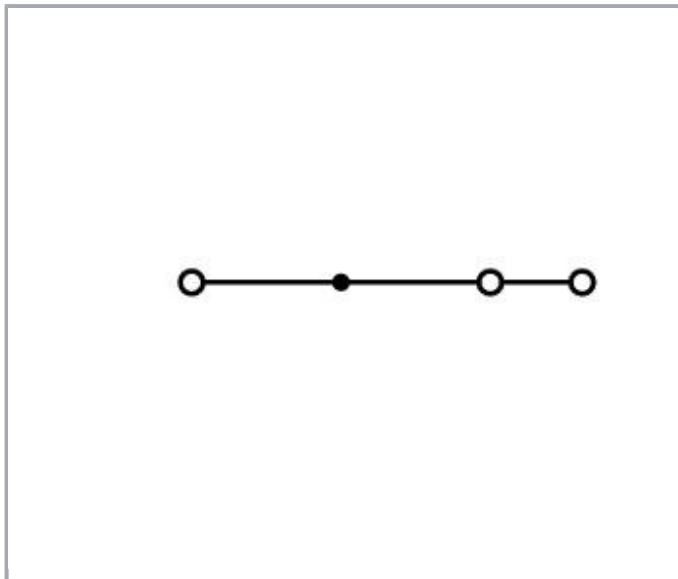
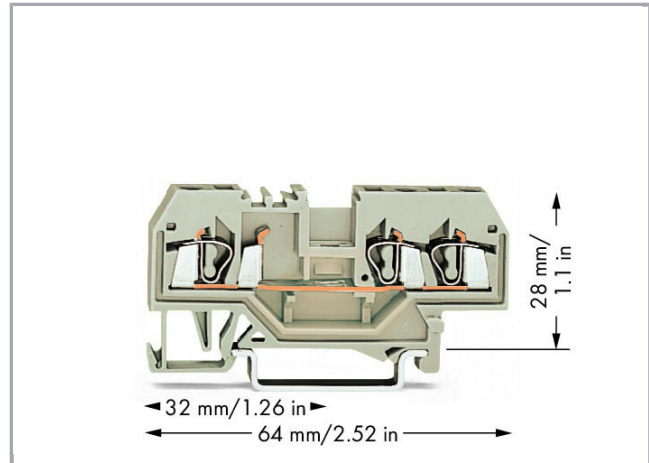
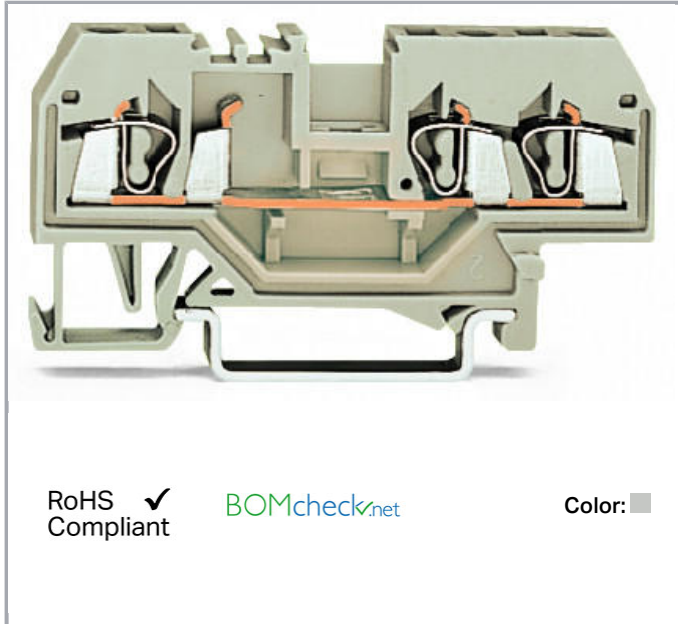


Data sheet | Item number: 280-993

3-conductor through terminal block; 2.5 mm²; suitable for Ex e II applications; center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 2,50 mm²; light gray

www.wago.com/280-993



Item description

Note:
Terminating Aluminum Conductors

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

WAGO Kontakttechnik GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

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WAGO spring clamp terminal blocks are suitable for solid aluminum conductors up to 4 mm²/12 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.

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

Safety information 1:

Using staggered jumpers reduces the maximum rated voltage to 275 V.

