

Data sheet | Item number: 281-622/281-417

2-conductor fuse terminal block; with pivoting fuse holder; for 5 x 30 mm miniature metric fuse; with blown fuse indication by neon lamp; 230 V; for DIN-rail 35 x 15 and 35 x 7.5; 4 mm²; CAGE CLAMP®; 4,00 mm²; gray

www.wago.com/281-622/281-417



Data

Electrical data

Ratings per IEC/EN

Ratings per	IEC/EN 60947-7-3
Nominal voltage (III/3)	800 V
Rated impulse voltage (III/3)	8 kV
Rated current	10 A

Subject to changes. Please also observe the further product documentation!

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Operation status indicator	230 V
Legend (ratings)	(III / 3) $\hat{=}$ Overvoltage category III / Pollution degree 3

Ratings per IEC/EN – Notes

Ratings (note)	Electrical ratings are given by the fuse and blown fuse indication.
Note (rated current)	Leakage current in case of a blown fuse: Neon lamp < 0.4 mA

Power Loss

Power loss (max.) $P_{I(max)}$ (note)	When selecting glass cartridge fuses, make sure that the maximum power loss listed below is not exceeded. The power loss is determined according to IEC or EN 60947-7-3/VEDE 0611-6 at 23°C. The temperature rise of the terminal block must be checked according to their application and mounting. Higher ambient temperatures represent an additional impact on miniature fuses. Therefore, in such applications, the rated current must be reduced if necessary. More details are available from the manufacturers.
Power loss P_I max. overload and short-circuit protection (individual arrangement)	2.5 W
Power loss P_I max. overload and short-circuit protection (group arrangement)	1.6 W
Power loss P_I max. short-circuit protection (individual arrangement)	4 W
Power loss P_I max. short-circuit protection (group arrangement)	4 W

General information

Fuse receptacle	pivoting
Fuse type	Cylindrical fuse; 5 x 30 mm

Connection data

Connection points	2
Total number of potentials	2
Number of levels	1

Connection 1

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper Aluminum

Subject to changes. Please also observe the further product documentation!



Connectable conductor materials (note)

Terminating Aluminum Conductors

WAGO spring clamp terminal blocks are suitable for solid aluminum conductors up to 4 mm²/12 AWG if WAGO "Alu-Plus" Contact Paste 249-130 is used for termination.

"Alu-Plus" Contact Paste Advantages:

- Automatically destroys the oxide film during clamping.
- Prevents fresh oxidation at the clamping point.
- Prevents electrolytic corrosion between aluminum and copper conductors (in the same terminal block).
- Provides long-term protection against corrosion.

Using terminal blocks with CAGE CLAMP® Spring Pressure Connection Technology, **aluminum conductors must first be cleaned with a blade** and then immediately be inserted into the clamping units filled with "Alu-Plus" Contact Paste.

It is also possible to apply WAGO "Alu-Plus" **additionally** on the whole surface of the aluminum conductor before termination.

Please note that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors::

2.5 mm² = 16 A

4 mm² = 22 A

Solid conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 4 mm ² / 28 ... 12 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches
Wiring direction	Front-entry wiring

Physical data

Width	8 mm / 0.315 inches
Height	60 mm / 2.362 inches
Depth from upper-edge of DIN-rail	60 mm / 2.362 inches

Mechanical Data

Design	angled
Mounting type	DIN-35 rail
Marking level	Center marking

Subject to changes. Please also observe the further product documentation!

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Material data

Note (material data)

Information on material specifications can be found here

Color	gray
Material group	I
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.324 MJ
Weight	17.7 g

Environmental requirements

Processing temperature	-35 ... +85 °C
Continuous operating temperature	-60 ... +105 °C

Commercial data

Product Group	1 (Rail Mounted Terminal Blocks)
eCl@ss 10.0	27-14-11-16
eCl@ss 9.0	27-14-11-16
ETIM 8.0	EC000899
ETIM 7.0	EC000899
PU (SPU)	50 pcs
Packaging type	box
Country of origin	DE
GTIN	4045454197094
Customs tariff number	85369095000

Environmental Product Compliance





RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	7(c)-I

Approvals / Certificates



General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CSA CSA Group	C22.2	1505034



Subject to changes. Please also observe the further product documentation!

