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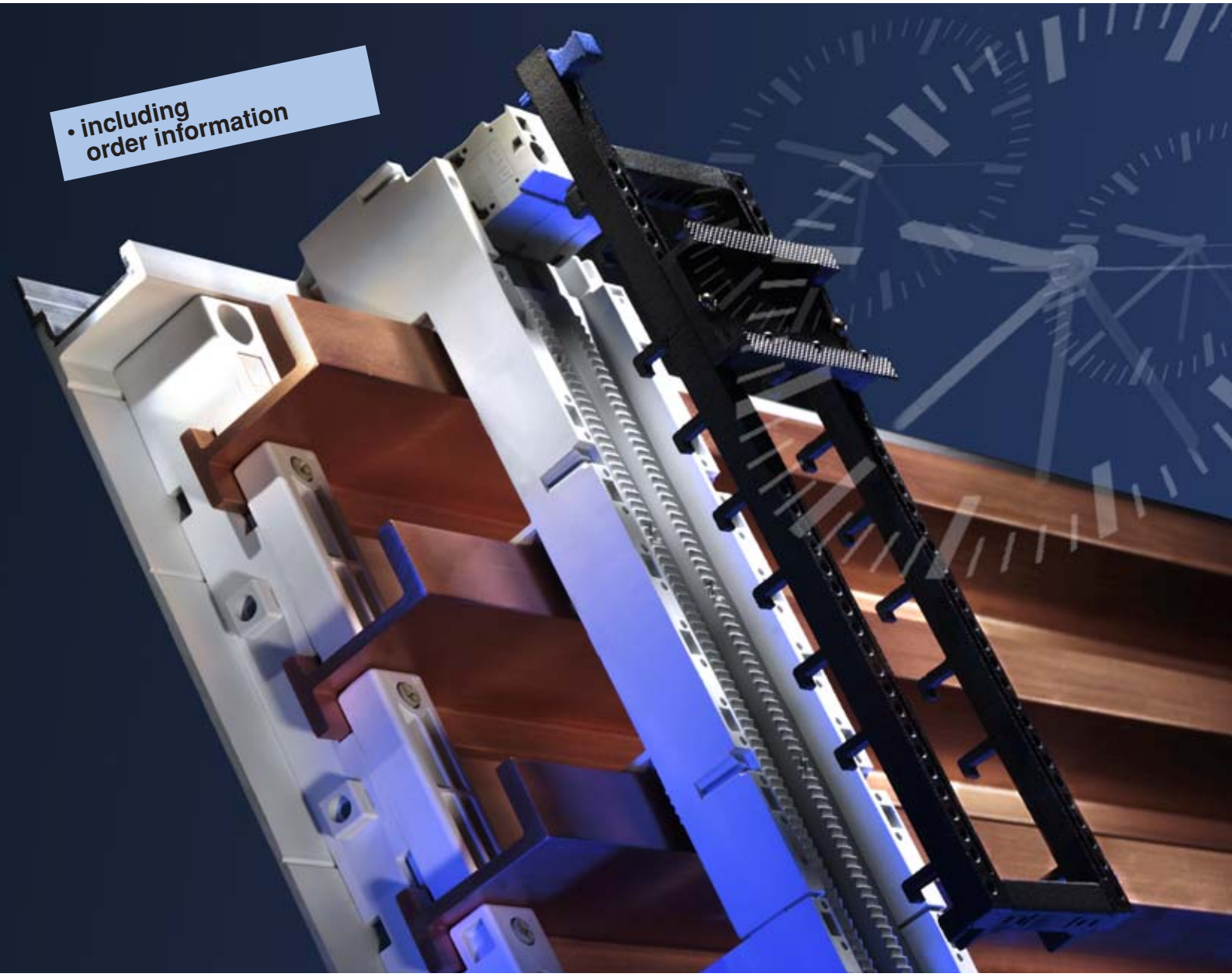
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Rittal – **RiLine60**



The fascinating 60 mm system of the future – assembly-friendly, time-saving, individual and modular

FRIEDHELM LOH GROUP

RITTAL®

Rittal RiLine60 – perfection in a 60 mm system



Time-saving assembly, versatile applications and individual modularity are the winning features of the new Rittal RiLine60 busbar system. The Rittal system success story continues. Innovative products combined with contemporary design and outstanding safety technology.

c US
File Number E191125



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Rittal RiLine60
Time-saving and individual

For individual configuration, tailored to the latest switchgear concepts:

- New, uniform system base with three lines up to 1600 A
- New base tray system with an ingenious dual function:
  – All-round contact hazard protection
  – Innovative attachment of component adaptors
- User-friendly busbar connection adaptor line
- New component adaptor for motor starters up to 65 A
  – Innovative in terms of modularity, component configuration and connection system
  – Rapid assembly
  – High level of security thanks to support frame system: The busbars are always covered for contact hazard protection
  – Flexible servicing with the system operational, thanks to a connector and modular support frame system for motor circuits
- New circuit-breaker adaptor for MCCB up to 630 A







1.

Simply insert the bars from the front and secure!
The integral slide adapts automatically to the respective bar width. The mounting surface (top edge of the busbar) to the mounting level is identical with all installed bar cross-sections.

Simply insert the bars from above, secure, and it's done! In this way, 8 flat copper cross-sections are quickly mounted in one support, with no need for any inserts! The new base tray has an ingenious dual function: Contact hazard protection and mounting rail for the new component adaptors (OT adaptor). The innovative separation of component adaptor and support frame in conjunction with connection via connector bushes ensures easier assembly and servicing.









2.

The metal-reinforced base tray affords perfect protection to the mounting level, while at the same time providing the attachment basis for component adaptors with location system (OT adaptors).
Locate from above, and snap into position from below – and that's it!



3.

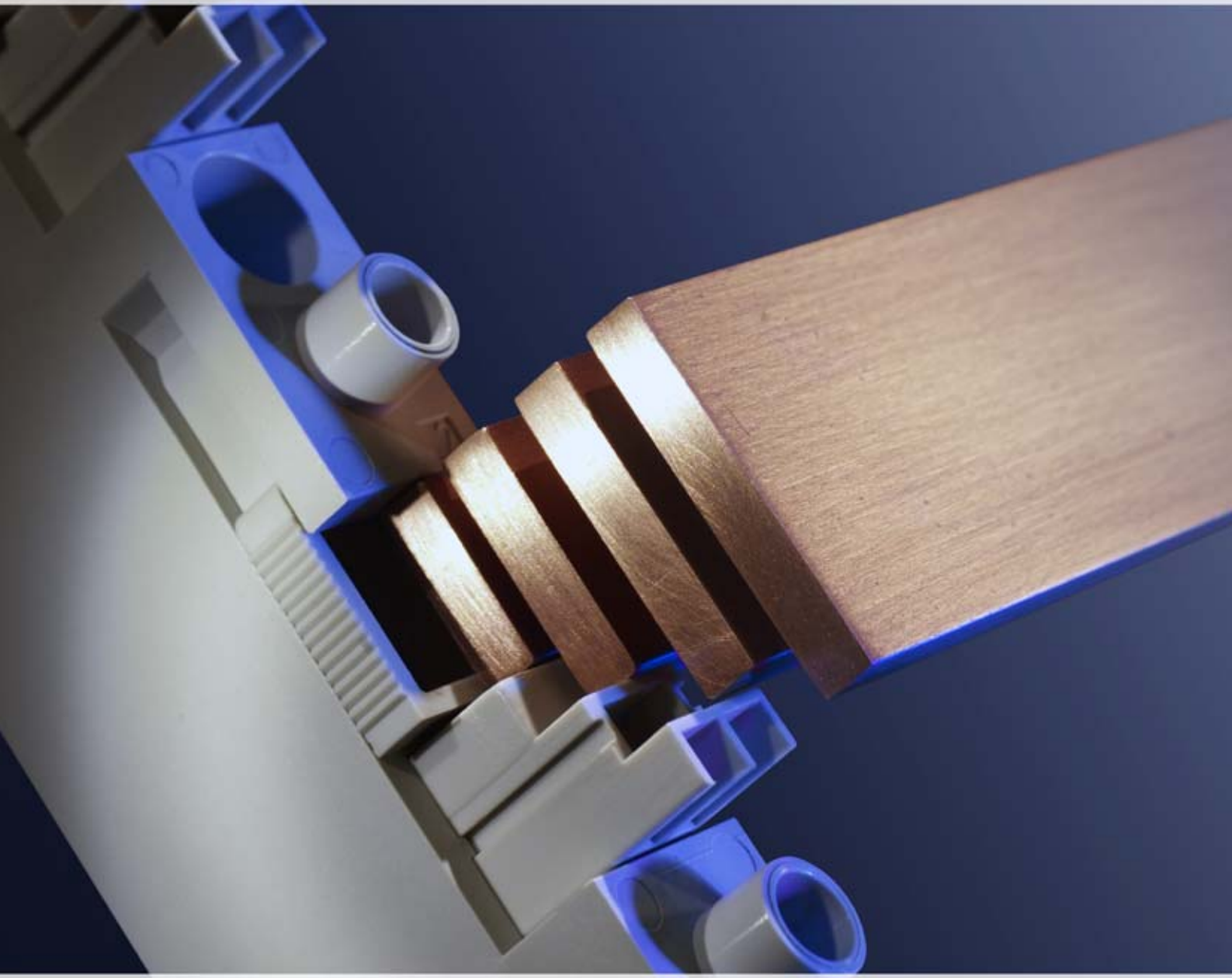
Configure the removable support frame with the chosen motor starter combination, and prepare the wiring of the main and auxiliary contacts using connectors.
This makes the final stage of assembly or replacement unbeatably simple and fast.



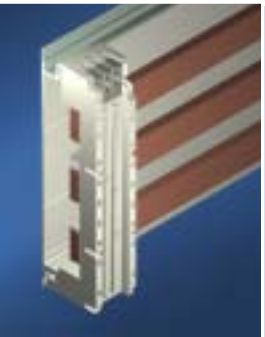
4.

Snap the populated support frame into the component adaptor and latch, insert the prepared connector – and it's done!
This allows servicing to be carried out whilst the system is operational, because even with the device removed, there is still complete contact hazard protection from the live busbars.

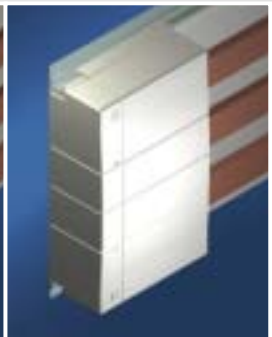
Simply insert the bars – and it's done!



NEW – Busbar support for flat bars with integral cross-section adaptation
Height compensation with 5 mm bars is achieved via slides. An integral locating block automatically adapts to widths of 15, 20, 25 or 30 mm. No other accessory parts are needed. Busbar supports are available with mounting holes on the outside or inside.





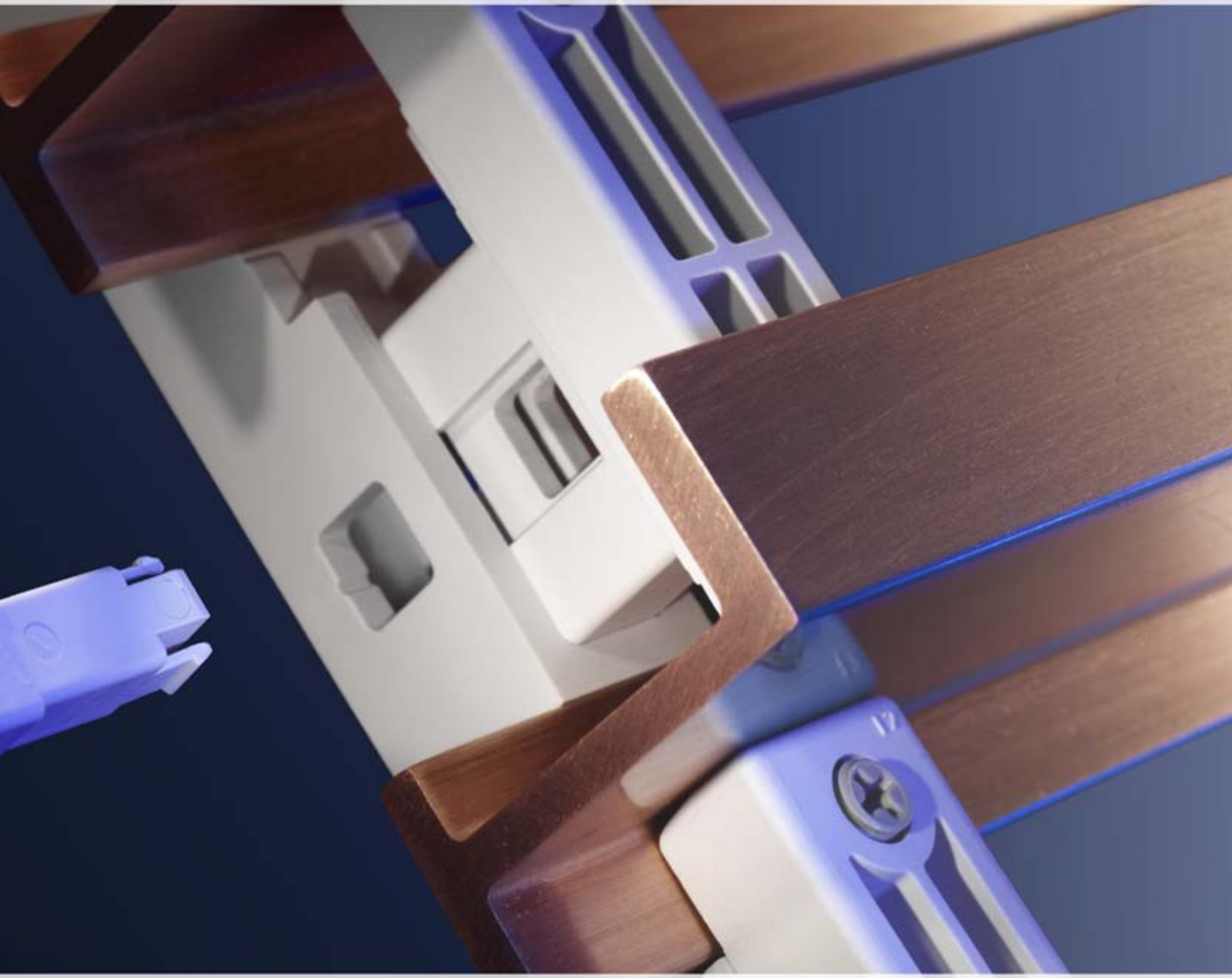


NEW – For flat copper and Rittal PLS section

Perfect contact hazard protection, thanks to all-round encapsulation
From now on, even with flat bar systems, the base tray, cover section and end cover create the ideal unit for optimum contact hazard protection.

Component adaptors simply clip onto the base tray
The new dual-purpose base tray: Contact hazard protection and punched rail for the new Rittal RiLine60 component adaptor with location system (OT adaptors).

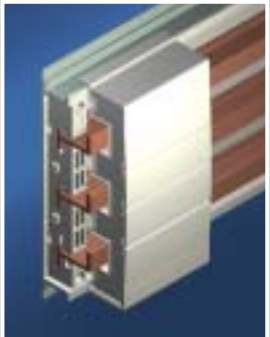
New, innovative mounting benefits: The bars in rectangular and Rittal PLS format are simply inserted into the respective support. The system configuration, comprised of the support, base tray and busbars, creates new safety and functional units with identical system dimensions.



NEW – Rittal PLS busbar support in a new functional design

By inserting the bars and securing with a new locking system, assembly becomes much faster and easier.

The tried-and-tested stepping of the Rittal PLS special busbar sections 800 A and 1600 A has been preserved, as has the unrestricted top-mountability of the PLS busbar support with power distribution components.
Free positioning of the support makes planning easier, offers greater stability where necessary, and utilises the space more effectively.



NEW – For flat copper and Rittal PLS section

Versatile busbar connection adaptor
Integral busbar connection adaptor line with a revolutionary design and impressive connection properties:

- Variants up to 800 A with handling-friendly box terminal for direct connection of round conductors.
- Variants available with feed-through function.
- Short circuit-protected, shielded routing of the contact tracks.
- Modern enclosure design with protection category IP 2X and unique slide latching of the cover.



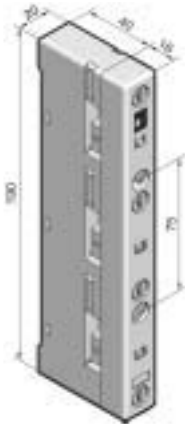
Rittal RiLine60 busbar systems 800 A (60 mm)

Busbar support









Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

Short-circuit resistance diagram,
see page 52.

Te c hnical information for the calculation of rated currents,
see page 53.

1 with attachment holes on the outside

2 with attachment holes on the inside

Version	Packs of	1 external attachment	2 internal attachment
Number of poles		3-pole	3-pole
Bar centre distance		60 mm	60 mm
Tightening torque ? Assembly screw (M5 x 16) ? Cover attachment		 3 – 5 Nm 1 – 3 Nm	 3 – 5 Nm 1 – 3 Nm
Model No. SV	4	9340.010	9340.000*
Accessories			
3 End covers for contact hazard protection on the sides	2	9340.070	9340.070

*Note: for UL approved applications use part number 9340.050; otherwise use 9340.000

Busbars E-Cu

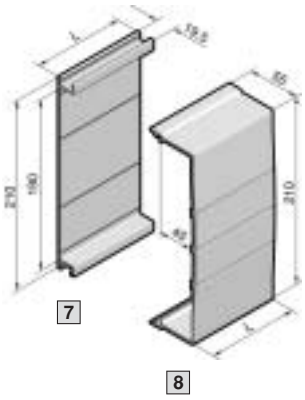
To DIN EN 13 601.
Length: 2400 mm/bar.

Dimensions mm	Weight per bar kg	Packs of	Model No. SV	Page
15 x 5	1.60	6	3581.000	
15 x 10	3.20	6	3581.100	
20 x 5	2.14	6	3582.000	
20 x 10	4.27	6	3585.000	
25 x 5	2.67	6	3583.000	
30 x 5	3.20	6	3584.000	
30 x 10	6.41	6	3586.000	
Accessories				
Busbar cover section (length 1 m/each)		10	3092.000	50
Busbar connector for E-Cu				
4 12 x 5 – 15 x 10 mm (single connection)		3	9350.075	50
5 20 x 5 – 30 x 10 mm (single connection)		3	9320.020	50
6 20 x 5 – 30 x 10 mm (bayed connection) [1]		3	9320.030	50

[1] From enclosure to enclosure

Busbar connection adaptor page 12/13 Connection clamps page 14 OM/OT adaptors page 20 – 23 OM/OT supports page 24/25
Component adaptors page 28 – 33 Bus-mounting fuse bases page 36/37 NH fused isolators page 38
NH bus-mounting on-load isolators page 39 – 43 Accessories page 44 – 51

System components



7 Base tray

For rear contact hazard protection of the busbar assembly.

Length (L) mm	Packs of	Model No. SV
500	2	**9340.100**
700	2	**9340.110**
900	2	**9340.120**
1100	2	**9340.130**

8 Cover section

May be cut to length as required; for clip-on mounting to the base tray.

Length (L) mm	Packs of	Model No. SV
700	2	**9340.200**
1100	2	**9340.210**

Base trays and cover sections
Material:
Thermally modified hard PVC.
Continuous operating temperature: max. 95°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

Note:
If the cover section is loaded from the front, the support panel (SV 9340.220) is needed for stabilisation.



Base tray infill

For rear contact hazard protection when connecting the busbars from enclosure to enclosure.

Material:
Thermally modified hard PVC.
Continuous operating temperature: max. 95°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

Packs of	Model No. SV
2	**9340.140**

Supply includes:
Assembly parts.



Base tray reinforcement

For clipping into the base tray.
Required when using OT adaptors or supports, see page 22/23 and 25.

Material:
Aluminium

Note:
Self-tapping screws (Model No. SZ 2487.000) for attaching the base tray reinforcement to the mounting level, see Catalogue 31, page 937.

Length (L) mm	Packs of	Model No. SV
500	2	**9340.150**
1000	2	**9340.160**





Support panel

for cover section
To prevent side access to the cover section. The support panel also provides additional stability.

Material:
Polyamide (PA 6.6).
Continuous operating temperature: max. 105°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

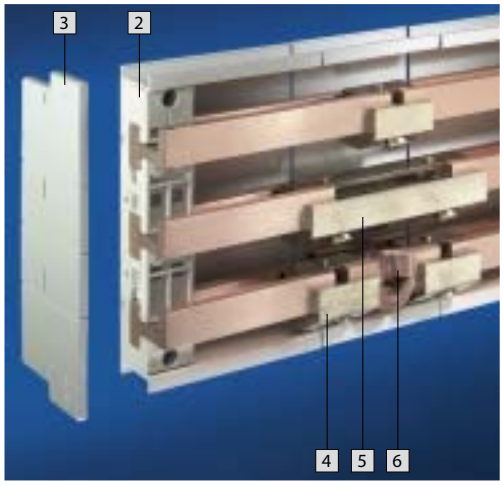
Packs of	Model No. SV
5	**9340.220**

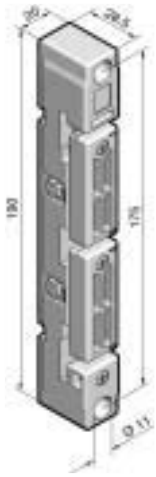


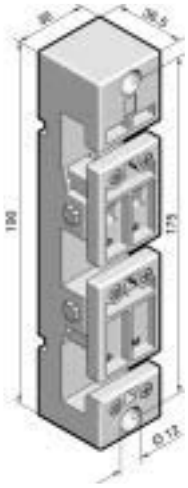
Busbar connection adaptor page 12/13 **Connection clamps** page 14 **OM/OT adaptors** page 20 – 23 **OM/OT supports** page 24/25
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PLS busbar supports









1 Rittal PLS 800 A

2 Rittal PLS 1600 A

Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

Short-circuit resistance diagram,
see page 52.

Te chnical information for the calculation of rated currents,
see page 53.

For Rittal PLS system	Packs of	1 800 A	2 1600 A
Number of poles		3-pole	3-pole
Bar centre distance		60 mm	60 mm
Tightening torque ? Assembly screw (M6 x 20) ? Busbar anti-slip guard		 3 – 5 Nm 0.7 Nm	 3 – 5 Nm 0.7 Nm
Model No. SV	4	9341.000*	9342.000**
Accessories			
3 End covers for contact hazard protection on the sides	2	9341.070	9342.070

*Note: for UL approved applications use part number 9341.050; otherwise use 9341.000
** Note: for UL approved applications use part number 9342.050; otherwise use 9342.000

PLS special busbars

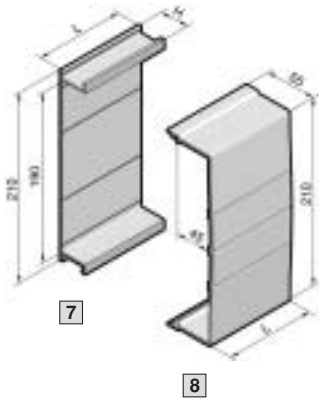
made from E-Cu

For Rittal PLS system		Packs of	800 A	1600 A	Page
Cross-section			300 mm ^{2}	900 mm ^{2}	
Bar thickness			5 mm	10 mm	
Length mm	For enclosure width mm		Model No. SV	Model No. SV	
495	600 [1]	3	3524.000	3527.000	
695	800 [1]	3	3525.000	3528.000	
895	1000 [1]	3	3525.010	3528.010	
1095	1200 [1]	3	3526.000	3529.000	
2400	variable	1	3509.000	3516.000	
Accessories					
4 PLS busbar connector (single connection)		3	3504.000	3514.000	51
5 PLS busbar connector (bayed connection) [2]		3	3505.000	3515.000	51
6 PLS expansion connectors [3]		3	9320.060	9320.070	51

[1] For Rittal TS 8/ES enclosure systems
[2] From enclosure to enclosure
[3] Two PLS rail connectors (single connection) are required to fit one expansion connector.

Busbar connection adaptor page 12/13 Connection clamps page 14 OM/OT adaptors page 20 – 23 OM/OT supports page 24/25
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System components



7 Base tray

For rear contact hazard protection of the busbar assembly.

