

Zucchini busbar

the backbone
of modern
buildings



Global strength built on local knowledge



Legrand is the global specialist in electrical and digital building infrastructures. Innovation is the driving force behind its development. With an increasing investment in research and development (circa 5% of sales) and more than 4,000 active patents, the Legrand Group is focused on maintaining a high rate of new product launches that present innovative solutions to the market.

LEGRAND IN THE UK - POWERED BY SPECIALISTS

In the UK Legrand has developed a customer focused structure which harnesses the power of its market leading specialist brands including Bticino, Electrak and Zucchini to deliver innovative, integrated solutions for every phase of construction.

LEGRAND'S POWER DISTRIBUTION BUSINESS UNIT

From Zucchini transformers, through high power distribution and rising mains busbars to Electrak's power track, desk modules and lighting control, Legrand's power distribution business unit provides market leading solutions to the increasing demands of today's buildings.

contents

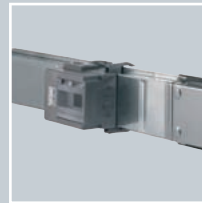


ZUCCHINI OVERVIEW 02



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MEDIUM POWER

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HIGH POWER

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SUSTAINABLE DEVELOPMENT



From design through to manufacturing, the Legrand Group selects materials and processes that respect people and the environment.

- Efficient and environmentally aware product design
- Product functions that help to avoid energy waste
- Management of manufacturing and logistics sites
- Integration of environmental concerns and ISO 14001 procedures at the Group's global sites*

* 84% of sites are ISO 14001:2004 accredited including all UK sites.



ZUCCHINI

the specialist in
busbar systems



Established in 1958 and now part of the Legrand Group, Zucchini has become a leading name in busbar power distribution systems and cast resin transformers.

Zucchini busbar is manufactured in state-of-the-art production facilities, including one of the most technically advanced aluminium plating processing units in Europe. These exceptional manufacturing capabilities enable Legrand to offer a fully tested range of products that are superior in terms of quality and design.

All Zucchini busbar trunking systems are certified to EN 60439 by third party test houses CESI/RINA and are manufactured in accordance with ISO 9001 : 2008 quality standards.





An extensive range...

The Zucchini range of prefabricated busbars is one of the most comprehensive on the market, ranging from 25 A lighting through to 6300 A high power systems. Zucchini busbar is widely used for power distribution in both industrial and commercial applications.

Its modular construction and wide variety of busbar accessories allow an infinite number of trunking combinations, providing a versatile and flexible technical solution to any layout.



LB PLUS - LOW POWER BUSBAR SYSTEM

LB PLUS is the new range of Zucchini busbars for electrical distribution within low power applications.

It offers simplicity, high performance and easy installation and can meet all lighting and power demands from 25 A to 63 A.

see page 4

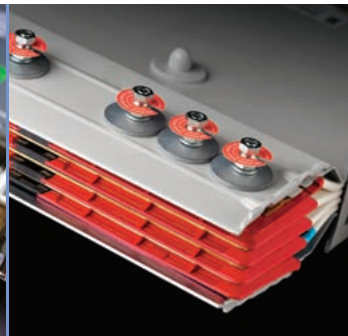


MEDIUM POWER BUSBAR SYSTEMS

Zucchini medium power busbars offer speed, simplicity and flexibility during planning and installation.

MS is ideal for commercial and industrial applications from 63 A to 160 A and MR offers the perfect solution for rising mains up to 1000 A.

see page 20



SCP - HIGH POWER BUSBAR SYSTEM

SCP is the Zucchini busbar range used for the transport and distribution of high power.

Ranging from 630 A to 6300 A the dimensions of super compact and its 'sandwich' construction enhance resistance to short circuit stresses.

see page 58



CAST RESIN TRANSFORMERS

Legrand also offers a wide range of high quality, environmentally friendly cast resin transformers from 160 kVA up to 16 mVA.

This comprehensive range is further enhanced by technical expertise and the ability to create bespoke solutions.

visit www.legrand.co.uk

ZUCCHINI LB PLUS - LIGHTING AND POWER BUSBAR

Zucchini LB PLUS is a new range of 25 to 63 A busbars that are ideal for the distribution of power for lighting and low power applications. With a single product, LB PLUS replaces the LB, HL, and SL ranges, offering a busbar that is simpler, better performing, and easier to install.



A winning solution delivering performance and simplicity... with increased functionality, fewer part numbers and common accessories for all versions



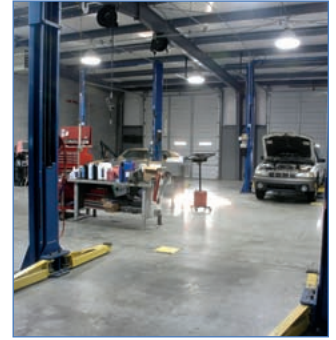
SHOPPING CENTRES,
STORES, OFFICES



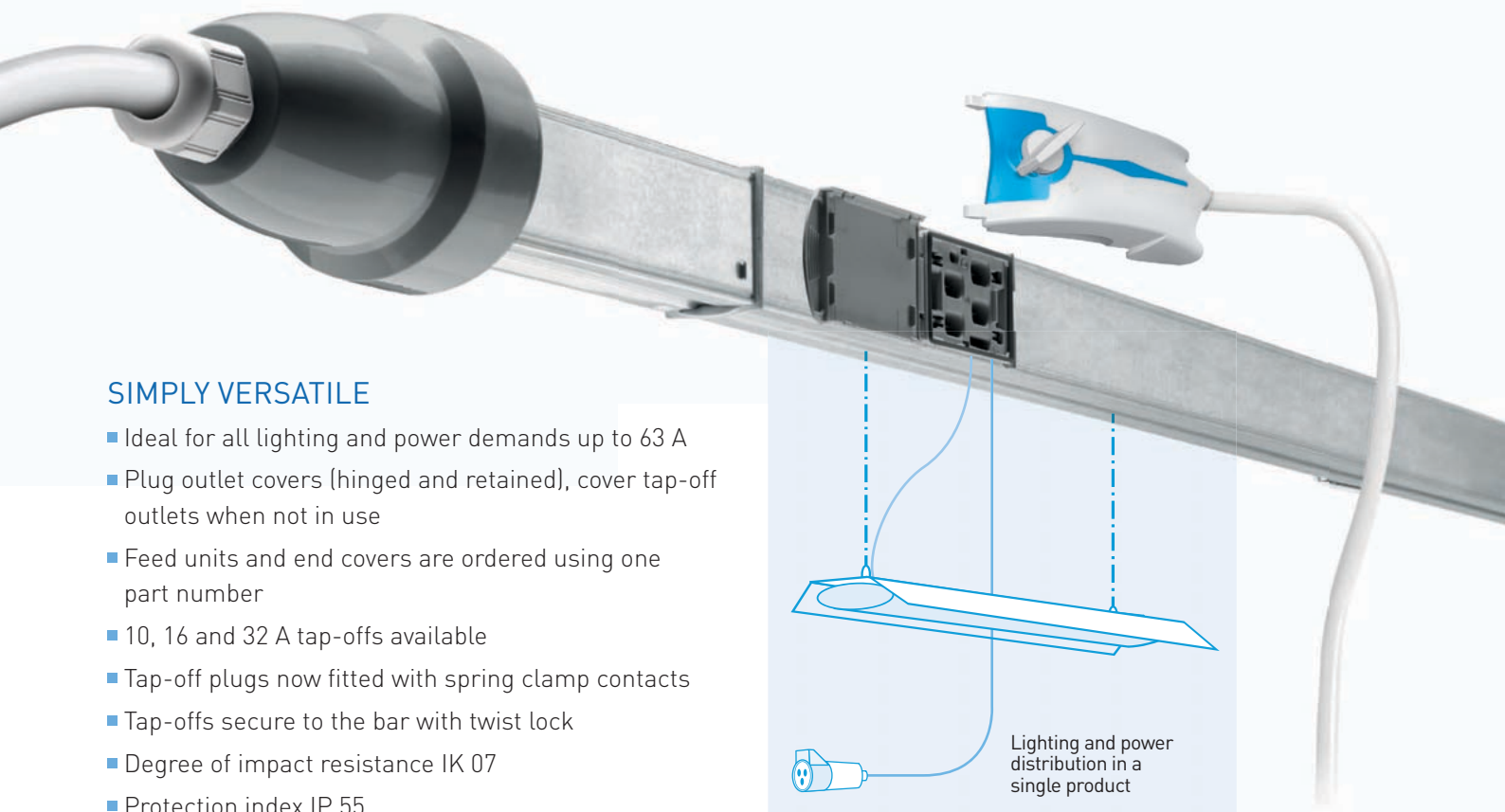
WAREHOUSES,
GYMS, UNDERGROUND
CAR PARKS



HOSPITALS,
LABORATORIES



WORKSHOPS,
MAINTENANCE AND
REPAIR FACILITIES,
PRODUCTION SITES



SIMPLY VERSATILE

- Ideal for all lighting and power demands up to 63 A
- Plug outlet covers (hinged and retained), cover tap-off outlets when not in use
- Feed units and end covers are ordered using one part number
- 10, 16 and 32 A tap-offs available
- Tap-off plugs now fitted with spring clamp contacts
- Tap-offs secure to the bar with twist lock
- Degree of impact resistance IK 07
- Protection index IP 55



NEW TAP-OFF PLUGS

- Can be moved when the bar is energised
- With spring clamp contacts
- Self-extinguishing plastic components
- IP 55 without using additional accessories
- Can be fitted with positioning pin to ensure tap-off can only access the correct side of a double-sided bar



BRACKETS

- For ceiling, wall or floor mounting installation
- Can be positioned anywhere on straight length, even over unused tap-off outlets

LB PLUS busbar trunking systems

selection chart

	25 A				40 A		63 A
	2 conductors	4 conductors	6 conductors	8 conductors	4 conductors	8 conductors	4 conductors
LB PLUS STRAIGHT LENGTHS – TYPE A	252	254	256	258	404	408	634
3 m length – 2 outlets	75150101	75160101	–	–	75200101	–	–
3 m length – 4 outlets	–	75160102	–	–	75200102	–	–
3 m length – 2 + 2 outlets	–	–	75170101	75180101	–	75220101	75240101
3 m length – 4 + 4 outlets	–	–	–	75180102	–	75220102	75240102
1.5 m length – 2 outlets	75200111		–	–	75220111	–	–
1.5 m length – 1 + 1 outlets	–	–	75220111		75200111	75220111	75240111
LB PLUS STRAIGHT LENGTHS – TYPE B	252	254	256	258	404	408	634
3 m length – 4 outlets	75350102H	75360102H	–	–	75400102H	–	–
3 m length – 6 outlets	–	75360103H	–	–	75400103H	–	–
3 m length – 4 + 4 outlets	–	–	75370101H	75380101H	–	75420101H	75440101H
3 m length – 6 + 6 outlets	–	–	–	75380102H	–	75420102H	75440102H
1.5 m length – 2 outlets	75400111H		–	–	75400111H	–	–
1.5 m length – 1 + 1 outlets	–	–	75420111H		–	75420111H	75440111H
FEED UNITS	252	254	256	258	404	408	634
RH feed unit + end cover	75201001		75221001		75201001	75221001	75241001
LH feed unit + end cover	75201002		75221002		75201002	75221002	75241002
Fast fit – feed unit	75161001		–	–	–	–	–
Centre feed unit + end covers	75201151		75221151		75201151	75221151	75241151
FLEXIBLE JOINT	75201261		75221261		75201261	75221261	75241261
BRACKETS AND SUSPENSIONS	252	254	256	258	404	408	634
60 kg suspension bracket	75003000 (for TYPE A)			and	75003004 for (TYPE B)		
Hook for lamp	75003001						
Ring	75003002						
Pigtail for chain	75003005						
5 m steel cable with self locking clamp (TYPE B)	75003008 (TYPE B only)						
Bracket with 3 m steel cable (TYPE A)	75003009 (TYPE A only)						
CABLE CHANNEL	252	254	256	258	404	408	634
PVC cable channel with cover (3 m)	75000104						
Bracket for cable channel	75003006						

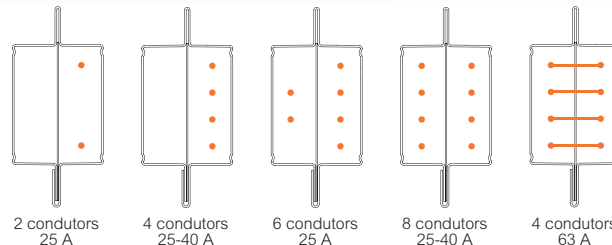
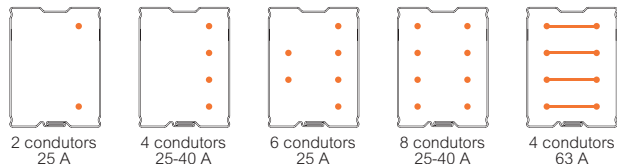
10 A SINGLE PHASE TAP-OFFS	252	254	256	258	404	408	634
10 A plug with 1 m cable - L1-N	75005011						
10 A plug with 1 m cable - L2-N	–	75005012					
10 A plug with 1 m cable - L3-N	–	75005013					
10 A plug with 1 m cable - L-N2	–	75005014					
10 A plug with 3 m cable - L1-N	75005021						
10 A plug with 3 m cable - L2-N	–	75005022					
10 A plug with 3 m cable - L3-N	–	75005023					
10 A plug with 3 m cable - L-N2	–	75005024					
16 A PHASE SELECTION TAP-OFFS	252	254	256	258	404	408	634
16 A plug (unfused)	75005000						
16 A plug + 1 x (5 x 20)	–	75005100					
16 A plug + 1 x (CH8)	–	75005200					
16 A PRE-WIRED TAP-OFFS	252	254	256	258	404	408	634
SP & N with 1.5 m cable and 6.3 A fuse - L1-N	750051001L1						
SP & N with 1.5 m cable and 6.3 A fuse - L2-N	–	750051001L2					
SP & N with 1.5 m cable and 6.3 A fuse - L3-N	–	750051001L3					
SP & N with 1.5 m cable and 6.3 A fuse - L-N2	–	750051001N2					
DP & N with 1.5 m cable and 1 x 6.3 A fuse - L1+L3-N	–	7500510014C					
SP & N with 3 m cable and 6.3 A fuse - L1-N	750051003L1						
SP & N with 3 m cable and 6.3 A fuse - L2-N	–	750051003L2					
SP & N with 3 m cable and 6.3 A fuse - L3-N	–	750051003L3					
SP & N with 3 m cable and 6.3 A fuse - L-N2	–	750051003N2					
DP & N with 3 m cable and 1 x 6.3 A fuse - L1+L3-N	–	7500510034C					
THREE-PHASE TAP-OFFS – 16 - 32A	252	254	256	258	404	408	634
16 A 3 phase (unfused)	–	75005005					
32 A 3 phase (unfused)	–	75006005					
32 A 3 phase + 3 x (CH10)	–	75006205					
TAP-OFF ACCESSORIES	252	254	256	258	404	408	634
16 A mobile contact	75105000						
Window kit code	75105001						

LB PLUS straight lengths – Type A

straight lengths 25-63 A

LB PLUS straight lengths – Type B

straight lengths 25-63 A



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Selection chart **p. 6-7**
 Technical data **p. 13**
 Dimensions and technical information **p. 14-15**

Pack	Cat. Nos.	Straight lengths – Type A										
		Rigid galvanised steel casing 3 m maximum distance between suspension brackets Conductors insulated with self-extinguishing plastic (IEC 60695-2-12 and V0 according to UL94) Standard tap-off outlets with captive IP 55 plug-outlet covers Protection index IP 55 Impact resistance : IK 07										
1	75150101	252 with 2 x 25 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>2</td> <td>3-0</td> <td>2</td> <td>3-00</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	2	3-0	2	3-00
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	2	3-0	2	3-00								
1	75160101	254 with 4 x 25 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>4</td> <td>3-0</td> <td>2</td> <td>3-10</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	4	3-0	2	3-10
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	4	3-0	2	3-10								
1	75160102	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>4</td> <td>3-0</td> <td>4</td> <td>3-20</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	4	3-0	4	3-20
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	4	3-0	4	3-20								
1	75170101	256 with 6 x 25 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>6</td> <td>3-0</td> <td>2 + 2</td> <td>3-65</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	6	3-0	2 + 2	3-65
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	6	3-0	2 + 2	3-65								
1	75180101	258 with 8 x 25 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>8</td> <td>3-0</td> <td>2 + 2</td> <td>3-75</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	8	3-0	2 + 2	3-75
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	8	3-0	2 + 2	3-75								
1	75180102	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>8</td> <td>3-0</td> <td>4 + 4</td> <td>3-85</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	8	3-0	4 + 4	3-85
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	8	3-0	4 + 4	3-85								
1	75200101	404 with 4 x 40 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>4</td> <td>3-0</td> <td>2</td> <td>3-55</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	4	3-0	2	3-55
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	4	3-0	2	3-55								
1	75200102	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>4</td> <td>3-0</td> <td>4</td> <td>3-65</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	4	3-0	4	3-65
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	4	3-0	4	3-65								
1	75200111 ¹	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>4</td> <td>1-5</td> <td>2</td> <td>2-00</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	4	1-5	2	2-00
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	4	1-5	2	2-00								
1	75220101	408 with 8 x 40 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>8</td> <td>3-0</td> <td>2 + 2</td> <td>4-70</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	8	3-0	2 + 2	4-70
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	8	3-0	2 + 2	4-70								
1	75220102	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>8</td> <td>3-0</td> <td>4 + 4</td> <td>4-80</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	8	3-0	4 + 4	4-80
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	8	3-0	4 + 4	4-80								
1	75220111 ²	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>8</td> <td>1-5</td> <td>1 + 1</td> <td>2-50</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	8	1-5	1 + 1	2-50
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	8	1-5	1 + 1	2-50								
1	75240101	634 with 4 x 63 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>63</td> <td>4</td> <td>3-0</td> <td>2 + 2</td> <td>4-70</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	63	4	3-0	2 + 2	4-70
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
63	4	3-0	2 + 2	4-70								
1	75240102	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>63</td> <td>4</td> <td>3-0</td> <td>4 + 4</td> <td>4-80</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	63	4	3-0	4 + 4	4-80
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
63	4	3-0	4 + 4	4-80								
1	75240111	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>63</td> <td>4</td> <td>1-5</td> <td>1 + 1</td> <td>2-50</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	63	4	1-5	1 + 1	2-50
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
63	4	1-5	1 + 1	2-50								

1 : For use with both 25 and 40 A systems, and also 2 and 4 conductor versions
 2 : For use with both 25 and 40 A systems, and also 6 and 8 conductor versions

Pack	Cat. Nos.	Straight lengths – Type B										
		Reinforced highly rigid galvanised steel casing 7 m maximum distance between suspension brackets Conductors insulated with self-extinguishing plastic ZH (zero halogen) Standard tap-off outlets with captive IP 55 plug-outlet covers Mechanical separation of the 2 sides of the bar, (6 and 8 conductors versions) Protection index IP 55 Impact resistance : IK 07										
1	75350102H	252 with 2 x 25 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>2</td> <td>3-0</td> <td>4</td> <td>5-45</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	2	3-0	4	5-45
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	2	3-0	4	5-45								
1	75360102H	254 with 4 x 25 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>4</td> <td>3-0</td> <td>4</td> <td>5-55</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	4	3-0	4	5-55
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	4	3-0	4	5-55								
1	75360103H	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>4</td> <td>3-0</td> <td>6</td> <td>5-60</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	4	3-0	6	5-60
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	4	3-0	6	5-60								
1	75370101H	256 with 6 x 25 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>6</td> <td>3-0</td> <td>4 + 4</td> <td>6-10</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	6	3-0	4 + 4	6-10
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	6	3-0	4 + 4	6-10								
1	75380101H	258 with 8 x 25 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>8</td> <td>3-0</td> <td>4 + 4</td> <td>6-20</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	8	3-0	4 + 4	6-20
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	8	3-0	4 + 4	6-20								
1	75380102H	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>8</td> <td>3-0</td> <td>6 + 6</td> <td>6-35</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	25	8	3-0	6 + 6	6-35
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
25	8	3-0	6 + 6	6-35								
1	75400102H	404 with 4 x 40 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>4</td> <td>3-0</td> <td>4</td> <td>6-00</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	4	3-0	4	6-00
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	4	3-0	4	6-00								
1	75400103H	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>4</td> <td>3-0</td> <td>6</td> <td>6-10</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	4	3-0	6	6-10
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	4	3-0	6	6-10								
1	75400111H ¹	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>4</td> <td>1-5</td> <td>2</td> <td>3-20</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	4	1-5	2	3-20
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	4	1-5	2	3-20								
1	75420101H	408 with 8 x 40 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>8</td> <td>3-0</td> <td>4 + 4</td> <td>7-10</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	8	3-0	4 + 4	7-10
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	8	3-0	4 + 4	7-10								
1	75420102H	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>8</td> <td>3-0</td> <td>6 + 6</td> <td>7-30</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	8	3-0	6 + 6	7-30
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	8	3-0	6 + 6	7-30								
1	75420111H ²	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>8</td> <td>1-5</td> <td>1 + 1</td> <td>3-70</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	40	8	1-5	1 + 1	3-70
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
40	8	1-5	1 + 1	3-70								
1	75440101H	634 with 4 x 63 A conductors <table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>63</td> <td>4</td> <td>3-0</td> <td>4 + 4</td> <td>7-10</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	63	4	3-0	4 + 4	7-10
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
63	4	3-0	4 + 4	7-10								
1	75440102H	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>63</td> <td>4</td> <td>3-0</td> <td>6 + 6</td> <td>7-30</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	63	4	3-0	6 + 6	7-30
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
63	4	3-0	6 + 6	7-30								
1	75440111H	<table border="1"> <thead> <tr> <th>Rating (A)</th> <th>Conductors</th> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>63</td> <td>4</td> <td>1-5</td> <td>1 + 1</td> <td>3-70</td> </tr> </tbody> </table>	Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)	63	4	1-5	1 + 1	3-70
Rating (A)	Conductors	Length (m)	Outlet points	Weight (kg)								
63	4	1-5	1 + 1	3-70								

1 : For use with both 25 and 40 A systems, and also 2 and 4 conductor versions
 2 : For use with both 25 and 40 A systems, and also 6 and 8 conductor versions

LB PLUS trunking components



75201001



75161001



75201002



75221261

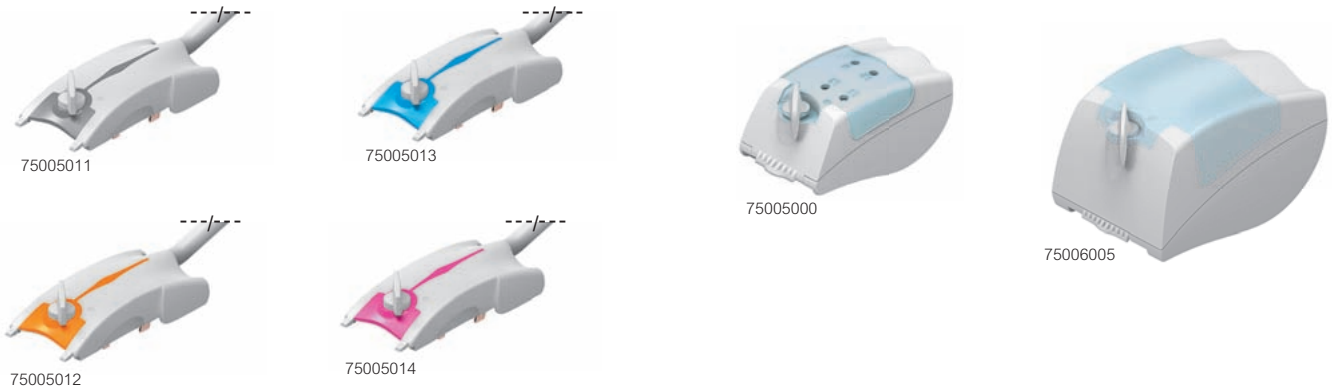


Selection chart **p. 6-7**
 Technical data **p. 12-13**
 Dimensions and technical information **p. 16-17**

Pack	Cat. Nos.	End feed units	
		Allow electrical powering of the LB PLUS busbar With terminals for the connection of stranded or solid copper wire cables Delivered with corresponding cable glands	
		Right hand feed units	
		Supplied complete with corresponding end cover Cable terminal capacity 6 mm ² to 25 mm ² Max. cable Ø 32 mm	
		Type	Weight (kg)
1	75201001	25 / 40 A – 2 / 4 conductors version	0·85
1	75221001	25 / 40 A – 6 / 8 conductors version	0·90
1	75241001	63 A – 4 conductors version	0·90
		Left hand feed units	
		Supplied complete with corresponding end cover Cable terminal capacity 6 mm ² to 25 mm ² Max. cable Ø 32 mm	
		Type	Weight (kg)
1	75201002	25 / 40 A – 2 / 4 conductors version	1·20
1	75221002	25 / 40 A – 6 / 8 conductors version	1·20
1	75241002	63 A – 4 conductor version	1·20
		Fast fit feed unit	
		Supplied complete with corresponding end cover Cable terminal capacity up to 6 mm ² Cable Ø from 12 mm to 18 mm	
		Type	Weight (kg)
1	75161001	25 A – 2 / 4 conductors version	0·45

Pack	Cat. Nos.	Centre feed units	
		Centre feed units can be used to power the busbar from an intermediate point of the line, reducing the voltage drop at the end of the line and/or facilitating the installation when the power supply point is near the centre of the line Complete with all internal wiring One set of terminals feeds both left hand and right hand feed sections Supplied with both end caps	
		Type	Weight (kg)
1	75201151	25 / 40 A – 2 / 4 conductors version	4·00
1	75221151	25 / 40 A – 6 / 8 conductors version	4·15
1	75241151	63 A – 4 conductors version	4·25
		Flexible joints	
		Consists of a right hand and left hand unit Used to change direction, change level or overcome obstructions Flexible cable length : 940 mm	
		Type	Weight (kg)
1	75201261	25 / 40 A – 2 / 4 conductors version	2·25
1	75221261	25 / 40 A – 6 / 8 conductors version	2·35
1	75241261	63 A – 4 conductors version	2·45

LB PLUS tap-off plugs



Selection chart **p. 6-7**
 Technical data **p. 12-13**
 Dimensions and technical information **p. 16-17**

Pack	Cat. Nos.	10 A single phase tap-offs												
1	75005011	For use with Type A and Type B busbar, all ratings L1 colour code grey, cable type H05WF <table border="1"> <thead> <tr> <th>Phase</th> <th>Length (m)</th> <th>Weight (kg)</th> <th>Fuseholder</th> </tr> </thead> <tbody> <tr> <td>L1-N</td> <td>1</td> <td>0.16</td> <td>unfused</td> </tr> <tr> <td>L1-N</td> <td>3</td> <td>0.38</td> <td>unfused</td> </tr> </tbody> </table>	Phase	Length (m)	Weight (kg)	Fuseholder	L1-N	1	0.16	unfused	L1-N	3	0.38	unfused
Phase	Length (m)		Weight (kg)	Fuseholder										
L1-N	1	0.16	unfused											
L1-N	3	0.38	unfused											
1	75005021													
1	75005012	L2 colour code orange, cable type H05WF <table border="1"> <thead> <tr> <th>Phase</th> <th>Length (m)</th> <th>Weight (kg)</th> <th>Fuseholder</th> </tr> </thead> <tbody> <tr> <td>L2-N</td> <td>1</td> <td>0.16</td> <td>unfused</td> </tr> <tr> <td>L2-N</td> <td>3</td> <td>0.38</td> <td>unfused</td> </tr> </tbody> </table>	Phase	Length (m)	Weight (kg)	Fuseholder	L2-N	1	0.16	unfused	L2-N	3	0.38	unfused
Phase	Length (m)		Weight (kg)	Fuseholder										
L2-N	1	0.16	unfused											
L2-N	3	0.38	unfused											
1	75005022													
1	75005013	L3 colour code blue, cable type H05WF <table border="1"> <thead> <tr> <th>Phase</th> <th>Length (m)</th> <th>Weight (kg)</th> <th>Fuseholder</th> </tr> </thead> <tbody> <tr> <td>L3-N</td> <td>1</td> <td>0.16</td> <td>unfused</td> </tr> <tr> <td>L3-N</td> <td>3</td> <td>0.38</td> <td>unfused</td> </tr> </tbody> </table>	Phase	Length (m)	Weight (kg)	Fuseholder	L3-N	1	0.16	unfused	L3-N	3	0.38	unfused
Phase	Length (m)		Weight (kg)	Fuseholder										
L3-N	1	0.16	unfused											
L3-N	3	0.38	unfused											
1	75005023													
1	75005014	L-N2 colour code magenta, cable type H05WF <table border="1"> <thead> <tr> <th>Phase</th> <th>Length (m)</th> <th>Weight (kg)</th> <th>Fuseholder</th> </tr> </thead> <tbody> <tr> <td>L-N2</td> <td>1</td> <td>0.16</td> <td>unfused</td> </tr> <tr> <td>L-N2</td> <td>3</td> <td>0.38</td> <td>unfused</td> </tr> </tbody> </table>	Phase	Length (m)	Weight (kg)	Fuseholder	L-N2	1	0.16	unfused	L-N2	3	0.38	unfused
Phase	Length (m)		Weight (kg)	Fuseholder										
L-N2	1	0.16	unfused											
L-N2	3	0.38	unfused											
1	75005024													

Pack	Cat. Nos.	16 A phase selection tap-offs	Weight (kg)
1	75005000	16 A plug (unfused)	0.12
1	75005100	16 A plug + 1 x (5x20)	0.13
1	75005200	16 A plug + 1 x (CH8)	0.13

Pack	Cat. Nos.	16 A pre-wired tap-offs	Phase	
1	750051001L1	For use with Type A and Type B busbar, all ratings With 1.5 m cable SP & N with 6.3 A fuse SP & N with 6.3 A fuse SP & N with 6.3 A fuse SP & N with 6.3 A fuse DP & N with 1 x 6.3 A fuse	L1-N	
1	750051001L2		L2-N	
1	750051001L3		L3-N	
1	750051001LN2		L-N2	
1	7500510014C		L1+L3-N	
1	750051003L1	With 3 m cable SP & N with 6.3 A fuse SP & N with 6.3 A fuse SP & N with 6.3 A fuse SP & N with 6.3 A fuse DP & N with 1 x 6.3 A fuse	L1-N	
1	750051003L2		L2-N	
1	750051003L3		L3-N	
1	750051003LN2		L-N2	
1	7500510034C		L1+L3-N	
1	75005005	3 phase tap-offs – 16-32 A For use with Type A and Type B busbar, all ratings	Weight (kg)	
1	75006005		16 A 3 phase (unfused)	0.13
1	75006205		32 A 3 phase (unfused) 32 A 3 phase + 3 x (CH10)	0.42 0.43

Pack	Cat. Nos.	Tap-off accessories
10	75105000	16 A mobile contact Enables tap-off to access a single designated side of the busbar
20	75105001	Window kit code

LB PLUS busbar trunking system

hangers and cable channel



75003000



75003004



71000104



75003006



75003002



75003005



EEC348



EEA313



EEC353



Dimensions and technical information p. 18-19

Pack	Cat. Nos.	Hangers
12 12	75003000 75003004	60 kg suspension bracket Bracket Cat. No. 75003000 can be used for the suspension of the line and the suspension of light fittings at the same time, while bracket Cat. No. 75003004 may only perform one of the two functions, depending on its rotation For Type A busbar – weight 0.045 kg For Type B busbar – weight 0.045 kg
10	75003001	Hook for lamp Must always be used with brackets Cat. Nos. 75003000 or 75003004, depending on the type of busbar Weight 0.015 kg
10	75003002	Ring Must always be used with brackets Cat. Nos. 75003000 or 75003004, depending on the type of busbar Weight 0.015 kg
10	75003005	Pigtail for chain Must always be used with brackets Cat. Nos. 75003000 or 75003004, depending on the type of busbar Weight 0.015 kg
12	75003008	5 m steel cable with self locking clamp For Type B busbar – weight 0.085 kg
12	75003009	Bracket with 3 m steel cable For Type A busbar – weight 0.05 kg

Pack	Cat. Nos.	Brackets
1	597013	Bracket for wall mounting
1	557300	Bracket for floor or ceiling mounting

Pack	Cat. Nos.	PVC cable channel
1	71000104	PVC cable channel with cover 3 m – weight 0.884 kg
6	75003006	Bracket for cable channel Must always be used with brackets Cat. Nos. 75003000 or 75003004 depending on the type of busbar and cable channel Cat. No. 71000104 Weight 0.135 kg
1	EEC348	Steel cable tray Cable tray 3 m (L) x 50 mm (W) x 13 mm (H)
1	EEA313	Trunking suspended fixing bracket c/w cable tray stirrup. Used when running cable tray on top of busbar trunking
1	EEC353	Cable tray fixing bracket

LB PLUS busbar trunking systems

technical data

■ LB PLUS - Type A

Type		252	254	256	258	404	408	634
Number of live conductors		2	4	6	8	4	8	4
Casing overall dimensions	LxH [mm]	35 x 46	35 x 46	35 x 46	35 x 46	35 x 46	35 x 46	35 x 46
Rated current	In [A]	25	25	25	25	40	40	63
Section of protective conductor ⁽¹⁾	S _{PE} [mm ²]	91.45	91.45	91.45	91.45	91.45	91.45	91.45
Section of protective conductor ⁽¹⁾ eq.Cu	S _{PE} (=Cu) [mm ²]	11	11	11	11	11	11	11
Operating voltage	Ue [V]	400	400	400	400	400	400	400
Insulation voltage	Ui [V]	690	690	690	690	690	690	690
Frequency	f [Hz]	5/6	5/6	5/6	5/6	5/6	5/6	5/6
Rated short-time current (0.1 s)	I _{CW} [kArms]	2.2	2.2	2.2	2.2	2.7	2.7	2.7
Allowable peak current	I _{pk} [kA]	4.4	4.4	4.4	4.4	5.4	5.4	5.4
Thermal limit	I ² t [A ² s x 10 ⁶]	0.484	0.484	0.484	0.484	0.729	0.729	0.729
20° C phase resistance	R ₂₀ [mΩ/m]	5.278	5.278	5.278	5.278	5.278	2.891	2.891
Phase resistance at thermal conditions	R _t [mΩ/m]	6.798	6.798	6.798	6.798	3.793	3.793	3.399
Phase reactance (50Hz)	X [mΩ/m]	1.114	1.279	1.279	1.114	1.279	0.770	0.770
Phase impedance	Z [mΩ/m]	5.394	5.431	5.431	5.394	5.431	2.992	2.992
Resistance of the protective conductor ¹	R _{PE} [mΩ/m]	0.203	0.203	0.203	0.203	0.203	0.203	0.203
Reactance of the protective conductor (50Hz)	X _{PE} [mΩ/m]	1.100	1.100	1.000	1.000	1.100	1.000	1.000
Resistance of the fault loop	R _o [mΩ/m]	5.482	5.482	5.482	5.482	3.094	3.094	2.843
Reactance of the fault loop (50Hz)	X _o [mΩ/m]	2.214	2.379	2.279	2.279	1.870	1.770	1.637
Impedance of the fault loop	Z _o [mΩ/m]	5.912	5.976	5.936	5.936	3.615	3.565	3.280
Voltage drop with distributed load	ΔV 10 ⁻³ cosφ = 0.70 [V/m/A]	4.81	3.99	3.99	3.89	3.99	2.23	2.23
	ΔV 10 ⁻³ cosφ = 0.75 [V/m/A]	5.05	4.16	4.16	4.07	4.16	2.32	2.32
	ΔV 10 ⁻³ cosφ = 0.80 [V/m/A]	5.29	4.32	4.32	4.24	4.32	2.40	2.40
	ΔV 10 ⁻³ cosφ = 0.85 [V/m/A]	5.51	4.47	4.47	4.39	4.47	2.48	2.48
	ΔV 10 ⁻³ cosφ = 0.90 [V/m/A]	5.72	4.60	4.60	4.53	4.60	2.54	2.54
	ΔV 10 ⁻³ cosφ = 0.95 [V/m/A]	5.89	4.69	4.69	4.64	4.69	2.59	2.59
	ΔV 10 ⁻³ cosφ = 1.00 [V/m/A]	5.89	4.57	4.57	4.57	4.57	2.50	2.50
Weight	p [kg/m]	1.00	1.04	1.25	1.28	1.19	1.56	1.56
Fire load	[kWh/m]	1.03	1.03	1.91	1.91	1.0	1.9	1.9
Protection index	IP	55	55	55	55	55	55	55
Degree of impact-resistance	IK	7	7	7	7	7	7	7
Joule effect losses at rated current	P [W/m]	12.7	12.7	12.7	12.7	18.2	18.2	40.5
Ambient temperature min / MAX	t [°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50

1 : metal casing

$$\Delta V1F = \frac{\sqrt{1}}{2} (2 R_{20} \cos\phi + 2 X \sin\phi)$$

$$\Delta V3F = \frac{\sqrt{3}}{2} (R_{20} \cos\phi + X \sin\phi)$$

Short circuit protection for Zucchini's product ranges (I_n ≤ 100A)

Zucchini busbar trunking systems with a rated current lower than or equal to 100A (LB PLUS-MS 63 and 100) are properly protected through an MCB (Modular Circuit Breaker) with a rated current lower than or equal to that of the busbar. This protection is guaranteed up to the MCB breaking capacity

Product fully in compliance with IEC EN 60439-2

LB PLUS busbar trunking systems

technical data

■ LB PLUS – Type B

Type		252	254	256	258	404	408	634	
Number of live conductors		2	4	6	8	4	8	4	
Casing overall dimensions	LxH [mm]	35 x 77	35 x 77	35 x 77	35 x 77	35 x 77	35 x 77	35 x 77	
Rated current	I _n [A]	25	25	25	25	40	40	63	
Section of protective conductor ⁽¹⁾	S _{PE} [mm ²]	195	195	195	195	195	195	195	
Section of protective conductor ⁽¹⁾ eq-Cu	S _{PE} (=Cu) [mm ²]	24	24	24	24	24	24	24	
Operating voltage	U _e [V]	400	400	400	400	400	400	400	
Insulation voltage	U _i [V]	690	690	690	690	690	690	690	
Frequency	f [Hz]	5/6	5/6	5/6	5/6	5/6	5/6	5/6	
Rated short-time current (0.1 s)	I _{cw} [kArms]	2.5	2.5	2.5	2.5	3.2	3.2	3.2	
Allowable peak current	I _{pk} [kA]	5	5	5	5	6.4	6.4	6.4	
Thermal limit	I ² t [A ² s x 10 ⁶]	0.625	0.625	0.625	0.625	1.024	1.024	1.024	
20 °C phase resistance	R ₂₀ [mΩ/m]	5.278	5.278	5.278	5.278	2.891	2.891	2.639	
Phase resistance at thermal conditions	R _t [mΩ/m]	6.798	6.798	6.798	6.798	3.793	3.793	3.399	
Phase reactance (50Hz)	X [mΩ/m]	1.400	1.270	1.270	1.400	1.270	0.770	0.637	
Phase impedance	Z [mΩ/m]	5.461	5.429	5.429	5.461	5.429	2.992	2.715	
Resistance of the protective conductor ¹	R _{PE} [mΩ/m]	0.434	0.434	0.434	0.434	0.434	0.434	0.434	
Reactance of the protective conductor (50Hz)	X _{PE} [mΩ/m]	1.100	1.100	1.000	1.000	1.100	1.000	1.000	
Resistance of the fault loop	R _o [mΩ/m]	5.712	5.712	5.712	5.712	3.325	3.325	3.073	
Reactance of the fault loop (50Hz)	X _o [mΩ/m]	2.500	2.370	2.270	2.270	1.870	1.770	1.637	
Impedance of the fault loop	Z _o [mΩ/m]	6.235	6.184	6.147	6.147	3.814	3.766	3.482	
Voltage drop with distributed load	ΔV 10 ⁻³ cosφ = 0.70 [V/m/A]	4.07	3.99	3.99	4.07	3.99	2.23	2.23	1.99
	ΔV 10 ⁻³ cosφ = 0.75 [V/m/A]	4.23	4.16	4.16	4.23	4.16	2.32	2.32	2.08
	ΔV 10 ⁻³ cosφ = 0.80 [V/m/A]	4.38	4.32	4.32	4.38	4.32	2.40	2.40	2.16
	ΔV 10 ⁻³ cosφ = 0.85 [V/m/A]	4.52	4.46	4.46	4.52	4.46	2.48	2.48	2.23
	ΔV 10 ⁻³ cosφ = 0.90 [V/m/A]	4.64	4.59	4.59	4.64	4.59	2.54	2.54	2.30
	ΔV 10 ⁻³ cosφ = 0.95 [V/m/A]	4.72	4.69	4.69	4.72	4.69	2.59	2.59	2.34
	ΔV 10 ⁻³ cosφ = 1.00 [V/m/A]	4.57	4.57	4.57	4.57	4.57	2.50	2.50	2.29
Weight	ρ [kg/m]	1.80	1.83	2.02	2.02	1.98	2.33	2.33	
Fire load	[kWh/m]	1.1	1.1	2.1	2.1	1.1	2.1	2.1	
Protection index	IP	55	55	55	55	55	55	55	
Degree of impact-resistance	IK	7	7	7	7	7	7	7	
Joule effect losses at rated current	P [W/m]	12.7	12.7	12.7	12.7	18.2	18.2	40.5	
Ambient temperature min-/MAX	t [°C]	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	-5/+50	

1 : metal casing

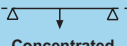
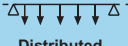
Temperature rating schedule according to the room temperature

Room temperature [°C]	15	20	25	30	35	40	45	50	55	60
K1 Factor	1.15	1.12	1.08	1.05	1.025	1	0.975	0.95	0.93	0.89

Multiplier coefficient of rated current for room temperature values different from 40° C

Mechanical loads permitted table

The table shows the maximum weights (kg) that can be supported, both for concentrated, and distributed loads

LB PLUS – TYPE B	LB PLUS – TYPE A	Distance between suspension brackets		
			Concentrated load	Distributed load
		1.5	40	50 kg/m (75 kg) ²
		2.0	30	30 kg/m (60 kg) ²
		3.0	20	13 kg/m (39 kg) ²
		5.0	13	5 kg/m (25 kg) ²
		7.0	7	2 kg/m (14 kg) ²

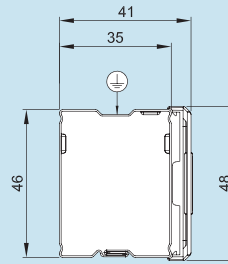
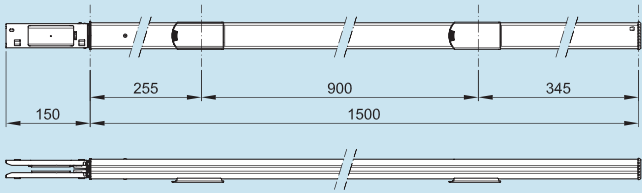
2 : Distributed load total weight

LB PLUS busbar trunking systems

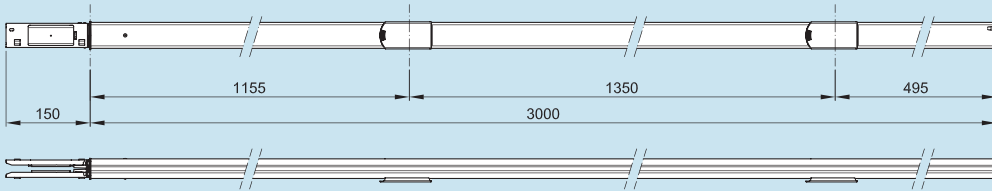
technical information

■ LB PLUS – Type A – 252/254/404

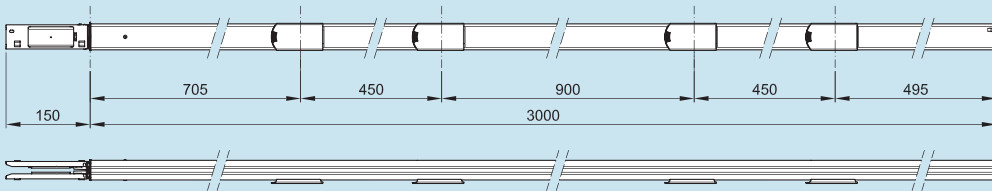
1.5 m - 2 outlets (single sided only)



3 m - 2 outlets (single sided only)

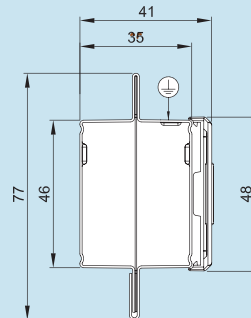
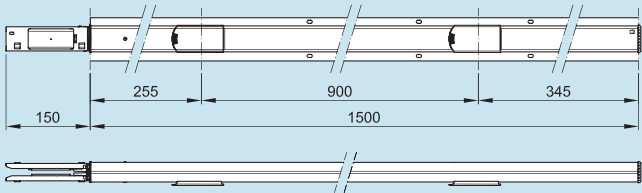


3 m - 4 outlets (single sided only)

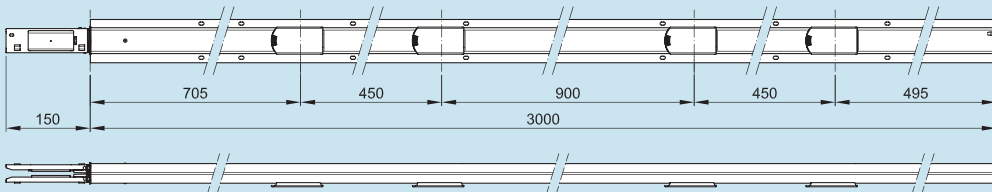


■ LB PLUS – Type B – 252/254/404

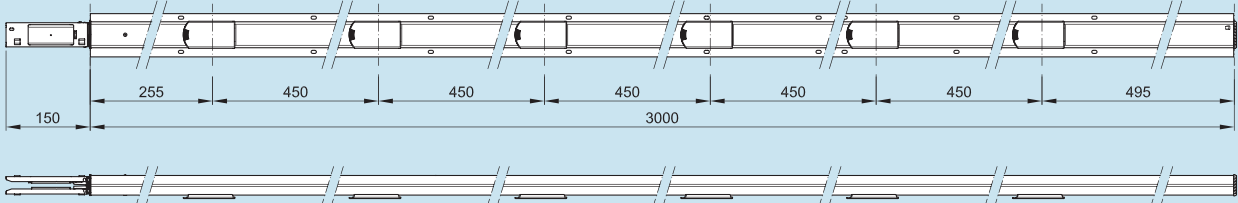
1.5 m - 2 outlets (single sided only)



3 m - 4 outlets (single sided only)



3 m - 6 outlets (single sided only)

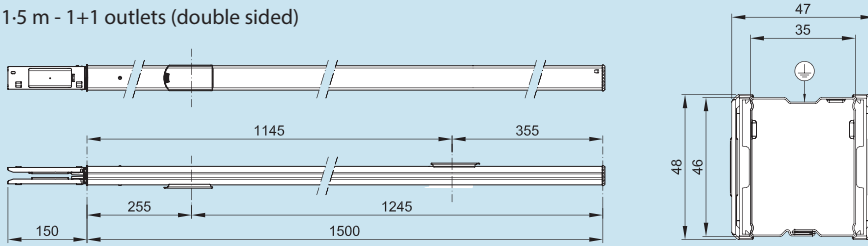


LB PLUS busbar trunking systems

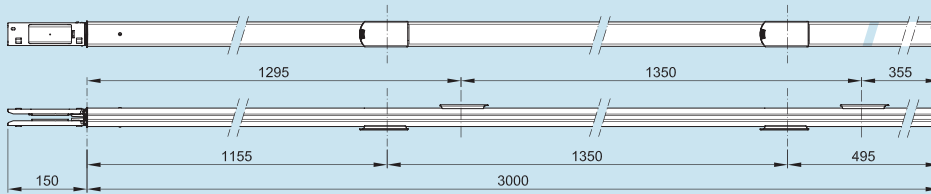
technical information

■ LB PLUS – Type A – 256/258/408/634

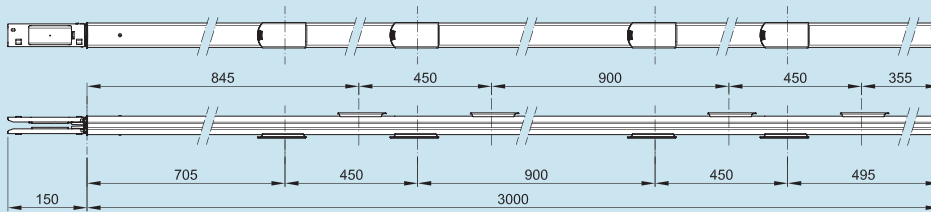
1.5 m - 1+1 outlets (double sided)



3 m - 2+2 outlets (double sided)

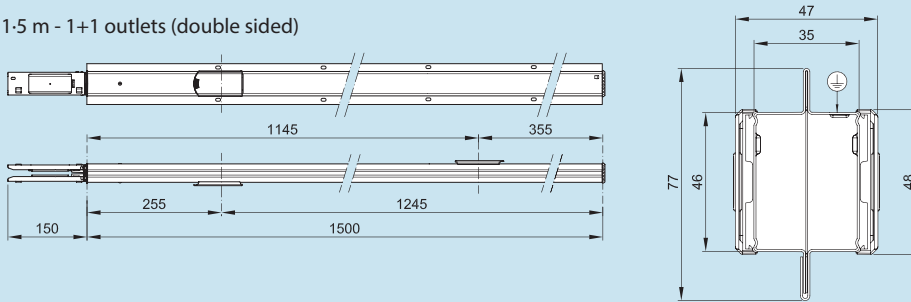


3 m - 4+4 outlets (double sided)

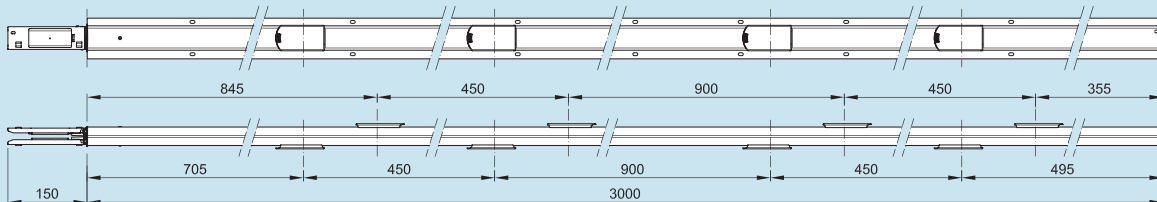


■ LB PLUS– Type B – 256/258/408/634

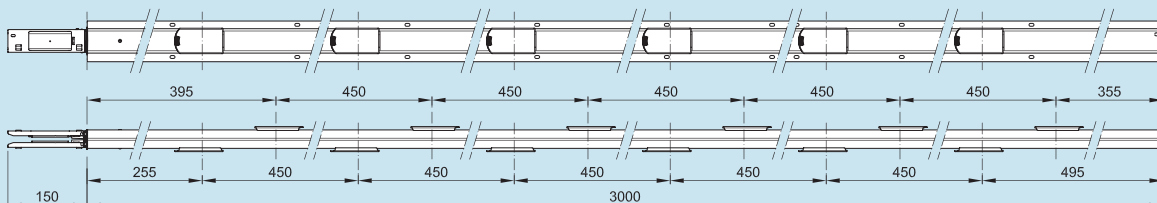
1.5 m - 1+1 outlets (double sided)



3 m - 4+4 outlets (double sided)



3 m - 6+6 outlets (double sided)

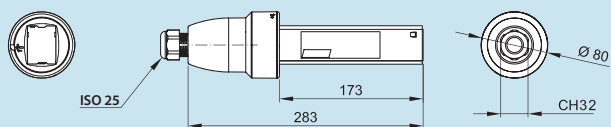


LB PLUS busbar trunking systems

technical information

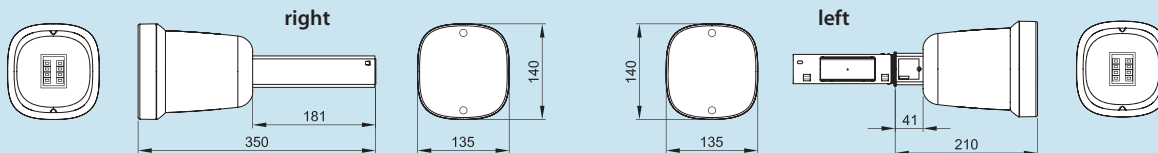
Trunking components

FEED UNIT 254



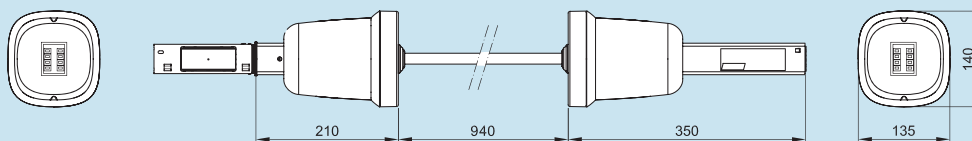
TERMINAL CAPACITY MIN 6 mm²
MAX 12 mm²
CABLE DIAMETER: MAX 18 mm

FEED UNIT 404 / 408 / 634

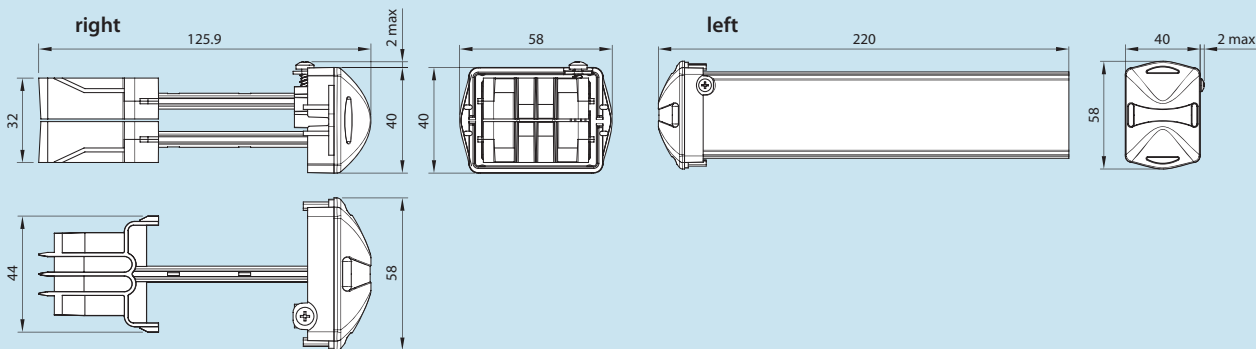


TERMINAL CAPACITY MIN 6 mm²
MAX 25 mm²
CABLE DIAMETER: MAX 32 mm

FLEXIBLE JOINT 404 / 408 / 634

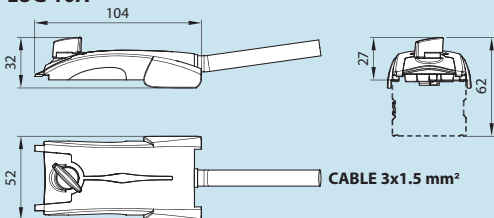


END CAP



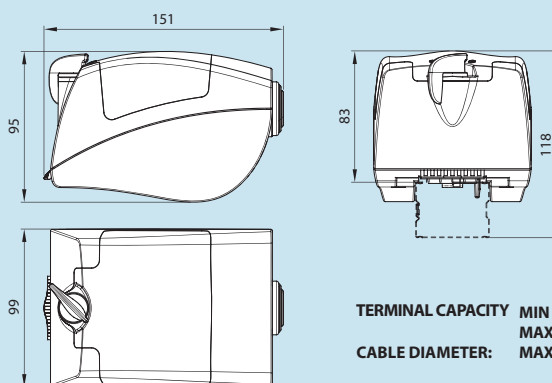
Tap-offs

PLUG 10A



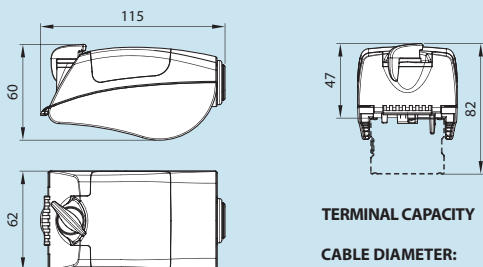
PLUG 10A
L1-N GREY
L2-N ORANGE
L3-N BLUE
L-N2 MAGENTA

PLUG 32A



TERMINAL CAPACITY MIN 6 mm²
MAX 10 mm²
CABLE DIAMETER: MAX 25 mm

PLUG 16A



TERMINAL CAPACITY MIN 1.5 mm²
MAX 2.5 mm²
CABLE DIAMETER: MIN 8 mm
MAX 13 mm

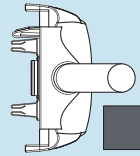
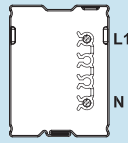
Pre-wired 16 A tap-offs are supplied with 1.5 mm² SIHF cable

LB PLUS busbar trunking systems

technical information

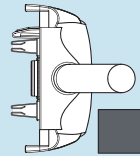
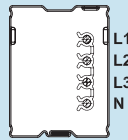
■ Colour coding for 10 A single phase tap-offs

2 CONDUCTORS

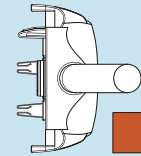


L1-N
75005011 / 75005021

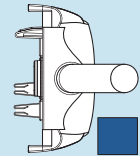
4 CONDUCTORS
three-phase



L1-N
75005011 / 75005021

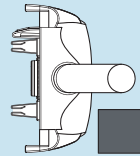
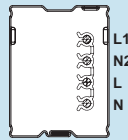


L2-N
75005012 / 75005022

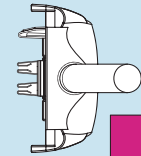


L3-N
75005013 / 75005023

4 CONDUCTORS
dual single phase

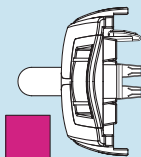


L1-N
75005011 / 75005021

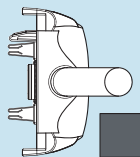
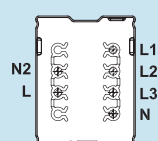


L-N2
75005014 / 75005024

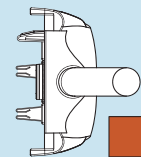
6 CONDUCTORS



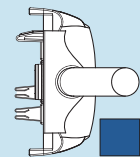
L-N2
75005014 / 75005024



L1-N
75005011 / 75005021

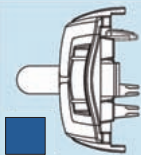


L2-N
75005012 / 75005022

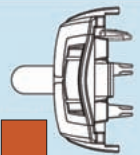


L3-N
75005013 / 75005023

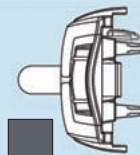
8 CONDUCTORS



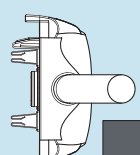
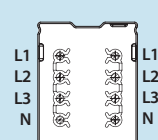
L3-N
75005013 / 75005023



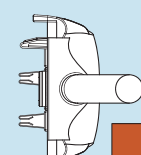
L2-N
75005012 / 75005022



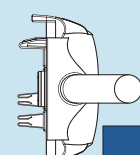
L1-N
75005011 / 75005021



L1-N
75005011 / 75005021

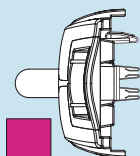


L2-N
75005012 / 75005022

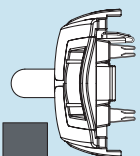


L3-N
75005013 / 75005023

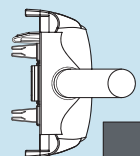
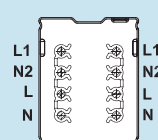
4 x SINGLE PHASE



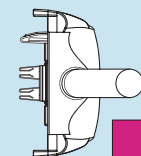
L-N2
75005014 / 75005024



L1-N
75005011 / 75005021



L1-N
75005011 / 75005021



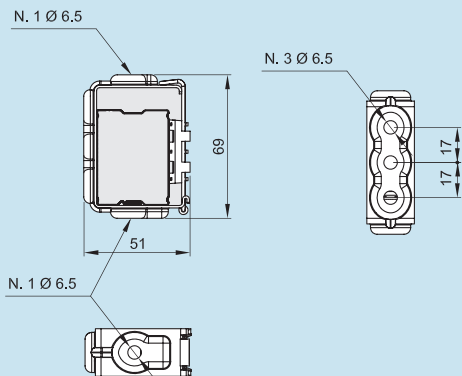
L-N2
75005014 / 75005024

LB PLUS busbar trunking systems

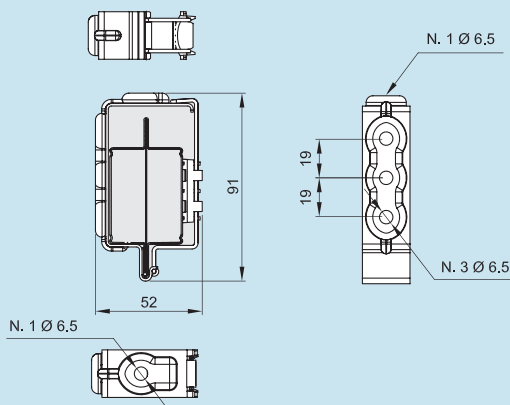
technical information

■ Hangers and cable channel

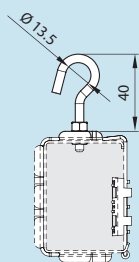
60 kg suspension bracket for Type A busbar Cat. No. 75003000



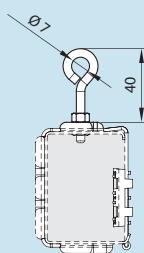
60 kg suspension bracket for Type B busbar Cat. No. 75003004



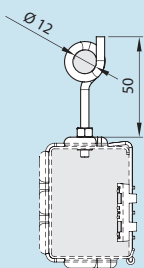
Hook for lamp Cat. No. 75003001



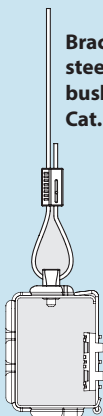
Ring Cat. No. 75003002



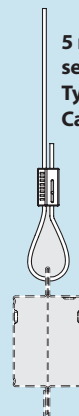
Pig tail for chain Cat. No. 75003005



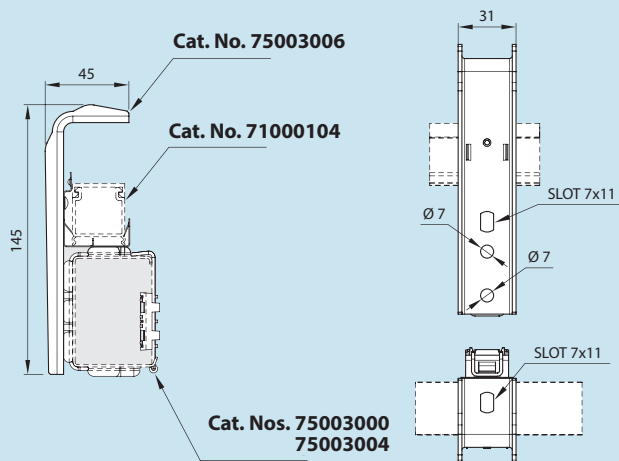
Bracket with 3 m steel cable for Type A busbar Cat. No. 75003009



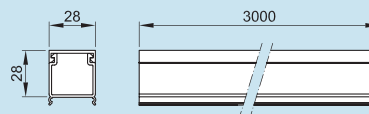
5 m steel cable with self-locking clamp for Type B busbar Cat. No. 75003008



Bracket for cable channel



PVC cable channel with cover Cat. No. 71000104



LB PLUS busbar trunking systems

installation methods

LB PLUS requires a fixing bracket Cat. No. 75003000 for Type A and a fixing bracket Cat. No. 75003004 for Type B
Both brackets come with a 6.5 mm Ø hole and can be fixed to 6 mm² threaded rod

■ Suspension

For suspension, the bracket must be fitted with a range of appropriate accessories, which must be added according to the installation requirements

Ceiling suspension of LB PLUS Type A

Pigtail for chain

This solution is possible by ordering suspension bracket item Cat. No. 75003000 and accessory Cat. No. 75003005, preset for the connection of a chain



Bracket with steel cable

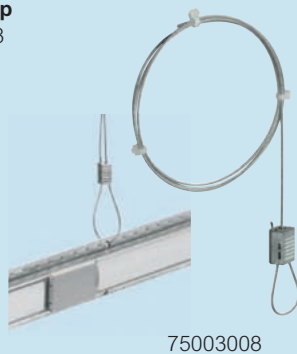
This solution is already supplied as a kit Cat. No. 75003009, consisting of a suspension bracket and a 3 m steel cable



Ceiling suspension of LB PLUS Type B

5 m cable with self locking clamp

This accessory Cat. No. 75003008 allows the suspension of the reinforced (Type B) straight lengths using the slots along the reinforcement plate at the top of the bar

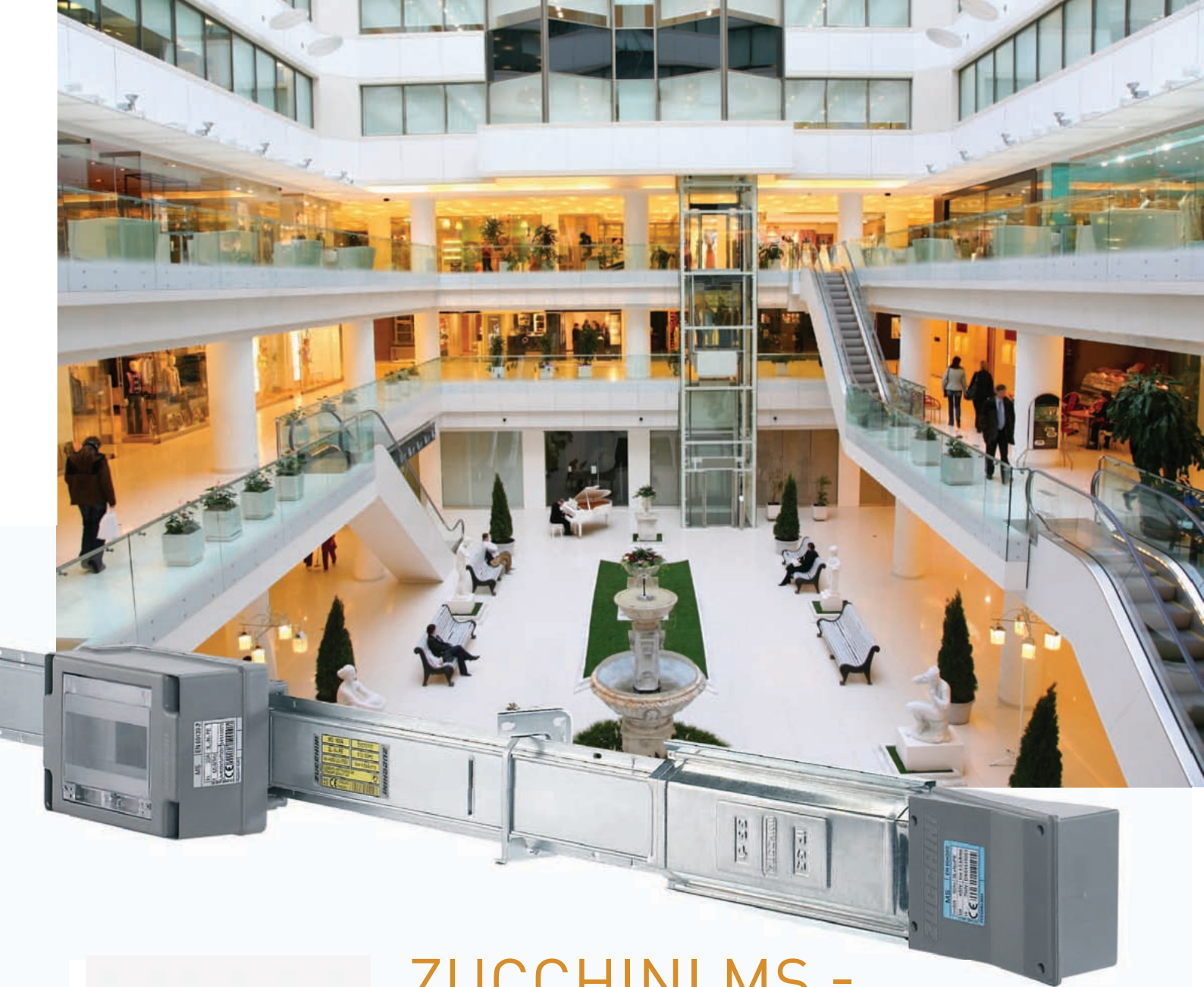


■ Suspension of light fittings

LB PLUS - single and double sided

For the suspension of light fittings, use hook Cat. No. 75003001 or ring Cat. No. 75003002
These accessories can be installed on the brackets used for the suspension of the busbar (Cat. Nos. 75003000 and 75003004).





