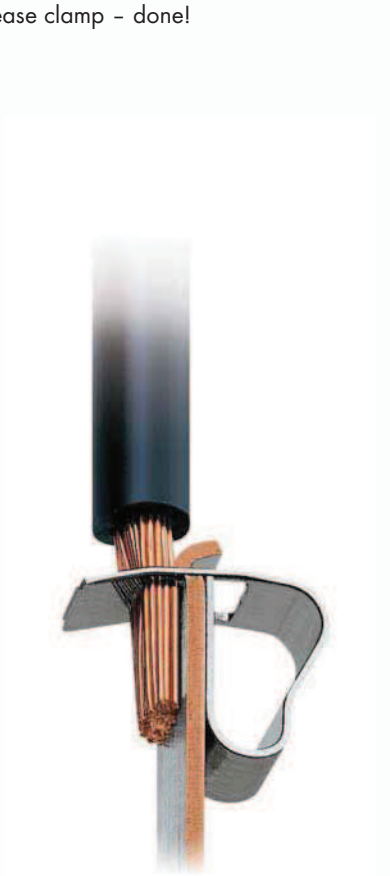
CAGE CLAMP®

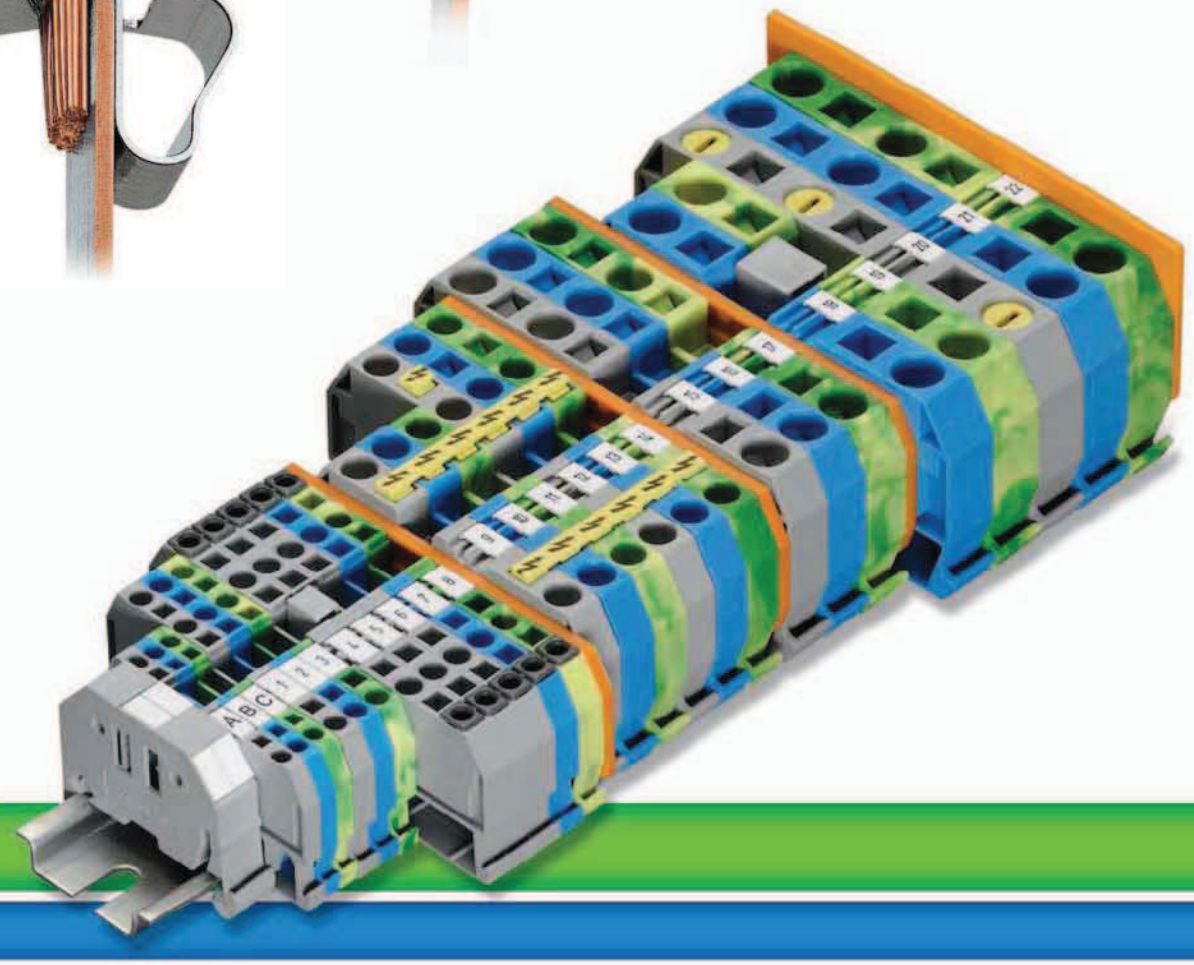
The universal connection for solid, stranded and fine-stranded conductors

Handling:
Open clamping unit,
insert the conductor,
release clamp – done!

