

# UMSTBHK 2,5/10-G - DIN rail connector

1765768

<https://www.phoenixcontact.com/us/products/1765768>



Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



DIN rail connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Sn, contact connection type: Pin, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: UMSTBHK 2,5/..-G, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

## Your advantages

- Direct plug-in block with universal foot for mounting on NS 32 or NS 35 DIN rail
- Can be combined with the MSTB 2,5 range

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1765768             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AA03                |
| Product key                          | AACMAB              |
| Catalog page                         | Page 359 (C-1-2013) |
| GTIN                                 | 4017918031794       |
| Weight per piece (including packing) | 25.252 g            |
| Weight per piece (excluding packing) | 23.36 g             |
| Customs tariff number                | 85366990            |
| Country of origin                    | DE                  |

# UMSTBHK 2,5/10-G - DIN rail connector



1765768

<https://www.phoenixcontact.com/us/products/1765768>

## Technical data

### Product properties

|                           |                       |
|---------------------------|-----------------------|
| Product type              | DIN rail connector    |
| Product family            | UMSTBHK 2,5/..-G      |
| Product line              | COMBICON Connectors M |
| Type                      | DIN rail mounting     |
| Number of positions       | 10                    |
| Pitch                     | 5 mm                  |
| Number of connections     | 10                    |
| Number of rows            | 1                     |
| Number of potentials      | 10                    |
| Mounting flange           | without               |
| Solder pins per potential | 1                     |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 04 |
|------------------|----|

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 12 A   |
| Nominal voltage $U_N$       | 320 V  |
| Contact resistance          | 1.7 mΩ |
| Rated voltage (III/3)       | 250 V  |
| Rated surge voltage (III/3) | 4 kV   |
| Rated voltage (III/2)       | 320 V  |
| Rated surge voltage (III/2) | 4 kV   |
| Rated voltage (II/2)        | 630 V  |
| Rated surge voltage (II/2)  | 4 kV   |

### Connection data

#### Connection technology

|                         |                     |
|-------------------------|---------------------|
| Type                    | DIN rail mounting   |
| Connector system        | COMBICON MSTB 2,5   |
| Nominal cross section   | 2.5 mm <sup>2</sup> |
| Contact connection type | Pin                 |

#### Interlock

|                 |         |
|-----------------|---------|
| Locking type    | without |
| Mounting flange | without |

#### Conductor connection

|                                                            |                                             |
|------------------------------------------------------------|---------------------------------------------|
| Connection method                                          | Screw connection with tension sleeve        |
| Connection direction of the conductor to plug-in direction | 0 °                                         |
| Conductor cross section rigid                              | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |

# UMSTBHK 2,5/10-G - DIN rail connector



1765768

<https://www.phoenixcontact.com/us/products/1765768>

|                                                                                           |                          |
|-------------------------------------------------------------------------------------------|--------------------------|
| Conductor cross section flexible                                                          | 0.2 mm² ... 2.5 mm²      |
| Conductor cross section AWG                                                               | 24 ... 12                |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.25 mm² ... 1.5 mm²     |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.25 mm² ... 2.5 mm²     |
| 2 conductors with same cross section, solid                                               | 0.2 mm² ... 1.5 mm²      |
| 2 conductors with same cross section, flexible                                            | 0.2 mm² ... 1.5 mm²      |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve       | 0.25 mm² ... 1 mm²       |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm² ... 1.5 mm²      |
| Cylindrical gauge a x b / diameter                                                        | 2.8 mm x 2.0 mm / 2.4 mm |
| Stripping length                                                                          | 7 mm                     |
| Drive form screw head                                                                     | Slotted (L)              |
| Tightening torque                                                                         | 0.5 Nm ... 0.6 Nm        |

## Material specifications

### Material data - contact

|                                             |                                                                                  |
|---------------------------------------------|----------------------------------------------------------------------------------|
| Note                                        | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material                            | Cu alloy                                                                         |
| Surface characteristics                     | Tin-plated                                                                       |
| Metal surface terminal point (top layer)    | Tin (5 - 7 µm Sn)                                                                |
| Metal surface terminal point (middle layer) | Nickel (2 - 3 µm Ni)                                                             |
| Metal surface contact area (top layer)      | Tin (5 - 7 µm Sn)                                                                |
| Metal surface contact area (middle layer)   | Nickel (2 - 3 µm Ni)                                                             |

### Material data - housing

|                                                                   |              |
|-------------------------------------------------------------------|--------------|
| Color (Housing)                                                   | green (6021) |
| Insulating material                                               | PA           |
| Insulating material group                                         | I            |
| CTI according to IEC 60112                                        | 600          |
| Flammability rating according to UL 94                            | V0           |
| Glow wire flammability index GWFI according to EN 60695-2-12      | 850          |
| Glow wire ignition temperature GWIT according to EN 60695-2-13    | 775          |
| Temperature for the ball pressure test according to EN 60695-10-2 | 125 °C       |

