ALPHA FIX
8WA and 8WH Terminals with Screw Connection

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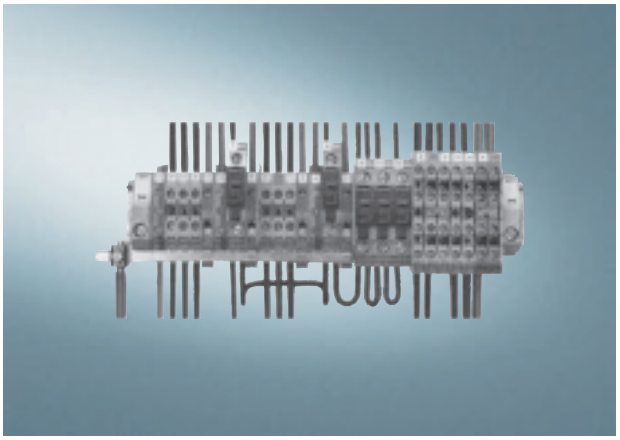
1) Also available as PE (Ground) version.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Introduction

Overview



Terminal strip with different terminal blocks: 8WA1 011-1DG11 terminal blocks, 8WA1 011-1NG31 neutral isolating terminals with feeder terminal for neutral busbar 6 × 6 mm, 8WA1 011-1PG00 conductor terminals, 8WA1 011-1SF12 fuse terminals, and various two-tier terminals. The standard mounting rail according to EN 50022-35 serves as the PE bar.

Terminal blocks are used for the space-saving connection of incoming and outgoing lines in switchgear and distribution boards.

Standards

EN 60664-1,
EN 60999 and
IEC 60947-7-1 or
IEC 60947-7-2.

The terminals are finger-safe to IEC 60529 and EN 50274 (except for bare terminals and solder terminations). Through-type terminals are resistant to earthquakes according to IEC 60068-2-6.

Colored terminal blocks

With colored wiring according to EN 60204-1, the connecting level can also be included in the colored markings:

- Red for control circuits with AC current
- Blue for control circuits with DC current or neutral conductor
- Orange for interlock circuits with AC or DC current which are fed from outside and are live when the main control switch is turned off
- Green-yellow through-type terminals for protective conductors (without a link to the mounting rail).

Design

The terminal blocks are insulated on both sides, with the exception of two-tier, flat-type and bolt-type screw terminals, which are insulated on one side only.

The insulating material for terminal sizes up to 240 mm^2 is made of thermoplastic, polyamide 6.6, and for the flat-type and bolt-type screw terminals of duroplastic; with a resistance to creepage CTI according to IEC 112 and EN 60112.

The materials used are ecologically harmless: for example cadmium-free, and without halogens or silicone.

The plastics used are flame-retardant and self-extinguishing according to EN 60695-2-2, VDE 0471 Part 2-2 and UL 94 V-2.

Clamping methods

The terminals are designed so that, when the terminal screws are tightened, any tensile stress which occurs causes elastic deformation of the terminal bodies. This compensates for any creepage of the clamping conductor. The deformation of the threaded section prevents loosening of the clamping screw, even under heavy mechanical and thermal strain (for example vibration stress of 10 *g* or thermal cycles).

The following clamping methods are used: terminal body with pressure plate for terminal sizes 16, 35 and 70 mm^2. Strain-relief clamps for terminal sizes 2.5, 4 and 6 mm^2. Screw with connection disk for fuse terminals, circuit-breaker terminals and component terminals.

Terminal size

The terminal size corresponds with the nominal cross-section. According to EN 60947-7-1 a flexible copper conductor of nominal cross-section can be connected to any clamping point with or without ferrule.

Mounting

The terminals are snapped onto 35 mm mounting rails according to IEC 60715 TH35 and secured against movement using end retainers.

A lateral mounting tolerance of 0.2 mm must be maintained between the terminals.

Screw fixing – in particular of the terminal blocks – is possible with the 8WA1 815 fastening accessory.

Connection of conductors

Except for flat- and bolt-type versions, all terminals are designed so that solid, stranded and finely stranded conductors with or without end sleeves (according to DIN 46228) can be securely clamped (please observe cross-section).

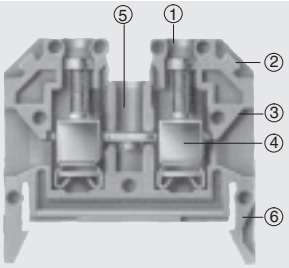
Damage to the clamped conductors is prevented by pressure plates or strain-relief clamps. For the connecting cross-sections when 1 or 2 conductors are connected, see technical specifications.

Connection of aluminum conductors

Siemens screw terminals are suitable for connecting aluminum conductors when the normal processing guidelines, for example brushing and greasing of the conductors before connection, are complied with.

After a few days, the connection should be tightened again for safety reasons.

Stranded conductors must be crimped in prepared plug connectors immediately after being stripped of their insulation (the shaft of the pin-end connector is made of pure aluminum, the pin of copper).



8WA1 through-type terminal with screw connection on both sides, sectional view

① Screwdriver guide
② Cut-out for labeling plate
③ Cable entry
④ Terminal body
⑤ Thread for parallel link rail
⑥ Elastic retaining feet

PE and PEN terminals

In switchgear and controlgear systems the mounting rails for the terminal blocks are frequently used as protective ground busbars. The PE (protective ground) terminals provide the connection to the mounting rail.

The elimination of a separate PE busbar allows the PE terminals to be lined up with the insulated main conductor terminals and neutral isolating terminals in any required arrangement. This results in a clear relationship to the individual circuits.

The bare 8WA1 010-1PH01 PE terminals should preferably be used for connecting the shields of screened cables. They are normally mounted on a standard mounting rail, which is installed by means of an 8WA1 857 insulation carrier.

Accessories

Parallel link rails

The link rails are screwed into the terminals from above and allow parallel connection of up to 10 terminals up to terminal size 35 mm². The 10-pole link rails can be shortened as required. On 70 mm² terminals the link rails are two-pole. On the 95 mm² to 240 mm² terminals they are inserted in the connection points. Link rails for flat-type and bolt-type screw terminals are not included in the scope of delivery.

Barriers

Barriers are yellow in color and project beyond the contours of the terminals. Their functions are the visual separation of groups of terminals, the electrical isolation of adjacent link rails and improving the insulation rating for solder and push-on terminals.

Insulation plates

8WA1 825 and 8WA1 022-7TK00 insulation plates can be used with different terminals for providing electrical insulation between link rails.

Test sockets and plugs

The 8WA1 854 test sockets for ∅ 2.3 test plugs and reduction plugs with a Ø 4 mm bore can be screwed into some terminals in place of the link rails.

Disconnecting links

The 8WA1 865 disconnecting links provide a detachable connection between two adjacent terminals sizes 2.5 to 6 mm².

Covers with lightning symbol

The purpose of these covers is to identify the power input terminals. At the same time, they provide additional touch protection.

End retainers and marking tags

End retainers are available in thermoplastic or galvanized and chromated steel. The marking tag can be fitted in an 8WA1 808 end retainer or, in any of three positions, in an 8WA1 805 end retainer.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Through-type, PE and PEN terminals

Selection and ordering data

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • Thermoplastic insulating base • Screw terminal on both sides • Enclosed on both sides						
	Note	Section	Page				
	For labeling accessories see ...	Accessories	6/2				
Terminal size 2.5 mm²							
 8WA1 011-1DF11	**Through-type terminals, terminal size 2.5 mm²** • Rated uninterrupted current 24 A • Rated insulation voltage 800 V • Mounting width 6 mm • Terminal height 26 mm • Terminal length 41 mm • AWG 22-12 • AWG 18-12						
	Versions						
	• Individual terminal						
	- beige			**8WA1 011-1DF11**		041	100
	- blue			**8WA1 011-1BF23**		041	50
	- red			**8WA1 011-1BF21**		041	50
	- green-yellow			**8WA1 011-1PF11**		041	50
	- orange			**8WA1 011-1BF22**		041	50
	- yellow			**8WA1 011-1BF26**		041	50
	- black			**8WA1 011-1BF24**		041	50
 8WA1 011-3DF21	- green			**8WA1 011-1BF25**		041	50
	• Terminal block						
	- beige, 3-pole, width 18 mm			**8WA1 011-3DF21**		041	10
	- beige, 10-pole, width 61 mm, labeled 1 ... 10			**8WA1 011-0DF22**		041	20
 8WA1 011-0DF21	- beige, 10-pole, width 61 mm, without inscription			**8WA1 011-0DF21**		041	20
	Accessories	Section	Page				
	Covers						
	• With lightning symbol, for terminal size 1 to 2.5 mm²	Accessories	1/8	**8WA1 810**		041	50
	• White, facility for inscription, for terminal size 2.5 mm²	Accessories	1/8	**8WA1 860**		041	50
	• For link rails						
	- transparent, for terminal size 2.5 to 6 mm²	Accessories	1/8	**8WA1 822-7AX01**		041	10
	- white, facility for inscription, for terminal size 2.5 to 6 mm²	Accessories	1/8	**8WA1 822-7AX03**		041	10
	Links, for terminal size 2.5 mm²	Accessories	1/8	**8WA1 822-7VF01**		041	50
	Blade terminals	Accessories	1/9	**8WA1 890**		041	100
	Test sockets	Accessories	1/9	**8WA1 854**		041	100
	Disconnecting bridges Note: Between terminals with terminal sizes 2.5 and 6 mm², two 8WH1 820 barriers are required.	Accessories	1/9	**8WA1 865**		041	50
	Insulation plates, for terminal size 2.5 to 6 mm²	Accessories	1/9	**8WA1 825**		041	50
	Link rails, for terminal size 2.5 mm²						
	• For two terminals	Accessories	1/9	**8WA1 895**		041	50
	• For three terminals	Accessories	1/9	**8WA1 896**		041	50
	• For four terminals	Accessories	1/9	**8WA1 897**		041	20
	• For ten terminals	Accessories	1/9	**8WA1 898**		041	10/200
	Barriers, for terminal size 1 to 4 mm²	Accessories	1/9	**8WA1 820**		041	50
 8WA1 011-1PF01	**Through-type PE terminals, terminal size 2.5 mm²** • Green-yellow • Mounting width 6 mm • Terminal height 26 mm • Terminal length 51 mm						
	Versions						
	• One screw terminal			**8WA1 011-1PF01**		041	50
	• Two screw terminals			**8WA1 011-1PF00**		041	50
	Accessories	Section	Page				
	Barriers, for terminal size 1 to 4 mm²	Accessories	1/9	**8WA1 820**		041	50

* See pages 7/9 through 7/12 for 8WA package size requirements.

Terminal size 4 mm²

8WA1 011-1DG11


8WA1 011-0DG21

Through-type terminals, terminal size 4 mm²
- Rated uninterrupted current 32 A
- Rated insulation voltage 800 V
- Mounting width 6.5 mm
- Terminal height 30 mm
- Terminal length 41 mm
- cULus AWG 18-10
- CSA AWG 18-10

Versions			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
• Individual terminal						
- beige			**8WA1 011-1DG11**		041	100
- blue			**8WA1 011-1BG11**		041	50
- red			**8WA1 011-1BG21**		041	50
- green-yellow			**8WA1 011-1PG11**		041	50
- orange			**8WA1 011-1BG22**		041	50
- black			**8WA1 011-1BG24**		041	50
• Terminal block						
- beige, 3-pole, width 19.5 mm			**8WA1 011-3DG21**		041	10
- beige, 10-pole, width 65.5 mm, with labeled 1 ... 10			**8WA1 011-0DG22**		041	20
- beige, 10-pole, width 65.5 mm, without inscription			**8WA1 011-0DG21**		041	20
Accessories	**Section**	**Page**				
Covers						
• With lightning symbol, for terminal size 4 and 6 mm²	Accessories	1/8	**8WA1 811**		041	50
• White, facility for inscription, for terminal size 4 and 6 mm²	Accessories	1/8	**8WA1 862**		041	50
• For link rails						
- Transparent, for terminal size 2.5 to 6 mm²	Accessories	1/8	**8WA1 822-7AX01**		041	10
- White, facility for inscription, for terminal size 2.5 to 6 mm²	Accessories	1/8	**8WA1 822-7AX03**		041	10
Fastening accessory	Accessories	1/8	**8WA1 815**		041	1
Links, for terminal size 4 mm²	Accessories	1/8	**8WA1 822-7VG00**		041	50
Flat-type terminals	Accessories	1/9	**8WA1 890**		041	100
Terminal strips	Accessories	1/9	**8WA1 741-2X**		041	5
Test sockets	Accessories	1/9	**8WA1 854**		041	100
Disconnecting bridges Note: Between terminals with terminal sizes 2.5 and 6 mm², two 8WH1 820 barriers are required.	Accessories	1/9	**8WA1 865**		041	50
Insulation plates, for terminal size 2.5 to 6 mm²	Accessories	1/9	**8WA1 825**		041	50
Link rails, for terminal size 4 mm²						
• For two terminals	Accessories	1/9	**8WA1 850**		041	50
• For three terminals	Accessories	1/9	**8WA1 851**		041	50
• For four terminals	Accessories	1/9	**8WA1 852**		041	20
• For ten terminals	Accessories	1/9	**8WA1 853**		041	10
Barriers, for terminal size 1 to 4 mm²	Accessories	1/9	**8WA1 820**		041	50

8WA1 011-1PG01

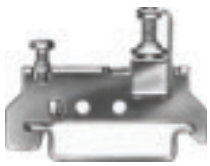
Through-type PE terminals, terminal size 4 mm²
- Green-yellow
- Mounting width 7.2 mm
- Terminal height 30 mm
- Terminal length 51 mm
- cULus CSA

Versions			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
• One screw terminal			**8WA1 011-1PG01**		041	50
• Two screw terminals			**8WA1 011-1PG00**		041	50
Accessories	**Section**	**Page**				
Barriers, for terminal size 1 to 4 mm²	Accessories	1/9	**8WA1 820**		041	50

* See pages 7/9 through 7/12 for 8WA package size requirements.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Through-type, PE and PEN terminals

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Terminal size 6 mm²							
 8WA1 011-1DH11	**Through-type terminals, terminal size 6 mm²** • Rated uninterrupted current 41 A • Rated insulation voltage 800 V • Mounting width 8 mm • Terminal height 33 mm • Terminal length 41 mm • cULus AWG 14-8 • CSA AWG 16-8						
	Versions						
	• Individual terminal						
	- beige			**8WA1 011-1DH11**		041	50
	- blue			**8WA1 011-1BH23**		041	50
	- green-yellow			**8WA1 011-1PH11**		041	50
	- black			**8WA1 011-1BH24**		041	50
 8WA1 011-3DH21	• Terminal block - beige, 3-pole, width 24.5 mm			**8WA1 011-3DH21**		041	20
	Accessories	Section	Page				
	Covers						
	• With lightning symbol, for terminal size 1 to 2.5 mm²	Accessories	1/8	**8WA1 811**		041	50
	• White, facility for inscription, for terminal size 4 and 6 mm²	Accessories	1/8	**8WA1 862**		041	50
	• For link rails - transparent, for terminal size 2.5 to 6 mm²	Accessories	1/8	**8WA1 822-7AX01**		041	10
	Links, for terminal size 6 mm²	Accessories	1/8	**8WA1 822-7VH00**		041	50
	Blade terminals	Accessories	1/9	**8WA1 890**		041	100
	Test sockets	Accessories	1/9	**8WA1 854**		041	100
	Disconnecting bridges Note: Between terminals with terminal sizes 2.5 and 6 mm², two 8WH1 820 barriers are required.	Accessories	1/9	**8WA1 865**		041	50
	Insulation plates, for terminal size 2.5 to 6 mm²	Accessories	1/9	**8WA1 825**		041	50
	Link rails, for terminal size 6 mm²						
	• For two terminals	Accessories	1/9	**8WA1 885**		041	50
	• For three terminals	Accessories	1/9	**8WA1 886**		041	50
	• For four terminals	Accessories	1/9	**8WA1 887**		041	20
	• For ten terminals	Accessories	1/9	**8WA1 888**		041	10
	Barriers, for terminal size 6 and 16 mm²	Accessories	1/9	**8WA1 821**		041	50
 8WA1 010-1PH01	**Through-type PE terminals, terminal size 6 mm², one screw terminal** • Bare • Mounting width 6 mm • Terminal height 25 mm • Terminal length 44 mm • Also for use as shield terminal			**8WA1 010-1PH01**		041	50
	Accessories	Section	Page				
	Barriers, for terminal size 6 and 16 mm²	Accessories	1/9	**8WA1 821**		041	50
 8WA1 011-1PH00	**Through-type PE terminals, terminal size 6 mm², two screw terminals** • Green-yellow • Mounting width 8 mm • Terminal height 33 mm • Terminal length 51 mm • cULus CSA			**8WA1 011-1PH00**		041	50
	Accessories	Section	Page				
	Barriers, for terminal size 6 and 16 mm²	Accessories	1/9	**8WA1 821**		041	50

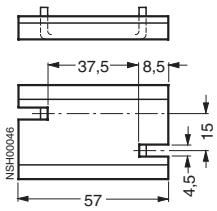
* See pages 7/9 through 7/12 for 8WA package size requirements.