Length (L) mm	Packs of	Model No. SV For PLS system 800 A	1600 A
500	2	**9341.100**	**9342.100**
700	2	**9341.110**	**9342.110**
900	2	**9341.120**	**9342.120**
1100	2	**9341.130**	**9342.130**
Height (H) mm		32	43

8 Cover section

May be cut to length individually, for clip-on mounting to the base tray for PLS system 800 A and 1600 A.

Length (L) mm	Packs of	Model No. SV
700	2	**9340.200**
1100	2	**9340.210**

Base trays and cover sections
Material:
Thermally modified hard PVC.
Continuous operating temperature: max. 95°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

Note:
If the cover section is mounted from the front, the support panel (SV 9340.220) is needed for stability.



Base tray infill

For rear contact hazard protection when connecting the busbars from enclosure to enclosure.

Material:
Thermally modified hard PVC.
Continuous operating temperature: max. 95°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

For PLS system	Height (H) mm	Packs of	Model No. SV
800 A	32	2	**9341.140**
1600 A	43	2	**9342.140**

Supply includes:
Assembly parts.



Base tray reinforcement

For clipping into the base tray.
Required when using OT adaptors or supports, see page 22/23 and 25.

Material:
Aluminium

Note:
Self-tapping screws (Model No. SZ 2487.000) for attaching the base tray reinforcement to the mounting level, see Catalogue 31, page 937.

Length (L) mm	Packs of	Model No. SV For PLS system 800 A	1600 A
500	2	**9341.150**	**9342.150**
1000	2	**9341.160**	**9342.160**





Support panel

for cover section
To prevent side access to the cover section. The support panel also provides additional stability.

Material:
Polyamide (PA 6.6).
Continuous operating temperature: max. 105°C.
Fire protection corresponding to UL 94-V0.

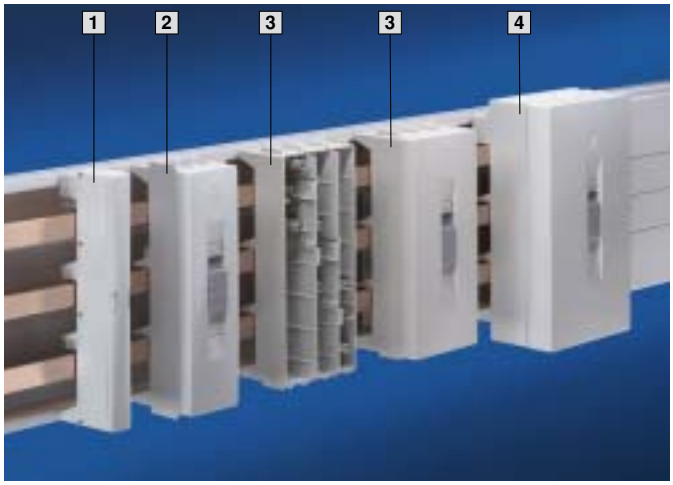
Colour:
RAL 7035

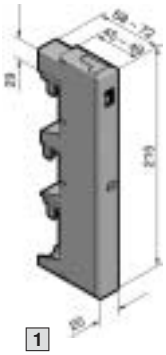
Packs of	Model No. SV
5	**9340.220**



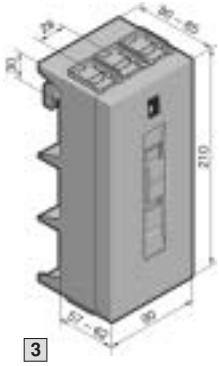
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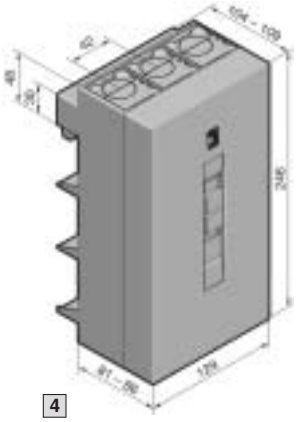
Connection adaptor











Material:
Punched section
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.
Cover
ABS,
Fire protection corresponding to UL 94-V0.

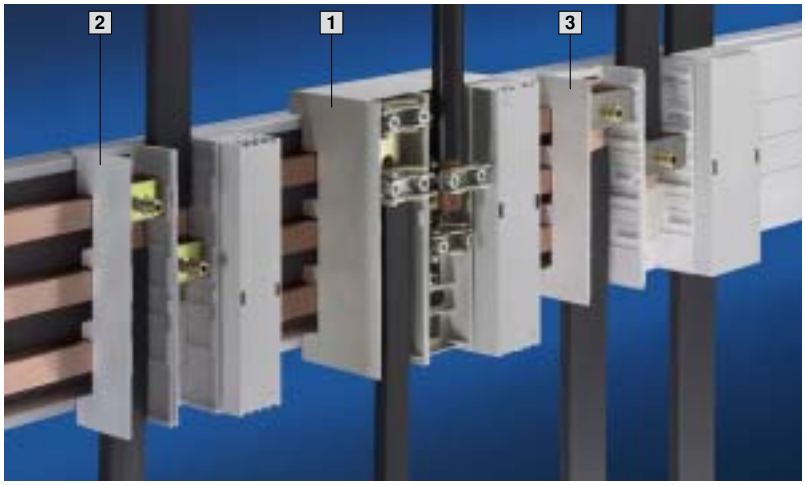
Colour:
RAL 7035

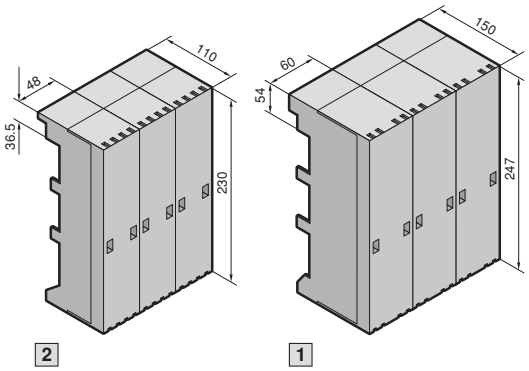
Supply includes:
Cover.

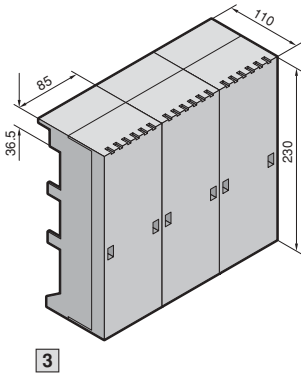
Version (3-pole)	Packs of	1	2	3	4	Page
Rated current up to		63 A	125 A	250 A	800 A	
Rated operating voltage		690 V~	690 V~	690 V~	690 V~	
Connection of round conductors ● Fine wire with wire end ferrule ● Multi-wire ● Solid		 2.5 – 10 mm² 16 mm² 2.5 – 16 mm²	 10 – 25 mm² 16 – 35 mm² –	 35 – 120 mm² 35 – 120 mm² –	 95 – 185 mm² 95 – 300 mm² –	
Clamping area for laminated copper bars		–	10 x 7.8 mm	18.5 x 15.5 mm	33 x 20 mm	
Tightening torque ● Assembly screw ● Terminal screw		 2 Nm 2.5 Nm	 2 Nm 2 – 3 Nm	 4 – 6 Nm 8 – 10 Nm	 6 Nm 12 – 14 Nm	
For bar thickness		5/10 mm	5/10 mm	5/10 mm	5/10 mm	
Outlet top/bottom **Model No. SV**	1	**–**	**9342.220**	**9342.250**	**9342.280**	
Outlet at top **Model No. SV**	1	**9342.200**	**9342.230**	**9342.260**	**9342.290**	
Outlet at bottom **Model No. SV**	1	**9342.210**	**9342.240**	**9342.270**	**9342.300**	
Accessories						
Laminated copper bars		–	■	■	■	49

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Connection adaptor







Material:
Punched section
Fibreglass-reinforced, thermoplastic polyester (PBT).
Continuous operating temperature max. 140°C.
Fire protection corresponding to UL 94-V0.
Cover
ABS,
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

Supply includes:
Cover.

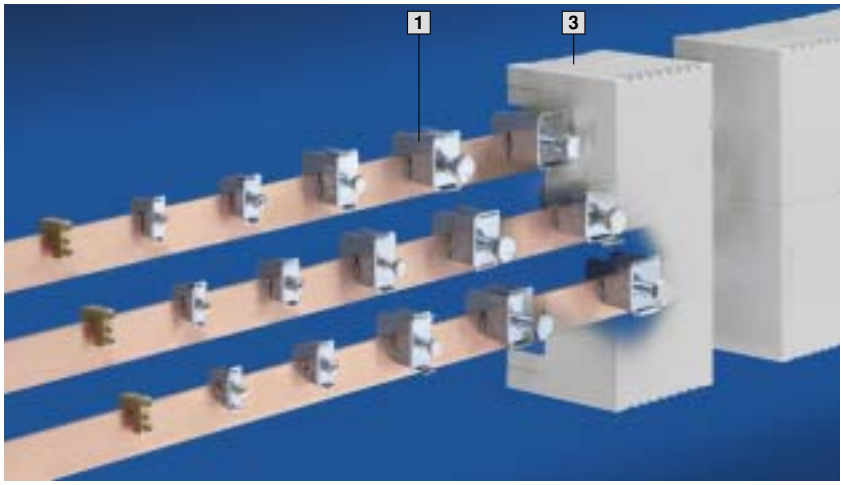
Note:
SV 3439.010
When connecting round conductors 300 mm² with ring terminals, the terminal clamps fitted as standard in the busbar connection adaptors must be replaced with screws and/or bolts M10.

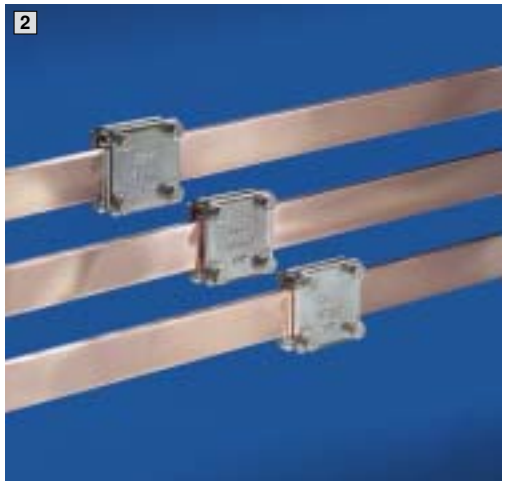
Design (3 x 1-pole)	Packs of	1	2	3	Page
Rated current up to		600 A	800 A	1600 A	
Rated operating voltage		690 V~	690 V~	690 V~	
Outlet		Top/Bottom	Top/Bottom	Top/Bottom	
Connection of round conductors ● Fine wire with wire end ferrule ● Multi-wire		 35 – 240 mm² 35 – 240 mm²	 – –	 – –	
Clamping area for laminated copper bars ● For 5 mm bar thickness ● For 10 mm bar thickness		 24 x 21 mm 24 x 21 mm	 34 x 21 mm 34 x 16 mm	 – 65 x 21 mm	
Tightening torque ● Assembly screw ● Terminal screw		 15 – 20 Nm 15 Nm	 – 10 – 12 Nm	 – 15 – 20 Nm	
For bar thickness		5/10 mm	5/10 mm	10 mm	
Model No. SV	1 set (3)	**3439.010**	**3439.000**	**3517.000**[1)]	
Accessories					
Laminated copper bars		■	■	■	49

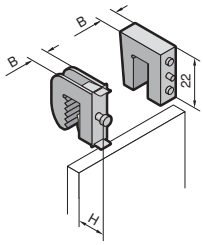
[1)] Only suitable for Rittal PLS 1600 A system.

Busbar systems page 8 – 11 **Connection clamps** page 14 **OM/OT adaptors** page 20 – 23 **OM/OT supports** page 24/25
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Connection clamps/system covers







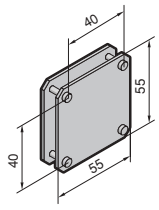
1 Conductor connection clamps

For bar thickness mm	Connection of round conductors[1] mm²	Clamping area for laminated copper bars mm	Tightening torque Nm	Width (B) mm	Height (H) mm min.	Height (H) mm max.	Packs of	Model No. SV
3 – 5	1 – 4	–	2	8.0	–	–	15	**3550.000**
5	1 – 4	–	2	11.0	17	23	15	**3450.500**
5	2.5 – 16	8 x 8	3	14.0	22	29	15	**3451.500**
5	16 – 50	10.5 x 11	6 – 8	18.5	26	39	15	**3452.500**
5	35 – 70	16.5 x 15	10 – 12	24.5	39	57	15	**3453.500**
5	70 – 185	22.5 x 20	12 – 15	30.5	44	66	15	**3454.500**
6 – 10	1 – 4	–	2	8.0	–	–	15	**3555.000**
10	1 – 4	–	2	11.0	17	23	15	**3455.500**
10	2.5 – 16	8 x 8	3	14.0	22	29	15	**3456.500**
10	16 – 50	10.5 x 11	6 – 8	18.5	26	39	15	**3457.500**
10	35 – 70	16.5 x 15	10 – 12	24.5	39	57	15	**3458.500**
10	70 – 185	22.5 x 20	12 – 15	30.5	44	66	15	**3459.500**

[1] Wire end ferrules should be used with fine wire conductors.

Material:
Sheet steel, zinc-plated, passivated
(SV 3450.500 – SV 3459.500),
Brass (SV 3550.000/SV 3555.000).

Accessories:
Laminated copper bars,
see page 49.



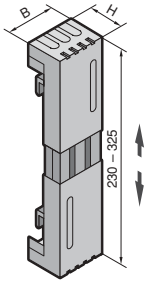
2 Plate clamp

For busbars 12 x 5 – 30 x 10 mm.
Clamping area for laminated copper bars:
34 x 10 mm.
Tightening torque: 6 – 8 Nm.

Material:
Sheet steel, zinc-plated, passivated.

Packs of	Model No. SV
3	**3554.000**

Accessories:
Laminated copper bars,
see page 49.



3 System covers

For conductor connection clamps and plate clamps.

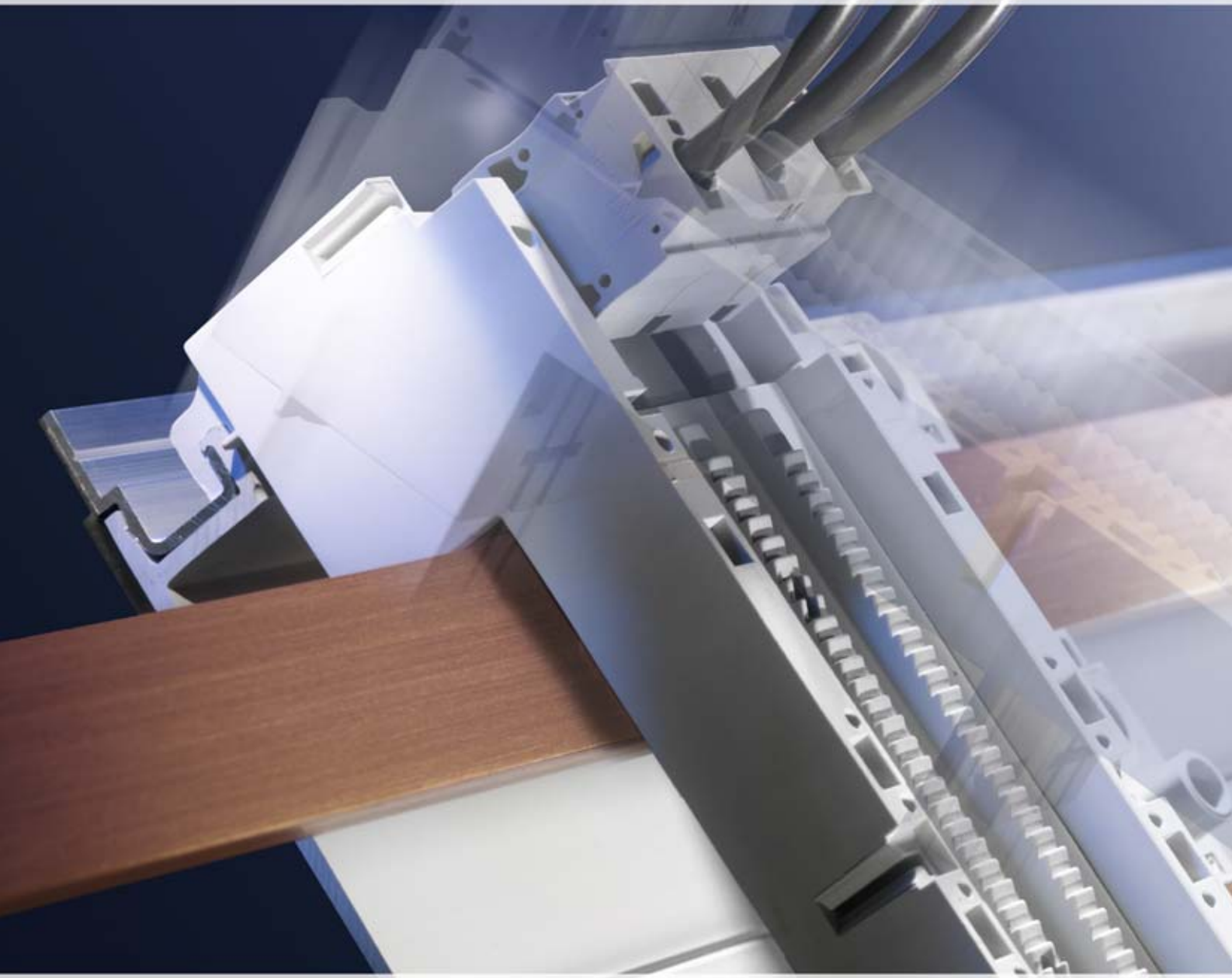
Material:
ABS.
Continuous operating temperature: max. 80°C.
Fire protection corresponding to UL 94-V0.

Note:
Only suitable for use with systems without a base tray.

Width (B) mm	Height (H) mm	Packs of	Model No. SV
50	80	4	**3086.000**
100	80	4	**3087.000**
100	110	4	**3090.000**
200	80	4	**3088.000**
200	110	4	**3091.000**

Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **OM/OT adaptors** page 20 – 23 **OM/OT supports** page 24/25
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Component adaptor with innovative modularity



Multi-functional, thanks to platform technology
The component adaptors are available in a choice of two mounting systems.

Both systems have an identical platform technology for device assembly: The width variability, mechanical construction of motor circuit-breaker and motor starter combinations and their connection techniques are identical for both systems.

This makes for easier stock holding, system assembly and servicing.

Component adaptors for motor starter combinations with individual connection technology, 45 mm and 55 mm wide. Assembly benefits are derived from the separation into modules: adaptor section and removable support frame.



Variant 1: OneMove (OM adaptor, see page 20/21)
Snap-on mounting – the traditional attachment system with brand new options

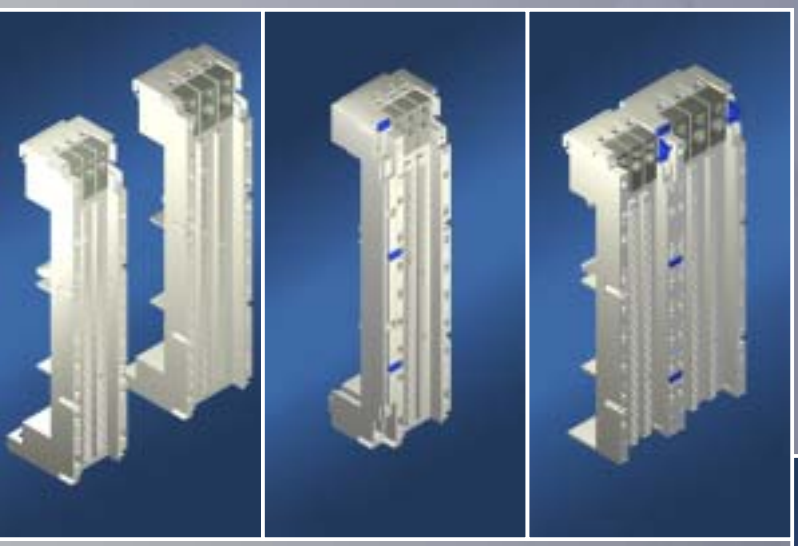
- Traditional variant with snap-on mounting onto the busbars.
- With steel-reinforced combination feet for 5 and 10 mm bar thickness.
- Suitable for universal use, even without a base tray.
- Accessibly positioned unlatching device operated in the direction of withdrawal.



Variant 2: OneTurn (OT adaptor, see page 22/23)
Base tray attachment – ingeniously simple, fast and safe

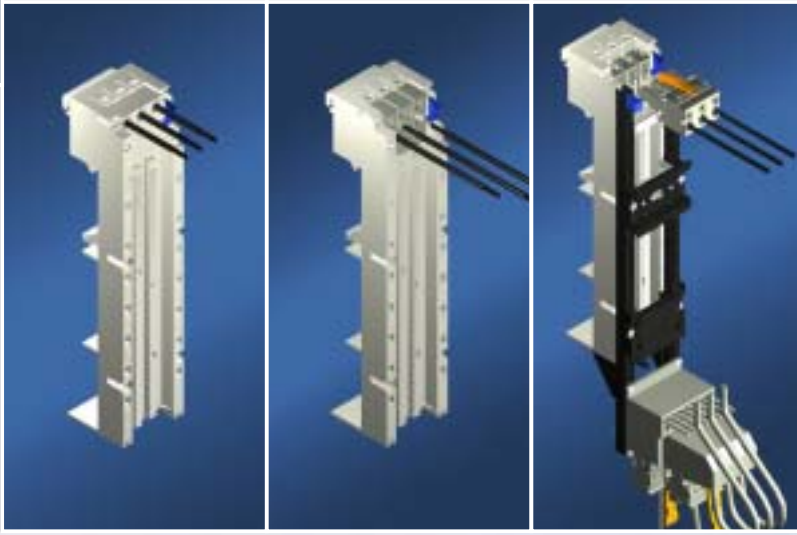
- Innovative location system on the base tray section with fitted metal reinforcement.
- Time-saving mounting directly onto the Rittal RiLine60 system range.
- The OT adaptors are attached and contacted independently from the form and cross-section of the busbars.
- Minimal assembly force thanks to easy leverage.
- Perfect all-round protection with base tray and OT adaptor.

Efficiency redefined



NEW – Modular configuration of complete functional units

- OM/OT adaptors and OM/OT supports (without contact system) are bayable as required in the base widths 45 and 55 mm.
- For side auxiliary switches and expansion modules, there is a 10 mm extension piece available which may be bayed on both sides as often as required.
- A channel integrated into the extension pieces aids the optimum routing of control cables.
- Bayed using connection pins from the front. In this way, retrospective creation of a module is easily achieved.



NEW – Multifunctional component connection
Each of the three techniques for component connection covers special requirements.

- **Classic –** Adaptor with connection cables AWG 12 (up to 25 A), AWG 10 (up to 32 A) or AWG 6 (up to 65 A) fitted as standard.
- **Flexible –** Adaptor with tension spring clamp up to 6 mm^2 (32 A) or up to 16 mm^2 (65 A).
- **Rapid –** The Premium version with connector block up to 4 mm^2 (25 A) and outgoing connector block with connection facilities for 3 phase conductors and 8 auxiliary conductors.

New, rational approaches to device configuration: The required widths are quickly and robustly assembled using the baying connection system. Classic, flexible and rapid – these three techniques meet all the requirements of device connection. System separation of the adaptor section and support frame means that device configuration is modular, safe and service-friendly.



NEW – Variable platform technology for equipment assembly

Without support frame

- Slimline, cost-effective configuration of the motor circuit breaker directly onto the support rail.
- Specially positioned bars on the underside of the support rail provide reliable protection against slipping, even with vertically configured busbar systems.

With support frame

- Cost-effective, modular configuration of motor starter combinations.
- Simple equipment preassembly even outside of the enclosure.
- Minimal downtime for equipment exchanges.
- Safely covered busbars, even with the support frame dismantled.

