

# SP 4/ 7 - Plug

3042955

<https://www.phoenixcontact.com/pc/products/3042955>



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Plug, nom. voltage: 800 V, nominal current: 32 A, number of positions: 7, 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

## Your advantages

- Large-surface labeling option
- Practical coding option
- Tested for railway applications

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 3042955             |
| Packing unit                         | 25 pc               |
| Minimum order quantity               | 1 pc                |
| Product key                          | BE2144              |
| Catalog page                         | Page 345 (C-1-2019) |
| GTIN                                 | 4017918956288       |
| Weight per piece (including packing) | 30.05 g             |
| Weight per piece (excluding packing) | 30.05 g             |
| Customs tariff number                | 85366990            |
| Country of origin                    | PL                  |

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## Technical data

### Product properties

|                     |               |
|---------------------|---------------|
| Product type        | Terminal plug |
| Number of positions | 7             |
| 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 ... 12 (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  | 43.4 mm |
| Height | 21 mm   |
| Depth  | 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   |

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

## Electrical tests

### Surge voltage test

|                                                |             |
|------------------------------------------------|-------------|
| Result                                         | Test passed |
| Short-time withstand current 4 mm <sup>2</sup> | 0.48 kA     |
| Result                                         | Test passed |

### Power-frequency withstand voltage

|                       |             |
|-----------------------|-------------|
| Test voltage setpoint | 2 kV        |
| Result                | Test passed |

## Mechanical tests

### Attachment on the carrier

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

## Environmental and real-life conditions

### Needle-flame test

|                  |             |
|------------------|-------------|
| Time of exposure | 30 s        |
| Result           | Test passed |

### Oscillation/broadband noise

|                        |                                                     |
|------------------------|-----------------------------------------------------|
| Specification          | DIN EN 50155 (VDE 0115-200):2018-05                 |
| Spectrum               | Service life test category 1, class B, body mounted |
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$      |
| ASD level              | $0.964 \text{ (m/s}^2\text{)}^2\text{/Hz}$          |
| Acceleration           | 0.58g                                               |
| Test duration per axis | 5 h                                                 |
| Test directions        | X-, Y- and Z-axis                                   |
| Result                 | Test passed                                         |

### Shocks

|             |           |
|-------------|-----------|
| Pulse shape | Half-sine |
|-------------|-----------|

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|                                |                                   |
|--------------------------------|-----------------------------------|
| Acceleration                   | 5g                                |
| Shock duration                 | 30 ms                             |
| Number of shocks per direction | 3                                 |
| Test directions                | X-, Y- and Z-axis (pos. and neg.) |
| Result                         | Test passed                       |

## Ambient conditions

|                                          |                                                        |
|------------------------------------------|--------------------------------------------------------|
| Ambient temperature (operation)          | -60 °C (max. operating temperature see derating curve) |
| Ambient temperature (storage/transport)  | -25 °C ... 60 °C ()                                    |
| Ambient temperature (assembly)           | -5 °C ... 70 °C                                        |
| Ambient temperature (actuation)          | -5 °C ... 70 °C                                        |
| Permissible humidity (operation)         | 20 % ... 90 %                                          |
| Permissible humidity (storage/transport) | 30 % ... 70 %                                          |

## Standards and regulations

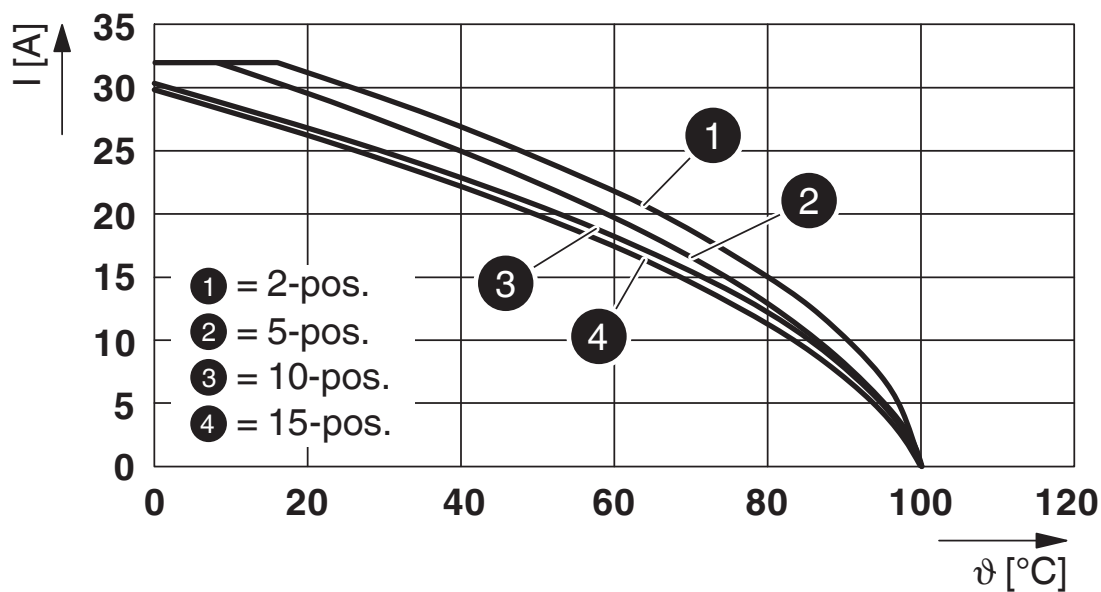
|                                  |           |
|----------------------------------|-----------|
| Connection in acc. with standard | IEC 61984 |
|----------------------------------|-----------|

