SIVACON Power Distribution Boards, Busway Systems and Cubicle Systems

14

Introduction

Overview

8PV, 8PT power distribution boards and motor control centers

- Up to 7400 A
- Reliable, economical, flexible and communication-capable
- For all applications in infrastructure and process industry
- In circuit breaker design
- In fixed-mounted design
- In in-line design
- In plug-in design
- In withdrawable design
- Degree of protection up to IP54
- Type-tested
- Tested for resistance to internal arcing faults
- Tested for resistance to earthquakes

SICUBE 8MC, 8MF system cubicles
8MR, 8ME cubicle air-conditioning

- System cubicles for individual solutions including cubicle air-conditioning for optimum operating conditions
- For a wide range of applications in tough environments and in laboratories, offices and medical practices
- Flexible expansion levels and types of delivery
- Coordinated logistical and delivery concepts
- Degree of protection up to IP55
- For heavy integrated equipment up to 1000 kg
- System cubicles in EMC version
- System cubicles in earthquake-proof version
- In all RAL colors, including special colors

ALPHA 630-DIN floor-mounted distribution boards

Up to 630 A
For applications in non-residential and industrial buildings
Flexible types of delivery (flat pack or preassembled)
Modular system
Many different assembly kits for individual expansion
Safety class 1 and safety class 2
Depth 210 mm, 250 mm and 320 mm
Degree of protection up to IP55

General data			
Overvoltage category		V	III
Rated impulse withstand voltage U_{imp}			6
Clearances in air and creepage distances			DIN VDE 0110
Rated insulation voltage U_i			690
Rated operational voltage U_e			690
Rated voltage U_n (AC 40 Hz ... 60 Hz)			690 for built-in devices
Rated current		A	Up to 630
Short-circuit strength			
Main busbars	I_{pk}	kA	Up to 61.3 (3-pole)[1], conduction interval 30 ms
	$I_{cw\ (1\ s)}$	kA	20, conduction interval 1 s
Distribution buses	I_{pk}	kA	
	$I_{cw\ (0.5\ s)}$	kA	
Protective measures			Safety class 1 (protective conductor connection) Safety class 2 (total insulation)
Number of conductors in busbar run			4/5
Degree of protection according to EN 60529			IP43 with door, IP55 with door (with matching flanges)
Mounting rail row spacing per standard mounting rail		mm	150
Modular width (MW)			18 mm, 12 MW + 1 mountable MW
Degree of pollution			3
Ambient temperature		°C	35 (24 h mean value)
Relative atmospheric humidity		%	50 at 40 °C
Test specification			According to EN 60439-1/3 (VDE 0660 Part 500/504), DIN VDE 0603-1
Enclosures			Sheet steel
Surface of metal parts			Electrogalvanized and powder-coated
Color			RAL 7035 (light gray)
Locking system			3-point interlocking with integrated espagnolette lock (on request can be replaced by other locking systems)
Packing material			Shock-proof, environmentally-compatible

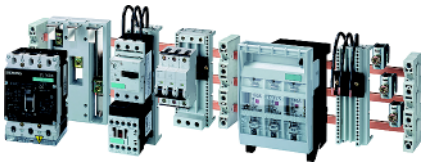
[1] Busbar support spacing 400 mm, copper busbars 30 mm x 10 mm.

Introduction




Enclosure size		1	2	2.5	3	4
ALPHA 8HP molded-plastic distribution systems						
Width	mm	307	307	307	307	614
Height	mm	153.5	307	460.5	614	614
Depth						
• 147.0 mm		✓	✓	✓	✓	✓
• 185.0 mm		--	--	✓	--	--
• 212.0 mm		--	✓	--	--	--
• 239.5 mm		--	--	--	✓	✓
Empty enclosures						
Transparent cover		✓	✓	✓	✓	✓
Opaque cover		✓	✓	✓	✓	✓
Enclosures for modular devices						
1 x 11 MW						
• Transparent cover		✓	--	--	--	--
• Opaque cover		✓	--	--	--	--
• Cover with operating flap		✓	--	--	--	--
2 x 14 MW						
• Transparent cover		--	✓	--	--	--
• Opaque cover		--	✓	--	--	--
• Cover with operating flap		--	✓	--	--	--
3 x 14 MW						
• Transparent cover		--	--	✓	--	--
• Opaque cover		--	--	✓	--	--
• Cover with operating flap		--	--	✓	--	--
4 x 14 MW						
• Transparent cover		--	--	--	✓	--
• Opaque cover		--	--	--	✓	--
• Cover with operating flap		--	--	--	✓	--
DIAZED fuse enclosures						
• 3 x 25A (E27)		✓	✓	✓	✓	--
• 3 x 63A (E33)		✓	✓	✓	✓	--
Enclosures with LV HRC fuse base						
3 x NH00		✓	✓	--	--	--
6 x NH00		--	✓	--	--	--
3 x NH1		--	✓	✓	--	--
3 x NH2		--	✓	✓	✓	--
3 x NH3		--	✓	✓	✓	--
Meter enclosures		--	✓	✓	✓	✓
Enclosures with NP fuse switch disconnectors						
NH000		✓	✓	--	--	--
NH00		✓	✓	✓	--	--
NH1		--	✓	✓	✓	--
NH2		--	✓	--	✓	--
NH3		--	--	--	✓	--
Enclosures with main control and EMERGENCY-STOP switch						
I_e = 63 A		✓	✓	--	--	--
I_e = 160 A		--	✓	--	--	--
I_e = 250 A		--	✓	--	✓	--
I_e = 400 A		--	✓	--	✓	--
I_e = 630 A		--	--	--	✓	--
I_e = 1000 A		--	--	--	✓	--

✓ Standard
-- Not available



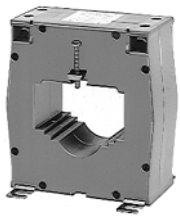
Type	40 mm busbar system	60 mm busbar system
8US busbar systems		
Adapters for SIRIUS size S00/S0		
Circuit breakers	✓	✓
Circuit breakers + lateral auxiliary switches	✓	✓
Contactors + overload relays	✓	✓
Direct start load feeders	✓	✓
Reversing feeders	✓	✓
Adapters for SIRIUS size S2		
Circuit breakers	✓	✓
Circuit breakers + lateral auxiliary switch	✓	✓
Contactors + overload relays	✓	✓
Direct start load feeders	✓	✓
Reversing feeders	✓	✓
Adapters for SIRIUS size S3		
Circuit breakers	✓	✓
Adapters for 3VF circuit breakers		
3VF3	✓	✓
3VF4	--	✓
3VF5	--	✓
Adapters for 3VL circuit breakers		
3VL1	✓	✓
3VL2	✓	✓
3VL3	--	✓
3VL4	--	✓
Adapters for 3KA switch disconnectors		
3KA52	--	✓
3KA53	--	✓
3KA55	--	✓
3KA57	--	✓
3KA58	--	✓
Adapters for 3NP fuse switch disconnectors		
3NP50 60	--	✓
3NP52	--	✓
3NP53	--	✓
3NP54	--	✓

✓ Standard

-- Not available

Introduction



Rating P_n	VA	1	1.5	2.5	5	10	15
4NC current transformers for measuring purposes, 50 A ... 1500 A							
Rated primary current I_{pn} (A) / rated secondary current (A)							
	50/1	✓	--	--	--	--	--
	50/5	✓	--	--	--	--	--
	60/1	✓	--	--	--	--	--
	60/5	✓	--	--	--	--	--
	75/1	--	✓	✓	--	--	--
	75/5	--	✓	✓	--	--	--
	80/1	--	✓	✓	--	--	--
	80/5	--	✓	✓	--	--	--
	100/1	--	--	✓	✓	--	--
	100/5	--	--	✓	✓	--	--
	125/1	--	--	✓	✓	--	--
	125/5	--	--	✓	✓	--	--
	150/1	--	--	✓	✓	--	--
	150/5	--	--	✓	✓	--	--
	200/1	--	--	✓	✓	--	--
	200/5	--	--	✓	✓	--	--
	250/1	--	--	✓	✓	✓	--
	250/5	--	--	✓	✓	✓	--
	300/1	--	--	✓	✓	✓	--
	300/5	--	--	✓	✓	✓	--
	400/1	--	--	✓	✓	✓	--
	400/5	--	--	✓	✓	✓	--
	500/1	--	--	--	✓	✓	--
	500/5	--	--	--	✓	✓	--
	600/1	--	--	--	✓	✓	✓
	600/5	--	--	--	✓	✓	✓
	750/1	--	--	--	✓	✓	--
	750/5	--	--	--	✓	✓	--
	800/1	--	--	--	--	✓	✓
	800/5	--	--	--	--	✓	✓
	1000/1	--	--	--	--	✓	✓
	1000/5	--	--	--	--	✓	✓
	1200/1	--	--	--	--	✓	✓
	1200/5	--	--	--	--	✓	✓
	1500/1	--	--	--	--	✓	✓
	1500/5	--	--	--	--	✓	✓

✓ Standard
-- Not available

Overview

Low-voltage switchboards form the link between equipment (generators), transmission (cables, overhead lines) and transformation (transformers) of electrical energy on the one hand, and the loads, such as motors, solenoid valves, actuators and devices for heating, lighting and air conditioning on the other.

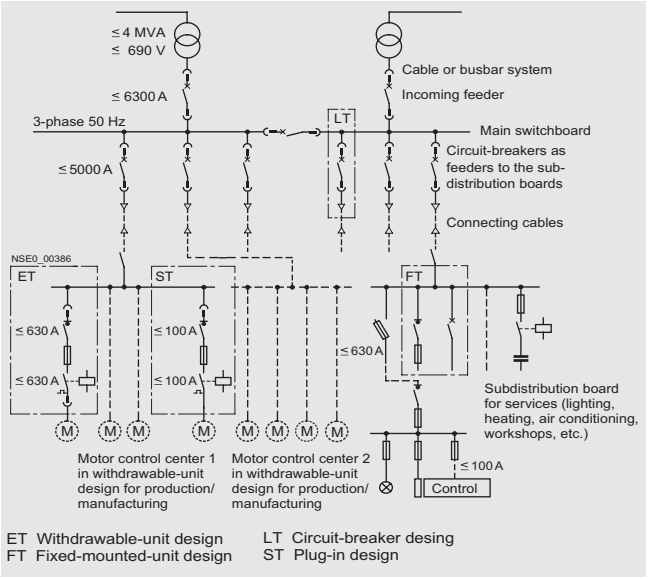
As the majority of applications are supplied with low voltage, the low-voltage switchboard is of special significance in both public supply systems and industrial plants.

Reliable power supplies depend on good availability, flexibility to allow for changes and process-related modifications, and high operating safety.

Power distribution in a low-voltage system usually takes place via a main switchboard (power center or main distribution board) and a number of sub-distribution boards or motor distribution boards, also known as motor control centers (MCC) (see example opposite).

The SIVACON low-voltage switchboards offer optimum solutions in low-voltage systems for all applications up to 7400 A.
The SIVACON 8PV switchboards are manufactured by Siemens in Leipzig, and the SIVACON 8PT switchboards by our SIVACON Technology Partners near you.

The most important selection criteria are shown in the table below.



Selection criteria	SIVACON 8PV		SIVACON 8PT	
Busbar position	Top	Rear	Top	Rear
Rated currents • Busbars up to • Infeed up to	 2500 A 2500 A	 6300 A 6300 A	 7400 A 6300 A	 3200 A 3200 A
Short-circuit strength I_{pk} up to	110 kA	220 kA (250 kA)	375 kA	187 kA
Equipment layout • Fixed-mounted design • In-line design • Plug-in design • Withdrawable design	 ✓ ✓ ✓ ✓	 ✓ ✓ ✓ ✓	 ✓ ✓ ✓ ✓	 ✓[1)] ✓ -- --
Type of installation • Free-standing/against wall • Back to back • Double-fronted	 ✓ ✓ --	 ✓ ✓ ✓	 ✓ ✓ --	 ✓ ✓ --
Use • Motor control center • Power distribution board	 ✓ ✓	 ✓ ✓	 ✓ ✓	 -- ✓
Manufactured by SIVACON Technology Partner	--	--	✓	✓

✓ Available

-- Not available

1) Circuit breakers optionally in withdrawable version.

Introduction

Overview

Busway systems in the low-voltage range guarantee the reliable transmission and distribution of energy from the transformer through the main distribution board to the load. Siemens offers a complete range of high-performance systems:

- CD-K for 25 ... 40 A
- BD01 for 40 ... 160 A
- BD2 for 160 ... 1250 A
- LR for 400 ... 6300 A
- LD for 1100 ... 5000 A
- LX for 800 ... 6300 A

All busway systems are "Type-tested low-voltage controlgear combinations" (TTA) according to IEC/EN 60439-1 and -2. They thus provide a safety standard which meets the high demands of automated production facilities and building management systems.

Other advantages:

- Well arranged network topology
- Easy retrofitting when loads change
- Low operating costs thanks to high availability
- Easy planning and mounting

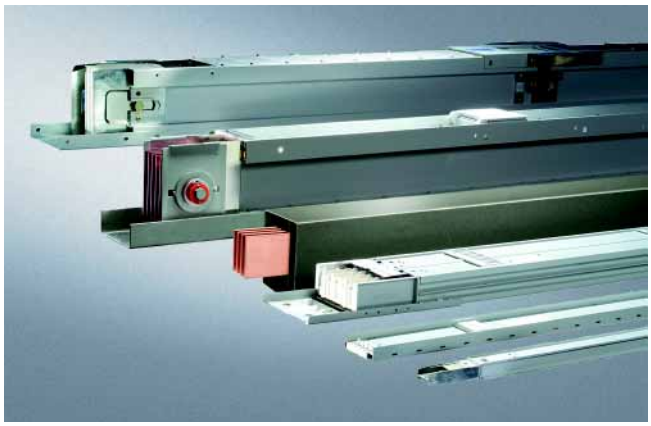
Area-wide solutions for lighting systems and small loads

Be it in furniture stores, supermarkets or greenhouses – with the CD-K system (up to 40 A) you can easily mount and supply energy to lighting systems over large areas. The attractive design of the busway systems is very suitable for sales rooms open to the public. And the high degree of protection enables use even under harsh conditions.

Power for loads with no fixed location

The BD01 system is ideal for power distribution (up to 160 A) in craft businesses and the skilled trades. The busbar enclosures can be easily and quickly connected. An anti-rotation element in the outgoing enclosures prevents incorrect mounting and guarantees easy conversion while production is in progress.

Other advantages: Minimum keeping of stocks and straightforward planning thanks to one standard size for five different levels of current.



Busbar enclosures for currents from 40 A to 6300 A

Universal power distribution

The BD2 system (up to 1250 A) supplies energy to medium-size loads in buildings and all sectors of industry. Pre-assembled outgoing enclosures with the most diverse equipment enable universal use. With only two standard sizes for all levels of current, stock keeping and planning are greatly facilitated.

High availability in production

The ventilated LD system (up to 5000 A) conveys electricity to production facilities with a high demand for power, e.g. in the automobile industry. A separate PE bar enables the assured response of the protective device over long conducting paths. The high short-circuit resistance permits protection by medium-voltage circuit breakers for the conveyance of power between the transformer and the main infeed. Outgoing enclosures up to 1250 A can be plugged in without causing any problems.

Flexible power distribution for multi-storey buildings

The LX sandwich system (up to 6300 A) is used wherever large amounts of power have to be conveyed independently of position. Be it for radio broadcasting stations, computer centers or Internet providers – conductor configurations with an insulated PE/ground conductor and double neutral conductor cross-section guarantee an interference-free power supply. Outgoing enclosures up to 1250 A are available as standard.

Safe power conveyance for petrochemicals

The encapsulated LR system (up to 6300 A) is extremely resistant to external interference thanks to its high degree of protection. It guarantees the safe conveyance of power in severe weather as well as under harsh industrial conditions with dust, dirt and aggressive media. Typical applications are the petrochemical industry, refuse incineration plants and power stations.

More information

Catalog LV 70

SIVACON 8PS – CD-K, BD01, BD2 busway systems up to 1250 A

Selection aid for busway systems (MobileSpice)

Busway systems up to 1250 A can be ordered using the selection aid.

The following configurators are available:

- SIVACON 8PS CD-K System, 25 ... 40 A
- SIVACON 8PS BD01 System, 40 ... 160 A
- SIVACON 8PS BD2 System, 160 ... 1250 A

This selection aid can be accessed through the A&D Mall and is also included in the CD-ROM catalog CA 01. This CD-ROM is available free of charge from your Siemens sales office.

Manual

Planning with SIVACON 8PS Busway Systems up to 6300 A

(available soon)

Brochure

Busway Systems for Safe and Flexible Power Distribution up to 6300 A

(Order No. E20001-A220-P309)

Overview

8MC system cubicles

Design

The 8MC2 system cubicle cuts a good figure wherever it stands:

- Doors over the full height and width of the cubicle, together with side panels integrated into the frame, lend the system cubicle an attractive appearance – the ideal choice for applications in office, industrial and craft trade environments.
- External hinges permit wide opening of the system cubicle doors – in line with individual requirements. Optional trim strips along the upper edges of the doors support a uniform design and also offer space for inscription.

Available dimensions

The 8MC2 system cubicles are available in dimension increments of 100 mm, within the following minimum and maximum dimension range:

- Heights from 400 to 2400 mm
- Widths from 300 to 1800 mm
- Depths from 300 to 1400 mm

All variants are freely combinable, provided the sum of height and depth amounts to at least 1000 mm. The standard dimensions are indicated in the "Selection and Ordering Data".

Modifications and accessories

The standard versions of the system cubicles can naturally also be fitted with other doors or roof panels, e.g. for cubicle ventilation (see Catalog LV 50, Chapter "Cubicle Modifications") and can be configured with individual bases, side panels, transport aids, interior installations, shelves etc. (see Catalog LV 50, Chapter "Cubicle Expansion Components" and "Accessories").

Ventilation

(See Catalog LV 50, Chapter "System Cubicles" – "Ventilated Cubicles").

Transport

Cubicles are dispatched ex works on transport skids, or in the case of cubicle suites on transport bases.

8MF system cubicles

Design

The 8MF2 system cubicle is a further optimized version of the 8MF standard cubicle. The welded 8MF2 version is the proven system where ultimate demands are placed on stability and quality.

The doors bring a floor clearance of 63 mm, and with their concealed hinges provide for a 180° opening angle (130° in the case of cubicle suites). The identical side and rear panels add 9 mm to the frame dimensions.

Petrol-colored trim strips above the doors offer space for inscription or for the integration of signaling lights.

Available dimensions

The 8MF2 system cubicles are available in dimension increments of 100 mm, within the following minimum and maximum dimensions:

- Heights from 400 to 2400 mm
- Widths from 300 to 1800 mm
- Depths from 300 to 1400 mm

All variants are freely combinable, provided the sum of height and depth amounts to at least 1000 mm. The standard dimensions are indicated in the "Selection and Ordering Data".

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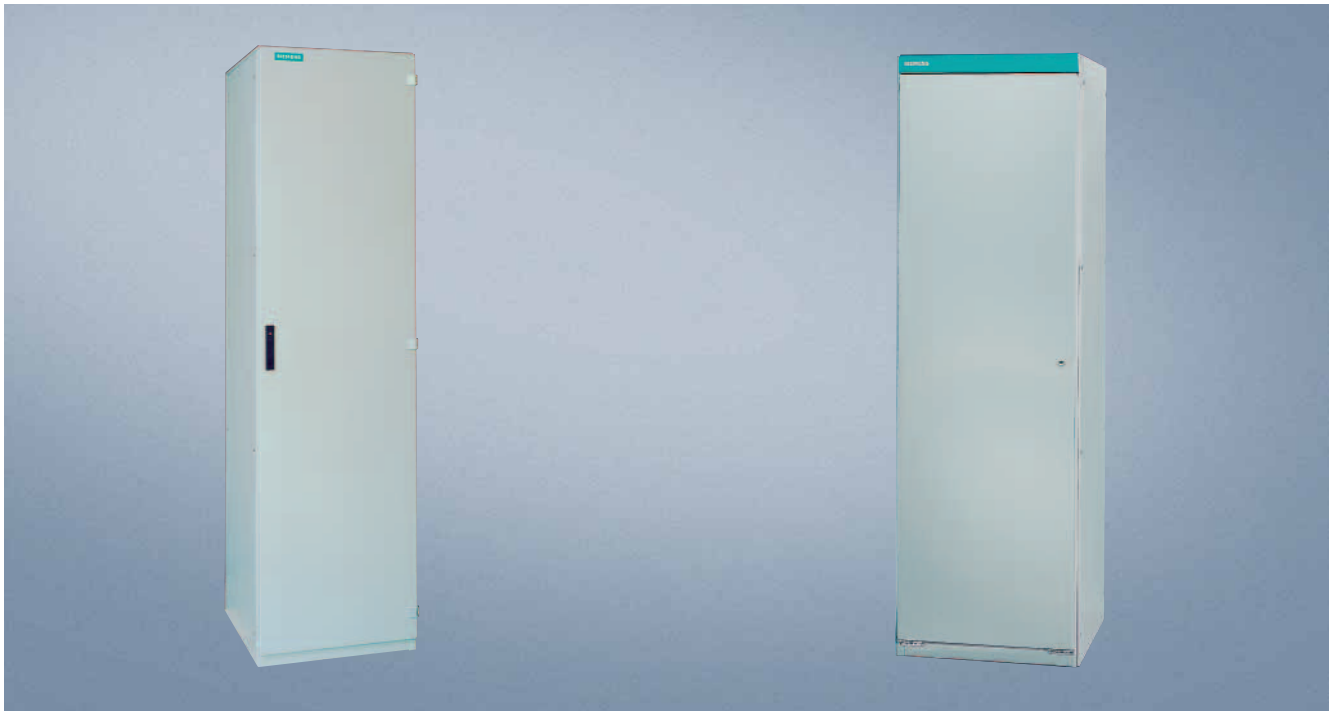


Non-ventilated cubicles

Application

8MC system cubicles

Flexibility is a central keyword for our 8MC2 cubicle system.

The versatile mounting options permit the fast and inexpensive installation of mechanical components and electrical devices, including all elements belonging to typical metric and/or 19" rack systems.

It goes without saying that the 8MC2 cubicle system complies with all national and international standards referring to metric installation systems (EN 50298, IEC 60917 etc.) and thus complements the SIPAC series (standardized Siemens packaging system) to offer solutions across the whole range from individual modules to subracks and cubicles.

8MC2 is the ideal cubicle system for the craft trades and industry, being suitable not only for small conventional systems but also for full-scale electrical installations.

The 8MC cubicle system is used in the following applications:

- Open- and closed-loop control technology
- Electronics (19-inch installations)
- Power electronics
- Switchgear and controlgear
- Data systems
- Communications technology
- Medical systems

8MF system cubicles

The 8MF cubicle system is suitable for the installation of devices and equipment for electronic and conventional open- and closed-loop control systems, as well as for low-voltage switchgear.

Its design permits the fast and cost-effective integration of racks for 19-inch installations for the most varied industrial electronics applications, alongside distribution modules for power distribution.

Specific design measures permit 8MF6 cubicles in the dimensions (H x W) 2200 x 900 mm or 2200 x 600 mm to be supplied in earthquake-resistant versions for operation in nuclear power stations (see "Earthquake-Resistant Cubicles").

The 8MF5, 8MF6 and 8MF2 system cubicle series possess absolutely identical hole patterns in their frame profiles and are thus suitable for interconnection without restrictions.

The strength to withstand earthquakes, however, can only be assumed of the installed devices and their form of installation also comply with the relevant demands.

The 8MF2 and 8MF5/6 cubicle systems are used in the following applications:

- Protection and control systems
- Open- and closed-loop control technology
- Electronics (19-inch installations)
- Automobile industry
- Remote control of crane systems
- Cement and paper industries
- Traffic engineering

More information

Catalog LV 50

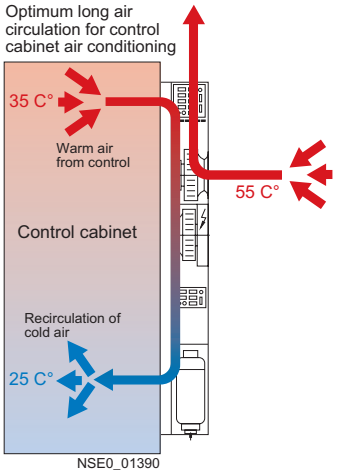
SICUBE system cubicles and cubicle air-conditioning

Overview

In control cabinets, depending on the ambient conditions (e.g. heat, cold, air humidity etc.), there may be a tendency to overheat or for mold to form. In such cases the cubicles should be air-conditioned. The following air-conditioning equipment is available for this purpose:

- Filter fans
- Air conditioners/cooling equipment
- Heat exchangers
- Heaters/thermostats

When selecting the individual air-conditioning units, attention should be paid to the ambient temperature, power losses of the installed equipment, maximum permissible device temperatures and heat dissipation of the cubicle used. In addition, the required degree of protection must also be taken into account.



Benefits

Installing air-conditioning equipment in SICUBE system cubicles ensures high fault tolerance for switchgear and controlgear installations and consequently a high level of availability of machines and plants.

More information

Catalog LV 50

SICUBE system cubicles and cubicle air-conditioning

General data

Overview

System

The new Siemens switchboard system, based on decades of experience with distribution boards, is of modular design.

Particular attention was paid to individual installation practices.

The system includes unequipped distribution boards as flat packs (delivered in individual parts for customer assembly, see also Part 3) in degree of protection IP43, unequipped distribution boards ready assembled in degree of protection IP55, assembly kits for project-related and individual compilation, and a comprehensive range of accessories.

