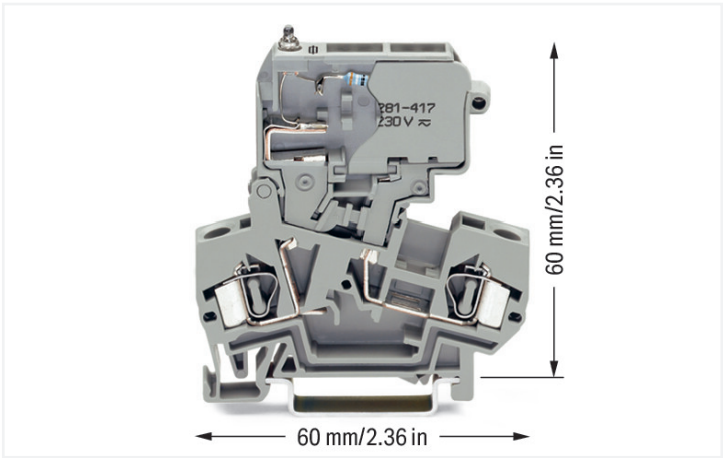
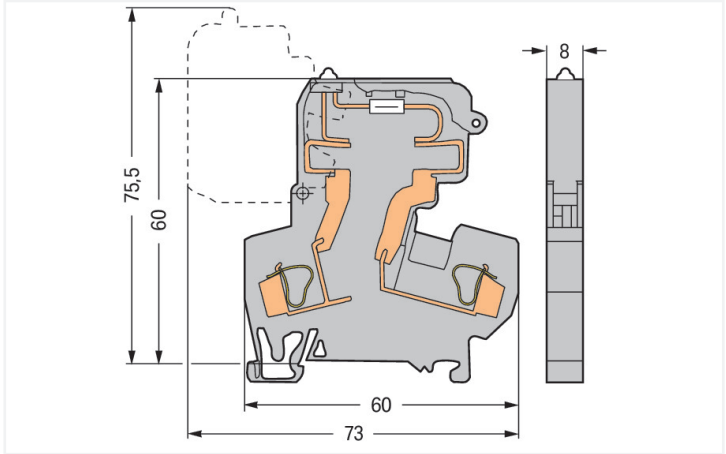
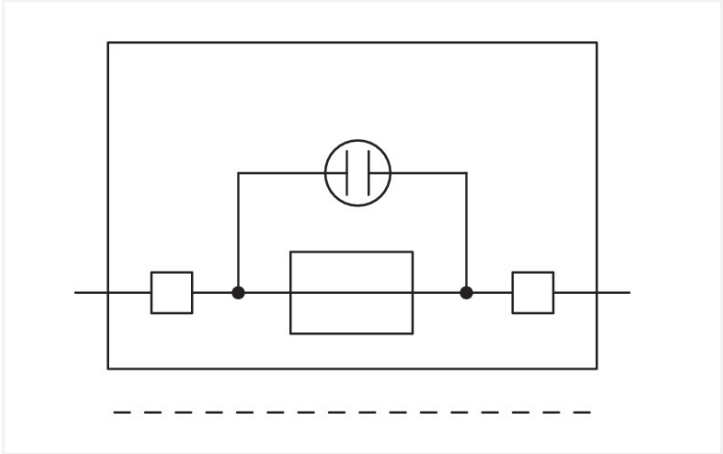
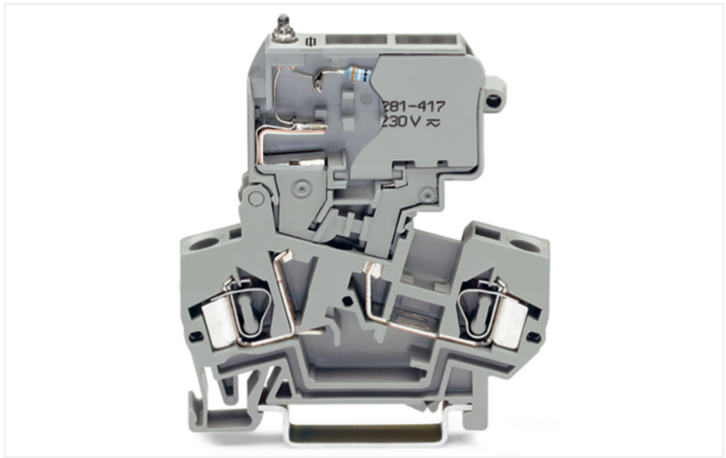


