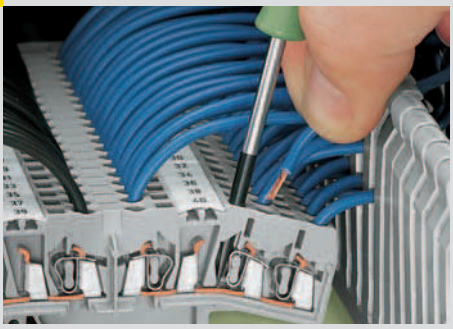
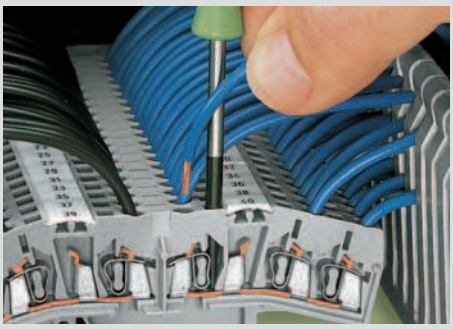
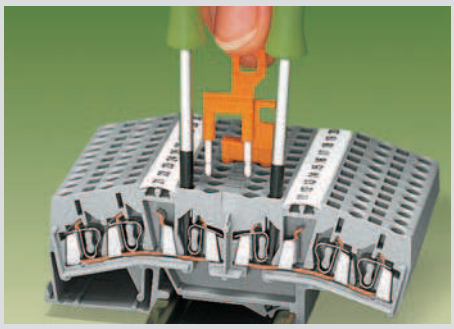
Rail-Mounted Terminal Blocks for Matrix Patching with CAGE CLAMP®
Description and Handling