Enclosures

Material: Sheet steel, electrolytically zinc-coated, powder-coated.

Sheet thickness:
Degree of protection IP43/IP55
Body 1 mm, door 1 mm

Color: RAL 7035 (light gray)
Other RAL colors on request

Assembly kits

The assembly kits consist of sendzimir-galvanized sheet steel and molded-plastic covers for a wide range of configuration possibilities, for example for switchgear and installation equipment.

The largest controls that can be installed in the ALPHA 630-DIN floor-mounted distribution boards are the Siemens controls up to a maximum rated current of 630 A.

Cubicle dimensions

All dimensions in mm
Height: Internal dimension: 1800
External dimension with base: 1950
Width (internal/external dimensions):
250/300, 500/550, 750/800, 1000/1050, 1250/1300
Depth (external dimension): 210, 250, 320
Assembly kits in section size grid dimension
Height x Width: 150 x 250

Benefits

- Available as a flat pack (kit for customer assembly; the assembly kits can be mounted directly on the platform) or preassembled as an unequipped distribution board
- Easy planning thanks to modular design
- Generous wiring compartments behind the standard mounting rail
- Extensive range of assembly kits for Siemens switchgear and installation equipment for individual and project-related composition
- Assembly made easier by modules with keyhole mounting and quick-release locks
- System design according to DIN, EN and VDE standards
- Sturdy sheet-steel enclosure
- Degrees of protection: IP43 and IP55
- Safety class 1 (protective conductor connection) and safety class 2 (total insulation)
- High-quality surface finish: Cubicles made of electrolytically zinc-coated and powder-coated sheet steel, system components made of sendzimir-galvanized sheet steel, small parts and screws galvanized and chromated (colorless)
- Doors can be hinged right or left
- Door opening angle 170°
- Replaceable locking systems (accessories)
- Transparent doors in Giugiaro design (accessories)
- Section cover with sealable 90° quick-release locks
- Environmentally friendly and recyclable plastics

Application

The ALPHA 630-DIN floor-mounted distribution boards are used wherever an ALPHA 400-DIN wall-mounting distribution board no longer provides sufficient component and wiring space, for example in administrative, non-residential, commercial and industrial buildings.

It rounds off the Siemens distribution board range with three different depths: 210 mm, 250 mm and 320 mm.

The distribution boards and components are designed as part of a modular system.

With just a few standard components, they provide the widest possible variety and project-related mounting and configuration possibilities.

The ALPHA 630-DIN floor-mounted distribution boards comprise wall cubicles with up to 12 installation equipment units, each with 12 MW per unit of width (250 mm). The standard mounting rail row spacing is 150 mm as standard. A total of 5 board widths of 250 mm each (internal dimension) are available.

The cubicles are designed to meet safety class 1 (protective conductor connection) and safety class 2 (total insulation). For floor-mounted distribution boards the standard degrees of protection are IP43 with a depth of 210 mm (flat pack: delivery in individual parts) and IP55 (unequipped distribution board, preassembled) with depths of 250 mm and 320 mm.
The rated current is 630 A.

40 mm or 60 mm busbar systems with dimensions up to 30 mm × 10 mm can be installed.

The modular system allows easy planning, configuring, cost calculation, ordering and assembly.

The assembly kits available for all the switchgear and installation equipment that can be fitted are designed such that only one size of screwdriver is needed for mounting.

More information

Catalog ET A1

ALPHA distribution boards and small distribution boards

Selection and ordering data

Version	Order No.	Price 1 unit	PG	PS*/ P. unit
8WA through-type, PE and PEN terminals				
Terminal size 2.5 mm²				
 8WA1 011-1DF11				
Through-type terminals				
• Rated uninterrupted current 24 A				
• Rated insulation voltage 800 V				
• Width 6 mm				
Versions				
• Single terminals				
- Beige	**8WA1 011-1DF11**		041	100 units
- Blue	**8WA1 011-1BF23**		041	50 units
- Red	**8WA1 011-1BF21**		041	50 units
- Green-yellow	**8WA1 011-1PF11**		041	50 units
- Orange	**8WA1 011-1BF22**		041	50 units
- Yellow	**8WA1 011-1BF26**		041	50 units
- Black	**8WA1 011-1BF24**		041	50 units
- Green	**8WA1 011-1BF25**		041	50 units
• Terminal blocks				
- Beige, 3-pole, width 18 mm	**8WA1 011-3DF21**		041	10 units
- Beige, 10-pole, width 61 mm, with designation 1 ... 10	**8WA1 011-0DF22**		041	20 units
- Beige, 10-pole, width 61 mm, without designation	**8WA1 011-0DF21**		041	20 units
PE through-type terminals Width 6 mm				
• One screw terminal	**8WA1 011-1PF01**		041	50 units
• Two screw terminals	**8WA1 011-1PF00**		041	50 units
Terminal size 4 mm²				
 8WA1 011-1DG11				
Through-type terminals				
• Rated uninterrupted current 32 A				
• Rated insulation voltage 800 V				
• Width 6.5 mm				
Versions				
• Single terminals				
- Beige	**8WA1 011-1DG11**		041	100 units
- Blue	**8WA1 011-1BG11**		041	50 units
- Red	**8WA1 011-1BG21**		041	50 units
- Green-yellow	**8WA1 011-1PG11**		041	50 units
- Orange	**8WA1 011-1BG22**		041	50 units
- Black	**8WA1 011-1BG24**		041	50 units
• Terminal blocks				
- Beige, 3-pole, width 19.5 mm	**8WA1 011-3DG21**		041	10 units
- Beige, 10-pole, width 65.5 mm, with designation 1 ... 10	**8WA1 011-0DG22**		041	20 units
- Beige, 10-pole, width 65.5 mm, without designation	**8WA1 011-0DG21**		041	20 units
PE through-type terminals Width 7.2 mm				
• One screw terminal	**8WA1 011-1PG01**		041	50 units
• Two screw terminals	**8WA1 011-1PG00**		041	50 units
Terminal size 6 mm²				
 8WA1 011-1DH11				
Through-type terminals				
• Rated uninterrupted current 41 A				
• Rated insulation voltage 800 V				
• Width 8 mm				
Versions				
• Single terminals				
- Beige	**8WA1 011-1DH11**		041	50 units
- Blue	**8WA1 011-1BH23**		041	50 units
- Green-yellow	**8WA1 011-1PH11**		041	50 units
- Black	**8WA1 011-1BH24**		041	50 units
• Terminal blocks				
- Beige, 3-pole, width 24.5 mm	**8WA1 011-3DH21**		041	20 units
PE through-type terminals Width 6 mm				
• One screw terminal, width 6 mm, also for use as shield terminal	**8WA1 010-1PH01**		041	50 units
• Two screw terminals, width 8 mm	**8WA1 011-1PH00**		041	50 units

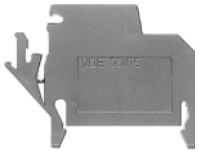
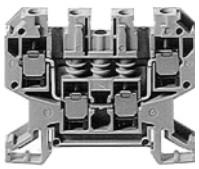
* You can order this quantity or a multiple thereof.

ALPHA FIX 8WA and 8WH terminals with screw connection

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
Terminal size 16 mm²					
 8WA1 204	**Through-type terminals** • Rated uninterrupted current 76 A • Rated insulation voltage 800 V • Width 10 mm				
	Versions				
	• Single terminals				
	- Beige	**8WA1 204**		041	20 units
	- Blue	**8WA1 011-1BK11**		041	10 units
	• Terminal blocks				
	- 3-pole, width 30 mm	**8WA1 304**		041	20 units
	PE through-type terminals and PEN terminals Width 12 mm	**8WA1 011-1PK00**		041	25 units
Terminal size 35 mm²					
 8WA1 205	**Through-type terminals** • Rated uninterrupted current 125 A • Rated insulation voltage 800 V • Width 16 mm				
	Versions				
	• Single terminals				
	- Beige	**8WA1 205**		041	20 units
	- Blue	**8WA1 011-1BM11**		041	10 units
	• Terminal blocks				
	- 3-pole, width 48 mm	**8WA1 305**		041	20 units
	PE through-type terminals and PEN terminals • For I = 125 A • Width 16 mm	**8WA1 011-1PM00**		041	25 units
Terminal size 70 mm²					
 8WA1 206	**Through-type terminals** • Rated uninterrupted current 192 A • Rated insulation voltage 800 V • Width 25 mm				
	Versions				
	• Beige	**8WA1 206**		041	10 units
	• Blue	**8WA1 011-1BP11**		041	10 units
Accessories					
	Thermoplast end retainers Width 10 mm	**8WA1 808**		041	50 units
	Insulation plates				
	• For terminal size 2.5 to 6 mm²	**8WA1 825**		041	50 units
	• For terminal size 16 and 35 mm²	**8WA1 822-7TK00**		041	50 units
	Link rails				
	• For terminal size 2.5 mm²				
	- for two terminals	**8WA1 895**		041	50 units
	- for three terminals	**8WA1 896**		041	50 units
	- for four terminals	**8WA1 897**		041	20 units
	- for ten terminals	**8WA1 898**		041	10 units
	• For terminal size 4 mm²				
	- for two terminals	**8WA1 850**		041	50 units
	- for three terminals	**8WA1 851**		041	50 units
	- for four terminals	**8WA1 852**		041	20 units
	- for ten terminals	**8WA1 853**		041	10 units
	• For terminal size 6 mm²				
	- for two terminals	**8WA1 885**		041	50 units
	- for three terminals	**8WA1 886**		041	50 units
	- for four terminals	**8WA1 887**		041	20 units
	- for ten terminals	**8WA1 888**		041	10 units
	• For terminal size 16 mm²				
	- for two terminals	**8WA1 842**		041	20 units
	- for three terminals	**8WA1 845**		041	20 units
	- for four terminals	**8WA1 848**		041	10 units
	- for ten terminals	**8WA1 802**		041	10 units
	• For terminal size 35 mm²				
	- for two terminals	**8WA1 828**		041	20 units
	- for three terminals	**8WA1 803**		041	20 units
	- for ten terminals	**8WA1 804**		041	10 units
	• For terminal size 70 mm²				
	- for two terminals	**8WA1 216**		041	20 units
	Barriers				
	• For terminal size 1 to 4 mm²	**8WA1 820**		041	50 units
	• For terminal size 6 and 16 mm²	**8WA1 821**		041	50 units
	• For terminal size 35 mm²	**8WA1 823**		041	25 units
	• For terminal size 70 mm²	**8WA1 824**		041	25 units

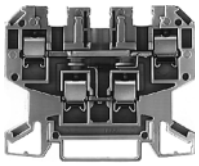
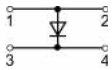
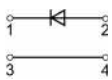
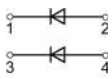
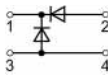
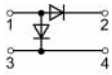
* You can order this quantity or a multiple thereof.

ALPHA FIX 8WA and 8WH terminals with screw connection

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
8WA neutral isolating terminals, blue, for neutral busbars 6 x 6 mm					
 8WA1 011-1NF01	Neutral isolating terminal, terminal size 2.5 mm²	**8WA1 011-1NF01**		041	50 units
	Neutral isolating terminal, terminal size 4 mm²	**8WA1 011-1NG31**		041	50 units
	Neutral isolating terminal, terminal size 6 mm²	**8WA1 011-1NH01**		041	50 units
	Neutral isolating terminal, terminal size 16 mm²	**8WA1 604**		041	50 units
	Accessories				
	Bars, flat copper • Bare • Rated uninterrupted current 125 A • Approx. 2000 mm long • 6 x 6 mm	**8WC5 020**		103	1 unit
8WA Insta or three-tier terminals					
Terminal size 2.5 mm²					
 8WA1 011-3JF16	**Insta terminals** • Rated uninterrupted current 24 A • Rated insulation voltage - 400 V between phase conductors - 250 V between phase and protective conductors and for neutral isolating distance • Width 6 mm				
	Versions				
	• PE, L, L	**8WA1 011-3JF16**		041	50 units
	• PE, L, N	**8WA1 011-3JF17**		041	50 units
	• L, L	**8WA1 011-3JF18**		041	50 units
	• PE, L, NT	**8WA1 011-3JF20**		041	50 units
	Accessories				
	Insulation plates, for terminal size 2.5 ... 6 mm²	**8WA1 825**		041	50 units
	Feed-in terminals, for neutral busbars				
	• Connection up to 4 mm²	**8WA2 867**		041	50 units
	• Connection up to 25 mm²	**8WA2 868**		041	50 units
	• Connection up to 35 mm²	**8WA2 870**		041	50 units
	End retainers, thermoplast	**8WA1 808**		041	50 units
	N/NP bars	**8GF9 324-2**		042	10 units
	Bars, flat copper	**8WC5 020**		103	1 unit
	Link rails, for Insta terminals				
	• For two terminals	**8WA1 822-7VF02**		041	50 units
	• For three terminals	**8WA1 822-7VF03**		041	50 units
	• For four terminals	**8WA1 822-7VF04**		041	20 units
	• For ten terminals	**8WA1 822-7VF10**		041	10 units
	Barriers, for Insta terminals	**8WA1 822-7TH00**		041	50 units
8WA two-tier terminals					
Terminal size 4 mm²					
 8WA1 011-6DG11	**Two-tier terminals** • Rated uninterrupted current 32 A • Rated insulation voltage 690 V (with end plate 800 V) • Width 6.5 mm				
	Versions				
	• Beige				
	- 1-pole	**8WA1 011-6DG11**		041	50 units
	- 2-pole, with 2 electrically isolated links	**8WA1 011-2DG11**		041	50 units
	Accessories				
	Bridges				
	• For top level with 2-pole terminals	**8WA1 822-7VG00**		041	50 units
	• For bottom level with 1-pole and 2-pole terminals	**8WA1 822-7VG01**		041	50 units
	Link rails				
	• For top level with 2-pole terminals				
	- for two terminals	**8WA1 850**		041	50 units
	- for three terminals	**8WA1 851**		041	50 units
	- for four terminals	**8WA1 852**		041	20 units
	- for ten terminals	**8WA1 853**		041	10 units
	• For bottom level with 1-pole and 2-pole terminals				
	- for two terminals	**8WA1 835**		041	50 units
	- for ten terminals	**8WA1 838**		041	10 units
	Barriers	**8WA1 823**		041	25 units

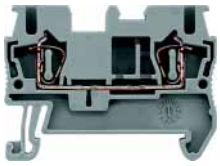
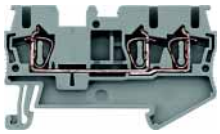
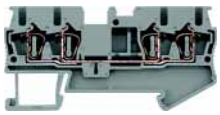
*** You can order this quantity or a multiple thereof.**

ALPHA FIX 8WA and 8WH terminals with screw connection

	Version		Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
8WA two-tier terminals with solid-state components						
Terminal size 4 mm²						
 8WA1 011-6EG20	**Diode terminals** • Rated insulation voltage 250 V • Width 6.5 mm					
	Versions					
	• Rated uninterrupted current 32/1 A		**8WA1 011-6EG20**		041	10 units
	• Rated uninterrupted current 32/1 A		**8WA1 011-6EG21**		041	10 units
	• Rated uninterrupted current 1 A		**8WA1 011-6EG22**		041	10 units
	• Rated uninterrupted current 32/1 A		**8WA1 011-6EG23**		041	10 units
	• Rated uninterrupted current 32/1 A		**8WA1 011-6EG24**		041	10 units
8WA terminals for components						
Terminal size 1.5 mm²						
 8WA1 011-1EE00	**Terminals for components** (only enclosures) • Rated uninterrupted current 6.3 A • Rated insulation voltage 500 V • Width 10 mm		**8WA1 011-1EE00**		041	5 units
 8WA1 822-7EE00	**Plugs for components** • Rated uninterrupted current 6.3 A • Rated insulation voltage 500 V • Width 10 mm		**8WA1 822-7EE00**		041	1 unit
8WA fuse terminals						
Terminal size 1.5 mm²						
 8WA1 011-1SF12	**Fuse terminals** • Rated uninterrupted current 6.3 A when using fuses • Rated uninterrupted current 16 A when using the bridging link • Rated insulation voltage 250 V when using fuses • Rated insulation voltage 800 V when using the bridging link • Width 10 mm					
	Versions					
	• For G fuse					
	- without LED		**8WA1 011-1SF12**		041	10 units
	- with LED, 24 V AC/DC		**8WA1 011-1SF13**		041	10 units
	- with LED, 48 V AC/DC		**8WA1 011-1SF14**		041	10 units
	- with LED, 230 V AC/DC		**8WA1 011-1SF15**		041	10 units
	• For inch fuse					
	- without LED		**8WA1 011-1SF30**		041	10 units
	- with LED, 24 V AC/DC		**8WA1 011-1SF31**		041	10 units
	- with LED, 120 V AC / 110 V DC		**8WA1 011-1SF32**		041	10 units

* You can order this quantity or a multiple thereof.

Selection and ordering data

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
8WH through-type and PE terminals					
Terminal size 2.5 mm²					
 8WH2 000-0AF00	**Through-type terminals, two connection points** • Terminal width 5.2 mm • IEC 60947-7-1 - I = 31 A - U = 800 V • EN 50019 - I = 25/21 A - U = 550 V				
	Versions				
	• Gray	**8WH2 000-0AF00**		044	50 units
	• Blue	**8WH2 000-0AF01**		044	50 units
	Accessories				
	Compartment partitions, for terminal size 1.5 ... 4 mm² and two connection points	**8WH9 070-0AA00**		044	50 units
	Covers, for terminal size 1.5 ... 2.5 mm² and two connection points	**8WH9 000-1GA00**		044	50 units
 8WH2 003-0AF00	**Through-type terminals, three connection points** • Terminal width 5.2 mm • IEC 60947-7-1 - I = 28 A - U = 800 V • EN 50019 - I = 25/21 A - U = 550 V				
	Versions				
	• Gray	**8WH2 003-0AF00**		044	50 units
	• Blue	**8WH2 003-0AF01**		044	50 units
	Accessories				
	Compartment partitions, for terminal size 1.5 ... 4 mm² and 3 connection points	**8WH9 070-0GA00**		044	50 units
	Covers, for terminal size 2.5 mm² and 3 connection points	**8WH9 000-2GA00**		044	50 units
 8WH2 004-0AF00	**Through-type terminals, four connection points** • Terminal width 5.2 mm • IEC 60947-7-1 - I = 28 A - U = 800 V • EN 50019 - I = 24/21 A - U = 550 V				
	Versions				
	• Gray	**8WH2 004-0AF00**		044	50 units
	• Blue	**8WH2 004-0AF01**		044	50 units
	Accessories				
	Compartment partitions, for terminal size 1.5 ... 4 mm² and 4 connection points	**8WH9 070-0HA00**		044	50 units
	Covers, for terminal size 2.5 mm² and 4 connection points	**8WH9 000-4GA00**		044	50 units
	Cover segments, for terminal size 1.5 ... 2.5 mm²	**8WH9 000-0GA00**		044	10 units
 8WH2 000-0CF07	**PE through-type terminals**				
	Versions				
	• Two connection points	**8WH2 000-0CF07**		044	50 units
	• Three connection points	**8WH2 003-0CF07**		044	50 units
	• Four connection points	**8WH2 004-0CF07**		044	50 units
	Accessories				
	Covers, for terminal size 1.5 ... 2.5 mm²				
	• For two connection points	**8WH9 000-1GA00**		044	50 units
	• For three connection points	**8WH9 000-2GA00**		044	50 units
	• For four connection points	**8WH9 000-4GA00**		044	50 units
	Cover segments, for terminal size 1.5 ... 2.5 mm²	**8WH9 000-0GA00**		044	10 units

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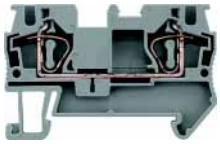
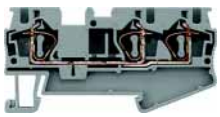
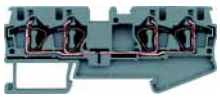
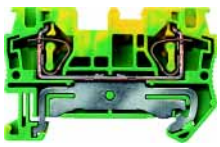
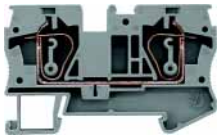
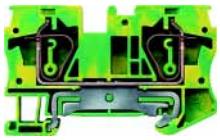
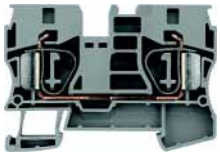
*** You can order this quantity or a multiple thereof.**

ALPHA FIX 8WA and 8WH terminals with spring-loaded connection

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
Terminal size 4 mm²					
 8WH2 000-0AG00	**Through-type terminals, two connection points** • Terminal width 6.2 mm • IEC 60947-7-1 - I = 40 A - U = 800 V • EN 50019 - I = 34/30 A - U = 550 V				
	Versions				
	• Gray	**8WH2 000-0AG00**		044	50 units
	• Blue	**8WH2 000-0AG01**		044	50 units
	Accessories				
	Compartment partitions, for terminal size 1.5 ... 4 mm² and two connection points	**8WH9 070-0AA00**		044	50 units
	Covers, for terminal size 4 mm² and two connection points	**8WH9 003-1GA00**		044	50 units
 8WH2 003-0AG00	**Through-type terminals, three connection points** • Terminal width 6.2 mm • IEC 60947-7-1 - I = 40 A - U = 800 V • EN 50019 - I = 34/29 A - U = 550 V				
	Versions				
	• Gray	**8WH2 003-0AG00**		044	50 units
	• Blue	**8WH2 003-0AG01**		044	50 units
	Accessories				
	Compartment partitions, for terminal size 1.5 ... 4 mm² and 3 connection points	**8WH9 070-0GA00**		044	50 units
	Covers, for terminal size 4 mm² and 3 connection points	**8WH9 003-2GA00**		044	50 units
	Cover segments, for terminal size 4 mm²	**8WH9 003-0GA00**		044	10 units
 8WH2 004-0AG00	**Through-type terminals, four connection points** • Terminal width 6.2 mm • IEC 60947-7-1 - I = 40 A - U = 800 V • EN 50019 - I = 34/25 A - U = 550 V				
	Versions				
	• Gray	**8WH2 004-0AG00**		044	50 units
	• Blue	**8WH2 004-0AG01**		044	50 units
	Accessories				
	Compartment partitions, for terminal size 1.5 ... 4 mm² and 4 connection points	**8WH9 070-0HA00**		044	50 units
	Covers, for terminal size 4 mm² and 4 connection points	**8WH9 003-4GA00**		044	50 units
	Cover segments, for terminal size 4 mm²	**8WH9 003-0GA00**		044	10 units
 8WH2 000-0CG07	**PE through-type terminals, terminal size 6.2 mm**				
	Versions				
	• Two connection points	**8WH2 000-0CG07**		044	50 units
	• Three connection points	**8WH2 003-0CG07**		044	50 units
	• Four connection points	**8WH2 004-0CG07**		044	50 units
	Accessories				
	Covers, for terminal size 4 mm²				
	• For two connection points	**8WH9 003-1GA00**		044	50 units
	• For three connection points	**8WH9 003-2GA00**		044	50 units
	• For four connection points	**8WH9 003-4GA00**		044	50 units
	Cover segments, for terminal size 4 mm²	**8WH9 003-0GA00**		044	10 units

*** You can order this quantity or a multiple thereof.**

ALPHA FIX 8WA and 8WH terminals with spring-loaded connection

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
Terminal size 6 mm²					
 8WH2 000-0AH00	**Through-type terminals, two connection points** • Terminal width 8.2 mm • IEC 60947-7-1 - I = 52 A - U = 800 V • EN 50019 - I = 45/36 A - U = 550 V				
	Versions				
	• Gray	**8WH2 000-0AH00**		044	50 units
	• Blue	**8WH2 000-0AH01**		044	50 units
	Accessories				
	Compartment partitions, for terminal size 6 mm²	**8WH9 070-0DA00**		044	50 units
	Covers, for terminal size 6 mm²	**8WH9 004-1GA00**		044	50 units
	Reducing bridges, for terminal size 6 mm², on spring-loaded terminals 2.5 and 4 mm²	**8WH9 020-0FC10**		044	10 units
 8WH2 000-0CH07	**PE through-type terminals, two connection points** • Terminal width 8.2 mm	**8WH2 000-0CH07**		044	50 units
	Accessories				
	Covers, for terminal size 6 mm²	**8WH9 004-1GA00**		044	50 units
 8WH2 003-0AH00	**Through-type terminals, three connection points** • Terminal width 8.2 mm • IEC 60947-7-1 - I = 52 A - U = 800 V • EN 50019 - I = 46/36 A - U = 550 V				
	Versions				
	• Gray	**8WH2 003-0AH00**		044	50 units
	• Blue	**8WH2 003-0AH01**		044	50 units
	Accessories				
	Covers, for terminal size 6 mm² and 3 connection points	**8WH9 004-2GA00**		044	50 units
	Reducing bridges, for terminal size 6 mm², on spring-loaded terminals 2.5 and 4 mm²	**8WH9 020-0FC10**		044	10 units
 8WH2 003-0CH07	**PE through-type terminals, three connection points** • Terminal width 8.2 mm	**8WH2 003-0CH07**		044	50 units
	Accessories				
	Covers, for terminal size 6 mm² and 3 connection points	**8WH9 004-2GA00**		044	50 units
Terminal size 10 mm²					
 8WH2 000-0AJ00	**Through-type terminals** • Terminal width 10.2 mm • IEC 60947-7-1 - I = 65 A - U = 800 V • EN 50019 - I = 50/63 A - U = 550 V				
	Versions				
	• Gray	**8WH2 000-0AJ00**		044	50 units
	• Blue	**8WH2 000-0AJ01**		044	50 units
	Accessories				
	Covers, for terminal size 10 mm²	**8WH9 005-1GA00**		044	50 units
	Reducing bridges, for terminal size 10 mm², on spring-loaded terminals 2.5 and 4 mm²	**8WH9 020-0AC10**		044	10 units
 8WH2 000-0CJ07	**PE through-type terminals** • Terminal width 10.2 mm - I = 65 A	**8WH2 000-0CJ07**		044	50 units
	Accessories				
	Covers, for terminal size 10 mm²	**8WH9 005-1GA00**		044	50 units
	Plug-in bridges, for terminal width 10.2 mm	**8WH9 020-6EC10**		044	10 units