Data Sheet | Item Number: 281-611/281-417
2-conductor fuse terminal block; with pivoting fuse holder; for 5 x 20 mm miniature metric fuse; with blown fuse indication by neon lamp; 230 V; for DIN-rail 35 x 15 and 35 x 7.5; 4 mm²; CAGE CLAMP®; gray
<https://www.wago.com/281-611/281-417>



Color: ■ gray



Dimensions in mm

Fuse terminal block, 281 Series, gray

Our fuse terminal block (item number 281-611/281-417) ensures effortless electrical installations. Conductors can only be connected to this fuse terminal block if their strip length is between 9 mm and 10 mm. Featuring conductor terminals along with CAGE CLAMP®, this product delivers reliable performance. Our reliable and maintenance-free CAGE CLAMP® connection makes it easy to connect all conductor types without having to prepare the conductor. For example, you don't need to crimp ferrules. Depending on the conductor type, this fuse terminal block is designed for conductor cross sections ranging from 0.08 mm² to 4 mm². It comes with one level and two clamping points that you can use to connect two potentials. The gray housing is made of polyamide (PA66) for insulation. These function terminal blocks are mounted using DIN-35 rails..

Electrical data				
Ratings per		IEC/EN 60947-7-3		
Overvoltage category		III	III	II
Pollution degree		3	2	2
Nominal voltage		800 V	-	-
Rated surge voltage		8 kV	-	-
Rated current		10 A	-	-
Ratings per IEC/EN – Notes				
Ratings (note)		Electrical ratings are given by the fuse and blown fuse indication.		
Rated current (note)		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/VDE 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.
Maximum power loss P_{loss} of fuse insert for overload and short-circuit protection (individual arrangement)	2.5 W
Maximum power loss P_{loss} of fuse insert for overload and short-circuit protection (block arrangement)	1.6 W
Power loss P_I max. short-circuit protection (individual arrangement)	4 W
Power loss P_{loss} (max.) of fuse cartridge for short-circuit protection (block arrangement)	4 W

General information	
Fuse receptacle	pivoting
Fuse type	Cylindrical fuse; 5 x 20 mm

Connection data	
Clamping units	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
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 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 mm² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 4 mm² / 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

Material data		
Note (material data)		Information on material specifications can be found here
Color		gray
Material group		I
Insulation material (main housing)		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)
PU (SPU)		50 pcs
Packaging type		Box
Country of origin		CN
GTIN		4045454871437
Customs tariff number		85369095000

Product Classification		
UNSPSC		39121410
eCl@ss 10.0		27-14-11-16
eCl@ss 9.0		27-14-11-16
ETIM 9.0		EC000899
ETIM 8.0		EC000899
ECCN		NO US CLASSIFICATION

Environmental Product Compliance		
RoHS Compliance Status		Compliant, No Exemption



Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
CSA CSA Group	C22.2	1505034
KEMA/KEUR DEKRA Certification B.V.	EN 60947	NTR NL-7135
KEMA/KEUR DEKRA Certification B.V.	EN 60947	2160584.31
UR UL International Germany GmbH	UL 1059	E45172

Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	-	24-0152298-PDA
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAE00001V2

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 281-611/281-417	
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Documentation

Bid Text

281-611/281-417	19.02.2019	xml 3.61 KB	
281-611/281-417	14.03.2017	doc 26.00 KB	



CAD/CAE-Data	
CAD data 2D/3D Models 281-611/281-417 ↓	CAE data EPLAN Data Portal 281-611/281-417 ↓
	WSCAD Universe 281-611/281-417 ↓
	ZUKEN Portal 281-611/281-417 ↓

1 Compatible Products

1.1 Required Accessories

1.1.1 End plate

1.1.1.1 End plate



Item No.: 281-311 End and intermediate plate; 2.5 mm thick; gray	Item No.: 281-309 End and intermediate plate; 2.5 mm thick; orange
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1.2 Optional Accessories

1.2.1 DIN-rail

1.2.1.1 Mounting accessories



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	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	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	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
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	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	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	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
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	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	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	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



1.2.2 Ferrule

1.2.2.1 Ferrule



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; white



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; gray



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; red



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; black



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; blue



Item No.: 216-106
Ferrule; Sleeve for 2.5 mm² / AWG 14; un-insulated; electro-tin plated; silver-colored

