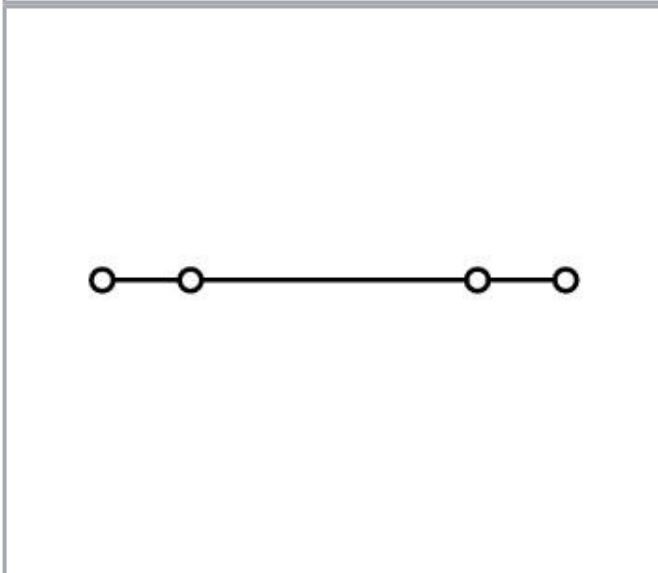
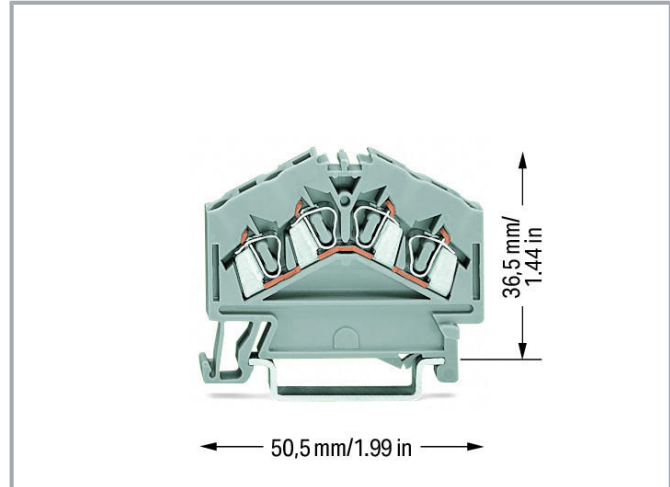


**Data sheet | Item number: 280-646**

4-conductor through terminal block; 2.5 mm<sup>2</sup>; center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 2,50 mm<sup>2</sup>; gray



[www.wago.com/280-646](http://www.wago.com/280-646)



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

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Do you have any questions about our products?  
We are always happy to take your call at +49 (571) 887-44222.



## Data

### Notes

Safety information 1

Notice: This terminal block cannot be commoned with adjacent jumpers.

## Electrical data

### Ratings per IEC/EN

Ratings per	IEC/EN 60947-7-1
Nominal voltage (III/3)	800 V
Rated surge voltage (III/3)	8 kV
Rated current	24 A
Legend (ratings)	(III / 3) ≙ Overvoltage category III / Pollution degree 3

## Connection data

Total number of connection points	4
Total number of potentials	1
Number of levels	1

## Connection 1

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

Anschließbare Leiterwerkstoffe Hinweis

### Terminating Aluminum Conductors

WAGO spring clamp terminal blocks are suitable for solid aluminum conductors up to 4 mm<sup>2</sup>/12 AWG if WAGO "Alu-Plus" Contact Paste 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.

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

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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.

For spring clamp connections with PUSH WIRE® connection technology, **WAGO recommends that the aluminum conductor first be cleaned** and then immediately inserted into the clamping unit 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 mm<sup>2</sup> = 16 A

4 mm<sup>2</sup> = 22 A

Terminating Aluminum Conductors WAGO spring clamp terminal blocks are suitable for solid aluminum conductors up to 4 mm<sup>2</sup> /12 AWG if WAGO "Alu-Plus" Contact Paste 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. For spring clamp connections with PUSH WIRE® connection technology, WAGO recommends that the aluminum conductor first be cleaned and then immediately inserted into the clamping unit 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 mm<sup>2</sup> = 16 A 4 mm<sup>2</sup> = 22 A

Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG
Note (conductor cross-section)	12 AWG: THHN, THWN
Conductor diameter	28 ... 12 AWG

