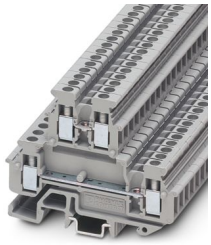
MBKKB 2,5 - Mini feed-through terminal block

1414064

https://www.phoenixcontact.com/us/products/1414064

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Mini feed-through terminal block, nom. voltage: 500 V, nominal current: 24 A, connection method: Screw connection, 1st and 2nd level, Rated cross section: 2.5 mm^2, cross section: 0.2 mm^2 - 4 mm^2, mounting type: NS 15, NS 35/7,5, NS 35/15, color: gray

Your advantages

- Fixed bridges and test sockets can be used on both levels
- Space saving thanks to compact design and mounting option on a 15 mm DIN rail
- Clear arrangement thanks to marking of all terminal points
- Easy potential distribution thanks to standardized plug-in bridges

Commercial data

Item number	1414064
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	BE12
Product key	BE1264
GTIN	4017918021313
Weight per piece (including packing)	11.33 g
Weight per piece (excluding packing)	10.413 g
Customs tariff number	85369010
Country of origin	CN

Technical data

Product properties

Product type	Miniature terminal block
Number of connections	4
Number of rows	2
Potentials	2

Insulation characteristics

Overvoltage category	III
Degree of pollution	3

Electrical properties

Rated surge voltage	6 kV
Maximum power dissipation for nominal condition	0.77 W

Connection data

Number of connections per level	2
Nominal cross section	2.5 mm²

1st and 2nd level

Connection method	Screw connection
Screw thread	M3
Tightening torque	0.5 ... 0.6 Nm
Stripping length	7 mm
Internal cylindrical gage	A3
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	0.25 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 ... 1.5 mm²
Cross-section with insertion bridge, rigid	2.5 mm²
Cross-section with insertion bridge, flexible	2.5 mm²
2 conductors with same cross section, rigid	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 ... 1.5 mm²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm² ... 1 mm²
Nominal cross section	2.5 mm²
Nominal current	24 A
Maximum load current	24 A (with 4 mm² conductor cross-section)
Nominal voltage	500 V

Ex data

Rated data (ATEX/IECEx)

Identification	Ⓔx II 2 G Ex eb IIC Gb
Operating temperature range	-50 °C ... 110 °C
Ex-certified accessories	1413052 D-MBKKB 2,5
	1413065 DP-MBKKB 2,5
	1205053 SZS 0,6X3,5
	3022218 CLIPFIX 35
	1401637 E/MBK
List of bridges	Fixed bridge / FBRNI 2-5 N / 3000175
	Fixed bridge / FBRNI 3-5 N / 3000162
	Fixed bridge / FBRNI 4-5 N / 3000159
	Fixed bridge / FBRNI 5-5 N / 3000146
	Fixed bridge / FBRNI 6-5 N / 3000133
	Fixed bridge / FBRNI 7-5 N / 3000230
	Fixed bridge / FBRNI 8-5 N / 3000243
	Fixed bridge / FBRNI 9-5 N / 3000298
	Fixed bridge / FBRNI 10-5 N / 2770639
	Fixed bridge / FBRNI 20-5 N / 3000609
Bridge data	19 A / 2.5 mm²
Ex temperature increase	40 K (21 A / 2.5 mm²)
for bridging with bridge	275 V
Rated insulation voltage	250 V
output	(Permanent)

Ex level General

Rated voltage	275 V
Rated current	21 A
Maximum load current	26 A

Ex connection data General

Torque range	0.5 Nm ... 0.6 Nm
Nominal cross section	2.5 mm²
Rated cross section AWG	14
Connection capacity rigid	0.2 mm² ... 4 mm²
Connection capacity AWG	24 ... 12
Connection capacity flexible	0.2 mm² ... 2.5 mm²
Connection capacity AWG	24 ... 14
2 conductors with same cross section, solid	0.2 mm² ... 1.5 mm²
2 conductors with the same cross-section AWG rigid	24 ... 16
2 conductors with same cross section, stranded	0.2 mm² ... 1.5 mm²
2 conductors with the same cross-section AWG flexible	24 ... 16
output	(Permanent)