ZUCCHINI MS - LOW TO MEDIUM POWER BUSBAR

The flexibility of the Zucchini MS range during planning and installation makes it ideal for frequently changing requirements in small to medium sized commercial and industrial premises.

With versions ranging from 63 A to 160 A, the vast selection of elbows, tees and other accessories make any configuration possible, with bespoke solutions also available on request.

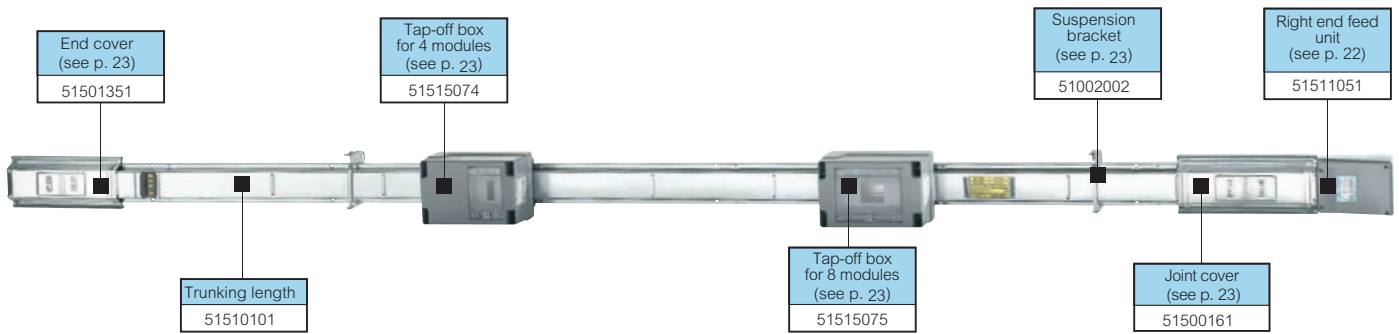
In addition to the wide range of accessories, a choice of tap-off boxes from 16 to 63 A accommodate protection devices up to 16 DIN modules.



To find out more call our technical support team on
+44 (0) 845 600 6266

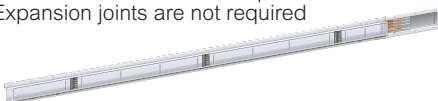
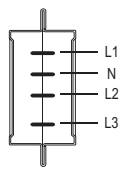
MS double sided busbar

low and medium power 63/100/160 A



Dimensions and technical information p. 24
 Technical data p. 27

Conforms to BS EN 60439-2. Casing manufactured from Senzimir quality galvanised steel suitable for use as a protective earth IP 40 as standard, increasing to IP 55 with use of appropriate accessories

Pack	Cat. Nos.	63 A trunking lengths																					
		Tap-off outlets are spaced every 1.0 m on both sides and are fitted with shutters to prevent accidental contact with live parts Expansion joints are not required 																					
		Standard lengths <table border="1"> <thead> <tr> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>3 + 3</td> <td>7.890</td> </tr> <tr> <td>2</td> <td>2 + 2</td> <td>5.260</td> </tr> <tr> <td>1.5</td> <td>1 + 1</td> <td>3.945</td> </tr> <tr> <td>1</td> <td>1 + 1</td> <td>2.630</td> </tr> <tr> <td>< 1.5</td> <td>-</td> <td>-</td> </tr> <tr> <td>> 1.5</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Length (m)	Outlet points	Weight (kg)	3	3 + 3	7.890	2	2 + 2	5.260	1.5	1 + 1	3.945	1	1 + 1	2.630	< 1.5	-	-	> 1.5	-	-
Length (m)	Outlet points	Weight (kg)																					
3	3 + 3	7.890																					
2	2 + 2	5.260																					
1.5	1 + 1	3.945																					
1	1 + 1	2.630																					
< 1.5	-	-																					
> 1.5	-	-																					
																							
		Fire barrier Lengths are fitted with a fire barrier and are used to pass through fire-resistant walls In accordance with DIN 4102-9 and EN 1366-3																					
1	51530101																						
1	51530116																						
1	51530115																						
1	51530114																						
1	51530112																						
1	51530113																						
		Thrust unit Thrust unit to be located at the bottom and is required for vertical runs or riser applications exceeding 12-15 m																					
1	51530131	<table border="1"> <thead> <tr> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>3 + 3</td> <td>7.990</td> </tr> </tbody> </table>	Length (m)	Outlet points	Weight (kg)	3	3 + 3	7.990															
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Pack	Cat. Nos.	100 A trunking lengths																					
		Standard lengths <table border="1"> <thead> <tr> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>3 + 3</td> <td>7.890</td> </tr> <tr> <td>2</td> <td>2 + 2</td> <td>5.260</td> </tr> <tr> <td>1.5</td> <td>1 + 1</td> <td>3.945</td> </tr> <tr> <td>1</td> <td>1 + 1</td> <td>2.630</td> </tr> <tr> <td>< 1.5</td> <td>-</td> <td>-</td> </tr> <tr> <td>> 1.5</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Length (m)	Outlet points	Weight (kg)	3	3 + 3	7.890	2	2 + 2	5.260	1.5	1 + 1	3.945	1	1 + 1	2.630	< 1.5	-	-	> 1.5	-	-
Length (m)	Outlet points	Weight (kg)																					
3	3 + 3	7.890																					
2	2 + 2	5.260																					
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		Fire barrier Lengths are fitted with a fire barrier and are used to pass through fire-resistant walls In accordance with DIN 4102-9 and EN 1366-3																					
1	51510101																						
1	51510116																						
1	51510115																						
1	51510114																						
1	51510112																						
1	51510113																						
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Pack	Cat. Nos.	160 A trunking lengths																					
		Standard lengths <table border="1"> <thead> <tr> <th>Length (m)</th> <th>Outlet points</th> <th>Weight (kg)</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>3 + 3</td> <td>9.290</td> </tr> <tr> <td>2</td> <td>2 + 2</td> <td>6.190</td> </tr> <tr> <td>1.5</td> <td>1 + 1</td> <td>4.645</td> </tr> <tr> <td>1</td> <td>1 + 1</td> <td>3.100</td> </tr> <tr> <td>< 1.5</td> <td>-</td> <td>-</td> </tr> <tr> <td>> 1.5</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Length (m)	Outlet points	Weight (kg)	3	3 + 3	9.290	2	2 + 2	6.190	1.5	1 + 1	4.645	1	1 + 1	3.100	< 1.5	-	-	> 1.5	-	-
Length (m)	Outlet points	Weight (kg)																					
3	3 + 3	9.290																					
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MS double sided busbar

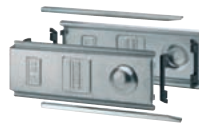
tap-offs and accessories



51515056



51515058



51500161



Tap-offs can be supplied pre-wired and fitted with protective devices

Contact us on +44 (0) 845 600 6266



51515052



51500160



51515051

Dimensions and technical information p. 25-26

Tap-off boxes can be used to connect and energise one and three phase loads up to 63 A. Tap-offs can be inserted and removed when the busbar is energised and when the fixture is under load, up to a capacity 32 A. Compliant with IEC 60695-2-10 with V1 self-extinguishing degree (UL 94) Standard IP 55 degree of protection

Pack	Cat. Nos.	Tap-off boxes IP 55	Pack	Cat. Nos.	Tap-off boxes with isolating device on the cover								
1	51515071	<p>Energy withstand 400·10³ A²S Totally insulated tap-off box Max. cable size 25 mm²</p> <p>Max. power losses 10 W</p> <p>Empty tap-off box with DIN (4 mod.)</p> <table border="1"> <tr> <td>Rating (A)</td> <td>Weight (kg)</td> </tr> <tr> <td>32</td> <td>0·68</td> </tr> </table>	Rating (A)	Weight (kg)	32	0·68	1	51515051	<p>Tap-off box with CH10 fuseholder (10·3 x 38)</p> <p>10·3 x 38 fuses not included</p> <table border="1"> <tr> <td>Rating (A)</td> <td>Weight (kg)</td> </tr> <tr> <td>16</td> <td>0·908</td> </tr> </table>	Rating (A)	Weight (kg)	16	0·908
Rating (A)	Weight (kg)												
32	0·68												
Rating (A)	Weight (kg)												
16	0·908												
1	51515076	<p>Tap-off box with CH10 fuseholder (10·3 x 38)</p> <table border="1"> <tr> <td>Rating (A)</td> <td>Weight (kg)</td> </tr> <tr> <td>32</td> <td>0·68</td> </tr> </table>	Rating (A)	Weight (kg)	32	0·68	1	51515052	<p>Tap-off box with CH14 fuseholder (14 x 51)</p> <p>14 x 51 fuses not included</p> <table border="1"> <tr> <td>Rating (A)</td> <td>Weight (kg)</td> </tr> <tr> <td>50</td> <td>0·908</td> </tr> </table>	Rating (A)	Weight (kg)	50	0·908
Rating (A)	Weight (kg)												
32	0·68												
Rating (A)	Weight (kg)												
50	0·908												
1	51515077	<p>Tap-off box with D01 fuseholder</p> <table border="1"> <tr> <td>Rating (A)</td> <td>Weight (kg)</td> </tr> <tr> <td>16</td> <td>0·95</td> </tr> </table>	Rating (A)	Weight (kg)	16	0·95	1	51515057	<p>63 A tap-off boxes</p> <p>Energy withstand 400·10³ A²S MAX power losses 20W Tap-off box with transparent cover Weight 1·1 kg</p>				
Rating (A)	Weight (kg)												
16	0·95												
1	51515078	<p>Tap-off box with D02 fuseholder</p> <table border="1"> <tr> <td>Rating (A)</td> <td>Weight (kg)</td> </tr> <tr> <td>32</td> <td>0·95</td> </tr> </table>	Rating (A)	Weight (kg)	32	0·95	1	51515056	<p>Tap-off box with transparent cover and hinged door (up to 4 mod.) Weight 1·2 kg</p>				
Rating (A)	Weight (kg)												
32	0·95												
1	51515072	<p>Tap-off box for (4 mod.) DIN</p> <table border="1"> <tr> <td>Rating (A)</td> <td>Weight (kg)</td> </tr> <tr> <td>32</td> <td>0·73</td> </tr> </table>	Rating (A)	Weight (kg)	32	0·73	1	51515067	<p>Tap-off box with hinged door (up to 7 mod.) Weight 1·1 kg</p>				
Rating (A)	Weight (kg)												
32	0·73												
1	51515073	<p>Max. power losses 16 W</p> <p>Empty tap-off box (8 mod.)</p> <table border="1"> <tr> <td>Rating (A)</td> <td>Weight (kg)</td> </tr> <tr> <td>32</td> <td>0·93</td> </tr> </table>	Rating (A)	Weight (kg)	32	0·93	1	51515058	<p>Tap-off box with hinged door (up to 16 mod.)</p> <p>Energy withstand 400·10³ A²S MAX power losses 20W Weight 2·5 kg</p>				
Rating (A)	Weight (kg)												
32	0·93												
1	51515074	<p>Tap-off box (4 mod) DIN (long version)</p> <table border="1"> <tr> <td>Rating (A)</td> <td>Weight (kg)</td> </tr> <tr> <td>32</td> <td>0·96</td> </tr> </table>	Rating (A)	Weight (kg)	32	0·96	1	51501351	<p>Accessories</p> <p>End cover IP 55</p> <p>End covers are fitted to the last length in each run to maintain IP 55 protection Weight 0·57 kg</p>				
Rating (A)	Weight (kg)												
32	0·96												
1	51515075	<p>Tap-off box (8 mod) DIN (long version)</p> <table border="1"> <tr> <td>Rating (A)</td> <td>Weight (kg)</td> </tr> <tr> <td>32</td> <td>0·99</td> </tr> </table>	Rating (A)	Weight (kg)	32	0·99	1	51500161	<p>Joint cover IP 55</p> <p>One for each joint Weight 0·788 kg</p>				
Rating (A)	Weight (kg)												
32	0·99												
			1	51500160	<p>Tap-off outlet cover IP 55</p> <p>6 per 3 m straight length Weight 0·061 kg</p>								
			1	51002002	<p>Suspension bracket</p> <p>Universal fixing brackets enable trunking to be either suspended or wall mounted 1 per 2 m Weight 0·1 kg</p>								

MS double sided busbar

technical information

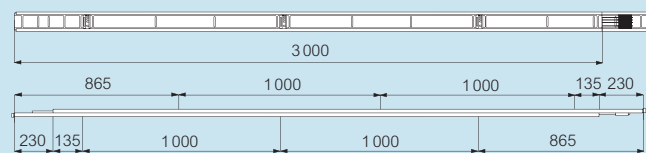
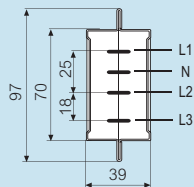
General features

MS is fully compliant with BS EN 60439-2. Specifically, the rated current of the Zucchini busbar trunking system is always referred to the average ambient temperature of 40°C (NB : the standard requires 35°C), thus offering the market suitably oversized products

Trunking lengths

The components and the features of the MS trunking lengths are :

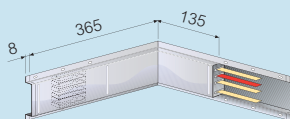
- a casing made of Senzimir quality galvanised steel, with a sheet-metal thickness that allows its use as the protective earth (PE) and ensures the electrical continuity during mounting with no added accessories
- section bar dimensions : 39 x 97 mm
- number of conductors : 4 with the same section 3P + N available for capacities 63 A, 100 A and 160 A
- separation between the conductors using plastic insulating devices, reinforced with 20% of glass fibres, which ensure a V1 self-extinguishing degree (according to UL94) and are in compliance with the glow-wire test according to IEC 60695-2-10
- tap-off outlets with a constant centre distance of 1 m on both sides of the busbar (3 + 3 outlets every 3 m), set up for connection to tap-off boxes
- an electric joint block, with silver-plated copper contacts for automatically connecting live parts and the PE (protective earth) Quick connection between straight lengths. One operation provides an electrical and mechanical connection, whilst at the same time, IP 40 protection is guaranteed. The upgrade to IP 55 is easily achieved by adding joint covers and outlet covers. Flame retardant in compliance with the IEC 60332-3 standard
- trunking lengths with fire barrier (internal + external) are used when fire-resistant walls need to be passed through. The lengths fitted with a fire barrier have been lab-tested (in accordance with DIN 4102-9 and EN 1366-3) in order to confirm that, if correctly installed, they will maintain the essential fire-resistant features of the wall
- trunking lengths with thrust unit are provided with a device which blocks the conductors from slipping when supporting the weight of the riser (when installed vertically). This type of length is required for 10 m riser intervals



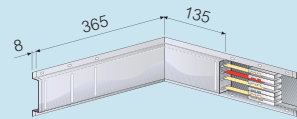
Trunking components

IP 55 (according to BS EN 60529)

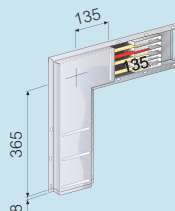
Horizontal elbow - right hand



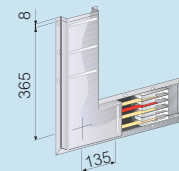
Horizontal elbow - left hand



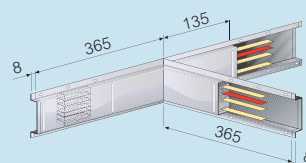
Vertical elbow - right hand



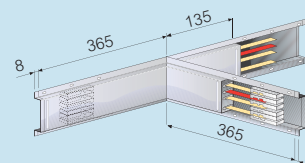
Vertical elbow - left hand



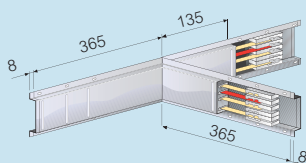
Right hand tees - male



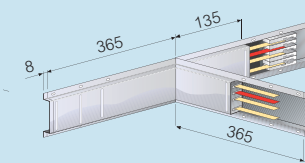
Right hand tees - female



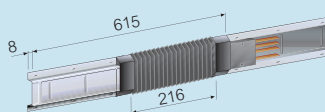
Left hand tees - female



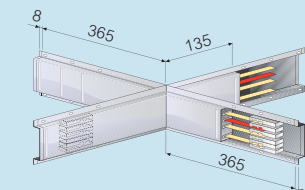
Left hand tees - male



Flexible elbow



Crossovers

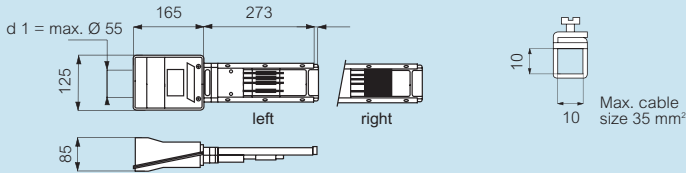


All dimensions (mm) are nominal

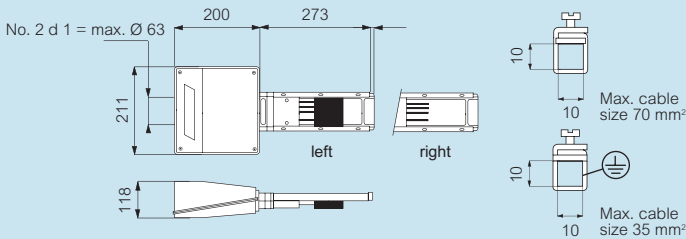
■ End feed units

Installation is carried out with a quick junction connection. The feed units have terminals for the connection of copper cables for sections of up to 35 mm² for the 63/100 A feed unit and 70 mm² for the 160 A feed unit. The entrance point of the cables is positioned at the end of the feed unit.

63 – 100 A

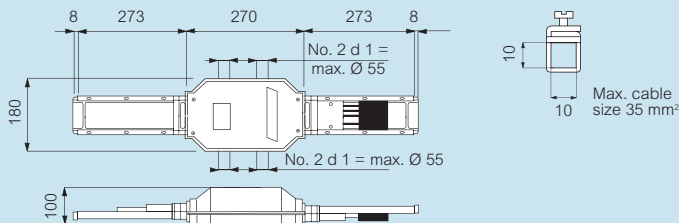


160 A

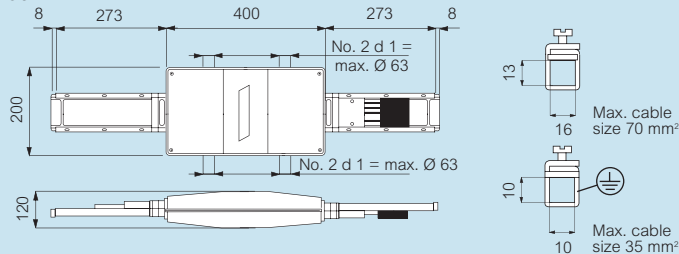


■ Centre feed units

63 – 100 A



160 A



Tap-off boxes

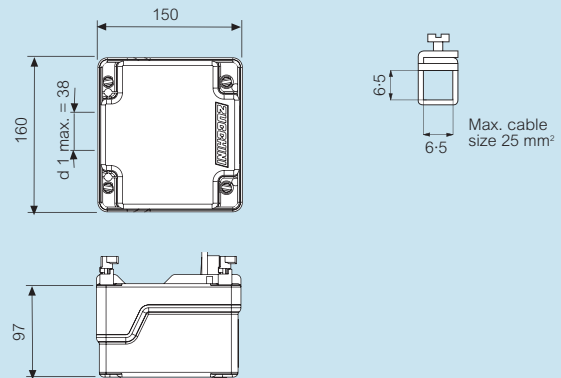
Used to connect and energise single phase and three phase loads up to 63 A. Features include :

- the PE contact (protective earth) is the first to make an electrical connection when inserting the box into the outlet and it is the last to disconnect when removing
- compliance with all insulating plastic components according to the glow-wire test (IEC 60695-2-10) with V1 self-extinguishing degree (UL94)
- standard IP 55 degree of protection without using additional accessories
- can be inserted and removed when the busbar is energised and when the fixture is under load, up to a capacity of 32 A

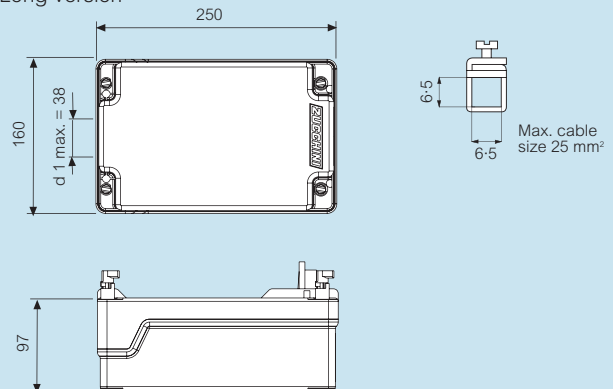
These boxes are available in a wide range of versions :

- 63 A empty boxes (only with a terminal board for connecting cables), with an internal DIN rail and transparent door
- 16 A - available with a set of three cylindrical fuse carriers (10.3 x 38 mm)
- 16/32 A - available with a set of three cylindrical fuse carriers - DIAZED (D01 : 16 A; D02 : 32 A);
- 50 A - available with cylindrical fuse carriers (14 x 51 mm)
- 63 A - available with 4-7-16 DIN mod.
- 16 to 63 A - available with a disconnection device integral with the cover

Standard version



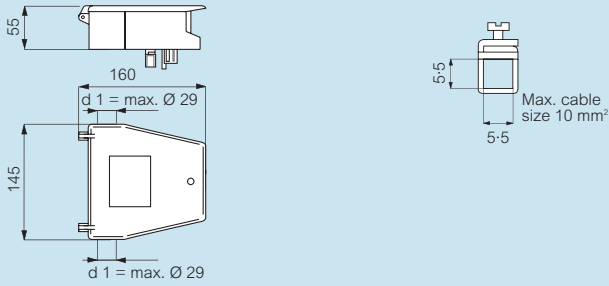
Long version



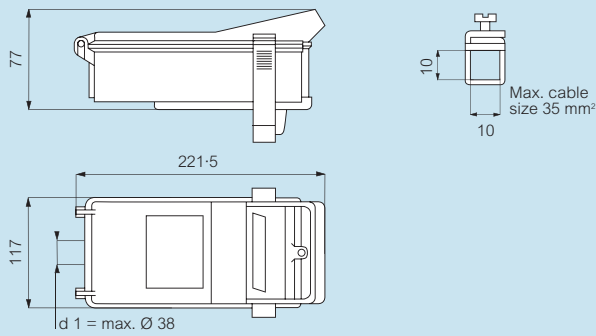
MS double sided busbar

technical information

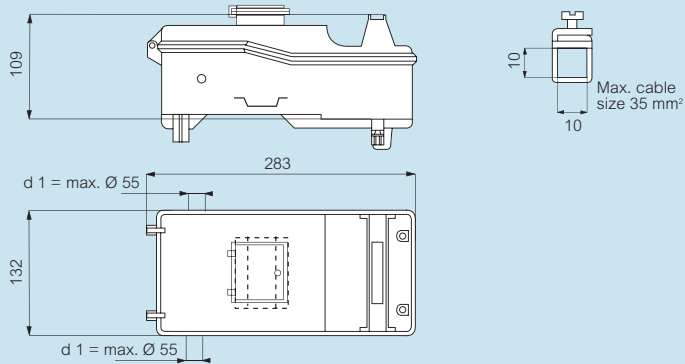
■ Tap-off box with CH10 fuseholder (10-3 x 38)



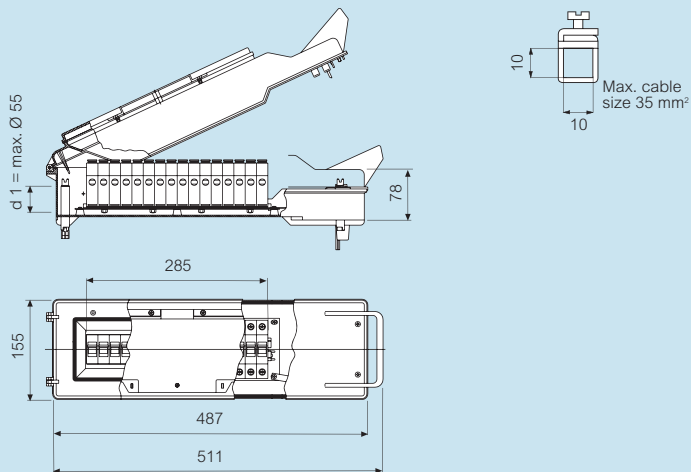
■ Tap-off box with CH14 fuseholder (14 x 51)



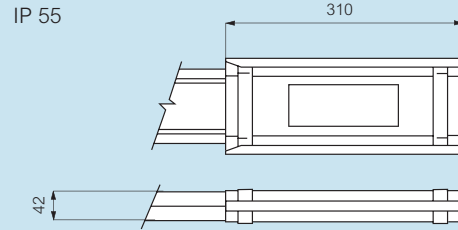
■ 63 A tap-off boxes



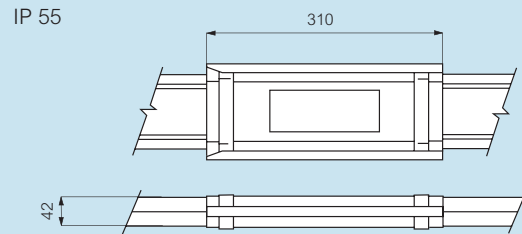
Tap-off box with hinged door (up to 16 modules DIN)



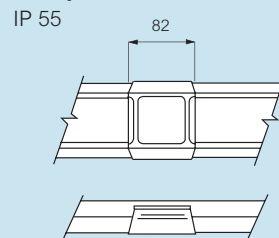
■ End stop



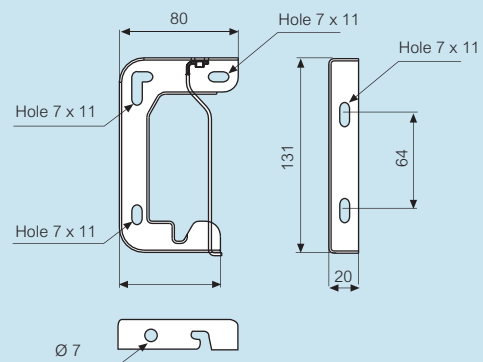
■ Joint cover



■ Tap-off outlet cover



■ Suspension bracket



All dimensions (mm) are nominal

MS double sided busbar

technical data

Complies to :
IEC 439-1 and 2, BS EN 60439 part 1 and 2,
DIN VDE 0660 part 500 and 502

Suitable for the following climates :
 Constant humid climate (DIN IEC 68 and 2- 3)
 Cyclical humid climate (DIN IEC 68 and 2- 30)

Short circuit protection for Zucchini product ranges (In≤100 A)

Zucchini busbar systems with a nominal current less or equal to 100 A (LB PLUS / MS 63 and 100 A) are correctly protected against short circuit effects through an MCB (Miniature Circuit Breaker) with a nominal current less or equal to the one of the busbar

This protection is assured up to MCB short circuit withstand

The busbar trunking systems LB PLUS / MS 63 and 100 A are flame retardant in compliance with IEC 332-3 : 1992

Rating (A)		63	100	160
Live conductors	No.	4	4	4
Casing overall dimension	A x B (mm)	39 x 97	39 x 97	39 x 97
Rated current	In (A)	63	100	160
Cross-section of conductors (3P + N)	S (mm ²)	26	26	39
Cross-section of protective conductor eq. Cu	SPE (mm ²)	21	21	21
Operational voltage	Ue (V)	400	400	400
Insulation voltage	Ui (V)	750	750	750
Rated frequency	f (Hz)	50/60	50/60	50/60
Rated short-time current (0.1 s)	Icw (kA)rms	2.3	4.5	5.5
Peak current	Ipk (kA)	10	10	10
Maximum thermal limit	I ² t (A ² s x 106)	5.29	20.25	30.25
Phase resistance	R20 (mΩ/m)	1.250	0.658	0.478
Phase reactance (50Hz)	X (mΩ/m)	0.366	0.366	0.247
Phase impedance	Z (mΩ/m)	1.302	0.753	0.538
Resistance of the protective bar	RPE (mΩ/m)	0.857	0.857	0.857
Reactance of the protective bar (50Hz)	XPE (mΩ/m)	0.090	0.090	0.102
Resistance of the fault loop	Ro (mΩ/m)	1.85	1.26	1.08
Reactance of the fault loop (50Hz)	Xo (mΩ/m)	0.456	0.456	0.349
Impedance of the fault loop	Zo (mΩ/m)	1.91	1.34	1.13
$\Delta V_{1F} = \frac{1}{2} (2 R_{20} \cos\varphi + 2 X \sin\varphi)$	$\Delta V (V/m/A)10^{-3} \cos\varphi = 0.70$	0.98	0.63	0.44
	$\Delta V (V/m/A)10^{-3} \cos\varphi = 0.75$	1.02	0.64	0.45
	$\Delta V (V/m/A)10^{-3} \cos\varphi = 0.80$	1.06	0.65	0.46
Voltage drop with distributed load (k)	$\Delta V (V/m/A)10^{-3} \cos\varphi = 0.85$	1.09	0.65	0.46
	$\Delta V (V/m/A)10^{-3} \cos\varphi = 0.90$	1.11	0.65	0.47
	$\Delta V (V/m/A)10^{-3} \cos\varphi = 0.95$	1.13	0.64	0.46
$\Delta V_{3F} = \frac{\sqrt{3}}{2} (R_{20} \cos\varphi + X \sin\varphi)$	$\Delta V (V/m/A)10^{-3} \cos\varphi = 1.00$	1.08	0.57	0.41
Straight length weight	p (kg/m)	2.0	2.6	2.8
Fire load	(kWh/m)	1.64	1.64	1.64
Protection degree	IP	40/55	40/55	40/55
Losses for the Joule effect at full load	P (W/m)	14.9	19.7	36.7
Min./max. ambient temperature	t (°C)	-5/+50	-5/+50	-5/+50

Temperature rating schedule

Mean room temperature (°C)	15	20	25	30	35	40	45	50	55	60
K1 factor	1.15	1.12	1.08	1.05	1.025	1	0.975	0.95	0.93	0.89

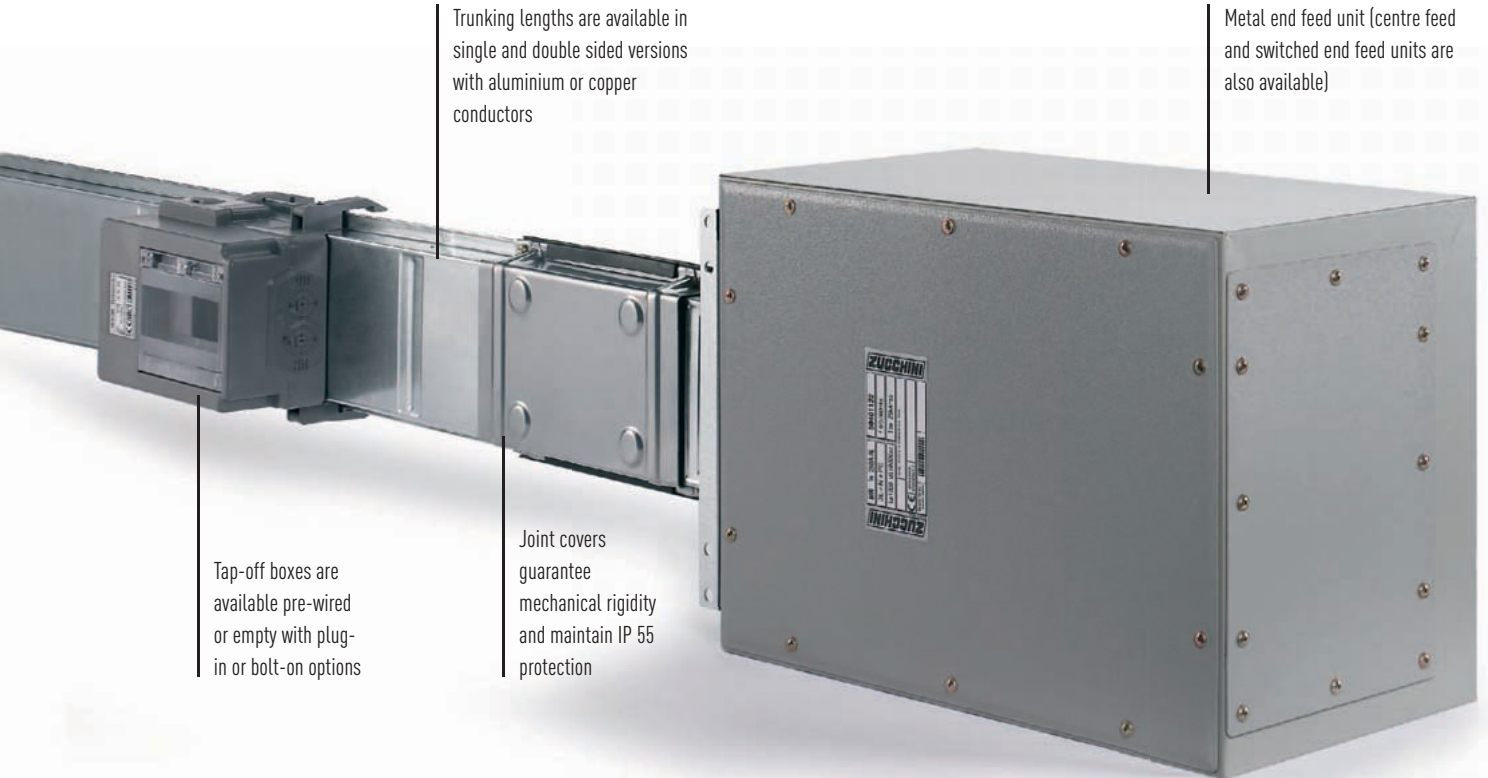
Multiplier coefficient of nominal rating for room temperature values different from 40°C

ZUCCHINI MR - MEDIUM RATING BUSBAR

Available in sizes from 160 to 1000 A, MR (medium rating) busbar is ideal for power distribution in medium to large installations and rising mains in commercial buildings.

MR is available with aluminium or copper conductors and has a large range of tap-off boxes from 16 to 1000 A, allowing the supply and protection of a wide range of loads using devices such as fuses, MCBs and MCCBs.





Trunking lengths are available in single and double sided versions with aluminium or copper conductors

Metal end feed unit (centre feed and switched end feed units are also available)

Tap-off boxes are available pre-wired or empty with plug-in or bolt-on options

Joint covers guarantee mechanical rigidity and maintain IP 55 protection



SWITCHBOARD - TRANSFORMER FEED UNIT



HORIZONTAL ELBOW



VERTICAL ELBOW



TAP-OFF BOXES



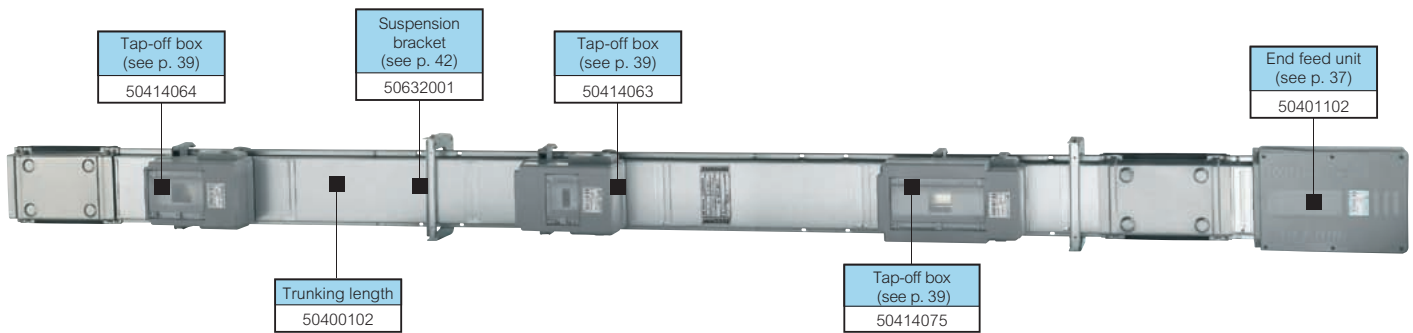
Lowering lifetime installation costs

MR features a monobloc electrical jointing system. The shearhead bolt on the monobloc allows for fast assembly of the run and guarantees long-term reliability and safety.

As well as being quick to install, Zucchini MR busbar is easy to upgrade if existing installations need to be modified. The vast choice of elbows, tees and other accessories make any configuration possible, with bespoke solutions also available on request.

MR medium rating busbar

medium power 160 - 1000 A



Dimensions and technical information **p. 43-44**
 Measuring bespoke dimensions **p. 49**
 Technical data **p. 52-56**

IP 55 (according to BS EN 60529)
 Flame retardant in compliance with IEC 60332-3. Fully compliant with BS EN 60439-2
 Rated currents are at an average ambient temperature of 40° C (over and above the required standard of 35° C)

Pack	Cat. Nos.		Rating (A)
Trunking lengths – bespoke dimensions (continued)			
Please specify required length when ordering (see p. 49 – how to measure bespoke dimensions)			
1 000 to 1 500 mm lengths with 1 + 1 outlets			
Tap-off outlets in fixed position on both sides			
	Aluminium	Copper	Rating (A)
1	50400141		160
1	50400142	55400142	250
1	50400143	55400143	315
1	50400144	55400144	400
1	50400148		500
1	50400145	55400145	630
1	50400146	55400146	800
1	50400147 ¹	55400147	1 000
600 to 1 500 mm lengths without outlets			
Feeder length. A tap-off point is only possible on the junction between two lengths (see bolt-on tap-off boxes p. 41)			
			Rating (A)
1	50400111		160
1	50400112	55400112	250
1	50400113	55400113	315
1	50400114	55400114	400
1	50400118		500
1	50400115	55400115	630
1	50400116	55400116	800
1	50400117 ¹	55400117	1 000

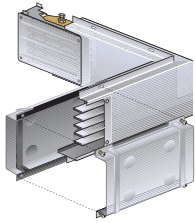
Pack	Cat. Nos.		Rating (A)
Trunking lengths with fire barriers			
With external fire barriers			
Please specify the required position of the external fire barrier when ordering (see p. 44)			
	Aluminium	Copper	Rating (A)
1	554EFB01		160
1	554EFB01	554EFB01	250
1	554EFB01	554EFB01	315
1	554EFB02	554EFB01	400
1	554EFB02		500
1	554EFB02	554EFB02	630
1	554EFB02	554EFB02	800
1	554EFB02	554EFB02	1 000
With internal fire barriers			
Please specify the required position of the internal fire barrier when ordering (see p. 44)			
			Rating (A)
1	554IFB01		160
1	554IFB02	554IFB01	250
1	554IFB03	554IFB02	315
1	554IFB04	554IFB05	400
1	554IFB06		500
1	554IFB07	554IFB04	630
1	554IFB08	554IFB06	800
1	554IFB09	554IFB07	1 000
Tap-off outlet cover IP 55			
1	50403601		Suitable for all MR versions 6 for each length Weight : 0.10 kg

1 : The 1000 A aluminium is supplied painted as standard

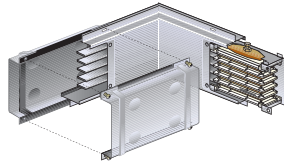
Key : How to select the correct configuration and finish
 All examples on this page show 4 conductor galvanised lengths
 No. of conductors and finish is dictated by the red number
 0 = 4 conductors. Galvanised 2 = 4 conductors. Painted
 1 = 5 conductors. Galvanised 3 = 5 conductors. Painted
 Replace 0 with 1, 2, or 3 if required

MR medium rating busbar

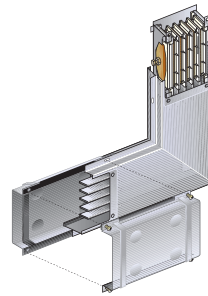
single elbows



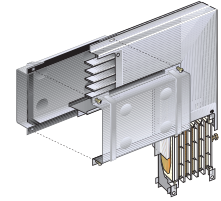
Horizontal elbow – right hand



Horizontal elbow – left hand



Vertical elbow – right hand



Vertical elbow – left hand



Dimensions and technical information **p. 44**
Measuring bespoke dimensions **p. 49**

MR is fully compliant with BS EN 60439-2

Rated currents are at an average ambient temperature of 40° C (over and above the required standard of 35° C)

Angles are 90° as standard. Other angles available on request. IP 55 (according to BS EN 60529)

Pack	Cat. Nos.		Single elbows – standard dimensions (300 + 300 mm)		
	Aluminium	Copper	Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400301		160	8.1	–
1	50400302	55400302	250	8.2	9.2
1	50400303	55400303	315	8.4	9.6
1	50400304	55400304	400	14.5	11.0
1	50400308		500	14.9	–
1	50400305	55400305	630	15.4	18.7
1	50400306	55400306	800	15.7	21.4
1	50400307 ¹	55400307	1 000	16.0	23.3
			Horizontal elbow – left hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400311		160	8.1	–
1	50400312	55400312	250	8.2	9.2
1	50400313	55400313	315	8.4	9.6
1	50400314	55400314	400	14.5	11.0
1	50400318		500	14.9	–
1	50400315	55400315	630	15.4	18.7
1	50400316	55400316	800	15.7	21.4
1	50400317 ¹	55400317	1 000	16.0	23.3
			Vertical elbow – right hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400401		160	8.1	–
1	50400402	55400402	250	8.2	9.2
1	50400403	55400403	315	8.4	9.6
1	50400404	55400404	400	14.5	11.0
1	50400408		500	14.9	–
1	50400405	55400405	630	15.4	18.7
1	50400406	55400406	800	15.7	21.4
1	50400407 ¹	55400407	1 000	16.0	23.3
			Vertical elbow – left hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400411		160	8.1	–
1	50400412	55400412	250	8.2	9.2
1	50400413	55400413	315	8.4	9.6
1	50400414	55400414	400	14.5	11.0
1	50400418		500	14.9	–
1	50400415	55400415	630	15.4	18.7
1	50400416	55400416	800	15.7	21.4
1	50400417 ¹	55400417	1 000	16.0	23.3

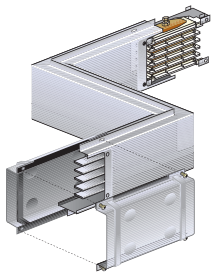
Pack	Cat. Nos.		Single elbows – bespoke dimensions
	Aluminium	Copper	Please specify required length when ordering
			Horizontal elbow – right hand
			250 to 900 mm per arm
			Rating (A)
1	50400321		160
1	50400322	55400322	250
1	50400323	55400323	315
1	50400324	55400324	400
1	50400328		500
1	50400325	55400325	630
1	50400326	55400326	800
1	50400327 ¹	55400327	1 000
			Horizontal elbow – left hand
			250 to 900 mm per arm
			Rating (A)
1	50400331		160
1	50400332	55400332	250
1	50400333	55400333	315
1	50400334	55400334	400
1	50400338		500
1	50400335	55400335	630
1	50400336	55400336	800
1	50400337 ¹	55400337	1 000
			Vertical elbow – right hand
			300 to 900 mm per arm
			Rating (A)
1	50400421		160
1	50400422	55400422	250
1	50400423	55400423	315
1	50400424	55400424	400
1	50400428		500
1	50400425	55400425	630
1	50400426	55400426	800
1	50400427 ¹	55400427	1 000
			Vertical elbow – left hand
			300 to 900 mm per arm
			Rating (A)
1	50400431		160
1	50400432	55400432	250
1	50400433	55400433	315
1	50400434	55400434	400
1	50400438		500
1	50400435	55400435	630
1	50400436	55400436	800
1	50400437 ¹	55400437	1 000

Key : How to select the correct configuration and finish
All examples on this page show 4 conductor galvanised lengths
No. of conductors and finish is dictated by the red number
0 = 4 conductors. Galvanised 2 = 4 conductors. Painted
1 = 5 conductors. Galvanised 3 = 5 conductors. Painted
Replace 0 with 1, 2, or 3 if required

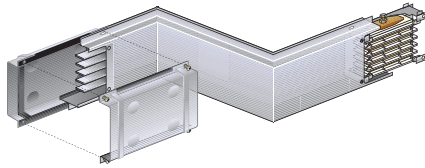
1 : The 1000 A aluminium is supplied painted as standard

MR medium rating busbar

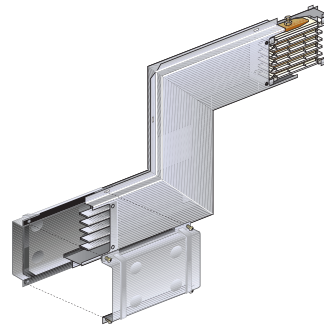
double elbows



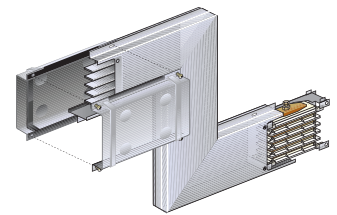
Horizontal elbow – right + left hand



Horizontal elbow – left + right hand



Vertical elbow – right + left hand







Vertical elbow – left + right hand

 **Dimensions and technical information p. 44**
Measuring bespoke dimensions p. 49

MR is fully compliant with BS EN 60439-2
Rated currents are at an average ambient temperature of 40° C (over and above the required standard of 35° C)
Angles are 90° as standard. Other angles available on request. IP 55 (according to BS EN 60529)

Pack	Cat. Nos.		Double elbows – standard dimensions (300 + 300 + 300 mm)		
	Aluminium	Copper	Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400341		160	10-29	–
1	50400342	55400342	250	10-55	12-23
1	50400343	55400343	315	11-06	12-97
1	50400344	55400344	400	18-37	15-72
1	50400348		500	19-50	–
1	50400345	55400345	630	20-55	25-77
1	50400346	55400346	800	21-20	30-88
1	50400347 ¹	55400347	1000	21-80	34-55
			Horizontal elbow – right + left hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400351		160	10-29	–
1	50400352	55400352	250	10-55	12-23
1	50400353	55400353	315	11-06	12-97
1	50400354	55400354	400	18-37	15-72
1	50400358		500	19-50	–
1	50400355	55400355	630	20-55	25-77
1	50400356	55400356	800	21-20	30-88
1	50400357 ¹	55400357	1000	21-80	34-55
			Horizontal elbow – left + right hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400441		160	10-29	–
1	50400442	55400442	250	10-55	12-23
1	50400443	55400443	315	11-06	12-97
1	50400444	55400444	400	18-37	15-72
1	50400448		500	19-50	–
1	50400445	55400445	630	20-55	25-77
1	50400446	55400446	800	21-20	30-88
1	50400447 ¹	55400447	1000	21-80	34-55
			Vertical elbow – right + left hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400461		160	10-29	–
1	50400462	55400462	250	10-55	12-23
1	50400463	55400463	315	11-06	12-97
1	50400464	55400464	400	18-37	15-72
1	50400468		500	19-50	–
1	50400465	55400465	630	20-55	25-77
1	50400466	55400466	800	21-20	30-88
1	50400467 ¹	55400467	1000	21-80	34-55
			Vertical elbow – left + right hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400451		160	10-29	–
1	50400452	55400452	250	10-55	12-23
1	50400453	55400453	315	11-06	12-97
1	50400454	55400454	400	18-37	15-72
1	50400458		500	19-50	–
1	50400455	55400455	630	20-55	25-77
1	50400456	55400456	800	21-20	30-88
1	50400457 ¹	55400457	1000	21-80	34-55

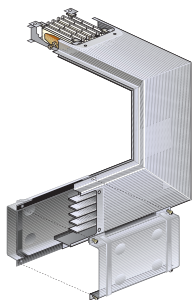
Pack	Cat. Nos.		Double elbows – bespoke dimensions		
	Aluminium	Copper	Please specify required length when ordering		
			Horizontal elbow – right + left hand		
			250 to 900 mm per arm		
			Rating (A)		
1	50400361		160		
1	50400362	55400362	250		
1	50400363	55400363	315		
1	50400364	55400364	400		
1	50400368		500		
1	50400365	55400365	630		
1	50400366	55400366	800		
1	50400367 ¹	55400367	1000		
			Horizontal elbow – left + right hand		
			250 to 900 mm per arm		
			Rating (A)		
1	50400371		160		
1	50400372	55400372	250		
1	50400373	55400373	315		
1	50400374	55400374	400		
1	50400378		500		
1	50400375	55400375	630		
1	50400376	55400376	800		
1	50400377 ¹	55400377	1000		
			Vertical elbow – right + left hand		
			300 to 900 mm per arm		
			Rating (A)		
1	50400461		160		
1	50400462	55400462	250		
1	50400463	55400463	315		
1	50400464	55400464	400		
1	50400468		500		
1	50400465	55400465	630		
1	50400466	55400466	800		
1	50400467 ¹	55400467	1000		
			Vertical elbow – left + right hand		
			300 to 900 mm per arm		
			Rating (A)		
1	50400471		160		
1	50400472	55400472	250		
1	50400473	55400473	315		
1	50400474	55400474	400		
1	50400478		500		
1	50400475	55400475	630		
1	50400476	55400476	800		
1	50400477 ¹	55400477	1000		

Key : How to select the correct configuration and finish
 All examples on this page show 4 conductor galvanised lengths
 No. of conductors and finish is dictated by the red number
 0 =  4 conductors. Galvanised 2 =  4 conductors. Painted
 1 =  5 conductors. Galvanised 3 =  5 conductors. Painted
 Replace 0 with 1, 2, or 3 if required

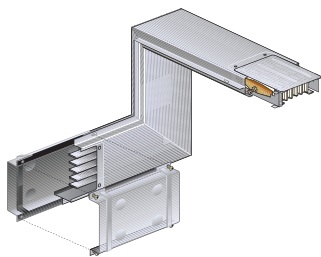
1 : The 1000 A aluminium is supplied painted as standard

MR medium rating busbar

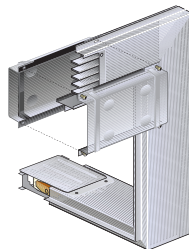
combination vertical + horizontal elbows



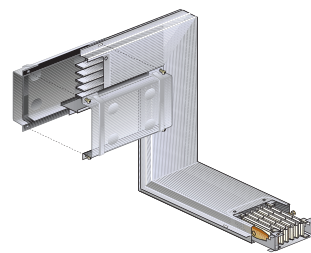
Combination vertical + horizontal elbow right + right hand



Combination vertical + horizontal elbow right + left hand



Combination vertical + horizontal elbow left + right hand



Combination vertical + horizontal elbow left + left hand



Dimensions and technical information **p. 44**
Measuring bespoke dimensions **p. 49**

MR is fully compliant with BS EN 60439-2

Rated currents are at an average ambient temperature of 40° C (over and above the required standard of 35° C)

Angles are 90° as standard. Other angles available on request. IP 55 (according to BS EN 60529)

Pack	Cat. Nos.		Combination vertical + horizontal elbows – standard dimensions (300 + 300 + 300 mm)		
	Aluminium	Copper	Rating (A)	Weight (kg) Aluminium Copper	
1	50400501		160	10-29	–
1	50400502	55400502	250	10-55	12-23
1	50400503	55400503	315	11-06	12-97
1	50400504	55400504	400	18-37	15-72
1	50400508		500	19-50	–
1	50400505	55400505	630	20-55	25-77
1	50400506	55400506	800	21-20	30-88
1	50400507 ¹	55400507	1000	21-80	34-55
			Right hand + left hand		
			Rating (A)	Weight (kg) Aluminium Copper	
1	50400511		160	10-29	–
1	50400512	55400512	250	10-55	12-23
1	50400513	55400513	315	11-06	12-97
1	50400514	55400514	400	18-37	15-72
1	50400518		500	19-50	–
1	50400515	55400515	630	20-55	25-77
1	50400516	55400516	800	21-20	30-88
1	50400517 ¹	55400517	1000	21-80	34-55
			Left hand + right hand		
			Rating (A)	Weight (kg) Aluminium Copper	
1	50400521		160	10-29	–
1	50400522	55400522	250	10-55	12-23
1	50400523	55400523	315	11-06	12-97
1	50400524	55400524	400	18-37	15-72
1	50400528		500	19-50	–
1	50400525	55400525	630	20-55	25-77
1	50400526	55400526	800	21-20	30-88
1	50400527 ¹	55400527	1000	21-80	34-55
			Left hand + left hand		
			Rating (A)	Weight (kg) Aluminium Copper	
1	50400531		160	10-29	–
1	50400532	55400532	250	10-55	12-23
1	50400533	55400533	315	11-06	12-97
1	50400534	55400534	400	18-37	15-72
1	50400538		500	19-50	–
1	50400535	55400535	630	20-55	25-77
1	50400536	55400536	800	21-20	30-88
1	50400537 ¹	55400537	1000	21-80	34-55

Pack	Cat. Nos.		Combination vertical + horizontal elbows – bespoke dimensions		
	Aluminium	Copper	Rating (A)	Weight (kg) Aluminium Copper	
1	50400541		160	10-29	–
1	50400542	55400542	250	10-55	12-23
1	50400543	55400543	315	11-06	12-97
1	50400544	55400544	400	18-37	15-72
1	50400548		500	19-50	–
1	50400545	55400545	630	20-55	25-77
1	50400546	55400546	800	21-20	30-88
1	50400547 ¹	55400547	1000	21-80	34-55
			Right hand + left hand		
			Rating (A)	Weight (kg) Aluminium Copper	
1	50400551		160	10-29	–
1	50400552	55400552	250	10-55	12-23
1	50400553	55400553	315	11-06	12-97
1	50400554	55400554	400	18-37	15-72
1	50400558		500	19-50	–
1	50400555	55400555	630	20-55	25-77
1	50400556	55400556	800	21-20	30-88
1	50400557 ¹	55400557	1000	21-80	34-55
			Left hand + right hand		
			Rating (A)	Weight (kg) Aluminium Copper	
1	50400561		160	10-29	–
1	50400562	55400562	250	10-55	12-23
1	50400563	55400563	315	11-06	12-97
1	50400564	55400564	400	18-37	15-72
1	50400568		500	19-50	–
1	50400565	55400565	630	20-55	25-77
1	50400566	55400566	800	21-20	30-88
1	50400567 ¹	55400567	1000	21-80	34-55
			Left hand + left hand		
			Rating (A)	Weight (kg) Aluminium Copper	
1	50400571		160	10-29	–
1	50400572	55400572	250	10-55	12-23
1	50400573	55400573	315	11-06	12-97
1	50400574	55400574	400	18-37	15-72
1	50400578		500	19-50	–
1	50400575	55400575	630	20-55	25-77
1	50400576	55400576	800	21-20	30-88
1	50400577 ¹	55400577	1000	21-80	34-55

Please specify required length when ordering

Right hand + right hand

300 to 900 mm per arm

Rating (A)	
160	
250	
315	
400	
500	
630	
800	
1000	

Right hand + left hand

300 to 900 mm per arm

Rating (A)	
160	
250	
315	
400	
500	
630	
800	
1000	

Left hand + right hand

300 to 900 mm per arm

Rating (A)	
160	
250	
315	
400	
500	
630	
800	
1000	

Left hand + left hand

300 to 900 mm per arm

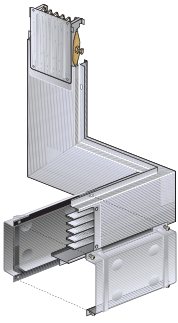
Rating (A)	
160	
250	
315	
400	
500	
630	
800	
1000	

Key : How to select the correct configuration and finish
 All examples on this page show 4 conductor galvanised lengths
 No. of conductors and finish is dictated by the red number
 0 = 4 conductors. Galvanised 2 = 4 conductors. Painted
 1 = 5 conductors. Galvanised 3 = 5 conductors. Painted
 Replace 0 with 1, 2, or 3 if required

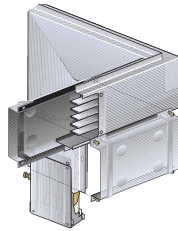
1 : The 1000 A aluminium is supplied painted as standard

MR medium rating busbar

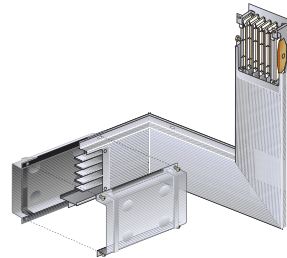
combination horizontal + vertical elbows



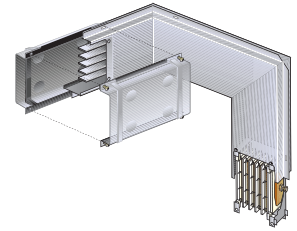
Combination horizontal + vertical elbows right + right hand



Combination horizontal + vertical elbows right + left hand



Combination horizontal + vertical elbows left + right hand



Combination horizontal + vertical elbows left + left hand



Dimensions and technical information **p. 44**
Measuring bespoke dimensions **p. 49**

MR is fully compliant with BS EN 60439-2
Rated currents are at an average ambient temperature of 40° C (over and above the required standard of 35° C)
Angles are 90° as standard. Other angles available on request. IP 55 (according to BS EN 60529)

Pack	Cat. Nos.		Combination horizontal + vertical elbows – standard dimensions (300 + 300 + 300 mm)		
	Aluminium	Copper	Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400601		160	10.29	–
1	50400602	55400602	250	10.55	12.23
1	50400603	55400603	315	11.06	12.97
1	50400604	55400604	400	18.37	15.72
1	50400608		500	19.50	–
1	50400605	55400605	630	20.55	25.77
1	50400606	55400606	800	21.20	30.88
1	50400607 ¹	55400607	1000	21.80	34.55
			Right hand + left hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400611		160	10.29	–
1	50400612	55400612	250	10.55	12.23
1	50400613	55400613	315	11.06	12.97
1	50400614	55400614	400	18.37	15.72
1	50400618		500	19.50	–
1	50400615	55400615	630	20.55	25.77
1	50400616	55400616	800	21.20	30.88
1	50400617 ¹	55400617	1000	21.80	34.55
			Left hand + right hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400621		160	10.29	–
1	50400622	55400622	250	10.55	12.23
1	50400623	55400623	315	11.06	12.97
1	50400624	55400624	400	18.37	15.72
1	50400628		500	19.50	–
1	50400625	55400625	630	20.55	25.77
1	50400626	55400626	800	21.20	30.88
1	50400627 ¹	55400627	1000	21.80	34.55
			Left hand + left hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400631		160	10.29	–
1	50400632	55400632	250	10.55	12.23
1	50400633	55400633	315	11.06	12.97
1	50400634	55400634	400	18.37	15.72
1	50400638		500	19.50	–
1	50400635	55400635	630	20.55	25.77
1	50400636	55400636	800	21.20	30.88
1	50400637 ¹	55400637	1000	21.80	34.55

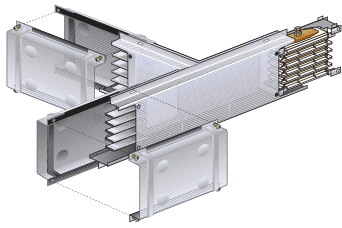
Pack	Cat. Nos.		Combination horizontal + vertical elbows – bespoke dimensions		
	Aluminium	Copper	Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400641		160	10.29	–
1	50400642	55400642	250	10.55	12.23
1	50400643	55400643	315	11.06	12.97
1	50400644	55400644	400	18.37	15.72
1	50400648		500	19.50	–
1	50400645	55400645	630	20.55	25.77
1	50400646	55400646	800	21.20	30.88
1	50400647 ¹	55400647	1000	21.80	34.55
			Right hand + left hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400651		160	10.29	–
1	50400652	55400652	250	10.55	12.23
1	50400653	55400653	315	11.06	12.97
1	50400654	55400654	400	18.37	15.72
1	50400658		500	19.50	–
1	50400655	55400655	630	20.55	25.77
1	50400656	55400656	800	21.20	30.88
1	50400657 ¹	55400657	1000	21.80	34.55
			Left hand + right hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400661		160	10.29	–
1	50400662	55400662	250	10.55	12.23
1	50400663	55400663	315	11.06	12.97
1	50400664	55400664	400	18.37	15.72
1	50400668		500	19.50	–
1	50400665	55400665	630	20.55	25.77
1	50400666	55400666	800	21.20	30.88
1	50400667 ¹	55400667	1000	21.80	34.55
			Left hand + left hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400671		160	10.29	–
1	50400672	55400672	250	10.55	12.23
1	50400673	55400673	315	11.06	12.97
1	50400674	55400674	400	18.37	15.72
1	50400678		500	19.50	–
1	50400675	55400675	630	20.55	25.77
1	50400676	55400676	800	21.20	30.88
1	50400677 ¹	55400677	1000	21.80	34.55

Key : How to select the correct configuration and finish
All examples on this page show 4 conductor galvanised lengths
No. of conductors and finish is dictated by the red number
0 = 4 conductors. Galvanised 2 = 4 conductors. Painted
1 = 5 conductors. Galvanised 3 = 5 conductors. Painted
Replace 0 with 1, 2, or 3 if required

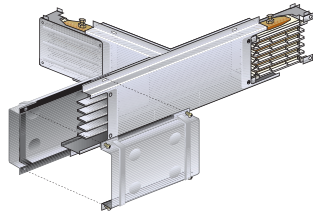
1 : The 1000 A aluminium is supplied painted as standard

MR medium rating busbar

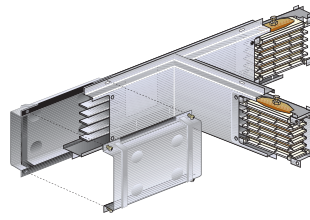
horizontal tees and crossovers



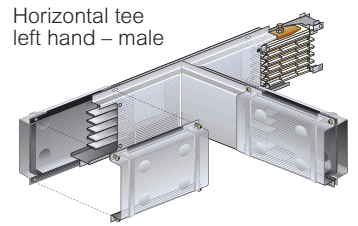
Horizontal tee
right hand – female



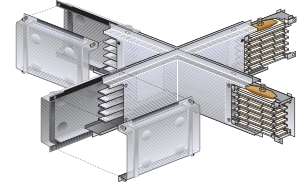
Horizontal tee
right hand – male



Horizontal tee
left hand – female



Horizontal tee
left hand – male



Crossover

 **Dimensions and technical information p. 45**
Measuring bespoke dimensions p. 49

MR is fully compliant with BS EN 60439-2
Rated currents are at an average ambient temperature of 40° C
(over and above the required standard of 35° C)
Angles are 90° as standard. Other angles available on request
IP 55 (according to BS EN 60529)

