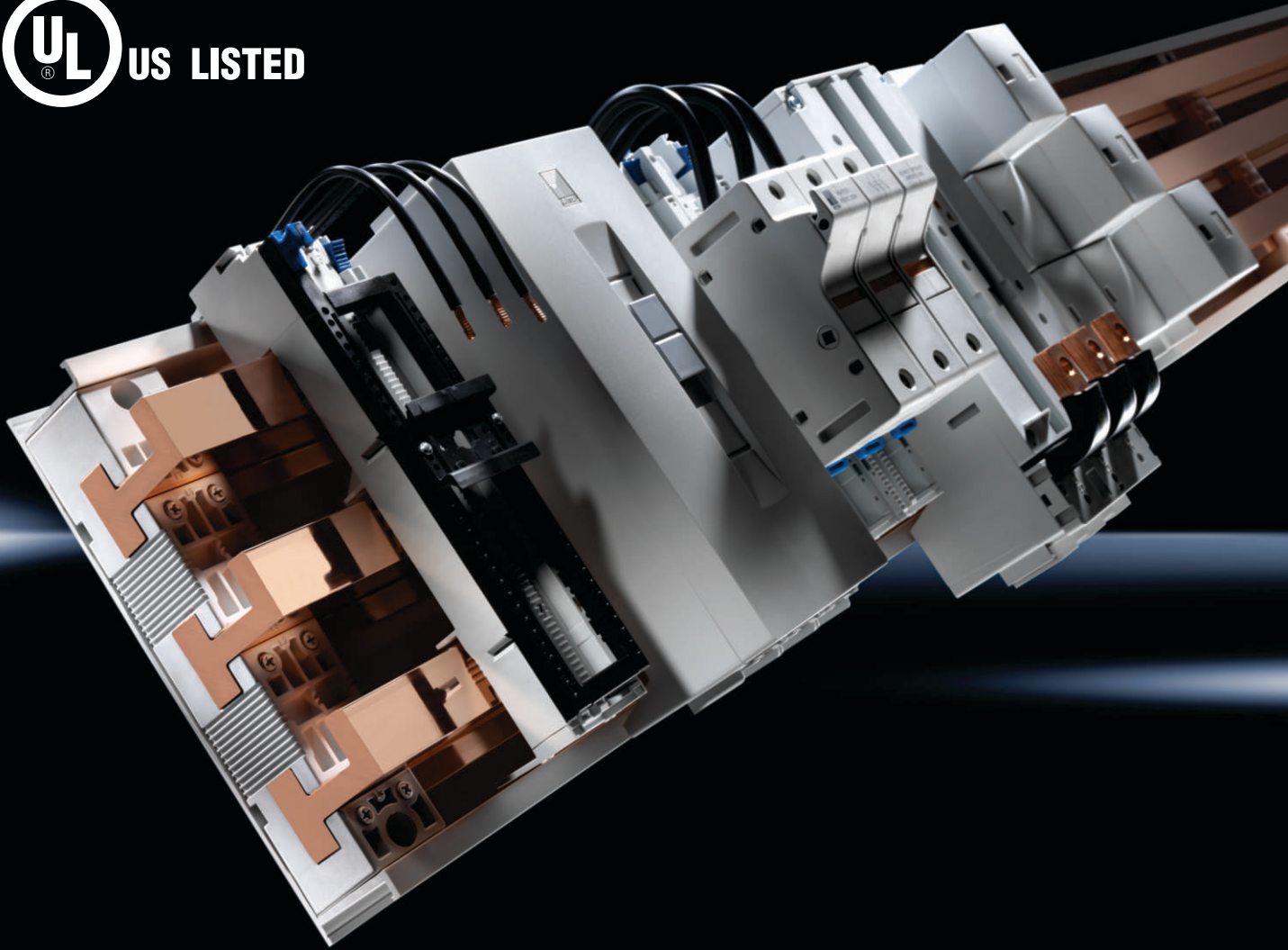


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RiLine60



60 mm system technology
for the global market

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

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RiLine60

Busbar systems 3 and 4 pole

Support + bars + contact hazard protection

- Flat copper bar system, see page 276 in HB 33
- PLS busbar system, see page 278 in HB 33
- Accessories, see page 310 in HB 33

