

# SP 4/ 1-R - Plug

3042816

<https://www.phoenixcontact.com/in/products/3042816>



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Plug, nom. voltage: 800 V, nominal current: 32 A, number of positions: 1, connection method: Spring-cage connection, Rated cross section: 4 mm<sup>2</sup>, cross section: 0.08 mm<sup>2</sup>- 6 mm<sup>2</sup>, color: gray

## Product Description

Connector element right, left housing with engagement pin, right closed with cover

## Your advantages

- Cable housing can be snapped on to the plugs, see figure below
- The plug with spring-cage connection is assembled directly on site by snapping together single-position plug elements
- The ST-COMBI plugs for self-assembly provide solutions that users can implement themselves
- Tested for railway applications

## Commercial Data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 3042816             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales Key                            | BE2                 |
| Product Key                          | BE2144              |
| Catalog Page                         | Page 345 (C-1-2019) |
| GTIN                                 | 4017918956110       |
| Weight per Piece (including packing) | 4.74 g              |
| Weight per Piece (excluding packing) | 4.2 g               |
| Customs tariff number                | 85366990            |
| Country of origin                    | PL                  |

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## Technical Data

### Product properties

|                     |               |
|---------------------|---------------|
| Product type        | Terminal plug |
| Number of positions | 1             |
| Pitch               | 6.2 mm        |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Electrical properties

|                     |      |
|---------------------|------|
| Rated surge voltage | 8 kV |
|---------------------|------|

### Connection data

|   |   |
|---|---|
| Nominal cross section   | 4 mm <sup>2</sup>                                     |
| Stripping length  | 8 mm ... 10 mm  |
| Internal cylindrical gage   | A4  |
| Connection in acc. with standard  | IEC 61984   |
| Conductor cross section rigid   | 0.08 mm <sup>2</sup> ... 6 mm <sup>2</sup>            |
| Cross section AWG   | 28 ... 10 (converted acc. to IEC)                     |
| Conductor cross section flexible  | 0.08 mm <sup>2</sup> ... 4 mm <sup>2</sup>            |
| Conductor cross section, flexible [AWG]   | 28 ... 10 (converted acc. to IEC)                     |
| Conductor cross-section flexible (ferrule without plastic sleeve)                         | 0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup>            |
| Flexible conductor cross section (ferrule with plastic sleeve)                            | 0.14 mm <sup>2</sup> ... 4 mm <sup>2</sup>            |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup>             |
| Nominal current   | 32 A  |
| Maximum load current  | 32 A (with 6 mm <sup>2</sup> conductor cross section) |
| Nominal voltage   | 800 V   |
| Nominal cross section   | 4 mm <sup>2</sup>                                     |

### Dimensions

|        |         |
|--------|---------|
| Width  | 6.2 mm  |
| Height | 41.5 mm |
| Length | 21 mm   |
| Pitch  | 6.2 mm  |

### Material specifications

|  |        |
|--|--------|
| Color  | gray   |
| Flammability rating according to UL 94         | V0     |
| Insulating material group                      | I      |
| Insulating material                            | PA     |
| Static insulating material application in cold | -60 °C |

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|   |             |
|---|-------------|
| 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      |