Pack	Cat. Nos.		Horizontal tees – standard dimension (300 + 300 + 300 mm)		
	Aluminium	Copper	Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400701		160	11.2	–
1	50400702	55400702	250	11.4	12.8
1	50400703	55400703	315	11.8	13.4
1	50400704	55400704	400	18.4	15.7
1	50400708		500	19.5	–
1	50400705	55400705	630	20.0	24.4
1	50400706	55400706	800	20.5	28.5
1	50400707 ¹	55400707	1000	21.0	31.3
			Right hand – male		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400711		160	11.2	–
1	50400712	55400712	250	11.4	12.8
1	50400713	55400713	315	11.8	13.4
1	50400714	55400714	400	18.4	15.7
1	50400718		500	19.5	–
1	50400715	55400715	630	20.0	24.4
1	50400716	55400716	800	20.5	28.5
1	50400717 ¹	55400717	1000	21.0	31.3
			Left hand – female		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400721		160	11.2	–
1	50400722	55400722	250	11.4	12.8
1	50400723	55400723	315	11.8	13.4
1	50400724	55400724	400	18.4	15.7
1	50400728		500	19.5	–
1	50400725	55400725	630	20.0	24.4
1	50400726	55400726	800	20.5	28.5
1	50400727 ¹	55400727	1000	21.0	31.3
			Left hand – male		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50400731		160	11.2	–
1	50400732	55400732	250	11.4	12.8
1	50400733	55400733	315	11.8	13.4
1	50400734	55400734	400	18.4	15.7
1	50400738		500	19.5	–
1	50400735	55400735	630	20.0	24.4
1	50400736	55400736	800	20.5	28.5
1	50400737 ¹	55400737	1000	21.0	31.3

Pack	Cat. Nos.	
	Aluminium	Copper
1	50400741	
1	50400742	55400742
1	50400743	55400743
1	50400744	55400744
1	50400748	
1	50400745	55400745
1	50400746	55400746
1	50400747 ¹	55400747
1	50400751	
1	50400752	55400752
1	50400753	55400753
1	50400754	55400754
1	50400758	
1	50400755	55400755
1	50400756	55400756
1	50400757 ¹	55400757
1	50400761	
1	50400762	55400762
1	50400763	55400763
1	50400764	55400764
1	50400768	
1	50400765	55400765
1	50400766	55400766
1	50400767 ¹	55400767
1	50400771	
1	50400772	55400772
1	50400773	55400773
1	50400774	55400774
1	50400778	
1	50400775	55400775
1	50400776	55400776
1	50400777 ¹	55400777

Horizontal tees – bespoke dimensions

Please specify required length when ordering
Arms can be 250 to 900 mm

Right hand – female

Rating (A)
160
250
315
400
500
630
800
1000

Right hand – male

Rating (A)
160
250
315
400
500
630
800
1000

Left hand – female

Rating (A)
160
250
315
400
500
630
800
1000





Left hand – male

Rating (A)
160
250
315
400
500
630
800
1000

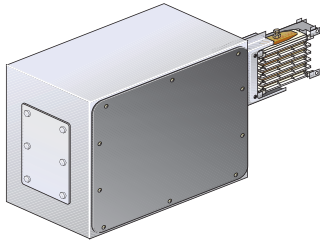
Crossovers – standard dimension (300 + 300 + 300 + 300 mm)

Pack	Cat. Nos.		Rating (A)	Weight (kg)	
	Aluminium	Copper		Aluminium	Copper
1	50403001		160	15.5	–
1	50403002	55403002	250	15.7	17.6
1	50403003	55403003	315	16.1	18.4
1	50403004	55403004	400	27.5	21.1
1	50403008		500	29.3	–
1	50403005	55403005	630	29.1	35.2
1	50403006	55403006	800	29.5	40.2
1	50403007 ¹	55403007	1000	29.9	43.7

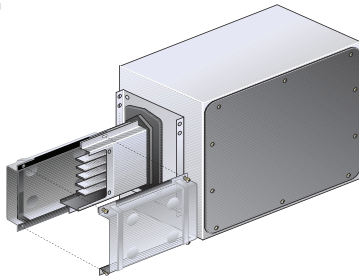
1 : The 1000 A aluminium is supplied painted as standard

Key : How to select the correct configuration and finish
All examples on this page show 4 conductor galvanised lengths
No. of conductors and finish is dictated by the red number
0 =  4 conductors. Galvanised **2** =  4 conductors. Painted
1 =  5 conductors. Galvanised **3** =  5 conductors. Painted
Replace 0 with 1, 2, or 3 if required

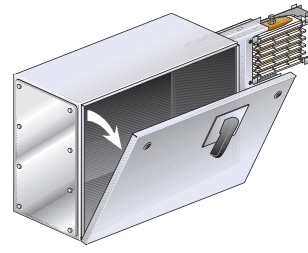
MR medium rating busbar feed units



Feed unit left end



Feed unit right end



Right end up feed unit with AC23 switch disconnecter







End stop

 Dimensions and technical information p. 45
Measuring bespoke dimensions p. 49

MR is fully compliant with BS EN 60439-2
Rated currents are at an average ambient temperature of 40° C (over and above the required standard of 35° C)
IP 55 (according to BS EN 60529)

Pack	Cat. Nos.		Feed units		
Metal end feed units					
For plates and hole dimensions refer to switchboard-transformer feed units with same rating (p. 38)					
Left end					
	Aluminium	Copper	Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50401131		160	17.74	—
1	50401132	55401132	250	17.76	18.47
1	50401133	55401133	315	17.83	18.70
1	50401134	55401134	400	23.22	19.58
1	50401138		500	23.20	—
1	50401135	55401135	630	23.63	26.07
1	50401136	55401136	800	23.70	27.80
1	50401137	55401137	1000	24.00	29.03
Right end					
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50401121		160	16.64	—
1	50401122	55401122	250	16.76	17.37
1	50401123	55401123	315	17.03	17.70
1	50401124	55401124	400	18.32	18.88
1	50401128		500	20.00	—
1	50401125	55401125	630	19.43	21.17
1	50401126	55401126	800	19.80	23.30
1	50401127	55401127	1000	20.20	24.83
Plastic end feed units					
Terminals accept cables up to 150 mm ² . For higher ratings attach cable lugs to spreaders provided					
Left end					
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50401111		160	6.80	—
1	50401112	55401112	250	6.85	7.20
Right end					
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50401101		160	5.70	—
1	50401102	55401102	250	5.85	6.10

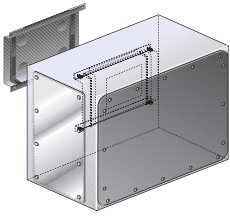
Pack	Cat. Nos.		Feed units (continued)		
End feed unit with AC23 switch disconnecter					
This feed unit allows isolation of the line for maintenance					
Right end up					
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50403401		160	17.94	—
1	50403402	55403402	250	18.10	19.12
1	50403403	55403403	315	18.86	19.40
1	50403404	55403404	400	21.79	20.34
1	50403408		500	22.42	—
1	50403405	55403405	630	23.64	26.88
1	50403406	55403406	800	24.95	28.67
1	50403407	55403407	1000	26.50	29.95
Right end down					
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50403411		160	17.94	—
1	50403412	55403412	250	18.10	19.12
1	50403413	55403413	315	18.86	19.40
1	50403414	55403414	400	21.79	20.34
1	50403418		500	22.42	—
1	50403415	55403415	630	23.64	26.88
1	50403416	55403416	800	24.95	28.67
1	50403417	55403417	1000	26.50	29.95
Left end up					
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50403421		160	17.94	—
1	50403422	55403422	250	18.10	19.12
1	50403423	55403423	315	18.86	19.40
1	50403424	55403424	400	21.79	20.34
1	50403428		500	22.42	—
1	50403425	55403425	630	23.64	26.88
1	50403426	55403426	800	24.95	28.67
1	50403427	55403427	1000	26.50	29.95
Left end down					
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50403431		160	17.94	—
1	50403432	55403432	250	18.10	19.12
1	50403433	55403433	315	18.86	19.40
1	50403434	55403434	400	21.79	20.34
1	50403438		500	22.42	—
1	50403435	55403435	630	23.64	26.88
1	50403436	55403436	800	24.95	28.67
1	50403437	55403437	1000	26.50	29.95

Key : How to select the correct configuration and finish
 All examples on this page show 4 conductor galvanised lengths
 No. of conductors and finish is dictated by the red number
 0 =  4 conductors. Galvanised 2 =  4 conductors. Painted
 1 =  5 conductors. Galvanised 3 =  5 conductors. Painted
 Replace 0 with 1, 2, or 3 if required

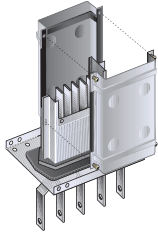
Pack	Cat. Nos.	End stops
1	50403101	Ensure IP 55 protection at the end of the run For right and left feed units 160 – 315 A - for aluminium 250 – 400 A - for copper
1	50403102	400 – 1000 A - for aluminium 630 – 1000 A - for copper

MR medium rating busbar

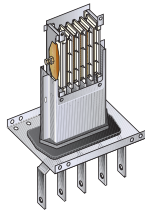
feed units (continued), in-line bus switcher and reducers



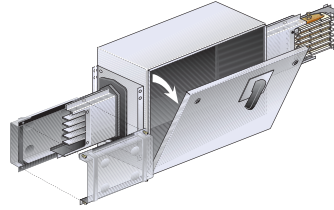
Centre feed unit



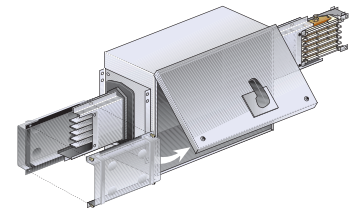
Switchboard-transformer feed units right hand



Switchboard-transformer feed units left hand



In-line bus switch right hand



In-line bus switch left hand



Dimensions and technical information p. 45-46

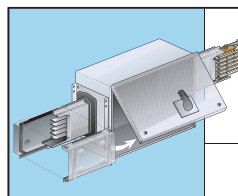
MR is fully compliant with BS EN 60439-2

Rated currents are at an average ambient temperature of 40° C (over and above the required standard of 35° C)
IP 55 (according to BS EN 60529)

Pack	Cat. Nos.		Feed units (continued)		
			Centre feed units		
			Feeds a trunking system from an intermediate position along the run. Also used to reduce the volt drop of the line		
	Aluminium	Copper	Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50401201		160	17-27	—
1	50401202	55401202	250	18-13	19-12
1	50401203	55401203	315	18-88	19-40
1	50401204	55401204	400	22-06	20-34
1	50401208		500	22-65	—
1	50401205	55401205	630	23-24	26-88
1	50401206	55401206	800	24-02	28-67
1	50401207	55401207	1000	25-70	29-95
			Switchboard-transformer feed units		
			Feed unit for direct connection of the busbar to a switchboard or to the low voltage terminals of a distribution transformer		
			Right hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50401001		160	4-9	—
1	50401002	55401002	250	5-1	5-7
1	50401003	55401003	315	5-3	6-0
1	50401004	55401004	400	6-4	9-2
1	50401008		500	6-9	—
1	50401005	55401005	630	7-5	9-3
1	50401006	55401006	800	7-9	11-4
1	50401007	55401007	1000	8-3	12-9
			Left hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50401011		160	6-0	—
1	50401012	55401012	250	6-1	6-7
1	50401013	55401013	315	6-2	7-0
1	50401014	55401014	400	11-3	7-8
1	50401018		500	11-4	—
1	50401015	55401015	630	11-7	14-2
1	50401016	55401016	800	11-8	15-9
1	50401017	55401017	1000	12-5	17-1

Pack	Cat. Nos.		In-line bus switches		
			Allows disconnection of part of a line, while the other is live		
			Right hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	Aluminium	Copper	160	23-54	—
1	50401701		250	23-56	24-27
1	50401702	55401702	315	23-63	24-50
1	50401703	55401703	400	29-32	25-38
1	50401704	55401704	500	29-50	—
1	50401708		630	29-73	32-17
1	50401705	55401705	800	29-80	33-90
1	50401706	55401706	1000	32-11	35-13
1	50401707	55401707			
			Left hand		
			Rating (A)	Weight (kg)	
				Aluminium	Copper
1	50401721		160	23-54	—
1	50401722	55401722	250	23-56	24-27
1	50401723	55401723	315	23-63	24-50
1	50401724	55401724	400	29-32	25-38
1	50401728		500	29-50	—
1	50401725	55401725	630	29-73	32-17
1	50401726	55401726	800	29-80	33-90
1	50401727	55401727	1000	32-11	35-13

Key : How to select the correct configuration and finish
 All examples on this page show 4 conductor galvanised lengths
 No. of conductors and finish is dictated by the red number
 0 = 4 conductors. Galvanised 2 = 4 conductors. Painted
 1 = 5 conductors. Galvanised 3 = 5 conductors. Painted
 Replace 0 with 1, 2, or 3 if required



Rating reducers with disconnecter and fuse holder also available

Contact us on +44 (0) 845 600 6266








MR tap-off boxes : plug-in type up to 32 A

32 A plug-in tap-offs – Empty

Energy withstand 400 · 10³ A²s

Type 1 – Max. power losses 16 W

Type 2 – Max. power losses 20 W

	Complete with 3 x CH10 fuse holders		Transparent hinged door and 4 mod. DIN rail		With 8 mod. DIN rail		Transparent hinged door and 8 mod. DIN rail		Transparent hinged door and 8 mod. DIN rail. Plus 3 N + 3 PE terminals		With 12 mod. DIN rail		Transparent hinged door and 12 mod. DIN rail
Cat. Nos.	50414062	50414063	50414063	50414061	50414061	50414064	50414064	50414241	50414241	50414071	50414071	50414075	50414075
Weight (kg)	1.75	1.7	1.7	1.6	1.6	1.7	1.7	1.94	1.94	1.9	1.9	2.05	2.05

32 A plug-in tap-offs – fitted complete with TYPE B MCBs

Energy withstand 400 · 10³ A²s

Type 1 – Max. power losses 16 W




Rating

3 x 1P

3 x (1P + N)

3P

4P

	Transparent hinged door and 8 mod. DIN rail	10 A	Cat. Nos.	50414101	50414102	50414103	–
			Weight (kg)	2.28	2.18	2.23	–
	Transparent hinged door and 4 mod. DIN rail	16 A	Cat. Nos.	–	–	50414129	50414130
			Weight (kg)	–	–	2.15	2.29
	Transparent hinged door and 8 mod. DIN rail. Plus 3 N + 3 PE terminals	16 A	Cat. Nos.	50414123	50414124	50414125	50414126
			Weight (kg)	2.46	2.38	2.42	2.56

32 A plug-in tap-offs – fitted complete with TYPE C MCBs

Energy withstand 400 · 10³ A²s

Type 1 – Max. power losses 16 W

Rating



3 x 1P

3 x (1P + N)




3P

4P

Ready for MCB

	Transparent hinged door and 4 mod. DIN rail	16 A	Cat. Nos.	–	–	50414127	50414128	–
			Weight (kg)	–	–	2.15	2.29	–
		32 A	Cat. Nos.	–	–	50414143	50414144	–
			Weight (kg)	–	–	2.18	2.36	–
	Transparent hinged door and 8 mod. DIN rail. Plus 3 N + 3 PE terminals	32 A	Cat. Nos.	–	–	50414141	50414142	–
			Weight (kg)	–	–	2.48	2.65	–

Type 2 – Max. power losses 20 W

	Transparent hinged door and 8 mod. DIN rail. Plus 1 x 16 A 3P socket	16 A	Cat. Nos.	–	–	50414186	50414187	–
			Weight (kg)	–	–	2.78	2.92	–
	Transparent hinged door and 8 mod. DIN rail. Plus 1 x 32 A 3P socket	32 A	Cat. Nos.	–	–	50414191	50414192	–
			Weight (kg)	–	–	2.91	3.06	–
	Transparent hinged door and 8 mod. DIN rail. Plus 2 x 16 A 3P sockets	16 A	Cat. Nos.	–	–	50414184	50414185	50414282
			Weight (kg)	–	–	3.14	3.23	2.49
	Transparent hinged door and 8 mod. DIN rail. Plus 2 x 32 A 3P sockets	32 A	Cat. Nos.	–	–	–	–	50414291
			Weight (kg)	–	–	–	–	2.59
	Transparent hinged door and 8 mod. DIN rail. Plus 3 x 16 A 2P + E sockets	16 A	Cat. Nos.	50414181	50414182	50414183	–	50414281
			Weight (kg)	3.05	3.2	3.18	–	2.55

MR tap-off boxes : plug-in type 32-630 A

MR tap-off boxes from 10 to 1 000 A can accommodate different protection devices, including fuses, MCBs or MCCBs. Can be operated when energised and under load conditions up to a rating of 32 A due to the integration of an isolating device within the cover. All insulating plastic components comply with the incandescent wire test (EN 60695-2-1) and have a V2 self extinguishing degree (UL94). Standard degree of protection is IP 55 without using additional protection kits. For dimensions, technical information and mounting instructions **see p. 47-48**

Plug-in tap-offs with fuse carriers (or empty) 63-400 A

	TYPE 3		TYPE 4					TYPE 5		
Rating	32 A	63 A	100 A	125 A		160 A	250 A	400 A		
Fuse Carrier	CH10 (Ø10·3 x 38)	TIA / TIS	TCP	Empty	NH 0	NH 00	NH 0	NH 1	(Neutral section 50%)	
									Empty	NH 1
Cat. Nos.	55655051	55055062	55055063	55055055	55055053	55055057	50404004	55655057	55655059	55655058
Weight (kg)	0·85	3·2	3·3	2·9	3·35	3·35	3·6	14·9	14·3	15·8

Plug-in tap-offs fitted with DIN rail and transparent hinged window 63-400 A

		TYPE 4				TYPE 5	
		Can fit some MCCBs		Not suitable for MCCBs			
Rating		4 mod. DIN rail	8 mod. DIN rail	8 mod. DIN rail	11 mod. DIN rail	7 mod. DIN rail	11 + 11 mod. DIN rail
63 A	Cat. Nos.	–	–	55055086	55055088	–	–
	Weight (kg)	–	–	3·2	3·6	–	–
125 A	Cat. Nos.	55055066	55055077	55055056	55055068	–	–
	Weight (kg)	3·0	3·0	3·2	3·6	–	–
160 A	Cat. Nos.	50404024	–	–	–	–	–
	Weight (kg)	3·6	–	–	–	–	–
400 A	Cat. Nos.	–	–	–	–	55055070	55055071
	Weight (kg)	–	–	–	–	13·4	15·3

Plug-in heavy duty metal tap-offs 63-630 A

		TYPE 6			TYPE 7	TYPE 8	
These PE + FE tap-off boxes have separate terminals for the two parallel earths (casing and conductor) PE = protection earth FE = functional earth							
	Rating	63 A	125 A	160 A	250 A	400 A	630 A
Empty version	Cat. Nos.	50414001	50414002	50414003	50414004	–	50414005
	Weight (kg)	8·60	8·80	8·80	23	–	25
With fuse holder	Cat. Nos.	50414021 CH22 (Ø22 x 58)	50414022 NH 00	50414023 NH 00	50414024 NH 2	50414026 NH 2	50414025 NH 3
	Weight (kg)	8·75	8·90	9·10	25	33	33
With switch disconnecter and fuseholder (AC23)	Cat. Nos.	50411601 NH 00	50411622 NH 00	50411623 NH 0	50411624 NH 1	50411625 NH 2	50411646 NH 3
	Weight (kg)	9·50	9·70	9·70	30	38	38



For dimensions, technical information and mounting instructions **see p. 47-48**

MR tap-off boxes : plug-in type 125-630 A - fully equipped

bolt-on type 630-1 000 A

Plug-in type

Fully equipped tap-offs – toggle handle MCCBs : 25-125 A

Tap-off rating	Breaker rating	3 pole MCCB with toggle handle	4 pole MCCB with toggle handle
125 A	25 A	55055066M3TA	55055077M4TA
	40 A	55055066M3TB	55055077M4TB
	63 A	55055066M3TC	55055077M4TC
	100 A	55055066M3TD	55055077M4TD
	125 A	55055066M3TE	55055077M4TE

MCCBs, R type and J type fuse carriers that meet EDF regulations are also available

**Contact us on
+44 (0) 845 600 6266**

Tap-off boxes can be supplied with Castel locks

**Contact us on
+44 (0) 845 600 6266**

Fully equipped tap-offs – rotary handle MCCBs : 25-630 A¹

Tap-off rating	Breaker rating	3 pole MCCB with rotary handle	4 pole MCCB with rotary handle	With free issue MCCB
125 A	25 A	50414003M3RA	50414003M4RA	50414003MFA
	40 A	50414003M3RB	50414003M4RB	50414003MFB
	63 A	50414003M3RC	50414003M4RC	50414003MFC
	100 A	50414003M3RD	50414003M4RD	50414003MFD
	125 A	50414003M3RE	50414003M4RE	50414003MFE
	160 A	50414003M3RF	50414003M4RF	50414003MFF
250 A	200 A	50414003M3RG	50414003M4RG	50414003MFG
	250 A	50414003M3RH	50414003M4RH	50414003MFH
630 A	400 A	50414003M3RI	50414003M4RI	50414003MFI
	630 A	50414003M3RJ	50414003M4RJ	50414003MFJ

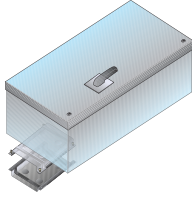
Fully equipped tap-offs – with protection and multifunction meters : 63-160 A¹

Tap-off rating	Breaker rating	3 pole MCCB with multifunction meter	Fusible tap-off with multifunction meter
160 A	63 A	50414003M3MC	50414023FMC
	100 A	50414003M3MD	50414023FMD
	125 A	50414003M3ME	50414023FME
	160 A	50414003M3MF	50414023FMF

¹ : For MCCB technical data, see p. 118-125

Bolt-on type

Bolt-on tap-offs – with switch disconnecter and fuse holder (AC23)

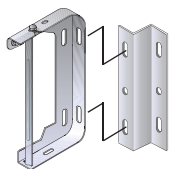
	Positioned in the joint between straight lengths As this connection affects live conductors, it cannot be carried out when the line is live – the line must be isolated	Busbar rating		Tap-off size		
				630 A – NH 3 TYPE 9	800 A – NH 4 TYPE 10	1 000 A – NH 4 TYPE 10
				Cat. Nos.	Weight (kg)	
Busbar system	Aluminium	630 A	Cat. Nos.	50401801	–	–
			Weight (kg)	59	–	–
		800 A	Cat. Nos.	50401802	50401804	–
			Weight (kg)	59	89	–
		1 000 A	Cat. Nos.	50401803	50401805	50401806
			Weight (kg)	59	89	89
Copper	630 A	Cat. Nos.	55401801	–	–	
		Weight (kg)	59	–	–	
	800 A	Cat. Nos.	55401802	55401804	–	
		Weight (kg)	59	89	–	
1 000 A	Cat. Nos.	55401803	55401805	55401806		
Weight (kg)	59	89	89			



For dimensions, technical information and mounting instructions see p. 47-48

MR medium rating busbar

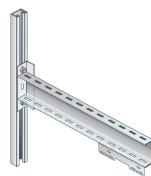
fixing accessories



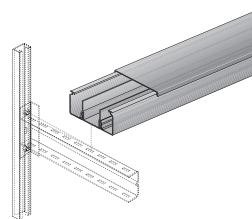
50632001 +
50632205



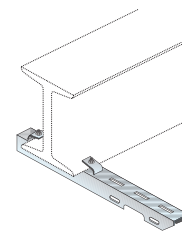
50403711



50632212



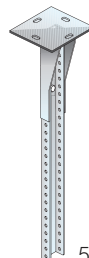
50630110



50632210 +
50632211



50403712



50632201 + 50632202



Dimensions and technical information p. 49
Measuring special dimensions p. 49

The MR series offers a wide range of brackets and fixing accessories that enable quick and simple installation for a wide range of applications. The MR series can be mounted on horizontal or vertical surfaces or mounted directly on to beams. Various spacers, spring suspension hangers and adjustable arms are available to meet the requirements of complex installations

Pack	Cat. Nos.	Fixing accessories for general and rising mains applications	Pack	Cat. Nos.	Fixing accessories for other applications
		Suspension brackets			Wall fixing bracket
		Use 1 bracket every 2 m			Adjustable height and depth arm. Bracket holder can be coupled with MS and MR brackets
1	50632001	Weight : 0.55 kg For use with aluminium rated 160, 250, 315 A and copper rated 250, 315, 400 A	1	50632212	Length (m) Weight (kg) Load on end point
1	50632003	Weight : 0.60 kg For use with aluminium rated 400, 500, 630, 800 A and copper rated 630, 800, 1 000 A	1	50632213	0.45 2.80 pmax=80 kg
		Wall spacer	1	50632214	0.55 3.00 pmax=68 kg
		Used when suspension bracket is fixed directly to the wall			0.75 3.50 pmax=50 kg
1	50632205	Weight : 0.05 kg			Ceiling fixing bracket kit
		Suspension hanger for rising main	1	50632201	Comprises a base to be fixed to the ceiling and various length struts that accept MR brackets
		For vertical trunking lengths. Suitable for rising mains up to 4 m and for weights up to 300 kg			Base
		Must be used in conjunction with Cat. Nos. 50632001 or 50632003			Length (m) Weight (kg)
		1 bracket at the base of the rising main			- 2.80
		Maximum use distance 4 m			Strut
1	50403711	Weight : 1.05 kg	1	50632202	Length (m) Weight (kg)
		Spring suspension hanger for rising main	1	50632203	0.50 3.00
		Use 1 hanger every 300 kg (see weight table, p. 148-149)	1	50632204	1.00 3.50
		Minimum use distance 4 m	1		2.00 3.50
1	50403712	Weight : 1.20 kg			Beam fixing bracket
					Comprises a beam shelf base and two beam clamps
					Beam shelf base
					Length (m) Weight (kg) Load on end point
			1	50632210	0.54 0.90 pmax=65 kg
			1	50632211	Beam clamp
					Triple cable channel
			1	50630110	110 x 60 mm with 3 sectors. PVC Length : 3 m

MR medium rating busbar

technical information

■ General features

MR is fully compliant with BS EN 60439-2, specifically, the rated current of Zucchini busbar trunking systems is always rated at the average ambient temperature of 40°C (the Standard requires 35°C), thus offering the market suitably oversized products

The busbar casing is made from hot-dipped galvanised sheet steel and forms a high strength outer structure, which also serves as the protective conductor (PE) for the MR version

NOTE : 1000 A is supplied painted as standard

The individual conductors are made from either electrolytic copper or electro tin-plated aluminium. Standard MR trunking is supplied with four equal size conductors (TP and N +PE) whereas the optional 5 conductor version includes an additional integral 100% earth bar (TP and N +E)

The degree of protection is IP 55 throughout the system

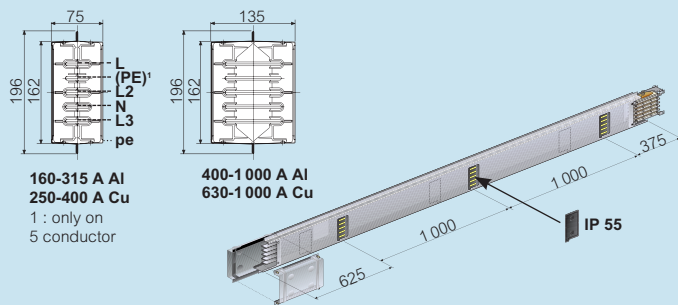
The normal recommended fixing centres for the MR range is 2.0 m

The jointing of MR lengths is done by overlapping two lengths and fastening the special locating screws. The 'monobloc' joint is then tightened by a double headed shear bolt to complete the electrical connection. A joint cover is then positioned to complete the joint

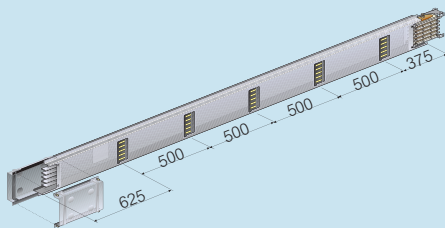
■ Trunking lengths – 3 m

The components and features of MR straight lengths are :

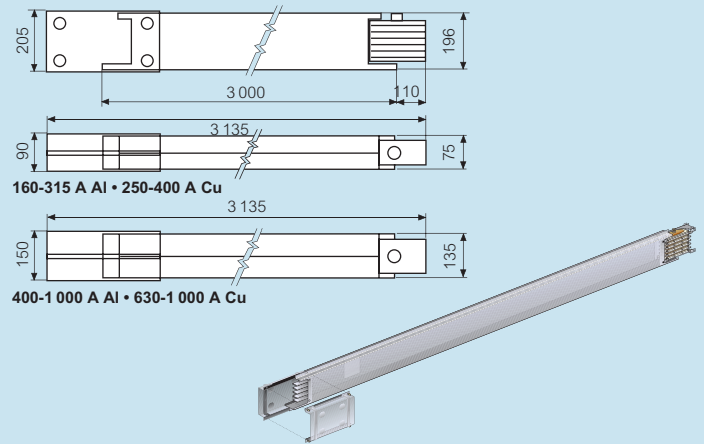
- a casing made of Senzimir quality galvanised steel used as protective earth (PE). NOTE : 1000 A is supplied painted as standard
- overall dimensions : 75 to 135 x 196 mm
- painted casing available on request (contact us on +44 (0) 845 600 6266)
- number of conductors : 4 with the same section (3P + N) with PE made from the casing or 5 when using MR full (3P + N + PE), available in the aluminium or electrolytic copper version with 99.9% purity
- conductors insulators are made of fiberglass reinforced plastic material, ensuring a V1 self-extinguishing degree (according to UL 94), in compliance with the glow-wire test according to IEC 60695-2-10
- tap-off outlets with a constant centre distance of 1 m on both sides of the busbar (3 + 3 outlets every 3 m), set up for being connected to plug-in type tap-off boxes. These outlets open and close automatically when inserting or pulling out a tap-off box
- 'monobloc' electric junction system made with a silver coated copper plate system to connect conductors and PE in a fast and reliable way. The 'monobloc' has shear-head bolts with a preset torque setting which ensure good, long-lasting electrical continuity
- all components and accessories in the MR range are IP 55
- the whole busbar is flame retardant in compliance with the IEC 60332-3 standard



■ Trunking lengths – 3 m with 5 outlets on one side only



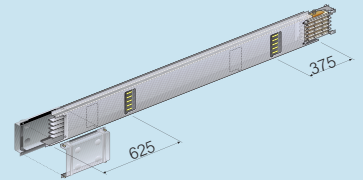
■ Trunking length – 3 m without outlets



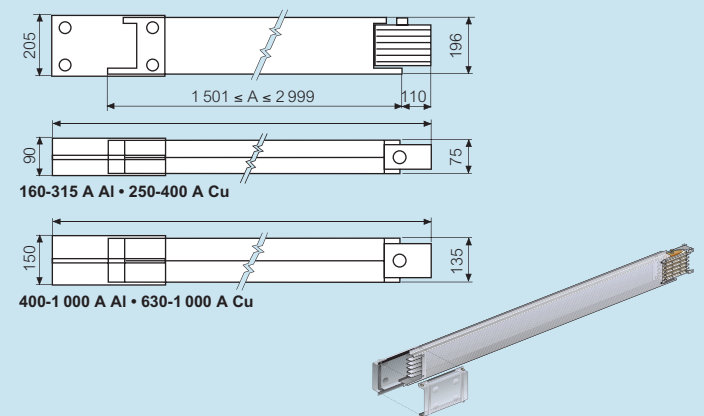
■ Tap-off outlet cover – IP 55



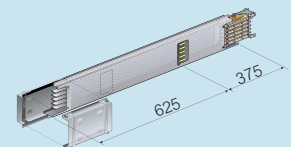
■ Trunking lengths – 1501 to 2999 mm with 2 + 2 outlets



■ Trunking lengths – 1501 to 2999 mm without outlets



■ Trunking lengths – 1000 to 1500 mm with 1 + 1 outlets

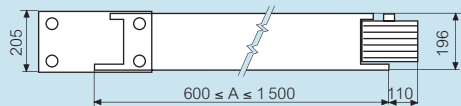


All dimensions (mm) are nominal

MR medium rating busbar

technical information (continued)

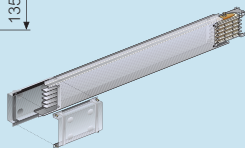
Trunking lengths – 600 to 1500 mm without outlets



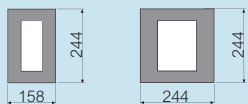
160-315 A Al • 250-400 A Cu



400-1 000 A Al • 630-1 000 A Cu

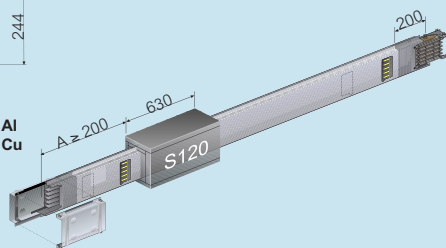


Trunking lengths with S120 fire barrier



160-315 A Al
250-400 A Cu

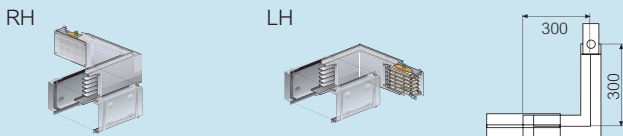
400-1 000 A Al
630-1 000 A Cu



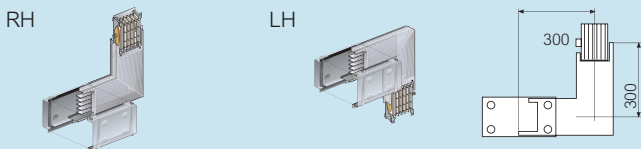
Single elbows – standard dimensions (300 + 300 mm)

90° as standard. Other angles available on request. IP 55 quick connection

Horizontal elbow



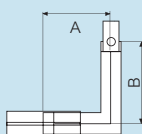
Vertical elbow



Bespoke dimensions

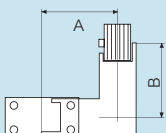
Measure from the long casing to the axis of the elbow (see measuring bespoke dimensions p. 49)

Special horizontal elbow



Bespoke dimensions (mm)		
Min		Max
250 ≤	A	≤ 900
250 ≤	B	≤ 900

Special vertical elbow



Bespoke dimensions (mm)		
Min		Max
300 ≤	A	≤ 900
300 ≤	B	≤ 900

All dimensions (mm) are nominal

Double elbows

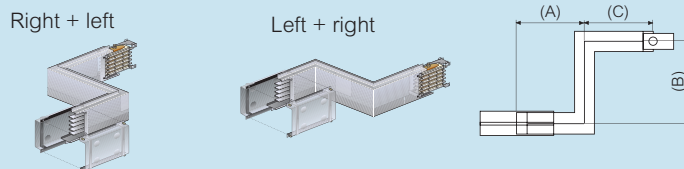
Standard dimensions (300 + 300 + 300 mm)

90° as standard. Other angles available on request. IP 55 quick connection

Bespoke dimensions

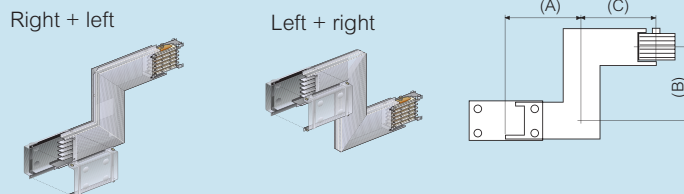
Measure from the long casing to the axis of the elbow

Double horizontal elbow



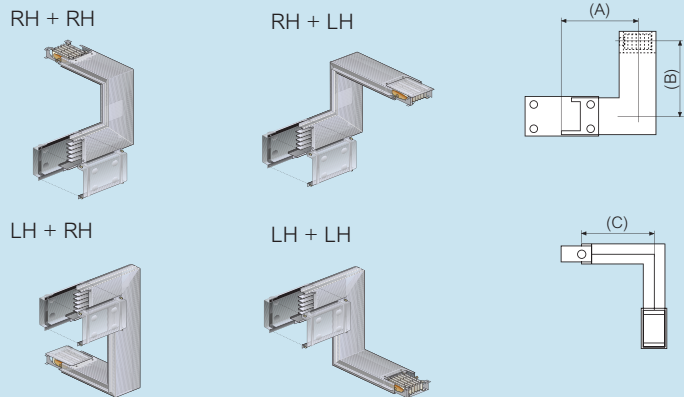
Bespoke dimensions (mm)		
Min		Max
250 ≤	A, B, C	≤ 900

Double vertical elbow



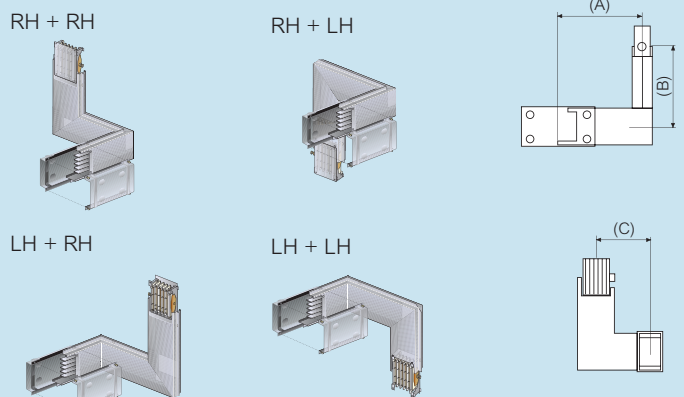
Bespoke dimensions (mm)		
Min		Max
300 ≤	A, B, C	≤ 900

Vertical + horizontal elbows



Bespoke dimensions (mm)		
Min		Max
300 ≤	A, B, C	≤ 900

Horizontal + vertical elbows

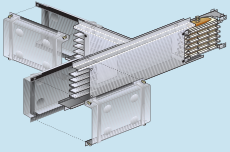


Bespoke dimensions (mm)		
Min		Max
300 ≤	A, B, C	≤ 900

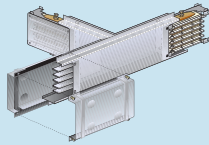
■ **Horizontal tee**

Standard dimensions (300 + 300 + 300 mm)

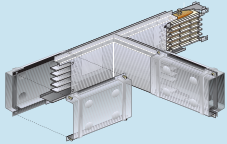
Right hand – female tee



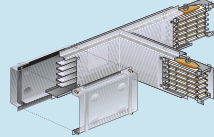
Right hand – male tee



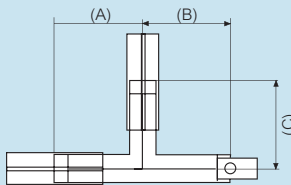
Left hand – female tee



Left hand – male tee

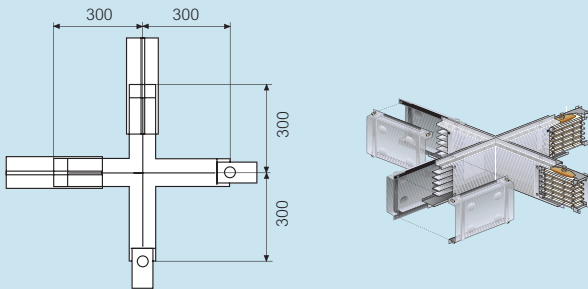


■ **Bespoke dimensions**



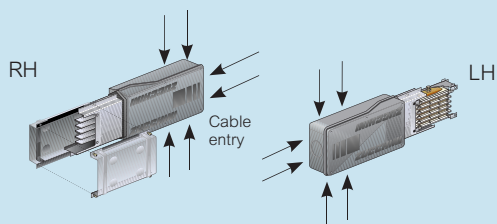
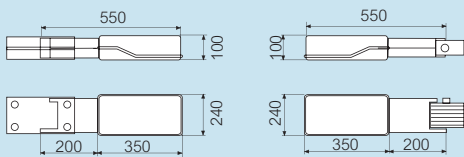
Bespoke dimensions (mm)		
Min		Max
250 ≤	A, B, C	≤ 900

■ **Crossover – standard dimensions (300 + 300 + 300 + 300 mm)**



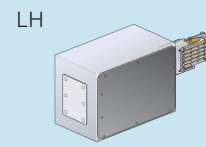
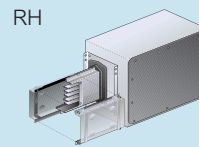
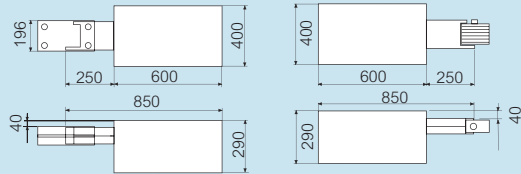
■ **End feed units**

Cable connection : max. sect. (3 x 120 mm² + 1 x 70 mm²) or 3 x 150 mm², max PG 48

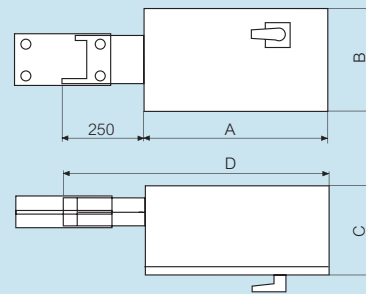


■ **Metal end feed units**

During shipment the stump is positioned in the box to reduce its bulk. Take it out and screw it in the position illustrated here. Opening on the base cable entry : 180 x 290 mm. For plates and holes dimensions, see p. 46 for the switchboard feed unit with the same rating

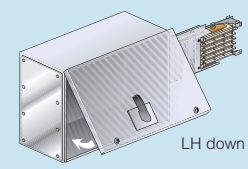
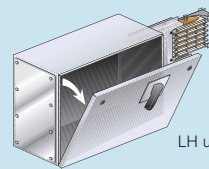
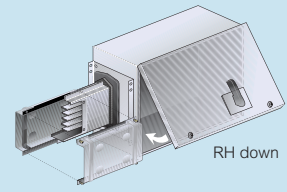
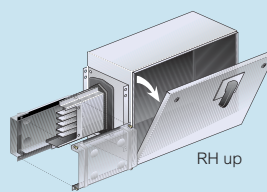


■ **End feed unit with AC23 switch disconnector**

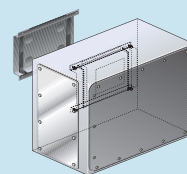
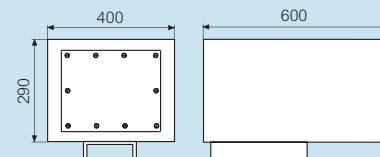


Dimensions (mm)		
	1	2
A	550	1050
B	350	450
C	280	300
D	800	1300

Cable entry dimensions (mm)		
	1	2
	180 x 270	210 x 380



■ **Centre feed units**



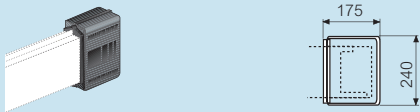
All dimensions (mm) are nominal

MR medium rating busbar

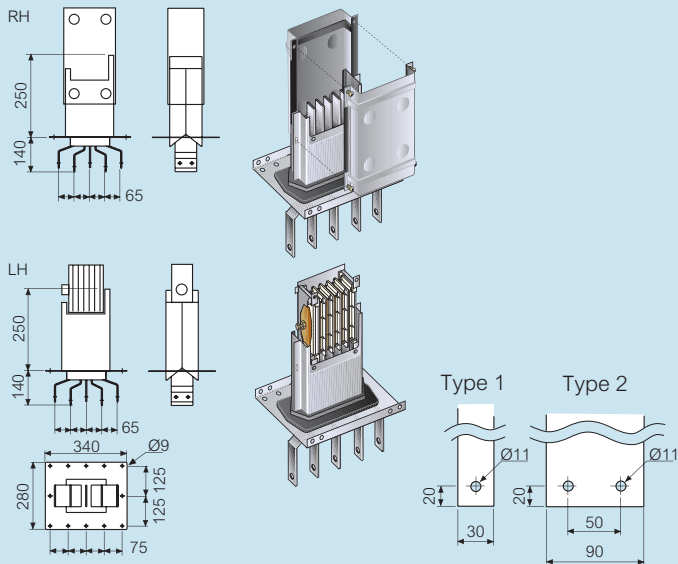
technical information (continued)

■ End stop

Ensures IP 55 protection at the end of the run (EN 60529)

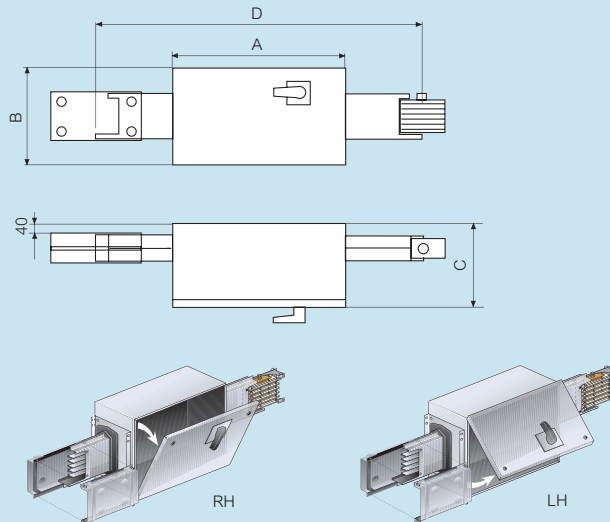


■ Switchboard-transformer feed units



Dimensions (mm)		
	Al	Cu
Type 1	160 A	250 A
	250 A	315 A
	315 A	400 A
Type 2	400 A	630 A
	500 A	800 A
	630 A	1 000 A
	800 A	–
	1 000 A	–

■ In-line bus switch

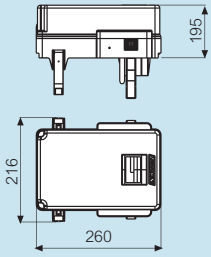


Dimensions (mm)		
Type 1		Type 2
550	A	1 050
350	B	450
280	C	300
1 050	D	1 550

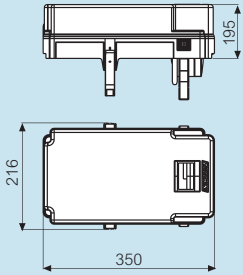
All dimensions (mm) are nominal

■ Tap-off boxes

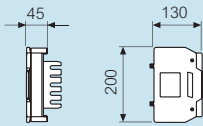
Type 1



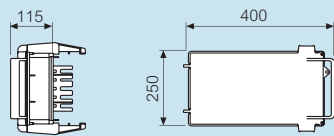
Type 2



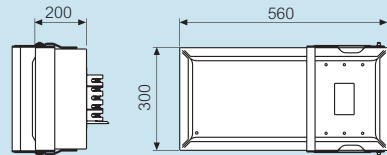
Type 3 32 A



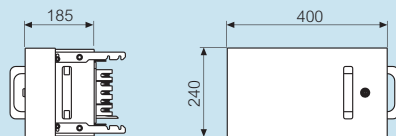
Type 4 63-160 A



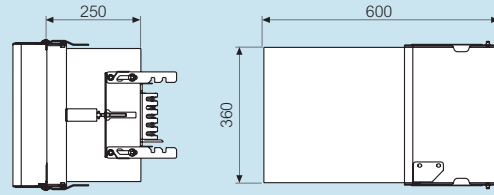
Type 5 250-400 A



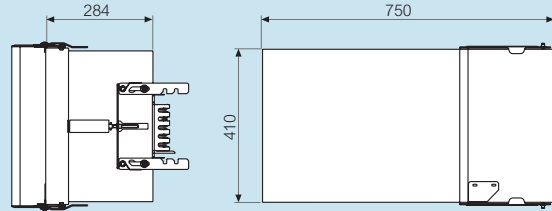
Type 6 63-160 A



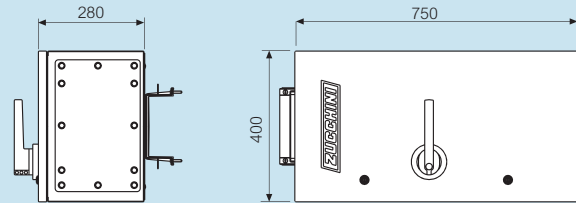
Type 7 250 A



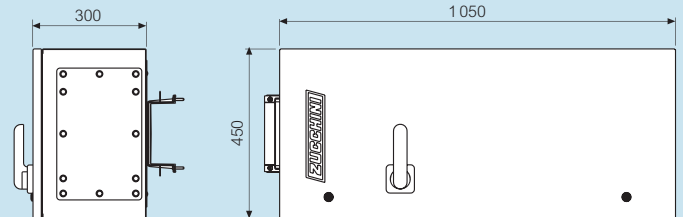
Type 8 400-630 A



Type 9 630 A



Type 10 800-1000 A



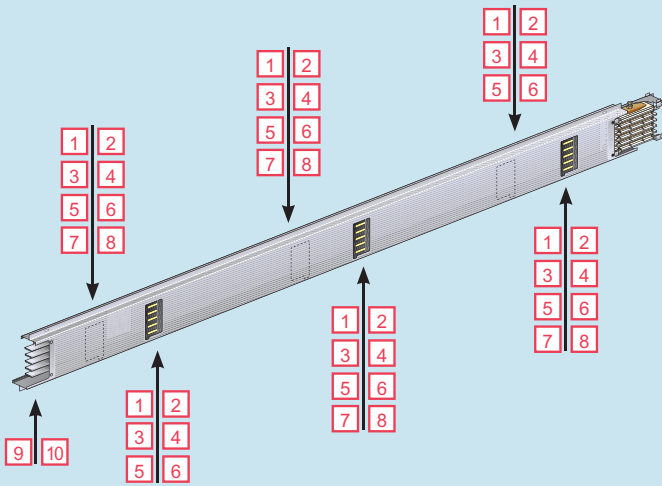
All dimensions (mm) are nominal

MR medium rating busbar

mounting tap-offs

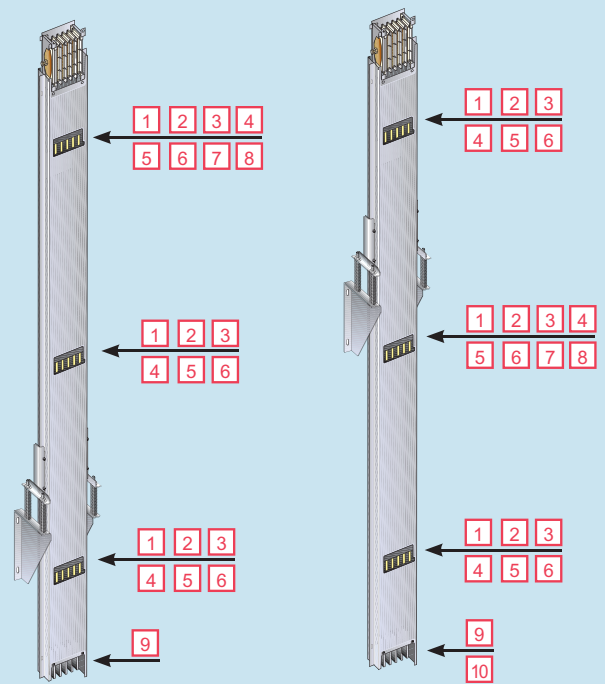
■ Trunking length with 3 outlets

Edgeways



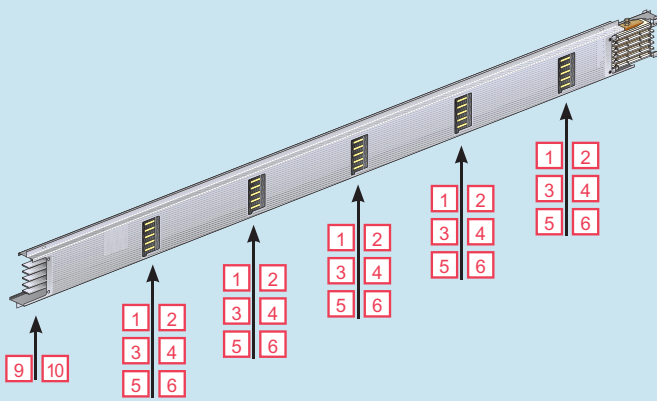
Numbers in squares refer to the tap-off box type

Rising main



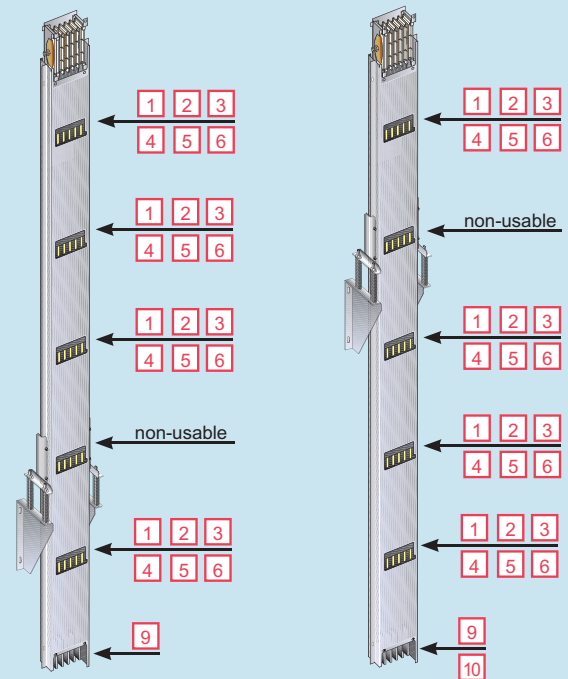
■ Trunking length with 5 outlets

Edgeways



Numbers in squares refer to the tap-off box type

Rising main

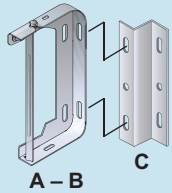
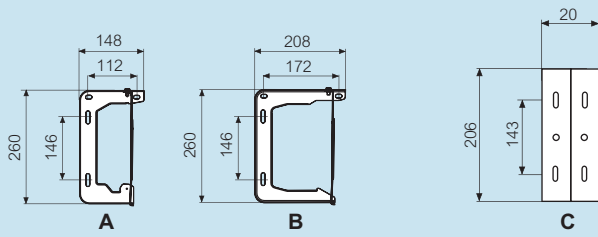


Note : in lengths with 5 outlets, using an outlet excludes the use of the next one

MR medium rating busbar

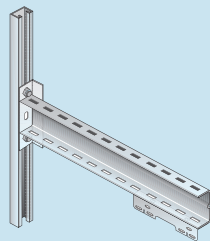
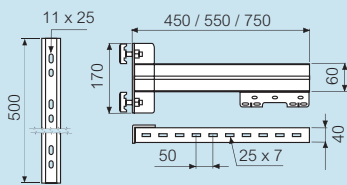
technical information

■ Suspension brackets

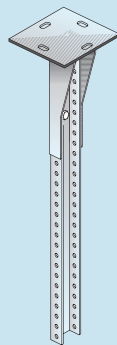
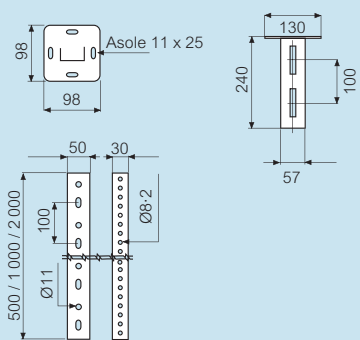


Cat. Nos.	
A	50632001
B	50632003
C	50632205

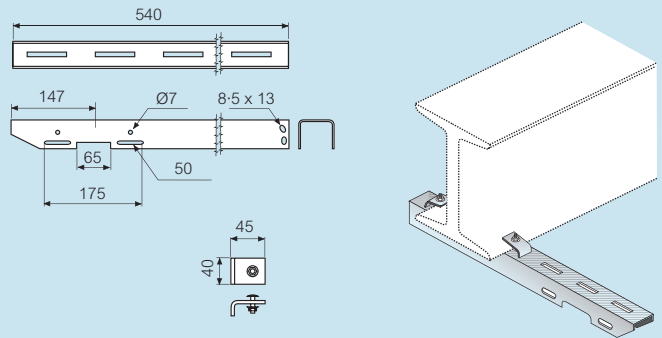
■ Wall fixing bracket



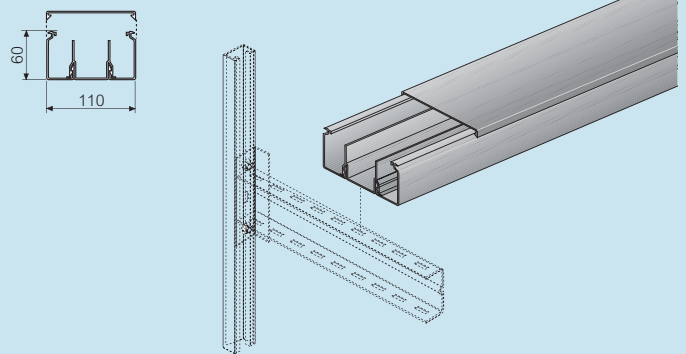
■ Ceiling fixing bracket kit



■ Beam fixing bracket



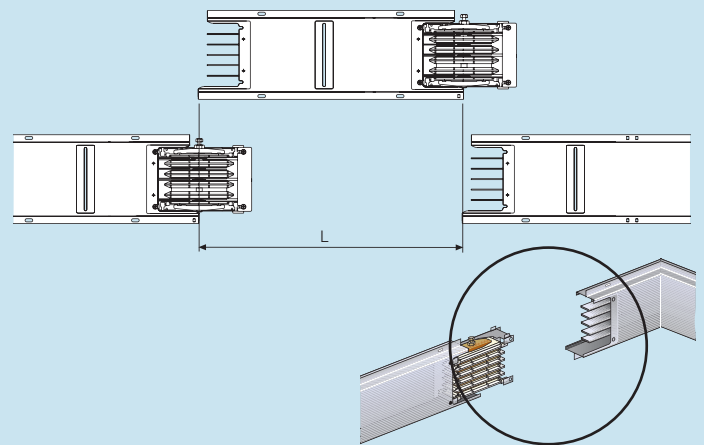
■ Triple cable channel



■ Measuring bespoke dimensions

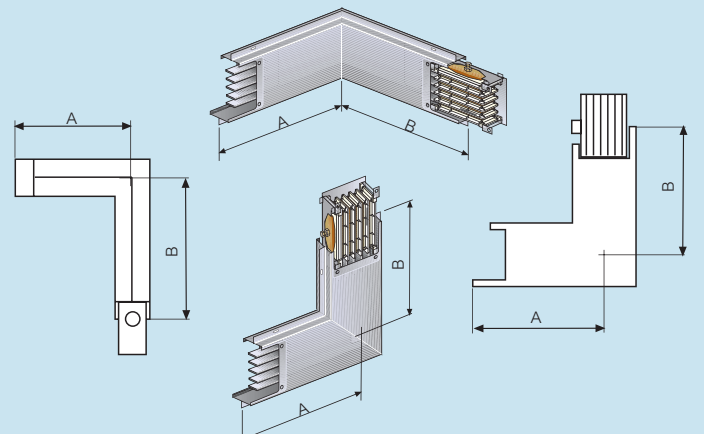
Straight lengths

Always measure from the long side of the casing as illustrated



Elbows

Measure from the long casing to the axis of the elbow



All dimensions (mm) are nominal

MR medium rating busbar

how to design the system

1 Use end feed unit LH – left hand

This gives the neutral bar positioning on the right of elements and the tap-off box with cable entry at the base

2 Use the vertical hanger for rising main as a function of the run weight

For vertical lengths less than 4 metres fit on the base of the busbar a vertical bracket (Cat. No. 50403711) for longer lengths use vertical suspension hanger (Cat. No. 50403712) every 300 kg of rising main

3 Use standard suspension brackets with spacer 40 mm every 2 m of the rising main

4 Use straight lengths with plug outlets on one side

5 Use the straight length with fire barrier to maintain the fire resistance of the floor

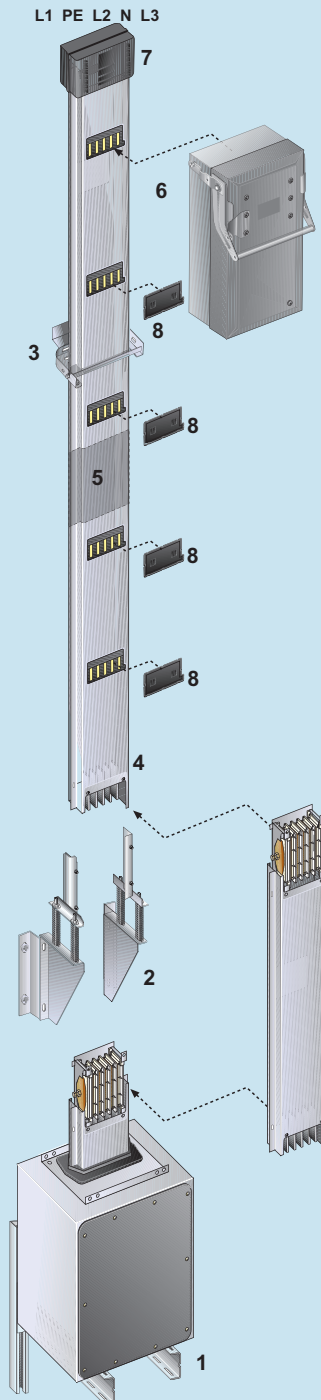
Please specify the position of the internal fire barrier before placing an order (see p. 140)

6 The tap-off box can be installed on the joint between the elements or on the outlets

7 At the end of the rising main use the end cover IP 55

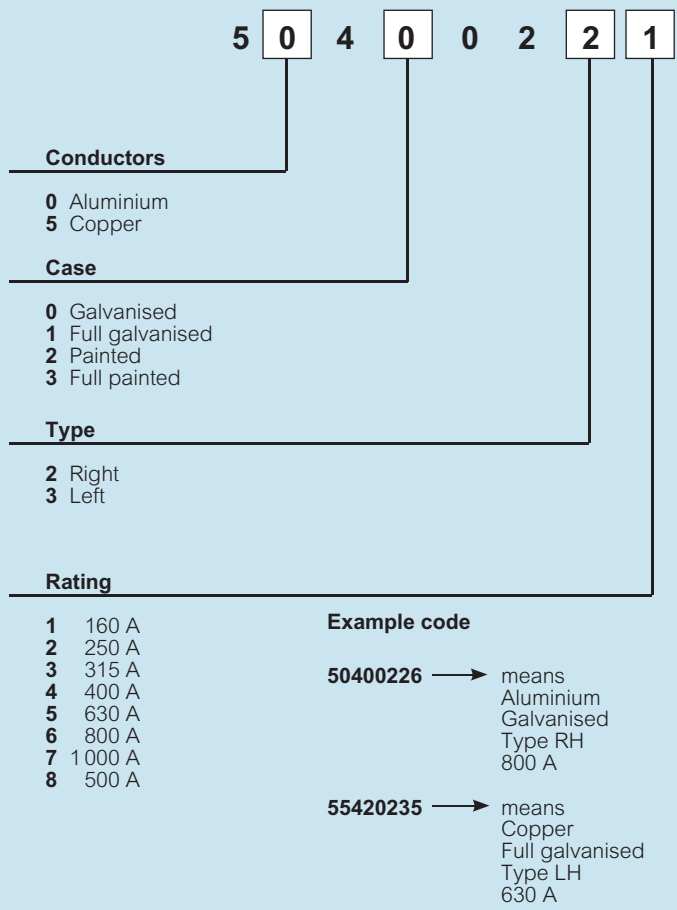
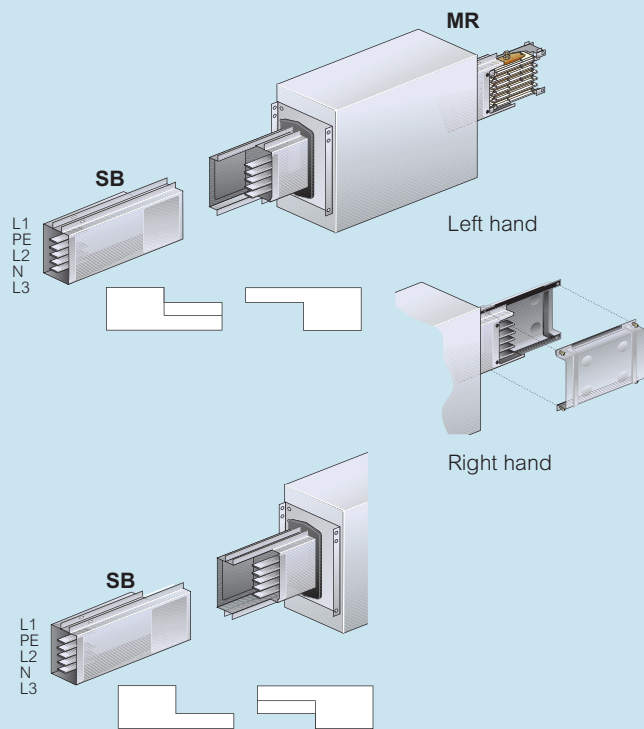
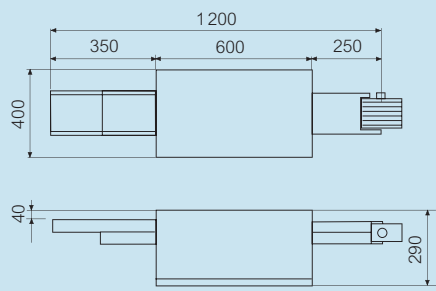
Before mounting the end cover remove the monobloc prefitted on the last element of rising main

8 Maintain the plug outlet covers to guarantee the degree of protection IP 55 to the run



MR medium rating busbar

how to create codes for SB/MR adaptors



NOTE
SB is a previous range of Zucchini medium rating busbar

MR medium rating busbar – 4 conductor (aluminium)

technical data

Complies to :
IEC 439-1 and 2, BS EN 60439 part 1 and 2,
DIN VDE 0660 part 500 and 502

Suitable for the following climates :
Constant humid climate (DIN IEC 68 and 2 – 3)
Cyclical humid climate (DIN IEC 68 and 2 – 30)

3L+N+PE (Aluminium)