	CSA DEKRA Certification B.V.	C22.2 No. 158	1505034
	KEMA/KEUR DEKRA Certification B.V.	EN 60947	2160584.31
	KEMA/KEUR DEKRA Certification B.V.	EN 60947	NTR NL-7135
	UR UL International Germany GmbH	UL 1059	E45172

Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
	UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	20-HG1941090-PDA
	DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE00001V2

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Required accessories

End plate

End plate



Item no.: 281-309

End and intermediate plate; 2.5 mm thick; orange

www.wago.com/281-309



Item no.: 281-311

End and intermediate plate; 2.5 mm thick; gray

www.wago.com/281-311

Optional accessories

Carrier rail

Mounting accessories



Item no.: 210-197

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored

www.wago.com/210-197



Item no.: 210-198

Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored

www.wago.com/210-198



Item no.: 210-504

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; silver-colored

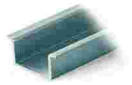
www.wago.com/210-504



Item no.: 210-505

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored

www.wago.com/210-505



Item no.: 210-506

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored

www.wago.com/210-506



Item no.: 210-508

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-colored

www.wago.com/210-508



Item no.: 210-113

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

www.wago.com/210-113



Item no.: 210-118

Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

www.wago.com/210-118



Item no.: 210-112

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-colored

www.wago.com/210-112

Subject to changes. Please also observe the further product documentation!

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**Item no.: 210-114**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored

www.wago.com/210-114**Item no.: 210-115**

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm; silver-colored

www.wago.com/210-115**Item no.: 210-196**

Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored

www.wago.com/210-196**Ferrule**

Ferrule

**Item no.: 216-106**Ferrule; Sleeve for 2.5 mm² / AWG 14; uninsulated; electro-tin plated; silver-coloredwww.wago.com/216-106**Item no.: 216-203**Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; redwww.wago.com/216-203**Item no.: 216-206**Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; bluewww.wago.com/216-206**Item no.: 216-202**Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; graywww.wago.com/216-202**Item no.: 216-204**Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; blackwww.wago.com/216-204**Item no.: 216-205**Ferrule; Sleeve for 2.08 mm² / AWG 14; insulated; electro-tin plated; yellowwww.wago.com/216-205**Item no.: 216-201**Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; whitewww.wago.com/216-201**Item no.: 216-241**Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; whitewww.wago.com/216-241**Item no.: 216-242**Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; graywww.wago.com/216-242**Item no.: 216-243**Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; redwww.wago.com/216-243**Item no.: 216-244**Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blackwww.wago.com/216-244**Item no.: 216-246**Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; bluewww.wago.com/216-246**Item no.: 216-301**Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellowwww.wago.com/216-301

Subject to changes. Please also observe the further product documentation!

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	Item no.: 216-302 Ferrule; Sleeve for 0.34 mm ² / 22 AWG; insulated; electro-tin plated; light turquoise	www.wago.com/216-302
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Locking levers

Locking system		
	Item no.: 210-254 Interlocking link; mechanically locks multiple links; 1 m long; transparent	www.wago.com/210-254



Testing and measuring

Testing accessories		
	Item no.: 281-407 Test plug; 6 mm wide; Nominal current 24 A; for 0.08 mm ² - 2.5 mm ² ; 2,50 mm ² ; gray	www.wago.com/281-407
	Item no.: 280-404 Test plug adapter; 5 mm wide; for test plug (2.3 mm Ø); suitable for 1.5 mm ² - 4 mm ² tbs; gray	www.wago.com/280-404