Connection system 3 and 4 pole

- Busbar connection adaptor, see page 280 in HB 33
- Connection clamps, see page 316 in HB 33
- Connection block, see page 317 in HB 33
- Accessories, see page 310 in HB 33

Component adaptors 3 and 4 pole

- OM adaptor, see page 283 in HB 33
- Circuit-breaker component adaptor, see page 287 in HB 33
- Accessories, see page 318 in HB 33

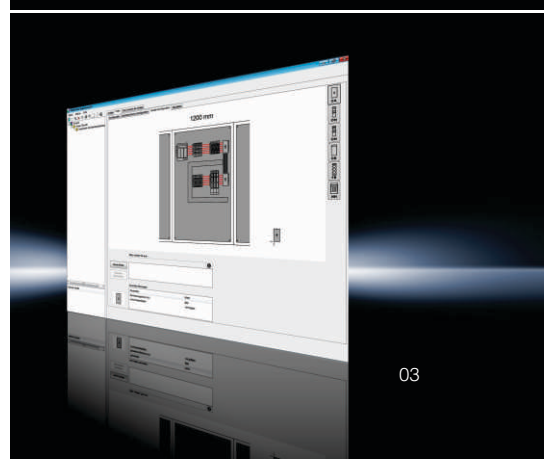
Fuse elements 3 pole

- Bus-mounting fuse bases, see page 294 in HB 33
- NH fuse-switch disconnectors, see page 296 in HB 33
- NH slimline fuse-switch disconnectors, see page 306 in HB 33
- Accessories, see page 323 in HB 33

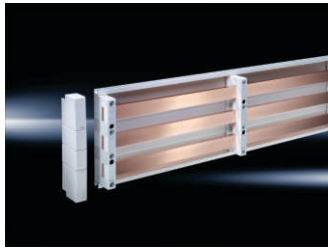
Rittal Power Engineering 6.0

Model No. SV 3020.500,
see page 523 in HB 33

- Configuration of RiLine60 busbar system
- Simple component selection, integral switchgear database
- Automatic calculation of rated currents and heat losses



RiLine60 busbar system for flat copper bars (3/4-pole)



For feeder-circuits UL 508A, cUL US LISTED, file E191125

Designation	Version	Bar centre distance mm	For busbars mm	Packs of	Model No. SV	Cata. 33, page
Busbar support	3-pole	60	15 x 5 – 30 x 10	4	9340.000* 9340.050	276
Busbar support	4-pole	60	15 x 5 – 30 x 10	4	9340.004	276
Busbar support 30 x 10 PLUS	4-pole	60	30 x 10	4	9342.014	276
System components						

Designation	Length mm	Packs of	Model No. SV		Cata. 33, page
			3-pole	4-pole	
Base tray for SV 9340.050	500	2	9340.100	–	315
	700	2	9340.110	–	315
	900	2	9340.120	–	315
	1100	2	9340.130	–	315
	2400	1	9340.170*	–	315
Base tray for SV 9340.004	1100	2	–	9340.134	315
Base tray for SV 9342.014	1100	2	–	9342.134	315
Cover section	700	2	9340.200	–	315
	1100	2	9340.210	9340.214	315
Base tray infill	100	2	9340.140	–	315
Support panel for cover section		5	9340.220	9340.224	315
End covers for SV 9340.050		2	9340.070	–	277
End covers for SV 9340.004		2	–	9340.074	276
End covers for SV 9342.014		2	–	9342.074	276

Note:

The use of a base tray is compulsory for UL applications.