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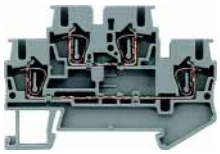
*** You can order this quantity or a multiple thereof.**

ALPHA FIX 8WA and 8WH terminals with spring-loaded connection

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
Terminal size 16 mm²					
 8WH2 000-0AK00	**Through-type terminals** • Terminal width 12 mm • IEC 60947-7-1 - I = 90 A - U = 800 V • EN 50019 - I = 65/82 A - U = 550 V				
	Versions				
	• Gray	**8WH2 000-0AK00**		044	50 units
	• Blue	**8WH2 000-0AK01**		044	50 units
	Accessories				
	Covers, for terminal size 16 mm²	**8WH9 006-1GA00**		044	50 units
	Reducing bridges, for terminal size 16 mm², on spring-loaded terminals 2.5 and 4 mm²	**8WH9 020-0BC10**		044	10 units
	Plug-in bridges, for terminal width 12 mm	**8WH9 020-6FC10**		044	10 units
 8WH2 000-0CK07	**PE through-type terminals** • Terminal width 12 mm - I = 90 A	**8WH2 000-0CK07**		044	25 units
	Accessories				
	Covers, for terminal size 16 mm²	**8WH9 006-1GA00**		044	50 units
	Plug-in bridges, for terminal width 12 mm	**8WH9 020-6FC10**		044	10 units
Terminal size 35 mm²					
 8WH2 000-0AM00	**Through-type terminals, terminal size 35 mm²** • Insulated on both sides • Terminal width 16 mm • IEC 60947-7-1 - I = 125 A - U = 800 V • EN 50019 - I = 108 A - U = 750 V				
	Versions				
	• Gray	**8WH2 000-0AM00**		044	10 units
	• Blue	**8WH2 000-0AM01**		044	10 units
	Accessories				
	Reducing bridges, for terminal size 35 mm²				
	• For linking terminal sizes 2.5 and 4 mm²	**8WH9 020-0EC10**		044	10 units
	• For linking terminal sizes 16 mm²	**8WH9 020-0DC10**		044	10 units
	Plug-in bridges, for terminal width 16 mm	**8WH9 020-6GC10**		044	10 units
 8WH2 000-0CM07	**PE through-type terminals, terminal size 35 mm²** • Insulated on both sides • Terminal width 16 mm - I = 125 A	**8WH2 000-0CM07**		044	10 units
	Accessories				
	Plug-in bridges, for terminal width 16 mm	**8WH9 020-6GC10**		044	10 units
8WH fuse terminals					
Terminal size 4 mm²					
 8WH2 000-1GG08	**Fuse terminals, for G fuse links 5 x 20 mm** • Terminal width 6.2 mm • With fuse - I_{max} = 6.3 A, short-circuit protection only, stand-alone 4 W, group 2.5 W - U = 250 V, overload protection, stand-alone 4 W, group 1.6 W • As isolating terminals - I = 6.3 A - U = 250 V				
	Versions				
	• Without illuminated indicator	**8WH2 000-1GG08**		044	50 units
	• Illuminated indicator 15 ... 30 V	**8WH2 000-1JG38**		044	50 units
	• Illuminated indicator 30 ... 60 V	**8WH2 000-1JG68**		044	50 units
	• Illuminated indicator 110 ... 250 V	**8WH2 000-1MG08**		044	50 units
	Accessories				
	Compartment partitions, for terminal sizes 1.5 and 4 mm² and two connection points	**8WH9 070-0AA00**		044	50 units

* You can order this quantity or a multiple thereof.

ALPHA FIX 8WA and 8WH terminals with spring-loaded connection

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
8WH isolating terminals					
Terminal size 2.5 mm²					
 8WH2 000-6AF00	**Isolating terminals** • Gray • Terminal width 5.2 mm - Current and voltage are determined by the plug used - I = 16 A - U = 400 V				
	Versions				
	• Two connection points	**8WH2 000-6AF00**		044	50 units
	• Three connection points	**8WH2 003-6AF00**		044	50 units
	• Four connection points	**8WH2 004-6AF00**		044	50 units
Accessories					
	**Isolating plugs** Orange	**8WH9 040-0DB04**		044	50 units
 8WH9 040-3DB08	**Fused plugs, without illuminated indicator** • Black • I_{max}: 6.3 A	**8WH9 040-3DB08**		044	10 units
 8WH9 040-0BB00	**Component plugs**	**8WH9 040-0BB00**		044	10 units
	Compartment partitions, for terminal size 2.5 mm²				
	• For three connection points	**8WH9 070-0GA00**		044	50 units
	• For four connection points	**8WH9 070-0HA00**		044	50 units
	Cover segments, for terminal size 1.5 and 2.5 mm² and three or four connection points	**8WH9 000-0GA00**		044	10 units
8WH two-tier terminals					
Terminal size 2.5 mm²					
 8WH2 020-0AF00	**Two-tier terminals** • Terminal width 5.2 mm • IEC 60947-7-1 - I = 26 A - U= 500 V • EN 50019 - I = 23/19 A - U = 420 V				
	Versions				
	• Gray				
	- without potential link, 2-pole	**8WH2 020-0AF00**		044	50 units
	- with potential link, 1-pole	**8WH2 025-0AF00**		044	50 units
	• Blue				
	- without potential link, 2-pole	**8WH2 020-0AF01**		044	50 units
	- with potential link, 1-pole	**8WH2 025-0AF01**		044	50 units
 8WH2 020-0CF07	**PE two-tier terminals, two connection points on one level** • Terminal width 5.2 mm	**8WH2 020-0CF07**		044	50 units
Accessories					
	Covers, for terminal size 1.5 ... 2.5 mm²	**8WH9 000-1VA00**		044	50 units

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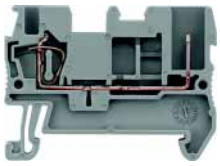
*** You can order this quantity or a multiple thereof.**

ALPHA FIX 8WH combination plug-in terminals

Selection and ordering data

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
8WH hybrid through-type terminals					
Terminal size 2.5 mm²					
 8WH5 100-2KF00	**Hybrid through-type terminals** • Terminal width 5.2 mm • IEC 61984 - I = 24 A - U = 500 V				
	Versions				
	• Gray				
	- Two connection points	**8WH5 100-2KF00**		044	50 units
	- Three connection points	**8WH5 103-2LF00**		044	50 units
	- Four connection points	**8WH5 104-2MF00**		044	50 units
	• Blue				
	- Two connection points	**8WH5 100-2KF01**		044	50 units
	- Three connection points	**8WH5 103-2LF01**		044	50 units
	- Four connection points	**8WH5 104-2MF01**		044	50 units
 8WH5 100-3KF07	**PE hybrid through-type terminals** • Terminal width 5.2 mm				
	Versions				
	• Two connection points	**8WH5 100-3KF07**		044	50 units
	• Three connection points	**8WH5 103-3LF07**		044	50 units
	• Four connection points	**8WH5 104-3MF07**		044	50 units
Accessories					
	Compartment partitions, for terminal size 1.5 ... 4 mm²				
	• For two connection points	**8WH9 070-0AA00**		044	50 units
	• For three connection points	**8WH9 070-0GA00**		044	50 units
	• For four connection points	**8WH9 070-0HA00**		044	50 units
	Covers, for terminal size 2.5 mm²				
	• Two connection points	**8WH9 000-1GA00**		044	50 units
	• Three connection points	**8WH9 000-2GA00**		044	50 units
	• Four connection points	**8WH9 000-4LA00**		044	50 units
	Cover segments, for terminal size 2.5 mm²				
	• Three connection points	**8WH9 000-0GA00**		044	10 units
	• Four connection points	**8WH9 000-0LA00**		044	50 units
8WH hybrid isolating terminals					
Terminal size 2.5 mm²					
 8WH5 103-6FF00	**Hybrid isolating terminals** • Gray • Terminal width 5.2 mm • IEC 61984 - I = 16 A - U = 400 V - Current and voltage are determined by the plug used.	**8WH5 103-6FF00**		044	50 units
	Accessories				
	Compartment partitions, for terminal size 1.5 ... 4 mm² and four connection points	**8WH9 070-0HA00**		044	50 units
	Component plugs	**8WH9 040-0BB00**		044	10 units
	Covers, for terminal size 2.5 mm² and four connection points	**8WH9 000-4LA00**		044	50 units
	Through-type connectors	**8WH9 020-8AB00**		044	50 units

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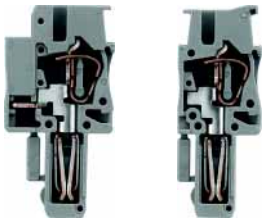
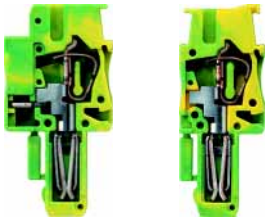
* You can order this quantity or a multiple thereof.

ALPHA FIX 8WH combination plug-in terminals

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
8WH plugs					
Terminal size 2.5 mm²					
 8WH9 040-1DB00/-1AB00	**Plugs** Terminal width 5.2 mm - I = 24 A - U = 500 V				
	Versions				
	• Gray				
	- Left element, can be bridged	**8WH9 040-1DB00**		044	50 units
	- Center element, can be bridged	**8WH9 040-1EB00**		044	50 units
	- Right element, can be bridged	**8WH9 040-1FB00**		044	50 units
	- Left element, cannot be bridged	**8WH9 040-1AB00**		044	50 units
	- Center element, cannot be bridged	**8WH9 040-1BB00**		044	50 units
	- Right element, cannot be bridged	**8WH9 040-1CB00**		044	50 units
	• Blue				
	- Left element, can be bridged	**8WH9 040-1DB01**		044	50 units
	- Center element, can be bridged	**8WH9 040-1EB01**		044	50 units
	- Right element, can be bridged	**8WH9 040-1FB01**		044	50 units
	- Left element, cannot be bridged	**8WH9 040-1AB01**		044	50 units
	- Center element, cannot be bridged	**8WH9 040-1BB01**		044	50 units
	- Right element, cannot be bridged	**8WH9 040-1CB01**		044	50 units
 8WH9 040-1DB07/-1AB07	**PE plugs** Terminal width 5.2 mm - I = 24 A - U = 500 V				
	Versions				
	• Left element, can be bridged	**8WH9 040-1DB07**		044	50 units
	• Center element, can be bridged	**8WH9 040-1EB07**		044	50 units
	• Right element, can be bridged	**8WH9 040-1FB07**		044	50 units
	• Left element, cannot be bridged	**8WH9 040-1AB07**		044	50 units
	• Center element, cannot be bridged	**8WH9 040-1BB07**		044	50 units
	• Right element, cannot be bridged	**8WH9 040-1CB07**		044	50 units
	Accessories				
 8WH9 050-2BA04	**Latching**				
	• With strain relief	**8WH9 050-2BA04**		044	50 units
	• Without strain relief	**8WH9 050-2AA04**		044	50 units

*** You can order this quantity or a multiple thereof.**

ALPHA FIX 8WH terminals with plug-in connection

Selection and ordering data

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
8WH through-type and PE terminals					
Terminal size 2.5 mm²					
 8WH4 000-0AF00	**Through-type terminals** • Terminal width 5.2 mm • Maximum load current 30 A • Rated voltage 800 V Versions • Gray • Blue	 **8WH4 000-0AF00** **8WH4 000-0AF01**	 	 044 044	 50 units 50 units
 8WH4 000-0CF07	**PE through-type terminals** Terminal width 5.2 mm	**8WH4 000-0CF07**		044	50 units
Terminal size 4 mm²					
 8WH4 000-0AG00	**Through-type terminals** • Terminal width 6.2 mm • Maximum load current 41 A • Rated voltage 800 V Versions • Gray • Blue	 **8WH4 000-0AG00** **8WH4 000-0AG01**	 	 044 044	 50 units 50 units
 8WH4 000-0CG07	**PE through-type terminals** • Terminal width 6.2 mm • Cross-section max. 6 mm²	**8WH4 000-0CG07**		044	50 units
Terminal size 6 mm²					
 8WH4 000-0AH00	**Through-type terminals** • Terminal width 8.2 mm • Maximum load current 51 A • Rated voltage 800 V Versions • Gray • Blue	 **8WH4 000-0AH00** **8WH4 000-0AH01**	 	 044 044	 50 units 50 units
 8WH4 000-0CH07	**PE through-type terminals** Terminal width 8.2 mm	**8WH4 000-0CH07**		044	50 units
Accessories					
	Covers • For terminal size 2.5 mm² • For terminal size 4 mm² • For terminal size 6 mm²	 **8WH9 000-1WA00** **8WH9 003-7WA00** **8WH9 004-1WA00**	 	 044 044 044	 50 units 50 units 50 units

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* You can order this quantity or a multiple thereof.

ALPHA FIX 8WH terminals with plug-in connection

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
8WH neutral isolating terminals, for neutral busbars 3 x 10 mm					
Terminal size 2.5 mm²					
 8WH4 000-0BF00	**Neutral isolating terminals** • Terminal width 5.2 mm • Maximum load current 30 A • Rated voltage 400 V				
	Versions				
	• Two connection points	**8WH4 000-0BF00**		044	50 units
	• Three connection points	**8WH4 003-0BF00**		044	50 units
Terminal size 4 mm²					
 8WH4 000-0BG00	**Neutral isolating terminals** • Terminal width 6.2 mm • Maximum load current 36 A • Rated voltage 400 V				
	Versions				
	• Two connection points	**8WH4 000-0BG00**		044	50 units
	• Three connection points	**8WH4 003-0BG00**		044	50 units
Terminal size 6 mm²					
 8WH4 000-0BH00	**Neutral isolating terminals, two connection points** • Terminal width 8.2 mm • Maximum load current 51 A • Rated voltage 400 V	**8WH4 000-0BH00**		044	50 units
Accessories					
 8WH9 140-0AF01	**Supports**				
	• For terminal size 2.5 ... 4 mm²	**8WH9 140-0AF01**		044	50 units
	• For terminal size 6 mm²	**8WH9 141-0AH01**		044	50 units
	Covers				
	• For terminal size 2.5 mm²	**8WH9 000-1WA00**		044	50 units
	• For terminal size 4 mm²	**8WH9 003-7WA00**		044	50 units
	• For terminal size 6 mm²	**8WH9 004-1WA00**		044	50 units
8WH installation terminals					
Terminal size 2.5 mm²					
 8WH4 001-4DF00	**Installation terminals, standard version, for neutral busbars 3 x 10 mm** • Terminal width 5.2 mm • IEC 60947-7-1 (for variants L - L/L - L/N) - I = 24 A - U = 400 V, phase conductor/phase conductor • DIN VDE 0611 (for variants PE/L/L - PE/L/N) - I = 24 A - U = 400 V, phase conductor/phase conductor - U = 250 V, phase conductor/PE • DIN VDE 0611 (for variants PE/L/NT) - I = 20 A - U = 400 V, phase conductor/phase conductor - U = 250 V, phase conductor/PE - U = 250 V, phase conductor/N				
	Versions				
	• L	**8WH4 001-0AF00**		044	50 units
	• L/L	**8WH4 001-4DF00**		044	50 units
	• L/N	**8WH4 001-4CF00**		044	50 units
	• PE/L/L	**8WH4 001-4HF00**		044	50 units
	• PE/L/N	**8WH4 001-4EF00**		044	50 units
	• PE/L/NT	**8WH4 001-4FF00**		044	50 units
	Accessories				
	Supports, for terminal size 2.5 mm²	**8WH9 141-0AF01**		044	50 units
	Covers, for terminal size 2.5 mm²	**8WH9 000-3WA00**		044	50 units

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*** You can order this quantity or a multiple thereof.**

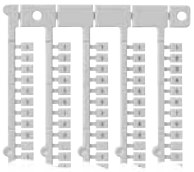
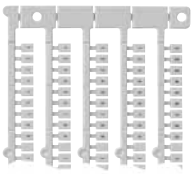
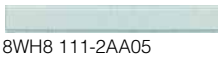
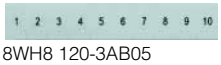
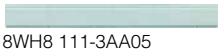
ALPHA FIX 8WH with insulation displacement terminals

Selection and ordering data

	Version	Order No.	Price	PG	PS*/ P. unit
					Unit(s)
Through-type and PE terminals					
Terminal size 1.5 mm²					
 8WH3 000-0AE00	**Through-type terminals** • Terminal width 5.2 mm - I = 17.5 A - U = 800 V • EN 50019 - I = 16 A - U = 550 V				
	Versions				
	• Gray				
	- two connection points	**8WH3 000-0AE00**		044	50 units
	- three connection points	**8WH3 003-0AE00**		044	50 units
	- four connection points	**8WH3 004-0AE00**		044	50 units
	• Blue				
	- two connection points	**8WH3 000-0AE01**		044	50 units
	- three connection points	**8WH3 003-0AE01**		044	50 units
	- four connection points	**8WH3 004-0AE01**		044	50 units
 8WH3 000-0CE07	**PE through-type terminals** • Terminal width 5.2 mm				
	Versions				
	• Two connection points	**8WH3 000-0CE07**		044	50 units
	• Three connection points	**8WH3 003-0CE07**		044	50 units
	• Four connection points	**8WH3 004-0CE07**		044	50 units
	Accessories				
	Cover segments, for terminal size 1.5 mm² and three or four connection points	**8WH9 001-0AA00**		044	50 units
Terminal size 2.5 mm²					
 8WH3 000-0AF00	**Through-type terminals** • Terminal width 6.2 mm - I = 24 A - U = 800 V				
	Versions				
	• Gray				
	- two connection points	**8WH3 000-0AF00**		044	50 units
	- three connection points	**8WH3 003-0AF00**		044	50 units
	• Blue				
	- two connection points	**8WH3 000-0AF01**		044	50 units
	- three connection points	**8WH3 003-0AF01**		044	50 units
 8WH3 000-0CF07	**PE through-type terminals** • Terminal width 6.2 mm				
	Versions				
	• Two connection points	**8WH3 000-0CF07**		044	50 units
	• Three connection points	**8WH3 003-0CF07**		044	50 units
Accessories					
	Compartment partitions, for terminal size 1.5 ... 2.5 mm²				
	• Two connection points	**8WH9 070-0JA00**		044	50 units
	• Three connection points	**8WH9 070-0KA00**		044	50 units
	• Four connection points	**8WH9 070-0LA00**		044	50 units
	Modular test plugs				
	• For terminal width 5.2 mm	**8WH9 010-0EB02**		044	10 units
	• For terminal width 6.2 mm	**8WH9 010-0FB02**		044	10 units
	Covers				
	• For terminal size 1.5 mm²				
	- two connection points	**8WH9 001-1AA00**		044	50 units
	- three connection points	**8WH9 001-2AA00**		044	50 units
	- four connection points	**8WH9 001-4AA00**		044	50 units
	• For terminal size 2.5 mm²				
	- two connection points	**8WH9 000-1AA00**		044	50 units
	- three connection points	**8WH9 000-2AA00**		044	50 units

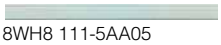
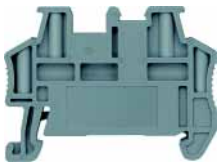
* You can order this quantity or a multiple thereof.

Selection and ordering data

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
8WA labeling accessories					
Labeling plates with inscription					
 Vertical inscription (8WA8 860–0AA)	**Labeling plates, type 8WA8 860/861** • Label size 5 mm x 7 mm • Letter height 2 mm • Grid size 6.2 mm				
	Versions				
	• Vertical inscription	**8WA8 860-□□□**		041	200 units
	• Horizontal inscription	**8WA8 861-□□□**		041	200 units
	Inscription	↑			
	• 1 ... 5 (40 x)	**0BA**			
	• 6 ... 10 (40 x)	**0BB**			
	• 11 ... 15 (40 x)	**0BC**			
	• 16 ... 20 (40 x)	**0BD**			
	• 21 ... 25 (40 x)	**0BE**			
	• 26 ... 30 (40 x)	**0BF**			
	• 31 ... 35 (40 x)	**0BG**			
	• 36 ... 40 (40 x)	**0BH**			
	• 41 ... 45 (40 x)	**0BJ**			
	• 46 ... 50 (40 x)	**0BK**			
 Horizontal inscription (8WA8 861–0AA)	• 51 ... 55 (40 x)	**0BL**			
	• 56 ... 60 (40 x)	**0BM**			
	• 61 ... 65 (40 x)	**0BN**			
	• 66 ... 70 (40 x)	**0BP**			
	• 71 ... 75 (40 x)	**0BQ**			
	Labeling plates, customized inscription • Label size 5 mm x 7 mm • Letter height 2 mm • Grid size 6.2 mm • Required inscription to be specified in plain text				
	Versions				
	• Vertical inscription	**8WA8 847-0XA**		041	100 units
	• Horizontal inscription	**8WA8 848-0XA**		041	100 units
8WH labeling accessories, labeling plates with inscription					
Terminal width 5.2 mm					
 8WH8 120-2AB05	**Labels, front, with vertical inscription** • Consecutive numbers				
	- 1 ... 10 (10 ×)	**8WH8 120-2AB05**		044	100 units
	- 11 ... 20 (10 ×)	**8WH8 120-2AB15**		044	100 units
	- 21 ... 30 (10 ×)	**8WH8 120-2AB25**		044	100 units
	- 31 ... 40 (10 ×)	**8WH8 120-2AB35**		044	100 units
	- 41 ... 50 (10 ×)	**8WH8 120-2AB45**		044	100 units
	- 51 ... 60 (10 ×)	**8WH8 120-2AB55**		044	100 units
	- 61 ... 70 (10 ×)	**8WH8 120-2AB65**		044	100 units
	- 71 ... 80 (10 ×)	**8WH8 120-2AB75**		044	100 units
	- 81 ... 90 (10 ×)	**8WH8 120-2AB85**		044	100 units
	- 91 ... 100 (10 ×)	**8WH8 120-2AC05**		044	100 units
 8WH8 120-2AA15	• L1/L2/L3/N/PE	**8WH8 120-2AA15**		044	100 units
	• Special inscriptions	**8WH8 120-2XA05**		044	100 units
 8WH8 110-2AA05	**Labels, front, without inscription**	**8WH8 110-2AA05**		044	100 units
 8WH8 111-2AA05	**Labels, flat, without inscription**	**8WH8 111-2AA05**		044	100 units
Terminal width 6.2 mm					
 8WH8 120-3AB05	**Labels, front, with vertical inscription** • Consecutive numbers				
	- 1 ... 10 (10 ×)	**8WH8 120-3AB05**		044	100 units
	- 11 ... 20 (10 ×)	**8WH8 120-3AB15**		044	100 units
	- 21 ... 30 (10 ×)	**8WH8 120-3AB25**		044	100 units
	- 31 ... 40 (10 ×)	**8WH8 120-3AB35**		044	100 units
	- 41 ... 50 (10 ×)	**8WH8 120-3AB45**		044	100 units
	- 51 ... 60 (10 ×)	**8WH8 120-3AB55**		044	100 units
8WH8 110-3AA05	**Labels, front, without inscription**	**8WH8 110-3AA05**		044	100 units
 8WH8 111-3AA05	**Labels, flat, without inscription**	**8WH8 111-3AA05**		044	100 units

* You can order this quantity or a multiple thereof.