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Terminal size 16 mm²							
 8WA1 204	**Through-type terminals, terminal size 16 mm²** • Rated uninterrupted current 76 A • Rated insulation voltage 800 V • Mounting width 10 mm • Terminal height 38 mm • Terminal length 41 mm • cULus AWG 12-4 • VDE AWG 14-6						
	Versions						
	• Individual terminal - beige			**8WA1 204**		041	20
	- blue			**8WA1 011-1BK11**		041	10
	• Terminal block - 3-pole, width 30 mm			**8WA1 304**		041	20
 8WA1 304	Accessories	Section	Page				
	Covers						
	• With lightning symbol, for terminal size 16 mm²	Accessories	1/8	**8WA1 812**		041	50
	• White, facility for inscription, for terminal size 16 mm²	Accessories	1/8	**8WA1 892**		041	50
	• For link rails						
	- transparent, for terminal size 16 and 35 mm²	Accessories	1/8	**8WA1 822-7AX02**		041	10
	- white, facility for inscription, for terminal size 16 and 35 mm²	Accessories	1/8	**8WA1 822-7AX04**		041	10
	Insulation plates, for terminal size 16 and 35 mm²	Accessories	1/9	**8WA1 822-7TK00**		041	50
	Link rails, for terminal size 16 mm²						
	• For two terminals	Accessories	1/9	**8WA1 842**		041	20
	• For three terminals	Accessories	1/9	**8WA1 845**		041	20
	• For four terminals	Accessories	1/9	**8WA1 848**		041	10
	• For ten terminals	Accessories	1/9	**8WA1 802**		041	10
	Barriers, for terminal size 6 and 16 mm²	Accessories	1/9	**8WA1 821**		041	50
 8WA1 011-1PK00	**Through-type PE terminals and through-type PEN terminals, terminal size 16 mm²** • Green-yellow • For I = 76 A • Mounting width 12 mm • Terminal height 38 mm • Terminal length 53 mm • Two screw terminals • cULus VDE			**8WA1 011-1PK00**		041	25
	Accessories	Section	Page				
	Barriers, for terminal size 6 and 16 mm²	Accessories	1/9	**8WA1 821**		041	50
Terminal size 35 mm²							
 8WA1 205	**Through-type terminals, terminal size 35 mm²** • Rated uninterrupted current 125 A • Rated insulation voltage 800 V • Mounting width 16 mm • Terminal height 50 mm • Terminal length 53 mm • cULus AWG 10-1 • VDE AWG 12-2						
	Versions						
	• Individual terminal - beige			**8WA1 205**		041	20
	- blue			**8WA1 011-1BM11**		041	10
	• Terminal block - 3-pole, width 48 mm			**8WA1 305**		041	20
 8WA1 305	Accessories	Section	Page				
	Covers						
	• With lightning symbol, for terminal size 35 mm²	Accessories	1/8	**8WA1 813**		041	50
	• White, facility for inscription, for terminal size 35 mm²	Accessories	1/8	**8WA1 893**		041	50
	• For link rails						
	- transparent, for terminal size 16 and 35 mm²	Accessories	1/8	**8WA1 822-7AX02**		041	10
	Insulation plates, for terminal size 16 and 35 mm²	Accessories	1/9	**8WA1 822-7TK00**		041	50
	Link rails, for terminal size 35 mm²						
	• For two terminals	Accessories	1/9	**8WA1 828**		041	20
	• For three terminals	Accessories	1/9	**8WA1 803**		041	20
	• For ten terminals	Accessories	1/9	**8WA1 804**		041	10
	Barriers, for terminal size 35 mm²	Accessories	1/9	**8WA1 823**		041	25

* See pages 7/9 through 7/12 for 8WA package size requirements.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Through-type, PE and PEN terminals

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
 8WA1 011-1PM00	**Through-type PE terminals and through-type PEN terminals, terminal size 35 mm²** • Green-yellow • For I = 125 A • Mounting width 16 mm • Terminal height 50 mm • Terminal length 53 mm • Two screw terminals • cULus, GL			**8WA1 011-1PM00**		041	25
	Accessories	Section	Page				
	Barriers, for terminal size 35 mm²	Accessories	1/9	**8WA1 823**		041	25
Terminal size 70 mm²							
 8WA1 206	**Through-type terminals, terminal size 70 mm²** • Rated uninterrupted current 192 A • Rated insulation voltage 800 V • Mounting width 25 mm • Terminal height 64.5 mm • Terminal length 73.5 mm • cULus AWG 8-3/0 • GL AWG 8-1/0						
	Versions						
	• Beige			**8WA1 206**		041	10/60
	• Blue			**8WA1 011-1BP11**		041	10
	Accessories	Section	Page				
	Covers, with lightning symbol, for terminal size 70 mm²	Accessories	1/8	**8WA1 814**		041	50
	Link rails, for terminal size 70 mm², for 2 terminals	Accessories	1/9	**8WA1 216**		041	20
	Barriers, for terminal size 70 mm²	Accessories	1/9	**8WA1 824**		041	25
Accessories							
 8WA1 810	**Covers** • With lightning symbol						
	- for terminal size 1 to 2.5 mm²			**8WA1 810**		041	50
	- for terminal size 4 and 6 mm²			**8WA1 811**		041	50
	- for terminal size 16 mm²			**8WA1 812**		041	50
	- for terminal size 35 mm²			**8WA1 813**		041	50
	- for terminal size 70 mm²			**8WA1 814**		041	50
 8WA1 860	• White, facility for inscription						
	- for terminal size 2.5 mm²			**8WA1 860**		041	50
	- for terminal size 4 and 6 mm²			**8WA1 862**		041	50
	- for terminal size 16 mm²			**8WA1 892**		041	50
	- for terminal size 35 mm²			**8WA1 893**		041	50
 8WA1 822-7AX01	• For link rails, transparent						
	- for terminal size 2.5 to 6 mm²			**8WA1 822-7AX01**		041	10
	- for terminal size 16 and 35 mm²			**8WA1 822-7AX02**		041	10
	• For link rails, white, facility for inscription						
	- for through-type terminals, size 2.5 to 6 mm²			**8WA1 822-7AX03**		041	10
 8WA1 815	**Fastening accessory** • For screw fixing of terminal blocks			**8WA1 815**		041	1
 8WA1 822-7VF01	**Links** For link rails						
	• For terminal size 2.5 mm²			**8WA1 822-7VF01**		041	50
	• For terminal size 4 mm²			**8WA1 822-7VG00**		041	50
	• For terminal size 6 mm²			**8WA1 822-7VH00**		041	50
 8WA1 808	**End retainers, thermoplastic** Width 10 mm			**8WA1 808**		041	50

* See pages 7/9 through 7/12 for 8WA package size requirements.

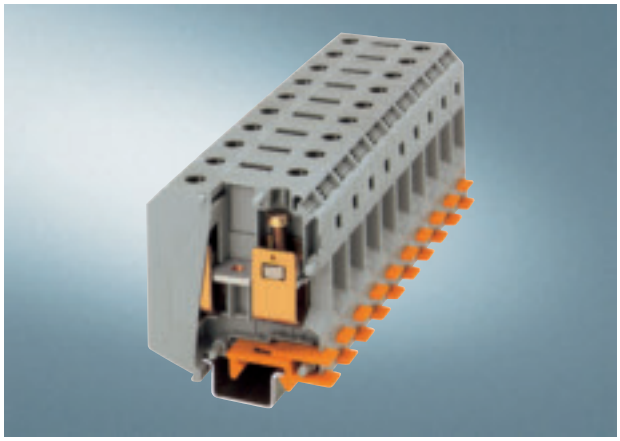
	Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
 8WA1 890	**Flat-type terminals** • Slotted • 6.3 to 0.8 • Up to 18 A	**8WA1 890**		041	100
 8WA1 741-2X	**Terminal strips** • 6-pole • Labeled 1 to 6	**8WA1 741-2X**		041	5
 8WA1 854	**Test sockets** • Ø 2.3 mm • Up to 10 A	**8WA1 854**		041	100
 8WA1 865	**Disconnecting bridges** Up to 32 A Note Between terminals with terminal sizes 2.5 and 6 mm², two 8WH1 820barriers are required.	**8WA1 865**		041	50
 8WA1 825	**Insulation plates** • For terminal size 2.5 to 6 mm² • For terminal size 16 and 35 mm²	**8WA1 825** **8WA1 822-7TK00**		041 041	50 50
 8WA1 895	**Link rails** • For terminal size 2.5 mm² - for two terminals - for three terminals - for four terminals - for ten terminals • For terminal size 4 mm² - for two terminals - for three terminals - for four terminals - for ten terminals • For terminal size 6 mm² - for two terminals - for three terminals - for four terminals - for ten terminals • For terminal size 16 mm² - for two terminals - for three terminals - for four terminals - for ten terminals • For terminal size 35 mm² - for two terminals - for three terminals - for ten terminals • For terminal size 70 mm² - for two terminals	 **8WA1 895** **8WA1 896** **8WA1 897** **8WA1 898** **8WA1 850** **8WA1 851** **8WA1 852** **8WA1 853** **8WA1 885** **8WA1 886** **8WA1 887** **8WA1 888** **8WA1 842** **8WA1 845** **8WA1 848** **8WA1 802** **8WA1 828** **8WA1 803** **8WA1 804** **8WA1 216**	 041 041 041 041 041 041 041 041 041 041 041 041 041 041 041 041 041 041 041 041	 50 50 20 10/200 50 50 20 10 50 50 20 10 20 20 10 10 20 20 10 20
 8WA1 820	**Barriers** • For terminal size 1 to 4 mm² • For terminal size 6 and 16 mm² • For terminal size 35 mm² • For terminal size 70 mm²	 **8WA1 820** **8WA1 821** **8WA1 823** **8WA1 824**	 	 041 041 041 041	 50 50 25 25

* See pages 7/9 through 7/12 for 8WA package size requirements.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

HIgh-current terminals

Overview



The high-current terminals cover cross-sectional areas from 16 to 240 mm². A reliable cable connection is ensured through effective design measures, such as:

- Three-point centering of the conductor in the prismatic sleeve base
- Low contact resistance of the contact area through grooved surface
- Screw locking through spring-loaded elements
- Enclosed terminals on both sides

The terminals have an enclosed half-shell insulating envelope made from polyamide 6.6.

For terminals with terminal sizes up to 95 mm², green-yellow PE terminals are available.

Mounting on mounting rails according to IEC 60715

Note:
For flat-type terminals with terminal bolt, see section *flat-type terminals*.

Technical specifications

	8WH1 000-0AN00 / 0AN01	8WH1 000-0CN07	8WH1 000-0AQ00 / 0AQ01
Dimensions			
• Width / length in mm	20 / 70.5		25 / 83
• Height (TS 35/7.5 / TS 35/15 / TS 32) in mm	– / 83.5 / 81.5		– / 97.5 / 95.5
Technical specifications according to IEC/DIN VDE			
• Maximum load current/cross-section in A / mm²	150 / 50		232 / 95
• Max. cross-section with comb (rigid/flexible) in mm²]	–		95 / 70
• Rated impulse withstand voltage/pollution degree in kV / –	8 / 3		
• Overvoltage category/insulating group in – / –	III / I		
Connection capacity			
• Flexible with ferrule with/without insulating sleeve in mm²	25 ... 50 / 25 ... 50		35 ... 95 / 35 ... 95
Multi-conductor connection (two conductors of same cross-section)			
• Rigid/flexible in mm²	10 ... 16 / 10 ... 16		25 ... 35 / 25 ... 35
• Flexible without ferrule with plastic sleeve in mm²	10 ... 16		16 ... 35
Stripped length in mm	24		33
Plug gage (IEC 60947-1)	B10		B12
Screw thread	M 6	–	M 8
Tightening torque in Nm	6 ... 8	–	15 ...20
Clamping point: screw thread/tightening torque in – / Nm	–	M 6 / 6 ... 8	–
Fixing: screw thread/tightening torque in – / Nm	–	M 6 / 6 ... 8	–
Insulation type	PA		
• Flammability class according to UL 94	V0		
Approval data (UL/CUL and CSA)			
• Nominal voltage/current / cable sizes			
- UL/CUL: V / A / AWG	600 / 150 / 6 – 0	6 – 1 / 0	600 / 230 / 2 – 000
- CSA: V / A / AWG	600 / 125 / 6 – 0	–	600 / 230 / 1 – 000
Mounting rails/protective conductor busbar	–	See section *Mounting rails*	–

	8WH1 000-0CQ07	8WH1 000-0AS00 / 0AS01	8WH1 000-0AU00 / 0AU01
Dimensions			
• Width/length in mm	25 / 83	31 / 100	36 / 100
• Height (TS 35/7.5 / TS 35/15 / TS 32) in mm	– / 99 / 96.5	– / 118.5 / 116	– / 131.5 / 129.5
Technical specifications according to IEC/DIN VDE			
• Maximum load current/cross-section in A / mm²	232 / 95	309 / 150	415 / 240
• Max. cross-section with comb (rigid/flexible) in mm²]	–	150 / 120	240 / 185
• Rated impulse withstand voltage/pollution degree in kV / –	8 / 3		
• Overvoltage category/insulating group in – / –	III / I		
Connection capacity			
• Flexible with ferrule with/without insulating sleeve in mm²		50 ... 150 / 50 ... 150	70 ... 185 / 70 ... 185
Multi-conductor connection (two conductors of same cross-section)			
• Rigid/flexible in mm²	25 ... 35 / 25 ... 35	25...50 / 35...50	35...95 / 50...95
• Flexible without ferrule with plastic sleeve in mm²	16 ... 35	25 ... 50	35 ... 50
Stripped length in mm	30	40	
Plug gage (IEC 60947-1)	B12	B14	B15
Screw thread	–	M 10	
Tightening torque in Nm	–	25 ... 30	
Clamping point: screw thread/tightening torque in – / Nm	M8 / 15 ...20 (hexagon socket-head screw)	–	–
Fixing: screw thread/tightening torque in – / Nm	M8 / 15 ...20 (hexagon socket-head screw)	–	–
Insulation type	PA		
• Flammability class according to UL 94	V0		
Approval data (UL/CUL and CSA)			
• Nominal voltage/current / cable sizes			
- UL/CUL: V / A / AWG	2 ... 4 / 0	600 / 285 / 2 AWG – 300 kcmil	600 / 380 / 00 – 500 kcmil
- CSA: V / A / AWG	2 ... 4 / 0	600 / 275 / 2 AWG – 300 kcmil	600 / 400 / 0 – 500 kcmil
Mounting rails/protective conductor busbar	See section *Mounting rails*	–	

Selection and ordering data

	Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Terminal size 50 mm²					
 8WH1 000-0AN00	**High-current terminals, terminal size 50 mm²** • Terminal width 20 mm • c UL us • IEC 60947-7-1 - Rigid 16-50 mm² - Flexible 25-50 mm² - AWG 6-0 - I = 150 A - U = 1000 V • EN 50019 (EU type approval certification No.: KEMA 98ATEX1786U) - Rigid 16-50 mm² - Flexible 25-50 mm² - AWG 6-0 - I = 135 A - U = 750 V				
	Versions				
	• Gray	**8WH1 000-0AN00**		044	10
	• Blue	**8WH1 000-0AN01**		044	10

Accessories	Section	Page			
Pick-off terminals, for terminal size 50 mm²	Accessories	1/13	**8WH9 120-0AA00**	044	10
Insertion profiles, for terminal size 50 mm²	Accessories	1/13	**8WH9 020-3MA00**	044	10
Permanent links, for terminal size 50 mm²					
• 2-pole	Accessories	1/14	**8WH9 020-6HC00**	044	10
• 3-pole	Accessories	1/14	**8WH9 020-6HD00**	044	10

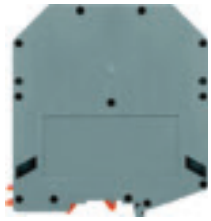
*** You can order this quantity or a multiple thereof.**

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

HIgh-current terminals

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
 8WH1 000-0CN07	**High-current PE terminals, terminal size 50 mm²** • Terminal width 20 mm • c UL us • IEC 60947-7-1 - rigid 16-50 mm² - flexible 25-50 mm² - AWG 6-0 - I = 150 A - U = 1000 V • EN 50019 (EU type approval certification No.: KEMA 98ATEX1786U) - rigid 16-50 mm² - flexible 25-50 mm² - AWG 6-0 - I = 135 A - U = 750 V			**8WH1 000-0CN07**		044	10
	Accessories	Section	Page				
	Insertion profiles, for terminal size 50 mm²	Accessories	1/13	**8WH9 020-3MA00**		044	10
Terminal size 95 mm²							
 8WH1 000-0AQ00	**High-current terminals, terminal size 95 mm²** • Terminal width 25 mm • c UL us GL • IEC 60947-7-1 - rigid 25-95 mm² - flexible 35-95 mm² - AWG 4-000 - I = 232 A - U = 1000 V						
	Versions						
	• Gray			**8WH1 000-0AQ00**		044	10
	• Blue			**8WH1 000-0AQ01**		044	10
	Accessories	Section	Page				
	Pick-off terminals, for terminal size 95 mm²	Accessories	1/13	**8WH9 120-0BA00**		044	10
	Combs, for terminal size 95 mm²						
	• 2-pole	Accessories	1/13	**8WH9 020-3AA00**		044	10
	• 3-pole	Accessories	1/13	**8WH9 020-3BA00**		044	10
	Insertion profiles, for terminal size 95 mm²	Accessories	1/13	**8WH9 020-3NA00**		044	10
 8WH1 000-0CQ07	**High-current PE terminals, terminal size 95 mm²** • Green-yellow • Terminal width 25 mm • c UL us GL • IEC 60947-7-1 - rigid 25-95 mm² - flexible 35-95 mm² - AWG 4-000 - I = 232 A - U = 1000 V			**8WH1 000-0CQ07**		044	10
	Accessories	Section	Page				
	Insertion profiles, for terminal size 95 mm²	Accessories	1/13	**8WH9 020-3NA00**		044	10
 8WA1 010-1PQ00	**High-current PE terminals and high-current PEN terminals, terminal size 95 mm², two screw terminals** • Bare • For I = 232 A • Mounting width 16 mm • Terminal height 63 mm • Terminal length 75 mm • For 35 mm x 15 mm mounting rail only			**8WA1 010-1PQ00**		041	5

* You can order this quantity or a multiple thereof.