## Drawings

Circuit diagram

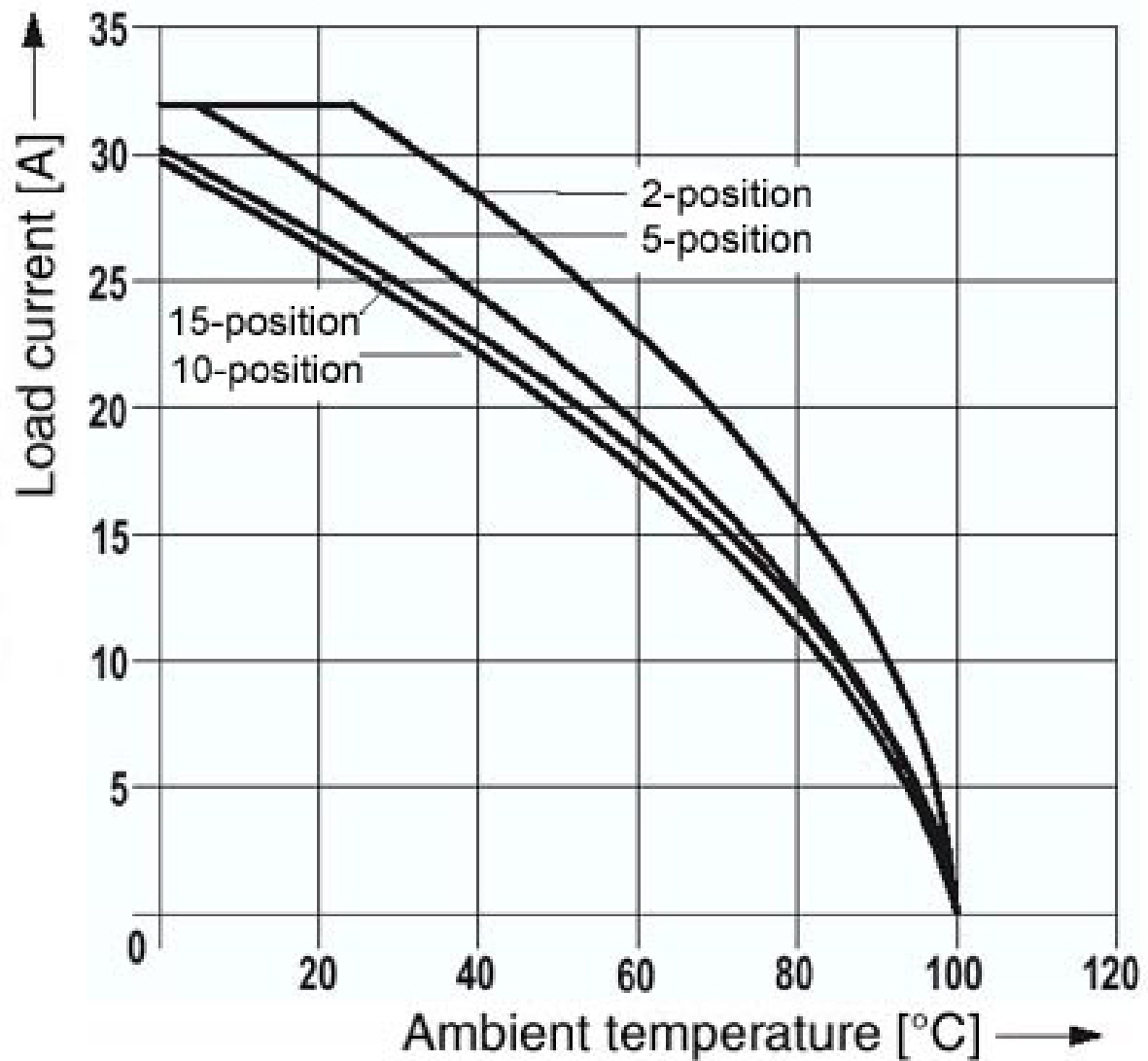


Diagram



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.

