

# Busbar systems

## RiLine Compact busbar system

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## Mini-PLS busbar system (40 mm)

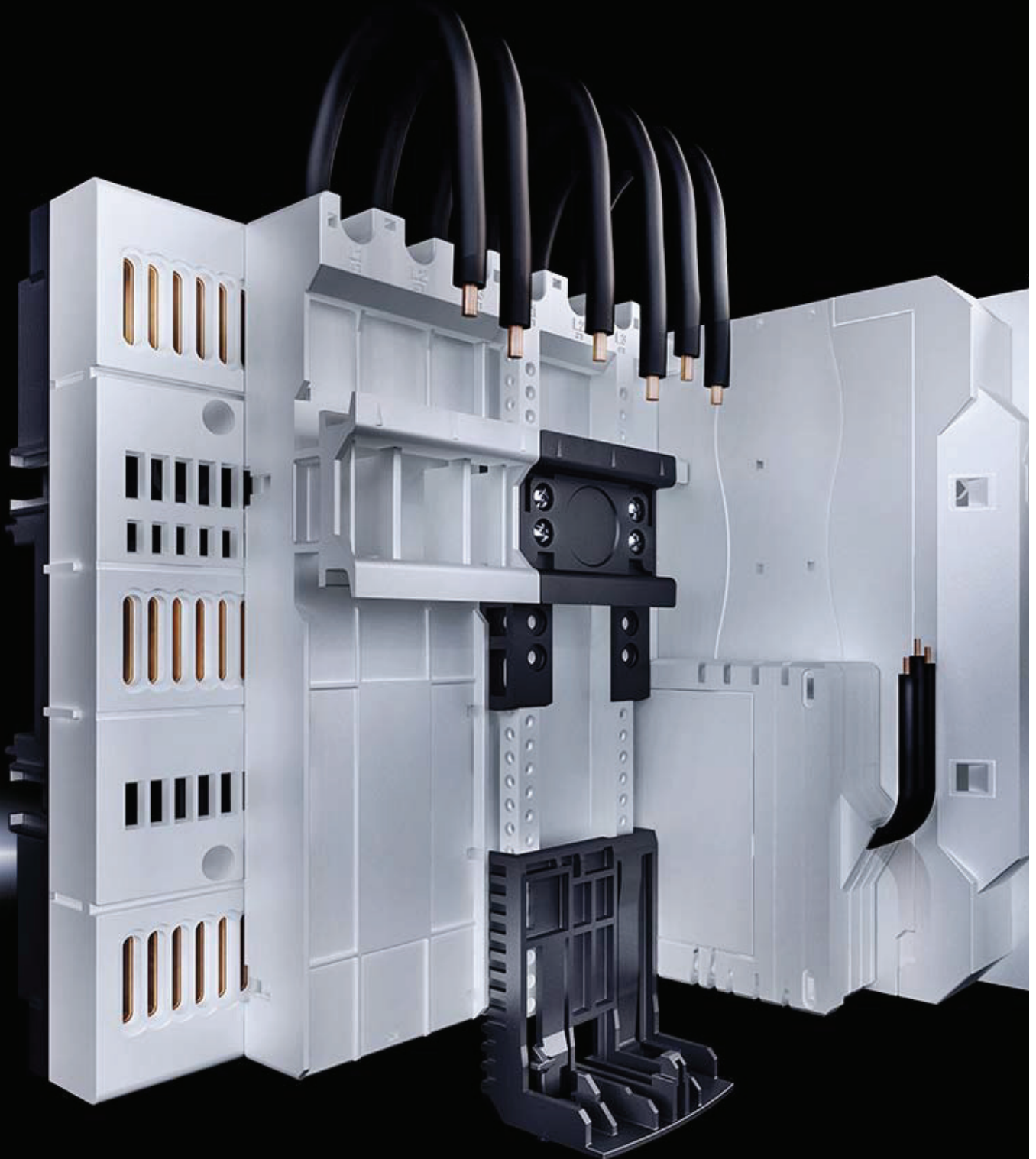
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# RiLine Compact – Power distribution in a confined space

