Rittal – **Ri4Power**

Flexible modular low-voltage systems – for electrical distribution and motor control

FRIEDHELM LOH GROUP

RITTAL®

Ri4Power

NEW

Form 1
High-current energy distributor

The system solution consisting of the SV-TS 8 Top enclosure system and the standardised Maxi PLS busbars.

Applications:
- Main current distribution systems
- Current rectification applications
- Wind energy
- Industry distribution systems
- Machine construction

Technical specifications:

Rated voltage: up to 690 V AC

Rated currents: up to 1600, 2000 or 3200 A

Rated transient current resistance: up to 70/124 kA

Protection category: up to IP 54

Form 2-4
Low-voltage systems

Modular form separation of the SV-TS 8 Top enclosure system in combination with RiLine busbars.

Applications:
- Process industry
- Water supply/disposal
- Building distribution system
- Chemical industry
- Machine construction
- Motor control

Technical specifications:

Rated voltage: up to 690 V AC

Rated currents: up to 800 A, up to 1600 A

Rated transient current resistance: up to 52 kA

Protection category: up to IP 54

Form 1
Distribution enclosure

Everything from a single source: ISV-TS 8 enclosure system, ISV modules and SV components.

Applications:
- Building distribution systems
- Industry distribution systems
- Subdistribution systems

Technical specifications:

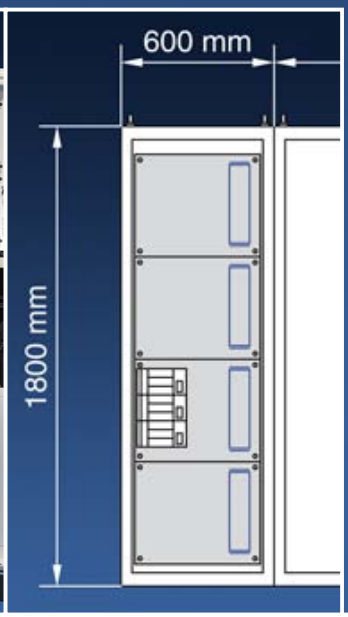
Rated voltage: up to 690 V AC

Rated currents: up to 630 A, up to 1600 A

Rated transient current resistance: up to 50 kA

Protection category: up to IP 54

Software
Planning, configuring, selection



Innovative software for fast achievement of Ri4Power systems.

Rittal Power Engineering
- For planners: Tendering text and plan drawings at the press of a button
- For preparing a tender: Exact costing for each part in just a few worksteps
- For the plant constructor: Field-related bills of materials and drawings at the push of a button

Systems in four dimensions

A new conception structure for a new system structure: Rittal systems are solutions because they do not just conform to traditional thinking. We have learnt to develop ideas for innovative products using surprising new concepts. We at Rittal are able to put ourselves into such a position so we can appreciate the requirements of our customers and adopt their perspective. Starting with the problem, developing the idea and finding the solution – this is our principle.

Rittal Ri4Power – the term for structured system solutions for the reliable and fast construction of low-voltage switchgear systems for machines, plants, buildings and motor control. Rittal Ri4Power, this is the new term for high-current, low-voltage and distribution enclosures under a single roof – in accordance with a world-wide regulation (IEC 60439-1). Now **new in the range: Rittal Ri4Power Form 2-4.**

Universal in best form

Ri4Power Form 2-4 – this is Rittal in best form. **Compatible with switchgear units from all popular manufacturers.**

An individual concept for universal use. New from Rittal is the type of the internal separation of the SV-TS 8 Top enclosure system. An innovation idea that appears to be very simple in principle, but, however, **offers completely new advantages for the construction and in use.** The design of the internal subdivision guarantees both the function and the modifications of the switchgear units. Irrespective whether during the development, the installation or in operation – the simple construction with new innovative components increases your added value. Ri4Power Form 2-4 is the perfect solution for industry plants, building engineering and infrastructure equipment.

Process industry
- Sewage treatment plant
- Heavy industry (mining, iron, steel)
- Cement works
- Waste disposal industry
- Paper industry
- Chemicals, petrochemicals
- Pharmaceutical industry

Industrial plants
- Automobile industry
- Machine construction
- Shipbuilding, marine engineering

Buildings, infrastructure
- Schools
- Banks
- Insurance companies
- Data centres
- Football stadiums
- Hospitals
- Festival halls and exhibition buildings
- Airports

Superior module engineering

Ri4Power Form 2-4, the concept for individual possibilities. Two decisive properties characterise this system:

Combination scope and compatibility. These two terms encompass all important advantages.

The combination scope makes Ri4Power Form 2-4 the optimum solution for your application.

And the compatibility of the components ensures improved economics. The handling is also innovative and simple: One-person assembly and a single tool suffice for most installation steps. Rittal Ri4Power Form 2-4 offers decisive solutions when plant constructors and operators require the best results.

Modular TS 8 Top enclosure system with infinite possibilities

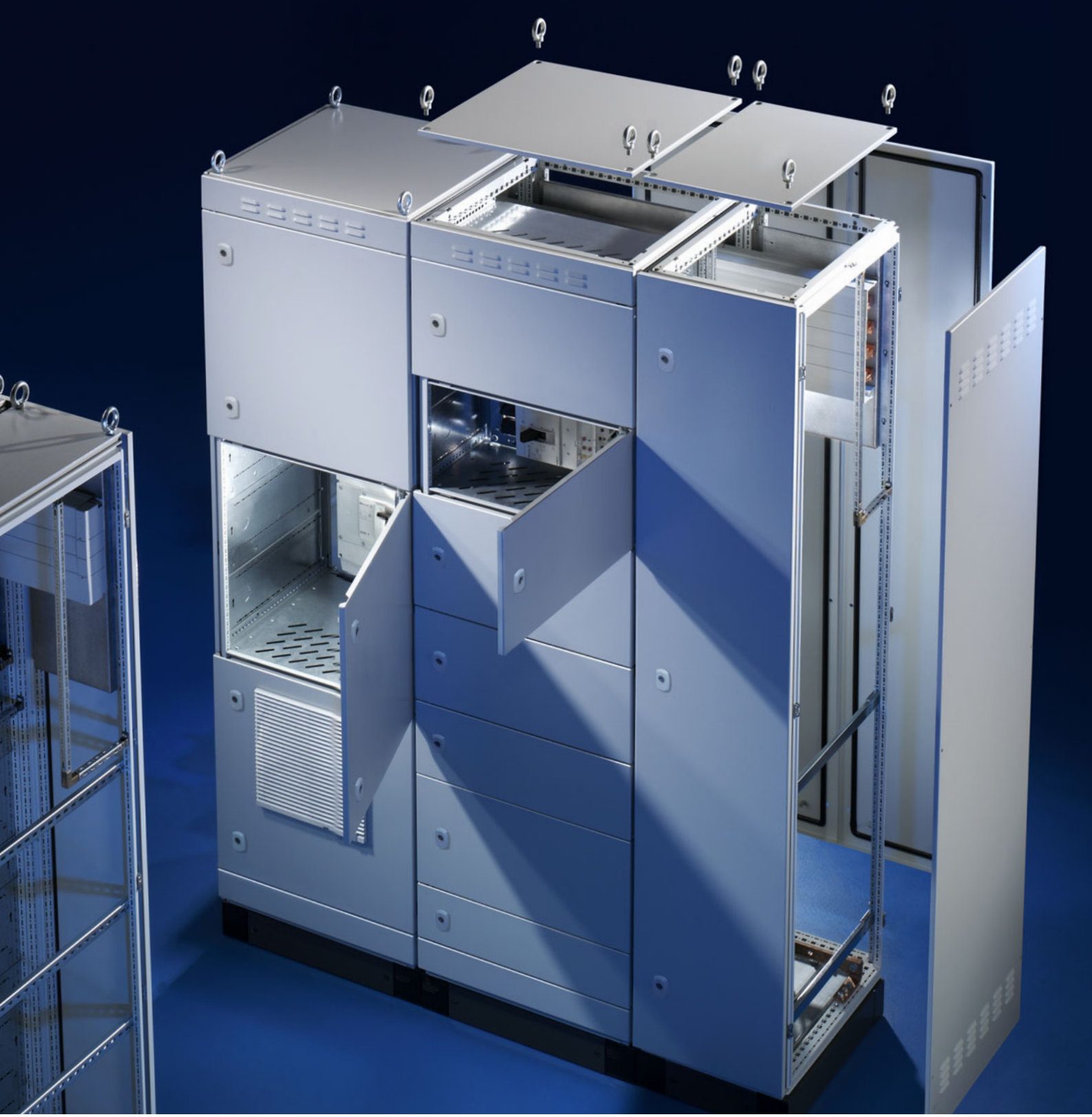
- The TS 8 system platform gives you the comprehensive benefits of the familiar enclosure technology for ease of construction.
- High quality individual solutions and fast installation.

Convincing by safety – the advantages of the RiLine components

- Busbar system engineering with excellent characteristics: effective space utilisation and complete contact hazard protection.
- Insulated system.
- Reliable and fast.

Perfect, simple and cost-reducing: Fast installation with quality advantages

- Solution advantages:
  The system accessories provide simple and perfect solutions for all conceivable requirements one finds in practice.
- Cost advantages:
  Standardised series modules are cost-effective and their well-conceived fast installation technology saves expensive time.



High safety

Type-tested system technology for all low-voltage applications in the control and energy distribution engineering for loads of up to 1600 A. With Ri4Power, Rittal offers enclosures with divided interior installation using the TS 8 system platform. The low-voltage system type-tested in accordance with IEC 60439 Part 1 has a variable interior installation, a bar system with proven connection technology and many features that simplify the assembly, installation and operation. For the plant operator, the Rittal Ri4Power guarantees high safety standards in power distribution.

Regulation-conforming system

Safety

Rittal busbar systems use proven and tested system components to provide a high level of safety.

Fully-insulated busbar system with finger-safe shock protection, also at the connection points.

Increased arcing safety through the use of a busbar system and busbar holders with arcing fault prevention installed without any base points.

All plastic materials used for the busbar system are self-extinguishing (fire behaviour in accordance with UL 94-V0).

Type-tested system technology

IEC 60439-1

IPH BERLIN

Type-tested in internationally-recognised test laboratories. For other type-testing, see www.rittal.com.

More safety through the use of the heat dissipation tests with housings having various degrees of protection.

More safety through comprehensive tests of the short-circuit resistance with Rittal busbar systems.

Type-tested with various popular switchgear units from Siemens, Schneider Electric, ABB and Moeller.

Rittal – Universal

Rittal system integration, this is the TS 8 enclosure system platform plus power distribution, plus climate control, plus monitoring and control.

Ri4Power Form 2-4 – the ideal solution for low-voltage systems with control engineering and energy distribution systems.

Rittal RimatriX5 – the ideal solution for IT infrastructure with the Rack, Power, Cooling, Security and Remote Monitoring components.

Rittal system climate control – the goal, absolute safety, low installation and operating costs, is achieved thanks to the perfect matching of the climate control task and ambient condition.

The efficient way to the system solution

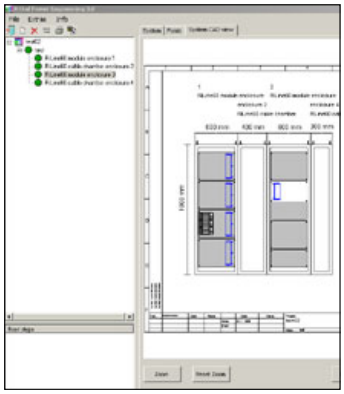
Rittal Ri4Power Form 2-4 provides easy planning, simple handling, perfect installation and a high-degree of modularity. Rittal TS 8 enclosures form the basis; their base dimensions and expandability guarantees all application possibilities. The internal space can be optimally adapted to the function-related switchgear installation. The variable assignment of the form separation and the door height increments means Rittal Ri4Power can optimally solve tasks.

Each individual requirement can be solved perfectly: Fast and cost-effective through the standardised busbar systems, comprehensive system accessories and appropriate software tools.

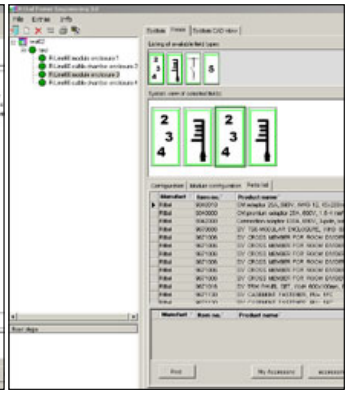
Convincing handling

Software Rittal Power Engineering V3.0

The ideal software for planning, preparation of tenders and plant execution.



The tool for planners: The tendering text and planning drawing at the push of a button.