Accessories for 8WA and 8WH

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
Terminal width 8.2 mm					
 8WH8 120-4AB05	**Labels, front, with vertical inscription** • Consecutive numbers				
	- 1 ... 10 (10 ×)	**8WH8 120-4AB05**		044	100 units
	- 11 ... 20 (10 ×)	**8WH8 120-4AB15**		044	100 units
 8WH8 120-4AA15	- 21 ... 30 (10 ×)	**8WH8 120-4AB25**		044	100 units
	- 31 ... 40 (10 ×)	**8WH8 120-4AB35**		044	100 units
	- 41 ... 50 (10 ×)	**8WH8 120-4AB45**		044	100 units
 8WH8 110-4AA05	**Labels, front, without inscription**	**8WH8 110-4AA05**		044	100 units
 8WH8 111-4AA05	**Labels, flat, without inscription**	**8WH8 111-4AA05**		044	100 units
Terminal width 10 mm					
 8WH8 120-5AB05	**Labels, front, with vertical inscription** • Consecutive numbers				
	- 1 ... 10 (10 ×)	**8WH8 120-5AB05**		044	100 units
	- 11 ... 20 (10 ×)	**8WH8 120-5AB15**		044	100 units
 8WH8 120-5AA15	- 21 ... 30 (10 ×)	**8WH8 120-5AB25**		044	100 units
	- 31 ... 40 (10 ×)	**8WH8 120-5AB35**		044	100 units
	• L1/L2/L3/N/PE	**8WH8 120-5AA15**		044	100 units
 8WH8 120-5AA25	• Special inscriptions	**8WH8 120-5XA05**		044	100 units
	• U/V/W/N/Grounding	**8WH8 120-5AA25**		044	100 units
 8WH8 110-5AA05	**Labels, front, without inscription**	**8WH8 110-5AA05**		044	100 units
 8WH8 111-5AA05	**Labels, flat, without inscription**	**8WH8 111-5AA05**		044	100 units
Terminal width 15 mm					
	Labels, flat, without inscription	**8WH8 111-7AA05**		044	100 units
8WH mounting accessories					
 8WH9 150-0CA00	**Quick-assembly end retainers** • Can be inscribed with labels, front, for terminal width 5.2 mm and terminal strip marker	**8WH9 150-0CA00**		044	50 units
	Through-type connectors • Gray • I_{max}: 16 A	**8WH9 020-8AB00**		044	50 units
 8WH9 020-6AC10	**Plug-in bridges**				
	• For terminal width 4.2 mm				
	- 2-pole	**8WH9 020-6AC10**		044	50 units
	- 3-pole	**8WH9 020-6AD10**		044	50 units
	- 4-pole	**8WH9 020-6AE10**		044	50 units
	- 5-pole	**8WH9 020-6AF10**		044	50 units
	- 10-pole	**8WH9 020-6AL10**		044	10 units
	- 20-pole	**8WH9 020-6AS10**		044	10 units
	• For terminal width 5.2 mm				
	- 2-pole	**8WH9 020-6BC10**		044	50 units
	- 3-pole	**8WH9 020-6BD10**		044	50 units
	- 4-pole	**8WH9 020-6BE10**		044	50 units
	- 5-pole	**8WH9 020-6BF10**		044	50 units
	- 10-pole	**8WH9 020-6BL10**		044	10 units
	- 20-pole	**8WH9 020-6BS10**		044	10 units
	- 50-pole	**8WH9 020-6BT10**		044	10 units
	• For terminal width 6.2 mm				
	- 2-pole	**8WH9 020-6CC10**		044	50 units
	- 3-pole	**8WH9 020-6CD10**		044	50 units
	- 4-pole	**8WH9 020-6CE10**		044	50 units
	- 5-pole	**8WH9 020-6CF10**		044	50 units
	- 10-pole	**8WH9 020-6CL10**		044	10 units
	- 20-pole	**8WH9 020-6CS10**		044	10 units
	- 50-pole	**8WH9 020-6CT10**		044	10 units
	• For terminal width 8.2 mm				
	- 2-pole	**8WH9 020-6DC10**		044	10 units
	- 3-pole	**8WH9 020-6DD10**		044	10 units
	- 4-pole	**8WH9 020-6DE10**		044	10 units
	- 5-pole	**8WH9 020-6DF10**		044	10 units
	- 10-pole	**8WH9 020-6DL10**		044	10 units
	• For terminal width 10 mm, 2-pole	**8WH9 020-6EC10**		044	10 units
	• For terminal width 12 mm, 2-pole	**8WH9 020-6FC10**		044	10 units
	• For terminal width 16 mm, 2-pole	**8WH9 020-6GC10**		044	10 units

*** You can order this quantity or a multiple thereof.**

	Version	Order No.	Price 1 unit	PG	PS*/ P. unit Unit(s)
 8WH9 020-0FC10	**Reducing bridges** • For linking to a through-type terminal, terminal size 2.5 or 4 mm² - to a through-type terminal, terminal size 6 mm², I_{max}: 48 A - to a through-type terminal, terminal size 10 mm², I_{max}: 55 A - to a through-type terminal, terminal size 16 mm², I_{max}: 64 A - to a through-type terminal, terminal size 35 mm², I_{max}: 64 A • For linking to a through-type terminal, terminal size 16 mm² - to a through-type terminal, terminal size 35 mm², I_{max}: 90 A	**8WH9 020-0FC10** **8WH9 020-0AC10** **8WH9 020-0BC10** **8WH9 020-0EC10** **8WH9 020-0DC10**		044 10 units 044 10 units 044 10 units 044 10 units 044 10 units
 8WH9 040-0BB00	**Component plugs** • I_{max}: 6 A, depending on the power loss of the components, max. 1 W for stand-alone arrangement • Can be inscribed with labels, flat, for terminal width 5.2 mm	**8WH9 040-0BB00**		044	10 units
 8WH9 040-3AB08	**Fused plugs** • Black • I_{max}: 6.3 A • Can be inscribed with labels, flat, for terminal width 5.2 mm Versions • With illuminated indicator for 12 ... 30 V, 1 ... 2.5 mA • With illuminated indicator for 30 ... 60 V, 0.8 ... 2.0 mA • With illuminated indicator for 110 ... 250 V, 0.5 ... 2.5 mA • Without illuminated indicator	**8WH9 040-3AB08** **8WH9 040-3BB08** **8WH9 040-3CB08** **8WH9 040-3DB08**		044 10 units 044 10 units 044 10 units 044 10 units
 8WH9 040-3DB08	Note The G fuse holders must be selected according to the maximum power loss (self-heating) of the G fuse links. Depending on the application and method of installation, the heating conditions in closed fuse holders must be tested. Higher ambient temperatures represent an additional load for the fuse links. Hence in such cases of application it is necessary to allow in addition for adjustment of the rated current.				
 8WH9 040-0DB04	**Isolating plugs** Orange	**8WH9 040-0DB04**		044	50 units
 8WH9 200-0AA00	**Screwdrivers** for actuating the tension spring Versions • 0.4 x 2.5 mm • 0.4 x 3.5 mm • 0.8 x 4.0 mm • 1.0 x 5.5 mm	**8WH9 200-0AA00** **8WH9 200-0AB00** **8WH9 200-0AC00** **8WH9 200-0AD00**		044 10 units 044 10 units 044 10 units 044 10 units	

More information

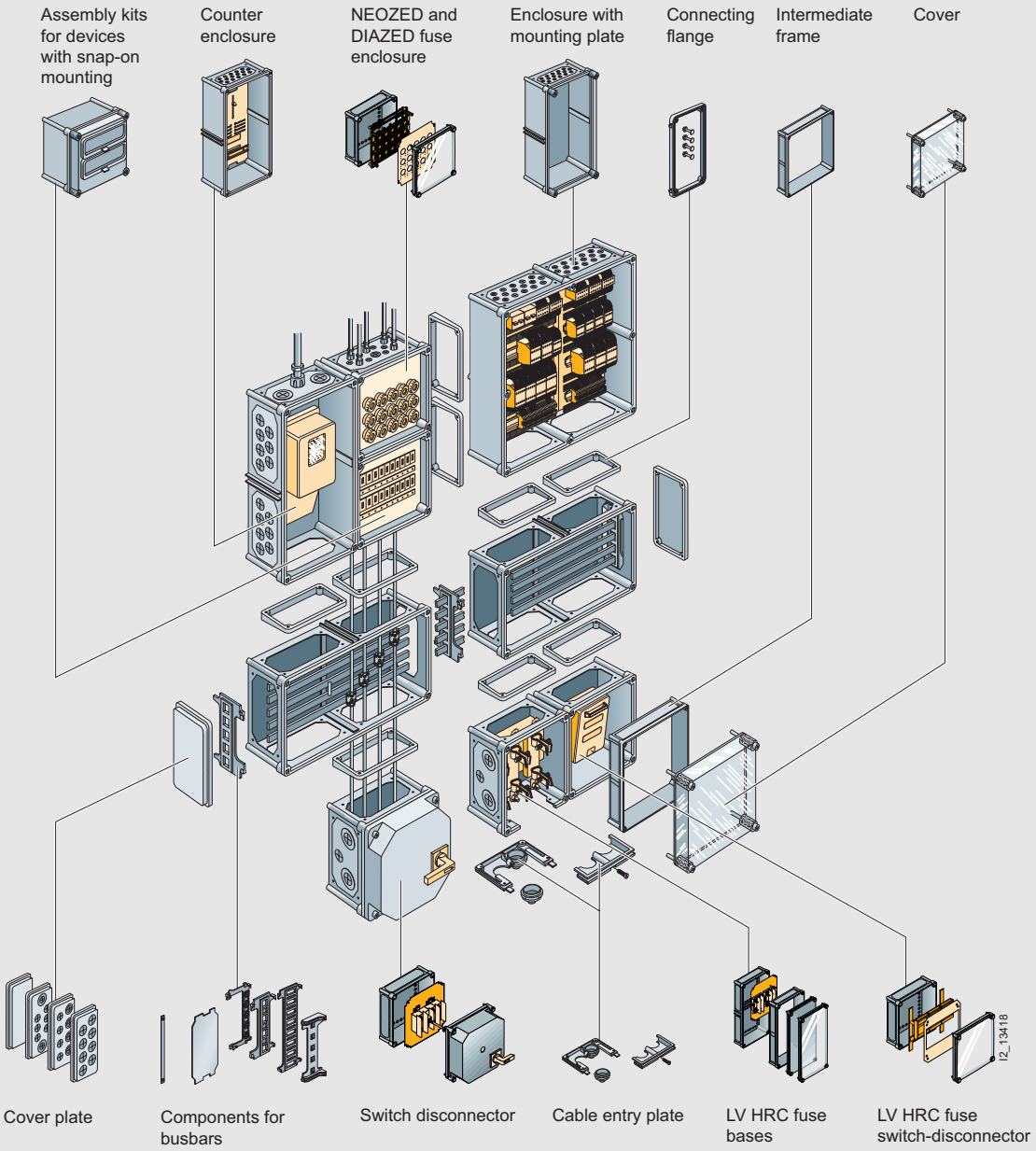
Catalog ET A1

ALPHA distribution boards and small distribution boards

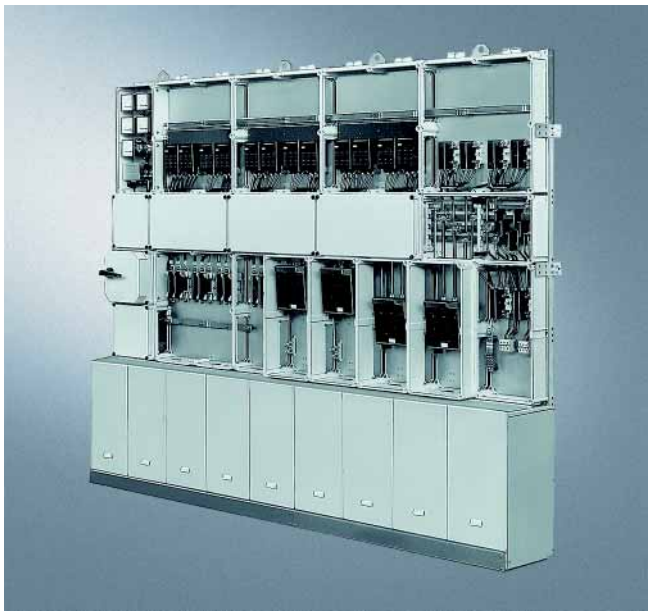
*** You can order this quantity or a multiple thereof.**

General data

Overview



General data



8HP distribution board with support rack and cable space cover

The 8HP distribution system is a modular system for low-voltage small distribution boards, control panels and power distribution boards.

Benefits

The optimum design of these high-quality materials fulfills all the demands made on modern enclosures. This includes:

- Total insulation
- Corrosion resistance
- Mechanical strength
- Simple finish
- Temperature resistance
- Maintenance free
- Flame retardant, self-extinguishing
- Halogen-free (thus preventing consequential damage resulting from external fire), excludes cable space cover
- Lightweight components

Total insulation

All enclosure parts and operating mechanisms are constructed so that they fulfill the conditions of the protective measure "total insulation" according to DIN VDE 0100, Part 410, when they are closed during operation. Enclosure fixings are situated outside the device installation space.

Application

It can be installed in all industrial plants, power stations, in large public or private buildings and in public utilities as well as in office buildings and residential buildings.

The components of the 8HP distribution system fulfill the requirements specified for type-tested low-voltage controlgear combinations (TTA) according to EN 60439-1/DIN VDE 0660 Part 500. The enclosure corresponds to the protective measure "total insulation" according to DIN VDE 0100.

Standards

DIN VDE 0660 Part 500

Specifications for type-tested low-voltage controlgear combinations (TTA)

DIN VDE 0110

Standards for rating the creepage distances and clearances of electrical equipment

IEC 60439-1

Ready-made controls assemblies for low-voltage

DIN VDE 0660 Part 107

Standards for low-voltage controls

DIN VDE 0100

Standards for the erection of power installations with rated voltages up to 1000 V.

Conformity declaration

This declares conformity of the components and distribution boards with the safety requirements for low-voltage equipment as specified in the EU Directive dated 19.02.1973.

Special tests

Fire tests for equipment used in mining are performed by the Versuchsgrube Tremonia, Dortmund, Germany.

Shock tests for equipment used in protective rooms are performed by the "Bundesamt für Zivilschutz", Bad Godesberg, Germany, regulation category RK 1.0/10 to safety level "A", Certificate of Use 036/95.

Earthquake tests are performed by the IAB, Ottobrunn, Germany. Tests for use in EX zone 2 (special version).

The enclosure is **UL-certified**.

General data

Installation conditions

Installation	Climatic conditions to DIN 50010	Special operating and ambient conditions
Indoor installation No further measures necessary.	An indoor climate is an environment in rooms that are designed so that objects are largely separated from the direct influence of an open-air climate.	If the operating and ambient conditions differ from the standard conditions to DIN VDE 0660 Part 500, Item 6.1, appropriate measures must be taken to protect and maintain the operating capability of the switchgear and controlgear combination for "Special operating and ambient conditions" according to Item 6.2 (mechanical protection, ventilation, indoor heating, breathers etc.).
External installation Measures: e.g. protected erection or protective cover, if necessary with additional walls and door (protective cubicle).	An external environment is an environment in rooms that are designed so that objects are protected against direct sunlight and precipitation and, if necessary, against wind, but are otherwise exposed to an open-air climate.	
Outdoor installation Only permissible with the measures described for external installation.	An open-air climate is an environment that affects objects in the open air.	

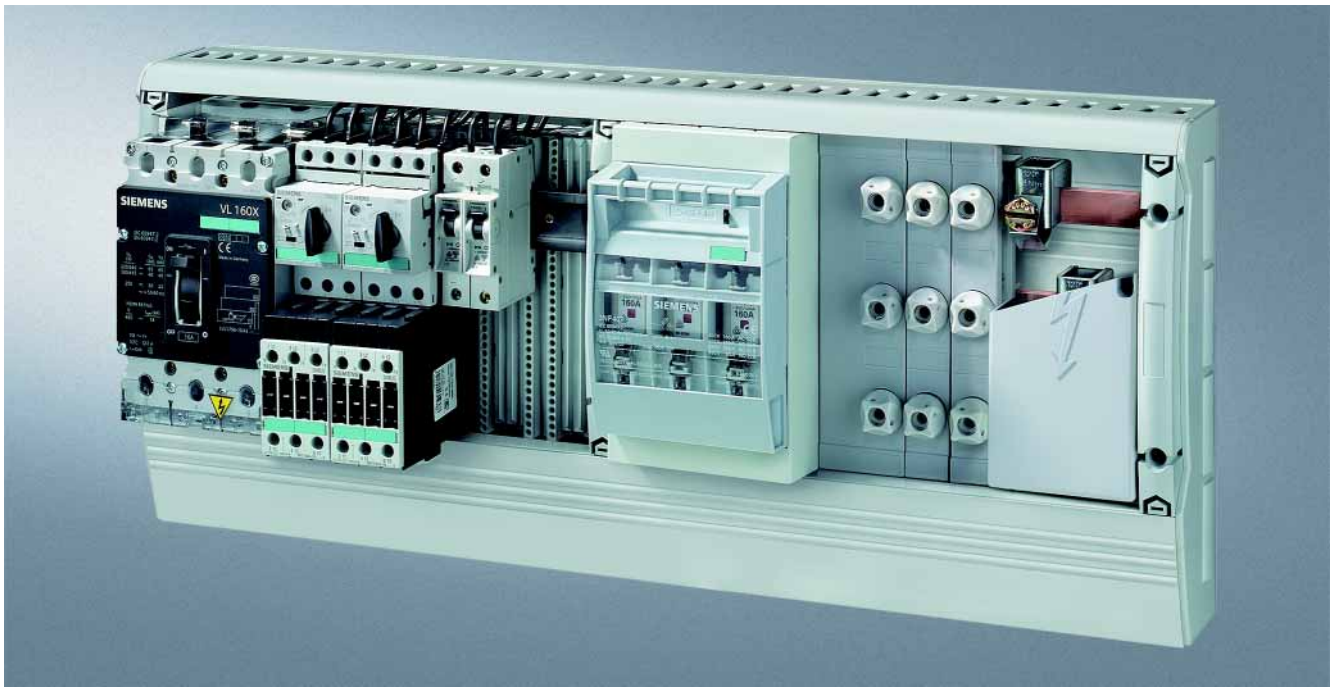
Conversion from Pg to metric glands

A new option for using metric screwed glands was tested for the 8HP molded-plastic distribution system. The result of this test showed that the Pg openings listed in the following table are also suitable for the use of metric glands. Metric glands with lock nuts are used. Corresponding sealing washers are used in order to ensure degree of protection IP65.

The values for the tested conversions from Pg to metric glands are shown in the table opposite.

Heavy-gauge threaded joints	Borehole diameter mm	Metric thread
Pg13.5	20.4	M20
Pg16	22.5	M22
Pg21	28.3	M28
Pg29	37	M36
Pg36	47	M46
Pg42	54	M52
Pg49	59.3	M58

Overview



Benefits

Compared to conventional configuration in switchgear and control cubicles, this technique allows important cost savings and offers the following advantages: mechanical fixing and electrical contacting are achieved in one action; input wiring is dispensable, use of busbar terminals is reduced to a minimum and it provides a double utilization of the busbar space. All this is effective especially in cases where many feeders of the same performance range are required.

During operation, an easily traceable arrangement and rapid and uncomplicated replacement of single devices and assemblies are the most effective advantages. The busbar adapter system is completely finger-safe because it is covered by adapters and switching device holders. A high operational safety is therefore guaranteed.

Application

Mounting current-limiting (protection) devices such as fuse switch disconnectors and circuit breakers, but also complete load feeders, directly onto busbars has become a commonly used technique.

More information

Design

8US busbar systems with 40 mm and 60 mm busbar center-to-center clearance as well as flat copper profiles have now become firmly established on the world market. The permissible busbar temperature is a decisive factor when dimensioning the busbars. The busbar temperature is dependent on the current and the current distribution, on the busbar cross-section and the busbar surface, on the position of the busbars, convection and the ambient temperature. The values stated in the following table can only be considered as guide values because the conditions vary with each location. The values are based on uninterrupted current over the whole busbar length.

The trend toward busbars proves most advantageous when the infeed is centrally located and the load is distributed symmetrically on both sides.

Function

Short-circuit strength

The short-circuit strength of the busbar system is dependent on the distance of the busbar supports and on the busbar cross-section.

The short-circuit strength of the whole system is dependent on the short-circuit strength of the busbars and of the adapters with circuit breakers or switch disconnectors (see Chapter "SENTRON Switching and Protection Devices for Power Distribution" – "Molded-Case Circuit Breakers (MCCB)" and "Switch Disconnectors").

If one of these values is lower than the prospective short-circuit current at the place of installation, a current-limiting protective device has to be mounted upstream of the 8US busbar system. This may also be mounted as a feeder circuit breaker on the busbar system itself.

General data

Technical specifications

Uninterrupted current for busbars, E-Cu bare, at 35 °C ambient temperature according to DIN 43671

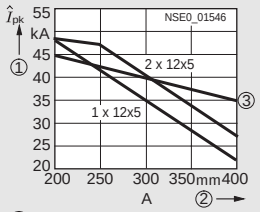
Bar dimensions	System	Uninterrupted current at a busbar temperature of		
		65 °C	85 °C	105 °C
mm	mm	A	A	A
12 × 5 15 × 5	40 + 60 40 + 60	188 222	248 293	295 349
20 × 5 25 × 5 30 × 5	60 60 60	274 327 379	362 432 500	430 513 595
12 × 10 20 × 10 30 × 10	40 + 60 60 60	302 427 573	398 564 756	474 670 900
Special profile up to 1600 A	60	1020	1020	1600

Technical specifications of the system components		
Rated insulation voltage U_i	V AC	**1000**[1)]
Short-circuit strength		
of the 8US1 device adapters		Current limiting by means of associated circuit breakers/load feeders up to 50 kA
of the busbar systems		see Characteristic Curves
Material		
of the 8US1 busbar supports, busbar adapters and device holders		Fiberglass-strengthened polyamide
Color		RAL 7035, light gray
Temperature resistance		
Busbar supports, busbar adapters, device holders, infeed and covering caps	°C	120
AWG connecting cables	°C	105
Cover profile	°C	110
Bottom shells, partitions, edges and blanking covers	°C	70
Approvals		
Busbar supports, busbar adapters, device holders and terminals		UR, CSA

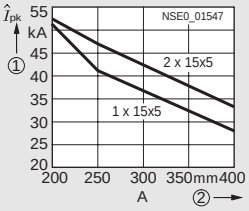
1) Reduction of U_i when using certain terminals in the 40-mm system, see Terminals

Characteristic curves

40 mm busbar system

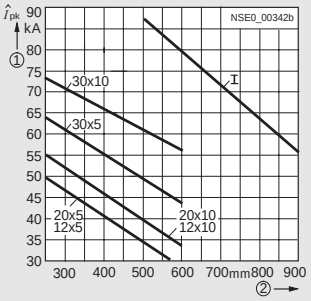


① Peak current I_{pk}
② Distance to busbar support
③ 5-pole busbar support



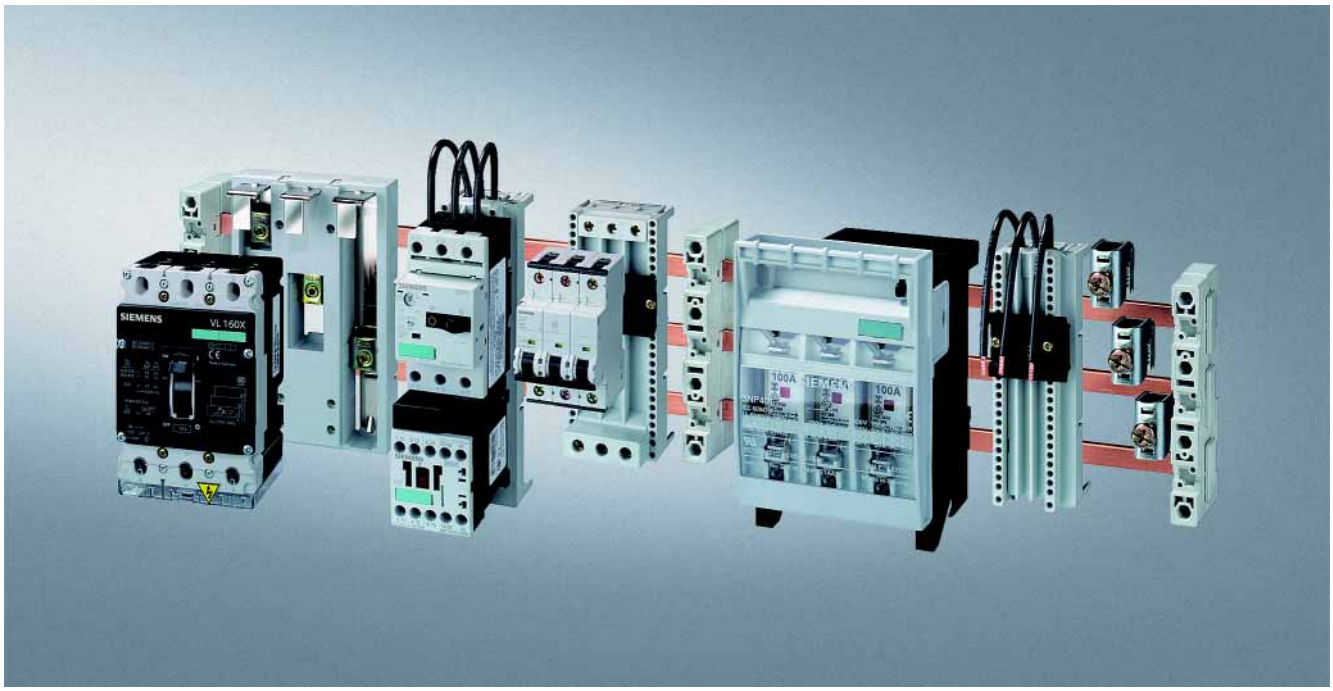
① Peak current I_{pk}
② Spacing for busbar supports

60 mm busbar system



① Peak current I_{pk}
② Spacing for busbar supports

Overview



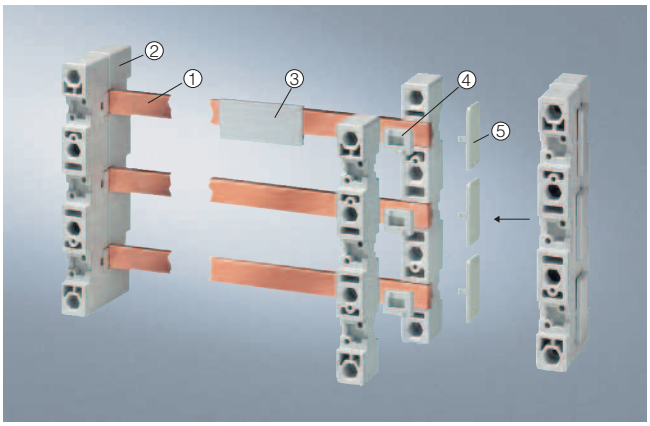
The 40 mm busbar system is used in machinery and plant engineering, in motor control centers and in power distribution systems of the low performance range up to 400 A.