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Terminal size 150 mm²							
 8WH1 000-0AS00	**High-current terminals, terminal size 150 mm²** • Terminal width 31 mm • cULus • IEC 60947-7-1 - rigid 35–150 mm² - flexible 50–150 mm² - AWG 2-300 - I = 309 A - U = 1000 V						
	Versions						
	• Gray			**8WH1 000-0AS00**		044	10
	• Blue			**8WH1 000-0AS01**		044	10
	Accessories	Section	Page				
	Tap-off terminals, for terminal size 150 to 240 mm²	Accessories	1/13	**8WH9 120-0CA00**		044	10
	Combs, for terminal size 150 mm²						
	• 2-pole	Accessories	1/13	**8WH9 020-3CA00**		044	10
	• 3-pole	Accessories	1/13	**8WH9 020-3DA00**		044	10
	Insertion profiles, for terminal size 150 and 240 mm²	Accessories	1/13	**8WH9 020-3PA00**		044	10
Terminal size 240 mm²							
 8WH1 000-0AU00	**High-current terminals, terminal size 240 mm²** • Terminal width 36 mm • cULus • IEC 60947-7-1 - rigid 70–240 mm² - flexible 70–240 mm² - AWG 00-500 - I = 415 A - U = 1000 V						
	Versions						
	• Gray			**8WH1 000-0AU00**		044	10
	• Blue			**8WH1 000-0AU01**		044	10
	Accessories	Section	Page				
	Tap-off terminals, for terminal size 150 to 240 mm²	Accessories	1/13	**8WH9 120-0CA00**		044	10
	Combs, for terminal size 240 mm²						
	• 2-pole	Accessories	1/13	**8WH9 020-3EA00**		044	10
	• 3-pole	Accessories	1/13	**8WH9 020-3FA00**		044	10
	Insertion profiles, for terminal size 150 and 240 mm²	Accessories	1/13	**8WH9 020-3PA00**		044	10
Accessories							
 8WH9 120-0AA00	**Tap-off terminals** • When wiring a pick-off with a smaller cross-section, observe the overload and short-circuit strength specified in VDE 0100 Part 430 • I_{max}: 57 A						
	Versions						
	• For terminal size 50 mm²			**8WH9 120-0AA00**		044	10
	• For terminal size 95 mm²			**8WH9 120-0BA00**		044	10
	• For terminal size 150 to 240 mm²			**8WH9 120-0CA00**		044	10
 8WH9 020-3AA00	**Combs** • Totally insulated • Fitted in the clamping sleeve and latched with the terminal enclosure.						
	Versions						
	• For terminal size 95 mm²						
	- 2-pole			**8WH9 020-3AA00**		044	10
	- 3-pole			**8WH9 020-3BA00**		044	10
	• For terminal size 150 mm²						
	- 2-pole			**8WH9 020-3CA00**		044	10
	- 3-pole			**8WH9 020-3DA00**		044	10
	• For terminal size 240 mm²						
	- 2-pole			**8WH9 020-3EA00**		044	10
	- 3-pole			**8WH9 020-3FA00**		044	10
 8WH9 020-3MA00	**Insertion profiles** Evens out the prismatic sleeve floor when using flat conductors						
	Versions						
	• For terminal size 50 mm²			**8WH9 020-3MA00**		044	10
	• For terminal size 95 mm²			**8WH9 020-3NA00**		044	10
	• For terminal size 150 and 240 mm²			**8WH9 020-3PA00**		044	10

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

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

HIgh-current terminals

	Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
 8WH9 020-6HC00	**Permanent links, for terminal size 50 mm²** • For cross links • Screw heads with insulating collar • Remove partition first • I_{max}= 150 A				
	Versions				
	• 2-pole	**8WH9 020-6HC00**		044	10
	• 3-pole	**8WH9 020-6HD00**		044	10
 8WH8 120-5AB05	**Labeling plates, front, for terminal width 10.2 mm, horizontal inscription** • Incremental numbering				
	- 1 to 10 (10×)	**8WH8 120-5AB05**		044	100
 8WH8 120-5AA15	- 11 to 20 (10×)	**8WH8 120-5AB15**		044	100
	- 21 to 30 (10×)	**8WH8 120-5AB25**		044	100
	- 31 to 40 (10×)	**8WH8 120-5AB35**		044	100
8WH8 120-5AA25	• L1/L2/L3/N/PE	**8WH8 120-5AA15**		044	100
	• Custom inscription	**8WH8 120-5XA05**		044	100
	• U/V/W/N/grounding	**8WH8 120-5AA25**		044	100
8WH8 140-5AB05	**Labeling plates, front, for terminal width 10.2 mm, vertical inscription** • Incremental numbering				
	- 1 to 10 (10×)	**8WH8 140-5AB05**		044	100
	- 11 to 20 (10×)	**8WH8 140-5AB15**		044	100
	- 21 to 30 (10×)	**8WH8 140-5AB25**		044	100
	- 31 to 40 (10×)	**8WH8 140-5AB35**		044	100
	• Custom inscription	**8WH8 140-5XA05**		044	100
8WH8 110-5AA05	**Labeling plates, front, for terminal width 10.2 mm, blank**	**8WH8 110-5AA05**		044	100

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

Overview

The bolt-type screw terminals complement the range of flat-type terminals. The bolt-type screw terminals for cable lugs according to DIN 46234 and DIN 46237 are available in M 6, M 8 and M 10 versions. The screws are locked with spring washers. Large labels can be applied to the bolt on both sides of the mounting rail. A comprehensive range of accessories, such as the connecting rails for cross-linking, allow reliable, convenient wiring of the conductors.

The bolt can be labeled on both sides of the mounting rail with large clip-on labeling strips.

Mounting on mounting rails according to IEC 60715

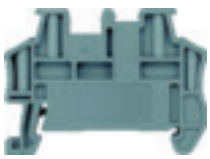
Technical specifications

	8WH1 070-0AN00	8WH1 070-0AQ00	8WH1 070-0AS00
Dimensions			
• Width / length / width of bolts in mm	18.4 / 43.5 / 25	24.5 / 43.5 / 25	32.6 / 43.5 / 25
• Height HV-M... (TS 35/7.5) in mm	59	59 / 66.5	
• Height HV-M...-HR (TS 35/15) in mm	66.5		
Technical specifications according to IEC/DIN VDE			
• Rated impulse withstand voltage/pollution degree in kV / –	8 / 3		
• Overvoltage category/insulating group in – / –	III / II		
Connection capacity			
• Cable lugs, DIN 46235 in mm^2	6 ... 25	16 ... 25	16 ... 50
Screw thread	M 6	M 8	M 10
Tightening torque [Nm]	3 ... 7	6 ... 15	10 ... 18
Insulation type	PC-GF		
• Flammability class according to UL 94	V0		

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Bolt-type screw terminals

Selection and ordering data

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Terminal size 50 mm²							
 8WH1 070-0AN00	**Bolt-type screw terminals, terminal size 50 mm²** • Gray • M6 • For mounting on mounting rail according to IEC 60715 • Terminal width 18.4 mm • I = 150 A			**8WH1 070-0AN00**		044	50
	Accessories	Accessories	Page				
	Quick-fit end retainers	Accessories	1/16	**8WH9 150-0CA00**		044	50
Terminal size 95 mm²							
 8WH1 070-0AQ00	**Bolt-type screw terminals, terminal size 95 mm²** • Gray • M8 • For mounting on mounting rail according to IEC 60715 • Terminal width 24.5 mm • I = 232 A			**8WH1 070-0AQ00**		044	25
	Accessories	Accessories	Page				
	Quick-fit end retainers	Accessories	1/16	**8WH9 150-0CA00**		044	50
Terminal size 150 mm²							
 8WH1 070-0AS00	**Bolt-type screw terminals, terminal size 150 mm²** • Gray • M10 • For mounting on mounting rail according to IEC 60715 • Terminal width 32.6 mm • I = 309 A			**8WH1 070-0AS00**		044	25
	Accessories	Accessories	Page				
	Quick-fit end retainers	Accessories	1/16	**8WH9 150-0CA00**		044	50
Accessories							
 8WH9 150-0CA00	**Quick-fit end retainers** For labeling with front labeling plates, for terminal width 5.2 mm and terminal strip markers			**8WH9 150-0CA00**		044	50

* You can order this quantity or a multiple thereof.

Overview

The range of flat-type terminals cover cross-sectional areas from 10 to 240 mm². Each terminal size is available as a bolt-type terminal for cable lugs and for direct connection with clamping sleeve. The screws of the bolt-type terminals are secured with spring washers and those for direct connection with the Reakdyn principle.

For mounting on mounting rails according to IEC 60715.

Technical specifications

	8WH1 060-0AL00	8WH1 060-0AN00	8WH1 060-0AQ00	8WH1 060-0AS00	8WH1 060-0AU00
Dimensions					
• Height / length / width in mm	53 / 88 / 26	54.5 / 95 / 32	56 / 110 / 40	56 / 110 / 46	58 / 125 / 53
Technical specifications according to IEC/DIN VDE					
• Maximum load current/cross-section in A / mm²	101 / 25	150 / 50	232 / 95	309 / 150	415 / 240
• Rated impulse withstand voltage/pollution degree in kV / –	8 / 3				
• Overvoltage category/insulating group – / –	III / II				
Connection capacity					
• Flexible with ferrule with/without insulating sleeve in mm²	4 ... 25 / 4 ... 25	25 ... 50 / 25 ... 50	35 ... 95 / 35 ... 95	50 ... 150 / 50 ... 150	70 ... 185 / 70 ... 185
• Set of screws/terminal bolts	M 8	M 10	M 12		M 16
• Eye diameter/busbar in mm / mm	8.4 / 15 x 3	10.5 / 20 x 3	13 / 30 x 5		17 / 40 x 5
• Cable lugs, DIN 46235 in mm²	16 ... 25	16 ... 50	25 ... 95	25 ... 150	50 ... 185
• Flexible with ferrule with/without insulating sleeve in mm²	2.5 ... 25	6 ... 50	10 ... 95	10 ... 150	25 ... 240
Multi-conductor connection (two conductors of same cross-section)					
• Rigid/flexible in mm²	2.5 ... 10 / 4 ... 10	10 ... 16 / 10 ... 16	25 ... 35 / 25 ... 35	25 ... 50 / 35 ... 50	35 ... 95 / 50 ... 95
• Flexible without ferrule with plastic sleeve in mm²	2.5 ... 10	10 ... 16	16 ... 35	25 ... 50	35 ... 50
Stripped length in mm	21	26	29	34	
Plug gage (IEC 60947-1)	B8	B10	B12	B14	B15
KH: screw thread/tightening torque in – / Nm	M 5 / 4 ... 4,5	M 6 / 6 ... 8	M 8 / 15 ... 20	M 10 / 25 ... 30	
Set of screws AS: Tightening torque in Nm	15 ... 20	25 ... 30			30 ... 35
Insulation type	PA-F				
• Flammability class according to UL 94	HB				
Approval data (UL/CUL and CSA)					
• Nominal voltage/current / cable sizes					
- UL/CUL: V / A / AWG	600 / 85 / 6 – 4	600 / 150 / 6 – 0	600 / 230 / 2 – 000	600 / 285 / 2 AWG – 300 kcmil	600 / 380 / 0 AWG – 500 kcmil
- CSA: V / A / AWG	600 / 100 / 6 – 4	600 / 125 / 6 – 0	600 / 200 / 2 – 000	600 / 275 / 2 AWG – 300 kcmil	600 / 400 / 0 AWG – 500 kcmil

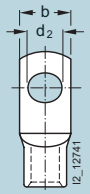
Safe cable lug connection

In the flat-type terminals, cable lugs are securely clamped with screws. The screws are secured with a spring washer. Cable lugs according to DIN 46234 and DIN 46235 can be connected.

A two-wire connection is also possible by clamping one conductor with cable lug underneath the current bar the second on the current bar. See compartmentalization drawing.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Flat-type terminals

		Cable lug, DIN 46234:1980-03		Cable lug, DIN 46235:1983-07	
					
	Conductor cross-section in mm²	**Hole ∅ d_2 in mm**	**Width d_3 in mm**	**Hole ∅ d_2 in mm**	**Width b in mm**
M6	1.5	6.4	10	–	–
	2.5	6.4	11	–	–
	6	6.4	11	6.4	8.5
	10	6.4	11	6.4	8.5
	16	6.4	11	6.4	12
	25	6.4	12	6.4	14
	35	6.4	16	–	–
	50	6.4	18	–	–
M8	2.5	8.4	14	–	–
	6	8.4	14	–	–
	10	8.4	14	–	–
	16	8.4	14	8.4	13
	25	8.4	16	8.4	16
	35	8.4	16	8.4	17
	50	8.4	18	8.4	20
	70	8.4	22	8.4	24
	95	8.4	24	–	–
	120	8.4	24	–	–
M10	6	10.5	18	–	–
	10	10.5	18	–	–
	16	10.5	18	10.5	17
	25	10.5	18	10.5	17
	35	10.5	18	10.5	19
	50	10.5	18	10.5	22
	70	10.5	22	10.5	24
	95	10.5	24	10.5	28
	120	10.5	24	10.5	32
	150	10.5	30	10.5	34
	185	10.5	36	10.5	37
	240	10.5	38	–	–
M12	10	13	22	–	–
	16	13	22	–	–
	25	13	22	13	19
	35	13	22	13	21
	50	13	22	13	24
	70	13	22	13	24
	95	13	24	13	28
	120	13	24	13	32
	150	13	30	13	34
	185	13	36	13	37
	240	13	38	13	42
M16	25	17	28	–	–
	35	17	28	–	–
	50	17	28	17	28
	70	17	28	17	30
	95	17	28	17	32
	120	17	28	17	32
	150	17	30	17	34
	185	17	36	17	37
	240	17	38	17	42

Selection and ordering data

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Terminal size 25 mm²							
 8WH1 060-0AL00	**Flat-type terminals, terminal size 25 mm²** • At both sides with set of screws • For busbar and cable lug connection • Terminal width 26 mm • , • Clamping sleeve, 6-25 mm² • AWG 10-4 • IEC 60947-7-1 • Supply data - I = 101 A - U = 1000 V • Height/length/width in mm: 53/88/23			**8WH1 060-0AL00**		044	10
	Accessories	Section	Page				
	Insulating plates, for terminal size 25 to 50 mm²	Accessories	1/20	**8WH9 070-0VA00**		044	10
	Link rails, for terminal size 25 mm²						
	• 2-pole	Accessories	1/20	**8WH9 030-3AC00**		044	10
	• 3-pole	Accessories	1/20	**8WH9 030-3AD00**		044	10
Terminal size 50 mm²							
 8WH1 060-0AN00	**Flat-type terminals, terminal size 50 mm²** • Double conductor run with set of screws • For busbar and cable lug connection • Terminal width 32 mm • , • Clamping sleeve, 25-50 mm² • AWG 6-0 • IEC 60947-7-1 • Supply data - I = 150 A - U = 1000 V • Height/length/width in mm: 54,5/95/32			**8WH1 060-0AN00**		044	10
	Accessories	Section	Page				
	Insulating plates, for terminal size 25 to 50 mm²	Accessories	1/20	**8WH9 070-0VA00**		044	10
	Link rails, for terminal size 50 mm²						
	• 2-pole	Accessories	1/20	**8WH9 030-3BC00**		044	10
	• 3-pole	Accessories	1/20	**8WH9 030-3BD00**		044	10
Terminal size 95 mm²							
 8WH1 060-0AQ00	**Flat-type terminals, terminal size 95 mm²** • Double conductor run with set of screws • For busbar and cable lug connection • Terminal width 40 mm • , • Clamping sleeve, 35–95 mm² • AWG 4-000 • IEC 60947-7-1 • Supply data - I = 232 A - U = 1000 V • Height/length/width in mm: 56/110/40			**8WH1 060-0AQ00**		044	10
	Accessories	Section	Page				
	Insulating plates, for terminal size 95 to 240 mm²	Accessories	1/20	**8WH9 070-0WA00**		044	10
	Link rails, for terminal size 95 mm²						
	• 2-pole	Accessories	1/20	**8WH9 030-3CC00**		044	10
	• 3-pole	Accessories	1/20	**8WH9 030-3CD00**		044	10
Terminal size 150 mm²							
 8WH1 060-0AS00	**Flat-type terminals, terminal size 150 mm²** • Double conductor run with set of screws • For busbar and cable lug connection • Terminal width 46 mm • , • Clamping sleeve 50–150 mm² • AWG 2-300 • IEC 60947-7-1 • Supply data - I = 309 A - U = 1000 V • Height/length/width in mm: 56/110/46			**8WH1 060-0AS00**		044	10
	Accessories	Section	Page				
	Insulating plates, for terminal size 95 to 240 mm²	Accessories	1/20	**8WH9 070-0WA00**		044	10
	Link rails, for terminal size 150 mm²						
	• 2-pole	Accessories	1/20	**8WH9 030-3DC00**		044	10
	• 3-pole	Accessories	1/20	**8WH9 030-3DD00**		044	10

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

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Flat-type terminals

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Terminal size 240 mm²							
 8WH1 060-0AU00	**Flat-type terminals, terminal size 240 mm²** • Double conductor run with set of screws • For busbar and cable lug connection • Flat clamp must be fitted • Terminal width 53 mm • , • Clamping sleeve, 70–240 mm² • AWG kcmil 00-500 • IEC 60947-7-1 • Supply data - I = 415 A - U = 1000 V • Height/length/width in mm: 56/125/53			**8WH1 060-0AU00**		044	5
	Accessories	Section	Page				
	Flat clamps, for terminal size 240 mm²	Accessories	1/20	**8WH9 140-0KA00**		044	10
	Insulating plates, for terminal size 95 to 240 mm²	Accessories	1/20	**8WH9 070-0WA00**		044	10
	Link rails, for terminal size 240 mm²						
	• 2-pole	Accessories	1/20	**8WH9 030-3EC00**		044	10
	• 3-pole	Accessories	1/20	**8WH9 030-3ED00**		044	10
Accessories							
 8WH9 140-0KA00	**Flat clamps, for terminal size 240 mm²** • Raises busbar 12 mm over surface • Required for engaging and releasing terminal 8WH1 060-0AU00			**8WH9 140-0KA00**		044	10
 8WH8 120-5AB05	**Labeling plates, front, for terminal width 10.2 mm, horizontal inscription** • Incremental numbering						
	- 1 to 10 (10×)			**8WH8 120-5AB05**		044	100
 8WH8 120-5AA15	- 11 to 20 (10×)			**8WH8 120-5AB15**		044	100
	- 21 to 30 (10×)			**8WH8 120-5AB25**		044	100
	- 31 to 40 (10×)			**8WH8 120-5AB35**		044	100
8WH8 120-5AA25	• L1/L2/L3/N/PE			**8WH8 120-5AA15**		044	100
	• Custom inscription			**8WH8 120-5XA05**		044	100
	• U/V/W/N/grounding			**8WH8 120-5AA25**		044	100
8WH8 140-5AB05	**Labeling plates, front, for terminal width 10.2 mm, vertical inscription** • Incremental numbering						
	- 1 to 10 (10×)			**8WH8 140-5AB05**		044	100
	- 11 to 20 (10×)			**8WH8 140-5AB15**		044	100
	- 21 to 30 (10×)			**8WH8 140-5AB25**		044	100
	- 31 to 40 (10×)			**8WH8 140-5AB35**		044	100
	• Custom inscription			**8WH8 140-5XA05**		044	100
8WH8 110-5AA05	**Labeling plates, front, for terminal width 10.2 mm, blank**			**8WH8 110-5AA05**		044	100
 8WH9 070-0VA00	**Insulating plates** • Gray • Can be snapped in without separation loss between the terminal mountings • 180 mm wide						
	Versions						
	• For terminal size 25 to 50 mm²			**8WH9 070-0VA00**		044	10
	• For terminal size 95 to 240 mm²			**8WH9 070-0WA00**		044	10
 8WH9 030-3AC00	**Link rails** For cross-linking high-current connectors with screw set AS						
	• For terminal size 25 mm²						
	- 2-pole			**8WH9 030-3AC00**		044	10
	- 3-pole			**8WH9 030-3AD00**		044	10
	• For terminal size 50 mm²						
	- 2-pole			**8WH9 030-3BC00**		044	10
	- 3-pole			**8WH9 030-3BD00**		044	10
	• For terminal size 95 mm²						
	- 2-pole			**8WH9 030-3CC00**		044	10
	- 3-pole			**8WH9 030-3CD00**		044	10
	• For terminal size 150 mm²						
	- 2-pole			**8WH9 030-3DC00**		044	10
	- 3-pole			**8WH9 030-3DD00**		044	10
	• For terminal size 240 mm²						
	- 2-pole			**8WH9 030-3EC00**		044	10
	- 3-pole			**8WH9 030-3ED00**		044	10

* You can order this quantity or a multiple thereof.

Overview

Neutral isolating terminals allow an insulation test to be performed without disconnecting the neutral conductor according to DIN VDE 0108 and DIN VDE 0100 (Standards for the installation of electric power equipment).

The branch terminals are used for the connection of lines (L), for example for power supplies, to the 6 mm x 6 mm busbar.

The rated voltage between two branch terminals (1 slide open) is 289 V.

When they are used as shield terminals according to DIN VDE 0160, they provide isolation between the central reference point (shield connection conductor) and the PE conductor.

