

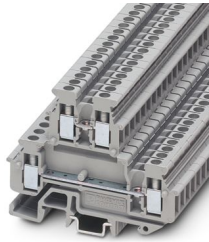
# MBKKB 2,5 - Mini feed-through terminal block



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<sup>2</sup>, cross section: 0.2 mm<sup>2</sup> - 4 mm<sup>2</sup>, 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

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## 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 mm <sup>2</sup>

### 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 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Cross section AWG	24 ... 12 (converted acc. to IEC)
Conductor cross-section flexible	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section, flexible [AWG]	24 ... 14 (converted acc. to IEC)
Conductor cross-section flexible (ferrule without plastic sleeve)	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Flexible conductor cross-section (ferrule with plastic sleeve)	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Cross-section with insertion bridge, rigid	2.5 mm <sup>2</sup>
Cross-section with insertion bridge, flexible	2.5 mm <sup>2</sup>
2 conductors with same cross section, rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup>
Nominal cross section	2.5 mm <sup>2</sup>
Nominal current	24 A
Maximum load current	24 A (with 4 mm <sup>2</sup> conductor cross-section)
Nominal voltage	500 V

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## Ex data

### Rated data (ATEX/IECEx)

Identification	⊕ 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 mm <sup>2</sup>
Ex temperature increase	40 K (21 A / 2.5 mm <sup>2</sup> )
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 mm <sup>2</sup>
Rated cross section AWG	14
Connection capacity rigid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Connection capacity AWG	24 ... 12
Connection capacity flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Connection capacity AWG	24 ... 14
2 conductors with same cross section, solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with the same cross-section AWG rigid	24 ... 16
2 conductors with same cross section, stranded	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with the same cross-section AWG flexible	24 ... 16
output	(Permanent)

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## Ex level Level 1

Contact resistance	0.5 mΩ
output	(Permanent)

## Ex level Level 2

Contact resistance	0.4 mΩ
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## 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 mm <sup>2</sup>	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
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## Mechanical tests

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## Mechanical strength

Result	Test passed
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## 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 mm <sup>2</sup> / 0.2 kg
	2.5 mm <sup>2</sup> / 0.7 kg
	4 mm <sup>2</sup> / 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	$f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$
ASD level	6.12 (m/s <sup>2</sup> ) <sup>2</sup> /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

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Permissible humidity (operation)	20 % ... 90 %
Permissible humidity (storage/transport)	30 % ... 70 %

## Standards and regulations

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

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

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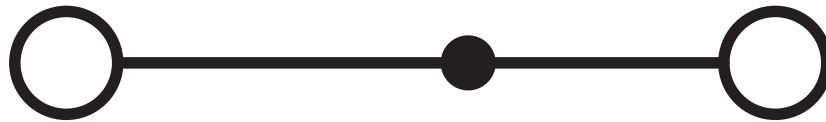


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## Drawings

Circuit diagram

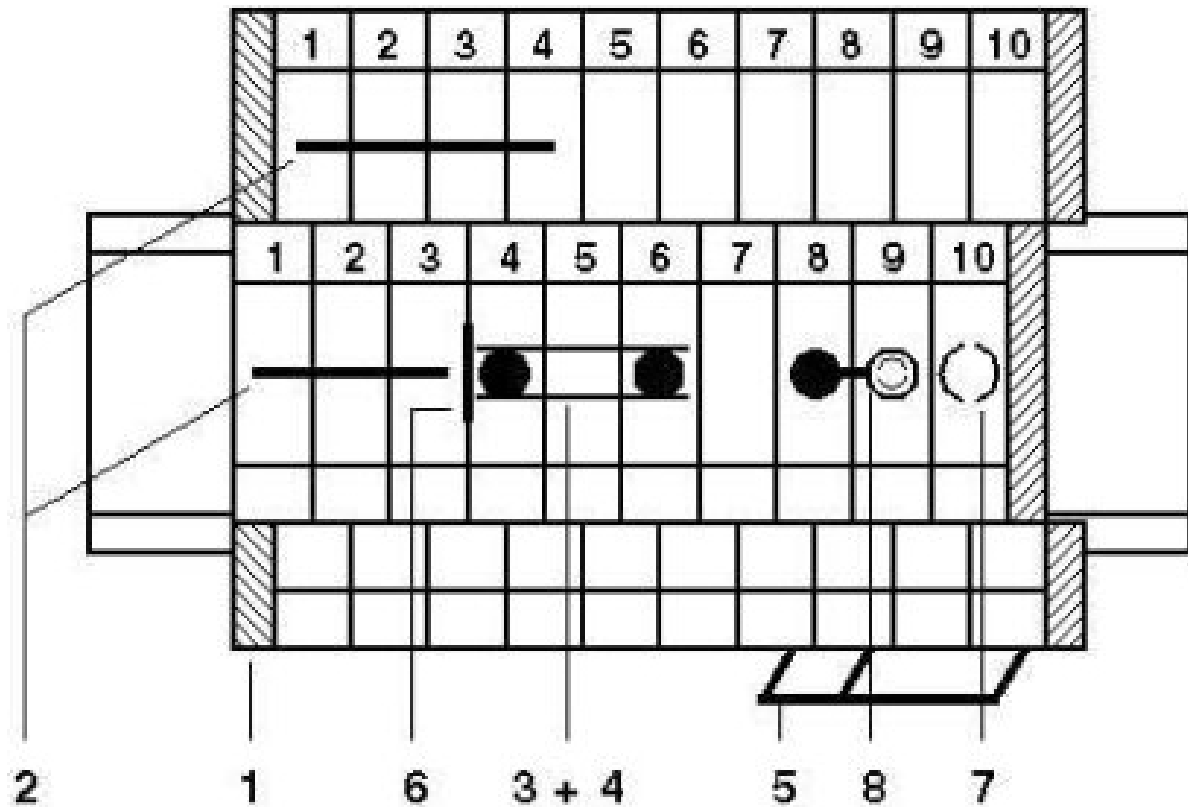


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Circuit diagram



- 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

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## Approvals


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

 <b>CSA</b> Approval ID: 13631				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
	300 V	20 A	28 - 12	-

 <b>cULus Recognized</b> Approval ID: E60425				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B				
	300 V	20 A	30 - 12	-
C				
	300 V	20 A	30 - 12	-

<b>DNV</b> Approval ID: TAE00001CT				
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 <b>ATEX</b> Approval ID: KEMA 03ATEX2082 U				
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 <b>EAC Ex</b> Approval ID: KZ 7500525010101950				
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 <b>IECEX</b> Approval ID: IECEX KEM 07.0018U				
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 <b>CCC</b> Approval ID: 2020322313000629				
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## Classifications

### ECLASS

ECLASS-13.0	27250102
ECLASS-15.0	27250102

### ETIM

ETIM 10.0	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
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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