

# MTKD-E-CU/A-CU - Thermoelectric voltage terminal block pair



3100091

<https://www.phoenixcontact.com/in/products/3100091>

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Thermoelectric voltage terminal block pair, TC type R, nom. voltage: 400 V, nominal current: 1 A, number of connections: 4, number of positions: 2, connection method: Screw connection, 1 level, cross section: 0.2 mm<sup>2</sup> - 4 mm<sup>2</sup>, mounting type: NS 35/7,5, NS 35/15, NS 32, color: gray

## Your advantages

- These special terminal blocks are used to extend thermocouple equalizing conductors in corresponding measuring circuits
- The equalizing conductors are made from materials which, up to temperatures of 200°C, have the same thermal characteristics as the corresponding thermocouples

## Commercial Data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 3100091             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales Key                            | BE1                 |
| Product Key                          | BE1211              |
| Catalog Page                         | Page 532 (C-1-2019) |
| GTIN                                 | 4017918092504       |
| Weight per Piece (including packing) | 16.57 g             |
| Weight per Piece (excluding packing) | 16.4 g              |
| Customs tariff number                | 85369010            |
| Country of origin                    | PL                  |

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## Technical Data

### Product properties

|                       |                             |
|-----------------------|-----------------------------|
| Product type          | Feed-through terminal block |
| Number of positions   | 2                           |
| Number of connections | 4                           |
| Number of rows        | 1                           |
| Potentials            | 1                           |

### Electrical properties

|   |        |
|---|--------|
| Maximum power dissipation for nominal condition | 0.77 W |
|---|--------|

### Connection data

|                                 |                     |
|---------------------------------|---------------------|
| Number of connections per level | 4                   |
| Nominal cross section           | 2.5 mm <sup>2</sup> |

#### 1 level

|   |   |
|---|---|
| Screw thread  | M3  |
| Tightening torque   | 0.6 ... 0.8 Nm  |
| Stripping length  | 8 mm  |
| Internal cylindrical gage   | A3  |
| Connection in acc. with standard                                  | IEC 60947-7-1   |
| Conductor cross section rigid                                     | 0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>                           |
| Cross section AWG   | 24 ... 12 (converted acc. to IEC)                                   |
| Conductor cross section flexible                                  | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>                         |
| Conductor cross section, flexible [AWG]                           | 24 ... 14 (converted acc. to IEC)                                   |
| Conductor cross-section flexible (ferrule without plastic sleeve) | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                         |
| Flexible conductor cross section (ferrule with plastic sleeve)    | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>                         |
| Nominal current   | 1 A   |
| Maximum load current  | 1 A (with 4 mm <sup>2</sup> conductor cross section)                |
| Nominal voltage   | 400 V (Voltage to the neighboring feed-through terminal block MTK.) |

### Dimensions

|                  |         |
|------------------|---------|
| Width            | 10.4 mm |
| End cover width  | 1 mm    |
| Height NS 35/15  | 47.4 mm |
| Height NS 35/7,5 | 39.9 mm |
| Height           | 1.575 " |
| Height NS 32     | 44.9 mm |
| Length           | 46.2 mm |

### Material specifications

|       |      |
|-------|------|
| Color | gray |
|-------|------|

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|   |             |
|---|-------------|
| Flammability rating according to UL 94                                  | V0          |
| Insulating material   | PA          |
| Static insulating material application in cold                          | -60 °C      |
| Temperature index of insulation material (DIN EN 60216-1 (VDE 0304-21)) | 130 °C      |
| Relative insulation material temperature index (Elec., UL 746 B)        | 130 °C      |
| Fire protection for rail vehicles (DIN EN 45545-2) R22                  | HL 1 - HL 3 |
| Fire protection for rail vehicles (DIN EN 45545-2) R23                  | HL 1 - HL 3 |
| Fire protection for rail vehicles (DIN EN 45545-2) R24                  | HL 1 - HL 3 |
| Fire protection for rail vehicles (DIN EN 45545-2) R26                  | HL 1 - HL 3 |
| Calorimetric heat release NFPA 130 (ASTM E 1354)                        | 28 MJ/kg    |
| Surface flammability NFPA 130 (ASTM E 162)                              | passed      |
| Specific optical density of smoke NFPA 130 (ASTM E 662)                 | passed      |
| Smoke gas toxicity NFPA 130 (SMP 800C)                                  | passed      |

