

TB 3 I - Feed-through terminal block



3059786

<https://www.phoenixcontact.com/sg/products/3059786>

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Feed-through terminal block, nom. voltage: 800 V, nominal current: 24 A, number of connections: 2, connection method: Screw connection, cross section: 0.5 mm² - 4 mm², mounting type: NS 35/7,5, NS 35/15, NS 32, color: dark gray

Commercial data

Item number	3059786
Packing unit	50 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Sales key	*****
Product key	BEK211
GTIN	4046356643474
Weight per piece (including packing)	6.22 g
Weight per piece (excluding packing)	6.467 g
Customs tariff number	85369010
Country of origin	CN

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Technical data

Product properties

Product type	Feed-through terminal block
Number of connections	2
Number of rows	1
Potentials	1

Insulation characteristics

Overvoltage category	III
Degree of pollution	3

Electrical properties

Rated surge voltage	8 kV
Maximum power dissipation for nominal condition	0.77 W

Connection data

Number of connections per level	2
Nominal cross section	2.5 mm ²
Screw thread	M2,5
Tightening torque	0.4 ... 0.5 Nm
Stripping length	8 mm
Internal cylindrical gage	A3
Conductor cross section rigid	0.5 mm ² ... 4 mm ²
Cross section AWG	20 ... 12 (converted acc. to IEC)
Conductor cross section flexible	0.5 mm ² ... 2.5 mm ²
Conductor cross section, flexible [AWG]	20 ... 14 (converted acc. to IEC)
Conductor cross-section flexible (ferrule without plastic sleeve)	0.5 mm ² ... 2.5 mm ²
Flexible conductor cross section (ferrule with plastic sleeve)	0.5 mm ² ... 2.5 mm ²
Conductor cross-section flexible (2 conductors with the same cross-section, with TWIN ferrule and plastic sleeve)	0.5 mm ² ... 1.5 mm ²
Cross-section with insertion bridge, rigid	0.5 mm ² ... 2.5 mm ²
Cross-section with insertion bridge, flexible	0.5 mm ² ... 2.5 mm ²
Cross-section with insertion bridge, flexible, with ferrule without plastic sleeve	0.5 mm ² ... 1.5 mm ²
Cross-section with insertion bridge, flexible, with ferrule with plastic sleeve	0.5 mm ² ... 1.5 mm ²
2 conductors with same cross section, solid	0.2 mm ² ... 1.5 mm ²
2 conductors with the same cross-section AWG rigid	24 ... 14 (converted acc. to IEC)
2 conductors with same cross section, flexible	0.2 mm ² ... 1.5 mm ²
2 conductors with the same cross-section AWG flexible	24 ... 14 (converted acc. to IEC)
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.2 mm ² ... 1 mm ²
Nominal current	24 A
Maximum load current	24 A (with 4 mm ² conductor cross-section)

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Nominal voltage	800 V
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Dimensions

Width	5.2 mm
Height	42.5 mm
Depth on NS 32	52 mm
Depth on NS 35/7,5	47 mm
Depth on NS 35/15	54.5 mm

Material specifications

Color	traffic grey 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
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
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	9.8 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 mm ²	0.3 kA
Result	Test passed

Power-frequency withstand voltage

Test voltage setpoint	2 kV
Result	Test passed

Mechanical properties

Mechanical data

Open side panel	Yes
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Mechanical tests

Mechanical strength

Result	Test passed
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Attachment on the carrier

DIN rail/fixing support	NS 32/NS 35
Result	Test passed

Test for conductor damage and slackening

Rotation speed	10 rpm
Revolutions	135
Conductor cross section/weight	0.5 mm ² / 0.3 kg
	2.5 mm ² / 0.7 kg
	4 mm ² / 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
Spectrum	Service life test category 2, bogie-mounted
Frequency	$f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$
ASD level	6.12 (m/s ²) ² /Hz
Acceleration	3.12g
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Result	Test passed

Shocks

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

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Ambient temperature (actuation)	-5 °C ... 70 °C
Permissible humidity (operation)	20 % ... 90 %
Permissible humidity (storage/transport)	30 % ... 70 %

Mounting

Mounting type	NS 35/7,5
	NS 35/15
	NS 32

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Drawings

Circuit diagram



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Approvals

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EAC

Approval ID: RU C-DE.A*30.B.01742



cULus Recognized

Approval ID: E60425

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	600 V	20 A	20 - 12	-
Use group C				
	600 V	20 A	20 - 12	-



EAC

Approval ID: EACKZ 08593

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Classifications

ECLASS

ECLASS-11.0	27141120
ECLASS-13.0	27250101

ETIM

ETIM 9.0	EC000897
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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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