

TW 50/ 4-CL - Panel feed-through terminal block

1708748

<https://www.phoenixcontact.com/us/products/1708748>

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Panel feed-through terminal block, connection method: T-LOX knee lever connection, Cable lug connection, number of positions: 4, load current: 150 A, cross section: 10 mm² - 50 mm², connection direction of the conductor to plug-in direction: 0 °, width: 98 mm, color: gray

Your advantages

- Lever actuation enables time-saving and smooth connection of large conductors
- Defined contact force ensures that contact remains stable over the long term
- 90° open clamping space allows the conductor to be conveniently swiveled
- Quick, tool-free mounting on the housing wall using a fixing wedge

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 1708748 |
| Packing unit | 5 pc |
| Minimum order quantity | 5 pc |
| Note | Made to order (non-returnable) |
| Sales key | AA28 |
| Product key | AA1FFA |
| GTIN | 4055626020341 |
| Weight per piece (including packing) | 524.2 g |
| Weight per piece (excluding packing) | 523.996 g |
| Customs tariff number | 85369010 |
| Country of origin | PL |

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Technical data

Product properties

| | |
|-----------------------|-----------------------------------|
| Product type | Panel feed-through terminal block |
| Product family | TW 50/...-CL |
| Number of positions | 4 |
| Pitch | 20 mm |
| Number of connections | 8 |
| Number of rows | 1 |
| Number of potentials | 4 |

Electrical properties

Properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 150 A |
| Nominal voltage U_N | 1000 V |
| Rated voltage (III/3) | 1000 V |
| Rated surge voltage (III/3) | 8 kV |
| Rated voltage (III/2) | 1000 V |
| Rated surge voltage (III/2) | 8 kV |
| Rated voltage (II/2) | 1000 V |
| Rated surge voltage (II/2) | 6 kV |

Connection data

Connection technology

| | |
|-----------------------|--------------------|
| Connector system | TW 50 |
| Nominal cross section | 50 mm ² |

Conductor connection exterior

| | |
|---|--|
| Connection method | T-LOX knee lever connection |
| Connection direction of the conductor to plug-in direction | 0 ° |
| Conductor cross-section rigid | 10 mm ² ... 50 mm ² |
| Conductor cross-section flexible | 16 mm ² ... 50 mm ² |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 10 mm ² ... 50 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 10 mm ² ... 50 mm ² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 6 mm ² ... 16 mm ² |
| Stripping length | 20 mm (10 mm ² ... 25 mm ² = 18 mm, 35 mm ² ... 50 mm ² = 20 mm) |

Conductor connection interior

| | |
|--|----------------------|
| Connection method | Cable lug connection |
| Connection direction of the conductor to plug-in direction | 0 ° |

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Mounting

| | |
|-----------------|-------------|
| Panel thickness | 1 mm...5 mm |
|-----------------|-------------|

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 |

Material data - housing

| | |
|---|-------------|
| Color (Housing) | gray (7042) |
| 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

Safety note

| | |
|-------------|---|
| Safety note | <ul style="list-style-type: none"> • Only electrically qualified personnel may install and operate the product. To recognize and prevent danger, the qualified personnel must be familiar with the basics of electrical engineering. • Observe the technical data provided here and refer to the documents listed under "Downloads". The download area contains important information, such as installation notes, technical drawings, and 3D data. • The cable entry funnel is not safe to touch. Never connect or disconnect the terminal when it is energized. Take appropriate steps to ensure touch protection. |
|-------------|---|

Dimensions

| | |
|---------------------|-------|
| Dimensional drawing | |
| Pitch | 20 mm |
| | 20 mm |
| Width [w] | 98 mm |

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External dimensions

| | |
|-------------|---------|
| Height [h1] | 73.5 mm |
| Length [l1] | 46 mm |

Internal dimensions

| | |
|-------------|----------|
| Height [h2] | 58.16 mm |
| Length [l2] | 56.1 mm |

Mechanical tests

Test for conductor damage and slackening

| | |
|---------------|-----------------------|
| Specification | IEC 60947-7-1:2009-04 |
| Result | Test passed |