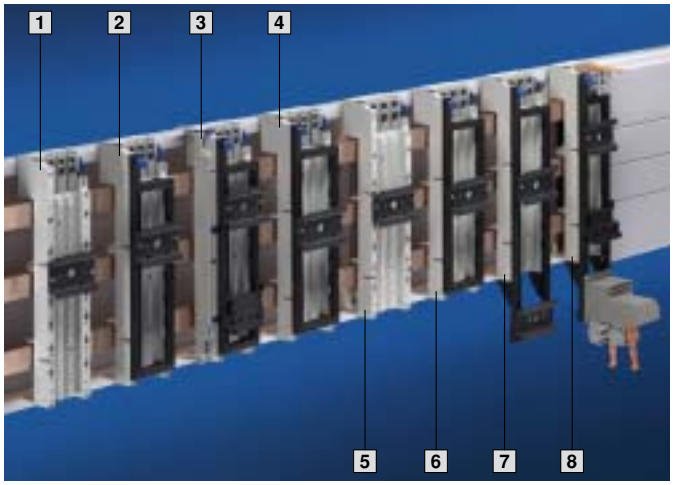
With PinBlock

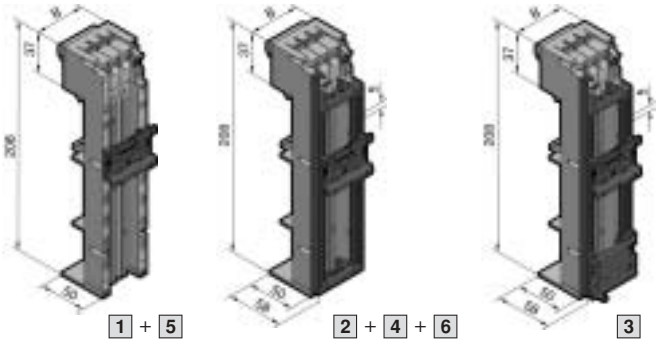
A small addition with a big effect. The PinBlock simply clips onto the support frame and can be positioned to match the respective motor starter combination by simply sliding.

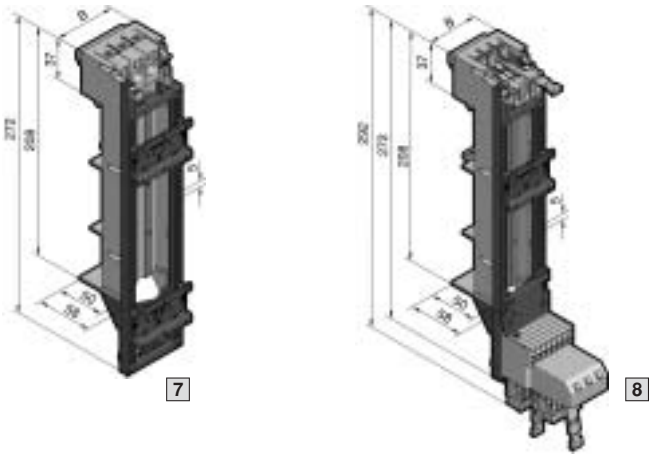
- Reliable support and side routing of the contactor.
- Simple adaptation for varying attachment heights with PinBlock Plus.

Rittal RiLine60 busbar systems 800/1600 A (60 mm)

OM adaptor 32 A/65 A with tension spring clamp/OM Premium adaptor 25 A







Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035 (punched section)

Note:
Overview of switchgear for the appropriate adaptor,
see page 54.

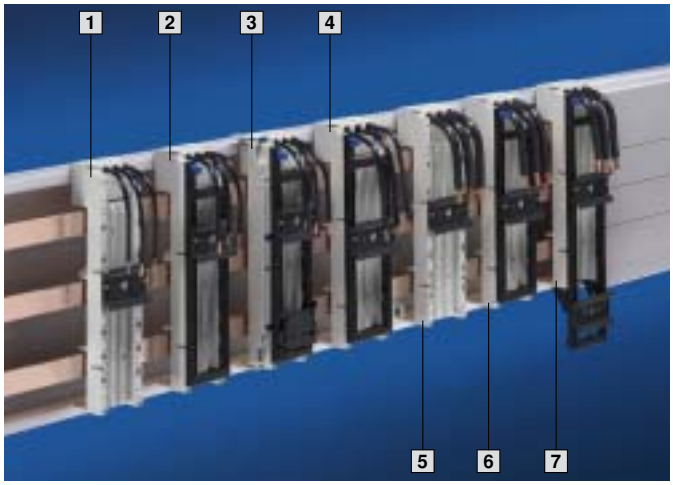
Current carrying capacity of flexible connection cables,
see page 58.

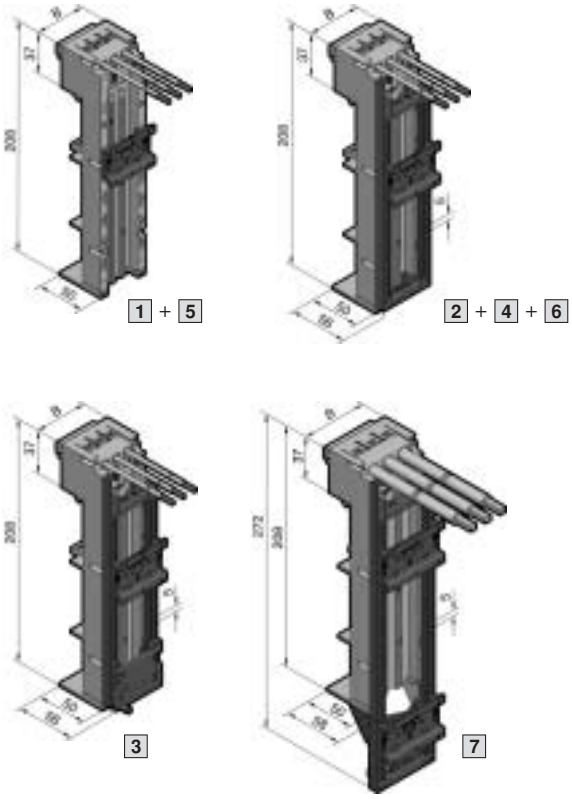
Design		Packs of	1	2	3	4	5	6	7	Premium adaptor 8	Page
Construction width (B)			45 mm	45 mm	45 mm	55 mm	55 mm	55 mm	55 mm	45 mm	
Length			208 mm	208 mm	208 mm	208 mm	208 mm	208 mm	272 mm	272 mm	
Rated current up to			32 A	32 A	32 A	32 A	65 A	65 A	65 A	25 A	
Rated operating voltage			690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	
Connection of round conductors			1.5 – 6 mm²	1.5 – 6 mm²	1.5 – 6 mm²	1.5 – 6 mm²	2.5 – 16 mm²	2.5 – 16 mm²	2.5 – 16 mm²	1.5 – 4 mm²	
With	Support frame		–	45 x 170 mm	45 x 170 mm	55 x 170 mm	–	55 x 170 mm	55 x 237 mm	45 x 237 mm	
	Support frame supports		–	–	–	–	–	–	■	■	
	PinBlock		–	–	■	–	–	–	–	■	
	Connector outlet[1]		–	–	–	–	–	–	–	■	
Number of support rails, height 10 mm			1	1	1	1	1	1	2[2]	1	
For bar thickness 5/10 mm **Model No. SV**		1	**9340.510**	**9340.530**	**9340.550**	**9340.660**	**9340.610**	**9340.630**	**9340.650**	**9340.900**	
Accessories											
Cable set for OM adaptor	AWG 14	15	9340.850	9340.850	9340.850	9340.850	9340.850	9340.850	9340.850	9340.850	45
	AWG 12	15	9340.860	9340.860	9340.860	9340.860	9340.860	9340.860	9340.860	9340.860	45
	AWG 10	15	9340.870	9340.870	9340.870	9340.870	9340.870	9340.870	9340.870	–	45
	AWG 8	6	–	–	–	–	9340.880	9340.880	9340.880	–	45
	AWG 6	6	–	–	–	–	9340.890	9340.890	9340.890	–	45
Connection pin		20	9340.280	9340.280	9340.280	9340.280	9340.280	9340.280	9340.280	9340.280	44
Insert strip 10 mm		2	9340.290	9340.290	9340.290	9340.290	9340.290	9340.290	9340.290	9340.290	44
OM support	45 x 208 mm	1	9340.260	9340.260	9340.260	9340.260	9340.260	9340.260	9340.260	9340.260	24
	55 x 208 mm	1	9340.270	9340.270	9340.270	9340.270	9340.270	9340.270	9340.270	9340.270	24
Support frame											44
PinBlock for support frame											45
PinBlock Plus											45
Support rails											46
ST-Combi connector											45

[1] Supply includes: Sub-unit with connection facilities for 3 main contacts (1.5 – 4 mm²) and 8 auxiliary contacts (0.5 – 2.5 mm²) including connectors.
[2] The lower support rail with special latch is attached from the rear with the support frame loosened.

Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT supports** page 24/25
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OM adaptor 25 A/32 A/65 A with connection cables





Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035 (punched section)

Note:
Overview of switchgear for the appropriate adaptor,
see page 55.

For the current carrying capacity of the supply cables fitted as standard (AWG),
see page 58.

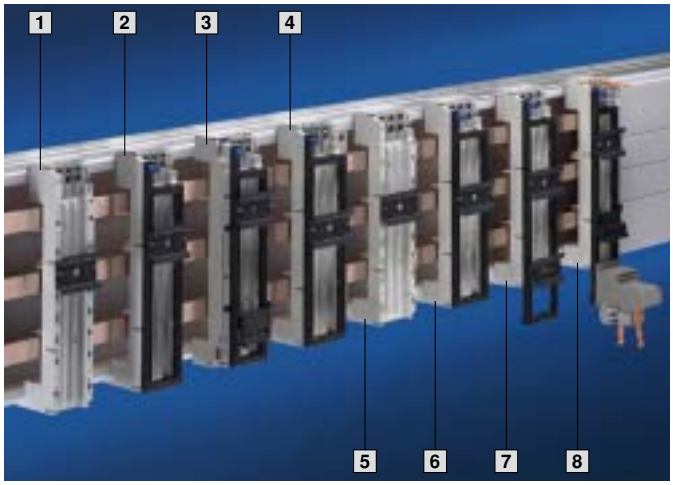
Design		Packs of	1	2	3	4	5	6	7	Page
Construction width (B)			45 mm	45 mm	45 mm	55 mm	55 mm	55 mm	55 mm	
Length			208 mm	208 mm	208 mm	208 mm	208 mm	208 mm	272 mm	
Rated current up to			25 A	25 A	25 A	32 A	65 A	65 A	65 A	
Rated operating voltage			690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	
Connection cables[1]			AWG 12	AWG 12	AWG 12	AWG 10	AWG 6	AWG 6	AWG 6	
With	Support frame		–	45 x 170 mm	45 x 170 mm	55 x 170 mm	–	55 x 170 mm	55 x 237 mm	
	Support frame supports		–	–	–	–	–	–	■	
	PinBlock		–	–	■	–	–	–	–	
Number of support rails, height 10 mm			1	1	1	1	1	1	2[2]	
For bar thickness 5/10 mm **Model No. SV**		1	**9340.310**	**9340.340**	**9340.370**	**9340.460**	**9340.410**	**9340.430**	**9340.450**	
Accessories										
Connection pin		20	9340.280	9340.280	9340.280	9340.280	9340.280	9340.280	9340.280	44
Insert strip 10 mm		2	9340.290	9340.290	9340.290	9340.290	9340.290	9340.290	9340.290	44
OM support	45 x 208 mm	1	9340.260	9340.260	9340.260	9340.260	9340.260	9340.260	9340.260	24
	55 x 208 mm	1	9340.270	9340.270	9340.270	9340.270	9340.270	9340.270	9340.270	24
Support frame										44
PinBlock for support frame										45
PinBlock Plus										45
Support rails										46

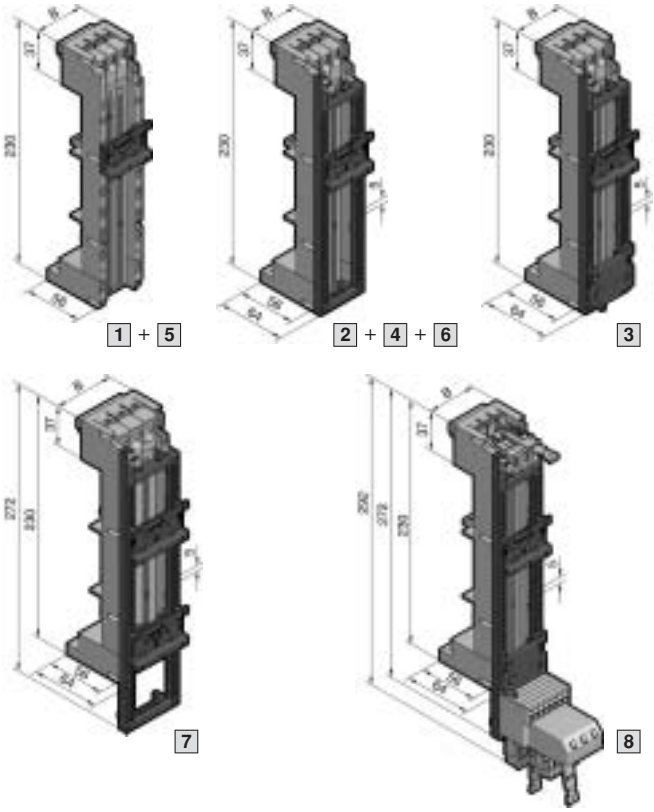
[1] AWG = American Wire Gauges
AWG 12 = 3.31 mm² ≙ 4 mm²
AWG 10 = 5.26 mm² ≙ 6 mm²
AWG 6 = 13.3 mm² ≙ 16 mm²
[2] The lower support rail with special latch is attached from the rear with the support frame loosened.

Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT supports** page 24/25
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Rittal RiLine60 busbar systems 800/1600 A (60 mm)

OT adaptor 32 A/65 A with tension spring clamp/OT Premium adaptor 25 A





Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035 (punched section)

Note:
Overview of switchgear for the appropriate adaptor,
see page 56.

Current carrying capacity of flexible connection cables,
see page 58.

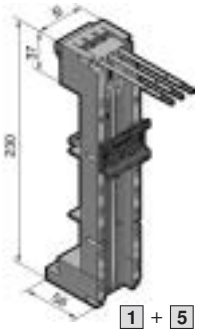
Design		Packs of	1	2	3	4	5	6	7	Premium adaptor 8	Page
Construction width (B)			45 mm	45 mm	45 mm	55 mm	55 mm	55 mm	55 mm	45 mm	
Length			230 mm	230 mm	230 mm	230 mm	230 mm	230 mm	272 mm	272 mm	
Rated current up to			32 A	32 A	32 A	32 A	65 A	65 A	65 A	25 A	
Rated operating voltage			690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	
Connection of round conductors			1.5 – 6 mm²	1.5 – 6 mm²	1.5 – 6 mm²	1.5 – 6 mm²	2.5 – 16 mm²	2.5 – 16 mm²	2.5 – 16 mm²	1.5 – 4 mm²	
With	Support frame		–	45 x 195 mm	45 x 195 mm	55 x 195 mm	–	55 x 195 mm	55 x 237 mm	45 x 237 mm	
	PinBlock		–	–	■	–	–	–	–	■	
	Connector outlet[1]		–	–	–	–	–	–	–	■	
Number of support rails, height 10 mm			1	1	1	1	1	1	2[2]	1	
For bar thickness 5/10 mm **Model No. SV**		1	**9341.510**	**9341.530**	**9341.550**	**9341.660**	**9341.610**	**9341.630**	**9341.650**	**9341.900**	
Accessories											
Cable set for OT adaptor	AWG 14	15	9340.850	9340.850	9340.850	9340.850	9340.850	9340.850	9340.850	9340.850	45
	AWG 12	15	9340.860	9340.860	9340.860	9340.860	9340.860	9340.860	9340.860	9340.860	45
	AWG 10	15	9340.870	9340.870	9340.870	9340.870	9340.870	9340.870	9340.870	–	45
	AWG 8	6	–	–	–	–	9340.880	9340.880	9340.880	–	45
	AWG 6	6	–	–	–	–	9340.890	9340.890	9340.890	–	45
Connection pin		20	9340.280	9340.280	9340.280	9340.280	9340.280	9340.280	9340.280	9340.280	44
Insert strip 10 mm		2	9341.290	9341.290	9341.290	9341.290	9341.290	9341.290	9341.290	9341.290	44
OT support	45 x 230 mm	1	9341.260	9341.260	9341.260	9341.260	9341.260	9341.260	9341.260	9341.260	25
	55 x 230 mm	1	9341.270	9341.270	9341.270	9341.270	9341.270	9341.270	9341.270	9341.270	25
Support frame											44
PinBlock for support frame											45
PinBlock Plus											45
Support rails											46
ST-Combi connector											45

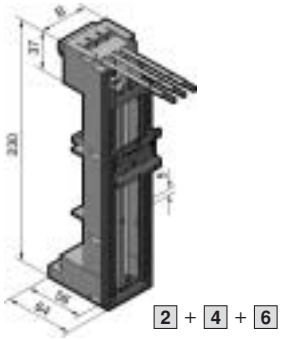
[1] Supply includes: Sub-unit with connection facilities for 3 main contacts (1.5 – 4 mm²) and 8 auxiliary contacts (0.5 – 2.5 mm²) including connectors.
[2] The lower support rail with special latch is attached from the rear with the support frame loosened.

Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT supports** page 24/25
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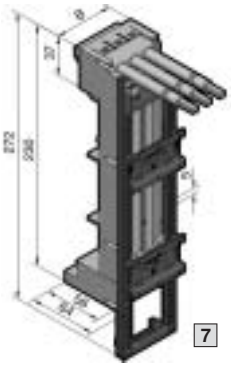
OT adaptor 25 A/32 A/65 A with connection cables











Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035 (punched section)

Note:
Overview of switchgear for the appropriate adaptor,
see page 57.

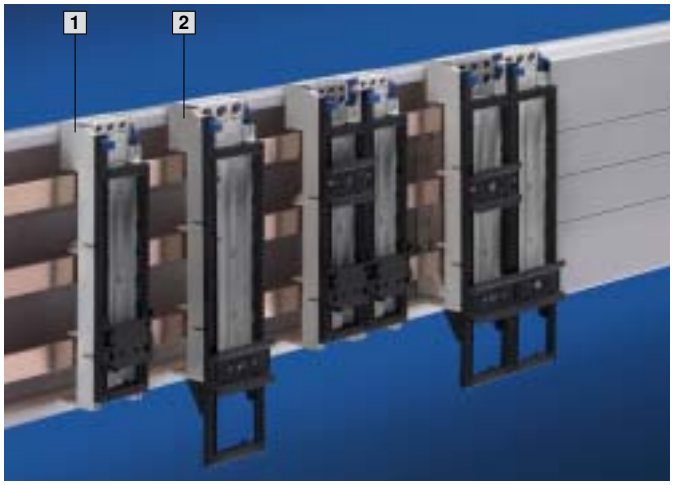
For the current carrying capacity of the supply cables fitted as standard (AWG),
see page 58.

Design		Packs of	1	2	3	4	5	6	7	Page
Construction width (B)			45 mm	45 mm	45 mm	55 mm	55 mm	55 mm	55 mm	
Length			230 mm	230 mm	230 mm	230 mm	230 mm	230 mm	272 mm	
Rated current up to			25 A	25 A	25 A	32 A	65 A	65 A	65 A	
Rated operating voltage			690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	
Connection cables[1]			AWG 12	AWG 12	AWG 12	AWG 10	AWG 6	AWG 6	AWG 6	
With	Support frame		–	45 x 195 mm	45 x 195 mm	55 x 195 mm	–	55 x 195 mm	55 x 237 mm	
	PinBlock		–	–	■	–	–	–	–	
Number of support rails, height 10 mm			1	1	1	1	1	1	2[2]	
For bar thickness 5/10 mm **Model No. SV**		1	**9341.310**	**9341.340**	**9341.370**	**9341.460**	**9341.410**	**9341.430**	**9341.450**	
Accessories										
Connection pin		20	9340.280	9340.280	9340.280	9340.280	9340.280	9340.280	9340.280	44
Insert strip 10 mm		2	9341.290	9341.290	9341.290	9341.290	9341.290	9341.290	9341.290	44
OT support	45 x 230 mm	1	9341.260	9341.260	9341.260	9341.260	9341.260	9341.260	9341.260	25
	55 x 230 mm	1	9341.270	9341.270	9341.270	9341.270	9341.270	9341.270	9341.270	25
Support frame										44
PinBlock for support frame										45
PinBlock Plus										45
Support rails										46

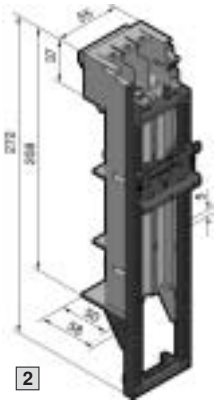
[1] AWG = American Wire Gauges
AWG 12 = 3.31 mm² ≙ 4 mm²
AWG 10 = 5.26 mm² ≙ 6 mm²
AWG 6 = 13.3 mm² ≙ 16 mm²
[2] The lower support rail with special latch is attached from the rear with the support frame loosened.

Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT supports** page 24/25
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OM supports (without contact system)







Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

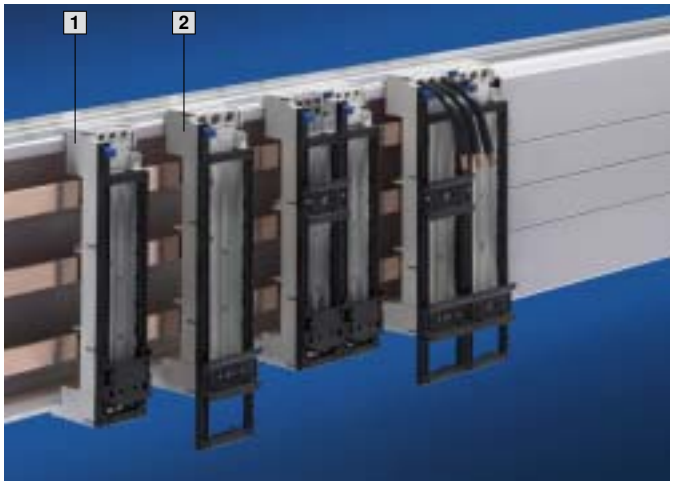
Colour:
RAL 7035 (punched section)

Design		Packs of	1	2	Page
Construction width			45 mm	55 mm	
Length			208 mm	208 mm	
With	Support frame		45 x 170 mm	55 x 237 mm	
	Support frame supports		–	■	
	PinBlock		■	–	
Number of support rails, height 10 mm			–	1[1)]	
For bar thickness 5/10 mm **Model No. SV**		1	**9340.260**	**9340.270**	
Accessories					
Connection pin		20	9340.280	9340.280	44
Insert strip 10 mm		2	9340.290	9340.290	44
Support frame					44
PinBlock for support frame					45
PinBlock Plus					45
Support rails					46

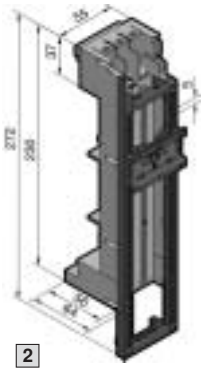
[1)] The support rail with special latch is attached from the rear with the support frame loosened.