The tool for the quotation preparation: The exact costing for each part in just a few steps.

The tool for the plant constructor: At the push of a button, you receive field-related bills of materials and drawings that also simplify the installation.

Modularity

Rittal Ri4Power Form 2-4 provides plant-specific solutions.

The modular installation concept permits an optimum assembly area utilisation thanks to the compartment heights in small steps (150, 200, 250 mm, etc.).

The variable arrangement of the height-optimised partial mounting plate is used to position switchgear in the correct position.

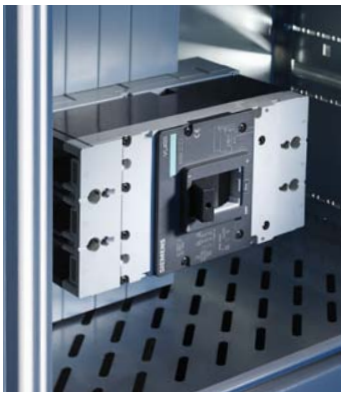
The TS 8 series enclosure permits any required enclosure width baying. The adaptation to existing siting areas can be made with ease.

Busbar systems

Rittal busbar systems – modular and compact.

Each rated current, each construction form and each required short-circuit resistance has a busbar system appropriate for the enclosure.

Pre-assembled connection adaptors ensure simple and reliable assembly.



The tested component adaptors and busbar system allows you to not only optimise the installation but also saves innovative installation time.

Perfection down to the smallest detail

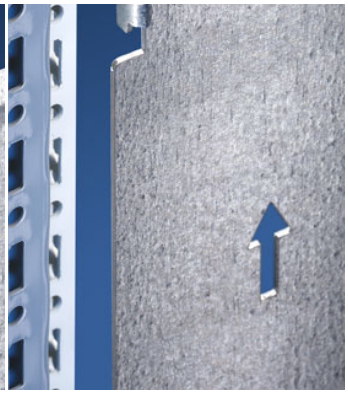
Time-saving system installation, divided internal construction, innovative module components, comprehensive accessories. Rittal Ri4Power Form 2-4 – this is a modular system for the time-optimised installation of divided enclosure systems for the low-voltage distribution. The new concepts in the installation technology and multifunctional components makes it possible to install the inside equipment of a low-voltage plant with just a few operations. The TS 8 Top enclosure system, as the system platform for Ri4Power Form 2-4, offers through its infinite possibilities ideal systems for your very specific requirements.

Time-saving system installation

Side panel modules

The side panel modules form the basic component for the internal installation.

One-person assembly: Attach components in the TS 8 pitch, release. Both hands are now free for the next installation step.



The symbols on the components show in the simplest possible way how to perform the correct assembly and the correct installation position.

The proven TS 8 pitch is used for many Ri4Power components and so permits the use of the TS 8 system accessories.

Partial doors and cross members

Simple assembly and high quality standards characterise the new partial door system.

The support strip is attached in the TS 8 pitch in accordance with the one-person principle.

Fitting accuracy and precision are prerequisites for modular technology.

The hinge of the partial doors is mounted on the TS 8 frame without any holes needing to be drilled.

Mini-TS

Mini-TS profile – the TS pitch in the smallest dimension. An extension of the assembly spectrum for small and medium loading.

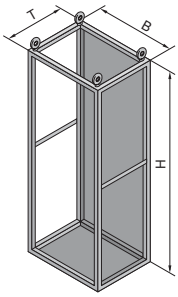
The three assembly sides of the Mini-TS profile always provide the range and the fast assembly technology of the TS 8 enclosure profile at any operational area.

The adaptation pieces always provide an attachment point in the 25 mm pitch at every position, irrespective of the mounting bracket type.

The small size means the Mini-TS bars can be mounted without conflict in the internal and external mounting level of the TS 8 enclosure.

Ri4Power Form 2-4, enclosures

SV-TS 8 modular enclosures



Enclosure frame for installation with partial doors and the internal separation.

Material:
Sheet steel
Enclosure frame, rear panel and gland plates: 1.5 mm

Surface finish:
Enclosure frame: dipcoat-primed
Rear panel: dipcoat-primed, powder-coated in textured RAL 7035 on the outside
Gland plates: zinc-plated

Protection category:
Up to IP 54, depending on the roof plate, front trim panels and side panel.

Supply includes:
Enclosure frame with rear panel and gland plates.

Accessories:

System accessories,
see Catalogue 31,
from page 832.

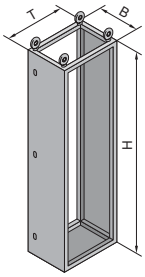
Inspection:
Type-tested in accordance with IEC 60 439-1

Detailed drawings,
see page 44.

Technical information,
see page 45.

Width (B) mm		Packs of	600	800	600	800	600	800	Page
Height (H) mm			1800	1800	2000	2000	2200	2200	
Depth (T) mm			600	600	600	600	600	600	
Model No. SV		1	**9670.686**	**9670.886**	**9670.606**	**9670.806**	**9670.626**	**9670.826**	
Weight			49.0	58.5	51.0	61.0	53.0	64.0	
Base/plinth									
Components front and rear	Height 100 mm	1 set	8601.600	8601.800	8601.600	8601.800	8601.600	8601.800	Cat. 31, 835
	Height 200 mm	1 set	8602.600	8602.800	8602.600	8602.800	8602.600	8602.800	Cat. 31, 835
Trim panels (sides)	Height 100 mm	1 set	8601.060	8601.060	8601.060	8601.060	8601.060	8601.060	Cat. 31, 835
	Height 200 mm	1 set	8602.060	8602.060	8602.060	8602.060	8602.060	8602.060	Cat. 31, 835
Also required									
Side panels for protection category	IP 55	2	8186.235	8186.235	8106.235	8106.235	8126.235	8126.235	17
	IP 43	2	9671.886	9671.886	9671.806	9671.806	9671.826	9671.826	17
	IP 2X	2	9671.986	9671.986	9671.906	9671.906	9671.926	9671.926	17
Roof plates for protection category	IP 55	1	9671.666	9671.686	9671.666	9671.686	9671.666	9671.686	17
	IP 43	1	9671.766	9671.786	9671.766	9671.786	9671.766	9671.786	17
	IP 2X	1	9660.235	9660.245	9660.235	9660.245	9660.235	9660.245	17
Roof plates for cable entry gland		1	9665.903	–	9665.903	–	9665.903	–	17
Front trim panels for protection category	IP 54	1 set	9671.016	9671.018	9671.016	9671.018	9671.016	9671.018	17
	IP 43	1 set	9671.026	9671.028	9671.026	9671.028	9671.026	9671.028	17
	IP 2X	1 set	9671.036	9671.038	9671.036	9671.038	9671.036	9671.038	17
Partial doors	for clearance height	1	9671.176	9671.196	9671.178	9671.198	9671.170	9671.190	16
	for modular configuration		■	■	■	■	■	■	16
Angular baying brackets		4	8800.430						Cat. 31, 865
Baying connectors, external		6	8800.490						Cat. 31, 864
Accessories									
External installation									16 – 18
Interior installation									19 – 23

SV-TS 8 cable chamber enclosures



Enclosure frame for cable chamber. The use of a roof plate with cable gland plates allows cables to be entered from above.

Material:
Sheet steel
Enclosure frame, rear panel and gland plates: 1.5 mm
Door: 2.0 mm

Surface finish:
Enclosure frame: dipcoat-primed
Door and rear panel: dipcoat-primed, powder-coated in textured RAL 7035 on the outside
Gland plates: zinc-plated

Protection category:
Up to IP 54, depending on the roof plate and the side panel.

Supply includes:
Enclosure frame with door, rear panel and gland plates.

Accessories:
System accessories, see Catalogue 31, from page 832.

Inspection:
Type-tested in accordance with IEC 60 439-1

Detailed drawings,
see page 44.

Technical information,
see page 45.

Width (B) mm		Packs of	300	400	300	400	300	400	Page
Height (H) mm			1800	1800	2000	2000	2200	2200	
Depth (T) mm			600	600	600	600	600	600	
Model No. SV		1	**9670.396**	**9670.496**	**9670.316**	**9670.416**	**9670.336**	**9670.436**	
Weight			48.5	52.0	51.5	54.0	54.0	56.5	
Base/plinth									
Components front and rear	Height 100 mm	1 set	8601.915	8601.400	8601.915	8601.400	8601.915	8601.400	Cat. 31, 835
	Height 200 mm	1 set	8602.915	8602.400	8602.915	8602.400	8602.915	8602.400	Cat. 31, 835
Trim panels (sides)	Height 100 mm	1 set	8601.060	8601.060	8601.060	8601.060	8601.060	8601.060	Cat. 31, 835
	Height 200 mm	1 set	8602.060	8602.060	8602.060	8602.060	8602.060	8602.060	Cat. 31, 835
Also required									
Side panels for protection category	IP 55	2	8186.235	8186.235	8106.235	8106.235	8126.235	8126.235	17
	IP 43	2	9671.886	9671.886	9671.806	9671.806	9671.826	9671.826	17
	IP 2X	2	9671.986	9671.986	9671.906	9671.906	9671.926	9671.926	17
Roof plates for protection category	IP 55	1	9671.636	9671.646	9671.636	9671.646	9671.636	9671.646	17
	IP 43	1	9671.736	9671.746	9671.736	9671.746	9671.736	9671.746	17
Roof plates for cable entry gland		1	9671.536	9671.546	9671.536	9671.546	9671.536	9671.546	17
Angular baying brackets		4	8800.430						Cat. 31, 865
Baying connectors, external		6	8800.490						Cat. 31, 864
Accessories									
External installation									16 – 18
Interior installation									19 – 23
Lock systems									
Standard double-bit lock may be exchanged for a lock with security cylinder/T handle, see page 16.									

Accessories

Cross members

for TS

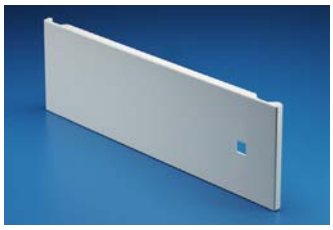
For use as sealing member between:
- front trim panels
- trim panels
- partial doors

Material:
Sheet steel, 1 mm

Colour:
RAL 7035

Supply includes:
Assembly parts and sealing material.

Packs of	Model No. SV	
	For enclosure width	
	600 mm	800 mm
5	**9671.006**	**9671.008**



Partial doors

for TS, without lock

Door hinges with non-drilled internal fastening. Door can be optionally hinged on the right or left side.

Material:
Sheet steel, 2 mm

Surface finish:
Textured RAL 7035

Supply includes:
Hinges and assembly parts.

Also required:

Locks,
see below.
Cross members,
see above.

Height mm	Number of required locks	Packs of	Model No. SV	
			For enclosure width	
			600 mm	800 mm
150	1	1	**9671.161**	**9671.181**
200	1	1	**9671.162**	**9671.182**
250	1	1	**9671.167**	**9671.187**
300	1	1	**9671.163**	**9671.183**
400	1	1	**9671.164**	**9671.184**
600	2	1	**9671.166**	**9671.186**
800	2	1	**9671.168**	**9671.188**
1000	3	1	**9671.160**	**9671.180**
1600	3	1	**9671.176**	**9671.196**
1800	3	1	**9671.178**	**9671.198**
2000	3	1	**9671.170**	**9671.190**

Locks

For the installation in partial doors or for replacement with AE cam locks.

Material:
Housing made of fibreglass-reinforced plastic, bolt made of PA

Supply includes:
Housing, lock insert, bolt
incl. fastening accessories.

Design	Packs of	Model No. SV
With double-bit insert	1	**9671.130**
With lock insert, lock no. 3524 E	1	**9671.132**
With T handle	1	**9671.134**
With T handle and lock insert, lock no. 3524 E	1	**9671.135**

Accessories

Front trim panels

for TS
Required as upper and lower height filler when partial doors are used.

Material:
Sheet steel, 2 mm

Surface finish:
Textured RAL 7035

Supply includes:
Two trim panels incl. fastening accessories.

Also required:

Cross members,
see page 16.

Height mm	Design	Packs of	Model No. SV	
			For enclosure width	
			600 mm	800 mm
100	IP 54 solid	1 set	**9671.016**	**9671.018**
100	IP 43 with louvres	1 set	**9671.026**	**9671.028**
100	IP 2X with louvres	1 set	**9671.036**	**9671.038**

Side panels

for TS
Easy positioning on the frame with the location aid.
Six enclosure panel holders with earthing insert ensure the automatic potential equalisation with an increased EMC protection. Earthing bolts with contact surface are integrated.

Material:
Sheet steel, 1.5 mm

Surface finish:
Textured RAL 7035

Supply includes:
Assembly parts.