## Notes

|                    |                                                                                                                                                                                          |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes on operation | In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load. |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Dimensions

# UMSTBHK 2,5/10-G - DIN rail connector



1765768

<https://www.phoenixcontact.com/us/products/1765768>

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Pitch               | 5 mm                                                                               |
| Width [w]           | 42.5 mm                                                                            |
| Height [h]          | 33 mm                                                                              |
| Length [l]          | 52.3 mm                                                                            |

## Mechanical tests

### Test for conductor damage and slackening

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

### Pull-out test

|                                                                             |                                         |
|-----------------------------------------------------------------------------|-----------------------------------------|
| Specification                                                               | IEC 60999-1:1999-11                     |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|                                                                             | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|                                                                             | 2.5 mm <sup>2</sup> / solid / > 50 N    |
|                                                                             | 2.5 mm <sup>2</sup> / flexible / > 50 N |

### Insertion and withdrawal forces

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 25          |
| Insertion strength per pos. approx. | 7 N         |
| Withdraw strength per pos. approx.  | 5 N         |

### Torque test

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
|---------------|---------------------|

### Contact holder in insert

|                                             |                        |
|---------------------------------------------|------------------------|
| Specification                               | IEC 60512-15-1:2008-05 |
| Contact holder in insert Requirements >20 N | Test passed            |

### Resistance of inscriptions

|               |                        |
|---------------|------------------------|
| Specification | IEC 60068-2-70:1995-12 |
| Result        | Test passed            |

### Polarization and coding

|               |                        |
|---------------|------------------------|
| Specification | IEC 60512-13-5:2006-02 |
| Result        | Test passed            |

### Visual inspection

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-1:2002-02 |
|---------------|-----------------------|

# UMSTBHK 2,5/10-G - DIN rail connector



1765768

<https://www.phoenixcontact.com/us/products/1765768>

| Result          | Test passed           |
|-----------------|-----------------------|
| Dimension check |                       |
| Specification   | IEC 60512-1-2:2002-02 |
| Result          | Test passed           |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 10                    |

### Insulation resistance

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | > 5 MΩ                |

### Air clearances and creepage distances |

|                                                        |                     |
|--------------------------------------------------------|---------------------|
| Specification                                          | IEC 60664-1:2007-04 |
| Insulating material group                              | I                   |
| Comparative tracking index (IEC 60112)                 | CTI 600             |
| Rated insulation voltage (III/3)                       | 250 V               |
| Rated surge voltage (III/3)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/3) | 3 mm                |
| minimum creepage distance (III/3)                      | 3.2 mm              |
| Rated insulation voltage (III/2)                       | 320 V               |
| Rated surge voltage (III/2)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/2) | 3 mm                |
| minimum creepage distance (III/2)                      | 3 mm                |
| Rated insulation voltage (II/2)                        | 630 V               |
| Rated surge voltage (II/2)                             | 4 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 3 mm                |
| minimum creepage distance (II/2)                       | 3.2 mm              |

## Environmental and real-life conditions

### Vibration test

|                        |                             |
|------------------------|-----------------------------|
| Specification          | IEC 60068-2-6:2007-12       |
| Frequency              | 10 - 150 - 10 Hz            |
| Sweep speed            | 1 octave/min                |
| Amplitude              | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration           | 5g (60.1 Hz ... 150 Hz)     |
| Test duration per axis | 2.5 h                       |
| Test directions        | X-, Y- and Z-axis           |

### Durability test

|                                        |                       |
|----------------------------------------|-----------------------|
| Specification                          | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 4.8 kV                |

# UMSTBHK 2,5/10-G - DIN rail connector



1765768

<https://www.phoenixcontact.com/us/products/1765768>

|                                              |                |
|----------------------------------------------|----------------|
| Contact resistance $R_1$                     | 1.7 m $\Omega$ |
| Contact resistance $R_2$                     | 1.6 m $\Omega$ |
| Insertion/withdrawal cycles                  | 25             |
| Insulation resistance, neighboring positions | > 5 M $\Omega$ |

## Climatic test

|                                   |                                                                           |
|-----------------------------------|---------------------------------------------------------------------------|
| Specification                     | ISO 6988:1985-02                                                          |
| Corrosive stress                  | 0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle |
| Thermal stress                    | 105 °C/168 h                                                              |
| Power-frequency withstand voltage | 2.21 kV                                                                   |

## Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 105 °C (dependent on the derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C                                    |
| Relative humidity (storage/transport)   | 30 % ... 70 %                                       |
| Ambient temperature (assembly)          | -5 °C ... 100 °C                                    |

## Packaging specifications

|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

# UMSTBHK 2,5/10-G - DIN rail connector

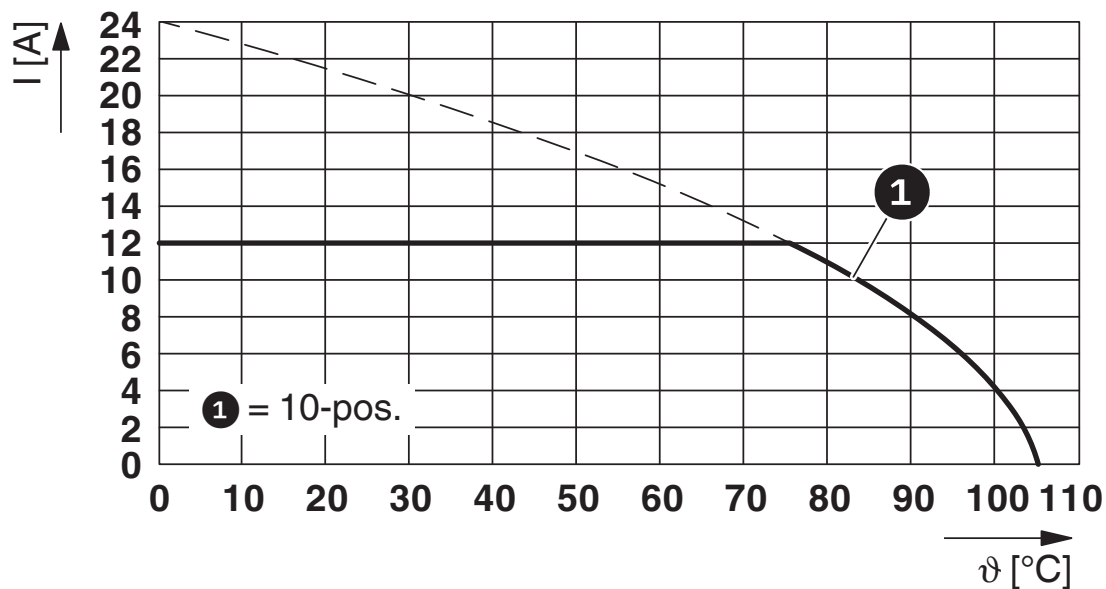
1765768

<https://www.phoenixcontact.com/us/products/1765768>



## Drawings

Diagram



Type: MSTB 2,5/...-ST with UMSTBHK 2,5/...-G

# UMSTBHK 2,5/10-G - DIN rail connector



1765768

<https://www.phoenixcontact.com/us/products/1765768>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1765768>

|  <b>CSA</b><br>Approval ID: 13631-2585951 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                            | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                |                       |                       |                   |                             |
|                                                                                                                            | 300 V                 | 10 A                  | 28 - 12           | -                           |
| Use group D                                                                                                                |                       |                       |                   |                             |
|                                                                                                                            | 300 V                 | 10 A                  | 28 - 12           | -                           |

|  <b>cULus Recognized</b><br>Approval ID: E60425-19931014 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                               |                       |                       |                   |                             |
|                                                                                                                                           | 250 V                 | 12 A                  | 30 - 12           | -                           |
| Use group D                                                                                                                               |                       |                       |                   |                             |
|                                                                                                                                           | 300 V                 | 10 A                  | 30 - 12           | -                           |

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40004701 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                            | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                            | 250 V                 | 12 A                  | -                 | -                           |



# UMSTBHK 2,5/10-G - DIN rail connector



1765768

<https://www.phoenixcontact.com/us/products/1765768>

## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27141106 |
| ECLASS-12.0 | 27141106 |
| ECLASS-13.0 | 27141106 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001284 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

# UMSTBHK 2,5/10-G - DIN rail connector



1765768

<https://www.phoenixcontact.com/us/products/1765768>

## Environmental product compliance

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| EU RoHS                                 |                                          |
| Fulfills EU RoHS substance requirements | Yes, No exemptions                       |
| China RoHS                              |                                          |
| Environment friendly use period (EFUP)  | EFUP-E                                   |
|                                         | No hazardous substances above the limits |
| EU REACH SVHC                           |                                          |
| REACH candidate substance (CAS No.)     | No substance above 0.1 wt%               |
| EF3.0 Climate Change                    |                                          |
| CO2e kg                                 | 0.188 kg CO2e                            |

Phoenix Contact 2024 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)