Data

Electrical data

Ratings per IEC/EN 60664-1

Ratings per	IEC/EN 60947-7-1
-------------	------------------

Approvals Ex

Rated voltage EN (Ex e II)	550 V
Rated current (Ex e II)	22 A

Connection data

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper Aluminum
Solid conductor	0,08 ... 2,5 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0,08 ... 2,5 mm ² / 28 ... 12 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch

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Total number of connection points	3
Total number of potentials	1
Number of levels	1
Wiring type	Front-entry wiring
Note (conductor cross-section)	12 AWG: THHN, THWN

Geometrical Data

Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	28 mm / 1.102 inch
Depth	64 mm / 2.52 inch

Mechanical data

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

Material Data

Color	light gray
Insulation material	Polyamide 66 (PA 66)
Fire load	0.123 MJ
Weight	7.6 g

Commercial data

Packaging type	BOX
Country of origin	DE
GTIN	4044918391474
Customs tariff number	85369010000

Approvals / Certificates

Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	AEx	UL 60079	E185892 sec.1
	UL International Germany GmbH c/o Physikalisch Technische Bundesanstalt		
	ATEX	EN 60079	PTB 99

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Physikalisch Technische Bundesanstalt (PTB)

ATEX
3109 U

Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCA DEKRA Certification B.V.	EN 60947	2157201.01
	CSA DEKRA Certification B.V.	C22.2	1536071

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	EN 60947	20-HG1941090-PDA
	BV Bureau Veritas S.A.	EN 60947	07436/E0 BV
	DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE00001V2
	LR Lloyds Register	EN 60947	91/20112 (E9)

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL Underwriters Laboratories Inc.	UL 1059	20170731-E45172

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

Counterpart

Compatible products

Marking accessories

	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.: 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.: 2009-115/000-006 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
	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.: 2009-115/000-012 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
	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	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.: 209-128 Adaptor; gray	www.wago.com/209-128

Item no.: 209-140

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



Group marker carrier; gray

www.wago.com/209-140**Item no.: 209-141**

Group marker carrier; gray

www.wago.com/209-141**Item no.: 209-142**

Group marker carrier; gray

www.wago.com/209-142**Item no.: 209-185**

Adaptor; gray

www.wago.com/209-185**Item no.: 249-105**

Group marker carrier; gray

www.wago.com/249-105**Item no.: 793-501**

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

www.wago.com/793-501**Item no.: 793-501/000-002**

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

www.wago.com/793-501/000-002**Item no.: 793-501/000-005**

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

www.wago.com/793-501/000-005**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.: 793-501/000-007**

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

www.wago.com/793-501/000-007**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.: 793-501/000-017**

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

www.wago.com/793-501/000-017**Item no.: 793-501/000-023**

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

www.wago.com/793-501/000-023**Item no.: 793-501/000-024**

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

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

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

WAGO Kontakttechnik GmbH & Co. KG

Hansastr. 27

32423 Minden

Phone: +49571 887-0 | Fax: +49571 887-169

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**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.: 793-5501/000-005**

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.: 793-5501/000-006**

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.: 793-5501/000-007**

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; 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; light 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

Carrier rail**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

www.wago.com/210-112**Item no.: 210-113**

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

www.wago.com/210-113**Item no.: 210-114**

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

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

www.wago.com/210-115**Item no.: 210-118**

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

www.wago.com/210-118**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**Item no.: 210-197**

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

www.wago.com/210-197

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

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Hansastr. 27

32423 Minden

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Email: info.de@wago.com | Web: www.wago.com

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	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	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	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	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	www.wago.com/210-508
Protective Warning Marker		
	Item no.: 280-415 Protective warning marker; with high-voltage symbol, black; for 5 terminal blocks; yellow	www.wago.com/280-415
End plate		
	Item no.: 209-191 Separator for Ex e/Ex i applications; 3 mm thick; 120 mm wide; orange	www.wago.com/209-191
	Item no.: 280-359 Separator plate; 2 mm thick; oversized; light gray	www.wago.com/280-359
Push-In type wire 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.: 249-125 Push-in type wire jumper; insulated; 60 mm long; black	www.wago.com/249-125
	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
assembling		
	Item no.: 209-106 Mounting carrier; for isolated mounting on DIN 35 rails; gray	www.wago.com/209-106
	Item no.: 210-148 Angled support bracket; without screw	www.wago.com/210-148
	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
	Item no.: 709-153 Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent	www.wago.com/709-153
ferrule		

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

**Item no.: 216-101**Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin platedwww.wago.com/216-101**Item no.: 216-102**Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin platedwww.wago.com/216-102**Item no.: 216-103**Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin platedwww.wago.com/216-103**Item no.: 216-104**Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin platedwww.wago.com/216-104**Item no.: 216-201**Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; whitewww.wago.com/216-201**Item no.: 216-202**Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; graywww.wago.com/216-202**Item no.: 216-203**Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; redwww.wago.com/216-203**Item no.: 216-204**Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; blackwww.wago.com/216-204**Item no.: 216-301**Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellowwww.wago.com/216-301**Item no.: 216-302**Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; greenwww.wago.com/216-302**tools****Item no.: 210-657**