For enclosures		Design	Packs of	Model No. SV
Height mm	Depth mm			
1800	600	IP 55 solid	2	**8186.235**
2000	600		2	**8106.235**
2200	600		2	**8126.235**
1800	600	IP 43 with louvres	2	**9671.886**
2000	600		2	**9671.806**
2200	600		2	**9671.826**
1800	600	IP 2X with louvres	2	**9671.986**
2000	600		2	**9671.906**
2200	600		2	**9671.926**

Roof plates

for TS
For SV-TS 8 modular and cable chamber enclosures without roof plate and for replacement with the standard roof plate for other TS enclosures.

Material:
Sheet steel, 1.5 mm

Surface finish:
Textured RAL 7035

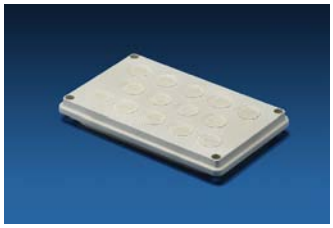
Supply includes:
Assembly parts.

Also required:

Cable entry gland, see page 18.
Number of gland plates required for the roof plate
SV 9671.536 = 2
SV 9671.546 = 3
SV 9665.903 = 4

For enclosures		Design	Packs of	Model No. SV
Width mm	Depth mm			
300	600	IP 55 solid	1	**9671.636**
400	600		1	**9671.646**
600	600		1	**9671.666**
800	600		1	**9671.686**
300	600	IP 43 with louvres	1	**9671.736**
400	600		1	**9671.746**
600	600		1	**9671.766**
800	600		1	**9671.786**
600	600	IP 2X with louvres	1	**9660.235**
800	600		1	**9660.245**
300	600	For cable entry gland	1	**9671.536**
400	600		1	**9671.546**
600	600		1	**9665.903**

Accessories



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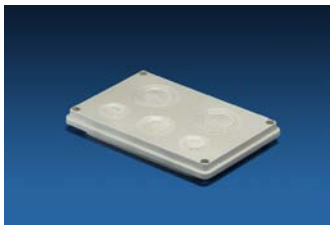

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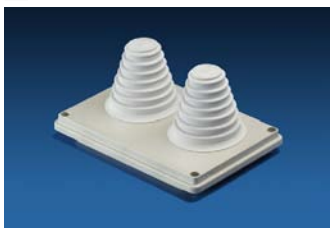

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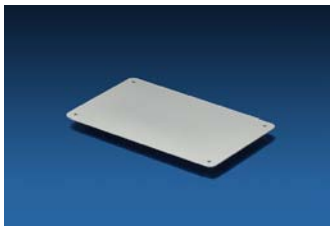

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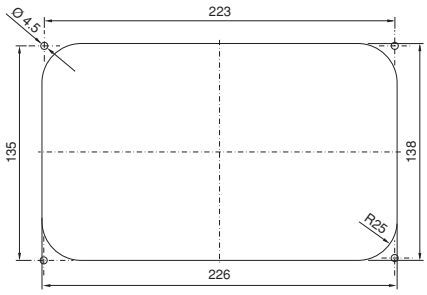
Cable entry glands

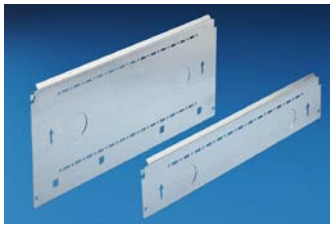
- Including seal
- External dimension 250 x 160 mm
- Protection category IP 55

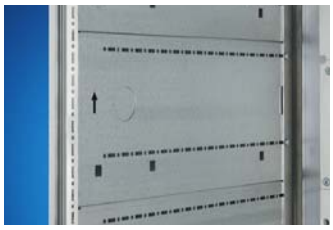
Material:
SV 9665.750 to 9665.780
Insulation material RAL 7032
SV 9665.785
Sheet steel, spray-finished in RAL 7035

Design	Packs of	Model No. SV
1 14 x M25/32	1	**9665.750**
2 2 x M25/32/40, 1 x M32/40/50, 2 x M40/50/63	1	**9665.760**
3 With sealing membranes 32 x diameter 7 – 16 mm, 4 x diameter 10 – 20 mm, 3 x diameter 14 – 26 mm	1	**9665.770**
4 With entry glands up to 66 mm diameter	1	**9665.780**
5 Solid	4	**9665.785**



Cut-out size for
SV 9665.750 to SV 9665.785





Functional space side panel modules

for TS

For the internal separation as a divider panel for functional spaces, for attachment in the TS pitch pattern. Prepared for the attachment of mounting brackets for horizontal functional separation or mounting plates with two M40 knockouts for cable entry. Two TS system punchings allow the use of additional TS accessories.
The side panel modules for reduced functional space depth and an auxiliary construction using the Mini-TS profiles can be used to provide an inter-enclosure space in the side panel area, for example, to provide a busbar system.

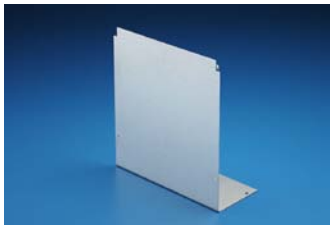
Material:
Sheet steel, zinc-plated, passivated

Supply includes:
Assembly parts.

Accessories:

Mini-TS profiles and adaptor pieces,
see page 22.

Height mm	Configuration with plastic gland plate	Packs of	Model No. SV	
			For functional space depth	
			425 mm	600 mm
100	–	6	**9673.051**	**9673.061**
150	–	6	**9673.055**	**9673.065**
150	■	6	**9673.155**	**9673.165**
200	–	6	**9673.052**	**9673.062**
200	■	6	**9673.152**	**9673.162**



Cover plates

for cable chamber area

For separating an area of the cable chamber enclosure for the busbar space. The fastening requires an auxiliary construction made of the Mini-TS profile in which the covering plates are attached and fastened.

Material:
Sheet steel, zinc-plated, passivated

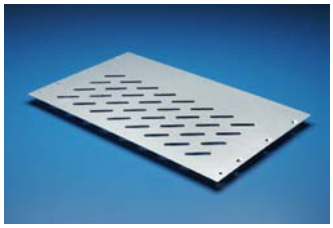
Supply includes:
Two sets of covering plates consisting of an upper and a lower plate.
Assembly parts.

Also required:

Frame adaptor piece
4 x SV 9673.901 (packs of 24), see page 22.
Corner connector
2 x SV 9673.902 (packs of 10), see page 23.
Mini-TS profiles
2 x SV 9673.915 (packs of 12),
2 x SV 9673.953 (packs of 12), see page 22.

Width mm	Height mm	Depth mm	For enclosure width mm	Packs of	Model No. SV
292	575	167	300	2 sets	**9673.530**
392	575	167	400	2 sets	**9673.540**

Accessories



Functional space divider

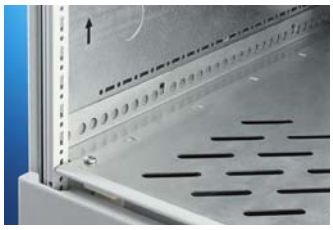
for TS

For the horizontal separation of functional spaces. In combination with the side panel modules, produces a separation in accordance with Form 3 or 4. Two mounting brackets are required to install the functional space divider.

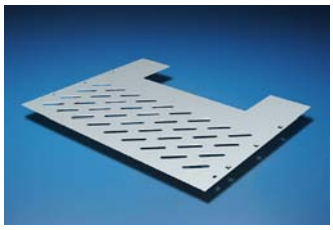
Material:
Sheet steel, zinc-plated, passivated

Also required:

Mounting brackets,
see below.
Cross members,
see page 16.



Width mm	Depth mm	For enclosure width mm	For functional space depth mm	Packs of	Model No. SV
510	445	600	425	4	**9673.464**
710	445	800	425	4	**9673.484**
510	588	600	600	4	**9673.465**
710	588	800	600	4	**9673.485**



Functional space divider

for TS, prepared for RiLine60 bar systems

For the horizontal separation of functional space with integrated RiLine60 multi-terminal busbar system. In combination with the side panel modules, produces a separation in accordance with Form 3 or 4. Two mounting brackets are required to install the functional space divider.

Material:
Sheet steel, zinc-plated, passivated

Also required:

Mounting brackets,
see below.
Cross members,
see page 16.

Width mm	Depth mm	For enclosure width mm	For functional space depth mm	Position of the bar system in the functional space	Packs of	Model No. SV
510	418	600	388	–	4	**9673.454**
710	418	800	388	right	4	**9673.474**
710	418	800	388	left	4	**9673.475**

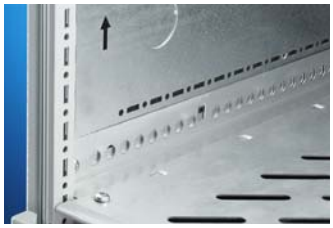
Mounting bracket

for functional space divider

The mounting bracket is fastened to the TS frame or between a frame section and an auxiliary construction. The mounting bracket is suitable both for fastening to a side panel module and also directly to the TS frame. The functional space dividers can be inserted in the provided installation openings.

Material:
Sheet steel, zinc-plated, passivated

Supply includes:
Assembly parts.



Length mm	For functional space depth mm	Packs of	Model No. SV
427	425/388	8	**9673.405**
552	600	8	**9673.406**

Partial mounting plates

with and without duct, for TS

For the direct attachment to the side panel modules.

- Universal internal installation with switchgear and control devices.
- Additional mounting levels.

In combination with functional space dividers and side panel modules, an internal separation in accordance with Form 2, 3 or 4 is possible.

Material:
Sheet steel, zinc-plated, passivated

Supply includes:
Angle brackets and assembly parts.
For the construction with duct: additional square cutout with insulation material plates for closing the cutout.

Also required:

Functional space side panel modules,
see page 19.

Width mm	Height mm	With duct	For enclosure width mm	For functional space height mm	Packs of	Model No. SV
508	145	–	600	150	1	**9673.661**
508	195	–	600	200	1	**9673.662**
508	245	–	600	250	1	**9673.667**
508	295	–	600	300	1	**9673.663**
508	395	–	600	400	1	**9673.664**
508	595	–	600	600	1	**9673.666**
508	795	–	600	800	1	**9673.668**
508	995	–	600	1000	1	**9673.660**
508	145	■	600	150	1	**9673.671**
508	195	■	600	200	1	**9673.672**
508	245	■	600	250	1	**9673.677**
508	295	■	600	300	1	**9673.673**
508	395	■	600	400	1	**9673.674**
708	145	–	800	150	1	**9673.681**
708	195	–	800	200	1	**9673.682**
708	245	–	800	250	1	**9673.687**
708	295	–	800	300	1	**9673.683**
708	395	–	800	400	1	**9673.684**
708	595	–	800	600	1	**9673.686**
708	795	–	800	800	1	**9673.688**
708	995	–	800	1000	1	**9673.680**

Support frame

for DIN rail-mounted devices

Supporting frame set for accepting DIN rail-mounted devices (e.g. MCBs). The support rails are fastened with two mounting brackets to the side panel modules. The front trim panel is fastened with knurled screws to the support frame. In combination with functional space dividers, partial mounting plates and side panel modules, a separation in accordance with Form 2, 3 or 4 is possible.

Material:
Support frame: sheet steel, zinc-plated, passivated
Front trim panels: sheet steel, spray-finished

Supply includes:
2 support rails,
2 mounting brackets,
1 front trim panel with cutout.
Assembly parts.

Also required:

Functional space side panel modules,
see page 19.

For enclosure width mm	For functional space height mm	Number of divider units 17.5 mm	Packs of	Model No. SV
600	150	1 x 24	1 set	**9674.761**
600	300	2 x 24	1 set	**9674.762**
600	600	3 x 24	1 set	**9674.763**
600	600	4 x 24	1 set	**9674.764**
800	150	1 x 36	1 set	**9674.781**
800	300	2 x 36	1 set	**9674.782**
800	600	3 x 36	1 set	**9674.783**
800	600	4 x 36	1 set	**9674.784**

Accessories

Mini-TS profiles 17 x 15.5 mm

for TS

Mounting bracket with TS pitch on three sides. Suitable for

- building an auxiliary construction for dividing the busbar space,
- individual use as mounting frame for low and medium loads,
- fastening in the internal or external mounting level of the TS 8 enclosure.

Material:
Sheet steel, zinc-plated, passivated

Also required:

Frame adaptor piece,
see below.
T adaptor piece,
see below.
Corner connector,
see page 23.