Ex level Level 1

Contact resistance	0.5 mΩ
output	(Permanent)

Ex level Level 2

Contact resistance	0.4 mΩ

Dimensions

Width	5.2 mm
End cover width	2.5 mm
Height	62 mm
Depth on NS 15	47.5 mm
Depth on NS 35/7,5	48 mm
Depth on NS 35/15	55.5 mm

Material specifications

Color	gray (RAL 7042)
Flammability rating according to UL 94	V2
Insulating material group	I
Insulating material	PA
Static insulating material application in cold	-40 °C
Relative insulation material temperature index (Elec., UL 746 B)	125 °C

Electrical tests

Surge voltage test

Test voltage setpoint	7.3 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
	0.3 kA
Result	Test passed

Power-frequency withstand voltage

Test voltage setpoint	1.89 kV
Result	Test passed

Mechanical properties

Mechanical data

Open side panel	Yes

Mechanical tests

Mechanical strength

Result	Test passed

Attachment on the carrier

DIN rail/fixing support	NS 35/NS 15
Test force setpoint	1 N
Result	Test passed

Test for conductor damage and slackening

Rotation speed	10 (+/- 2) rpm
Revolutions	135
Conductor cross-section/weight	0.25 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	DIN EN 50155 (VDE 0115-200):2018-05
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	3.12g
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)	-40 °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

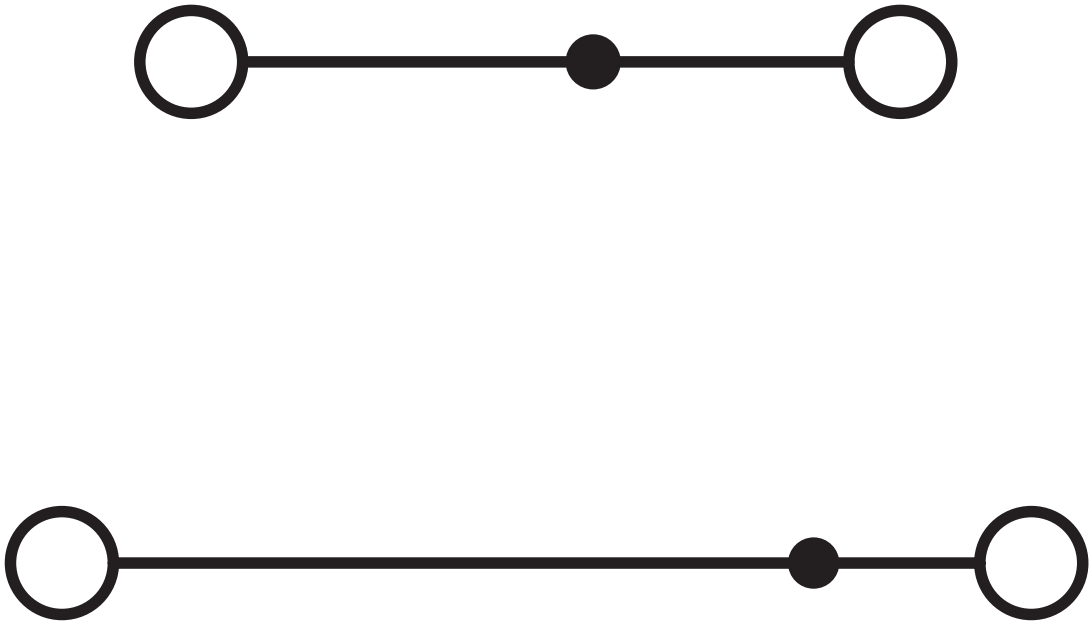
Connection in acc. with standard	IEC 60947-7-1