Pull-out test

| | |
|---|--|
| Specification | IEC 60947-7-1:2009-04 |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 10 mm ² / solid / > 90 N |
| | 10 mm ² / flexible / > 90 N |
| | 50 mm ² / solid / > 236 N |
| | 50 mm ² / flexible / > 236 N |
| | 6 mm ² / flexible with ferrule / > 80 N |
| | 16 mm ² / flexible with ferrule / > 100 N |

Electrical tests

Temperature-rise test

| | |
|-----------------------------------|-----------------------------------|
| Specification | IEC 60947-7-1:2009-04 (following) |
| Requirement temperature-rise test | Increase in temperature ≤ 45 K |

Short-time withstand current

| | |
|---------------|-----------------------|
| Specification | IEC 60947-7-1:2009-04 |
|---------------|-----------------------|

Air clearances and creepage distances | 1. Insulation coordination

| | |
|--|----------------------------------|
| Specification | IEC 60947-1:2007-06 + A1:2010-12 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 1000 V |
| Rated surge voltage (III/3) | 8 kV |
| minimum clearance value - non-homogenous field (III/3) | 8 mm |
| minimum creepage distance (III/3) | 12.5 mm |
| Rated insulation voltage (III/2) | 1000 V |
| Rated surge voltage (III/2) | 8 kV |
| minimum clearance value - non-homogenous field (III/2) | 8 mm |
| minimum creepage distance (III/2) | 8 mm |
| Rated insulation voltage (II/2) | 1000 V |
| Rated surge voltage (II/2) | 6 kV |

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| | |
|---|--------|
| minimum clearance value - non-homogenous field (II/2) | 5.5 mm |
| minimum creepage distance (II/2) | 5.5 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 |

Glow-wire test

| | |
|------------------|------------------------|
| Specification | IEC 60695-2-11:2000-10 |
| Temperature | 960 °C |
| Time of exposure | 30 s |

Ambient conditions

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

Ambient conditions

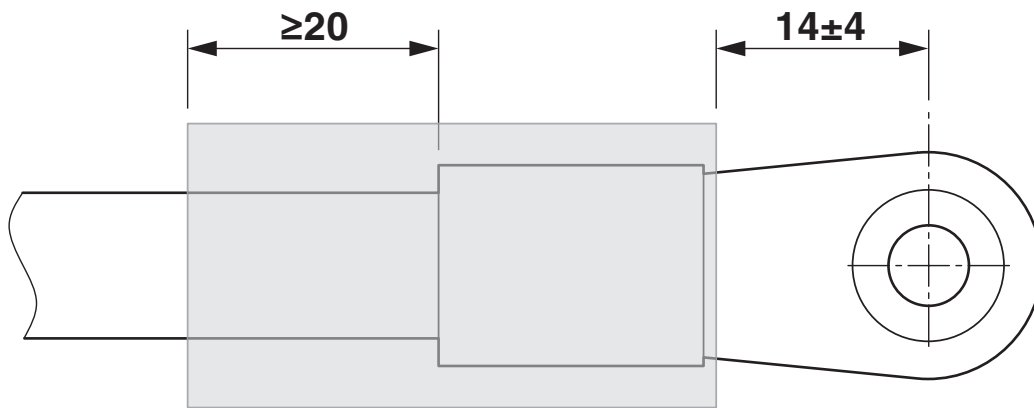
| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 100 °C (Depending on the current carrying capacity/derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100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