For horizontal busbar space separation		Packs of	Model No. SV
For functional space depth mm	Length mm		
425	62.5	12	**9673.915**

For vertical busbar space separation		Packs of	Model No. SV
For functional space height mm	Length mm		
350	337.5	12	**9673.942**
400	387.5	12	**9673.943**
450	437.5	12	**9673.952**
500	487.5	12	**9673.953**

For external mounting level		Packs of	Model No. SV
For enclosure width/depth mm	Length mm		
300	162.5	12	**9673.930**
400	262.5	12	**9673.940**
500	362.5	12	**9673.950**
600	462.5	12	**9673.960**
800	662.5	12	**9673.980**

For internal mounting level		Packs of	Model No. SV
For enclosure width/depth mm	Length mm		
300	212.5	12	**9673.931**
400	312.5	12	**9673.941**
500	412.5	12	**9673.951**
600	512.5	12	**9673.961**
800	712.5	12	**9673.981**

Frame adaptor piece

for Mini-TS profile

Mounting part with integrated M4 threads for attaching the Mini-TS profile to the horizontal and vertical TS frame section (external level). The frame adaptor piece can be used self-holding in the TS pitch and fastened with a screw to the frame. Can also be used for fastening other sections with TS pitch.

Material:
Die-cast zinc

Supply includes:
Assembly parts.

Packs of	Model No. SV
24	**9673.901**

T adaptor piece

for Mini-TS profile

Mounting part with integrated M4 threads for fastening the Mini-TS profile to the

- horizontal and vertical TS chassis,
- Mini-TS profile,
- vertical TS frame section (internal level).

The T adaptor piece can be used self-holding in the TS pitch and fastened with a screw to the frame. Can also be used for fastening other sections with TS pitch.

Material:
Die-cast zinc

Supply includes:
Assembly parts.

Packs of	Model No. SV
24	**9673.903**

Accessories

Corner connector

for Mini-TS profile
Mounting part with integrated M4 threads for connecting two Mini-TS profiles at an angle of 90° at the corner. Required for building the auxiliary construction for the busbar space separation.

Packs of	Model No. SV
10	**9673.902**

Material:
Die-cast zinc

Supply includes:
Assembly parts.

System attachments

For main busbar system
System attachment with M5 and M6 threads in the 50 mm pitch for the rear installation of a RiLine60 main busbar system up to 1600 A. For attaching in the TS frame.

Material:
Sheet steel, zinc-plated, passivated

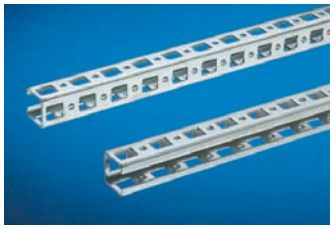
Supply includes:
Assembly parts.

Note:
RiLine60 busbar systems,
see page 24 – 38.

Width mm	Height mm	For enclosure width mm	Packs of	Model No. SV
238.5	356	300	1	**9674.003**
338.5	356	400	1	**9674.004**
538.5	356	600	1	**9674.006**
738.5	356	800	1	**9674.008**

Attachment accessories

for busbar system
The accessory components must be used for mounting a type-tested vertical multi-terminal busbar system behind the functional space:



PS mounting rails 23 x 23 mm

For installing a vertical RiLine60 multi-terminal busbar system on the vertical enclosure section.

Material:
Sheet steel, zinc-plated, passivated

Length mm	For enclosures WHD mm	Packs of	Model No. PS
295	400	12	**4169.000**
495	600	12	**4171.000**
695	800	12	**4172.000**

Also required:
Fastening bracket and U nuts,
see below.

Fastening bracket

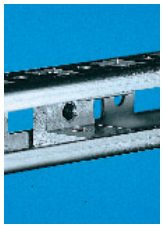
For mounting the PS mounting rails on the TS frame.

Material:
Die-cast zinc

Supply includes:
24 screws BZ 5.5 x 13 mm.

Packs of	Model No. TS
24	**8800.370**

Also required:
U nuts (recommendation: M6),
see below.



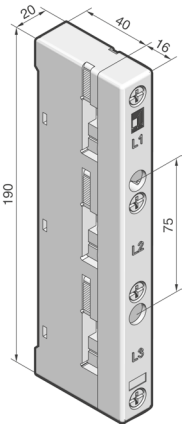
U nuts

For fastening the PS mounting rails to the bracket and the fastening of the busbar holder to the PS mounting rails.

Thread	Packs of	Model No. PS
M5	20	**4157.000**
M6	20	**4179.000**

Accessories:
Multi-tooth screws M6 x 12 mm (for PS 4179.000),
see Catalogue 31, page 937.

Busbar supports 3-pole



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 46.

Technical information
for the calculation of rated currents,
see page 48.

1 with attachment holes on the inside

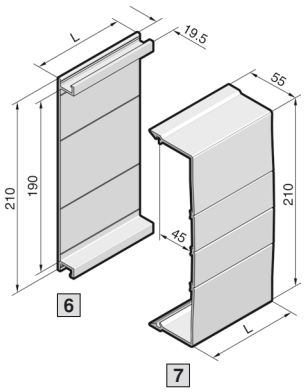
Design	Packs of	1
Number of poles		3-pole
Bar centre distance		60 mm
Tightening torque ● Assembly screw (M5 x 16) ● Cover attachment		 3 – 5 Nm 1 – 3 Nm
Model No. SV	4	**9340.000**
Accessories		
2 End covers for contact hazard protection on the sides	2	**9340.070**

Busbars E-Cu

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

Dimensions mm	Packs of	Model No. SV	Page
15 x 5	6	**3581.000**	
15 x 10	6	**3581.100**	
20 x 5	6	**3582.000**	
20 x 10	6	**3585.000**	
25 x 5	6	**3583.000**	
30 x 5	6	**3584.000**	
30 x 10[1)]	6	**3586.000**	
Accessories			
Busbar cover section (length 1 m/each)	10	3092.000	40
Busbar connector for E-Cu			
3 12 x 5 – 15 x 10 mm (single connection)	3	9350.075	40
4 20 x 5 – 30 x 10 mm (single connection)	3	9320.020	40
5 20 x 5 – 30 x 10 mm (bayed connection)[2)]	3	9320.030	40

[1)] Other busbar lengths, see page 34
[2)] From enclosure to enclosure



6 Base tray

For rear contact hazard protection of the flat bar 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**

7 Cover section

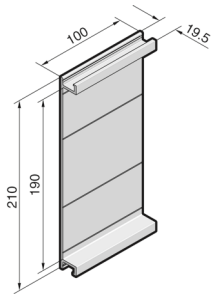
May be cut to length as required; for clip-on mounting to the base tray.

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

Base tray and cover section
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

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

Supply includes:
Assembly parts.

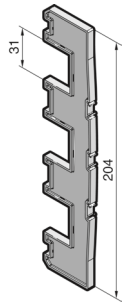
Support panel

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

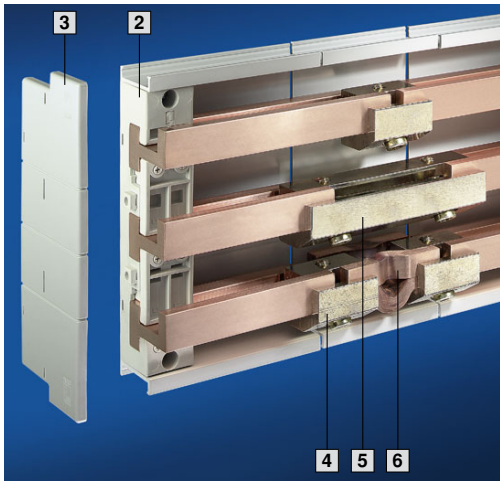
Material:
Polyamide (PA 6.6).
Continuous operating temperature max. 105°C.
Fire protection corresponding to UL 94-V0.

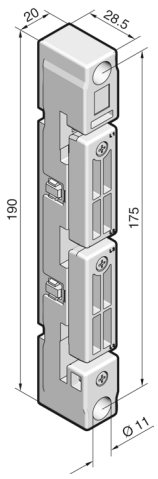
Colour:
RAL 7035

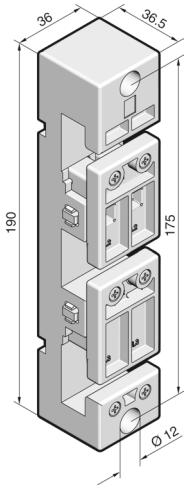
Packs of	Model No. SV
5	**9340.220**



PLS busbar supports 3-pole







1 Rittal PLS 800

2 Rittal PLS 1600

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 46.

Technical information
for the calculation of rated currents,
see page 48.

For Rittal system	Packs of	1 PLS 800	2 PLS 1600
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**

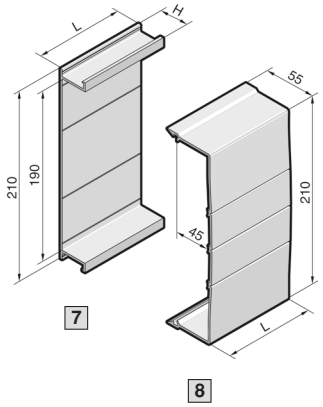
PLS special busbars

made from E-Cu

For Rittal system		Packs of	PLS 800	PLS 1600	Page
Cross-section			300 mm²	900 mm²	
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	41
5 PLS busbar connector (bayed connection)[2)]		3	3505.000	3515.000	41
6 PLS expansion connectors[3)]		3	9320.060	9320.070	41

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

System components 3-pole



7 Base tray

For rear contact hazard protection of the PLS busbar assembly.

Length (L) mm	Packs of	Model No. SV For system	
		PLS 800	PLS 1600
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

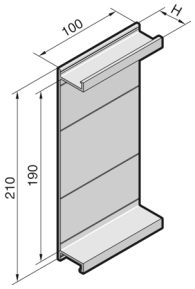
May be cut to length individually, for clip-on mounting to the base tray for PLS system 800 A and 1600 A.

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

Base tray and cover section
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 system	Height (H) mm	Packs of	Model No. SV
PLS 800	32	2	**9341.140**
PLS 1600	43	2	**9342.140**

Supply includes:
Assembly parts.

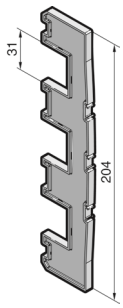
Support panel

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

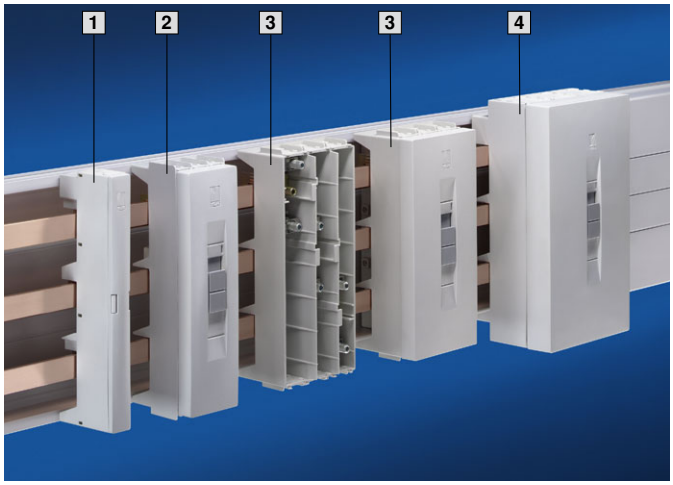
Material:
Polyamide (PA 6.6).
Continuous operating temperature max. 105°C.
Fire protection corresponding to UL 94-V0.