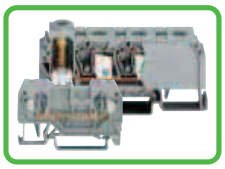








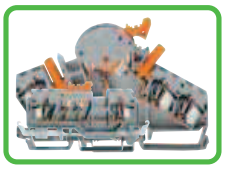
3



Through, Ground Conductor and Ex Terminal Blocks		
0.08 mm² to 35 mm² (AWG 28 - 2)	279 - 285 and 880 Series	162 – 176
Distribution Terminal Blocks		
10 mm² / 35 mm² (AWG 8 / AWG 2)	284 Series	177



Multilevel Rail-Mounted Terminal Blocks		
Double-Deck Terminal Blocks		
1.5/2.5/4 mm² (AWG 16/12)	279/280/281 Series	180 – 188
Triple-Deck Terminal Blocks 2.5 mm²/AWG 12	280 Series	190
Quadruple-Deck Terminal Blocks 4 mm²/AWG 12	281 Series	192



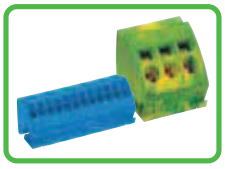
Disconnect Terminal Blocks for Test and Measurement		
– with knife disconnect	280 Series	204 – 205
– with disconnect tab	280/281 Series	206 – 209
– for transformer circuits	282 Series	214 – 219
Ground Conductor Disconnect Terminal Blocks	282 Series	220



Fuse Terminal Blocks		
– with pivoting fuse holder	281 Series	226 – 229
– for mini-automotive blade-style fuses	282 Series	222
Fuse Plugs for Carrier Terminal Blocks	280/281 Series	230 – 233
Technical Information on Fuse Terminal Blocks and Fuse Plugs		234 – 235



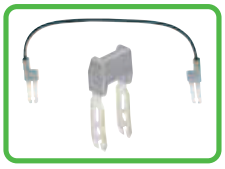
Sensor and Actuator Terminal Blocks	280 Series	238 – 253
Diode and LED Terminal Blocks	279/280/281 Series	254 – 259
Double-Deck Diode and LED Terminal Blocks	280/281 Series	260 – 263
Pluggable Modules - Diodes, LED and Neon Indicators	280 Series	264 – 267



Accessories for Rail-Mounted Terminal Blocks	
– Busbar Terminal Blocks	427



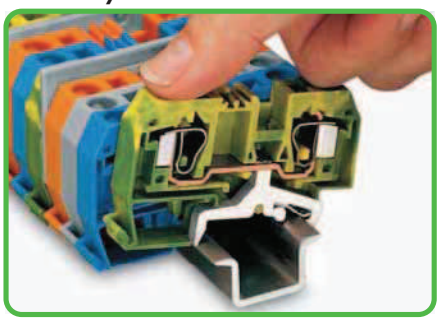
– Banana Plugs	198
– Insulation Stops	199
– Comb-Style Jumper Bars	200



– Push-In Type Wire Jumpers	201
– Staggered Jumpers	201
– Test Plug Modules	194 – 197
– Step-Down Jumpers for Through Terminal Blocks	178 – 179

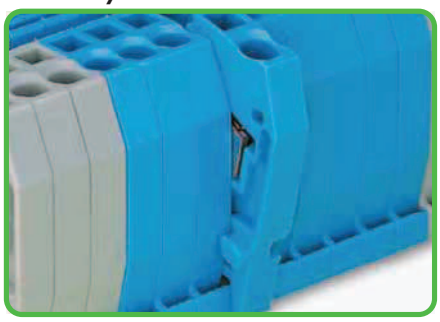
Rail-Mounted Terminal Blocks
279 to 285 Series and 880 Series

Assembly



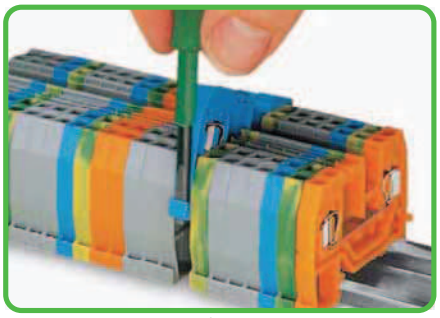
By snapping a ground conductor terminal block onto the carrier rail, a direct electrical connection is automatically made to the rail.

Assembly



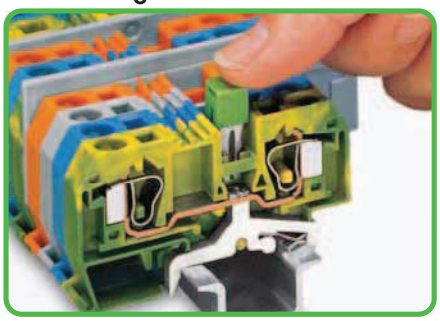
Quick assembly keys prevent reverse mounting.

Removal



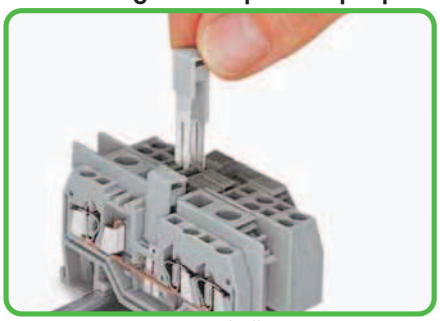
Removing a terminal block from the assembly.