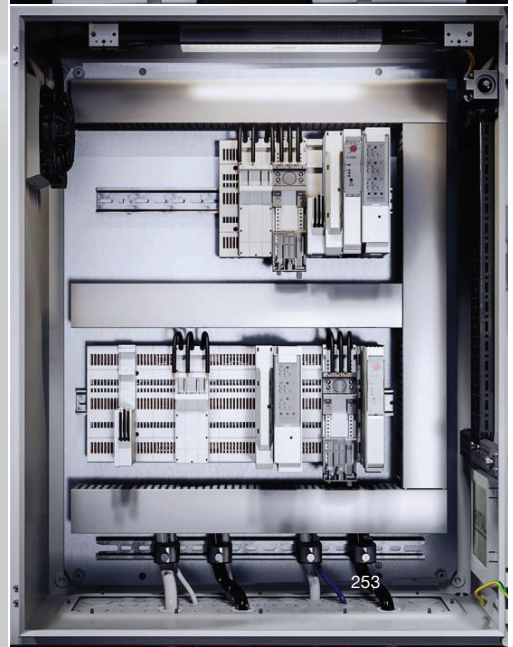
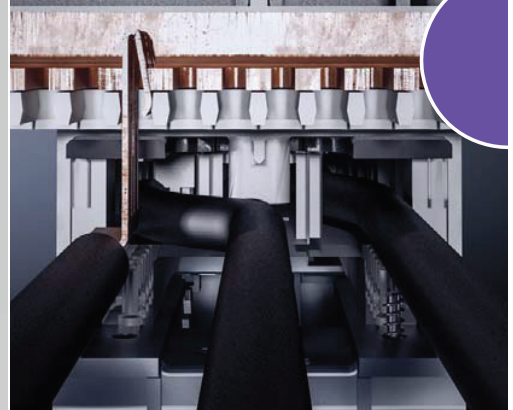
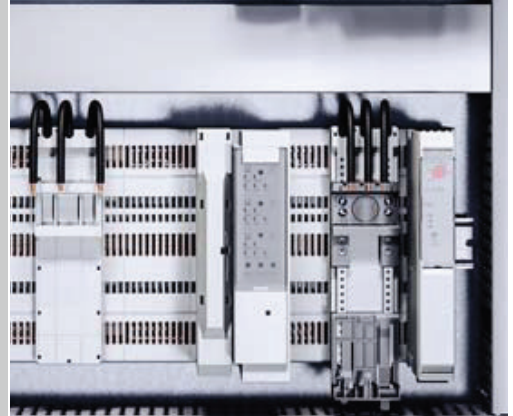
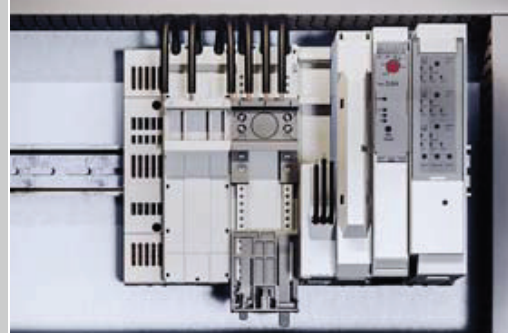


## Tested system solution for power distribution

- Compact layout for controlgear up to 125 A
- Fast, space-saving assembly compared with conventional wiring technology
- All-round shock-hazard-protected busbar system
- Standardised, standard-compliant assembly of a wide range of component types
- Compliant with standards IEC 61 439 and UL 508

## Compact, safe installation

- Tool-free attachment of components with plug-in mounting; electrical contact is made automatically
- Special latching ensures secure attachment of components. When dismantling, the latch can only be released with a screwdriver.
- Requires less space than conventionally wired motor controlgear



