

# TW 50/ 3-CL - Panel feed-through terminal block

1708746

<https://www.phoenixcontact.com/us/products/1708746>

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Panel feed-through terminal block, connection method: T-LOX knee lever connection, Cable lug connection, number of positions: 3, load current: 150 A, cross section: 10 mm<sup>2</sup> - 50 mm<sup>2</sup>, connection direction of the conductor to plug-in direction: 0 °, width: 78 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	1708746
Packing unit	5 pc
Minimum order quantity	1 pc
Sales key	AA28
Product key	AA1FFA
GTIN	4055626020334
Weight per piece (including packing)	410 g
Weight per piece (excluding packing)	377.2 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	3
Pitch	20 mm
Number of connections	6
Number of rows	1
Number of potentials	3

### 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 <sup>2</sup>

#### 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 <sup>2</sup> ... 50 mm <sup>2</sup>
Conductor cross-section flexible	16 mm <sup>2</sup> ... 50 mm <sup>2</sup>
Conductor cross-section, flexible, with ferrule, without plastic sleeve	10 mm <sup>2</sup> ... 50 mm <sup>2</sup>
Conductor cross-section, flexible, with ferrule, with plastic sleeve	10 mm <sup>2</sup> ... 50 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	6 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Stripping length	20 mm (10 mm <sup>2</sup> ... 25 mm <sup>2</sup> = 18 mm, 35 mm <sup>2</sup> ... 50 mm <sup>2</sup> = 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
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## 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"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>
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## Dimensions

Dimensional drawing	
Pitch	20 mm
	20 mm
Width [w]	78 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 <sup>2</sup> / solid / > 90 N
	10 mm <sup>2</sup> / flexible / > 90 N
	50 mm <sup>2</sup> / solid / > 236 N
	50 mm <sup>2</sup> / flexible / > 236 N
	6 mm <sup>2</sup> / flexible with ferrule / > 80 N
	16 mm <sup>2</sup> / 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
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### 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

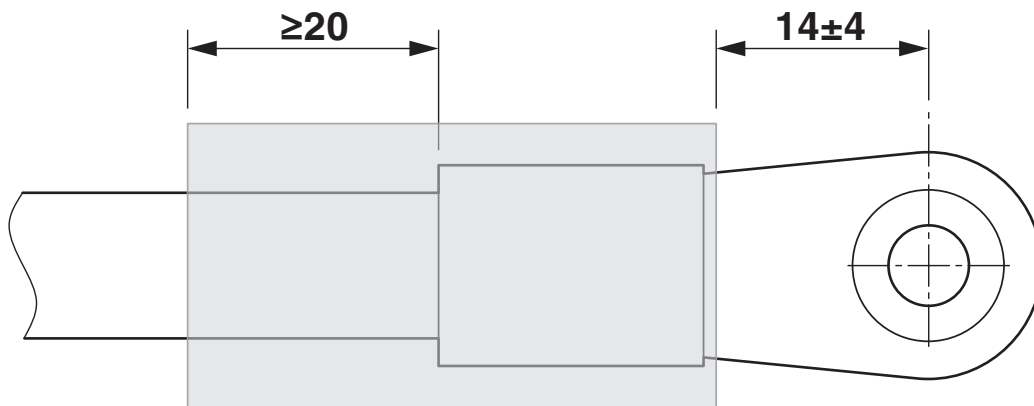
Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