Mounting

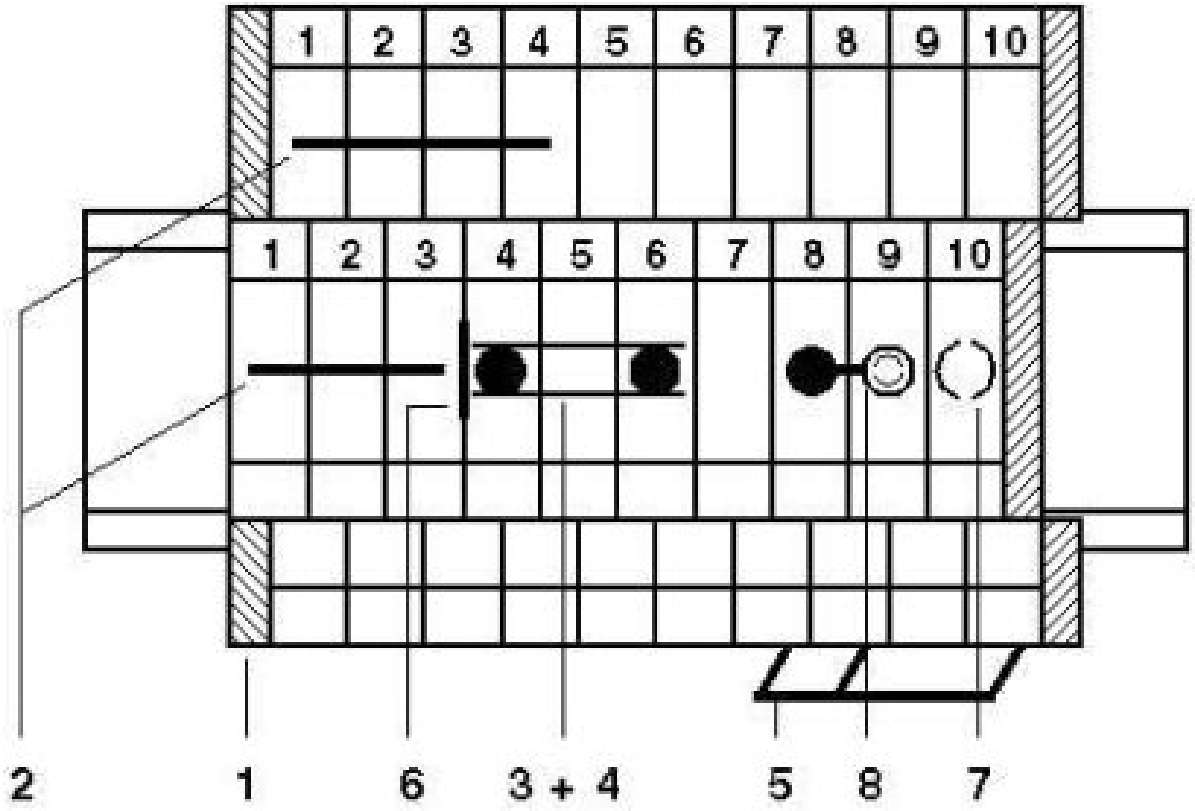
Mounting type	NS 15
	NS 35/7,5
	NS 35/15

Drawings

Circuit diagram



Circuit diagram



1 = Cover
2 = Spacer plate
3 = Fixed bridge
4 = Insertion bridge
5 = Insulation plate
6 = Test sockets, for test pick-off with MPS test plug or RPS reducing plug
7 = Test sockets, insulated, can only be used for FBRNI

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1414064

CSA
Approval ID: 13631

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	300 V	20 A	28 - 12	-

cULus Recognized
Approval ID: E60425

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B				
	300 V	20 A	30 - 12	-
C				
	300 V	20 A	30 - 12	-

DNV
Approval ID: TAE00001CT

ATEX
Approval ID: KEMA 03ATEX2082 U

EAC Ex
Approval ID: KZ 7500525011010195O

IECEx
Approval ID: IECEx KEM 07.0018U

CCC
Approval ID: 2020322313000629

Classifications

ECLASS

ECLASS-13.0	27250102
ECLASS-15.0	27250102

ETIM

ETIM 10.0	EC000897

UNSPSC

UNSPSC 21.0	39121400

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c)

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	7970fac1-2a1e-40ad-b860-1332a1d893e2

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