## 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 61984 |
|----------------------------------|-----------|

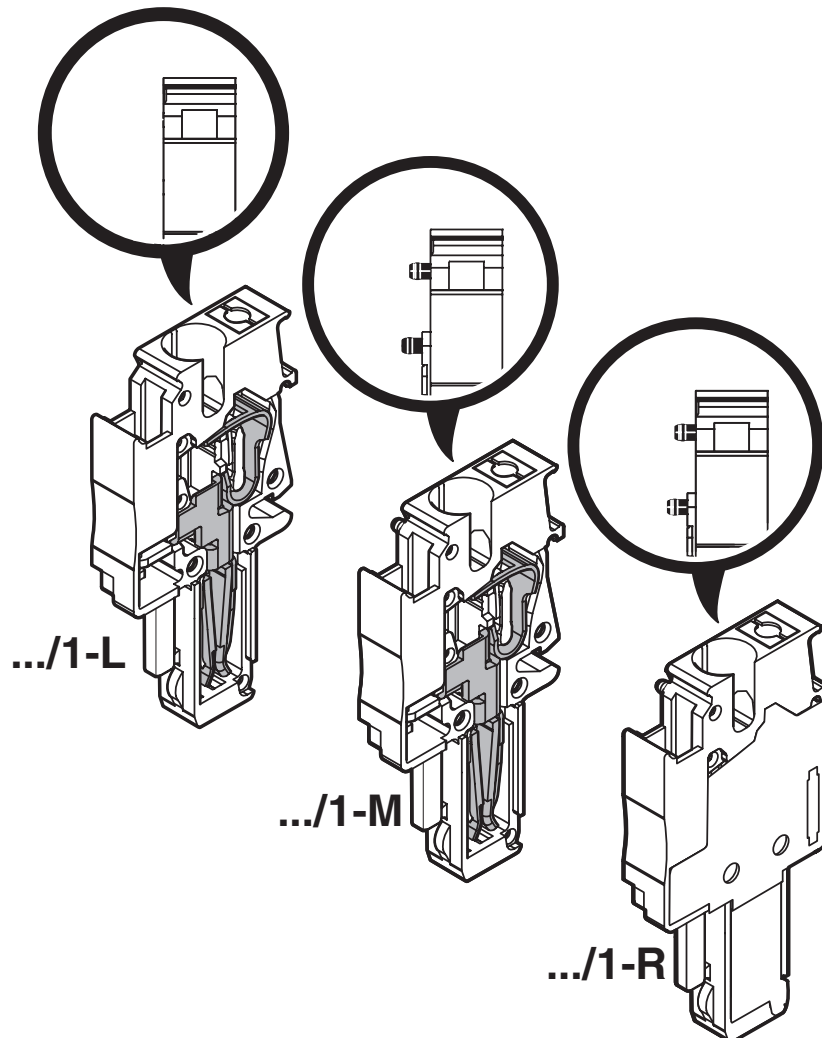
# SP 4/ 1-R - Plug

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## Drawings