Selection and ordering data

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • With 1 screw terminal as well as connection to the neutral conductor bar or 6 mm × 6 mm busbar according to DIN 1761 • Insulating body made of blue or beige thermoplastic • Enclosed on both sides						
	Note	Section	Page				
	For labeling accessories see ...	Accessories	6/2				
Terminal size 2.5 mm²							
 8WA1 011-1NF01	**Neutral isolating terminals, terminal size 2.5 mm²** • Blue • Rated uninterrupted current 24 A • Rated insulation voltage 500 V • Mounting width 6 mm • Terminal height 35 mm • Terminal length 55 mm • With built-in test socket in the fixed part of the terminal • AWG 22-12 • AWG 22-12			**8WA1 011-1NF01**		041	50
	Accessories	Section	Page				
	Covers, for link rails	Accessories	1/23	**8WA1 822-7AX00**		041	10
	N/NP busbars	Accessories	1/23	**8GF9 324-2**		042	10
	Label mounts	Accessories	1/23	**3TX4 210-0J**		101	100
	Bars, flat copper	Accessories	1/23	**8WC5 120**		103	1
	Branch terminals, terminal size 2.5 mm² • Beige • Isolating distance 400 V • Mounting width 6 mm • Terminal height 35 mm • Terminal length 55 mm • With built-in test socket in the fixed part of the terminal • Isolating distance • AWG 22-12 • AWG 22-12			**8WA1 011-1NF02**		041	50
	Accessories	Section	Page				
	Covers, for link rails	Accessories	1/23	**8WA1 822-7AX00**		041	10
	N/NP busbars	Accessories	1/23	**8GF9 324-2**		042	10
	Label mounts	Accessories	1/23	**3TX4 210-0J**		101	100
	Bars, flat copper	Accessories	1/23	**8WC5 120**		103	1
Terminal size 4 mm²							
 8WA1 011-1NG31	**Neutral isolating terminals, terminal size 4 mm²** • Blue • Rated uninterrupted current 32 A • Rated insulation voltage 500 V • Mounting width 6.5 mm • Terminal height 35 mm • Terminal length 55 mm • With built-in test socket in the fixed part of the terminal • AWG 18-10 • AWG 18-10			**8WA1 011-1NG31**		041	50
	Accessories	Section	Page				
	Covers, for link rails	Accessories	1/23	**8WA1 822-7AX00**		041	10
	Feeder terminals, for neutral conductor busbars	Accessories	1/23	**8WA2 867**		041	50
	N/NP busbars	Accessories	1/23	**8GF9 324-2**		042	10
	Label mounts	Accessories	1/23	**3TX4 210-0J**		101	100
	Bars, flat copper	Accessories	1/23	**8WC5 120**		103	1

*** See pages 7/9 through 7/12 for 8WA package size requirements.**

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Neutral isolating and branch terminals

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	Branch terminals, terminal size 4 mm² • Beige • Isolating distance 400 V • Mounting width 6.5 mm • With built-in test socket in the fixed part of the terminal • Isolating distance • AWG 18-10 • AWG 18-10			**8WA1 011-1NG32**		041	50
	Accessories	Section	Page				
	Covers, for link rails	Accessories	1/23	**8WA1 822-7AX00**		041	10
	N/NP busbars	Accessories	1/23	**8GF9 324-2**		042	10
	Label mounts	Accessories	1/23	**3TX4 210-0J**		101	100
	Bars, flat copper	Accessories	1/23	**8WC5 120**		103	1
Terminal size 6 mm²							
 8WA1 011-1NH01	**Neutral isolating terminals, terminal size 6 mm²** • Blue • Rated uninterrupted current 41 A • Rated insulation voltage 500 V • Mounting width 8 mm • Terminal height 35 mm • Terminal length 55 mm • With built-in test socket in the fixed part of the terminal • AWG 14-8 • AWG 14-8			**8WA1 011-1NH01**		041	50
	Accessories	Section	Page				
	Covers, for link rails	Accessories	1/23	**8WA1 822-7AX00**		041	10
	N/NP busbars	Accessories	1/23	**8GF9 324-2**		042	10
	Label mounts	Accessories	1/23	**3TX4 210-0J**		101	100
	Bars, flat copper	Accessories	1/23	**8WC5 120**		103	1
Terminal size 16 mm²							
 8WA1 604	**Neutral isolating terminals, terminal size 16 mm²** • Blue • Rated uninterrupted current 76 A • Rated insulation voltage 500 V • Mounting width 10 mm • Terminal height 35 mm • Terminal length 55 mm • AWG 12-4			**8WA1 604**		041	50
	Accessories	Section	Page				
	Covers, for link rails	Accessories	1/23	**8WA1 822-7AX00**		041	10
	Feeder terminals, for neutral conductor busbar	Accessories	1/23	**8WA2 868**		041	50
	N/NP busbars	Accessories	1/23	**8GF9 324-2**		042	10
	Label mounts	Accessories	1/23	**3TX4 210-0J**		101	100
	Bars, flat copper	Accessories	1/23	**8WC5 120**		103	1

* See pages 7/9 through 7/12 for 8WA package size requirements.

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	Branch terminals, terminal size 16 mm² • Beige • Isolating distance 400 V • Mounting width 10 mm • Isolating distance • AWG 12-4			**8WA1 011-1NK02**		041	50
	Accessories	Section	Page				
	Covers, for link rails	Accessories	1/23	**8WA1 822-7AX00**		041	10
	N/NP busbars	Accessories	1/23	**8GF9 324-2**		042	10
	Label mounts	Accessories	1/23	**3TX4 210-0J**		101	100
	Bars, flat copper	Accessories	1/23	**8WC5 120**		103	1
Accessories							
 8WA1 822-7AX00	**Covers, for link rails** • Not for 8WA1 604 and 8WA1 011-1NK02 • Length 155 mm			**8WA1 822-7AX00**		041	10
 8WA2 867/8WA2 868/8WA2 870	**Feeder terminals, for neutral conductor busbars** • 6 × 6 mm and 10 × 3 mm • Bare						
	Versions						
	• Rated uninterrupted current 32 A, for connection of up to 4 mm^2			**8WA2 867**		041	50
	• Rated uninterrupted current 76 A, for connection of up to 25 mm^2			**8WA2 868**		041	50
	• Rated uninterrupted current 125 A, for connection of up to 35 mm^2			**8WA2 870**		041	50
 8GF9 324-2	**N/NP busbars** • Rated uninterrupted current 125 A • 1109 mm long • 6 x 6 mm • For four-field			**8GF9 324-2**		042	10
	Label holder			**3TX4 210-0J**		101	100
	Bars, flat copper • Bare • Rated uninterrupted current 125 A • Approx. 2400 mm long • 6 x 6 mm			**8WC5 120**		103	1

* See pages 7/9 through 7/12 for 8WA package size requirements.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Insta- or three-tier terminals

Overview

The Insta or three-tier terminals incorporate up to 3 different terminal functions in one insulating body of 6 mm width. The width von 3 Insta terminals corresponds with the hole pitch of 18 mm standardized in distribution board assembly. To remove the terminals from the mounting rail, tools are required.

All connection points for incoming and outgoing cables have a notch for an identification label 8WA8 8.. . The PE/ground terminals are already marked green-yellow and the neutral conductor terminals blue.

The neutral conductor busbar has the same position for Insta terminals and neutral isolating terminals. This allows , for example, the use of a 16mm² neutral isolating terminal as an infeed for the neutral conductor busbar.

With 8WA1 011-3JF16, -3JF17 and -3JF18, the neutral conductor busbar can routed with a mounting depth of 42.5 mm.

Insta terminal PE, L, NT

The 8WA1 011-3JF20 terminal is the basic version for AC circuits. It contains:

- PE/ground terminal
- Through-type connection for one phase conductor
- Neutral conductor connection which can be isolated from the 6 mm × 6 mm neutral busbar.

Insta terminal PE, L, N

If no neutral isolation is required, the 8WA1 011-3JF17 terminal is used:

- PE/ground terminal
- Through-type connection for one phase conductor
- Through-type connection for the neutral conductor

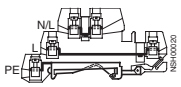
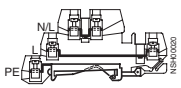
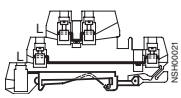
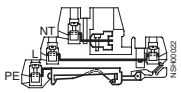
Insta terminal PE, L, L

Design of 8WA1 011-3JF16 terminal as previous version. Instead of the through-type connection for the neutral conductor, a through-type connection for a second phase conductor is fitted.

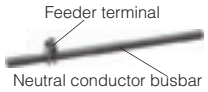
Insta terminal, L, L

Terminal 8AW1 011-3JF18 contains two through-type connections for two phase conductors. These are generally used for three-phase load circuits.

Selection and ordering data

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • Thermoplastic insulating base • Screw terminal on both sides • Enclosed on both sides • Neutral conductor connection, 6 mm x 6 mm neutral conductor connection						
	Note	Section	Page				
	For labeling accessories see ...	Accessories	6/2				
Terminal size 2.5 mm²							
 8WA1 011-3JF16	**Insta terminals, terminal size 2.5 mm²** • Rated uninterrupted current 24 A • Rated insulation voltage - 400 V between phase conductors - 250 V between phase and PE conductors and for neutral isolating distance • Mounting width 6 mm • Terminal height 42.5 mm • Terminal length 87 mm • Screw terminal with double conductor run • cULus AWG 22-12						
	Circuit diagram	Type					
		PE, L, L		**8WA1 011-3JF16**		041	50
		PE, L, N		**8WA1 011-3JF17**		041	50
		L, L		**8WA1 011-3JF18**		041	50
		PE, L, NT		**8WA1 011-3JF20**		041	50
	Accessories	Section	Page				
	Insulation plates, for terminal size 2.5 to 6 mm²	Accessories	1/25	**8WA1 825**		041	50
	Barriers, for Insta terminals, terminal size 2.5 mm and measuring transformer terminals, terminal size 6 mm	Accessories	1/25	**8WA1 822-7TH00**		041	50

* See pages 7/9 through 7/12 for 8WA package size requirements.

	Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Accessories					
	Covers Up to three terminals side-by-side				
	Versions				
	• With lightning symbol, for terminal size 4 and 6 mm²	**8WA1 811**		041	50
	• White, facility for inscription, for terminal size 4 and 6 mm²	**8WA1 862**		041	50
	• For link rails, for terminal size 2.5 to 6 mm²				
	- Transparent	**8WA1 822-7AX01**		041	10
	- White	**8WA1 822-7AX03**		041	10
 8WA2 867/8WA2 868/8WA2 870	**Feeder terminals, for neutral conductor busbar** • 6 × 6 mm and 10 × 3 mm • Bare				
	Versions				
	• Connection up to 4 mm²	**8WA2 867**		041	50
	• Connection up to 25 mm²	**8WA2 868**		041	50
	• Connection up to 35 mm²	**8WA2 870**		041	50
 8WA1 808	**End retainers, thermoplastic** Width 10 mm	**8WA1 808**		041	50
	Device identification labels For end retainer, blank label	**3TX4 210-0H**		101	100
 8WA1 857	**Insulation carriers, for surface mounting insulated mounting rails**	**8WA1 857**		041	20
	Blank labels For terminal marking	**8WA8 848-2AY**		041	100
 8GF9 324-2 / 8WC5 020	**N/NP busbars** • Rated uninterrupted current 125 A • 1109 mm long • 6 x 6 mm • For four-field	**8GF9 324-2**		042	10
	Note Prices apply for orders from € 25.00. For orders below € 25.00, a processing charge of € 2.50 net is added.				
	Bars, flat copper • Bare • Rated uninterrupted current 125 A • Approx. 2400 mm long • 6 x 6 mm	**8WC5 120**		103	1
	Note Prices apply for orders from € 25.00. For orders below € 25.00, a processing charge of € 2.50 net is added.				
	Insulation plates, for terminal size 2.5 to 6 mm²	**8WA1 825**		041	50
	Link rails, for Insta terminals				
	• For two terminals	**8WA1 822-7VF02**		041	50
	• For three terminals	**8WA1 822-7VF03**		041	50
	• For four terminals	**8WA1 822-7VF04**		041	20
	• For ten terminals	**8WA1 822-7VF10**		041	10
	Barriers, for Insta terminals, terminal size 2.5 mm² and measuring transformer terminals, terminal size 6 mm²	**8WA1 822-7TH00**		041	50

*** See pages 7/9 through 7/12 for 8WA package size requirements.**

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Two-tier terminals

Overview

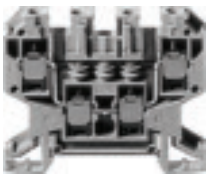
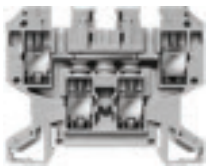
Two-tier terminals are a compact form of the terminal blocks. They are therefore open on one side. They can contain two connection lines with two connections each or they can be laid out as terminal blocks with four connections on the same potential.

An advantage is the standardized front for mounting, linking and labeling.

Technical specifications

Rated voltage	AC	DC
Between link rails		
• With insulation plate	400 V	450 V
• With end plate or barrier	800 V	900 V
• With disconnecting bridge opened	500 V	600 V
For alternately bent soldering tags	400 V	450 V
For adjacent terminals with soldering tags and insulated plugs	250 V	300 V

Selection and ordering data

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • Thermoplastic insulating base • Screw terminal on both sides						
	Note	Section	Page				
	For labeling accessories see ...	Accessories	6/2				
Terminal size 4 mm²							
 8WA1 011-6DG11	**Two-tier terminals, terminal size 4 mm²** • Rated uninterrupted current 32 A • Rated insulation voltage 690 V (with end plate 800 V) • Mounting width 6.5 mm • Terminal height 45 mm • Terminal length 64 mm • cULus AWG 18-10 • CSA AWG 18-10						
	Versions						
	• Beige						
	- 1-pole			**8WA1 011-6DG11**		041	50
	- 2-pole, with two isolated connections			**8WA1 011-2DG11**		041	50
	• Blue						
	- 1-pole			**8WA1 011-6BG11**		041	50
	- 2-pole, with two isolated connections			**8WA1 011-2BG11**		041	50
 8WA1 011-2DG11	Accessories	Section	Page				
	Covers						
	• With lightning symbol, for terminal size 4 and 6 mm²	Accessories	1/27	**8WA1 811**		041	50
	• White, facility for inscription, for terminal size 4 and 6 mm²	Accessories	1/27	**8WA1 862**		041	50
	• For link rails, for terminal size 2.5 to 6 mm², transparent	Accessories	1/27	**8WA1 822-7AX01**		041	10
	Links						
	• For upper tier of 2-pole terminals	Accessories	1/27	**8WA1 822-7VG00**		041	50
	• For lower tier of 1- and 2-pole terminals	Accessories	1/27	**8WA1 822-7VG01**		041	50
	Spacer sleeves	Accessories	1/27	**8WA1 822-7VH11**		041	100
	End plates	Accessories	1/27	**8WA1 817**		041	50
	Blade terminals	Accessories	1/27	**8WA1 890**		041	100
	Test sockets						
	• For upper tier of 2-pole terminals	Accessories	1/27	**8WA1 854**		041	100
	• For lower tier of 1- and 2-pole terminals	Accessories	1/27	**8WA1 884**		041	100
	Disconnecting bridges	Accessories	1/27	**8WA1 865**		041	50
	Insulation plates						
	• For upper tier of 2-pole terminals	Accessories	1/27	**8WA1 825**		041	50
	• For lower tier of 1- and 2-pole terminals	Accessories	1/27	**8WA1 825**		041	50
	Link rails						
	• For upper tier of 2-pole terminals						
	- for two terminals	Accessories	1/27	**8WA1 850**		041	50
	- for three terminals	Accessories	1/27	**8WA1 851**		041	50
	- for four terminals	Accessories	1/27	**8WA1 852**		041	20
	- for ten terminals	Accessories	1/27	**8WA1 853**		041	10
	• For lower tier of 1- and 2-pole terminals						
	- for two terminals	Accessories	1/27	**8WA1 835**		041	50
	- for ten terminals	Accessories	1/27	**8WA1 838**		041	10
	Barriers	Accessories	1/27	**8WA1 823**		041	25

* See pages 7/9 through 7/12 for 8WA package size requirements.

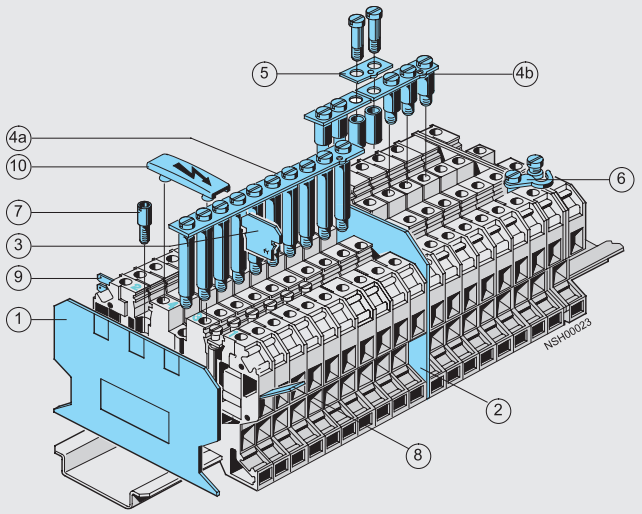
	Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Accessories					
 8WA1 811	**Covers** • With lightning symbol, for terminal size 4 and 6 mm² • White, facility for inscription, for terminal size 4 and 6 mm² • For link rails, for terminal size 2.5 to 6 mm², transparent	**8WA1 811** **8WA1 862** **8WA1 822-7AX01**		041 041 041	50 50 10
 8WA1 862					
 8WA1 822-7AX01					
	Links • For link rails • For terminal size 4 mm²				
	Versions				
	• For upper tier of 2-pole terminals • For lower tier of 1- and 2-pole terminals	**8WA1 822-7VG00** **8WA1 822-7VG01**		041 041	50 50
	Spacer sleeves • For lower tier of 1- and 2-pole terminals • Suitable for 2.3 mm test socket	**8WA1 822-7VH11**		041	100
	End plates, for two-tier terminals	**8WA1 817**		041	50
 8WA1 890	**Flat-type terminals** • For upper tier of 2-pole terminals • Slotted • For voltages up to 250 V • With terminal size 4 mm², 1 or 2 flat-type plugs can be fitted	**8WA1 890**		041	100
 8WA1 854	**Test sockets** Ø 2.3 mm				
	Versions				
	• For upper tier of 2-pole terminals • For lower tier of 1- and 2-pole terminals	**8WA1 854** **8WA1 884**		041 041	100 100
 8WA1 865	**Disconnecting bridges** For upper tier of 2-pole terminals	**8WA1 865**		041	50
	Note				
	The terminals must be fitted with end plates and must be fitted with the end plates facing each other.				
 8WA1 825	**Insulation plates, for terminal size 2.5 to 6 mm²** • For upper tier of 2-pole terminals • For lower tier of 1- and 2-pole terminals	**8WA1 825** **8WA1 825**		041 041	50 50
	Link rails • For upper tier of 2-pole terminals - for two terminals - for three terminals - for four terminals - for ten terminals • For lower tier of 1- and 2-pole terminals - for two terminals - for ten terminals	 **8WA1 850** **8WA1 851** **8WA1 852** **8WA1 853** **8WA1 835** **8WA1 838**		 041 041 041 041 041 041	 50 50 20 10 50 10
	Barriers	**8WA1 823**		041	25

