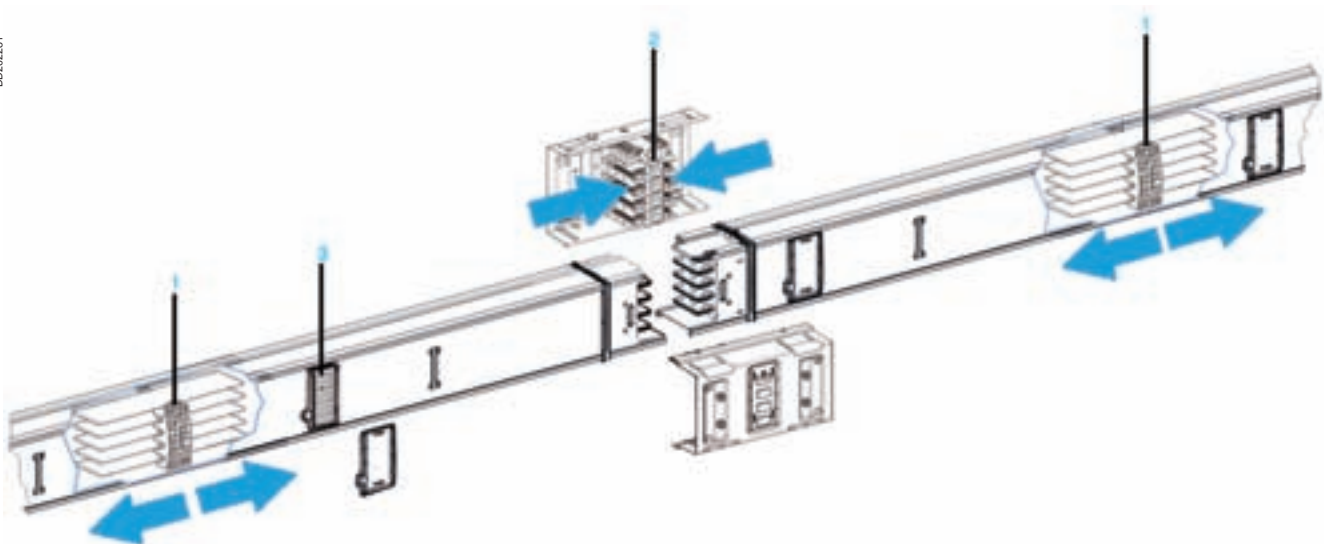


For this reason, Canalis components are designed so that these phenomena do not affect their installation or operation.

How Canalis trunking components effectively compensate for the effects of conductor thermal expansion.

Inside a trunking section, the conductors are fixed (1) at a single point in the casing and, due to the change in temperature, expand (→) on either side of that point. The zones affected by expansion and considered critical from the electrical standpoint are the jointing system (2) and tap-off outlets (3).

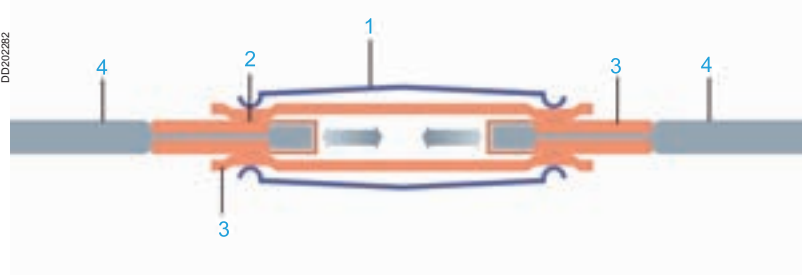
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How Canalis trunking components effectively compensate for the effects of conductor thermal expansion.

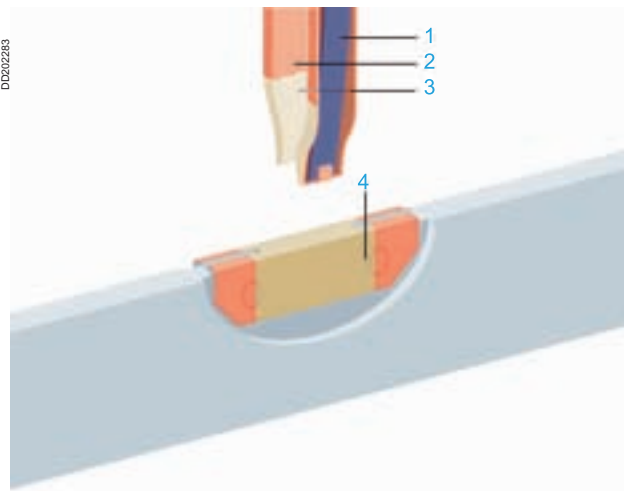
■ the Canalis jointing system mechanically and electrically connects components (e.g. two straight lengths), but allows for the expansion and contraction of the conductors (4).

The system is made up of springs (1) and an area of sliding contacts (2) that allow conductor movement (→) while maintaining outstanding electrical contact. Contact quality is ensured by two parts made of silver-plated copper (3). Sufficient pressure between the two parts for good contact is maintained by the springs. This system is used at each end of the straight lengths, every three metres.



■ at the tap-offs, conductor expansion is compensated for by a contact zone (4) made of silver-plated copper on which the clamps of the tap-off unit can slide.

- 1 Spring of clamps.
- 2 Copper area.
- 3 Silver plated copper.



Conclusion: at both the jointing system and the tap-off outlets, sliding contacts can handle the expansion of the conductors.

These maintenance-free silver-plated contacts are guaranteed for life.

Only the expansion of the sheet steel must be taken into account for Canalis installation, however the problem is minor because both trials and calculations show that expansion is only approximately 1 mm for every three-metre length under extreme operating conditions.

Few precautionary measures used to compensate for the effects of thermal expansion in the casing, depending on how the line is installed.

Horizontal line

For a trunking line made up exclusively of straight lengths, as noted above, the effects of thermal expansion are not significant (only 1 mm for 3 m). To avoid all risk of problems, Canalis trunking supports allow movement of the casing, i.e. no fixed points.

For a fixed point caused by a blocked elbow, for example, the casings compensate their expansion by slight lateral movement (0.7 mm maximum) on either side of the longitudinal axis. This movement has no impact on the contact quality of the jointing system or on the IP.

Conclusion: the only precautionary measure is to prevent distortion by avoiding having a number of fixed points on a single line.



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Vertical line (rising mains)

The effects of thermal expansion depend on the different installation methods.

Rising mains with just one bottom support (1)

With a bottom support attached to the wall, the riser expands upwards. At each floor, the sheet steel slides naturally through the floor.

The only precautionary measure is to avoid creating any other fixed points.

Rising mains with spring-based fixing devices (2)

For rising mains with spring-based fixing devices only, the riser expands both upwards and downwards. At each floor, the casing slides naturally through the fire barriers.

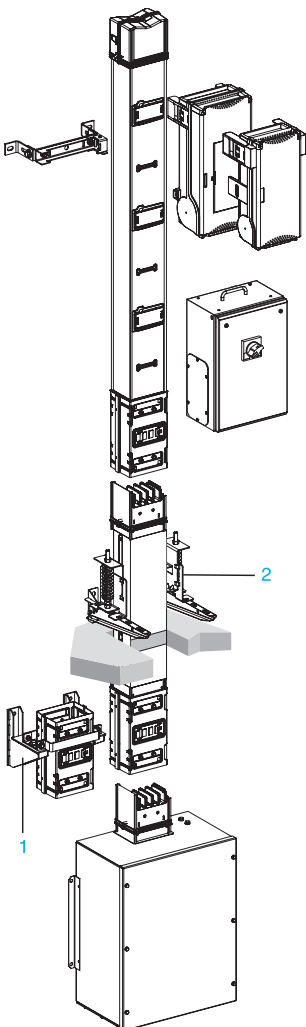
Rising mains with more than one bottom support (1)

More than one bottom support should not be used on a single riser to avoid creating a number of fixed points that block thermal expansion of the casing, in which case a component in the line may break.

If more than one bottom support is necessary, it is advised to break the riser into a number of sections, interconnected by cables and feed boxes, to allow thermal expansion (see section "above on Rising mains with just one bottom support").

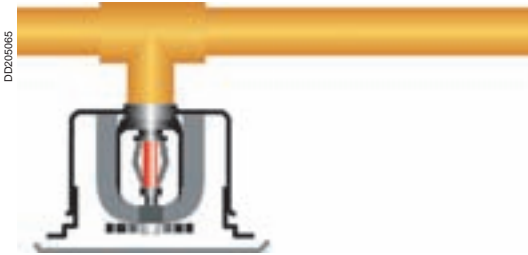
Installation of rising mains does not require any particular precautionary measures. All the above solutions have been simulated by calculations and tested in a laboratory. Schneider Electric guarantees that they will maintain the safety and reliability of your installation.

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Sprinkler test certification

What is a sprinkler?



A sprinkler is a sprinkling device blanked off by a heat-sensitive component. It is designed to deliver water when the temperature to which it is subjected exceeds its calibration value.

The main aim of the installation is to lower the temperature in the accident area by wetting the ignited and adjacent materials by spraying water in the form of fine droplets. The transformation of these droplets into water vapour captures a lot of energy from the fire and extinguishes it quickly. Moreover, this increased volume prevents air from flowing to the heart of the fire.

When a fire develops, ambient temperature rises to reach the calibration value. Water then leaves the sprinkler opening and strikes a deflector that projects it onto the fire in a certain form. Ground coverage ranges between 9 and 12 m² according to mounting height.

A sprinkler delivers between 60 and 120 l/min according to the hazard class.

On nuisance tripping lasting a few minutes, some hundreds of litres of water are released. IPx5 approval as per standard IEC 60529 does not guarantee non ingress of water in the busbar trunking in these conditions, as the water volumes, test duration and projection distance vary (nozzle 22.5 mm in diameter, at a distance of 2.5-3 m, with a water volume of 12.5l/min for 1min/m² for at least 3 min).

To provide you with all necessary safety guarantees, Schneider Electric has chosen to go further still than the IP55 test by subjecting its busbar trunking to an extremely severe "sprinkler" test.



Canalis KBA supplying luminaires nearby sprinklers.

Sprinkler test procedure



Canalis KS and sprinkler.

Chronology

In view of the absence of reference standard for sprinkler tests, we have chosen to apply the following procedure:

- insulation resistance test (1000 V)
- dielectric properties test (2.5 kV, 5 s: IEC 60439-1 & 2)
- water projection
- 5 min break
- insulation resistance test (1000 V)
- dielectric properties test (2.5 kV, 5 s: IEC 60439-1 & 2).

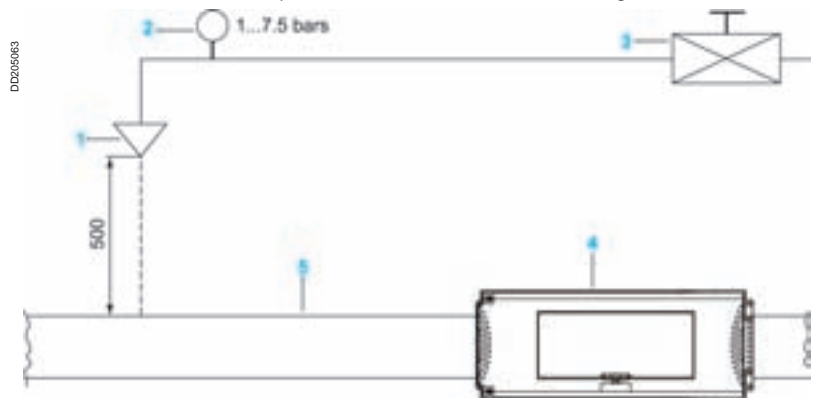
Water projection,

2 configurations, with or without energisation:

- horizontally installed busbar trunking:
 - 15 min water projection with sprinkler type K-Wert 115, NF ¾, 7.5 bar, 314 L/min,
 - 35 min water projection with sprinkler type K-Wert 115, NF ¾, 1 bar, 115 L/min,
- vertically installed busbar trunking:
 - 15 min water projection with sprinkler type K-Wert 80, NF ½, 7.5 bar, 314 L/min,
 - 35 min water projection with sprinkler type K-Wert 80, NF ½, 1 bar, 80 L/min,

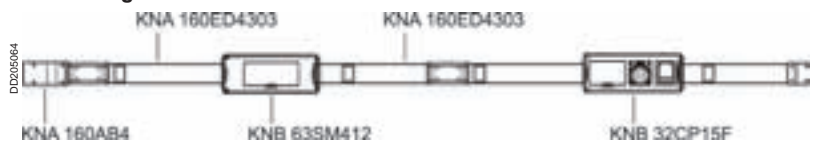
Mounting position

The distance between the sprinkler head and the busbar trunking is 500 mm.



- 1 Sprinkler
- 2 Pressure gauge
- 3 Closing valve
- 4 Tap-off unit.
- 5 Busbar trunking

Test configuration



Test results

Busbar trunkings KDP, KBA, KBB, KN and KS have undergone the sprinkler test. This test, if successful, proves that our busbar trunkings can operate during and immediately after sprinkling of a line by a sprinkler for a period of 50 min.