**Terminal blocks for matrix patching.
Connection/removal of wires on the terminal blocks sides**

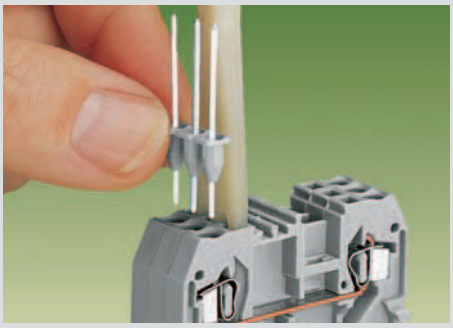


**Terminal blocks for matrix patching.
Connection/removal in the terminal block center**



**Used as disconnect terminal block.
Inserting disconnect jumpers**

Pin modules

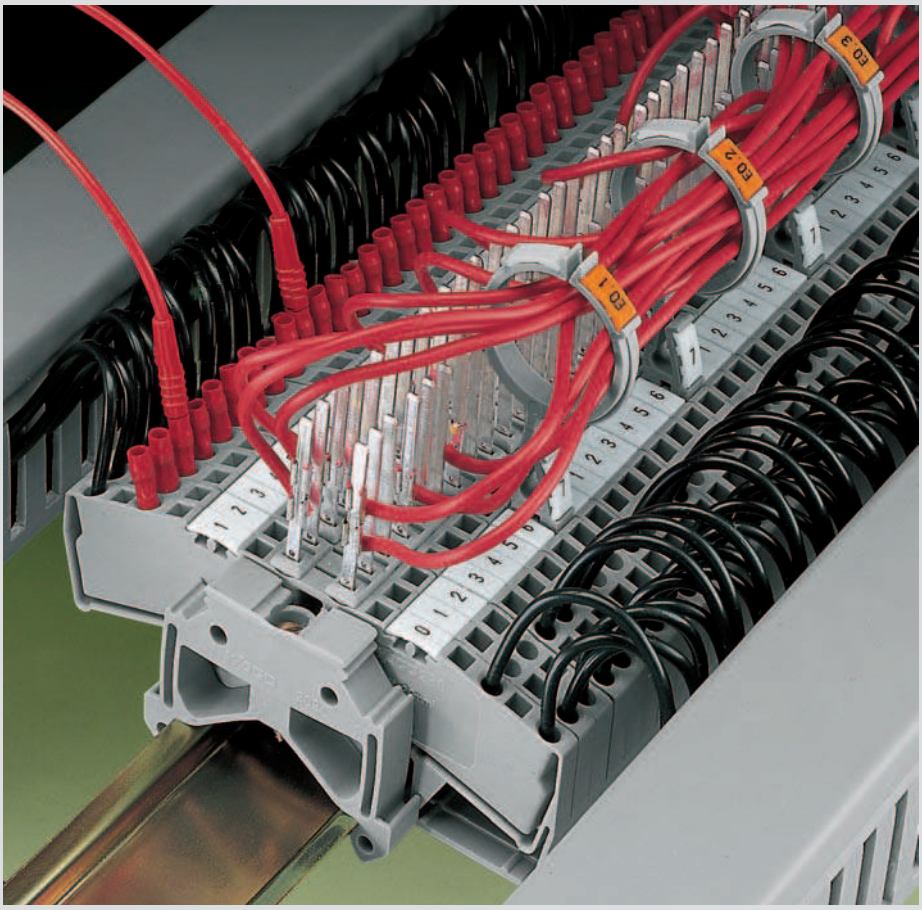


Insertion of a pin module shown with terminal blocks series 280

Comb type jumper bars



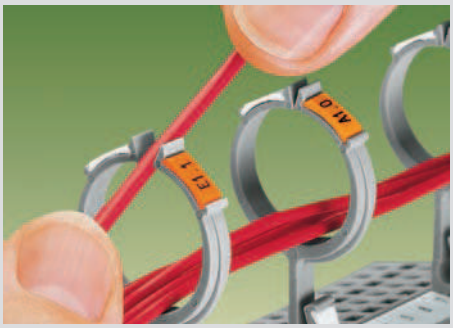
**Used as potential multiplication.
Insertion of a 10-way comb type jumper bar (only possible in the center)**



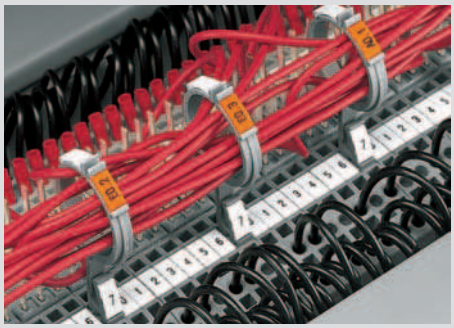
Wire harness support



Introduction of a wire harness support into the marker slot



Insertion of a cable into the wire harness support



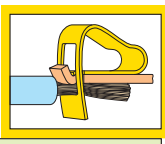
**2 x group marking on top
1 x terminal block marking at the bottom**

CAGE CLAMP® connects the following copper wires:*

solid	fine-stranded wire – tip bonded	stranded	fine-stranded wire with crimped ferrule**	fine-stranded, also with tinned single strands	fine-stranded wire with crimped pin terminal

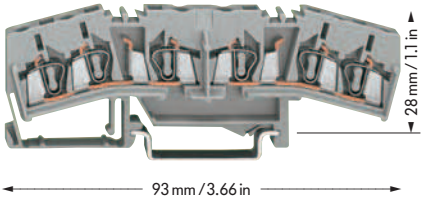
* For aluminum wire see notes in section 15!
** When using wires with ferrules, it is necessary to use a terminal block one size larger than the nominal cross section of the wire.

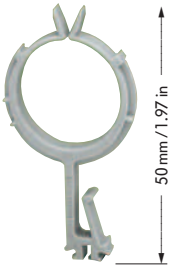
Rail-Mounted Terminal Blocks for Matrix Patching 2.5 mm² / AWG 12, Series 280
Wire Harness Support



	0.08 – 2.5 mm² / **AWG 28 – 12** **800 V/8 kV/3 ❶** / **300 V, 10 A** **20 A** **Terminal block width 5 mm / 0.197 in** **8 – 9 mm / 0.33 in** * BV	**Wire harness support**

❶ 800 V = rated voltage
8 kV = rated surge voltage
3 = pollution degree
(see also section 10)
800 V/8 kV/3 against ground (earth) and adjacent terminal blocks.
500 V/6 kV/3 between both current rails.
(If used as disconnect terminal block or multiplier of potential)



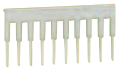


Description		Item No.	Pack.-unit pcs
Terminal block for matrix patching, for DIN 35 rail	**3-conductor double potential terminal block**		
	grey	**280-675**	50
Attention! These 3-conductor double potential terminal blocks cannot be commonded with adjacent jumpers!			