Jumpers












Jumper		
	Item no.: 210-123 Wire commoning chain; insulated; blue	www.wago.com/210-123
	Item no.: 210-103 Wire commoning chain; insulated; black	www.wago.com/210-103
	Item no.: 281-402 Jumper; insulated; gray	www.wago.com/281-402
	Item no.: 709-110 Wire commoning chain; 2.5 mm ² ; insulated; black	www.wago.com/709-110
	Item no.: 709-112 Wire commoning chain; 2.5 mm ² ; insulated; black	www.wago.com/709-112
	Item no.: 709-111 Wire commoning chain; 2.5 mm ² ; insulated; black	www.wago.com/709-111

Marking accessories

Marker		
	Item no.: 2009-115/000-002 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow	www.wago.com/2009-115/000-002
	Item no.: 2009-115/000-007 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray	www.wago.com/2009-115/000-007

Item no.: 2009-115/000-017

Subject to changes. Please also observe the further product documentation!

	WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; light green	www.wago.com/2009-115/000-017
	Item no.: 2009-115/000-023 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green	www.wago.com/2009-115/000-023
	Item no.: 2009-115/000-024 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet	www.wago.com/2009-115/000-024
	Item no.: 2009-115 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-115
	Item no.: 793-5501/000-007 WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; gray	www.wago.com/793-5501/000-007
	Item no.: 793-5501/000-012 WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; orange	www.wago.com/793-5501/000-012
	Item no.: 793-5501/000-017 WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; light green	www.wago.com/793-5501/000-017
	Item no.: 793-5501/000-023 WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; green	www.wago.com/793-5501/000-023
	Item no.: 793-5501/000-024 WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; violet	www.wago.com/793-5501/000-024
	Item no.: 793-501/000-002 WMB marking card; as card; not stretchable; plain; snap-on type; yellow	www.wago.com/793-501/000-002
	Item no.: 793-501/000-007 WMB marking card; as card; not stretchable; plain; snap-on type; gray	www.wago.com/793-501/000-007

Subject to changes. Please also observe the further product documentation!



Item no.: 793-501/000-017

WMB marking card; as card; not stretchable; plain; snap-on type; light green

www.wago.com/793-501/000-017



Item no.: 793-501/000-012

WMB marking card; as card; not stretchable; plain; snap-on type; orange

www.wago.com/793-501/000-012



Item no.: 793-501/000-023

WMB marking card; as card; not stretchable; plain; snap-on type; green

www.wago.com/793-501/000-023



Item no.: 793-501/000-006

WMB marking card; as card; not stretchable; plain; snap-on type; blue

www.wago.com/793-501/000-006



Item no.: 793-501/000-005

WMB marking card; as card; not stretchable; plain; snap-on type; red

www.wago.com/793-501/000-005



Item no.: 793-501

WMB marking card; as card; not stretchable; plain; snap-on type; white

www.wago.com/793-501



Item no.: 793-501/000-024

WMB marking card; as card; not stretchable; plain; snap-on type; violet

www.wago.com/793-501/000-024



Item no.: 793-5501/000-005

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; red

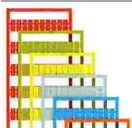
www.wago.com/793-5501/000-005



Item no.: 793-5501/000-002

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; yellow

www.wago.com/793-5501/000-002



Item no.: 793-5501/000-006

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; blue

www.wago.com/793-5501/000-006



Item no.: 793-5501

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white

www.wago.com/793-5501

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	Item no.: 2009-115/000-012 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange	www.wago.com/2009-115/000-012
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	Item no.: 2009-115/000-006 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue	www.wago.com/2009-115/000-006
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Push-in type wire jumper