# RiLine Compact – Simple, tool-free installation



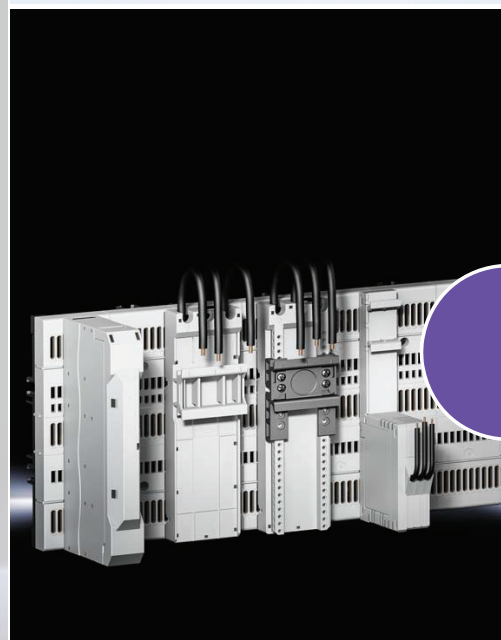
## Tool-free installation made easy

- RiLine Compact Board in 225 and 405 mm width
- Simply latches onto a 35 x 7.5 mm and 35 x 15 mm support rail
- Components are quickly top mounted without the need for tools
- Pre-punched pitch units of 45 mm in the board allow secure, fast positioning of components on the seamless 4.5 mm contact pitch pattern



## Safe adaptor connection

- Screw-free connection with maintenance-free tension spring technology in the bus-bar connection adaptor
- Component adaptors meet the particular requirements of IEC 61 439 for laying active conductors
- Component adaptors with integral fuse holders on a 22.5 mm build width, for space-saving assembly
- Component adaptors optionally with fixed or adjustable support rail for the secure assembly of switchgear and protective gear

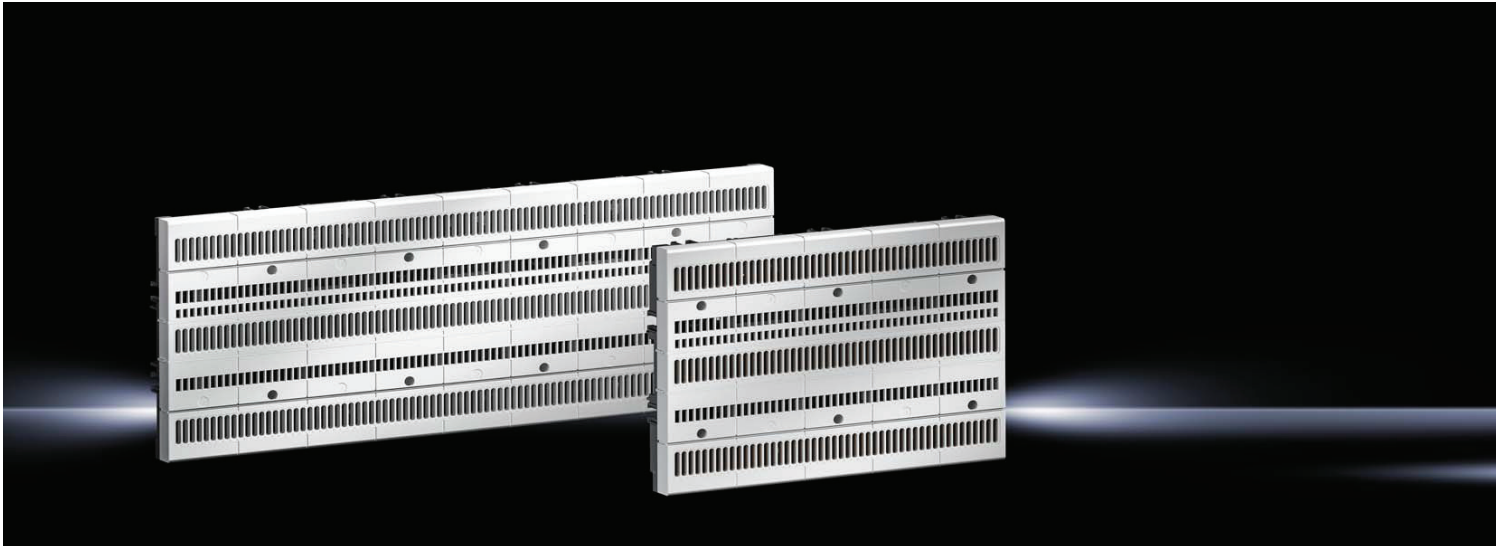


## Space-saving installation of function modules

- Motor controller for motor starters and reversing starters up to 4 kW with electronic overload protection
- Electronic power switch for clocked heating output control
- Hybrid technology for higher switching frequency and minimal heat loss
- Long service life