Commoning



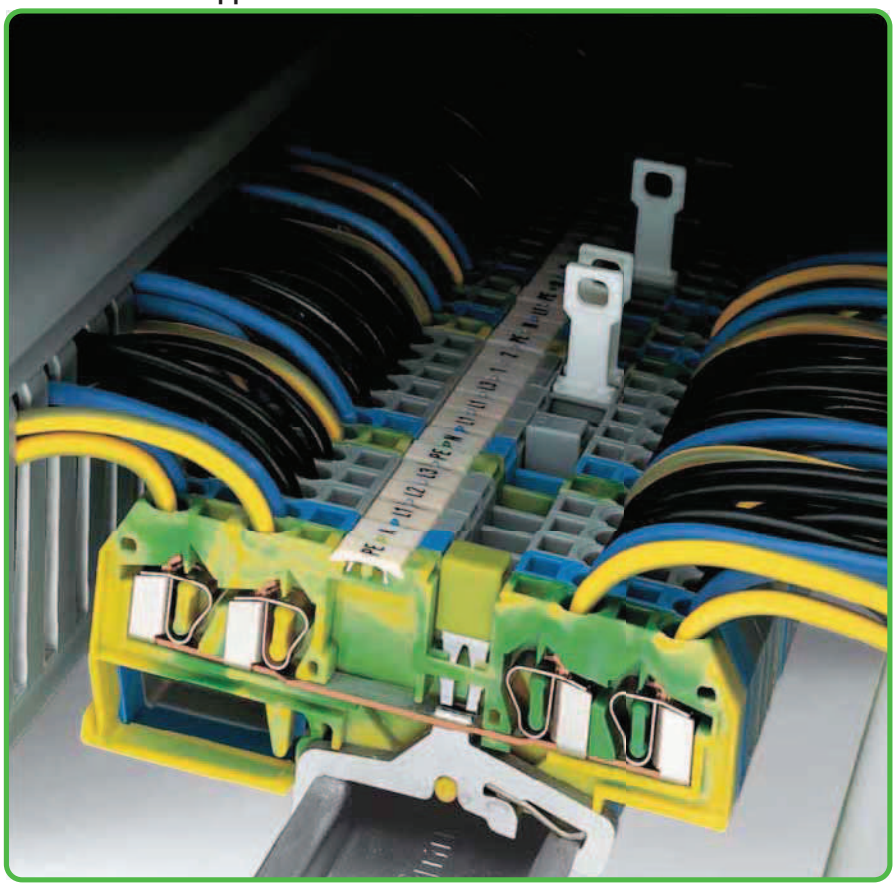
Commoning ground conductor terminal blocks with through terminal blocks is possible in one direction only (via rear side of terminal block) using adjacent jumpers. In addition to the required marking of these blocks, use yellow-green adjacent jumpers.

Commoning with step-down jumpers

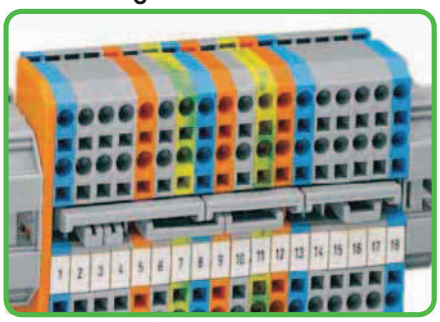


Commoning terminal blocks of different sizes – step down.
For application notes, see page 178.

According to EN 60947-7-2 (VDE 0611, part 3), steel carrier rails shall not be used for PEN applications

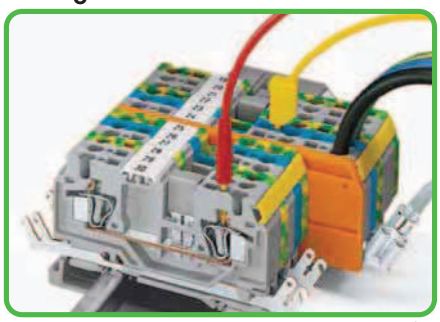


Commoning



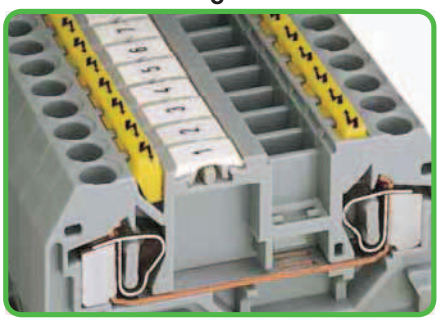
Staggered jumpers for sophisticated circuit requirements. Push jumpers down firmly until fully inserted.
For additional notes, see page 201.

Testing - 880 Series



880 Series terminal blocks have an additional test slot for 2 mm Ø or 2.3 mm Ø test plugs.

Protective warning marker



Protective warning markers inserted into the operating slots.



CAGE CLAMP® clamps the following copper conductors:*

solid



stranded

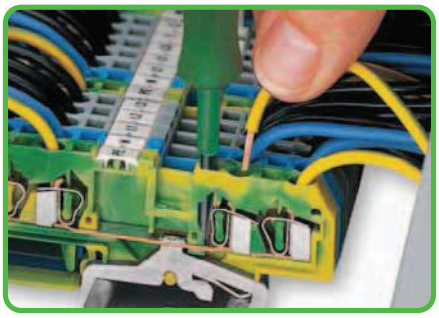


fine-stranded, also with tinned single strands

* For aluminum conductors, see notes in Section 14.