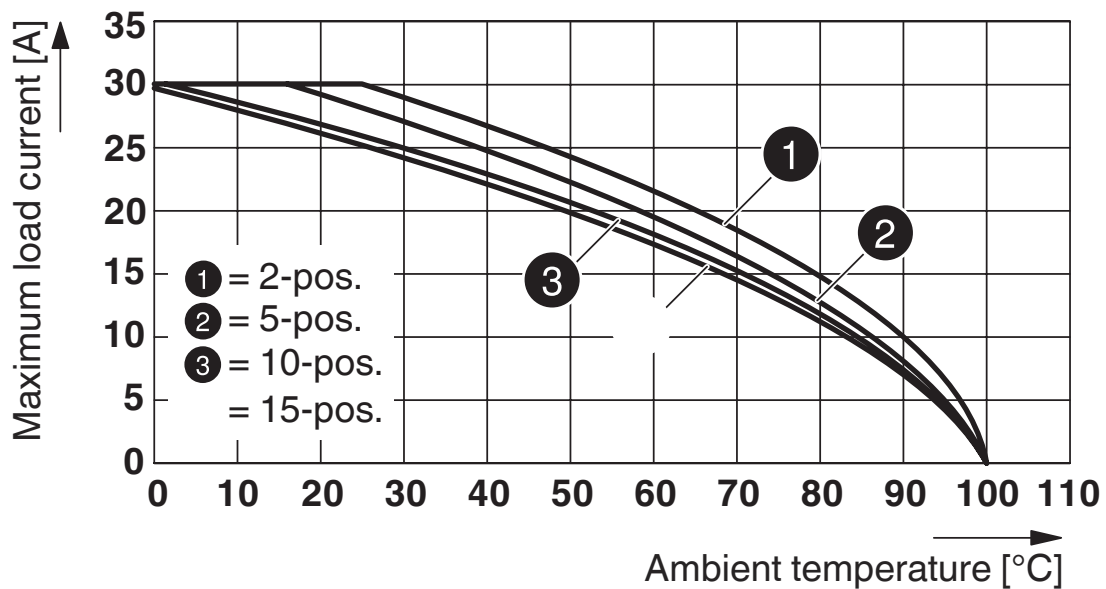
Schematic diagram



## Circuit diagram

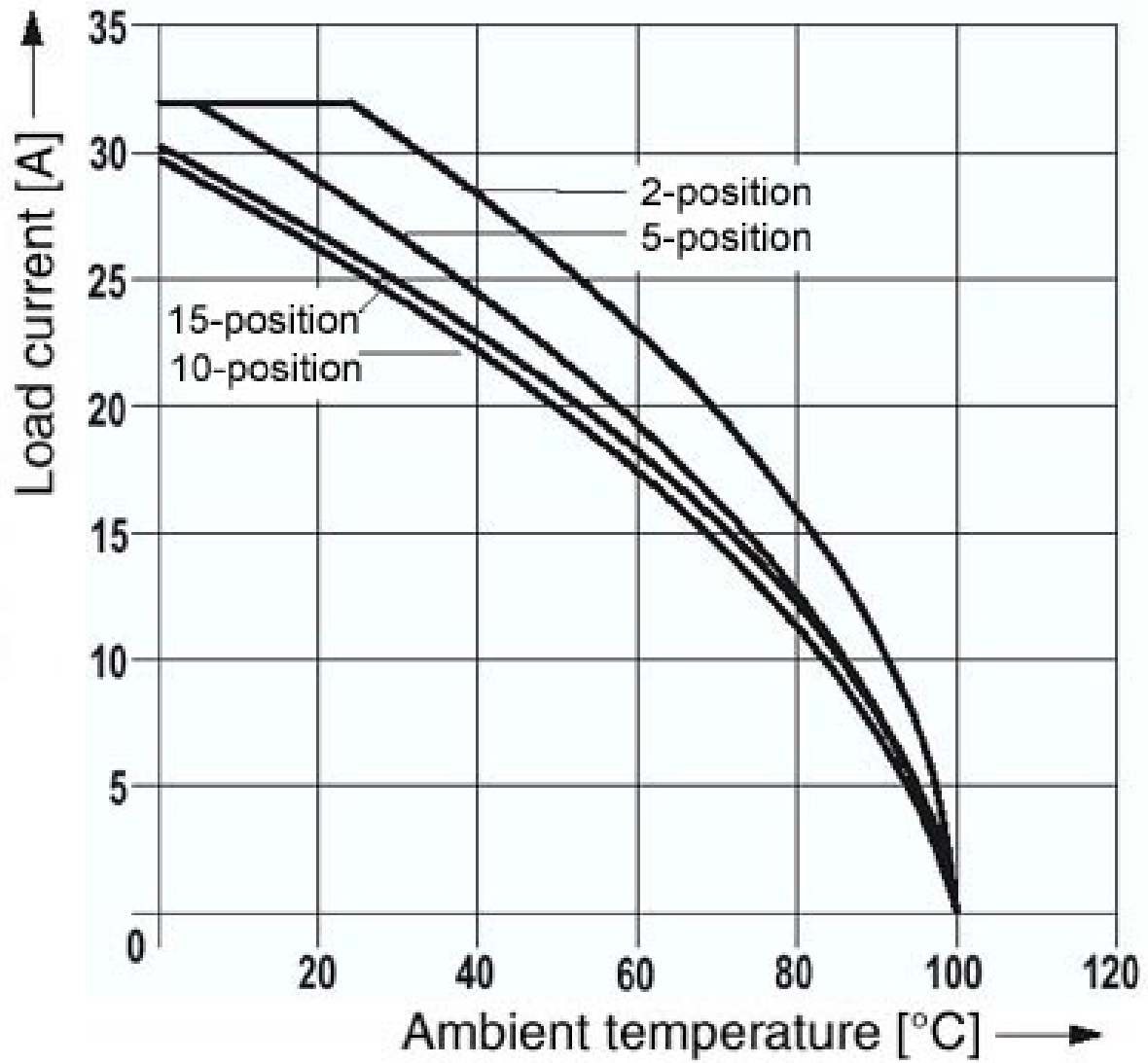


## Diagram



Derating curve for ST 4/ 1P and for all plug versions SP...