Jumper


	Item no.: 249-123 Push-in type wire jumper; 0.75 mm ² ; insulated; 180 mm long; black	www.wago.com/249-123
	Item no.: 249-126 Push-in type wire jumper; 0.75 mm ² ; insulated; 110 mm long; black	www.wago.com/249-126
	Item no.: 249-127 Push-in type wire jumper; 0.75 mm ² ; insulated; 250 mm long; black	www.wago.com/249-127
	Item no.: 249-125 Push-in type wire jumper; insulated; 60 mm long; black	www.wago.com/249-125

Mounting



Cover carrier

	Item no.: 709-167 Cover carrier; Type 1; incl. fixing/retaining screws and knurled nut; suitable for 279 to 282 and 880 Series rail-mounted terminal blocks; suitable for 264 Series miniature rail-mounted terminal blocks; suitable for 270 Series sensor and actuator terminal blocks; gray	www.wago.com/709-167
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Cover



	Item no.: 709-153 Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent	www.wago.com/709-153
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Mounting accessories

	Item no.: 209-106 Mounting carrier; for isolated mounting on DIN 35 rails; gray	www.wago.com/209-106
	Item no.: 249-116 Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray	www.wago.com/249-116

Tool

Operating tool

	Item no.: 210-657 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured	www.wago.com/210-657
	Item no.: 210-658 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; angled; short; multicoloured	www.wago.com/210-658

Subject to changes. Please also observe the further product documentation!



Item no.: 210-720

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

www.wago.com/210-720

Downloads

Documentation

Bid Text

281-622/281-417 X81 - Datei	2019 Feb 19	xml 3.7 kB	Download
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281-622/281-417 doc - Datei	2017 Mar 9	doc 26.6 kB	Download
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Additional Information

		pdf 2.3 MB	Download
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CAD/CAE-Data

CAD data

2D/3D Models 281-622/281-417		URL	Download
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CAE data

EPLAN Data Portal 281-622/281-417		URL	Download
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WSCAD Universe 281-622/281-417		URL	Download
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ZUKEN Portal 281-622/281-417		URL	Download
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WSCAD Universe 281-622/281-417		URL	Download
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EPLAN Data Portal 281-622/281-417		URL	Download
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Asset Administration Shell

Asset Administration Shell 281-622/281-417		URL	Download
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Subject to changes. Please also observe the further product documentation!

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 281-622/281-417

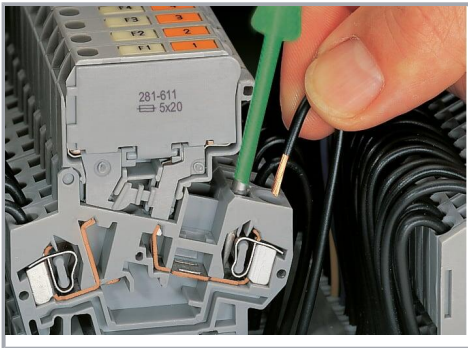
URL

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2-conductor fuse terminal block; with pivoting fuse holder; for 5 x 30 mm miniature metric fuse; with blown fuse indication by neon lamp; 230 V; for DIN-rail 35 x 15 and 35 x 7.5; 4 mm²; CAGE CLAMP[®]; 4,00 mm²; gray

Installation Notes

Conductor termination

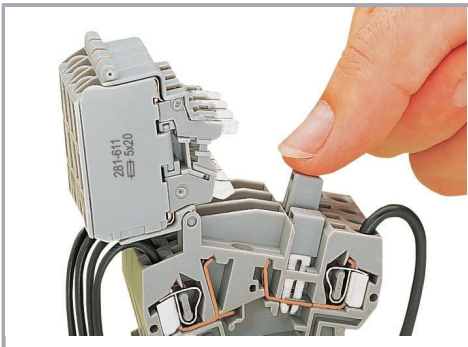


CAGE CLAMP[®] connection

Inserting a conductor.

With ferruled conductors, it is necessary to use a terminal block one size smaller than the conductor's nominal cross-section.