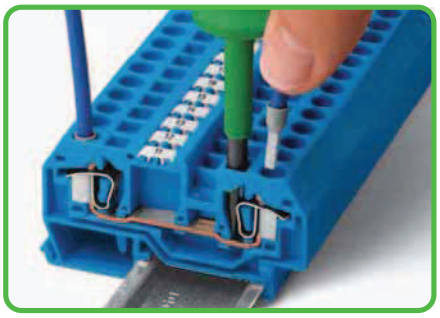
– Description and Handling –

CAGE CLAMP® connection



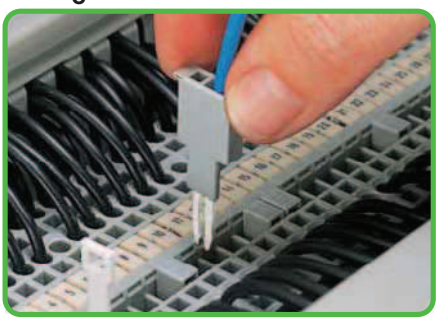
Conductor termination

CAGE CLAMP® connection

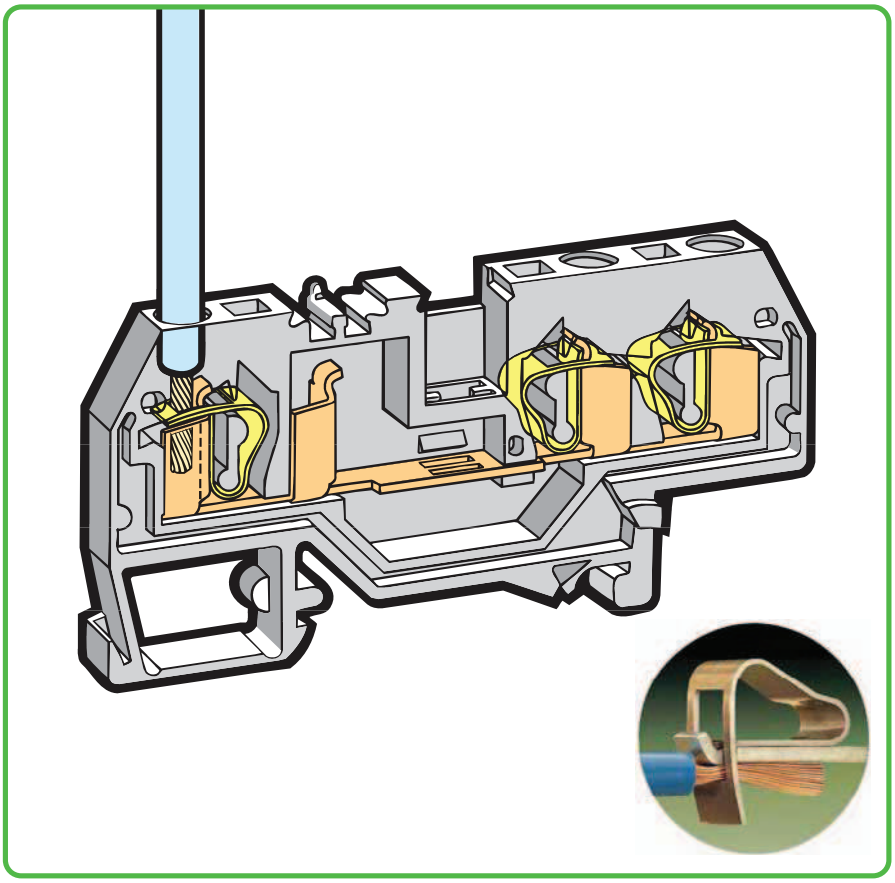


Conductor termination
❶ When using ferruled conductors, it is necessary to use a terminal block one size larger than the nominal cross section of the wire.

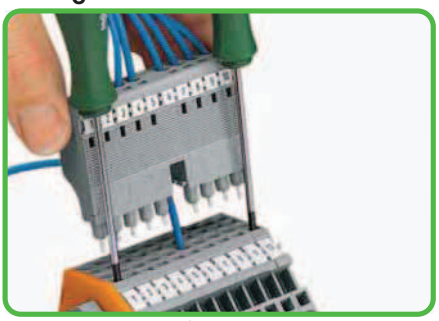
Testing



Testing with test plug.
Test plug fitted with CAGE CLAMP®.



Testing



L-type test plug modules fitted with CAGE CLAMP®.
For application notes, see page 194.

Testing



B-type test plug modules fitted with CAGE CLAMP®.
For application notes, see page 195.

Marking



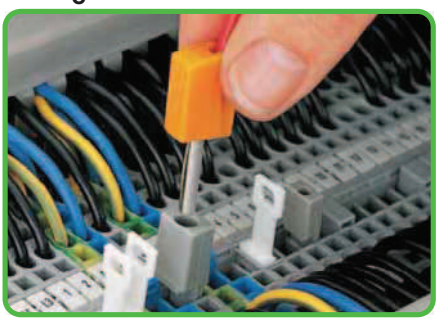
Marking with WMB Multi marking system.
For additional systems, see Section 13.

Insulation stop



Insertion of insulation stop.
For application notes, see page 199.