Diagram

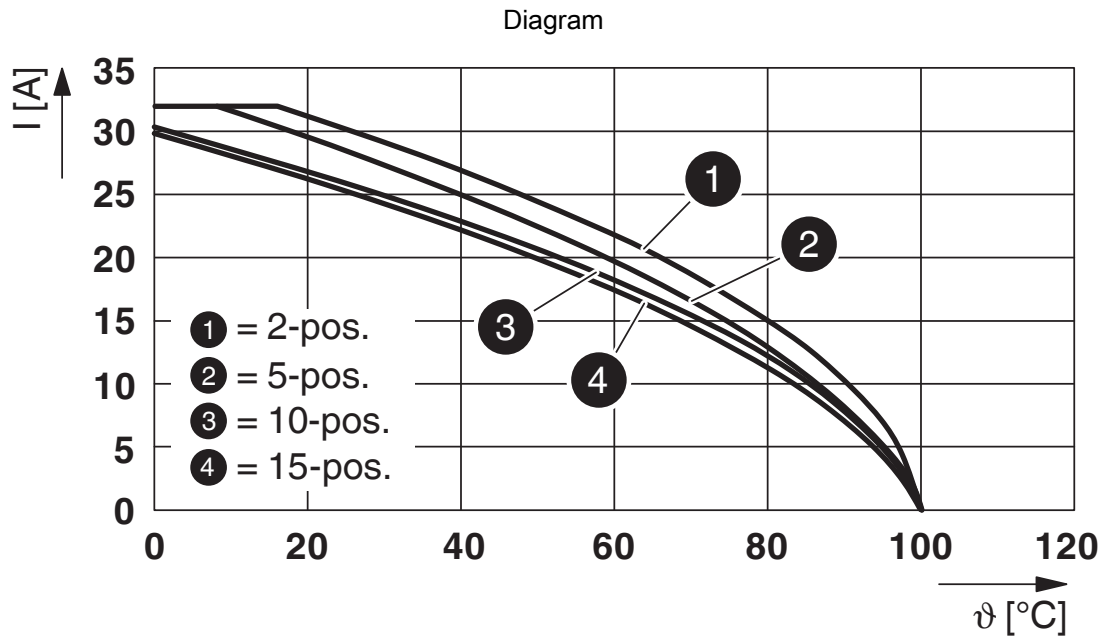


Derating curve for the spring-cage terminal with all plug versions SP 4/... .

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Derating curve for spring-cage terminals ST 4/1P.. and ST 4/2P.. with all plug versions SP 4/... . The derating curves are determined by multiplying the values of the base curves by the factor 0.8.


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## Approvals

|  <b>CSA</b><br>Approval ID: 13631 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
| Use group B  | 600 V                 | 30 A                  | 24 - 12           | -                           |
| Use group C  | 600 V                 | 30 A                  | 24 - 12           | -                           |

|  <b>IECEE CB Scheme</b><br>Approval ID: DE1-62736/B1/B2 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

|  <b>EAC</b><br>Approval ID: RU C-DE.BL08.B.00511 |  |  |  |  |
|---|--|--|--|--|
|---|--|--|--|--|

|  <b>cULus Recognized</b><br>Approval ID: E60425 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
| Use group B  | 600 V                 | 30 A                  | 28 - 10           | -                           |
| Use group C  | 600 V                 | 30 A                  | 28 - 10           | -                           |

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40019518 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
| Only flexible conductors   | 800 V                 | -                     | -                 | 0.2 - 4                     |
| Only rigid conductors  | 800 V                 | -                     | -                 | 0.2 - 6                     |



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141151 |
| ECLASS-12.0 | 27141151 |
| ECLASS-13.0 | 27250306 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC002021 |
|----------|----------|

### 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

### PZ/2 - Strain relief

3040627

<https://www.phoenixcontact.com/in/products/3040627>



Strain relief, length: 48.7 mm, width: 9.3 mm, number of positions: 2, color: black

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### PZ/4 - Strain relief

3040643

<https://www.phoenixcontact.com/in/products/3040643>



Strain relief, length: 48.7 mm, width: 19.6 mm, number of positions: 4, color: black