*UL approval not available

RiLine60 busbar system PLS 800 (3-pole)



For feeder-circuits UL 508A, cUL US LISTED, file E191125

Designation	Version	Bar centre distance mm	For PLS busbars ¹⁾ Cross-section mm ²	Packs of	Model No. SV	Cata. 33, page
Busbar support PLS 800	3-pole	60	300	4	9341.000* 9341.050	279

System components

Designation	Length mm	Packs of	Model No. SV	Cata. 33, page
Base tray	500	2	9341.100	279
	700	2	9341.110	279
	900	2	9341.120	279
	1100	2	9341.130	279
	2400	1	9341.170*	279
Cover section	700	2	9340.200	279
	1100	2	9340.210	279
Base tray infill	100	2	9341.140	279
Support panel for cover section		5	9340.220	279
End covers for SV 9341.050		2	9341.070	279

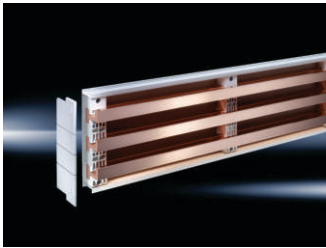
¹⁾ 5 mm bar thickness

Note:

The use of a base tray is compulsory for UL applications.

*UL approval not available

RiLine60 busbar system PLS 1600 (3/4-pole)



For feeder-circuits UL 508A, c  US LISTED, file E191125

Designation	Version	Bar centre distance mm	For PLS busbars ¹⁾ Cross-section mm ²	Packs of	Model No. SV	Cata. 33, page
Busbar support PLS 1600	3-pole	60	900	4	9342.000* 9342.050	279
Busbar support PLS 1600 PLUS	4-pole	60	900	4	9342.004	279

System components

Designation	Length mm	Packs of	Model No. SV		Cata. 33, page
			3-pole	4-pole	
Base tray	500	2	9342.100	–	279
	700	2	9342.110	–	279
	900	2	9342.120	–	279
	1100	2	9342.130	9342.134	279
	2400	1	9342.170*	–	279
Cover section	700	2	9340.200	–	279
	1100	2	9340.210	9340.214	279
Base tray infill	100	2	9342.140	–	279
Support panel for cover section	–	5	9340.220	9340.224	279
End covers for busbar supports	–	2	9342.070	9342.074	279

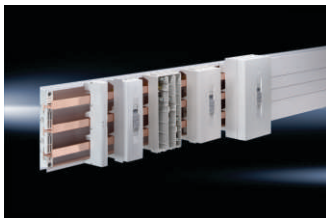
¹⁾ 10 mm bar thickness

Note:

The use of a base tray is compulsory for UL applications.

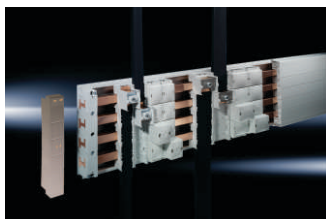
*UL approval not available

Busbar connection adaptor (3/4-pole)



For feeder-circuits UL 508A, c  US LISTED, file E191125

Rated current up to	Rated operating voltage	Connection of round conductors mm² (AWG)	Clamping area for laminated copper bars mm	Packs of	Model No. SV			Cata.33, page
					Outlet at top/bottom	Outlet at top	Outlet at bottom	
3-pole								
60 A	600 V~	6 – 16 (AWG 10 – AWG 6)	–	1	–	9342.200	9342.210	281
125 A	600 V~	16 – 35 (AWG 6 – AWG 2)	10 x 7.8	1	9342.220*	9342.230	9342.240	281
250 A	600 V~	35 – 120 (AWG 2 – MCM 250)	18.5 x 15.5	1	9342.250	9342.260	9342.270	280/281
600 A	600 V~	95 – 300 (AWG 3/0 – MCM 600)	33 x 20	1	9342.280*	9342.290	9342.300	281
4-pole								
125 A	600 V~	16 – 35 (AWG 6 – AWG 2)	10 x 7.8	1	9342.224	–	9342.244	280/281
250 A	600 V~	35 – 120 (AWG 2 – MCM 250)	18.5 x 15.5	1	9342.254	–	9342.274	280/281