## Mechanical properties

### Mechanical data

|                 |     |
|-----------------|-----|
| Open side panel | Yes |
|-----------------|-----|

## Environmental and real-life conditions

### Ambient conditions

|  |   |
|--|---|
| Ambient temperature (operation)          | -60 °C ... 105 °C (max. short-term operating temperature RTI Elec.)       |
| Ambient temperature (storage/transport)  | -25 °C ... 60 °C (for a short time, not exceeding 24 h, -60 °C to +70 °C) |
| Ambient temperature (assembly)           | -5 °C ... 70 °C   |
| Ambient temperature (actuation)          | -5 °C ... 70 °C   |
| Permissible humidity (storage/transport) | 30 % ... 70 %   |

## Standards and regulations

|                                  |               |
|----------------------------------|---------------|
| Connection in acc. with standard | IEC 60947-7-1 |
|----------------------------------|---------------|

## Mounting

|               |           |
|---------------|-----------|
| Mounting type | NS 35/7,5 |
|               | NS 35/15  |
|               | NS 32     |

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## Approvals



**EAC**

Approval ID: RU C-DE.BL08.B.00534



**cULus Recognized**

Approval ID: E60425

|             | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
|-------------|-----------------------|-----------------------|-------------------|-----------------------------|
| Use group B |                       |                       |                   |                             |
|             | 250 V                 | 10 A                  | 28 - 12           | -                           |
| Use group D |                       |                       |                   |                             |
|             | 300 V                 | 10 A                  | 28 - 12           | -                           |



**CSA**

Approval ID: 13631

|             | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
|-------------|-----------------------|-----------------------|-------------------|-----------------------------|
| Use group B |                       |                       |                   |                             |
|             | 300 V                 | 1 A                   | 28 - 12           | -                           |
| Use group D |                       |                       |                   |                             |
|             | 300 V                 | 1 A                   | 28 - 12           | -                           |

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## Classifications

### ECLASS

ECLASS-11.0

27141120

### ETIM

ETIM 8.0

EC000897

### UNSPSC

UNSPSC 21.0

39121400

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## Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

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## Accessories

### D-MTK - End cover

3101029

<https://www.phoenixcontact.com/in/products/3101029>

End cover, length: 46 mm, width: 1 mm, height: 28.7 mm, color: gray



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### ATS-MTK - Partition plate

3101223

<https://www.phoenixcontact.com/in/products/3101223>

Partition plate, width: 1 mm, color: gray



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## SBS10:UNBEDRUCKT - Marker card

1007248

<https://www.phoenixcontact.com/in/products/1007248>



Marker card, Card, white, unlabeled, can be labeled with: Marker pen, perforated, mounting type: snapped, snap into flat marker groove, for terminal block width: 10 mm, lettering field size: 6 x 10.1 mm, Number of individual labels: 250

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## SZS 1,0X4,0 VDE - Screwdriver

1205066

<https://www.phoenixcontact.com/in/products/1205066>



Screwdriver, slot-headed, VDE insulated, size: 1.0 x 4.0 x 100 mm, 2-component grip, with non-slip grip



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<https://www.phoenixcontact.com/in/products/3100091>

## NS 32 PERF 2000MM-VPE 10 - DIN rail perforated

1201002

<https://www.phoenixcontact.com/in/products/1201002>



DIN rail perforated, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, G profile, color: silver, Pack of 10 (20 m)

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## NS 32 UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1201015

<https://www.phoenixcontact.com/in/products/1201015>



DIN rail, unperforated, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, G profile, color: silver, Pack of 10 (20 m)

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## NS 35/ 7,5 PERF 2000MM - DIN rail perforated

0801733

<https://www.phoenixcontact.com/in/products/0801733>



DIN rail perforated, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver, Pack of 25 (50 m)

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## NS 35/ 7,5 UNPERF 2000MM - DIN rail, unperforated

0801681

<https://www.phoenixcontact.com/in/products/0801681>



DIN rail, unperforated, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver, Pack of 25 (50 m)

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<https://www.phoenixcontact.com/in/products/3100091>

## NS 35/ 7,5 WH PERF 2000MM - DIN rail perforated

1204119

<https://www.phoenixcontact.com/in/products/1204119>



DIN rail perforated, acc. to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver, Pack of 25 (50 m)