Testing



Testing with test plug.
Using 209-170 test plug adapter.



fine-stranded,
tip-bonded



fine-stranded,
with ferrule ❶
(gastight crimped)

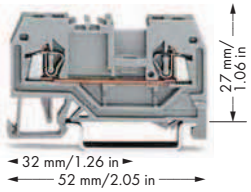


fine-stranded,
with pin terminal
(gastight crimped)

Through/Ground Conductor/Shield and Ex Terminal Blocks 1.5 mm² 279 Series

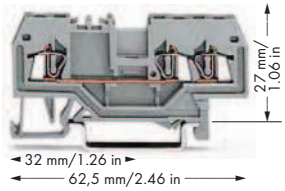
0.08 - 1.5 mm²	AWG 28 - 16
800 V/8 kV/3 ❶	600 V, 10 A
I_N 18 A	600 V, 10 A

Terminal block width 4 mm / 0.157 in
8 - 9 mm / 0.33 in ❷



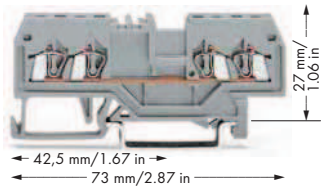
0.08 - 1.5 mm²	AWG 28 - 16
800 V/8 kV/3 ❶	600 V, 10 A
I_N 18 A	600 V, 10 A

Terminal block width 4 mm / 0.157 in
8 - 9 mm / 0.33 in ❷



0.08 - 1.5 mm²	AWG 28 - 16
800 V/8 kV/3 ❶	600 V, 10 A
I_N 18 A	600 V, 10 A

Terminal block width 4 mm / 0.157 in
8 - 9 mm / 0.33 in ❷



	Item No.	Pack. Unit
2-conductor through terminal block		
gray	**279-901**	100
blue	**279-904** ❸	100
orange	**279-902**	100
red	**279-903**	100
black	**279-905**	100
yellow	**279-906**	100
light gray Ex	**279-992** ❹	100
2-conductor ground terminal block		
green-yellow	**279-907**	100
green-yellow Ex	**279-907/999-950** ❹	100
Other terminal blocks with the same profile:		
Diode	**279-915/281-410** Page 254	

	Item No.	Pack. Unit
3-conductor through terminal block		
gray	**279-681**	100
blue	**279-684** ❸	100
orange	**279-682**	100
red	**279-683**	100
black	**279-685**	100
yellow	**279-686**	100
light gray Ex	**279-993** ❹	100
3-conductor ground terminal block		
green-yellow	**279-687**	100
green-yellow Ex	**279-687/999-950** ❹	100
Other terminal blocks with the same profile:		
Diode	**279-673/281-410** Page 254	
LED	**279-674/281-434** Page 254	

	Item No.	Pack. Unit
4-conductor through terminal block		
gray	**279-831**	100
blue	**279-834** ❸	100
orange	**279-832**	100
red	**279-833**	100
black	**279-835**	100
yellow	**279-836**	100
light gray Ex	**279-994** ❹	100
4-conductor ground terminal block		
green-yellow	**279-837**	100
green-yellow Ex	**279-837/999-950** ❹	100
4-conductor shield terminal block		
white	**279-838**	100
Other terminal blocks with the same profile:		
Diode	**279-815/281-410** Page 254	
LED	**279-809/281-434** Page 254	
Double-potential	**279-826** Page 163	

Item-Specific Accessories

End and intermediate plate, 2 mm thick



orange	**279-328**	100 (4x25)
gray	**279-325**	100 (4x25)
light gray	**279-330**	100 (4x25)

Separator, oversized, 2 mm thick



orange	**279-329**	100 (4x25)
gray	**279-326**	100 (4x25)
light gray	**279-331**	100 (4x25)

Ex e/Ex i separator, orange,



3 mm thick		
90 mm	**209-190**	50 (2x25)
120 mm	**209-191**	50 (2x25)

Item-Specific Accessories

End and intermediate plate, 2 mm thick



orange	**279-339**	100 (4x25)
gray	**279-308**	100 (4x25)
light gray	**279-341**	100 (4x25)

Separator, oversized, 2 mm thick



orange	**279-340**	100 (4x25)
gray	**279-309**	100 (4x25)
light gray	**279-342**	100 (4x25)

Ex e/Ex i separator, orange,



3 mm thick		
120 mm	**209-191**	50 (2x25)

Item-Specific Accessories

End and intermediate plate, 2 mm thick



orange	**279-346**	100 (4x25)
gray	**279-344**	100 (4x25)
light gray	**279-348**	100 (4x25)

Separator, oversized, 2 mm thick



orange	**279-347**	100 (4x25)
gray	**279-345**	100 (4x25)
light gray	**279-349**	100 (4x25)

Ex e/Ex i separator, orange,



3 mm thick		
120 mm	**209-191**	50 (2x25)

Cover plate,



1 mm thick		
gray	**284-336**	100
orange	**284-346**	100

279 Series Accessories

Appropriate marking systems: WMB/WFB
(see Section 13)

Insulation stop, ❺

5 pcs/strip,		
0.08 - 0.2 mm² "s" (0.14 mm² "f-st")		
white	**279-470**	200 (8x25)

Insulation stop, ❺



5 pcs/strip,		
0.25 mm²		
dark gray	**279-471**	200 (8x25)

Adjacent jumper, insulated,



I_N 15 A		
gray	**279-402**	200 (8x25)
yellow-green	**279-422**	200 (8x25)

Alternate jumper, insulated,



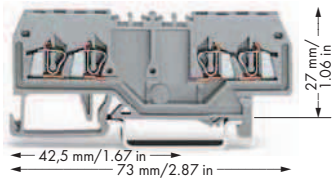
I_N 15 A		
gray	**279-409**	100 (4x25)

Push-in type wire jumper, ❺



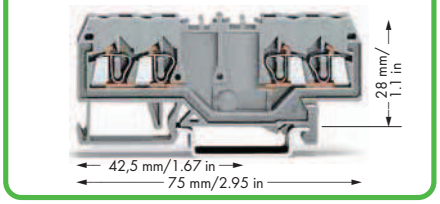
insulated,		
I_N 9 A,		
wire size 0.75 mm²		
L = 60 mm	**249-125**	10
L = 110 mm	**249-126**	10
L = 250 mm	**249-127**	10

For list of approvals and user guide, see pages 634 to 637.