The busbar cross-sections are adapted to the rated currents and are available in the sizes 12 x 5 mm, 12 x 10 mm, 15 x 5 mm and 15 x 10 mm. The basic system is configured without covers. If touch protection is required, this is possible with busbar covers.

An optimized spectrum of busbar adapters and device holders offers numerous adaptation and mounting options. Terminals round off the product range of the 40 mm busbar system.

Base assemblies

Overview



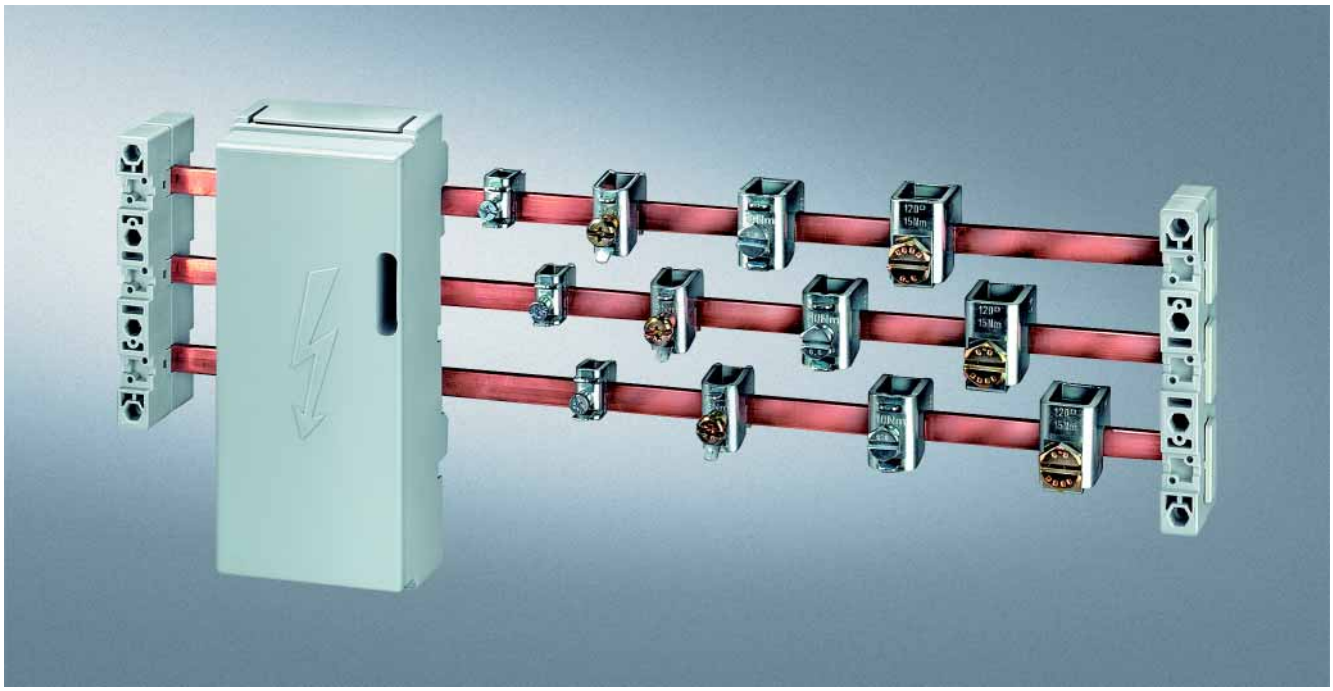
① Flat copper profile
② Busbar support
③ Cover profile
④ Inlay part
⑤ Covering cap

Selection and ordering data

	Description		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
	②④⑤ Busbar supports								
	End and intermediate holders for flat copper profiles								
 8US19 03-3AB00	12 mm x 5 mm,12 mm x 10 mm, 15 mm x 5 mm,15 mm x 10 mm 3-pole, with inside fixing (PU = 2 busbar supports including inlay parts for bar thickness 5 mm and lateral finger-safe covering caps)		A	**8US19 03-3AB00**		1	1 unit	103	0.184
 8US19 03-5AA00	5-pole 12 mm x 5 mm and 12 mm x 10 mm with inside fixing	L1–L3 + N + PE/N	A	**8US19 03-5AA00**		1	1 unit	103	0.137
	① Busbar coppers (flat profile, approx. 2 m long, bare, according to EN 12167)								
	12 mm × 5 mm		B	**8WC5 023**		1	1 unit	103	1.100
	15 mm × 5 mm		B	**8WC5 021**		1	1 unit	103	1.550
	③ Cover profiles for busbars								
 Cover profile	12 mm × 5 mm	1000 mm long	A	**8US19 22-2CA00**		1	10 units	103	0.200
	15 mm × 5 mm	1000 mm long	A	**8US19 22-2AA00**		1	10 units	103	0.156

* You can order this quantity or a multiple thereof.

Overview



Selection and ordering data

	Description	Conductor cross-section	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		mm^2							kg
	Terminals for circular conductors[1)2)]								
	5 mm bar thickness								
 Terminals	12 mm × 5 mm, 15 mm × 5 mm	1.5 ... 16	▶	**8US19 21-2AA00**		100	100 units	103	0.100
		4 ... 35	▶	**8US19 21-2AB00**		1	50 units	103	0.046
		16 ... 70	▶	**8US19 21-2AD00**		1	50 units	103	0.072
		16 ... 120	▶	**8US19 21-2AC00**		1	50 units	103	0.107
		1.5 ... 16	▶	**8US19 21-2AA01**		1	15 units	103	0.020
		4 ... 35	▶	**8US19 21-2AB01**		1	15 units	103	0.020
		16 ... 70	▶	**8US19 21-2AD01**		1	15 units	103	0.020
		16 ... 120	▶	**8US19 21-2AC01**		1	15 units	103	0.020
	10 mm bar thickness								
	12 mm × 10 mm, 15 mm × 10 mm	1.5 ... 16	▶	**8US19 21-2BA00**		1	100 units	103	0.020
		4 ... 35	▶	**8US19 21-2BB00**		1	50 units	103	0.040
		16 ... 70	▶	**8US19 21-2BD00**		1	50 units	103	0.070
		16 ... 120	▶	**8US19 21-2BC00**		1	50 units	103	0.100
		1.5 ... 16	▶	**8US19 21-2BA01**		1	15 units	103	0.020
		4 ... 35	▶	**8US19 21-2BB01**		1	15 units	103	0.040
		16 ... 70	▶	**8US19 21-2BD01**		1	15 units	103	0.070
		16 ... 120	▶	**8US19 21-2BC01**		1	15 units	103	0.100
	Covering caps for terminals for circular conductors (attachment to busbars)								
	for terminals up to 120 mm^2		▶	**8US19 22-1GA00**		1	10 units	103	0.126
	200 mm long, 84 mm wide								

1) When using the 8US19 03-3AB00 busbar support in combination with the 8US19 21-2.D0. or 8US19 21-2.C0. terminals, U_i is reduced to 690 V.

2) When using the 8US19 03-5AA00 busbar support with a 12 mm x 10 mm busbar, U_i is reduced to

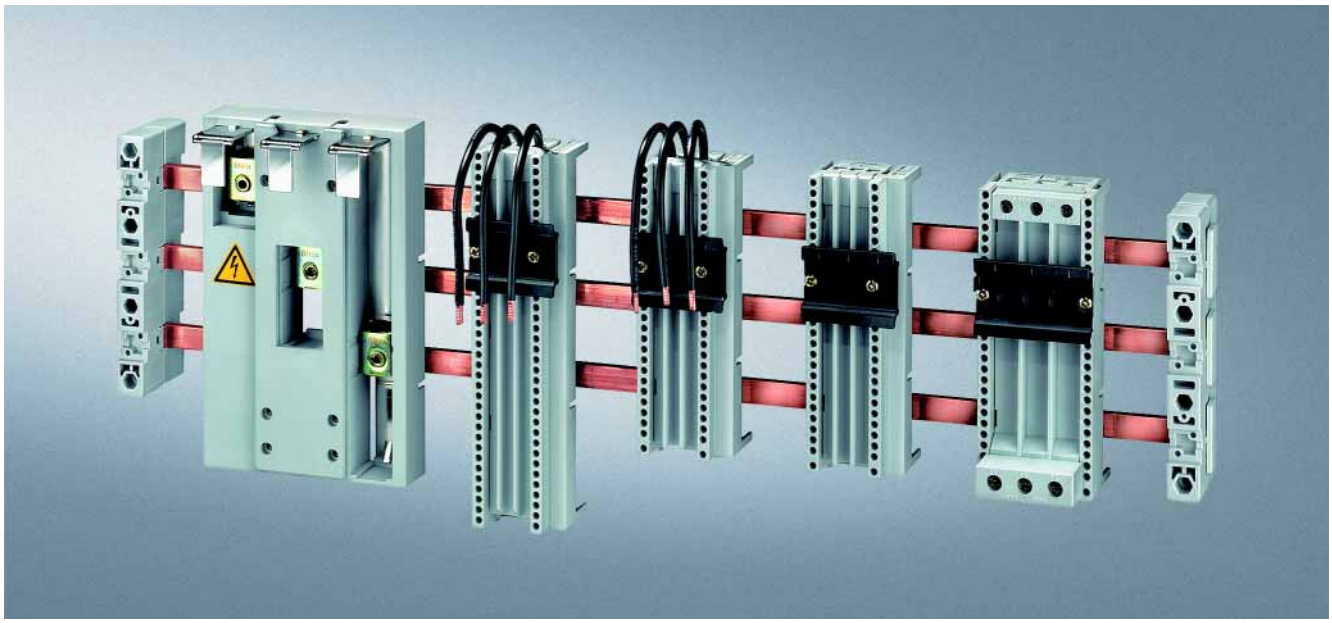
a) 690 V when using the 8US19 21-2.A0. or 8US19 21-2.B0. terminals

b) 480 V when using the 8US19 21-2.C0. or 8US19 21-2.D0. terminals.

*** You can order this quantity or a multiple thereof.**

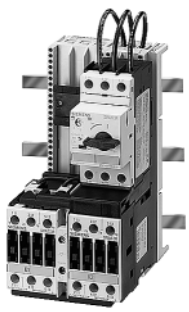
Busbar adapters and device holders

Overview



Selection and ordering data

For copper busbars according to DIN 46433, width: 12 mm and 15 mm, circumference: 5 mm and 10 mm

	Busbar device adapters	Number of mounting rails (35 mm)	Rated current	Connection lead	Adapter length	Adapter width	Rated voltage	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			A	AWG	mm	mm	V							kg
	For SIRIUS													
	Size S00/S0													
	Circuit breaker	1	25	12	121	45	690	▶	**8US10 51-5DJ07**		1	1 unit	103	0.106
	Circuit breakers + lateral auxiliary switch	1	25	12	121	55	690	▶	**8US10 61-5DJ07**		1	1 unit	103	0.119
	Contactors + overload relay	1	25	12	139	45	690	▶	**8US10 51-5DK07**		1	1 unit	103	0.164
	Direct start load feeders	1	25	12	182	45	690	▶	**8US10 51-5DM07**		1	1 unit	103	0.184
	Reversing feeder adapter	1	25	12	182	45	690	▶	**8US10 51-5DM07**		1	1 unit	103	0.184
	+ Device holders	1	--	--	182	45	--	▶	+ **8US10 50-5AM00**		1	1 unit	103	0.182
	+ Link wedges (2 units needed for attachment)	--	--	--	--	--	--	▶	+ **8US19 98-1AA00**		100	100 units	103	0.100
Direct start load feeder	**Size S00 - Cage Clamp**													
	Direct start load feeders	1	12.5	14	182	45	690	▶	**8US10 51-5CM47**		1	1 unit	103	0.193
	Size S2													
	Circuit breaker	1	56	8	139	55	690	▶	**8US10 61-5FK08**		1	1 unit	103	0.231
	Circuit breakers + lateral auxiliary switch	1	56	8	139	55	690	▶	**8US10 61-5FK08**		1	1 unit	103	0.231
	Contactors + overload relay	1	56	8	182	55	690	▶	**8US10 61-5FM08**		1	1 unit	103	0.278
	Direct start load feeders	1	56	8	242	55	690	▶	**8US10 61-5FP08**		1	1 unit	103	0.308
	Reversing feeder adapter	1	56	8	242	55	690	▶	**8US10 61-5FP08**		1	1 unit	103	0.308
	+ Device holders[1)]	--	--	--	242	54	--	▶	+ **8US10 60-5AP00**		1	1 unit	103	0.244
Reversing feeders	+ Link wedges (2 units needed for attachment)	--	--	--	--	--	--	▶	+ **8US19 98-1AA00**		100	100 units	103	0.100

*** You can order this quantity or a multiple thereof.**

	Busbar device adapters	Number of mounting rails (35 mm)	Rated current	Connection lead	Adapter length	Adapter width	Rated voltage	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			A	AWG	mm	mm	V							kg
	Size S3													
	Circuit breaker	--	100	Bars	182	70	up to 460[2]	▶	**8US11 11-4SM00**		1	1 unit	103	0.541
	Circuit breaker	1	100	4	182	72	up to 690[3]	▶	**8US10 11-4TM00**		1	1 unit	103	0.478
 8US10 11-4SL01	**For 3VF circuit breakers**													
	3VF3		205	Bars	175	108	690	A	**8US10 11-4SB00**		1	1 unit	103	0.500
	For 3VL circuit breakers[4]													
	3VL1	--	160	Bars	175	108	690	A	**8US10 11-4SL01**		1	1 unit	103	0.585
	3VL2	--	160	Bars	175	108	690	A	**8US10 11-4SL01**		1	1 unit	103	0.585
 8US10 50-5RM07	**With terminals (at top) for any arrangement of components**													
	1.5 mm^2 ... 4 mm^2	1	25	--	139	45	690	A	**8US10 50-5RK07**		1	1 unit	103	0.149
	1.5 mm^2 ... 4 mm^2	1	25	--	182	45	690	A	**8US10 50-5RM07**		1	1 unit	103	0.177
 8US10 60-5AK00	16 mm^2 (top) and 35 mm^2 (bottom)[5]	1	80	--	139	54	690	A	**8US10 60-5AK00**		1	1 unit	103	0.295
 8US10 60-5AM00	**Device holders for lateral attachment to busbar device adapters of the same length**													
	Device holder	1	--	--	139	45	--	A	**8US10 50-5AK00**		1	1 unit	103	0.149
	Device holder	1	--	--	139	55	--	A	**8US10 60-5AK08**		1	1 unit	103	0.162
	Device holder	1	--	--	182	45	--	▶	**8US10 50-5AM00**		1	1 unit	103	0.182
	Device holder	1	--	--	182	55	--	▶	**8US10 60-5AM00**		1	1 unit	103	0.197
	Device holder	--	--	--	242	54	--	▶	**8US10 60-5AP00**		1	1 unit	103	0.244
	Link wedges (2 units needed for attachment)	--	--	--	--	--	--	▶	**8US19 98-1AA00**		100	100 units	103	0.100
	Side modules for extending busbar device adapters and device holders of the same length													
	Side modules	--	--	--	139	13.5	--	A	**8US19 98-2BK00**		1	4 units	103	0.023
	Side modules	--	--	--	182	13.5	--	A	**8US19 98-2BM00**		1	4 units	103	0.036

1) Spacer and fixing screw for reversing contactor are included in the delivery.

2) ≤ 400 V max. 50 kA, 400 V ... 460 V max. 25 kA.

3) Up to 525 V max. 30 kA, 525 V ... 690 V max. 12 kA.

4) Observe the short-circuit strength of the busbar system. Short-circuit strength > 50 kA on request.

5) Can be used simultaneously as incoming unit and outgoing unit.

*** You can order this quantity or a multiple thereof.**

Busbar adapters and device holders

3NP4 fuse switch disconnectors for snapping onto 40 mm busbar systems[1)]

Rated uninterrupted current I_u	Connection types (on both sides)		For fuse links according to DIN 43620 [2)]	For isolating links[3)]	DT	Degree of protection IP00, without fuse links, without isolating links, with terminal screws		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Connection	For conductor cross-section				Order No.	Price per PU				
A		mm^2	Size	Size							kg
With adapter, deep, e.g. for mounting in ALPHA meter cubicles (ALPHA 400-ZS) and ALPHA distribution boards (STAB/SIKUS)											
160[4)]	Box terminal	1.5 ... 50									
		Connection, top	000[5)]	00	A	**3NP40 15-0CK01**		1	1 unit	103	0.952
		Connection, bottom			A	**3NP40 15-0CJ01**		1	1 unit	103	0.970
160	Flat connector	Up to 2 × 70 (M8)									
		Connection, top	00 and 000	00	A	**3NP40 75-0CE01**		1	1 unit	103	1.210
		Connection, bottom			A	**3NP40 75-0CF01**		1	1 unit	103	1.244
	Box terminal	2.5 ... 70 or 2 × 2.5 ... 16									
		Connection, top	00 and 000	00	A	**3NP40 75-0CK01**		1	1 unit	103	1.290
		Connection, bottom			A	**3NP40 75-0CJ01**		1	1 unit	103	1.274
With adapter, flat, according to DIN 43620 Part 6, for general applications and ALPHA distribution boards (STAB/SIKUS)											
160[4)]	Box terminal	1.5 ... 50									
		Connection, top	000[5)]	00	A	**3NP40 15-1CK01**		1	1 unit	103	0.892
		Connection, bottom			B	**3NP40 15-1CJ01**		1	1 unit	103	0.888
160	Flat connector	Up to 2 × 70 (M8)									
		Connection, top	00 and 000	00 and 000	A	**3NP40 75-1CE01**		1	1 unit	103	1.186
		Connection, bottom			A	**3NP40 75-1CF01**		1	1 unit	103	1.189
	Box terminal	2.5 ... 70 or 2 × 2.5 ... 16									
		Connection, top	00 and 000	00 and 000	A	**3NP40 75-1CK01**		1	1 unit	103	1.261
		Connection, bottom			A	**3NP40 75-1CJ01**		1	1 unit	103	1.213
250	Flat connector	Up to 240 (M10)									
		Connection from bottom or top	1 and 0	1 and 0	A	**3NP42 75-1CG01**		1	1 unit	103	3.719

For all fuse switch disconnectors with flat connector connection, the appropriate cable lug covers (3NY7 101 to 3NY7 141) must be used for finger-safe cover according to BGV A2, see Accessories.

1) For mounting on only 5 mm thick busbars, a busbar thickness compensator is required for 3NP42 and 3NP43; see Accessories.

2) Fuse links see Catalog ET B1 "BETA low-voltage circuit protection".

3) Insert silver-plated isolating links.

4) 125/160 A only possible with 21-mm wide 3NY1 822 (125 A) and 3NY1 824 (160 A) fuse links, see Accessories.

5) Corresponds to size 00 with a maximum width of 21 mm (according to IEC 60269-2-1 and DIN 43620).

*** You can order this quantity or a multiple thereof.**

3NP4 fuse switch disconnectors with fuse monitoring by SIRIUS circuit breakers[1)2)] for snapping onto 40 mm busbar systems[3)]

Rated uninterrupted current I_u	Connection types (on both sides)		For fuse links according to DIN 43620 [4)]	For isolating links[5)]	DT	Degree of protection IP00, without fuse links, without isolating links, with terminal screws		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Connection	for conductor cross-section				Order No.	Price per PU				
A		mm^2	Size	Size							kg
With adapter, deep, e.g. for mounting in ALPHA meter cubicles (ALPHA 400-ZS) and ALPHA distribution boards (STAB/SIKUS)											
160	Flat connector	up to 2 × 70 (M8)									
		Connection, top	00 and 000	00	B	**3NP40 75-0FE01**		1	1 unit	103	1.812
		Connection, bottom			B	**3NP40 75-0FF01**		1	1 unit	103	1.780
	Box terminal	2.5 ... 70 or 2 × 2.5 ... 16									
		Connection, top	00 and 000	00	B	**3NP40 75-0FK01**		1	1 unit	103	1.820
		Connection, bottom			B	**3NP40 75-0FJ01**		1	1 unit	103	1.831
With adapter, flat, according to DIN 43620 Part 6, for general applications and ALPHA distribution boards (STAB/SIKUS)											
160	Flat connector	Up to 2 × 70 (M8)									
		Connection, top	00 and 000	00 and 000	B	**3NP40 75-1FE01**		1	1 unit	103	1.616
		Connection, bottom			B	**3NP40 75-1FF01**		1	1 unit	103	1.620
	Box terminal	2.5 ... 70 or 2 × 2.5 ... 16									
		Connection, top	00 and 000	00 and 000	B	**3NP40 75-1FK01**		1	1 unit	103	1.717
		Connection, bottom			B	**3NP40 75-1FJ01**		1	1 unit	103	1.630
250	Flat connector	Up to 240 (M10)									
		Connection from top or bottom	1 and 0	1 and 0	A	**3NP42 75-1FG01**		1	1 unit	103	4.210

3NP40 75-1FF01

For all fuse switch disconnectors with flat connector connection, the appropriate cable lug covers (3NY7 101 to 3NY7 141) must be used for finger-safe cover according to BGV A2, see Accessories.

1) SIRIUS circuit breakers, as standard with auxiliary switches 1 NO + 1 NC.

2) For 3NP40 7 with output socket for auxiliary switches, the signal cable must be ordered separately; see Accessories. For 3NP41 to 3NP44, the auxiliary switch must be connected with a 2.8 mm × 0.5 mm flat connector to DIN 46244-A.

3) For mounting on only 5 mm thick busbars, a busbar thickness compensator is required for 3NP42 and 3NP43; see Accessories.

4) Fuse links see Catalog ET B1 "BETA low-voltage circuit protection".

5) Insert silver-plated isolating links.

*** You can order this quantity or a multiple thereof.**

Accessories

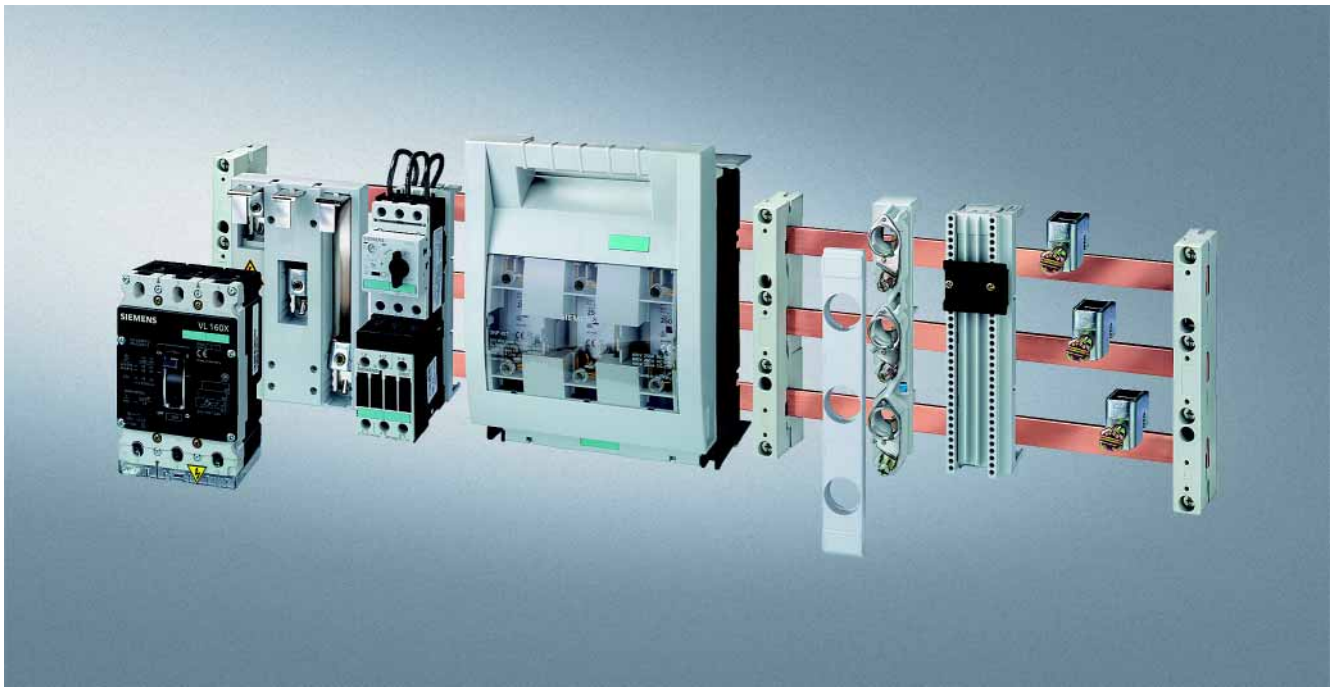
Selection and ordering data

	Description	Busbar length	Busbar width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		mm	mm							kg
	Busbar connection pieces for bars									
	12 mm x 5 mm, 12 mm x 10 mm, 15 mm x 5 mm, 15 mm x 10 mm, 20 mm x 5 mm, 20 mm x 10 mm	55		A	**8US19 21-2BF00**		1	12 units	103	0.070
  Mounting rails	**Mounting rails (35 mm) – plastic**									
	Complete with fixing screws		45	A	**8US19 98-7CA15**		1	10 units	103	0.009
			55	A	**8US19 98-7CA16**		1	10 units	103	0.100
			72	A	**8US19 98-4AA00**		1	10 units	103	0.143
			90	A	**8US19 98-7CA08**		1	10 units	103	0.187
			110	A	**8US19 98-7CA10**		1	10 units	103	0.219
	Connection holders (for vertical busbar assembly)									
	fixes the circuit breaker to the mounting rail[1] (for SIRIUS size S00/S0)			A	**8US19 98-1DA00**		100	20 units	103	0.100
	Screw holders									
	for supplementary screw fixing of the feeder (for SIRIUS size S00/S0)			B	**8US19 98-1CA00**		100	20 units	103	0.100
	Spacers									
	fixes the feeder to the busbar adapter (for SIRIUS size S00/S0)			►	**8US19 98-1BA00**		100	100 units	103	0.100
	Link wedges									
	for mechanical linking of adapters and device holders (2 units per combination)			►	**8US19 98-1AA00**		100	100 units	103	0.100
	Outgoing terminal rails for busbar adapters									
 8US19 98-8AA10	Complete with supporting element for attachment to busbar adapter and device holder									
	3 × 2.5 mm^2 (400 V) and 4 × 1.5 mm^2 (250 V)	91	45	A	**8US19 98-8AM07**		1	1 unit	103	0.061
	7 × 2.5 mm^2 (400 V)	91	54	C	**8US19 98-8AA10**		1	1 unit	103	0.072

[1] For 45 mm and 55 mm mounting rail.