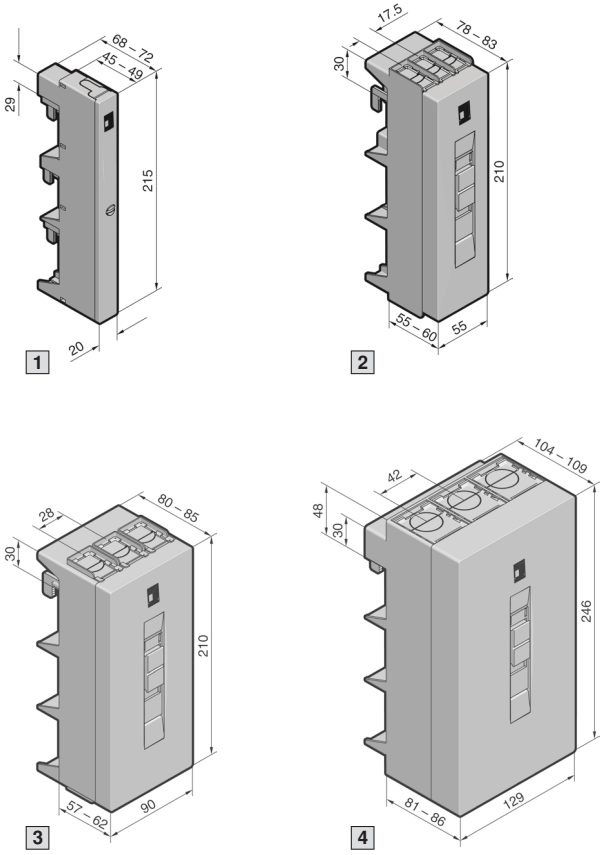
Colour:
RAL 7035

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



Connection adaptors 3-pole





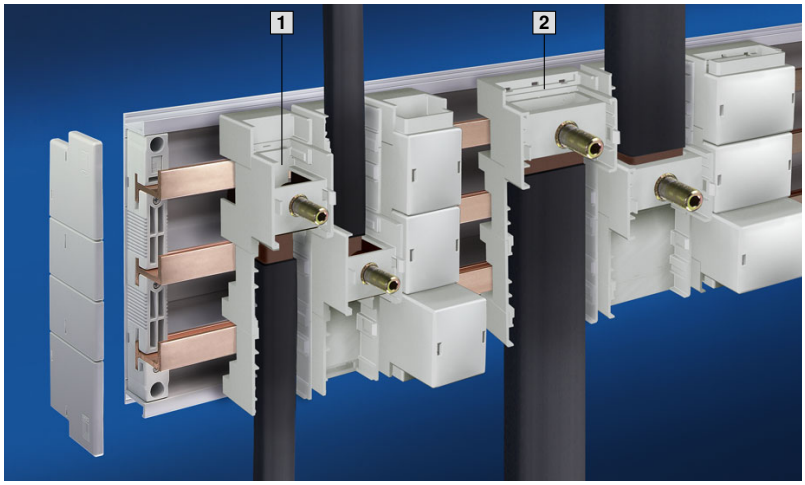
Material:
Punched section
Polyamide (PA 6.6), 25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.
Cover
ABS,
fire protection corresponding to UL 94-V0.

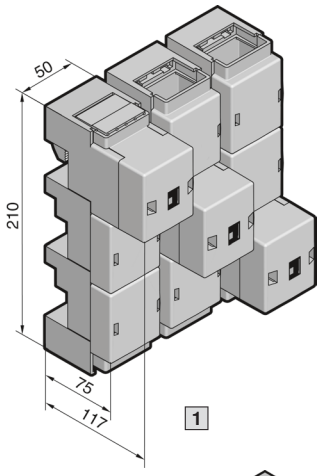
Colour:
RAL 7035

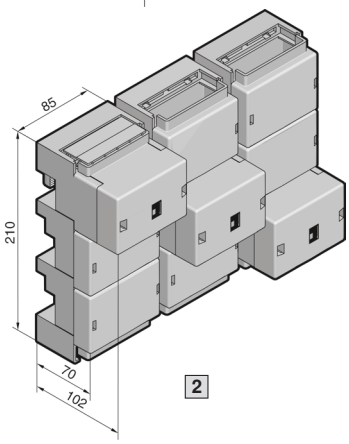
Supply includes:
Cover

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		–	■	■	■	42

Connection adaptors 3-pole







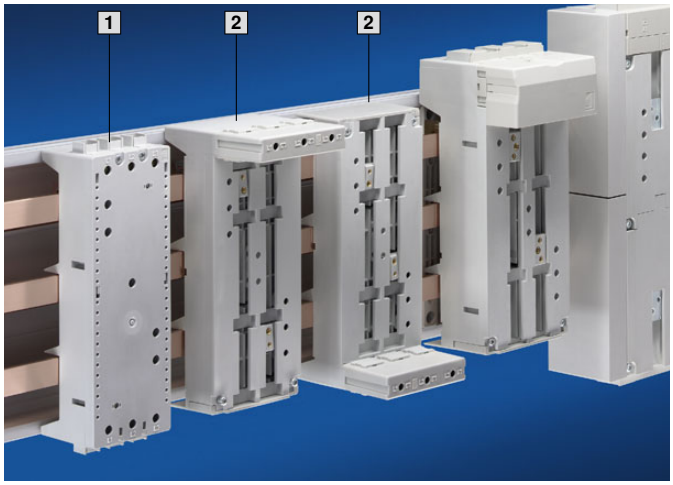
Material:
Punched section
Polyamide (PA 6.6), 25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.
Cover
ABS,
fire protection corresponding to UL 94-V0.

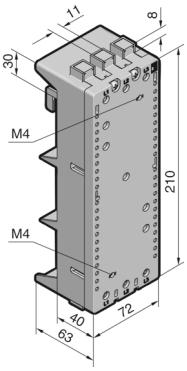
Colour:
RAL 7035

Supply includes:
Cover

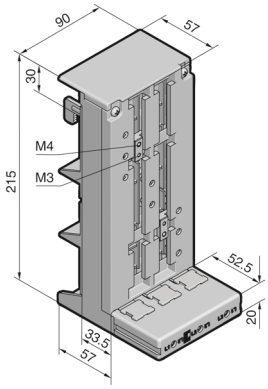
Design (3 x 1-pole)	Packs of	1	2	Page
Rated current up to		800 A	1600 A	
Rated operating voltage		690 V~	690 V~	
Outlet		top/bottom	top/bottom	
Clamping area for laminated copper bars ● For 5 mm bar thickness ● For 10 mm bar thickness		 33 x 27 mm 33 x 22 mm	 65 x 27 mm 65 x 22 mm	
Tightening torque		12 – 15 Nm	15 – 20 Nm	
For bar thickness		5/10 mm	5/10 mm	
Model No. SV	1 set (3)	**9342.310**	**9342.320**	
Accessories				
Laminated copper bars		■	■	42

Component adaptors/Circuit-breaker component adaptors 3-pole

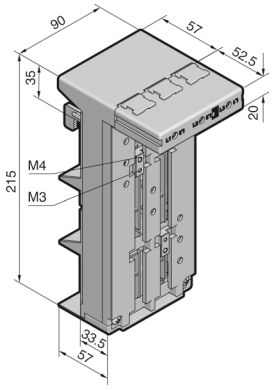




1 SV 9342.400/.410



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.

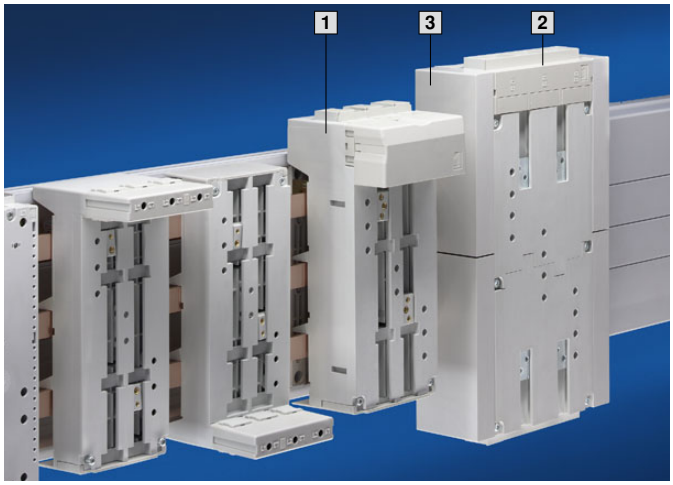
Colour:
RAL 7035

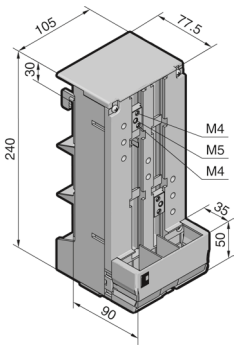
Scope of supply Circuit-breaker component adaptor:
Terminal cover and sliding blocks for switchgear attachment.

Design		Packs of	1 Component adaptor	2 Circuit-breaker component adaptor	Page
Construction width			72 mm	90 mm	
Length			210 mm	215 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 mm²	35 – 120 mm²	
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**	
Cable outlet at the bottom[2] **Model No. SV**		1	**9342.410**	**9342.510**	
Accessories					
Support rail Width 72 mm, height 15 mm		5	9320.120	–	43

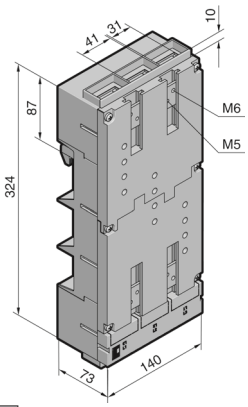
[1] Mounting only possible with support rail SV 9320.120.
[2] Switch outlet or outgoing cable.

Circuit-breaker component adaptors 3-pole

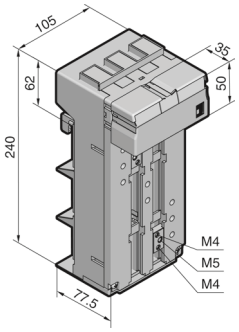




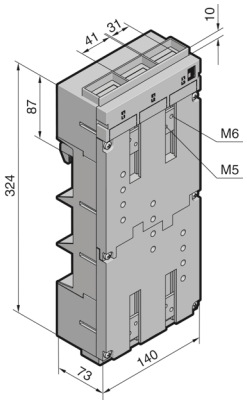
1 SV 9342.600



2 SV 9342.700



1 SV 9342.610



2 SV 9342.710

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

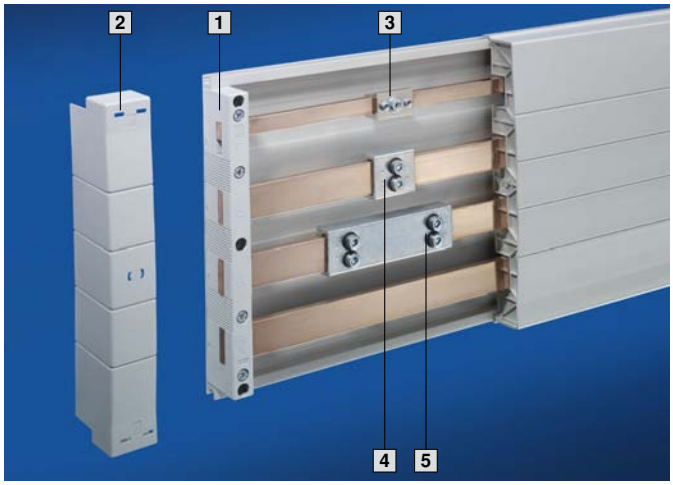
Colour:
RAL 7035

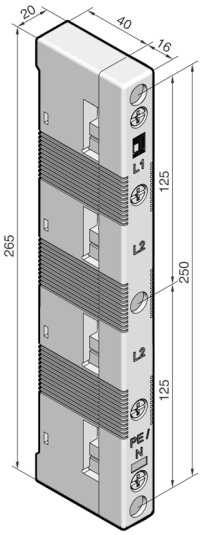
Supply includes:
Terminal cover and sliding blocks for switchgear attachment.

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[2]	
Rated operating voltage			690 V~	690 V~	
Connection clamp			Box terminal	Screw terminal M10	
Connection of round conductors			35 – 120 mm²	max. 150 mm²[3]	
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, T3, T4	S5, T5	
	GE		FE	–	
	Merlin Gerin		NS100, NS160, NS250	NS400, NS630	
	Moeller Electric		NZM2	NZM3	
	Siemens		VL160X, VL160, VL250	VL400, VL630[4]	
	Telemecanique		GV7	–	
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	43
Connection bracket			■	■	43

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

Busbar supports 4-pole





1 with attachment holes on the inside

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 47.

Technical information
for the calculation of rated currents,
see page 48.

Design	Packs of	1
Number of poles		4-pole
Bar centre distance		60 mm
Tightening torque ● Assembly screw (M5 x 25) ● Cover attachment		 3 – 5 Nm 1 – 3 Nm
Model No. SV	4	**9340.004**
Accessories		
2 End covers for contact hazard protection on the sides	2	**9340.074**

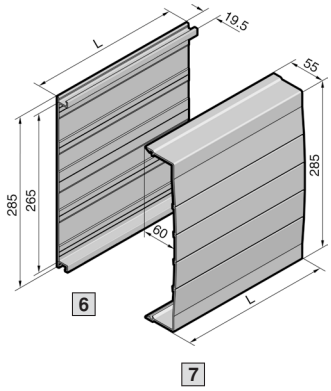
Busbars E-Cu

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

Dimensions mm	Packs of	Model No. SV	Page
15 x 5	6	**3581.000**	
15 x 10	6	**3581.100**	
20 x 5	6	**3582.000**	
20 x 10	6	**3585.000**	
25 x 5	6	**3583.000**	
30 x 5	6	**3584.000**	
30 x 10[1)]	6	**3586.000**	
Accessories			
Busbar cover section (length 1 m/each)	10	3092.000	40
Busbar connector for E-Cu			
3 12 x 5 – 15 x 10 mm (single connection)	3	9350.075	40
4 20 x 5 – 30 x 10 mm (single connection)	3	9320.020	40
5 20 x 5 – 30 x 10 mm (bayed connection)[2)]	3	9320.030	40

[1)] Other busbar lengths, see page 34
[2)] From enclosure to enclosure

System components 4-pole



6 Base tray

For rear contact hazard protection of the flat bar assembly.

