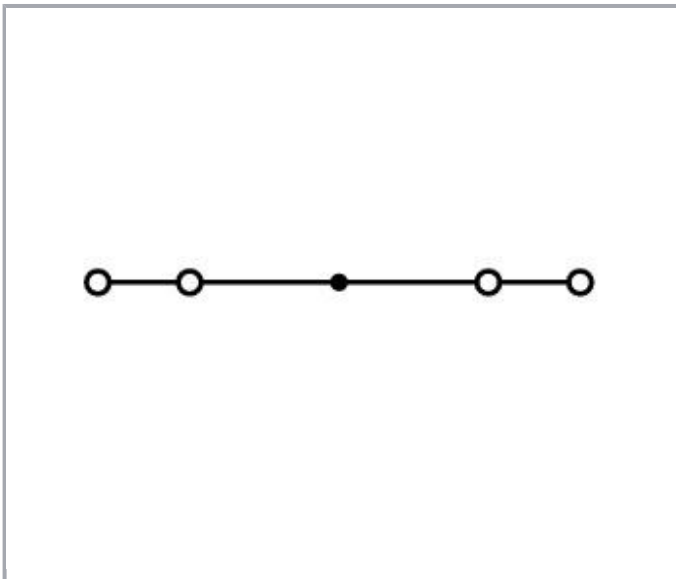
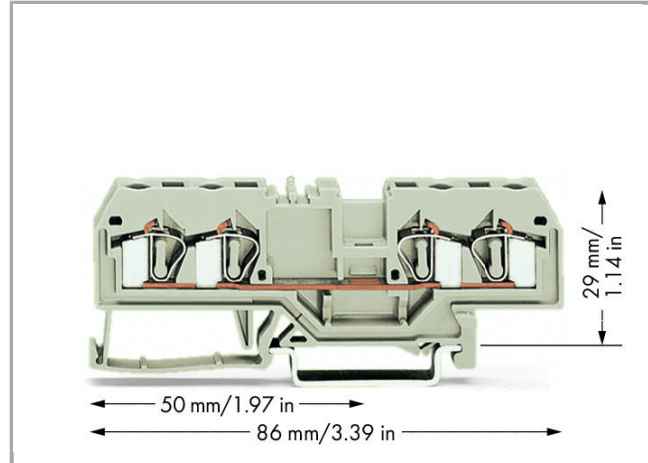
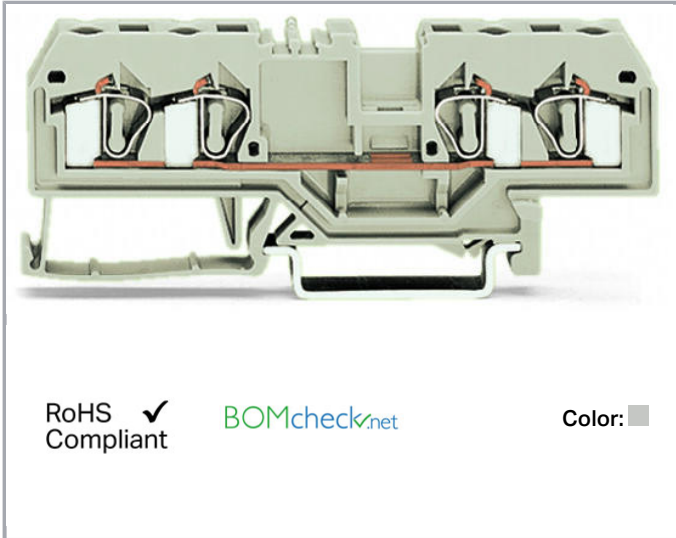


Data sheet | Item number: 281-994

4-conductor through terminal block; 4 mm²; suitable for Ex e II applications;
center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 4,00 mm²;
light gray



www.wago.com/281-994



Item description

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 is used for termination.

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

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

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



"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 (14 AWG) = 16 A

4 mm² (12 AWG) = 22 A

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) | 30 A |

Connection data

| | |
|-----------------------------------|--|
| Connection technology | CAGE CLAMP® |
| Actuation type | Operating tool |
| Connectable conductor materials | Copper Aluminum |
| 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 inch |
| Total number of connection points | 4 |
| Total number of potentials | 1 |
| Number of levels | 1 |

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

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Type of wiring

Front-entry wiring

Geometrical Data

| | |
|---------------------------------------|--------------------|
| Width | 6 mm / 0.236 inch |
| Height from upper-edge of DIN-35 rail | 29 mm / 1.142 inch |
| Depth | 86 mm / 3.386 inch |

Mechanical data

| | |
|------------------|----------------|
| Design | horizontal |
| Type of mounting | DIN-35 rail |
| Marking level | Center marking |

Material Data


| | |
|---------------------|----------------------|
| Color | light gray |
| Insulating material | Polyamide 66 (PA 66) |
| Fire load | 0.211 MJ |
| Weight | 12.8 g |

Commercial data

| | |
|--------------------|---------------|
| Packaging type | BOX |
| Country of origin | DE |
| GTIN | 4044918486675 |
| Customs Tariff No. | 85369010000 |

Approvals / Certificates

Ex-Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|--|---|--------------------------|--|
|  | ATEX Physikalisch Technische Bundesanstalt (PTB) | - | PTB 00 ATEX 3110 U (II 2 G EEx e II) |

Country specific Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|------|----------|--------------------------|------------------|
| | CCA | EN 60947, IEC 60947 | NTR NL- |

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



DEKRA Certification B.V.