* You can order this quantity or a multiple thereof.

Overview



The 60 mm busbar system is used preferably in control cabinet installation, in motor control centers and in power distribution systems of the medium power range (630 A) and top performance range (1600 A, special profile).

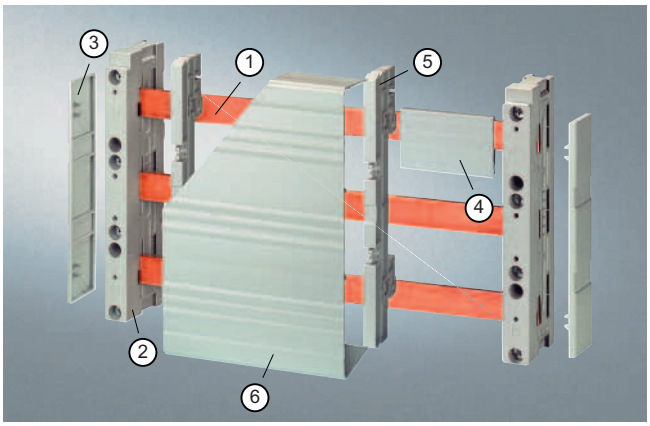
The 60 mm busbar system can be used as a basic system without covers, as a partly compartmented system or as a fully compartmented system with bottom shell. The busbar cross-sections are available in the sizes 12 x 5 mm to 30 x 10 mm and as a special profile.

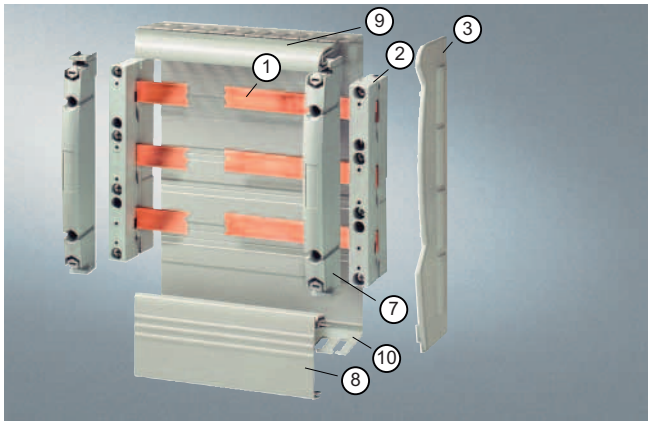
Busbar device adapters for SIRIUS, 3VL circuit breakers, 3KA and 3KL switch disconnectors, 3NP5 fuse switch disconnectors and 3NP4 directly mountable fuse switch disconnectors offer numerous options for configuring this busbar system. Incoming feeders, terminals and other accessories open up a large range of application.

Busbars with a special profile are suitable for applications up to 1600 A. All components of the 60 mm busbar system can be fitted.

Base assemblies up to 630 A

Overview





① Flat copper profile
② Busbar support
③ End cover
④ Cover profile
⑤ Reserve section holders
⑥ Reserve section cover
⑦ Holder for edge profile and partition profile
⑧ Edge profile for bottom trough 290 mm
⑨ Edge profile for bottom trough 230 mm
⑩ Bottom trough for 4-pole system

Selection and ordering data

	Description		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
 8US19 23-5AA00	**② Busbar supports**								
	End and intermediate holders for flat copper profiles 12 mm x 5 mm, 12 mm x 10 mm, 15 mm x 5 mm, 15 mm x 10 mm, 20 mm x 5 mm, 20 mm x 10 mm, 25 mm x 5 mm, 25 mm x 10 mm, 30 mm x 5 mm, 30 mm x 10 mm								
	2-pole, with outside fixing		A	**8US19 23-5AA00**		1	10 units	103	0.200
 8US19 23-3AA01	3-pole, with outside fixing	L1–L3	A	**8US19 23-2AA01**		1	10 units	103	0.200
	3-pole, with inside fixing	L1–L3	A	**8US19 23-3AA01**		1	10 units	103	0.200
	4-pole, with inside fixing	L1–L3 + PE/N	A	**8US19 23-4AA00**		1	10 units	103	0.269
 5SH3 506	**N-/PE busbar supports for flat copper profiles 12 mm x 5 mm, 12 mm x 10 mm, 15 mm x 5 mm, 15 mm x 10 mm, 20 mm x 5 mm, 20 mm x 10 mm, 25 mm x 5 mm, 25 mm x 10 mm, 30 mm x 5 mm, 30 mm x 10 mm**								
	Attachment to 8US19 23-2AA01 or independent installation		A	**5SH3 506**		1	4 units	016	0.060
 8US19 22-1AC00 5SH3 534	**③ End covers** for covering unterminated busbar ends								
	for 8US19 23-2AA01 or 8US19 23-3AA01	L1–L3	A	**8US19 22-1AC00**		1	10 units	103	0.020
	4-pole, for 8US19 23-4AA00 (1 pack = 2 units, (1x right, 1x left))	L1–L3 + PE/N	A	**8US19 22-1AB00**		1	1 unit	103	0.055
	for 5SH3 532 holder								
	Height 230 mm (3-pole)		A	**5SH3 533**		1	4 units	016	0.038
	Height 290 mm (4-pole or 3-pole + cable duct), (1 pack = 2 units, (1x right, 1x left))		A	**5SH3 534**		1	4 units	016	0.048

* You can order this quantity or a multiple thereof.

	Description	Length mm	Width mm	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
	④ Cover profiles for busbars									
 8US19 22-2CA00	12 mm × 5 mm	1000		A	**8US19 22-2CA00**		1	10 units	103	0.200
 8US19 22-2AA00	15 mm × 5 mm, 20 mm × 5 mm, 25 mm × 5 mm, 30 mm × 5 mm	1000		A	**8US19 22-2AA00**		1	10 units	103	0.156
	12 mm x 10 mm, 15 mm x 10 mm, 20 mm × 10 mm, 25 mm x 10 mm, 30 mm × 10 mm	1000		A	**8US19 22-2BA00**		1	10 units	103	0.105
	⑦ Holders for edge profile									
	for 5SH3 528 and 5SH3 530			A	**5SH3 532**		1	2 units	016	0.106
	Edge profiles[1)]									
 5SH3 528	⑨ for bottom trough 230 mm 17 mm × 36 mm	1100		A	**5SH3 528**		1	2 units	016	0.311
 5SH3 530	⑧ for bottom trough 290 mm 77 mm × 36 mm	1100		A	**5SH3 530**		1	2 units	016	0.583
 5SH3 536	**⑤ Reserve section holders** Mounting on busbar (2 units per spare field)	1000	190	A	**5SH3 536**		1	4 units	016	0.040
 5SH3 537	**⑥ Reserve section covers** Mounting on 5SH3 536 support for reserve section holders	1000	202	A	**5SH3 537**		1	2 units	016	0.075

1) When configuring a 3-pole busbar system with the bottom trough 230 mm, only ⑨ 5SH3 528 is required.
When configuring a 4-pole busbar system (or a 3-pole with cable duct) with the 290 mm bottom trough, ⑨ 5SH3 528 and ⑧ 5SH3 530 are required.

*** You can order this quantity or a multiple thereof.**

Base assemblies up to 630 A

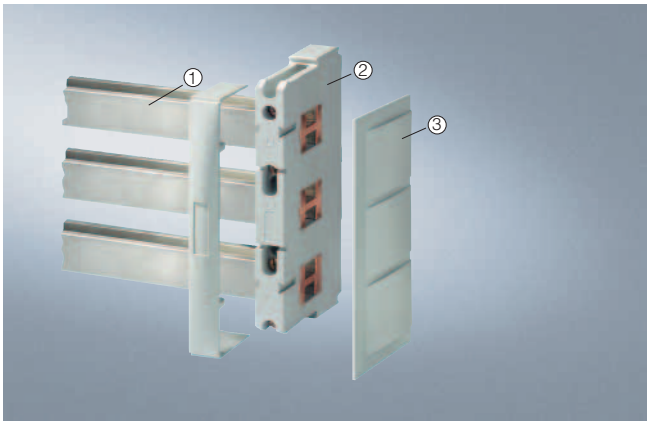
5SH3 527

5SH3 531

Description	Length mm	Width mm	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
⑩ **Bottom troughs**									
3-pole system	1100	230	A	**5SH3 526**		1	2 units	016	1.100
4-pole system (or 3-pole system with cable duct)	1100	290	A	**5SH3 527**		1	2 units	016	1.300
Partition profiles (for additional touch protection on systems without bottom trough)									
Slotted 17 mm × 86 mm	1100		A	**5SH3 531**		1	2 units	016	0.365
Closed 17 mm × 86 mm	1100		A	**8US19 22-1HA00**		1	2 units	103	0.070
① **Flat copper profile (flat profile, approx. 2 m long, bare, according to EN 12167)**									
12 mm × 5 mm			B	**8WC5 023**		1	1 unit	103	1.100
15 mm × 5 mm			B	**8WC5 021**		1	1 unit	103	1.550
20 mm × 5 mm			B	**8WC5 026**		1	1 unit	103	1.780
25 mm × 5 mm			B	**8WC5 031**		1	1 unit	103	2.240
30 mm × 5 mm			B	**8WC5 033**		1	1 unit	103	2.680
20 mm × 10 mm			B	**8WC5 028**		1	1 unit	103	3.200
30 mm × 10 mm			B	**8WC5 034**		1	1 unit	103	5.360
① **Flat copper profile (flat profile, approx. 2 m long, tinned, according to EN 12167)**									
12 mm × 5 mm			B	**8WC5 051**		1	1 unit	103	1.100
15 mm × 5 mm			B	**8WC5 052**		1	1 unit	103	1.550
20 mm × 5 mm			B	**8WC5 053**		1	1 unit	103	1.780
25 mm × 5 mm			B	**8WC5 054**		1	1 unit	103	2.240
30 mm × 5 mm			B	**8WC5 055**		1	1 unit	103	2.680
20 mm × 10 mm			B	**8WC5 063**		1	1 unit	103	3.200
30 mm × 10 mm			B	**8WC5 065**		1	1 unit	103	5.360

*** You can order this quantity or a multiple thereof.**

Overview



① Flat copper profile
② Busbar support
③ End cover

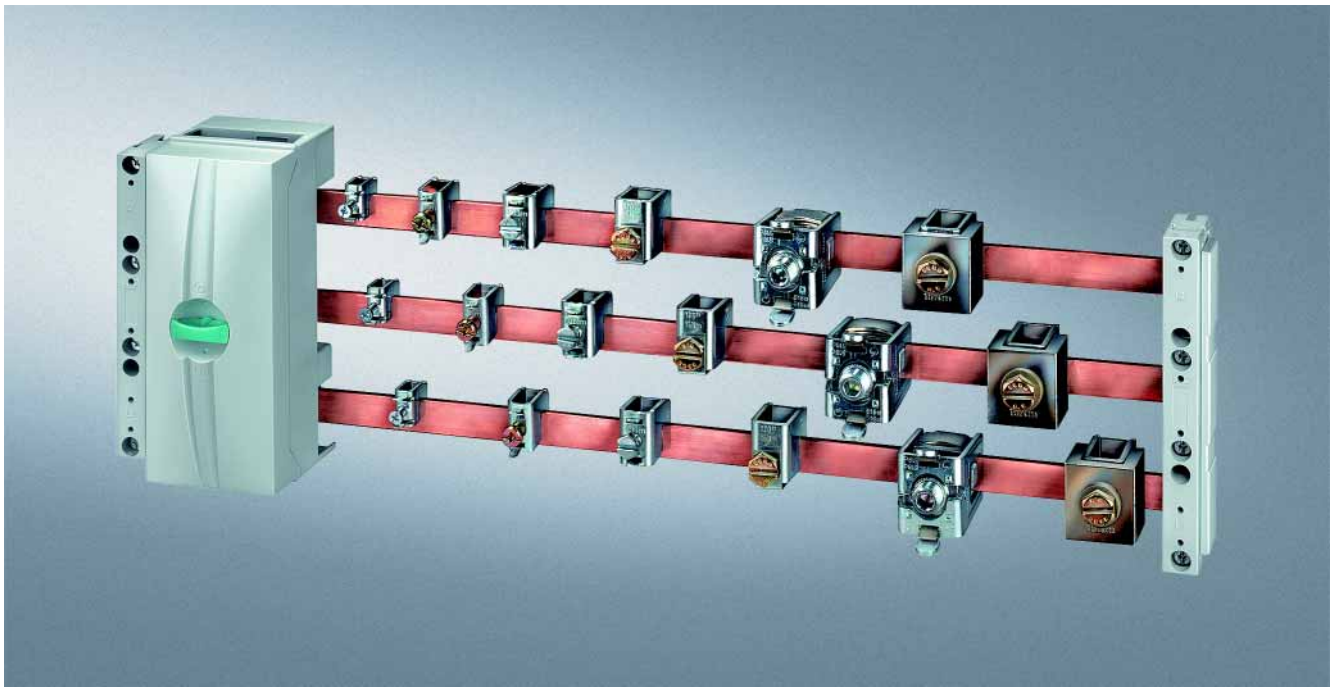
Selection and ordering data

	Description		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
	Busbar supports								
	3-pole, end and intermediate holder with finger-safe busbar cover (1 pack = 2 busbar supports + finger-safe end covers)	L1–L3	A	**8US19 43-3AA00**		1	1 set	103	1.310
 8US19 48-2AA00	**Flat copper profile (approx. 2.4 m long, tinned)**								
	special profile up to 1600 A	720 mm^2	A	**8US19 48-2AA00**		1	1 unit	103	15.360
	Cover profiles								
	for busbar copper	1000 mm long	A	**8US19 22-2DA00**		1	5 units	103	0.200

*** You can order this quantity or a multiple thereof.**

Supply and connection technologies

Overview



Selection and ordering data

	Description	Conductor cross-section mm²	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
	Infeeds								
	Terminal plate with cover								
	3-pole, 200 mm long, 54 mm wide	6 ... 50	D	**8US19 21-1BA00**		1	1 unit	103	0.397
8US19 21-1AA00	3-pole, 200 mm long, 81 mm wide	35 ... 120	A	**8US19 21-1AA00**		1	1 unit	103	0.607
	Outgoing modules for PE/N								
	Connection module for 4-pole (PE/N) up to 16 mm must be attached to an adapter/device holder, 242 mm long, 18 mm wide		A	**8US12 00-0AA00**		1	1 unit	103	0.142
	SR60 connecting terminal plates								
	3-pole (shown without cover)	150 ... 300	A	**5SH3 535**		1	1 unit	016	1.657
5SH3 535									
	Terminals for circular conductors 5 mm bar thickness[1)]								
	12 mm × 5 mm,	1.5 ... 16	▶	**8US19 21-2AA00**		100	100 units	103	0.100
	15 mm × 5 mm,	4 ... 35	▶	**8US19 21-2AB00**		1	50 units	103	0.046
	20 mm × 5 mm,	16 ... 70	▶	**8US19 21-2AD00**		1	50 units	103	0.072
	25 mm × 5 mm,	16 ... 120	▶	**8US19 21-2AC00**		1	50 units	103	0.107
	30 mm × 5 mm	1.5 ... 16	▶	**8US19 21-2AA01**		1	15 units	103	0.020
		4 ... 35	▶	**8US19 21-2AB01**		1	15 units	103	0.020
		16 ... 70	▶	**8US19 21-2AD01**		1	15 units	103	0.020
		16 ... 120	▶	**8US19 21-2AC01**		1	15 units	103	0.020
Terminals	20 mm × 5 mm,	95 ... 185	▶	**8US19 41-2AA01**		1	6 units	103	0.315
	25 mm × 5 mm,	150 ... 300	▶	**8US19 41-2AA02**		1	3 units	103	0.425
	30 mm × 5 mm								

1) Cannot be used on a special profile up to 1600 A.

* You can order this quantity or a multiple thereof.

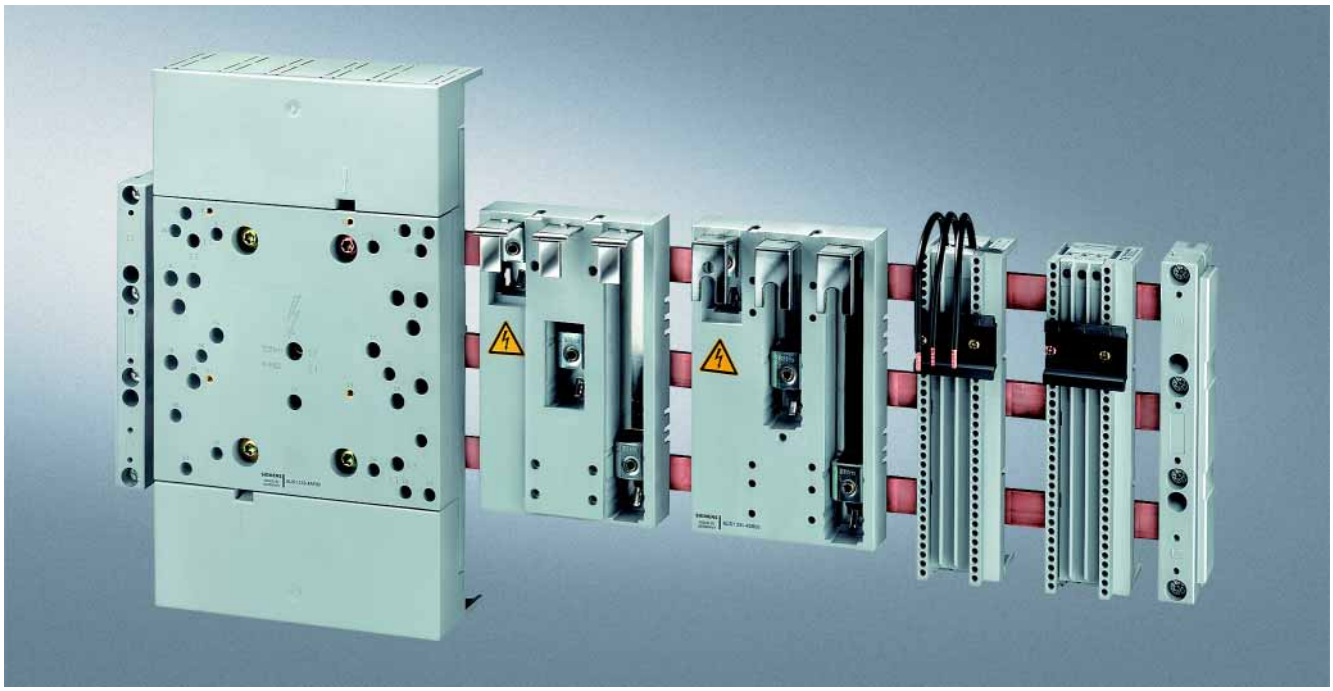
	Description		Conductor cross-section mm²	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
	10 mm busbar thickness									
 Terminals	12 mm × 10 mm,		1.5 ... 16	▶	**8US19 21-2BA00**		1	100 units	103	0.020
	15 mm × 10 mm,		4 ... 35	▶	**8US19 21-2BB00**		1	50 units	103	0.040
	20 mm × 10 mm,		16 ... 70	▶	**8US19 21-2BD00**		1	50 units	103	0.070
	25 mm × 10 mm,		16 ... 120	▶	**8US19 21-2BC00**		1	50 units	103	0.100
	30 mm × 10 mm		1.5 ... 16	▶	**8US19 21-2BA01**		1	15 units	103	0.020
			4 ... 35	▶	**8US19 21-2BB01**		1	15 units	103	0.040
			16 ... 70	▶	**8US19 21-2BD01**		1	15 units	103	0.070
			16 ... 120	▶	**8US19 21-2BC01**		1	15 units	103	0.100
	20 mm × 10 mm,		95 ... 185	▶	**8US19 41-2AA01**		1	6 units	103	0.315
	25 mm × 10 mm,		150 ... 300	▶	**8US19 41-2AA02**		1	3 units	103	0.425
	30 mm × 10 mm									
	Covering caps for terminals for circular conductors (attachment to busbar)									
 8US19 22-1GA00	for terminals up to 120 mm²	200 mm long, 84 mm wide		▶	**8US19 22-1GA00**		1	10 units	103	0.126
	for terminals up to 300 mm² [1]	200 mm long, 270 mm wide		▶	**8US19 22-1GA02**		1	1 unit	103	0.696
	Terminals									
	for cable lugs up to 240 mm², 10 mm bar thickness	(bolts threaded M10)		A	**8US19 41-2AC00**		1	6 units	103	0.368
	for copper bars or laminated conductors 20 mm × 5 mm, 20 mm × 10 mm, 25 mm × 5 mm, 25 mm × 10 mm, 30 mm × 5 mm, 30 mm × 10 mm			A	**8US19 41-2BB00**		1	6 units	103	0.307
	for 2 × 40 mm × 10 mm			A	**8US19 41-2BA00**		1	3 units	103	0.824

[1] Only for 20 mm × 5 mm, 20 mm × 10 mm, 25 mm × 5 mm, 25 mm × 10 mm, 30 mm × 5 mm and 30 mm × 10 mm.

*** You can order this quantity or a multiple thereof.**

Busbar adapters and device holders

Overview



Selection and ordering data

For flat copper profiles according to DIN 46433, width: 12 mm to 30 mm, circumference: 5 mm and 10 mm, and special profiles up to 1600 A

	Busbar device adapters	Number of mounting rails (35 mm)	Rated current	Connection cable	Adapter length	Adapter width	Rated voltage	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			A	AWG	mm	mm	V							kg
	For SIRIUS													
	Size S00/S0													
	Circuit breaker	1	25	12	182	45	690	▶	**8US12 51-5DM07**		1	1 unit	103	0.183
	Contactor + overload relay	1	25	12	182	45	690	▶	**8US12 51-5DM07**		1	1 unit	103	0.183
	Direct start load feeders	1	25	12	182	45	690	▶	**8US12 51-5DM07**		1	1 unit	103	0.183
	Reversing feeder adapter + Device holders + Link wedges (2 units needed for attachment)	1 1 --	25 -- --	12 -- --	182 182 --	45 45 --	690 -- --	▶ ▶ ▶	**8US12 51-5DM07** + **8US12 50-5AM00** + **8US19 98-1AA00**		1 1 100	1 unit 1 unit 100 units	103 103 103	0.183 0.158 0.100
 Direct start load feeder	**Size S00 - Cage Clamp**													
	Direct start load feeders	1	12.5	14	182	45	690	▶	**8US12 51-5CM47**		1	1 unit	103	0.190
	Size S2													
	Circuit breaker	1	56	8	182	55	690	▶	**8US12 61-5FM08**		1	1 unit	103	0.263
	Contactors + overload relay	1	56	8	182	55	690	▶	**8US12 61-5FM08**		1	1 unit	103	0.263
	Direct start load feeders	1	56	8	242	55	690	▶	**8US12 61-5FP08**		1	1 unit	103	0.292

*** You can order this quantity or a multiple thereof.**

	Busbar device adapters	Number of mounting rails (35 mm)	Rated current	Connection cable	Adapter length	Adapter width	Rated voltage	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			A	AWG	mm	mm	V							kg
 Reversing feeders	Reversing feeder adapter	1	56	8	242	55	690	▶	**8US12 61-5FP08**		1	1 unit	103	0.292
	+ Device holders[1]	--	--	--	242	54	--	▶	+ **8US12 60-5AP00**		1	1 unit	103	0.243
	+ Link wedges (2 units needed for attachment)	--	--	--	--	--	--	▶	+ **8US19 98-1AA00**		100	100 units	103	0.100
	Size S3													
	Circuit breaker	--	100	Bars	182	70	up to 460[3]	▶	**8US11 11-4SM00**		1	1 unit	103	0.541
	Circuit breakers[2]	1	100	4	182	72	up to 690[4]	A	**8US12 11-4TM00**		1	1 unit	103	0.498
	For 3VF circuit breakers													
 8US12 11-4SB00 with 3VF3	3VF3		200	Bars	175	108	690	A	**8US12 11-4SB00**		1	1 unit	103	0.580
	3VF4[5]	Mounting plate	200	Terminals 70 mm²	254	108	690	A	**8US12 10-4AA04**		1	1 unit	103	1.147
	3VF4[6], 3VF5[6]	Mounting plate	630	M10 stud terminal	320	185	690	A	**8US12 10-4AF00**		1	1 unit	103	2.769
								A	+ **8US19 27-4AF00**		1	1 unit	103	0.501
	For 3VL circuit breakers[7]													
 8US12 11-4SL01	3VL1	--	160	Bars	175	108	690	A	**8US12 11-4SL01**		1	1 unit	103	0.597
	3VL2	--	160	Bars	175	108	690	A	**8US12 11-4SL01**		1	1 unit	103	0.597
	3VL3	--	250	Bars	175	108	690	A	**8US12 11-4SL00**		1	1 unit	103	0.662
	3VL1 to 3VL4 and also with RCD module	--	400	M10 stud terminal	320	184	690	A	**8US12 10-4AF00**		1	1 unit	103	2.769
								A	+ **8US19 27-4AF01**		1	1 unit	103	0.575
	For switch disconnectors													
	3KA52[6], 3KA53[6], 3KL52[6], 3KL53[6]	--	630	M10 stud terminal	320	184	690	A	**8US12 10-4AF00**		1	1 unit	103	2.769
	3KA55[6], 3KA57[6], 3KA58[6], 3KL55[6], 3KL57[6]	--	630	M10 stud terminal	320	250	690	A	**8US12 10-4AG00**		1	1 unit	103	3.060

1) Spacer and fixing screw for reversing contactor are included in the delivery.