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## PR - Latching

3040559

<https://www.phoenixcontact.com/in/products/3040559>



Latching, length: 29.8 mm, width: 4.4 mm, number of positions: 1, color: orange

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## PR/2 - Latching

3040630

<https://www.phoenixcontact.com/in/products/3040630>



Latching, length: 29.8 mm, width: 10 mm, number of positions: 2, color: orange

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## PRT/2 - Latching

3040631

<https://www.phoenixcontact.com/in/products/3040631>



Latching, can only be released using a screwdriver, length: 23.2 mm, width: 9 mm, number of positions: 2, color: orange

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## PRZ - Latching

3040614

<https://www.phoenixcontact.com/in/products/3040614>



Latching, number of positions: 2, length: 64 mm, color: orange

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## PSH 3- 6 - Shield connection clamp

3040591

<https://www.phoenixcontact.com/in/products/3040591>



Shield connection clamp, color: black

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## PSH 5-10 - Shield connection clamp

3040601

<https://www.phoenixcontact.com/in/products/3040601>



Shield connection clamp, color: black

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## B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/in/products/1051993>



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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## X-PEN 0,35 - Marker pen

0811228

<https://www.phoenixcontact.com/in/products/0811228>



Marker pen without ink cartridge, for manual labeling of markers, labeling extremely wipe-proof, line thickness 0.35 mm

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<https://www.phoenixcontact.com/in/products/3042816>



## ST-BW - Actuation tool

1207608

<https://www.phoenixcontact.com/in/products/1207608>

Actuation tool, for all 2.5 mm<sup>2</sup> - 4.0 mm<sup>2</sup> spring-cages



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## ZBF 6:UNBEDRUCKT - Zack Marker strip, flat

0808710

<https://www.phoenixcontact.com/in/products/0808710>



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10



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## ZBF 6 CUS - Zack Marker strip, flat

0825027

<https://www.phoenixcontact.com/in/products/0825027>



Zack Marker strip, flat, Strip, can be ordered: Strip, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

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## UC-TMF 6 - Marker for terminal blocks

0818140

<https://www.phoenixcontact.com/in/products/0818140>



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: 6.2 mm, lettering field size: 5.6 x 5.1 mm, Number of individual labels: 80

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## UC-TMF 6 CUS - Marker for terminal blocks

0824646

<https://www.phoenixcontact.com/in/products/0824646>



Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 6.2 mm, lettering field size: 5.6 x 5.1 mm, Number of individual labels: 80

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## UCT-TMF 6 - Marker for terminal blocks

0828746

<https://www.phoenixcontact.com/in/products/0828746>



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: 6.2 mm, lettering field size: 5.4 x 4.7 mm, Number of individual labels: 60

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## UCT-TMF 6 CUS - Marker for terminal blocks

0829665

<https://www.phoenixcontact.com/in/products/0829665>



Marker for terminal blocks, can be ordered: by sheet, white, labeled according to customer specifications, mounting type: snap into flat marker groove, for terminal block width: 6.2 mm, lettering field size: 5.4 x 4.7 mm, Number of individual labels: 60

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## ZBF 6,LGS:FORTL.ZAHLEN - Zack Marker strip, flat

0808749

<https://www.phoenixcontact.com/in/products/0808749>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

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## ZBF 6,QR:FORTL.ZAHLEN - Zack Marker strip, flat

0808765

<https://www.phoenixcontact.com/in/products/0808765>



Zack Marker strip, flat, Strip, white, labeled, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

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## ZBF 6,LGS:GERADE ZAHLEN - Zack Marker strip, flat

0810834

<https://www.phoenixcontact.com/in/products/0810834>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive even numbers 2 ... 20, 22 ... 40, etc. up to 82 ... 100, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

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## ZBF 6,LGS:UNGERADE ZAHLEN - Zack Marker strip, flat

0810876

<https://www.phoenixcontact.com/in/products/0810876>



Zack Marker strip, flat, Strip, white, labeled, printed horizontally: Odd numbers 1 - 19, 21 - 39, etc. up to 81 - 99, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

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