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

Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Wiring direction	Front-entry wiring, angled

### Physical data

Width	5 mm / 0.197 inch
Height	50.5 mm / 1.988 inch
Depth from upper edge of DIN-rail	36.5 mm / 1.437 inch

### Mechanical data

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

### Material data


Color	gray
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.129 MJ
Weight	7.4 g

### Commercial data

Product Group	1 (Rail Mounted Terminal Blocks)
PU (SPU)	100 Stück
Packaging type	box
Country of origin	DE
GTIN	4044918456920
Customs tariff number	85369010000

### Approvals / Certificates

#### Country specific Approvals




Logo	Approval	Additional Approval Text	Certificate name
	CCA DEKRA Certification B.V.	EN 60947	2157201.01

#### Ship Approvals


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

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 We are always happy to take your call at +49 (571) 887-44222.

Logo	Approval	Additional Approval Text	Certificate name
	<b>ABS</b> American Bureau of Shipping	EN 60947	20-HG1941090-PDA
	<b>BV</b> Bureau Veritas S.A.	EN 60947	07436/F0 BV
	<b>DNV GL</b> Det Norske Veritas, Germanischer Lloyd	-	TAE00001V2
	<b>LR</b> Lloyds Register	EN 60947	91/20112 (E9)



#### UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>UL</b> Underwriters Laboratories Inc.	UL 1059	20170731-E45172

#### Required accessories

##### End plate


###### End plate

	<b>Item no.: 280-312</b> End and intermediate plate; 2.5 mm thick; gray	<a href="http://www.wago.com/280-312">www.wago.com/280-312</a>
	<b>Item no.: 280-313</b> End and intermediate plate; 2.5 mm thick; orange	<a href="http://www.wago.com/280-313">www.wago.com/280-313</a>

#### Optional accessories

##### Carrier rail

###### Mounting accessories




	<b>Item no.: 210-197</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored	<a href="http://www.wago.com/210-197">www.wago.com/210-197</a>
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Subject to changes. Please also observe the further product documentation!

	<b>Item no.: 210-198</b> Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored	<a href="http://www.wago.com/210-198">www.wago.com/210-198</a>
	<b>Item no.: 210-504</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; silver-colored	<a href="http://www.wago.com/210-504">www.wago.com/210-504</a>
	<b>Item no.: 210-505</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored	<a href="http://www.wago.com/210-505">www.wago.com/210-505</a>
	<b>Item no.: 210-506</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored	<a href="http://www.wago.com/210-506">www.wago.com/210-506</a>
	<b>Item no.: 210-508</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-colored	<a href="http://www.wago.com/210-508">www.wago.com/210-508</a>
	<b>Item no.: 210-113</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored	<a href="http://www.wago.com/210-113">www.wago.com/210-113</a>
	<b>Item no.: 210-118</b> Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored	<a href="http://www.wago.com/210-118">www.wago.com/210-118</a>
	<b>Item no.: 210-112</b> 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	<a href="http://www.wago.com/210-112">www.wago.com/210-112</a>
	<b>Item no.: 210-114</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored	<a href="http://www.wago.com/210-114">www.wago.com/210-114</a>
	<b>Item no.: 210-115</b> 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	<a href="http://www.wago.com/210-115">www.wago.com/210-115</a>
	<b>Item no.: 210-196</b> Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored	<a href="http://www.wago.com/210-196">www.wago.com/210-196</a>

## Mounting
















### Mounting accessories

	<b>Item no.: 209-106</b> Mounting carrier; for isolated mounting on DIN 35 rails; gray	<a href="http://www.wago.com/209-106">www.wago.com/209-106</a>
	<b>Item no.: 249-116</b> Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray	<a href="http://www.wago.com/249-116">www.wago.com/249-116</a>
	<b>Item no.: 709-153</b> Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent	<a href="http://www.wago.com/709-153">www.wago.com/709-153</a>