Length (L) mm	Packs of	**Model No. SV**
1100	2	**9340.134**

7 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**
1100	2	**9340.214**

Base tray and cover section
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 9340.224) is needed for stability.

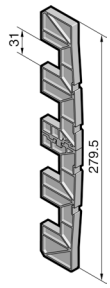
Support panel

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

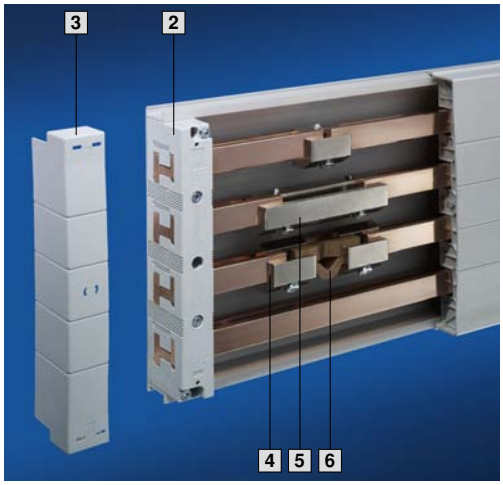
Material:
Polyamide (PA 6.6).
Continuous operating temperature max. 105°C.
Fire protection corresponding to UL 94-V0.

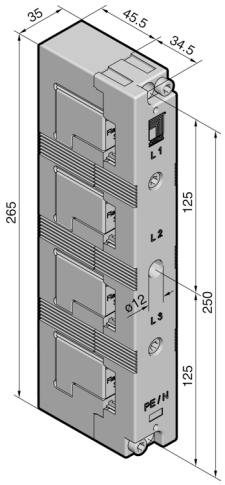
Colour:
RAL 7035

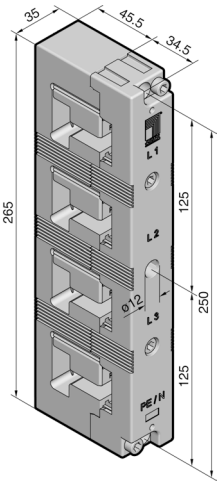
Packs of	**Model No. SV**
5	**9340.224**



Busbar supports PLUS 4-pole







1 Rittal 30 x 10 PLUS 2 Rittal PLS 1600 PLUS

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 47.

Technical information
for the calculation of rated currents,
see page 48.

For system		Packs of	1 Rittal 30 x 10 PLUS	2 Rittal PLS 1600 PLUS
Number of poles			4-pole	4-pole
Bar centre distance			60 mm	60 mm
For	busbars E-Cu 30 x 10 mm		■	–
	PLS special busbars (PLS 1600)		–	■
Tightening torque ● Assembly screw (M6 x 20)			3 – 5 Nm	3 – 5 Nm
Model No. SV		4	**9342.014**	**9342.004**
Accessories				
3 End covers for contact hazard protection on the sides		2	**9342.074**	**9342.074**

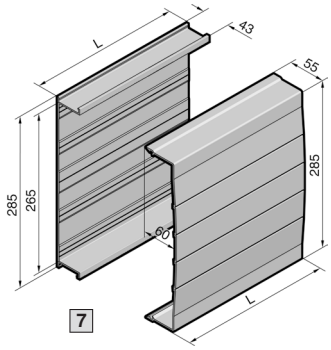
Busbars

made from E-Cu

For system		Rittal 30 x 10 PLUS			Rittal PLS 1600 PLUS			Page
Size		30 x 10 mm			–			
Cross-section (bar thickness)		–			900 mm² (10 mm)[1]			
For enclosure width mm		Length mm	Packs of	Model No. SV	Length mm	Packs of	Model No. SV	
300[2]		265	2	**9661.330**	–	–	**–**	
400[2]		365	2	**9661.340**	–	–	**–**	
600[2]		565	2	**9661.360**	495	3	**3527.000**	
800[2]		765	2	**9661.380**	695	3	**3528.000**	
1000[2]		965	2	**9661.300**	895	3	**3528.010**	
1200[2]		1165	2	**9661.320**	1095	3	**3529.000**	
Variable		2400	6	**3586.000**	2400	1	**3516.000**	
Accessories								
4 PLS busbar connector (single connection)		–	–	–	–	3	3514.000	41
5 PLS busbar connector (bayed connection)[3]		–	–	–	–	3	3515.000	41
6 PLS expansion connectors[4]		–	–	–	–	3	9320.070	41
Baying bracket for SV 9661.300 to .380 (bayed connection)		95	4	9661.350				39
Busbar connector for SV 3586.000	Single connection	–	3	9320.020	–	–	–	40
	Baying connection[3]	–	3	9320.030	–	–	–	40
Busbar cover section		1000	10	3092.000	–	–	–	40

[1] PLS special busbars (1600 A)
[2] For Rittal TS 8 enclosure systems
[3] From enclosure to enclosure
[4] Two PLS rail connectors (single connection) are required to fit one expansion connector.

System components 4-pole



7

8

7 Base tray

For rear contact hazard protection of the busbar assembly PLUS.

Length (L) mm	Packs of	**Model No. SV**
1100	2	**9342.134**

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**
1100	2	**9340.214**

Base tray and cover section
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 9340.224) is needed for stability.

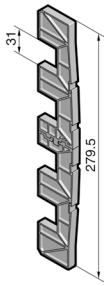
Support panel

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

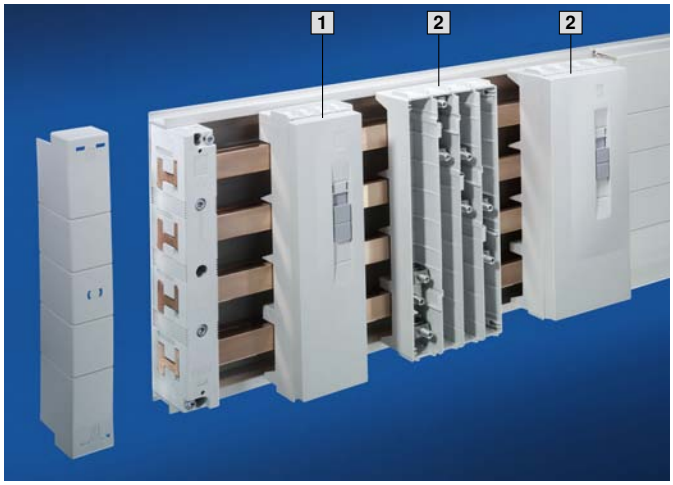
Material:
Polyamide (PA 6.6).
Continuous operating temperature max. 105°C.
Fire protection corresponding to UL 94-V0.

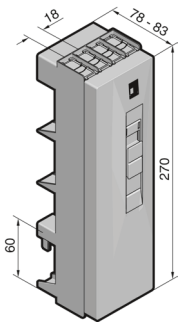
Colour:
RAL 7035

Packs of	**Model No. SV**
5	**9340.224**

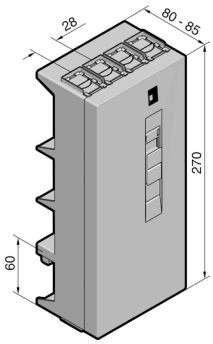


Connection adaptors 4-pole





1



2

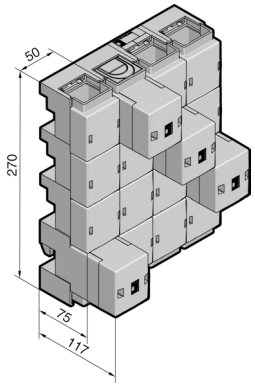
Material:
Punched section
Polyamide (PA 6.6), 25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.
Cover
ABS,
fire protection corresponding to UL 94-V0.

Colour:
RAL 7035

Supply includes:
Cover

Design (4-pole)	Packs of	1	2	Page
Rated current up to		125 A	250 A	
Rated operating voltage		690 V~	690 V~	
Connection of round conductors ● Fine wire with wire end ferrule ● Multi-wire		 10 – 25 mm² 16 – 35 mm²	 35 – 120 mm² 35 – 120 mm²	
Clamping area for laminated copper bars		10 x 7.8 mm	18.5 x 15.5 mm	
Tightening torque ● Assembly screw ● Terminal screw		 2 Nm 2 – 3 Nm	 4 – 6 Nm 8 – 10 Nm	
For bar thickness		5/10 mm	5/10 mm	
Outlet top/bottom **Model No. SV**	1	**9342.224**	**9342.254**	
Outlet at top **Model No. SV**	1	**9342.234**	**9342.264**	
Outlet at bottom **Model No. SV**	1	**9342.244**	**9342.274**	
Accessories				
Laminated copper bars		■	■	42

Connection adaptors 4-pole

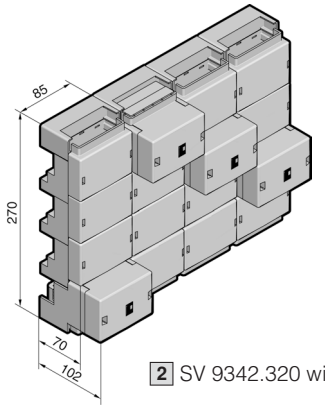


1 SV 9342.310 with SV 9342.314

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

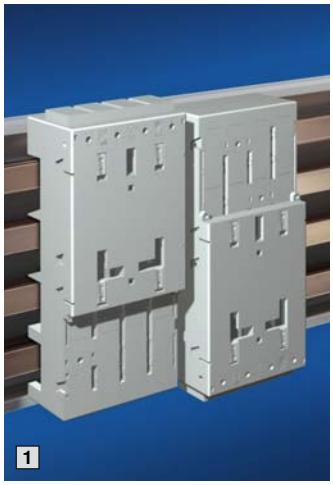
Supply includes:
Cover



2 SV 9342.320 with SV 9342.324

Design	Packs of	1	2	Page
Rated current up to		800 A	1600 A	
Rated operating voltage		690 V~	690 V~	
Outlet		top/bottom	top/bottom	
Clamping area for laminated copper bars ● For 5 mm bar thickness ● For 10 mm bar thickness		 33 x 27 mm 33 x 22 mm	 65 x 27 mm 65 x 22 mm	
Tightening torque		12 – 15 Nm	15 – 20 Nm	
For bar thickness		5/10 mm	5/10 mm	
Connection adaptors (3 x 1-pole) **Model No. SV**	1 set (3)	**9342.310**	**9342.320**	
Also required				
Connection adaptor (expansion set for 4-pole configuration)	1	**9342.314**	**9342.324**	
Accessories				
Laminated copper bars		■	■	42

Circuit-breaker component adaptors 4-pole

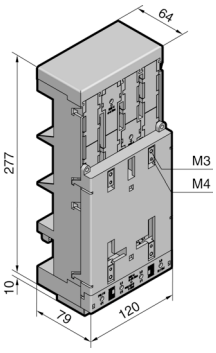


Material:
Polyamide (PA 6.6), 25 % fibreglass-reinforced.
Continuous operating temperature max. 130°C.
Fire protection corresponding to UL 94-V0.

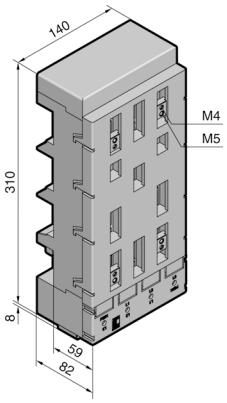
Colour:
RAL 7035

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

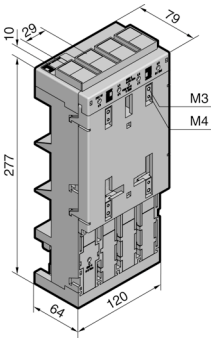
Note:
Circuit-breaker component adaptors in 630 A version available on request.