Commoning

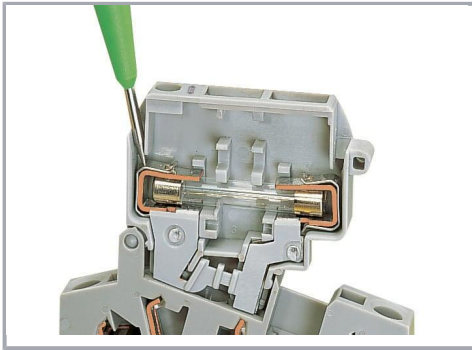


Commoning

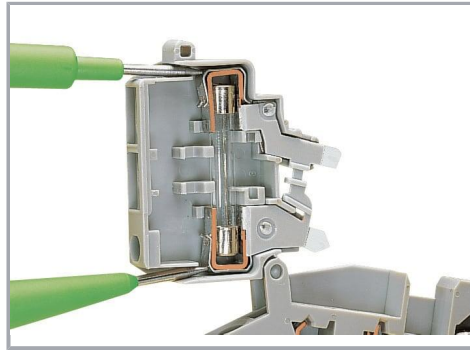
Distributing current to several fuse-protected circuits via insulated push-in type jumpers.

Testing

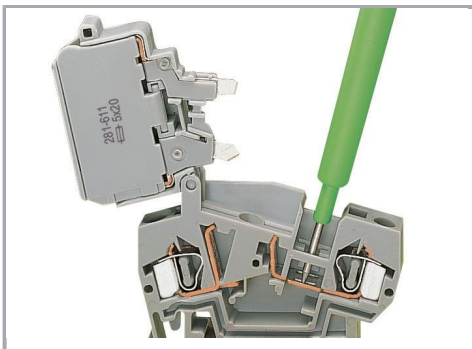
Subject to changes. Please also observe the further product documentation!



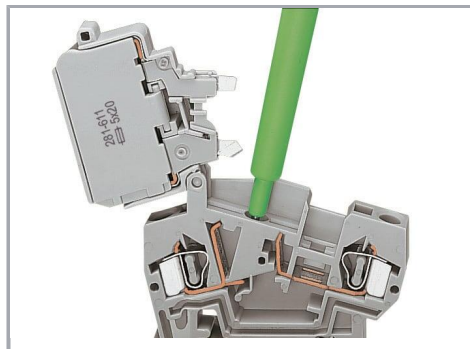
Voltage test, either at input or output with fuse holder in closed position (live)



Through test with fuse holder in open position (no voltage)



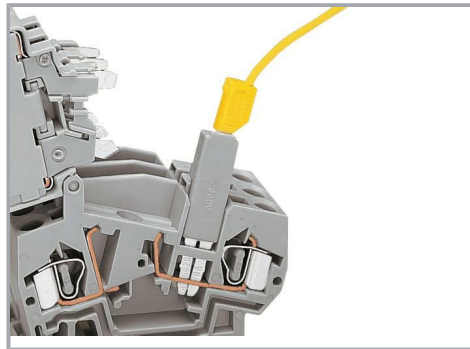
Voltage test at input in the test slot of the current bar



Testing voltage at the output via separate test slot.



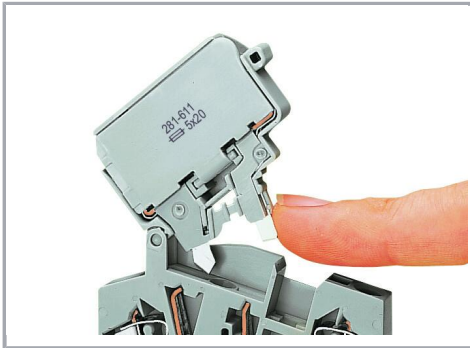
Measuring current between jumper slot and separate test slot.