7454/A1

CSA
DEKRA Certification B.V.

C22.2 No. 158





1505034

KEMA/KEUR
DEKRA Certification B.V.


EN 60947

71-
107288

Ship Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|---|---|--------------------------|--------------------------|
|  | ABS American Bureau of Shipping | - | 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 |

Counterpart









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

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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; white | 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; white | 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; white | 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; white | www.wago.com/2009-115/000-024 |
|  | Item no.: 209-140 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 |

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



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



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

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

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

assembling



Item no.: 209-106

Mounting carrier; for isolated mounting on DIN 35 rails; gray

www.wago.com/209-106

Item no.: 709-153

Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent

www.wago.com/709-153

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

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

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

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Hansastr. 27






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| | | |
|---|--|--|
| | 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 |
| | 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 |
| ferrule | | |
| | Item no.: 216-106 Ferrule; Sleeve for 2.5 mm ² / AWG 14; uninsulated; electro-tin plated | www.wago.com/216-106 |
|  | Item no.: 216-201 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; insulated; electro-tin plated; white | www.wago.com/216-201 |
| | Item no.: 216-202 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; gray | www.wago.com/216-202 |
| | Item no.: 216-203 Ferrule; Sleeve for 1 mm ² / AWG 18; insulated; electro-tin plated; red | www.wago.com/216-203 |
| | Item no.: 216-204 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; black | www.wago.com/216-204 |
| | Item no.: 216-205 Ferrule; Sleeve for 2.08 mm ² / AWG 14; insulated; electro-tin plated; yellow | www.wago.com/216-205 |
|  | Item no.: 216-206 Ferrule; Sleeve for 2.5 mm ² / AWG 14; insulated; electro-tin plated; blue | www.wago.com/216-206 |
| | Item no.: 216-241 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white | www.wago.com/216-241 |
| | Item no.: 216-242 | |

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

| | | |
|--|--|--|
|  | Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray | www.wago.com/216-242 |
|  | Item no.: 216-243 Ferrule; Sleeve for 1 mm ² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red | www.wago.com/216-243 |
|  | Item no.: 216-244 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black | www.wago.com/216-244 |
|  | Item no.: 216-246 Ferrule; Sleeve for 2.5 mm ² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue | www.wago.com/216-246 |
| | Item no.: 216-301 Ferrule; Sleeve for 0.25 mm ² / AWG 24; insulated; electro-tin plated; yellow | www.wago.com/216-301 |
|  | Item no.: 216-302 Ferrule; Sleeve for 0.34 mm ² / 22 AWG; insulated; electro-tin plated; green | www.wago.com/216-302 |
| Insulation stop | | |
|  | Item no.: 281-470 Insulation stop; 0.08 - 0.2 mm ² "s" (0.14 mm ² "f-st"); 5 pieces/strip; white | www.wago.com/281-470 |
|  | Item no.: 281-471 Insulation stop; 0.25 - 0.5 mm ² ; 5 pieces/strip; light gray | www.wago.com/281-471 |
|  | Item no.: 281-472 Insulation stop; 0.75 - 1.5 mm ² ; 5 pieces/strip; dark gray | www.wago.com/281-472 |
| Jumper | | |
|  | Item no.: 210-103 Wire commoning chain; insulated; 50 connections; black | www.wago.com/210-103 |
| | Item no.: 249-123 Push-in type wire jumper; insulated; wire length 180 mm; Conductor cross section 0.75 mm ² | www.wago.com/249-123 |
| | Item no.: 249-125 Push-in type wire jumper; insulated; wire length 60 mm; Conductor cross section 0.75 mm ² | www.wago.com/249-125 |
|  | Item no.: 249-126 Push-in type wire jumper; insulated; wire length 110 mm; Conductor cross section 0.75 mm ² | www.wago.com/249-126 |
|  | Item no.: 249-127 Push-in type wire jumper; insulated; wire length 250 mm; Conductor cross section 0.75 mm ² | www.wago.com/249-127 |
|  | Item no.: 281-402 Adjacent jumper; insulated; IN = IN terminal block; gray | www.wago.com/281-402 |
|  | Item no.: 281-409 Alternate jumper; insulated; IN = IN terminal block; gray | www.wago.com/281-409 |
|  | Item no.: 281-422 Adjacent jumper; insulated; IN = IN terminal block; yellow-green | www.wago.com/281-422 |