# RiLine Compact



**Busbar connection adaptor/component adaptor** Page 257 **Motor controller/electronic power switch** Page 258

**Function:**

- Shock-hazard-protected busbar board for the safe accommodation and contacting of components with plug-in mounting
- For snap-on mounting onto 35 x 7.5/15 mm busbars or for direct attachment to the mounting plate

**Material:**

- Polyamide
- Polycarbonate
- E-Cu
- Fire protection corresponding to UL 94-V0

**Approvals:**

- UL listed

**Standards:**

- UL 508
- EN 61 439

**Note:**

- The technical data given here may vary for UL applications.

**Colour:**

- RAL 7035

**Protection category to IEC 60 529:**

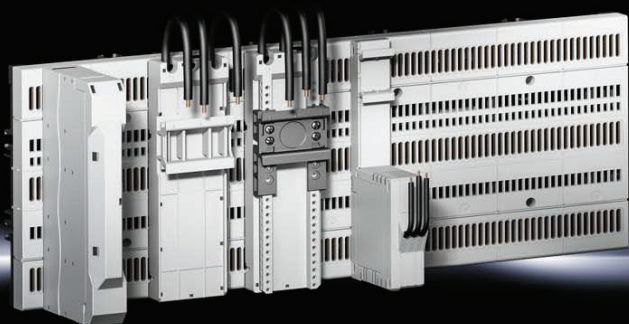
- IP 20

**Supply includes:**

- Integral busbars

## Board

<b>Width</b> mm	P. of	225	405
<b>Height</b> mm		160	160
<b>Depth</b> mm		45.1	45.1
Rated max. current A		125	125
Rated operating voltage V		690 (AC), 600 (DC)	690 (AC), 600 (DC)
Number of poles		3-pole	3-pole
No. of space units @ 45 mm		5	9
<b>Model No.</b>	1 pc(s).	<b>9635.000</b>	<b>9635.010</b>



**Board** Page 256 **Motor controller/electronic power switch** Page 258 **Accessories** Page 259

**Function of busbar connection adaptor:**

- Direct connection of conductors using spring terminals

**Function of component adaptor:**

- For assembly of switchgear and protective gear with support rail attachment

**Material:**

- Polyamide
- Fire protection corresponding to UL 94-V0

**Colour:**

- RAL 7035

**Approvals:**

- UL

**Note:**

- The technical data given here may vary for UL applications.

## Busbar connection adaptors/component adaptors

Version		Busbar connection adaptor	Component adaptor	Component adaptor, Basic	
Rated max. current A		80	16	16	32
Rated operating voltage V		690 (AC), 600 (DC)	690 (AC), 600 (DC)	690 (AC), 600 (DC)	690 (AC), 600 (DC)
Number of poles		3-pole	3-pole	3-pole	3-pole
Cable outlet		Top/bottom	–	–	–
Connection of round conductors		AWG 6 – 16	–	–	–
Connection of round conductors, fine wire with/without wire end ferrule mm <sup>2</sup>		1.5 – 16	–	–	–
Connection of round conductors, single-wire mm <sup>2</sup>		1.5 – 10	–	–	–
Connection of round conductors, multi-wire mm <sup>2</sup>		16	–	–	–
Connection cables, version		–	AWG 14	AWG 14	AWG 10
Connection cables, length mm		–	125	120	100
Conditional rated short-circuit current I <sub>cc</sub> kA		–	50	–	–
For fuse		–	10 x 38 mm/Class CC (max. 16 A)	–	–
No. of fixed support rails/height mm		–	1/10	1/10	1/10
Width mm		22.5	22.5	45	45
Height mm		160	160	160	160
Depth mm		115.5	80.2	34.5	34.5
<b>Model No.</b>		<b>9635.200</b>	<b>9635.300</b>	<b>9635.310</b>	<b>9635.320</b>
	P. of	4 pc(s).	1 pc(s).	4 pc(s).	4 pc(s).