Double-potential terminal blocks
with double marker slot centered on terminal block
gray 279-826
light gray Ⓔx279-995
Packing unit: 100 pcs

Notice: These double-potential terminal blocks cannot be commoned with adjacent jumpers!
For technical data and accessories,
see www.wagocatalog.com



Double-potential terminal blocks
with double marker slot centered on terminal block
gray 280-826
light gray Ⓔx280-995
Packing unit: 100 pcs

Notice: These double-potential terminal blocks cannot be commoned with adjacent jumpers!
For technical data and accessories,
see www.wagocatalog.com

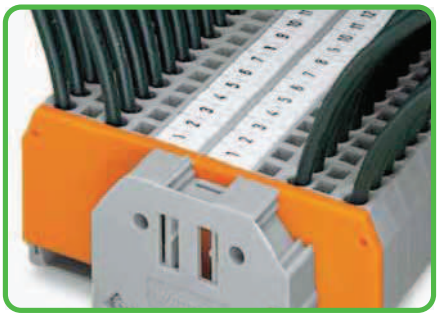
❶ 800 V = rated voltage
8 kV = rated surge voltage
3 = pollution degree
(also see Section 14)

❷ Strip length, see packaging or instructions.

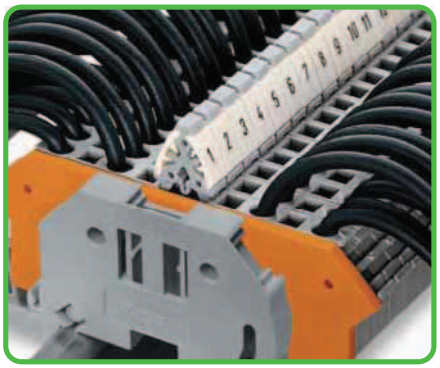
❸ Suitable for Ex i applications

❹ Suitable for Ex e II applications
0.2 mm² - 1.5 mm²/AWG 24 - 16
550 V, 15 A
(also see Section 14)

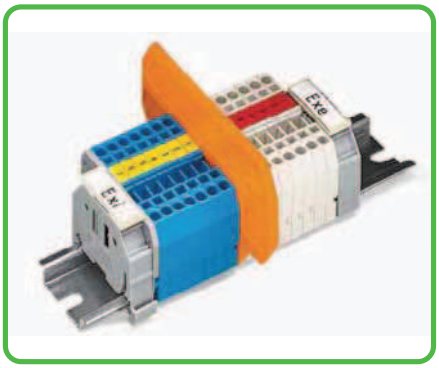
❺ See application notes for:
Insulation stop, page 199
Push-in type wire jumper, page 201
Step-down jumper, pages 178 – 179
Banana plug, page 198
Comb-style jumper bar, page 200
Operating tool, page 200



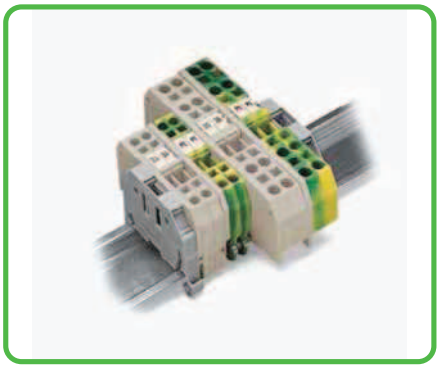
WMB markers provide marking directly on terminal block.
For WMB Multi marking system, see Section 13.



Terminal block marking with double marker carriers
Item No. 209-128
For terminal blocks with side marking,
see online catalog at www.wagocatalog.com



Separator for Ex e/Ex i applications
According to EN 50020, a minimum distance of 50 mm must be kept between live parts of Ex e and Ex i circuits. The use of Ex e/Ex i separators is a space-saving solution when Ex e and Ex i terminal blocks are mounted on a common carrier rail.
Suitable for 279 to 282 Series terminal blocks.
209-190 for 2-conductor terminal blocks.
209-191 for 2-, 3-, 4-conductor terminal blocks.



End and intermediate plate
In order to meet creepage and clearance requirements for Ex e applications, it is necessary to insert an end or intermediate plate between a through and a ground conductor terminal block.

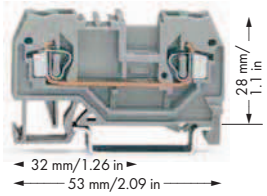
279 Series Accessories

Step-down jumper, insulated,			
❺	I_N 15 A		
	gray	**284-414**	50 (2x25)
Cover plate,			
	1 mm thick		
	gray	**284-334**	100
	orange	**284-344**	100
Protective warning marker,			
	with high-voltage symbol, black,		
	for 5 terminal blocks		
	yellow	**279-415**	100 (4x25)
Test plug adapter, 8.3 mm wide,			
	for terminal blocks 1.5 - 10 mm²,		
	for test plug 4 mm Ø		
	gray	**209-170**	50 (2x25)
Banana plug,			
❺	for socket 4 mm Ø,		
	color mixed		
		215-111	50
Test plug adapter, 5 mm wide,			
	for terminal blocks 1.5 - 4 mm²,		
	for 210-137 test plug 2.3 mm Ø		
	gray	**280-404**	100 (4x25)
Test plug,			
	with 500 mm cable,		
	2.3 mm Ø		
	yellow	**210-137**	50
Comb-style jumper bar, insulated,			
❺	I_N = I_N terminal block		
	2-way	**279-482**	200 (8x25)
	3-way	**279-483**	200 (8x25)
Comb-style jumper bar, insulated,			
	I_N = I_N terminal block		
	10-way	**279-490**	50 (2x25)
Alternate comb-style jumper bar,			
	insulated,		
	I_N = I_N terminal block		
	2-way	**279-492**	200 (8x25)
Operating tool, of insulating material			
	2-way	**279-432**	1
	3-way	**279-433**	1
Operating tool, of insulating material			
	10-way	**279-440**	1