* See pages 7/9 through 7/12 for 8WA package size requirements.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

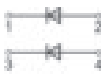
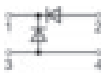
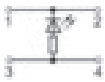
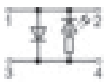
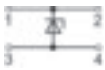
Two-tier terminals with electronic components

Design



① End plate
② Barrier
③ Insulation plate
④a Link rail for lower tier
④b Link rail for upper tier
⑤ Link for link rail
⑥ Disconnecting bridge
⑦ Test socket
⑧ Soldering tag
⑨ Flat-type plug, slotted
⑩ Cover with lightning symbol

Selection and ordering data

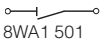
	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • Thermoplastic insulating base • Screw terminal on both sides • Open on one side						
	Note	Section	Page				
	For labeling accessories see ...	Accessories	6/2				
Terminal size 4 mm²							
 8WA1 011-6EG20	**Diode terminals, terminal size 4 mm²** • Rated insulation voltage 250 V • Mounting width 6.5 mm • Terminal height 45 mm • Terminal length 64 mm • AWG 18-10						
	Circuit diagram	Type					
		Rated uninterrupted current 32/1 A		**8WA1 011-6EG20**		041	10
		Rated uninterrupted current 32/1 A		**8WA1 011-6EG21**		041	10
		Rated uninterrupted current 1 A		**8WA1 011-6EG22**		041	10
		Rated uninterrupted current 32/1 A		**8WA1 011-6EG23**		041	10
		Rated uninterrupted current 32/1 A		**8WA1 011-6EG24**		041	10
	Terminals with red LED, terminal size 4 mm² • Rated uninterrupted current 32 A • Rated insulation voltage 24 V • Mounting width 6.5 mm • Terminal height 45 mm • Terminal length 64 mm • AWG 18-10						
	Circuit diagram	Type					
		Without diode for current limitation		**8WA1 011-6EG25**		041	10
		With diode for current limitation		**8WA1 011-6EG26**		041	10
	Zener diode terminals, terminal size 4 mm²  • Mounting width 6.5 mm • Terminal height 45 mm • Terminal length 64 mm • AWG 18-10 • Let-through current 0.25 A • Breakdown voltage U_Z = 2.4 V, ±5%			**8WA1 011-6EG44**		041	10

* See pages 7/9 through 7/12 for 8WA package size requirements.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Diode- and isolating terminals

Selection and ordering data

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • Thermoplastic insulating base • Enclosed on both sides						
	Note	Section	Page				
	For labeling accessories see ...	Accessories	6/2				
Terminal size 2.5 mm²							
 8WA1 011-1EF20  8WA1 011-1EF20	**Diode terminals, terminal size 2.5 mm²** • Rated insulation voltage 250 V U_{RRM} • Mounting width 6 mm • Terminal height 26 mm • Terminal length 41 mm • Screw terminal on both sides with test possibility for Ø 2.3 mm test plug						
	Versions						
	• Rated uninterrupted current 1 A - peak blocking voltage 1000 V			**8WA1 011-1EF20**		041	5
	Accessories	Section	Page				
	Jumper plugs	Accessories	1/31	**8WA1 873**		041	10
	Test plugs • Red	Accessories	1/31	**8WA1 868**		041	10
	Reduction plugs	Accessories	1/31	**8WA1 871**		041	10
	Connecting combs • 4-pole	Accessories	1/31	**8WA1 822-7VF14**		041	20
	Barriers, for terminal size 1 to 4 mm²	Accessories	1/31	**8WA1 820**		041	50
 8WA1 501  8WA1 501	**Through-type terminals, terminal size 2.5 mm², with sectionalizing feature** • Rated uninterrupted current 10 A • Rated insulation voltage 380 V AC, 450 V DC (with alternate outgoing soldering tags) - Open isolating distance 380 V AC, 450 V DC - For use of barriers up to 750 V AC, 900 V DC • Mounting width 6 mm • Terminal height 29 mm • Terminal length 41 mm • With 2 holes for Ø 2.3 mm test plug						
	Versions						
	• With screw terminal on both sides			**8WA1 501**		041	10
	Note						
	Through-type terminals with sectionalizing feature are used for convenient isolation of the current path without disconnection of conductors. It is possible using the sockets of the connection screws to e.g. measure the loop resistance or to connect an ammeter into the circuit. When using connection combs, the connectable cross-section is reduced by one stage.						

* See pages 7/9 through 7/12 for 8WA package size requirements.

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	Accessories	Section	Page				
	Test plugs • Red	Accessories	1/31	**8WA1 868**		041	10
	Reduction plugs	Accessories	1/31	**8WA1 871**		041	10
	Connecting combs • 4-pole	Accessories	1/31	**8WA1 822-7VF14**		041	20
	Barriers, for terminal size 1 to 4 mm²	Accessories	1/31	**8WA1 820**		041	50

Accessories

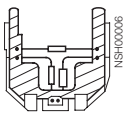
 8WA1 868	**Test plugs** • Red	**8WA1 868**	041 10
 8WA1 871	**Reduction plugs**	**8WA1 871**	041 10
	**Connecting combs** When using connection combs, the connectable cross-section is reduced by one stage. • 4-pole	**8WA1 822-7VF14**	041 20
 8WA1 820	**Barriers, for terminal size 1 to 4 mm²**	**8WA1 820**	041 50

* See pages 7/9 through 7/12 for 8WA package size requirements.

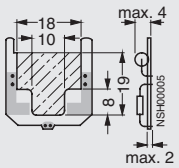
ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Terminals for components

Selection and ordering data

	Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • Terminal for components • Screw terminal on both sides for 2 conductors each • Plugs with PCB for components • Enclosed on both sides Note: For labeling accessories see ... Accessories 6/2				
Terminal size 1.5 mm²					
 8WA1 011-1EE00	**Terminals for components, terminal size 1.5 mm²** (enclosure only) • Rated uninterrupted current 6.3 A • Rated insulation voltage 500 V • Mounting width 10 mm • Terminal height 40 mm • Terminal length 57 mm • For self-fitting with components • To next terminal, determined internally through customer's components	**8WA1 011-1EE00**		041	5/50
 8WA1 822-7EE00 	**Plugs for components, terminal size 1.5 mm²** • Rated uninterrupted current 6.3 A • Rated insulation voltage 500 V • Mounting width 10 mm • Plug height 29 mm • Plug length 41 mm • With PCB and labeling plate (20 mm × 9 mm)	**8WA1 822-7EE00**		041	1

Dimensional drawings



Space for components

* See pages 7/9 through 7/12 for 8WA package size requirements.

Overview

Fuse 8WA1 011-1SF12 terminals are used to protect control circuits from short-circuit.

The fuse terminals are intended for 5 mm × 20 mm and 5 mm × 25 mm G fuse links up to 6.3 A and 250 V and for bridging links up to 16 A and 800 V and have a mounting for a replacement fuse link.

The fuse terminals are suitable for fuse-links with sizes ¼" × 1", ¼" × 11/4" (6.3 mm × 32 mm) to 6.3 A and 250 V.

Fuse terminals are positive opening fuse-disconnectors.

The fuse links must be replaced at zero voltage. Finger-safety is provided in both closed and open positions.

The LED indicates the status of the disconnected fuse (residual current from 2 to 5 mA), but not if the plug is removed (floating).

The double connection is designed so that two conductors with different cross-sections can also be securely connected.

The fixing base of the terminal allows both centered and recessed mounting, allowing the unhindered routing of a 6 mm × 6 mm neutral conductor busbar. The fuse terminal can therefore be joined into a single group with the other terminals of a branch.

Selection and ordering data

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • With thermoplastic insulating base • Screw terminal on both sides for 2 conductors each • Enclosed on both sides						
	Note	Section	Page				
	For labeling accessories see ...	Accessories	6/2				
Terminal size 1.5 mm²							
 8WA1 011-1SF12	**Fuse terminals, terminal size 1.5 mm²** • 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 • Mounting width 10 mm • Terminal height 42 mm • Terminal length 57 mm • Open isolating distance 500 V • cULus AWG 18-14 • CSA AWG 18-14						
 8WA1 011-1SF13	Versions						
	• For G-fuse						
	- without LED			**8WA1 011-1SF12**		041	10
	- with LED 24 V AC/DC			**8WA1 011-1SF13**		041	50
	- with LED, 48 V AC/DC			**8WA1 011-1SF14**		041	50
	- with LED, 230 V AC/DC			**8WA1 011-1SF15**		041	50
	• For inch fuse						
	- without LED			**8WA1 011-1SF30**		041	10
	- with LED, 24 V AC/DC			**8WA1 011-1SF31**		041	10
	- with LED, 120 V AC/110 V DC			**8WA1 011-1SF32**		041	10
	Accessories	Section	Page				
	G-fuse links						
	• Fast, high breaking capacity						
	- rated uninterrupted current 1 A	Accessories	1/34	**8WA1 822-7EF16**		041	10
	- rated uninterrupted current 1.6 A	Accessories	1/34	**8WA1 822-7EF18**		041	10
	- rated uninterrupted current 2.5 A	Accessories	1/34	**8WA1 822-7EF21**		041	10
	- rated uninterrupted current 4 A	Accessories	1/34	**8WA1 822-7EF23**		041	10
	- rated uninterrupted current 6.3 A	Accessories	1/34	**8WA1 822-7EF25**		041	10
	• Slow, low breaking capacity						
	- rated uninterrupted current 1 A	Accessories	1/34	**8WA1 822-7EF76**		041	10
	- rated uninterrupted current 1.6 A	Accessories	1/34	**8WA1 822-7EF78**		041	10
	- rated uninterrupted current 2.5 A	Accessories	1/34	**8WA1 822-7EF81**		041	10
	- rated uninterrupted current 4 A	Accessories	1/34	**8WA1 822-7EF83**		041	10
	- rated uninterrupted current 6.3 A	Accessories	1/34	**8WA1 822-7EF85**		041	10
	Bridging links	Accessories	1/34	**8WA1 891**		041	10
	Link rails						
	• l = 104 mm, 10 connections	Accessories	1/34	**8WA1 822-7VD05**		041	20

*** See pages 7/9 through 7/12 for 8WA package size requirements.**

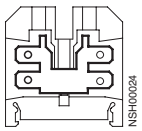
ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Fuse terminals

	Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Accessories					
 8WA1 822-7EF16	**G-fuse links** DIN 41660 • Fast, high breaking capacity				
	- rated uninterrupted current 1 A	**8WA1 822-7EF16**		041	10
	- rated uninterrupted current 1.6 A	**8WA1 822-7EF18**		041	10
	- rated uninterrupted current 2.5 A	**8WA1 822-7EF21**		041	10
	- rated uninterrupted current 4 A	**8WA1 822-7EF23**		041	10
	- rated uninterrupted current 6.3 A	**8WA1 822-7EF25**		041	10
	• Slow, low breaking capacity				
	- rated uninterrupted current 1 A	**8WA1 822-7EF76**		041	10
	- rated uninterrupted current 1.6 A	**8WA1 822-7EF78**		041	10
	- rated uninterrupted current 2.5 A	**8WA1 822-7EF81**		041	10
	- rated uninterrupted current 4 A	**8WA1 822-7EF83**		041	10
	- rated uninterrupted current 6.3 A	**8WA1 822-7EF85**		041	10
 8WA1 891	**Bridging links** 5 mm × 25 mm	**8WA1 891**		041	10
 8WA1 822-7VD05	**Link rails** • Single-pole • For 8WA1 011-1SF12 fuse terminal				
	Versions				
	• l = 104 mm, 10 connections	**8WA1 822-7VD05**		041	20

* See pages 7/9 through 7/12 for 8WA package size requirements.

Selection and ordering data

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • With thermoplastic insulating base • Enclosed on both sides						
	Note	Section	Page				
	For labeling accessories see ...	Accessories	6/2				
Terminal size 1.5 mm²							
 8WA1 221	**Through-type terminals, terminal size 1.5mm²** • Beige • Rated uninterrupted current 18 A • Rated insulation voltage 380 V AC, 450 V DC with alternately arranged terminals; when using barriers up to 800 V • Mounting width 5.5 mm • Terminal height 26 mm • Terminal length 41 mm • Soldered connection on both sides			**8WA1 221**		041	50
	Accessories	Section	Page				
	Covers						
	• With lightning symbol	Accessories	1/35	**8WA1 810**		041	50
	• White, facility for inscription	Accessories	1/35	**8WA1 860**		041	50
	Barriers, for terminal size 1 to 4 mm²	Accessories	1/35	**8WA1 820**		041	50
Terminal size 6 mm²							
 8WA1 232	**Through-type terminals, terminal size 2.5 mm², with push-on connection** • Beige • Rated uninterrupted current 16 A per clamping point • Rated insulation voltage 400 V, when using barriers up to 1000 V • Mounting width 8 mm • Flat-type connection on both sides			**8WA1 232**		041	50
	Accessories	Section	Page				
	Covers						
	• With lightning symbol	Accessories	1/35	**8WA1 811**		041	50
	• White, facility for inscription	Accessories	1/35	**8WA1 862**		041	50
 8WA1 232	**Link rails** • For two terminals	Accessories	1/35	**8WA1 822-7VH12**		041	50
	• For ten terminals	Accessories	1/35	**8WA1 822-7VH20**		041	10
	Barriers, for terminal sizes 6 and 16 mm²	Accessories	1/35	**8WA1 821**		041	50
Accessories							
 8WA1 811	**Covers** • With lightning symbol - for terminal size 1 to 2.5 mm² - for terminal size 6 mm² • White, facility for inscription - for terminal size 1 to 2.5 mm² - for terminal size 6 mm²			**8WA1 810** **8WA1 811** **8WA1 860** **8WA1862**		041 041 041 041	50 50 50 50
 8WA1 822-7VH12	**Link rails, for terminal size 6 mm²** • For two terminals • For ten terminals			**8WA1 822-7VH12** **8WA1 822-7VH20**		041 041	50 10
 8WA1 821	**Barriers** • For terminal size 1 to 4 mm² • For terminal sizes 6 and 16 mm²			**8WA1 820** **8WA1 821**		041 041	50 50

* See pages 7/9 through 7/12 for 8WA package size requirements.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Measuring transformer terminals

Overview

Measuring transformer terminals can be used for testing and isolating circuits in switchgear installations, control rooms and the like without any interruption of operation.

The isolating and instrument isolating terminals contain an isolating device in the through-type connection. The isolating device permits electrical separation between the input and output of a terminal.

Test sockets for plugs with a diameter of 4 mm can be screwed into the front side of the through-type and isolating terminals. The rated insulation voltage between colored test sockets is 125 V. The rated insulation voltage between test sockets and link rails which are not connected to the terminal is 16 V (circuit 3, terminals 3 and 5).

Two adjacent terminals can be connected in parallel with the disconnecting bridge. The disconnecting bridge can be operated in any position of the isolating contact.

Instrument set for one transformer

The basic circuit of the transformer terminal blocks becomes clear in the instrument set for a transformer. Much larger instrument sets also contain this basic circuit which is extended by adding on equivalent circuits. Links between the basic circuits allow many kinds of tests to be carried out, parallel outgoing feeders to other measuring devices, the connection of test equipment etc.

Instrument set for three transformers

The simplest version of an instrument set for a three-phase circuit consists of three basic circuits strung together without any continuing links or extensions. Instead of isolating terminals 1, 3 and 5, less expensive through-type terminals can also be used. On the other hand, it is also possible to use instrument isolating terminals for this purpose so that the terminal versions are all the same.

Instrument set for three transformers with neutral point

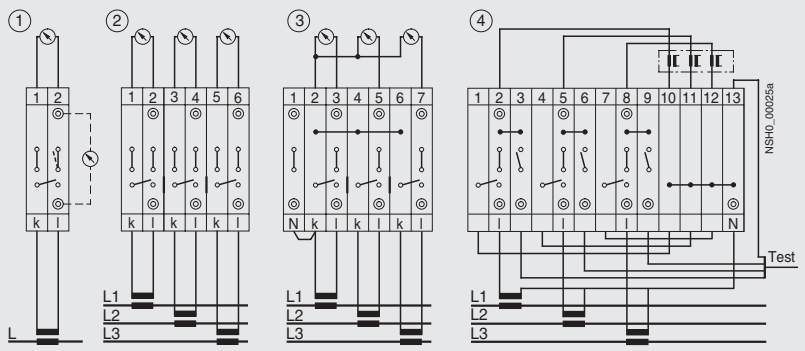
The instrument set with a neutral point is an extension of the previous circuit. Four instead of six lines are sufficient for connecting it with the measuring instruments. The neutral point is produced on the measuring instruments on the one hand, and using a shortened 8WA1 822-7VH10 link rail on the other. The instrument isolating terminal 1 is connected to the neutral point using a connecting comb.

Note

The terminal sets for current transformers are considerably simplified by the introduction of the 8WA1 011-1MH10 through-type terminals and the associated disconnecting bridges. Instead of the 12 isolating or instrument isolating terminals which have been used up to now, only four instrument isolating terminals and three through-type terminals now have to be used.

Instrument set with test facility

This instrument set represents a significant enhancement over previous types. In normal operation, terminals 2, 5 and 8 are closed. For testing a measuring instrument (e.g. a plotter), these terminals are opened and terminals 3, 6 and 9 are closed in order to feed in a test signal. The transformers first have to be short-circuited with the disconnecting bridges between terminals 1-2, 4-5 and 7-8. Wire bridges connect terminals 1, 4 and 7 with the neutral point. It is formed in terminals 10, 11, 12 and 13 with an 8WA1 887 link rail.



Test socket
Link rail
Small partition
Disconnecting link (closed)
Connecting comb, 2-pole

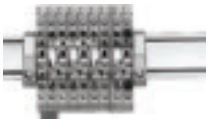
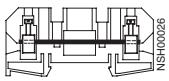
① Instrument set for 1 transformer
② Instrument set for 3 transformers
③ Instrument set for 3 transformers with neutral point
④ Instrument set with test facility

Type	Required number with			
	①	②	③	④
8WA1 011-1MH10			3	7
8WA1 011-1MH11	1	3		3
8WA1 011-1MH15	1	3	4	3
8WA1 825[a)]		2	2	
8WA1 885				3
8WA1 887				1
8WA1 822-7VH10			1[b)]	
8WA1 822-7VH01	1	3	3	3
8WA1 822-7PH00				4
8WA1 822-7VH22			1	

a)May also be required between instrument sets.
b)Shortened.