## Tool
















### Operating tool

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

	<b>Item no.: 210-657</b> Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured	<a href="http://www.wago.com/210-657">www.wago.com/210-657</a>
	<b>Item no.: 210-658</b> Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; angled; short; multicoloured	<a href="http://www.wago.com/210-658">www.wago.com/210-658</a>
	<b>Item no.: 210-720</b> Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured	<a href="http://www.wago.com/210-720">www.wago.com/210-720</a>
<b>Protective warning marker</b>		
Cover		
	<b>Item no.: 280-415</b> Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow	<a href="http://www.wago.com/280-415">www.wago.com/280-415</a>
<b>Jumpers</b>		
Jumper		
	<b>Item no.: 210-123</b> Wire commoning chain; insulated; blue	<a href="http://www.wago.com/210-123">www.wago.com/210-123</a>
	<b>Item no.: 210-103</b> Wire commoning chain; insulated; black	<a href="http://www.wago.com/210-103">www.wago.com/210-103</a>
	<b>Item no.: 280-492</b> Jumper; 2-way; insulated; gray	<a href="http://www.wago.com/280-492">www.wago.com/280-492</a>
	<b>Item no.: 280-482</b> Jumper; 2-way; insulated; gray	<a href="http://www.wago.com/280-482">www.wago.com/280-482</a>
	<b>Item no.: 280-484</b> Jumper; 4-way; insulated; gray	<a href="http://www.wago.com/280-484">www.wago.com/280-484</a>
	<b>Item no.: 280-490</b> Jumper; 10-way; insulated; gray	<a href="http://www.wago.com/280-490">www.wago.com/280-490</a>
	<b>Item no.: 280-485</b> Jumper; 5-way; insulated; gray	<a href="http://www.wago.com/280-485">www.wago.com/280-485</a>
	<b>Item no.: 280-483</b> Jumper; 3-way; insulated; gray	<a href="http://www.wago.com/280-483">www.wago.com/280-483</a>
	<b>Item no.: 709-110</b> Wire commoning chain; 2.5 mm <sup>2</sup> ; insulated; black	<a href="http://www.wago.com/709-110">www.wago.com/709-110</a>
	<b>Item no.: 709-112</b> Wire commoning chain; 2.5 mm <sup>2</sup> ; insulated; black	<a href="http://www.wago.com/709-112">www.wago.com/709-112</a>
	<b>Item no.: 709-111</b> Wire commoning chain; 2.5 mm <sup>2</sup> ; insulated; black	<a href="http://www.wago.com/709-111">www.wago.com/709-111</a>

**Ferrule**

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

Ferrule		
	<b>Item no.: 216-101</b> Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated; silver-colored	<a href="http://www.wago.com/216-101">www.wago.com/216-101</a>
	<b>Item no.: 216-104</b> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated; silver-colored	<a href="http://www.wago.com/216-104">www.wago.com/216-104</a>
	<b>Item no.: 216-102</b> Ferrule; Sleeve for 0.75 mm <sup>2</sup> / AWG 20; uninsulated; electro-tin plated; silver-colored	<a href="http://www.wago.com/216-102">www.wago.com/216-102</a>
	<b>Item no.: 216-103</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated	<a href="http://www.wago.com/216-103">www.wago.com/216-103</a>
	<b>Item no.: 216-203</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; red	<a href="http://www.wago.com/216-203">www.wago.com/216-203</a>
	<b>Item no.: 216-202</b> Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray	<a href="http://www.wago.com/216-202">www.wago.com/216-202</a>
	<b>Item no.: 216-204</b> Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; black	<a href="http://www.wago.com/216-204">www.wago.com/216-204</a>
	<b>Item no.: 216-201</b> Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated; white	<a href="http://www.wago.com/216-201">www.wago.com/216-201</a>
	<b>Item no.: 216-301</b> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow	<a href="http://www.wago.com/216-301">www.wago.com/216-301</a>
	<b>Item no.: 216-302</b> Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated; green	<a href="http://www.wago.com/216-302">www.wago.com/216-302</a>
Insulation stop		
Insulation stop		
	<b>Item no.: 280-472</b> Insulation stop; 0.75 - 1 mm <sup>2</sup> ; 5 pieces/strip	<a href="http://www.wago.com/280-472">www.wago.com/280-472</a>
	<b>Item no.: 280-470</b> Insulation stop; 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st"); 5 pieces/strip; white	<a href="http://www.wago.com/280-470">www.wago.com/280-470</a>
	<b>Item no.: 280-471</b> Insulation stop; 0.25 - 0.5 mm <sup>2</sup> ; 5 pieces/strip; light gray	<a href="http://www.wago.com/280-471">www.wago.com/280-471</a>
End plate		
End plate		
	<b>Item no.: 280-348</b> Separator plate; 2.5 mm thick; oversized; gray	<a href="http://www.wago.com/280-348">www.wago.com/280-348</a>
	<b>Item no.: 280-318</b> Separator plate; 2.5 mm thick; oversized; orange	<a href="http://www.wago.com/280-318">www.wago.com/280-318</a>
Marking accessories		

