

ALPHA FIX Terminal Blocks

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 mm ²
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.., 8WA1 011-..F..	M2.5 and M3	0.5 × 3	0.5	50	11
		M2.5	0.8 × 4	0.5	50	11
4	8WA1 011-..G.., 8WA2 867	M3	0.8 × 4	0.5	60	11
		M3.5	0.8 × 4	0.8 ... 1	60	11
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.., 8WA2 870	M6	1.2 × 6.5	2.5	190	17
				2.5 ... 3		
50	8WH1 000-0AN00, 8WH1 000-0AN01, 8WH1 000-0CN07 8WH1 070-0AN00	M6	1.2 × 8	6 ... 8	-	24
		M6	--	3 ... 7	-	6 ... 25
70	8WA1 ..6	M8	4 hexagon socket-head	6	285	25
95	8WA1 010-1PQ00 8WH1 000-0AQ00, 8WH1 000-0AQ01 8WH1 000-0CQ07 8WH1 070-0AQ00 8WH1 060-0AQ00	M8	6 hexagon socket-head	15 ... 20	-	30
		M8	6 hexagon socket-head	15 ... 20	-	33
		M8	6 hexagon socket-head	15 ... 20	-	30
		M8	-	6 ... 15	-	16... 25
		M8	-	25 ... 30	-	29
150	8WH1 000-0AS0. 8WH1 070-0AS00 8WH1 060-0AS00	M10	8 hexagon socket-head	25 ... 30	-	40
		M10	-	10 ... 18	-	10 ... 18
		M10	-	25 ... 30	-	34
240	8WH1 000-0AU0. 8WH1 060-0AU00	M10	10 hexagon socket-head	30 ... 35	-	40
		M10	-	30 ... 35	-	34

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

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Rated impulse withstand voltage of terminal blocks

Values depend on the mains nominal voltage \leq 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 (\leq Rated insulating voltage of the device) r.m.s.value V AC	Highest rated operational voltage to ground r.m.s.value V AC or DC	Preferred values for rated impulse withstand voltage as 1.2/50 μ s-pulse			
		Overvoltage category			
		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 mm ²	Stran- ded mm ²	Flexi- ble mm ²	Finely stranded with end sleeve ¹⁾ mm ²	Solid mm ²	Stran- ded mm ²	Flexi- ble mm ²	Finely stranded with end sleeve ¹⁾ mm ²	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, 8WH1 000-0AN01, 8WH1 000-0CN07	--	--	10	10	--	--	--	50	50	--
	8WH1 070-0AN00	--	--	10	10	--	--	--	50	50	--
	8WH1 060-0AN00	--	--	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, 8WH1 000-0AQ01, 8WH1 000-0CQ07	--	--	35	35	--	--	--	95	95	--
	8WH1 070-0AQ00	--	--	35	35	--	--	--	95	95	--
	8WH1 060-0AQ00	--	--	35	35	--	--	--	95	95	--
	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	--
	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	--	--	70	70	--	--	--	185	185	--
	8WH1 060-0AU00	--	--	70	70	--	--	--	185	185	--

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 \varnothing 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.

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Terminal size	Type	Smallest connectable cross-section					Largest connectable cross-section				
		Solid mm ²	Stran- ded mm ²	Flexi- ble mm ²	Finely stranded with end sleeve ¹⁾		Solid mm ²	Stran- ded mm ²	Flexi- ble mm ²	Finely stranded with end sleeve ¹⁾	
					mm ²	Size				mm ²	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 × 0.5 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 × 10 2 × 6	2 × 6 2 × 6	2 × 6 2 × 6	6 ... 15	2 × 10 2 × 10	2 × 10 2 × 10	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 Ø 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 .

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General technical specifications

CSA and UR rating

Terminal size	Type	CSA rating			UR rating		
		AWG	Rated current I_n A	Rated voltage U_e V	AWG	Rated current I_n A	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
	8WA1 011-1DF11, -3DF21, -0DF21, -0DF22	18-12	25	600	22-12	26	600
	8WA1 011-1NF01, -1NF02	22-12	26	600	22-12	26	600
	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 011-2DG11, -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		--	--	--	14-8 -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
	8WH1 000-0AN00	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.

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

AWG No.	Wire diameter mm	Cross-section mm ²	AWG No.	Wire diameter mm	Cross-section mm ²	AWG No.	Wire diameter mm	Cross-section mm ²
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