Type of packaging	packed in cardboard
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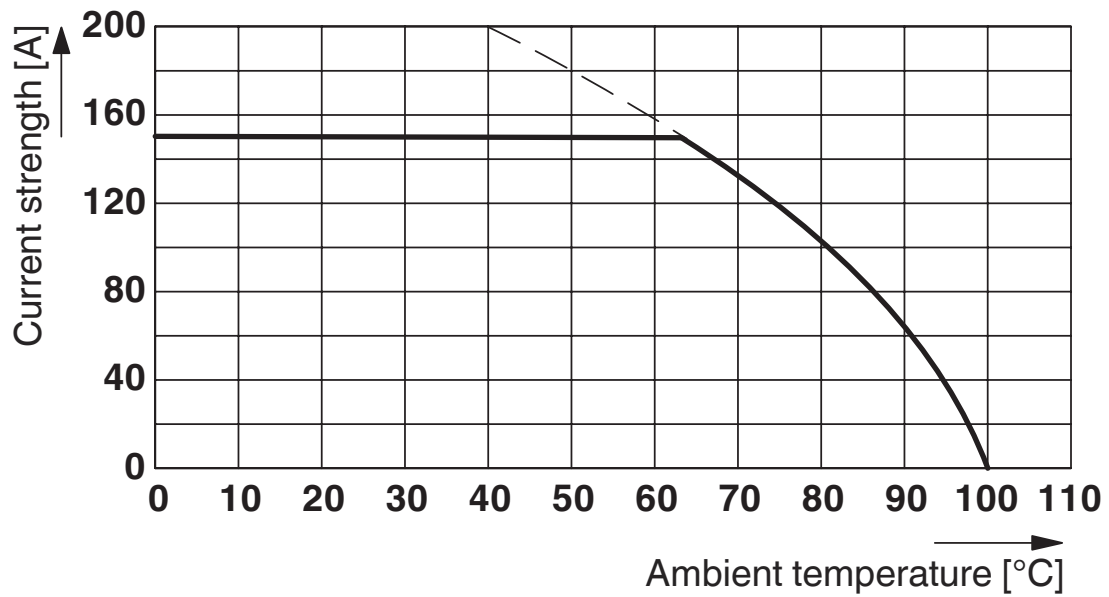
## Drawings

Dimensional drawing



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

Diagram

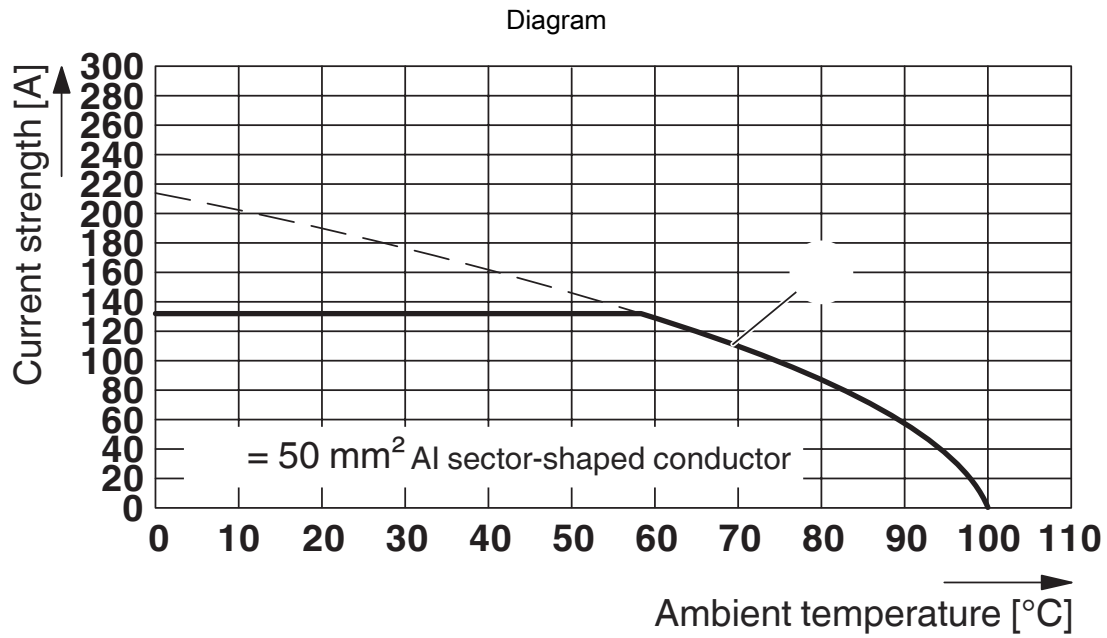


Type: TW 50/...-CL

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Type: TW 50/...-CL

Drilling plan/solder pad geometry



Dimension a = 69 mm

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1708746>

 <b>cULus Recognized</b> Approval ID: E60425-20160914				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
C	600 V	150 A	8 - 1/0	-

 <b>VDE approval of drawings</b> Approval ID: 40045667				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
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
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### 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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