	In (A)	160	250	315	400	500	630	800	1000
Rated current	I_n (A)	160	250	315	400	500	630	800	1000
Operational voltage	U_e (V)	1000	1000	1000	1000	1000	1000	1000	1000
Insulation voltage	U_i (V)	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f (Hz)	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Rated shortcircuit current withstand for 3-phase fault (1 s)	I_{cw} (kA) _{rms}	15'	25'	25'	25	30	36	36	36
Specific Energy withstand for 3-phase fault	I^2t (M A ² s)	23	63	63	625	900	1296	1296	1296
Peak current	I_{pk} (kA)	30	53	53	53	63	76	76	76
Rated short-time current for single-phase fault Ph-N(1 s)	I_{cw} (kA) _{rms}	9'	15'	15'	15	18	22	22	22
Peak current for single-phase fault Ph-N	I_{pk} (kA)	15	30	30	30	36	45	45	45
Rated short-time current single-phase fault Ph-PE (1 s)	I_{cw} (kA) _{rms}	9'	15'	15'	15	18	22	22	22
Peak current single-phase fault Ph-PE	I_{pk} (kA)	15	30	30	30	36	45	45	45
Phase resistance at 20°C	R^{20} (mΩ/m)	0.492	0.328	0.197	0.120	0.077	0.060	0.052	0.039
Phase resistance at thermal conditions (I_n ; 40°C)	R_T (mΩ/m)	0.665	0.443	0.266	0.163	0.104	0.081	0.070	0.053
Phase reactance (50 Hz)	X (mΩ/m)	0.260	0.202	0.186	0.130	0.110	0.097	0.096	0.093
Neutral resistance at 20°C	R_{n20} (mΩ/m)	0.492	0.328	0.197	0.120	0.077	0.060	0.052	0.039
Neutral reactance (50 Hz)	X_n (mΩ/m)	0.260	0.202	0.186	0.130	0.110	0.097	0.096	0.093
Resistance of the protective bar	R_{PE} (mΩ/m)	0.341	0.341	0.341	0.283	0.283	0.283	0.283	0.283
Reactance of the protective bar (50 Hz)	X_{PE} (mΩ/m)	0.220	0.220	0.220	0.180	0.180	0.180	0.180	0.180
Resistance of the phase-Pe fault loop	R_{Ph-Pe} fault loop (mΩ/m)	1.006	0.784	0.607	0.445	0.387	0.364	0.353	0.336
Reactance of the phase-Pe fault loop (50 Hz)	$X_{R_{Ph-Pe}}$ fault loop (mΩ/m)	0.480	0.414	0.396	0.333	0.333	0.283	0.275	0.273
Resistance of the phase-neutral fault loop	R_{Ph-N} fault loop (mΩ/m)	1.157	0.771	0.463	0.283	0.181	0.141	0.121	0.093
Reactance of the phase-neutral fault loop (50 Hz)	$X_{R_{Ph-N}}$ fault loop (mΩ/m)	0.480	0.422	0.406	0.310	0.290	0.277	0.276	0.186
Voltage "k" drop coeff. with distributed load (k)	Δv (V/m/A) $10^{-6} \cos\varphi = 0.70$	564	394	276	179	131	109	102	90
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.75$	581	404	279	180	130	108	100	88
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.80$	596	412	281	180	129	107	98	85
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.85$	608	418	281	179	127	104	95	82
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.90$	616	422	277	176	122	100	91	77
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.95$	617	419	269	169	115	93	83	69
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.00$	576	384	230	141	90	70	60	46
Losses for the Joule effect at nominal current	P (W/m)	51	83	79	78	78	97	134	160
Fire load	(kWh/m)	1.3	1.3	1.3	1.8	1.8	1.8	1.8	1.8
Weight	ρ (kg/m)	7.4	7.7	8.4	10.7	12.3	13.8	14.7	15.9
Overall dimensions of the busbar	$L \times H$ (mm)	76 x 195	76 x 195	76 x 195	136 x 195	136 x 195	136 x 195	136 x 195	136 x 195
Degree of protection (CEI EN60529)	IP	52-55	52-55	52-55	52-55	52-55	52-55	52-55	52-55
IK code CEI EN60068-2-62	IK	10	10	10	10	10	10	10	10

1' : Values for 0.1 s

Temperature rating schedule

Mean room temperature (°C)	15	20	25	30	35	40	45	50	55	60
K1 factor	1.15	1.12	1.08	1.05	1.025	1	0.975	0.95	0.93	0.89

Multiplier coefficient of nominal rating for room temperature values different from 40°C

MR medium rating busbar – 4 conductor (copper)

technical data

Complies to :
IEC 439-1 and 2, BS EN 60439 part 1 and 2,
DIN VDE 0660 part 500 and 502

Suitable for the following climates :
Constant humid climate (DIN IEC 68 and 2 – 3)
Cyclical humid climate (DIN IEC 68 and 2 – 30)

3L+N+PE (Copper)

	In (A)	250	315	400	630	800	1000
Rated current	In (A)	250	315	400	630	800	1000
Operational voltage	Ue (V)	1000	1000	1000	1000	1000	1000
Insulation voltage	Ui (V)	1000	1000	1000	1000	1000	1000
Frequency	f (Hz)	50/60	50/60	50/60	50/60	50/60	50/60
Rated shortcircuit current withstand for 3-phase fault (1 s)	I _{cw} (kA) _{rms}	25 ¹	25 ¹	30 ¹	36	36	36
Specific Energy withstand for 3-phase fault	I ² t (M A ² s)	63	63	90	1296	1296	1296
Peak current	I _{pk} (kA)	53	53	63	76	76	76
Rated short-time current for single-phase fault Ph-N(1 s)	I _{cw} (kA) _{rms}	15 ¹	15 ¹	18 ¹	22	22	22
Peak current for single-phase fault Ph-N	I _{pk} (kA)	30	30	36	45	45	45
Rated short-time current single-phase fault Ph-PE (1 s)	I _{cw} (kA) _{rms}	15 ¹	15 ¹	18 ¹	22	22	22
Peak current single-phase fault Ph-PE	I _{pk} (kA)	30	30	36	45	45	45
Phase resistance at 20°C	R ⁰ (mΩ/m)	0.237	0.180	0.096	0.061	0.040	0.032
Phase resistance at thermal conditions (I _n ; 40°C)	R _T (mΩ/m)	0.320	0.243	0.129	0.082	0.053	0.043
Phase reactance (50 Hz)	X (mΩ/m)	0.205	0.188	0.129	0.122	0.122	0.120
Neutral resistance at 20°C	R _{N20} (mΩ/m)	0.237	0.180	0.096	0.061	0.040	0.032
Neutral reactance (50 Hz)	X _n (mΩ/m)	0.205	0.188	0.129	0.122	0.122	0.120
Resistance of the protective bar	R _{PE} (mΩ/m)	0.336	0.336	0.336	0.279	0.279	0.279
Reactance of the protective bar (50 Hz)	X _{PE} (mΩ/m)	0.220	0.220	0.220	0.180	0.180	0.180
Resistance of the phase-Pe fault loop	R _{Ph-Pe fault loop} (mΩ/m)	0.657	0.579	0.466	0.361	0.332	0.322
Reactance of the phase-Pe fault loop (50 Hz)	X _{RPh-Pe fault loop} (mΩ/m)	0.425	0.408	0.349	0.302	0.302	0.300
Resistance of the phase-neutral fault loop	R _{Ph-N fault loop} (mΩ/m)	0.558	0.423	0.225	0.143	0.093	0.074
Reactance of the phase-neutral fault loop (50 Hz)	X _{RPh-N fault loop} (mΩ/m)	0.425	0.408	0.349	0.302	0.302	0.300
Voltage "k" drop coeff. with distributed load (k)	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.70$	321	263	158	125	108	100
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.75$	326	265	158	123	105	96
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.80$	329	266	157	120	100	92
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.85$	329	264	154	116	95	86
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.90$	327	260	149	110	88	79
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.95$	319	251	141	101	77	68
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.00$	277	210	112	71	46	37
Losses for the Joule effect at nominal current	P (W/m)	60	72	62	98	103	128
Fire load	(kWh/m)	1.3	1.3	1.3	1.8	1.8	1.8
Weight	p (kg/m)	9.3	10.2	13.3	18.2	23.9	27.9
Overall dimensions of the busbar	L x H (mm)	76 x 195	76 x 195	76 x 195	136 x 195	136 x 195	136 x 195
Degree of protection (CEI EN60529)	IP	52-55	52-55	52-55	52-55	52-55	52-55
IK code CEI EN60068-2-62	IK	10	10	10	10	10	10

1 : Values for 0.1 s

Temperature rating schedule

Mean room temperature (°C)	15	20	25	30	35	40	45	50	55	60
K1 factor	1.15	1.12	1.08	1.05	1.025	1	0.975	0.95	0.93	0.89

Multiplier coefficient of nominal rating for room temperature values different from 40°C

MR medium rating busbar – five conductor (aluminium)

technical data

Complies to :
IEC 439-1 and 2, BS EN 60439 part 1 and 2,
DIN VDE 0660 part 500 and 502

Suitable for the following climates :
 Constant humid climate (DIN IEC 68 and 2 – 3)
 Cyclical humid climate (DIN IEC 68 and 2 – 30)

3L+N 100% +PE 100% (Aluminium)

	In (A)	160	250	315	400	500	630	800	1000
Rated current	I_n (A)	160	250	315	400	500	630	800	1000
Operational voltage	U_e (V)	1000	1000	1000	1000	1000	1000	1000	1000
Insulation voltage	U_i (V)	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f (Hz)	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Rated shortcircuit current withstand for 3-phase fault (1 s)	I_{cw} (kA) _{rms}	15 ¹	25 ¹	25 ¹	25	30	36	36	36
Specific Energy withstand for 3-phase fault	I^2t (M A ² s)	23	63	63	625	900	1296	1296	1296
Peak current	I_{pk} (kA)	30	53	53	53	63	76	76	76
Rated short-time current for single-phase fault Ph-N(1 s)	I_{cw} (kA) _{rms}	9 ¹	15 ¹	15 ¹	15	18	22	22	22
Peak current for single-phase fault Ph-N	I_{pk} (kA)	15	30	30	30	36	45	45	45
Rated short-time current single-phase fault Ph-PE (1 s)	I_{cw} (kA) _{rms}	9 ¹	15 ¹	15 ¹	15	18	22	22	22
Peak current single-phase fault Ph-PE	I_{pk} (kA)	15	30	30	30	36	45	45	45
Phase resistance at 20°C	R^{20} (mΩ/m)	0.492	0.328	0.197	0.120	0.077	0.060	0.052	0.039
Phase resistance at thermal conditions (I_n ; 40°C)	R_T (mΩ/m)	0.665	0.443	0.266	0.163	0.104	0.081	0.070	0.053
Phase reactance (50 Hz)	X (mΩ/m)	0.260	0.202	0.186	0.130	0.110	0.097	0.096	0.093
Neutral resistance at 20°C	R_{n20} (mΩ/m)	0.492	0.328	0.197	0.120	0.077	0.060	0.052	0.039
Neutral reactance (50 Hz)	X_n (mΩ/m)	0.260	0.202	0.186	0.130	0.110	0.097	0.096	0.093
Resistance of the protective bar	R_{PE} (mΩ/m)	0.202	0.167	0.125	0.084	0.060	0.050	0.044	0.034
Reactance of the protective bar (50 Hz)	X_{PE} (mΩ/m)	0.119	0.105	0.101	0.075	0.068	0.063	0.063	0.061
Resistance of the phase-Pe fault loop	R_{Ph-Pe} fault loop (mΩ/m)	0.866	0.611	0.391	0.247	0.164	0.131	0.113	0.087
Reactance of the phase-Pe fault loop (50 Hz)	$X_{R_{Ph-Pe}}$ fault loop (mΩ/m)	0.379	0.307	0.287	0.205	0.178	0.160	0.159	0.154
Resistance of the phase-neutral fault loop	R_{Ph-N} fault loop (mΩ/m)	1.157	0.771	0.463	0.283	0.181	0.141	0.121	0.093
Reactance of the phase-neutral fault loop (50 Hz)	$X_{R_{Ph-N}}$ fault loop (mΩ/m)	0.520	0.404	0.372	0.260	0.220	0.194	0.192	0.186
Voltage "k" drop coeff. with distributed load (k)	Δv (V/m/A) $10^{-6} \cos\varphi = 0.70$	564	394	276	179	131	109	102	90
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.75$	581	404	279	180	130	108	100	88
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.80$	596	412	281	180	129	107	98	85
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.85$	608	418	281	179	127	104	95	82
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.90$	616	422	277	176	122	100	91	77
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.95$	617	419	269	169	115	93	83	69
	Δv (V/m/A) $10^{-6} \cos\varphi = 0.00$	576	384	230	141	90	70	60	46
Losses for the Joule effect at nominal current	P (W/m)	51	83	79	78	78	97	134	160
Fire load	(kWh/m)	1.3	1.3	1.3	1.8	1.8	1.8	1.8	1.8
Weight	ρ (kg/m)	7.6	8.0	8.9	11.4	13.5	15.2	16.4	17.9
Overall dimensions of the busbar	$L \times H$ (mm)	76 x 195	76 x 195	76 x 195	136 x 195	136 x 195	136 x 195	136 x 195	136 x 195
Degree of protection (CEI EN60529)	IP	52-55	52-55	52-55	52-55	52-55	52-55	52-55	52-55
IK code CEI EN60068-2-62	IK	10	10	10	10	10	10	10	10

1 : Values for 0.1 s

Temperature rating schedule

Mean room temperature (°C)	15	20	25	30	35	40	45	50	55	60
K1 factor	1.15	1.12	1.08	1.05	1.025	1	0.975	0.95	0.93	0.89

Multiplier coefficient of nominal rating for room temperature values different from 40°C

MR medium rating busbar – five conductor (copper)

technical data

Complies to :
IEC 439-1 and 2, BS EN 60439 part 1 and 2,
DIN VDE 0660 part 500 and 502

Suitable for the following climates :
Constant humid climate (DIN IEC 68 and 2 – 3)
Cyclical humid climate (DIN IEC 68 and 2 – 30)

3L+N 100% +PE 100% (Copper)

	In (A)	250	315	400	630	800	1000
Rated current	In (A)	250	315	400	630	800	1000
Operational voltage	Ue (V)	1000	1000	1000	1000	1000	1000
Insulation voltage	Ui (V)	1000	1000	1000	1000	1000	1000
Frequency	f (Hz)	50/60	50/60	50/60	50/60	50/60	50/60
Rated shortcircuit current withstand for 3-phase fault (1 s)	I _{cw} (kA) _{rms}	25 ¹	25 ¹	30 ¹	36	36	36
Specific Energy withstand for 3-phase fault	I ² t (M A ² s)	63	63	90	1296	1296	1296
Peak current	I _{pk} (kA)	53	53	63	76	76	76
Rated short-time current for single-phase fault Ph-N(1 s)	I _{cw} (kA) _{rms}	15 ¹	15 ¹	18 ¹	22	22	22
Peak current for single-phase fault Ph-N	I _{pk} (kA)	30	30	36	45	45	45
Rated short-time current single-phase fault Ph-PE (1 s)	I _{cw} (kA) _{rms}	15 ¹	15 ¹	18 ¹	22	22	22
Peak current single-phase fault Ph-PE	I _{pk} (kA)	30	30	36	45	45	45
Phase resistance at 20°C	R ²⁰ (mΩ/m)	0.237	0.180	0.096	0.061	0.040	0.032
Phase resistance at thermal conditions (I _n ; 40°C)	R _t (mΩ/m)	0.320	0.243	0.129	0.082	0.053	0.043
Phase reactance (50 Hz)	X (mΩ/m)	0.205	0.188	0.129	0.122	0.122	0.120
Neutral resistance at 20°C	R _{N20} (mΩ/m)	0.237	0.180	0.096	0.061	0.040	0.032
Neutral reactance (50 Hz)	X _n (mΩ/m)	0.205	0.188	0.129	0.122	0.122	0.120
Resistance of the protective bar	R _{PE} (mΩ/m)	0.139	0.117	0.075	0.050	0.035	0.028
Reactance of the protective bar (50 Hz)	X _{PE} (mΩ/m)	0.106	0.101	0.081	0.073	0.073	0.072
Resistance of the phase-Pe fault loop	R _{Ph-Pe fault loop} (mΩ/m)	0.460	0.360	0.204	0.132	0.088	0.071
Reactance of the phase-Pe fault loop (50 Hz)	X _{RPh-Pe fault loop} (mΩ/m)	0.311	0.289	0.210	0.195	0.195	0.192
Resistance of the phase-neutral fault loop	R _{Ph-N fault loop} (mΩ/m)	0.558	0.423	0.225	0.143	0.093	0.074
Reactance of the phase-neutral fault loop (50 Hz)	X _{RPh-N fault loop} (mΩ/m)	0.311	0.289	0.210	0.195	0.195	0.192
Voltage "k" drop coeff. with distributed load (k)	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.70$	321	263	158	125	108	100
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.75$	326	265	158	123	105	96
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.80$	329	266	157	120	100	92
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.85$	329	264	154	116	95	86
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.90$	327	260	149	110	88	79
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.95$	319	251	141	101	77	68
	$\Delta v (V/m/A)10^{-6} \cos\varphi = 0.00$	277	210	112	71	46	37
Losses for the Joule effect at nominal current	P (W/m)	60	72	62	98	103	128
Fire load	(kWh/m)	1.3	1.3	1.3	1.8	1.8	1.8
Weight	p (kg/m)	10.0	11.1	14.9	20.8	27.9	32.9
Overall dimensions of the busbar	L x H (mm)	76 x 195	76 x 195	76 x 195	136 x 195	136 x 195	136 x 195
Degree of protection (CEI EN60529)	IP	52-55	52-55	52-55	52-55	52-55	52-55
IK code CEI EN60068-2-62	IK	10	10	10	10	10	10

1 : Values for 0-1 s

Temperature rating schedule

Mean room temperature (°C)	15	20	25	30	35	40	45	50	55	60
K1 factor	1.15	1.12	1.08	1.05	1.025	1	0.975	0.95	0.93	0.89

Multiplier coefficient of nominal rating for room temperature values different from 40°C

MR medium rating busbar

determining the operating current of a busbar

In order to determine the correct busbar rating, the current must be established using the following criteria :

- type of load inputs – three phase or single-phase
- type of circuit input – from one end, from both ends, central input, etc.
- nominal input voltage
- number, power and $\cos\varphi$ of loads which are to be fed by the busbar
- load diversity factor
- load use nominal factor
- assumed short circuit current at the input point
- room temperature
- type of busbar installation (edgeways, flat or vertical)

When using a three phase power supply, the operating current is determined by the following formula :

$$I_b = \frac{P_{TOT} \cdot \alpha \cdot \beta \cdot d}{\sqrt{3} \cdot U_e \cdot \cos\varphi_{medium}} \text{ (A)}$$

Where :

I_b	operating current (A)
α	load diversity factor (.)
β	load use factor (.)
d	feed factor (.)
P_{TOT}	sum of the total active power of installed loads (W)
U_e	operating voltage (V)
$\cos\varphi_{medium}$	average load power factor (.)

The 'd' input factor has a value of 1 when the busbar is fed from one end only. The value is $1/2$ if fed from the centre or if it is fed from each end

Once the operating current has been determined, choose the busbar with a rated current immediately higher than the one calculated

All Zucchini products have been designed and tested for an average room temperature of 40°C; should they be installed in rooms with average daily temperatures different from 40°C, the rated current of the busbar should be multiplied by a k_1 factor that is greater than the unit for temperatures lower than 40°C, and lower than the unit if the room temperature is higher than 40°C

Room temperature (°C)	15	20	25	30	35	40	45	50	55	60
k_1 , thermal correction factor (.)	1.15	1.12	1.08	1.05	1.025	1	0.975	0.95	0.93	0.89

Finally, the following should be considered for the most appropriate busbar choice :

$$I_{nt} \geq I_b \Leftrightarrow I_{nt} = k_1 \cdot I_n$$

where I_{nt} represents the maximum current loaded by a busbar for an indefinite time at the specified room temperature

Voltage drop

If the length of the line is particularly long (>100m) it is necessary to check the voltage drop (hereinafter specified as v.d.). If the installation is a three phase system and the power factor is not lower than $\cos\varphi = 0.7$ the v.d. may be calculated with the coefficients of the voltage drop specified in the technical data table.

$$\Delta v\% = b \cdot \frac{k \cdot I_b \cdot L}{V_n} \cdot 100$$

Defined :

I_b	= the current that supplies the busbar (A)
V_n	= the voltage power supply of the busbar (V)
L	= the length of the busbar (m)
$\Delta v\%$	= the voltage drop percentage
b	= the distribution factor of the current (.)
k	= corresponding voltage drop factor a $\cos\varphi$ (V/m/A) (see technical data table, p. 52-55)

The current distribution factor "b" depends on how the circuit is fed and on the distribution of the electric loads along the busbar :

b = 2	Supplies at one end and load at the end of the line	
b = 1	Supplies at one end and with load evenly distributed	
b = 0.5	Supplies at both ends and with load evenly distributed	
b = 0.5	Central supply with loads at both ends	
b = 0.25	Central supply with load distributed evenly	

Example : MR 400 A Al for riser mains feed

I_b	= 315 A operating current
b = 1	= supply from one end
k = 179	= see technical data table, p. 52-55
$\cos\varphi$	= 0.85
L	= 30 m line length
V_n	= 400 V operating voltage
$\Delta v\% = 1 \times \frac{179 \cdot 10^{-6} \cdot 315 \cdot 30}{400} \times 100 = 0.42\%$	

Short circuit current

The short circuit current value I_{sc} that can be supported by Zucchini busbar trunking systems allows for both electrodynamic stress and thermal energy dissipated during the fault

The busbars must be able to sustain the short circuit current for the entire duration of the fault – i.e. for the time required for the protective device (circuit breaker) to start operating, cutting off the metal continuity and extinguishing the electric arc

Joule effect losses

Losses due to the Joule effect are essentially caused by the electrical resistance of the busbar. Lost energy is transformed into heat and contributes to the heating of the conduit

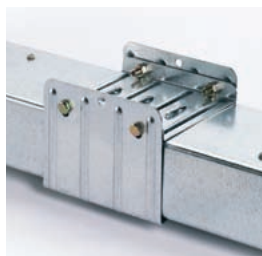
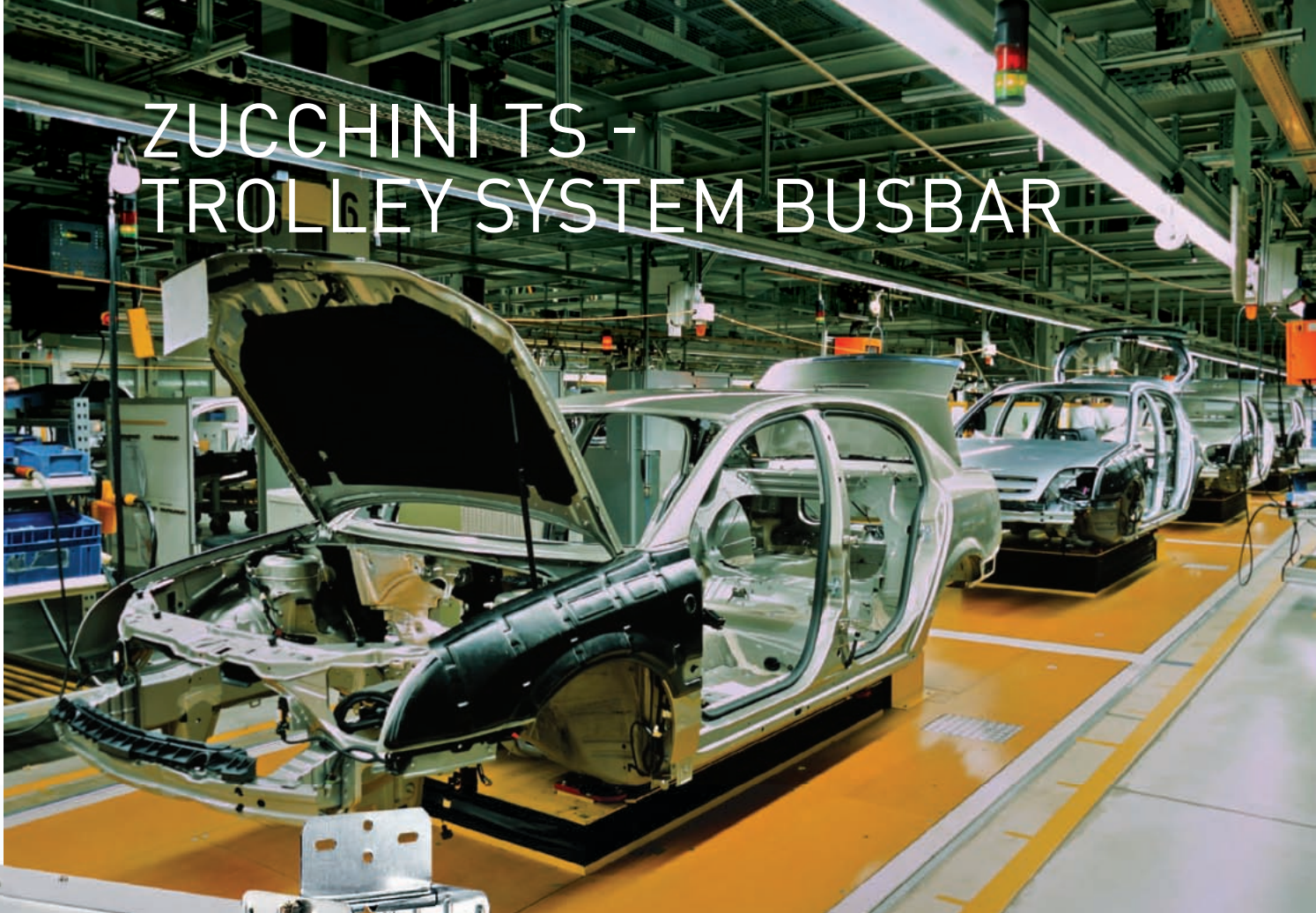
Three phase rating

$$P = 3 \cdot R_t \cdot I_b^2 \cdot 10^{-3} \text{ (W/m)}$$

Single phase rating

$$P = 2 \cdot R_t \cdot I_b^2 \cdot 10^{-3} \text{ (W/m)}$$

ZUCCHINI TS - TROLLEY SYSTEM BUSBAR



The Zucchini TS busbar range is ideal for supplying 25 to 160 A three phase loads to moving devices such as overhead cranes, traversing motors, assembly lines, etc.

Suitable for straight and curved sections with horizontal route changes, TS busbar is quick and easy to install using an electrical terminal junction and a wide range of supporting accessories.

Versions include :

- 3L+N+PE (5 conductors)
- 3L+PE (4 conductors)



To find out more call our technical support team on
+44 (0) 845 600 6266

ZUCCHINI SCP

Offering maximum versatility in demanding commercial and industrial environments, SCP busbar is used to transport and distribute high power from 630 to 6300 A and is a popular choice for rising mains.

Compact design combined with powerful performance makes Zucchini SCP the intelligent choice for demanding installations

super compact high power busbar

Zucchini SCP busbar trunking systems are ideal for the distribution of high power in industrial, commercial and service sector installations. Flexible and safe, SCP is continually developed to offer maximum versatility for all power applications, in any type of environment.

The high power, super compact Zucchini busbar range provides a complete solution whether connecting power supply stations or transformers to the main panel board, or transporting and distributing power around the building, including rising mains applications.



SAFETY

Compact dimensions enhance SCP's resistance to short circuit stresses. Voltage drops can be controlled to reduce the impedance of the circuit and enable installation of high power electrical systems in confined spaces.

MAINTENANCE FREE

The range is designed to be maintenance free with the exception of the compulsory periodic inspections required by Standard IEC 60364. The tightening torque inspection can be carried out when the busbar is energised.

FLEXIBILITY

Plug-in tap-off boxes provide connection and power supply of three phase loads from 63 to 1250 A. Thanks to the galvanised metal sheet construction, the boxes are suitable for heavy loads and for shielding the electromagnetic fields generated by the passage of current.



ZUCCHINI SCP

fast, simple installation saves time and money on site

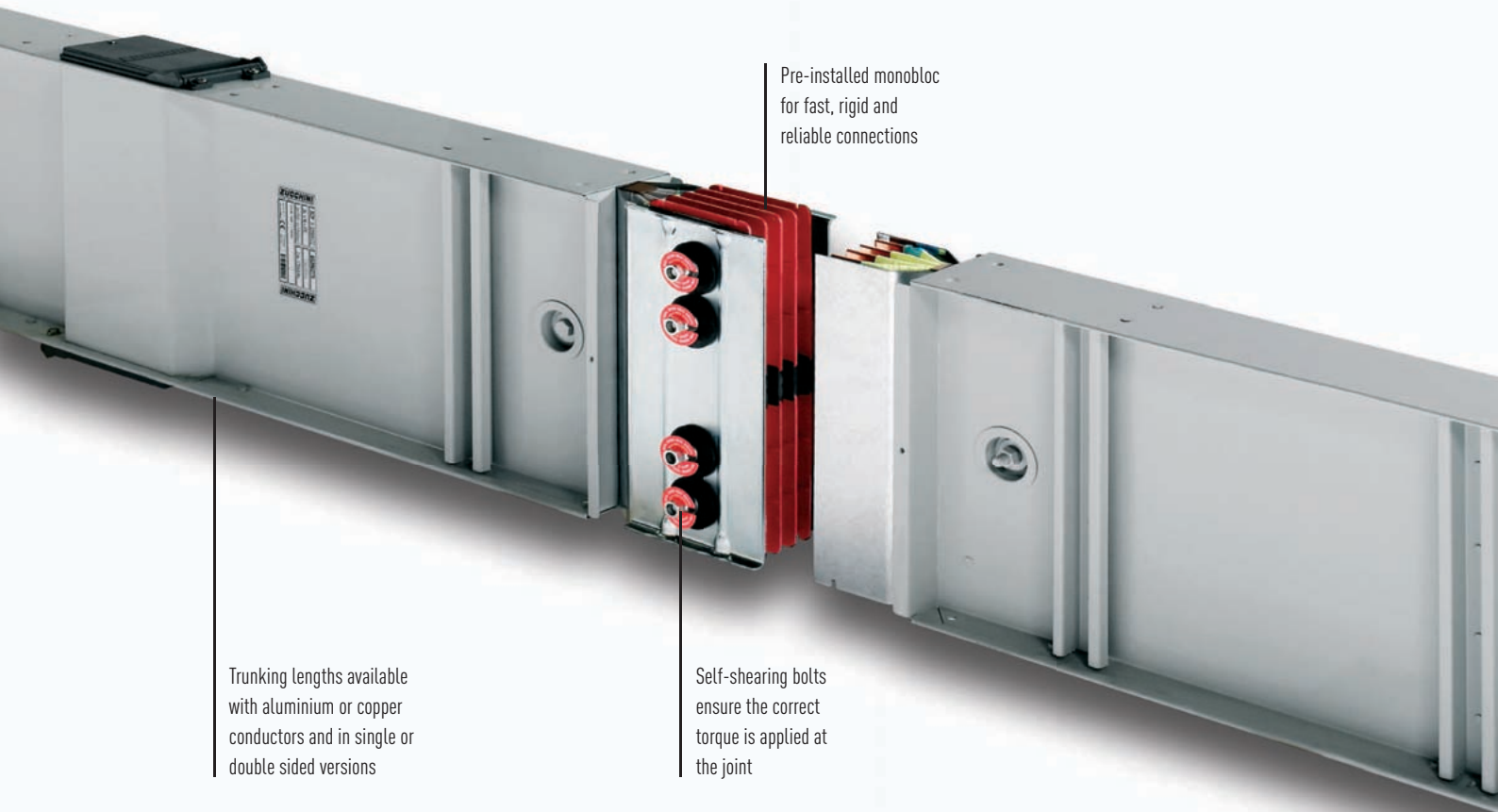


INSTALLATION SIMPLICITY

Designed to work perfectly in conjunction with Zucchini EdM cast resin transformers, the SCP busbar range offers quick, reliable assembly with a vast combination of accessories for maximum flexibility. Conductors are available in a choice of copper or aluminium.

PLANNING SIMPLICITY

A comprehensive range of standard products is further enhanced by Legrand's technical expertise and ability to create bespoke solutions tailored to any requirement. The SCP range can be manufactured in standard, clean earth or 200% neutral versions.



Pre-installed monobloc for fast, rigid and reliable connections

Trunking lengths available with aluminium or copper conductors and in single or double sided versions

Self-shearing bolts ensure the correct torque is applied at the joint



SWITCHBOARD - TRANSFORMER FEED UNIT



HORIZONTAL ELBOW



VERTICAL ELBOW



JOINT

TRUSTED BY WORLD LEADING DEVELOPERS

Zucchini SCP has been selected by Land Securities as an approved high power busbar system. Being one of the few manufacturers selected, this demonstrates Legrand's ability to provide solutions that meet the quality and specification requirements of world leading property developers.

Land Securities is the UK's largest commercial property company and a member of the FTSE 100. The company owns and manages more than 29 million ft² of property, including shopping centres and offices.

For more information visit www.landsecurities.com



SCP super compact busbar

aluminium conductors

TRUNKING LENGTHS

Rating (A)	Feeder lengths				
	Standard 3 m	Bespoke dimensions 1 to 1.5 m	Bespoke dimensions 1.5 to 2 m	Bespoke dimensions 2 to 2.5 m	Bespoke dimensions 2.5 to 3 m
630	60280100P	60280170P	60280120P	60280180P	60280150P
800	60280101P	60280171P	60280121P	60280181P	60280151P
1000	60280102P	60280172P	60280122P	60280182P	60280152P
1250	60280104P	60280174P	60280124P	60280184P	60280154P
1600	60280106P	60280176P	60280126P	60280186P	60280156P
2000	60280107P	60280177P	60280127P	60280187P	60280157P
2500	60390104P	60390174P	60390124P	60390184P	60390154P
3200	60390106P	60390176P	60390126P	60390186P	60390156P
4000	60390107P	60390177P	60390127P	60390187P	60390157P

ELBOWS AND TEES

Rating (A)	Horizontal elbows				Vertical elbows				Double horizontal elbows	
	Standard dimensions		Bespoke dimensions		Standard dimensions		Bespoke dimensions		Bespoke dimensions	
	Right hand	Left hand	Right hand	Left hand	Right hand	Left hand	Right hand	Left hand	Left + right hand	Right + left hand
630	60280300P	60280310P	60280320P	60280330P	60280400P	60280410P	60280420P	60280430P	60280350P	60280340P
800	60280301P	60280311P	60280321P	60280331P	60280401P	60280411P	60280421P	60280431P	60280351P	60280341P
1000	60280302P	60280312P	60280322P	60280332P	60280402P	60280412P	60280422P	60280432P	60280352P	60280342P
1250	60280304P	60280314P	60280324P	60280334P	60280404P	60280414P	60280424P	60280434P	60280354P	60280344P
1600	60280306P	60280316P	60280326P	60280336P	60280406P	60280416P	60280426P	60280436P	60280356P	60280346P
2000	60280307P	60280317P	60280327P	60280337P	60280407P	60280417P	60280427P	60280437P	60280357P	60280347P
2500	60390304P	60390314P	60390324P	60390334P	60390404P	60390414P	60390424P	60390434P	60390354P	60390344P
3200	60390306P	60390316P	60390326P	60390336P	60390406P	60390416P	60390426P	60390436P	60390356P	60390346P
4000	60390307P	60390317P	60390327P	60390337P	60390407P	60390417P	60390427P	60390437P	60390357P	60390347P

CONNECTION INTERFACES

Rating (A)	Connection interfaces				Connection interfaces + horizontal elbows			
	Standard dimensions		Bespoke dimensions		Bespoke dimensions			
	Type 1 male	Type 2 female	Type 1 male	Type 2 female	Type 1 female	Type 2 female	Type 3 male	Type 4 male
630	60281010P	60281000P	60281030P	60281020P	60281300P	60281310P	60281320P	60281330P
800	60281011P	60281001P	60281031P	60281021P	60281301P	60281311P	60281321P	60281331P
1000	60281012P	60281002P	60281032P	60281022P	60281302P	60281312P	60281322P	60281332P
1250	60281014P	60281004P	60281034P	60281024P	60281304P	60281314P	60281324P	60281334P
1600	60281016P	60281006P	60281036P	60281026P	60281306P	60281316P	60281326P	60281336P
2000	60281017P	60281007P	60281037P	60281027P	60281307P	60281317P	60281327P	60281337P
2500	60391014P	60391004P	60391034P	60391024P	60391304P	60391314P	60391324P	60391334P
3200	60391016P	60391006P	60391036P	60391026P	60391306P	60391316P	60391326P	60391336P
4000	60391017P	60391007P	60391037P	60391027P	60391307P	60391317P	60391327P	60391337P

Key : How to select the correct configuration of bar
 The 4th digit of an SCP Cat. No. determines the busbar configuration
 All examples on this page show 4 conductor versions, ie. 8 or 9;
 5 conductor and 200% neutral versions are available by substituting
 the 4th digit with 4, 5, 6 or 7, as shown opposite

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

TRUNKING LENGTHS

Distribution lengths			Expansion lengths	Transposition lengths		Fire barriers	
3 m – 3 + 3 outlets	2 m – 2 + 2 outlets	1 m – 1 + 1 outlets		Phase transposition	Neutral rotation	Internal	External
60280130P	60280260P	60280280P	60280290P	60287100P	60287140P	6531FB01	652EFB01
60280131P	60280261P	60280281P	60280291P	60287101P	60287141P	–	652EFB01
60280132P	60280262P	60280282P	60280292P	60287102P	60287142P	–	652EFB01
60280134P	60280264P	60280284P	60280294P	60287104P	60287144P	–	652EFB01
60280136P	60280266P	60280286P	60280296P	60287106P	60287146P	–	652EFB02
60280137P	60280267P	60280287P	60280297P	60287107P	60287147P	–	652EFB03
60390134P	60390264P	60390284P	60390294P	60397104P	60397144P	6531FB01	653EFB02
60390136P	60390266P	60390286P	60390296P	60397106P	60397146P	6531FB01	653EFB03
60390137P	60390267P	60390287P	60390297P	60397107P	60397147P	6531FB01	653EFB04

ELBOWS AND TEES

Double vertical elbows		Vertical tees				Horizontal tees			
Bespoke dimensions		Bespoke dimensions				Bespoke dimensions			
Left + right hand	Right + left hand	Right hand female 300 to 1 499 mm	Right hand male 300 to 1 499 mm	Left hand male 300 to 1 499 mm	Left hand female 300 to 1 499 mm	Right hand female 550 to 1 049 mm	Right hand male 550 to 1 049 mm	Left hand male 550 to 1 049 mm	Left hand female 550 to 1 049 mm
60280450P	60280440P	60280800P	60280810P	60280820P	60280830P	60280700P	60280710P	60280720P	60280730P
60280451P	60280441P	60280801P	60280811P	60280821P	60280831P	60280701P	60280711P	60280721P	60280731P
60280452P	60280442P	60280802P	60280812P	60280822P	60280832P	60280702P	60280712P	60280722P	60280732P
60280454P	60280444P	60280804P	60280814P	60280824P	60280834P	60280704P	60280714P	60280724P	60280734P
60280456P	60280446P	60280806P	60280816P	60280826P	60280836P	60280706P	60280716P	60280726P	60280736P
60280457P	60280447P	60280807P	60280817P	60280827P	60280837P	60280707P	60280717P	60280727P	60280737P
60390454P	60390444P	60390804P	60390814P	60390824P	60390834P	60390704P	60390714P	60390724P	60390734P
60390456P	60390446P	60390806P	60390816P	60390826P	60390836P	60390706P	60390716P	60390726P	60390736P
60390457P	60390447P	60390807P	60390817P	60390827P	60390837P	60390707P	60390717P	60390727P	60390737P

CONNECTION INTERFACES

FEED UNITS AND END STOPS

Connection interfaces + vertical elbows				End feed units		End stops
Bespoke dimensions						
Type 1 female	Type 2 female	Type 3 male	Type 4 male	Type 1 male	Type 2 female	
60281400P	60281410P	60281420P	60281430P	60281110P	60281100P	65283101P
60281401P	60281411P	60281421P	60281431P	60281111P	60281101P	65283101P
60281402P	60281412P	60281422P	60281432P	60281112P	60281102P	65283101P
60281404P	60281414P	60281424P	60281434P	60281114P	60281104P	65283101P
60281406P	60281416P	60281426P	60281436P	60281116P	60281106P	65283102P
60281407P	60281417P	60281427P	60281437P	60281117P	60281107P	65283104P
60391404P	60391414P	60391424P	60391434P	60391114P	60391104P	65393102P
60391406P	60391416P	60391426P	60391436P	60391116P	60391106P	65393103P
60391407P	60391417P	60391427P	60391437P	60391117P	60391107P	65393104P

SCP super compact busbar

copper conductors

TRUNKING LENGTHS

Rating (A)	Feeder lengths				
	Standard 3 m	Bespoke dimensions 1 to 1.5 m	Bespoke dimensions 1.5 to 2 m	Bespoke dimensions 2 to 2.5 m	Bespoke dimensions 2.5 to 3 m
800	65280100P	65280170P	65280120P	65280180P	65280150P
1000	65280101P	65280171P	65280121P	65280181P	65280151P
1250	65280103P	65280173P	65280123P	65280183P	65280153P
1600	65280105P	65280175P	65280125P	65280185P	65280155P
2000	65280106P	65280176P	65280126P	65280186P	65280156P
2500	65280108P	65280178P	65280128P	65280188P	65280158P
3200	65390105P	65390175P	65390125P	65390185P	65390155P
4000	65390106P	65390176P	65390126P	65390186P	65390156P
5000	65390108P	65390178P	65390128P	65390188P	65390158P

ELBOWS AND TEES

Rating (A)	Horizontal elbows				Vertical elbows				Double horizontal elbows	
	Standard dimensions		Bespoke dimensions		Standard dimensions		Bespoke dimensions		Bespoke dimensions	
	Right hand	Left hand	Right hand	Left hand	Right hand	Left hand	Right hand	Left hand	Left + right hand	Right + left hand
800	65280300P	65280310P	65280320P	65280330P	65280400P	65280410P	65280420P	65280430P	65280350P	65280340P
1000	65280301P	65280311P	65280321P	65280331P	65280401P	65280411P	65280421P	65280431P	65280351P	65280341P
1250	65280303P	65280313P	65280323P	65280333P	65280403P	65280413P	65280423P	65280433P	65280353P	65280343P
1600	65280305P	65280315P	65280325P	65280335P	65280405P	65280415P	65280425P	65280435P	65280355P	65280345P
2000	65280306P	65280316P	65280326P	65280336P	65280406P	65280416P	65280426P	65280436P	65280356P	65280346P
2500	65280308P	65280318P	65280328P	65280338P	65280408P	65280418P	65280428P	65280438P	65280358P	65280348P
3200	65390305P	65390315P	65390325P	65390335P	65390405P	65390415P	65390425P	65390435P	65390355P	65390345P
4000	65390306P	65390316P	65390326P	65390336P	65390406P	65390416P	65390426P	65390436P	65390356P	65390346P
5000	65390308P	65390318P	65390328P	65390338P	65390408P	65390418P	65390428P	65390438P	65390358P	65390348P

CONNECTION INTERFACES

Rating (A)	Connection interfaces				Connection interfaces + horizontal elbows			
	Standard dimensions		Bespoke dimensions		Bespoke dimensions			
	Type 1 male	Type 2 female	Type 1 male	Type 2 female	Type 1 female	Type 2 female	Type 3 male	Type 4 male
800	65281010P	65281000P	65281030P	65281020P	65281300P	65281310P	65281320P	65281330P
1000	65281011P	65281001P	65281031P	65281021P	65281301P	65281311P	65281321P	65281331P
1250	65281013P	65281003P	65281033P	65281023P	65281303P	65281313P	65281323P	65281333P
1600	65281015P	65281005P	65281035P	65281025P	65281305P	65281315P	65281325P	65281335P
2000	65281016P	65281006P	65281036P	65281026P	65281306P	65281316P	65281326P	65281336P
2500	65281018P	65281008P	65281038P	65281028P	65281308P	65281318P	65281328P	65281338P
3200	65391015P	65391005P	65391035P	65391025P	65391305P	65391315P	65391325P	65391335P
4000	65391016P	65391006P	65391036P	65391026P	65391306P	65391316P	65391326P	65391336P
5000	65391018P	65391008P	65391038P	65391028P	65391308P	65391318P	65391328P	65391338P

Key : How to select the correct configuration of bar
 The 4th digit of an SCP Cat. No. determines the busbar configuration
 All examples on this page show 4 conductor versions, ie. 8 or 9;
 5 conductor and 200% neutral versions are available by substituting
 the 4th digit with 4, 5, 6 or 7, as shown opposite

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

TRUNKING LENGTHS

Distribution lengths			Expansion lengths	Transposition lengths		Fire barriers	
3 m – 3 + 3 outlets	2 m – 2 + 2 outlets	1 m – 1 + 1 outlets		Phase transposition	Neutral rotation	Internal	External
65280130P	65280260P	65280280P	65280290P	65287100P	65287140P	6531FB01	652EFB01
65280131P	65280261P	65280281P	65280291P	65287101P	65287141P	–	652EFB01
65280133P	65280263P	65280283P	65280293P	65287103P	65287143P	–	652EFB01
65280135P	65280265P	65280285P	65280295P	65287105P	65287145P	–	652EFB02
65280136P	65280266P	65280286P	65280296P	65287106P	65287146P	–	652EFB02
65280138P	65280268P	65280288P	65280298P	65287108P	65287148P	–	652EFB03
65390135P	65390265P	65390285P	65390295P	65397105P	65397145P	6531FB01	653EFB02
65390136P	65390266P	65390286P	65390296P	65397106P	65397146P	6531FB01	653EFB03
65390138P	65390268P	65390288P	65390298P	65397108P	65397148P	6531FB01	653EFB04

ELBOWS AND TEES

Double vertical elbows		Vertical tees				Horizontal tees			
Bespoke dimensions		Bespoke dimensions				Bespoke dimensions			
Left + right hand	Right + left hand	Right hand female 300 to 1 499 mm	Right hand male 300 to 1 499 mm	Left hand male 300 to 1 499 mm	Left hand female 300 to 1 499 mm	Right hand female 550 to 1 049 mm	Right hand male 550 to 1 049 mm	Left hand male 550 to 1 049 mm	Left hand female 550 to 1 049 mm
65280450P	65280440P	65280800P	65280810P	65280820P	65280830P	65280700P	65280710P	65280720P	65280730P
65280451P	65280441P	65280801P	65280811P	65280821P	65280831P	65280701P	65280711P	65280721P	65280731P
65280453P	65280443P	65280803P	65280813P	65280823P	65280833P	65280703P	65280713P	65280723P	65280733P
65280455P	65280445P	65280805P	65280815P	65280825P	65280835P	65280705P	65280715P	65280725P	65280735P
65280456P	65280446P	65280806P	65280816P	65280826P	65280836P	65280706P	65280716P	65280726P	65280736P
65280458P	65280448P	65280808P	65280818P	65280828P	65280838P	65280708P	65280718P	65280728P	65280738P
65390455P	65390445P	65390805P	65390815P	65390825P	65390835P	65390705P	65390715P	65390725P	65390735P
65390456P	65390446P	65390806P	65390816P	65390826P	65390836P	65390706P	65390716P	65390726P	65390736P
65390458P	65390448P	65390808P	65390818P	65390828P	65390838P	65390708P	65390718P	65390728P	65390738P

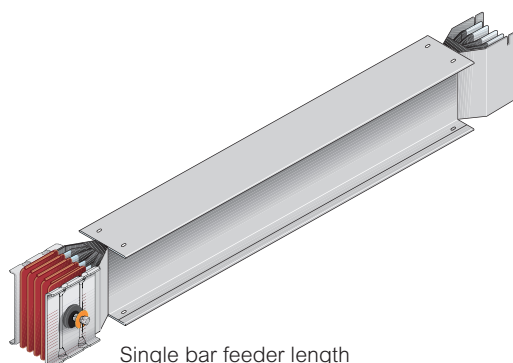
CONNECTION INTERFACES

FEED UNITS AND END STOPS

Connection interfaces + vertical elbows				End feed units		End stops
Bespoke dimensions						
Type 1 female	Type 2 female	Type 3 male	Type 4 male	Type 1 male	Type 2 female	
65281400P	65281410P	65281420P	65281430P	65281110P	65281100P	65283101P
65281401P	65281411P	65281421P	65281431P	65281111P	65281101P	65283101P
65281403P	65281413P	65281423P	65281433P	65281113P	65281103P	65283101P
65281405P	65281415P	65281425P	65281435P	65281115P	65281105P	65283102P
65281406P	65281416P	65281426P	65281436P	65281116P	65281106P	65283102P
65281408P	65281418P	65281428P	65281438P	65281118P	65281108P	65283104P
65391405P	65391415P	65391425P	65391435P	65391115P	65391105P	65393102P
65391406P	65391416P	65391426P	65391436P	65391116P	65391106P	65393103P
65391408P	65391418P	65391428P	65391438P	65391118P	65391108P	65393104P

SCP super compact busbar

feeder lengths



Single bar feeder length



The SCP system is also available in 5 conductor versions and up to 6300 A (copper)

Contact us on
+44 (0) 845 600 6266

Selection charts **p. 62-65**
 Dimensions and technical information **p. 95**
 Technical data **p. 112-117**

High power busbar from 630 A to 4000 A with aluminium alloy conductors and from 800 A to 5000 A with copper conductors
SCP complies with BS EN 60439-2
Designed to be maintenance-free, except for the periodic and compulsory inspections required by the Standard IEC 60364
Supplied with electrical junction monobloc system pre-installed

Pack	Cat. Nos.		Feeder lengths – standard 3 m
	Aluminium	Copper	For runs exceeding 40 m an expansion length should be included (see p. 68)
			3000 mm single bar
			Rating (A)
1	60280100P		630
1	60280101P	65280100P	800
1	60280102P	65280101P	1000
1	60280104P	65280103P	1250
1	60280106P	65280105P	1600
1	60280107P	65280106P	2000
1		65280108P	2500
			3000 mm double bar
			Rating (A)
1	60390104P		2500
1	60390106P	65390105P	3200
1	60390107P	65390106P	4000
1		65390108P	5000

Pack	Cat. Nos.		Feeder lengths – bespoke dimensions
	Aluminium	Copper	Please specify required length when ordering
			1000 - 1500 mm single bar
			Rating (A)
1	60280170P		630
1	60280171P	65280170P	800
1	60280172P	65280171P	1000
1	60280174P	65280173P	1250
1	60280176P	65280175P	1600
1	60280177P	65280176P	2000
1		65280178P	2500
			1000 - 1500 mm double bar
			Rating (A)
1	60390174P		2500
1	60390176P	65390175P	3200
1	60390177P	65390176P	4000
1		65390178P	5000
			1501 - 2000 mm single bar
			Rating (A)
1	60280120P		630
1	60280121P	65280120P	800
1	60280122P	65280121P	1000
1	60280124P	65280123P	1250
1	60280126P	65280125P	1600
1	60280127P	65280126P	2000
1		65280128P	2500

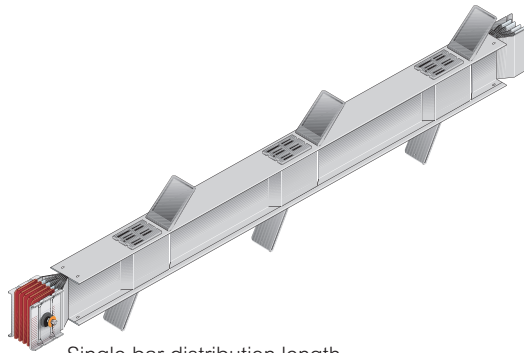
Pack	Cat. Nos.		Feeder lengths – bespoke dimensions (continued)
	Aluminium	Copper	Please specify required length when ordering
			1501 - 2000 mm double bar
			Rating (A)
1	60390124P		2500
1	60390126P	65390125P	3200
1	60390127P	65390126P	4000
1		65390128P	5000
			2001 - 2500 mm single bar
			Rating (A)
1	60280180P		630
1	60280181P	65280180P	800
1	60280182P	65280181P	1000
1	60280184P	65280183P	1250
1	60280186P	65280185P	1600
1	60280187P	65280186P	2000
1		65280188P	2500
			2001 - 2500 mm double bar
			Rating (A)
1	60390184P		2500
1	60390186P	65390185P	3200
1	60390187P	65390186P	4000
1		65390188P	5000
			2501 - 2999 mm single bar
			Rating (A)
1	60280150P		630
1	60280151P	65280150P	800
1	60280152P	65280151P	1000
1	60280154P	65280153P	1250
1	60280156P	65280155P	1600
1	60280157P	65280156P	2000
1		65280158P	2500
			2501 - 2999 mm double bar
			Rating (A)
1	60390154P		2500
1	60390156P	65390155P	3200
1	60390157P	65390156P	4000
1		65390158P	5000

Key : How to select the correct configuration of bar
The 4th digit of an SCP Cat. No. determines the busbar configuration
All examples on this page show 4 conductor versions, ie. 8 or 9;
5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

SCP super compact busbar

distribution lengths



Single bar distribution length



Selection charts **p. 62-65**
 Dimensions and technical information **p. 95**
 Technical data **p. 112-117**

High power busbar from 630 A to 4000 A with aluminium alloy conductors and from 800 A to 5000 A with copper conductors
 SCP complies with BS EN 60439-2
 Designed to be maintenance-free, except for the periodic and compulsory inspections required by the Standard IEC 60364
 Supplied with electrical junction monobloc system pre-installed

Pack	Cat. Nos.		Distribution lengths
			For plug-in type tap-off boxes
			For runs exceeding 40 m an expansion length should be included Tap-off outlets are spaced at 850 mm intervals on both sides and are provided with hinged covers to ensure maximum safety and maintain IP 55 protection
			3 m single bar – 3 + 3 outlets
	Aluminium	Copper	Rating (A)
1	60280130P ¹		630
1	60280131P	65280130P ¹	800
1	60280132P	65280131P	1000
1	60280134P	65280133P	1250
1	60280136P	65280135P	1600
1	60280137P	65280136P	2000
1		65280138P	2500
			3 m double bar – 3 + 3 outlets
			Rating (A)
1	60390134P		2500
1	60390136P	65390135P	3200
1	60390137P	65390136P	4000
1		65390138P	5000
			2 m single bar – 2 + 2 outlets
			Rating (A)
1	60280260P ¹		630
1	60280261P	65280260P ¹	800
1	60280262P	65280261P	1000
1	60280264P	65280263P	1250
1	60280266P	65280265P	1600
1	60280267P	65280266P	2000
1		65280268P	2500
			2 m double bar – 2 + 2 outlets
			Rating (A)
1	60390264P		2500
1	60390266P	65390265P	3200
1	60390267P	65390266P	4000
1		65390268P	5000

Pack	Cat. Nos.		Distribution lengths (continued)
			1 m single bar – 1 + 1 outlets
	Aluminium	Copper	Rating (A)
1	60280280P ¹		630
1	60280281P	65280280P ¹	800
1	60280282P	65280281P	1000
1	60280284P	65280283P	1250
1	60280286P	65280285P	1600
1	60280287P	65280286P	2000
1		65280288P	2500
			1 m double bar – 1 + 1 outlets
			Rating (A)
1	60390284P		2500
1	60390286P	65390285P	3200
1	60390287P	65390286P	4000
1		65390288P	5000

For feed units and tap-off boxes p. 77, 78-79

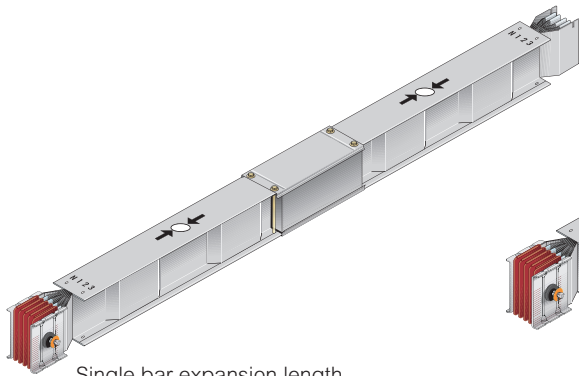
Key : How to select the correct configuration of bar
 The 4th digit of an SCP Cat. No. determines the busbar configuration
 All examples on this page show 4 conductor versions, ie. 8 or 9;
 5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

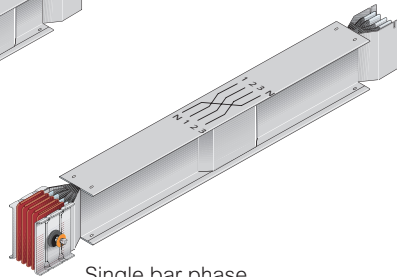
1 : Lengths with tap-off outlets on top side only (3, 2 or 1 + 0)

SCP super compact busbar

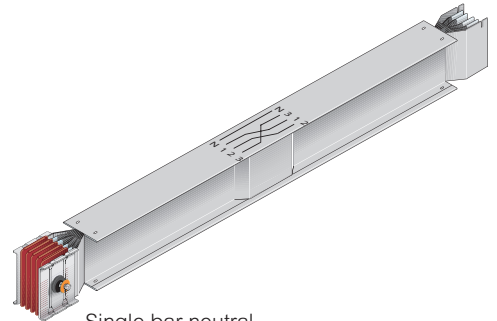
expansion and transposition lengths



Single bar expansion length



Single bar phase transposition length



Single bar neutral rotation length



Selection charts **p. 62-65**
 Dimensions and technical information **p. 95**
 Technical data **p. 112-117**

High power busbar from 630 A to 4000 A with aluminium alloy conductors and from 800 A to 5000 A with copper conductors
 SCP complies with BS EN 60439-2
 Designed to be maintenance-free, except for the periodic and compulsory inspections required by the Standard IEC 60364
 Supplied with electrical junction monobloc system pre-installed

Pack	Cat. Nos.		Expansion lengths
			Standard – 3 m
			Absorb the thermal expansion during normal use that, on long runs, would otherwise cumulate and put abnormal force on the connection points Expansion length is to be placed in straight runs of more than 40 m and repeated every 40 m
			Single bar
	Aluminium	Copper	Rating (A)
1	60280290P		630
1	60280291P	65280290P	800
1	60280292P	65280291P	1000
1	60280294P	65280293P	1250
1	60280296P	65280295P	1600
1	60280297P	65280296P	2000
1		65280298P	2500
			Double bar
			Rating (A)
1	60390294P		2500
1	60390296P	65390295P	3200
1	60390297P	65390296P	4000
1		65390298P	5000

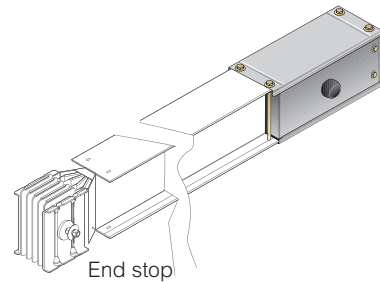
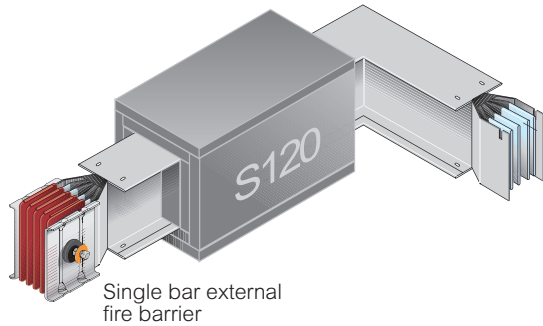
Pack	Cat. Nos.		Transposition lengths
			Phase transposition – 1·2 m
			In runs exceeding 100 m it is recommended to include two transposition lengths to balance mutual phase reactance and electric impedance (one at 1/3 and one at 2/3 distance of the run)
			Single bar
	Aluminium	Copper	Rating (A)
1	60287100P		630
1	60287101P	65287100P	800
1	60287102P	65287101P	1000
1	60287104P	65287103P	1250
1	60287106P	65287105P	1600
1	60287107P	65287106P	2000
1		65287108P	2500
			Double bar
			Rating (A)
1	60397104P		2500
1	60397106P	65397105P	3200
1	60397107P	65397106P	4000
1		65397108P	5000
			Neutral rotation – 1·0 m
			When the sequence of the distribution board phases is different to that of the transformer
			Single bar
			Rating (A)
1	60287140P		630
1	60287141P	65287140P	800
1	60287142P	65287141P	1000
1	60287144P	65287143P	1250
1	60287146P	65287145P	1600
1	60287147P	65287146P	2000
1		65287148P	2500
			Double bar
			Rating (A)
1	60397144P		2500
1	60397146P	65397145P	3200
1	60397147P	65397146P	4000
1		65397148P	5000


Key : How to select the correct configuration of bar
 The 4th digit of an SCP Cat. No. determines the busbar configuration
 All examples on this page show 4 conductor versions, ie. 8 or 9;
 5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

SCP super compact busbar

fire barriers and end stops



 Selection charts **p. 62-65**
 Dimensions and technical information **p. 96**
 Technical data **p. 112-117**

High power busbar from 630 A to 4 000 A with aluminium alloy conductors and from 800 A to 5 000 A with copper conductors
 SCP complies with BS EN 60439-2
 Designed to be maintenance-free, except for the periodic and compulsory inspections required by the Standard IEC 60364
 Supplied with electrical junction monobloc system pre-installed

Pack	Cat. Nos.	Internal fire barrier
1	6531FB01	Meets class S120 (EN 1366-3, DIN 4102-09) Internal fire barriers are not required for 800 to 2000 A aluminium systems, or 1000 to 2500 A copper systems but can be supplied with all other trunking components Internal fire barrier

Pack	Aluminium	Copper	External fire barriers
1	652EFB01		Meets class S120 (EN 1366-3, DIN 4102-09) External fire barriers can be used on any trunking component in compliance with the operating instructions (see p. 96) Please specify the required position of the fire barrier when ordering (see p. 96)
1	652EFB02		
1	652EFB03		
1		652EFB01	External single bar Rating (A) 630, 800, 1000, 1250 1600 2000 800, 1000, 1250 1600, 2000 2500
1		652EFB02	
1		652EFB03	
1	653EFB02		External double bar Rating (A) 2500 3200 4000 3200 4000 5000
1	653EFB03		
1	653EFB04		
1		653EFB02	
1		653EFB03	
1		653EFB04	

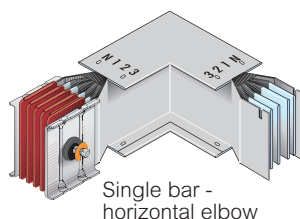
Pack	Aluminium	Copper	End stops
1	65283101P		Maintain IP 55 protection at the end of the run Single bar Rating (A) 630 to 1250 800 to 1250 1600 1 600 to 2 000 2 000 2 500
1	65283102P	65283101P	
1	65283102P	65283102P	
1	65283104P	65283102P	
1		65283104P	
1			
1	65393102P		Double bar Rating (A) 2500 3200 3200 4000 4000 5000
1	65393103P	65393102P	
1	65393103P	65393103P	
1	65393104P	65393103P	
1		65393104P	
1			

Key : How to select the correct configuration of bar
 The 4th digit of an SCP Cat. No. determines the busbar configuration
 All examples on this page show 4 conductor versions, ie. 8 or 9;
 5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

SCP super compact busbar

horizontal elbows



Selection charts **p. 62-65**
 Dimensions and technical information **p. 96**
 Technical data **p. 112-117**

High power busbar from 630 A to 4 000 A with aluminium alloy conductors and from 800 A to 5 000 A with copper conductors
 SCP complies with BS EN 60439-2
 Designed to be maintenance-free, except for the periodic and compulsory inspections required by the Standard IEC 60364
 Elbows are supplied with pre-installed monobloc and are able to change direction with standard or bespoke dimensions

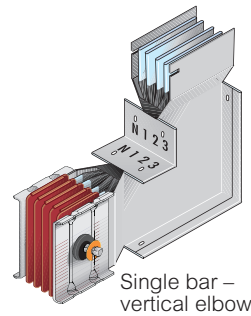
Pack	Cat. Nos.		Horizontal elbows – standard 300 x 300 mm
	Aluminium	Copper	Right hand – single bar
			Rating (A)
1	60280300P		630
1	60280301P	65280300P	800
1	60280302P	65280301P	1 000
1	60280304P	65280303P	1 250
1	60280306P	65280305P	1 600
1	60280307P	65280306P	2 000
1		65280308P	2 500
			Right hand – double bar
			Rating (A)
1	60390304P		2 500
1	60390306P	65390305P	3 200
1	60390307P	65390306P	4 000
1		65390308P	5 000
			Left hand – single bar
			Rating (A)
1	60280310P		630
1	60280311P	65280310P	800
1	60280312P	65280311P	1 000
1	60280314P	65280313P	1 250
1	60280316P	65280315P	1 600
1	60280317P	65280316P	2 000
1		65280318P	2 500
			Left hand – double bar
			Rating (A)
1	60390314P		2 500
1	60390316P	65390315P	3 200
1	60390317P	65390316P	4 000
1		65390318P	5 000

Pack	Cat. Nos.		Horizontal elbows – bespoke dimensions
	Aluminium	Copper	Please specify required length when ordering (see p. 96 for configuration)
			Right hand – single bar 250 to 1 299 mm
			Rating (A)
1	60280320P		630
1	60280321P	65280320P	800
1	60280322P	65280321P	1 000
1	60280324P	65280323P	1 250
1	60280326P	65280325P	1 600
1	60280327P	65280326P	2 000
1		65280328P	2 500
			Right hand – double bar 250 to 1 449 mm
			Rating (A)
1	60390324P		2 500
1	60390326P	65390325P	3 200
1	60390327P	65390326P	4 000
1		65390328P	5 000
			Left hand – single bar 250 to 1 299 mm
			Rating (A)
1	60280330P		630
1	60280331P	65280330P	800
1	60280332P	65280331P	1 000
1	60280334P	65280333P	1 250
1	60280336P	65280335P	1 600
1	60280337P	65280336P	2 000
1		65280338P	2 500
			Left hand – double bar 250 to 1 449 mm
			Rating (A)
1	60390334P		2 500
1	60390336P	65390335P	3 200
1	60390337P	65390336P	4 000
1		65390338P	5 000

Key : How to select the correct configuration of bar
 The 4th digit of an SCP Cat. No. determines the busbar configuration
 All examples on this page show 4 conductor versions, ie. 8 or 9;
 5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

SCP super compact busbar vertical elbows



Single bar – vertical elbow

Selection charts p. 62-65
Dimensions and technical information p. 96
Technical data p. 112-117