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



Double marker carrier



**Item no.: 209-128**  
Adaptor; gray

[www.wago.com/209-128](http://www.wago.com/209-128)

Marker



**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](http://www.wago.com/2009-115)



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

[www.wago.com/793-501](http://www.wago.com/793-501)



**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](http://www.wago.com/793-5501)

Group marker carrier



**Item no.: 249-105**  
Group marker carrier; gray

[www.wago.com/249-105](http://www.wago.com/249-105)

Testing and measuring

Testing accessories



**Item no.: 249-141**  
L-type test plug module; modular; with spring-loaded contact pin; Center module; 1,50 mm<sup>2</sup>; gray

[www.wago.com/249-141](http://www.wago.com/249-141)



**Item no.: 249-143**  
L-type spacer module; modular; e.g., bridging commoned terminal blocks; gray

[www.wago.com/249-143](http://www.wago.com/249-143)



**Item no.: 249-142**  
L-type end module; modular; with rigid contact pin; End module; 1,50 mm<sup>2</sup>; gray

[www.wago.com/249-142](http://www.wago.com/249-142)

Downloads

Documentation

Bid Text

280-646 X81 - Datei	19 Feb 2019	xml 3.5 kB	Download
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280-646 doc - Datei	28 Feb 2017	doc 25.1 kB	Download
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Additional Information

Technical explanations	3 Apr 2019	pdf 2.2 MB	Download
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Subject to changes. Please also observe the further product documentation!

## CAD/CAE-Data

### CAE data

EPLAN Data Portal 280-646	<a href="#">URL</a>	<a href="#">Download</a>
ZUKEN Portal 280-646	<a href="#">URL</a>	<a href="#">Download</a>
WSCAD Universe 280-646	<a href="#">URL</a>	<a href="#">Download</a>

### CAD data

2D/3D Models 280-646	<a href="#">URL</a>	<a href="#">Download</a>
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## Environmental Product Compliance

### Compliance Search

Environmental Product Compliance 280-646 4-conductor through terminal block; 2.5 mm <sup>2</sup> ; center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 2,50 mm <sup>2</sup> ; gray	<a href="#">URL</a>	<a href="#">Download</a>
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## Installation Notes

### Installation



Snapping a terminal block onto the DIN-rail.



Quick assembly keys prevent reverse mounting.



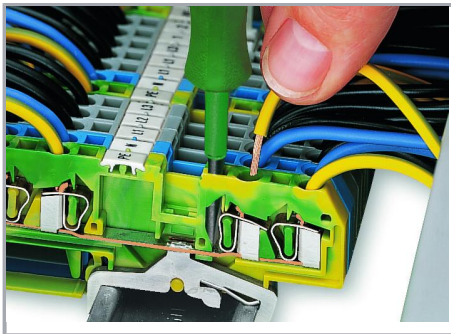
Removing a terminal block from the assembly.

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



Steel DIN-rails are not suited for PEN (ground and N-conductor) applications per EN 60947-7-2 (VDE 0611, Part 3).

### Conductor termination



#### CAGE CLAMP® connection

Inserting a conductor.



#### CAGE CLAMP® connection

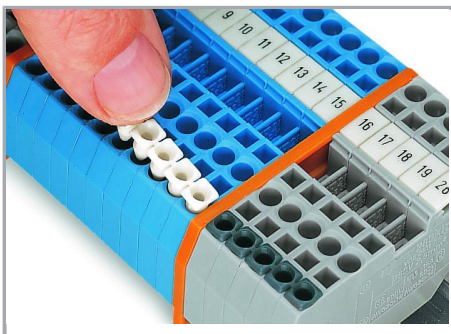
Inserting a conductor.

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



#### CAGE CLAMP® connection

Removing a solid conductor.



Inserting insulation stops.

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

### Commoning



4-conductor through terminal blocks, angled type,

formation of groups with 3-way, comb-style jumper bars

### Testing



L-type test plug modules fitted with CAGE CLAMP®

### Cover

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



Protective warning markers inserted into the operating slots

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