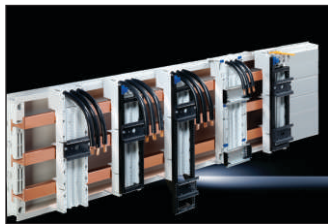
Rated current up to	Rated operating voltage	Connection of round conductors mm ² (AWG)	Clamping area for laminated copper bars mm		Packs of	Model No. SV		Cata. 33, page
						Outlet at top/bottom		
			for 5 mm bar thickness	for 10 mm bar thickness		Busbar connection adaptor (3 x 1-pole)	Expansion set for 4-pole configuration	
3/4-pole								
800 A	600 V~	95 – 300 (AWG 3/0 – MCM 600)	33 x 27	33 x 22	1 set	9342.310	9342.314 ¹⁾	282
1600 A	600 V~	–	65 x 27	65 x 22	1 set	9342.320	9342.324 ¹⁾	282

¹⁾ Packs of = 1

Note:

*UL approval not available

OM adaptor/OM support (3-pole)



For feeder-circuits UL 508A, cUL US LISTED, file E191125

Version	Con- struction width mm	Rated current up to	Rated operating voltage	Connection cables ¹⁾	Connection of round conductors mm ²	Support rails		Packs of	Model No. SV	Cata. 33, page
						Height mm	Qty.			
	45	25 A	600 V~	AWG 12	–	10	1	1	9340.310²⁾	283
	45	25 A	600 V~	AWG 12	–	10	1	1	9340.340	283
	45	25 A	600 V~	AWG 12	–	10	1	1	9340.370³⁾	283
	45	32 A	600 V~	AWG 10	–	10	1	1	9340.350	283
	45	32 A	600 V~	AWG 10	–	10	2	1	9340.380	283
	45	32 A	690 V~	AWG 10	–	10	2	1	9340.390	283
	55	32 A	600 V~	AWG 10	–	10	1	1	9340.460	283
	55	32 A	600 V~	AWG 10	–	10	2	1	9340.470	283
	75	40 A	600 V~	AWG 8	–	7.5	2	1	9340.710⁴⁾	284
	55	65 A	600 V~	AWG 6	–	10	1	1	9340.410²⁾	284
OM adaptor	55	65 A	600 V~	AWG 6	–	10	1	1	9340.430	284
	55	65 A	600 V~	AWG 6	–	10	2	1	9340.450	284
	75	65 A	600 V~	AWG 6	–	7.5	1	1	9340.700⁴⁾	284
	55	40 A	690 V~	AWG 8	–	10	1	1	9340.720	284
	55	40 A	690 V~	AWG 8	–	10	2	1	9340.730	284
	45	32 A	690 V~	–	1.5 – 6	10	2	1	9340.560	285
	45	25 A	600 V~	–	1.5 – 4	10	1	1	9340.900⁵⁾	285
	45	25 A	600 V~	–	1.5 – 4	10	2	1	9340.910⁶⁾	285
OM Premium adaptor	55	25 A	600 V~	–	1.5 – 4	10	2	1	9340.930⁶⁾	285
	45	–	690 V~	–	–	10	1	1	9340.250	286
	45	–	690 V~	–	–	10	–	1	9340.260³⁾	286
OM support	55	–	690 V~	–	–	10	1	1	9340.270	286

Accessories

Connection pin	20	9340.280	320
Insert strip 10 mm	2	9340.290	319

¹⁾ AWG = American Wire Gauges

AWG12 = 3.31 mm² ± 4 mm²

AWG10 = 5.26 mm² ± 6 mm²

AWG 08 = 8.37 mm² ± 10 mm²

AWG 06 = 13.3 mm² ± 16 mm²

²⁾ Without support frame

³⁾ With pin block

⁴⁾ Without support frame, with insert strips

⁵⁾ With sub-unit and pin block

⁶⁾ With connector outlet

Circuit-breaker component adaptor (3-pole)