High power busbar from 630 A to 4 000 A with aluminium alloy conductors and from 800 A to 5 000 A with copper conductors
SCP complies with BS EN 60439-2
Designed to be maintenance-free, except for the periodic and compulsory inspections required by the Standard IEC 60364
Elbows are supplied with pre-installed monobloc and are able to change direction with standard or bespoke dimensions

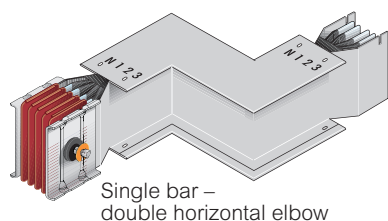
Pack	Cat. Nos.		Vertical elbows – standard	Pack	Cat. Nos.		Vertical elbows – bespoke dimensions
	Aluminium	Copper	Left hand – single bar 300 x 300 mm				Please specify required length when ordering (see p. 96 for configuration)
1	60280410P		Rating (A) 630				
1	60280411P	65280410P	800				
1	60280412P	65280411P	1 000				
1	60280414P	65280413P	1 250				
1	60280416P	65280415P	1 600				
1	60280417P	65280416P	2 000				
1		65280418P	2 500				
			Left hand – double bar 450 x 450 mm		Aluminium	Copper	Left hand – single bar 300 to 1 299 mm
			Rating (A)				Rating (A)
1	60390414P		2 500	1	60280430P		630
1	60390416P	65390415P	3 200	1	60280431P	65280430P	800
1	60390417P	65390416P	4 000	1	60280432P	65280431P	1 000
1		65390418P	5 000	1	60280434P	65280433P	1 250
			Right hand – single bar 300 x 300 mm	1	60280436P	65280435P	1 600
			Rating (A)	1	60280437P	65280436P	2 000
1	60280400P		630	1		65280438P	2 500
1	60280401P	65280400P	800				
1	60280402P	65280401P	1 000	1	60390434P		Left hand – double bar 450 to 1 449 mm
1	60280404P	65280403P	1 250	1	60390436P	65390435P	Rating (A)
1	60280406P	65280405P	1 600	1	60390437P	65390436P	2 500
1	60280407P	65280406P	2 000	1		65390438P	3 200
1		65280408P	2 500	1			4 000
			Right hand – double bar 450 x 450 mm				5 000
			Rating (A)				Right hand – single bar 300 to 1 299 mm
1	60390404P		2 500	1	60280420P		Rating (A)
1	60390406P	65390405P	3 200	1	60280421P	65280420P	630
1	60390407P	65390406P	4 000	1	60280422P	65280421P	800
1		65390408P	5 000	1	60280424P	65280423P	1 000
				1	60280426P	65280425P	1 250
				1	60280427P	65280426P	1 600
				1		65280428P	2 000
				1			2 500
							Right hand – double bar 450 to 1 449 mm
							Rating (A)
1	60390424P		2 500	1	60390424P		2 500
1	60390426P	65390425P	3 200	1	60390426P	65390425P	3 200
1	60390427P	65390426P	4 000	1		65390428P	4 000
1		65390428P	5 000	1			5 000

Key : How to select the correct configuration of bar
The 4th digit of an SCP Cat. No. determines the busbar configuration
All examples on this page show 4 conductor versions, ie. 8 or 9;
5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below

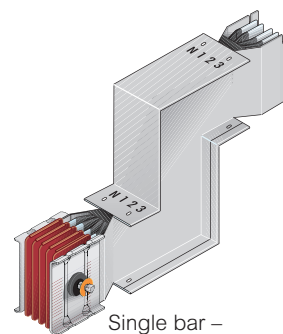
	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

SCP super compact busbar

double elbows



Single bar – double horizontal elbow



Single bar – double vertical elbow



Selection charts **p. 62-65**
 Dimensions and technical information **p. 96-97**
 Technical data **p. 112-117**

High power busbar from 630 A to 4 000 A with aluminium alloy conductors and from 800 A to 5 000 A with copper conductors
 SCP complies with BS EN 60439-2
 Designed to be maintenance-free, except for the periodic and compulsory inspections required by the Standard IEC 60364
 Elbows are supplied with pre-installed monobloc and are able to change direction with standard or bespoke dimensions

Pack	Cat. Nos.		Double horizontal elbows – bespoke dimensions ¹
	Aluminium	Copper	Please specify required length when ordering (see p. 96 for configuration)
			Left + right hand – single bar
			Rating (A)
1	60280350P		630
1	60280351P	65280350P	800
1	60280352P	65280351P	1 000
1	60280354P	65280353P	1 250
1	60280356P	65280355P	1 600
1	60280357P	65280356P	2 000
1		65280358P	2 500
			Left + right hand – double bar
			Rating (A)
1	60390354P		2 500
1	60390356P	65390355P	3 200
1	60390357P	65390356P	4 000
1		65390358P	5 000
			Right + left hand – single bar
			Rating (A)
1	60280340P		630
1	60280341P	65280340P	800
1	60280342P	65280341P	1 000
1	60280344P	65280343P	1 250
1	60280346P	65280345P	1 600
1	60280347P	65280346P	2 000
1		65280348P	2 500
			Right + left hand – double bar
			Rating (A)
1	60390344P		2 500
1	60390346P	65390345P	3 200
1	60390347P	65390346P	4 000
1		65390348P	5 000

Pack	Cat. Nos.		Double vertical elbows – bespoke dimensions ²
	Aluminium	Copper	Please specify required length when ordering (see p. 97 for configuration)
			Left + right hand – single bar
			Rating (A)
1	60280450P		630
1	60280451P	65280450P	800
1	60280452P	65280451P	1 000
1	60280454P	65280453P	1 250
1	60280456P	65280455P	1 600
1	60280457P	65280456P	2 000
1		65280458P	2 500
			Left + right hand – double bar
			Rating (A)
1	60390454P		2 500
1	60390456P	65390455P	3 200
1	60390457P	65390456P	4 000
1		65390458P	5 000
			Right + left hand – single bar
			Rating (A)
1	60280440P		630
1	60280441P	65280440P	800
1	60280442P	65280441P	1 000
1	60280444P	65280443P	1 250
1	60280446P	65280445P	1 600
1	60280447P	65280446P	2 000
1		65280448P	2 500
			Right + left hand – double bar
			Rating (A)
1	60390444P		2 500
1	60390446P	65390445P	3 200
1	60390447P	65390446P	4 000
1		65390448P	5 000

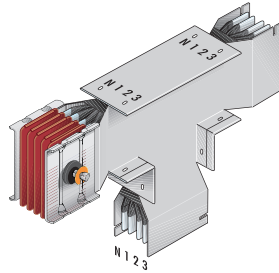
2 : Standard dimensions 300 + 300 + 300 mm single bar and 450 + 450 + 450 mm double bar

Key : How to select the correct configuration of bar
 The 4th digit of an SCP Cat. No. determines the busbar configuration
 All examples on this page show 4 conductor versions, ie. 8 or 9;
 5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below


	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

1 : Standard dimensions 300 + 300 + 300 mm

SCP super compact busbar vertical tees



Single bar - vertical tee

 Selection charts **p. 62-65**
 Dimensions and technical information **p. 97**
 Technical data **p. 112-117**

High power busbar from 630 A to 4 000 A with aluminium alloy conductors and from 800 A to 5 000 A with copper conductors
 SCP complies with BS EN 60439-2
 Designed to be maintenance-free, except for the periodic and compulsory inspections required by the Standard IEC 60364
 Tees are supplied with pre-installed monobloc and are able to change direction with standard or bespoke dimensions

Pack	Cat. Nos.		Vertical tees – bespoke dimensions ¹
	Aluminium	Copper	Please specify required length when ordering (see p. 97 for configuration)
			Right hand female – single bar 300 to 1 299 mm
			Rating (A)
1	60280800P		630
1	60280801P	65280800P	800
1	60280802P	65280801P	1 000
1	60280804P	65280803P	1 250
1	60280806P	65280805P	1 600
1	60280807P	65280806P	2 000
1		65280808P	2 500
			Right hand female – double bar 450 to 1 449 mm
			Rating (A)
1	60390804P		2 500
1	60390806P	65390805P	3 200
1	60390807P	65390806P	4 000
1		65390808P	5 000
			Right hand male – single bar 300 to 1 299 mm
			Rating (A)
1	60280810P		630
1	60280811P	65280810P	800
1	60280812P	65280811P	1 000
1	60280814P	65280813P	1 250
1	60280816P	65280815P	1 600
1	60280817P	65280816P	2 000
1		65280818P	2 500
			Right hand male – double bar 450 to 1 449 mm
			Rating (A)
1	60390814P		2 500
1	60390816P	65390815P	3 200
1	60390817P	65390816P	4 000
1		65390818P	5 000

Pack	Cat. Nos.		Vertical tees – bespoke dimensions (continued) ¹
	Aluminium	Copper	Please specify required length when ordering (see p. 97 for configuration)
			Left hand male – single bar 300 to 1 299 mm
			Rating (A)
1	60280820P		630
1	60280821P	65280820P	800
1	60280822P	65280821P	1 000
1	60280824P	65280823P	1 250
1	60280826P	65280825P	1 600
1	60280827P	65280826P	2 000
1		65280828P	2 500
			Left hand male – double bar 450 to 1 449 mm
			Rating (A)
1	60390824P		2 500
1	60390826P	65390825P	3 200
1	60390827P	65390826P	4 000
1		65390828P	5 000
			Left hand female – single bar 300 to 1 299 mm
			Rating (A)
1	60280830P		630
1	60280831P	65280830P	800
1	60280832P	65280831P	1 000
1	60280834P	65280833P	1 250
1	60280836P	65280835P	1 600
1	60280837P	65280836P	2 000
1		65280838P	2 500
			Left hand female – double bar 450 to 1 449 mm
			Rating (A)
1	60390834P		2 500
1	60390836P	65390835P	3 200
1	60390837P	65390836P	4 000
1		65390838P	5 000

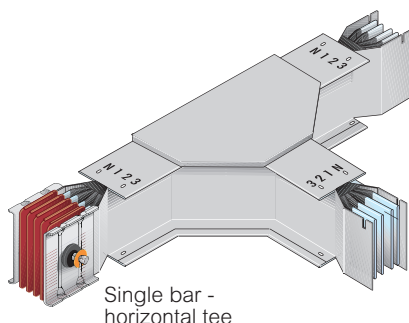
Key : How to select the correct configuration of bar
 The 4th digit of an SCP Cat. No. determines the busbar configuration
 All examples on this page show 4 conductor versions, ie. 8 or 9;
 5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

¹ : Standard dimensions 300 + 300 + 300 mm single bar and 600 + 600 + 600 mm double bar

SCP super compact busbar

horizontal tees



Single bar - horizontal tee



Selection charts **p. 62-65**
 Dimensions and technical information **p. 98**
 Technical data **p. 112-117**

High power busbar from 630 A to 4 000 A with aluminium alloy conductors and from 800 A to 5 000 A with copper conductors
 SCP complies with BS EN 60439-2
 Designed to be maintenance-free, except for the periodic and compulsory inspections required by the Standard IEC 60364
 Tees are supplied with pre-installed monobloc and are able to change direction with standard or bespoke dimensions

Pack	Cat. Nos.		Horizontal tees – bespoke dimensions ¹
			Please specify required length when ordering (see p. 98 for configuration)
			Right hand female – single bar 550 to 1 049 mm
	Aluminium	Copper	Rating (A)
1	60280700P		630
1	60280701P	65280700P	800
1	60280702P	65280701P	1 000
1	60280704P	65280703P	1 250
1	60280706P	65280705P	1 600
1	60280707P	65280706P	2 000
1		65280708P	2 500
			Right hand female – double bar 550 to 1 049 mm
			Rating (A)
1	60390704P		2 500
1	60390706P	65390705P	3 200
1	60390707P	65390706P	4 000
1		65390708P	5 000
			Right hand male – single bar 550 to 1 049 mm
			Rating (A)
1	60280710P		630
1	60280711P	65280710P	800
1	60280712P	65280711P	1 000
1	60280714P	65280713P	1 250
1	60280716P	65280715P	1 600
1	60280717P	65280716P	2 000
1		65280718P	2 500
			Right hand male – double bar 550 to 1 049 mm
			Rating (A)
1	60390714P		2 500
1	60390716P	65390715P	3 200
1	60390717P	65390716P	4 000
1		65390718P	5 000

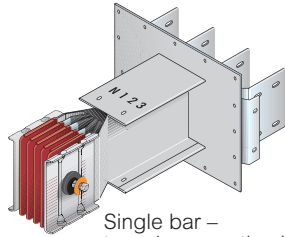
Pack	Cat. Nos.		Horizontal tees – bespoke dimensions (continued) ¹
			Please specify required length when ordering (see p. 98 for configuration)
			Left hand male – single bar 550 to 1 049 mm
	Aluminium	Copper	Rating (A)
1	60280720P		630
1	60280721P	65280720P	800
1	60280722P	65280721P	1 000
1	60280724P	65280723P	1 250
1	60280726P	65280725P	1 600
1	60280727P	65280726P	2 000
1		65280728P	2 500
			Left hand male – double bar 550 to 1 049 mm
			Rating (A)
1	60390724P		2 500
1	60390726P	65390725P	3 200
1	60390727P	65390726P	4 000
1		65390728P	5 000
			Left hand female – single bar 550 to 1 049 mm
			Rating (A)
1	60280730P		630
1	60280731P	65280730P	800
1	60280732P	65280731P	1 000
1	60280734P	65280733P	1 250
1	60280736P	65280735P	1 600
1	60280737P	65280736P	2 000
1		65280738P	2 500
			Left hand female – double bar 550 to 1 049 mm
			Rating (A)
1	60390734P		2 500
1	60390736P	65390735P	3 200
1	60390737P	65390736P	4 000
1		65390738P	5 000

Key : How to select the correct configuration of bar
 The 4th digit of an SCP Cat. No. determines the busbar configuration
 All examples on this page show 4 conductor versions, ie. 8 or 9;
 5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

¹ : Standard dimensions 600 + 600 + 600 mm

SCP super compact busbar connection interfaces



Single bar – type 1 connection interface

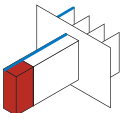
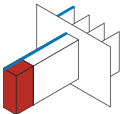
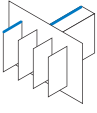
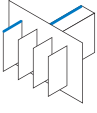


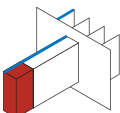
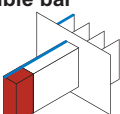
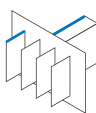
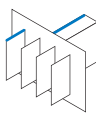
For EdM cast resin transformers compatibility table p. 101



Selection charts p. 62-65
 Dimensions and technical information p. 98-99
 Coverplate and bar drilling details p. 100
 Technical data p. 112-117

High power busbar from 630 A to 4000 A with aluminium alloy conductors and from 800 A to 5000 A with copper conductors
 SCP complies with BS EN 60439-2
 For connecting the busbar to the cabinet or transformer

Pack	Cat. Nos.		Rating (A)	Diagram
	Aluminium	Copper		
Connection interfaces – in-line standard dimensions 300 mm				
Type 1 male – single bar				
			630	
1	60281010P		630	
1	60281011P	65281010P	800	
1	60281012P	65281011P	1000	
1	60281014P	65281013P	1250	
1	60281016P	65281015P	1600	
1	60281017P	65281016P	2000	
1		65281018P	2500	
Type 1 male – double bar				
			2500	
1	60391014P		2500	
1	60391016P	65391015P	3200	
1	60391017P	65391016P	4000	
1		65391018P	5000	
Type 2 female – single bar				
			630	
1	60281000P		630	
1	60281001P	65281000P	800	
1	60281002P	65281001P	1000	
1	60281004P	65281003P	1250	
1	60281006P	65281005P	1600	
1	60281007P	65281006P	2000	
1		65281008P	2500	
Type 2 female – double bar				
			2500	
1	60391004P		2500	
1	60391006P	65391005P	3200	
1	60391007P	65391006P	4000	
1		65391008P	5000	

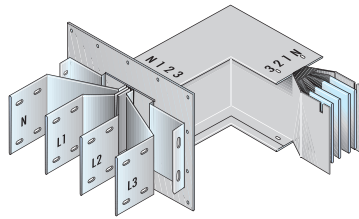
Pack	Cat. Nos.		Rating (A)	Diagram
	Aluminium	Copper		
Connection interfaces – in-line bespoke dimensions				
Please specify required length when ordering (see p.98 for configuration)				
Type 1 male - single bar				
			630	
1	60281030P		630	
1	60281031P	65281030P	800	
1	60281032P	65281031P	1000	
1	60281034P	65281033P	1250	
1	60281036P	65281035P	1600	
1	60281037P	65281036P	2000	
1		65281038P	2500	
Type 1 male - double bar				
			2500	
1	60391034P		2500	
1	60391036P	65391035P	3200	
1	60391037P	65391036P	4000	
1		65391038P	5000	
Type 2 female - single bar				
			630	
1	60281020P		630	
1	60281021P	65281020P	800	
1	60281022P	65281021P	1000	
1	60281024P	65281023P	1250	
1	60281026P	65281025P	1600	
1	60281027P	65281026P	2000	
1		65281028P	2500	
Type 2 female - double bar				
			2500	
1	60391024P		2500	
1	60391026P	65391025P	3200	
1	60391027P	65391026P	4000	
1		65391028P	5000	

Key : How to select the correct configuration of bar
 The 4th digit of an SCP Cat. No. determines the busbar configuration
 All examples on this page show 4 conductor versions, ie. 8 or 9;
 5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

SCP super compact busbar

connection interfaces + horizontal elbows



Single bar – type 1
connection interface +
horizontal elbow



For EdM cast resin
transformers compatibility
table p. 101



Selection charts p. 62-65
Dimensions and technical information p. 98
Coverplate and bar drilling details p. 100
Technical data p. 112-117

High power busbar from 630 A to 4000 A with aluminium alloy conductors and from 800 A to 5000 A with copper conductors
SCP complies with BS EN 60439-2
For connecting the busbar to the cabinet or transformer

Pack	Cat. Nos.		Rating (A)	Image
	Aluminium	Copper		
1	60281300P		630	
1	60281301P	65281300P	800	
1	60281302P	65281301P	1000	
1	60281304P	65281303P	1250	
1	60281306P	65281305P	1600	
1	60281307P	65281306P	2000	
1		65281308P	2500	
1	60391304P		2500	
1	60391306P	65391305P	3200	
1	60391307P	65391306P	4000	
1		65391308P	5000	
1	60281310P		630	
1	60281311P	65281310P	800	
1	60281312P	65281311P	1000	
1	60281314P	65281313P	1250	
1	60281316P	65281315P	1600	
1	60281317P	65281316P	2000	
1		65281318P	2500	
1	60391314P		2500	
1	60391316P	65391315P	3200	
1	60391317P	65391316P	4000	
1		65391318P	5000	

Connection interfaces + horizontal elbows – bespoke dimensions¹

Please specify required length when ordering (see p. 98 for configuration)

Type 1 female – single bar

Rating (A)
630
800
1000
1250
1600
2000
2500

Type 1 female – double bar

Rating (A)
2500
3200
4000
5000

Type 2 female – single bar

Rating (A)
630
800
1000
1250
1600
2000
2500

Type 2 female – double bar

Rating (A)
2500
3200
4000
5000

Pack	Cat. Nos.		Rating (A)	Image
	Aluminium	Copper		
1	60281320P		630	
1	60281321P	65281320P	800	
1	60281322P	65281321P	1000	
1	60281324P	65281323P	1250	
1	60281326P	65281325P	1600	
1	60281327P	65281326P	2000	
1		65281328P	2500	
1	60391324P		2500	
1	60391326P	65391325P	3200	
1	60391327P	65391326P	4000	
1		65391328P	5000	
1	60281330P		630	
1	60281331P	65281330P	800	
1	60281332P	65281331P	1000	
1	60281334P	65281333P	1250	
1	60281336P	65281335P	1600	
1	60281337P	65281336P	2000	
1		65281338P	2500	
1	60391334P		2500	
1	60391336P	65391335P	3200	
1	60391337P	65391336P	4000	
1		65391338P	5000	

Connection interfaces + horizontal elbows – bespoke dimensions (continued)¹

Please specify required length when ordering (see p. 98 for configuration)

Type 3 male – single bar

Rating (A)
630
800
1000
1250
1600
2000
2500

Type 3 male – double bar

Rating (A)
2500
3200
4000
5000

Type 4 male – single bar

Rating (A)
630
800
1000
1250
1600
2000
2500

Type 4 male – double bar

Rating (A)
2500
3200
4000
5000

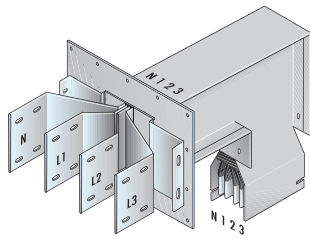
Key : How to select the correct configuration of bar
The 4th digit of an SCP Cat. No. determines the busbar configuration
All examples on this page show 4 conductor versions, ie. 8 or 9;
5 conductor and 200% neutral versions are available by substituting the 4th digit with 4, 5, 6 or 7, as shown below

	3L + N + PE	3L + N + FE+ PE	3L + 2N + PE
Single bar	8	4	5
Double bar	9	6	7

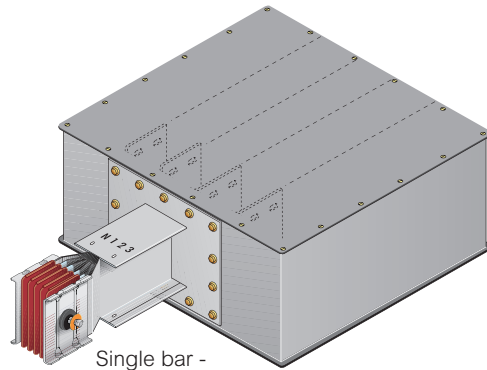
1 : Standard dimensions 300 + 300 mm

SCP super compact busbar

connection interfaces + vertical elbows and feed units



Single bar – type 1 connection interface + vertical elbow



Single bar - type 1 end feed unit



Selection charts **p. 62-65**
 Dimensions and technical information **p. 99**
 Coverplate and bar drilling details **p. 100**
 Technical data **p. 112-117**

High power busbar from 630 A to 4 000 A with aluminium alloy conductors and from 800 A to 5 000 A with copper conductors
 SCP complies with BS EN 60439-2

For connecting the busbar to the cabinet or transformer

End feed units have rear cable input and aluminium gland plate(s) for cable entry – 170 x 410 mm. Single bar 1 plate, double bar 2 plates

Pack	Cat. Nos.		Connection interfaces + vertical elbows – bespoke dimensions ¹
	Aluminium	Copper	Please specify required length when ordering (see p. 99 for configuration)
			Type 1 female – single bar
			Rating (A)
1	60281400P		630
1	60281401P	65281400P	800
1	60281402P	65281401P	1 000
1	60281404P	65281403P	1 250
1	60281406P	65281405P	1 600
1	60281407P	65281406P	2 000
		65281408P	2 500
			Type 1 female – double bar
			Rating (A)
1	60391404P		2 500
1	60391406P	65391405P	3 200
1	60391407P	65391406P	4 000
1		65391408P	5 000
			Type 2 female – single bar
			Rating (A)
1	60281410P		630
1	60281411P	65281410P	800
1	60281412P	65281411P	1 000
1	60281414P	65281413P	1 250
1	60281416P	65281415P	1 600
1	60281417P	65281416P	2 000
1		65281418P	2 500
			Type 2 female – double bar
			Rating (A)
1	60391414P		2 500
1	60391416P	65391415P	3 200
1	60391417P	65391416P	4 000
1		65391418P	5 000
			Type 3 male – single bar
			Rating (A)
1	60281420P		630
1	60281421P	65281420P	800
1	60281422P	65281421P	1 000
1	60281424P	65281423P	1 250
1	60281426P	65281425P	1 600
1	60281427P	65281426P	2 000
1		65281428P	2 500
			Type 3 male – double bar
			Rating (A)
1	60391424P		2 500
1	60391426P	65391425P	3 200
1	60391427P	65391426P	4 000
1		65391428P	5 000

Pack	Cat. Nos.		Connection interfaces + vertical elbows – bespoke dimensions (continued) ¹
	Aluminium	Copper	Please specify required length when ordering (see p. 99 for configuration)
			Type 4 male – single bar
			Rating (A)
1	60281430P		630
1	60281431P	65281430P	800
1	60281432P	65281431P	1 000
1	60281434P	65281433P	1 250
1	60281436P	65281435P	1 600
1	60281437P	65281436P	2 000
1		65281438P	2 500
			Type 4 male – double bar
			Rating (A)
1	60391434P		2 500
1	60391436P	65391435P	3 200
1	60391437P	65391436P	4 000
1		65391438P	5 000
			End feed unit – standard 300 mm
			Type 1 male – single bar
			Rating (A)
1	60281110P		630
1	60281111P	65281110P	800
1	60281112P	65281111P	1 000
1	60281114P	65281113P	1 250
1	60281116P	65281115P	1 600
1	60281117P	65281116P	2 000
1		65281118P	2 500
			Type 1 male – double bar
			Rating (A)
1	60391114P		2 500
1	60391116P	65391115P	3 200
1	60391117P	65391116P	4 000
1		65391118P	5 000
			Type 2 female – single bar
			Rating (A)
1	60281100P		630
1	60281101P	65281100P	800
1	60281102P	65281101P	1 000
1	60281104P	65281103P	1 250
1	60281106P	65281105P	1 600
1	60281107P	65281106P	2 000
1		65281108P	2 500
			Type 2 female – double bar
			Rating (A)
1	60391104P		2 500
1	60391106P	65391105P	3 200
1	60391107P	65391106P	4 000
1		65391108P	5 000

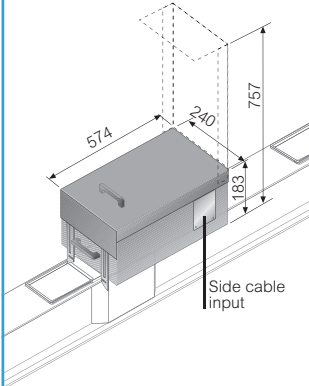
¹ : Standard dimensions 300 + 300 mm single bar and 450 + 450 mm double bar

SCP tap-off boxes : plug-in type 63-630 A

with AC21A disconnection on the door

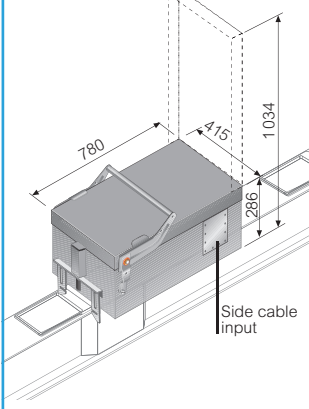
Plug-in boxes can be fitted on any length with tap-off outlets irrespective of rating and conductor material

Cover with AC21A disconnection



From 63 to 160 A

Cover with AC21A disconnection



From 250 to 630 A

With fuse carrier (fuses not included)

Tap-off rating	Fuse carrier	3L + N + PE	3L + N + FE + PE	3L + 2N + PE
63 A	CH22	65285031P	65245021P	65255031P
125 A	NH00	65285032P	65245022P	65255032P
160 A	NH00	65285033P	65245023P	65255033P
250 A	NH2	65285034P	65245024P	65255034P
630 A	NH3	65285036P	65245026P	65255036P

With switch disconnecter (AC23) and fuse carrier (fuses not included)

Tap-off rating	Fuse carrier	3L + N + PE	3L + N + FE + PE	3L + 2N + PE
63 A	NH000	65285051P	65245041P	65255051P
125 A	NH00	65285052P	65245042P	65255052P
160 A	NH00	65285053P	65245043P	65255053P
250 A	NH1	65285054P	65245044P	65255054P
400 A	NH2	65285055P	65245045P	65255055P
630 A	NH3	65285076P	65245066P	65255076P

Empty version

Tap-off rating	3L + N + PE	3L + N + FE + PE	3L + 2N + PE
63 A	65285011P	65245001P	65255011P
125 A	65285012P	65245002P	65255012P
160 A	65285013P	65245003P	65255013P
250 A	65285014P	65245004P	65255014P
630 A	65285016P	65245006P	65255016P

Fully fitted tap-offs c/w 4P Legrand MCCB with rotary handle¹

Tap-off rating	Breaker rating	3L + N + PE	3L + N + FE + PE	3L + 2N + PE
63 A	40 A	65285011PM4RB	65245001PM4RB	65255011PM4RB
	63 A	65285011PM4RC	65245001PM4RC	65255011PM4RC
125 A	100 A	65285012PM4RD	65245002PM4RD	65255012PM4RD
	125 A	65285012PM4RE	65245002PM4RE	65255012PM4RE
160 A	160 A	65285013PM4RF	65245003PM4RF	65255013PM4RF
250 A	200 A	65285014PM4RG	65245004PM4RG	65255014PM4RG
	250 A	65285014PM4RH	65245004PM4RH	65255014PM4RH
630 A	400 A	65285016PM4RI	65245006PM4RI	65255016PM4RI
	630 A	65285016PM4RJ	65245006PM4RJ	65255016PM4RJ

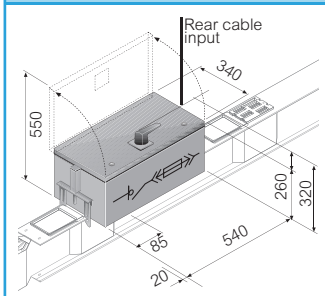
Fully fitted tap-offs c/w FREE ISSUE MCCB

Tap-off rating	Breaker rating	3L + N + PE	3L + N + FE + PE	3L + 2N + PE
63 A	40 A	65285011PMFB	65245001PMFB	65255011PMFB
	63 A	65285011PMFC	65245001PMFC	65255011PMFC
125 A	100 A	65285012PMFD	65245002PMFD	65255012PMFD
	125 A	65285012PMFE	65245002PMFE	65255012PMFE
160 A	160 A	65285013PMFF	65245003PMFF	65255013PMFF
250 A	200 A	65285014PMFG	65245004PMFG	65255014PMFG
	250 A	65285014PMFH	65245004PMFH	65255014PMFH
630 A	400 A	65285016PMFI	65245006PMFI	65255016PMFI
	630 A	65285016PMFJ	65245006PMFJ	65255016PMFJ

¹ : For MCCB technical data, see p. 118-125

SCP tap-off boxes : plug-in type 125-400 A : bolt-on type 125-1 250 A

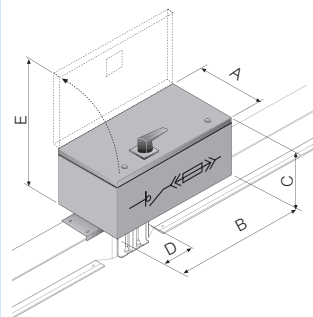
Plug-in tap-offs 125-1250 A (remain live with door open)



With switch disconnecter (AC23) and fuse carrier (fuses not included)				
Tap-off rating	Fuse carrier	3L + N + PE	3L + N + FE + PE	3L + 2N + PE
125 A	NH00	65282001P	N/A	N/A
250 A	NH1	65282002P	N/A	N/A
400 A	NH2	65282003P	N/A	N/A

Bolt-on tap-offs – with switch disconnecter (AC23) and fuse carrier 125 A to 1 250 A (fuses not included)

The boxes cannot be installed simultaneously on both sides of the same junction
The bolted boxes are to be installed directly on the junction when the busbar is disconnected and not energised
Dimensions and technical information **p. 103**. Technical data **p. 112-117**



Busbar system – aluminium						
Tap-off rating/ fuse carrier	Single bar			Double bar		
	630 A 800 A 1 000 A 1 250 A	1 600 A	2 000 A	2 500 A	3 200 A	4 000 A
125 A NH00	65281811P	65281812P	65281814P	65391812P	65391813P	65391814P
250 A NH1	65281821P	65281822P	65281824P	65391822P	65391823P	65291824P
400 A NH2	65281831P	65281832P	65281834P	65391832P	65391833P	65291834P
630 A NH3	65286041P	65286042P	65286044P	65396042P	65396043P	65396044P
800 A NH4	65281851P	65281852P	65281854P	65391852P	65391853P	65291854P
1 000 A NH4	65281861P	65281862P	65281864P	65391862P	65391863P	65291864P
1 250 A NH4	65281871P	65281872P	65281874P	65391872P	65391873P	65291874P

Busbar system – copper						
Tap-off rating/ fuse carrier	Single bar			Double bar		
	800 A 1 000 A 1 250 A	1 600 A 2 000 A	2 500 A	3 200 A	4 000 A	5 000 A
125 A NH00	65281811P	65281812P	65281814P	65391812P	65391813P	65391814P
250 A NH1	65281821P	65281822P	65281824P	65391822P	65391823P	65391824P
400 A NH2	65281831P	65281832P	65281834P	65391832P	65391833P	65391834P
630 A NH3	65286041P	65286042P	65286044P	65396042P	65396043P	65396044P
800 A NH4	65281851P	65281852P	65281854P	65391852P	65391853P	65391854P
1 000 A NH4	65281861P	65281862P	65281864P	65391862P	65391863P	65391864P
1 250 A NH4	65281871P	65281872P	65281874P	65391872P	65391873P	65391874P

Dimensions of the box

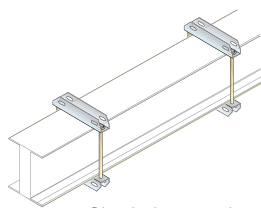
Box rating	125-400 A	630 A	800-1250 A
(A) mm	365	400	450
(B) mm	630	750	1 050
(C) mm	270	280	300
(D) mm	95	115	115
(E) mm	635	680	750

Rated insulating AC voltage	Ui (V)	1 000
Rated impulse withstand voltage	Uimp (kV)	12
Type of rated duty	–	AC23A
Rated conditional short circuit current	(kA)	100

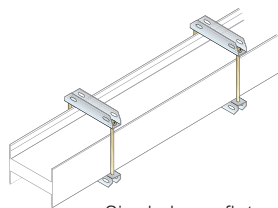
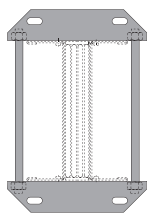
CEI EN 60947-3

SCP super compact busbar

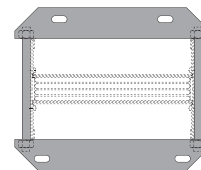
fixing supports for horizontal installation



Single bar – edgeways fixing support



Single bar – flat fixing support



Dimensions and technical information p. 104

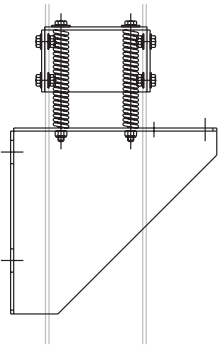
Fixing supports for fixing the busbar to the structure of the building

Pack	Cat. Nos.		Suspension brackets for edgeways installation
	Aluminium busbar	Copper busbar	
1	65202001	65202001	Single bar
			Height : 210 mm
1	65202002	65202002	Rating (A) 630 to 1250 800 to 1250
			Height : 250 mm
1	65202002	65202002	Rating (A) 1600 1600 to 2000
			Height : 300 mm
1	65202004	65202004	Rating (A) 2000 2500
			Double bar
1	65222002	65222002	Height : 460 mm
			Rating (A) 2500 3200
1	65222003	65222003	Height : 520 mm
			Rating (A) 3200 4000
1	65222004	65222004	Height : 560 mm
			Rating (A) 4000 5000

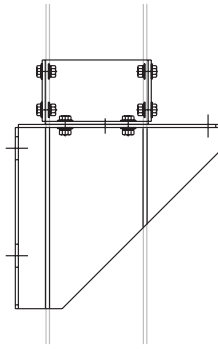
Pack	Cat. Nos.		Suspension brackets for flat installation
	Aluminium busbar	Copper busbar	
1	65202001	65202001	Single bar
			Height : 190 mm
1	65202013	65202013	Rating (A) 630 to 1250 800 to 1250
			Height : 315 mm
1	65202112	65202112	Rating (A) 1600 to 2000 1600 to 2500
			Double bar
1	65202113	65202113	Height : 430 mm
			Rating (A) 2500 3200
1	65202114	65202114	Height : 490 mm
			Rating (A) 3200 4000
1	65202114	65202114	Height : 530 mm
			Rating (A) 4000 5000

SCP super compact busbar

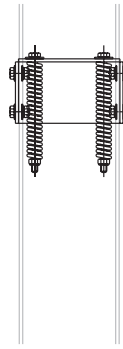
fixing supports for vertical installation



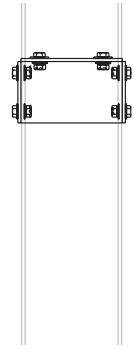
Fixing support with bracket and springs



Fixing support with bracket



Fixing support with springs



Fixing support - bracket only

 **Dimensions and technical information p. 105-106**

Fixing supports for fixing the busbar to the structure of the building
For vertical installations and special applications

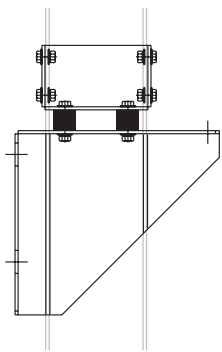
Pack	Cat. Nos.		Fixing supports with bracket and springs
	Aluminium	Copper	
			Single bar
			Rating (A)
1	65213711		630 to 1250
1	65213712		1600
1		65213711	800 to 1250
1		65213712	1 600 to 2 000
1	65213714		2 000
1		65213714	2 500
			Double bar
			Rating (A)
1	65213742		2 500
1		65213742	3 200
1	65213743		3 200
1		65213743	4 000
1	65213744		4 000
1		65213744	5 000

Pack	Cat. Nos.		Fixing supports with springs
	Aluminium	Copper	
			Single bar
			Rating (A)
1	65213701		630 to 1250
1		65213701	800 to 1250
1	65213702		1 600
1		65213702	1 600 to 2 000
1	65213704		2 000
1		65213704	2 500
			Double bar
			Rating (A)
1	65213732		2 500
1		65213732	3 200
1	65213733		3 200
1		65213733	4 000
1	65213734		4 000
1		65213734	5 000

Pack	Cat. Nos.		Fixing supports with bracket
	Aluminium	Copper	
			Single bar – anti-seismic rated
			Rating (A)
1	65213721		630 to 1250
1		65213721	800 to 1250
1	65213722		1 600
1		65213722	1 600 to 2 000
1	65213724		2 000
1		65213724	2 500
			Double bar – not anti-seismic rated
			Rating (A)
1	65213752		2 500
1		65213752	3 200
1	65213753		3 200
1		65213753	4 000
1	65213754		4 000
1		65213754	5 000
			Double bar – anti-seismic rated
			Rating (A)
1	65213792		2 500
1		65213792	3 200
1	65213793		3 200
1		65213793	4 000
1	65213794		4 000
1		65213794	5 000

Pack	Cat. Nos.		Fixing supports – bracket only
	Aluminium	Copper	
			Single bar
			Rating (A)
1	65213761		630 to 1250
1		65213761	800 to 1250
1	65213762		1 600
1		65213762	1 600 to 2 000
1	65213764		2 000
1		65213764	2 500
			Double bar
			Rating (A)
1	65213772		2 500
1		65213772	3 200
1	65213773		3 200
1		65213773	4 000
1	65213774		4 000
1		65213774	5 000

SCP super compact busbar fixing supports for vertical installation (continued)



Fixing support for Naval applications

Dimensions and technical information p. 105-106

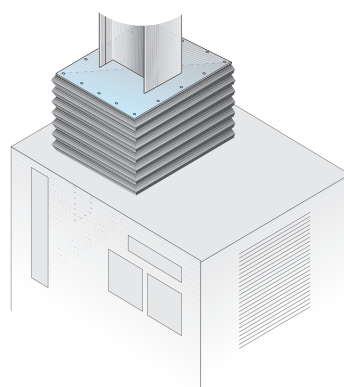
Fixing supports for fixing the busbar to the structure of the building

Pack	Cat. Nos.		Rating (A)
	Aluminium	Copper	
1	65213782		2 500
1		65213782	3 200
1	65213783		3 200
1		65213783	4 000
1	65213784		4 000
1		65213784	5 000

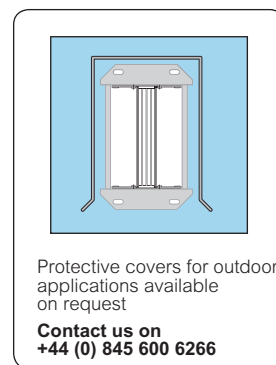
Fixing supports for naval applications

Double bar

SCP super compact busbar protective bellows



Protective bellows – single bar



Protective covers for outdoor applications available on request

**Contact us on
+44 (0) 845 600 6266**

Dimensions and technical information p. 107

High power busbar from 630 A to 4 000 A with aluminium alloy conductors and from 800 A to 5 000 A with copper conductors SCP complies with BS EN 60439-2

Pack	Cat. Nos.		Rating (A)
	Aluminium	Copper	
1	SF766040		630 to 2 000
1		SF766040	800 to 2 500
1	SF927140		2 500 to 4 000
1		SF927140	3 200 to 5 000

Protective bellows

Recommended for protection of the interface connection on panel boards, dry-type transformer with enclosure and oil-type transformers. For EdM cast resin transformers, custom-made connections are available upon request (see p. 83)

Single bar

Rating (A)
630 to 2 000
800 to 2 500

Double bar

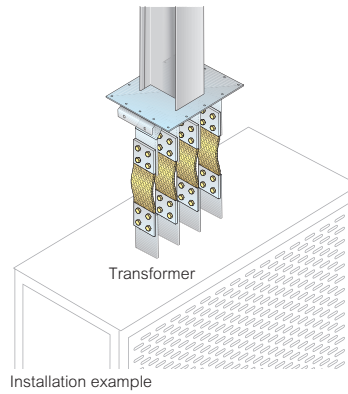
Rating (A)
2 500 to 4 000
3 200 to 5 000

SCP super compact busbar

transformer connections



Flexible braid connection



Installation example

 **Dimensions and technical information p. 108**

High power busbar from 630 A to 4 000 A with aluminium alloy conductors and from 800 A to 5 000 A with copper conductors
SCP complies with BS EN 60439-2

Pack	Cat. Nos.		Flexible braid connections	
	Aluminium	Copper	Rating (A)	No. of braids per phase
	Length : 300 - 450 mm			
1	FC100010		630	1
1	FC100010	FC100010	800	1
1	FC200010	FC200010	1 000	1
1	FC300010	FC300010	1 250	1
1	FC500010	FC500010	1 600	1
1	FC600010	FC600010	2 000	1
1	FC400010	FC400010	2 500	2
1	FC500010	FC500010	3 200	2
1	FC600010	FC600010	4 000	2
1		FC700010	5 000	2
	Length : 451 - 600 mm			
1	FC100020		630	1
1	FC100020	FC100020	800	1
1	FC200020	FC200020	1 000	1
1	FC300020	FC300020	1 250	1
1	FC500020	FC500020	1 600	1
1	FC600020	FC600020	2 000	1
1	FC400020	FC400020	2 500	2
1	FC500020	FC500020	3 200	2
1	FC600020	FC600020	4 000	2
1		FC700020	5 000	2

When ordering, please specify hole dimensions on transformer side (A, B, Ø D) and length L (see p. 108)

Pack	Cat. Nos.		Flexible braid connections (continued)	
	Aluminium	Copper	Rating (A)	No. of braids per phase
	Length : 601 - 750 mm			
1	FC100030		630	1
1	FC100030	FC100030	800	1
1	FC200030	FC200030	1 000	1
1	FC300030	FC300030	1 250	1
1	FC500030	FC500030	1 600	1
1	FC600030	FC600030	2 000	1
1	FC400030	FC400030	2 500	2
1	FC500030	FC500030	3 200	2
1	FC600030	FC600030	4 000	2
1		FC700030	5 000	2
	Length : over 750 mm			
1	FC100099		630	1
1	FC100099	FC100099	800	1
1	FC200099	FC200099	1 000	1
1	FC300099	FC300099	1 250	1
1	FC500099	FC500099	1 600	1
1	FC600099	FC600099	2 000	1
1	FC400099	FC400099	2 500	2
1	FC500099	FC500099	3 200	2
1	FC600099	FC600099	4 000	2
1		FC700099	5 000	2

SCP super compact busbar

technical information

General features

SCP complies with BS EN 60439-2

The rated current of Zucchini busbar trunking systems is always rated at the average ambient temperature of 40°C against the 35°C required by the standard

The outer casing of the SCP range consists of four C-ribbed section bars, bordered and riveted (thickness 1.5 mm), with excellent mechanical, electric and heat loss efficiency

The sheet metal is manufactured from galvanised steel, treated according to UNI EN 10327 and painted with RAL 7035 resins with a high resistance to chemical agents

The standard degree of protection is IP 55 and with certain accessories (see p. 82), it can be installed outdoors

The busbar conductors have a rectangular cross-section with rounded corners. There are two versions :

- Electrolytic copper ETP 99.9 UNI EN13601

- Aluminum alloy treated over the entire surface with 5 galvanic processes (copper plating + tin plating)

The insulation between bars is ensured by a double sheath made with polyester film (total thickness 0.4 mm) Class B, Class F (155° C) thermal resistance available on request – contact us on +44 (0) 845 600 6266

All plastic components have a V1 self-extinguishing degree (as per UL94), are flame retardant and comply with the glow-wire test according to standards. The SCP range is halogen free

In order to facilitate storage and reduce installation time, the straight lengths and system components of the SCP range are supplied with a pre-installed monobloc for fast, easy and secure connection of the system

The junction contact is ensured by two silver-plated copper plates for each phase, insulated with red Class F thermoset plastic material. The monobloc has shearhead bolts : after tightening the nuts with a standard wrench, the outer head will break at the correct torque value, giving you the certainty that the connection has been made properly to guarantee safety and maximum performance over time

Finally, in order to completely verify the insulation level, every component with a monobloc undergoes an insulation test (phase-phase, phase-PE) at the factory with a test voltage of 5 000 V

Certificates

SCP has been given Type-Approval Certifications by the most prestigious Electro-technical agencies :

- Certificate of Compliance with Standards BS 60439-2 (ACAE - LOVAG)
- RINA Type-Approval (Italian Register of Shipping)
- ABS Type-Approval (American Bureau of Standard)
- GOST Type-Approval (Russia)
- REI120 fire resistance measurements
- Noise measurements (CESI)
- Fire resistance measurements with Fire Barrier
- Electromagnetic emissions measurements
- Mechanical vibration resistance measurements (Dynamic Test - ENEL HYDRO)



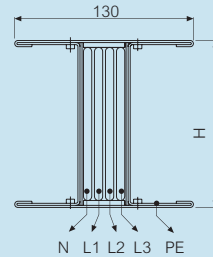
Standard versions

SCP line with 4 conductors 3L + N + PE, 3L + PEN, 3L + FE + PE

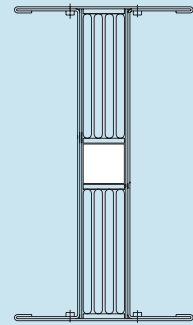
Note : for dimension H, see technical data section p. 112-117

PE : Protection earth

FE : Functional earth (clean earth)



single bar



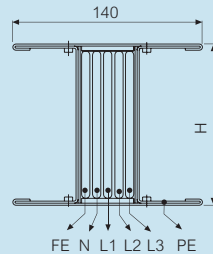
double bar

SCP5 line with 5 conductors 3L + N + FE + PE

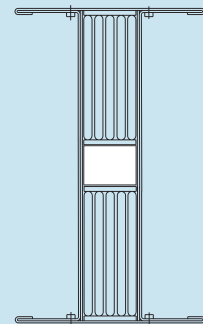
Note : For dimension H, see technical data section p. 112-117

PE : Protection earth

FE : Functional earth (clean earth)



single bar



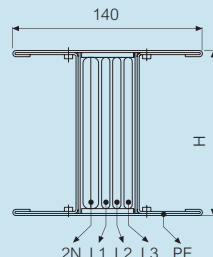
double bar

SCP2N 200% neutral line 3L + 2N + PE

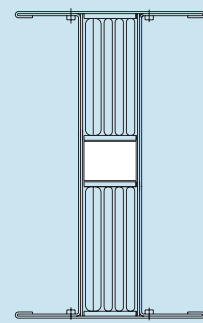
Note : For dimension H, see technical data section p. 112-117

PE : Protection earth

FE : Functional earth (clean earth)



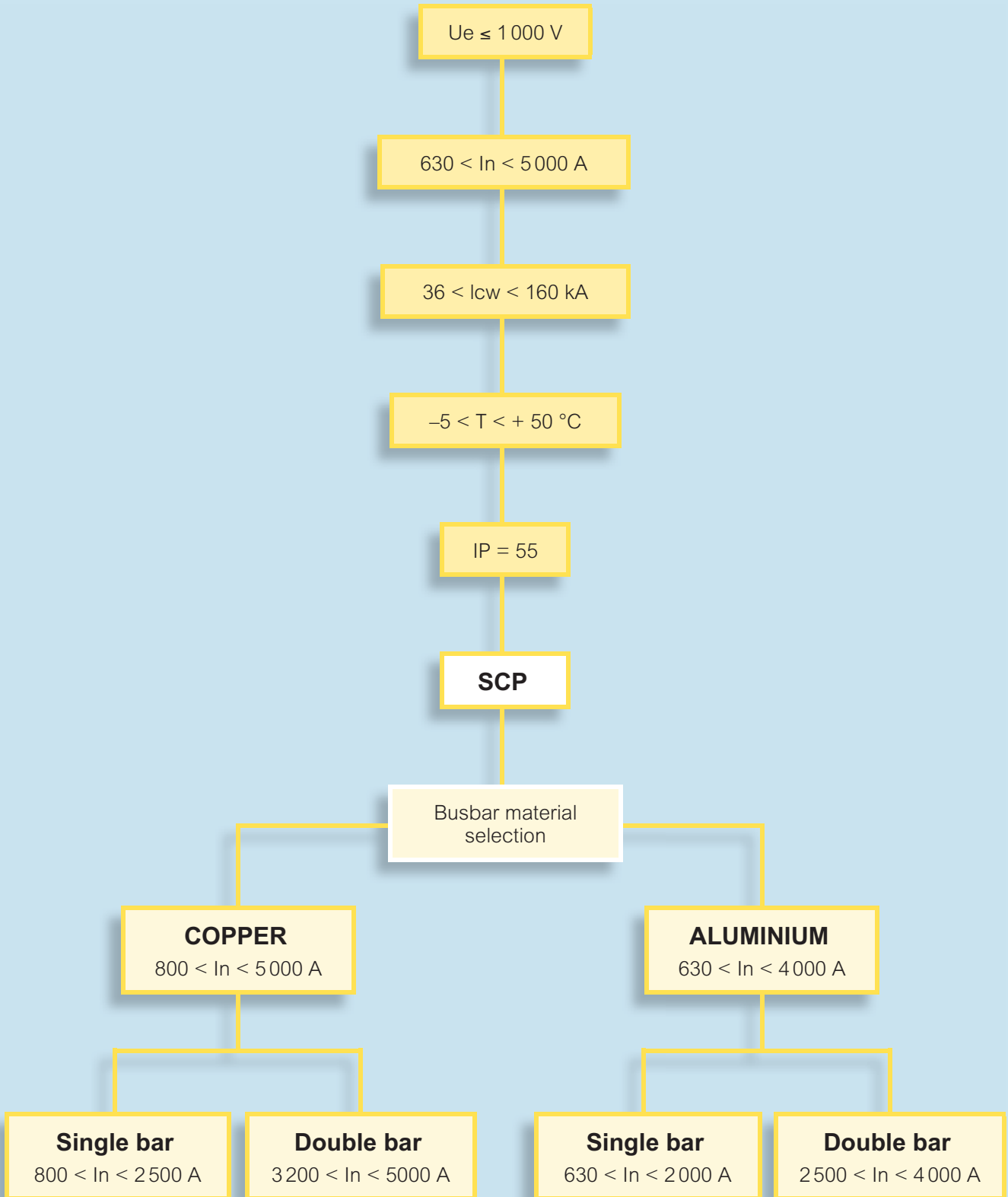
single bar



double bar

Special versions are available on request, contact us on +44 (0) 845 600 6266

■ Electric design criteria



SCP super compact busbar

technical information

■ Joule effect losses in busbars

Losses due to the Joule effect are essentially caused by the electrical resistance of the busbar

Lost energy is transformed into heat and contributes to the heating of the conduit of the environment

The calculation of power loss is useful data for correct sizing of the building air conditioning system

Three-phase regime losses are :

$$P_j = \frac{3 \cdot R_t \cdot I_b^2 \cdot L}{1000}$$

In single-phase regime :

$$P_j = \frac{2 \cdot R_t \cdot I_b^2 \cdot L}{1000}$$

Where :

I_b = utilisation current (A)

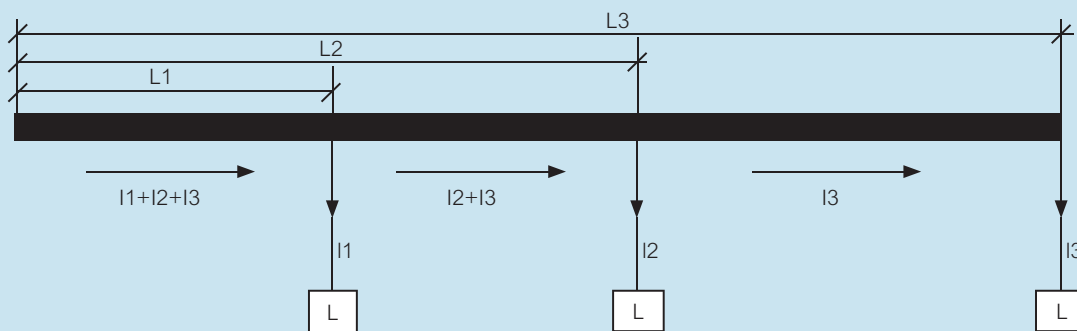
R_t = phase resistance for unit of length of the busbar trunking system, measured at thermal regime (mΩ/m)

L = busbar length (m)

For accurate calculation, losses must be assessed trunk by trunk, taking into account the transiting currents ; for example, in the case of the distribution of the loads represented in the table below

	Length	Transiting current	Losses
1st trunk	L1	$I_1+I_2+I_3$	$P_1 = 3R_t L_1 (I_1+I_2+I_3)^2$
2nd trunk	L_2-L_1	I_2+I_3	$P_2 = 3R_t (L_2-L_1) (I_2+I_3)^2$
3rd trunk	L_3-L_2	I_3	$P_3 = 3R_t (L_3-L_2) (I_3)^2$

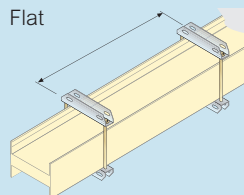
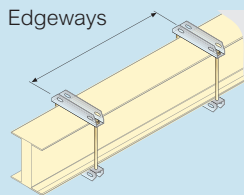
Total losses in the busbar trunking system $P_t = P_1 + P_2 + P_3$



■ Losses based on the installation method

Thermal dispersion, rating and IP protection degree are independent from the type of installation (edgeways, flat, vertical)

This means that it is possible to install the SCP busbar trunking system as preferred, without having to consider a possible system downgrade



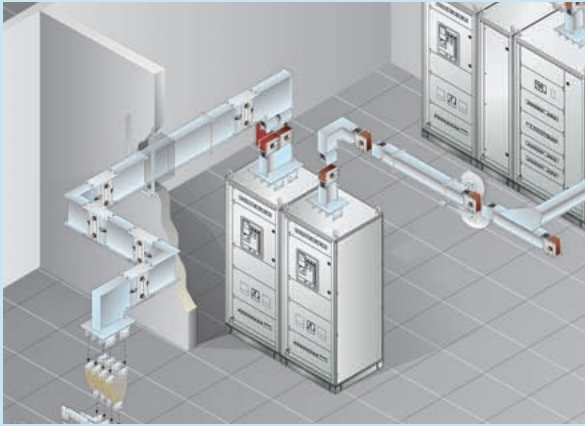
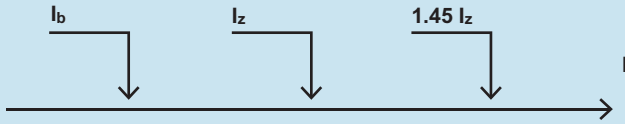
■ Overload protection

Busbar overload protection is ensured following the same criteria used for cables. It will be necessary to check the relationship :

$$I_b \leq I_n \leq I_z$$

Where :

- I_b = circuit utilisation current
- I_n = switch rated current
- I_z = rating at permanent cable regime



The I_b utilisation current in a 3 phase system is calculated based on the following formula :

$$I_b = \frac{P_t \cdot \alpha \cdot \beta \cdot d}{\sqrt{3} \cdot U_e \cdot \cos\varphi_{\text{medium}}} \quad (\text{A})$$

Where :

- P_t = sum of the active powers of the loads installed (W)
- d = power supply factor equal to 1 if the trunking is :
 - only powered from one side
 - powered from the centre or from both ends at the same time
- U_e = operating voltage in (V)
- $\cos\varphi_m$ = average power factor of the loads
- I_b = utilisation current (A)
- α = diversity coefficient of the loads (.)
- β = coefficient of utilisation of the loads (.)