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OT supports (without contact system)







Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

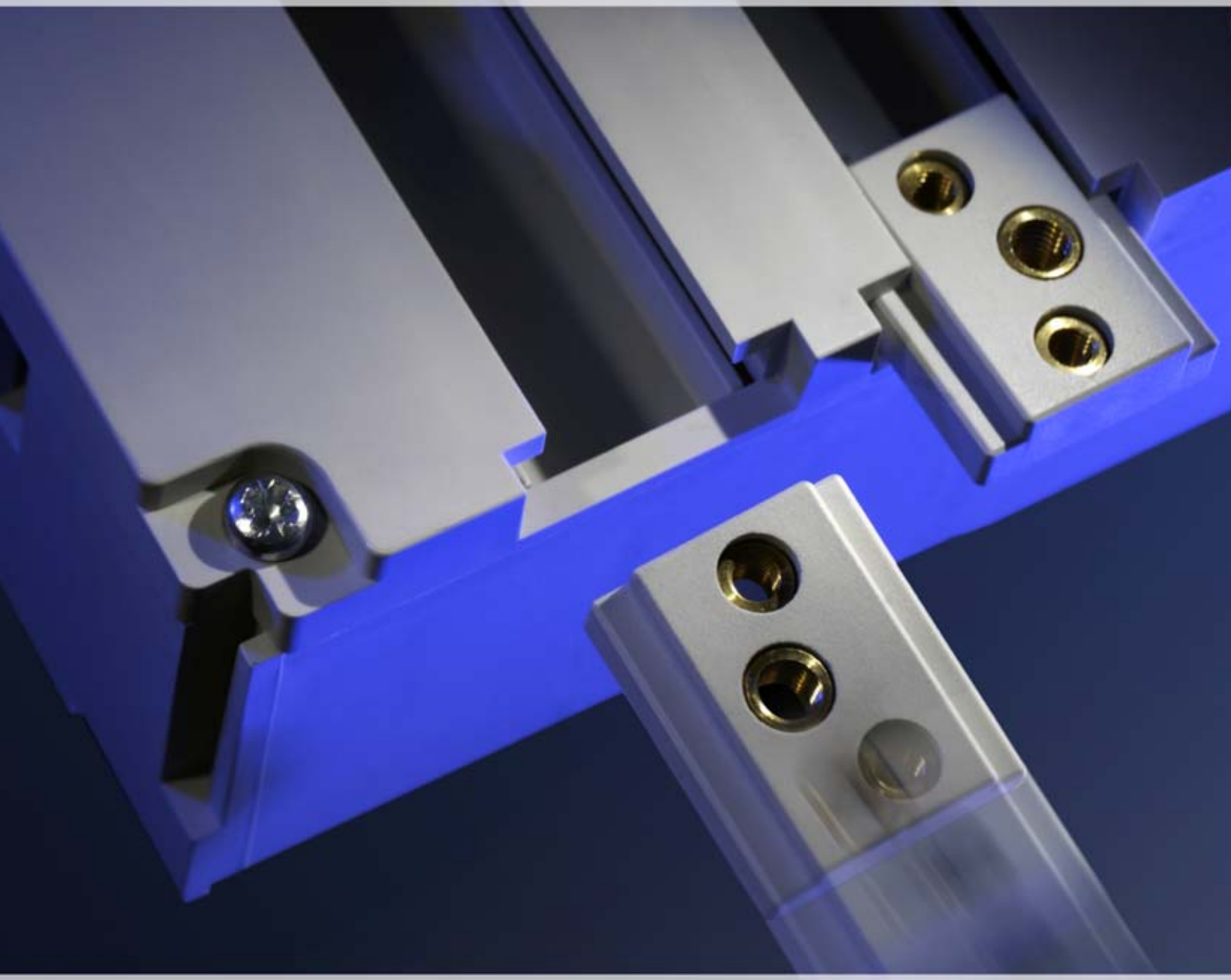
Colour:
RAL 7035 (punched section)

Design		Packs of	1	2	Page
Construction width			45 mm	55 mm	
Length			230 mm	230 mm	
With	Support frame		45 x 195 mm	55 x 237 mm	
	PinBlock		■	–	
Number of support rails, height 10 mm			–	1[1)]	
For 5/10 mm bar thickness **Model No. SV**		1	**9341.260**	**9341.270**	
Accessories					
Connection pin		20	9340.280	9340.280	44
Insert strip 10 mm		2	9341.290	9341.290	44
Support frame					44
PinBlock for support frame					45
PinBlock Plus					45
Support rails					46

[1)] The support rail with special latch is attached from the rear with the support frame loosened.

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Innovative adaptation plus high performance



NEW – Rittal RiLine60 circuit-breaker adaptor up to 630 A
Graduated lines to fit all standard commercial power circuit-breakers (MCCB). Versions are available for cable outlet at the bottom and top.

- Construction width 72 mm – up to 100 A
- Construction width 90 mm – up to 160 A
- Construction width 105 mm – up to 250 A
- Construction width 140/190 mm – up to 630 A

NEW – Universal sliding block attachment system
The sliding block system combined with the guide channels makes mounting the power circuit-breakers much easier, by eliminating the time-consuming process of searching for threaded holes.

- Simple preassembly of the standard sliding blocks on the power circuit-breaker.
- Assembled by inserting the sliding blocks into the guide channels.
- Secure positioning of the switchgear thanks to the end stop.

Brand new sliding block concept for circuit-breaker adaptors up to 630 A. Mounting of all standard power circuit-breakers is now much simpler and easier: Premount the sliding blocks on the switchgear, slide into the guide channel and secure – it's that simple!

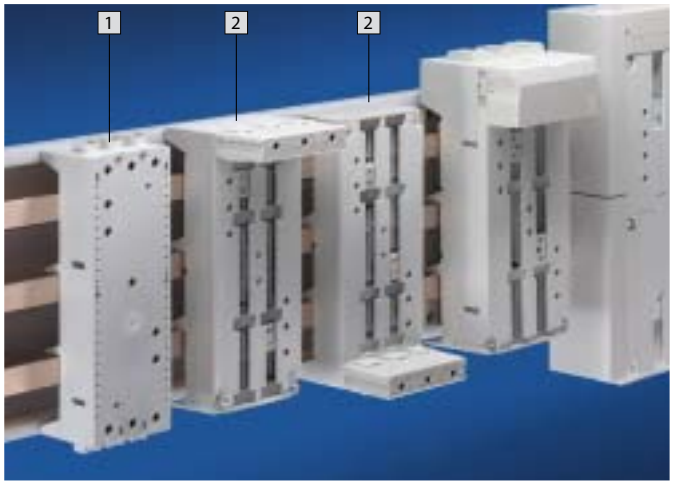


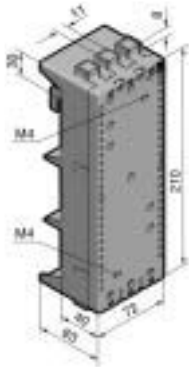


NEW – Impressive connection system

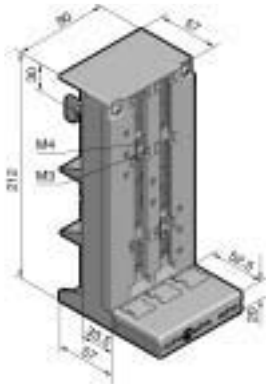
- User-friendly box terminals with versions 100, 160 and 250 A.
  Alternatively, connection with threaded bolts is also possible.
- Solid connection with threaded bolts for the version up to 630 A.
- Positioning of the connection clamps for compact equipment connection, e.g. with special Z-connection bracket.
- Short circuit-resistant, fully shielded routing of the contact tracks.
- Generous cross-section dimensioning for optimum heat dissipation and minimal heat loss.

Component adaptor 100 A/Circuit-breaker component adaptor 160 A

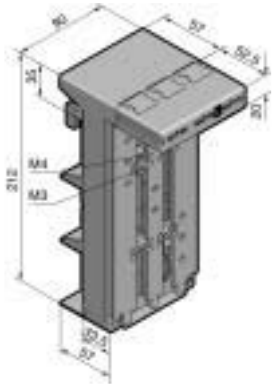




1 SV 9342.400/.410



2 SV 9342.500



2 SV 9342.510

Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

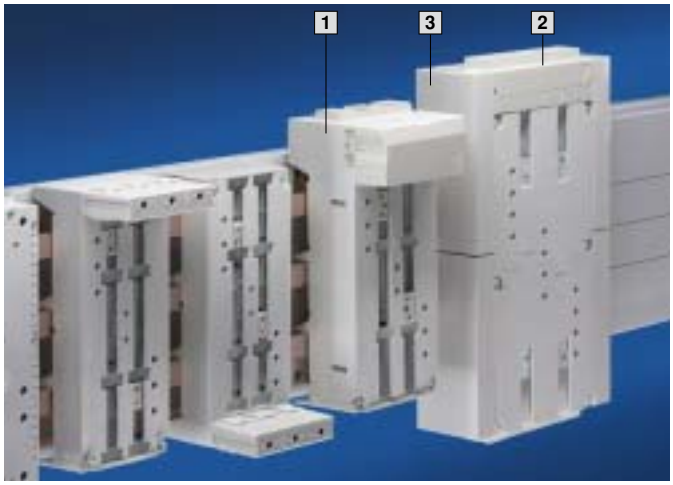
Scope of supply
Circuit-breaker component adaptor:
Terminal cover and sliding blocks for switchgear attachment.

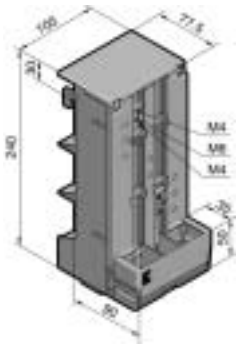
Design		Packs of	1 Component adaptor	2 Circuit-breaker component adaptor	Page
Construction width			72 mm	90 mm	
Length			210 mm	212 mm	
Rated current up to			100 A	160 A	
Rated operating voltage			690 V~	690 V~	
Connection clamp			Box terminal	Box terminal	
Connection of round conductors			10 – 35 mm ^{2}	35 – 120 mm ^{2}	
Clamping area for laminated copper bars			10 x 7.8 mm	18.5 x 15.5 mm	
Tightening torque ? Terminal screw ? Rail attachment			 2 – 3 Nm 2 Nm	 8 – 10 Nm 4 – 6 Nm	
For switchgear make/model	ABB		MS 497	S2, T1, T2	
	GE		–	FD	
	Merlin Gerin		–	NS80, NSC100	
	Moeller Electric		PKZ2 [1]	NZM1	
	Siemens		S3	–	
	Telemecanique		GV3 [1]	–	
	Universal application		■ [1]	–	
For bar thickness			5/10 mm	5/10 mm	
Cable outlet at the top [2] Model No. SV		1	9342.400	9342.500 [3]	
Cable outlet at the bottom [2] Model No. SV		1	9342.410	9342.510 [4]	
Accessories					
Support rail Width 72 mm, height 15 mm		5	9320.120	–	46

[1] Mounting only possible with support rail SV 9320.120.
[2] Switch outlet or outgoing cable.
[3] For UL approved applications use part number 9342.540; otherwise use 9342.500.
[4] For UL approved applications use part number 9342.550; otherwise use 9342.510.

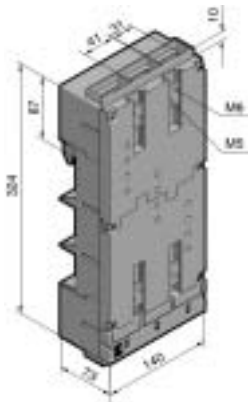
Busbar systems page 8 – 11 Busbar connection adaptor page 12/13 Connection clamps page 14 OM/OT adaptors page 20 – 23
OM/OT supports page 24/25 Bus-mounting fuse bases page 36/37 NH fused isolators page 38
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Circuit-breaker component adaptor 250 A/630 A





1 SV 9342.600

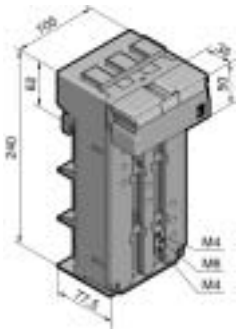


2 SV 9342.700

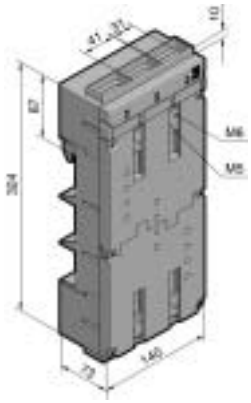
Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

Supply includes:
Terminal cover and sliding blocks for switchgear attachment.



1 SV 9342.610



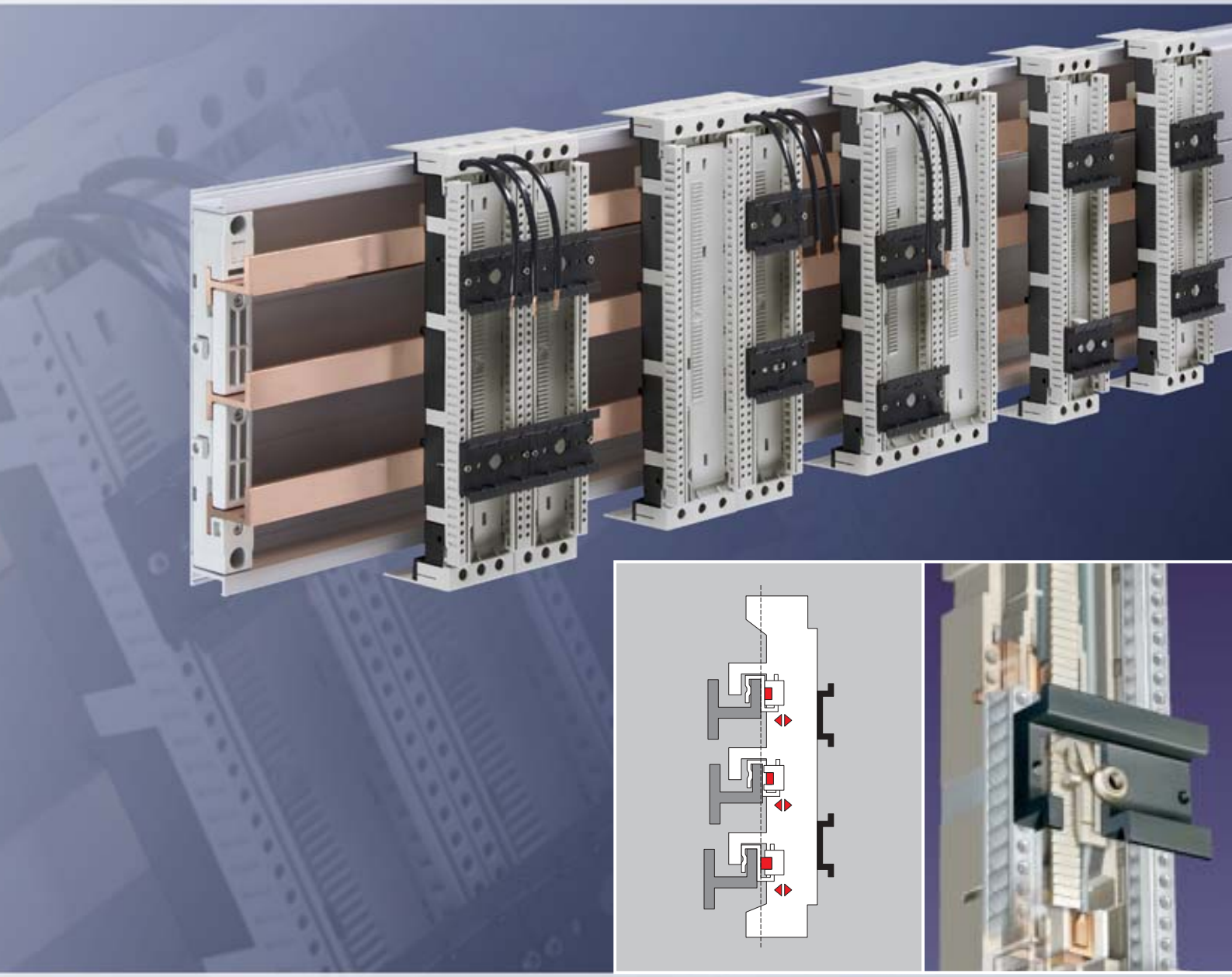
2 SV 9342.710

Design		Packs of	1	2	Page
Construction width			105 mm	140 mm	
Length			240 mm	324 mm	
Rated current up to			250 A	630 A[3]	
Rated operating voltage			690 V~	690 V~	
Connection clamp			Box terminal	Screw terminal M10	
Connection of round conductors			35 – 120 mm²	max. 150 mm² [4]	
Clamping area for laminated copper bars			18.5 x 15.5 mm	32 x 10 mm	
Tightening torque ● Terminal screw ● Rail attachment			 8 – 10 Nm 4 – 6 Nm	 30 – 32 Nm 12 – 14 Nm	
For switchgear make/model	ABB		S3, S4, T3, T4	S5, T5	
	Merlin Gerin		NS100, NS250	NS400, NS630	
	Moeller Electric		NZM2	NZM3	
	Siemens		VL160X, VL160, VL250	VL400, VL630[2]	
For bar thickness			5/10 mm	5/10 mm	
Cable outlet at the top[1] **Model No. SV**		1	**9342.600**	**9342.700**	
Cable outlet at the bottom[1] **Model No. SV**		1	**9342.610**	**9342.710**	
Accessories					
3 Insert strip 25 mm to extend the construction width from 140 mm to 190 mm		4 (1 set)	–	9342.720	44

[1] Switch outlet or outgoing cable.
[2] Also required: Insert strip 25 mm (SV 9342.720).
[3] Derating may be necessary, depending on the application.
[4] With ring terminal.

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OM/OT supports page 24/25 **Bus-mounting fuse bases** page 36/37 **NH fused isolators** page 38
NH bus-mounting on-load isolators page 39 – 43 **Accessories** page 44 – 51

Contact stability and assembly diversity



Rittal multi-functional adaptors use modern, practical technology to set standards in terms of contact reliability, assembly rationalisation and configuration diversity of switchgear:

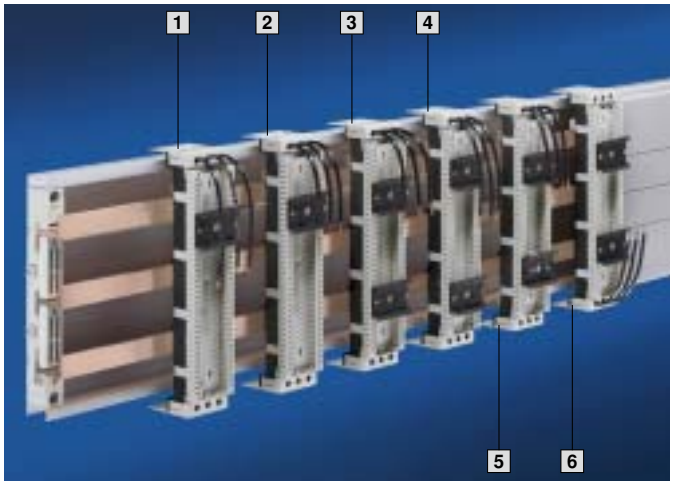
Multifunctional busbar contacting:

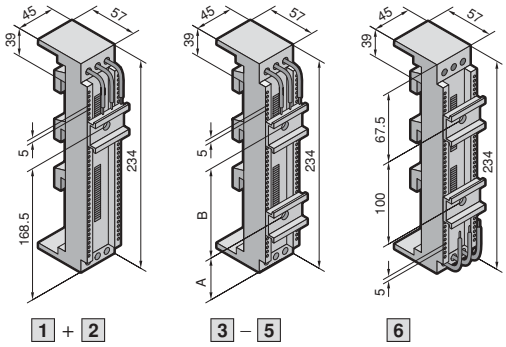
- The contact springs, mounted in a “floating” configuration in the adaptor section, ensure the equalisation of levels between the bar and the contact track. In this way, optimum adaptation to the busbar and loss-free, safe power transission is achieved thanks to pocket contacting via three contact surfaces.
- Self-locking and unlockable adaptor mounting.

Multi-functional component adaptation

- Support rails universally positionable, both fixed and sliding, as well as support rails secured via snap-fastening, ensure fast assembly and servicing for power circuit-breakers and motor starter combinations.
- Mounting clip for additional mounting of motor starter combinations.
- The cable chamber beneath the equipment support rails provides plenty of space for control wiring.

Multi-functional component adaptor 12 A/25 A





Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 140°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035,
RAL 9011 (punched section)

Note:
Overview of switchgear for the appropriate adaptor,
see page 58.

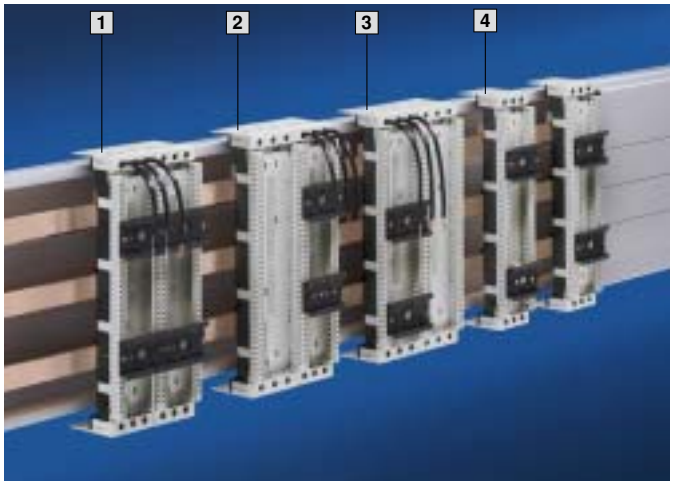
For current carrying capacity of the supply cables fitted as standard,
see page 58.

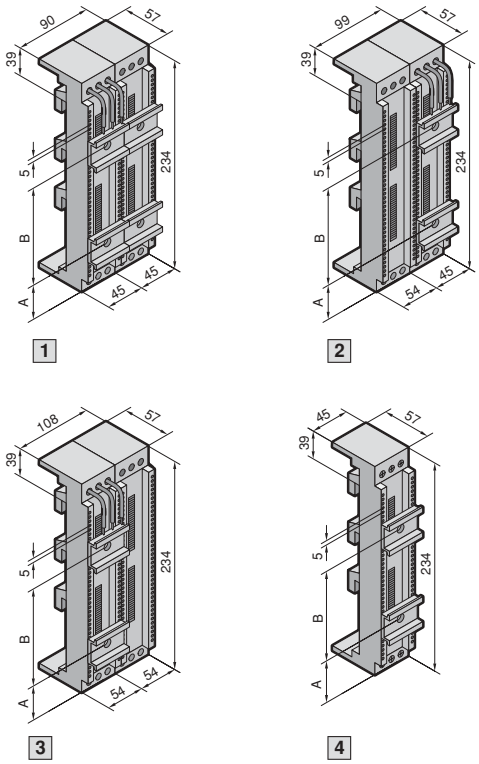
For snap-on mounting		1	2	3	4	5	6	Page
Construction width		45 mm	45 mm	45 mm	45 mm	45 mm	45 mm	
Rated current up to		12 A	25 A	25 A	25 A	25 A	25 A	
Rated operating voltage		690 V~	690 V~	690 V~	690 V~	690 V~	690 V~	
Cable outlet		Top	Top	Top	Top	Top	Bottom	
Connection cables[1)]		AWG 14	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12	
Support rails	Qty.	1	1	2	2	2 (1 variable)	2	
	Height	10 mm	10 mm	10 mm	10 mm	10 mm	10 mm	
	A	–	–	68.5 mm	55 mm	variable	–	
	B	–	–	100 mm	125 mm	variable	–	
Packs of		1	1	1	1	1	1	
For 5 mm bar thickness **Model No. SV**		**9320.160**	**9320.180**	**9320.200**	**9320.440**	**9320.220**	**9320.240**	
For 10 mm bar thickness **Model No. SV**		**9320.170**	**9320.190**	**9320.210**	**9320.450**	**9320.230**	**9320.250**	
Accessories	Packs of							
Support rails Width 45 mm, height 10 mm	5	9320.090	9320.090	9320.090	9320.090	9320.090	9320.090	46
Plug-in connector	1	9320.110	9320.110	9320.110	9320.110	9320.110	–	47
Mounting clip	5	9320.140	9320.140	9320.140	9320.140	9320.140	9320.140	47

[1)] AWG = American Wire Gauges
AWG 14 = 2.08 mm² ≙ 2.5 mm²
AWG 12 = 3.31 mm² ≙ 4 mm²

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Multi-functional component adaptor 25 A





Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 140°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035,
RAL 9011 (punched section)

Note:
Overview of switchgear for the appropriate adaptor,
see page 58.

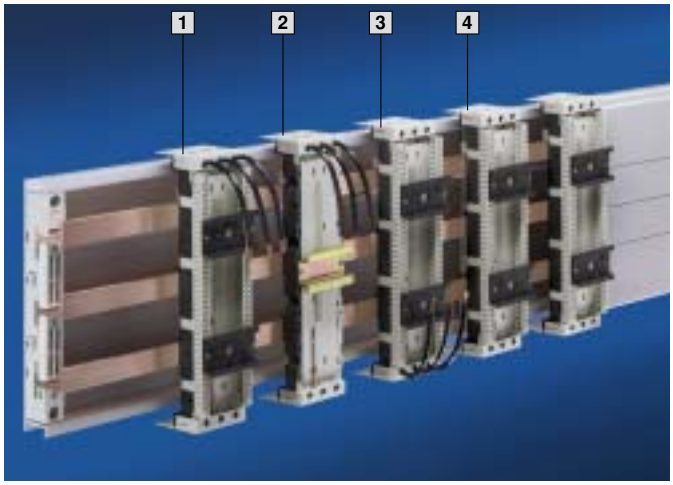
For current carrying capacity of the supply cables fitted as standard,
see page 58.