Connection possibility for measuring transformer terminals (instrument sets)

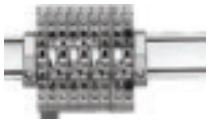
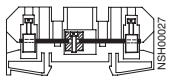
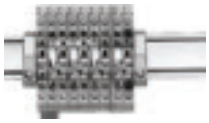
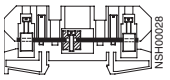
Selection and ordering data

Arrangement of components	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • With thermoplastic insulating base • Screw terminal on both sides and two holes for test sockets for Ø 4 mm test plug, insulated on both sides • Enclosed on both sides						
	Note	Section	Page				
	For labeling accessories see ...	Accessories	6/2				
Terminal size 6 mm²							
 8WA1 011-1MH10	**Through-type terminals, terminal size 6 mm²** • Rated uninterrupted current 41 A • Rated insulation voltage 500 V • Mounting width 8 mm • Terminal height 33 mm • Terminal length 83 mm • Without test sockets • AWG 14-8 • AWG 16-10			**8WA1 011-1MH10**		041	20
 Example of circuits	Accessories	Section	Page				
	Covers, for link rails						
	• Transparent	Accessories	1/39	**8WA1 822-7AX01**		041	10
	• White, facility for inscription	Accessories	1/39	**8WA1 822-7AX03**		041	10
 8WA1 011-1MH10	**Test sockets** • Rated voltage between test socket and bypassed link rail 16 V						
	- recessed	Accessories	1/39	**8WA1 822-7PH00**		041	50
	• Rated voltage between two test sockets: 125 V						
	- green	Accessories	1/39	**8WA1 822-7PH03**		041	50
	- black	Accessories	1/39	**8WA1 822-7PH06**		041	50
	- red	Accessories	1/39	**8WA1 822-7PH08**		041	50
	Test plugs					041	10
	• Red	Accessories	1/39	**8WA1 868**		041	10
	Disconnecting bridges	Accessories	1/39	**8WA1 822-7VH01**		041	50
	Insulation plates, for terminal size 2.5 to 6 mm²	Accessories	1/39	**8WA1 825**		041	50
	Connecting combs						
	• 10-pole for measuring transformer terminals, can be shortened as required	Accessories	1/39	**8WA7 163**		041	10
	• 2-pole	Accessories	1/39	**8WA1 822-7VH22**		041	10
	Link rails, for terminal size 6 mm²						
	• For two terminals	Accessories	1/39	**8WA1 885**		041	50
	• For three terminals	Accessories	1/39	**8WA1 886**		041	50
	• For four terminals	Accessories	1/39	**8WA1 887**		041	20
	• For ten terminals	Accessories	1/39	**8WA1 888**		041	10
	• Unmounted for ten terminals	Accessories	1/39	**8WA1 822-7VH10**		041	50
	Barriers, for Insta terminals, terminal size 2.5 mm² and measuring transformer terminals, terminal size 6 mm²	Accessories	1/39	**8WA1 822-7TH00**		041	50

*** See pages 7/9 through 7/12 for 8WA package size requirements.**

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Measuring transformer terminals

Arrangement of components	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
 8WA1 011-1MH11	**Isolating terminals, terminal size 6 mm²** • Rated uninterrupted current 41 A • Rated insulation voltage 500 V • Mounting width 8 mm • Terminal height 33 mm • Terminal length 83 mm • Without test sockets • AWG 14-8 • AWG 16-10			**8WA1 011-1MH11**		041	20
 Example of circuits	Accessories	Section	Page				
 8WA1 011-1MH11	**Covers, for link rails**						
	• Transparent	Accessories	1/39	**8WA1 822-7AX01**		041	10
	• White, facility for inscription	Accessories	1/39	**8WA1 822-7AX03**		041	10
	Test sockets						
	• Rated voltage between test socket and bypassed link rail 16 V						
	- recessed	Accessories	1/39	**8WA1 822-7PH00**		041	50
	• Rated voltage between two test sockets: 125 V						
	- green	Accessories	1/39	**8WA1 822-7PH03**		041	50
	- black	Accessories	1/39	**8WA1 822-7PH06**		041	50
	- red	Accessories	1/39	**8WA1 822-7PH08**		041	50
	Test plugs						
	• Red	Accessories	1/39	**8WA1 868**		041	10
	Disconnecting bridges	Accessories	1/39	**8WA1 822-7VH01**		041	50
	Insulation plates, for terminal size 2.5 to 6 mm²	Accessories	1/39	**8WA1 825**		041	50
	Connecting combs						
	• 10-pole for measuring transformer terminals, can be shortened as required	Accessories	1/39	**8WA7 163**		041	10
	• 2-pole	Accessories	1/39	**8WA1 822-7VH22**		041	10
	Link rails, for terminal size 6 mm²						
	• For two terminals	Accessories	1/39	**8WA1 885**		041	50
	• For three terminals	Accessories	1/39	**8WA1 886**		041	50
	• For four terminals	Accessories	1/39	**8WA1 887**		041	20
	• For ten terminals	Accessories	1/39	**8WA1 888**		041	10
	• Unmounted for ten terminals	Accessories	1/39	**8WA1 822-7VH10**		041	50
	Barriers, for Insta terminals, terminal size 2.5 mm² and measuring transformer terminals, terminal size 6 mm²	Accessories	1/39	**8WA1 822-7TH00**		041	50
 8WA1 011-1MH15	**Instrument isolating terminals, terminal size 6 mm²** • Mounting width 8 mm • Terminal height 33 mm • Terminal length 83 mm • Open isolating distance • With recessed test connectors • AWG 14-8 • AWG 16-10			**8WA1 011-1MH15**		041	20
 Example of circuits	Accessories	Section	Page				
 8WA1 011-1MH15	**Covers, for link rails**						
	• Transparent	Accessories	1/39	**8WA1 822-7AX01**		041	10
	• White, facility for inscription	Accessories	1/39	**8WA1 822-7AX03**		041	10
	Test sockets						
	• Rated voltage between test socket and bypassed link rail 16 V						
	- recessed	Accessories	1/39	**8WA1 822-7PH00**		041	100
	• Rated voltage between two test sockets: 125 V						
	- green	Accessories	1/39	**8WA1 822-7PH03**		041	50
	- black	Accessories	1/39	**8WA1 822-7PH06**		041	50
	- red	Accessories	1/39	**8WA1 822-7PH08**		041	50
	Disconnecting bridges	Accessories	1/39	**8WA1 822-7VH01**		041	50
	Insulation plates, for terminal size 2.5 to 6 mm²	Accessories	1/39	**8WA1 825**		041	50
	Connecting combs						
	• 10-pole for measuring transformer terminals, can be shortened as required	Accessories	1/39	**8WA7 163**		041	10
	• 2-pole	Accessories	1/39	**8WA1 822-7VH22**		041	10
	Link rails, for terminal size 6 mm²						
	• For two terminals	Accessories	1/39	**8WA1 885**		041	50
	• For three terminals	Accessories	1/39	**8WA1 886**		041	50
	• For four terminals	Accessories	1/39	**8WA1 887**		041	20
	• For ten terminals	Accessories	1/39	**8WA1 888**		041	10
	• Unmounted for ten terminals	Accessories	1/39	**8WA1 822-7VH10**		041	50
	Barriers, for Insta terminals, terminal size 2.5 mm² and measuring transformer terminals, terminal size 6 mm²	Accessories	1/39	**8WA1 822-7TH00**		041	50

* See pages 7/9 through 7/12 for 8WA package size requirements.

	Arrangement of components / Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Accessories					
	Covers, for link rails For through-type terminals, size 2.5 to 6 mm²				
	Versions				
	• Transparent	**8WA1 822-7AX01**		041	10
	• White, facility for inscription	**8WA1 822-7AX03**		041	10
 8WA1 822-7PH00	**Test sockets** Ø 4 mm				
	Versions				
	• Rated voltage between test socket and bypassed link rail 16 V				
	- recessed	**8WA1 822-7PH00**		041	100
 8WA1 822-7PH03	• Rated voltage between two test sockets: 125 V				
	- green	**8WA1 822-7PH03**		041	50
	- black	**8WA1 822-7PH06**		041	50
	- red	**8WA1 822-7PH08**		041	50
	Test plugs				
	• Red	**8WA1 868**		041	10
 8WA1 822-7VH01	**Disconnecting bridges** Rated insulation voltage with disconnecting bridge opened according to DIN VDE0110:125 V size C or 250 V size B	**8WA1 822-7VH01**		041	50
 8WA1 825	**Insulation plates, for terminal size 2.5 to 6 mm²**	**8WA1 825**		041	50
 8WA7 163	**Connecting combs** For inserting in the clamping points				
	Versions				
	• 10-pole for measuring transformer terminals, can be shortened as required	**8WA7 163**		041	10
	• 2-pole	**8WA1 822-7VH22**		041	10
 8WA1 885	**Link rails, for terminal size 6 mm²**				
	• For two terminals	**8WA1 885**		041	50
	• For three terminals	**8WA1 886**		041	50
	• For four terminals	**8WA1 887**		041	20
	• For ten terminals	**8WA1 888**		041	10
	• Unmounted for ten terminals	**8WA1 822-7VH10**		041	50
 8WA1 822-7TH00	**Barriers, for Insta terminals, terminal size 2.5 mm² and measuring transformer terminals, terminal size 6 mm²**	**8WA1 822-7TH00**		041	50

* See pages 7/9 through 7/12 for 8WA package size requirements.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Circuit-breaker terminals for auxiliary circuits

Overview

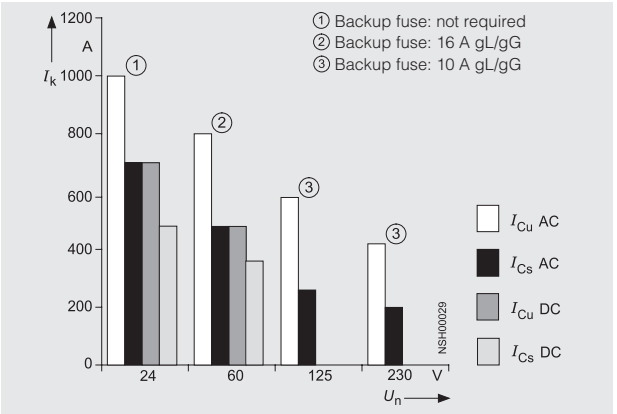
Circuit-breaker terminals are used for short-circuit protection or for protection against overloading and short-circuiting in auxiliary and control circuits after control transformers.

Advantages

- Space-saving construction in terminal blocks design
- Clear arrangement on the terminal rail (35 mm standard mounting rail)
- Unambiguous indication of switch position or "released" status
- No fuses
- Switch/isolating point function
- Signals through built-in auxiliary switches
- Floating through-type connection parallel to the switching contacts
- Double connection to all terminals possible
- Inscription with terminal block labeling accessories

Standards

DIN VDE 0660 Part 101 and IEC 60947-2, insofar as they relate to circuit-breaker terminals. Finger-safe according to EN 50274.



Rated short-circuit, switch-on and switch-off capacities according to DIN VDE 0660 Part 101 for 8WA1 011-.SF circuit-breaker terminal.

Selection instructions

When selecting circuit-breaker terminals, the different release characteristics must be taken into account.

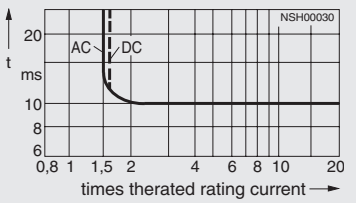
Inductive AC current loads such as contactor coils and solenoid valves have inrush peaks up to ten times the continuous current. Circuit-breaker terminals with short-circuit releases are to be selected such that they do not release as a consequence of inrush peaks.

With regard to circuit-breaker terminals with overload and short-circuit release, a low rated uninterrupted current can be chosen because the short-circuit releases only respond when the levels are high.

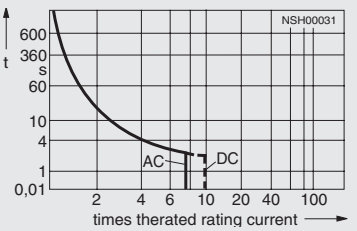
Ordering examples

Existing unit: Solenoid valve, 50 Hz, 24 V AC, 20 VA.	
1. Required: Circuit-breaker terminal with short-circuit release. Selection according to making current: Continuous current = 20 VA: 24 V = 0.83 A Making current = 10 x continuous current = 8.3 A	Selected unit: Circuit-breaker terminal 10 A Order No. 8WA1 011-1SF28
2. Required: Circuit-breaker terminal with overload and short-circuit release. Selection according to continuous current: Continuous current = 20 VA: 24 V = 0.83 A	Selected unit: Circuit-breaker terminal 2 A Order No. 8WA1 011-2SF25 Check: The making current equals 10 x continuous current = 8.3 A. This is 4.15 times therated continuous current of 2 A. The short-circuit release has not yet tripped.

Characteristic curves



Characteristic curve of short-circuit releases

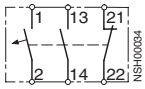
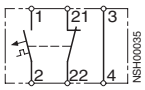
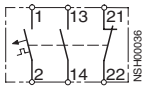


Characteristic curve of combined overload and short-circuit releases atambient temperature 40 °C

Technical specifications

Rated operational voltage	max. 250 V AC 50/60 Hz max. 60 V DC
Minimum operational voltage	24 V UC
Heat dissipation	max. 1 W
Rated impulse withstand voltage	4 kV
Pollution degree (EN 60664-1)	3
Rated operational current of auxiliary contact	1 A
Rated current of the through-type connection	16 A
Mech. stability under load Electr. stability under load	8000 switching operations 4000 switching operations
Polarity under direct current	Any
Mounting position	As required
Vibration resistance	10 *g* at ≤ 70 Hz
Terminal capacities • Solid • Finely stranded with end sleeve	 1 or 2 × (0.75-1.5) mm^2 1 or 2 × (1-2.5) mm^2
Tightening torque	0.8 Nm
Stripped length	10 mm

Selection and ordering data

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • With thermoplastic insulating base • Screw terminal on both sides for 2 conductors each • Enclosed on both sides						
	Note	Section	Page				
	For labeling accessories see ...	Accessories	6/2				
Terminal size 1.5 mm²							
 5SK9 011-1KK24	**Circuit-breaker terminals, terminal size 1.5 mm²** • Max. rated operational voltage 250 V AC, 60 V DC • Mounting width 12.5 mm • Terminal height 96 mm • Terminal length 89 mm • AWG 14-12 • AWG 14						
	Versions						
	• With short-circuit release						
	- rated uninterrupted current I_N = 1 A			**5SK9 011-1KK24**		041	10
	- rated uninterrupted current I_N = 2 A			**5SK9 011-1KK25**		041	10
	- rated uninterrupted current I_N = 4 A			**5SK9 011-1KK26**		041	10
	- rated uninterrupted current I_N = 6 A			**5SK9 011-1KK27**		041	10
	- rated uninterrupted current I_N = 10 A			**5SK9 011-1KK28**		041	10
 5SK9 011-1KK2.	• With overload and short-circuit release						
	- rated uninterrupted current I_N = 1 A			**5SK9 011-2KK24**		041	10
	- rated uninterrupted current I_N = 2 A			**5SK9 011-2KK25**		041	10
	- rated uninterrupted current I_N = 4 A			**5SK9 011-2KK26**		041	10
	- rated uninterrupted current I_N = 6 A			**5SK9 011-2KK27**		041	10
 5SK9 011-2KK2.	- rated uninterrupted current I_N = 10 A			**5SK9 011-2KK28**		041	10
	Accessories	Section	Page				
	Feeder terminals	Accessories	1/42	**5ST1 822-7KK00**		041	10
	Link rails, single-pole						
	• 9 connections	Accessories	1/42	**5ST1 822-7KK07**		041	20
	• 18 connections	Accessories	1/42	**5ST1 822-7KK06**		041	20
Terminal size 2.5 mm²							
 5SK9 011-6KK2.	**Circuit-breaker terminals, terminal size 2.5 mm²** • Max. rated operational voltage 250 V AC, 60 V DC • Mounting width 22.5 mm • Terminal height 96 mm • Terminal length 89 mm						
	Versions						
 5SK9 011-4KK2.	• With short-circuit release, auxiliary contact with 1 NO contact and 1 NC contact						
	- rated uninterrupted current I_N = 1 A			**5SK9 011-6KK24**		041	5
	- rated uninterrupted current I_N = 2 A			**5SK9 011-6KK25**		041	5
	- rated uninterrupted current I_N = 4 A			**5SK9 011-6KK26**		041	5
	- rated uninterrupted current I_N = 6 A			**5SK9 011-6KK27**		041	5
	- rated uninterrupted current I_N = 10 A			**5SK9 011-6KK28**		041	5
 5SK9 011-8KK2.	• With overload and short-circuit release, auxiliary contact and through-type connection						
	- rated uninterrupted current I_N = 1 A			**5SK9 011-4KK24**		041	5
	- rated uninterrupted current I_N = 2 A			**5SK9 011-4KK25**		041	5
	- rated uninterrupted current I_N = 4 A			**5SK9 011-4KK26**		041	5
	- rated uninterrupted current I_N = 6 A			**5SK9 011-4KK27**		041	5
	- rated uninterrupted current I_N = 10 A			**5SK9 011-4KK28**		041	5
	• With overload and short-circuit release, auxiliary contact with 1 NO contact and 1 NC contact						
	- rated uninterrupted current I_N = 0.5 A			**5SK9 011-8KK23**		041	5
	- rated uninterrupted current I_N = 1 A			**5SK9 011-8KK24**		041	5
	- rated uninterrupted current I_N = 2 A			**5SK9 011-8KK25**		041	5
	- rated uninterrupted current I_N = 4 A			**5SK9 011-8KK26**		041	5
	- rated uninterrupted current I_N = 6 A			**5SK9 011-8KK27**		041	5
	- rated uninterrupted current I_N = 10 A			**5SK9 011-8KK28**		041	5
	Accessories	Section	Page				
	Feeder terminals	Accessories	1/42	**5ST1 822-7KK00**		041	10
	Link rails, single-pole						
	• 5 connections	Accessories	1/42	**5ST1 822-7KK02**		041	20
	• 10 connections	Accessories	1/42	**5ST1 822-7KK01**		041	20
	Link rails, two-pole						
	• 5 connections/pole	Accessories	1/42	**5ST1 822-7KK04**		041	10
	• 9 connections/pole	Accessories	1/42	**5ST1 822-7KK03**		041	10

* See pages 7/9 through 7/12 for 5SK & 5ST package size requirements.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Circuit-breaker terminals for auxiliary circuits

	Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Accessories					
	Feeder terminals • For circuit-breaker terminals • Rated uninterrupted current 76 A • Connection up to 16 mm² • For terminals: - 8WA1 011-1SF2. - 8WA1 011-2SF2. - 8WA1 011-4SF2. - 8WA1 011-6SF2. - 8WA1 011-8SF2.	**5ST1 822-7KK00**		041	10
 5ST1 822-7KK01	**Link rails, single-pole** • For circuit-breaker terminals • Rated uninterrupted current 65 A				
 5ST1 822-7KK02	Versions				
	• 5 connections - length 104 mm - for terminals: 8WA1 011-4SF2. / 8WA1 011-6SF2. / 8WA1 011-8SF2.	**5ST1 822-7KK02**		041	20
	• 9 connections - length 104 mm - for terminals: 8WA1 011-1SF2. / 8WA1 011-2SF2.	**5ST1 822-7KK07**		041	20
	• 10 connections - length 206 mm - for terminals: 8WA1 011-4SF2. / 8WA1 011-6SF2. / 8WA1 011-8SF2.	**5ST1 822-7KK01**		041	20
	• 18 connections - length 206 mm - for terminals: 8WA1 011-1SF2. / 8WA1 011-2SF2.	**5ST1 822-7KK06**		041	20
 5ST1 822-7KK03	**Link rails, two-pole** • For circuit-breaker terminals • Rated uninterrupted current 120 A • For 8WA1 011-4SF2 terminal				
 5ST1 822-7KK04	Versions				
	• 5 connections/pole - length 104 mm	**5ST1 822-7KK04**		041	10
	• 9 connections/pole - length 206 mm	**5ST1 822-7KK03**		041	10

* See pages 7/9 through 7/12 for 5ST package size requirements.