For feeder-circuits UL 508A, cUL US LISTED, file E191125

Con- struction width mm	Rated current up to	Rated operating voltage	Connection of round conductors mm ² (AWG)	Clamping area for laminated copper bars mm	Packs of	Model No. SV		Cata. 33, page
						Cable outlet top ¹⁾	Cable outlet bottom ¹⁾	
72	100 A	600 V~	10 – 35 (AWG 6 – AWG 2)	10 x 7.8	1	9342.400	9342.410	287
90	125 A	600 V~	35 – 120 (AWG 2 – MCM 250)	18.5 x 15.5	1	9342.540	9342.550	287
90	160 A	600 V~	35 – 120 (AWG 2 – MCM 250)	18.5 x 15.5	1	9342.500*	9342.510*	287
105	250 A	600 V~	35 – 120 (AWG 2 – MCM 250)	18.5 x 15.5	1	9342.600	9342.610	288
140	600 A	600 V~	–	32 x 10 ²⁾	1	9342.700	9342.710	288

Accessories

Insert strip 25 mm, for SV 9342.700/710	4 ³⁾	9342.720	288
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¹⁾ Switch outlet or outgoing cable

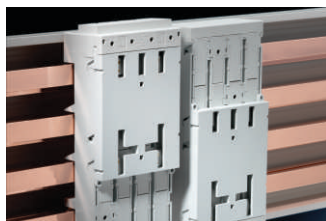
²⁾ Via M10 screw terminal

³⁾ ± 1 set

Note:

*UL approval not available

Circuit-breaker component adaptor (4-pole)

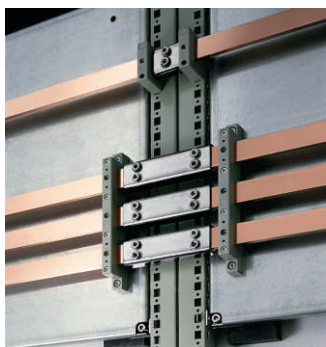


For feeder-circuits UL 508A, c  US LISTED, file E191125

Construction width mm	Rated current up to	Rated operating voltage	Connection of round conductors mm ² (AWG)	Clamping area for laminated copper bars mm	Packs of	Model No. SV		Cata. 33, page
						Cable outlet top ¹⁾	Cable outlet bottom ¹⁾	
120	125 A	600 V~	35 – 120 (AWG 2 – MCM 250)	18.5 x 15.5	1	9342.504	9342.514	289
140	250 A	600 V~	35 – 120 (AWG 2 – MCM 250)	18.5 x 15.5	1	9342.604	9342.614	289

¹⁾ Switch outlet or outgoing cable

Busbar connectors



For connecting square busbars, no drilling required.

Material:

SV 9350.075

Top part: St 37, nickel-plated surface finish

Contact plate: E-Cu, nickel-plated surface finish

SV 9320.020/SV 9320.030

Top part: Sheet steel, zinc-plated, passivated

Contact plate: E-Cu, silver-plated

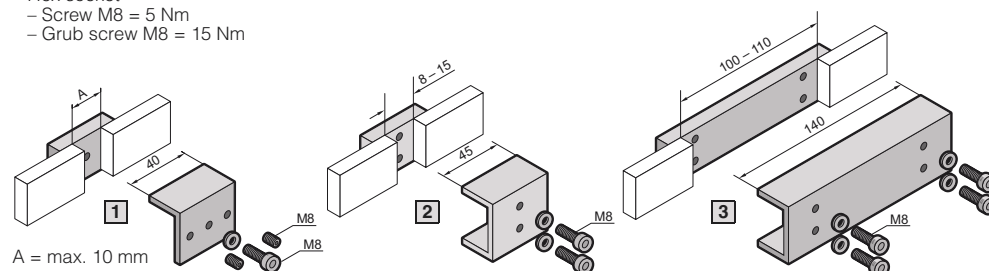
For busbars mm	Application		Tightening torque	Packs of	Model No. SV
	Single connection	Bayed connection ¹⁾			
12 x 5 – 15 x 10	1	–	5 Nm/15 Nm ²⁾	3	9350.075 
20 x 5 – 30 x 10	2	–	20 Nm	3	9320.020 
	–	3	20 Nm	3	9320.030 

¹⁾ From enclosure to enclosure

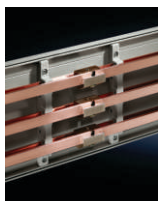
²⁾ Hex socket

– Screw M8 = 5 Nm

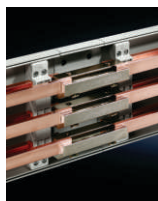
– Grub screw M8 = 15 Nm



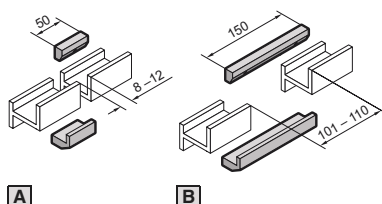
PLS busbar connectors



A



B



A

B

For connecting the PLS special busbars; no drilling required.