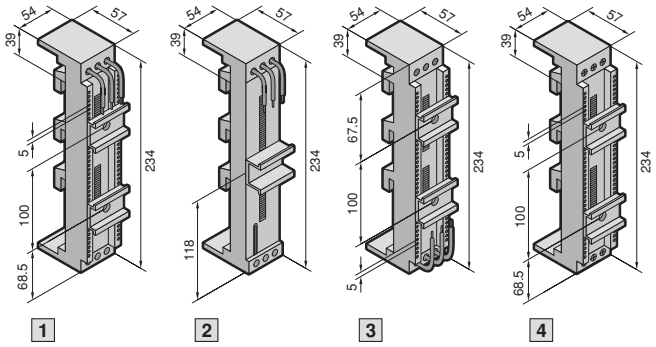
For snap-on mounting		1	2	3	4	4	Page
Construction width		90 mm	99 mm	108 mm	45 mm	45 mm	
Rated current up to		25 A	25 A	25 A	25 A	25 A	
Rated operating voltage		690 V~	690 V~	690 V~	690 V~	690 V~	
Cable outlet		Top	Top	Top	Top	Top/Bottom	
Connection cables[1)]		AWG 12	AWG 12	AWG 12	–	–	
Connection of round conductors up to		–	–	–	16 mm²	16 mm²	
Support rails	Qty.	2	2	2	2 (1 variable)	2	
	Height	10 mm	10 mm	10 mm	10 mm	10 mm	
	A	68.5 mm	43 mm	43 mm	variable	68.5 mm	
	B	100 mm	125 mm	90 mm	variable	100 mm	
Packs of		1	1	1	1	1	
For 5 mm bar thickness **Model No. SV**		**9320.380**	**9320.400**	**9320.420**	**9320.260**	**9320.280**	
For 10 mm bar thickness **Model No. SV**		**9320.390**	**9320.410**	**9320.430**	**9320.270**	**9320.290**	
Accessories	Packs of						
Support rails Width 45 mm, height 10 mm	5	9320.090	9320.090	–	9320.090	9320.090	46
Support rails Width 54 mm, height 10 mm	5	–	9320.100	9320.100	–	–	46
Plug-in connector	1	–	–	–	9320.110	–	47
Mounting clip	5	9320.140	9320.140	–	9320.140	9320.140	47

[1)] AWG = American Wire Gauges
AWG 12 = 3.31 mm² ≙ 4 mm²

Busbar systems page 8 – 11 **Busbar connection adaptor** page 12/13 **Connection clamps** page 14 **OM/OT adaptor** page 20 – 23
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Multi-functional component adaptor 40 A





Material:
Polyamide (PA 6.6),
25 % fibreglass-reinforced.
Continuous operating temperature max. 140°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035,
RAL 9011 (punched section)

Note:
Overview of switchgear for the appropriate adaptor,
see page 58.

For current carrying capacity of the supply cables fitted as standard,
see page 58.

For snap-on mounting		1	2	3	4	4	Page
Construction width		54 mm	54 mm	54 mm	54 mm	54 mm	
Rated current up to		40 A	40 A	40 A	40 A	40 A	
Rated operating voltage		690 V~	690 V~	690 V~	690 V~	690 V~	
Cable outlet		Top	Top	Bottom	Top	Top/Bottom	
Connection cables[1)]		AWG 10	AWG 10	AWG 10	–	–	
Connection of round conductors up to		–	–	–	16 mm²	16 mm²	
Support rails	Qty.	2	1	2	2	2	
	Height	10 mm	15 mm	10 mm	10 mm	10 mm	
Packs of		1	1	1	1	1	
For 5 mm bar thickness **Model No. SV**		**9320.300**	**9320.460**	**9320.320**	**9320.340**	**9320.360**	
For 10 mm bar thickness **Model No. SV**		**9320.310**	**9320.470**	**9320.330**	**9320.350**	**9320.370**	
Accessories	Packs of						
Support rails Width 54 mm, height 10 mm	5	9320.100	–	9320.100	9320.100	9320.100	46

[1)] AWG = American Wire Gauges
AWG 10 = 5.26 mm² ≙ 6 mm²

Busbar systems page 8 – 11 **Busbar connection adaptor** page 12/13 **Connection clamps** page 14 **OM/OT adaptor** page 20 – 23
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Reliable functioning with high currents



Bus-mounting fuse bases for snap-on mounting or clamping screw attachment
These three-pole components ensure reliable-contact, shake-proof connection with the busbars:

- A high level of contact stability and prevention of contact heat and scorch marks thanks to the contact plate system, i.e. the fuse inserts do not contact the busbars directly. This prevents the busbars from being destroyed by contact fire should the fuse screw cap be inadequately tightened or loosened by vibration.
- Integral screw clamps are arranged on the underside of the screw-fastening components, and special spring-loaded foot pieces are arranged on the underside of the snap-on fastening components.
- Safety is afforded by the Rittal Contact-Plus system. The contact plate system effectively separates electrical contact-making from mechanical attachment (snap-on mounting).
- Optimum cable routing on the outlet side, thanks to adequate recesses on the component body.



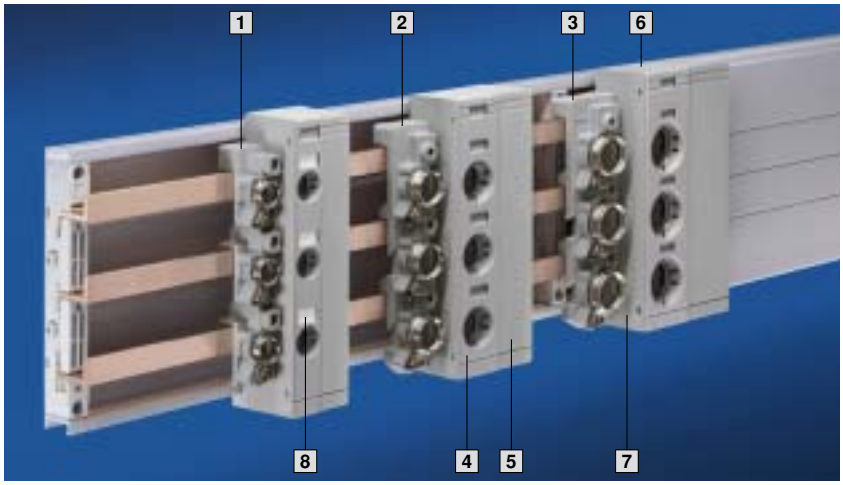
NH bus-mounting on-load isolator, sizes 000 to 3

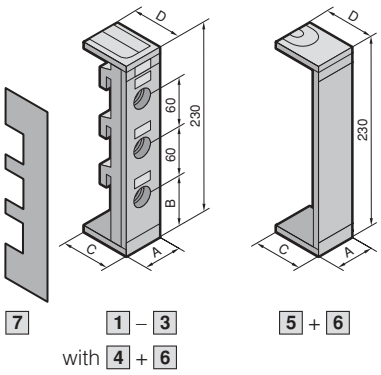
- Mechanical attachment and electrical contact with secure clamping screw attachment.
- Optionally electromechanical or electronic fuse monitoring.
- Type-tested to DIN EN 60 947-3.
- Compact, safe and contact hazard-protected device configuration in accordance with regulation IEC 60 947-3.
- Contact hazard protection plate, two-piece, with service-friendly central unlatching to comply with BGV A2 (VBG 4).

NH fused isolator, size 00

- With a construction width of just 50 mm, the NH fused isolator sets new standards in compact, space-saving configuration.
- Thanks to the double-break per phase in the switching operation, particularly high switching values are achieved.
- User-friendly direct connection of round conductors with additional prism clamps up to 95 mm^2, thanks to the stepped arrangement of the connection clamps.

Bus-mounting fuse bases





Material:
Bus-mounting fuse base:
Fibreglass-reinforced, thermoplastic polyester (PBT).
Continuous operating temperature max. 140°C.
Fire protection corresponding to UL 94-V0.

Contact hazard protection cover:
Polyamide (PA 6.6).
Continuous operating temperature max. 105°C.
Fire protection corresponding to UL 94-V0.

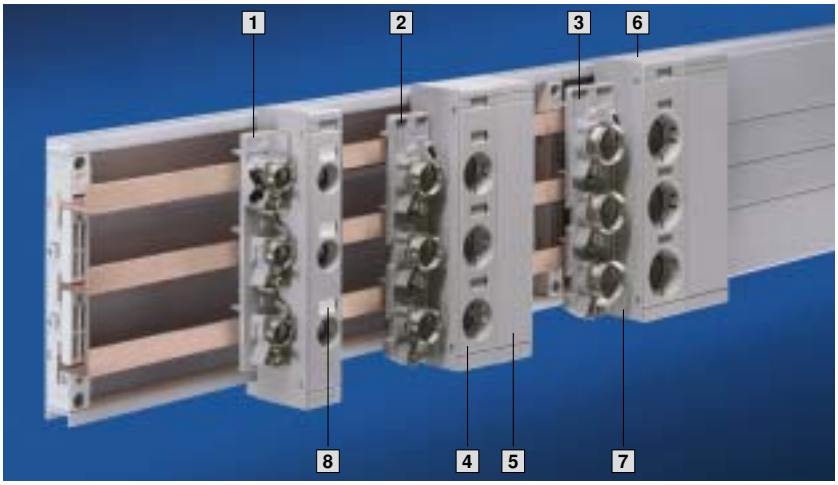
Colour:
RAL 7035

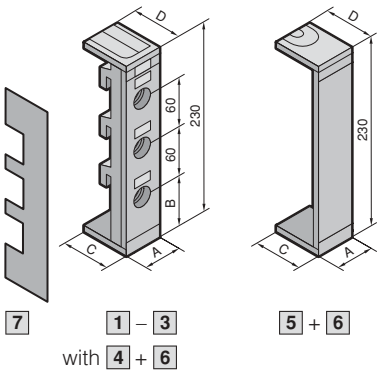
For clamping screw attachment			1	2	3
Type			D 02-E 18 (adaptor sleeve)	D II-E 27 (gauge ring)	D III-E 33 (gauge ring)
Width (A)			27 mm	42 mm	57 mm
Rated current			63 A	25 A	63 A
Rated operating voltage			400 V~	500 V~	690 V~
Terminal for round conductors[1]			1.5 – 16 mm²	1.5 – 16 mm²	1.5 – 16 mm²
Tightening torque ● Assembly screw ● Terminal screw			 2 Nm 2.5 Nm	 2 Nm 2.5 Nm	 2 Nm 2.5 Nm
Packs of			10	10	10
For 5/10 mm bar thickness **Model No. SV**			**3418.000**	**3427.000**	**3433.000**
Accessories		Packs of			
4 **Contact hazard protection cover** **Model No. SV**		10	**3419.000**	**3428.000**	**3434.000**
5 **Extension cover** **Model No. SV**		10	**3421.000**	**3430.000**	**3436.000**
6 **End caps** for rail system with base tray **Model No. SV**		10	**3420.010**	**3429.010**	**3435.010**
End caps for rail system without base tray **Model No. SV**		10	**3420.000**	**3429.000**	**3435.000**
7 **Side cover** **Model No. SV**		10	**3093.000**	**3093.000**	**3093.000**
8 **Identification labels** **Model No. SV**		100	**9320.080**	**9320.080**	**9320.080**
Width (A) mm			27	42	57
Spacing (B) mm			57	40	40
Depth (C) mm[2]			67	71.5	71.5
Depth (D) mm[3] for rail system	with base tray		47	51.5	51.5
	without base tray		67	71.5	71.5

[1] Wire end ferrules should be used with fine wire conductors.
[2] Bottom end cap.
[3] Top end cap.

Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT adaptors** page 20 – 23
OM/OT supports page 24/25 **Component adaptors** page 28 – 33 **NH fused isolators** page 38 **NH bus-mounting on-load isolators** page 39 – 43
Accessories page 44 – 51

Bus-mounting fuse bases





7 1 – 3 with 4 + 6 5 + 6

Material:
Bus-mounting fuse base:
Fibreglass-reinforced, thermoplastic polyester (PBT).
Continuous operating temperature max. 140°C.
Fire protection corresponding to UL 94-V0.

Contact hazard protection cover:
Polyamide (PA 6.6).
Continuous operating temperature max. 105°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

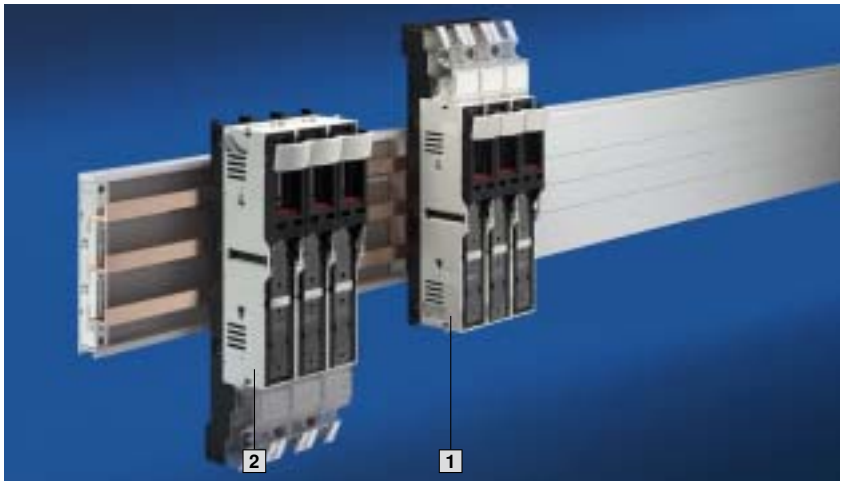
For snap-on mounting			1	2	3
Type			D 02-E 18 (adaptor sleeve)	D II-E 27 (gauge ring)	D III-E 33 (gauge ring)
Width (A)			36 mm	42 mm	57 mm
Rated current			63 A	25 A	63 A
Rated operating voltage			400 V~	500 V~	690 V~
Terminal for round conductors[1]			1.5 – 16 mm²	1.5 – 16 mm²	1.5 – 16 mm²
Tightening torque ● Terminal screw			2.5 Nm	2.5 Nm	2.5 Nm
Packs of			10	10	10
For 5 mm bar thickness **Model No. SV**			**3422.000**	**3520.000**	**3530.000**
For 10 mm bar thickness **Model No. SV**			**3423.000**	**3521.000**	**3531.000**
Accessories		Packs of			
4 **Contact hazard protection cover** **Model No. SV**		10	**3424.000**	**3428.000**	**3434.000**
5 **Extension cover** **Model No. SV**		10	**–**	**3430.000**	**3436.000**
6 **End caps** for rail system with base tray **Model No. SV**		10	**3425.010**	**3429.010**	**3435.010**
End caps for rail system without base tray **Model No. SV**		10	**3425.000**	**3429.000**	**3435.000**
7 **Side cover** **Model No. SV**		10	**3093.000**	**3093.000**	**3093.000**
8 **Identification labels** **Model No. SV**		100	**9320.080**	**9320.080**	**9320.080**
Width (A) mm			36	42	57
Spacing (B) mm			57	40	40
Depth (C) mm[2]			67	71.5	71.5
Depth (D) mm[3] for rail system	with base tray		47	51.5	51.5
	without base tray		67	71.5	71.5

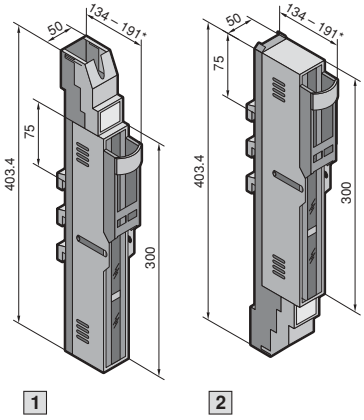
[1] Wire end ferrules should be used with fine wire conductors.
[2] Bottom end cap.
[3] Top end cap.

Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT adaptors** page 20 – 23
OM/OT supports page 24/25 **Component adaptors** page 28 – 33 **NH fused isolators** page 38 **NH bus-mounting on-load isolators** page 39 – 43
Accessories page 44 – 51

Rittal RiLine60 rail systems 800/1600 A (60 mm)

NH fused isolators, size 00





* Off-load position

Material:
Cover, strip chassis:
Fibreglass-reinforced polyamide
Contact tracks:
Silver-plated hard copper

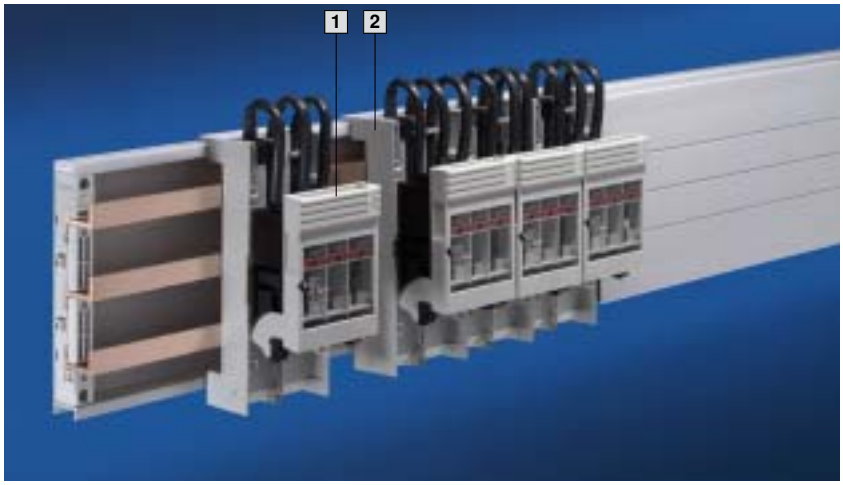
Note:
When using gR fuse inserts (VDE 0636/23) in NH equipment, please observe the information on page 62.

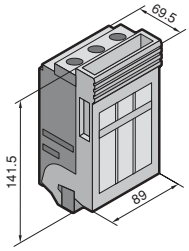
Technical information,
see page 62.

Option		1	2	Page
Size		00	00	
Rated current		160 A	160 A	
Rated operating voltage		690 V~	690 V~	
Cable outlet		Top	Bottom	
Type of connection		Screw M8	Screw M8	
Tightening torque ● Assembly screw ● Terminal screw		 6 Nm 14 Nm	 6 Nm 14 Nm	
For bar thickness		5/10 mm	5/10 mm	
Packs of		1	1	
Model No. SV		**3591.020**	**3591.030**	
Accessories	Packs of			
Identification label support	6	3595.010	3595.010	47
Micro-switch	5	3071.000	3071.000	47
Clamp-type terminal connection parts	1 set	3592.020	3592.020	48
Clamp-type terminal connection	1 set	3592.010	3592.010	48

Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT adaptors** page 20 – 23
OM/OT supports page 24/25 **Component adaptors** page 28 – 33 **Bus-mounting fuse bases** page 36/37
NH bus-mounting on-load isolators page 39 – 43 **Accessories** page 44 – 51

NH on-load isolators, size 000



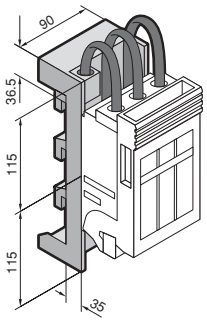


Material:
Isolator lid, contact hazard protection, isolator chassis:
Fibreglass-reinforced polyamide
Contact tracks:
Silver-plated hard copper

Technical information,
see page 60.

Size		000	Page
Rated current		100 A (160 A)[1)]	
Rated operating voltage		690 V~	
Cable outlet		Top/Bottom	
Type of connection		Terminal up to 50 mm²	
Tightening torque ● Terminal screw		3 Nm	
Packs of		1	
1 **Model No. SV**		**3431.000**	
Also required			
Busbar adaptor		see below	
Accessories	Packs of		
Micro-switch	5	3071.000	47

[1)] 160 A for 95 mm² connection cross-section (95 mm² connection pieces available on request)



2 Busbar adaptor

For mounting SV 3431.000 on 60 mm busbar systems.

Material:
Fibreglass-reinforced, thermoplastic polyester (PBT).
Continuous operating temperature: max. 140°C.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

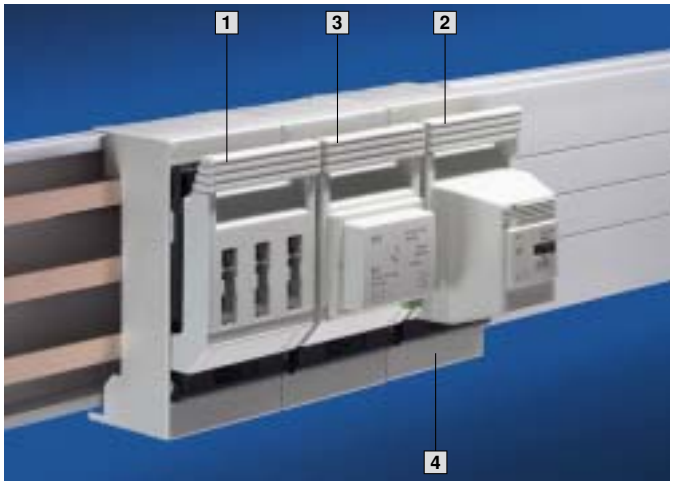
Supply includes:
35 mm² connection cables fitted as standard.

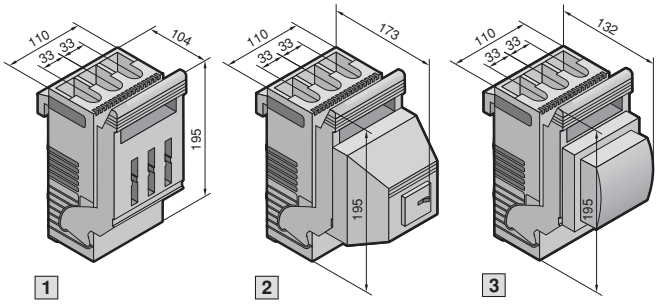
For bar thickness mm	Packs of	Model No. SV
5	1	**9320.040**
10	1	**9320.050**

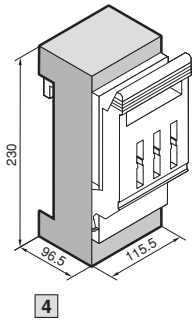
Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT adaptors** page 20 – 23
OM/OT supports page 24/25 **Component adaptors** page 28 – 33 **Bus-mounting fuse bases** page 36/37 **NH fused isolators** page 38
Accessories page 44 – 51

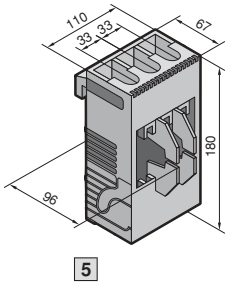
Rittal RiLine60 rail systems 800/1600 A (60 mm)

NH bus-mounting on-load isolator size 00/NH bus-mounting fuse bases size 00









Material:
Isolator lid, contact hazard protection, isolator chassis:
Fibreglass-reinforced polyamide
Contact tracks:
Silver-plated hard copper

Note:
When using gR fuse inserts (VDE 0636/23) in NH equipment, please observe the information on page 62.

The NH bus-mounting fuse base is not suitable for fitting with an isolator lid.

Technical information,
see page 60/61.