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## NS 35/ 7,5 WH UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1204122

<https://www.phoenixcontact.com/in/products/1204122>



DIN rail, unperforated, acc. to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver, Pack of 10 (20 m)

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## NS 35/ 7,5 AL UNPERF 2000MM - DIN rail, unperforated

0801704

<https://www.phoenixcontact.com/in/products/0801704>



DIN rail, unperforated, acc. to EN 60715, material: Aluminum, uncoated, Standard profile, color: silver, Pack of 25 (50 m)

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## NS 35/ 7,5 ZN PERF 2000MM - DIN rail perforated

1206421

<https://www.phoenixcontact.com/in/products/1206421>



DIN rail perforated, acc. to EN 60715, material: Steel, galvanized, Standard profile, color: silver, Pack of 25 (50 m)

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NS 35/ 7,5 ZN UNPERF 2000MM - DIN rail, unperforated

1206434

<https://www.phoenixcontact.com/in/products/1206434>



DIN rail, unperforated, acc. to EN 60715, material: Steel, galvanized, Standard profile, color: silver, Pack of 25 (50 m)

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NS 35/ 7,5 CU UNPERF 2000MM-VPE 10 - DIN rail, unperforated

0801762

<https://www.phoenixcontact.com/in/products/0801762>



DIN rail, unperforated, acc. to EN 60715, material: Copper, uncoated, Standard profile, color: copper-colored, Pack of 10 (20 m)

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<https://www.phoenixcontact.com/in/products/3100091>

## NS 35/ 7,5 CAP - End cap

1206560

<https://www.phoenixcontact.com/in/products/1206560>

DIN rail end piece, for DIN rail NS 35/7.5



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## NS 35/15 PERF 2000MM - DIN rail perforated

1201730

<https://www.phoenixcontact.com/in/products/1201730>



DIN rail perforated, similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver, Pack of 25 (50 m)

# MTKD-E-CU/A-CU - Thermoelectric voltage terminal block pair

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<https://www.phoenixcontact.com/in/products/3100091>

## NS 35/15 UNPERF 2000MM - DIN rail, unperforated

1201714

<https://www.phoenixcontact.com/in/products/1201714>



DIN rail, unperforated, similar to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile, color: silver, Pack of 25 (50 m)

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## NS 35/15 WH PERF 2000MM - DIN rail perforated

0806602

<https://www.phoenixcontact.com/in/products/0806602>



DIN rail perforated, similar to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: white, Pack of 25 (50 m)

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<https://www.phoenixcontact.com/in/products/3100091>

## NS 35/15 WH UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1204135

<https://www.phoenixcontact.com/in/products/1204135>



DIN rail, unperforated, similar to EN 60715, material: Steel, Galvanized, white passivated, Standard profile, color: silver, Pack of 10 (20 m)

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## NS 35/15 AL UNPERF 2000MM - DIN rail, unperforated

1201756

<https://www.phoenixcontact.com/in/products/1201756>



DIN rail, unperforated, similar to EN 60715, material: Aluminum, uncoated, Standard profile, color: silver



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## NS 35/15 ZN PERF 2000MM - DIN rail perforated

1206599

<https://www.phoenixcontact.com/in/products/1206599>



DIN rail perforated, similar to EN 60715, material: Steel, galvanized, Standard profile, color: silver, Pack of 25 (50 m)

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## NS 35/15 ZN UNPERF 2000MM - DIN rail, unperforated

1206586

<https://www.phoenixcontact.com/in/products/1206586>



DIN rail, unperforated, similar to EN 60715, material: Steel, galvanized, Standard profile, color: silver, Pack of 25 (50 m)

# MTKD-E-CU/A-CU - Thermoelectric voltage terminal block pair

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<https://www.phoenixcontact.com/in/products/3100091>

## NS 35/15 CU UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1201895

<https://www.phoenixcontact.com/in/products/1201895>



DIN rail, unperforated, similar to EN 60715, material: Copper, uncoated, Standard profile, color: copper-colored, Pack of 10 (20 m)

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## NS 35/15 CAP - End cap

1206573

<https://www.phoenixcontact.com/in/products/1206573>

DIN rail end piece, for DIN rail NS 35/15



# MTKD-E-CU/A-CU - Thermoelectric voltage terminal block pair

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## NS 35/15-2,3 UNPERF 2000MM-VPE 10 - DIN rail, unperforated