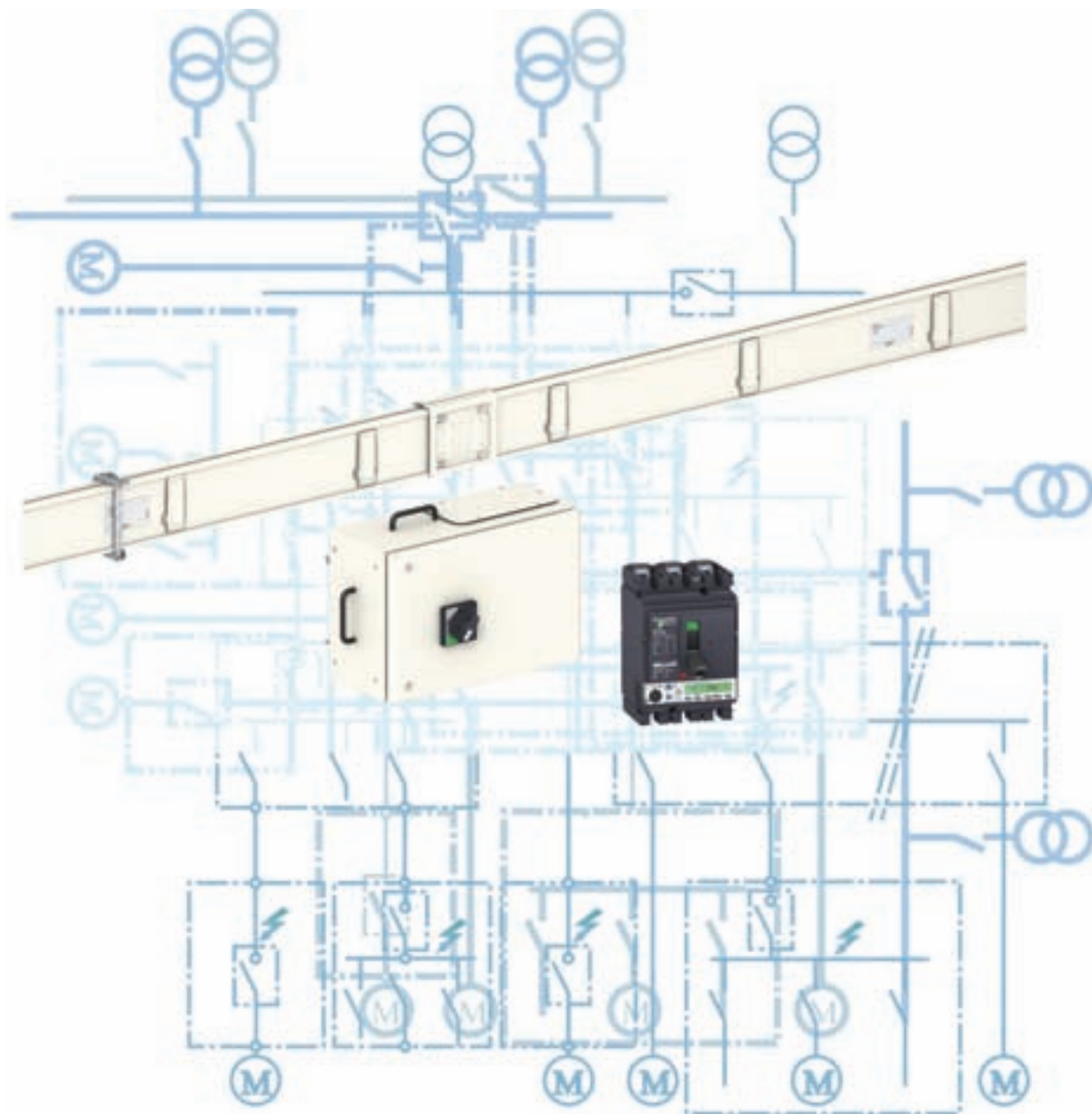
Canalis is part of a comprehensive offering of Schneider Electric products designed to operate together. In particular, this offering covers all low and medium voltage electrical distribution components.

Optimum system performance is ensured by coordination between the protection circuit breakers and the Canalis prefabricated busbar trunking used for decentralised distribution.

Decentralised electrical distribution with total coordination perfectly satisfies all your requirements in terms of safety, continuity of service, upgradeability and simplicity.

In the following pages, we will present the advantages of the Schneider Electric system as well as the selection guide tables that ensure coordination between circuit breakers and Canalis busbar trunking.

DP202357_SE



Advantages of the Schneider Electric system

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Trunking protection

Our circuit breakers offer:

- overload and short-circuit protection
- coordination between protective devices and Canalis busbar trunking systems (BTS):
 - total discrimination:
 - from 1 to 6300 A between all circuit breakers,
 - cascading:
 - reinforcement of low and medium-power BTS short-circuit protective devices to handle all possible short-circuit levels;
 - tap-off unit protection using standard circuit breakers regardless of where the tap-off unit is placed on the Canalis BTS
- simplification of the design process, while ensuring a high degree of dependability
- quick and easy fault tracking
- simple reclosing ("resetting") once the fault has been eliminated by the operator.

PD202333



Tap-off units

- The Canalis tap-off units of the Schneider Electric system satisfy operator needs in terms of:
 - installation upgradeability without production downtime,
 - continuity of service,
 - safety.
- The tap-off units:
 - can be connected and disconnected under energised conditions without risk to the operator,
 - are designed for installation at one-meter intervals on the distribution BTS.

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Distribution switchboards

Our protection switchgear optimises switchboard functions.

- Schneider Electric guarantees upstream device coordination:
 - between Masterpact, Compact C and Compact NSX circuit breakers and between Compact NSX and Multi 9 circuit breakers,
 - between electrical distribution circuit breakers and industrial control circuit breakers (motor circuit breaker, Integral, etc.) for industrial control application.
- Switch-disconnectors comply with the IEC 60947-3 standard and are designed to ensure AC23 load breaking and isolation. Their protection is guaranteed by coordination with the upstream circuit breakers.

Trunking protection

Overload protection

The busbar trunking rating can be optimised when the trunking is protected by circuit breakers rather than fuses.

Selection of busbar trunking with respect to protective device ratings

To take into account busbar trunking thermal overload protection, the various protection switchgear technologies and the currents under overload conditions must be considered.

The sizing characteristics for the choice of busbar trunking and overload protection are:

- In trunking = load current $\times f_1 \times k_2$
- f_1 : temperature coefficient
- k_2 : derating factor linked to the type of switchgear:
 - fuse: $k_2 = 1.1$
 - circuit breaker: $k_2 = 1$.

Example:

For a load current = 400 A with an ambient temperature of 35 °C:

■ Fuse protection:

In trunking = load current $\times f_1 \times k_2 = 400 \times 1 \times 1.1 = 440$ A

The recommended trunking is KSA500 (In trunking = 500 A).

■ Circuit breaker protection:

In trunking = load current $\times f_1 \times k_2 = 400 \times 1 \times 1 = 400$ A

The recommended trunking is KSA400 (In trunking = 400 A).

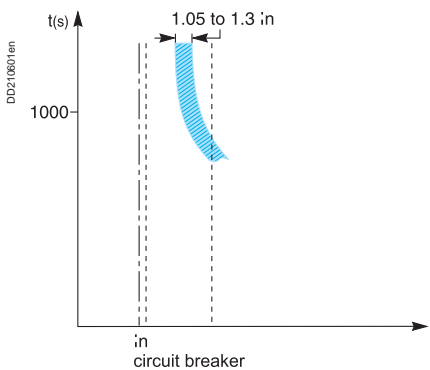
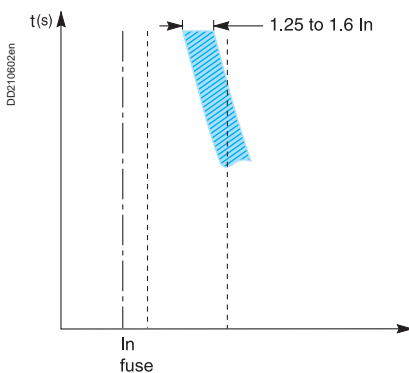
Due to their design, circuit breaker thermal settings are more precise.

Explanations

■ Calibration of thermal asymptotes:

□ distribution fuses are calibrated to trip for overloads of between 1.25 and 1.6 times their rated current,

□ circuit breakers are calibrated to trip for overloads of between 1.05 and 1.3 (1.2 for circuit breakers with electronic protection) times their current setting.



Thermal-setting precision

■ The fuse is assigned a fixed rating. A change in the current to be protected requires fuse replacement. **The difference between 2 fuse ratings is approximately 25%.**

Standard ratings are given according to the series of characteristic numbers of the "Renard" series.

For example: 40 - 50 - 63 - 80 - 100 - 125 - 160 - 200 - etc.

■ **the circuit breaker offers a setting precision of:**

- **5%** for circuit breakers equipped with conventional **thermal-magnetic** trip units,
- **3%** for circuit breakers equipped with **electronic** trip units.

For example, a circuit breaker with a nominal rating of 100 A can easily be set to values of $I_r = 100\text{ A}, 95\text{ A}, 90\text{ A}, 85\text{ A}, 80\text{ A}$.

Example:

a circuit breaker with a nominal rating of 100 A set to 90 A will be used to protect KSA100 busbar trunking ($I_n \text{ trunking} = 100\text{ A}$) which is used for an ambient temperature of 50 °C.

Extensive setting range of circuit breakers equipped with electronic trip units

Circuit breakers equipped with electronic trip units offer an extended range of settings:

- thermal protection I_r adjustable from 0.4 I_n to I_n ,
- short-circuit protection from 2 I_r to 10 I_r .

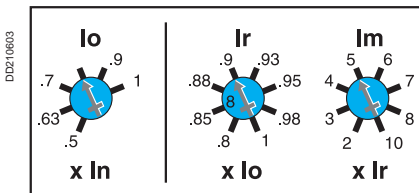
Example:

a 250 A circuit breaker (NSX250N equipped with an STR22SE) can easily be set up for:

- *thermal protection from 100 to 250 A,*
- *short-circuit protection from 200 to 2500 A.*

Advantages:

- This ensures a high degree of flexibility with respect to:
 - modifications (flexibility), extensions (upgradeability): protective devices can be easily adapted to the application requiring protection and to the system earthing arrangement used (protection of life and property),
 - maintenance: use of this type of device considerably reduces maintenance component stocks.



Example of setting possibilities

Short-circuit protection

Trunking characteristics

Busbar trunking systems must meet all rules stipulated in standards IEC 60439.1 and 60439.2.

■ With respect to short-circuits, BTS sizing is determined by the following characteristics:

□ **rated peak withstand current I_{pk} (kA):**

this characteristic expresses the instantaneous electrodynamic withstand limits of the busbar trunking. The peak current value is often the most restrictive instantaneous characteristic for the protective device

□ **maximum rms short-time withstand current I_{cw} (kArms/...s):**

this characteristic expresses the permissible temperature-rise limit of conductors over a given period of time (0.1 to 1 s)

□ **thermal stress in A^2s :**

this characteristic expresses the instantaneous thermal stress withstand of the BTS. Normally, if the short-circuit generates fault conditions that are compatible with the first two characteristics, this constraint is "automatically satisfied".

Circuit breaker characteristics

A circuit breaker must meet the requirements of product construction standards (IEC 60947-2, etc.) and installation standards (IEC 60364 or applicable country standards), i.e. its breaking capacity I_{cu}^* must be greater than short-circuit current I_{sc} at the point where it is installed.

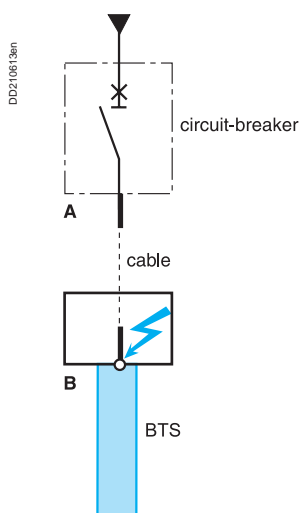
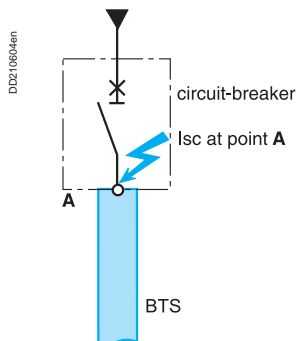
** installation standard IEC 60364 and the construction standards specify that the breaking capacity of a circuit breaker is:*

- the ultimate breaking capacity, I_{cu} , if it is not coordinated with an upstream protective device,
- the breaking capacity enhanced by cascading, if there is coordination with the upstream protective device.

Characteristics of the circuit-breaker/trunking combination

When the busbar trunking is directly protected, selection of the protective device must take into account the following requirements:

- circuit breaker $I_{cu} \geq$ prospective I_{sc} at **point A**
- BTS $I_{peak} \geq$ limited or asymmetrical prospective I_{sc} at **point A**
- BTS thermal withstand at $I_{cw} \geq$ thermal stress passing through the BTS.



When the busbar trunking is protected downstream of a cable, selection of the protective device must take into account the following requirements:

- circuit-breaker $I_{cu} \geq$ prospective I_{sc} at **point A**
- BTS $I_{peak} \geq$ limited or asymmetrical prospective I_{sc} at **point B**
- BTS thermal withstand at $I_{cw} \geq$ thermal stress passing through the BTS.

Circuit breaker/trunking coordination

Non-limiting or time-delayed circuit breakers

Either non-limiting (instantaneous or time-delayed) or time-delayed limiting circuit breakers can be used. They are mainly air-type power (= 800 A) circuit breakers. **This type of circuit breaker is used to implement time discrimination and is often combined with KT type trunking.**

■ The busbar trunking must be capable of withstanding the peak fault current to which it may be subjected as well as the thermal stress during any time delay:

□ the permissible peak current, I_{peak} , of the BTS must be greater than the peak value of the prospective asymmetrical short-circuit current at point A.

The value of the asymmetrical short-circuit current is obtained from the value of the symmetrical short-circuit current, I_{sc} , multiplied by a standardised asymmetry factor (k).

The value of the first short-circuit asymmetry peak in the transient state is taken into account.