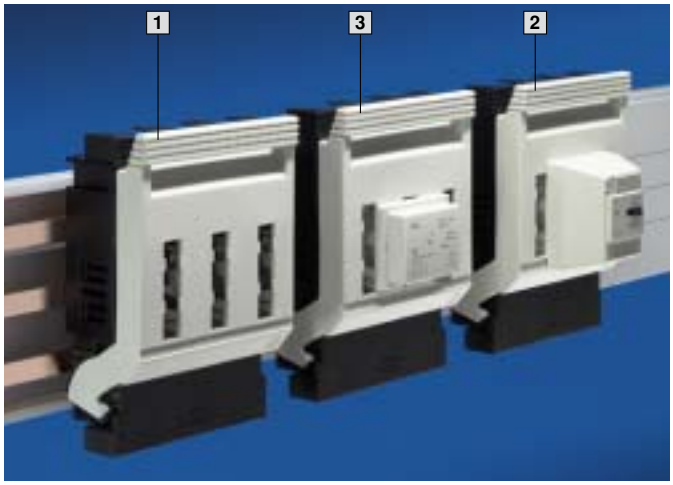
NH bus-mounting on-load isolator						Page
Size		00		00		
Rated current		160 A		160 A		
Rated operating voltage		690 V~		690 V~		
Cable outlet		Top	Bottom	Top	Bottom	
Type of connection		Screw terminal M8 up to 95 mm²		Clamp-type terminal connection up to 70 mm²		
Tightening torque ● Assembly screw ● Terminal screw		5 – 6 Nm 10 – 15 Nm	5 – 6 Nm 10 – 15 Nm	5 – 6 Nm 2 – 3 Nm	5 – 6 Nm 2 – 3 Nm	
For bar thickness		5/10 mm	5/10 mm	5/10 mm	5/10 mm	
Packs of		1	1	1	1	
1 **Model No. SV**		**3400.000**	**3401.000**	**3402.000**	**3403.000**	
2 **with electromechanical fuse monitoring Model No. SV**		**3490.000**	**3491.000**	**3492.000**	**3493.000**	
3 **with electronic fuse monitoring and LED display Model No. SV**		**3490.210**	**3491.210**	**3492.210**	**3493.210**	
Accessories	Packs of					
Micro-switch	5	3071.000	3071.000	3071.000	3071.000	47
4 Contact hazard protection frame	1	3408.000	3408.000	3408.000	3408.000	47

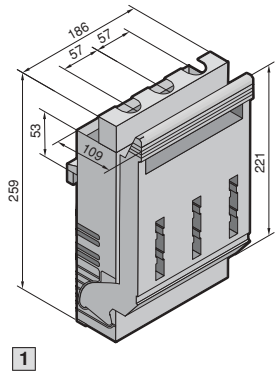
NH bus-mounting fuse bases[1)]				
Size	00		00	
Rated current	160 A		160 A	
Rated operating voltage	690 V~		690 V~	
Cable outlet	Top	Bottom	Top	Bottom
Type of connection	Screw terminal M8 up to 95 mm²		Clamp-type terminal connection up to 70 mm²	
Tightening torque ● Assembly screw ● Terminal screw	5 – 6 Nm 10 – 15 Nm	5 – 6 Nm 10 – 15 Nm	5 – 6 Nm 2 – 3 Nm	5 – 6 Nm 2 – 3 Nm
For bar thickness	5/10 mm	5/10 mm	5/10 mm	5/10 mm
Packs of	1	1	1	1
5 **Model No. SV**	**3406.000**	**3407.000**	**3404.000**	**3405.000**

[1)] Component mounting with an isolator lid is not possible.

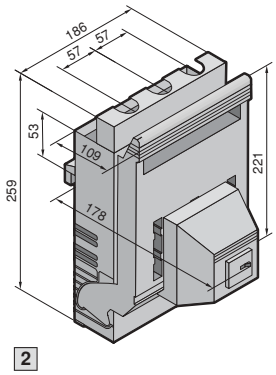
Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT adaptors** page 20 – 23
OM/OT supports page 24/25 **Component adaptors** page 28 – 33 **Bus-mounting fuse bases** page 36/37 **NH fused isolators** page 38
Accessories page 44 – 51

NH bus-mounting on-load isolator, size 1

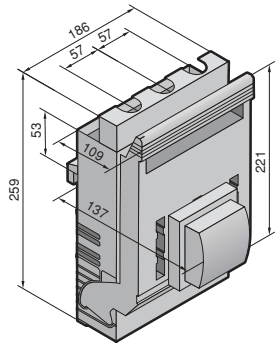




1



2



3

Material:
Isolator lid, contact hazard protection, isolator chassis:
Fibreglass-reinforced polyamide
Contact tracks:
Silver-plated hard copper

Note:
When using gR fuse inserts (VDE 0636/23) in NH equipment, please observe the information on page 62.

Technical information,
see page 60/61.

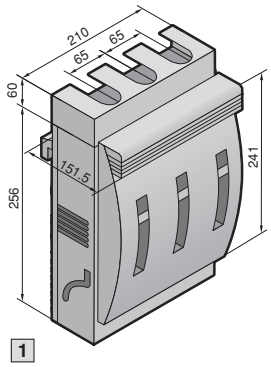
Size		1		Page
Rated current		250 A		
Rated operating voltage		690 V~		
Cable outlet		Top	Bottom	
Type of connection		Screw terminal M10 up to 150 mm²	Screw terminal M10 up to 150 mm²	
Tightening torque ● Assembly screw ● Terminal screw		 8 – 10 Nm 15 – 20 Nm	 8 – 10 Nm 15 – 20 Nm	
For bar thickness		5/10 mm	5/10 mm	
Packs of		1	1	
1 **Model No. SV**		**3411.000**	**3410.000**	
2 **with electromechanical fuse monitoring Model No. SV**		**3495.000**	**3494.000**	
3 **with electronic fuse monitoring and LED display Model No. SV**		**3495.210**	**3494.210**	
Accessories	Packs of			
Cover[1)]	2	**9341.200**	**9341.200**	
Micro-switch	5	3071.000	3071.000	47
Clamp-type terminal connection parts	1 set	3414.000	3414.000	48

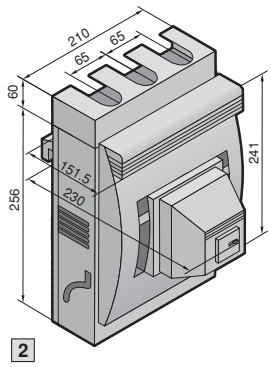
[1)] To optimise contact hazard protection between the isolator chassis and the base tray.

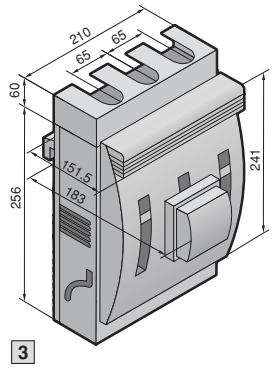
Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT adaptors** page 20 – 23
OM/OT supports page 24/25 **Component adaptors** page 28 – 33 **Bus-mounting fuse bases** page 36/37 **NH fused isolators** page 38
Accessories page 44 – 51

NH bus-mounting on-load isolator, size 2









Material:
Isolator lid, contact hazard protection, isolator chassis:
Fibreglass-reinforced polyamide
Contact tracks:
Silver-plated hard copper

Note:
When using gR fuse inserts (VDE 0636/23) in NH equipment, please observe the information on page 62.

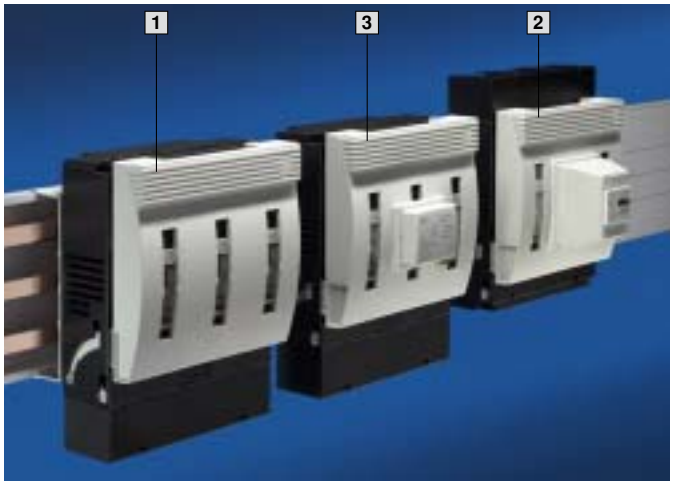
Technical information,
see page 60/61.

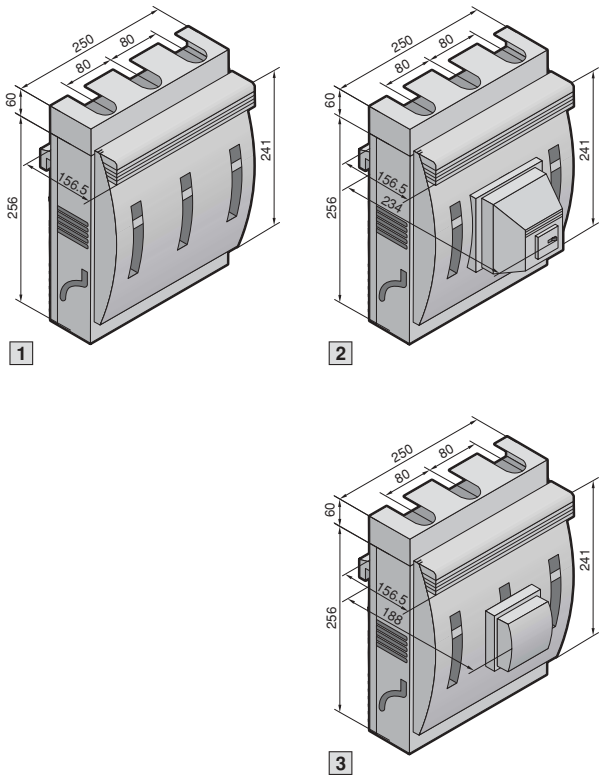
Size		2		Page
Rated current		400 A		
Rated operating voltage		690 V~		
Cable outlet		Top	Bottom	
Type of connection		Screw terminal M10 up to 240 mm²	Screw terminal M10 up to 240 mm²	
Tightening torque ● Assembly screw ● Terminal screw		 14 Nm 32 Nm	 14 Nm 32 Nm	
For bar thickness		5/10 mm	5/10 mm	
Packs of		1	1	
1 **Model No. SV**		**3415.020**	**3415.030**	
2 **with electromechanical fuse monitoring Model No. SV**		**3415.120**	**3415.130**	
3 **with electronic fuse monitoring and LED display Model No. SV**		**3415.210**	**3415.230**	
Accessories	Packs of			
Cover[1)]	2	**9341.210**	**9341.210**	
Micro-switch	5	3071.000	3071.000	47
Clamp-type terminal connection parts	1 set	3499.000	3499.000	48
Clamp-type terminal connection	1 set	3499.010	3499.010	48

[1)] To optimise contact hazard protection between the isolator chassis and the base tray.

Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT adaptors** page 20 – 23
OM/OT supports page 24/25 **Component adaptors** page 28 – 33 **Bus-mounting fuse bases** page 36/37 **NH fused isolators** page 38
Accessories page 44 – 51

NH bus-mounting on-load isolator, size 3





Material:
Isolator lid, contact hazard protection:
Fibreglass-reinforced polyamide
Isolator chassis:
Duroplastic polyester
Contact tracks:
Silver-plated hard copper

Note:
When using gR fuse inserts (VDE 0636/23) in NH equipment, please observe the information on page 62.

Technical information,
see page 60/61.

Size		3		Page
Rated current		630 A		
Rated operating voltage		690 V~		
Cable outlet		Top	Bottom	
Type of connection		Screw terminal M10 up to 240 mm²	Screw terminal M10 up to 240 mm²	
Tightening torque ● Assembly screw ● Terminal screw		 14 Nm 32 Nm	 14 Nm 32 Nm	
For bar thickness		5/10 mm	5/10 mm	
Packs of		1	1	
1 **Model No. SV**		**3095.020**	**3095.030**	
2 **with electromechanical fuse monitoring Model No. SV**		**3095.120**	**3095.130**	
3 **with electronic fuse monitoring and LED display Model No. SV**		**3095.210**	**3095.230**	
Accessories	Packs of			
Cover[1)]	2	**9341.220**	**9341.220**	
Micro-switch	5	3071.000	3071.000	47
Clamp-type terminal connection parts	1 set	3499.000	3499.000	48
Clamp-type terminal connection	1 set	3499.010	3499.010	48

[1)] To optimise contact hazard protection between the isolator chassis and the base tray.

Busbar systems page 8 – 11 **Busbar connection adaptors** page 12/13 **Connection clamps** page 14 **OM/OT adaptors** page 20 – 23
OM/OT supports page 24/25 **Component adaptors** page 28 – 33 **Bus-mounting fuse bases** page 36/37 **NH fused isolators** page 38
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Accessories



Connection pin

for OM and OT adaptors/supports
For the mechanical connection of adaptors and supports.

Material:
PA 6.6

Colour:
RAL 5015

Packs of	Model No. SV
20	**9340.280**



Insert strip

for OM and OT adaptors/supports
To extend the construction width in a 10 mm pitch pattern. May be bayed as often as required on both sides.
Width: 10 mm.

Material:
ABS

Colour:
RAL 7035

Supply includes:
6 connection pins.

For design	Packs of	Model No. SV
OM	2	**9340.290**
OT	2	**9341.290**



Insert strip

for circuit-breaker component adaptor
To extend the construction width from 140 mm to 190 mm.
Width: 25 mm.

Material:
ABS

Colour:
RAL 7035

Note:
4 units (1 set) are needed to widen a component adaptor.

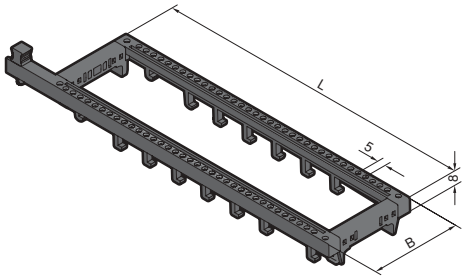
For	Packs of	Model No. SV
SV 9342.700 SV 9342.710	4 (1 set)	**9342.720**



Support frame

for OM and OT adaptors/supports
For use as a spare or for the configuration of insert assemblies.

Material:
PA 6.6



For adaptor width 45 mm

For version	Width (B) mm	Length (L) mm	Packs of	Model No. SV
OM	45	170	5	**9341.800**
OT	45	195	5	**9341.810**
OM/OT	45	237	5	**9341.820**

For adaptor width 55 mm

For version	Width (B) mm	Length (L) mm	Packs of	Model No. SV
OM	55	170	5	**9341.830**
OT	55	195	5	**9341.840**
OM/OT	55	237	5	**9341.850**



Support frame supports

for OM adaptors
To reinforce support frames 45 x 237 mm and 55 x 237 mm for use on OM adaptors.

Material:
PA 6.6

Packs of	Model No. SV
10	**9340.800**



PinBlock

for support frames
For reliable attachment and positioning of the switch contactors of motor starter combinations Simple clip-on mounting on the support frame. Individual vertical positioning is achieved by relocating the PinBlock.

Material:
PA 6.6

For support frames	Packs of	Model No. SV
45 mm wide	5	**9342.800**
55 mm wide	5	**9342.810**



PinBlock Plus

for starters with increased contactor attachment
Assembled by simply clipping onto the PinBlock (SV 9342.800/.810).

Material:
PA 6.6

Packs of	Model No. SV
5	**9342.820**



Cable set

Preassembled connection cables for individual connection of switchgear, top-mounted on OM/OT adaptors with tension spring clamps.
Length: 130 mm.

Material:
PVC insulation.
Temperature-resistant to 105°C.
Wire ends with ultrasonic wire-end compression at both ends.

Note:
For current carrying capacity of the insulated supply cables, see page 58.

Design	Packs of	Model No. SV
AWG 14 = 2.08 mm^2 ≙ 2.5 mm^2	15	**9340.850**
AWG 12 = 3.31 mm^2 ≙ 4 mm^2	15	**9340.860**
AWG 10 = 5.26 mm^2 ≙ 6 mm^2	15	**9340.870**
AWG 8 = 8.37 mm^2 ≙ 10 mm^2	6	**9340.880**
AWG 6 = 13.3 mm^2 ≙ 16 mm^2	6	**9340.890**

AWG = American Wire Gauges



ST-Combi connector

for OM/OT Premium adaptor
May be used as a spare. With tension spring clamp at the outlet end.

Material:
PA 6.6

Design	Packs of	Model No. SV
3-pole 1.5 – 4 mm^2	5	**9341.980**
8-pole 0.25 – 2.5 mm^2	5	**9341.990**

Accessories



Support rails 35 x 10 mm

for OM and OT adaptors/supports

Material:
PA 6.6

Supply includes:
Assembly screws.



For attaching to the adaptor section

Design	Width mm	Packs of	Model No. SV
TS 45C[1)]	45	5	**9342.850**
TS 45D	45	5	**9342.860**
TS 55C[1)]	55	5	**9342.920**
TS 55D	55	5	**9342.930**

[1)] With anti-displacement guard for motor circuit-breaker

For attaching to the support frame

Design	Width mm	Packs of	Model No. SV
TS 45A[1)]	45	5	**9342.830**
TS 45B	45	5	**9342.840**
TS 45B-V[2)]	45	5	**9342.870**
TS 55A[1)]	55	5	**9342.900**
TS 55B	55	5	**9342.910**
TS 55B-V[2)]	55	5	**9342.940**

[1)] With anti-slip guard for motor circuit-breaker
[2)] With latch for retrospective locking of the support rail with pre-assembled switchgear



Support rails 35 x 15 mm

for OM and OT adaptors
For attaching to the adaptor section.

Material:
Sheet steel, zinc-plated, passivated

Supply includes:
Assembly screws and side end brackets.

Width mm	Packs of	Model No. SV
45	5	**9342.880**
55	5	**9342.950**



Support rail 35 x 15 mm

for component adaptors SV 9342.400/.410

Material:
Sheet steel, zinc-plated, passivated

Supply includes:
Assembly screws and side end brackets.

Width mm	Packs of	Model No. SV
72	5	**9320.120**



Support rails 35 x 10 mm

for multi-functional component adaptors

Material:
PA 6.6

Supply includes:
Assembly screws.

Width mm	Packs of	Model No. SV
45	5	**9320.090**
54	5	**9320.100**



Plug-in connector

for multi-functional component adaptors (construction width 45 mm)
For mounting the AS-interface load feeder module with matching support type 3RK1 901-3CA00, brand Siemens, to the multi-functional component adaptor.

Packs of	Model No. SV
1	**9320.110**



Mounting clip

for multi-functional component adaptor (construction width 45 mm)
For additional latching of motor starter combinations.

Supply includes:
Support rails, 45 mm wide.

Packs of	Model No. SV
5	**9320.140**



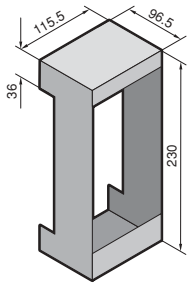
Contact hazard protection frame

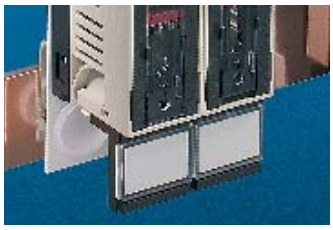
for NH bus-mounting on-load isolators, size 00.

Material:
ABS.
Fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

Packs of	Model No. SV
1	**3408.000**





Identification label support

for NH fused isolators, size 00
For clip-on mounting on the isolator housing.

Packs of	Model No. SV
6	**3595.010**





Micro-switch

for NH isolators/NH fused isolators
To indicate the switching position of the NH device (lid unit).

Packs of	Model No. SV
5	**3071.000**

Accessories



Lug terminal connection parts

for NH isolators, sizes 1 to 3
for connecting laminator copper bars and round connectors up to 70 mm².
Tightening torque:
Terminal screw
[1] 8 Nm
[2] 15 Nm

For NH isolators	Clamping area	Packs of	Model No. SV
Size 1	16 x 12 mm	1 set	**3414.000[1]**
Size 2, 3	21 x 11 mm	1 set	**3499.000[2]**



Clamp-type terminal connection

for NH isolators, sizes 2 and 3
For the connection of round conductors up to 240 mm².
Tightening torque:
Terminal screw 15 Nm.

Packs of	Model No. SV
1 set	**3499.010**



Lug terminal connection parts

for NH fused isolators size 00
For connecting laminated copper bars and round conductors 1.5 to 25 mm².
Clamping area: 16 x 10 mm.
Tightening torque:
Terminal screw 4 Nm.

Packs of	Model No. SV
1 set	**3592.020**



Clamp-type terminal connection

for NH fused isolators size 00
For the connection of round conductors 1.5 to 95 mm².
Tightening torque:
Terminal screw 4 Nm.

Packs of	Model No. SV
1 set	**3592.010**



Laminated copper bars Rittal Flexibar “S”

Length: 2000 mm/bar.

Material:
Cu lamina
- High-purity electrolyte copper F20

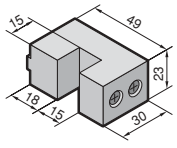
Insulation
- High-strength vinyl compound
- Expansion 370 %
- Temperature range: –30°C to +105°C
- Flame retardant version to UL 94-V0
- Dielectric strength: 20 kV/mm

Short-circuit resistance diagram,
see page 63.

Configuration[1] mm	I_n for 50 K[2]	I_n for 30 K[2]	I_n for 10 K[2]	Packs of	Model No. SV
6 x 9.0 x 0.8	250 A	220 A	120 A	1	**3565.000**
6 x 13.0 x 0.5	200 A	150 A	110 A	1	**3566.000**
4 x 15.5 x 0.8	300 A	210 A	140 A	1	**3567.000**
6 x 15.5 x 0.8	350 A	290 A	170 A	1	**3568.000**
10 x 15.5 x 0.8	450 A	350 A	190 A	1	**3569.000**
5 x 20.0 x 1.0	400 A	300 A	180 A	1	**3570.000**
5 x 24.0 x 1.0	450 A	370 A	230 A	1	**3571.000**
10 x 24.0 x 1.0	800 A	600 A	340 A	1	**3572.000**
5 x 32.0 x 1.0	550 A	470 A	280 A	1	**3573.000**
10 x 32.0 x 1.0	1000 A	800 A	460 A	1	**3574.000**
5 x 40.0 x 1.0	800 A	600 A	340 A	1	**3575.000**
10 x 40.0 x 1.0	1200 A	950 A	500 A	1	**3576.000**
5 x 50.0 x 1.0	900 A	700 A	400 A	1	**3577.000**
10 x 50.0 x 1.0	1400 A	1000 A	600 A	1	**3578.000**
10 x 63.0 x 1.0	1600 A	1240 A	715 A	1	**3579.000**

[1] Number of lamina x lamina width x lamina thickness
[2] The conductor temperature of the laminated copper bar is derived by adding the ambient temperature and the temperature increase together.
Example:
SV 3565.000 loaded with 220 A, i.e. the temperature increases by 30 K. At an ambient temperature of 35°C, this produces a conductor temperature of 35°C + 30 K = 65°C.





Universal support

For the attachment of laminated copper bars from 20 x 5 to 63 x 10 mm.

Material:
Fibreglass-reinforced, thermoplastic polyester (PBT).
Fire protection corresponding to UL 94-V0.

Supply includes:
Screws and “U” nuts for mounting on PS/TS mounting rails.

Packs of	Model No. SV
3	**3079.000**

Short-circuit resistance diagram,
see page 63.



Universal support

For the attachment of laminated copper bars from 40 x 5 to 100 x 10 mm.

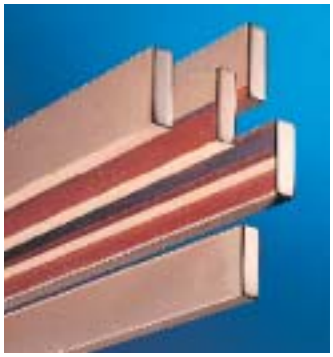
Material:
Fibreglass-reinforced, thermoplastic polyester (PBT).
Fire protection corresponding to UL 94-V0.

Supply includes:
Screws and sliding nuts for attachment on C rails.

Packs of	Model No. SV
3 sets	**3079.010**

Accessories:

C rails 30/15,
see Cat. 31, page 928.



Busbars

made from E-Cu
To DIN EN 13 601.
Length: 2400 mm/bar.

Dimensions mm	Weight per bar kg	Packs of	Model No. SV
12 x 5	1.28	6	**3580.000**
15 x 5	1.60	6	**3581.000**
20 x 5	2.14	6	**3582.000**
25 x 5	2.67	6	**3583.000**
30 x 5	3.20	6	**3584.000**
12 x 10	2.56	6	**3580.100**
15 x 10	3.20	6	**3581.100**
20 x 10	4.27	6	**3585.000**
30 x 10	6.41	6	**3586.000**

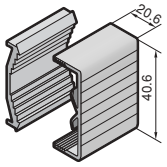


Busbar cover section

Contact hazard protection via full encapsulation of the busbars. May be cut to required length.