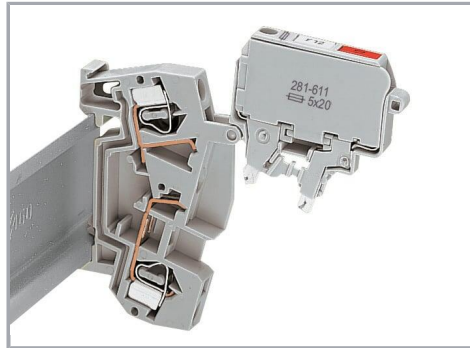
Testing voltage (input side) via test plug adapter (280-404, shown) or test plug (281-407).

Security

Subject to changes. Please also observe the further product documentation!

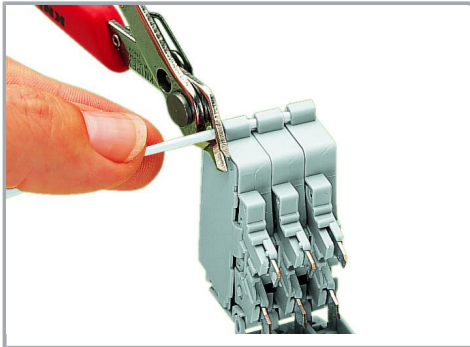


Touch-proof protection in all positions of the fuse holder



Fuse holder will remain safely locked open in vertical assemblies.

Locking system

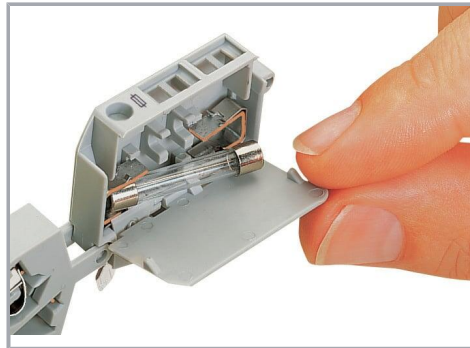


Ganging several fuse holders with an interlocking link (example shows 8 mm wide terminal blocks).

Application

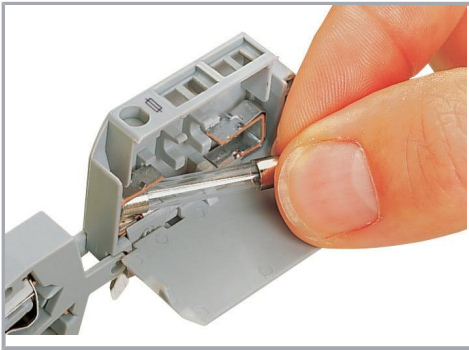


Fuse replacement:
Before replacing a fuse, pivot the fuse holder into the locked open position.



Fuse replacement:
One end of the fuse is automatically ejected from the holder when opening the cover.

Subject to changes. Please also observe the further product documentation!



Fuse replacement:

Easily removing a fuse by hand.



Fuse replacement:

Insert a new fuse and snap the cover closed.

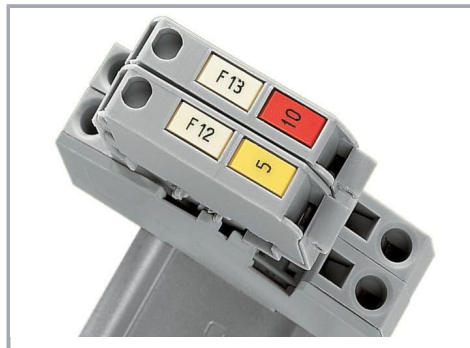


Fused disconnect or disconnect terminal blocks with a width of 8 mm can be assembled adjacently. At the end of an assembly, or if there is **no** adjacent fused disconnect or disconnect terminal block, an end or intermediate plate must be used.

Marking



All fuse holders are printed with correct fuse size.



Each fuse holder features two marker slots for custom WMB Multi markers (example shows 8 mm wide terminal blocks).

Subject to changes. Please also observe the further product documentation!