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

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

www.wago.com/210-658**Item no.: 210-720**

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

www.wago.com/210-720**Jumper****Item no.: 280-402**

Adjacent jumper; insulated; IN = IN terminal block; gray

www.wago.com/280-402**Item no.: 280-409**

Alternate jumper; insulated; IN = IN terminal block; gray

www.wago.com/280-409**Item no.: 280-422**

Adjacent jumper; insulated; IN = IN terminal block; yellow-green

www.wago.com/280-422**Item no.: 280-482**

Comb-style jumper bar; insulated; 2-way; IN = IN terminal block; gray

www.wago.com/280-482**Item no.: 280-483**

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

WAGO Kontakttechnik GmbH & Co. KG

Hansastraße 27

32423 Minden

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Comb-style jumper bar; insulated; 3-way; IN = IN terminal block; gray

www.wago.com/280-483**Item no.: 280-484**

Comb-style jumper bar; insulated; 4-way; IN = IN terminal block; gray

www.wago.com/280-484**Item no.: 280-485**

Comb-style jumper bar; insulated; 5-way; IN = IN terminal block; gray

www.wago.com/280-485**Item no.: 280-490**

Comb-style jumper bar; insulated; 10-way; IN = IN terminal block; gray

www.wago.com/280-490**Item no.: 280-492**

Alternate comb-style jumper bar; insulated; 2-way; IN = IN terminal block; gray

www.wago.com/280-492**Item no.: 780-452**

Staggered jumper; insulated; from 1 to 2; Spacing: 5 mm; suitable for 2-conductor female plugs; gray

www.wago.com/780-452**Item no.: 780-453**

Staggered jumper; insulated; from 1 to 3; Spacing: 5 mm; suitable for 2-conductor female plugs; gray

www.wago.com/780-453**Item no.: 780-454**

Staggered jumper; insulated; from 1 to 4; Spacing: 5 mm; suitable for 2-conductor female plugs; gray

www.wago.com/780-454**Item no.: 780-455**

Staggered jumper; insulated; from 1 to 5; Spacing: 5 mm; suitable for 2-conductor female plugs; gray

www.wago.com/780-455**Item no.: 780-456**

Staggered jumper; insulated; from 1 to 6; Spacing: 5 mm; suitable for 2-conductor female plugs; gray

www.wago.com/780-456**Item no.: 780-457**

Staggered jumper; insulated; from 1 to 7; Spacing: 5 mm; suitable for 2-conductor female plugs; gray

www.wago.com/780-457**Item no.: 780-458**

Staggered jumper; insulated; from 1 to 8; Spacing: 5 mm; suitable for 2-conductor female plugs; gray

www.wago.com/780-458**Insulation stop****Item no.: 280-470**

Insulation stop; 0.08 - 0.2 mm² "s" (0.14 mm² "f-st"); 5 pieces/strip; white

www.wago.com/280-470**Item no.: 280-471**

Insulation stop; 0.25 - 0.5 mm²; 5 pieces/strip; light gray

www.wago.com/280-471**Item no.: 280-472**

Insulation stop; 0.75 - 1 mm²; 5 pieces/strip

www.wago.com/280-472**Downloads****Documentation****Bid Text**

280-993

Feb 28, 2017

doc

Download

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Hansastr. 27

32423 Minden

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Email: info.de@wago.com | Web: www.wago.com

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280-993	Feb 19, 2019	xml	Download	
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CAD/CAE-Data

CAD data

2D/3D Models 280-993	URL	Download
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CAE data

EPLAN Data Portal 280-993	URL	Download
WSCAD Universe 280-993	URL	Download

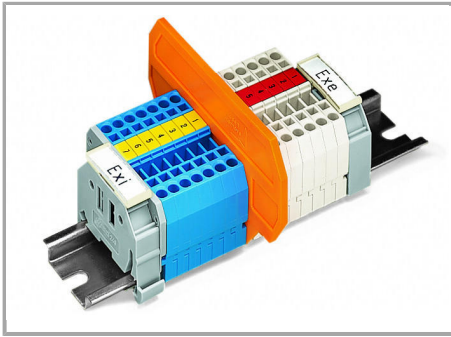
Installation Notes

Installation

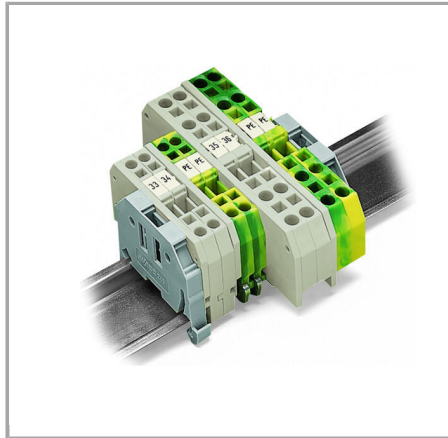
Subject to changes. Please also observe the further product documentation!

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Separator for Ex e/Ex i applications



End and intermediate plate

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.

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.

Compatible with 279 to 282 Series:

209-190 for 2-conductor terminal blocks

209-191 for 2-, 3-, 4-conductor terminal blocks

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