The ambient temperature where the busbar trunking system is installed impacts on its rating

During the design stages, it is necessary to multiply the rating value at the reference temperature by a correction coefficient referred to the final operating temperature

All Zucchini products have been sized and tested for an average ambient temperature of 40 °C. For installation in environments with average daily temperatures lower than 40 °C, the rated current of the busbar must be multiplied by a k_t factor, which is higher than the unit for temperatures lower than 40 °C, and lower than the unit if the ambient temperature is higher than 40 °C

$$I_z = I_{z0} \cdot K_t$$

Where :

- I_{z0} is the current that the busbar trunking system can carry for an indefinite time at its reference temperature (40 °C)
- K_t is the correction coefficient for ambient temperature values other than the reference temperature, as shown in the following table

K_t correction coefficient for ambient temperature other than 40°C

Ambient temperature (°C)	15	20	25	30	35	40	45	50	55	60
k_t thermal correction factor	1.15	1.12	1.08	1.05	1.025	1	0.975	0.95	0.93	0.89

SCP super compact busbar

technical information

Selection of the busbar trunking system based on voltage drop

If the line is particularly long (> 100 m), it will be necessary to check the value of the voltage drop. For systems with power factor (cosφm) not lower than 0.8 the voltage loss can be calculated using the following formulas :

Three phase system

$$\Delta v = \frac{b \cdot \sqrt{3} \cdot I_b \cdot L \cdot (R_t \cdot \cos\phi_m + x \cdot \sin\phi_m)}{1000}$$

Single phase system

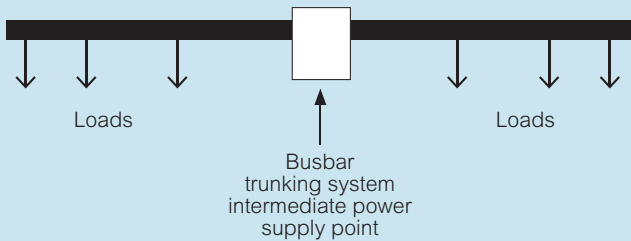
$$\Delta v = \frac{b \cdot 2 \cdot I_b \cdot L \cdot (R_t \cdot \cos\phi_m + x \cdot \sin\phi_m)}{1000}$$

The percentage voltage drop can be obtained from :

$$\Delta v\% = \frac{\Delta v}{V_r} \cdot 100$$

Where Vr is the system rated voltage

In order to limit the voltage drop in very long busbar trunking systems, it is possible to allow for a power supply at an intermediate position, rather than at the terminal point



Calculation of the voltage drop with loads not evenly distributed

If the load cannot be considered evenly distributed, the voltage drop may be determined more accurately using the relationships shown below

For the distribution of three phase loads, the voltage drop is calculated using the following formula, on the assumption (generally verified) that the section of busbar trunking is consistent :

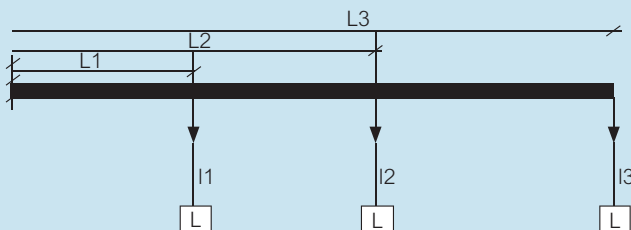
$$\Delta v = \sqrt{3} [R_t (I1L1 \cos\phi_1 + I2L1 \cos\phi_1 + I3L3 \cos\phi_3) + x (I1L1 \sin\phi_1 + I2L2 \sin\phi_2 + I3L3 \sin\phi_3)]$$

In general terms this becomes :

$$\Delta v = \frac{\sqrt{3} (R_t \cdot \sum I_i \cdot L_i \cdot \cos\phi_{mi} + x \cdot \sum I_i \cdot L_i \cdot \sin\phi_{mi})}{1000}$$

If the three phase system and the power factor are not lower than cosφ = 0.7, the voltage loss may be calculated using the voltage drop coefficient shown in the table opposite

$$\Delta v\% = \frac{k \cdot I_b \cdot L}{V_n} \cdot 100$$



Calculation of the voltage drop with loads not evenly distributed (continued)

The current distribution factor 'b' depends on how the circuit is fed and on the distribution of the electric loads along the busbar

The distribution factor of the current 'b'	
b = 2	Supplies at one end and load at the end of the line
b = 1	Supplies at one end and with load evenly distributed
b = 0.5	Supplies at both ends and with load evenly distributed
b = 0.5	Central supply with loads at both ends
b = 0.25	Central supply with load evenly distributed

Example : SCP 2000 A AI for riser mains feed

I_b	= 1600 A operating current
b = 1	supply from one end
k = 28.7	see technical data table, p. 112-117 (SCP 2000 A AI cosφ = 0.85)
cosφ	= 0.85
L	= 100 m line length
V_n	= 400 V operating voltage
	$\Delta v\% = 1 \cdot \frac{28.7 \cdot 1600 \cdot 100}{400} \cdot 100 = 1.15\%$

Legend:

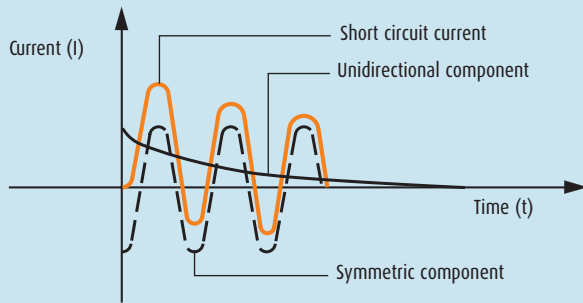
I_b	= the current that supplies the busbar (A)
V_n	= the voltage power supply of the busbar (V)
L	= the length of the busbar (m)
Δv%	= the voltage drop percentage
b	= the distribution factor of the current
k	= corresponding voltage drop factor a cosφ (V/m/A) (see technical data table, p. 112-117)
cosφ m	= average power factor of the loads
x	= phase reactance by unit of length of the busbar (mΩ/m)
R_t	= phase resistance by unit of length of the busbar (mΩ/m)
cosφ mi	= i-th load average power factor
I_i	= i-th load current (A)
L_i	= distance of the i-th load from the origin of the busbar trunking system

Short circuit withstand

The CEI 64-8 standard indicates that, for the protection of the circuits of the system, it is necessary to allow for devices aimed at interrupting short circuit currents before these become dangerous due to the thermal and mechanical effects generated in the conductors and the connections. In order to size the electric system and the protection devices correctly, it is necessary to know the value of the estimated short circuit current at the point where this is to be created. This value enables selection of the correct protection devices based on their own tripping and closing powers, and to check the resistance to electro-dynamic stress of the busbar supports installed in control panels, and/or of the busbar trunking systems

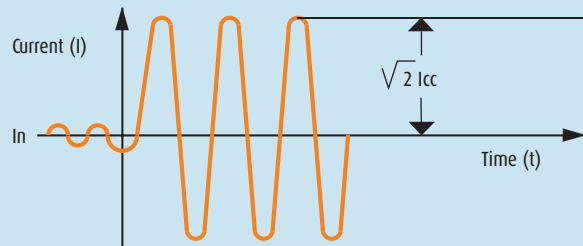
Characterisation of short circuit current

The estimated short circuit current at a point of the user system is the current that would occur if at the considered point a connection of negligible resistance was created between conductors under voltage. The magnitude of this current is an estimated value that represents the worst possible condition (null fault impedance, tripping time long enough to enable the current to reach the maximum theoretical values). In reality, the short circuit always occurs with significantly lower effective current values



The intensity of the estimated short circuit current essentially depends on the following factors :

- power of the cabin TRANSFORMER, meaning that the higher the power, the higher the current
- length of the line upstream the fault, in the sense that the longer the line, the lower the current



In three phase circuits with neutral it is possible to have three different types of short circuit :

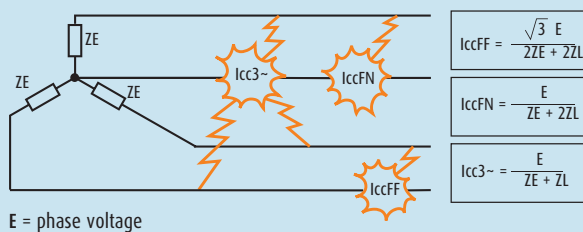
- phase-phase
- phase-neutral
- balanced three phase (most demanding condition)

The formula for the calculation of the symmetric component is :

$$I_{cc} = \frac{E}{Z_E + Z_L}$$

Where :

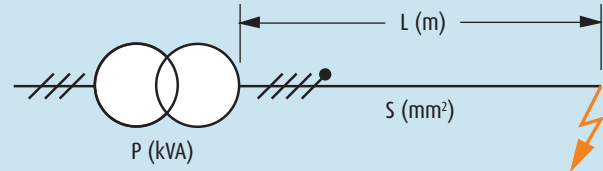
- E = the phase voltage
- Z_E = the secondary equivalent impedance of the TRANSFORMER measured between the phase and the neutral
- Z_L = the impedance of the phase conductor only



Short circuit withstand (continued)

Analytical determination of short circuit currents

In order to calculate the value of the estimated short circuit current at any point of the circuit, it is sufficient to apply the formulas shown below, knowing the impedance calculated at the origin of the system up to the point being assessed. In the formulas shown below, the value of the short circuit power is considered infinite and the short circuit impedance is equal to 0. This makes it possible to define short circuit current values higher than the actual ones, but generally acceptable



Line resistance $RL = r \cdot L$	RL = resistance of the line upstream (m) r = specific line resistance (m/m) L = upstream line length (m)
Line reactance $XL = x \cdot L$	XL = upstream line reactance (m) x = specific line reactance (m/m)
TRANSFORMER resistance $RE = \frac{1000 P_{cu}}{3 I_n^2}$	RE = transformer secondary equivalent resistance (m) P_{cu} = transformer COPPER losses (W) I_n = transformer rated current (A)
TRANSFORMER impedance $ZE = \frac{V_{cc}\% V^2c}{100 P}$	ZE = transformer secondary equivalent impedance (m) V_c = phase voltage (V) V_{cc}% = percentage short circuit voltage P = transformer power (kVA)
TRANSFORMER reactance $XE = \sqrt{ZE^2 - RE^2}$	XE = transformer secondary equivalent reactance (m)
Short circuit impedance $Z_{cc} = \sqrt{(RL + RE)^2 + (XL + XE)^2}$	Z_{cc} = total short circuit impedance (m)
Estimated short circuit current $I_{cc} = \frac{V_c}{\sqrt{3} Z_{cc}}$	I_{cc} = symmetric component of the short circuit current (kA)

Aluminium

Rating (A)	kA 3 phase I _{ccw} ¹	kA 3 phase I _{pk}	kA 1 phase I _{ccw} ¹	kA 1 phase I _{pk}
630	36	76	22	48
800	42	88	25	55
1000	50	110	30	66
1250	75	165	45	99
1600	80	176	48	106
2000	80	176	48	106
2500	150	330	90	198
3200	160	352	96	211
4000	160	352	96	211

Copper

Rating (A)	kA 3 phase I _{ccw} ¹	kA 3 phase I _{pk}	kA 1 phase I _{ccw} ¹	kA 1 phase I _{pk}
800	45	95	27	57
1000	50	110	30	66
1250	60	132	36	79
1600	85	187	51	112
2000	88	194	53	116
2500	88	194	53	116
3200	170	374	102	224
4000	176	387	106	232
5000	176	387	106	232

1 : I_{ccw} for 1 second

SCP super compact busbar

technical information

■ Harmonics

In a distribution system, currents and voltages should have a perfectly sinusoidal shape. However, in practice the equipment contains electric devices such as changeover devices or dimmers that make the load not linear

The currents absorbed, although at regular intervals and with frequencies equal to that of the rated voltage, sometimes have a non-sinusoidal wave form, which has the following negative effects :

- worsening of the power factor
- heating of the neutral
- additional losses in electric machinery (transformers and motors)
- instable operation of the protection elements (thermal magnetic and earth leakage circuit breakers)

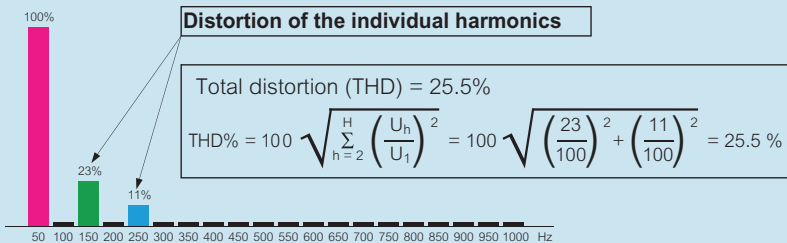
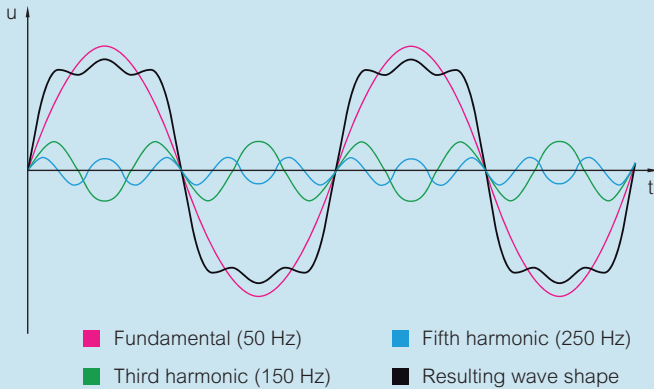
In industrial plants these conditions have been occurring for a long time. However, they are now occurring more and more in service sector distribution systems, where, from backbone distribution (which uses 3 phase lines), single phase loads are often distributed, which contributes to increasing the unbalance of the electric system

Each type of non-sinusoidal periodical wave may be split into a more or less large number of sinusoids (called harmonic components)

A deformed current at a frequency of 50 Hz, like the example represented by the magenta line on the figure, consists of many sinusoidal currents with frequency of 50 Hz (fundamental), 100 Hz (second harmonic component), 150 Hz (third harmonic), and so on

The presence of current harmonics represents an important problem, causing overload conditions both on phase conductors, and on any neutral conductor, and results in the reduction of the conductor's permitted load

Measurement of harmonic distortion carried out with a network analyser



Choice of rating when in the presence of harmonics

When in the presence of harmonics, and when using the chosen I_{nt} rated current, the SCP busbar to be used shall have the rating specified in the table below

Rated current (A)	630 A	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	3200 A	4000 A	5000 A
SCP busbar to be used										
THD ≤ 15%	630	800	1000	1250	1600	2000	2500	3200	4000	5000
15% < THD ≤ 33%	800	1000	1250	1600	2000	2500	3200	4000	5000	–
THD > 33%	1000	1250	1600	2000	2500	3200	4000	5000	–	–

Note
200% neutral versions are available for systems with harmonics present on the neutral

■ Measurement of magnetic induction

Since 1994, with a study carried out by Chalmers University of Technology of Goteborg, Legrand has taken an interest in the issues linked with the electromagnetic emissions in their Zucchini products, keeping at the forefront of the latest legislative directive, which has only recently imposed the quality standards that were already widely met by Zucchini busbar trunking systems

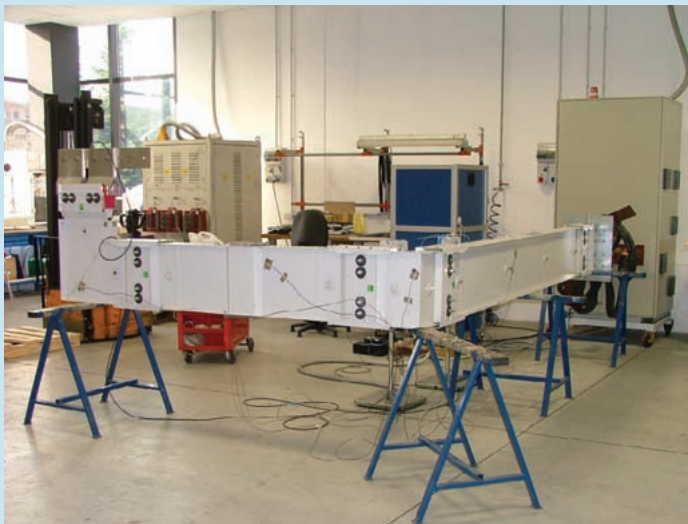
The ACAE (Association for the Certification of Electric and Electronic Equipment) certified internal laboratory is capable of carrying out the measurement of the electromagnetic emissions of busbar trunking systems. This measurement is nowadays one of the tests to which the products are subjected before they reach the market

The busbar trunking system in itself already minimises electromagnetic emissions, which are much lower when compared with those generated by cables with the same current intensity

It is a well-known fact that the electromagnetic field is the result of the superimposition of two fields : the electric and the magnetic field. The first is totally shielded by the equipotential metal casing of the busbar trunking system, while the second is very low due to the intrinsic characteristic of the busbar trunking system. More precisely, due to the fact that busbar conductors are extremely close inside the busbar package, the three busbar conductors, crossed by three balanced currents displaced by 120°, induce fields that tend to overlap, cancelling one another, therefore resulting in an extremely low external impact

However, also in conditions of imperfect current balance, the metal casing of the busbar trunking system is capable of reducing most of the magnetic field, which otherwise would spread through the surrounding environment

Testing at Legrand's laboratory in Italy for the approval certification of Zucchini SCP busbar trunking systems



The laboratory tests carried out show how the magnetic induction emitted by SCP busbar trunking systems, measured at a distance of approximately one metre, is well below the critical value of 3 µT. With Legislative Decree DPCM dated 8/7/2003, Italian law set the first exposure limit at 100 µT. In addition, in locations where attendance is expected for no less than four hours a day, an attention value of 10 µT has been set, to avoid possible long term effects on health. In the decree, the 3 µT threshold is indicated as the 'quality objective'. However, as the product is intended for the European and world market, low magnetic emission is a fundamental point that cannot be disregarded, to ensure a presence in foreign countries : one example of this is Germany, where for over 10 years the regulation has set a cautionary limit of 3 µT as the maximum permitted threshold in certain structures, for example hospitals, so much so that in these types of environments the busbar trunking system has become a mandatory choice, as well as a high quality one

■ Measurement of magnetic induction (continued)

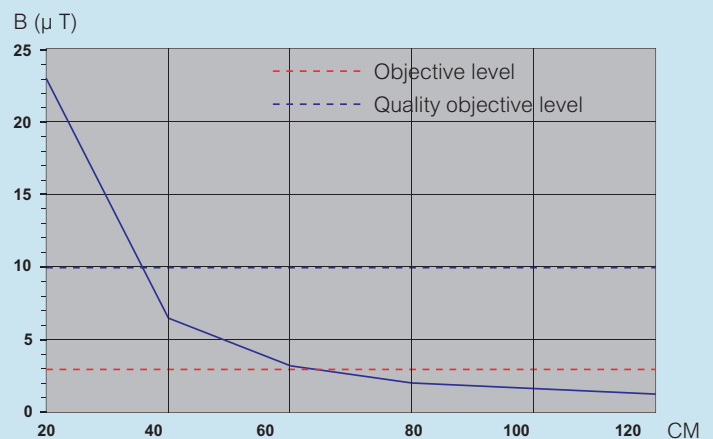
The high quality standard guaranteed by busbar trunking systems can be further appreciated by comparing the emission values measured against those of other commonly used equipment, as taken from table 7.1 of CEI 211-6 standard

The measurements obtained on aluminium SCP busbar trunking systems with ratings of 2500 A (carried out in compliance with the requirements of the technical product standard CEI EN 60439-2), show that the magnetic induction generated by the busbar is in the range of 1.5 - 2 µT at a distance of one metre from the busbar itself. These values also apply near the junction, which is considered the critical point due to the wider distance between the busbar conductors in this position

Levels of exposure to industrial frequency magnetic field sources (table 7.1 from CEI 211-6 standard)

Source	Magnetic induction (µT)	Distance
Electric shaver	150-240	on the face
Hairdryer	1-13	10-20 cm
Blender	0-9	40 cm
12 V, 20 W halogen lamp	0-5	30 cm
Aerosol therapy equipment	20-50	20-30 cm
Electric blanket	2	on contact
21 inch television set	0-3	50 cm
Washing machine	3-4	50 cm
Dishwasher	0-05	50 cm
Electric oven	0-4	20 cm
600 W drill	2	on the chest
100 W welding machine	14-5	on the chest
225 W grinder	0-8	40 cm
1 100 W compressor	8-2	40 cm
2 150 W arc welding machine	23-2	40 cm
75 MW, 55-65 kA, 150 t arc oven	100-270	in proximity
Electric scalpel	2-9	in proximity
Battery charger	22-9	in proximity
Echograph	0-8	operator position
Projector	2-3	20 cm

One-dimensional trend of the magnetic induction near the junction. The blue dash shows the 'objective' level and the red dash shows the 'quality objective' required by law



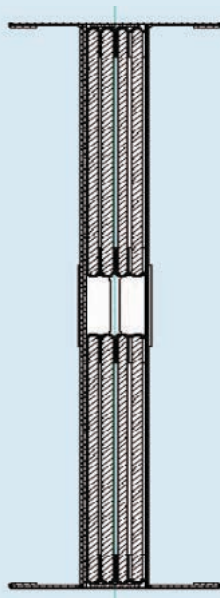
All dimensions (mm) are nominal

SCP super compact busbar

technical information

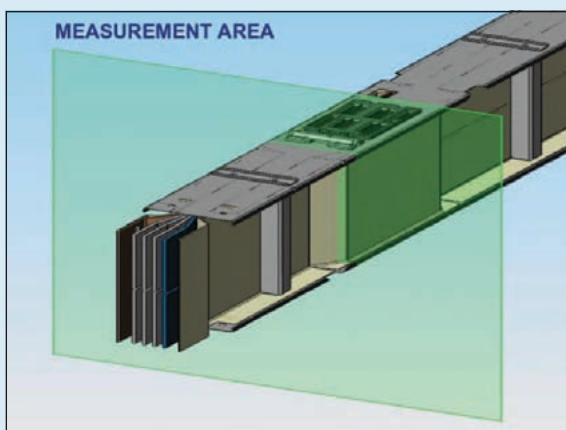
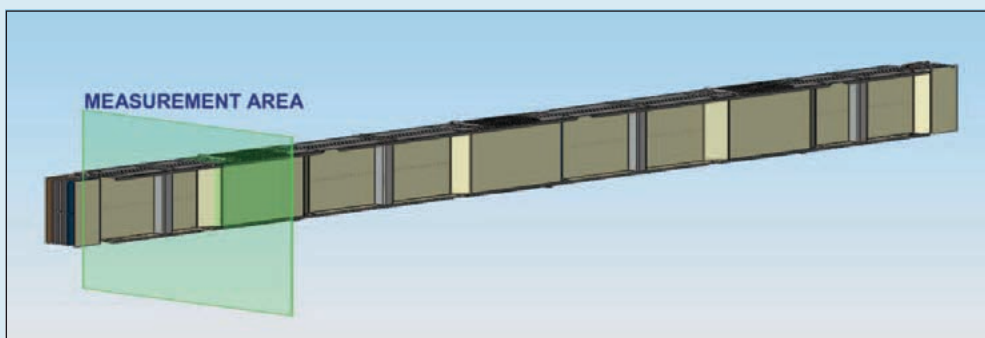
■ Example of measurement of the level of the magnetic field on the busbar

Transversal section (parallel to the measurement plane) of the SCP busbar on which the test is carried out



Graphic representation of an SCP double busbar 3 m straight length

Shown in green is the orthogonal plane of the element on which the magnetic inductions referred to in the following graphs are measured



Detailed view

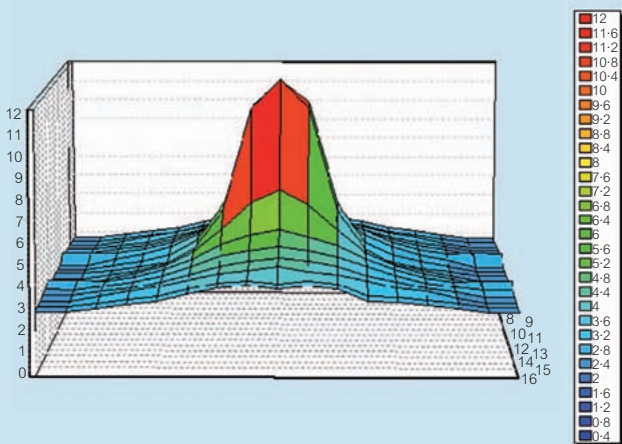
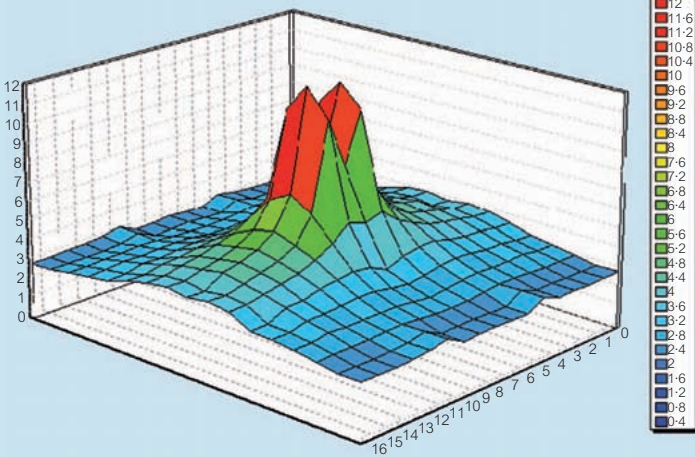
■ **Magnetic induction graphs at 60 cm from the busbar**

The graphs shown refer to the measurements carried out on the aluminium SCP prefabricated electric busbar with rated load of 2500 A, crossed by a 2500 A current

The measurements carried out at 60 cm from the junction are to be considered as higher due to the magnetic induction generated by the busbar power supply :
due to the intrinsic geometry of the measurement laboratory structure, it must be assumed that the measurement area is also affected by a magnetic induction of no less than 1.5 µT generated by the line power supply

In view of this observation, in case of actual operating line the quality objective indicated by Legislative Decree DPCM dated 8/7/2003 is widely met at less than one metre from the axis of the busbar

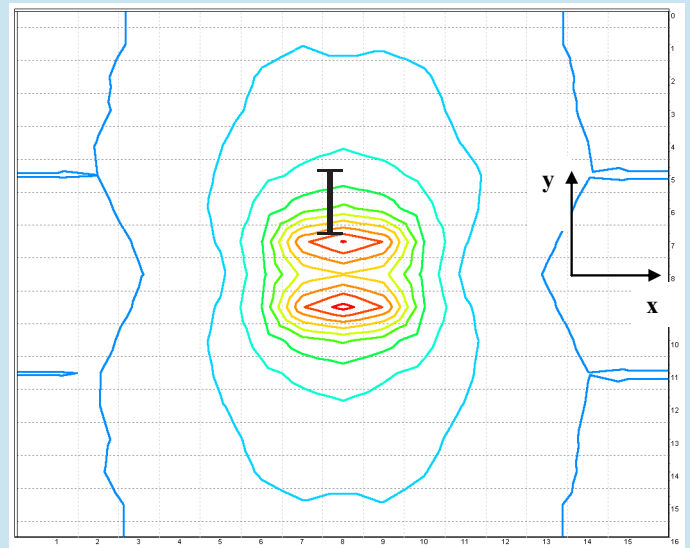
■ **3 dimensional development of magnetic induction around the busbar at 60 cm from the junction**



■ **Magnetic induction graphs at 60 cm from the busbar (continued)**

As it can be seen on the graph below, up to a distance of approximately 40 cm from the axis of the busbar, the field appears generated by two separate sources. This is due to the fact that the busbar being analysed consists of two series of busbar conductors set in parallel at a distance of approximately 5 cm from each other

The cells making up the measurement grid are 20 cm squares



2 dimensional map of the magnetic induction around the busbar at 60 cm from the junction
At the centre of the graphic is a schematic representation of the busbar

All dimensions (mm) are nominal

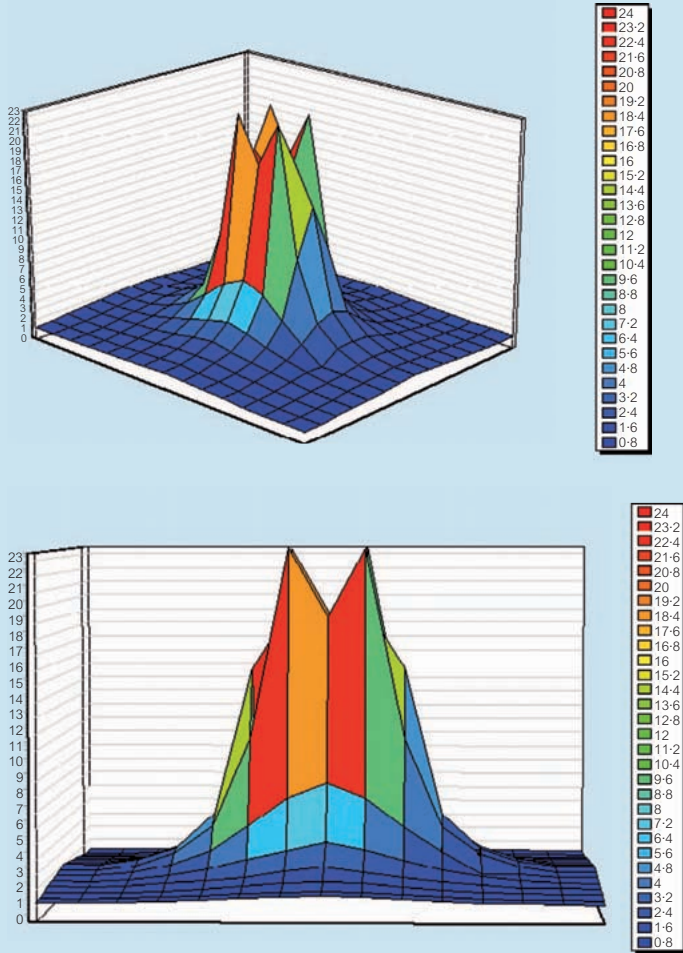
SCP super compact busbar

technical information

■ Graphs showing magnetic induction near the junction

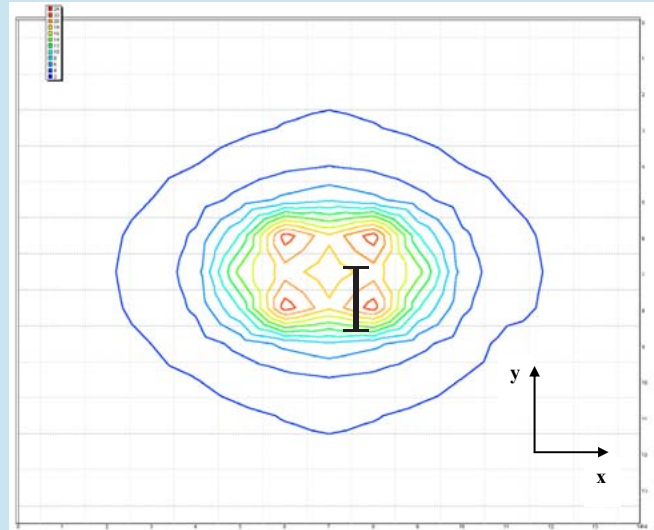
It is considered important to show, side by side with the results relating to straight lengths, the results of the measurement carried nearby the electro-mechanic junction of the busbar length. This location may in fact be considered critical, as here magnetic induction is higher due to the higher distance between the busbar conductors corresponding to the various phases of the line

Tridimensional development of magnetic induction near the joint



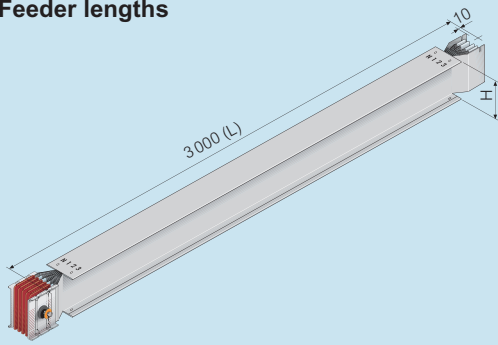
■ Graphs showing magnetic induction near the junction (continued)

2 dimensional map of magnetic induction near the junction
 At the centre of the graphic is a schematic representation of the busbar



All dimensions (mm) are nominal

■ Feeder lengths

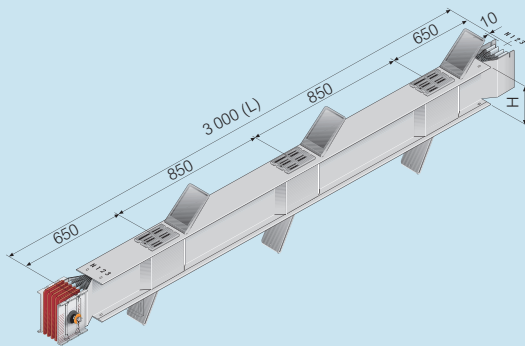


Dimension H changes with the rating, and is specified on p. 112-117

Minimum and maximum dimensions of single and double bars

Aluminium	630 A to 4 000 A
Copper	800 A to 5 000 A
(L) min./max. (mm)	1 000 / 3 000

■ Distribution lengths



Dimension H changes with the rating, and is specified on p. 112-117

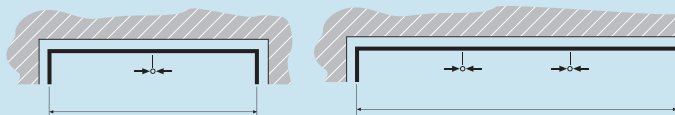
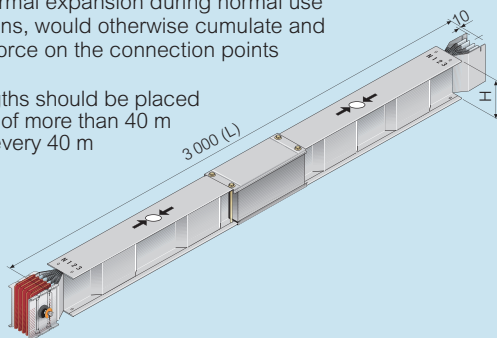
Minimum and maximum dimensions of single and double bars

Aluminium	630 A to 4 000 A
Copper	800 A to 5 000 A
(L) min./max. (mm)	1 000 / 3 000

■ Expansion lengths

Absorb the thermal expansion during normal use that, on long runs, would otherwise cumulate and put abnormal force on the connection points

Expansion lengths should be placed in straight runs of more than 40 m and repeated every 40 m



e.g. 70 m straight section should contain 1 expansion length in the middle

e.g. 120 m straight section should contain 2 expansion lengths, spaced every 40 m

All dimensions (mm) are nominal

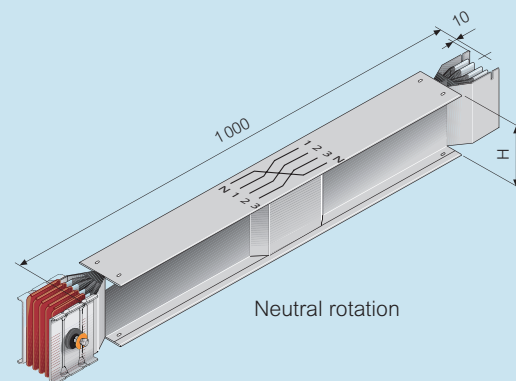
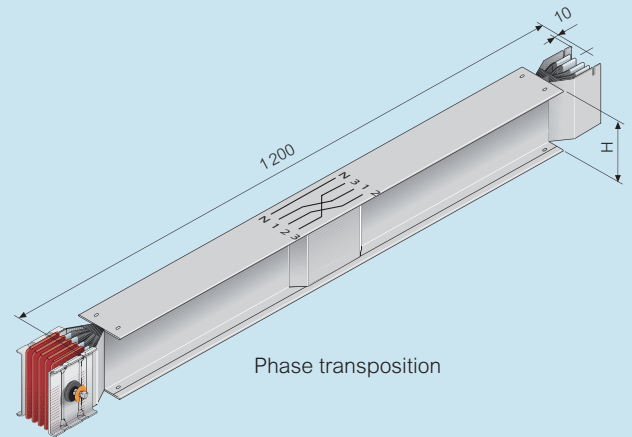
■ Transposition lengths

In runs exceeding 100 m it is recommended to include two transposition lengths to balance mutual phase reactance and electric impedance (one at 1/3 and one at 2/3 distance of the run)

Dimension H changes with the rating and is specified on p. 112-117

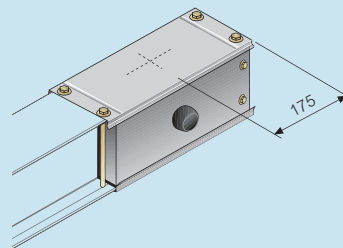
Neutral rotation can be used when the sequence of the distribution board phases is different to that of the transformer

For more information please contact us on +44 (0) 845 600 6266



■ End stops

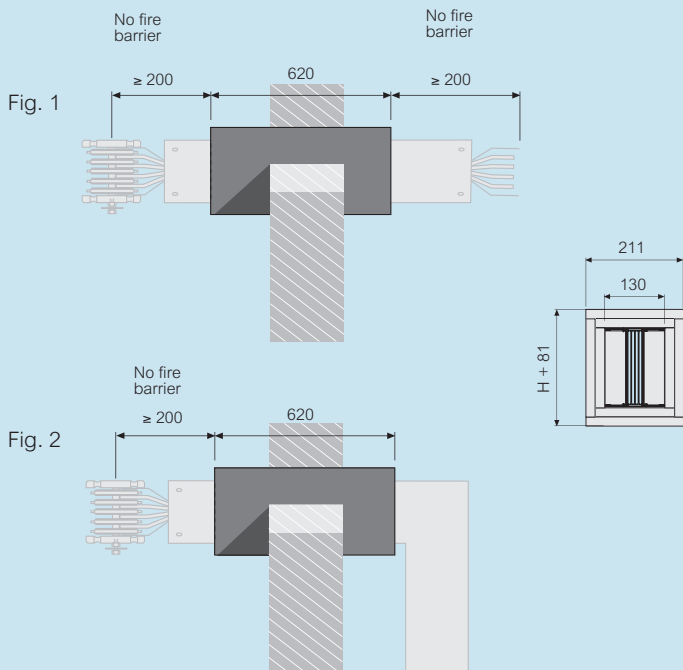
Maintain IP 55 protection at the end of a run



SCP super compact busbar

technical information

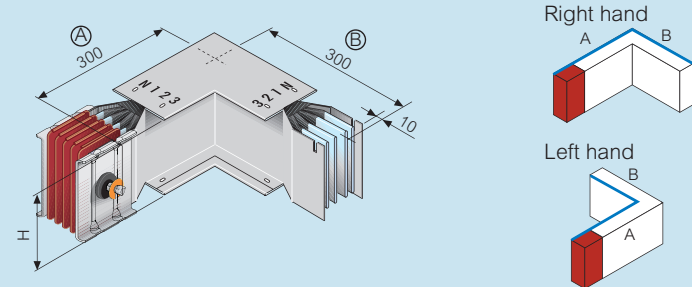
Fire barriers



When ordering, please specify the length that will be equipped with an internal fire barrier
 Due to the geometry of the models 800 A to 2000 A in aluminium and 1000 A to 2500 A in copper, the internal fire barrier is not needed
 The external fire barrier can be used on any trunking component in compliance with the operating instructions specified in figures 1 and 2
 Dimension H changes with the rating and is specified on p. 112-117

Direction changes

Horizontal elbow – standard dimensions



Dimension H changes with the rating and is specified on p. 112-117
 The dimensions refer to standard elbows

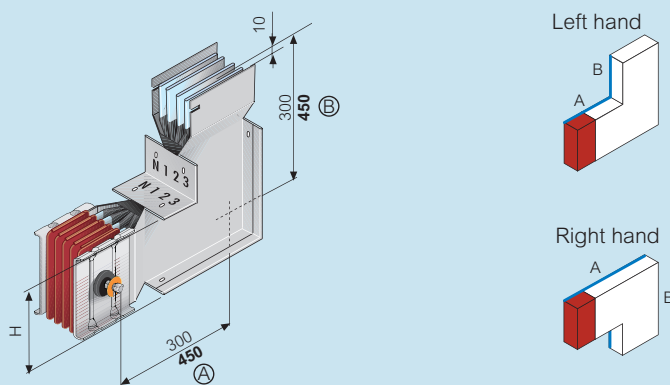
Horizontal elbow – bespoke dimensions

Please specify required dimensions when ordering

Minimum and maximum dimensions of single and double bars	
Aluminium	630 A to 4000 A
Copper	800 A to 5000 A
(A) min./max. (mm)	250 / 1299
(B) min./max. (mm)	250 / 1299

Direction changes

Vertical elbow – standard dimensions



Dimension H changes with the rating, and is specified on p. 112-117
 The dimensions refer to standard elbows (bold = double bar)

Vertical elbow – bespoke dimensions

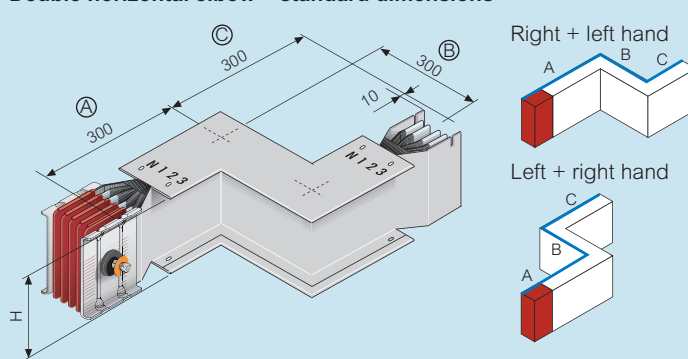
Please specify required dimensions when ordering

Minimum and maximum dimensions of single bar	
Aluminium	630 A to 2000 A
Copper	800 A to 2500 A
(A) min./max. (mm)	300 / 1299
(B) min./max. (mm)	300 / 1299

Minimum and maximum dimensions of double bar

Aluminium	2500 A to 4000 A
Copper	3200 A to 5000 A
(A) min./max. (mm)	450 / 1449
(B) min./max. (mm)	450 / 1449

Double horizontal elbow – standard dimensions



Dimension H changes with the rating, and is specified on p. 112-117
 The dimensions refer to standard elbows

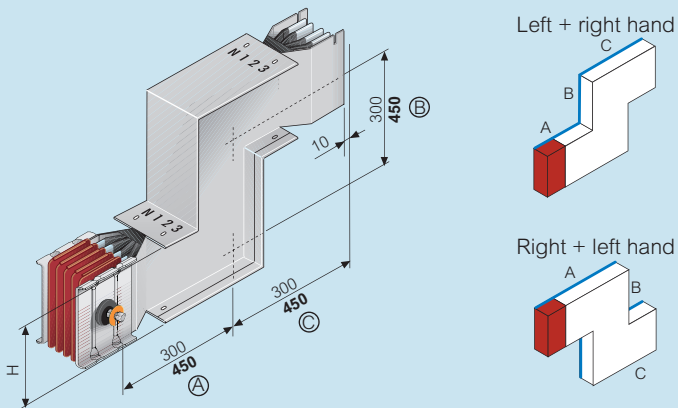
Double horizontal elbow – bespoke dimensions

Please specify required dimensions when ordering

Minimum and maximum dimensions of single and double bars	
Aluminium	630 A to 4000 A
Copper	800 A to 5000 A
(A) min./max. (mm)	250 / 1299
(B) min./max. (mm)	50 / 599
(C) min./max. (mm)	250 / 1299

All dimensions (mm) are nominal

Double vertical elbow – standard dimensions



Dimension H changes with the rating, and is specified on p. 112-117
The dimensions refer to standard elbows (bold = double bar)

Double vertical elbow – bespoke dimensions

Please specify required dimensions when ordering

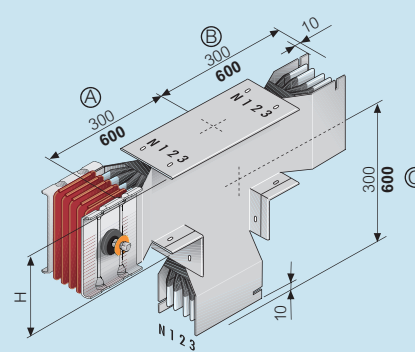
Minimum and maximum dimensions of single bar

Aluminium	630 A to 2000 A
Copper	800 A to 2500 A
(A) min./max. (mm)	300 / 1299
(B) min./max. (mm)	50 / 599
(C) min./max. (mm)	300 / 1299

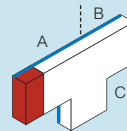
Minimum and maximum dimensions of double bar

Aluminium	2500 A to 4000 A
Copper	3200 A to 5000 A
(A) min./max. (mm)	450 / 1449
(B) min./max. (mm)	50 / 899
(C) min./max. (mm)	450 / 1449

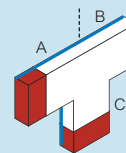
Vertical tees – standard dimensions



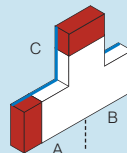
Right hand - female



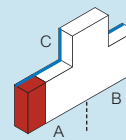
Right hand - male



Left hand - male



Left hand - female



Dimension H changes with the rating, and is specified on p. 112-117
The dimensions refer to standard tees (bold = double bar)

Vertical tees – bespoke dimensions

Please specify required dimensions when ordering

Minimum and maximum dimensions of single bar

Aluminium	630 A to 2000 A
Copper	800 A to 2500 A
(A) min./max. (mm)	250 / 1299
(B) min./max. (mm)	200 / 599
(C) min./max. (mm)	300 / 1299

Minimum and maximum dimensions of double bar

Aluminium	2500 A to 4000 A
Copper	3200 A to 5000 A
(A) min./max. (mm)	250 / 1449
(B) min./max. (mm)	330 / 749
(C) min./max. (mm)	450 / 1449

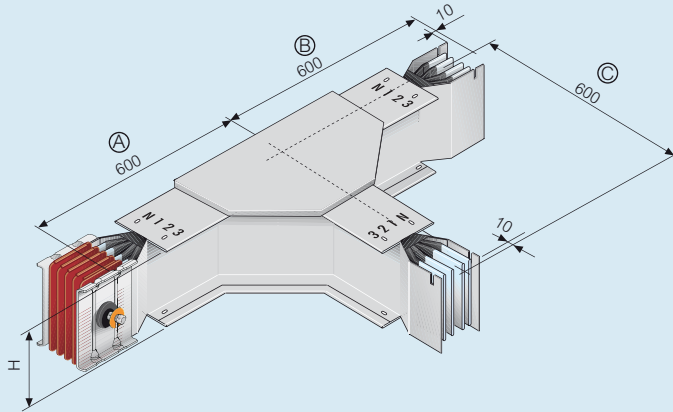
All dimensions (mm) are nominal

SCP super compact busbar

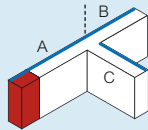
technical information

Direction changes (continued)

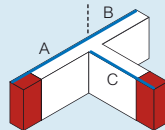
Horizontal tees – standard dimensions



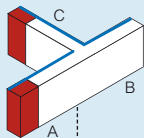
Right hand – female



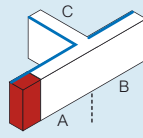
Right hand – male



Left hand – male



Left hand – female



Dimension H changes with the rating, and is specified on p. 112-117
The dimensions refer to standard tees (bold = double bar)

Horizontal tees – bespoke dimensions

Please specify required dimensions when ordering

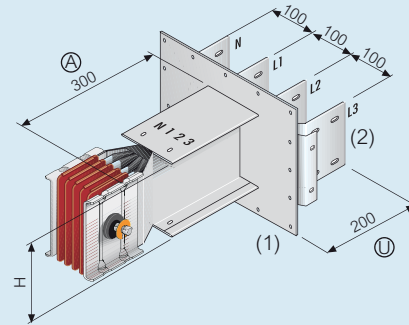
Minimum and maximum dimensions of single and double bars

Aluminium	630 A to 4 000 A
Copper	800 A to 5 000 A
(A) min. / max. (mm)	550 / 1 049
(B) min. / max. (mm)	550 / 1 049
(C) min. / max. (mm)	550 / 1 049

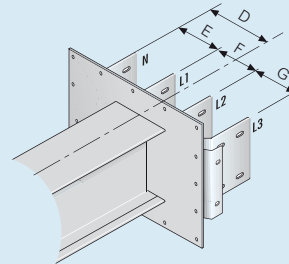
All dimensions (mm) are nominal

Connection interfaces – in-line

Standard dimensions

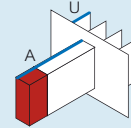


Non-standard centre distance

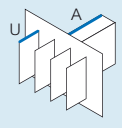


Dimensions to be provided when requesting a non-standard centre distance

Type 1 – male



Type 2 – female



Dimension H changes with the rating, and is specified on p. 112-117
See p. 100 for dimensions of cover plate (1) and bars (2)

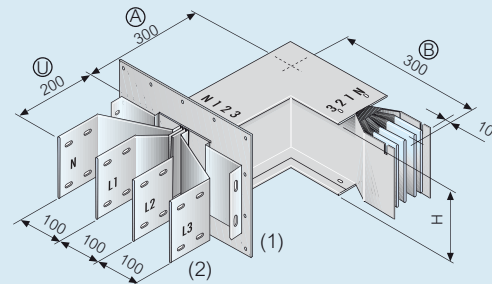
Connection interfaces – in-line bespoke dimensions

Please specify required dimensions when ordering

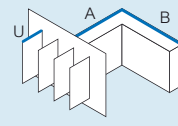
Minimum and maximum dimensions of single and double bars

Aluminium	630 A to 4 000 A
Copper	800 A to 5 000 A
(A) min. / max. (mm)	300 / 1 299
(U) min. / max. (mm)	150 / 400

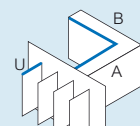
Connection interfaces + horizontal elbows



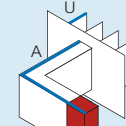
Type 1 – female



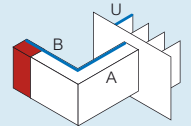
Type 2 – female



Type 3 – male



Type 4 – male



Dimension H changes with the rating and is specified on p. 112-117
The dimensions are referred to standard elements
See p. 100 for dimensions of standard elements

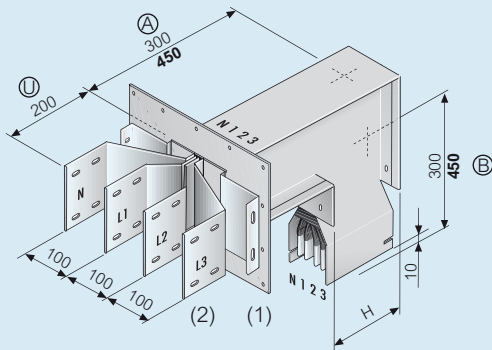
Connection interfaces + horizontal elbows – bespoke dimensions

Please specify required dimensions when ordering

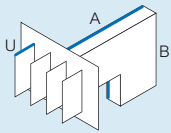
Minimum and maximum dimensions of single and double bars

Aluminium	630 A to 4 000 A
Copper	800 A to 5 000 A
(A) min. / max. (mm)	150 / 1 299
(B) min. / max. (mm)	250 / 1 299
(U) min. / max. (mm)	150 / 400

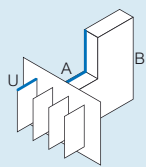
■ **Connection interfaces + vertical elbows**



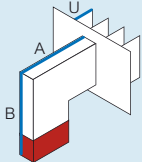
Type 1 – female



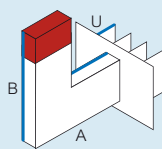
Type 2 – female



Type 3 – male



Type 4 – male



Dimension H changes with the rating and is specified on p. 112-117
The dimensions refer to standard tees (bold = double bar)
See p. 100 for dimensions of cover plate (1) and bars (2)

■ **Connection interfaces + vertical elbows – bespoke dimensions**

Please specify required dimensions when ordering

Minimum and maximum dimensions of single bar

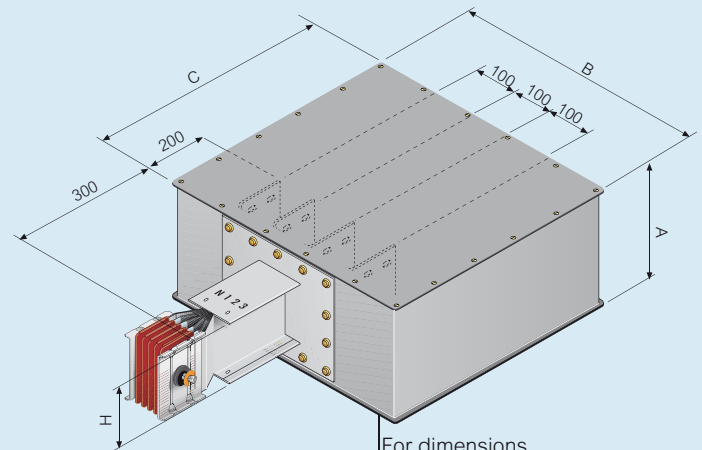
Aluminium	630 A to 2000 A
Copper	800 A to 2500 A
(A) min. / max. (mm)	150 / 1299
(B) min. / max. (mm)	300 / 1299
(U) min. / max. (mm)	150 / 400

Minimum and maximum dimensions of double bar

Aluminium	2500 A to 4000 A
Copper	3200 A to 5000 A
(A) min. / max. (mm)	300 / 1449
(B) min. / max. (mm)	450 / 1449
(U) min. / max. (mm)	150 / 400

■ **Feed units**

End feed unit

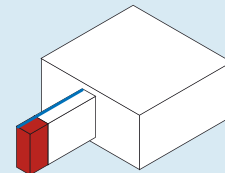


For dimensions of holes for connections, see p. 100

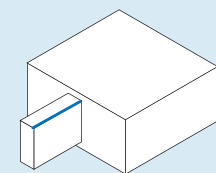
Dimension H changes with the rating and is specified on p. 112-117

Rear cable input
Aluminium gland plate(s) for cable entry
170mm x 410mm
Single bar : 1 plate
Double bar : 2 plates

Type 1 – male



Type 2 – female



Dimensions of the box

Aluminium	630 A to 1250 A	1600 A to 2000 A	2500 A to 4000 A
Copper	800 A to 1250 A	1600 A to 2500 A	3200 A to 5000 A
(A) (mm)	320	320	600
(B) (mm)	600	600	600
(C) (mm)	610	810	810

All dimensions (mm) are nominal

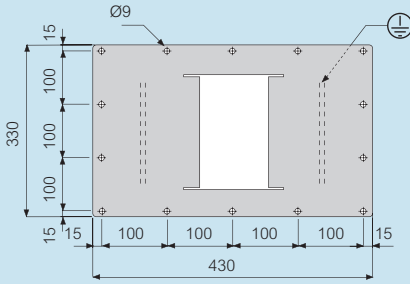
SCP super compact busbar

technical information

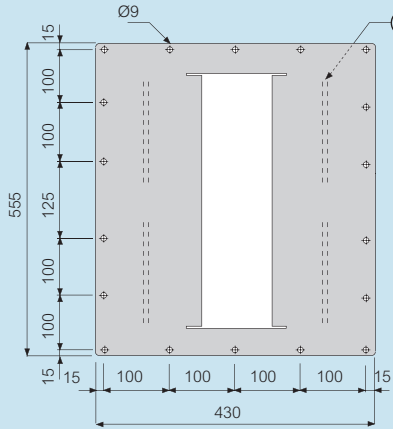
■ Connection interfaces

Cover plate drilling details

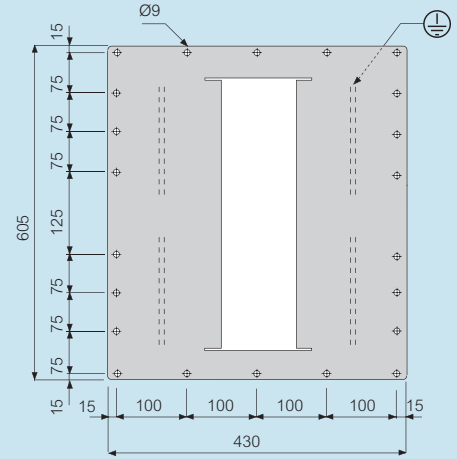
Aluminium 630 A to 2000 A
Copper 800 A to 2500 A



Aluminium 2500 A to 3200 A
Copper 3200 A to 4000 A

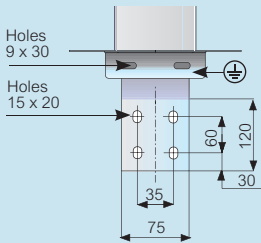


Aluminium 4000 A
Copper 5000 A

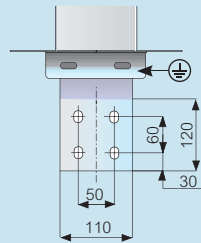


Bar drilling details

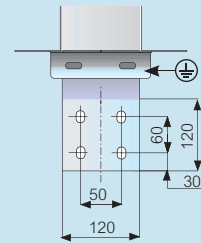
Aluminium 630 A
Copper 800 A



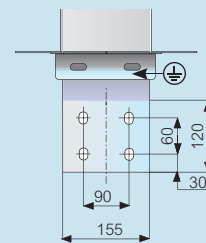
Aluminium 800 A-1000 A
Copper 1000 A-1250 A



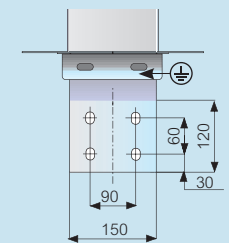
Aluminium 1250 A



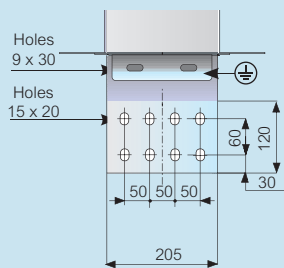
Aluminium 1600 A



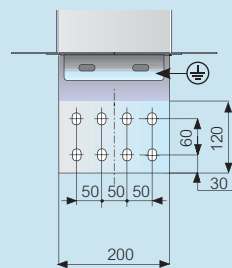
Copper 1600-2000 A



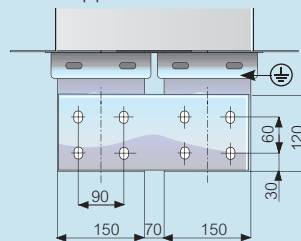
Aluminium 2000 A



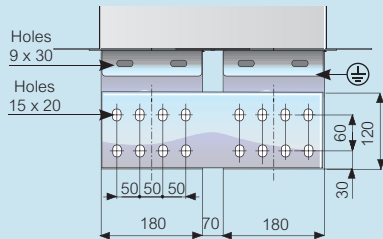
Copper 2500 A



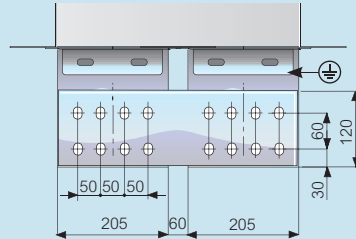
Aluminium 2500 A
Copper 3200 A



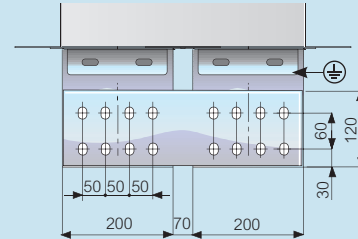
Aluminium 3200 A
Copper 4000 A



Aluminium 4000 A



Copper 5000 A



All dimensions (mm) are nominal

Compatibility with Zucchini SCP busbar

The Zucchini SCP busbar trunking system and EdM cast resin transformers have been designed in perfect synergy for a direct connection
The versions shown below represent just a few of the standardised solutions

400 V secondary voltage

Transformer			Busbar (aluminium)		
kVA (kVA)	Insulation class (kV)	400 V current (A)	IK 6 % (kA)	Family	Connection component
630	12, 17-5, 24, 36	910	15-20	SCP 1 000 A	60281012P
800		1 155	19-30	SCP 1 250 A	60281014P
1 000		1 444	24-10	SCP 1 600 A	60281016P
1 250		1 805	30-10	SCP 2 000 A	60281017P
1 600		2 310	38-50	SCP 2 500 A	60391014P
2 000		2 887	48-20	SCP 3 200 A	60391016P
2 500		3 609	60-20	SCP 4 000 A	60391017P

Transformer			Busbar (copper)		
kVA (kVA)	Insulation class (kV)	400 V current (A)	IK 6 % (kA)	Family	Connection component
630	12, 17-5, 24, 36	910	15-20	SCP 1 000 A	65281011P
800		1 155	19-30	SCP 1 250 A	65281013P
1 000		1 444	24-10	SCP 1 600 A	65281015P
1 250		1 805	30-10	SCP 2 000 A	65281016P
1 600		2 310	38-50	SCP 2 500 A	65391018P
2 000		2 887	48-20	SCP 3 200 A	65391015P
2 500		3 609	60-20	SCP 4 000 A	65391016P
3 150	4 547	65-00 ¹	SCP 5 000 A	65391018P	

1 : 7% impedance

417 V secondary voltage

Transformer			Busbar (aluminium)		
kVA (kVA)	Insulation class (kV)	417 V current (A)	IK 6 % (kA)	Family	Connection component
630	12, 17-5, 24, 36	873	14-60	SCP 1 000 A	60281012P
800		1 108	18-50	SCP 1 250 A	60281014P
1 000		1 385	23-10	SCP 1 600 A	60281016P
1 250		1 731	28-90	SCP 2 000 A	60281017P
1 600		2 216	37-00	SCP 2 500 A	60391014P
2 000		2 770	46-20	SCP 3 200 A	60391016P
2 500		3 462	57-70	SCP 4 000 A	60391017P

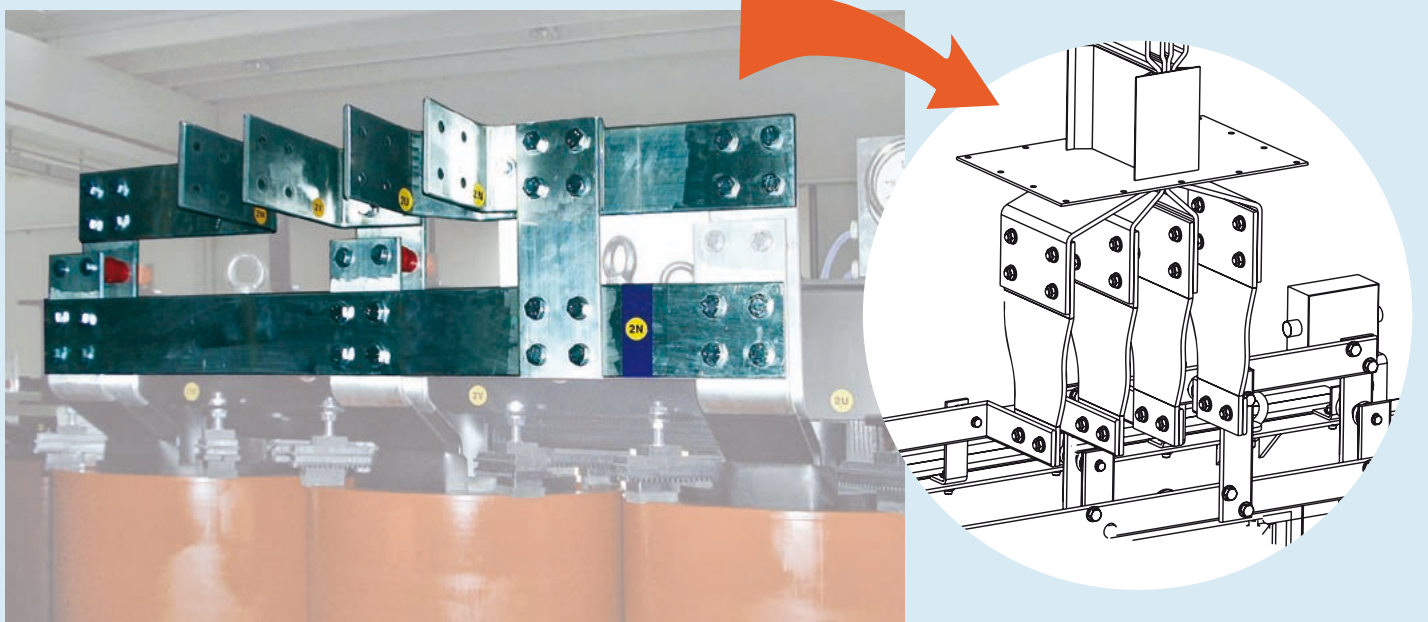
Transformer			Busbar (copper)		
kVA (kVA)	Insulation class (kV)	417 V current (A)	IK 6 % (kA)	Family	Connection component
630	12, 17-5, 24, 36	873	14-60	SCP 1 000 A	65281011P
800		1 108	18-50	SCP 1 250 A	65281013P
1 000		1 385	23-10	SCP 1 600 A	65281015P
1 250		1 731	28-90	SCP 2 000 A	65281016P
1 600		2 216	37-00	SCP 2 500 A	65391018P
2 000		2 770	46-20	SCP 3 200 A	65391015P
2 500		3 462	57-70	SCP 4 000 A	65391016P
3 150	4 362	62-40 ¹	SCP 5 000 A	65391018P	

433 V secondary voltage

Transformer			Busbar (aluminium)		
kVA (kVA)	Insulation class (kV)	433 V current (A)	IK 6 % (kA)	Family	Connection component
630	12, 17-5, 24, 36	841	14-10	SCP 1 000 A	60281012P
800		1 067	17-80	SCP 1 250 A	60281014P
1 000		1 334	22-30	SCP 1 600 A	60281016P
1 250		1 667	27-80	SCP 2 000 A	60281017P
1 600		2 134	35-60	SCP 2 500 A	60391014P
2 000		2 667	44-50	SCP 3 200 A	60391016P
2 500		3 334	55-60	SCP 4 000 A	60391017P

Transformer			Busbar (copper)		
kVA (kVA)	Insulation class (kV)	433 V current (A)	IK 6 % (kA)	Family	Connection component
630	12, 17-5, 24, 36	841	14-10	SCP 1 000 A	65281011P
800		1 067	17-80	SCP 1 250 A	65281013P
1 000		1 334	22-30	SCP 1 600 A	65281015P
1 250		1 667	27-80	SCP 2 000 A	65281016P
1 600		2 134	35-60	SCP 2 500 A	65391018P
2 000		2 667	44-50	SCP 3 200 A	65391015P
2 500		3 334	55-60	SCP 4 000 A	65391016P
3 150	4 201	60-10 ¹	SCP 5 000 A	65391018P	

Transformer to busbar connection



SCP super compact busbar

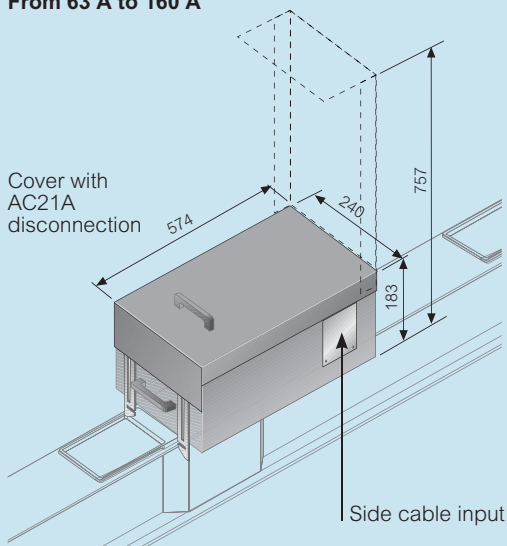
technical information

■ Tap-off boxes

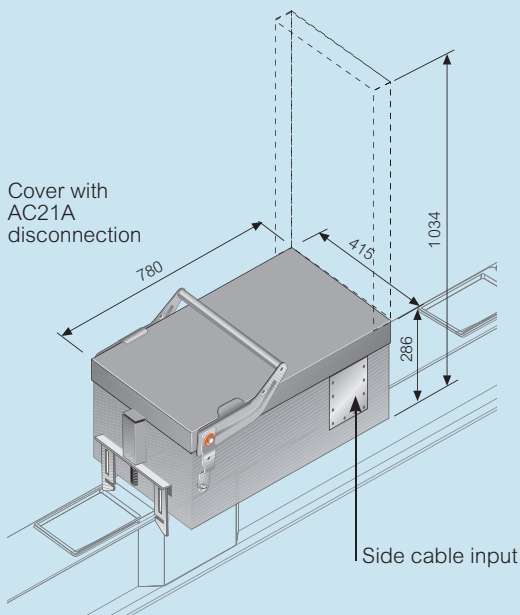
63 A to 630 A : plug-in type

Polyester coated, galvanised steel structure. Metal boxes are suitable for heavy loads and are used to shield electromagnetic fields caused by flows of current
Fuses not included. Please contact us on +44 (0) 845 600 6266 for details of available fuses

With fuse carrier From 63 A to 160 A



With switch disconnecter From 250 A to 630 A

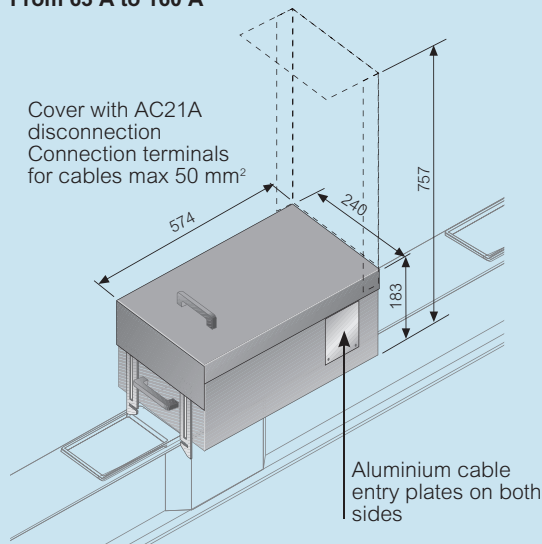


These tap-off boxes are equipped with a switch disconnecter (AC23) and a fuse carrier. The disconnecter switch is operated through a rotary handle on the cover (not shown in the picture)
N.B. Cover with AC21A disconnection : it is not possible to open, close, install or pull out the tap-off box if the switch is in 'ON' position
Can be installed and removed when the busbar is energized
To be used with components with any rating, with tap-off outlets
Fuses not included. Please contact us on +44 (0) 845 600 6266 for details of available fuses

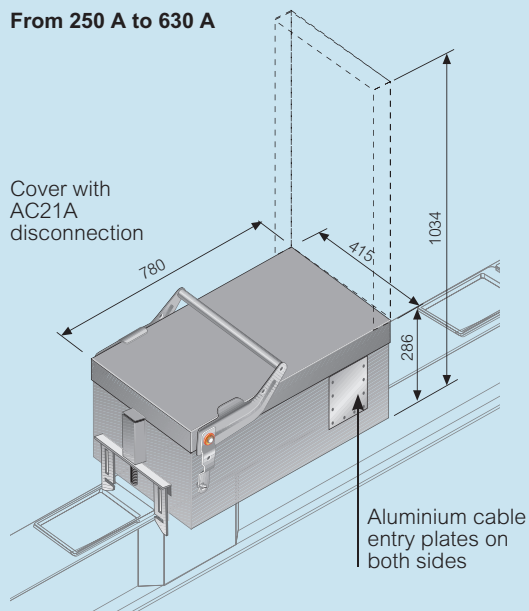
■ Tap-off boxes

Empty tap-off box 63 A to 630 A

From 63 A to 160 A



From 250 A to 630 A

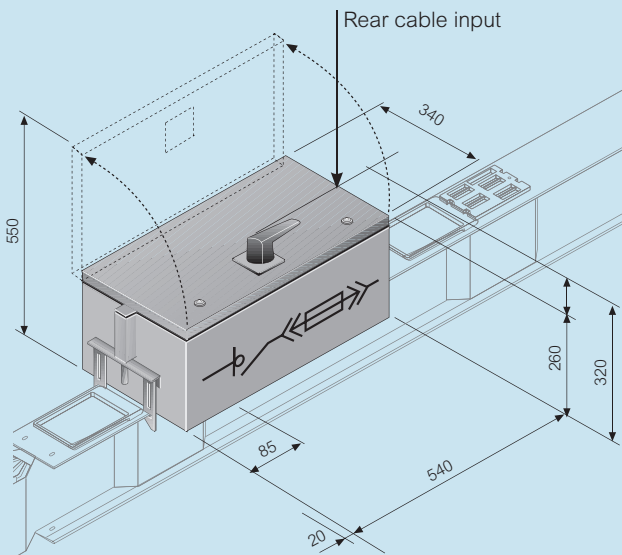


Tap-off boxes can be pre-equipped with DPX MCCBs on request, contact us on +44 (0) 845 600 6266
Can be installed and removed when the busbar is energized
To be used with components with any rating, with tap-off outlets

All dimensions (mm) are nominal

■ **Tap-off boxes**

With AC23A switch disconnecter and fuse carrier, 125 A to 400 A : plug-in type



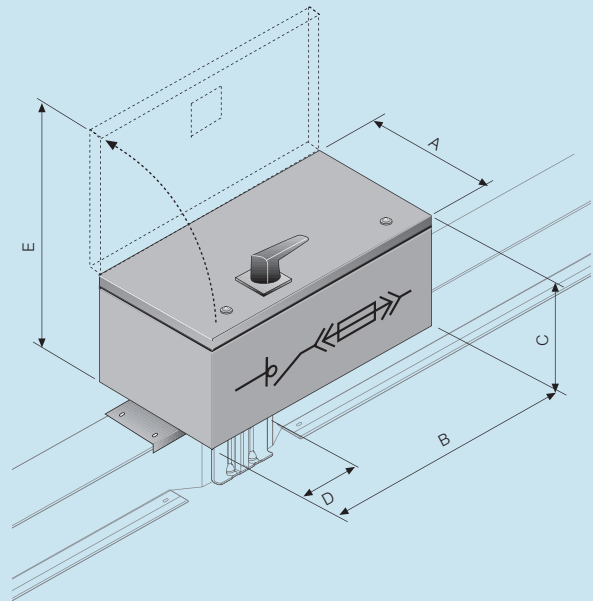
Can be installed and removed when the busbar is energized because the protective earth makes contact before other conductors
To be applied on components with any rating, with tap-off outlets
For operating voltages (Ue) different from 400 V, please contact us on +44 (0) 845 600 6266
Fuses not included. Please contact us on +44 (0) 845 600 6266 for details of available fuses

Specification

Rated insulating AC voltage	Ui (V)	1000
Rated impulse withstand voltage	Uimp (kV)	12
Type of rated duty		AC23A
Rated conditional short circuit current	(kA)	100
		CEI EN 60947-3

■ **Bolt-on tap-off boxes**

With AC23 switch disconnecter and fuse carrier : 125 A to 1250 A



Please specify SCP type when ordering
Boxes cannot be installed simultaneously on both sides of the same junction