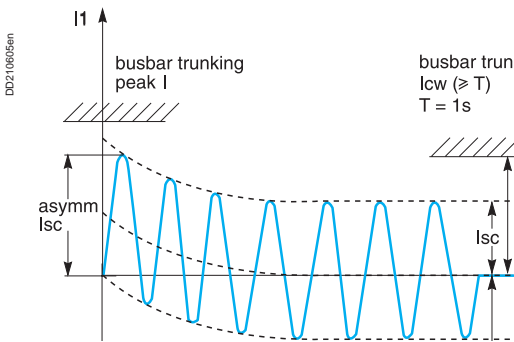
Standardised table for asymmetrical short-circuit calculations

I_{sc} : prospective symmetrical short-circuit kA (rms value)	Asymmetry factor k
$4.5 \leq I \leq 6$	1.5
$6 < I \leq 10$	1.7
$10 < I \leq 20$	2.0
$20 < I \leq 50$	2.1
$50 < I$	2.2

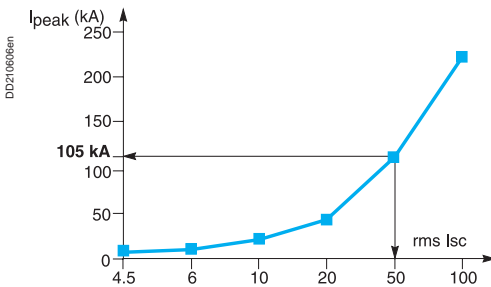
For example, for a circuit with a prospective short-circuit current of 50 kA rms, the first peak reaches 105 kA ($50 \text{ kA} \times 2.1$). See the figure opposite.

□ The short-time withstand current I_{cw} of the BTS must be greater than the current I_{sc} flowing through the installation for the duration of the short-circuit, (duration T = total breaking time, including the time delay if applicable).

If one of these criteria is not satisfied, the rating of the busbar trunking to be used must be increased.



Current value of the 1st peak as a function of rms I_{sc} .



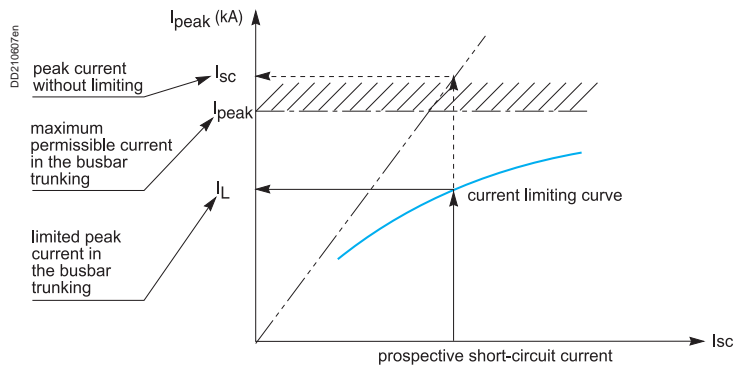
Transient and steady states of a short-time short-circuit.

Limiting circuit breakers

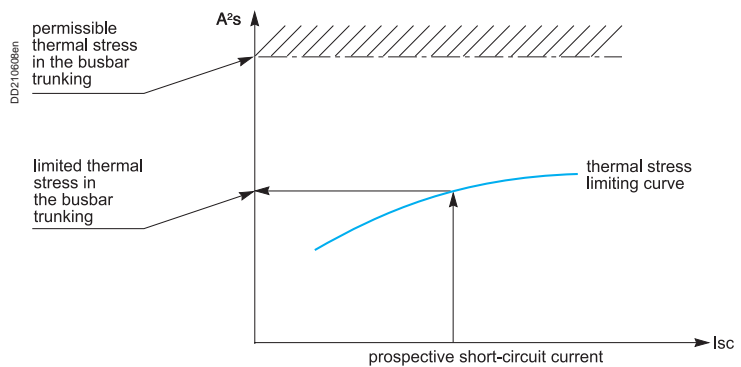
This mainly concerns protection of BTSs by moulded-case circuit breakers (≤ 1600 A).

This type of circuit breaker is used for energy discrimination and is therefore often combined with Canalis KN and KS trunking.

- In this case, the BTS must withstand the peak current limited by the protective device and the corresponding thermal stress.
 - The current limited (I_{peak}) by the circuit breaker must be less than the peak current permitted in the BTS.
 - The thermal stress limited by the circuit breaker must be less than the thermal stress permitted in the BTS.



Checking the BTS withstand capacity in terms of peak current.



Checking the BTS withstand capacity in terms of thermal stress.

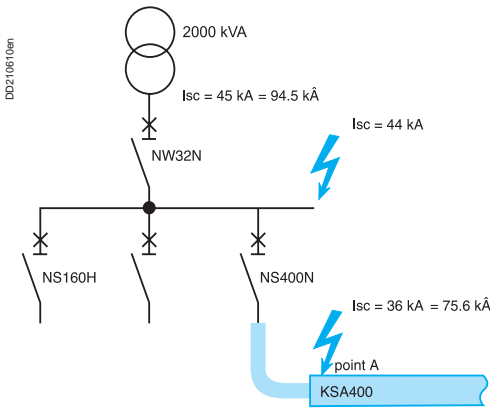
BTS protection by Compact NSX limiting circuit breakers

Busbar trunking ratings can be optimised when circuit breakers rather than fuses are used for protection.

Limiting capacity

The circuit breakers in the Compact NSX range are limiting circuit breakers with a high current-limiting capacity. A circuit breaker's limiting capacity is its ability to let only a limited current I_L , lower than the prospective asymmetrical peak short-circuit current I_{sc} through in the event of a short-circuit.

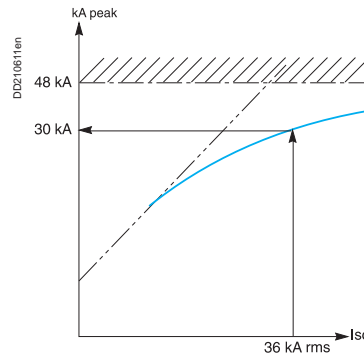
The consequence is a considerable reduction in electrodynamic and thermal stresses in the protected installation.



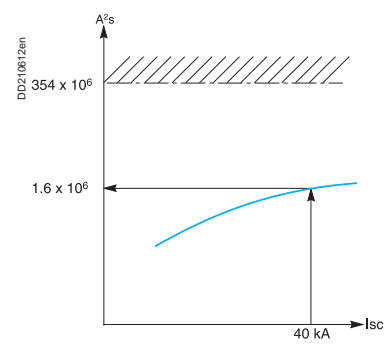
Example of a mid-sized installation (> 1000 kVA)

The diagram opposite shows the protection provided by an NSX400N limiting circuit breaker for KSA400 trunking.

- Without taking into account the circuit breaker's limiting capacity:
 - the prospective I_{sc} at point A would be 75.6 kA,
 - KSA800 trunking would be required ($I_{peak} = 78.7 \text{ kA} > 75.6 \text{ kA}$ at point A).
- Taking into account the limiting capacity of the Compact NSX400N:
 - the value of I_{peak} limited by the circuit breaker is $30 \text{ kA} < 49.2 \text{ kA}$ of the KSA400 trunking,
 - the value of the limited thermal stress is $1.6 \times 10^6 < 354 \times 10^6$ of the KSA400 trunking.



Current limiting



Energy limiting

Thanks to the high limiting capacity of Compact NSX400N circuit breakers, KSA400 busbar trunking can be used for prospective I_{sc} values up to 50 kA (105 kA) at point A.

Selection guides

The selection guides below can be used to determine the circuit breaker required to fully protect the trunking depending on the prospective short-circuit current of the installation.

Example: in an installation with a prospective I_{sc} of 15 kA, the circuit breaker required to protect 25 A KBB trunking is a C60H (the rating depends on the rated current of the circuit).

In bold, the most appropriate device to the rating of the busbar trunking

Selection guide for 230 / 240 V

Isc max (kA rms) KDP20	10 kA	15 kA	20 kA		
Circuit breaker	C60N10/16/20 NG125N10/16/20	C60H10/16/20	C60L10/16/20		
Isc max (kA rms) KBA25	10 kA	15 kA	25 kA		
Circuit breaker	C60N10/.../25 NG125N10/.../25	C60H10/.../25	C60L10/.../25		
Isc max (kA rms) KBB25	10 kA	15 kA	25 kA		
Circuit breaker	C60N10/.../25 NG125N10/.../25	C60H10/.../25	C60L10/.../25		
Isc max (kA rms) KBA40	10 kA	15 kA	20 kA	25 kA	50 kA
Circuit breaker	C60N10/.../40	C60H10/.../40	C60L40 NG125N10/.../40	C60L10/.../25	NG125L10/.../40
Isc max (kA rms) KBB40	10 kA	15 kA	20 kA	25 kA	50 kA
Circuit breaker	C60N10/.../40	C60H10/.../40	C60L40 NG125N10/.../40	C60L10/.../25	NG125L10/.../40

Selection guide for 380 / 415 V

KDP / KBA / KBB trunking

Isc max (kA rms) KDP20	10 kA	15 kA	20 kA		
Circuit breaker	C60N10/16/20 NG125N10/16/20	C60H10/16/20	C60L10/16/20		
Isc max (kA rms) KBA25	10 kA	15 kA	25 kA		
Circuit breaker	C60N10/.../25 NG125N10/.../25	C60H10/.../25	C60L10/.../25		
Isc max (kA rms) KBB25	10 kA	15 kA	25 kA		
Circuit breaker	C60N10/.../25 NG125N10/.../25	C60H10/.../25	C60L10/.../25		
Isc max (kA rms) KBA40	10 kA	15 kA	20 kA	25 kA	50 kA
Circuit breaker	C60N10/.../40	C60H10/.../40	C60L40 NG125N10/.../40	C60L10/.../25	NG125L10/.../40
Isc max (kA rms) KBB40	10 kA	15 kA	20 kA	25 kA	50 kA
Circuit breaker	C60N10/.../40	C60H10/.../40	C60L40 NG125N10/.../40	C60L10/.../25	NG125L10/.../40

Selection guide for 380 / 415 V (cont.)

KNA trunking

Isc max (kA rms) KNA40	10 kA	15 kA	25 kA		
Circuit breaker	C60N40 NG125N10/.../40	C60H40	C60L40 NSX100N/H/L 40		
Isc max (kA rms) KNA63	10 kA	15 kA	25 kA	30 kA	50 kA
Circuit breaker	C60N63 C120N	C60H63 C120H NSX100N/H/L D63	C60H63 NG125N 63	NG160N 63	NG125L 63
Isc max (kA rms) KNA100	10 kA	15 kA	25 kA	30 kA	
Circuit breaker	C120N	C120H	NSX100N/H/L 100 NG125N100	NG160N 100	
Isc max (kA rms) KNA160	25 kA	30 kA	36 kA	50 kA	
Circuit breaker	NG125N125	NG160N 160	NSX100N 100 / NSX160N 160 NSX160F	NSX160SX/H/L 160 NSX160N/H/S/L	

KSA trunking

Isc max (kA rms) KSA100	17 kA	20 kA	25 kA	30 kA		
Circuit breaker	NSX250N/H/L	NSX160N/H/L	NSX100N/H/L NG125N100	NG160N 100		
Isc max (kA rms) KSA160	30 kA	36 kA	50 kA	70 kA	90 kA	
Circuit breaker	NG160N 160	NSX100N NSX160N NSX250N NSX160F	NSX160SX NSX250H/L NSX160N	NSX100H NSX160H/L NSX160H/S/L	NSX100L	
Isc max (kA rms) KSA250	36 kA	45 kA	50 kA	70 kA	100 kA	150 kA
Circuit breaker	NSX160N NSX250N NSX250F	NSX400N/H/L	NSX250SX NSX250N	NSX160H NSX250H NSX250H	NSXX250S	NSX160L NSX250L NSX250L
Isc max (kA rms) KSA400	24 kA	36 kA	50 kA	70 kA	100 kA	150 kA
Circuit breaker	NSX630bN	NSX250N	NSX400N NSX630N / NSX630bL NSX400N	NSX250H NSX400H NSX630H NSX400H	NSX400S	NSX250L NSX400L NSX630L NSX400L
Isc max (kA rms) KSA500	26 kA	50 kA	70 kA	100 kA	150 kA	
Circuit breaker	NSX630bN	NSX400N NSX630N NSX630N	NSX400H NSX630bL NSX630H NSX630H	NSX630S	NSX400L NSX630L NSX630L	
Isc max (kA rms) KSA630	32 kA	50 kA	70 kA	100 kA	120 kA	150 kA
Circuit breaker	NSX630bN NSX800N	NSX400N NSX630N NSX630N	NSX400H NSX630H NSX630H	NSX630S	NSX630bL NSX800L	NSX400L NSX630L NSX630L
Isc max (kA rms) KSA800	38 kA	50 kA	70 kA	150 kA		
Circuit breaker	NSX630bN NSX800N NSX1000N	NSX630N	NSX630H	NSX630L NSX800L NSX1000L		
Isc max (kA rms) KSA1000	38 kA	50 kA	70 kA	150 kA		
Circuit breaker	NSX800N NSX1000N NSX1250NHH NSX1600N/H NT..H1H2	NSX630N	NSX630H	NSX800L NSX1000L NT..L1		