## Component adaptor

Version	P. of	Component adaptor, Comfort			
Rated max. current A		16	25	32	45
Rated operating voltage V		690 (AC), 600 (DC)	690 (AC), 600 (DC)	690 (AC), 600 (DC)	690 (AC), 600 (DC)
Number of poles		3-pole	3-pole	3-pole	3-pole
Connection cables, version		AWG 14	AWG 12	AWG 10	AWG 8
Connection cables, length mm		120	100	100	100
No. of adjustable support rails/height mm		1/10	1/10	1/10	1/10
Width mm		45	45	45	45
Height mm		160	160	160	160
Depth mm		34.5	34.5	34.5	34.5
<b>Model No.</b>	4 pc(s).	<b>9635.330</b>	<b>9635.340</b>	<b>9635.350</b>	<b>9635.360</b>

# RiLine Compact



Board Page 256 Busbar connection adaptors/component adaptors Page 257

## Function of motor controller:

- For controlling motors as a direct or reversing starter with integral over-ride prevention and emergency-off
- The hybrid technology used facilitates wear-free, frequent switching by semi-conductors
- During operation, mechanical contacts ensure a low heat loss

- Space-saving configuration thanks to the minimal build width

## Function of electronic power switch:

- For controlling ohmic loads, such as clocked heating controllers
- The hybrid technology used facilitates wear-free, frequent switching by semi-conductors
- During operation, mechanical contacts ensure a low heat loss

## Material:

- Polyamide
- Fire protection corresponding to UL 94-V0

## Colour:

- RAL 7035

## Note:

- The technical data given here may vary for UL applications.

## Motor controller

Rated max. current A	P. of	0.6	2.4	9
Rated operating voltage V		500	500	500
Rated frequency Hz		50/60	50/60	50/60
Heat loss W		2.8	5.5	12
Adjustable current monitoring A		0.075 – 0.6	0.18 – 2.4	1.5 – 9
Number of poles		3-pole	3-pole	3-pole
Connection of round conductors mm <sup>2</sup>		0.14 – 2.5	0.14 – 2.5	0.14 – 2.5
Width mm		22.5	22.5	22.5
Height mm		160	160	160
Depth mm		114	114	114
For fuses		10 x 38 mm gR 20 A	10 x 38 mm gR 20 A	10 x 38 mm gR 20 A
Conditional rated short-circuit current I <sub>cc</sub> kA		5	5	5
Approvals		UL	UL	UL
<b>Model No.</b>	1 pc(s).	<b>9635.400</b>	<b>9635.410</b>	<b>9635.420</b>

## Electronic power switch

Rated max. current A	P. of	25	25
Rated operating voltage V		42 – 400	42 – 500
Rated frequency Hz		50/60	50/60
Heat loss W		20	20
Adjustable current monitoring A		16/20/25	16/20/25
Number of poles		3-pole	3-pole
Connection of round conductors mm <sup>2</sup>		0.2 – 6	0.2 – 6
Width mm		36	36
Height mm		160	160
Depth mm		130	130
For fuses		10 x 38 mm 32 A	Class CC 30 A
Conditional rated short-circuit current I <sub>cc</sub> kA		30	30
Approvals		–	UL
<b>Model No.</b>	1 pc(s).	<b>9635.500</b>	<b>9635.510</b>



# RiLine Compact

## Accessories

### Support rail

#### for component adaptor, Comfort

For attaching equipment and reverser combinations.

#### Material:

- Polyamide
- Fire protection corresponding to UL 94-V0

#### Colour:

- RAL 9005

Width mm	P. of	Model No.
45	10 pc(s).	9635.600



### Positioner

#### for component adaptor, Comfort

For attaching equipment and reverser combinations.