Diagram

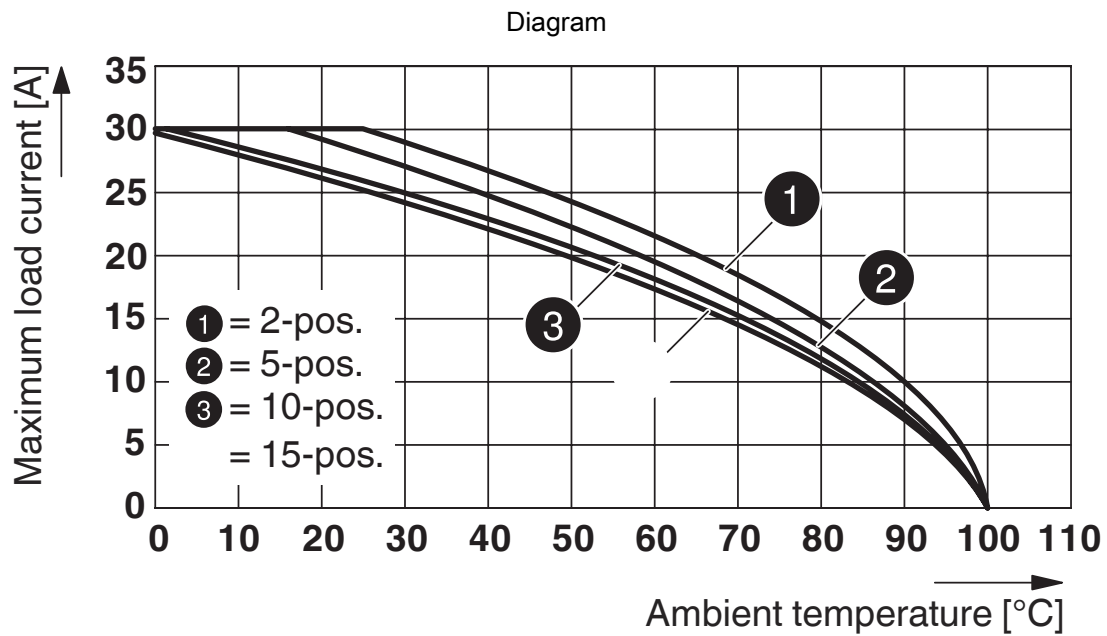


Derating curve for the spring-cage terminal with all plug versions SP 4/... .

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

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/pc/products/3042955>

|  <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 9.0 | 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/pc/products/3040627>



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

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### PZ/4 - Strain relief

3040643

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



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

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### PR - Latching

3040559

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



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

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### PR/2 - Latching

3040630

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



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

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## PRT/2 - Latching

3040631

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



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

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## PRZ - Latching

3040614

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



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

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<https://www.phoenixcontact.com/pc/products/3042955>



### ISH 4/0,5 - Insulating sleeve

3002885

<https://www.phoenixcontact.com/pc/products/3002885>



Insulating sleeve, color: gray

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### ISH 4/1,0 - Insulating sleeve

3002898

<https://www.phoenixcontact.com/pc/products/3002898>



Insulating sleeve, color: black

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

0808710

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



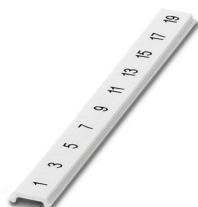
Zack Marker strip, flat, Strip, white, labeled, printed horizontally: consecutive even numbers 2 ... 20, 22 ... 40, etc. up to 82 ... 100, mounting type: snapped, for terminal block width: 6.2 mm, lettering field size: 5.15 x 6.15 mm, Number of individual labels: 10

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

0810876

<https://www.phoenixcontact.com/pc/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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## B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/pc/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/pc/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/pc/products/3042955>



## ST-BW - Actuation tool

1207608

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

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



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