2) According to UL508 rated current 80 A.

3) ≤ 400 V max. 50 kA, 400 V ... 460 V max. 25 kA.

4) Up to 525 V max. 30 kA, 525 V ... 690 V max. 12 kA.

5) Without connecting cables. The connecting cable between adapter and device should be manufactured in accordance with the rated current as a round cable, e.g. H07V-R, bared at both ends for tunnel terminals

6) Without connecting cables. The connecting cable between adapter and device should be manufactured in accordance with the rated current as a round cable, e.g. H07V-R with cable lug, or as a ribbon cable for a M10 stud terminal.

7) Observe the short-circuit strength of the busbar system. Short-circuit strength > 50 kA on request.

*** You can order this quantity or a multiple thereof.**

Busbar adapters and device holders

	Busbar device adapters	Number of mounting rails (35 mm)	Rated current	Connection cable	Adapter length	Adapter width	Rated voltage	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
			A	AWG	mm	mm	V							kg
	For 3NP5 fuse switch disconnectors													
	3NP50 60 (NH00)	--	160	Bars	175	108	690	A	**8US12 91-4SB00**		1	1 unit	103	0.551
	3NP52[1], 3NP53[1], 3NP54[2]	--	630	M10 stud terminal	320	250	690	A	**8US12 10-4AG00**		1	1 unit	103	3.060
 8US12 50-5RM07	**Busbar device adapters with terminals (at top) for any arrangement of components**													
	1.5 mm^2 ... 4 mm^2	1	25	--	182	45	690	A	**8US12 50-5RM07**		1	1 unit	103	0.174
 8US19 98-1AA00	**Device holders for lateral attachment to busbar device adapters of the same length**													
	Device holders	1	--	--	182	45	--	▶	**8US12 50-5AM00**		1	1 unit	103	0.158
	Device holders	1	--	--	182	55	--	▶	**8US12 60-5AM00**		1	1 unit	103	0.202
	Device holders	--	--	--	242	54	--	▶	**8US12 60-5AP00**		1	1 unit	103	0.243
	Link wedges (2 units needed for attachment)	--	--	--	--	--	--	▶	**8US19 98-1AA00**		100	100 units	103	0.100
	Side modules for extending busbar device adapters and device holders of the same length													
	Side module	--	--	--	182	13.5	--	A	**8US19 98-2BM00**		1	4 units	103	0.036

[1] Without connecting cables. The connecting cable between adapter and device should be manufactured in accordance with the rated current as a round cable, e.g. H07V-R with cable lug, or as a ribbon cable for a M10 stud terminal.

[2] Without connecting cables. The connecting cable between adapter and device should be manufactured in accordance with the rated current as a round cable, e.g. H07V-R, bared at both ends for tunnel terminals

* You can order this quantity or a multiple thereof.

For 3NP4 fuse switch disconnectors for snapping onto 60 mm busbar systems[1)]

	Rated uninterrupted current I_u	Connection types (on both sides)		For fuse links according to DIN 43620 [2)]	For isolating links[3)]	DT	Degree of protection IP00, without fuse links, without isolating links, with terminal screws		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		Connection	for conductor cross-section	Size	Size		Order No.	Price per PU				
	A		mm²									kg
 3NP40 16	160[4)]	Box terminal[5)]	1.5 ... 50									
			Connection, top	000[6)]	00	A	**3NP40 16-1CK01**		1	1 unit	103	0.916
			Connection, bottom			▶	**3NP40 16-1CJ01**		1	1 unit	103	0.950
	160	Flat connector	up to 2 × 70 (M8)									
			Connection, top	00 and 000	00	A	**3NP40 76-1CE01**		1	1 unit	103	1.203
			Connection, bottom			▶	**3NP40 76-1CF01**		1	1 unit	103	1.201
		Box terminal[5)]	2.5 ... 70 or 2 × 2.5 ... 16									
			Connection, top	00 and 000	00	B	**3NP40 76-1CK01**		1	1 unit	103	1.295
			Connection, bottom			▶	**3NP40 76-1CJ01**		1	1 unit	103	1.249
 3NP42 76	250	Flat connector	up to 150 (M10)									
			Connection bottom or top	1 and 0	1 and 0	▶	**3NP42 76-1CG01**		1	1 unit	103	3.713
	400	Flat connector	up to 240 (M10)									
			Connection bottom or top	2 and 1	2 and 1	▶	**3NP43 76-1CG01**		1	1 unit	103	5.440
	630	Flat connector	up to 2 × 240 (M12)									
			Connection bottom or top	3 and 2	3 and 2	▶	**3NP44 76-1CG01**		1	1 unit	103	7.688

For all fuse switch disconnectors with flat connector connection, the appropriate cable lug covers (3NY7 101 to 3NY7 141) must be used for finger-safe cover according to BVG A2, see Accessories.

1) For mounting on only 5 mm thick busbars, a bar thickness compensator is required for 3NP42 and 3NP43; see Accessories. 3NP44 can only be fitted on 10 mm thick busbars.

2) For fuse links, see "BETA low-voltage circuit protection" – "Low-Voltage Fuse Systems".

3) Insert silver-plated isolating links.

4) 125/160 A only possible with 21-mm wide 3NY1 822 (125 A) and 3NY1 824 (160 A) fuse links, see Accessories.

5) No further cover required for 3NP40 with box terminal.

6) Corresponds to size 00 with a maximum width of 21 mm (according to IEC 60269-2-1 and DIN 43620).

*** You can order this quantity or a multiple thereof.**

Busbar adapters and device holders

3NP4 fuse switch disconnectors with fuse monitoring by SIRIUS circuit breakers[1)2)] for snapping onto 60 mm busbar systems[3)]

Rated uninterrupted current I_u	Connection types (on both sides)		For fuse links according to DIN 43620 [4)]	For isolating links[5)]	DT	Degree of protection IP00, without fuse links, without isolating links, with terminal screws		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Connection	for conductor cross-section	Size	Size		Order No.	Price per PU				
A		mm^2									kg
160	Flat connector	up to 2 × 70 (M8)									
		Connection, top	00 and 000	00	B	**3NP40 76-1FE01**		1	1 unit	103	1.670
		Connection, bottom			A	**3NP40 76-1FF01**		1	1 unit	103	1.890
	Box terminal	2.5 ... 70 or 2 × 2.5 ... 16									
		Connection, top	00 and 000	00	B	**3NP40 76-1FK01**		1	1 unit	103	1.755
		Connection, bottom			B	**3NP40 76-1FJ01**		1	1 unit	103	1.915
250	Flat connector	up to 150 (M10)									
		Connection bottom or top	1 and 0	1 and 0	A	**3NP42 76-1FG01**		1	1 unit	103	4.171
400	Flat connector	up to 240 (M10)									
		Connection bottom or top	2 and 1	2 and 1	A	**3NP43 76-1FG01**		1	1 unit	103	5.845
630	Flat connector	up to 2 × 240 (M12)									
		Connection bottom or top	3 and 2	3 and 2	A	**3NP44 76-1FG01**		1	1 unit	103	8.235

For all fuse switch disconnectors with flat connector connection, the appropriate cable lug covers (3NY7 101 to 3NY7 141) must be used for finger-safe cover according to BVG A2, see Accessories.

1) SIRIUS circuit breaker, as standard with auxiliary switch 1 NO +1 NC. On request, 3NP40 7 also with auxiliary switch 2 NO or 2 NC.

2) For 3NP40 7 with output socket for auxiliary switches, the signal cable must be ordered separately; see Accessories. For 3NP41 to 3NP44, the auxiliary switch must be connected with a 2.8 mm × 0.5 mm flat connector to DIN 46244-A.

3) For mounting on only 5 mm thick busbars, a bar thickness compensator is required for 3NP42 and 3NP43; see Accessories. 3NP44 can only be fitted on 10 mm thick busbars.

4) Fuse links see Catalog ET B1 "BETA low-voltage circuit protection".

5) Insert silver-plated isolating links.

*** You can order this quantity or a multiple thereof.**

Selection and ordering data

- According to DIN VDE 0636
- With open captive ± screws
- For attachment to industry-standard, unprocessed copper busbars with 12 mm to 30 mm bar width.

For copper busbars according to DIN 46433, width: 12 mm to 30 mm, circumference: 5 mm and 10 mm, and special profiles up to 1600 A

	Size	Rated current	Rated voltage	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		A	V							kg
	Mounting components									
	NEOZED SR60 bus-mounting bases									
 5SG6 202	for 5 mm bar thickness, for NEOZED gauge pieces, 3-pole D02	63	400	A	**5SG6 202**		1	4 units	016	0.141
	Over-width with free space for wiring D02	63	400	A	**5SG6 204**		1	4 units	016	0.154
 5SG6 203	10 mm bar thickness NEOZED gauge pieces 3-pole D02	63	400	A	**5SG6 203**		1	4 units	016	0.138
	Over-width with free space for wiring D02	63	400	A	**5SG6 205**		1	4 units	016	0.149
	DIAZED SR60 bus-mounting bases									
 DIAZED bus-mounting bases for gauge rings	for bar thickness 5 mm, for use of DIAZED SR60 gauge rings, 3-pole DII	25	500	A	**5SF6 014**		1	2 units	016	0.230
	DIII	63	690	A	**5SF6 214**		1	2 units	016	0.318
 DIAZED bus-mounting bases for gauge screws	for use of DIAZED gauge screws 3-pole DII	25	500	A	**5SF6 015**		1	2 units	016	0.222
	DIII	63	690	A	**5SF6 215**		1	2 units	016	0.310
	for bar thickness 10 mm for use of DIAZED SR60 gauge rings 3-pole DII	25	500	A	**5SF6 016**		1	2 units	016	0.233
	DIII	63	690	A	**5SF6 216**		1	2 units	016	0.316
	for use of DIAZED gauge screws 3-pole DII	25	500	A	**5SF6 017**		1	2 units	016	0.220
	DIII	63	690	A	**5SF6 217**		1	2 units	016	0.328
	Mounting components									
 NEOZED SR60 covers	**NEOZED SR60 covers** D02		27	A	**5SH5 241**		1	4 units	016	0.026
	Over-width with free space for wiring D02		36	A	**5SH5 242**		1	4 units	016	0.031
	with double width for more free space for wiring D02		54	A	**5SH5 243**		1	4 units	016	0.040
 DIAZED SR60 covers	**DIAZED SR60 covers** DII		42	A	**5SH2 042**		1	2 units	016	0.050
	DIII		57	A	**5SH2 242**		1	2 units	016	0.061
	with double width for more free space for wiring DII		84	A	**5SH2 043**		1	2 units	016	0.084
	DIII		114	A	**5SH2 243**		1	2 units	016	0.106

*** You can order this quantity or a multiple thereof.**

Selection and ordering data

For copper busbars according to DIN 46433, width: 12 mm to 30 mm, circumference: 5 mm and 10 mm, and special profiles up to 1600 A

	Description	Length	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
		mm	mm							kg
	Extension and connection terminals									
	Busbar connection pieces for bars									
	20 mm × 5 mm, 20 mm × 10 mm, 25 mm × 5 mm, 25 mm × 10 mm, 30 mm × 5 mm, 30 mm × 10 mm	40		A	**8US19 21-2BE00**		1	6 units	103	0.070
	12 mm × 5 mm, 12 mm × 10 mm, 15 mm × 5 mm, 15 mm × 10 mm, 20 mm × 5 mm, 20 mm × 10 mm	55		A	**8US19 21-2BF00**		1	12 units	103	0.070
	Special profiles (1 terminal per connection position)	70		A	**8US19 41-2BF00**		1	3 units	103	1.134
	Mounting rails (35 mm) – plastic									
	Complete with fixing screws		45	A	**8US19 98-7CA15**		1	10 units	103	0.009
			55	A	**8US19 98-7CA16**		1	10 units	103	0.100
			72	A	**8US19 98-4AA00**		1	10 units	103	0.143
			90	A	**8US19 98-7CA08**		1	10 units	103	0.187
Mounting rails			110	A	**8US19 98-7CA10**		1	10 units	103	0.219
	Connection holders (for vertical busbar assembly)									
	for fixing the circuit breaker to the mounting rail[1] (for SIRIUS size S00/S0)			A	**8US19 98-1DA00**		100	20 units	103	0.100
	Screw holders									
	for supplementary screw fixing of the feeder (for SIRIUS size S00/S0)			B	**8US19 98-1CA00**		100	20 units	103	0.100
	Spacers									
	fixes the feeder to the busbar adapter (for SIRIUS size S00/S0)			►	**8US19 98-1BA00**		100	100 units	103	0.100
	Link wedges									
	for mechanical linking of busbar adapter and device holder (2 units per combination)			►	**8US19 98-1AA00**		100	100 units	103	0.100
	Outgoing terminal rails for busbar adapters									
	complete with supporting element for attachment to busbar adapter and device holder									
	3 × 2.5 mm^2 (400 V) and 4 × 1.5 mm^2 (250 V)	91	45	A	**8US19 98-8AM07**		1	1 unit	103	0.061
Load-side terminal strips	7 × 2.5 mm^2 (400 V)	91	54	C	**8US19 98-8AA10**		1	1 unit	103	0.072

1) For 45 mm and 55 mm mounting rail.

* You can order this quantity or a multiple thereof.

Overview

5 standard sizes of operating mechanisms are available:

Size	Rated torque[1)] Nm	Shaft profile mm x mm	Masking plate mm x mm
1	4	6 x 6	75 x 75
2	7.5	8 x 8	75 x 75
3	16	10 x 10 or 12 x 12	100 x 100
4	30	12 x 12	100 x 100
5	55	12 x 12	100 x 100

1) Operating mechanisms tested with triple torque (VDE 0660 Part 107). They are therefore qualified for use in all controls, especially for disconnectors.

Application

8UC6 door-coupling rotary operating mechanisms can be used in electrical controls, distribution and switchboards in cases where switches have to be mounted behind covers, end plates and doors that must be opened and where they are to be operated manually from outside.

Operating conditions and ambient conditions

The temperature range for operation of the rotary operating mechanisms is between -25 °C and +60 °C.

Thanks to the use of glass fiber-reinforced molded plastic for handles and masking plates as well as metal components with surface protection, the rotary operating mechanisms are suitable for rough conditions, high air humidity and aggressive atmospheres.

Degree of protection

Degree of protection when installed is IP65.

Protective measures

All rotary operating mechanisms are fully insulated.

Standards

8UC6 door-coupling rotary operating mechanisms are in line with the following standards:

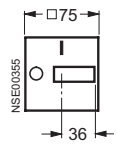
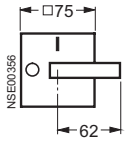
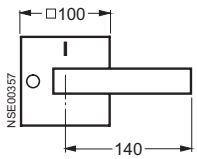
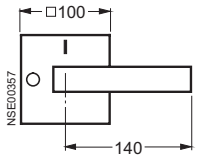
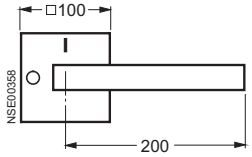
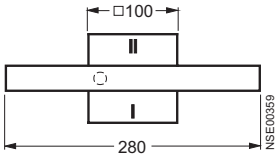
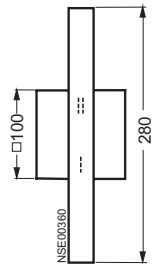
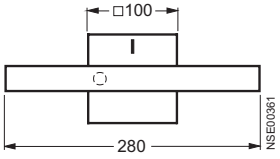
Standards	
IEC 60204-1, EN 60204-1, VDE 0113	Electrical equipment of machines
IEC 60439-1, EN 60439-1, VDE 0660 Part 500	Low-voltage controlgear combinations
IEC 60947-3	Low-voltage switchgear and controlgear
VDE 0660 Part 107	Low-voltage switchgear

For 3K switch disconnectors

Selection and ordering data

Door-coupling rotary operating mechanisms, complete
(black handle, light-gray masking plate with black inscription)
can be padlocked, with door interlocking

Supplied with seal and fixing screws

Switching device	Rated current	Cross-section of the actuating shaft	Torque	Rotary operating mechanism	Illustrated: Handle, masking plate
Type	A	mm	Nm	Size	
Switch disconnectors with or without fuses					
3KL50, 3KM50	63	6 x 6	3	1	
3KA50	63	6 x 6	3		
3KA51	80	6 x 6	3		
3KL52, 3KM52	125	8 x 8	7.5	2	
3KL53, 3KM53	160	8 x 8	7.5		
3KA52	125	8 x 8	7.5		
3KA53	160	8 x 8	7.5		
3KL55, 3KM55	250	10 x 10	16	3	
3KL57, 3KM57	400	10 x 10	16		
3KA55	250	10 x 10	16		
3KA57, 3KA58	400	10 x 10	16		
3KE42	250	12 x 12	15	3	
3KE43	400	12 x 12	15		
3KL61[1]	630	12 x 12	30	4	
3KE44	630	12 x 12	24		
3KE45	1000	12 x 12	24		
Switch disconnectors as changeover switches with break-before-make feature					
3KE42 (2 units)	250	12 x 12	20	5	
3KE43 (2 units)	400	12 x 12	20		
3KE44 (2 units)	630	12 x 12	30		
3KE45 (2 units)	1000	12 x 12	30		
Switch disconnectors as changeover switches without break-before-make feature[2]					
3KE42 (2 units)	250	12 x 12	40	5	
3KE43 (2 units)	400	12 x 12	40		
3KE44 (2 units)	630	12 x 12	55		
3KE45 (2 units)	1000	12 x 12	55		
Switch disconnectors with operating linkage (for parallel connection)					
3KE42 (2 units)	250	12 x 12	40	5	
3KE43 (2 units)	400	12 x 12	40		
3KE44 (2 units)	630	12 x 12	55		
3KE45 (2 units)	1000	12 x 12	55		

1) Additionally required for 3KL61: 1 shaft coupling, Order No. 8UC92 53 (see Individual Parts).

2) The door interlocking plate must be removed.

3) With shortened 8UC60 16/8UC60 17 coupling driver and reduced tolerance compensation (see Dimensional Drawings).

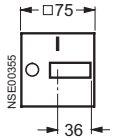
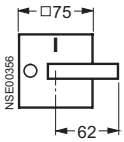
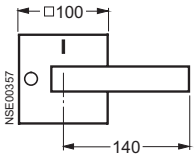
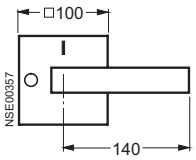
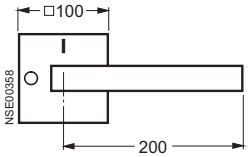
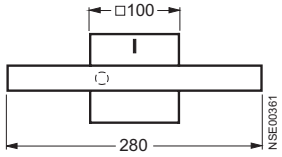
DT	Rotary operating mechanisms, complete Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg	Individual parts of the 8UC6 rotary operating mechanism	Order No.
►	**8UC61 11-1BB10**		1	1 unit	103	0.347	Handle with masking plate Coupling driver[3] for shaft □ 6 mm Extension shaft □ 6 mm, 300 mm long	8UC61 10-1BB 8UC60 16 8UC60 31
B	**8UC61 61-1BB10**		1	1 unit	103	0.300	Handle with masking plate Coupling driver for shaft □ 6 mm Extension shaft □ 6 mm, 300 mm long	8UC61 10-1BB 8UC60 11 8UC60 31
►	**8UC62 12-1BB20**		1	1 unit	103	0.404	Handle with masking plate Coupling driver[3] for shaft □ 8 mm Extension shaft □ 8 mm, 300 mm long	8UC62 10-1BB 8UC60 17 8UC60 32
B	**8UC62 62-1BB20**		1	1 unit	103	0.370	Handle with masking plate Coupling driver for shaft □ 8 mm Extension shaft □ 8 mm, 300 mm long	8UC62 10-1BB 8UC60 12 8UC60 32
►	**8UC63 13-1BB30**		1	1 unit	103	0.973	Handle with masking plate Coupling driver for shaft □ 10 mm Extension shaft □ 10 mm, 300 mm long	8UC63 10-1BB 8UC60 13 8UC60 33
B	**8UC63 14-1BB44**		1	1 unit	103	1.153	Handle with masking plate Coupling driver for shaft □ 12 mm Extension shaft □ 12 mm, 300 mm long Shaft coupling □ 12 mm to □ 12 mm	8UC63 10-1BB 8UC60 14 8UC60 34 8UC60 24
►	**8UC64 14-1BB44**		1	1 unit	103	1.171	Handle with masking plate Coupling driver for shaft □ 12 mm Extension shaft □ 12 mm, 300 mm long Shaft coupling □ 12 mm to □ 12 mm	8UC64 10-1BB 8UC60 14 8UC60 34 8UC60 24
B	**8UC65 14-1BF44**		1	1 unit	103	1.183	Handle with masking plate Coupling driver for shaft □ 12 mm Extension shaft □ 12 mm, 300 mm long Shaft coupling □ 12 mm to □ 12 mm	8UC65 10-1BF 8UC60 14 8UC60 34 8UC60 24
B	**8UC65 14-1FG44**		1	1 unit	103	1.137	Handle with masking plate Coupling driver for shaft □ 12 mm Extension shaft □ 12 mm, 300 mm long Shaft coupling □ 12 mm to □ 12 mm	8UC65 10-1FG 8UC60 14 8UC60 34 8UC60 24
B	**8UC65 14-1BB44**		1	1 unit	103	1.265	Handle with masking plate Coupling driver for shaft □ 12 mm Extension shaft □ 12 mm, 300 mm long Shaft coupling □ 12 mm to □ 12 mm	8UC65 10-1BB 8UC60 14 8UC60 34 8UC60 24

*** You can order this quantity or a multiple thereof.**

For 3K switch disconnectors

EMERGENCY-STOP door-coupling rotary operating mechanisms, complete
(red handle, yellow indicator plate with black inscription)
can be padlocked, with door interlocking

Supplied with seal and fixing screws

	Switching device	Rated current	Cross-section of actuating shaft	Torque	Rotary operating mechanisms	Illustrated: Handle, masking plate
	Type	A	mm	Nm	Size	
	Switch disconnectors with or without fuses					
	3KL50, 3KM50 3KA50 3KA51	63 63 80	6 x 6 6 x 6 6 x 6	3 3 3	1	
	3KL52, 3KM52 3KL53, 3KM53 3KA52 3KA53	125 160 125 160	8 x 8 8 x 8 8 x 8 8 x 8	7.5 7.5 7.5 7.5	2	
	3KL55, 3KM55 3KL57, 3KM57 3KA55 3KA57, 3KA58	250 400 250 400	10 x 10 10 x 10 10 x 10 10 x 10	16 16 16 16	3	
	3KE42 3KE43	250 400	12 x 12 12 x 12	15 15	3	
	3KL61[1)] 3KE44 3KE45	630 630 1000	12 x 12 12 x 12 12 x 12	30 24 24	4	
	Switch disconnectors with operating linkage (for parallel connection)					
	3KE42 (2 units) 3KE43 (2 units) 3KE44 (2 units) 3KE45 (2 units)	250 400 630 1000	12 x 12 12 x 12 12 x 12 12 x 12	40 40 55 55	5	

[1)] Additionally required for 3KL61: 1 shaft coupling, Order No. 8UC92 53 (see Individual Parts).