#### Material:

- Polyamide
- Fire protection corresponding to UL 94-V0

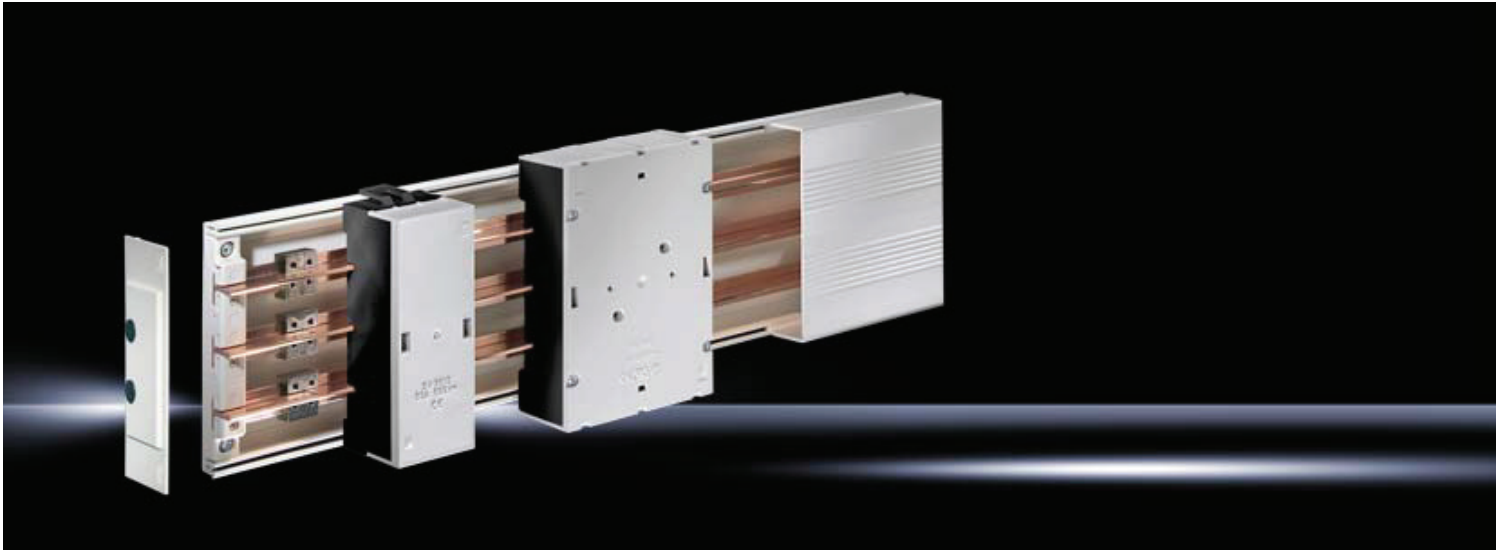
#### Colour:

- RAL 9005

Width mm	Height mm	For switchgear make (model)	P. of	Model No.
45	55	Siemens (S00, S0)	10 pc(s).	9635.610
45	35	Eaton PKZ/PKE size 0	10 pc(s).	9635.620



# Mini-PLS busbar system (40 mm)



Component adaptors Page 262 Fuse elements Page 261

### Busbar supports, busbar connection adaptors

#### Material:

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

#### Colour:

- RAL 7035
- RAL 9011 (busbar connection adaptor chassis)

### Contact hazard protection

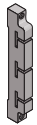
#### Material:

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

#### Colour:

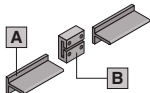
- RAL 7035

### Mini-PLS busbar supports (3-pole)



Busbar support, suitable for top mounting	P. of	■		
Bar centre distance mm		40		
Approvals		UR		
<b>Model No.</b>	4 pc(s).	<b>9600.000</b>		

### A Mini-PLS special busbars E-Cu, bar thickness 3 mm, bar cross-section 120 mm<sup>2</sup>

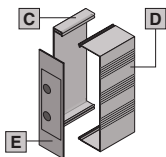


Length mm	P. of	500	700	1100	1500
Approvals		UR	UR	UR	UR
<b>Model No.</b>	3 pc(s).	<b>9601.000</b>	<b>9602.000</b>	<b>9603.000</b>	<b>9624.000</b>

#### Accessories

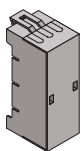
B Busbar connectors	Approvals		<b>Model No.</b>
	UR	3 pc(s).	<b>9611.000</b>

### Mini-PLS contact hazard protection



Components	Approvals	Length mm	P. of	<b>Model No.</b>
C Base tray	UR	500	1 pc(s).	<b>9605.000</b>
		700	1 pc(s).	<b>9606.000</b>
		1100	1 pc(s).	<b>9607.000</b>
D Cover section	UR	250	1 pc(s).	<b>9608.000</b>
		500	1 pc(s).	<b>9609.000</b>
E End cover	UR	-	2 pc(s).	<b>9610.000</b>