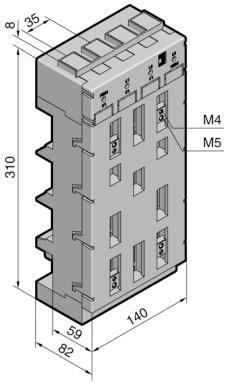
1 SV 9342.504



2 SV 9342.604



1 SV 9342.514

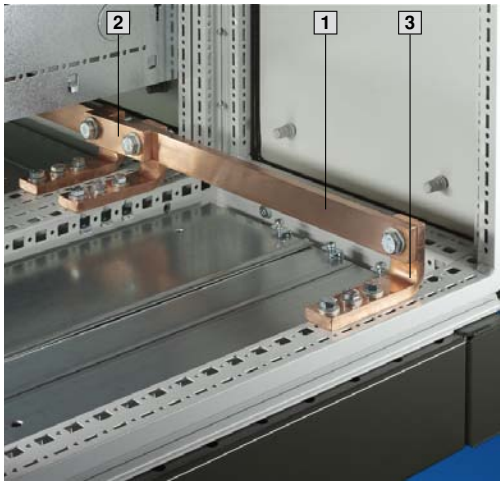


2 SV 9342.614

Design		Packs of	1	2
Construction width			120 mm	140 mm
Length			277 mm	310 mm
Rated current up to			160 A	250 A
Rated operating voltage			690 V~	690 V~
Connection clamp			Box terminal	Box terminal
Connection of round conductors			35 – 120 mm^2	35 – 120 mm^2
Clamping area for laminated copper bars			18.5 x 15.5 mm	18.5 x 15.5 mm
Tightening torque ● Terminal screw ● Rail attachment			 8 – 10 Nm 4 – 6 Nm	 8 – 10 Nm 4 – 6 Nm
For switchgear make/model	ABB		T1 (160 A), T2 (160 A)	T3S (250 A), T4V (315 A)
	Merlin Gerin		NSC100	NS100, NS160, NS250L
	Moeller Electric		NZM1-4 (125 A)	NZM2-4 (250 A)
	Siemens		–	VL160X, VL160, VL250
For bar thickness			5/10 mm	5/10 mm
Cable outlet at the top[1)] **Model No. SV**		1	**9342.504**	**9342.604**
Cable outlet at the bottom[1)] **Model No. SV**		1	**9342.514**	**9342.614**

[1)] Switch outlet or outgoing cable.

PE/PEN combination



The PE/PEN combination, comprising busbars, combination angles and baying brackets, supports type-tested configuration to IEC 60 439-1.
Thanks to the pre-assembled combination angles, baying brackets and busbars individually tailored to the enclosure width, assembly is time-saving with cost reduction.

Technical specifications:
Tested short-circuit resistance
- PE/PEN combination 30 x 5 mm: I_{cw} 18 kA, 1 sec
- PE/PEN combination 30 x 10 mm: I_{cw} 30 kA, 1 sec

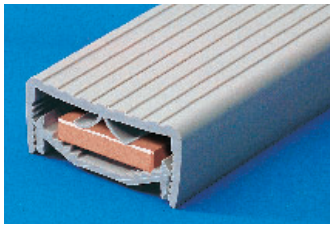
Material:
E-Cu

1 PE/PEN busbars

Design		Packs of	PE/PEN combination 30 x 5 mm	PE/PEN combination 30 x 10 mm
Length mm	For enclosure width mm		**Model No. SV**	**Model No. SV**
265	300	2	**9661.335**	**9661.330**
365	400	2	**9661.345**	**9661.340**
565	600	2	**9661.365**	**9661.360**
765	800	2	**9661.385**	**9661.380**
965	1000	2	**9661.305**	**9661.300**
1165	1200	2	**9661.325**	**9661.320**
Accessories				
2 PE/PEN baying bracket, length 95 mm		4	9661.355	9661.350
3 PE/PEN combination angle[1)]		4	9661.235	9661.230

[1)] Including assembly parts.

Accessories

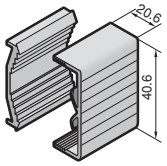


Busbar cover section

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

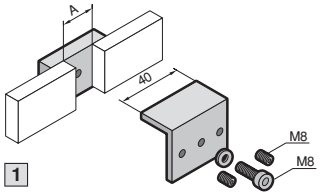
For connecting busbars, no drilling required.

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

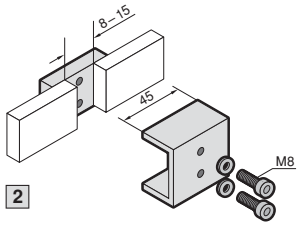
SV 9320.020/SV 9320.030
Top piece: Sheet steel, zinc-plated, passivated
Contact plate: E-Cu, silver-plated

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



1
A = max. 10 mm



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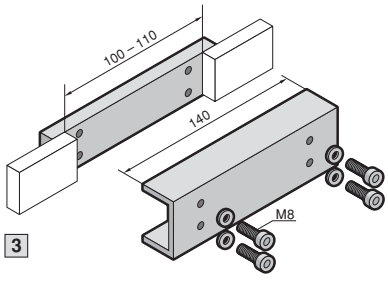


3

Accessories

A

B

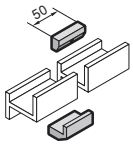
PLS busbar connectors

For connecting the PLS special busbars; no drilling required.

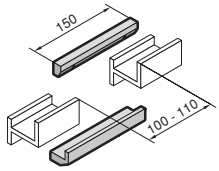
Material:
E-Cu, nickel-plated

For	Packs of	Model No. SV For 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)



A



B

A

B

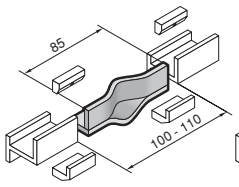
PLS expansion connectors

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

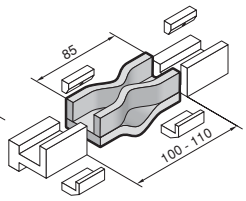
Material:
E-Cu

Packs of	Model No. SV For system	
	A PLS 800	B PLS 1600
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.



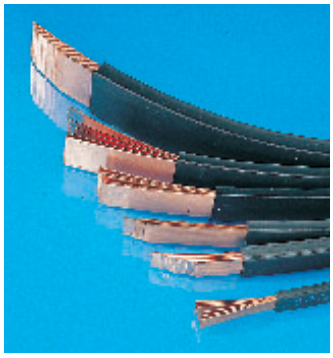
A



B

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.

Accessories



Laminated copper bars Rittal Flexibar "S"

Length: 2,000 mm/bar.

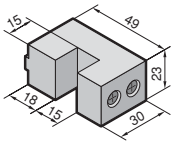
Material:
Cu lamina
- High-purity electrolyte copper F20

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 49.

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
8 x 6.0 x 0.5	165 A	125 A	–	1	**3565.010**
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 resultant 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 49.

Universal bracket

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 set	**3079.010**

Accessories:

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

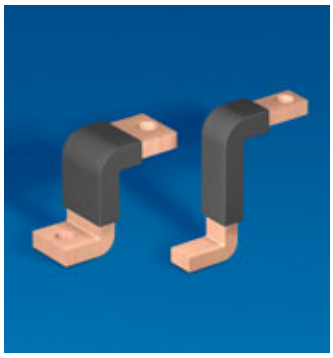
Support rails 35 x 15 mm

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**



Connection bracket

for circuit-breaker component adaptors
Pre-assembled, laminated flat copper for connecting standard commercial power circuit-breakers (MCCB).

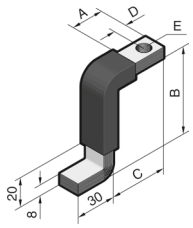
Material:
Electrolyte copper F20

Insulation:
Vinyl compound.
Temperature-resistant up to 105°C.
Fire protection corresponding to UL 94-V0.

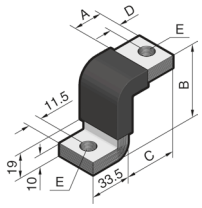
Design	Dimensions[1] mm	For circuit-breaker component adaptor	For connecting moulded case circuit-breakers (MCCB), make (model)	Packs of[2]	Model No. SV
1	10 x 15.5 x 0.8	SV 9342.600/.610	ABB (T3), GE (FE)	3	**9342.660**
2	10 x 15.5 x 0.8	SV 9342.600/.610	Merlin Gerin (NS100/160/250), Telemecanique (GV7)	3	**9342.670**
3	10 x 15.5 x 0.8	SV 9342.600/.610	ABB (S3), Moeller (NZM2), Siemens (VL250)	3	**9342.680**
4	10 x 15.5 x 0.8	SV 9342.600/.610	Siemens (VL160X, VL160)	3	**9342.690**
5	10 x 32.0 x 1.0	SV 9342.700/.710	ABB (T5)	3	**9342.770**
6	10 x 32.0 x 1.0	SV 9342.700/.710	ABB (S5), Merlin Gerin (NS400/630)	3	**9342.780**
7	10 x 32.0 x 1.0	SV 9342.700/.710	Moeller (NZM3)	3	**9342.790**

[1] Number of lamina x lamina width x lamina thickness
[2] 3 = 1 set

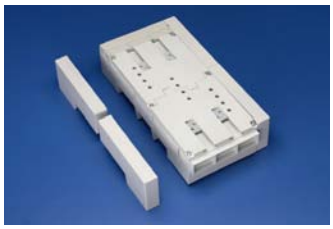
SV 9342.660 – SV 9342.690



SV 9342.770 – SV 9342.790



Model No. SV	A mm	B mm	C mm	D mm	E mm
9342.660	26	65	43	9	Ø 10
9342.670	19	66	36	10	Ø 10
9342.680	23	71	40	9	Ø 10
9342.690	23	67	40	11	Ø 7
9342.770	26	51	43	9	Ø 12
9342.780	29	57	46	12	Ø 12
9342.790	28	62	38	14	Ø 12



Insert strip

for circuit-breaker component adaptors
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**

Ri4Power Form 2-4

SV-TS 8 modular enclosures

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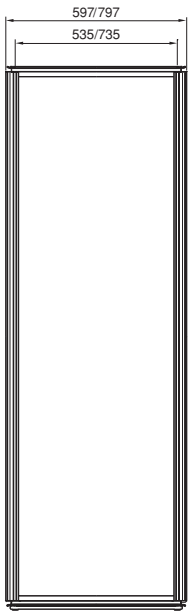
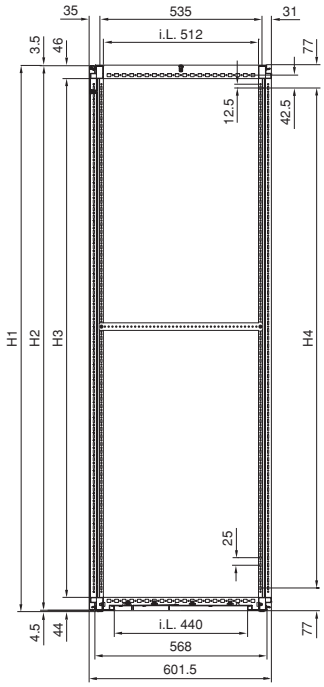
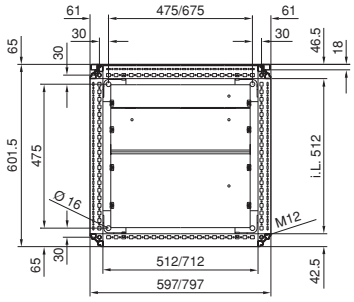


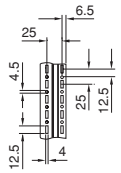


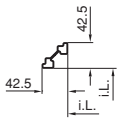


i.L. = Clearance width

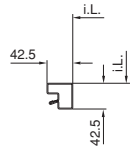
Cross-sections

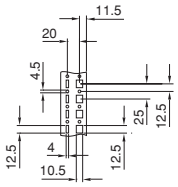
vertical





horizontal





Model No. SV	H1	H2	H3	H4
9670.686	1805	1797	1712	1650
9670.886	1805	1797	1712	1650
9670.606	2005	1997	1912	1850
9670.806	2005	1997	1912	1850
9670.626	2205	2197	2112	2050
9670.826	2205	2197	2112	2050

SV-TS 8 cable chamber enclosures

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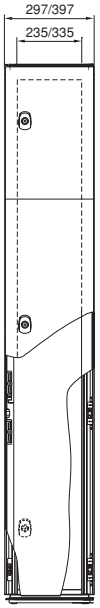
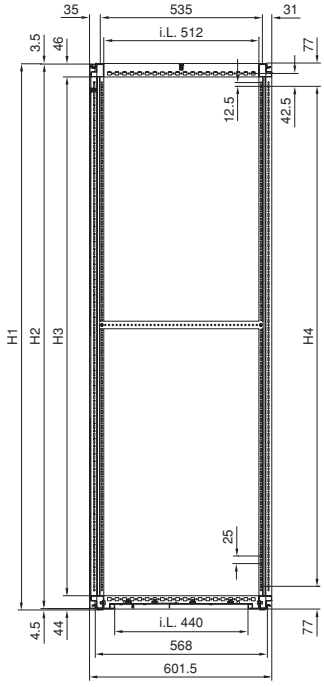
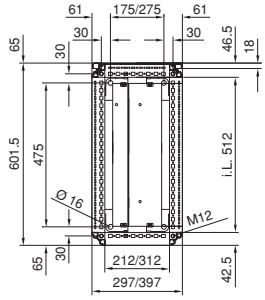