The bolted boxes are to be installed directly on the junction when the busbar is disconnected and not energized

For operating voltages (Ue) different from 400 V please contact us on +44 (0) 845 600 6266
Fuses not included. Please contact us on +44 (0) 845 600 6266 for details of available fuses

Dimensions of the box

Box rating	125 A to 400 A	630 A	800 A to 1250 A
(A) (mm)	365	400	450
(B) (mm)	630	750	1050
(C) (mm)	270	280	300
(D) (mm)	95	115	115
(E) (mm)	635	680	750

Specification

Rated insulating AC voltage	Ui (V)	1000
Rated impulse withstand voltage	Uimp (kV)	12
Type of rated duty		AC23A
Rated conditional short circuit current	(kA)	100
		CEI EN 60947-3

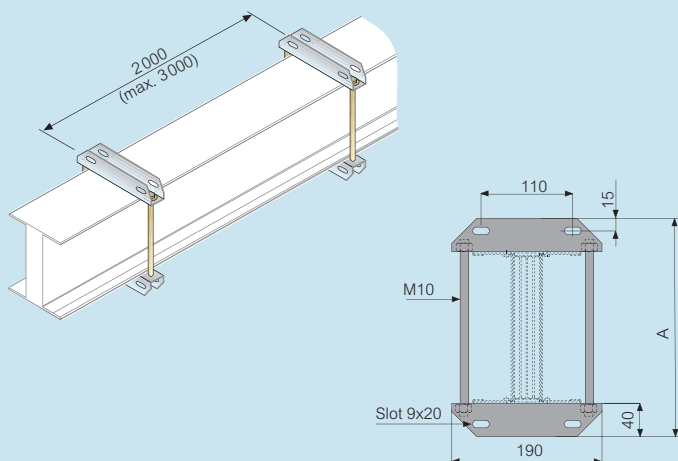
All dimensions (mm) are nominal

SCP super compact busbar

technical information

■ Fixing supports

Suspension bracket for edgeways installation

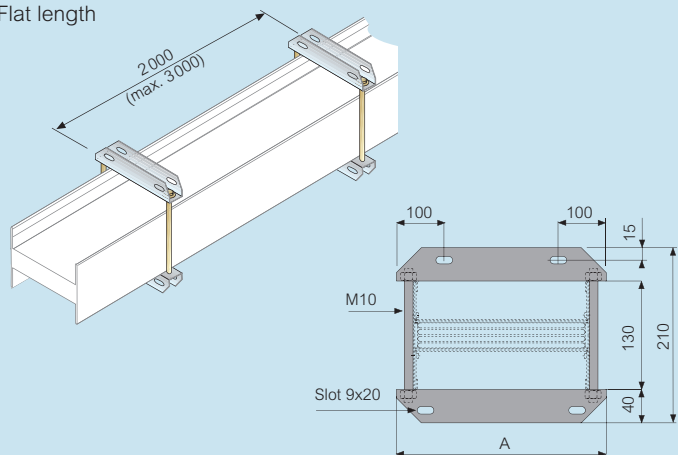


Suspension bracket for edgeways installation

	Single bar						Double bar			
Aluminium busbar rating (A)	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Dimension A (mm)	210	210	210	210	250	300	460	520	560	–
	Single bar						Double bar			
Copper busbar rating (A)	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Dimension A (mm)	–	210	210	210	250	250	300	460	520	560

Suspension bracket for flat installation

Flat length

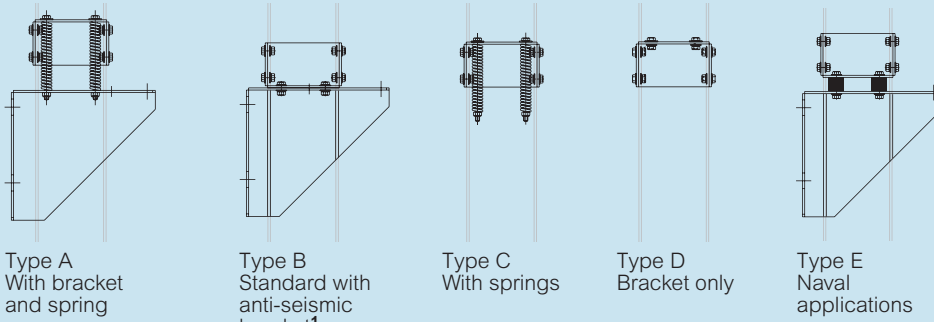


Suspension bracket for flat installation

	Single bar						Double bar			
Aluminium busbar rating (A)	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Dimension A (mm)	190	190	190	190	315	315	430	490	530	–
	Single bar						Double bar			
Copper busbar rating (A)	630	800	1000	1250	1600	2000	2500	3200	4000	5000
Dimension A (mm)	–	190	190	190	315	315	315	430	490	530

All dimensions (mm) are nominal

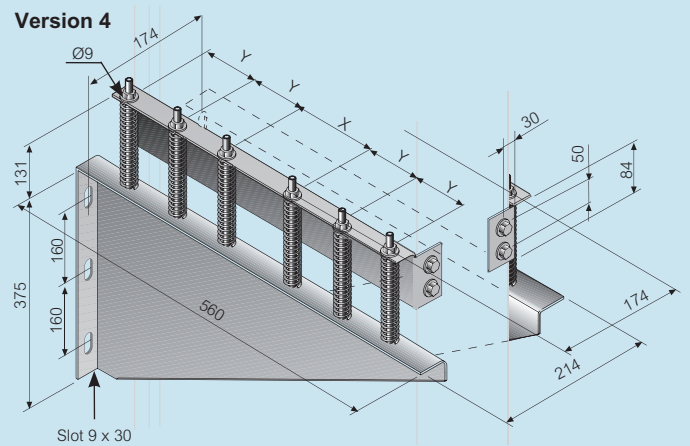
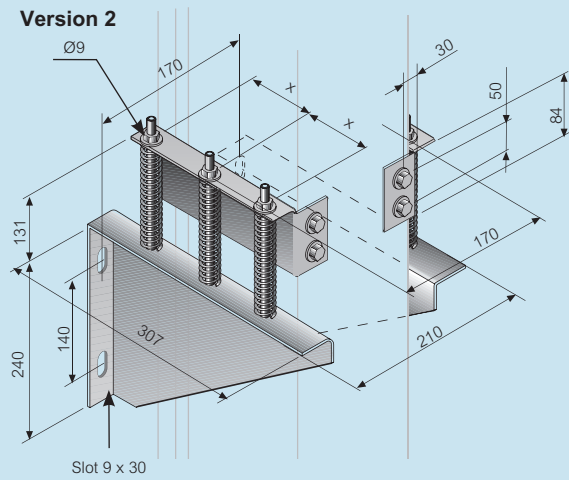
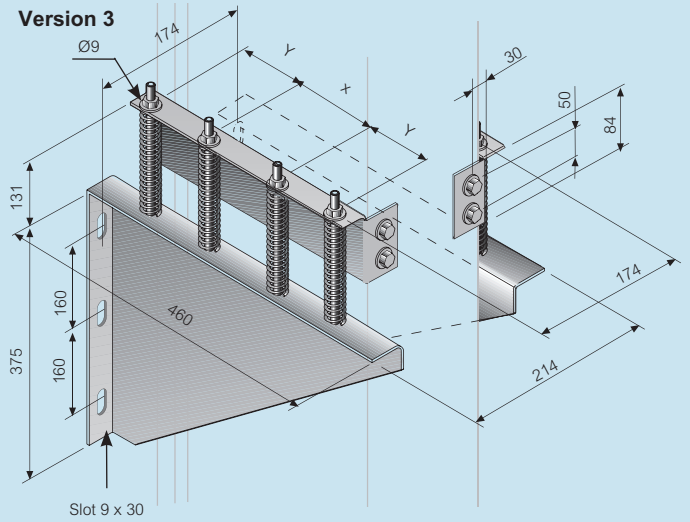
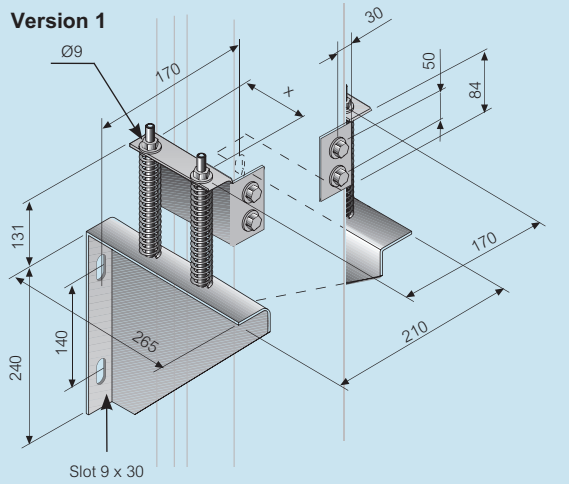
■ Fixing supports



Type A and B brackets are used for wall installation, while type C and D are used for floor installation

1 : For single bar lengths, the standard bracket is also anti-seismic rated
For double bar loads there are two separate Cat. Nos. see p. 82

Fixing supports for vertical lengths – dimensions



X and Y dimensions of the brackets							
	Version 1	Version 1	Version 2	Version 2	Version 3	Version 4	Version 4
Aluminium	630 A to 1000 A	1250 A	1600 A	2000 A	2500 A	3200 A	4000 A
Copper	800 A to 1250 A	1600 A	2000 A	2500 A	3200 A	4000 A	5000 A
x (mm)	90	120	80	90	80	80	80
y (mm)	-	-	-	-	110	80	90

All dimensions (mm) are nominal

SCP super compact busbar

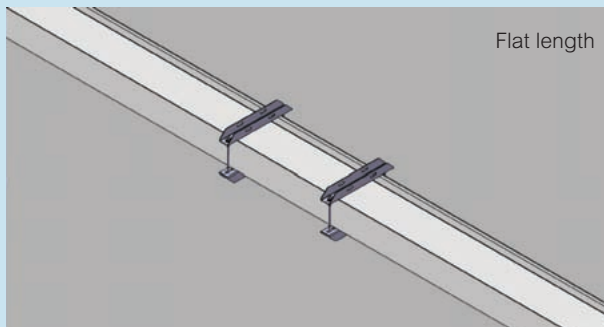
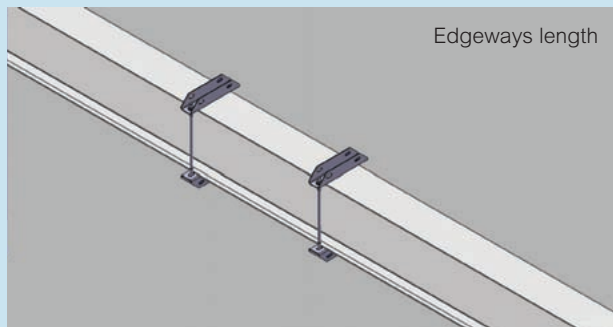
technical information

■ Fixing in standard conditions

For vertical path sections of less than 2 m the use of standard suspension brackets is sufficient

Horizontal installation fixing

Fixing recommended : 1 bracket every 1.5 m



Vertical installation fixing (rising mains)

In the case of rising mains, in addition to the standard brackets, it will also be necessary to use other screw fixed brackets to prevent the busbar sliding

Due to their pre-loaded springs, the brackets absorb the forces pressing on the busbar and direct any expansion in a precise direction. They therefore operate as a limitation, and support the traction and compression forces of the busbar trunking system

• Section between 2 and 4 m

In the lowest point Type B vertical bracket if secured to the wall, or Type D if secured to the floor and one edgeway installation bracket

• Section of over 4 m

In the lowest point Type A vertical bracket if secured to the wall, or Type C if secured to the floor and one edgeway installation bracket every 1.5 m of the path and one Type A or C bracket based on the following table

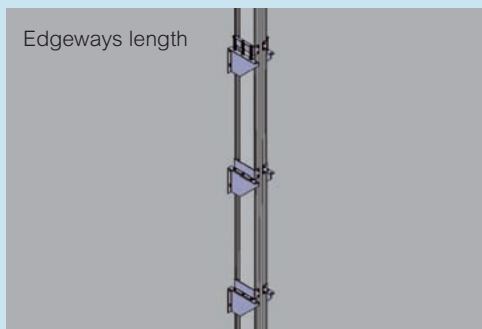
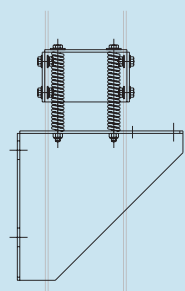
Aluminium		Copper	
Rating (A)	(m)	Rating (A)	(m)
630	17	–	–
800	16	800	10
1000	16	1000	9
1250	15	1250	9
1600	12	1600	7
2000	10	2000	6
2500	14	2500	4
3200	12	3200	7
4000	10	4000	6
–	–	5000	5

■ Fixing for installation in seismic environments

Vertical installation (section lengths > 2 m)

Fit 1 bracket every 1.5 m of the busbar

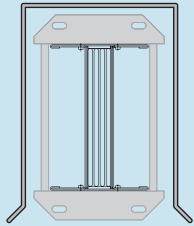
Every 2 anti-seismic brackets with bracket (Type B) use one bracket with bracket and spring (Type A)



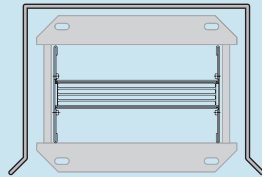
All dimensions (mm) are nominal

■ **Protective cover for outdoor applications**

Covering accessory to be used for outdoor installations and wherever the standard IP 55 protection is not adequate
For more information, please contact us on +44 (0) 845 600 6266



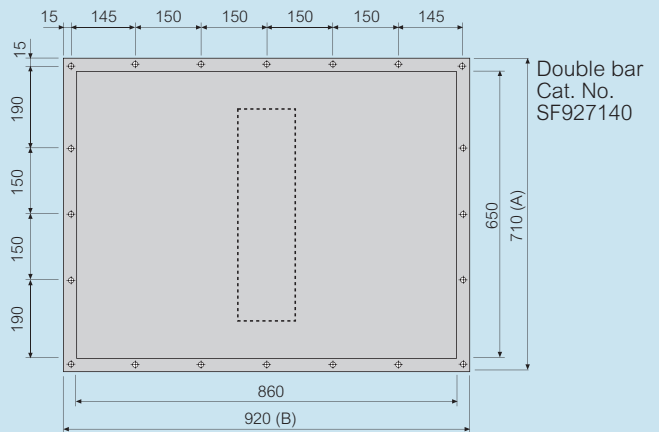
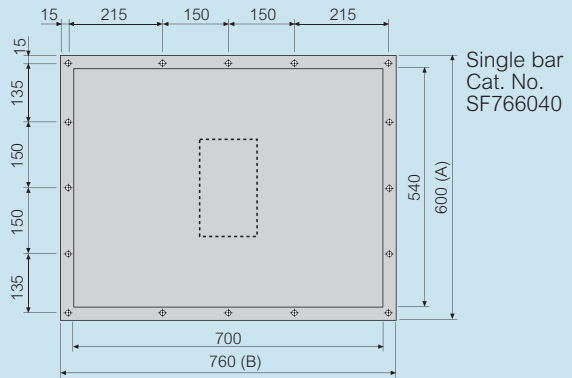
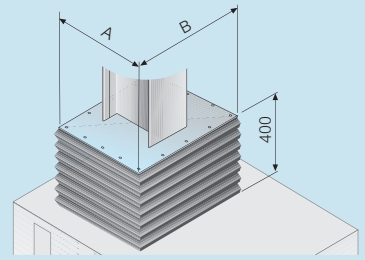
Edgewise length



Flat length

■ **Protective bellows**

Recommended for protection of the interface connection on panel boards, dry-type transformers with enclosure and oil-type transformers
For EdM cast resin transformers, custom-made connections are available upon request (see p. 83)



	Single bar	Double bar
Aluminium	630 A to 2000 A Cat. No. SF766040	2500 A to 4000 A Cat. No. SF927140
Copper	800 A to 2500 A Cat. No. SF766040	3200 A to 5000 A Cat. No. SF927140

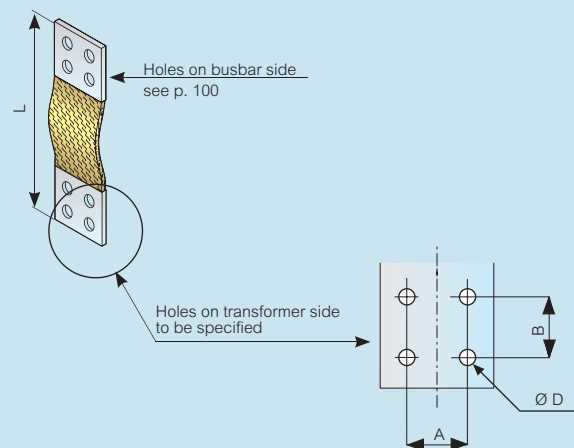
All dimensions (mm) are nominal

SCP super compact busbar

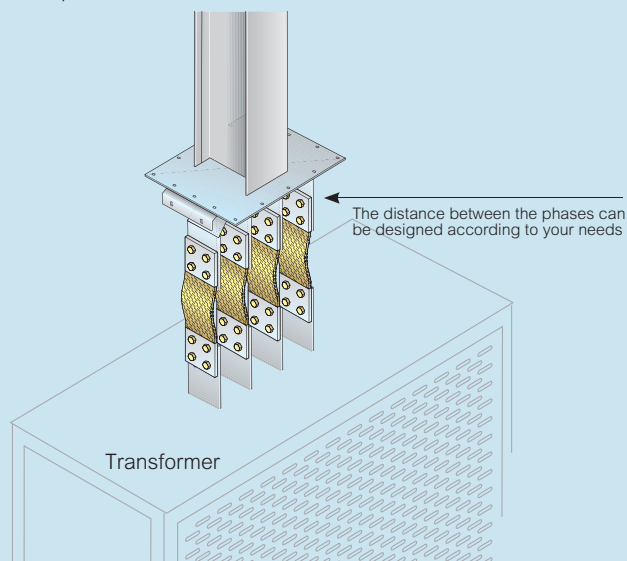
technical information

Flexible braid connections

When ordering, please specify hole dimensions on transformer side (A, B, Ø D) and length L



Example of a vertical connection



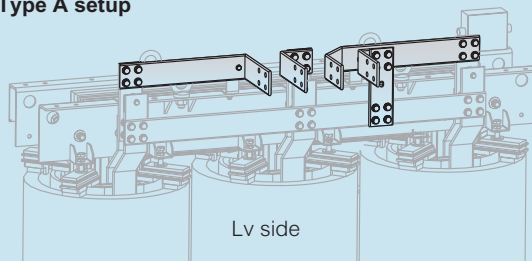
The system : the EdM transformer advantage

The Legrand Group offer meets the needs of any installation. EdM cast resin transformers have specifically designed connections for Zucchini busbars

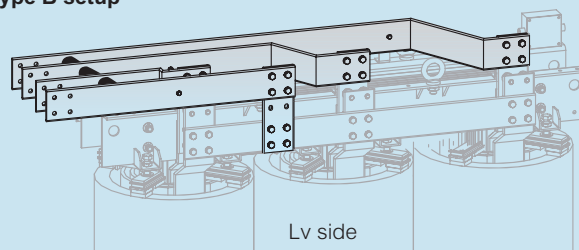
The versions shown represent some of the standardised solutions

For the outgoing busbar run from the transformer, see p. 98-100

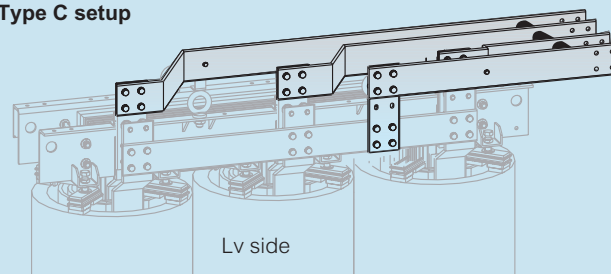
Type A setup



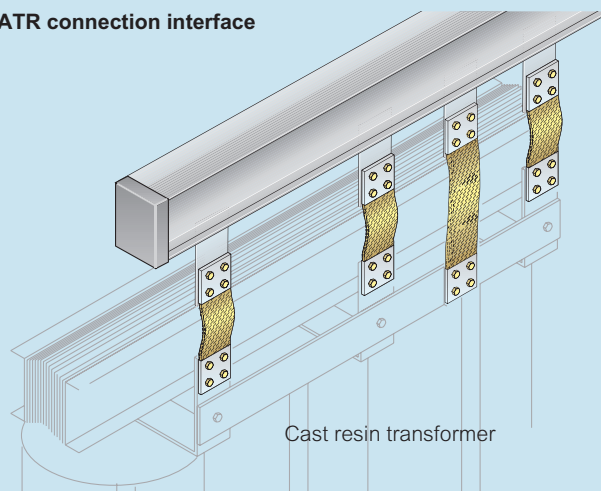
Type B setup



Type C setup



ATR connection interface



A technical drawing of the transformer is needed when creating an ATR connection interface

For EdM cast resin transformers contact us on +44 (0) 845 600 6266

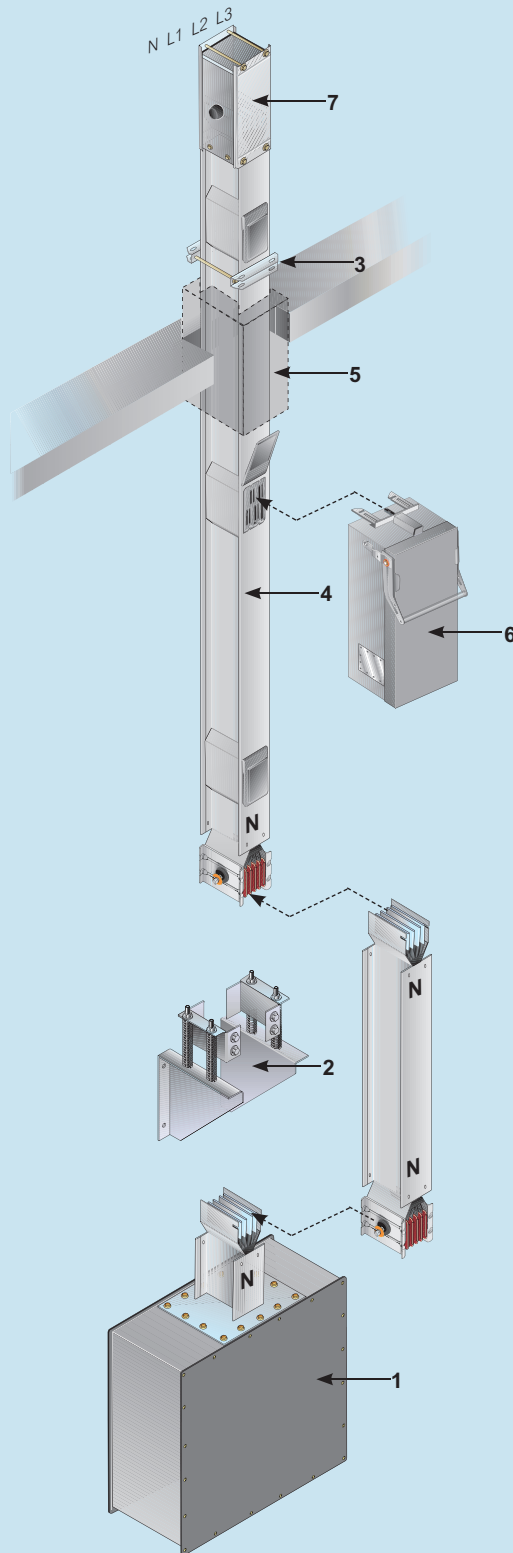
All dimensions (mm) are nominal

SCP super compact busbar installation guidelines

■ Installation design

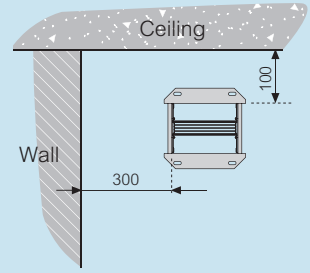
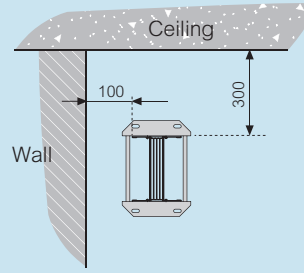
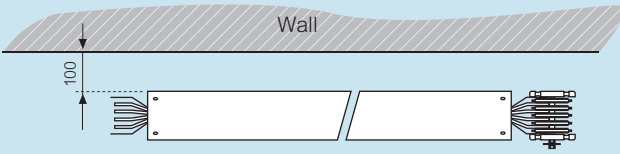
- 1 Use a right hand end feed unit (without monobloc)
To position the tap-off boxes correctly, the neutral conductor of the riser mains must be on the left side of the length
- 2 Use one or more suspension brackets for the vertical lengths, according to the weight of the whole riser mains
For risers that are shorter than 4 m, fix to the base with type B brackets (see p. 81)
When longer, use a type A suspension bracket (see p. 81) every 300 kg of riser (including boxes)
- 3 Use a standard suspension bracket to hang the busbar every 2 metres of riser mains
- 4 Use lengths with tap-off outlets (see p. 66)
- 5 Use S120 fire barrier kit for each compartment floor (see p. 69)
- 6 Tap-off boxes can be installed in the tap-off outlets and near the connection between lengths
In both cases, the boxes extend downward
- 7 Position the IP 55 end cover at the end of the riser mains

For further information,
please contact us on +44 (0) 845 600 6266

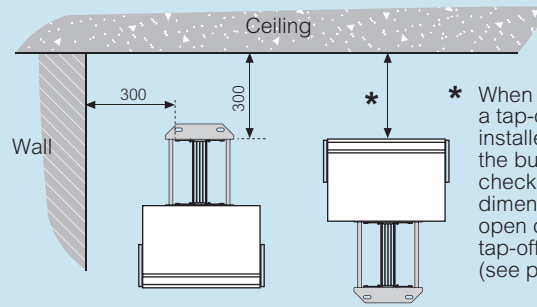
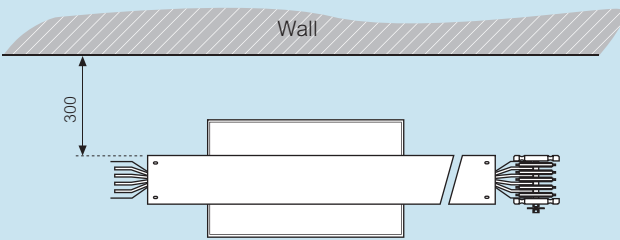


SCP super compact busbar
installation guidelines

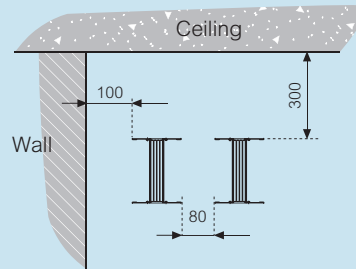
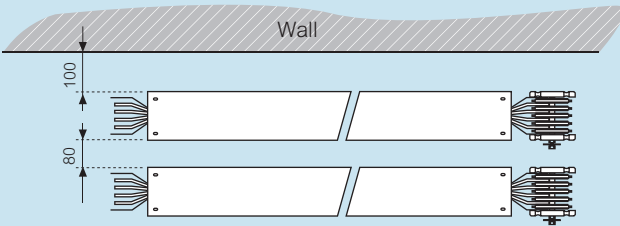
■ Minimum distance of the wall / ceiling lengths



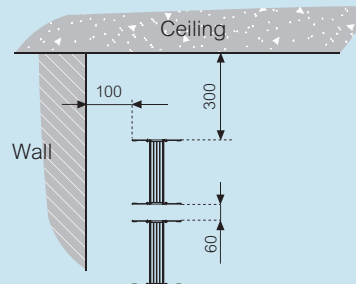
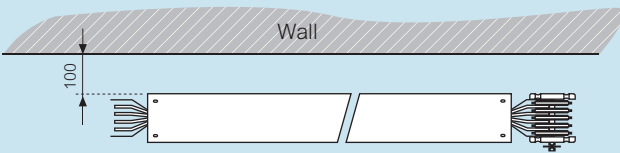
When there are tap-off units along the busbars, the minimum distances depend on the dimensions of the tap-offs selected.



* When there is a tap-off box installed above the busbar, check the overall dimension of the open cover of the tap-off unit used (see p. 47-48)



Minimum installation distance when there are several adjacent lines



Minimum installation distance when there are several overlapped lines

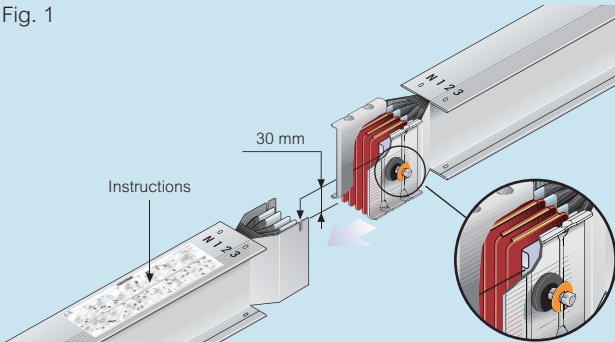
For further information, please contact us on +44 (0) 845 600 6266

All dimensions (mm) are nominal

■ Installation sequence of the junction

- 1 Installation instructions are included near the junction (Fig.1)
Make sure that the contacts are clean before joining lengths

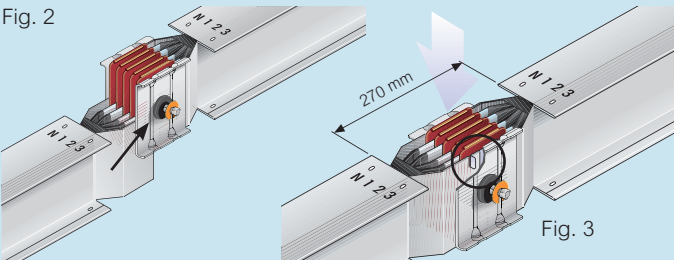
Fig. 1



- 2 Make sure that the earth plate of the trunking length is inserted behind the front plate of the junction (Fig.2)

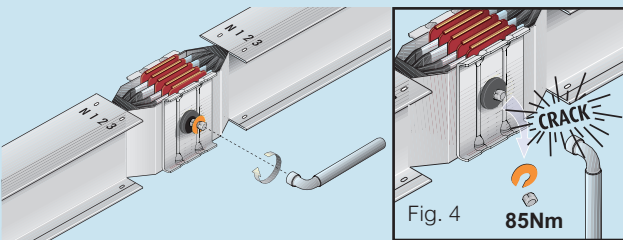
The positioning pin on the monobloc should be fitted into the corresponding slot on the earth plate. Verify the distance between lengths, 270 mm, before tightening the monobloc completely (Fig.3)

Fig. 2



- 3 Tighten the bolt of the monobloc until the 1st head breaks off (Fig. 4)

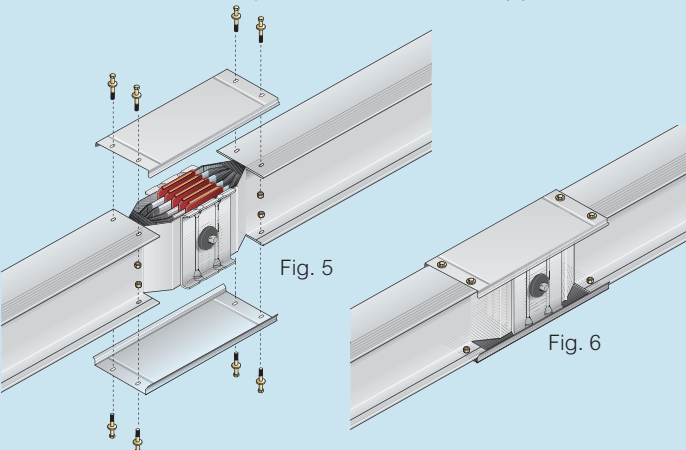
The bolt that tightens the monobloc has a second head which is used when carrying out operations or inspections on the line
The nominal tightening torque is 85Nm



- 4 Install the junction covers (Fig. 5)

Completed IP 55 installation (Fig. 6)

For further information, please contact us on +44 (0) 845 600 6266

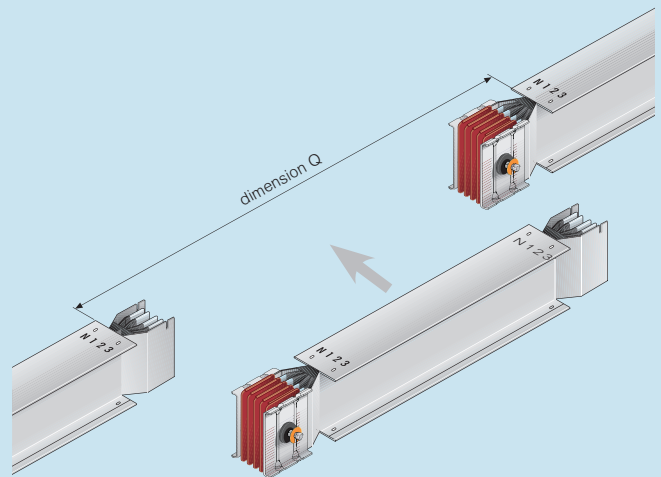


■ Measurement of trunking lengths

The exact length to be ordered can be determined by measuring the distance between the components (as shown below) and then subtracting 270 mm

$$\text{Length} = Q - 270 \text{ mm}$$

Example : dimension measured = 2500 mm
length required = 2230 mm



■ Measurement of bespoke components

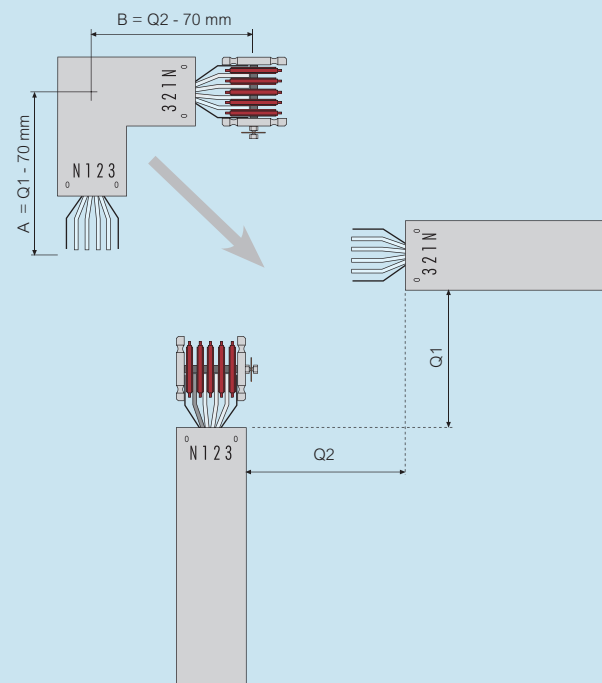
Horizontal elbow

The exact length to be ordered can be determined by measuring the dimensions Q1 and Q2 (as shown below) and then subtracting 70 mm from each dimension

$$A = Q1 - 70 \text{ mm}$$

$$B = Q2 - 70 \text{ mm}$$

For further information, please contact us on +44 (0) 845 600 6266

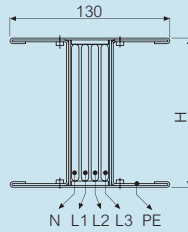


All dimensions (mm) are nominal

SCP super compact busbar – 4 conductor (aluminium)

technical data

■ 3L + N + PE aluminium



Aluminium	Single bar							Double bar			
	I_n [A]	630	800	1000	1250	1600	2000	2500	3200	4000	
Casing overall dimensions	L x H [mm]	130x130	130x130	130x130	130x130	130x170	130x220	130x380	130x440	130x480	
Operating voltage	[V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Insulation voltage	U_i [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Frequency	[Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	
Rated short-time current for three-phase fault (1 s)	I_{cw} [kA]rms	36	42	50	75	80	80	150	160	160	
Allowable peak current for three-phase fault	I_{pk} [kA]	76	88	110	165	176	176	330	352	352	
Rated short-time current for single-phase fault (1 s)	I_{cw} [kA]rms	22	25	30	45	48	48	90	96	96	
Allowable peak current for single-phase fault	I_{pk} [kA]	48	55	66	99	106	106	198	211	211	
Allowable specific energy for three-phase fault	I^2t [MA ² s]	1296	1764	2500	5625	6400	6400	22500	25600	25600	
Phase resistance	R_{20} [mΩ/m]	0.077	0.058	0.058	0.047	0.035	0.027	0.022	0.017	0.014	
Phase reactance (50 Hz)	X [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.006	0.006	0.006	
Phase impedance	Z [mΩ/m]	0.080	0.060	0.060	0.049	0.037	0.029	0.022	0.018	0.015	
Phase resistance at thermal conditions	R_t [mΩ/m]	0.084	0.064	0.069	0.056	0.041	0.032	0.025	0.020	0.017	
Phase impedance at thermal conditions	Z [mΩ/m]	0.087	0.066	0.071	0.058	0.043	0.034	0.026	0.021	0.018	
Neutral resistance	R_{20} [mΩ/m]	0.077	0.058	0.058	0.047	0.035	0.027	0.022	0.017	0.014	
Resistance of the protective conductor (PE 1)	R_{PE} [mΩ/m]	0.125	0.125	0.125	0.125	0.113	0.101	0.075	0.069	0.065	
Resistance of the protective conductor (PE 2)	R_{PE} [mΩ/m]	0.036	0.036	0.036	0.036	0.028	0.023	0.014	0.012	0.011	
Resistance of the protective conductor (PE 3)	R_{PE} [mΩ/m]	0.050	0.050	0.050	0.050	0.041	0.033	0.021	0.018	0.017	
Reactance of the protective conductor (50 Hz)	X_{PE} [mΩ/m]	0.080	0.078	0.078	0.048	0.039	0.028	0.020	0.015	0.016	
Resistance of the fault loop (PE 1)	R_o [mΩ/m]	0.209	0.189	0.194	0.181	0.154	0.133	0.100	0.089	0.082	
Resistance of the fault loop (PE 2)	R_o [mΩ/m]	0.120	0.100	0.105	0.092	0.069	0.055	0.039	0.032	0.028	
Resistance of the fault loop (PE 3)	R_o [mΩ/m]	0.134	0.114	0.119	0.106	0.082	0.065	0.046	0.038	0.034	
Reactance of the fault loop (50 Hz)	X_o [mΩ/m]	0.10	0.10	0.10	0.06	0.05	0.04	0.03	0.02	0.02	
Impedance of the fault loop (PE 1)	Z_o [mΩ/m]	0.233	0.212	0.216	0.192	0.163	0.139	0.103	0.092	0.085	
Impedance of the fault loop (PE 2)	Z_o [mΩ/m]	0.158	0.138	0.142	0.112	0.087	0.068	0.047	0.038	0.036	
Impedance of the fault loop (PE 3)	Z_o [mΩ/m]	0.169	0.149	0.152	0.123	0.098	0.076	0.053	0.044	0.041	
Zero-sequence resistance phase - N	R_o [mΩ/m]	0.306	0.257	0.257	0.238	0.172	0.140	0.107	0.080	0.070	
Zero-sequence reactance phase - N	X_o [mΩ/m]	0.174	0.160	0.160	0.128	0.106	0.108	0.083	0.073	0.060	
Zero-sequence Impedance phase - N	Z_o [mΩ/m]	0.352	0.303	0.303	0.270	0.202	0.177	0.135	0.108	0.092	
Zero-sequence resistance phase - PE	R_o [mΩ/m]	0.581	0.519	0.519	0.369	0.321	0.270	0.217	0.196	0.164	
Zero-sequence reactance phase - PE	X_o [mΩ/m]	0.263	0.229	0.229	0.191	0.175	0.212	0.155	0.148	0.146	
Zero-sequence Impedance phase - PE	Z_o [mΩ/m]	0.638	0.567	0.567	0.416	0.366	0.343	0.267	0.246	0.22	
Voltage drop factor with distributed load $\Delta V = k \cdot L \cdot I_e \cdot 10^{-6}$ [V]	k [V/m/A]10 ⁻⁶	$\cos\phi = 0.70$	65.1	49.5	52.5	43.3	33.6	26.3	18.8	15.9	14.2
		$\cos\phi = 0.75$	67.7	51.5	54.7	45.1	34.7	27.2	19.6	16.5	14.6
		$\cos\phi = 0.80$	70.1	53.3	56.8	46.7	35.7	28.0	20.4	17.1	15.1
		$\cos\phi = 0.85$	72.3	55.1	58.7	48.2	36.6	28.7	21.1	17.6	15.4
		$\cos\phi = 0.90$	74.1	56.5	60.4	49.4	37.3	29.2	21.7	18.0	15.7
		$\cos\phi = 0.95$	75.3	57.5	61.6	50.3	37.6	29.4	22.1	18.2	15.8
	$\cos\phi = 1.00$	72.7	55.6	60.0	48.6	35.6	27.8	21.6	17.4	14.9	
Weight (PE 1)	p [kg/m]	17.5	18.3	18.3	19.8	24.2	29.6	40.1	48.0	54.9	
Weight (PE 2)	p [kg/m]	20.7	21.5	21.5	23.0	28.4	35.0	48.3	57.6	65.6	
Weight (PE 3)	p [kg/m]	18.5	19.3	19.3	20.9	25.6	31.4	42.8	51.1	58.4	
Fire load	[kWh/m]	4.5	5.5	5.5	6.0	8.5	10.5	16.0	19.0	21.0	
Degree of protection	IP	55	55	55	55	55	55	55	55	55	
Thermal resistance class of the insulating materials	–	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	
Joule effect losses at rated current	P [W/m]	100	123	208	263	315	386	468	618	827	
Min./max. ambient temperature	[°C]	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	

Regulations and conformity :

IEC/EN 60439-1 and 2; DIN VDE 0660 500 and 502.

Product suitable for Constant/Cyclic Warm, humid climates :

DIN IEC 68 part 2-3; DIN IEC 68 part 2-30

Degree of protection :

IP 55; IP x7 carrying lines available with accessories, on request - +44 (0) 845 600 6266

Insulation and surface treatment of the conductors :

Insulated conductors for the whole length, aluminum copper-plated and tin-plated

Busbar casing material :

1.5 mm galvanised steel plate, pre-painted or stainless steel (available, if required, with special paint and/or with thickness 2 mm)

1 : Class F thermal resistance (155°C) available on request - +44 (0) 845 600 6266

I_n : rated current referred to a room temperature of 40°C



PE 1
Standard version



PE 2
Extra earth - copper

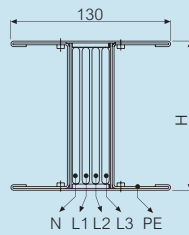


PE 3
Extra earth - aluminium

SCP super compact busbar – 4 conductor (copper)

technical data

■ 3L + N + PE copper



Copper	Single bar							Double bar			
	I_n [A]	800	1000	1250	1600	2000	2500	3200	4000	5000	
Casing overall dimensions	L x H [mm]	130x130	130x130	130x130	130x170	130x170	130x220	130x380	130x440	130x480	
Operating voltage	U_e [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Insulation voltage	U_i [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Frequency	f [Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	
Rated short-time current for three-phase fault (1 s)	I_{cw} [kA]rms	45	50	60	85	88	88	170	176	176	
Allowable peak current for three-phase fault	I_{pk} [kA]	95	110	132	187	194	194	374	387	387	
Rated short-time current for single-phase fault (1 s)	I_{cw} [kA]rms	27	30	36	51	53	53	102	106	106	
Allowable peak current for single-phase fault	[kA]	57	66	79	112	116	116	224	232	232	
Allowable specific energy for three-phase fault	I^2t [MA ² s]	2025	2500	3600	7225	7744	7744	28900	30976	30976	
Phase resistance	R_{20} [mΩ/m]	0.041	0.032	0.032	0.024	0.020	0.016	0.012	0.010	0.008	
Phase reactance (50 Hz)	X [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.007	0.006	0.006	
Phase impedance	Z [mΩ/m]	0.047	0.037	0.037	0.028	0.024	0.019	0.014	0.012	0.010	
Phase resistance at thermal conditions	R_t [mΩ/m]	0.045	0.037	0.040	0.029	0.024	0.019	0.015	0.013	0.010	
Neutral resistance	R_{20} [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.007	0.006	0.006	
Phase impedance at thermal conditions	Z [mΩ/m]	0.050	0.041	0.043	0.033	0.028	0.022	0.016	0.014	0.012	
Resistance of the protective conductor (PE 1)	R_{PE} [mΩ/m]	0.125	0.125	0.125	0.113	0.113	0.101	0.075	0.069	0.065	
Resistance of the protective conductor (PE 2)	R_{PE} [mΩ/m]	0.036	0.036	0.036	0.028	0.028	0.023	0.014	0.012	0.011	
Resistance of the protective conductor (PE 3)	R_{PE} [mΩ/m]	0.050	0.050	0.050	0.041	0.041	0.033	0.021	0.018	0.017	
Reactance of the protective conductor (50 Hz)	X_{PE} [mΩ/m]	0.054	0.054	0.054	0.044	0.044	0.032	0.022	0.017	0.016	
Resistance of the fault loop (PE 1)	R_o [mΩ/m]	0.170	0.162	0.165	0.142	0.137	0.120	0.090	0.082	0.075	
Resistance of the fault loop (PE 2)	R_o [mΩ/m]	0.081	0.073	0.076	0.057	0.052	0.042	0.029	0.025	0.021	
Resistance of the fault loop (PE 3)	R_o [mΩ/m]	0.095	0.087	0.090	0.070	0.065	0.052	0.036	0.031	0.027	
Reactance of the fault loop (50 Hz)	X_o [mΩ/m]	0.077	0.071	0.071	0.059	0.058	0.043	0.029	0.023	0.022	
Impedance of the fault loop (PE 1)	Z_o [mΩ/m]	0.186	0.177	0.179	0.154	0.149	0.128	0.094	0.085	0.078	
Impedance of the fault loop (PE 2)	Z_o [mΩ/m]	0.111	0.102	0.104	0.082	0.078	0.060	0.041	0.034	0.030	
Impedance of the fault loop (PE 3)	Z_o [mΩ/m]	0.122	0.112	0.114	0.092	0.087	0.068	0.046	0.039	0.035	
Zero-sequence resistance phase - N	R_o [mΩ/m]	0.170	0.155	0.155	0.115	0.120	0.098	0.083	0.071	0.062	
Zero-sequence reactance phase - N	X_o [mΩ/m]	0.159	0.151	0.151	0.114	0.098	0.065	0.056	0.055	0.042	
Zero-sequence Impedance phase - N	Z_o [mΩ/m]	0.233	0.216	0.216	0.162	0.155	0.118	0.100	0.090	0.075	
Zero-sequence resistance phase - PE	R_o [mΩ/m]	0.507	0.429	0.429	0.331	0.283	0.221	0.177	0.178	0.144	
Zero-sequence reactance phase - PE	X_o [mΩ/m]	0.201	0.177	0.177	0.143	0.150	0.124	0.111	0.094	0.086	
Zero-sequence Impedance phase - PE	Z_o [mΩ/m]	0.545	0.464	0.464	0.361	0.320	0.253	0.209	0.201	0.168	
Voltage drop factor with distributed load $\Delta V = k.L.I_e.10^{-6}$ [V]	k [V/m/A]10 ⁻⁶	$\cos\phi = 0.70$	41.3	33.0	34.6	27.1	23.5	18.5	13.2	11.5	9.8
		$\cos\phi = 0.75$	42.1	33.8	35.5	27.7	23.9	18.8	13.5	11.8	9.9
		$\cos\phi = 0.80$	42.8	34.5	36.3	28.1	24.2	19.1	13.8	12.1	10.0
		$\cos\phi = 0.85$	43.3	35.0	37.0	28.4	24.4	19.2	14.0	12.2	10.1
		$\cos\phi = 0.90$	43.4	35.3	37.3	28.5	24.4	19.2	14.1	12.3	10.1
		$\cos\phi = 0.95$	42.9	35.1	37.2	28.2	23.9	18.8	14.0	12.2	9.8
	$\cos\phi = 1.00$	38.6	32.1	34.4	25.4	21.2	16.7	12.7	11.2	8.7	
Weight (PE 1)	p [kg/m]	28.9	32.6	32.6	41.8	47.9	60.6	79.0	93.4	116.7	
Weight (PE 2)	p [kg/m]	38.4	42.1	42.1	54.2	60.3	76.8	103.4	122.3	148.6	
Weight (PE 3)	p [kg/m]	32.0	35.7	35.7	45.8	51.9	65.9	87.0	102.8	127.1	
Fire load	[kWh/m]	4.5	5.5	5.5	8	8.2	10.5	16	19	21	
Degree of protection	IP	55	55	55	55	55	55	55	55	55	
Thermal resistance class of the insulating materials	-	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	
Joule effect losses at rated current	P [W/m]	86	111	186	225	294	361	451	619	750	
Min./max. ambient temperature	[°C]	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	

Regulations and conformity :

IEC/EN 60439-1 and 2; DIN VDE 0660 500 and 502.

Product suitable for Constant/Cyclic Warm, humid climates :

DIN IEC 68 part 2-3; DIN IEC 68 part 2-30

Degree of protection :

IP 55; IP x7 carrying lines available with accessories, on request - +44 (0) 845 600 6266

Insulation and surface treatment of the conductors :

Insulated conductors for the whole length, aluminum copper-plated and tin-plated

Busbar casing material :

1.5 mm galvanised steel plate, pre-painted or stainless steel (available, if required, with special paint and/or with thickness 2 mm)

1 : Class F thermal resistance (155°C) available on request - +44 (0) 845 600 6266

I_n : rated current referred to a room temperature of 40°C



PE 1
Standard version



PE 2
Extra earth - copper

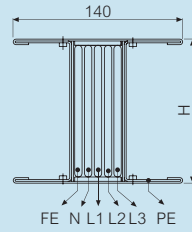


PE 3
Extra earth - aluminium

SCP super compact busbar – 5 conductor (aluminium)

technical data

■ SCP technical data functional earth clean earth / low noise SCP5C (3L + N + PE + FE) aluminium



Aluminium		Single bar						Double bar		
		I_n [A]	630	800	1000	1250	1600	2000	2500	3200
Rated current	I_n [A]	630	800	1000	1250	1600	2000	2500	3200	4000
Casing overall dimensions	L x H [mm]	140x130	140x130	140x130	140x130	140x170	140x220	140x380	140x440	140x480
Operating voltage	U_e [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000
Insulation voltage	U_i [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Rated short-time current for three-phase fault (1 s)	I_{cw} [kA]rms	36	42	50	75	80	80	150	160	160
Allowable peak current for three-phase fault	I_{pk} [kA]	76	88	110	165	176	176	330	352	352
Rated short-time current for single-phase fault (1 s)	I_{cw} [kA]rms	22	25	30	45	48	48	90	96	96
Allowable peak current for single-phase fault	I_{pk} [kA]	48	55	66	99	106	106	198	211	211
Allowable specific energy for three-phase fault	I^2t [MA ² s]	1296	1764	2500	5625	6400	6400	22500	25600	25600
Phase resistance	R_{20} [mΩ/m]	0.077	0.058	0.058	0.047	0.035	0.027	0.022	0.017	0.014
Phase reactance (50 Hz)	X [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.006	0.006	0.006
Phase impedance	Z [mΩ/m]	0.080	0.060	0.060	0.049	0.037	0.029	0.022	0.018	0.015
Phase resistance at thermal conditions	R_t [mΩ/m]	0.084	0.064	0.069	0.056	0.041	0.032	0.025	0.020	0.017
Phase impedance at thermal conditions	Z [mΩ/m]	0.087	0.066	0.071	0.058	0.043	0.034	0.026	0.021	0.018
Neutral resistance	R_{20} [mΩ/m]	0.077	0.058	0.058	0.047	0.035	0.027	0.022	0.017	0.014
Functional earthing resistance (FE)	R_{20} [mΩ/m]	0.077	0.058	0.058	0.047	0.035	0.027	0.022	0.017	0.014
Functional earthing reactance (FE)	X [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.006	0.006	0.006
Resistance of the protective conductor (PE type 1)	R_{PE} [mΩ/m]	0.121	0.121	0.121	0.121	0.110	0.098	0.074	0.068	0.064
Resistance of the protective conductor (PE type 2)	R_{PE} [mΩ/m]	0.035	0.035	0.035	0.035	0.028	0.023	0.014	0.012	0.011
Resistance of the protective conductor (PE type 3)	R_{PE} [mΩ/m]	0.050	0.050	0.050	0.050	0.040	0.033	0.020	0.018	0.017
Reactance of the protective conductor (50 Hz)	X_{PE} [mΩ/m]	0.080	0.078	0.078	0.048	0.039	0.028	0.020	0.015	0.016
Resistance of the fault loop (PE 1)	R_o [mΩ/m]	0.131	0.103	0.108	0.090	0.067	0.053	0.042	0.034	0.028
Resistance of the fault loop (PE 2)	R_o [mΩ/m]	0.108	0.086	0.091	0.076	0.057	0.044	0.033	0.027	0.023
Resistance of the fault loop (PE 3)	R_o [mΩ/m]	0.114	0.091	0.096	0.080	0.060	0.047	0.035	0.029	0.025
Reactance of the fault loop (50 Hz)	X_o [mΩ/m]	0.10	0.10	0.10	0.06	0.05	0.04	0.03	0.02	0.02
Impedance of the fault loop (PE 1)	Z_o [mΩ/m]	0.167	0.140	0.144	0.110	0.086	0.066	0.049	0.040	0.036
Impedance of the fault loop (PE 2)	Z_o [mΩ/m]	0.149	0.128	0.132	0.099	0.078	0.059	0.042	0.034	0.032
Impedance of the fault loop (PE 3)	Z_o [mΩ/m]	0.154	0.132	0.135	0.102	0.080	0.061	0.044	0.036	0.033
Zero-sequence resistance phase - N	R_o [mΩ/m]	0.306	0.257	0.257	0.238	0.172	0.140	0.107	0.080	0.070
Zero-sequence reactance phase - N	X_o [mΩ/m]	0.174	0.160	0.160	0.128	0.106	0.108	0.083	0.073	0.060
Zero-sequence Impedance phase - N	Z_o [mΩ/m]	0.352	0.303	0.303	0.270	0.202	0.177	0.135	0.108	0.092
Zero-sequence resistance phase - PE	R_o [mΩ/m]	0.468	0.387	0.387	0.246	0.213	0.173	0.113	0.107	0.070
Zero-sequence reactance phase - PE	X_o [mΩ/m]	0.263	0.229	0.229	0.191	0.175	0.212	0.155	0.148	0.146
Zero-sequence Impedance phase - PE	Z_o [mΩ/m]	0.537	0.450	0.450	0.311	0.276	0.274	0.192	0.183	0.162
Voltage drop factor with distributed load $\Delta V = k.L.I.e.10^{-6}$ [V] k [V/m/A]10 ⁻⁶	$\cos\phi = 0.70$	65.1	49.5	52.5	43.3	33.6	26.3	18.8	15.9	14.2
	$\cos\phi = 0.75$	67.7	51.5	54.7	45.1	34.7	27.2	19.6	16.5	14.6
	$\cos\phi = 0.80$	70.1	53.3	56.8	46.7	35.7	28.0	20.4	17.1	15.1
	$\cos\phi = 0.85$	72.3	55.1	58.7	48.2	36.6	28.7	21.1	17.6	15.4
	$\cos\phi = 0.90$	74.1	56.5	60.4	49.4	37.3	29.2	21.7	18.0	15.7
	$\cos\phi = 0.95$	75.3	57.5	61.6	50.3	37.6	29.4	22.1	18.2	15.8
$\cos\phi = 1.00$	72.7	55.6	60.0	48.6	35.6	27.8	21.6	17.4	14.9	
Weight (PE 1)	p [kg/m]	21.0	22.0	22.0	23.8	29.1	35.6	48.2	57.6	65.9
Weight (PE 2)	p [kg/m]	24.2	25.1	25.1	27.0	33.2	41.0	56.3	67.2	76.6
Weight (PE 3)	p [kg/m]	22.0	23.0	23.0	24.8	30.4	37.3	50.8	60.7	69.4
Fire load	[kWh/m]	5.6	6.9	6.9	7.5	10.6	13.1	20.0	23.8	26.3
Degree of protection	IP	55	55	55	55	55	55	55	55	55
Thermal resistance class of the insulating materials	-	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹
Joule effect losses at rated current	P [W/m]	100	123	208	263	315	386	468	618	827
Min./max. ambient temperature	[°C]	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50

Regulations and conformity :

IEC/EN 60439-1 and 2; DIN VDE 0660 500 and 502

Product suitable for Constant/Cyclic Warm, humid climates :

DIN IEC 68 part 2-3; DIN IEC 68 part 2-30

Degree of protection :

IP 55; IP x7 carrying lines available with accessories, on request - +44 (0) 845 600 6266

Insulation and surface treatment of the conductors :

Insulated conductors for the whole length, aluminum copper-plated and tin-plated

Busbar casing material :

1.5 mm galvanised steel plate, pre-painted or stainless steel (available, if required, with special paint and/or with thickness 2 mm)

1 : Class F thermal resistance (155°C) available on request -

+44 (0) 845 600 6266

I_n : rated current referred to a room temperature of 40°C



PE 1
Standard version



PE 2
Extra earth - copper

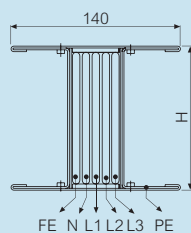


PE 3
Extra earth - aluminium

SCP super compact busbar – 5 conductor (copper)

technical data

■ SCP technical data functional earth clean earth / low noise SCP5C (3L + N + PE + FE) copper



Copper	Single bar							Double bar		
	I_n [A]	800	1000	1250	1600	2000	2500	3200	4000	5000
Rated current	I_n [A]	800	1000	1250	1600	2000	2500	3200	4000	5000
Casing overall dimensions	L x H [mm]	140x130	140x130	140x130	140x170	140x170	140x220	140x380	140x440	140x480
Operating voltage	U_e [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000
Insulation voltage	U_i [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Rated short-time current for three-phase fault (1 s)	I_{cw} [kA]rms	45	50	60	85	88	88	170	176	176
Allowable peak current for three-phase fault	I_{pk} [kA]	95	110	132	187	194	194	374	387	387
Rated short-time current for single-phase fault (1 s)	I_{cw} [kA]rms	27	30	36	51	53	53	102	106	106
Allowable peak current for single-phase fault	I_{pk} [kA]	57	66	79	112	116	116	224	232	232
Allowable specific energy for three-phase fault	I^2t [MA ² s]	2025	2500	3600	7225	7744	7744	28900	30976	30976
Phase resistance	R_{20} [mΩ/m]	0.041	0.032	0.032	0.024	0.020	0.016	0.012	0.010	0.008
Phase reactance (50 Hz)	X [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.007	0.006	0.006
Phase impedance	Z [mΩ/m]	0.047	0.037	0.037	0.028	0.024	0.019	0.014	0.012	0.010
Phase resistance at thermal conditions	R_t [mΩ/m]	0.045	0.037	0.040	0.029	0.024	0.019	0.015	0.013	0.010
Phase impedance at thermal conditions	Z [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.007	0.006	0.006
Neutral resistance	R_{20} [mΩ/m]	0.041	0.032	0.032	0.024	0.020	0.016	0.012	0.010	0.008
Functional earthing resistance (FE)	R_{20} [mΩ/m]	0.041	0.032	0.032	0.024	0.020	0.016	0.012	0.010	0.008
Functional earthing reactance (FE)	X [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.007	0.006	0.006
Resistance of the protective conductor (PE type 1)	R_{PE} [mΩ/m]	0.125	0.125	0.125	0.113	0.113	0.101	0.075	0.069	0.065
Resistance of the protective conductor (PE type 2)	R_{PE} [mΩ/m]	0.036	0.036	0.036	0.028	0.028	0.023	0.014	0.012	0.011
Resistance of the protective conductor (PE type 3)	R_{PE} [mΩ/m]	0.050	0.050	0.050	0.041	0.041	0.033	0.021	0.018	0.017
Reactance of the protective conductor (50 Hz)	X_{PE} [mΩ/m]	0.054	0.054	0.054	0.044	0.044	0.032	0.022	0.017	0.016
Resistance of the fault loop (PE 1)	R_o [mΩ/m]	0.076	0.063	0.065	0.049	0.042	0.033	0.025	0.022	0.017
Resistance of the fault loop (PE 2)	R_o [mΩ/m]	0.064	0.054	0.057	0.042	0.036	0.029	0.021	0.018	0.015
Resistance of the fault loop (PE 3)	R_o [mΩ/m]	0.067	0.057	0.059	0.045	0.038	0.030	0.023	0.020	0.015
Reactance of the fault loop (50 Hz)	X_o [mΩ/m]	0.077	0.071	0.071	0.059	0.058	0.043	0.029	0.023	0.022
Impedance of the fault loop (PE 1)	Z_o [mΩ/m]	0.108	0.095	0.097	0.077	0.071	0.054	0.039	0.032	0.028
Impedance of the fault loop (PE 2)	Z_o [mΩ/m]	0.100	0.089	0.091	0.073	0.068	0.052	0.036	0.030	0.026
Impedance of the fault loop (PE 3)	Z_o [mΩ/m]	0.102	0.091	0.093	0.074	0.069	0.052	0.037	0.030	0.027
Zero-sequence resistance phase - N	R_o [mΩ/m]	0.170	0.155	0.155	0.115	0.120	0.098	0.083	0.071	0.062
Zero-sequence reactance phase - N	X_o [mΩ/m]	0.159	0.151	0.151	0.114	0.098	0.065	0.056	0.055	0.042
Zero-sequence Impedance phase - N	Z_o [mΩ/m]	0.233	0.216	0.216	0.162	0.155	0.118	0.100	0.090	0.075
Zero-sequence resistance phase - PE	R_o [mΩ/m]	0.408	0.320	0.320	0.220	0.188	0.142	0.092	0.077	0.061
Zero-sequence reactance phase - PE	X_o [mΩ/m]	0.196	0.158	0.158	0.126	0.135	0.136	0.104	0.088	0.075
Zero-sequence Impedance phase - PE	Z_o [mΩ/m]	0.453	0.357	0.357	0.254	0.231	0.197	0.139	0.117	0.097
Voltage drop factor with distributed load $\Delta V = k.L.I.e.10^{-6}$ [V]	$\cos\phi = 0.70$	41.3	33.0	34.6	27.1	23.5	18.5	13.2	11.5	9.8
	$\cos\phi = 0.75$	42.1	33.8	35.5	27.7	23.9	18.8	13.5	11.8	9.9
	$\cos\phi = 0.80$	42.8	34.5	36.3	28.1	24.2	19.1	13.8	12.1	10.0
	$\cos\phi = 0.85$	43.3	35.0	37.0	28.4	24.4	19.2	14.0	12.2	10.1
	$\cos\phi = 0.90$	43.4	35.3	37.3	28.5	24.4	19.2	14.1	12.3	10.1
	$\cos\phi = 0.95$	42.9	35.1	37.2	28.2	23.9	18.8	14.0	12.2	9.8
	$\cos\phi = 1.00$	38.6	32.1	34.4	25.4	21.2	16.7	12.7	11.2	8.7
Weight (PE 1)	p [kg/m]	34.7	39.2	39.2	50.1	57.4	72.7	94.8	112.0	140.1
Weight (PE 2)	p [kg/m]	37.8	42.3	42.3	54.3	61.6	78.1	103.0	121.7	150.7
Weight (PE 3)	p [kg/m]	35.7	40.2	40.2	51.5	58.8	74.5	97.5	115.2	143.5
Fire load	[kWh/m]	5.6	6.9	6.9	10.0	10.3	13.1	20.0	23.8	26.3
Degree of protection	IP	55	55	55	55	55	55	55	55	55
Thermal resistance class of the insulating materials	-	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹
Joule effect losses at rated current	P [W/m]	86	111	186	225	294	361	451	619	750
Min./max. ambient temperature	[°C]	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50

Regulations and conformity :

IEC/EN 60439-1 and 2; DIN VDE 0660 500 and 502

Product suitable for Constant/Cyclic Warm, humid climates :

DIN IEC 68 part 2-3; DIN IEC 68 part 2-30

Degree of protection :

IP 55; IP x7 carrying lines available with accessories, on request - +44 (0) 845 600 6266

Insulation and surface treatment of the conductors :

Insulated conductors for the whole length, aluminum copper-plated and tin-plated

Busbar casing material :

1.5 mm galvanised steel plate, pre-painted or stainless steel (available, if required, with special paint and/or with thickness 2 mm)