### Mini-PLS busbar connection adaptors (3-pole)



Rated max. current A	P. of	63	250	Page
Rated operating voltage V, ~		690, 3~	690, 3~	
Cable outlet		Top/bottom	Top/bottom	
Connection of round conductors mm <sup>2</sup>		1.5 – 35	10 – 120	
Clamping area for laminated copper bars, W x H mm		10 x 8	17 x 15	
Width mm		54	115	
Height mm		160	182	
Approvals		UR	UR	
<b>Model No.</b>	1 pc(s).	<b>9613.000</b>	<b>9612.000</b>	

#### Accessories

Laminated copper bars		■	■	311
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# Mini-PLS fuse elements



Busbar system Page 260 Busbar connection adaptor Page 260 Component adaptor Page 262/263

## Bus-mounting fuse base

### Material:

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

### Colour:

- Chassis: RAL 9011
- Cover: RAL 7035

## NH fuse-switch disconnecter

### Material:

- Fibreglass-reinforced polyamide
- Fire protection corresponding to UL 94-V0
- Contact tracks: Silver-plated hard copper

### Colour:

- RAL 7035

### Basis of test:

- IEC/DIN EN 60 947-3
- DIN EN 60 269-2 (fuse inserts)

## Busbar adaptor

### Material:

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

### Colour:

- RAL 9011

Mini-PLS bus-mounting fuse base (3-pole)			A	B
	Fuse insert	P. of	D 02-E18	D 02-E18
	Rated max. current A		63	63
	Rated operating voltage V, ~		400, 3~	400, 3~
	Connection of round conductors mm <sup>2</sup>		1.5 – 16	1.5 – 16
	Connection type		Spring terminal	Screw clamp
	Width mm		39.5	38
	Height mm		189	160
	<b>Model No.</b>	1 pc(s).	<b>9630.005</b>	<b>9630.000</b>

NH fuse-switch disconnecter size 000 (3-pole)			
	Rated operating current max. A	P. of	100
	Rated operating voltage V, ~		690, 3~
	Cable outlet		Top/bottom
	Connection type		Box terminal
	Connection of round conductors mm <sup>2</sup>		1.5 – 50
	Clamping area for laminated copper bars, W x H mm		10 x 10
	Width mm		89
	Height mm		141.5
	<b>Model No.</b>	1 pc(s).	<b>3431.000</b>

### Also required

Mini-PLS busbar adaptor (3-pole)			
With connection cables mm <sup>2</sup>		35	
Width mm		90	
Height mm		160	
<b>Model No.</b>	1 pc(s).	<b>9629.100</b>	
Accessories			
Micro-switch	5 pc(s).	3071.000	322

# Mini-PLS component adaptor



**Busbar system** Page 260 **Busbar connection adaptor** Page 260 **Fuse elements** Page 261 **Switchgear assignment** Page 263

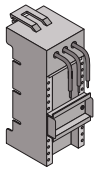
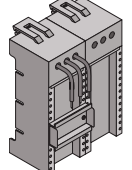
**Material:**

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

**Colour:**

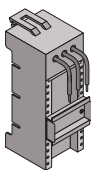
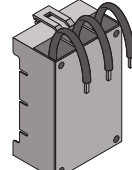
- RAL 7035
- RAL 9011 (9629.000)