Selection guide for 660 / 690 V

KSA trunking

Isc max (kA rms) KSA100	8 kA	10 kA	20 kA				
Circuit breaker	NSX100N NSX160N NSX250N	NSX100SX/H NSX160SX/H NSX250SX/H	NSX100L				
Isc max (kA rms) KSA160	8 kA	10 kA	20 kA	75 kA			
Circuit breaker	NSX100N NSX160N NSX250N	NSX100SX/H NSX160SX/H NSX250SX/H	NSX160L NSX250L	NSX100L			
Isc max (kA rms) KSA250	8 kA	10 kA	20 kA	28 kA			
Circuit breaker	NSX160N NSX250N	NSX160SX/H NSX250SX/H NSX400N	NSX250L NSX400H	NSX400L			
Isc max (kA rms) KSA400	10 kA	20 kA	24 kA	35 kA	75 kA		
Circuit breaker	NSX250SX/H NSX400N NSX630N	NSX250L NSX400H NSX630H	NSX630bH NSX..00.. NT..H.L1	NSX630L	NSX400L NSX630bL		
Isc max (kA rms) KSA500	10 kA	20 kA	26 kA	35 kA	75 kA		
Circuit breaker	NSX400N NSX630N	NSX400H NSX630H	NSX630bN NSX630bH NSX..00.. NT..H.L1 NW..N1H.L1	NSX400L NSX630L	NSX630bL		
Isc max (kA rms) KSA630	10 kA	20 kA	25 kA	30 kA	32 kA	35 kA	75 kA
Circuit breaker	NSX400N NSX630N	NSX400H NSX630H	NSX800L NSX1000L NT..L1	NSX630bN NSX800N NSX1200N NSX1600N	NSX630bH NSX800H NSX1000H NSX1200H NSX1600H NSX..00.. NT..H. NW..N1H.L1	NSX400L NSX630L	NSX630bL
Isc max (kA rms) KSA800	10 kA	20 kA	25 kA	30 kA	35 kA	38 kA	75 kA
Circuit breaker	NSX630N	NSX630H	NSX800L NSX1000L NT..L1	NSX630bN NSX800N NSX1000N	NSX630L	NSX630bH NSX800H NSX1000H NT..H. NW..N1H.L1	NSX630bL
Isc max (kA rms) KSA1000	10 kA	20 kA	25 kA	30 kA	35 kA	38 kA	75 kA
Circuit breaker	NSX630N	NSX630H	NSX800L NSX1000L NT..L1	NSX630bN NSX800N NSX1000N NSX1200N NSX1600N	NSX630L	NSX630bH NSX800H NSX1000H NSX1200H NSX1600H NT..H. NW..N1H.L1	NSX630bL

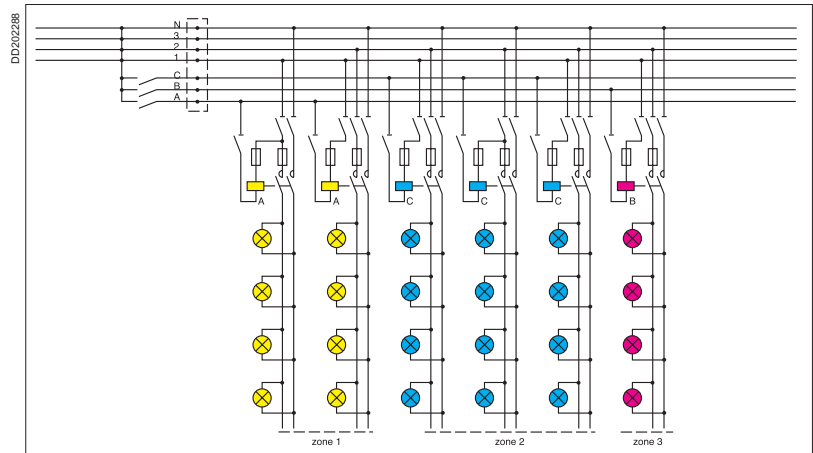
Lighting control with Canalis KNT

With Canalis KNT, lighting control systems can provide a high degree of flexibility in the creation and modification of lighting zones and levels:

- use of KNT trunking equipped with 4 conductors for power circuits and 3 conductors for remote control.

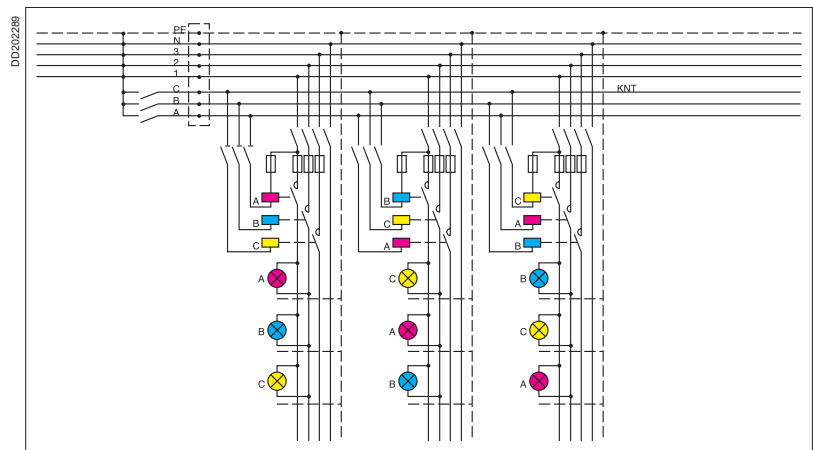
1st application: 3-zone lighting.

Each KNT tap-off unit is equipped with a remote-controlled modular contactor.



2nd application: gradual lighting with 3 illuminance levels.

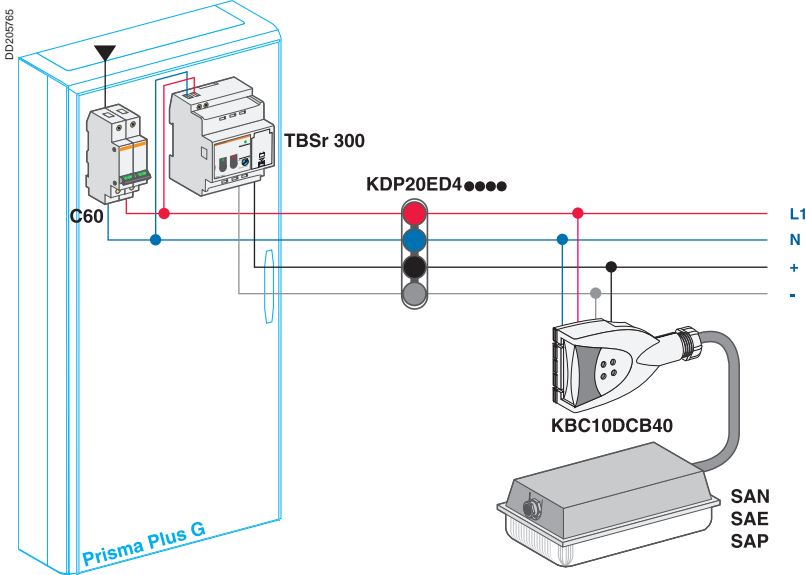
Each KNT tap-off unit is equipped with 3 remote-controlled modular contactors.



Self-contained emergency lighting units

Emergency lighting in the hallways of an office building

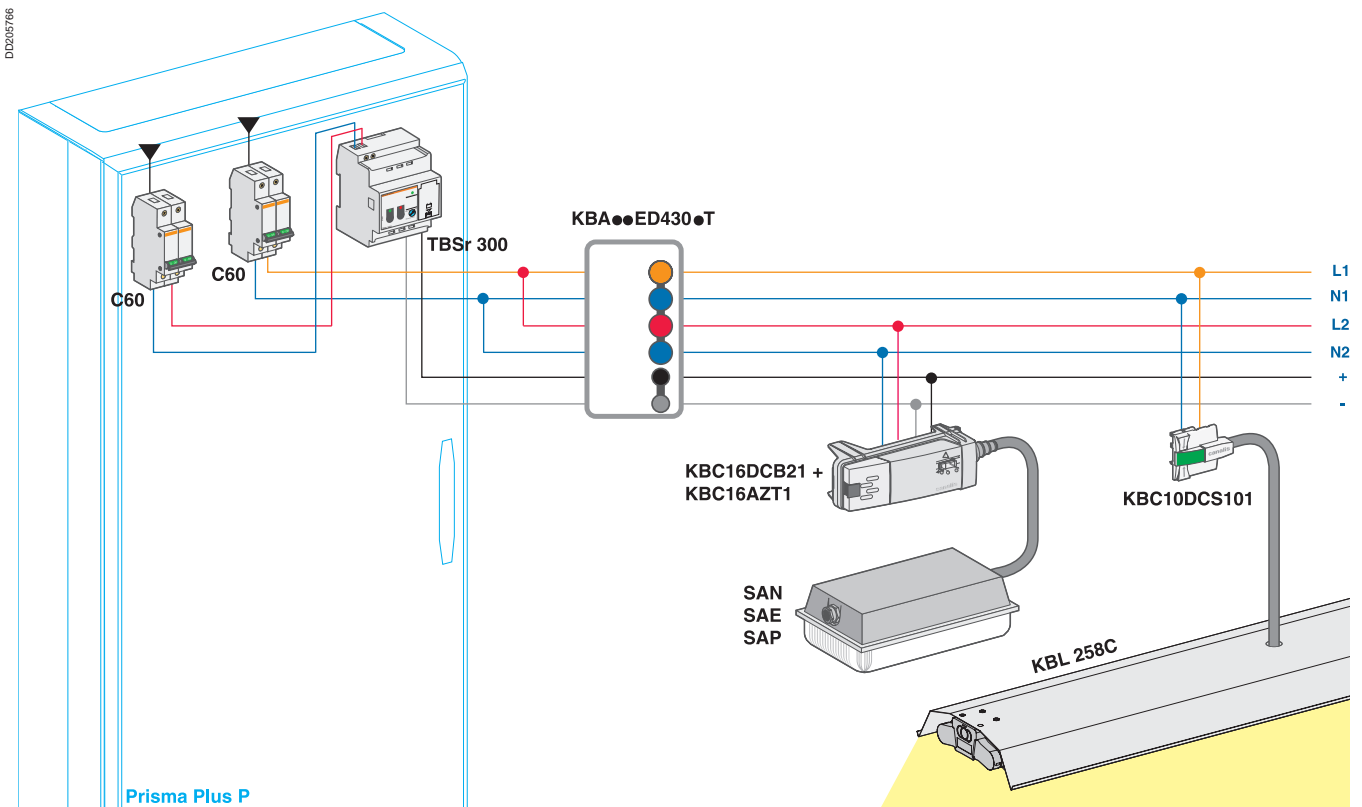
Use of dedicated KDP trunking



Two Canalis KDP cables are used to supply power to the emergency lighting and two others to control it.

Emergency lighting and lighting in a workshop or warehouse

Use of KBA trunking



Canalis KBA, equipped with option T (1 twisted pair), provides 6 conductors + the PE via the sheetmetal.

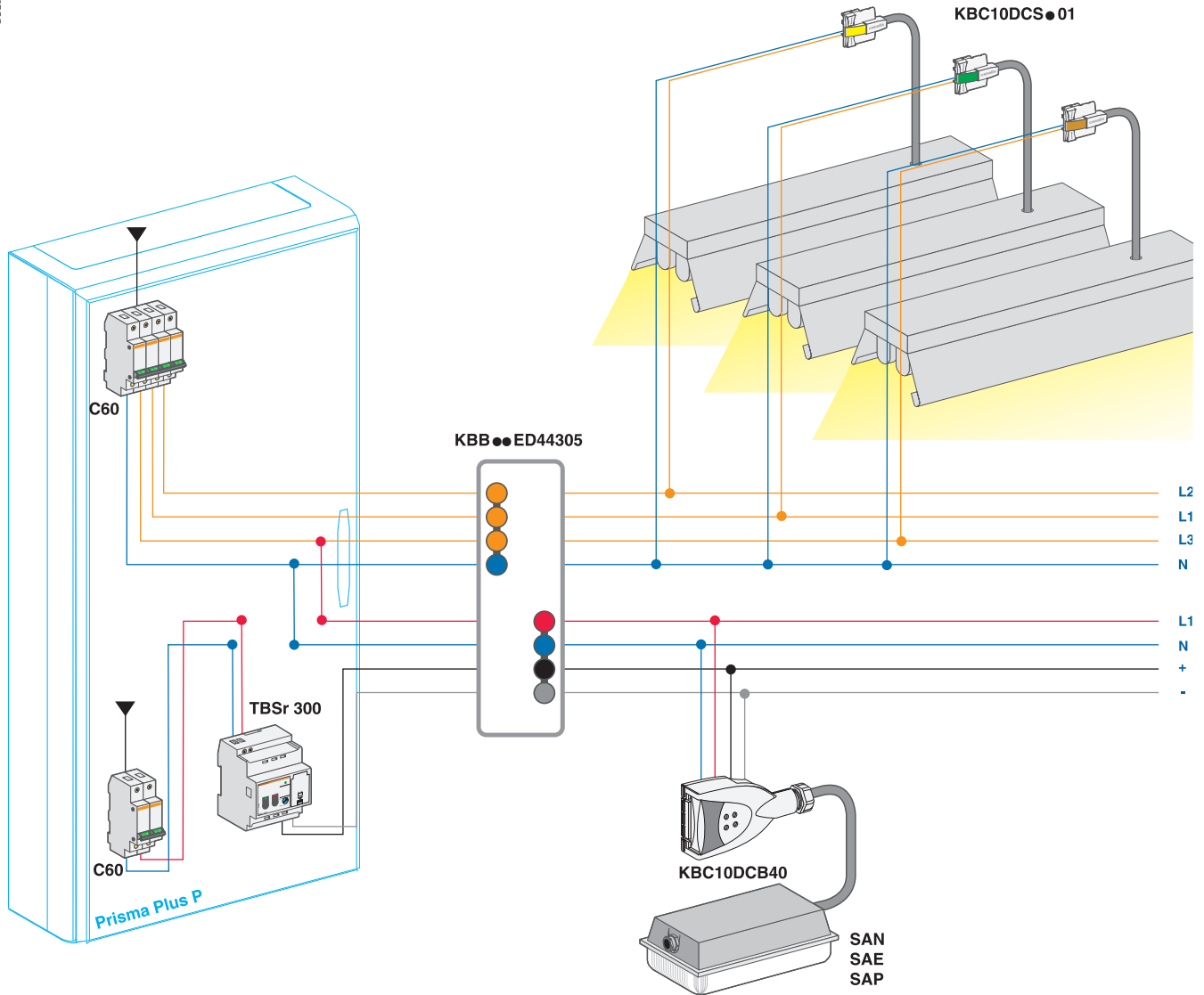
This makes it possible to implement single-phase lighting circuits for the supply and control of self-contained emergency lighting units in the same trunking.*

Special applications

Emergency lighting and lighting in an underground carpark

Use of KBB trunking

DD205767

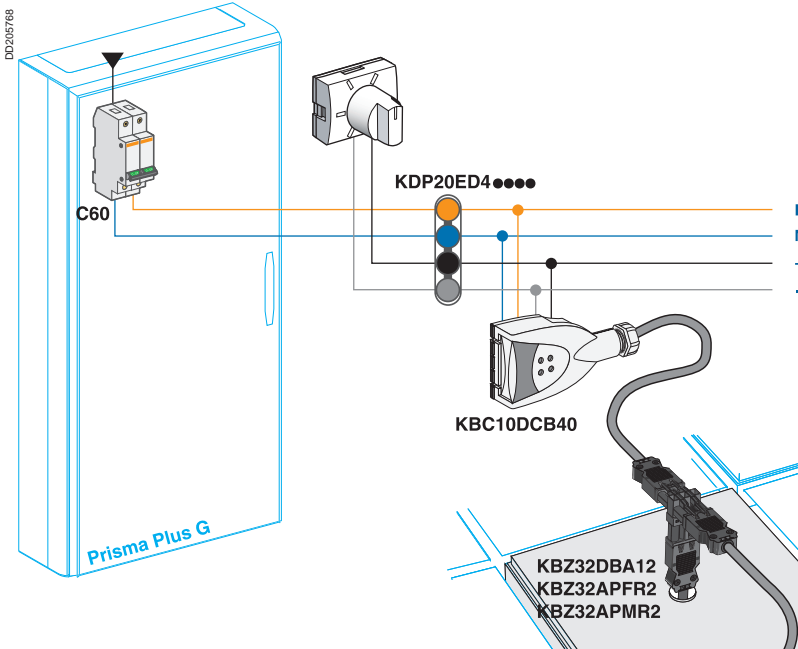


Canalis KBB has 2 separate circuits made up of 2 or 4 live conductors. This makes it possible to easily implement classical three-phase lighting via one circuit and supply and control self-contained emergency lighting units via the other circuit.