Material:
Thermally modified hard PVC.
Continuous operating temperature: max. 100°C.
Fire protection corresponding to UL 94-V0.

For busbars mm	Packs of	Model No. SV
12 x 5 – 30 x 10	10 @ 1 m long	**3092.000**







Busbar connectors

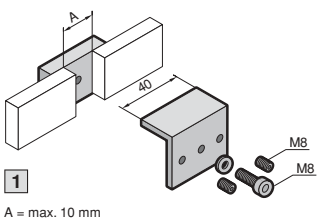
For connecting busbars, no drilling required.

Material:
SV 9350.075
Top piece: St 37, surface finish nickel-plated
Base: E-Cu

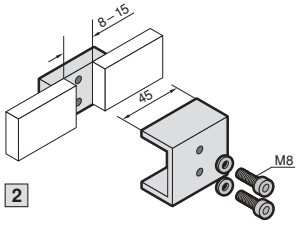
SV 9320.020/SV 9320.030
Top piece: Sheet steel, zinc-plated, passivated
Contact plate: E-Cu, silver-plated

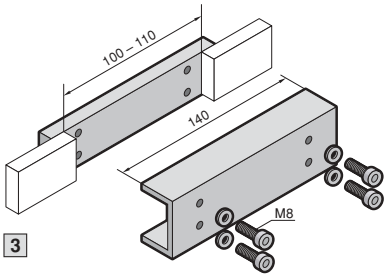
For busbars mm	Application		Tightening torque	Packs of	Model No. SV
	Single connection	Baying connection[1]			
12 x 5 – 15 x 10	1	–	5 Nm/15 Nm[2]	3	**9350.075**
20 x 5 – 30 x 10	2	–	20 Nm	3	**9320.020**
	–	3	20 Nm	3	**9320.030**

[1] From enclosure to enclosure
[2] Allen screw M8 = 5 Nm, grub screw M8 = 15 Nm



A = max. 10 mm







A



B

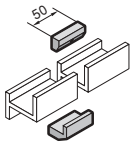
PLS busbar connectors

For connecting the PLS special busbars; no drilling required.

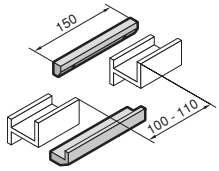
Material:
E-Cu, nickel-plated

For	Packs of	Model No. SV for PLS assembly	
		800 A	1600 A
A Single connection	3	**3504.000**	**3514.000**
B Baying connection[1)]	3	**3505.000**	**3515.000**
Tightening torque		10 – 15 Nm	15 – 20 Nm

[1)] From enclosure to enclosure (TS 8)



A



B



A



B

PLS expansion connectors

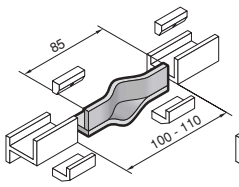
For thermal and mechanical compensation during connection of PLS special busbars from enclosure to enclosure (TS 8).

Material:
E-Cu

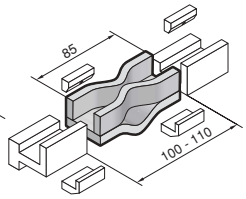
Packs of	Model No. SV for PLS assembly	
	A 800 A	B 1600 A
3	**9320.060**	**9320.070**
Also required		
PLS busbar connectors[1)]	3504.000	3514.000

[1)] Two busbar connectors are needed to fit one expansion connector.

Note:
With a temperature increase of 30 K, the busbars will expand in length by around 0.5 mm/m. Consequently, the use of an expansion connector is recommended for busbar systems with lengths in excess of 3 m.



A



B

Short-circuit resistance diagrams

Rittal RiLine60 busbar systems

Type testing to DIN EN 60 439-1
During the course of system type-testing, the following tests were conducted on the Rittal RiLine60 busbar systems and on representative Rittal RiLine60 top-mounting components:

Proof of insulating properties (to DIN EN 60 439-1, 8.2.2)
Test piece: Representative system configuration.
Test with surge voltage 1.2/50 µs, 9.8 kV.

Proof of short-circuit resistance (to DIN EN 60 439-1, 8.2.3)
see short-circuit resistance diagrams below.

Proof of creepage distances and clearance (to DIN EN 60 439-1, 8.2.5)
Test piece: Representative system configuration.

Proof of IP protection category (to DIN EN 60 439-1, 8.2.7)
Test piece: Representative system configuration.
Proven protection category: IP 2X.

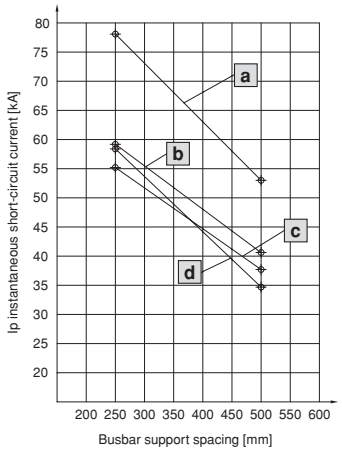
Busbar support

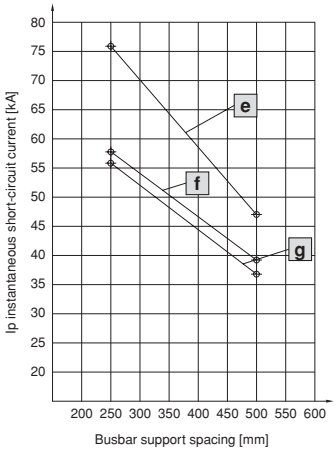
SV 9340.000/SV 9340.010

60 mm bar centre distance, for busbars from 15 x 5 – 30 x 10 mm.

Rated operating voltage: up to 690 V AC
Rated insulation voltage: 1000 V AC
Rated surge voltage: 8 kV
Overvoltage category: IV
Level of contamination: 3
Rated frequency: 50/60 Hz

Test implemented:
- Rated surge current resistance I_{pk} (see diagram)
- Rated short-time current resistance I_{cw}





Busbar (mm)	l (mm)	I_{cw} (kA)
30 x 10	250	37.6
30 x 5	250	25.4
20 x 10	250	29.0

Busbar (mm)	Curve
30 x 10	a
20 x 10	b
25 x 5	c
15 x 5	d

Busbar (mm)	Curve
30 x 5	e
20 x 5	f
15 x 10	g

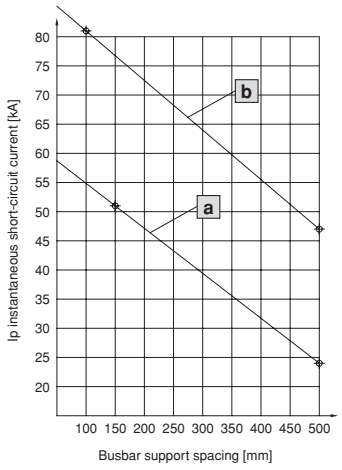
PLS busbar supports

SV 9341.000/SV 9342.000

60 mm bar centre distance, for PLS special busbars 800 A/1600 A

Rated operating voltage up to 690 V AC
Rated insulation voltage: 1000 V AC
Rated surge voltage: 8 kV
Overvoltage category: IV
Level of contamination: 3
Rated frequency: 50/60 Hz

Test implemented:
- Rated surge current resistance I_{pk} (see diagram)
- Rated short-time current resistance I_{cw}



Busbar (mm)	l (mm)	I_{cw} (kA)
PLS 800 A	150	25.9
PLS 1600 A	150	37.5

Busbar (mm)	Curve
PLS 800 A	a
PLS 1600 A	b

Rated currents of busbars E-Cu (DIN 43 671)

DIN 43 671 specifies the constant currents for busbars at an ambient temperature of 35°C and an average busbar temperature of 65°C. With the aid of a correction factor (k_2), the continuous currents specified in the following table may be adjusted to alternative operating temperatures.

For safe operation with thermal reserve, it is advisable to limit the busbar temperature to a maximum of 85°C. However, the decisive factor is the lowest permissible continuous temperature of the components which directly contact the busbar sytem (fuse bases, outgoing cables etc.). The ambient air temperature of the busbars or busbar system should not exceed 40°C; an average of 35°C maximum is recommended.

For the continuous temperatures specified in the table, an emission level of 0.4 applies, equivalent to an oxidating copper bar. In modern busbar systems – built into enclosures with a protection category of IP 54 and above – a more favourable emission level can be assumed. The lower emission level facilitates an additional increase in continuous currents compared with the figures in DIN 43 671, irrespective of the specified air and busbar temperature. Experience has shown an increase in the continuous current of 6 – 10% compared with the table figures for bare copper bars, and 60 % for surface-oxidised copper bars.

Example:
For a bare Cu bar 30 x 10 mm (E-Cu F30), DIN 43 671 specifies a constant current of I_{N65} = 573 A.
The correction factor diagram for square cross-sections indicates a correction factor k_2 = 1.29 at an air temperature of 35°C and a busbar temperature of 85°C. Thanks to the favourable emission level, the continuous current is increased by a further 6 – 10 %. In this example, a mean value of 8 % is used. Compared with the table figure from DIN 43 671, the Rittal rated current specification for a Cu bar 30 x 10 mm is:

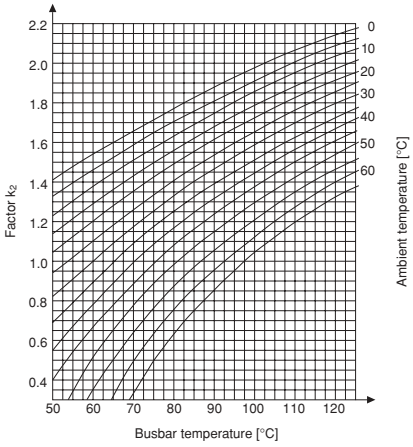
$$I_{N85} = I_{N65} \cdot k_2 + 8\ \%$$
$$= 573\ A \cdot 1.29 \cdot 1.08$$
$$I_{N85} = 800\ A$$

Continuous currents for busbars
Made from E-Cu with square cross-section in indoor locations at 35°C air temperature and 65°C bar temperature, vertical position or horizontal position of the bar width.

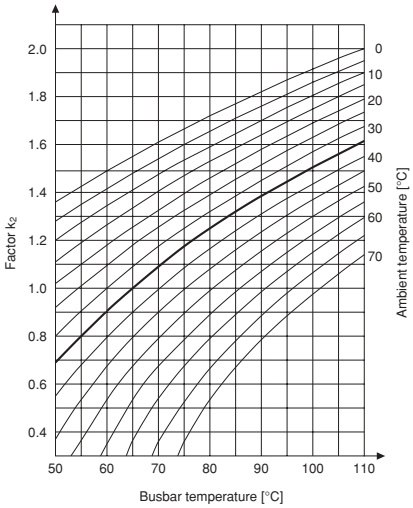
Width x thickness mm	Cross-section mm²	Weight[1]	Material[2]	Continuous current in A			
				AC current up to 60 Hz		DC current + AC current 16 Hz	
				Bare bar	Coated bar	Bare bar	Coated bar
12 x 2	23.5	0.209		108	123	108	123
15 x 2	29.5	0.262		128	148	128	148
15 x 3	44.5	0.396		162	187	162	187
20 x 2	39.5	0.351		162	189	162	189
20 x 3	59.5	0.529		204	237	204	237
20 x 5	99.1	0.882		274	319	274	320
20 x 10	199.0	1.770		427	497	428	499
25 x 3	74.5	0.663		245	287	245	287
25 x 5	124.0	1.110		327	384	327	384
30 x 3	89.5	0.796		285	337	286	337
30 x 5	149.0	1.330	E-Cu F30	379	447	380	448
30 x 10	299.0	2.660		573	676	579	683
40 x 3	119.0	1.060		366	435	367	436
40 x 5	199.0	1.770		482	573	484	576
40 x 10	399.0	3.550		715	850	728	865
50 x 5	249.0	2.220		583	697	588	703
50 x 10	499.0	4.440		852	1020	875	1050
60 x 5	299.0	2.660		688	826	696	836
60 x 10	599.0	5.330		985	1180	1020	1230
80 x 5	399.0	3.550		885	1070	902	1090
80 x 10	799.0	7.110		1240	1500	1310	1590

[1] Calculated with a density of 8.9 kg/dm³
[2] Reference basis for the continuous current levels (figures taken from DIN 43 671)

Correction factor diagram to DIN 43 671



Correction factor diagram for PLS



Rittal PLS current load
According to DIN 43 671, the correction factor k_2 (correction factor diagram) is used to correct the basic rated current with reference to the existing temperatures of the ambient air and the busbar.
In accordance with DIN 43 671, the load figures of the Rittal PLS special bars have been determined on the basis of measurement trials, as follows:

PLS special busbars	Basic rated current WS 50/60 Hz	
	For 35/75°C	For 35/65°C
E-Cu 800 A	800 A	684 A
E-Cu 1600 A	1600 A	1368 A

Allocation of switchgear

OM adaptor with tension spring clamp

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For make/model

		ABB												Moeller Electric								
		MCB				Starter				Reversing Starter				MCB			Starter			Rev. Starter		
		MS-116	MS-225	MS-325	MS-450	MS-116 B6-7, A9-16	MS-225 B6-7, A9-A12-A16	MS-325 B6-7, A9-A12-A16, A26-30	MS-450 A30-A40-A50	MS-116 B6-7, A9-16	MS-225 B6-7, A9-A12-A16	MS-325 B6-7, A9-A12-A16, A26-30	MS-450 A30-A40-A50	PKZM0	PKZM01	PKZM4	PKZM0 + DILM7-9	PKZM0 + DILM12-32	PKZM4 + DILM17-65	PKZM0 + DILM7-9	PKZM0 + DILM12-32	PKZM4 + DILM17-65
		Construction width												Construction width								
		45	54	54	55	48	54	54	70	90	110	110	140	45	45	55	45	45	55	90	90	110
Model No. SV	**Design**	**Required quantity (units)**												**Required quantity (units)**								
9340.530	OM adaptor 32 A, 690 V~, 1.5 – 6 mm² [1]	1												1	1			1			1	
9340.550	OM adaptor 32 A, 690 V~, 1.5 – 6 mm² [1]					1				1							1			1		
9340.630	OM adaptor 65 A, 690 V~, 2.5 – 16 mm² [2]				1											1						
9340.650	OM adaptor 65 A, 690 V~, 2.5 – 16 mm² [2]								1				1						1			1
9340.660	OM adaptor 32 A, 690 V~, 1.5 – 6 mm² [2]		1	1			1	1			1	1										
9340.260	OM support, 45 mm wide									1										1	1	
9340.270	OM support, 55 mm wide										1	1	1									1
9340.290	Insert strip, 10 mm wide								2				3									
9340.280	Connection pin									3	3	3	3							3	3	3
9340.860	Cable set AWG 12	3	3			3	3			3	3				3		3			3		
9340.870	Cable set AWG 10			3				3				3		3				3			3	
9340.890	Cable set AWG 6				3				3				3			3			3			3
9342.840	Support rail TS45 B	1				1				1												
9342.870	Support rail TS45 B-V																	1			2	
9342.910	Support rail TS55 B																					
9342.940	Support rail TS55 B-V						1	1			1	1										

[1] 45 mm construction width
[2] 55 mm construction width



For make/model

		Siemens									Telemecanique (Schneider Electric)											
		MCB			Starter			Rev. Starter			MCB				Starter					Rev. Starter			
		S00	S0	S2	S00 + S00	S0 + S0	S2 + S2	S00 + S00	S0 + S0	S2 + S2	GV2-ME	GV2-P	LUB12	GV3 to 65 A	GV2-P + LC1K AC	GV2-P + LC1K DC	GV2-ME + LC1D AC	GV2-ME + LC1D DC	GV3 + LC1D65	GV2-P + LC2K AC	GV2-P + LC2K DC	GV2-ME + LC2D AC	GV2-ME + LC2D DC
		Construction width									Construction width												
		45	45	55	45	45	55	90	100	120	45	45	45	62	45	45	45	45	62	90	90	90	90
Model No. SV	**Design**	**Required quantity (units)**									**Required quantity (units)**												
9340.530	OM adaptor 32 A, 690 V~, 1.5 – 6 mm² [1]	1	1								1	1	1										
9340.550	OM adaptor 32 A, 690 V~, 1.5 – 6 mm² [1]				1	1		1	1						1	1	1	1		1	1	1	1
9340.630	OM adaptor 65 A, 690 V~, 2.5 – 16 mm² [2]			1										1									
9340.650	OM adaptor 65 A, 690 V~, 2.5 – 16 mm² [2]						1			1									1				
9340.260	OM support, 45 mm wide							1	1											1	1	1	1
9340.270	OM support, 55 mm wide									1													
9340.290	Insert strip, 10 mm wide								1	1				1					1				
9340.280	Connection pin							3	3	3										3	3	3	3
9340.860	Cable set AWG 12	3			3			3															
9340.870	Cable set AWG 10		3			3			3		3	3	3		3	3	3	3		3	3	3	3
9340.890	Cable set AWG 6			3			3			3				3					3				
9342.820	PinBlock Plus														1		1			2		2	

[1] 45 mm construction width
[2] 55 mm construction width

OM adaptor with connection cables

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For make/model	ABB												Moeller Electric								
	MCB				Starter				Reversing Starter				MCB			Starter			Rev. Starter		
	MS-116	MS-225	MS-325	MS-450	MS-116 B6-7, A9-16	MS-225 B6-7, A9-A12-A16, A26-30	MS-325 B6-7, A9-A12-A16, A26-30	MS-450 A30-A40-A50	MS-116 B6-7, A9-16	MS-225 B6-7, A9-A12-A16, A26-30	MS-325 B6-7, A9-A12-A16, A26-30	MS-450 A30-A40-A50	PKZM0	PKZM01	PKZM4	PKZM0 + DILM7-9	PKZM0 + DILM12-32	PKZM4 + DILM17-65	PKZM0 + DILM7-9	PKZM0 + DILM12-32	PKZM4 + DILM17-65
	Construction width												Construction width								
	45	54	54	55	48	54	54	70	45	110	110	140	45	45	55	45	45	55	90	90	110
Model No. SV	**Design**	**Required quantity (units)**												**Required quantity (units)**								
9340.340	OM adaptor 25 A, 690 V~, AWG 12[1)]	1												1	1			1			1	
9340.370	OM adaptor 25 A, 690 V~, AWG 12[1)]					1			1								1			1		
9340.430	OM adaptor 65 A, 690 V~, AWG 6[2)]				1											1						
9340.450	OM adaptor 65 A, 690 V~, AWG 6[2)]								1				1						1			1
9340.460	OM adaptor 32 A, 690 V~, AWG 10[2)]		1	1			1	1			1	1										
9340.260	OM support, 45 mm wide									1										1	1	
9340.270	OM support, 55 mm wide										1	1	1									1
9340.290	Insert strip, 10 mm wide								2				3									
9340.280	Connection pin									3	3	3	3							3	3	3
9342.840	Support rail TS45 B	1				1				1												
9342.870	Support rail TS45 B-V																	1			2	
9342.940	Support rail TS55 B-V						1	1			1	1										

[1)] 45 mm construction width
[2)] 55 mm construction width



For make/model	Siemens									Telemecanique (Schneider Electric)												
	MCB			Starter			Rev. Starter			MCB				Starter					Rev. Starter			
	S00	S0	S2	S00 + S00	S0 + S0	S2 + S2	S00 + S00	S0 + S0	S2 + S2	GV2-ME	GV2-P	LUB12	GV3 to 65 A	GV2-P + LC1K AC	GV2-P + LC1K DC	GV2-ME + LC1K AC	GV2-ME + LC1K DC	GV3 + LC1D65	GV2-P + LC2K AC	GV2-P + LC2K DC	GV2-ME + LC2K AC	GV2-ME + LC2K DC
	Construction width									Construction width												
	45	45	55	45	45	55	90	100	120	45	45	45	62	45	45	45	45	62	90	90	90	90
Model No. SV	**Design**	**Required quantity (units)**									**Required quantity (units)**											
9340.340	OM adaptor 25 A, 690 V~, AWG 12[1)]	1	1								1	1	1									
9340.370	OM adaptor 25 A, 690 V~, AWG 12[1)]				1	1		1	1					1	1	1	1		1	1	1	1
9340.430	OM adaptor 65 A, 690 V~, AWG 6[2)]			1									1									
9340.450	OM adaptor 65 A, 690 V~, AWG 6[2)]						1		1									1				
9340.260	OM support, 45 mm wide							1	1										1	1	1	1
9340.270	OM support, 55 mm wide								1													
9340.290	Insert strip, 10 mm wide							1	1				1					1				
9340.280	Connection pin							3	3	3									3	3	3	3
9342.820	PinBlock Plus													1		1			2		2	

[1)] 45 mm construction width
[2)] 55 mm construction width

Allocation of switchgear

OT adaptor with tension spring clamp

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For make/model	ABB												Moeller Electric								
	MCB				Starter				Reversing Starter				MCB			Starter			Rev. Starter		
	MS-116	MS-225	MS-325	MS-450	MS-116 B6-7, A9-16	MS-225 B6-7, A9-A12-A16	MS-325 B6-7, A9-A12-A16-A30	MS-450 A30-A40-A50	MS-116 B6-7, A9-16	MS-225 B6-7, A9-A12-A16	MS-325 B6-7, A9-A12-A16-A30	MS-450 A30-A40-A50	PKZM0	PKZM01	PKZM4	PKZM0 + DILM7-9	PKZM0 + DILM12-32	PKZM4 + DILM17-65	PKZM0 + DILM7-9	PKZM0 + DILM12-32	PKZM4 + DILM17-65
	Construction width												Construction width								
	45	54	54	55	45	54	54	70	45	110	110	110	45	45	55	45	45	55	90	90	110
Model No. SV	**Design**	**Required quantity (units)**											**Required quantity (units)**								
9341.530	OT adaptor 32 A, 690 V~, 1.5 – 6 mm² [1]	1											1	1			1			1	
9341.550	OT adaptor 32 A, 690 V~, 1.5 – 6 mm² [1]					1			1							1			1		
9341.630	OT adaptor 65 A, 690 V~, 2.5 – 16 mm² [2]				1										1						
9341.650	OT adaptor 65 A, 690 V~, 2.5 – 16 mm² [2]							1				1						1			1
9341.660	OT adaptor 32 A, 690 V~, 1.5 – 6 mm² [2]		1	1			1	1		1	1										
9341.260	OM support, 45 mm wide								1										1	1	
9341.270	OM support, 55 mm wide									1	1	1									1
9341.290	Insert strip, 10 mm wide							2				3									
9340.280	Connection pin								4	4	4	4							4	4	4
9340.860	Cable set AWG 12	3	3			3	3		3	3				3		3			3		
9340.870	Cable set AWG 10			3				3			3		3				3			3	
9340.890	Cable set AWG 6				3				3			3			3			3			3
9342.840	Support rail TS45 B	1				1			1												
9342.870	Support rail TS45 B-V																1			2	
9342.940	Support rail TS55 B-V						1	1		1	1										

[1] 45 mm construction width
[2] 55 mm construction width



For make/model	Siemens									Telemecanique (Schneider Electric)											
	MCB			Starter			Rev. Starter			MCB				Starter					Rev. Starter			
	S00	S0	S2	S00 + S00	S0 + S0	S2 + S2	S00 + S00	S0 + S0	S2 + S2	GV2-ME	GV2-P	LUB12	GV3 to 65 A	GV2-P + LC1K AC	GV2-P + LC1K DC	GV2-ME + LC1D AC	GV2-ME + LC1D DC	GV3 + LC1D65	GV2-P + LC2K AC	GV2-P + LC2K DC	GV2-ME + LC2D AC	GV2-ME + LC2D DC
	Construction width									Construction width												
	45	45	55	45	45	55	90	100	120	45	45	45	62	45	45	45	45	62	90	90	90	90
Model No. SV	**Design**	**Required quantity (units)**									**Required quantity (units)**											
9341.530	OT adaptor 32 A, 690 V~, 1.5 – 6 mm² [1]	1	1								1	1	1									
9341.550	OT adaptor 32 A, 690 V~, 1.5 – 6 mm² [1]				1	1		1	1						1	1	1	1		1	1	1	1
9341.630	OT adaptor 65 A, 690 V~, 2.5 – 16 mm² [2]			1										1								
9341.650	OT adaptor 65 A, 690 V~, 2.5 – 16 mm² [2]						1			1									1				
9341.260	OM support, 45 mm wide							1	1											1	1	1	1
9341.270	OM support, 55 mm wide									1													
9341.290	Insert strip, 10 mm wide							1	1				1					1					
9340.280	Connection pin							4	4	4										4	4	4	4
9340.860	Cable set AWG 12	3			3			3															
9340.870	Cable set AWG 10		3			3			3		3	3	3		3	3	3	3		3	3	3	3
9340.890	Cable set AWG 6			3			3			3				3					3				
9342.820	PinBlock Plus														1		1			2		2	