1201798

<https://www.phoenixcontact.com/in/products/1201798>



DIN rail, unperforated, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, Standard profile 2.3 mm, color: silver, Pack of 10 (20 m)

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## ZB 10:UNBEDRUCKT - Zack marker strip

1053001

<https://www.phoenixcontact.com/in/products/1053001>



Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 10.5 x 10.15 mm, Number of individual labels: 10

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## ZB 10 CUS - Zack marker strip

0824941

<https://www.phoenixcontact.com/in/products/0824941>



Zack marker strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 10,15 x 10,5 mm, Number of individual labels: 10

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## ZB10,LGS:FORTL.ZAHLEN - Zack marker strip

1053014

<https://www.phoenixcontact.com/in/products/1053014>



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 10,15 x 10,5 mm, Number of individual labels: 10

# MTKD-E-CU/A-CU - Thermoelectric voltage terminal block pair

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## ZB10,QR:FORTL.ZAHLEN - Zack marker strip

1053027

<https://www.phoenixcontact.com/in/products/1053027>



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 10,15 x 10,5 mm, Number of individual labels: 10

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## ZB10,LGS:L1-N,PE - Marker for terminal blocks

1053412

<https://www.phoenixcontact.com/in/products/1053412>



Marker for terminal blocks, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, horizontal: L1, L2, L3, N, PE, L1, L2, L3, N, PE, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 10,15 x 10,5 mm, Number of individual labels: 10

# MTKD-E-CU/A-CU - Thermoelectric voltage terminal block pair

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## ZB10,LGS:U-N - Marker for terminal blocks

1053438

<https://www.phoenixcontact.com/in/products/1053438>



Marker for terminal blocks, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, horizontal: U, V, W, N, GND, U, V, W, N, GND, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 10,15 x 10,5 mm, Number of individual labels: 10

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## UC-TM 10 - Marker for terminal blocks

0818069

<https://www.phoenixcontact.com/in/products/0818069>



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 9.6 x 10.5 mm, Number of individual labels: 48

# MTKD-E-CU/A-CU - Thermoelectric voltage terminal block pair

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## UC-TM 10 CUS - Marker for terminal blocks

0824605

<https://www.phoenixcontact.com/in/products/0824605>



Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 9.6 x 10.5 mm, Number of individual labels: 48

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## UCT-TM 10 - Marker for terminal blocks

0829142

<https://www.phoenixcontact.com/in/products/0829142>



Marker for terminal blocks, Sheet, white, unlabeled, can be labeled with: TOPMARK NEO, TOPMARK LASER, BLUEMARK ID COLOR, BLUEMARK ID, BLUEMARK CLED, THERMOMARK PRIME, THERMOMARK CARD 2.0, THERMOMARK CARD, mounting type: snapped, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

# MTKD-E-CU/A-CU - Thermoelectric voltage terminal block pair

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## UCT-TM 10 CUS - Marker for terminal blocks

0829623

<https://www.phoenixcontact.com/in/products/0829623>



Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into tall marker groove, for terminal block width: 10.2 mm, lettering field size: 8.9 x 9.6 mm, Number of individual labels: 36

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## CLIPFIX 35 - End clamp

3022218

<https://www.phoenixcontact.com/in/products/3022218>



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, width: 9.5 mm, color: gray



# MTKD-E-CU/A-CU - Thermoelectric voltage terminal block pair

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<https://www.phoenixcontact.com/in/products/3100091>

## CLIPFIX 35-5 - End clamp

3022276

<https://www.phoenixcontact.com/in/products/3022276>



Quick mounting end clamp for NS 35/7,5 DIN rail or NS 35/15 DIN rail, with marking option, with parking option for FBS...5, FBS...6, KSS 5, KSS 6, width: 5.15 mm, color: gray

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## E/NS 35 N - End clamp

0800886

<https://www.phoenixcontact.com/in/products/0800886>



End clamp, width: 9.5 mm, color: gray

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## E/UK - End clamp

1201442

<https://www.phoenixcontact.com/in/products/1201442>

End clamp, material: PA, color: gray, Mounting on a DIN rail NS 32 or NS 35



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## E/UK 1 - End clamp

1201413

<https://www.phoenixcontact.com/in/products/1201413>

End clamps, for supporting the ends of double-level and three-level terminal blocks, width: 10 mm, color: gray



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