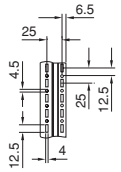


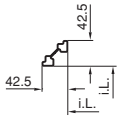


i.L. = Clearance width

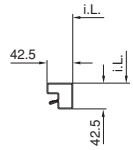
Cross-sections

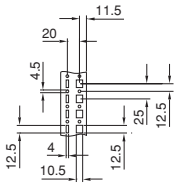
vertical





horizontal





Model No. SV	H1	H2	H3	H4
9670.396	1805	1797	1712	1650
9670.496	1805	1797	1712	1650
9670.316	2005	1997	1912	1850
9670.416	2005	1997	1912	1850
9670.336	2205	2197	2112	2050
9670.436	2205	2197	2112	2050

SV-TS 8 modular enclosures/cable chamber enclosures

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up to 800 A

Electrical parameters	Rated voltage	Rated insulation voltage U_i	1000 V	EN 60 439-1
		Rated operating voltage U_e	690 V	
		Rated surge voltage resistence U_{imp}	8 kV	
		Overvoltage category	IV	
		Level of contamination	3	
		Rated frequency	50 Hz	
	Rated current (primary busbar)	Rated operating current I_e	800 A	For IP 54
			860 A	For IP 43
			1000 A	For IP 2X[1]
		Rated surge current resistance I_{pk}	68 kA	
		Rated short-time current resistance I_{cw}	32 kA, 1 sec.	
Mechanical parameters	Dimensions	Enclosure width: 600 and 800 mm, enclosure height: 2000 mm[2], enclosure depth: 600 mm[2]		EN 50 298
		Pitch pattern	25 mm	
	Protection category		Max. IP 54	
	Design		4a/4b	EN 60 439-1
	Surface protection/ Material	Enclosure frame	Dipcoat-primed	
		Panels (roof plate, rear panel)	Dipcoat-primed, powder-coated in RAL 7035 on the outside	
		System rails and punched sections with mounting flanges	Sheet steel, zinc-plated, passivated	
	Busbar	Material	E-Cu, bare	
		Number of poles	3 or 4-pole	
		Design	PLS 800 (300 mm²)/30 x 10 mm	
Operating and ambient conditions	Ambient temperature	Short-term peak	+40°C	EN 60 439-1
		Maximum on a 24 h average	+35°C	
		Low	–5°C	
	Atmospheric conditions	Normal climatic stress		EN 60 439-1
		Relative humidity	50 % at 40°C	
			Operation up to 1000 m above sea level	

[1] Using fan-and-filter unit SK 3325.107 (230 m³/h).
[2] Other sizes available on request.

up to 1600 A

Electrical parameters	Rated voltage	Rated insulation voltage U_i	1000 V	EN 60 439-1
		Rated operating voltage U_e	690 V	
		Rated surge voltage resistence U_{imp}	8 kV	
		Overvoltage category	IV	
		Level of contamination	3	
		Rated frequency	50 Hz	
	Rated current (primary busbar)	Rated operating current I_e	1000 A	For IP 54
			1050 A	For IP 43
			1600 A	For IP 2X[1]
		Rated surge current resistance I_{pk}	110 kA	
		Rated short-time current resistance I_{cw}	50 kA	
Mechanical parameters	Dimensions	Enclosure width: 600 and 800 mm, enclosure height: 2000 mm[2], enclosure depth: 600 mm[2]		EN 50 298
		Pitch pattern	25 mm	
	Protection category		Max. IP 54	
	Design		4a/4b	EN 60 439-1
	Surface protection/ Material	Enclosure frame	Dipcoat-primed	
		Panels (roof plate, rear panel)	Dipcoat-primed, powder-coated in RAL 7035 on the outside	
		System rails and punched sections with mounting flanges	Sheet steel, zinc-plated, passivated	
	Busbar	Material	E-Cu, bare	
		Number of poles	3 or 4-pole	
		Design	PLS 1600 (900 mm²)	
Operating and ambient conditions	Ambient temperature	Short-term peak	+40°C	EN 60 439-1
		Maximum on a 24 h average	+35°C	
		Low	–5°C	
	Atmospheric conditions	Normal climatic stress		EN 60 439-1
		Relative humidity	50 % at 40°C	
			Operation up to 1000 m above sea level	

[1] Using fan-and-filter unit SK 3327.107 (700 m³/h).
[2] Other sizes available on request.

Short-circuit resistance diagrams

Busbar support 3-pole

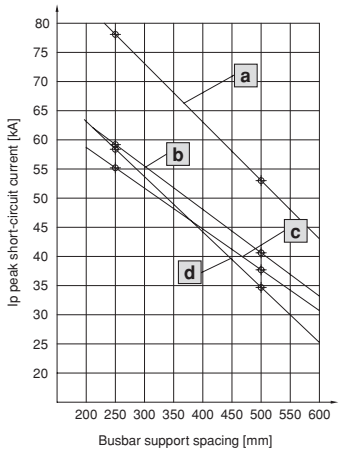
SV 9340.000

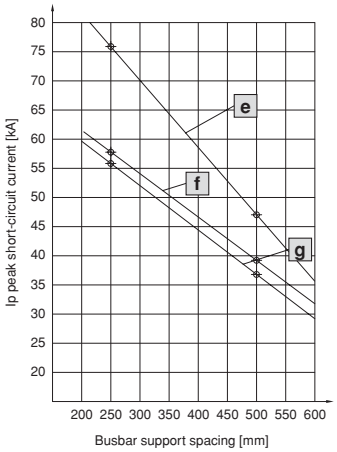
60 mm bar centre distance, for busbars from 15 x 5 – 30 x 10 mm.

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 3-pole

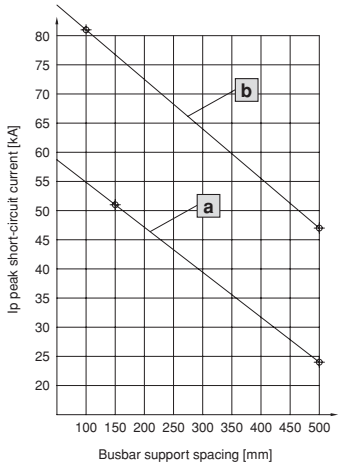
SV 9341.000/SV 9342.000

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	150	25.9
PLS 1600	150	37.5

Busbar mm	Curve
PLS 800	a
PLS 1600	b

Busbar supports 4-pole

SV 9342.014/SV 9340.004

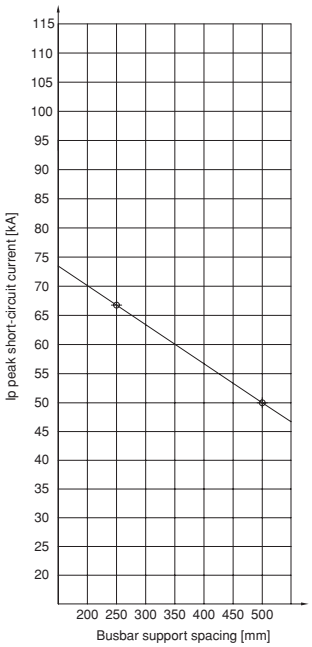
60 mm bar centre distance,
for busbar 30 x 10 mm.

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	29
	500	23



Busbar support 4-pole

SV 9342.004

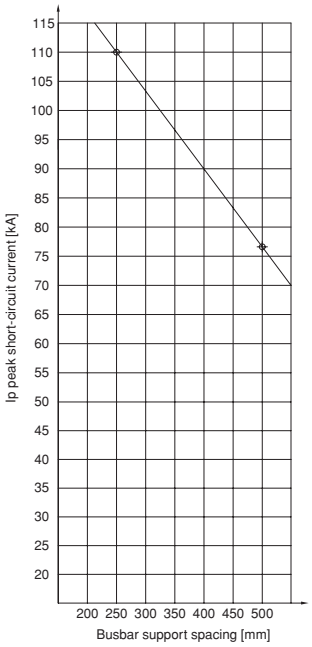
60 mm bar centre distance,
for PLS special busbar (1600 A)

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 1600	250	53
	500	38



Busbars

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 uncoated copper bars, and 60 % for surface-oxidised copper bars.

Example:
For a 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:

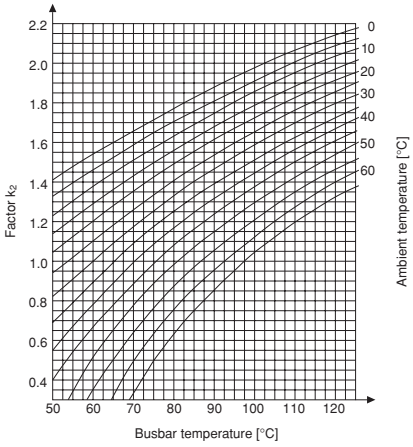
$$I_{N85} = I_{N65} \cdot k_2 + 8\ \%$$
$$= 573\ A \cdot 1.29 \cdot 1.08$$
$$I_{N85} = 800\ A$$

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.

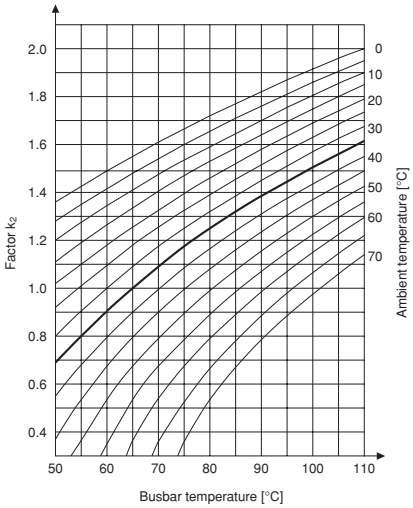
Width x thickness mm	Cross-section mm²	Weight[1]	Material[2]	Continuous current in A			
				AC current up to 60 Hz		DC current + AC current 16 Hz	
				Uncoated bar	Coated bar	Uncoated bar	Coated bar
12 x 2	23.5	0.209		108	123	108	123
15 x 2	29.5	0.262		128	148	128	148
15 x 3	44.5	0.396		162	187	162	187
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

Laminated copper bars Rittal Flexibar “S”

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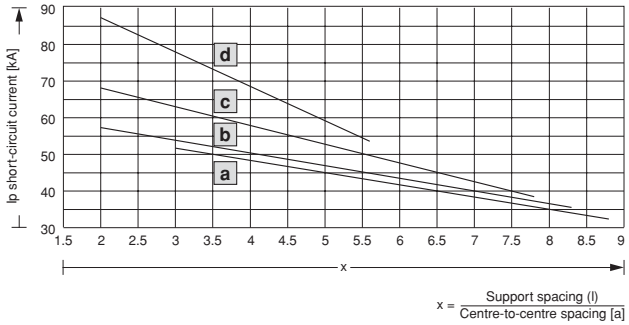
Configuration[1] mm	I_n for 50 K[2]	I_n for 30 K[2]	I_n for 10 K[2]	Curve (short-circuit resistance)	Installation type	**Model No. SV**
8 x 6.0 x 0.5	165 A	125 A	–	–	–	3565.010
6 x 9.0 x 0.8	250 A	220 A	120 A	–	–	3565.000
6 x 13.0 x 0.5	200 A	150 A	110 A	–	–	3566.000
4 x 15.5 x 0.8	300 A	210 A	140 A	–	–	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 resultant conductor temperature of 35°C + 30 K = 65°C.

Short-circuit resistance diagram

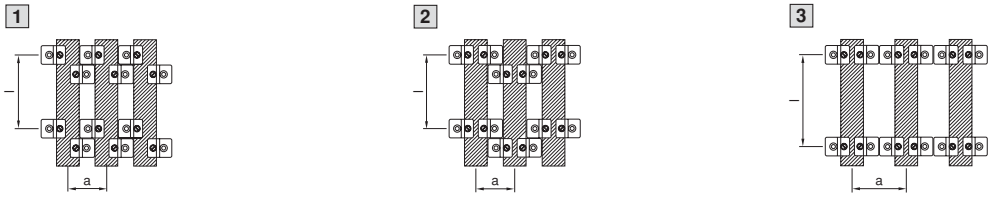
Basis of test:
VDE 0660, part 500/IEC 60 439-1.
Test implemented:
Dynamic short-circuit resistance to IEC 60 439-1.

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



List of model numbers

A

B

C

E

F

I

L

M

N

P

R

S

T

U

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