		Item No.	Pack.-unit pcs
Wire harness support			
grey		**249-109**	50

Accessories

Appropriate marking system **WMB/WSB** (see section 14)

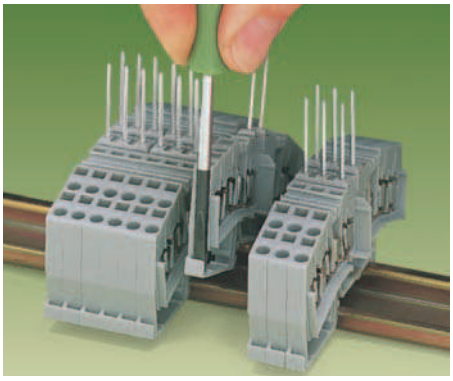
	**End and intermediate plate**	5 mm / 0.197 in thick	
		orange **280-333**	25
		grey **280-325**	25
	**Alternate comb type jumper bar,** insulated, $I_N = I_N$ of terminal block	2-way **280-492**	200 (8 x 25)
	**Disconnect jumper terminal block,** orange, $I_N = I_N$ of terminal block	with pull-tab 2-way **280-494**	200 (8 x 25)
	**Comb type jumper bar,** insulated, $I_N = I_N$ of terminal block	2-way **280-482** 3-way **280-483** 10-way **280-490**	200 (8 x 25) 200 (8 x 25) 50 (2 x 25)
	**Operating tool,** insulated, for comb jumpers	2-way **280-432** 3-way **280-433** 10-way **280-440**	1 1 1
	**2-pole pin modules,** for assembly on all front-entry rail-mounted term. blocks series 280	1 x 1 mm **280-477** for Wire-Wrap 0.8 x 1.6 mm **280-475** for Termi-Point 0.8 x 2.4 mm **280-473** for Termi-Point	
	3-pole pin modules, for assembly on all front-entry rail-mounted term. blocks series 280	1 x 1 mm **280-478** for Wire-Wrap 0.8 x 1.6 mm **280-476** for Termi-Point 0.8 x 2.4 mm **280-474** for Termi-Point	

Application notes

In case of these 5 mm / 0.197 in wide double potential front-entry terminal blocks two 3-conductor through terminal blocks are built into one insulating housing on one level. Compared with "standard" through terminal blocks the terminal block width is only 2.5 mm / 0.098 in.

On each side of the terminal block are marker slots for WAGO WSB markers. By means of the available accessories these terminal blocks can also be used as 4-conductor disconnect terminal blocks or multipliers of potential.

During mounting / dismounting using DIN 35 rail please note that due to the protruding webs the terminal blocks can only be inserted or removed from the strip after having displaced the adjacent terminal blocks (see also opposite photo).



Detaching: seperate terminal strip, displace individual terminal block laterally and remove from the carrier rail

Application notes

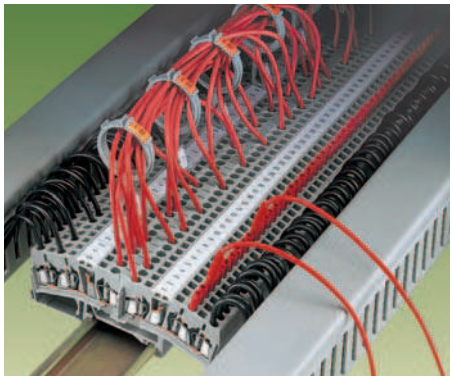
The maximum number of fine-stranded conductors which can be supported by the system depends on the wire size:

0.25 mm²/AWG 24	200 conductors
0.5 mm²/AWG 20	95 conductors
0.75 mm²/AWG 18	75 conductors
1 mm²/AWG 18	65 conductors
1.5 mm²/AWG 16	45 conductors
2.5 mm²/AWG 14	30 conductors

In process automation systems, the matrix patchboard is an essential element in measurement and control techniques. Particularly in this kind of application, use of the WAGO wire harness support can make wiring easier and more obvious.

WAGO 3-conductor front-entry double potential terminal blocks of the 280 series (with or without the addition of Wire-Wrap® or TERMI-POINT® pins) are particularly suitable in this application. They can be used for the linking of incoming field wires, from items such as measuring devices or servos etc., with the central process controller devices, such as control consoles, panelboards or PLCs, by means of matrix connections.

The WAGO wire harness suppoert elements are pushed into the terminal blocks (about every 8th one) to form an additional "cable-duct" above the wiring level of the terminal blocks. Two marker slots are provided in each, the top ones may be used for group marking, and the lower slot for marking the terminal block.



Terminal blocks for matrix patching with wire harness support

* For further approvals with corresponding ratings see section 15.