## Rated current max. 12 – 25 A

										
Rated max. current A	P. of	12	25	25	25	25	25	25	25	Page
Rated operating voltage V, ~		690, 3~	690, 3~	690, 3~	690, 3~	690, 3~	690, 3~	690, 3~	690, 3~	
Number of poles		3-pole	3-pole	3-pole	3-pole	3-pole	3-pole	3-pole	3-pole	
Connection cables		AWG 14	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12	AWG 12	
Support rails quantity/height mm		1/7.5	1/7.5	1/15	1/7.5	1/15	1/7.5	1/7.5	1/7.5	
Width mm		45	45	45	54	54	72	90	90	
Height mm		160	160	160	160	160	160	160	160	
Approvals		-	-	-	UR	UR	UR	UR	-	
<b>Model No.</b>	1 pc(s).	<b>9614.110</b>	<b>9614.100</b>	<b>9615.100</b>	<b>9614.000</b>	<b>9615.000</b>	<b>9625.000</b>	<b>9629.010</b>		
<b>Accessories</b>										
Insert strip	2 pc(s).	9623.000	9623.000	9623.000	9623.000	9623.000	9623.000	9623.000	9623.000	316
Support rails, height 7.5 mm	Width 45 mm	10 pc(s).	9320.150	9320.150	9320.150	-	-	-	9320.150	316
	Width 54 mm	10 pc(s).	-	-	-	3548.000	3548.000	-	-	316

# Mini-PLS component adaptor

Rated current max. 40 – 100 A

							
Rated max. current A	P. of	40	40	40	100	Page	
Rated operating voltage V, ~		690, 3~	690, 3~	690, 3~	690, 3~		
Number of poles		3-pole	3-pole	3-pole	3-pole		
Connection cables		AWG 10	AWG 10	AWG 10	35 mm <sup>2</sup>		
Support rails quantity/height mm		1/7.5	1/15	1/7.5	–		
Width mm		54	54	72	90		
Height mm		160	160	160	160		
Approvals		UR	UR	UR	–		
<b>Model No.</b>	1 pc(s).	<b>9616.000</b>	<b>9617.000</b>	<b>9627.000</b>	<b>9629.000</b>		
<b>Accessories</b>							
Insert strip		2 pc(s).	9623.000	9623.000	9623.000	–	316
Support rails	Height 7.5 mm	Width 54 mm	10 pc(s).	3548.000	3548.000	–	316
	Height 15 mm	Width 72 mm	5 pc(s).	–	–	–	316

## Switchgear assignment – Mini-PLS component adaptors 12 A/25 A

Make/model	Model No.
<b>ABB</b>	
MS116	9614.100
MS325	9614.000
MS450 (max. 25 A)	9614.000
MS451 (max. 25 A)	9614.000
<b>Eaton</b>	
PKZM0 (up to 25 A)	9614.100
PKZM01 (up to 25 A)	9614.100
PKZM4 (up to 25 A)	9614.000
PKE12	9614.100
PKE32 (up to 25 A)	9614.100
PKE65 (up to 25 A)	9614.000
<b>Schneider Electric</b>	
GV2-P (up to 25 A)	9614.100
GV2-RT	9614.100
GV2-LE10	9614.100
GV3 (up to 25 A)	9614.100

Make/model	Model No.
<b>Siemens</b>	
<b>S0</b>	
3RV10 21...	9614.100
3RV20 21... (up to 25 A)	9614.100
<b>S00</b>	
3RV10 11...	9614.100 <sup>1)</sup>
3RV20 11...	9614.100 <sup>1)</sup>
<b>S2</b>	
3RV10 31... (up to 25 A)	9614.000

<sup>1)</sup> Support rail must be offset

## Switchgear assignment – Mini-PLS component adaptors 40 A/100 A

Make/model	Model No.	Accessories Model No.
<b>ABB</b>		
MS450 (max. 40 A)	9617.000	–
MS451 (max. 40 A)	9629.000	9320.120
MS495	9629.000	9320.120
MS496	9629.000	9320.120
MS497	9629.000	9320.120
<b>Tmax</b>		
T1	9629.000	–
T2	9629.000	–
<b>Eaton</b>		
NZM 1	9629.000	–
PKZ2	9627.000	–
PKZM4 (max. 40 A)	9617.000	–
PKZM4	9629.000	9320.120

Make/model	Model No.	Accessories Model No.
<b>Schneider Electric</b>		
NS 80	9629.000	–
GV3 (max. 40 A)	9616.000	–
GV3	9629.000	9320.120
<b>Siemens</b>		
<b>S2</b>		
3RV10 31... (max. 40 A)	9616.000	–
3RV10 31...	9629.000	9320.120
<b>S3</b>		
3RV1341/42	9629.000	9320.120

# Rittal – The System.

Faster – better – everywhere.