Lighting with dimming control

Lighting with dimming control in a meeting or projection room

Use of dedicated KDP trunking

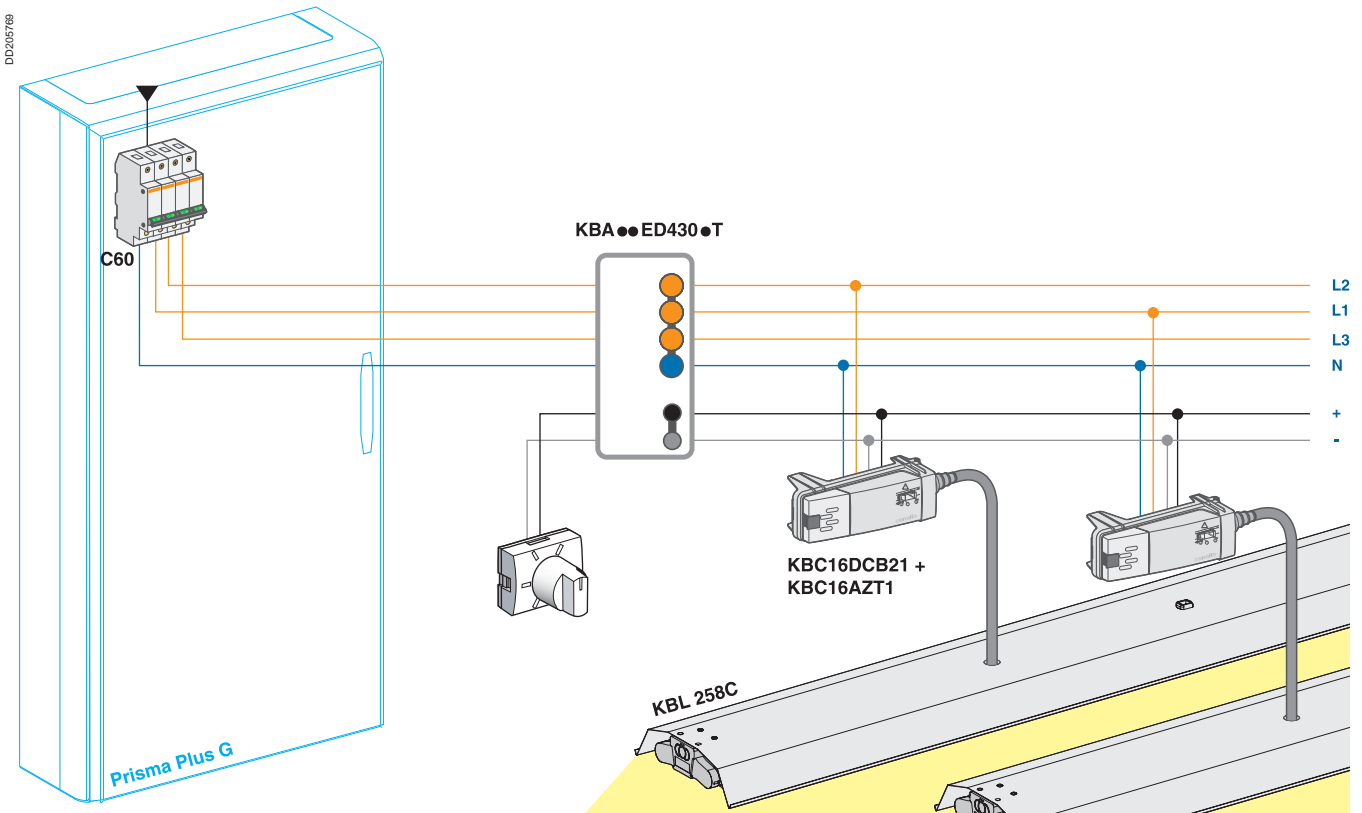


The use of two Canalis KDP cables to carry a 0 - 10 V signal makes it possible to supply and control dimming on a single-phase lighting circuit via KBC 10DC●●●● tap-off units.

This application requires the use of luminaires equipped with dimming ballasts.

Lighting with dimming control and emergency lighting in a laboratory

Use of KBA trunking

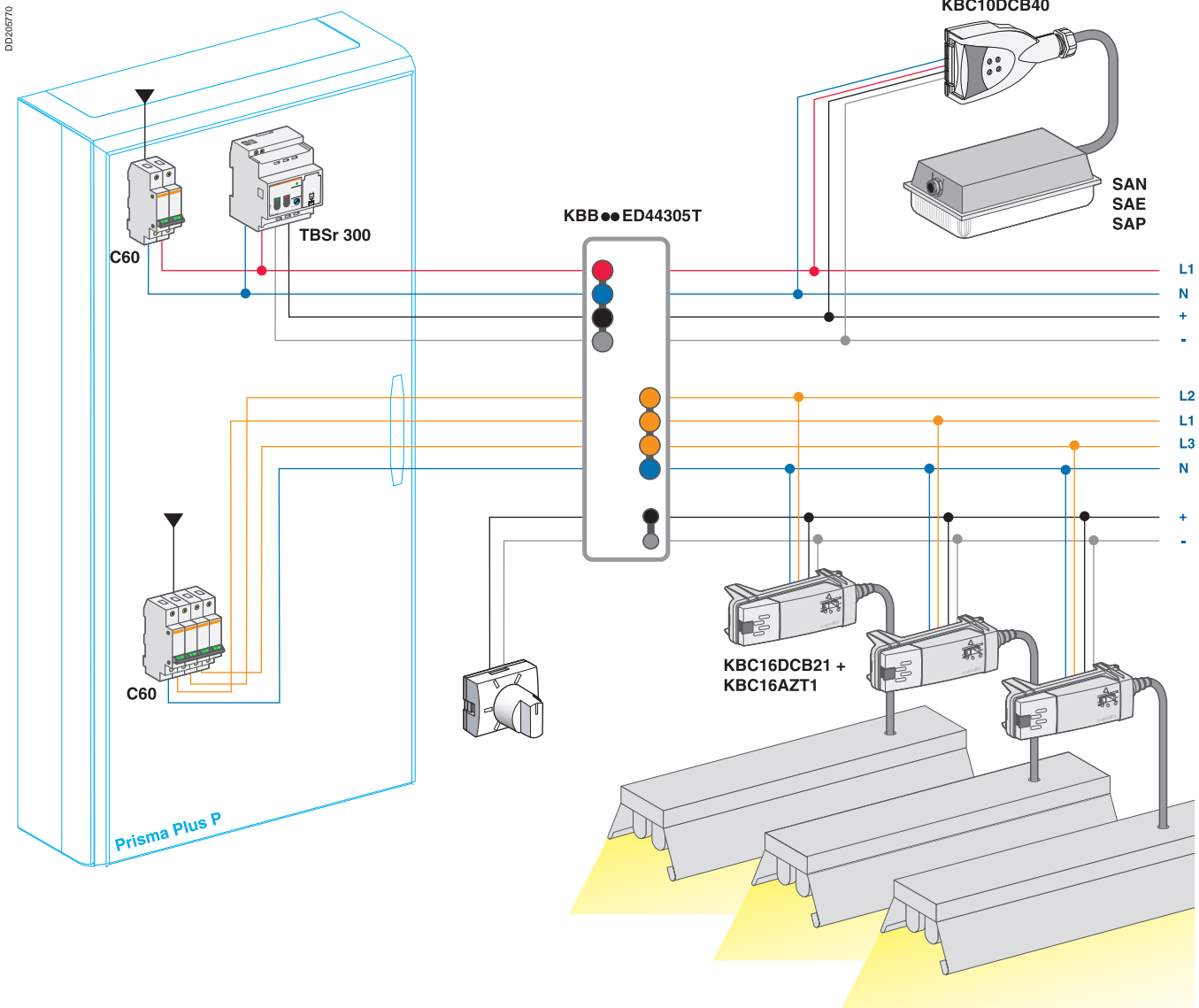


The 2 additional cables provided with Canalis KBA option T can be used to implement 3-phase lighting with dimming control by using the 2 additional conductors to carry the 0 - 10 V, supplying the luminaires via KBC 16DC●2●● tap-off units equipped with the KBC 16AZT1 accessory.

This application requires the use of luminaires equipped with dimming ballasts.

Lighting with dimming control and emergency lighting in a large store or warehouse

Use of KBB trunking

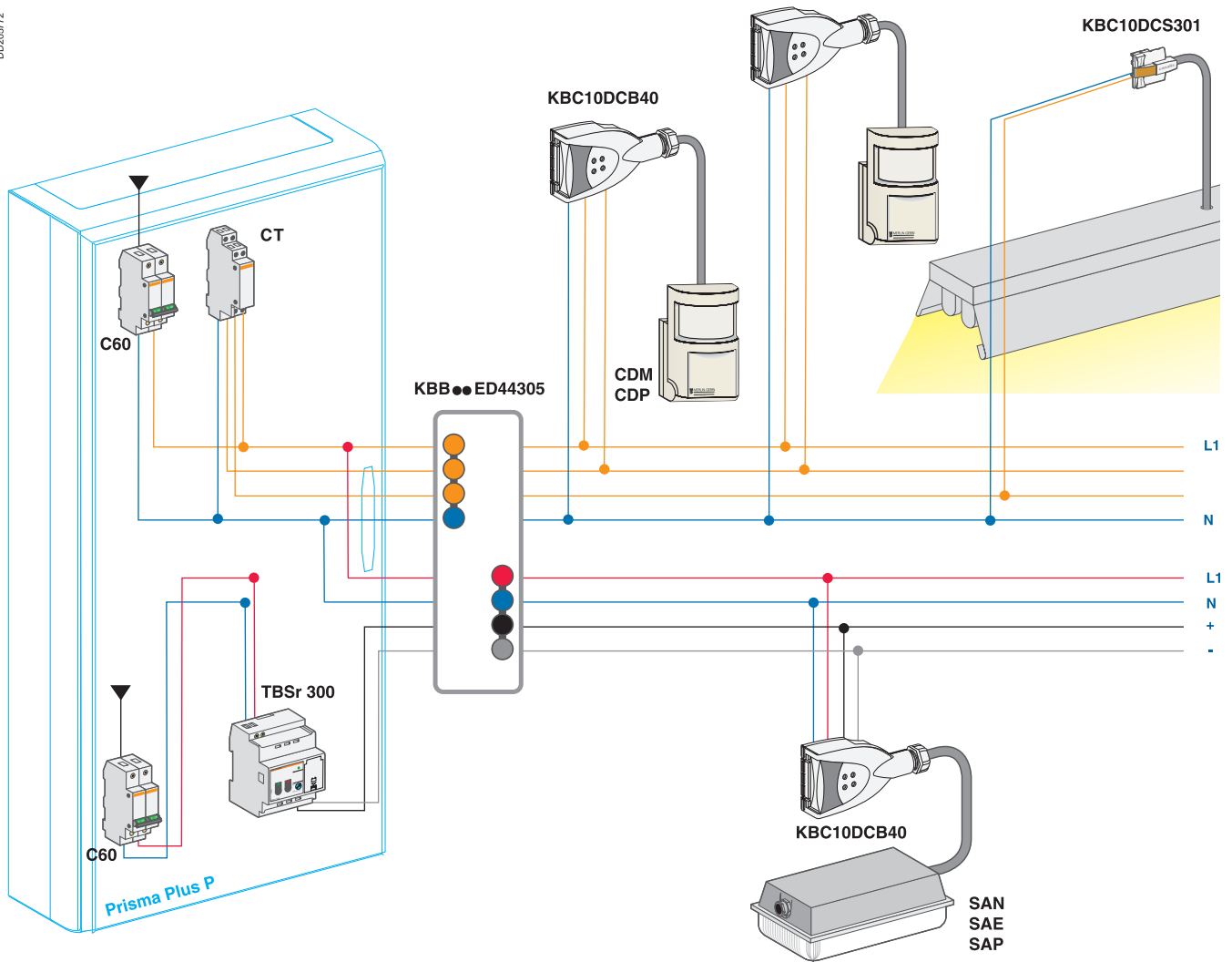


Canalis KBB, equipped with two 4-conductor circuits and option T (1 additional twisted pair), can be used to implement 3-phase lighting with dimming and self-contained emergency lighting units. This application requires the use of luminaires equipped with dimming ballasts.