1.2.3 Installation

1.2.3.1 Cover



Item No.: 709-153
Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent

1.2.3.2 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

1.2.3.3 Mounting accessories



Item No.: 209-106
Mounting carrier; for isolated mounting on DIN 35 rails; gray



Item No.: 249-116
Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

1.2.4 Jumper

1.2.4.1 Jumper



Item No.: 281-402
Jumper; insulated; gray



Item No.: 709-110
Wire commoning chain; 2.5 mm²; insulated; black



Item No.: 709-111
Wire commoning chain; 2.5 mm²; insulated; black



Item No.: 709-112
Wire commoning chain; 2.5 mm²; insulated; black



Item No.: 210-103
Wire commoning chain; insulated; black



Item No.: 210-123
Wire commoning chain; insulated; blue



1.2.5 Locking system

1.2.5.1 Locking system



Item No.: 210-254
Interlocking link; mechanically locks multiple links; 1 m long; transparent

1.2.6 Marking

1.2.6.1 Marker



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



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



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



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



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



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



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



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



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



Item No.: 793-501/000-006
WMB marking card; as card; not stretchable; plain; snap-on type; blue



Item No.: 793-501/000-007
WMB marking card; as card; not stretchable; plain; snap-on type; gray



Item No.: 793-501/000-023
WMB marking card; as card; not stretchable; plain; snap-on type; green



Item No.: 793-501/000-017
WMB marking card; as card; not stretchable; plain; snap-on type; light green



Item No.: 793-501/000-012
WMB marking card; as card; not stretchable; plain; snap-on type; orange



Item No.: 793-501/000-005
WMB marking card; as card; not stretchable; plain; snap-on type; red



Item No.: 793-501/000-024
WMB marking card; as card; not stretchable; plain; snap-on type; violet



Item No.: 793-501
WMB marking card; as card; not stretchable; plain; snap-on type; white



Item No.: 793-501/000-002
WMB marking card; as card; not stretchable; plain; snap-on type; yellow



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



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



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



Item No.: 2009-115/000-017
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; light green



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



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



Item No.: 2009-115
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white



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



1.2.7 Push-in type wire jumper

1.2.7.1 Jumper



Item No.: 249-126
Push-in type wire jumper; 0.75 mm²; insulated; 110 mm long; black



Item No.: 249-123
Push-in type wire jumper; 0.75 mm²; insulated; 180 mm long; black



Item No.: 249-127
Push-in type wire jumper; 0.75 mm²; insulated; 250 mm long; black



Item No.: 249-125
Push-in type wire jumper; insulated; 60 mm long; black

1.2.8 Test and measurement

1.2.8.1 Testing accessories



Item No.: 249-147
B-type test plug module; modular; 2,50 mm²; gray



Item No.: 280-404
Test plug adapter; 5 mm wide; for test plug (2.3 mm Ø); suitable for 1.5 mm² - 4 mm² tbs; gray



Item No.: 281-407
Test plug; 6 mm wide; Nominal current 24 A; for 0.08 mm² - 2.5 mm²; gray

1.2.9 Tool

1.2.9.1 Operating tool



Item No.: 210-658
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; angled; short; multicoloured



Item No.: 210-720
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured



Item No.: 210-657
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured

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.

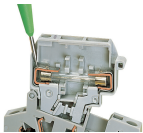
Commoning



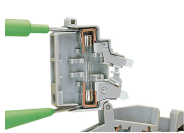
Commoning
Distributing current to several fuse-protected circuits via insulated push-in type jumpers.



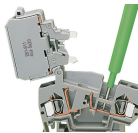
Testing



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



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



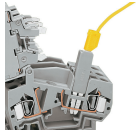
Voltage test at input in the test slot of the current bar



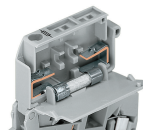
Testing voltage at the output via separate test slot.



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).

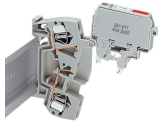


5 x 20 mm, 5 x 25 mm and 1/4" x 1" fuse holders are fitted with stops on the inside of the cover.

Security

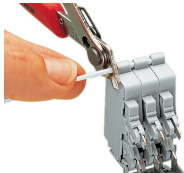


Touch-proof protection in all positions of the fuse holder



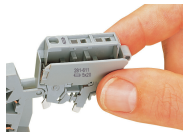
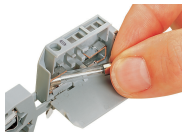
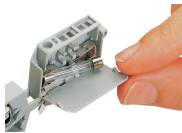
Fuse holder will remain safely locked open in vertical assemblies.

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.

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).