TBIO 2,5 I - Sensor/actuator terminal block

3246749

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Sensor/actuator terminal block, upper level bridgeable for signal feed-through, lower levels with insertion bridges for potential distribution, nom. voltage: 250 V, Thermal continuous current I_{th}: 20 A, number of connections: 3, number of positions: 3, connection method: Screw connection, Rated cross section: 2.5 mm^2, cross section: 0.2 mm^2 - 4 mm^2, mounting type: NS 35/7,5, NS 35/15, color: dark gray

Commercial data

Item number	3246749
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	BEK217
Product key	BEK217
GTIN	4046356689489
Weight per piece (including packing)	10.789 g
Weight per piece (excluding packing)	10.789 g
Customs tariff number	85369010
Country of origin	PL

Technical data

Product properties

Product type	Sensor/actuator terminal block
Product family	TB
Number of positions	3
Number of connections	3
Number of rows	3

Insulation characteristics

Overvoltage category	III

Electrical properties

Rated surge voltage	4 kV
Maximum power dissipation for nominal condition	0.77 W

Connection data

Number of connections per level	2
Nominal cross section	2.5 mm²
Rated cross section AWG	12
Connection method	Screw connection
Screw thread	M2,5
Tightening torque	0.4 ... 0.5 Nm
Stripping length	8 mm
Internal cylindrical gage	A1
	B2
Connection in acc. with standard	IEC 60947-7-1
Conductor cross-section rigid	0.2 mm² ... 4 mm²
Cross section AWG	24 ... 12 (converted acc. to IEC)
Conductor cross-section flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section, flexible [AWG]	24 ... 14 (converted acc. to IEC)
Conductor cross-section flexible (ferrule without plastic sleeve)	0.25 mm² ... 2.5 mm²
Flexible conductor cross-section (ferrule with plastic sleeve)	0.25 mm² ... 2.5 mm²
Cross-section with insertion bridge, rigid	0.2 mm² ... 4 mm²
Cross-section with insertion bridge, flexible	0.2 mm² ... 2.5 mm²
Cross-section with insertion bridge, flexible, with ferrule without plastic sleeve	0.25 mm² (2.5 mm²)
Cross-section with insertion bridge, flexible, with ferrule with plastic sleeve	0.25 mm² ... 2.5 mm²
2 conductors with same cross section, rigid	0.2 mm² ... 1 mm²
2 conductors with the same cross-section AWG rigid	24 ... 16 (converted acc. to IEC)
2 conductors with same cross section, flexible	0.2 mm² ... 1 mm²
2 conductors with the same cross-section AWG flexible	24 ... 16 (converted acc. to IEC)
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm² ... 1 mm²

Nominal cross section	2.5 mm²
Thermal continuous current I_{th}	20 A (with a 2.5 mm² conductor cross-section)
Maximum load current	20 A (with 4 mm² conductor cross-section)
Nominal voltage	250 V

Dimensions

Width	6.2 mm
Height	55 mm
Depth on NS 35/7,5	55.3 mm
Depth on NS 35/15	62.8 mm

Material specifications

Color	traffic gray B (RAL 7043)
Flammability rating according to UL 94	V0
Insulating material group	I
Insulating material	PA
Static insulating material application in cold	-60 °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
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

Test voltage setpoint	4.8 kV
Result	Test passed

Temperature-rise test

Requirement temperature-rise test	Increase in temperature ≤ 45 K
Result	Test passed
Short-time withstand current 2.5 mm²	0.3 kA
Result	Test passed

Power-frequency withstand voltage

Test voltage setpoint	1.5 kV
Result	Test passed

Mechanical tests

Mechanical strength

Result	Test passed

Attachment on the carrier

DIN rail/fixing support	NS 35
Result	Test passed

Test for conductor damage and slackening

Rotation speed	10 rpm
Revolutions	135
Conductor cross-section/weight	0.2 mm² / 0.2 kg
	2.5 mm² / 0.7 kg
	4 mm² / 0.9 kg
Result	Test passed

Environmental and real-life conditions

Needle-flame test

Time of exposure	30 s
Result	Test passed

Oscillation/broadband noise

Specification	EN 50155:2021-07
Spectrum	Long life test category 2, bogie-mounted
Frequency	f_1 = 5 Hz to f_2 = 250 Hz
ASD level	6.12 (m/s²)²/Hz
Acceleration	3.06g
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Result	Test passed

Shocks

Specification	DIN EN 50155 (VDE 0115-200):2008-03
Pulse shape	Half-sine
Acceleration	30g
Shock duration	18 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 ... 110 °C (Operating temperature range incl. self-heating; for max. short-term operating temperature, see 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 (operation)	20 % ... 90 %
Permissible humidity (storage/transport)	30 % ... 70 %

Standards and regulations

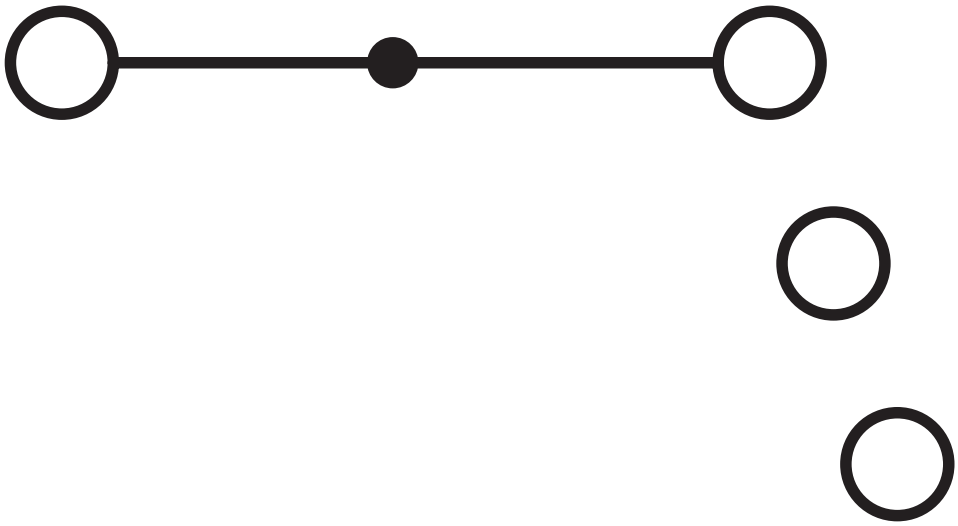
Connection in acc. with standard	IEC 60947-7-1

Mounting

Mounting type	NS 35/7,5
	NS 35/15

Drawings

Circuit diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/gb/products/3246749

EAC
Approval ID: KZ7500651131219505

cULus Recognized
Approval ID: E60425

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B				
	300 V	15 A	20 - 12	-
C				
	300 V	15 A	20 - 12	-

Classifications

ECLASS

ECLASS-13.0	27250112
ECLASS-15.0	27250112

ETIM

ETIM 10.0	EC000900

UNSPSC

UNSPSC 21.0	39121400

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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