Material: E-Cu, nickel-plated

Application	Packs of	Model No. SV for system	
		PLS 800	PLS 1600
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)

Busbars



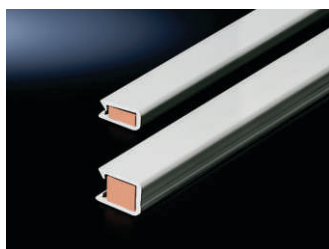
Busbars E-Cu

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

Technical information:
Available on the Internet.

Dimensions mm	Rated current ¹⁾ up to	Rated current for UL 508 applications	Packs of	Model No. SV	Page
E-Cu					
12 x 5	210 A	X	1	3580.000 	277
15 x 5	340 A	175 A	1	3581.000 	277
20 x 5	260 A	230 A	1	3582.000 	277
25 x 5	360 A	290 A	1	3583.000 	277
30 x 5	319 A	350 A	1	3584.000 	277
12 x 10	497 A	X	1	3580.100 	277
15 x 10	384 A	350 A	1	3581.100 	277
20 x 10	447 A	465 A	1	3585.000 	277
30 x 10	800 A	700 A	1	3586.000 	277
40 x 10	–	920 A	1	3587.000	311
50 x 10	–	1100 A	1	3588.000	311
60 x 10	–	1270 A	1	3589.000	311
80 x 10	–	1600 A	1	3590.000	311
100 x 10	–	1900 A	1	3590.010	311
E-Cu tin-plated¹⁾					
30 x 5		Yes	6	3584.200	311
30 x 10		Yes	6	3586.200	311
Accessories					
Busbar connectors for busbars mm	12 x 5 – 15 x 10 (single connection)		3	9350.075	313
	20 x 5 – 30 x 10 (single connection)		3	9320.020	313
	20 x 5 – 30 x 10 (bayed connection)		3	9320.030	313
Busbar cover section for busbars mm	12/15 x 5		4	9350.010	311
	12/15 x 10		4	9350.060	311
	12 x 5 – 30 x 10		10	3092.000	311
	40 – 60 x 10		10	3085.000	311

¹⁾ Extended delivery times.



Busbar cover sections

Contact hazard protection via covering of the busbars. May be cut to required length.
Length: 1000 mm/section.

Material:

Thermally modified hard PVC.
Fire protection corresponding to UL 94-V0

Colour:

RAL 7035

Note:

Contact hazard protection, for more solutions see page 315.

Detailed drawings:

Available on the Internet.



For busbars mm	Approvals	Packs of	Model No. SV
12/15 x 5	–	4	9350.010
12/15 x 10	–	4	9350.060
12 x 5 – 30 x 10		10	3092.000
40 – 60 x 10	–	10	3085.000



Inserted screw nuts M12

Self-holding nuts with knurled ring for busbars E-Cu.
Hole diameter: 14.5 mm.

Packs of	Model No. SV
30	3591.060

Busbars



PLS special busbars E-Cu

Technical information:
Available on the Internet.

For system PLS 800, bar thickness 5 mm, bar cross-section 300 mm ²						
For enclosure width mm	Length mm	E-Cu tin-plated ¹⁾	Approvals	Packs of	Model No. SV	Page
600	495	–		1	3524.000	312
600	495	Yes	–	1	3524.200	312
800	695	–		1	3525.000	312
800	695	Yes	–	1	3525.200	312
1000	895	–		1	3525.010	312
1000	895	Yes	–	1	3525.210	312
1200	1095	–		1	3526.000	312
1200	1095	Yes	–	1	3526.200	312
variable	2400	–		1	3509.000	312
variable	2400	Yes	–	1	3509.200	312

Accessories

PLS busbar connector (single connection)	3	3504.000	313
PLS busbar connector (bayed connection)	3	3505.000	313
PLS expansion connectors	3	9320.060	313

¹⁾ Extended delivery times.