1 : Class F thermal resistance (155°C) available on request -

+44 (0) 845 600 6266

I_n : rated current referred to a room temperature of 40°C



PE 1
Standard version



PE 2
Extra earth - copper

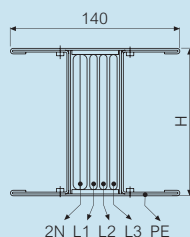


PE 3
Extra earth - aluminium

SCP super compact busbar – double neutral (aluminium)

technical data

Double neutral SCP2N (3L + 2N + PE) aluminium



Aluminium	Single bar							Double bar		
	I_n [A]	630	800	1000	1250	1600	2000	2500	3200	4000
Rated current	I_n [A]	630	800	1000	1250	1600	2000	2500	3200	4000
Casing overall dimensions	L x H [mm]	140x130	140x130	140x130	140x130	140x170	140x220	140x380	140x440	140x480
Operating voltage	U_e [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000
Insulation voltage	U_i [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000
Frequency	f [Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Rated short-time current for three-phase fault (1 s)	I_{cw} [kA]rms	36	42	50	75	80	80	150	160	160
Allowable peak current for three-phase fault	I_{pk} [kA]	76	88	110	165	176	176	330	352	352
Rated short-time current for single-phase fault (1 s)	I_{cw} [kA]rms	22	25	30	45	48	48	90	96	96
Allowable peak current for single-phase fault	I_{pk} [kA]	48	55	66	99	106	106	198	211	211
Rated short-time protection current (1 s)	I_{cw} [kA]rms	22	25	30	45	48	48	90	96	96
Protection circuit peak rated current	I_{pk} [kA]	48	55	66	99	106	106	198	211	211
Allowable specific energy for three-phase fault	I^2t [MA ² s]	1296	1764	2500	5625	6400	6400	22500	25600	25600
Phase resistance	R_{20} [mΩ/m]	0.077	0.058	0.058	0.047	0.035	0.027	0.022	0.017	0.014
Phase reactance (50 Hz)	X [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.006	0.006	0.006
Phase impedance	Z [mΩ/m]	0.080	0.060	0.060	0.049	0.037	0.029	0.022	0.018	0.015
Phase resistance at thermal conditions	R_t [mΩ/m]	0.084	0.064	0.069	0.056	0.041	0.032	0.025	0.020	0.017
Phase impedance at thermal conditions	Z [mΩ/m]	0.087	0.066	0.071	0.058	0.043	0.034	0.026	0.021	0.018
Neutral resistance	R_{20} [mΩ/m]	0.038	0.029	0.029	0.023	0.017	0.013	0.011	0.008	0.007
Resistance of the protective conductor (PE type 1)	R_{PE} [mΩ/m]	0.121	0.121	0.121	0.121	0.110	0.098	0.074	0.068	0.064
Resistance of the protective conductor (PE type 2)	R_{PE} [mΩ/m]	0.035	0.035	0.035	0.035	0.028	0.023	0.014	0.012	0.011
Resistance of the protective conductor (PE type 3)	R_{PE} [mΩ/m]	0.050	0.050	0.050	0.050	0.040	0.033	0.020	0.018	0.017
Reactance of the protective conductor (50 Hz)	X_{PE} [mΩ/m]	0.080	0.078	0.078	0.048	0.039	0.028	0.020	0.015	0.016
Resistance of the fault loop (PE 1)	R_o [mΩ/m]	0.205	0.185	0.190	0.177	0.151	0.130	0.099	0.088	0.081
Resistance of the fault loop (PE 2)	R_o [mΩ/m]	0.119	0.099	0.104	0.091	0.069	0.055	0.039	0.032	0.028
Resistance of the fault loop (PE 3)	R_o [mΩ/m]	0.134	0.114	0.119	0.106	0.081	0.065	0.045	0.038	0.034
Reactance of the fault loop (50 Hz)	X_o [mΩ/m]	0.10	0.10	0.10	0.06	0.05	0.04	0.03	0.02	0.02
Impedance of the fault loop (PE 1)	Z_o [mΩ/m]	0.229	0.208	0.213	0.188	0.160	0.136	0.102	0.091	0.084
Impedance of the fault loop (PE 2)	Z_o [mΩ/m]	0.157	0.137	0.141	0.111	0.087	0.068	0.047	0.038	0.036
Impedance of the fault loop (PE 3)	Z_o [mΩ/m]	0.169	0.149	0.152	0.123	0.097	0.076	0.052	0.044	0.041
Zero-sequence resistance phase - N	R_o [mΩ/m]	0.147	0.135	0.135	0.132	0.129	0.126	0.084	0.063	0.048
Zero-sequence reactance phase - N	X_o [mΩ/m]	0.198	0.180	0.180	0.166	0.160	0.190	0.135	0.165	0.103
Zero-sequence Impedance phase - N	Z_o [mΩ/m]	0.247	0.225	0.225	0.212	0.206	0.228	0.159	0.177	0.114
Zero-sequence resistance phase - PE	R_o [mΩ/m]	0.581	0.519	0.519	0.369	0.321	0.270	0.217	0.196	0.164
Zero-sequence reactance phase - PE	X_o [mΩ/m]	0.263	0.229	0.229	0.191	0.175	0.212	0.155	0.148	0.146
Zero-sequence Impedance phase - PE	Z_o [mΩ/m]	0.638	0.567	0.567	0.416	0.366	0.343	0.267	0.246	0.220
Voltage drop factor with distributed load $\Delta V = k.L.I.e.10^{-6}$ [V]	k [V/m/A]10 ⁻⁶									
	$\cos\phi = 0.70$	65.1	49.5	52.5	43.3	33.6	26.3	18.8	15.9	14.2
	$\cos\phi = 0.75$	67.7	51.5	54.7	45.1	34.7	27.2	19.6	16.5	14.6
	$\cos\phi = 0.80$	70.1	53.3	56.8	46.7	35.7	28.0	20.4	17.1	15.1
	$\cos\phi = 0.85$	72.3	55.1	58.7	48.2	36.6	28.7	21.1	17.6	15.4
	$\cos\phi = 0.90$	74.1	56.5	60.4	49.4	37.3	29.2	21.7	18.0	15.7
$\cos\phi = 0.95$	75.3	57.5	61.6	50.3	37.6	29.4	22.1	18.2	15.8	
$\cos\phi = 1.00$	72.7	55.6	60.0	48.6	35.6	27.8	21.6	17.4	14.9	
Weight (PE 1)	p [kg/m]	21.0	22.0	22.0	23.8	29.1	35.6	48.2	57.6	65.9
Weight (PE 2)	p [kg/m]	24.2	25.1	25.1	27.0	33.2	41.0	56.3	67.2	76.6
Weight (PE 3)	p [kg/m]	22.0	23.0	23.0	24.8	30.4	37.3	50.8	60.7	69.4
Fire load	[kWh/m]	5.6	6.9	6.9	7.5	10.6	13.1	20.0	23.8	26.3
Degree of protection	IP	55	55	55	55	55	55	55	55	55
Thermal resistance class of the insulating materials	-	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹
Joule effect losses at rated current	P [W/m]	100	123	208	263	315	386	468	618	827
Min./max. ambient temperature	[°C]	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50

Regulations and conformity :

IEC/EN 60439-1 and 2; DIN VDE 0660 500 and 502

Product suitable for Constant/Cyclic Warm, humid climates :

DIN IEC 68 part 2-3; DIN IEC 68 part 2-30

Degree of protection :

IP 55; IP x7 carrying lines available with accessories, on request - +44 (0) 845 600 6266

Insulation and surface treatment of the conductors :

Insulated conductors for the whole length, aluminum copper-plated and tin-plated

Busbar casing material :

1.5 mm galvanised steel plate, pre-painted or stainless steel (available, if required, with special paint and/or with thickness 2 mm)

1 : Class F thermal resistance (155°C) available on request -

+44 (0) 845 600 6266

I_n : rated current referred to a room temperature of 40°C



PE 1
Standard version



PE 2
Extra earth - copper

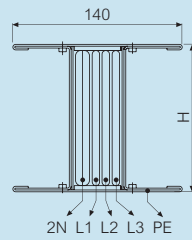


PE 3
Extra earth - aluminium

SCP super compact busbar – double neutral (copper)

technical data

Double neutral SCP2N (3L + 2N + PE) copper



Copper	Single bar							Double bar			
	I_n [A]	800	1000	1250	1600	2000	2500	3200	4000	5000	
Rated current	I_n [A]	800	1000	1250	1600	2000	2500	3200	4000	5000	
Casing overall dimensions	L x H [mm]	140x130	140x130	140x130	140x170	140x170	140x220	140x380	140x440	140x480	
Operating voltage	U_e [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Insulation voltage	U_i [V]	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Frequency	f [Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	
Rated short-time current for three-phase fault (1 s)	I_{cw} [kA]rms	45	50	60	85	88	88	170	176	176	
Allowable peak current for three-phase fault	I_{pk} [kA]	95	110	132	187	194	194	374	387	387	
Rated short-time current for single-phase fault (1 s)	I_{cw} [kA]rms	27	30	36	51	53	53	102	106	106	
Allowable peak current for single-phase fault	I_{pk} [kA]	57	66	79	112	116	116	224	232	232	
Rated short-time protection current (1 s)	I_{cw} [kA]rms	27	30	36	51	53	53	102	106	106	
Protection circuit peak rated current	I_{pk} [kA]	57	66	79	112	116	116	224	232	232	
Allowable specific energy for three-phase fault	I^2t [MA ² s]	2025	2500	3600	7225	7744	7744	28900	30976	30976	
Phase resistance	R_{20} [mΩ/m]	0.041	0.032	0.032	0.024	0.020	0.016	0.012	0.010	0.008	
Phase reactance (50 Hz)	X [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.007	0.006	0.006	
Phase impedance	Z [mΩ/m]	0.0471	0.0365	0.0365	0.0284	0.0244	0.019	0.0143	0.012	0.0101	
Phase resistance at thermal conditions	R_t [mΩ/m]	0.0446	0.037	0.0397	0.0293	0.0245	0.0192	0.0147	0.0129	0.01	
Phase impedance at thermal conditions	Z [mΩ/m]	0.023	0.017	0.017	0.015	0.014	0.011	0.007	0.006	0.006	
Neutral resistance	R_{20} [mΩ/m]	0.0205	0.0162	0.0162	0.012	0.01	0.0078	0.0062	0.0052	0.0041	
Resistance of the protective conductor (PE type 1)	R_{PE} [mΩ/m]	0.125	0.125	0.125	0.113	0.113	0.101	0.075	0.069	0.065	
Resistance of the protective conductor (PE type 2)	R_{PE} [mΩ/m]	0.036	0.036	0.036	0.028	0.028	0.023	0.014	0.012	0.011	
Resistance of the protective conductor (PE type 3)	R_{PE} [mΩ/m]	0.05	0.05	0.05	0.041	0.041	0.033	0.021	0.018	0.017	
Reactance of the protective conductor (50 Hz)	X_{PE} [mΩ/m]	0.054	0.054	0.054	0.044	0.044	0.032	0.022	0.017	0.016	
Resistance of the fault loop (PE 1)	R_o [mΩ/m]	0.170	0.162	0.1647	0.1423	0.1375	0.1202	0.0897	0.0819	0.075	
Resistance of the fault loop (PE 2)	R_o [mΩ/m]	0.081	0.073	0.0757	0.0573	0.0525	0.0422	0.0287	0.0249	0.021	
Resistance of the fault loop (PE 3)	R_o [mΩ/m]	0.0946	0.087	0.0897	0.0703	0.0655	0.0522	0.0357	0.0309	0.027	
Reactance of the fault loop (50 Hz)	X_o [mΩ/m]	0.077	0.071	0.071	0.059	0.058	0.043	0.029	0.023	0.022	
Impedance of the fault loop (PE 1)	Z_o [mΩ/m]	0.186	0.177	0.179	0.154	0.149	0.128	0.094	0.085	0.078	
Impedance of the fault loop (PE 2)	Z_o [mΩ/m]	0.111	0.102	0.104	0.082	0.078	0.060	0.041	0.034	0.030	
Impedance of the fault loop (PE 3)	Z_o [mΩ/m]	0.122	0.112	0.114	0.092	0.087	0.068	0.046	0.039	0.035	
Zero-sequence resistance phase - N	R_o [mΩ/m]	0.128	0.125	0.125	0.121	0.117	0.094	0.088	0.065	0.046	
Zero-sequence reactance phase - N	X_o [mΩ/m]	0.184	0.152	0.152	0.143	0.127	0.122	0.078	0.076	0.073	
Zero-sequence impedance phase - N	Z_o [mΩ/m]	0.2241	0.1968	0.1968	0.1873	0.1727	0.154	0.1176	0.100	0.0863	
Zero-sequence resistance phase - PE	R_o [mΩ/m]	0.507	0.429	0.429	0.331	0.283	0.221	0.177	0.178	0.144	
Zero-sequence reactance phase - PE	X_o [mΩ/m]	0.201	0.177	0.177	0.143	0.15	0.124	0.111	0.094	0.086	
Zero-sequence impedance phase - PE	Z_o [mΩ/m]	0.545	0.4641	0.4641	0.3606	0.3203	0.2534	0.2089	0.2013	0.1677	
Voltage drop factor with distributed load $\Delta V = k.L.I.e.10^{-6}$ [V]	k [V/(m/A)10 ⁻⁶]	$\cos\phi = 0.70$	41.3	33.0	34.6	27.1	23.5	18.5	13.2	11.5	9.8
	$\cos\phi = 0.75$	42.1	33.8	35.5	27.7	23.9	18.8	13.5	11.8	9.9	
	$\cos\phi = 0.80$	42.8	34.5	36.3	28.1	24.2	19.1	13.8	12.1	10.0	
	$\cos\phi = 0.85$	43.3	35.0	37.0	28.4	24.4	19.2	14.0	12.2	10.1	
	$\cos\phi = 0.90$	43.4	35.3	37.3	28.5	24.4	19.2	14.1	12.3	10.1	
	$\cos\phi = 0.95$	42.9	35.1	37.2	28.2	23.9	18.8	14.0	12.2	9.8	
	$\cos\phi = 1.00$	38.6	32.1	34.4	25.4	21.2	16.7	12.7	11.2	8.7	
Weight (PE 1)	p [kg/m]	34.7	39.2	39.2	50.1	57.4	72.7	94.8	112.0	140.1	
Weight (PE 2)	p [kg/m]	37.8	42.3	42.3	54.3	61.6	78.1	103.0	121.7	150.7	
Weight (PE 3)	p [kg/m]	35.7	40.2	40.2	51.5	58.8	74.5	97.5	115.2	143.5	
Fire load	[kWh/m]	5.6	6.9	6.9	10.0	10.3	13.1	20.0	23.8	26.3	
Degree of protection	IP	55	55	55	55	55	55	55	55	55	
Thermal resistance class of the insulating materials	-	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	B/F ¹	
Joule effect losses at rated current	P [W/m]	86	111	186	225	294	361	451	619	750	
Min./max. ambient temperature	[°C]	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	-5/50	

Regulations and conformity :

IEC/EN 60439-1 and 2; DIN VDE 0660 500 and 502

Product suitable for Constant/Cyclic Warm, humid climates :

DIN IEC 68 part 2-3; DIN IEC 68 part 2-30

Degree of protection :

IP 55; IP x7 carrying lines available with accessories, on request - +44 (0) 845 600 6266

Insulation and surface treatment of the conductors :

Insulated conductors for the whole length, aluminum copper-plated and tin-plated

Busbar casing material :

1.5 mm galvanised steel plate, pre-painted or stainless steel (available, if required, with special paint and/or with thickness 2 mm)

1 : Class F thermal resistance (155°C) available on request -

+44 (0) 845 600 6266

I_n : rated current referred to a room temperature of 40°C



PE 1
Standard version



PE 2
Extra earth - copper



PE 3
Extra earth - aluminium

DPX[®] MCCBs

selection chart

TYPE OF CASE AND SIZE

DPX 125



DPX 160



TYPE OF MCCB

DPX-E
(16 kA)

DPX
(25 kA)

Number of poles

3-4

3-4

Nominal rating I_n (A)

125

160

ELECTRICAL CHARACTERISTICS CONFORMING TO EN 60947-2

Rated operating voltage U_e (50-60 Hz) ~

500

500

Rated operating voltage U_e = (V)

250

250

Rated insulation voltage U_i ~ (V)

500

500

Rated impulse withstand voltage U_{imp} (kV)

6

6

Category of use

A

A

Ultimate breaking capacity (kA) 230 V~

22

40

400 V~

16

25

440 V~

10

20

480/500 V~

8

10

600 V~

–

–

690 V~

–

–

250 V=

16

25

Standard breaking capacity I_{cs} (% I_{cu})

100

100

Rated closing capacity on short-circuit (400 V~)

32

52-5

Rated short-time withstand current I_{cw} (kA)

–

–

Endurance (o.c. cycle) mechanical

25 000

20 000

electrical

8 000

8 000

Isolation capability

•

•

TYPE OF PROTECTION

Thermal-magnetic release

•

•

Earth leakage modules underneath

•

•

side by side

•

•

DIMENSIONS AND WEIGHTS

Dimensions (L x H x D) (mm) single pole

–

–

triple pole

75.6 x 120 x 74

90 x 150 x 74

four pole

101 x 120 x 74

120 x 150 x 74

Weight (kg) triple pole

1

1.2

four pole

1.2

1.6

Allen key size (mm) A/F (screw size)

4

6 (M8)



TYPE OF CASE AND SIZE

<p>DPX 250 ER</p> 	<p>DPX 400</p> 	<p>DPX 630</p> 
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TYPE OF MCCB

<p>DPX (36 kA)</p>	<p>DPX</p>	<p>DPX-H</p>
3-4	3-4	3-4
25-250	400	630

ELECTRICAL CHARACTERISTICS CONFORMING TO EN 60947-2

500	690	690
250	250	250
500	690	690
6	8	8
A	A	A
40	60	60
25	36	36
20	30	30
10	25	25
-	20	20
-	16	16
25	-	-
100	100	100
52-5	75-6	75-6
-	-	-
20000	15000	15000
8000	5000	5000

TYPE OF PROTECTION

•	•	•
•	•	
•		

DIMENSIONS AND WEIGHTS

-	-	-
90 x 176 x 74	140 x 260 x 105	140 x 260 x 105
120 x 176 x 74	183 x 260 x 105	183 x 260 x 105
1-2	4-5	5-8
1-6	6-4	7-4
6 (M8)	8 (M10)	8 (M10)

technical information

key to characteristic curves

■ Characteristic curves

The graphs on the following pages detail the characteristic curves of each circuit breaking device

Complying with isolation requirements, the units are provided with fully visible contact indication and a lock-off facility

■ Time/current characteristics : thermal-magnetic

Reference ambient temperature 40 °C (DPX)

- I = actual current
 - I_m = short-circuit operating time
 - I_r = operating current
 - 1 = thermal release from cold
 - 2 = thermal release from hot
- Tolerance of magnetic release ±20 %

■ I²t/I_{cc} characteristics

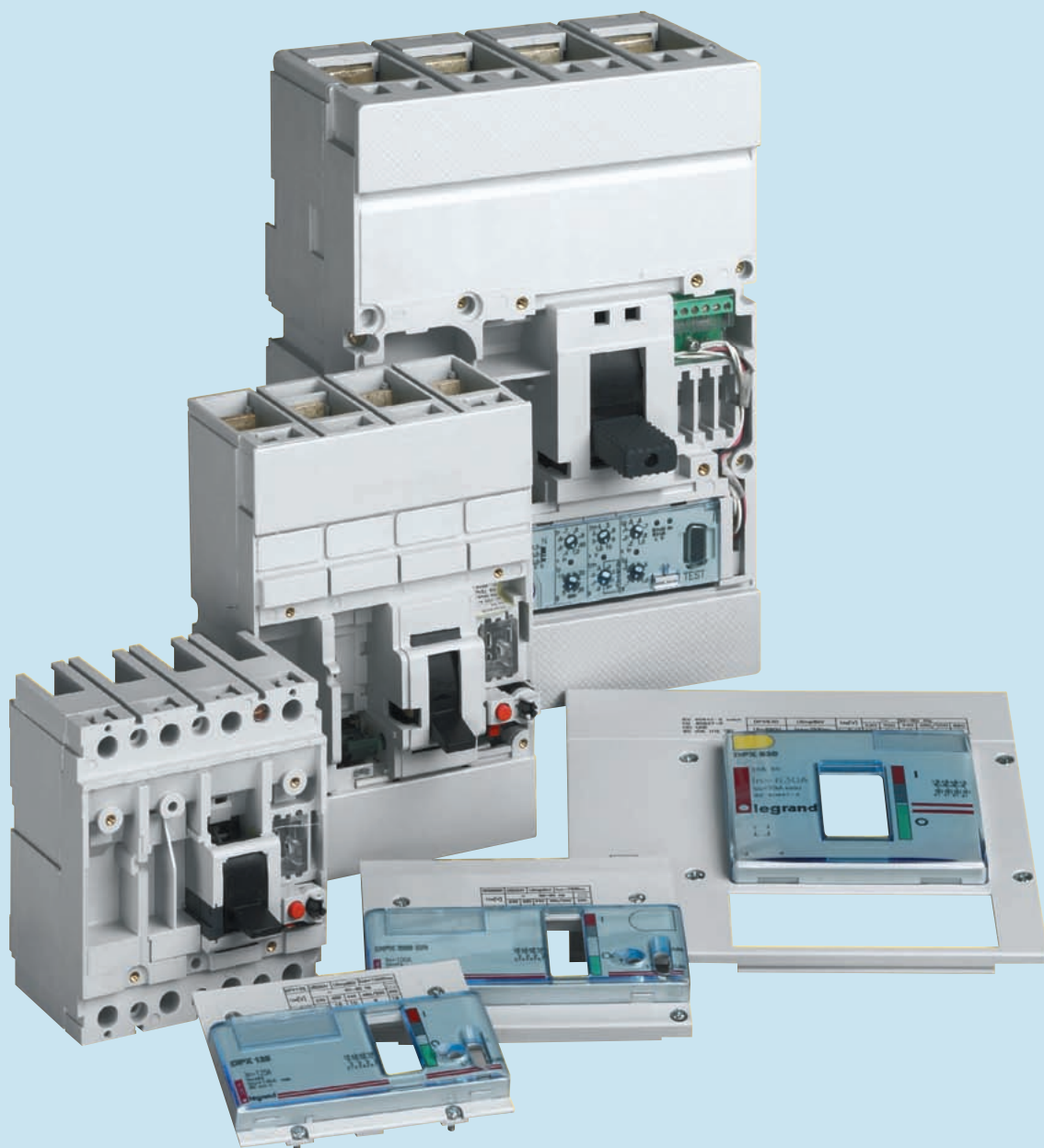
- I_{cc} = prospective symmetrical short-circuit current (mms value - A)
- I²t = specific let through energy (A²s)

■ Limiting characteristics

- I_{cc} = prospective symmetrical short-circuit current (mms value - A)
- I_p = maximum peak value of current
- = maximum peak values of short-circuit current corresponding to power factors indicated above
- = maximum peak values of actual short-circuit current

■ Time/current characteristics : earth fault protection

- I_n = residual operating current (sensitivity)
- t = operating time



DPX® 125

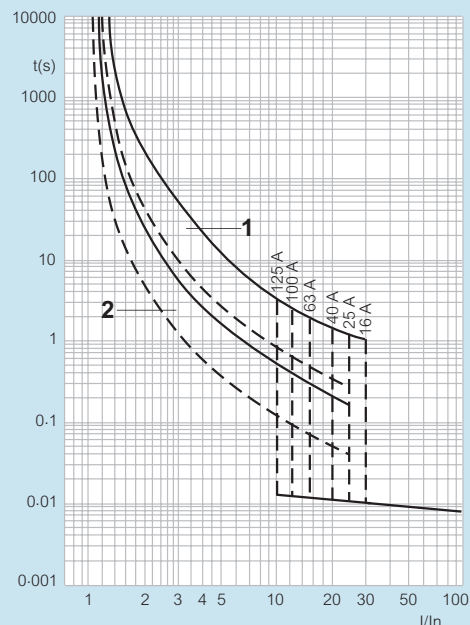
Electrical characteristics

Maximum nominal operating function	500 V~ - 250 V=
Nominal frequency	50/60 Hz
Category of use	A
Thermal adjustment	0.7 to 1 I _n
Maximum permitted cross sections for integral cage terminals	stranded cables : 70 mm ² flexible cables : 50 mm ² copper bar (width) : 12 mm

Nominal breaking capacity (kA) (BS EN 60947-2)

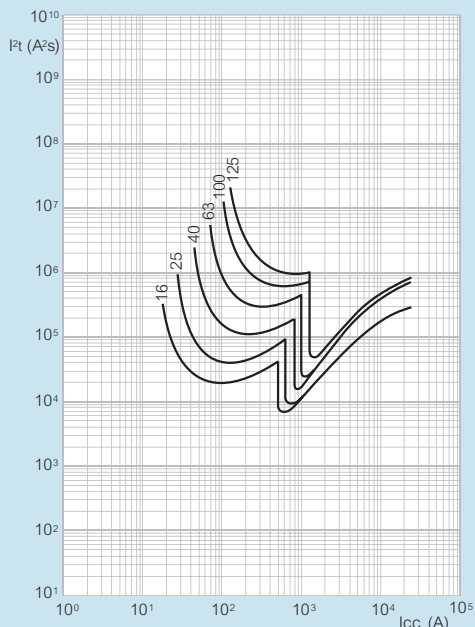
U _e	DPX 125 25 kA		DPX 125 36 kA	
	I _{cu} (kA)	I _{cs} (%I _{cu})	I _{cu} (kA)	I _{cs} (%I _{cu})
400 V~	25	50	36	75
230 V~	35	50	40	75

Tripping curves



at ambient $\theta = 40^\circ\text{C}$
 I = actual current
 I_r = max. adjustment current of thermal release
 ① = thermal release zone when cold
 ② = thermal release zone when hot (in steady state)

Thermal stress limitation curves



I_{cc} = prospective short-circuit symmetrical current (rms values in A)
 I^2t = limited thermal stress (in A²s)

Nominal current (I_n) at 40 °C (A) for DPX 125

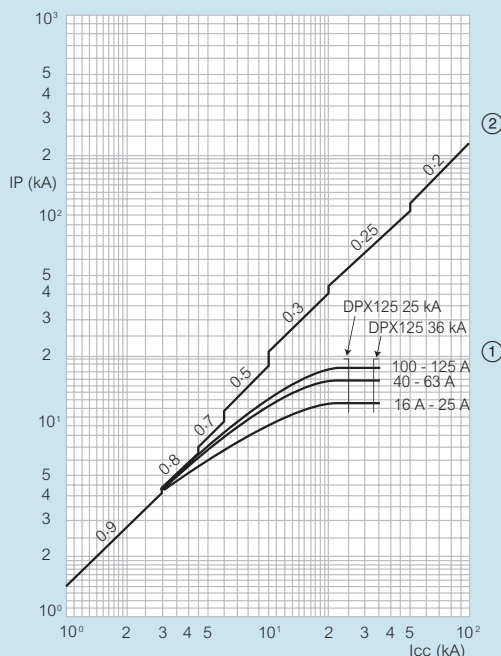
I _n (A)	16	25	40	63	100	125
Phase	16	25	40	63	100	125
N	16	25	40	63	100	125
N/2	-	-	-	-	63	63

Fixed magnetic threshold (I_m) (A)⁽¹⁾ for DPX 125

I _n (A)	16	25	40	63	100	125
Phase	480	625	800	950	1250	1250
N	480	625	800	950	950	950

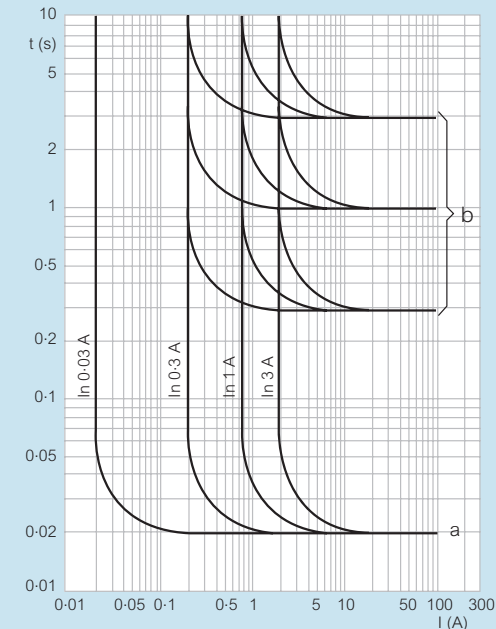
(1) Trip current for 50/60 Hz
 For direct current, multiply by 1.5

Current limitation curves



I_{cc} = prospective short-circuit symmetrical current (rms values in kA)
 I_P = maximum peak value (kA)
 ① = current, max. peak, short-circuit rms
 ② = current, unlimited peak (max.), corresponding to power factors shown above (0.15 to 0.9)

Differential tripping curves



$I_{\Delta}A$ = earth leakage current
 $I_{\Delta n}$ = nominal earth leakage current
 a = instantaneous tripping point
 b = 3 possible delay settings (0.3, 1 and 3 seconds)

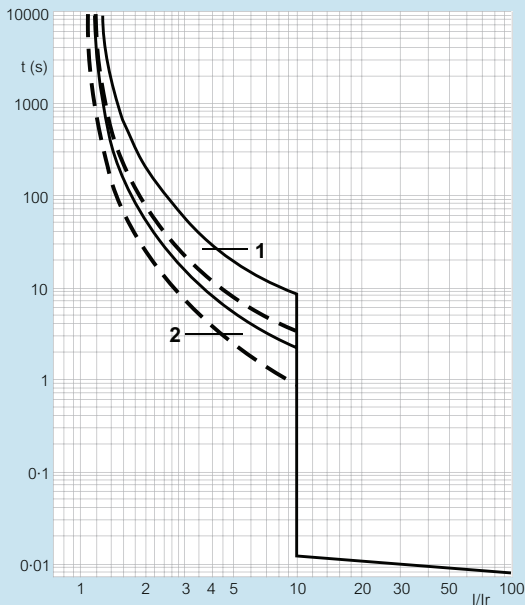
Electrical characteristics

Maximum nominal operating function	500 V~ - 250 V=
Nominal frequency	50/60 Hz
Category of use	A
Thermal adjustment	0.64 to 1 I _n
Maximum permitted cross sections for integral cage terminals	stranded cables : 95 mm ² flexible cables : 70 mm ² copper bar (width) : 18 mm

Nominal breaking capacity (kA) (BS EN 60947-2)

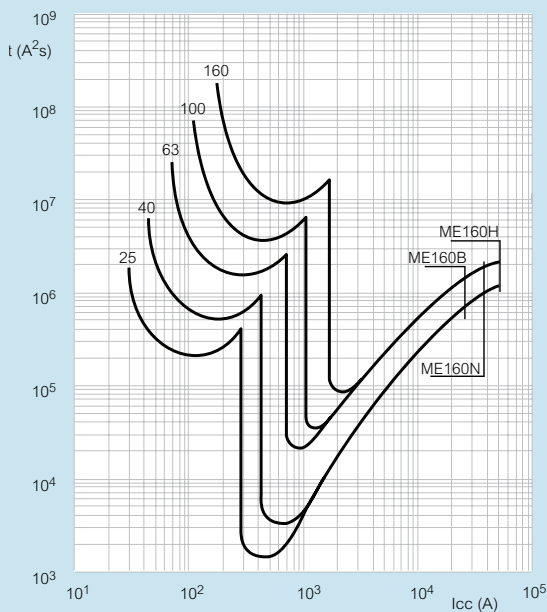
U _e	DPX 160 25 kA		DPX 160 50 kA	
	I _{cu} (kA)	I _{cs} (%I _{cu})	I _{cu} (kA)	I _{cs} (%I _{cu})
400 V~	25	100	50	50
230 V~	40	100	65	50

Tripping curves



at ambient $\theta = 40^\circ\text{C}$
 I = actual current
 I_r = max. adjustment current of thermal release
 ① = thermal release zone when cold
 ② = thermal release zone when hot (in steady state)

Thermal stress limitation curves



I_{cc} = prospective short-circuit symmetrical current (rms values in A)
 I^2t = limited thermal stress (in A²s)

Nominal current (I_n) at 40 °C (A) for DPX 160

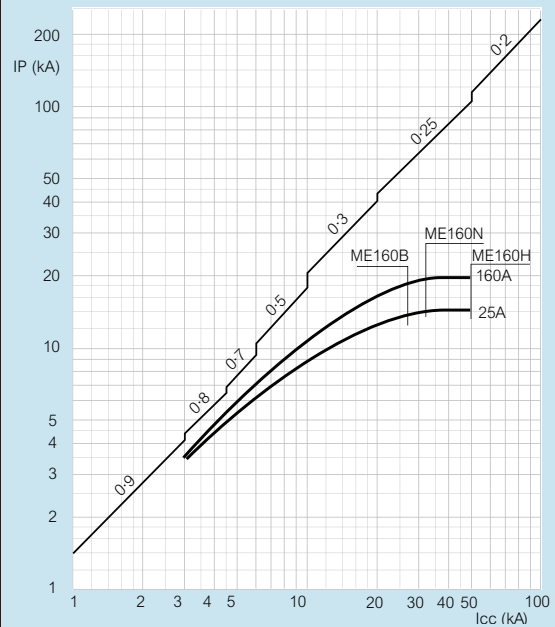
I _n (A)	25	40	63	100	160
Phase	25	40	63	100	160
N	25	40	63	100	160
N/2	-	-	-	63	100

Fixed magnetic threshold (I_m) (A)⁽¹⁾ for DPX 160

I _n (A)	25	40	63	100	160
Phase	250	400	630	1 000	1 600
N	-	-	-	630	1 000

(1) Trip current for 50/60 Hz
 For direct current, multiply by 1.5

Current limitation curves



I_{cc} = prospective short-circuit symmetrical current (rms values in kA)
 I_P = maximum peak value (kA)
 ① = current, max. peak, short-circuit rms
 ② = current, unlimited peak (max.), corresponding to power factors shown above (0.15 to 0.9)

DPX® 250 ER

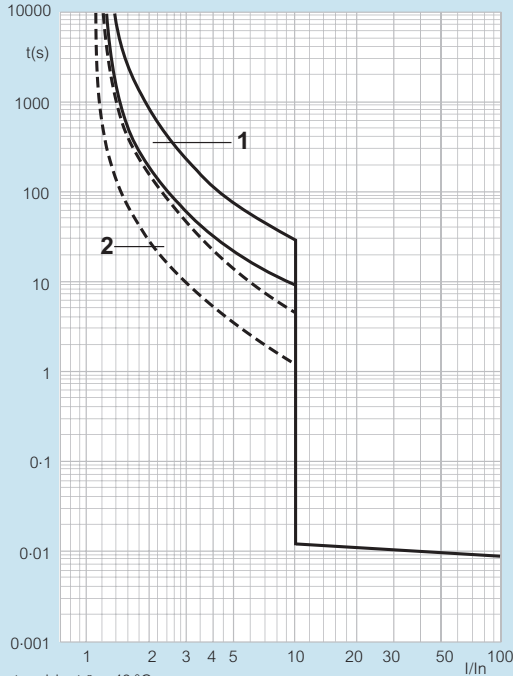
Electrical characteristics

Maximum nominal operating function	500 V~ - 250 V=
Nominal frequency	50/60 Hz
Category of use	A
Thermal adjustment	0.64 to 1 In
Maximum permitted cross sections via optional cage terminals	stranded cables : 185 mm ² flexible cables : 150 mm ² copper bar (width) : 22 mm (M8)

Nominal breaking capacity (kA) (BS EN 60947-2)

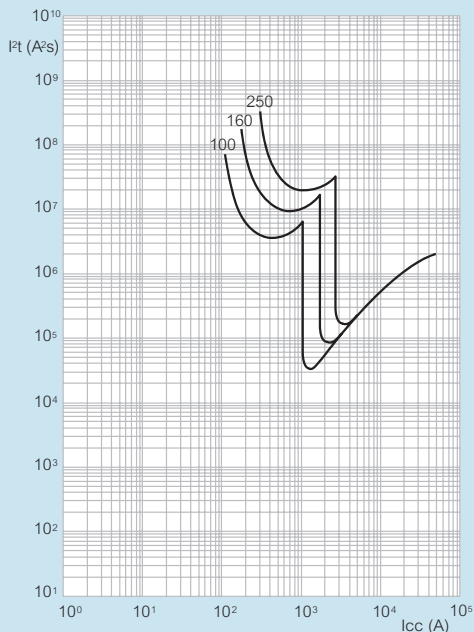
Ue	DPX 250 ER 25 kA	
	Icu (kA)	Ics (%Icu)
400 V~	25	100
230 V~	40	100

Tripping curves



at ambient $\theta = 40^\circ\text{C}$
 I = actual current
 I_r = max. adjustment current of thermal release
 ① = thermal release zone when cold
 ② = thermal release zone when hot (in steady state)

Thermal stress limitation curves



I_{cc} = prospective short-circuit symmetrical current (rms values in A)
 I^2t = limited thermal stress (in A²s)

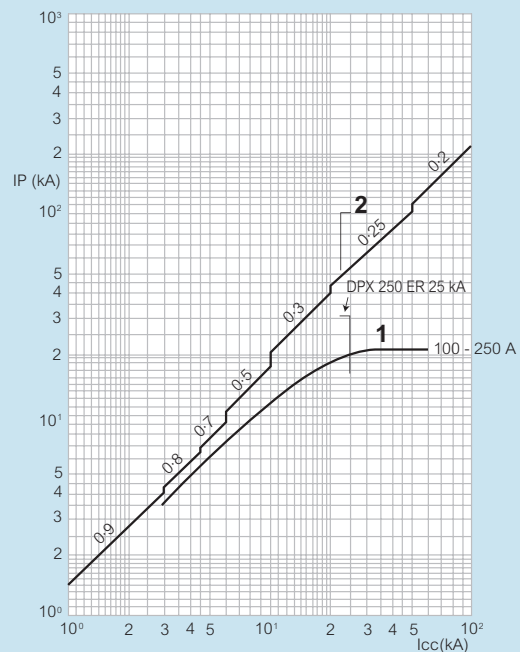
Nominal current (In) at 40 °C (A) for DPX 250 ER

In (A)	100	160	250
Phase	100	160	250
N	100	160	250
N/2	-	100	160

Fixed magnetic threshold (Im) (A) for DPX 250 ER

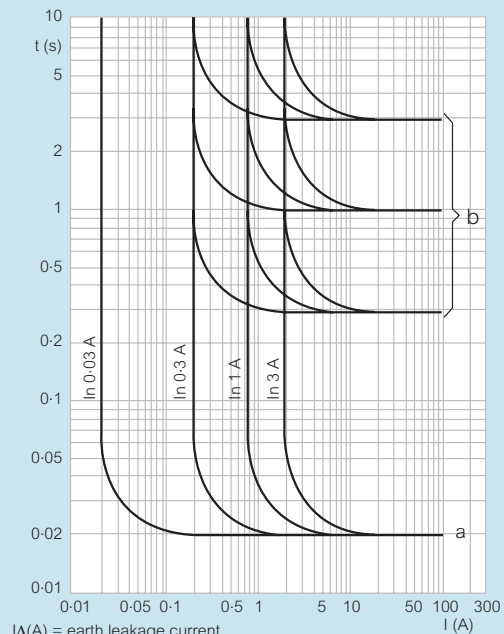
In (A)	100	160	250
Phase	1 000	1 600	2 500
N	1 000	1 600	2 500
N/2	-	1 000	1 600

Current limitation curves



I_{cc} = prospective short-circuit symmetrical current (rms values in kA)
 I_P = maximum peak value (kA)
 ① = current, max. peak, short-circuit rms
 ② = current, unlimited peak (max.), corresponding to power factors shown above (0.2 to 0.9)

Differential tripping curves

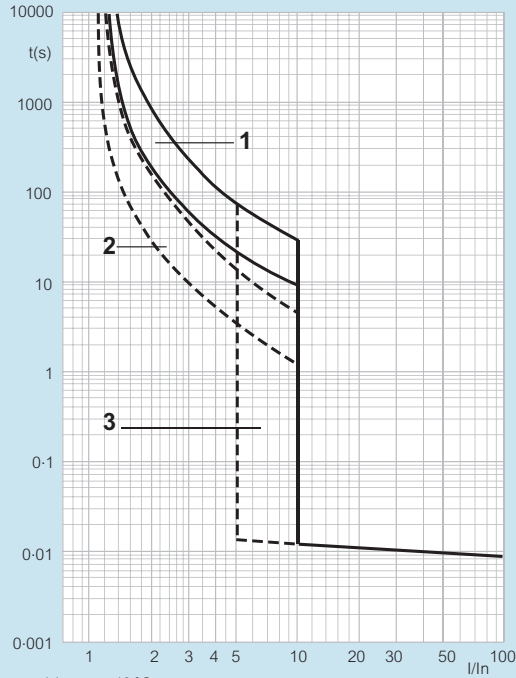


I_{Δ} (A) = earth leakage current
 $I_{\Delta n}$ = nominal earth leakage current
 a = instantaneous tripping point
 b = 3 possible delay settings (0.3, 1 and 3 seconds)

Electrical characteristics

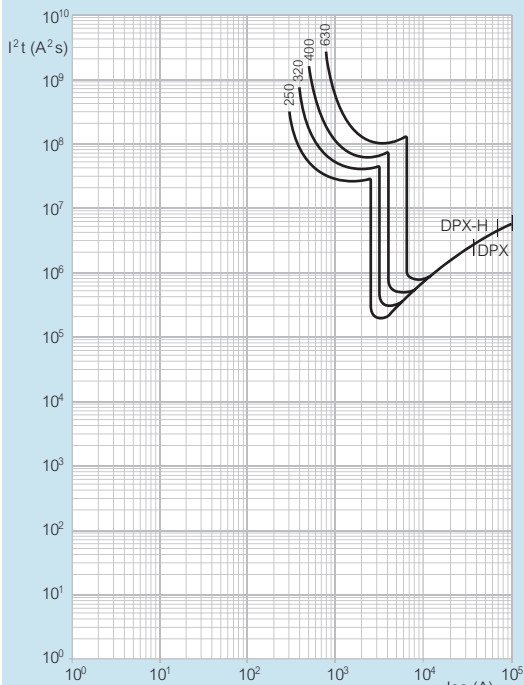
Maximum nominal operating function	690 V~
Nominal frequency	50/60 Hz
Category of use	A
Thermal adjustment	0.8 to 1 In
Magnetic release	0.5 to 10 In
Maximum permitted cross sections : - via optional cage terminals - via optional high capacity screw terminals	stranded cables : 300 mm ² (or 2 x 240 mm ²) flexible cables : 240 mm ² (or 2 x 185 mm ²) copper bar (width) : 32 mm (M10)

Tripping curves



at ambient $\theta = 40^\circ\text{C}$
 I = actual current
 I_r = max. adjustment current of thermal release
 ① = thermal release zone when cold
 ② = thermal release zone when hot (in steady state)
 ③ = magnetic release zone

Thermal stress limitation curves



I_{cc} = prospective short-circuit symmetrical current (rms values in A)
 I^2t = limited thermal stress (in A²s)

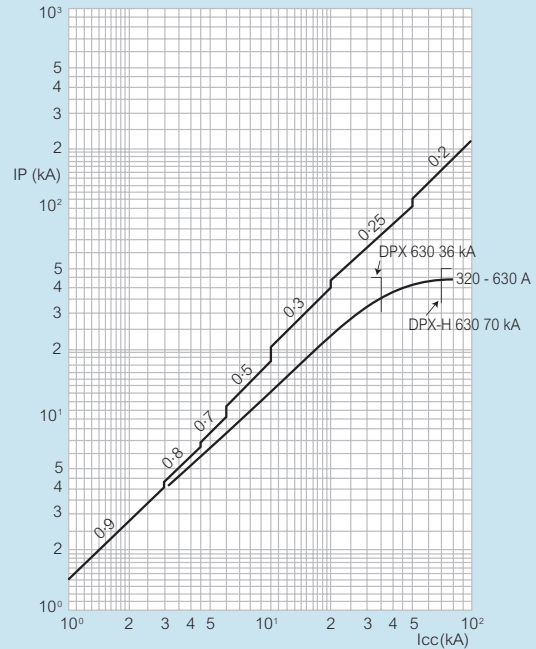
Nominal breaking capacity (kA) (BS EN 60947-2)

Ue	DPX 400	
	Icu (kA)	Ics (%Icu)
400 V~	36	100
230 V~	60	100

Nominal current (In) for DPX 400

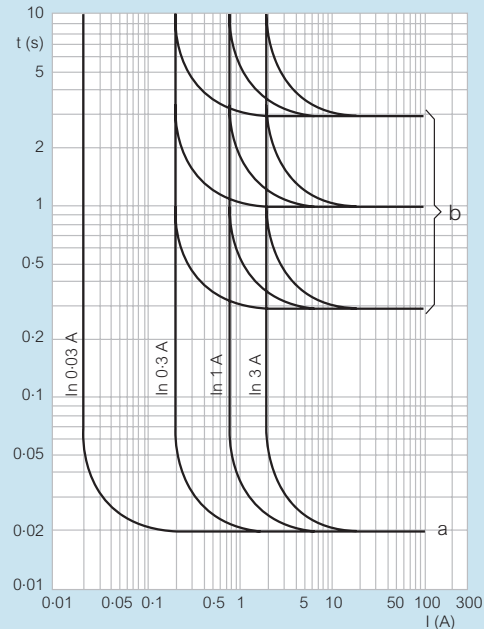
Phase	320	400
N	320	400
N/2	250	250

Current limitation curves



I_{cc} = prospective short-circuit symmetrical current (rms values in kA)
 I^2t = limited thermal stress (in A²s)

Differential tripping curves



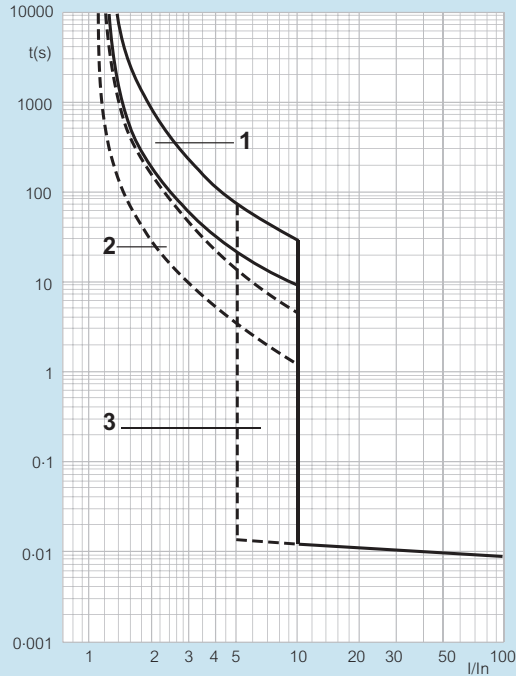
$I_D(A)$ = earth leakage current
 I_{Dn} = nominal earth leakage current
 a = instantaneous tripping point
 b = 3 possible delay settings (0.3, 1 and 3 seconds)

DPX® 630

Electrical characteristics

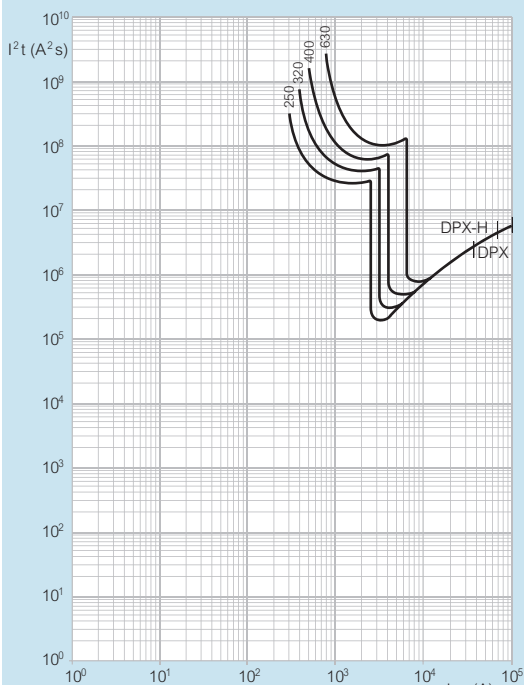
Maximum nominal operating function	690 V~
Nominal frequency	50/60 Hz
Category of use	A
Thermal adjustment	0.8 to 1 In
Magnetic release	0.5 to 10 In
Maximum permitted cross sections : - via optional cage terminals (set of 4) - via optional high capacity screw terminals	stranded cables : 300 mm ² (or 2 x 240 mm ²) flexible cables : 240 mm ² (or 2 x 185 mm ²) copper bar (width) : 32 mm (M10)

Tripping curves



at ambient $\theta = 40^\circ\text{C}$
 I = actual current
 I_r = max. adjustment current of thermal release
 ① = thermal release zone when cold
 ② = thermal release zone when hot (in steady state)
 ③ = magnetic release zone

Thermal stress limitation curves



I_{cc} = prospective short-circuit symmetrical current (rms values in A)
 I^2t = limited thermal stress (in A²s)

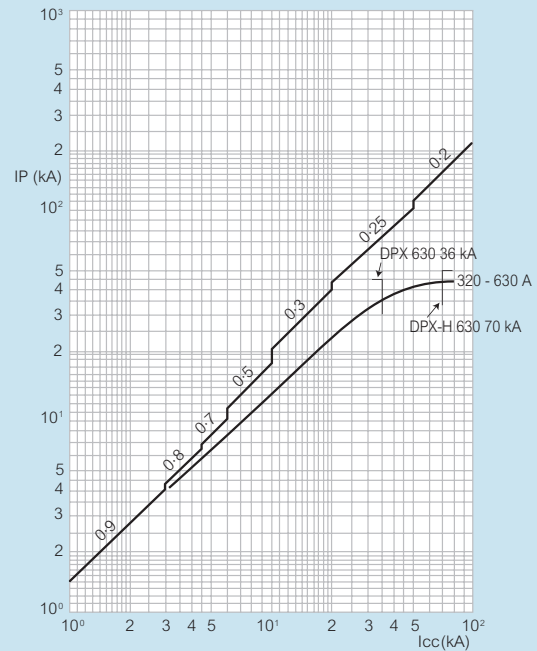
Nominal breaking capacity (kA) (BS EN 60947-2)

Ue	DPX 630	
	Icu (kA)	Ics (%Icu)
400 V~	36	100
230 V~	60	100

Nominal current (In) for DPX 400

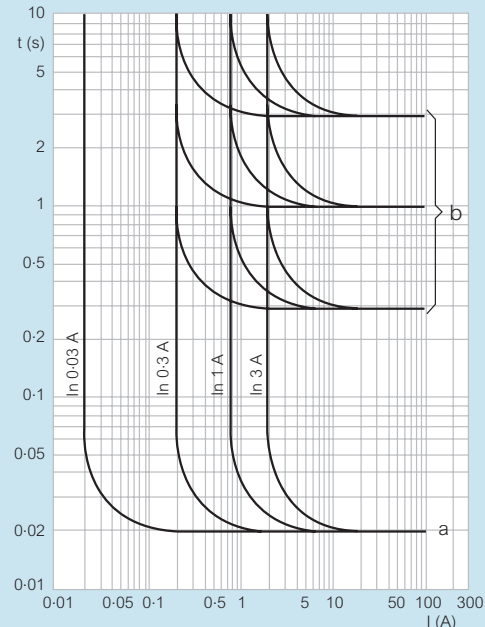
Phase	500	630
N	500	630
N/2	250	320

Current limitation curves



I_{cc} = prospective short-circuit symmetrical current (rms values in kA)
 I^2t = limited thermal stress (in A²s)

Differential tripping curves



$I_D(A)$ = earth leakage current
 I_{Dn} = nominal earth leakage current
 a = instantaneous tripping point
 b = 3 possible delay settings (0.3, 1 and 3 seconds)

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650		50400372	33	50400606	35	50401101	38	50414003M4RJ	41	550000 00		55400732	36
652EFB01	69	06073	-	06073	-	01102	-	50414004	40	55050037	40	55400442	33
652EFB02	-	06074	-	06074	-	01111	37	14005	-	55050053	-	00443	-
652EFB03	-	06075	-	06075	-	01112	-	14021	-	55050055	-	00444	-
6531FB01	69	06076	-	06076	-	01121	-	14022	-	55050057	-	00445	-
		06077	-	06077	-	01122	-	14023	-	55050059	-	00446	-
		06078	-	06078	-	01123	-	50414023FMC	41	55050061	-	00447	-
5000 00		06079	-	06079	-	01124	-	50414023FMD	-	55050063	-	00452	-
554EFB01	31	06080	-	06080	-	01125	-	50414023FME	-	55050065	-	00453	-
EFB02	-	06081	-	06081	-	01126	-	50414023FMF	-	55050067	-	00454	-
IFB01	-	06082	-	06082	-	01127	-	50414024	-	55050069	41	00455	-
IFB02	-	06083	-	06083	-	01128	-	14025	-	55066M3TE	-	00456	-
IFB03	-	06084	-	06084	-	01129	-	14026	-	55066M3TC	-	00457	-
IFB04	-	06085	-	06085	-	01130	-	50414061	39	55066M3TD	-	00462	-
IFB05	-	06086	-	06086	-	01131	-	14062	-	55066M3TE	-	00463	-
IFB06	-	06087	-	06087	-	01132	-	14063	-	55055068	40	00464	-
IFB07	-	06088	-	06088	-	01133	-	14064	-	55070	-	00465	-
IFB08	-	06089	-	06089	-	01134	-	14065	-	55071	-	00466	-
IFB09	-	06090	-	06090	-	01135	-	14071	-	55077	-	00467	-
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		06093	-	06093	-	01138	-	14102	-	55077M4TC	-	00474	-
		06094	-	06094	-	01139	-	14103	-	55077M4TD	-	00475	-
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00104	-	06099	-	06099	-	01144	-	14127	-	00103	-	00504	-
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00143	-	06122	-	06122	-	01167	-	32001	-	00131	-	00537	-
00144	-	06123	-	06123	-	01168	-	32003	-	00132	-	00542	-
00145	-	06124	-	06124	-	01169	-	32201	-	55400152	30	00543	-
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60280156P	66	60280817P	73	60390314P	70	65213782	82	65280313P	70	65281105P	77	65390155P	66
80157P	-	80820P	-	90316P	-	13783	-	80156P	-	81106P	-	90156P	-
80170P	-	80821P	-	90317P	-	13784	-	80108P	-	81108P	-	90158P	-
80171P	-	80822P	-	90324P	-	13785	-	80318P	-	81109P	-	90159P	-
80172P	-	80823P	-	90325P	-	13793	-	80320P	-	81111P	-	90175P	-
80174P	-	80826P	-	90327P	-	13794	-	80321P	-	81113P	-	90178P	-
80176P	-	80827P	-	90334P	-	65222002	80	80323P	-	81115P	-	90185P	-
80177P	-	80830P	-	90336P	-	22003	-	80325P	-	81116P	-	90186P	-
80180P	-	80831P	-	90337P	-	22004	-	80326P	-	81118P	-	90188P	-
80181P	-	80832P	-	90344P	72	65245001P	78	80328P	-	65281300P	76	65390265P	67
80182P	-	80834P	-	90346P	-	65245001PM4RB	-	80330P	-	81301P	-	90266P	-
80184P	-	80836P	-	90347P	-	65245001PM4RC	-	80331P	-	81303P	-	90268P	-
80186P	-	80837P	-	90354P	-	65245001PMFB	-	80333P	-	81305P	-	90285P	-
80187P	-	60281000P	75	90356P	-	65245001PMFC	-	80335P	-	81306P	-	90286P	-
60280260P	67	81001P	-	90357P	-	65245002P	-	80336P	-	81308P	-	90288P	-
80261P	-	81002P	-	60390404P	71	65245002PM4RD	-	80338P	-	81310P	-	65390295P	68
80262P	-	81004P	-	90406P	-	65245002PM4RE	-	65280340P	72	81311P	-	90296P	-
80264P	-	81006P	-	90407P	-	65245002PMFD	-	80341P	-	81313P	-	90298P	-
80266P	-	81007P	-	90414P	-	65245002PMFE	-	80343P	-	81315P	-	65390305P	70
80267P	-	81010P	-	90416P	-	65245003P	-	80345P	-	81316P	-	90306P	-
80280P	-	81011P	-	90417P	-	65245003PMFF	-	80346P	-	81318P	-	90308P	-
80281P	-	81012P	-	90424P	-	65245003PM4RF	-	80348P	-	81320P	-	90315P	-
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80286P	-	81017P	-	90434P	-	65245004PM4RH	-	80353P	-	81325P	-	90325P	-
80287P	-	81020P	-	90436P	-	65245004PMFF	-	80355P	-	81326P	-	90326P	-
60280290P	68	81021P	-	90437P	-	65245004PMFH	-	80356P	-	81328P	-	90328P	-
80291P	-	81022P	-	60390444P	72	65245006P	-	80358P	-	81330P	-	90335P	-
80292P	-	81024P	-	90446P	-	65245006PM4RI	-	65280400P	71	81331P	-	90336P	-
80294P	-	81026P	-	90447P	-	65245006PM4RJ	-	80401P	-	81333P	-	90338P	-
80296P	-	81027P	-	90454P	-	65245006PMFI	-	80403P	-	81335P	-	65390345P	72
80297P	-	81030P	-	90456P	-	65245006PMFJ	-	80405P	-	81336P	-	90346P	-
60280300P	70	81031P	-	90457P	-	65245021P	-	80406P	-	81338P	-	90348P	-
80301P	-	81032P	-	60390704P	74	45022P	-	80408P	-	65281400P	77	90355P	-
80302P	-	81034P	-	90706P	-	45023P	-	80410P	-	81401P	-	90356P	-
80304P	-	81036P	-	90707P	-	45024P	-	80411P	-	81403P	-	90358P	-
80306P	-	81037P	-	90714P	-	45026P	-	80413P	-	81405P	-	65390405P	71
80307P	-	60281100P	77	90716P	-	45041P	-	80415P	-	81406P	-	90406P	-
80310P	-	81101P	-	90717P	-	45042P	-	80416P	-	81408P	-	90408P	-
80311P	-	81102P	-	90724P	-	45043P	-	80418P	-	81410P	-	90415P	-
80312P	-	81104P	-	90726P	-	45044P	-	80420P	-	81411P	-	90416P	-
80314P	-	81106P	-	90727P	-	45045P	-	80421P	-	81413P	-	90418P	-
80316P	-	81107P	-	90734P	-	45066P	-	80423P	-	81415P	-	90425P	-
80317P	-	81110P	-	90736P	-	65255011P	78	80425P	-	81416P	-	90426P	-
80320P	-	81111P	-	90737P	-	65255011PM4RC	-	80426P	-	81418P	-	90428P	-
80321P	-	81112P	-	60390804P	73	65255011PM4RE	-	80428P	-	81420P	-	90430P	-
80322P	-	81114P	-	90806P	-	65255011PMFB	-	80430P	-	81421P	-	90436P	-
80324P	-	81116P	-	90807P	-	65255011PMFC	-	80431P	-	81423P	-	90438P	-
80326P	-	81117P	-	90814P	-	65255012P	-	80433P	-	81425P	-	65390445P	72
80327P	-	60281300P	76	90816P	-	65255012PM4RD	-	80435P	-	81426P	-	90446P	-
80330P	-	81301P	-	90817P	-	65255012PM4RE	-	80436P	-	65281428P	77	90448P	-
80331P	-	81302P	-	90824P	-	65255012PMFD	-	80438P	-	81430P	-	90455P	-
80332P	-	81304P	-	90826P	-	65255012PMFE	-	65280440P	72	81431P	-	90456P	-
80334P	-	81306P	-	90827P	-	65255013P	-	80441P	-	81432P	-	90458P	-
80336P	-	81307P	-	90834P	-	65255013PMFF	-	80443P	-	81435P	-	65390705P	74
80337P	-	81310P	-	90836P	-	65255013PM4RF	-	80445P	-	81436P	-	90706P	-
60280340P	72	81311P	-	90837P	-	65255014P	-	80446P	-	81438P	-	90708P	-
80341P	-	81312P	-	60391004P	75	65255014PM4RG	-	80448P	-	65281811P	79	90715P	-
80342P	-	81314P	-	91006P	-	65255014PM4RH	-	80450P	-	81812P	-	90716P	-
80344P	-	81316P	-	91007P	-	65255014PMFG	-	80451P	-	81814P	-	90718P	-
80346P	-	81317P	-	91014P	-	65255014PMFH	-	80453P	-	81812P	-	90725P	-
80347P	-	81320P	-	91016P	-	65255016P	-	80455P	-	81824P	-	90726P	-
80350P	-	81321P	-	91017P	-	65255016PM4RI	-	80456P	-	81824P	-	90728P	-
80351P	-	81322P	-	91024P	-	65255016PM4RJ	-	80458P	-	81831P	-	90735P	-
80352P	-	81324P	-	91026P	-	65255016PMFI	-	80459P	-	81832P	-	90736P	-
80354P	-	81326P	-	91027P	-	65255016PMFJ	-	80701P	-	81834P	-	90738P	-
80356P	-	81327P	-	91034P	-	65255031P	-	80703P	-	81851P	-	65390805P	73
80357P	-	81330P	-	91036P	-	55032P	-	80705P	-	81852P	-	90806P	-
60280400P	71	81331P	-	91037P	-	55033P	-	80706P	-	81854P	-	90808P	-
80401P	-	81332P	-	60391046P	77	55034P	-	80708P	-	81861P	-	90815P	-
80402P	-	81334P	-	91106P	-	55036P	-	80710P	-	81862P	-	90816P	-
80404P	-	81336P	-	91107P	-	55051P	-	80711P	-	81864P	-	90818P	-
80406P	-	81337P	-	91114P	-	55052P	-	80713P	-	81871P	-	90825P	-
80407P	-	60281400P	77	91116P	-	55053P	-	80715P	-	81872P	-	90826P	-
80410P	-	81401P	-	91117P	-	55054P	-	80716P	-	81874P	-	90828P	-
80411P	-	81402P	-	60391304P	76	55055P	-	80718P	-	65282001P	79	90835P	-
80412P	-	81404P	-	91306P	-	55076P	-	80720P	-	82002P	-	90836P	-
80414P	-	81406P	-	91307P	-	65280100P	66	80721P	-	82003P	-	90838P	-
80416P	-	81407P	-	91314P	-	80101P	-	80723P	-	65283101P	69	65391105P	75
80417P	-	81410P	-	91316P	-	80103P	-	80725P	-	83102P	-	91006P	-
80420P	-	81411P	-	91317P	-	80105P	-	80726P	-	83104P	-	91008P	-
80421P	-	81412P	-	91324P	-	80106P	-	80728P	-	65285011P	78	91015P	-
80422P	-	81414P	-	91326P	-	80108P	-	80730P	-	65285011PM4RB	78	91016P	-
80424P	-	81416P	-	91327P	-	80120P	-	80731P	-	65285011PM4RC	-	91018P	-
80426P	-	81417P	-	91334P	-	80121P	-	80733P	-	65285011PMFBE	-	91025P	-
80427P	-	81420P	-	91336P	-	80123P	-	80735P	-	65285011PMFCE	-	91026P	-
80430P	-	81421P	-	91337P	-	80125P	-	80736P	-	65285012P	-	91028P	-
80431P	-	81422P	-	60391404P	77	80126P	-	80738P	-	65285012PM4RD	-	91035P	-
80432P	-</												

Protection classifications

Protection against solid bodies and liquids : Index of protection - IP xx

Degree of protection of enclosures of electrical equipment in accordance with standards IEC 60529, BS EN 60529
Up to 1 000 V~ and 1 500 V=

1st digit: protection against solid bodies		Additional letter IP XX (ABCD): protection against direct contact resulting from the access to hazardous current-carrying parts		2nd digit: protection against liquids			
IP	tests	IP	tests	protection	IP	tests	protection
0	No protection				0		No protection
1	Protected against solid bodies larger than 50 mm	A	The back of the hand remains remote from dangerous parts		1	Protected against vertically-falling drops of water (condensation)	
2	Protected against solid bodies larger than 12.5 mm	B	The dangerous parts can not be touched when introducing a finger		2	Protected against drops of water falling at up to 15° from the vertical	
3	Protected against solid bodies larger than 2.5 mm	C	The dangerous parts can not be touched when introducing a tool (eg a screwdriver)		3	Protected against drops of rain water at up to 60° from the vertical	
4	Protected against solid bodies larger than 1 mm				4	Protected against projections of water from all directions	
5	Protected against dust (no harmful deposit)				5	Protected against jets of water from all directions	
6	Completely protected against dust	D	The dangerous parts can not be touched when introducing a wire		6	Protected against jets of water of similar force to heavy seas	
					7	Protected against the effects of immersion	
					8	Protected against prolonged effects of immersion under pressure	

Protection against mechanical impact : Index of protection - IK

According to standards IEC 62262 and BS EN 62262

IK	Tests	Impact energy (in Joules)
IK 00		0
IK 01		0.15
IK 02		0.2
IK 03		0.35
IK 04		0.5
IK 05		0.7
IK 06		1
IK 07		2
IK 08		5
IK 09		10
IK 10		20

(1) A product previously classed as IP xx-7 can be assumed to fulfill the conditions of an IP xx - IK 08

This table can be used to ascertain the resistance of a product to an impact given in Joules from the IK code (graduated from 00 to 10). It can also be used to ascertain the correspondence with the old IP code 3rd digit and the corresponding external "Ag" conditions.

The contents of the Protection Classifications charts are for guidance only. If you have any doubt as to the interpretation of the information contained therein, please refer either to the standard itself or contact Legrand.

Health and Safety at Work, etc. Act. 1974

Statement to Purchasers and Prospective Purchasers

1. Section 6 of this Act provides that manufacturers, designers, importers or suppliers of articles for use at work have a duty to ensure so far as is reasonably practical, that the article will be safe and without risk to health when properly used. An article is not regarded as being 'properly used' if it is used without regard to any relevant information or advice relating to its use made available by the manufacturer, designer, importer or supplier.

2. With regard to these provisions the following is given as a guide to the information which is readily available to you. This information relates to those products detailed in our catalogue(s) or associated literature or may be obtained by specific request to the Company.

3. All products should be installed and maintained in accordance with good engineering practice and relevant British or

other applicable standards, regulations for the installation of equipment by the Institute of Electrical Engineers or any other applicable Codes of Practice.

Health and Safety at Work Act

The Electricity at Work Regulations, 1989

1. All installations and maintenance should be carried out within the provision of the above Act and by persons so qualified as defined in the Act.

2. Information and advice on the suitability of our products can be obtained from Legrand Electric Limited on specific request.

For information concerning wiring device standards outside the UK contact :

BSI

Customer Services

09:00 to 17:00 – Monday to Friday

Tel : +44 (0) 20 8996 9001

Fax : +44 (0) 20 8996 7001

Email : cservices@bsi-global.com

marking appears on electrical or electronic products from Legrand and enables the circulation of goods outside the UK.



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Please consult our current price list

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EDM cast resin transformers



quality through to the core

EdM transformers are renowned for quality. Manufactured within a state-of-the-art production facility with attention to detail being paramount, each transformer undergoes rigorous testing prior to despatch.

Legrand has many years' experience in the production of dry transformers cast under vacuum in epoxy resin up to 36 kV, and has recently launched a new range of 'GreenT.HE' high efficiency transformers which meet an A_0 rating for no-load losses and A_k rating for on-load losses according to EN 50541-1.



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