Lighting controlled by proximity sensors and emergency lighting in a logistics centre or warehouse

Use of KBB trunking

DD205772

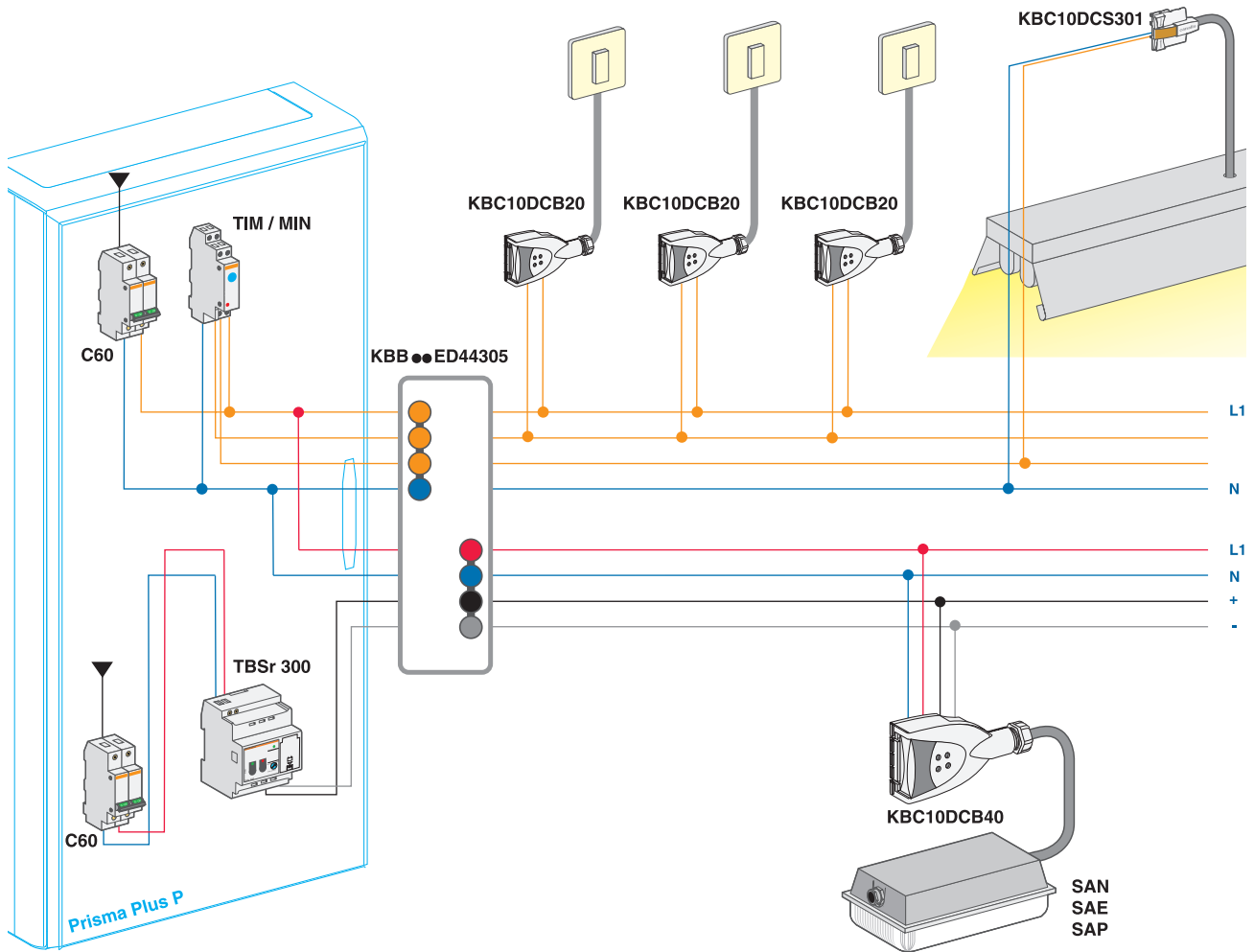


Canalis KBB makes it possible to control a single-phase lighting circuit by a proximity sensor. The associated relays are located in the floor switchboard. Canalis KBB trunking with 2 circuits can be used for combined installations with self-contained emergency lighting units.

Lighting controlled by a timer or impulse relay and emergency lighting in a logistics centre or warehouse

Use of KBB trunking

DD205774



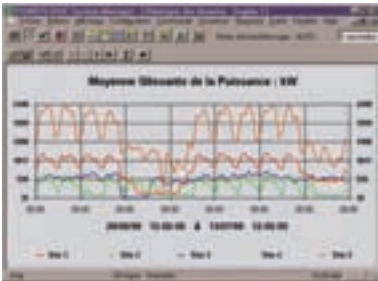
Canalis KBB can be used to control the lighting in a given zone of a warehouse or logistics centre using an impulse relay or timer.

The impulse relay or timer is installed in the electrical switchboard. Canalis KBB trunking with 2 circuits can be used to combine zone lighting with self-contained emergency lighting units.

Measurements and metering

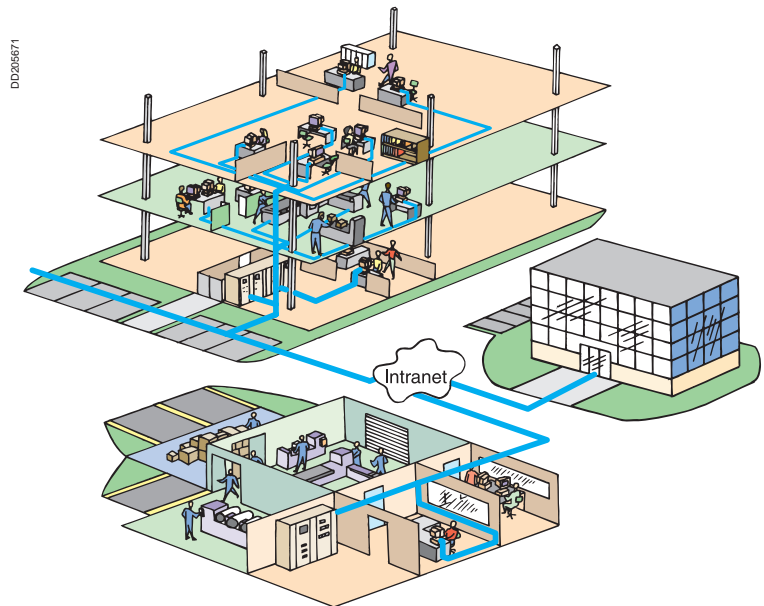
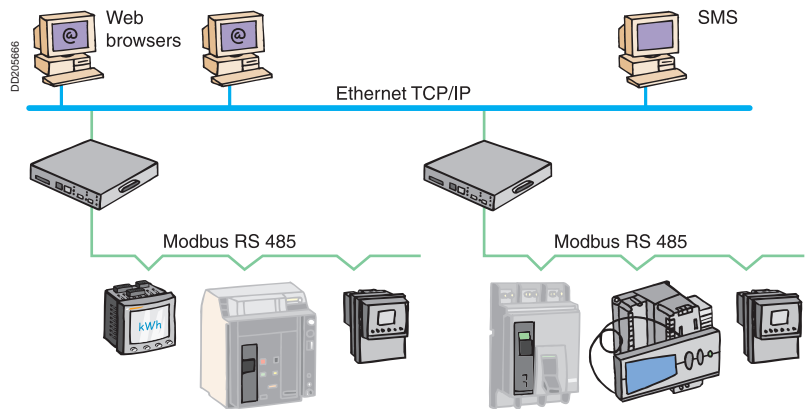
Transparent Ready units

The Transparent Ready concept



Transparent Ready is a simple solution to access information (status, measurements, etc.) available from your electrical distribution equipment (transformers, switchboards, busbar trunking). This information can be accessed from any PC connected to your Ethernet network via a simple Web browser (e.g. Internet Explorer). No other software is required. Transparent Ready can make your company more competitive by:

- reducing operating costs
- optimising equipment performance
- improving the reliability of the electrical power supply.



Customer needs for measurements and metering

In all non-residential buildings, the need for sub-metering exists and is growing under the combined effects of:

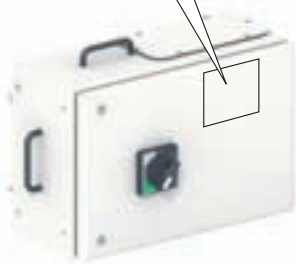
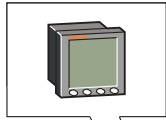
- national and supra-national energy regulations
- the need to reduce overheads and production costs
- the allocation of energy expenditures to cost centres
- the outsourcing of operations tasks to specialists.

Operators must therefore have access to reliable pre-processed information in order to:

- identify areas for potential savings
- model building energy flows and anticipate evolving needs
- optimise energy supply and consumption.

Canalis and Transparent Ready

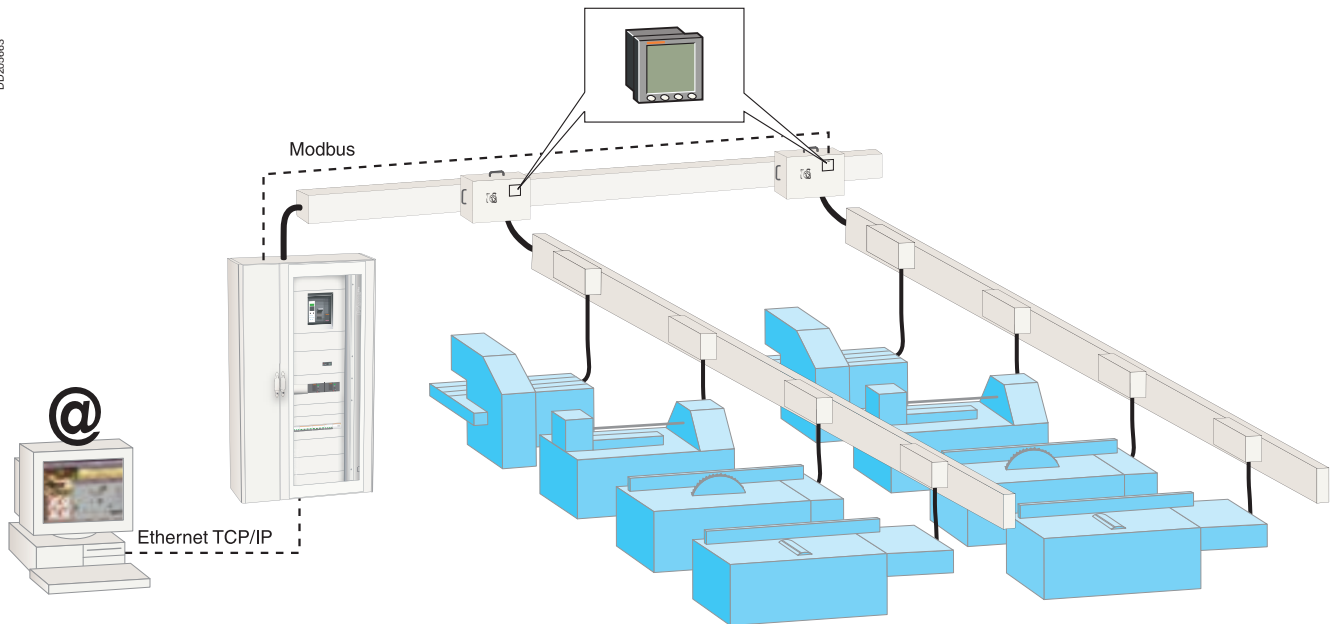
DD205664



Canalis offers measurement and metering units that can be mounted on both KS and KT trunking ranges, available in two ratings (250 A and 400 A). PowerLogic PM810 Power Meter, a Compact NSX circuit breaker and the associated current transformers, must be installed in the tap-off unit equipped with a mounting plate and a DIN rail.

These units are connected to Transparent Ready solutions using a Modbus communication network. An automatic PowerLogic gateway (EGX400) provides the link between Modbus and Ethernet TCP/IP networks.

DD205663



Data acquisition in distributed architectures

When busbar trunking is located upstream of a secondary trunking line, the measurement devices should be installed in the tap-off units.

DD205665



TR tap-off unit

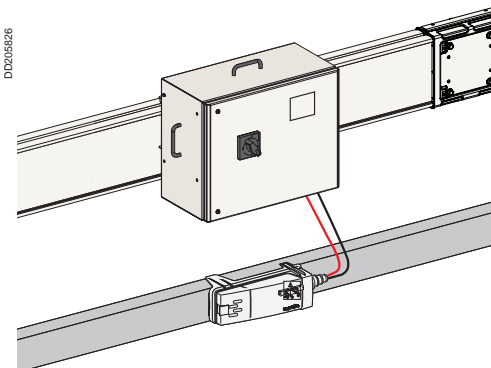
Catalogue numbers

These units are IP55 and can also be installed on KS and KT busbar trunking.

Polarity	Rating	Connection	Size (mm ²)		Cat. no.	Weight (kg)
			Flexible	Rigid		
3L + N + PE	250	Terminals	70	150	KSB 250DC4TRE	13.50
	400	Terminals	150	240	KSB 400DC4TRE	19.50

Cf pages on the KS tap-off units

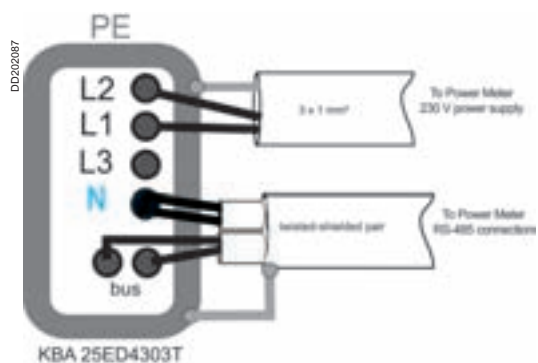
Canalis and Transparent Ready



When the power-monitoring unit is installed in a tap-off unit, it is often too high for easy reading of the measurements.

We therefore recommend using a Power Meter PM810 with a Modbus communication option.