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

| | | |
|--|---|--|
|  | Item no.: 281-482 Comb-style jumper bar; insulated; 2-way; IN = IN terminal block; gray | www.wago.com/281-482 |
|  | Item no.: 281-483 Comb-style jumper bar; insulated; 3-way; IN = IN terminal block; gray | www.wago.com/281-483 |
|  | Item no.: 281-485 Comb-style jumper bar; insulated; 5-way; IN = IN terminal block; gray | www.wago.com/281-485 |
| | Item no.: 281-490 Comb-style jumper bar; insulated; 10-way; IN = IN terminal block; gray | www.wago.com/281-490 |
|  | Item no.: 281-492 Alternate comb-style jumper bar; insulated; 2-way; IN = IN terminal block; gray | www.wago.com/281-492 |
|  | Item no.: 709-110 Wire commoning chain; insulated; 4 connections; 3 x 110 mm; black | www.wago.com/709-110 |
| | Item no.: 709-111 Wire commoning chain; insulated; 3 connections; 2 x 120 mm; black | www.wago.com/709-111 |
| | Item no.: 709-112 Wire commoning chain; insulated; 3 connections; 2 x 170 mm; black | www.wago.com/709-112 |
|  | Item no.: 781-452 Staggered jumper; insulated; from 1 to 2; Spacing: 6 mm; gray | www.wago.com/781-452 |
|  | Item no.: 781-453 Staggered jumper; insulated; from 1 to 3; Spacing: 6 mm; gray | www.wago.com/781-453 |
| | Item no.: 781-454 Staggered jumper; insulated; from 1 to 4; Spacing: 6 mm; gray | www.wago.com/781-454 |
|  | Item no.: 781-455 Staggered jumper; insulated; from 1 to 5; Spacing: 6 mm; gray | www.wago.com/781-455 |
| | Item no.: 781-456 Staggered jumper; insulated; from 1 to 6; Spacing: 6 mm; gray | www.wago.com/781-456 |
| Protective Warning Marker | | |
|  | Item no.: 281-415 Protective warning marker; with high-voltage symbol, black; for 5 terminal blocks; yellow | www.wago.com/281-415 |
| 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.: 209-192 Separator for Ex e/Ex i applications; 3 mm thick; 125.5 mm wide; orange | www.wago.com/209-192 |
|  | Item no.: 281-345 End and intermediate plate; 2.5 mm thick; light gray | www.wago.com/281-345 |
| | Item no.: 281-347 | |

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



Separator plate; 2 mm thick; oversized; light gray

Downloads

Documentation

Additional Information

| | | | |
|------------------------|-------------|---------------|----------|
| Technical explanations | Apr 3, 2019 | pdf 2.1 MB | Download |
|------------------------|-------------|---------------|----------|

CAD/CAE-Data

CAD data

| | | |
|----------------------|-----|----------|
| 2D/3D Models 281-994 | URL | Download |
|----------------------|-----|----------|

CAE data

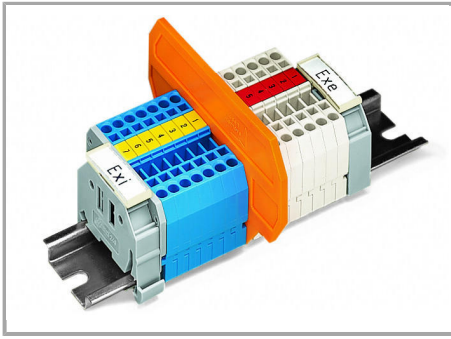
| | | |
|---------------------------|-----|----------|
| EPLAN Data Portal 281-994 | URL | Download |
|---------------------------|-----|----------|

| | | |
|------------------------|-----|----------|
| WSCAD Universe 281-994 | URL | Download |
|------------------------|-----|----------|

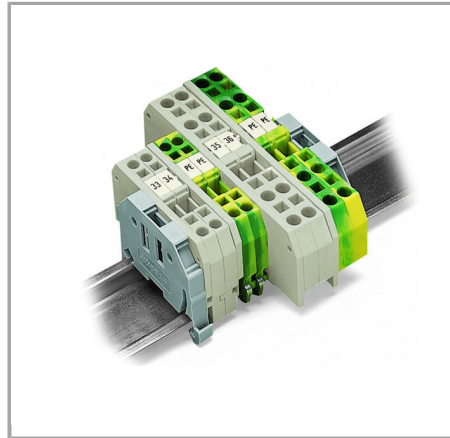
Installation Notes

Assembly

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



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!