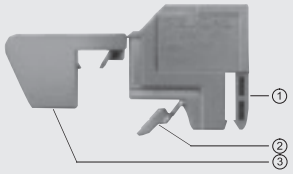
Overview

The 8WA9 200 terminals are used for transformers and rectifiers.

The terminals are insulated on both sides, and are finger-safe according to DIN VDE 0106 Part 100. They possess all properties of the SIGUT connection system.

Break-off 12-part 8WA8 858-... labeling strips or the normal labeling accessories can be used to designate the transformer terminals.

In addition to the screw terminal, the 8WA9 terminals have a 6.3-0.8 flat connector. The soldered connection is protected by a hinged cover following soldering on of the conductor.



① Retainer for 2 mm × 10 mm mounting rail
② Soldered connection
③ Hinged cover

Selection and ordering data

	Terminal size conductor cross-section / Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details • Enclosed on both sides				
Terminal size 4 mm²					
 8WA9 200 (side view)  8WA9 200 (plan view)	**Transformer terminals, terminal size 4 mm²** • Beige • Rated uninterrupted current 24 A • Rated insulation voltage according to DIN VDE 0110, Group C 690 V, 600 V to Ⓤ, 600 V to Ⓒ Group D • Mounting width 7.5 mm • Terminal height 34 mm • Terminal length 27 mm • With insulating base • Made from molded thermoplastic • For 2 mm × 10 mm mounting rail • Screw terminal: - Solid - 0,5 mm² to 6 mm² - flexible - with or without - end sleeve - 0,5 mm² to 4 mm² - stripped length 10 mm • Flat-type connection: 6,3-0,8 • Weld-on connection: - solid up to Ø 3 mm - flexible up to 2.5 mm² - stripped length 7 mm - Ⓒ18-10 AWG, Ⓤ18-10 AWG	**8WA9 200**		041	100
	Accessories / Section / Page				
	Labeling strips • Bare — Accessories 1/43	**8WA8 848-2AY**		041	100
	• Inscription as selected — Accessories 1/43	**8WA8 847-0XA**		041	100
Accessories					
	Labeling strips • Blank	**8WA8 848-2AY**		041	100
	• Inscription as selected	**8WA8 847-0XA**		041	100

* See pages 7/9 through 7/12 for 8WA package size requirements.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Shield terminals

Overview

In industrial process engineering, a high interference immunity is required for electrical instrumentation and control. It is a decisive factor in the availability of industrial equipment. In designing low-interference systems, cable shielding and the associated shield ground are important. The critical location is the point at which the cable shield is connected with the enclosure ground. The connection should have a low resistance and a low inductive reactance, while being quick and easy to make. The shield terminals are ideally suited for this purpose and be used with all common cable shields.

The effectiveness of cable shields depends to a large extent on the contact quality of the shield connection. The shield terminals have a large, low-impedance contact area with the shield, which reduces the voltage drop across it. Connected at one end only, shields can help reduce only low-frequency, capacitive interference, such as that caused by high-voltage installations. To protect from the much more common inductive interference signals, the cable shield must be connected at both ends.

Differences in the ground potential, this can, however, cause the flow of a compensating current through the cable shield.

To reduce this unwanted current, it is advisable to connect the shield at several points along its length. The shorter the spaces between the connection points, the smaller the compensating currents in the cable shield. In systems in which safety is especially important, triax shields are used. These consist of two braids that are insulated from each other, with the outer shield connected at both ends and the inner one at only one end. With this arrangement, the compensating currents and the inductive interference are conducted through the outer shield, and the capacitive interference dissipated through the inner shield.

Depending on the length of the terminal strip, two or more support brackets are fitted, which provides both an electrical and a mechanical connection from the busbar to the mounting rail and therefore the enclosure ground. The shield terminal is simply fitted to the busbar after all wires have been connected.

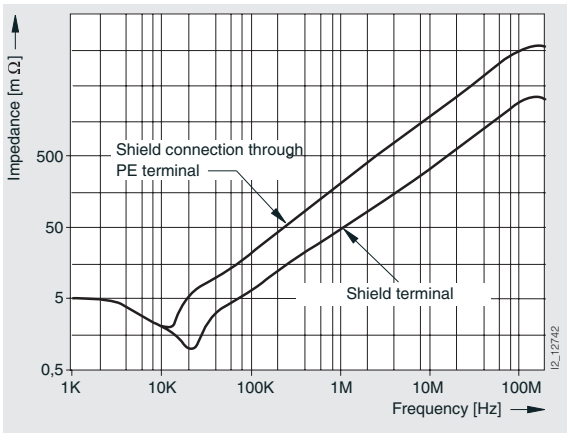
A sprung pressure plate regulates the force applied to the cable to ensure an optimum contact with the busbar at all times.

For the event that the cable shield is to be connected not directly before the terminal strip but at another point of the control panel, the use of support brackets made from insulating material is recommended.

Technical specifications

	8WH9 130-0KA00	8WH9 130-0LA00	8WH9 130-0MA00	8WH9 130-0NA00	8WH9 130-0PA00
Dimensions	See dimensional drawing	See dimensional drawing	See dimensional drawing	See dimensional drawing	See dimensional drawing
Contact resistance in mΩ		< 1			
Supply data					
• Diameter	2 ... 5	3 ... 8	3 ... 14	3 ... 20	20 ... 35
• Tightening torque in Nm	0.4	0.6	0.8	0.8	1.5 ... 1.8

	8WH9 130-0AA00	8WH9 130-0BA00	8WH9 130-0CA00	8WH9 130-0DA00
Dimensions	See dimensional drawing	See dimensional drawing	See dimensional drawing	See dimensional drawing
Contact resistance in mΩ	The contact resistance is determined by the mounting area.			
Supply data				
• Diameter	3 ... 8	3 ... 14	3 ... 20	20 ... 35
• Tightening torque in Nm	0.6	0.8	0.8	1.5 ... 1.8



Comparison of shield connection through PE terminal and through shield terminal

Selection and ordering data

	Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
	General details				
	Note • The shield terminals must not be used for strain relief. • Support blocks have galvanic connections from the busbar to the mounting rail or to the mounting block. • Busbar 10 mm × 3 mm				
Terminal size 5 mm²					
 8WH9 130-0KA00	**Shield terminals, terminal size 5 mm²**	**8WH9 130-0KA00**		044	10
Terminal size 8 mm²					
 8WH9 130-0AA00	**Shield terminals, terminal size 8 mm²** • Diameter 3 – 8 mm • Tightening torque 0.6 Nm				
	Versions				
	• For direct screen attachment on conductive mounting plate - plate thickness 1 – 2 mm	**8WH9 130-0AA00**		044	10
	• For busbar	**8WH9 130-0LA00**		044	10
	Accessories — Section — Page				
	Support brackets				
	• For terminal size 8 to 35 mm², from insulating material and conductive connection — Accessories 1/47	**8WH9 140-0DA00**		044	10
	• For terminal size 8 to 20 mm², on mounting rail with distance of about 30 mm to the busbar — Accessories 1/47	**8WH9 140-0BA00**		044	10
 8WH9 130-0LA00	• For terminal size 8 to 20 mm², on mounting rail with distance of about 65 mm to the busbar — Accessories 1/47	**8WH9 140-0CA00**		044	10

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

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

Shield terminals

	Version	Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Terminal size 14 mm²					
 8WH9 130-0BA00	**Shield terminals, terminal size 14 mm²** • Diameter 3 – 14 mm • Tightening torque 0.8 Nm				
	Versions				
	• For direct screen attachment on conductive mounting plate - plate thickness 1 – 2 mm	**8WH9 130-0BA00**		044	10
	• For busbar	**8WH9 130-0MA00**		044	10
	Accessories — Section — Page				
 8WH9 130-0MA00	**Support brackets** • For terminal size 8 to 35 mm², from insulating material and conductive connection — Accessories 1/47	**8WH9 140-0DA00**		044	10
	• For terminal size 8 to 20 mm², on mounting rail with distance of about 30 mm to the busbar — Accessories 1/47	**8WH9 140-0BA00**		044	10
	• For terminal size 8 to 20 mm², on mounting rail with distance of about 65 mm to the busbar — Accessories 1/47	**8WH9 140-0CA00**		044	10
Terminal size 20 mm²					
 8WH9 130-0CA00	**Shield terminals, terminal size 20 mm²** • Diameter 3 – 20 mm • Tightening torque 0.8 Nm				
	Versions				
	• For direct screen attachment on conductive mounting plate - plate thickness 1 – 2 mm	**8WH9 130-0CA00**		044	10
	• For busbar	**8WH9 130-0NA00**		044	10
	Accessories — Section — Page				
 8WH9 130-0NA00	**Support brackets** • For terminal size 8 to 35 mm², from insulating material and conductive connection — Accessories 1/47	**8WH9 140-0DA00**		044	10
	• For terminal size 8 to 20 mm², on mounting rail with distance of about 30 mm to the busbar — Accessories 1/47	**8WH9 140-0BA00**		044	10
	• For terminal size 8 to 20 mm², on mounting rail with distance of about 65 mm to the busbar — Accessories 1/47	**8WH9 140-0CA00**		044	10

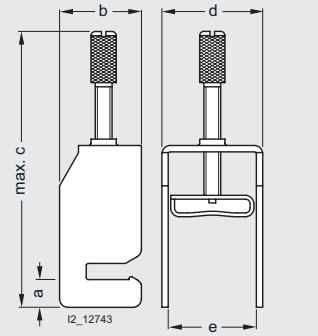
*** You can order this quantity or a multiple thereof.**

	Version			Order No.	Price 1 unit	PG	PS* P. unit Unit(s)
Terminal size 35 mm²							
 8WH9 130-0DA00	**Shield terminals, terminal size 35 mm²** • Diameter 20 – 35 mm • Tightening torque 1.5 – 1.8 Nm						
	Versions						
	• For direct screen attachment on conductive mounting plate - plate thickness 1 – 2 mm			**8WH9 130-0DA00**		044	50
 8WH9 130-0PA00	• For busbar			**8WH9 130-0PA00**		044	10
	Accessories	Section	Page				
	Support brackets • For terminal size 8 to 35 mm², from insulating material and conductive connection	Accessories	1/47	**8WH9 140-0DA00**		044	10
Accessories							
 8WH9 140-0DA00	**Support brackets** • For terminal size 8 to 35 mm², from insulating material and conductive connection - with retaining screw - for 10 x 3 mm busbars			**8WH9 140-0DA00**		044	10
 8WH9 140-0BA00	• For terminal size 8 to 20 mm², on mounting rail with distance of about 30 mm to the busbar - for 10 x 3 mm busbars			**8WH9 140-0BA00**		044	10
 8WH9 140-0CA00	• For terminal size 8 to 20 mm², on mounting rail with distance of about 65 mm to the busbar - for 10 x 3 mm busbars			**8WH9 140-0CA00**		044	10

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

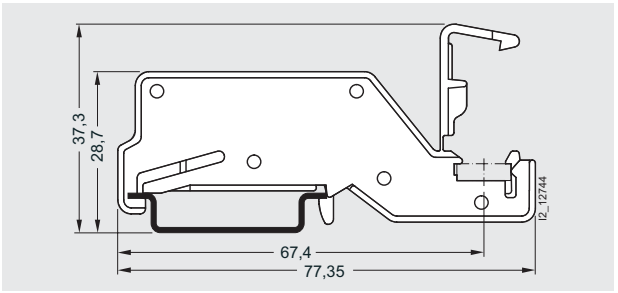
Shield terminals

Dimensional drawings

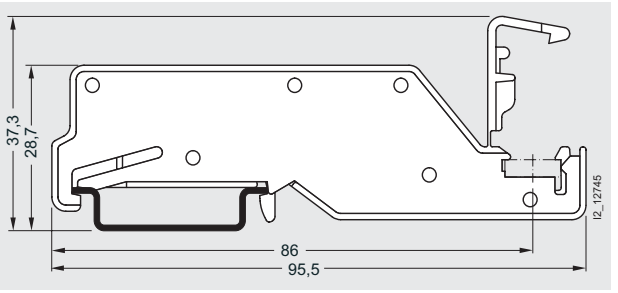


	a	b	c	d	e
8WH9 130-0KA00	6,5	19,5	46,8	9,0	6,0
8WH9 130-0LA00	6,5	19,5	48,7	12,0	9,0
8WH9 130-0MA00	6,5	19,5	59,3	17,0	14,0
8WH9 130-0NA00	6,5	19,5	75,0	24,0	21,0
8WH9 130-0PA00	6,5	20,0	106,5	40,0	36,0
8WH9 130-0AA00	6,5	19,5	47,2	12,0	9,0
8WH9 130-0BA00	6,5	19,5	57,8	17,0	14,0
8WH9 130-0CA00	6,5	19,5	73,5	24,0	21,0
8WH9 130-0DA00	6,5	20,0	105,0	40,0	36,0

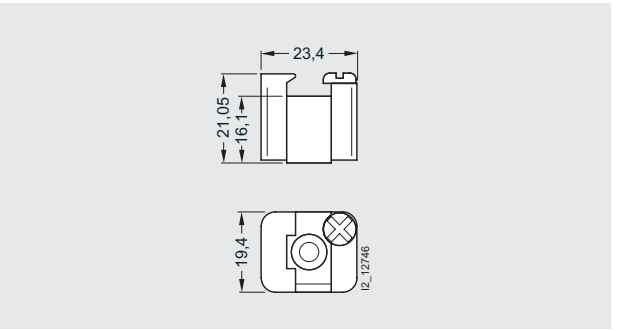
Shield terminals



8WH 140-0BA00



8WH 140-0CA00



8WH9 140-0DA00

Technical specifications

Mounting rail type							Excerpt from IEC 60947-7-2/ EN 60947-7-2/VDE 0611 part 3		
Width	Height	Thick-ness	Perforation type	Material	Surface	Rail profile	Short-circuit rating ≙ E CU conductor	Short-time withstand current, 1 s	Max. permissi-ble thermal rated current at PEN function
mm	mm	mm					mm²[1)]	kA	A
35	7.5	1.5	Without apertures	Steel	Chromated	Mounting rail, acc. to EN 60715 – 35 x 7.5	16	1,92	[2)]
35	7.5	1.5	Perforated	Steel	Chromated	Mounting rail, acc. to EN 60715 – 35 x 7.5	16	1.92	[2)]
35	7.5	1.5	Without apertures	Steel	Galvanized	Mounting rail, dimensions acc. to EN 60715 – 35 x 7.5	16	1.92	[2)]
35	7.5	1.5	Perforated	Steel	Galvanized	Mounting rail, dimensions acc. to EN 60715 – 35 x 7.5	16	1.92	[2)]
35	7.5	1.5	Without apertures	V2A high-grade steel	Chromated	Mounting rail, dimensions acc. to EN 60715 – 35 x 7.5	16	1.92	[2)]
35	7.5	1.5	Without apertures	Copper	Chromated	Mounting rail, dimensions acc. to EN 60715 – 35 x 7.5	50	6.0	150
35	7.5	1.5	Without apertures	Aluminum	Chromated	Mounting rail, dimensions acc. to EN 60715 – 35 x 7.5	35	4.2	125
35	15	2.3	Without apertures	Steel	Chromated	Mounting rail, acc. to EN 60715 – 35 x 15	50	6.0	[2)]
35	15	1.5	Without apertures	Steel	Chromated	Mounting rail, similar to EN 60715 – 35 x 15	35	4.2	[2)]
35	15	1.5	Perforated	Steel	Chromated	Mounting rail, similar to EN 60715 – 35 x 15	35	4.2	[2)]
35	15	1.5	Without apertures	Steel	Galvanized	Mounting rail, similar to EN 60715 – 35 x 15	35	4.2	[2)]
35	15	1.5	Perforated	Steel	Galvanized	Mounting rail, similar to EN 60715 – 35 x 15	35	4.2	[2)]
35	15	1.5	Without apertures	Copper	Chromated	Mounting rail, similar to EN 60715 – 35 x 15	95	11.4	232
35	15	1.5	Without apertures	Aluminum	Chromated	Mounting rail, similar to EN 60715 – 35 x 15	70	8.4	192

1) Cross-sections calculated according to IEC 60439-1 / EN 60439-1 / EN 60439-1 / VDE 0660 Part 500.
2) Steel protective conductor busbars are not permissible for PEN function.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

General technical specifications

Technical specifications

Continuous load at increased ambient temperatures

To 8WA1 terminal blocks, the full continuous current can be applied at ambient temperatures of up to +55 °C. At higher ambient temperatures, a current reduction according to the following formula is required:

$I_{th2'} = I_{th2} \cdot k$

I_{th2} = Continuous current according to selection tables, relative to the nominal cross-section
$I_{th2'}$ = Continuous current at increased ambient temperature
k = Reduction factor according to table

Ambient temperature	Reduction factor *k*
60 °C	0.94
65 °C	0.88
70 °C	0.82
75 °C	0.75
80 °C	0.67
85 °C	0.58
90 °C	0.47
95 °C	0.33

The highest permissible clamping point overtemperature of 45 K according to IEC 60947-7-1 is not exceeded at an ambient temperature of up to 100 °C.

Mounting rails as PEN rails

Only copper busbars must be used.

They must have the same current carrying capacity of PE/ground conductor busbars.

PEN busbars must carry only terminals, and no devices.

Mounting rail as PE/ground conductor busbar

To mounting rails that are also PE/ground conductor busbars and carry current only under fault conditions, PE/ground conductors with a larger cross-section than that of a PE/ground conductor busbar with the same conductivity can also be connected.

Mounting rail according to EN 50022-35 and IEC 60715 TH35	Material	Type	Max. permissible cross-section of connected protective conductor mm²
35 × 7.5	Steel	5ST1 141	16
	Steel, perforated	5ST1 145	16
Similar to 35 × 15	Steel	5ST1 142	35
	Steel	--	50
	Copper	8WA7 551	150[1]

1) With 8WA1 010-1PQ00 terminal connection of up to 95 mm² finely stranded or 120 mm² stranded.