Then the Canalis solution is to install a KBA line 25ED4303T parallel to the main line and dedicated to carry the information (as a Modbus network) from the power-monitoring tap-off unit to the Ethernet TCP/IP network (see "The Transparent Ready Concept") and the connections are:



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Numbers	Wording
KNA	
KNA10ZG20	Hanging stirrup KNA04 fixing of additional busway
KNE	
KNE01YC10	Sealing kit
KNE01YC11	Sealing kit
KNE02YC13	Sealing kit
KNE03YC14	Sealing kit
KNE03YC15	Sealing kit
KNE03YC16	Sealing kit
KNE03YC2X7	Sealing kit
KNE10YA2	Sealing kit
KSA	
KSA05CR1630095	Tapoff box cover KS10
KSA05CR1630097	Tapoff box cover KS10
KSA10CR1630094	Tapoff box cover KS10
KSA10CR1630098	Tapoff box cover KS10
KSA12AZ40	Door switch fot tapoff unit box 125 A
KSA12SU411	Tapoff unit with disconnect to r for contac to rbreaker KSA12 3L and N and PE
KSA12SU412	Tapoff unit with disconnect to r for contac to rbreaker KSA12 3L and N and PE
KSA16AZ1	Shutter with cable clamp 30 to 55 mm 160 A
KSA16AZ21	Plate with cable clamp
KSA25AZ21	Plate with cable clamp
KSA25ZM2	Guide brackets
KSA40AZ1	Shutter with cable clamp 30 to 70 mm 400 A
KSA40AZ21	Plate with cable clamp
KSA40AZ22	Plate with cable clamp
KSA50EZ3	Universal stirrup KSA40 busbar trunking fixing
KSB	
KSB25FA3	End cover KSA25 galvanised sheet steel 250 A IP 52
KSB25YA4	Connecting block IP52
KSB50FA2	End cover KSA50 RAL 7032 grey lacquered sheet steel 500 A IP 52
KSB50YA4	Connecting block IP52
KSB80FA2	End cover KSA80 RAL 7032 grey lacquered sheet steel 800 A IP 52
KSB80YA4	Connecting block IP52
KSE	
KSE50YA2	Sleeve for all length types KSA50 galvanised sheet steel 500 A IP 54
KSE80YB2	Blanking plug

Replacement table

former/new catalogue numbers

Former cat. numbers	New cat. numbers	Former cat. numbers	New cat. numbers
KBA		KBA40EL402W	KBA40ED4203W
KBA25AA4	KBA25ABG4	KBA40EL403	KBA40ED4305
KBA25EA203	KBA25ED2303	KBA40EL403T	KBA40ED4305T
KBA25EA203T	KBA25ED2303T	KBA40EV002	KBA40EDA20
KBA25EA203TW	KBA25ED2303TW	KBA40EV002W	KBA40EDA20W
KBA25EA203W	KBA25ED2303W	KBA40FA2	KBA40AF
KBA25EA402	KBA25ED4202	KBA40SL4	KBA40ABD4
KBA25EA403	KBA25ED4303	KBA40SL4T	KBA40ABD4T
KBA25EA403T	KBA25ED4303T	KBA40SL4TW	KBA40ABD4TW
KBA25EA403TW	KBA25ED4303TW	KBA40SL4W	KBA40ABD4W
KBA25EA403W	KBA25ED4303W	KBA40ZA1	Cancelled
KBA25EB203	KBA25ED2302	KBA40ZA2	Cancelled
KBA25EB403	KBA25ED4302	KBA40ZA3	Cancelled
KBA25EL203	KBA25ED2305	KBA40ZFPU	KBA40ZFPU
KBA25EL203T	KBA25ED2305T	KBA40ZG1	Cancelled
KBA25EL403	KBA25ED4305	KBA40ZSU	KBA40ZFSU
KBA25EL403T	KBA25ED4305T	KBA40ZU	KBA40ZFU
KBA25ES203	KBA25ED2300	KBA40ZU2	KBA40ZFU2
KBA25ES403	KBA25ED4300	KBA40ZU2W	KBA40ZFU2W
KBA40AA4	KBA40ABG4	KBA40ZUW	KBA40ZFUW
KBA40AA4S1	Cancelled	KBB	
KBA40AA4T	KBA40ABG4T	KBB25EA203	KBB25ED2303
KBA40AA4TW	KBA40ABG4TW	KBB25EA203T	KBB25ED2303T
KBA40AA4W	KBA40ABG4W	KBB25EA203TW	KBB25ED2303TW
KBA40BT4	KBA40ABT4	KBB25EA203W	KBB25ED2303W
KBA40BT4W	KBA40ABT4W	KBB25EA223	KBB25ED22305
KBA40EA203	KBA40ED2303	KBB25EA223T	KBB25ED22305T
KBA40EA203T	KBA40ED2303T	KBB25EA223TW	KBB25ED22305TW
KBA40EA203TW	KBA40ED2303TW	KBB25EA223W	KBB25ED22305W
KBA40EA203W	KBA40ED2303W	KBB25EA403	KBB25ED4303
KBA40EA403	KBA40ED4303	KBB25EA403T	KBB25ED4303T
KBA40EA403T	KBA40ED4303T	KBB25EA403TW	KBB25ED4303TW
KBA40EA403TW	KBA40ED4303TW	KBB25EA403W	KBB25ED4303W
KBA40EA403W	KBA40ED4303W	KBB25EA423	KBB25ED42305
KBA40EF400	KBA40DF405	KBB25EA423W	KBB25ED42305W
KBA40EF400T	KBA40DF405T	KBB25EA443T	KBB25ED44305T
KBA40EF400TW	KBA40DF405TW	KBB25EA443TW	KBB25ED44305TW
KBA40EF400W	KBA40DF405W	KBB25EA443W	KBB25ED44305W
KBA40EF402	KBA40DF420	KBB40AA4	KBB40ABG4
KBA40EF402T	KBA40DF420T	KBB40AA44	KBB40ABG44
KBA40EF402TW	KBA40DF420TW	KBB40AA44T	KBB40ABG44T
KBA40EF402W	KBA40DF420W	KBB40AA44TW	KBB40ABG44TW
KBA40EL202	KBA40ED2203	KBB40AA44W	KBB40ABG44W
KBA40EL202T	KBA40ED2203T	KBB40AA4T	KBB40ABG4T
KBA40EL203	KBA40ED2305	KBB40AA4TW	KBB40ABG4TW
KBA40EL203T	KBA40ED2305T	KBB40AA4W	KBB40ABG4W
KBA40EL402	KBA40ED4203	KBB40BT44W	KBB40ABT44W
KBA40EL402T	KBA40ED4203T	KBB40BT4W	KBB40ABT4W
KBA40EL402TW	KBA40ED4203TW	KBB40EA202	KBB40ED2202

Replacement table

former/new catalogue numbers

(cont.)

Former cat. numbers	New cat. numbers	Former cat. numbers	New cat. numbers
KBB (cont.)		KBB40EF442TW	KBB40DF4420TW
KBB40EA202T	KBB40ED2202T	KBB40EF442W	KBB40DF4420W
KBB40EA202TW	KBB40ED2202TW	KBB40EV002W	KBB40EDA20W
KBB40EA202W	KBB40ED2202W	KBB40SL4	KBB40ABD4
KBB40EA203	KBB40ED2303	KBB40SL44E	KBB40ABD44E
KBB40EA203T	KBB40ED2303T	KBB40SL44T	KBB40ABD44T
KBB40EA203TW	KBB40ED2303TW	KBB40SL44TW	KBB40ABD44TW
KBB40EA203W	KBB40ED2303W	KBB40SL4E	KBB40ABD4E
KBB40EA222	KBB40ED22203	KBB40SL4T	KBB40ABD4T
KBB40EA222T	KBB40ED22203T	KBB40SL4TW	KBB40ABD4TW
KBB40EA222TW	KBB40ED22203TW	KBB40SL4W	KBB40ABD4W
KBB40EA222W	KBB40ED22203W	KBB40YA4	KBB40ZJ4
KBB40EA223	KBB40ED22305	KBB40YA44	KBB40ZJ44
KBB40EA223T	KBB40ED22305T	KBB40YA44T	KBB40ZJ44T
KBB40EA223TW	KBB40ED22305TW	KBB40YA44TW	KBB40ZJ44TW
KBB40EA223W	KBB40ED22305W	KBB40YA44W	KBB40ZJ44W
KBB40EA402	KBB40ED4202	KBB40ZC	KBB40ZFC
KBB40EA402T	KBB40ED4202T	KBB40ZC5	KBB40ZFC5
KBB40EA402TW	KBB40ED4202TW	KBB40ZC6	KBB40ZFC6
KBB40EA402W	KBB40ED4202W	KBB40ZFG1	KBB40ZFG1
KBB40EA403	KBB40ED4303	KBB40ZFPU	KBB40ZFPU
KBB40EA403T	KBB40ED4303T	KBB40ZGU	KBB40ZFGU
KBB40EA403TW	KBB40ED4303TW	KBB40ZMP	KBB40ZFMP
KBB40EA403W	KBB40ED4303W	KBB40ZS	KBB40ZFS
KBB40EA422W	KBB40ED42203W	KBB40ZS23	KBB40ZFS23
KBB40EA423	KBB40ED42305	KBB40ZSU	KBB40ZFSU
KBB40EA423W	KBB40ED42305W	KBB40ZU	KBB40ZFU
KBB40EA442	KBB40ED44203	KBB40ZU2W	KBB40ZFU2W
KBB40EA442T	KBB40ED44203T	KBB40ZUW	KBB40ZFUW
KBB40EA442TW	KBB40ED44203TW	KBC	
KBB40EA442W	KBB40ED44203W	KBC10CB20	KBC10DCB20
KBB40EA443	KBB40ED44305	KBC10CB40	KBC10DCB40
KBB40EA443T	KBB40ED44305T	KBC10CC211	KBC10DCC211
KBB40EA443TW	KBB40ED44305TW	KBC10CC21Z	KBC10DCC21Z
KBB40EA443W	KBB40ED44305W	KBC10CS101	KBC10DCS101
KBB40EF400	KBB40DF405	KBC10CS201	KBC10DCS201
KBB40EF400T	KBB40DF405T	KBC10CS301	KBC10DCS301
KBB40EF400TW	KBB40DF405TW	KBC10DA20	KBC10DDA20
KBB40EF400W	KBB40DF405W	KBC10DA21Z	KBC10DDA21Z
KBB40EF402	KBB40DF420	KBC10MT20	KBC10DMT20
KBB40EF402T	KBB40DF420T	KBC10SA21Z	KBC10DSA21Z
KBB40EF402TW	KBB40DF420TW	KBC10VV20	KBC10DVV20
KBB40EF402W	KBB40DF420W	KBC10VV21Z	KBC10DVV21Z
KBB40EF440	KBB40DF4405	KBC16AZ01	KBC16ZT1
KBB40EF440T	KBB40DF4405T	KBC16AZ1	KBC16ZL10
KBB40EF440TW	KBB40DF4405TW	KBC16AZ2	KBC16ZL20
KBB40EF440W	KBB40DF4405W	KBC16CB21	KBC16DCB21
KBB40EF442	KBB40DF4420	KBC16CB216	KBC16DCB216
KBB40EF442T	KBB40DF4420T	KBC16CB22	KBC16DCB22

Former cat. numbers	New cat. numbers	Former cat. numbers	New cat. numbers
KBC (cont.)		KFB	
KBC16CB226	KBC16DCB226	KFBEI600	KFBEVDI
KBC16CB40	KBC16DCB40	KFBSB600	KFBSVDI
KBC		KNA	
KBC16CF21	KBC16DCF21	KNA01CD2	KNB16CM2
KBC16CF216	KBC16DCF216	KNA01CD2H	KNB16CM2H
KBC16CF22	KBC16DCF22	KNA01CD5	KNB16CN5
KBC16CF226	KBC16DCF226	KNA01CF2	KNB16CF2
KBC16CF40	KBC16DCF40	KNA01CG2	KNB16CG2
KBC16CP1	KBC16DCP1	KNA01CP11	KNB32CP11F
KBC16CP2	KBC16DCP2	KNA01CP12D	KNB32CP11D
KBC16ZB	KBC16ZB1	KNA01CP16	KNB32CP
KBC16ZC	KBC16ZC1	KNA01CP21	KNB32CP11F
KBZ		KNA02CG5	KNB20CG5
KBZ30VP01	KBZ30ZVP01	KNA02CM54	KNB32CM55
KBZ31FC010	KBZ31EFC010	KNA02CX54	KNB32CM55
KBZ31FC030	KBZ31EFC030	KNA02SD4	KNB25SD4
KBZ31FC050	KBZ31EFC050	KNA03AZ10	KNB160ZL10
KBZ31FM020	KBZ31EFM020	KNA03AZ20	KNB160ZL20
KBZ31FM030	KBZ31EFM030	KNA03AZ30	KNB160ZL30
KBZ31FM040	KBZ31EFM040	KNA03AZ40	KNB160ZL40
KBZ31FM050	KBZ31EFM050	KNA03SF4	KNB50SF4
KBZ31FM070	KBZ31EFM070	KNA03SG4	KNB32SG4
KBZ31FM090	KBZ31EFM090	KNA03SJ4	KNB50SN4
KBZ31MC010	KBZ31EMC010	KNA03SM416	KNB63SM412
KBZ32BA12	KBZ32DBA12	KNA03SM42X7	KNB63SM412
KBZ32BA15	KBZ32DBA15	KNA03SM47	KNB63SM48
KBZ32PFR2	KBZ32APFR2	KNA03SX416	KNB63SM412
KBZ32PMR2	KBZ32APMR2	KNA03SX47	KNB63SM48
KDP		KNA04EA430	KNA40ED4303
KDP20AA4	KDP20ABG4	KNA04ED430	KNA40ED4306
KDP20EB2024	KDP20ED224150	KNA06AB4	KNA63AB4
KDP20EB2024X	KDP20ED224150	KNA06BT4	KNA63ABT4
KDP20EB2192	KDP20ED2192150	KNA06EA430	KNA63ED4303
KDP20EB2192X	KDP20ED2192150	KNA06ED420	KNA63ED4204
KDP20EB4024	KDP20ED424150	KNA06EF4	KNA63DF410
KDP20EB4024X	KDP20ED424150	KNA06LF4	KNA63DL4
KDP20EB4192	KDP20ED4192150	KNA06YA4	KNA63ZJ4
KDP20EE2024	KDP20ED224300	KNA10AB4	KNA100AB4
KDP20EE4024	KDP20ED424300	KNA10EA430	KNA100ED4303
KDP20EE4192	KDP20ED4192300	KNA10ED420	KNA100ED4204
KDPZ10	KDPZF10	KNA10ED430	KNA100ED4306
KDPZ11	KDPZF11	KNA10EF4	KNA100DF410
KDPZ12	KDPZF12	KNA10LF4	KNA100DL4
KDPZ13	KDPZF13	KNA10YA4	KNA100ZJ4
KDPZ14	KDPZF14	KNA10ZA1	KNB160ZF1
KDPZ20	KDPZF20	KNA10ZA2	KNB160ZF2
KDPZ21	KDPZF21	KNA10ZG20	KNB160ZFG100
KDPZ30	KDPZF30	KNA100DF430	KNA100EDF430
KDPZ31	KDPZF31		

Replacement table former/new catalogue numbers (cont.)