Through/Ground Conductor/Shield and Ex Terminal Blocks 2.5 mm² 280 Series

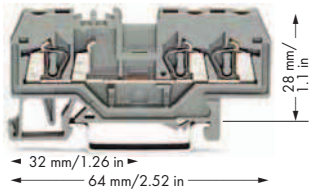
0.08 - 2.5 mm²	AWG 28 - 12 *
800 V/8 kV/3 ❶	600 V, 20 A
I_N 24 A	600 V, 25 A

Terminal block width 5 mm / 0.197 in
8 - 9 mm / 0.33 in ❷



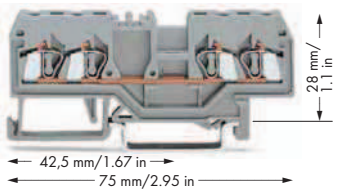
0.08 - 2.5 mm²	AWG 28 - 12 *
800 V/8 kV/3 ❶	600 V, 20 A
I_N 24 A	600 V, 15 A

Terminal block width 5 mm / 0.197 in
8 - 9 mm / 0.33 in ❷



0.08 - 2.5 mm²	AWG 28 - 12 *
800 V/8 kV/3 ❶	600 V, 20 A
I_N 20 A	600 V, 25 A

Terminal block width 5 mm / 0.197 in
8 - 9 mm / 0.33 in ❷



	Item No.	Pack. Unit
2-conductor through terminal block		
gray	**280-901**	100
blue	**280-904** ❸	100
orange	**280-902**	100
red	**280-903**	100
black	**280-905**	100
yellow	**280-906**	100
light gray Ex	**280-992** ❹	100
2-conductor ground terminal block		
green-yellow	**280-907**	100
green-yellow Ex	**280-907/999-950** ❹	100
Other terminal blocks with the same profile:		
Diode	**280-915/281-410**	Page 256
Disconnect	**280-912**	Page 206
Carrier	**280-916**	Page 232

	Item No.	Pack. Unit
3-conductor through terminal block		
gray	**280-681**	100
blue	**280-684** ❸	100
orange	**280-650**	100
red	**280-653**	100
black	**280-671**	100
yellow	**280-672**	100
light gray Ex	**280-993** ❹	100
3-conductor ground terminal block		
green-yellow	**280-687**	100
green-yellow Ex	**280-687/999-950** ❹	100
Other terminal blocks with the same profile:		
Diode	**280-673/281-410**	Page 256
Disconnect	**280-683**	Page 206
Carrier	**280-610**	Page 232

	Item No.	Pack. Unit
4-conductor through terminal block		
gray	**280-833**	100
blue	**280-834** ❸	100
orange	**280-835**	100
red	**280-830**	100
black	**280-831**	100
yellow	**280-832**	100
light gray Ex	**280-994** ❹	100
4-conductor ground terminal block		
green-yellow	**280-837**	100
green-yellow Ex	**280-837/999-950** ❹	100
4-conductor shield terminal block		
white	**280-838**	100
Other terminal blocks with the same profile:		
Diode	**280-815/281-410**	Page 256
LED	**280-809/281-434**	Page 256
Disconnect	**280-836**	Page 206
Disc., test & meas.	**280-829**	Page 206
Carrier	**280-816**	Page 232
Double-potential	**280-826**	Page 163

Item-Specific Accessories

End and intermediate plate, 2.5 mm thick



orange	**280-309**	100 (4x25)
gray	**280-308**	100 (4x25)
light gray	**280-356**	100 (4x25)

Separator, oversized, 2 mm thick



orange	**280-311**	100 (4x25)
gray	**280-310**	100 (4x25)
light gray	**280-357**	100 (4x25)

Ex e/Ex i separator, orange,



3 mm thick		
90 mm	**209-190**	50 (2x25)
120 mm	**209-191**	50 (2x25)

Spacer of same shape,



5 mm thick		
orange	**280-902/056-000**	
		100 (4x25)

Item-Specific Accessories

End and intermediate plate, 2.5 mm thick



orange	**280-326**	100 (4x25)
gray	**280-324**	100 (4x25)
light gray	**280-358**	100 (4x25)

Separator, oversized, 2 mm thick



orange	**280-346**	100 (4x25)
gray	**280-344**	100 (4x25)
light gray	**280-359**	100 (4x25)

Ex e/Ex i separator, orange,



3 mm thick		
120 mm	**209-191**	50 (2x25)

Spacer of same shape,



5 mm thick		
orange	**280-650/056-000**	
		100

Item-Specific Accessories

End and intermediate plate, 2.5 mm thick



orange	**280-315**	100 (4x25)
gray	**280-314**	100 (4x25)
light gray	**280-352**	100 (4x25)

Separator, oversized, 2 mm thick



orange	**280-335**	100 (4x25)
gray	**280-334**	100 (4x25)
light gray	**280-353**	100 (4x25)

Ex e/Ex i separator, orange,



3 mm thick		
120 mm	**209-191**	50 (2x25)

Spacer of same shape,



5 mm thick		
orange	**280-835/056-000**	
		100 (4x25)

Cover plate,



1 mm thick		
gray	**284-336**	100
orange	**284-346**	100

For list of approvals and user guide, see pages 634 to 637.