DT	Rotary operating mechanisms, complete		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	Individual parts of the 8UC6 rotary operating mechanism	Order No.
	Order No.	Price per PU				kg		
►	**8UC61 21-3BB10**		1	1 unit	103	0.353	Handle with masking plate	8UC61 20-3BB
							Coupling driver for shaft □ 6 mm	8UC60 11
							Extension shaft □ 6 mm, 300 mm long	8UC60 31
►	**8UC62 22-3BB20**		1	1 unit	103	0.426	Handle with masking plate	8UC62 20-3BB
							Coupling driver for shaft □ 8 mm	8UC60 12
							Extension shaft □ 8 mm, 300 mm long	8UC60 32
►	**8UC63 23-3BB30**		1	1 unit	103	0.999	Handle with masking plate	8UC63 20-3BB
							Coupling driver for shaft □ 10 mm	8UC60 13
							Extension shaft □ 10 mm, 300 mm long	8UC60 33
►	**8UC63 24-3BB44**		1	1 unit	103	1.173	Handle with masking plate	8UC63 20-3BB
							Coupling driver for shaft □ 12 mm	8UC60 14
							Extension shaft □ 12 mm, 300 mm long	8UC60 34
							Shaft coupling □ 12 mm to □ 12 mm	8UC60 24
►	**8UC64 24-3BB44**		1	1 unit	103	1.189	Handle with masking plate	8UC64 20-3BB
							Coupling driver for shaft □ 12 mm	8UC60 14
							Extension shaft □ 12 mm, 300 mm long	8UC60 34
							Shaft coupling □ 12 mm to □ 12 mm	8UC60 24
B	**8UC65 24-3BB44**		1	1 unit	103	1.221	Handle with masking plate	8UC65 20-3BB
							Coupling driver for shaft □ 12 mm	8UC60 14
							Extension shaft □ 12 mm, 300 mm long	8UC60 34
							Shaft coupling □ 12 mm to □ 12 mm	8UC60 24

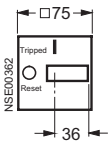
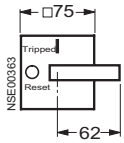
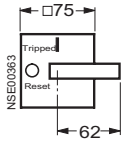
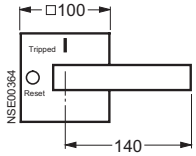
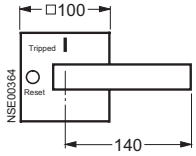
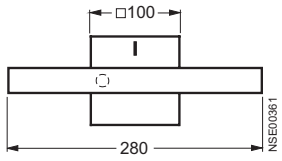
*** You can order this quantity or a multiple thereof.**

For 3VF and 3VL circuit breakers

Selection and ordering data

Door-coupling rotary operating mechanisms, complete
(black handle, light-gray masking plate with black inscription)
can be padlocked, with door interlocking

Supplied with seal and fixing screws

Switching devices[1]	Rated current	Cross-section of the actuating shaft	Torque	Rotary operating mechanism	Illustrated: Handle, masking plate
Type	A	mm	Nm	Size	
3VF and 3VL circuit breakers[2]					
3VF2	16 ... 100	8 × 8	2	1	
3VF3	16 ... 225	8 × 8	2	2	
3VF4	125 ... 250	8 × 8	6		
3VF5	200 ... 400	8 × 8	6		
3VL1	16 ... 160	8 × 8	[3]	2	
3VL2	50 ... 160	8 × 8			
3VL3	200 ... 250	8 × 8			
3VF6	315 ... 800	12 × 12	16	3	
3VL4	200 ... 400	12 × 12	[3]	3	
3VL5	315 ... 600	12 × 12			
3VL6	320 ... 800	12 × 12			
3VL7	400 ... 1250	12 × 12			
3VL8	640 ... 1600	12 × 12			
3VF7	800 ... 1250	12 × 12	25	5	
3VF8	1600 ... 2500	12 × 12	50		

1) For 3RV motor starter protectors, see Motor Starter Protectors.

2) 3VF and 3VL circuit breakers require in addition a front-operated rotary operating mechanism with shaft butt for direct mounting to the switch. For details of ordering the complete operating mechanism, see "Molded-Case Circuit Breakers (MCCB)".

3) On request.

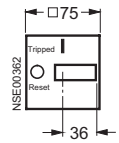
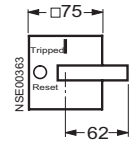
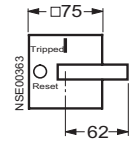
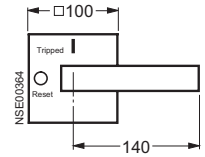
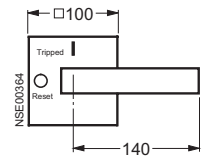
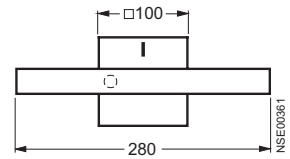
	DT	Rotary operating mechanisms, complete		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	Individual parts of the 8UC6 rotary operating mechanism	Order No.
		Order No.	Price per PU				kg		
2)	B	**8UC61 12-1BD22**		1	1 unit	103	0.417	Handle with masking plate	8UC61 10-1BD2)
								Coupling driver for shaft □ 8 mm	8UC60 12
								Extension shaft □ 8 mm, 300 mm long	8UC60 32
								Shaft coupling □ 8 mm to □ 8 mm	8UC60 22
2)	B	**8UC62 12-1BD22**		1	1 unit	103	0.440	Handle with masking plate	8UC62 10-1BD2)
								Coupling driver for shaft □ 8 mm	8UC60 12
								Extension shaft □ 8 mm, 300 mm long	8UC60 32
								Shaft coupling □ 8 mm to □ 8 mm	8UC60 22
2)	A	**8UC62 62-6BD22**		1	1 unit	103	0.406	Handle with masking plate	8UC62 10-6BD2)
								Coupling driver for shaft □ 8 mm	8UC60 17-2AA
								Extension shaft □ 8 mm, 300 mm long	8UC60 32
								Shaft coupling □ 8 mm to □ 8 mm	8UC60 22
2)	B	**8UC63 14-1BD44**		1	1 unit	103	1.155	Handle with masking plate	8UC63 10-1BD2)
								Coupling driver for shaft □ 12 mm	8UC60 14
								Extension shaft □ 12 mm, 300 mm long	8UC60 34
								Shaft coupling □ 12 mm to □ 12 mm	8UC60 24
2)	B	**8UC63 14-6BD44**		1	1 unit	103	1.153	Handle with masking plate	8UC63 10-6BD2)
								Coupling driver for shaft □ 12 mm	8UC60 14
								Extension shaft □ 12 mm, 300 mm long	8UC60 34
								Shaft coupling □ 12 mm to □ 12 mm	8UC60 24
2)	B	**8UC65 14-1BB44**		1	1 unit	103	1.265	Handle with masking plate	8UC65 10-1BB2)
								Coupling driver for shaft □ 12 mm	8UC60 14
								Extension shaft □ 12 mm, 300 mm long	8UC60 34
								Shaft coupling □ 12 mm to □ 12 mm	8UC60 24

*** You can order this quantity or a multiple thereof.**

For 3VF and 3VL circuit breakers

EMERGENCY-STOP door-coupling rotary mechanisms, complete
(red handle, yellow indicator plate with black inscription)
can be padlocked, with door interlocking

Supplied with seal and fixing screws

Switching devices[1]	Rated current	Cross-section of actuating shaft	Torque	Rotary operating mechanisms	Illustrated: Handle, masking plate
Type	A	mm	Nm	Size	
3VF and 3VL circuit breakers[2]					
3VF2	16 ... 100	8 × 8	2	1	
3VF3	16 ... 225	8 × 8	2	2	
3VF4	125 ... 250	8 × 8	6		
3VF5	200 ... 400	8 × 8	6		
3VL1	16 ... 160	8 × 8	[3]	2	
3VL2	50 ... 160	8 × 8			
3VL3	200 ... 250	8 × 8			
3VF6	315 ... 800	12 × 12	16	3	
3VL4	200 ... 400	12 × 12	[3]	3	
3VL5	315 ... 600	12 × 12			
3VL6	320 ... 800	12 × 12			
3VL7	400 ... 1250	12 × 12			
3VL8	640 ... 1600	12 × 12			
3VF7	800 ... 1250	12 × 12	25	5	
3VF8	1600 ... 2500	12 × 12	50		

1) For 3RV motor starter protectors, see Motor Starter Protectors.

2) 3VF and 3VL circuit breakers require in addition a front-operated rotary operating mechanism with shaft butt for direct mounting to the switch. For details of ordering the complete operating mechanism, see "Molded-Case Circuit Breakers (MCCB)".

3) On request.

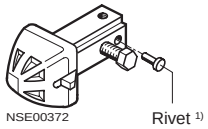
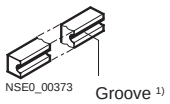
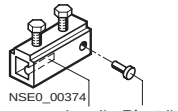
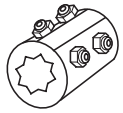
	DT	Rotary operating mechanisms, complete		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	Individual parts of the 8UC6 rotary operating mechanism	Order No.
		Order No.	Price per PU				kg		
2)	B	**8UC61 22-3BD22**		1	1 unit	103	0.402	Handle with masking plate	8UC61 20-3BD2)
								Coupling driver for shaft □ 8 mm	8UC60 12
								Extension shaft □ 8 mm, 300 mm long	8UC60 32
								Shaft coupling □ 8 mm to □ 8 mm	8UC60 22
2)	B	**8UC62 22-3BD22**		1	1 unit	103	0.445	Handle with masking plate	8UC62 20-3BD2)
								Coupling driver for shaft □ 8 mm	8UC60 12
								Extension shaft □ 8 mm, 300 mm long	8UC60 32
								Shaft coupling □ 8 mm to □ 8 mm	8UC60 22
2)	B	**8UC62 72-8BD22**		1	1 unit	103	0.413	Handle with masking plate	8UC62 20-8BD2)
								Coupling driver for shaft □ 8 mm	8UC60 17-2AA
								Extension shaft □ 8 mm, 300 mm long	8UC60 32
								Shaft coupling □ 8 mm to □ 8 mm	8UC60 22
2)	C	**8UC63 24-3BD44**		1	1 unit	103	1.172	Handle with masking plate	8UC63 20-3BD2)
								Coupling driver for shaft □ 12 mm	8UC60 14
								Extension shaft □ 12 mm, 300 mm long	8UC60 34
								Shaft coupling □ 12 mm to □ 12 mm	8UC60 24
2)	B	**8UC63 24-8BD44**		1	1 unit	103	1.160	Handle with masking plate	8UC63 20-8BD2)
								Coupling driver for shaft □ 12 mm	8UC60 14
								Extension shaft □ 12 mm, 300 mm long	8UC60 34
								Shaft coupling □ 12 mm to □ 12 mm	8UC60 24
2)	B	**8UC65 24-3BB44**		1	1 unit	103	1.221	Handle with masking plate	8UC65 20-3BB2)
								Coupling driver for shaft □ 12 mm	8UC60 14
								Extension shaft □ 12 mm, 300 mm long	8UC60 34
								Shaft coupling □ 12 mm to □ 12 mm	8UC60 24

*** You can order this quantity or a multiple thereof.**

Individual parts

Selection and ordering data

	For operating mechanism Type	Cross-section of the actuating shaft mm × mm	A: Indicator lgr Handle bl B: Indicator ye Handle rd mm	DT	Individual parts for 8UC6 door-coupling rotary operating mechanisms Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
	Handles with masking plate (including flat gasket and fixing screws)									
 8UC61 10-1BB	8UC61	6 × 6	A	B	**8UC61 10-1BB**		1	1 unit	103	0.189
			A	B	**8UC61 10-1BD**		1	1 unit	103	0.189
			B	B	**8UC61 20-3BB**		1	1 unit	103	0.194
			B	B	**8UC61 20-3BD**		1	1 unit	103	0.196
 8UC62 10-1BB	8UC62	8 × 8	A	B	**8UC62 10-1BB**		1	1 unit	103	0.188
			A	B	**8UC62 10-1BD**		1	1 unit	103	0.190
			A	B	**8UC62 10-6BD**		1	1 unit	103	0.198
			B	B	**8UC62 20-3BB**		1	1 unit	103	0.202
			B	B	**8UC62 20-3BD**		1	1 unit	103	0.193
			B	B	**8UC62 20-8BD**		1	1 unit	103	0.203
 8UC63 10-1BB	8UC63	10 × 10	A	B	**8UC63 10-1BB**		1	1 unit	103	0.485
			A	B	**8UC63 10-1BD**		1	1 unit	103	0.490
			A	B	**8UC63 10-6BD**		1	1 unit	103	0.495
			B	B	**8UC63 20-3BB**		1	1 unit	103	0.513
			B	B	**8UC63 20-3BD**		1	1 unit	103	0.508
			B	B	**8UC63 20-8BD**		1	1 unit	103	0.513
 8UC64 10-1BB	8UC64	12 × 12	A	B	**8UC64 10-1BB**		1	1 unit	103	0.511
			B	B	**8UC64 20-3BB**		1	1 unit	103	0.540
 8UC65 10-1BB	8UC65	12 × 12	A	B	**8UC65 10-1BB**		1	1 unit	103	0.534
			B	B	**8UC65 20-3BB**		1	1 unit	103	0.552

	For operating mechanism Type	Cross-section of the actuating shaft mm × mm	DT	Individual parts for 8UC6 door-coupling rotary operating mechanisms Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
	Coupling drivers								
 8UC60 11	8UC61	6 × 6	B	**8UC60 11**		1	1 unit	103	0.078
	8UC62	8 × 8	B	**8UC60 12**		1	1 unit	103	0.075
	8UC62[2]	8 × 8	A	**8UC60 17**		1	1 unit	103	0.043
	8UC62[3]	8 × 8	A	**8UC60 17-2AA**		1	1 unit	103	0.047
	8UC63	10 × 10	B	**8UC60 13**		1	1 unit	103	0.251
	8UC63 ... 8UC66	12 × 12	B	**8UC60 14**		1	1 unit	103	0.253
	Extension shafts 300 mm long								
 8UC60 31	8UC61	6 × 6	B	**8UC60 31**		1	1 unit	103	0.068
	8UC62	8 × 8	B	**8UC60 32**		1	1 unit	103	0.132
	8UC63	10 × 10	C	**8UC60 33**		1	1 unit	103	0.217
	8UC63 ... 8UC65	12 × 12	B	**8UC60 34**		1	1 unit	103	0.315
	8UC66[4]	12 × 12	B	**8UC60 35**		1	1 unit	103	0.323
	Extension shafts 600 mm long								
 8UC60 81	8UC61	6 × 6	B	**8UC60 81**		1	1 unit	103	0.136
	8UC62	8 × 8	B	**8UC60 82**		1	1 unit	103	0.265
	8UC63	10 × 10	B	**8UC60 83**		1	1 unit	103	0.430
	8UC63 ... 8UC65	12 × 12	B	**8UC60 84**		1	1 unit	103	0.640
	Shaft couplings								
 8UC60 21	8UC61	6 × 6	B	**8UC60 21**		1	1 unit	103	0.031
	8UC62	8 × 8	B	**8UC60 22**		1	1 unit	103	0.023
	8UC63	10 × 10	B	**8UC60 23**		1	1 unit	103	0.085
	8UC63 ... 8UC66	12 × 12	B	**8UC60 24**		1	1 unit	103	0.077
	8UC64 (3KL61)	12 × 12	▶	**8UC92 53**		1	1 unit	103	0.115

1) Non-interchangeability features.

2) Shortened coupling driver with reduced tolerance compensation.

3) Shortened coupling driver with reduced tolerance compensation for 3VL1 to 3VL3.

4) Hardened.

*** You can order this quantity or a multiple thereof.**

Selection and ordering data

	Switching device	Cross-section of the actuating shaft	Torque of the operating mechanism[1]	Operating mechanism	Color of handle	DT	Operating mechanisms for fixed mounting		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	Type	mm × mm	Nm	Size			Order No.	Price per PU				kg
 8UC93 54	3KA50, 3KA51, 3KL50, 3KM50	6 × 6	4	1	Black	[2] B	**8UC93 54**		1	1 unit	103	0.031
 8UC93 60			7.5	2	Black	[2] B	**8UC93 60**		1	1 unit	103	0.047
	3KA52 3KA53, 3KL52, 3KM52, 3KL53, 3KM53	8 × 8	7.5	2	Black	B	**8UC93 62**		1	1 unit	103	0.041
					Red	B	**8UC93 63**		1	1 unit	103	0.044
 8UC93 65	3KL55, 3KM55, 3KL57, 3KM57	10 × 10	16	3	Black	B	**8UC93 65**		1	1 unit	103	0.138
	3KA55, 3KA57, 3KA58				Red	B	**8UC93 66**		1	1 unit	103	0.160
	3KE42, 3KE43	12 × 12	16	3	Black	[3] B	**8UC93 70**		1	1 unit	103	0.128
					Red	[3] B	**8UC93 71**		1	1 unit	103	0.146
 8UC93 74	3KE44, 3KE45	12 × 12	30	4	Black	[3] B	**8UC93 74**		1	1 unit	103	0.145
					Red	[3] B	**8UC93 75**		1	1 unit	103	0.165
 8UC93 81	3KL61	12 × 12	55	5	Black	B	**8UC93 81**		1	1 unit	103	0.264
					Red	B	**8UC93 82**		1	1 unit	103	0.273

[1] Operating mechanisms were tested with triple torque (DIN VDE 0660 Part 107). They are therefore qualified for use in all controls, especially for disconnectors.

[2] Red handle available on request.

[3] Also required: 3KX2 210-0H coupling socket.

*** You can order this quantity or a multiple thereof.**

Introduction

Overview

General criteria for the selection of current transformers for measurement purposes

Standards	IEC 60185, DIN VDE 0414 Part 1 and 2
Window-type current transformers	The conductor to be measured (busbar or cable) is passed through the window opening and creates the primary circuit of the window-type current transformer. Pin-wound transformers: An economical solution especially for small primary currents of 5 A to 75 A is achieved when the conductor to be measured is pin-wound several times.
Rated primary current I_{pn}	Current transformers can be continuously loaded with 1.3 times the rated primary current (I_{pn}).
Rated secondary current I_{sn}	
1 A	Particularly suitable for longer measuring leads. Cable losses of only 4% in contrast to 5 A current transformers.
5 A	5 A current transformers create 25 times the power losses on measuring leads as compared with 1 A current transformers. These stray losses result in higher power in the case of long cables. Only recommended for use with short measuring leads.
Accuracy class	
Class 1	Operation measurement, internal metering Current error ±1% at 1 × I_{pn} and 1.2 × I_{pn}
Class 3	Coarse measurement Current error ±3% at 0.5 × I_{pn} and 1.2 × I_{pn}
Rated power P_n	The rated power of transformers is specified in VA. The actual load rating should be similar to the rated power; a lower actual load rating (underburden) increases the overcurrent factor and measuring instruments may be damaged in case of a short-circuit, a higher actual load rating (overburden) has a negative effect on the accuracy. With a frequency of 60 Hz the rated power increases to 1.2 times. With $16^2/_3$ Hz the output power decreases to $^1/_3$ of the rated power.
Maximum voltage for equipment U_m	This is the rms value of the maximum voltage between the conductors of a system. For this voltage the insulation must be rated at normal operating conditions. 4NC5 current transformers are suitable for 720 V.
Overcurrent limiting factor FS	The overcurrent limiting factor is expressed using the characters FS and a factor, e.g. FS5 or FS10. When a short-circuit current flows through the primary winding of a current transformer, the load on the measuring instruments connected to the current transformer is the lower the smaller the overcurrent limiting factor is.
Rated short-time thermal current I_{th}	The rated short-time thermal current I_{th} is the rms value of the primary current with a duration of one second, whose heat effect the current transformer can resist without being damaged in the event of a short-circuited secondary winding.
Rated impulse current I_{dyn}	The rated impulse current I_{dyn} is the highest instantaneous value of the current after a short-circuit whose force the current transformer can resist without being damaged. The rated impulse current is specified as peak value.

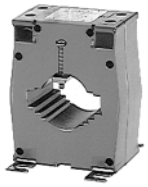
Selection and ordering data

Rated primary operational current I_{pn}	Rating P_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
A	VA							kg
Rated secondary current 1 A								
Class 3								
• For circular conductors with max. diameter 17.5 mm								
• For busbars up to max. 12 mm × 10 mm								
50	2.5	A	**4NC51 12-0BC20**		1	1 unit	103	0.428
60	2.5	A	**4NC51 13-0BC20**		1	1 unit	103	0.432
75	2.5	A	**4NC51 15-0BC20**		1	1 unit	103	0.425
Class 1								
• For circular conductors with max. diameter 17.5 mm								
• For 1 busbar up to max. 12 mm × 10 mm								
100	2.5	A	**4NC51 17-0CC20**		1	1 unit	103	0.335
150	2.5	A	**4NC51 21-0CC20**		1	1 unit	103	0.327
200	5	A	**4NC51 22-0CE20**		1	1 unit	103	0.356
250	5	A	**4NC51 23-0CE20**		1	1 unit	103	0.352
• For circular conductors with max. diameter 28 mm								
• For 1 busbar up to max. 30 mm × 10 mm								
• For 2 busbars up to max. 25 mm × 5 mm								
200	5	A	**4NC52 22-0CE20**		1	1 unit	103	0.464
250	5	A	**4NC52 23-0CE20**		1	1 unit	103	0.477
300	5	A	**4NC52 24-0CE20**		1	1 unit	103	0.363
400	5	A	**4NC52 25-0CE20**		1	1 unit	103	0.373
• For circular conductors with max. diameter 36 mm								
• For 1 busbar up to max. 50 mm × 10 mm								
• For 2 busbars up to max. 40 mm × 5 mm								
400	5	A	**4NC53 25-0CE20**		1	1 unit	103	0.469
500	5	A	**4NC53 26-0CE20**		1	1 unit	103	0.410
600	5	A	**4NC53 27-0CE20**		1	1 unit	103	0.424
750	5	A	**4NC53 28-0CE20**		1	1 unit	103	0.391
• For circular conductors with max. diameter 45 mm								
• For 1 busbar up to max. 60 mm × 10 mm								
• For 2 busbars up to max. 60 mm × 10 mm								
• For 3 busbars up to max. 60 mm × 5 mm								
1000	10	A	**4NC54 31-0CH20**		1	1 unit	103	0.644
1250	10	A	**4NC54 33-0CH20**		1	1 unit	103	0.667
1500	10	A	**4NC54 34-0CH20**		1	1 unit	103	0.713

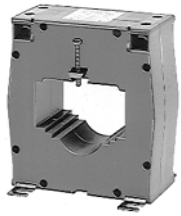
4NC51 12-0BC20

4NC51 17-0CC20

4NC52 22-0CE20



4NC53 25-0CE20



4NC54 31-0CH20

* You can order this quantity or a multiple thereof.

Classes 1 and 3, from 50 A to 1500 A

	Rated primary operational current I_{pn}	Rating P_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	A	VA							kg
	Rated secondary current 5 A								
	Class 3								
	• For circular conductors with max. diameter 17.5 mm								
	• For 1 busbar up to max. 12 mm × 10 mm								
 4NC51 12-2BC20	50	2.5	A	**4NC51 12-2BC20**		1	1 unit	103	0.426
	60	2.5	A	**4NC51 13-2BC20**		1	1 unit	103	0.430
	75	2.5	A	**4NC51 15-2BC20**		1	1 unit	103	0.431
	Class 1								
	• For circular conductors with max. diameter 17.5 mm								
	• For 1 busbar up to max. 12 mm × 10 mm								
 4NC51 17-2CC20	100	2.5	A	**4NC51 17-2CC20**		1	1 unit	103	0.340
	150	2.5	A	**4NC51 21-2CC20**		1	1 unit	103	0.327
	200	5	A	**4NC51 22-2CE20**		1	1 unit	103	0.339
	250	5	A	**4NC51 23-2CE20**		1	1 unit	103	0.345
	• For circular conductors with max. diameter 28 mm								
	• For 1 busbar up to max. 30 mm × 10 mm								
	• For 2 busbars up to max. 25 mm × 5 mm								
 4NC52 22-2CE20	200	5	A	**4NC52 22-2CE20**		1	1 unit	103	0.467
	250	5	A	**4NC52 23-2CE20**		1	1 unit	103	0.474
	300	5	A	**4NC52 24-2CE20**		1	1 unit	103	0.356
	400	5	A	**4NC52 25-2CE20**		1	1 unit	103	0.379
	• For circular conductors with max. diameter 36 mm								
	• For 1 busbar up to max. 50 mm × 10 mm								
	• For 2 busbars up to max. 40 mm × 5 mm								
 4NC53 25-2CE20	400	5	A	**4NC53 25-2CE20**		1	1 unit	103	0.452
	500	5	A	**4NC53 26-2CE20**		1	1 unit	103	0.406
	600	5	A	**4NC53 27-2CE20**		1	1 unit	103	0.425
	750	5	A	**4NC53 28-2CE20**		1	1 unit	103	0.379
	• For circular conductors with max. diameter 45 mm								
	• For 1 busbar up to max. 60 mm × 10 mm								
	• For 2 busbars up to max. 60 mm × 10 mm								
	• For 3 busbars up to max. 60 mm × 5 mm								
 4NC54 31-2CH20	1000	10	A	**4NC54 31-2CH20**		1	1 unit	103	0.660
	1250	10	A	**4NC54 33-2CH20**		1	1 unit	103	0.631
	1500	10	A	**4NC54 34-2CH20**		1	1 unit	103	0.669

Accessories

4NC51 window-type current transformers, used as pin-wound transformers, Classes 1 and 3, from 5 A to 75 A

Pin-winding increases the primary current of the current transformer. Consequently, window-type current transformers can also be used for low primary currents.

	Basic type		**4NC51 12**	**4NC51 13**	**4NC51 15**	**4NC51 17**	**4NC51 21**	**4NC51 22**	**4NC51 23**
	Rated primary current	A	50	60	75	100	150	200	250
	Rating	VA	2.5	2.5	2.5	2.5	2.5	5	5
	Primary current to be measured		Number of required pin windings						
		A	**Class 3**			**Class 1**			
 4NC51 used as pin-wound transformer		5	10	--	--	--	--	--	--
		10	5	6	--	10	--	--	--
		15	--	4	5	--	10	--	--
		20	--	3	--	5	--	10	--
		25	2	--	3	4	6	8	8
		30	--	2	--	--	5	--	--
		40	--	--	--	--	--	5	--
		50	--	--	--	2	3	4	5
		75	--	--	--	--	2	--	--

* You can order this quantity or a multiple thereof.