Clamping points

Terminal size	Type[1]	Thread diameter of terminal screws	Screwdriver blades according to DIN 5264 Form B	Tightening torque = test torque according to DIN VDE 0609 and DIN VDE 0611 Nm	Tensile forces according to IEC 60947-1 at max. conductor connection N	Stripped length mm
1.5	8WA1 011-. SF. ., 8WA1 011-1EE00	M3.5	0,8 × 4	0.8	40	10
2.5	8WA1 . . 1, 8WA1 011-1BF11, 8WA1 011-1EF . .	M2.5 and M3	0.5 × 3	0.5	50	11
	8WA1 011- . . F . .	M2.5	0.8 × 4	0.5	50	11
4	8WA1 011- . . G . .	M3	0.8 × 4	0.5	60	11
	8WA2 867	M3.5		0.8 ... 1		
6	8WA1 . . 2, 8WA1 011- . . H . .	M3.5	0,8 × 4	0.8	80	11
16	8WA1 . . 4, 8WA1 011- . . K . .	M4	0.8 × 4	1,2	100	13
25	8WA2 868	M5	1.2 × 6.5	2	135	
35	8WA1 . . 5, 8WA1 011- . . M . .	M6	1.2 × 6.5	2.5	190	17
	8WA2 870			2.5 ... 3		
50	8WH1 000-0AN00, 8WH1 000-0AN01, 8WH1 000-0CN07	M6	1.2 × 8	6 ... 8	-	24
	8WH1 070-0AN00	M6	--	3 ... 7	-	6 ... 25
70	8WA1 . . 6	M8	4 hexagon socket-head	6	285	25
95	8WA1 010-1PQ00	M8	6 hexagon socket-head	15 ... 20		30
	8WH1 000-0AQ00, 8WH1 000-0AQ01	M8	6 hexagon socket-head	15 ... 20	-	33
	8WH1 000-0CQ07	M8	6 hexagon socket-head	15 ... 20	-	30
	8WH1 070-0AQ00	M8	-	6 ... 15	-	16... 25
	8WH1 060-0AQ00	M8	-	25 ... 30	-	29
150	8WH1 000-0AS0.	M10	8 hexagon socket-head	25 ... 30	-	40
	8WH1 070-0AS00	M10	-	10 ... 18	-	10 ... 18
	8WH1 060-0AS00	M10	-	25 ... 30	-	34
240	8WH1 000-0AU0.	M10	10 hexagon socket-head	30 ... 35	-	40
	8WH1 060-0AU00	M10	-	30 ... 35	-	34

1) Tightening torque apply also for accessories (socket, link rails, etc.)

Rated impulse withstand voltage of terminal blocks

Values depend on the mains nominal voltage ≤ Rated insulation voltage of terminal block; excerpt from EN 60947-1, table H.1.

Terminal blocks are tested to overvoltage category III.

Rated mains voltage (≤ Rated insulating voltage of the device)		Highest rated operational voltage to ground	Preferred values for rated impulse withstand voltage as 1.2/50 µs-pulse			
			Overvoltage category			
r.m.s.value V AC		r.m.s.value V AC or DC	I kV	II kV	III kV	IV kV
--		50	330	500	800	1500
66/115		100	500	800	1500	2500
120/208	127/220	150	800	1500	2500	4000
230/400	277/480	300	1500	2500	4000	6000
400/690		600	2500	4000	6000	8000
1000		1000	4000	6000	8000	12000

Connection

Terminal size	Type	Smallest connectable cross-section					Largest connectable cross-section				
		Solid	Stranded	Flexible	Finely stranded with end sleeve[1]		Solid	Stranded	Flexible	Finely stranded with end sleeve[1]	
		mm²	mm²	mm²	mm²	Size	mm²	mm²	mm²	mm²	Size
Single-conductor connection											
1,5	8WA1 011-.SF . . , 8WA1 011-1EE00	1	--	--	0.75	0.75 ... 10	2.5	--	--	1.5	1.5 ... 10
2.5	8WA1 211, 8WA1 011-. .F. .	0.25[2]	0.5	0.5	0.5	0.5 ... 10	4	2.5	2.5	2.5	2.5 ... 12[4]
	8WA1 011-3JF . .	0.25[2]	0.5	0.5	0.5	0.5 ... 10	4	2.5	2.5	2.5	2.5 ... 7
	8WA1 501, 8WA1 511, 8WA1 011-1EF . .	0.25[2]	0.5	0.5	0.5	0.5 ... 10	4	2.5	2.5	1.5	1.5 ... 10
4	8WA9 200	0.5	1.5	1.5	0.75	0.75 ... 10	6	4	4	4	4
	8WA2 86. feeder terminal	1	1.5	1.5	0.75	0.75 ... 10	6	4	4	4	4 ... 12[4]
	8WA1 011-. .G..	0.5	1.5	0.5	0.75	0.75 ... 10	6	4	4	4	4 ... 12[4]
6	8WA1 011-1.H..	0.75	1.5	1.5	0.5	0.5 ... 10	10	6	6	6	6 ... 12
	8WA1 010-1PH01	0.5	1.5	1.5	0.5	0.5 ... 10	10	6	6	6	6 ... 15
16	8WA1 204, 8WA1 304, 8WA1 011-1BK11	1.5	2.5	2.5	1	1 ... 10[3]	16	25	16	16	16 ... 12
	8WA1 604, 8WA1 011-1NK02	1.5	2.5	4	1.5	1 ... 10[3]	16	25	16	16	16 ... 12
	8WA1 011-1PK00	1.5	2.5	4	1.5	1.5 ... 7[6]	16	25	16	16	16 ... 15
	8WA2 86. feeder terminal	1.5	2.5	4	2.5	2.5 ... 12	16	16	10	10	10 ... 12
25	8WH1 060-0AL00	-	-	4	4	-	-	-	25	25	-
35	8WA1 205, 8WA1 305, 8WA1 011-1BM11	4	10	6	6	6 ... 15	16[5]	50	35	35	35 ... 18[7]
	8WA1 011-1PM00	4	10	10	6	6 ... 15	16[5]	50	35	25	25 ... 15
	8JH4 114 feeder terminal	6	10	16	6	6 ... 15	16	35	25	25	25 ... 15
	8WA2 870	6	10	16	6	6 ... 15	16	35	25	25	25 ... 15
50	8WH1 000-0AN00,	--	--	10	10	--	--	--	50	50	--
	8WH1 000-0AN01,	--	--	10	10	--	--	--	50	50	--
	8WH1 000-0CN07	--	--	25	25	--	--	--	50	50	--
	8WH1 070-0AN00	--	--	6[1]	--	--	--	--	--	35[1]	--
	8WH1 060-0AN00	--	--	25	25	--	--	--	50	50	--
70	8WA1 206	10	16	16	16	16 ... 12[6]	95	95	95	--	--
95	8WA1 010-1PQ00	--	50	50	--	--	--	95	95	--	--
	8WH1 000-0AQ00,	--	--	35	35	--	--	--	95	95	--
	8WH1 000-0AQ01,	--	--	35	35	--	--	--	95	95	--
	8WH1 000-0CQ07	--	--	35	35	--	--	--	35	35	--
	8WH1 070-0AQ00	--	--	--	16[1]	--	--	--	--	35[1]	--
	8WH1 060-0AQ00	--	--	35	35	--	--	--	95	95	--
150	8WH1 000-0AS00, 8WH1 000-0AS01	--	--	50	50	--	--	--	150	150	--
	8WH1 060-0AS00	--	--	50	50	--	--	--	150	150	--
240	8WA1 011-1DU..	--	--	--	--	--	--	240	240	--	--
	8WH1 000-0AU00, 8WH1 000-0AU01	--	--	70	70	--	--	--	185	185	--
	8WH1 060-0AU00										

1) End sleeves according to DIN 46228 Sheet 1 without insulation. Size corresponds with sleeve nominal size.

2) 0.12/0.25 mm² corresponds with ∅ 0.4/0.6 mm.

3) For 0.75 mm² conductors, use end sleeves 1-10 and press on with insert E1 or PZ 1.5.

4) At voltages > 500 V, shorten end sleeves with inserted conductor to 10 mm before pressing on.

5) Tested up to 16 mm².

6) Fit and press on two end sleeves behind one another (to stop).

7) Voltage reduction to 630 V required.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

General technical specifications

Terminal size	Type	Smallest connectable cross-section					Largest connectable cross-section				
		Solid	Stran-ded	Flexible	Finely stranded with end sleeve[1]		Solid	Stran-ded	Flexible	Finely stranded with end sleeve[1]	
		mm²	mm²	mm²	mm²	Size	mm²	mm²	mm²	mm²	Size
Two-wire connection, 2 conductors each of same cross-section; with end sleeves the two rectangular sleeves must be inserted in the same position.											
1.5	8WA1 011-. SF . ., -1EE00	2 × 1	--	--	2 × 0.75	1 ... 10[3]	2 × 2.5	--	--	2 × 1.5	1,5 ... 10
2.5	8WA1 211, 8WA1 011-. .F. . 8WA1 501, 8WA1 511, 8WA1 011-1EF. .	2 × 0.12[2] 2 × 0.12[2]	2 × 0.5 2 × 0.5	2 × 0.5 2 × 0.25	2 × 0.5[9] --	0.75 ... 6 --	2 × 0.75 2 × 0.75	2 × 0.5 2 × 0.5	2 × 0.5 2 × 0.75	2 × 1.5[9] --	1.5 ... 10 --
4	8WA1 011-. .G. ., -1DG11 8WA1 011-2DG11 8WA1 011-6DG11, top 8WA1 011-6DG11, bottom 8WA1 011-1PG00 8WA1 011-1PG11, -1NG01	2 × 0.5 2 × 0.5 2 × 0.5 2 × 0.5 2 × 0.5 2 × 0.5	2 × 1 2 × 1 2 × 1 2 × 1 2 × 1 2 × 1	2 × 1 2 × 1 2 × 1 2 × 1 2 × 1 2 × 1	2 × 0.5 2 × 0.5 2 × 0,. 2 × 0.5 2 × 0.5 2 × 0.5	0.5 × 10 0.5 × 10 0.5 × 10 0.5 × 10 0.5 × 10 0.5 × 10	2 × 1.5 2 × 1 2 × 1.5 2 × 1 2 × 1 2 × 1.5	2 × 1.5 2 × 1.5 2 × 1.5 2 × 1.5 2 × 1.5 2 × 1.5	2 × 1.5 2 × 1.5 2 × 1.5 2 × 1.5 2 × 1.5 2 × 1.5	2 × 1.5 2 × 1 2 × 1 2 × 1 2 × 1 2 × 1	1.5 ... 10 1 ... 10 1 ... 10 1 ... 10 1 ... 10 1 ... 10
6	8WA1 011-1 . H . ., -3DH21 8WA1 010-1PH01	2 × 0.5 2 × 0.5	2 × 0.75 2 × 0.75	2 × 0.75 2 × 0.75	2 × 0.5 2 × 0.5	0.5 × 10 0.5 × 10	2 × 1.5 2 × 1.5	2 × 1.5 2 × 1.5	2 × 1.5 2 × 1.5	2 × 1.5 2 × 0.75	1.5 ... 10 1 ... 10
16	8WA1 204, 8WA1 304, 8WA1 604, 8WA1 011-1BK11 8WA1 734	2 × 1 2 × 2.5	2 × 2.5 --	2 × 2.5 --	2 × 1 2 × 1.5	1 ... 10 1.5 ... 7[6]	2 × 4 2 × 4	2 × 4 2 × 4	2 × 4 2 × 4	2 × 4 2 × 4	4 ... 12 4 ... 12
35	8WA1 205, 8WA1 305, 8WA1 011-1BM11, 8WA1 735	2 × 4	2 × 10	2 × 6	2 × 6	6 ... 15	2 × 10	2 × 10	2 × 10	2 × 10	10 ... 15
50	8WH1 000-0AN00, 8WH1 000-0AN01, 8WH1 000-0CN07	2 × 10	2 × 10	2 × 10	2 × 10	--	2 × 35	2 × 35	2 × 35	2 × 35	--
70	8WA1 206	2 × 10	2 × 10	2 × 10	2 × 10	10 ... 12[6]	2 × 16	2 × 16	2 × 16	2 × 16	16 ... 12[7]
95	8WH1 000-0AQ00, 8WH1 000-0AQ01, 8WH1 000-0CQ07	2 × 25	2 × 25	2 × 25	2 × 25	--	2 × 35	2 × 35	2 × 35	2 × 35	--
150	8WH1 000-0AS00, 8WH1 000-0AS01	2 × 25	2 × 25	2 × 25	2 × 25	--	2 × 50	2 × 50	2 × 50	2 × 50	--
240	8WH1 000-0AU00, 8WH1 000-0AU01	2 × 35	2 × 35	2 × 35	2 × 35	--	2 × 95	2 × 95	2 × 95	2 × 95	--

1) End sleeves according to DIN 46228 Sheet 1 without insulation. Size corresponds with sleeve nominal size.

2) 0.12/0.25 mm² corresponds with ∅ 0.4/0.6 mm.

3) For 0.75 mm² conductors, use end sleeves 1-10 and press on with insert E1 or PZ 1.5.

4) At voltages > 500 V, shorten end sleeves with inserted conductor to 10 mm before pressing on.

5) Tested up to 16 mm².

6) Fit and press on two end sleeves behind one another (to stop).

7) Voltage reduction to 630 V required.

8) With screw terminal.

9) With PZ 1.5 on top of each other.

CSA- and UL rating

Terminal size	Type	CSA rating AWG	CSA rating Rated current I_n A	CSA rating Rated voltage U_e V	UR rating AWG	UR rating Rated current I_n A	UR rating Rated voltage U_e V
1,5	8WA1 011-1SF12	18-14	6,3	600	18-14	6,3	600
	8WA1 011-1SF24, -2SF24, -4SF24	14	1	--	14-12	1	240 V AC/60 V DC
	8WA1 011-1SF25, -2SF25, -4SF25	14	2	--	14-12	2	240 V AC/60 V DC
	8WA1 011-1SF26, -2SF26, -4SF26	14	4	--	14-12	4	240 V AC/60 V DC
	8WA1 011-1SF27, -2SF27, -4SF27	14	6	--	14-12	6	240 V AC/60 V DC
	8WA1 011-1SF28, -2SF28, -4SF28	14	10	--	14-12	10	240 V AC/60 V DC
2,5	8WA1 011-1BF21, -1BF22, -1BF23, -1PF11	18-12	25	600	22-12	26	600
		18-12	25	600	22-12	26	600
	8WA1 011-1DF11, -3DF21, -0DF21, -0DF22	22-12	26	600	22-12	26	600
	8WA1 011-1NF01, -1NF02						
	8WA1 011-3JF..	--	--	--	22-12	26	300
	8WA1 011-1PF00, 8WA1 011-1PF01	22-12	--	--	22-12	--	--
	8WA1 501	22-12	10	300 D	22-12	10	300
4	8WA1 011-1PG00, 8WA1 011-1PG01	18-10	--	--	18-10	--	--
	8WA1 011-1BG11, -1BG21, -1BG22	18-10	40	600	18-10	35	600
	8WA1 011-1DG11, -3DG21, -0DG21, -0DG22	18-10	40	600	18-10	35	600
	8WA1 011-1NG31, -1NG32	18-10	40	600	18-10	35	600
	8WA1 011-1PG11	18-10	40	600	-	--	--
	8WA1 011-2BG11, -2DG11	18-10	40	300	18-10	35	600
	8WA1 011-6BG11, -6DG11	18-10	40	300	18-10	35	600
	8WA1 011-6EG..	--	--	--	18-10	34	300
	8WA9 200	18-10	25	300	18-10	26	600
6	8WA1 011-1PH00	--	--	--	14-8	--	--
	8WA1 011-1BH23, -1PH11	16-10	35	600	14-8	44	600
	8WA1 011-1DH11, -3DH21	16-8	35	600	14-8	44	600
	8WA1 011-1NH01, -1NH02	14-8	44	600	14-8	44	600
	8WA1 011-1MH10, -1MH11, -1MH15	16-10	35/40	600/300 C/D	14-8	44	600/300
	8WA1 232	-	--	--	-[1]	24	600
16	8WA1 011-1BK11	14-6	70	600	12-4	79	600
	8WA1 011-1NK02	--	--	--	12-4	73	300
	8WA1 011-1PK00	12-4	--	--	12-4	--	--
	8WA1 012-1DK10	--	--	--	-	79	600
	8WA1 204, 8WA1 304	14-6	70	600	12-4	79	600
	8WA1 604	--	--	--	12-4	73	300
25	8WH1 060-0AL00	6-4	100	600	6-4	85	600
35	8WA1 011-1BM11	12-2	100	600	10-1	120	600
	8WA1 011-1PM00	10-1	--	--	10-1	--	--
	8WA1 205, 8WA1 305	12-2	100	600	10-1	120	600
50	8WH1 000-0AN00, 8WH1 000-0AN01	6-0	125	600	6-0	150	600
	8WH1 000-0CN07	--	--	--	6-1		
	8WH1 060-0AN00	6-0	125	600	6-0	150	600
70	8WA1 012-1DP14	2/0-1	170	600	6-3/0	--	600
	8WA1 206	8-1/0	150	600	8-3/0	220	600
95	8WH1 000-0AQ00, 8WH1 000-0AQ01	1-000	220	600	2-000	230	600
	8WH1 000-0CQ07	2–4			2-4		
	8WH1 060-0AQ00	2–000	200	600	2-000	230	600
150	8WH1 000-0AS0, 8WH1 000-0AS01	2 – 300 kcmil	275	600	2 – 300 kcmil	285	600
	8WH1 060-0AS00	2 – 300 kcmil	275	600	2 – 300 kcmil	285	600
240	8WH1 000-0AU00, 8WH1 000-0AU01	0 – 500 kcmil	400	600	0 – 500 kcmil	380	600
	8WH1 000-0AU00	0 – 500 kcmil	400	600	0 – 500 kcmil	380	600

1) Push-on connection.

ALPHA FIX 8WA and 8WH Terminals with Screw Connection

General technical specifications

Conductor cross-sections according to AWG (American Wire Gauge)

AWG No.	Wire diameter mm	Cross-section mm²	AWG No.	Wire diameter mm	Cross-section mm²	AWG No.	Wire diameter mm	Cross-section mm²
30	0.254	0.051	18	1.024	0.82	6	4.115	13.30
29	0.287	0.065	17	1.151	1.04	5	4.620	16.77
28	0.320	0.081	16	1.290	1.31	4	5.189	21.15
27	0.363	0.102	15	1.450	1.65	3	5.827	26.66
26	0.404	0.128	14	1.628	2.08	2	6.543	33.62
25	0.455	0.163	13	1.829	2.63	1	7.348	42.41
24	0.511	0.205	12	2.052	3.31	1/0	8.252	53.52
23	0.574	0.259	11	2.304	4.17	2/0	9.266	67.43
22	0.643	0.33	10	2.588	5.26	3/0	10.404	85.01
21	0.724	0.41	9	2.906	6.63	4/0	11.684	107.21
20	0.813	0.52	8	3.268	8.37	5/0	--	135.35
19	0.912	0.65	7	3.665	10.55	6/0	--	170.50