Packaging specifications

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

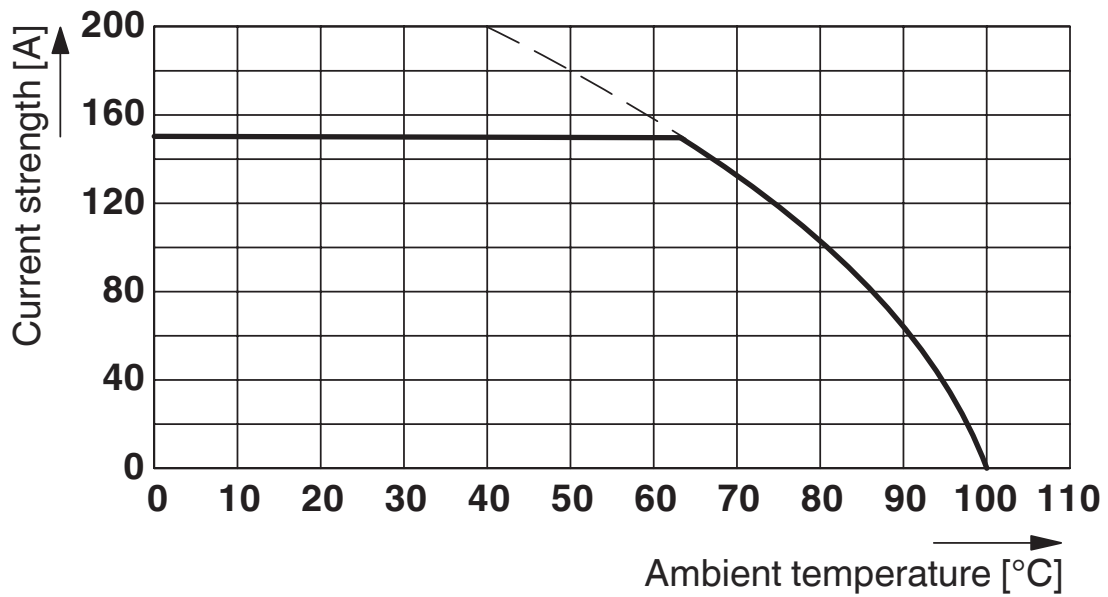
Drawings

Dimensional drawing



Electric strength > 19.7 kV/mm (IEC243), min. Wall thickness, fully shrunk ≥ 0.5 mm

Diagram

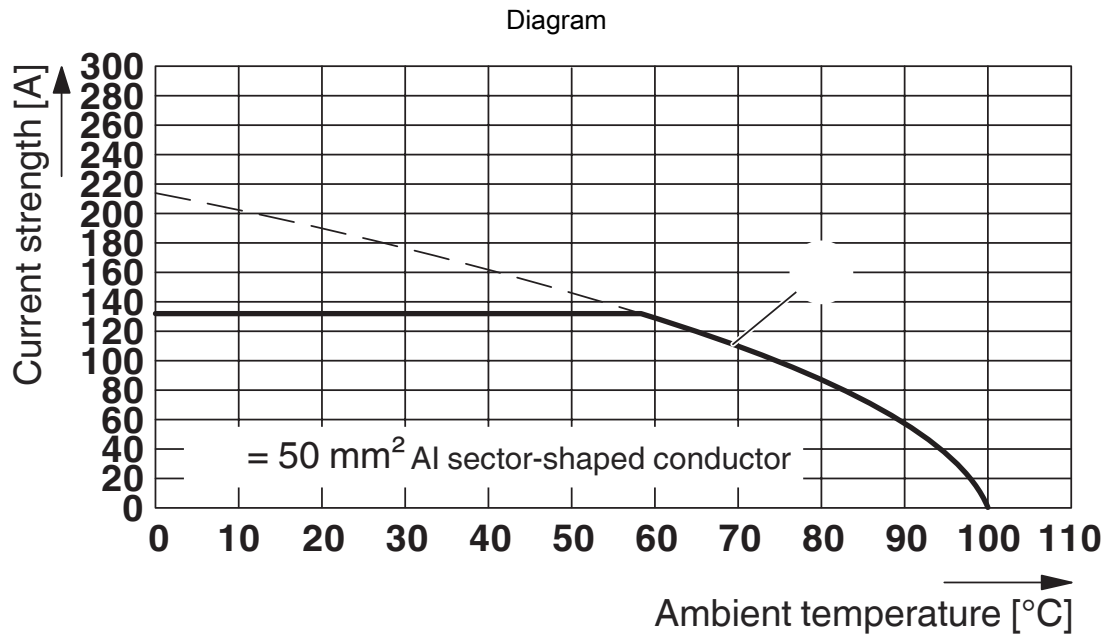


Type: TW 50/...-CL

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Type: TW 50/...-CL

Drilling plan/solder pad geometry



Dimension a = 89 mm

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1708748>

|  cULus Recognized Approval ID: E60425-20160914 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| C | 600 V | 150 A | 8 - 1/0 | - |

|  VDE approval of drawings Approval ID: 40045667 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | 1000 V | 150 A | - | 10 - 50 |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27141134 |
| ECLASS-15.0 | 27141134 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC001283 |
|-----------|----------|

UNSPSC

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

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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% |
|-------------------------------------|----------------------------|

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