[1] 45 mm construction width
[2] 55 mm construction width

OT adaptor with connection cables

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For make/model	ABB												Moeller Electric								
	MCB				Starter				Reversing Starter				MCB			Starter			Rev. Starter		
	MS-116	MS-225	MS-325	MS-450	MS-116 B6-7, A9-16	MS-225 B6-7, A9-A12-A16	MS-325 B6-7, A9-A12-A16-A30	MS-450 A30-A40-A50	MS-116 B6-7, A9-16	MS-225 B6-7, A9-A12-A16	MS-325 B6-7, A9-A12-A16-A30	MS-450 A30-A40-A50	PKZM0	PKZM01	PKZM4	PKZM0 + DILM7-9	PKZM0 + DILM12-32	PKZM4 + DILM17-65	PKZM0 + DILM7-9	PKZM0 + DILM12-32	PKZM4 + DILM17-65
	Construction width												Construction width								
	45	54	54	55	45	54	54	70	45	110	110	110	45	45	55	45	45	55	90	90	110
Model No. SV	**Design**	**Required quantity (units)**											**Required quantity (units)**								
9341.340	OT adaptor 25 A, 690 V~, AWG 12[1)]	1											1	1			1			1	
9341.370	OT adaptor 25 A, 690 V~, AWG 12[1)]					1			1							1			1		
9341.430	OT adaptor 65 A, 690 V~, AWG 6[2)]				1										1						
9341.450	OT adaptor 65 A, 690 V~, AWG 6[2)]							1				1						1			1
9341.460	OT adaptor 32 A, 690 V~, AWG 10[2)]		1	1			1	1		1	1										
9341.260	OM support, 45 mm wide								1										1	1	
9341.270	OM support, 55 mm wide									1	1	1									1
9341.290	Insert strip, 10 mm wide							2				3									
9340.280	Connection pin								4	4	4	4							4	4	4
9342.840	Support rail TS45 B	1				1			1												
9342.870	Support rail TS45 B-V																1			2	
9342.940	Support rail TS55 B-V						1	1		1	1										

[1)] 45 mm construction width
[2)] 55 mm construction width



For make/model	Siemens									Telemecanique (Schneider Electric)											
	MCB			Starter			Rev. Starter			MCB				Starter					Rev. Starter			
	S00	S0	S2	S00 + S00	S0 + S0	S2 + S2	S00 + S00	S0 + S0	S2 + S2	GV2-ME	GV2-P	LUB12	GV3 to 65 A	GV2-P + LC1K AC	GV2-P + LC1K DC	GV2-ME + LC1D AC	GV2-ME + LC1D DC	GV3 + LC1D65	GV2-P + LC2K AC	GV2-P + LC2K DC	GV2-ME + LC2K AC	GV2-ME + LC2K DC
	Construction width									Construction width												
	45	45	55	45	45	55	90	100	120	45	45	45	62	45	45	45	45	62	90	90	90	90
Model No. SV	**Design**	**Required quantity (units)**									**Required quantity (units)**											
9341.340	OT adaptor 25 A, 690 V~, AWG 12[1)]	1	1								1	1	1									
9341.370	OT adaptor 25 A, 690 V~, AWG 12[1)]				1	1		1	1						1	1	1	1		1	1	1	1
9341.430	OT adaptor 65 A, 690 V~, AWG 6[2)]			1										1								
9341.450	OT adaptor 65 A, 690 V~, AWG 6[2)]						1			1									1				
9341.260	OM support, 45 mm wide							1	1											1	1	1	1
9341.270	OM support, 55 mm wide									1													
9341.290	Insert strip, 10 mm wide								1	1				1					1				
9340.280	Connection pin							4	4	4										4	4	4	4
9342.820	PinBlock Plus													1		1			2		2		

[1)] 45 mm construction width
[2)] 55 mm construction width

Allocation of switchgear

Multi-functional component adaptor 12 A/25 A

Page 31 and 32

Make/model	For bar thickness 5 mm Model No. SV	For bar thickness 10 mm Model No. SV	Accessories Model No. SV
ABB			
MS116-..	9320.180	9320.190	–
AEG			
Mbs25	9320.180	9320.190	–
Allen Bradley			
103-...R	9320.180	9320.190	–
107-...R	9320.380	9320.390	–
140M-...-...	9320.180	9320.190	–
140-MN-...	9320.180	9320.190	–
190-M1-...	9320.440	9320.450	–
190-M2-...	9320.440	9320.450	–
Moeller Electric			
PKM0...	9320.180	9320.190	–
PKZM0-...	9320.180	9320.190	–
PKZM0-...T	9320.180	9320.190	–
PKZM0-../0.-.	9320.180	9320.190	–
PKZM0.../E01-G-W	9320.380	9320.390	–
PKZM0-../E-10-D	9320.180	9320.190	–
PKZM0-../S00-11	9320.180	9320.190	9320.140
PKZM0-../SE00-11	9320.200	9320.210	–
PKZM0-.../.-..-W	9320.380	9320.390	–
PKZM0-.../.-..WMF	9320.420[1]	9320.430[1]	–
Siemens			
S0			
3RA11 20-...2.-0...	9320.180	9320.190	9320.140
3RA12 20-....-...	9320.400	9320.410	–
3RV1. 21-...1.	9320.180	9320.190	–
3RW30 2.-1AB..	9320.180	9320.190	–
S00			
3RA11 10..0.1.-1...	9320.180	9320.190	9320.140
3RA12 10-....-...	9320.380[1]	9320.390[1]	9320.140
3RV10 11-..A1.	9320.180	9320.190	–
3RW30 1.-1CB.4	9320.180	9320.190	–
S00 Cage Clamp			
3RV10 11-..A20	9320.160	9320.170	–
Telemecanique			
GV2-....	9320.180	9320.190	–
GV2-M..K1..	9320.180	9320.190	–
GV2-M..K2..	9320.380	9320.390	–
GV2-P..D1..	9320.440	9320.450	–
GV2-P..D2..	9320.420[2]	9320.430[2]	–
LD1-L.030 (max. 25 A)	9320.180	9320.190	–
LH4-N1....7	9320.180	9320.190	–
LH4-N2....7	9320.380	9320.390	–

[1] The bottom support rail is eliminated
[2] The top support rail is offset at a distance of 125 mm from the lower support rail (support rail centre-to-centre spacing)

Multi-functional component adaptor 40 A

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Make/model	For bar thickness 5 mm Model No. SV	For bar thickness 10 mm Model No. SV
ABB		
MS25-TM-..	9320.300[1]	9320.310[1]
MS225-..	9320.300[1]	9320.310[1]
MS325-..	9320.300[1]	9320.310[1]
MS450-.. (max. 40 A)	9320.460	9320.470
MS451-.. (max. 40 A)	9320.460	9320.470
DLA..-30	9320.300[2]	9320.310[2]
AEG		
Mbs28	9320.300[1]	9320.310[1]
Allen Bradley		
140M-F8.-... (max. 40 A)	9320.300[1]	9320.310[1]
Moeller Electric		
PKZM4-... (max. 40 A)	9320.460	9320.470
Siemens		
S2		
3RV1. 31-4..10 (max. 40 A)	9320.460	9320.470
3RW30 3.-1AB.. (max. 40 A)	9320.460	9320.470

[1] The bottom support rail is eliminated
[2] The top support rail is eliminated

Current carrying capacity of connection cables

Page 20 – 23, 31 – 33, 45

Current carrying capacity
of insulated PVC cables at an ambient temperature of +40°C, installation type E (DIN EN 60 204-1:1998-11)

Nominal cross-section (mm^2)	Current capacity (A)
1.5	16
2.5	22
4	30
6	37
10	52
16	70
25	88
35	114

Conversion factors
for the load capacity of cables (DIN EN 60 204-1:1998-11)

Ambient temperature (°C)	Factor
30	1.15
35	1.08
40	1.00
45	0.91
50	0.82
55	0.71
60	0.58

Rittal busbar systems

When developing the Rittal SV busbar systems and their components, Rittal drew on the latest state of the art and the currently valid standards and regulations. These applications are used by specialist operations worldwide. As well as permanent in-house controls at Rittal, the quality of the SV components is further reinforced by a vast array of tests and approvals.

As product development is an on-going process, we reserve the right to make amendments in line with technical progress.

Basic regulations for SV busbar systems

- **DIN EN 60 439-1**
  Low-voltage switchgear combinations.
  Part 1: Type-tested and partially type-tested combinations
- **DIN EN 60 947-1**
  Low-voltage switchgear
  Part 1: General specifications
- **DIN EN 60 947-3**
  Low-voltage switchgear and controlgear: switches, disconnectors, switch disconnectors and fuse combination units
- **DIN EN 60 664-1**
  Coordination of insulation for electrical operating equipment in low-voltage systems
  Part 1: Basic principles, requirements and tests
- **DIN EN 60 999-1**
  Connector parts – Electrical copper conductors – Safety requirements for screw terminals and screwless terminals
  General and specific requirements for terminals for conductors from 0.2 mm^2 up to and including 35 mm^2
- **DIN EN 60 999-2**
  Connector parts – Electrical copper conductors – Safety requirements for screw terminals and screwless terminals
  Part 2: Special requirements for terminals for conductors greater than 35 mm^2 up to and including 300 mm^2
- **DIN 43 671**
  Copper busbars, dimensioning for constant current
- **DIN 43 673-1**
  Busbar drill holes and screw fastenings, busbars with rectangular cross-section
- **DIN EN 60 715**
  Dimensions of low-voltage switchgear – Standardised support rails for the mechanical attachment of electrical components in switching systems
- **DIN EN 13 601**
  Copper and copper alloys – Copper rods and wires for general use in electrical engineering

Application

In order to avoid injury and damage to property, SV busbar systems must only be assembled and used by suitably trained and qualified personnel. The valid technical regulations, standards and provisions must, of course, be observed.

Users are required to carefully observe the information and instructions supplied by Rittal, and where necessary to forward them to downstream users and/or customers with a special advice note. In particular, the specified tightening torques of electrical terminal connections must be observed in order to achieve an optimum contact pressure.

Technical data and catalogue information

SV power distribution components are used in conjunction with a wide range of different switchgear and other components for power distribution, and in relation to a wide range of operating and ambient conditions which are outside of Rittal's control. The horizontal position of busbars is considered the standard installation position for the SV busbar system. DIN EN 60 439-1 and the ambient conditions specified therein should be considered the basis for the use of SV power distribution components.

At enclosure internal temperatures of > 35°C, application-specific derating should be provided where necessary. Specifically in relation to the temperature limits admissible in DIN EN 60 439-1, the following factors should be critically reviewed:

- Arrangement of components inside the enclosure
- Heat loss of the power circuit-breakers and fuses used
- Passive and/or active climate control measures
- Connected conductor cross-sections
- Switching cycles



NH isolators, size 000

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- Thanks to a specially developed locking mechanism, the fuse inserts are easily and quickly installed.
- A special switching aid pre-stresses the lyre contact when the isolator lid is closed. This means that the fuse insert slides reliably into its final position without damaging the contact.
- Micro-switches for monitoring the lid position are readily integrated on the right and left.
- The unit can be protected from unauthorised switching via the readily accessible sealing device on the front of the unit.
- The spaciously designed viewing window of the isolator lid allows easy monitoring of the fuse insert indicators.
- Test holes drilled in the viewing window allow direct measurement access to the contact parts of the fuse inserts.



NH isolator, sizes 00 to 3

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- Easy assembly with removable push-in isolator lid and top mounted contact hazard protection cover.
- Two-piece contact hazard protection cover plate with service-friendly central unlocking, which also supports connection to BGV-A2 (VBG 4) even with the infeed side live.
- Apart from the fuse function, the design of the NH isolator also allows activation and deactivation of electrical equipment and system parts.
- The units may be activated whilst live (see table below).
- Micro-switches to indicate the switching position of the isolator lid are easily installed via snap-mounting on the left and right.
- The viewing window integrated into the lid unit (size 2 and size 3) has test holes which can be opened by sliding the viewing window, for direct measurement access to the contact parts of the fuse inserts (see photograph).

Technical specifications to VDE 0660, part 107/IEC 60 947-3						
Size (NH fuse inserts to DIN 43 620)		000	000/00	1	2	3
Rated operating current I_e Conventional thermal current I_{th}		100 A 160 A[1)]	160 A 160 A	250 A 250 A	400 A 400 A	630 A 630 A
Rated operating voltage U_e		AC 690 V	AC 690 V			
Rated insulation voltage U_i		690 V	800 V			
Rated surge voltage resistance U_{imp}		6 kV	8 kV			
Conditional rated short-circuit current when protected with fuses		80 kA	50 kA	50 kA	50 kA	50 kA
Rated breaking capacity to VDE 0660, part 107/IEC 60 947-3 (utilisation category)	400 V	AC-22B I_e = 100 A	AC-22B I_e = 160 A	AC-22B I_e = 250 A	AC-22B I_e = 400 A	AC-22B I_e = 630 A
	690 V	AC-21B I_e = 100 A	AC-22B I_e = 160 A	AC-21B I_e = 250 A	AC-21B I_e = 400 A	AC-21B I_e = 630 A
	440 V[2)]	DC-21B I_e = 100 A	DC-21B I_e = 160 A	DC-21B I_e = 250 A	DC-21B I_e = 400 A	DC-21B I_e = 630 A
Mechanical life (switching cycles)		2000	1600	1000	600	600
Permissible ambient temperature		–25°C to +55°C				
Fire protection corresponding to		UL 94-V0				
$P_{v\,max.}$/fuse insert		7.5 W (9 W [1)])	12 W	23 W	34 W	48 W

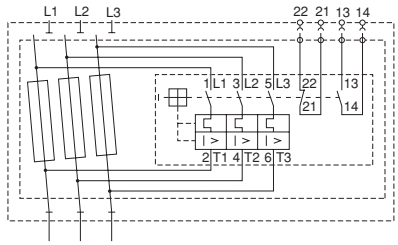
[1)] For 95 mm² connection cross-section (95 mm² connection pieces available on request)
[2)] With population of phases L_1 and L_3.

Electromechanical fuse monitoring

The connection clamps of the floating switch contacts for the indicator function are arranged on the top of the isolator base. This arrangement guarantees extremely simple installation.

The isolator lids can be removed without disconnecting any pilot wires, in the same way as NH isolators without fuse monitoring. Unlike an electronic monitor, this system operates without auxiliary power, yet still performs the same functions.

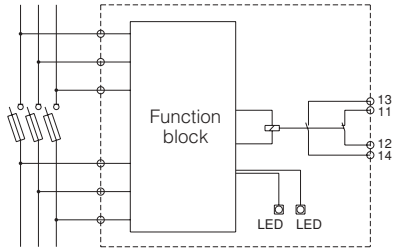
Wiring diagram



Electronic fuse monitoring

- No separate auxiliary voltage required.
- Automatic activation following fault rectification.
- Reliable functioning, thanks to surge-proof microelectronics.
- Readily accessible connector facilitates service-friendly connection of the signal tracks.
- Rapid response in the event of a fault.

Electronic fuse monitoring may be used in three-phase networks 50/60 Hz from AC 400 V to AC 690 V (max. +5 %). The auxiliary power needed for operation is taken from the mains voltage (infeed side) via energised puller lugs. Consequently, this function is only available with the mains voltage connected and the isolator lid closed. If one or more NH fuse inserts are activated due to a fault, a fault signal will be generated. It is evaluated by comparing the voltage on the puller lugs of the NH fuse inserts used (differential voltage ≥ 75 V). In the event of a fault, the separate relay contacts provide a corresponding signal message for further processing. Additionally, malfunctions are visually indicated by a red LED display, whilst a green LED indicates that the system is operational.



Technical specifications	Electromechanical fuse monitoring	Electronic fuse monitoring
Rated operating voltage U_e	AC 24 V to AC 690 V (50/60 Hz) DC 24 V to DC 250 V	AC 400 V to AC 690 V (50/60 Hz)
Rated surge voltage resistance U_{imp}	6 kV	6 kV
Response time	< 2 s	< 0.5 s
Auxiliary contacts	1 normally closed contact, 1 normally open contact	1 normally closed contact, 1 normally open contact, bounce-free
Load capacity of auxiliary contacts	1.5 A	2 A
Permissible ambient temperature	–25°C to +55°C	–25°C to +55°C
Displays	“I” switch dial position (operational) “0” switch dial position (error message)	1 green LED (operational) 1 red LED (error message)
Connection of auxiliary contacts	Terminal up to 1.5 mm²	4-pole connector up to 1.5 mm²
NH fuse inserts	With contacted, live puller lugs	

NH switchgear

NH fused isolators, size 00

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- Reliable isolated or off-load position of the switch cover unit, thanks to the integral multi-function key.
- Switch may be locked via the installation of padlocks in the closed and isolated position.
- For inspection purposes, there are viewing windows with integral holes in the switch cover unit or sliding viewing windows.
- Simple external/internal mounting of microswitches to indicate the switch position of the NH unit (lid unit).

Technical specifications to VDE 0660, part 107/IEC 60 947-3		
Size (NH fuse inserts to DIN 43 620)		00
Rated operating current I_e Conventional thermal current I_{th}		160 A 160 A
Rated operating voltage U_e		AC 690 V
Rated insulation voltage U_i		800 V
Rated surge voltage resistance U_{imp}		8 kV
Conditional rated short-circuit current when protected with fuses		50 kA
Rated breaking capacity to VDE 0660, part 107/IEC 60 947-3 (utilisation category)	400 V	AC-22B I_e = 160 A
	690 V	AC-21B I_e = 160 A
Mechanical life (switching cycles)		1600
Permissible ambient temperature		–25°C to +55°C
Fire protection corresponding to		UL 94-V0
$P_{v\ max.}$/fuse insert		12 W

Use of semi-conductor fuses in Rittal NH switchgear

The overload and short-circuit protection of semi-conductor components places very high demands on the fuse inserts, due to the time pattern for effective protection of the defective or damaged sub-circuit. Because semi-conductor components have a low thermal capacity, the integral disconnect value (I^2t-value) of the semi-conductor fuse inserts type aR, gR or gRL must match the integral limit value of the semi-conductor cell being protected. Consequently, the tripping characteristic of the fuse inserts must be very fast, and overvoltage during the break process (switching or arc voltage) must be as minimal as possible. Compared with fuse inserts for cable and line protection and transformer protection, the particular features of semi-conductor fuse inserts produce a comparatively high heat loss. The high heat loss is dissipated to the environment in the form of thermal energy. Because NH switchgear only has a limited capacity to dissipate thermal energy to the environment, the maximum heat loss ($P_{v\ max.}$/fuse insert) is listed in the technical specifications of the NH switchgear. If the values exceed the heat loss specified by the manufacturer, the rated current should be reduced in accordance with the table opposite, or the minimum connection cross-section increased accordingly to encourage heat dissipation.

Semi-conductor fuses type aR/gR/gRL				Minimum connection cross-section (Cu) [mm²]	Reduction factor for rated current
Size	I_N [A]	Operating category	Heat output [W]		
00	25	gR	6	4	1.00
00	35	gR	9	6	1.00
00	50	gR	12	10	0.87
00	63	gR	15	16	0.87
00	80	aR	19	25	0.85
00	100	aR	21	35	0.85
00	125	aR	26	50	0.80
00	160	aR	34	70	0.75
1	160	gR	24	70	1.00
1	200	gR	27	95	1.00
1	250	gR	30	120	1.00
2	250	aR	105	120	0.77
2	315	aR	120	185	0.75
2	450	aR	140	2 x (30 x 5)	0.75
3	150	gR	40	70	0.90
3	200	gR	55	95	0.90
3	250	gR	72	120	0.88
3	350	gR	95	240	0.81
3	500	gR	130	2 x 150	0.76



Laminated copper bars Rittal Flexibar “S”

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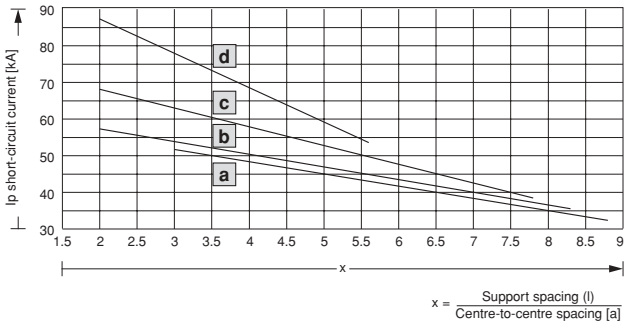
Configuration[1] mm	I_n for 50 K[2]	I_n for 30 K[2]	I_n for 10 K[2]	Curve (short-circuit resistance)	Installation type	**Model No. SV**
6 x 9.0 x 0.8	250 A	220 A	120 A	–	–	3565.000
6 x 13.0 x 0.5	200 A	150 A	110 A	–	–	3566.000
4 x 15.5 x 0.8	300 A	210 A	140 A	–	–	3567.000
6 x 15.5 x 0.8	350 A	290 A	170 A	a	1	3568.000
10 x 15.5 x 0.8	450 A	350 A	190 A	a	1	3569.000
5 x 20.0 x 1.0	400 A	300 A	180 A	a	1	3570.000
5 x 24.0 x 1.0	450 A	370 A	230 A	a	1	3571.000
10 x 24.0 x 1.0	800 A	600 A	340 A	b	1	3572.000
5 x 32.0 x 1.0	550 A	470 A	280 A	b	2/3	3573.000
10 x 32.0 x 1.0	1000 A	800 A	460 A	c	2/3	3574.000
5 x 40.0 x 1.0	800 A	600 A	340 A	b	2/3	3575.000
10 x 40.0 x 1.0	1200 A	950 A	500 A	c	2/3	3576.000
5 x 50.0 x 1.0	900 A	700 A	400 A	b	2/3	3577.000
10 x 50.0 x 1.0	1400 A	1000 A	600 A	c	2/3	3578.000
10 x 63.0 x 1.0	1600 A	1240 A	715 A	d	2/3	3579.000

[1] Number of lamina x lamina width x lamina thickness
[2] The conductor temperature of the laminated copper bar is derived by adding the ambient temperature and the temperature increase together.
Example:
SV 3565.000 loaded with 220 A, i.e. the temperature increases by 30 K. At an ambient temperature of 35°C, this produces a conductor temperature of 35°C + 30 K = 65°C.

Short-circuit resistance diagram

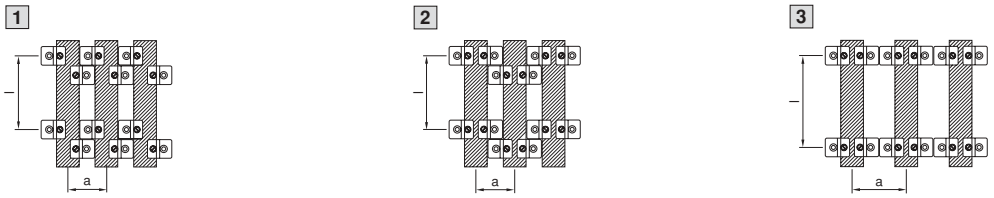
Basis of test:
VDE 0660, part 500/IEC 60 439-1.
Test implemented:
Dynamic short-circuit resistance to IEC 60 439-1.

The dimensions for the support spacing (l) and for the centre-to-centre spacing (a) must be within the specified min./max. limits. The quotients of l/a can be used to determine the permissible short-circuit current I_p by using curves a to d. The prescribed installation type must be taken into account.



Curve	Support spacing (l) mm		Centre-to-centre spacing (a) mm	
	min.	max.	min.	max.
a	150	300	34	60
b	150	350	42	85
c	200	400	51	85
d	200	450	81	100

Type of assembly with universal support SV 3079.000



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