Former cat. numbers	New cat. numbers	Former cat. numbers	New cat. numbers
KNE		KSA10DB40030	KSB100SM412
KNE01YC10	KNE01YC10	KSA10DB50030	KSB100SM512
KNE01YC11	KNE01YC11	KSA10EA430	KSA100ED4306
KNE02CF5	KNB25CF5	KSA10EA450	KSA100ED45010
KNE02YC12	KNE02YC12	KSA10SF41	KSB100SF4
KNE02YC13	KNE02YC13	KSA10SF5	KSB100SF5
KNE03YC14	KNE03YC14	KSA12AZ1	Cancelled
KNE03YC15	KNE03YC15	KSA12AZ2	Cancelled
KNE03YC16	KNE03YC17	KSA12AZ40	KSA12AZ40
KNE03YC2X7	KNE03YC2X8	KSA12HD502	KSB125HD5
KNE06EF4	KNA63DF410	KSA12SF41	KSB100SF4
KNE06LF4	KNA63DL4		KSB160SF4
KNE06YB1	KNE06YB2	KSA12SF5	KSB100SF5
KNE10EF4	KNA100DF410		KSB160SF5
KNE10LF4	KNA100DL4	KSA12SV4	KSB100SV4
KNE10YA1	KNE10YA1		KSB160SV4
KNE10YA2	KNE10YA2	KSA12SV5	KSB100SV5
KNE10YB1	KNE10YB1		KSB160SV5
KNT		KSA16AZ1	Cancelled
KNT02CM54	KNB32CM55	KSA16AZ40	KSB160ZC1
KNT02CX54	KNB32CM55	KSA16DB411	KSB160DC4
KNT03AZ01	KNT63ZT1	KSA16DB412	KSB160DB412
KNT04EA430	KNT40ED4303	KSA16DB511	KSB160DC5
KNT04ED430	KNT40ED4306	KSA16DB512	KSB160DB512
KNT06AB4	KNT63AB4	KSA16EA430	KSA160ED4306
KNT06BT4	KNT63ABT4	KSA16EA450	KSA160ED45010
KNT06EA430	KNT63ED4303	KSA16SF3	KSB160SF4
KNT06ED420	KNT63ED4204	KSA16SF41	KSB160SF4
KNT06ED430	KNT63ED4306	KSA16SF5	KSB160SF5
KNT06EF4	KNT63DF410	KSA25AB42	KSA250AB4
KNT06LF4	KNT63DL4	KSA25BT42	KSA250ABT4
KNT06YA4	KNT63ZJ4	KSA25DB411	KSB250DC4
KNT10AB4	KNT100AB4	KSA25DB412	KSB400DB412
KNT10BT4	KNT100ABT4	KSA25DB511	KSB250DC5
KNT10EA430	KNT100ED4303	KSA25DB512	KSB400DB512
KNT10ED420	KNT100ED4204	KSA25EB430	KSA250ED4306
KNT10ED430	KNT100ED4306	KSA25EB450	KSA250ED45010
KNT10EF4	KNT100DF410	KSA25ED415	KSA250ED4156
KNT10LF4	KNT100DL4	KSA25ED420	KSA250ED4208
KNT10YA4	KNT100ZJ4	KSA25EF4A	KSA250ET4AF
KSA		KSA25ER4	KSA250AE4
KSA02CF5	KSB32CF5	KSA25ES4A	KSA250ET4A
KSA02DA50010	KSB32CM55	KSA25EZ1	KSB400ZF1
KSA05AZ1	Cancelled	KSA25LC40	KSA250DLC40
KSA05DA40010	KSB63SM48	KSA25LP41	KSA250DLE40
KSA05DA50010	KSB63SM58	KSA25LP42	KSA250DLF40
KSA05SF41	KSB50SF4	KSA25SF3	KSB250SE4
KSA05SF5	KSB50SF5	KSA25SF41	KSB250SE4
KSA10AB451	KSA100AB4	KSA25SF5	KSB250SE5

Former cat. numbers	New cat. numbers	Former cat. numbers	New cat. numbers
KSA (cont.)		KSE	
KSA25TC40	KSA250DTC40	KSB50YA4	KSB50YA4
KSA25XC40	KSA250DXC40	KSB80FA2	KSA1000AF1
KSA40AZ1	Cancelled	KSB80YA4	KSB80YA4
KSA40DB411	KSB400DC4	KSE02CD5	KSB16CN5
KSA40DB412	KSB400DB412	KSE02CF5	KSB32CF5
KSA40DB511	KSB400DC5	KSE02CG5	KSB20CG5
KSA40DB512	KSB400DB512	KSE02SD41	KSB25SD4
KSA40ED430	KSA400ED4306	KSE02SD5	KSB25SD5
KSA40ED450	KSA400ED45010	KSE03SG41	KSB32SG4
KSA40SF3	KSB400SE4	KSE05DA4	KSB63SM48
KSA40SF41	KSB400SE4	KSE05DA5	KSB63SM58
KSA40SF5	KSB400SE5	KSE05SD41	KSB50SN4
KSA50AB452	KSA400AB4	KSE05SD5	KSB50SN5
KSA50AB452	KSA630ABD4	KSE05SF41	KSB50SF4
KSA50AB462	KSA400AB4	KSE05SF5	KSB50SF5
KSA50AB462	KSA630ABG4	KSE06SD41	KSB63SD4
KSA50BT402	KSA630ABT4	KSE06SD5	KSB63SD5
KSA50ED415	KSA400ED4156	KSE08SG41	KSB80SG4
KSA50ED415	KSA630ED4154	KSE10DA4	KSB100SM412
KSA50ED420	KSA400ED4208	KSE10DA5	KSB100SM512
KSA50ED420	KSA630ED4206	KSE10SD41	KSB100SE4
KSA50ED430	KSA500ED4306	KSE10SD5	KSB100SE5
KSA50ED450	KSA500ED45010	KSE10SF41	KSB100SF4
KSA50EF4A	KSA500ET4AF	KSE10SF5	KSB100SF5
KSA50ER4	KSA630AE4	KSE16DB411	KSB160DC4
KSA50ES4A	KSA630ET4A	KSE16DB511	KSB160DC5
KSA50LC40	KSA630DLC40	KSE16SD3	KSB160SE4
KSA50LP41	KSA63 0DLE40	KSE16SD41	KSB160S E4
KSA50LP42	KSA630DLF40	KSE16SD5	KSB160SE5
KSA50TC40	KSA630DTC40	KSE16SF3	KSB160SF4
KSA50XC40	KSA630DXC40	KSE16SF41	KSB160SF4
KSA63ED430	KSA630ED4306	KSE16SF5	KSB160SF5
KSA63ED450	KSA630ED45010	KSE16SG41	KSB160SG4
KSA63SF41	KSB630SE4	KSE25DB411	KSB250DC4
KSA63SF5	KSB630SE5	KSE25DB511	KSB250DC5
KSA80EF4A	KSA800ET4AF	KSE25SF3	KSB250SE4
KSA80ER4	KSA1000AE4	KSE25SF41	KSB250SE4
KSA80ES4A	KSA1000ET4A	KSE25SF5	KSB250SE5
KSA80EZ3	KSB1000ZF1	KSE25YA2	KSE25YA2
KSA80LC40	KSA1000DLC40	KSE25YA3	KSE25YA3
KSA80LP41	KSA1000DLE40	KSE40DB411	KSB400DC4
KSA80LP42	KSA1000DLF40	KSE40DB511	KSB400DC5
KSA80TC40	KSA1000DTC40	KSE40SF3	KSB400SE4
KSA80XC40	KSA1000DXC40	KSE40SF41	KSB400SE4
KSB		KSE40SF5	KSB400SE5
KSB25FA3	KSA400AF1	KSE80YA2	KSE80YA2
KSB25YA4	KSB25YA4		
KSB50FA2	KSA800AF1		



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Tertiary

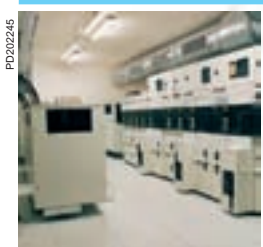
Name	Lighting and low voltage			Medium voltage		High voltage	Country
	KDP	KBA	KBB	KN	KS	KT	

Offices



Air France (headquarters)	■				■		France
Allianz					■	■	Germany
Axa		■			■		France
Chamber of Commerce	■					■	Luxembourg
Commerz Bank			■		■		Germany
Lexel	■			■	■		Sweden
Telefónica	■					■	Spain
Trade Center		■				■	Spain
RDC tower					■	■	Tunisia
Turning Torso					■		Sweden
Vodafone	■			■			New Zealand

Internet Data Centers



Banco Commercial Português					■	■	Portugal
Colt				■		■	France
Digiplex				■	■		Sweden
IBM		■		■	■	■	Spain, Italy
MCI-Worldcom		■		■	■	■	Italy, United Kingdom

Hotels and restaurants



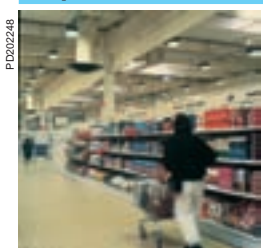
Hyatt						■	Tunisia
Mc Donald's	■						France
Radisson SAS Stansted Airport						■	United Kingdom
Soldeo Andorra Hotel					■	■	Spain

Hospitals



Children Clinic					■	■	Sweden
Brussels University Hospital	■						Belgium
Derby Hospital					■	■	United Kingdom
Oran Hospital				■		■	Algeria
St Joseph Hospital					■		France
Stockholm Hospital					■		Sweden
Val de Grâce Hospital					■		France
Michalon Hospital					■	■	France
Manussia Hospital					■		Egypt

Supermarkets and hypermarkets




Alcampo		■		■		■	Spain
Auchan	■	■	■	■	■	■	World
B&Q			■	■	■		United Kingdom
Carrefour	■	■	■	■	■	■	World
Coop		■		■	■		Italy
Fnac		■				■	Spain, France
Ikea	■	■		■	■	■	China, Spain, France, Sweden
Mark & Spencer		■					Belgium, Spain, United Kingdom
Toys'R Us					■		Spain

Industry

	Name	Lighting and low voltage			Medium voltage		High voltage	Country
		KDP	KBA	KBB	KN	KS	KT	
Car industry								
	BMW		■	■	■	■		Italy
	Citroën	■	■	■	■	■	■	China, Spain
	Daewo					■		South Korea
	Dacia		■	■	■	■	■	Romania
	Iveco		■		■	■	■	Spain, Italy
	Peugeot			■	■	■	■	China, Spain
	Nissan		■	■	■	■	■	Spain
	Renault		■	■	■	■	■	Spain, France, Czech Republic
	Seat							Spain
	Valéo		■			■	■	China, France, Italy, Poland
	Volkswagen			■	■	■		Spain, Germany
Other industries								
Aerospace industry								
	Airbus		■			■	■	Italy
Food-processing industry								
	Coca-Cola		■				■	Spain, Italy, Belgium
	Danone		■			■	■	World
	Pasquier				■	■		France
Livestock production farms and greenhouses								
	Favier henhouse	■	■					France
	Greenhouse			■				Netherlands
Ceramic industry								
	Esmalglas ceramic		■	■	■	■	■	Spain
Electricity								
	Legrand		■					France, Turkey
Watch-making								
	Rolex		■			■	■	Switzerland
Microelectronics								
	Intel		■	■	■	■		Irelande
	ST Micro-électronique		■		■	■	■	France
Lead industry and water treatment								
	Grundfos					■		China
Industrial technology								
	Bosch		■			■		China
Telephony								
	Phillips					■		Netherlands
	Nokia		■			■		Sweden
Textile industry								
	Louis Vuitton		■		■	■		Spain
	Delta		■		■			Israel

Infrastructures

	Name	Lighting and low voltage			Medium voltage		High voltage	Country
		KDP	KBA	KBB	KN	KS	KT	
	Paris airport		■	■	■	■	■	France
	Cairo airport					■		Egypt
	Heathrow airport				■	■	■	United Kingdom
	Hong-Kong airport						■	China
	Landvetter airport					■		Sweden
	Arlanda		■				■	Sweden
	Satelite Barajas						■	Spain

Airports

Marine

	Chantier de l'Atlantique					■	■	France
	Meyerwerft					■	■	Germany

Undergrounds

	Guangzhou underground		■					China
	London underground			■				United Kingdom
	Madrid underground		■				■	Spain
	Singapore underground						■	Singapore

Other infrastructures

Alexandria library						■	■	Egypt
Centre international d'exposition de Suzhou		■				■		China
CERN						■	■	Switzerland
Stade de France						■	■	France

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