Accessories for 280 Series

* AWG 12: THHN, THWN

❶ 800 V = rated voltage
8 kV = rated surge voltage
3 = pollution degree
(also see Section 14)

❷ Strip length, see packaging or instructions.

❸ Suitable for Ex i applications

❹ Suitable for Ex e II applications
0.2 mm² - 2.5 mm²/AWG 24 - 12*
550 V
23 A for 2-conductor terminal blocks
22 A for 3-conductor terminal blocks
20 A for 4-conductor terminal blocks
(also see Section 14)
Using staggered jumpers reduces the maximum rated voltage to 275 V.

❺ See application notes for:
Test plug modules, pages 194 – 196
Banana plug, page 198
Insulation stop, page 199
Comb-style jumper bar, page 200
Operating tool, page 200
Staggered jumper, page 201
Push-in type wire jumper, page 201
Step-down jumper, pages 178 – 179

280 Series Accessories

Appropriate marking systems: WMB/WMB Inline/WFB
(see Section 13)

Insulation stop, ❺

5 pcs/strip,
0.08 - 0.2 mm² "s" (0.14 mm² "f-st")
white **280-470** 200 (8x25)

Insulation stop, ❺

5 pcs/strip,
0.25 - 0.5 mm²
light gray **280-471** 200 (8x25)

Insulation stop, ❺

5 pcs/strip,
0.75 - 1 mm²
dark gray **280-472** 200 (8x25)

Adjacent jumper, insulated,

$I_N = I_N$ terminal block
gray **280-402** 200 (8x25)
yellow-green **280-422** 200 (8x25)

Alternate jumper, insulated,

$I_N = I_N$ terminal block
gray **280-409** 100 (4x25)

Staggered jumper, ❺

insulated,
width 5 mm/0.197 in,
I_N 24 A
from 1 to 2 **780-452** 100 (4x25)
from 1 to 3 **780-453** 100 (4x25)
from 1 to 4 **780-454** 100 (4x25)
from 1 to 5 **780-455** 50 (2x25)
from 1 to 6 **780-456** 50 (2x25)
from 1 to 7 **780-457** 50 (2x25)
from 1 to 8 **780-458** 50 (2x25)

Push-in type wire jumper, ❺

insulated,
I_N 9 A,
wire size 0.75 mm²
L = 60 mm **249-125** 10
L = 110 mm **249-126** 10
L = 250 mm **249-127** 10

Comb-style jumper bar, insulated, ❺

$I_N = I_N$ terminal block
2-way **280-482** 200 (8x25)
3-way **280-483** 200 (8x25)

Comb-style jumper bar, insulated,

$I_N = I_N$ terminal block
10-way **280-490** 50 (2x25)

Alternate comb-style jumper bar,

insulated,
$I_N = I_N$ terminal block
2-way **280-492** 200 (8x25)

Operating tool, of insulating material

2-way **280-432** 1
3-way **280-433** 1

Operating tool, of insulating material

10-way **280-440** 1

Step-down jumper, insulated, ❺

I_N 15 A
gray **284-414** 50 (2x25)

Cover plate,

1 mm thick
gray **284-334** 100
orange **284-344** 100

Protective warning marker,

with high-voltage symbol, black,
for 5 terminal blocks
yellow **280-415** 100 (4x25)

Test plug module, ❺

can be snapped together,
5 mm wide
gray **280-418** 100 (4x25)

Spacer module,

can be snapped together,
5 mm wide
gray **280-419** 100 (4x25)

Test plug,

with 500 mm cable,
2 mm Ø
red **210-136** 50

Test plug,

with 500 mm cable,
2.3 mm Ø
yellow **210-137** 50

Test plug adapter, 5 mm wide,

for terminal blocks 1.5 - 4 mm²,
for 210-137 test plug 2.3 mm Ø
gray **280-404** 100 (4x25)

Test plug adapter, 8.3 mm wide,

for terminal blocks 1.5 - 10 mm²,
for test plug 4 mm Ø
gray **209-170** 50 (2x25)

Banana plug, ❺

for socket 4 mm Ø,
color mixed
215-111 50

Test plug adapter, 6 mm wide,

with CAGE CLAMP®,
for 0.08 - 2.5 mm²
I_N 24 A **281-407** 100 (4x25)

WMB Inline, plain,

stretchable 5 - 5.2 mm,
1,500 WMB markers, 5 mm, on roll
white **2009-115** 1

WMB Multi marking system,

10 strips with 10 markers per card,
stretchable 5 - 5.2 mm
plain **793-5501** 5

WMB Multi marking system, plain,

10 strips with 10 markers per card,
stretchable 5 - 5.2 mm
yellow **793-5501/000-002**
red **793-5501/000-005**
blue **793-5501/000-006**
gray **793-5501/000-007**
orange **793-5501/000-012**
light green **793-5501/000-017**
green **793-5501/000-023**
violet **793-5501/000-024**
5

Screwless end stop,

for DIN 35 rail,
6 mm wide
gray **249-116** 100 (4x25)

Screwless end stop,

for DIN 35 rail,
10 mm wide
gray **249-117** 50 (2x25)