For system PLS 1600, bar thickness 10 mm, bar cross-section 900 mm²

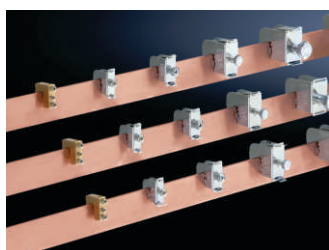
For enclosure width mm	Length mm	E-Cu tin-plated ¹⁾	Approvals	Packs of	Model No. SV	Page
600	495	–		1	3527.000	312
600	495	Yes	–	1	3527.200	312
800	695	–		1	3528.000	312
800	695	Yes	–	1	3528.200	312
1000	895	–		1	3528.010	312
1000	895	Yes	–	1	3528.210	312
1200	1095	–		1	3529.000	312
1200	1095	Yes	–	1	3529.200	312
variable	2400	–		1	3516.000	312
variable	2400	Yes	–	1	3516.200	312

Accessories

PLS busbar connector (single connection)	3	3514.000	313
PLS busbar connector (bayed connection)	3	3515.000	313
PLS expansion connectors	3	9320.070	313

¹⁾ Extended delivery times.

Connection system



Conductor connection clamps

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 314.

Technical information:
Available on the Internet.

Detailed drawings:
Available on the Internet.

For bar thickness mm	Connection of round conductors ¹⁾ mm ²	Clamping area for laminated copper bars W x H mm	Approvals	Packs of	Model No. SV
3 – 5	1 – 4	–		15	3550.000
5	1 – 4	–		15	3450.500
5	2.5 – 16	8 x 8		15	3451.500
5	16 – 50	10.5 x 11		15	3452.500
5	35 – 70	16.5 x 15		15	3453.500
5	70 – 185	22.5 x 20		15	3454.500
6 – 10	1 – 4	–		15	3555.000
10	1 – 4	–		15	3455.500
10	2.5 – 16	8 x 8		15	3456.500
10	16 – 50	10.5 x 11		15	3457.500
10	35 – 70	16.5 x 15		15	3458.500
10	70 – 185	22.5 x 20		15	3459.500

Busbar supports/base isolators



Busbar supports 1- and 2-pole

Material:
Polyamide (PA 6.6).
Fire protection corresponding to UL 94-V0

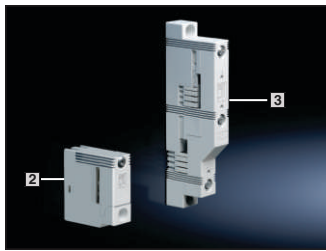
Colour:
RAL 7035

Supply includes:
SV 9342.030
Including raised section for stepped configuration of the PLS busbars.

Note:
SV 9340.030/SV 9342.030
The busbar supports may be bayed with 60 mm bar centre distance for the configuration of multi-pole systems.

Technical information:
Available on the Internet.

Detailed drawings:
Available on the Internet.



Design	Packs of	1	2	3	
Number of poles		1-pole	1-pole	2-pole	
Bar centre distance mm		–	–	60	
For busbars E-Cu		PLS 1600	–	–	312
		–	12 x 5/10 ¹⁾ , 15 x 5 – 30 x 10 mm	12 x 5 – 30 x 10 mm	311
PEN/N/PE support		–	–	–	
N/PE support		–	–	–	
Model No. SV	4	9342.030	9340.030	9340.040	
Accessories					
Spacers	12	–	9340.090	–	310
Captive nuts M5 ²⁾	50	–	4166.000	4166.000	665

¹⁾ If 12 x 5/10 mm busbars are used, the spacer SV 9340.090 is additionally required.

²⁾ For attaching the busbar support to the TS frame section and punched sections with mounting flanges with rectangular system punchings 12.5 x 10.5 mm.



