

ALPHA FIX Terminal Blocks

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.

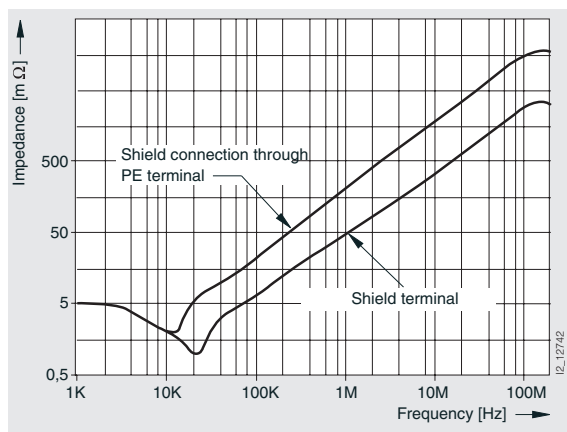
For the event that the cable shield is to be connected not directly before the terminal strip but at another point of the control panel, the use of support brackets made from insulating material is recommended.

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	




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Comparison of shield connection through PE terminal and through shield terminal





Selection and ordering data

Version	Order No.	Price	PG	PS* P. unit
		1 unit		Unit(s)
General details				
Note				
<ul style="list-style-type: none"> 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 x 3 mm 				
Terminal size 5 mm²				
	Shield terminals, terminal size 5 mm²	8WH9 130-0KA00	044	10
Terminal size 8 mm²				
	Shield terminals, terminal size 8 mm²			
	<ul style="list-style-type: none"> Diameter 3 – 8 mm Tightening torque 0.6 Nm 			
	Versions			
	<ul style="list-style-type: none"> For direct screen attachment on conductive mounting plate - plate thickness 1 – 2 mm For busbar 	8WH9 130-0AA00	044	10
		8WH9 130-0LA00	044	10
	Accessories	Section	Page	
	Support brackets			
	<ul style="list-style-type: none"> For terminal size 8 to 35 mm², from insulating material and conductive connection For terminal size 8 to 20 mm², on mounting rail with distance of about 30 mm to the busbar For terminal size 8 to 20 mm², on mounting rail with distance of about 65 mm to the busbar 	Accessories	1/47	
		Accessories	1/47	
		Accessories	1/47	
		8WH9 140-0DA00	044	10
		8WH9 140-0BA00	044	10
		8WH9 140-0CA00	044	10

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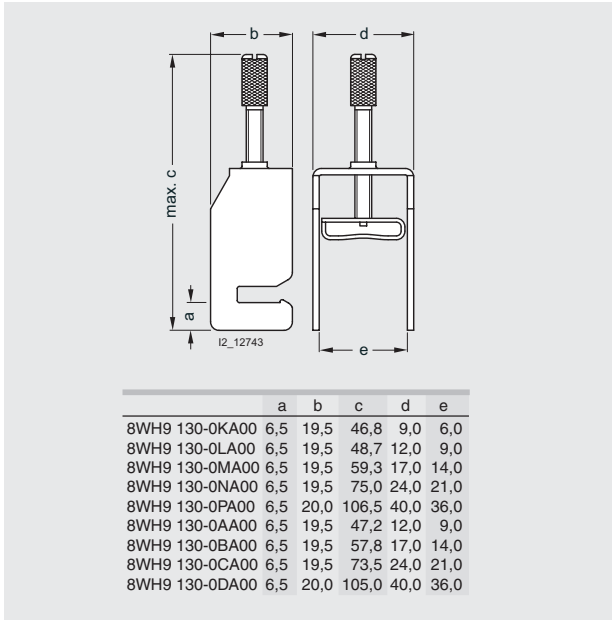
Version	Order No.	Price	PG	PS* P. unit															
		1 unit		Unit(s)															
Terminal size 14 mm²																			
 8WH9 130-0BA00	Shield terminals, terminal size 14 mm² <ul style="list-style-type: none"> • Diameter 3 – 14 mm • Tightening torque 0.8 Nm 																		
	Versions <ul style="list-style-type: none"> • For direct screen attachment on conductive mounting plate - plate thickness 1 – 2 mm • For busbar 																		
	8WH9 130-0BA00		044	10															
	8WH9 130-0MA00		044	10															
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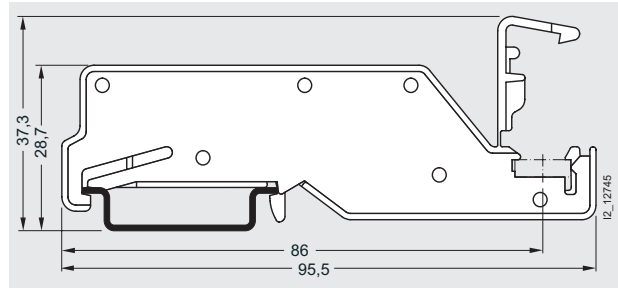
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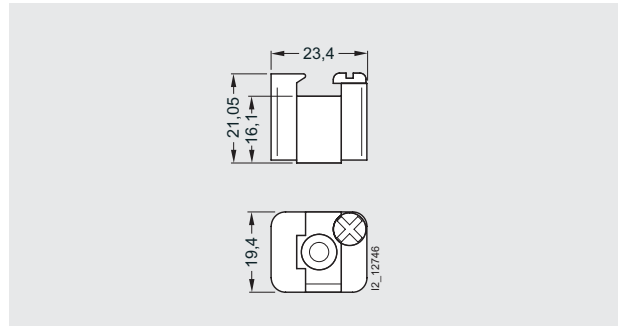
Dimensional drawings



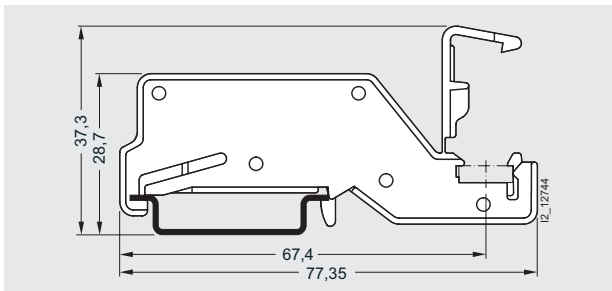
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8WH 140-0CA00



8WH9 140-0DA00



8WH 140-0BA00