Base isolators

For configuring busbar systems with any given bar centre distances and for assembling insulated PE or PEN bars.

Material:
Duroplastic polyester (UP resin)

Technical information:
Available on the Internet.

Detailed drawings:
Available on the Internet.

Rated operating voltage	1 kV	1 kV
Tensile strength	12 kN	13 kN
Torsional strength	75 Nm	90 Nm
Bending strength	6 kN	6 kN
Height mm	40	50
Thread	M10	M10
Packs of	6	6
Model No. SV	3031.000	3032.000



Spacers

for RiLine60 busbar supports (flat busbar system)

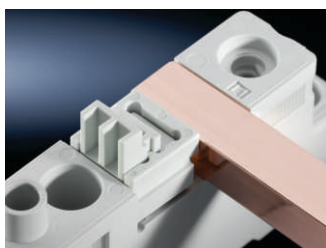
For adapting 12 x 5 and 12 x 10 mm size busbars.

- For busbar supports
- SV 9340.030 (1-pole), see page 310.
 - SV 9340.000/.010 (3-pole), see page 276.
 - SV 9340.004 (4-pole), see page 276.

Material:
Polyamide (PA 6.6).
Fire protection corresponding to UL 94-V0

Colour:
RAL 7035

Packs of	Model No. SV
12	9340.090



Laminated copper bars



Laminated copper bars

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

Fire protection corresponding to UL 94-V0

Dielectric strength: 20 kV/mm

Short-circuit resistance diagram:

Available on the Internet.

Technical information:

Available on the Internet.

Configuration ¹⁾ mm	I _n for 70 K ²⁾	I _n for 50 K ²⁾	I _n for 30 K ²⁾	Packs of	Model No. SV
8 x 6 x 0.5	195 A	165 A	125 A	1	3565.015
6 x 9 x 0.8	285 A	240 A	180 A	1	3565.005
4 x 15.5 x 0.8	330 A	275 A	210 A	1	3567.005
6 x 15.5 x 0.8	415 A	350 A	265 A	1	3568.005
10 x 15.5 x 0.8	575 A	480 A	365 A	1	3569.005
5 x 20 x 1	525 A	435 A	330 A	1	3570.005
5 x 24 x 1	605 A	510 A	385 A	1	3571.005
10 x 24 x 1	920 A	770 A	585 A	1	3572.005
5 x 32 x 1	770 A	645 A	485 A	1	3573.005
10 x 32 x 1	1155 A	965 A	730 A	1	3574.005
5 x 40 x 1	930 A	780 A	590 A	1	3575.005
10 x 40 x 1	1370 A	1145 A	865 A	1	3576.005
5 x 50 x 1	1125 A	940 A	710 A	1	3577.005
10 x 50 x 1	1635 A	1365 A	1030 A	1	3578.005
10 x 63 x 1	1950 A	1610 A	1230 A	1	3579.005

¹⁾ Number of lamina x lamina width x lamina thickness

²⁾ The conductor temperature of the laminated copper bar is derived from the sum total of the ambient temperature and the temperature increase.

Example:

SV 3565.000 carrying 220 A, i.e. the temperature increases by 30 K. At an ambient temperature of 35°C, this produces a resultant conductor temperature of 35°C + 30 K = 65°C.



Universal support

For the attachment of laminated copper bars from 5 x 20 x 1 to 10 x 63 x 1 mm.

Material:

Fibreglass-reinforced, thermoplastic polyester (PBT)

Fire protection corresponding to UL 94-V0

Colour:

RAL 7035

Supply includes:

Screws and "U" nuts for mounting on PS punched rails.

Packs of	Model No. SV
3	3079.000



Accessories:

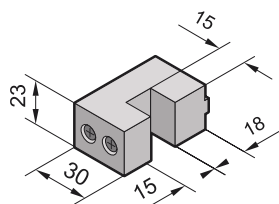
PS punched rails, see page 651.

Short-circuit resistance diagram:

Available on the Internet.

Detailed drawings:

Available on the Internet.



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