PCB terminal block - GKDS-EX

1709203

https://www.phoenixcontact.com/pc/products/1709203

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PCB terminal block, nominal current: 20 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm^2, number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: GKDS-EX, pitch: 7.5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear pinning, Solder pin [P]: 5 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard. The article can be aligned to create different nos. of positions! Every group of terminal blocks is to be provided with a GRZ 2,5V-EX (1706112) flange plate on both sides. If there are more than 10 terminal blocks, at least one additional flange plate must be mounted for each further group of ten. When the pitch spacer GRZ 2,5-EX (1724628) is used, the max. working voltage is increased to 420 V.

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Satisfies the more stringent safety requirements of “Ex e” protection according to IEC 60079-7 for potentially explosive areas
- Quick and convenient testing using integrated test option
- Two solder pins reduce the mechanical strain on the soldering spots
- The latching on the side enables various numbers of positions to be combined

Commercial Data

Item number	1709203
Packing unit	50 pc
Minimum order quantity	1 pc
Product Key	AAMFGA
Catalog Page	Page 106 (CC-2007)
GTIN	4017918023638
Weight per Piece (including packing)	4.317 g
Weight per Piece (excluding packing)	4.317 g
Customs tariff number	85369010
Country of origin	DE

Technical Data

Product properties

Type	PC terminal block can be aligned
Product line	COMBICON Terminals M
Product type	Printed circuit board terminal
Number of positions	1
Pitch	7.5 mm
Number of connections	1
Number of rows	1
Number of potentials	1
Pin layout	Linear pinning
Solder pins per potential	2

Electrical properties

Nominal current I_N	20 A
Nominal voltage U_N	630 V
Degree of pollution	3
Rated voltage (III/3)	275 V
Rated surge voltage (III/3)	6 kV
Rated voltage (III/2)	630 V
Rated surge voltage (III/2)	6 kV

Connection data

Connection technology

Type	PC terminal block can be aligned
Nominal cross section	2.5 mm²

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section solid	0.2 mm² ... 4 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 2.5 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 2.5 mm²
2 conductors with same cross section, solid	0.2 mm² ... 1.5 mm²
2 conductors with same cross section, flexible	0.2 mm² ... 1 mm²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm² ... 0.5 mm²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm² ... 1 mm²
Stripping length	9 mm
Tightening torque	0.5 Nm ... 0.6 Nm

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning
Drive form screw head	Slotted (L)
Drive form screw head	Slotted (L)

Processing notes

Process	Wave soldering

Material specifications

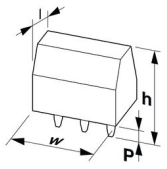
Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	Tin-plated
Metal surface terminal point (top layer)	Tin (5 - 7 µm Sn)
Metal surface terminal point (middle layer)	Nickel (2 - 3 µm Ni)
Metal surface soldering area (top layer)	Tin (5 - 7 µm Sn)
Metal surface soldering area (middle layer)	Nickel (2 - 3 µm Ni)

Material data - housing

Housing color	black (RAL 9005)
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

Dimensions

Dimensional drawing	
Pitch	7.5 mm
Width [w]	7.5 mm
Height [h]	19.5 mm
Length [l]	19 mm
Installed height	20 mm
Solder pin length [P]	5 mm

Electrical tests

Air clearances and creepage distances |

Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	275 V
Rated surge voltage (III/3)	6 kV
minimum clearance value - non-homogenous field (III/3)	5.5 mm
minimum creepage distance (III/3)	6.3 mm
Note on connection cross section	With connected conductor 4 mm² (solid).
Rated insulation voltage (III/2)	630 V
Rated surge voltage (III/2)	6 kV
minimum clearance value - non-homogenous field (III/2)	5.5 mm
minimum creepage distance (III/2)	3.2 mm
Rated insulation voltage (II/2)	1000 V
Rated surge voltage (II/2)	6 kV
minimum clearance value - non-homogenous field (II/2)	5.5 mm
minimum creepage distance (II/2)	5 mm

Environmental and real-life conditions

Ambient conditions

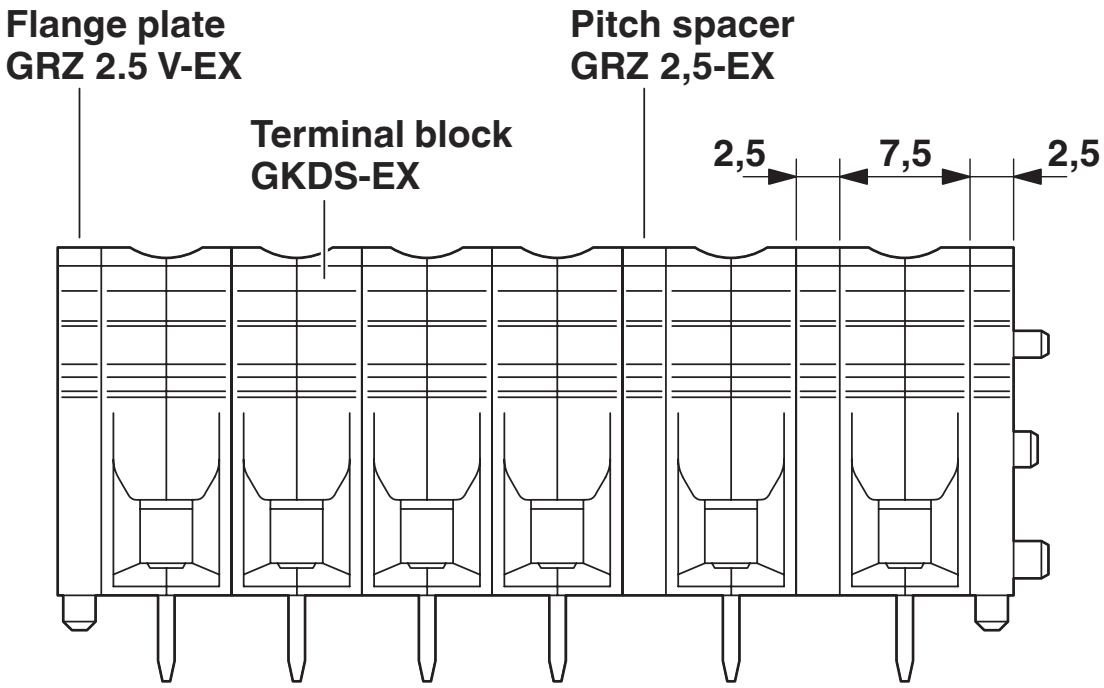
Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	packed in cardboard

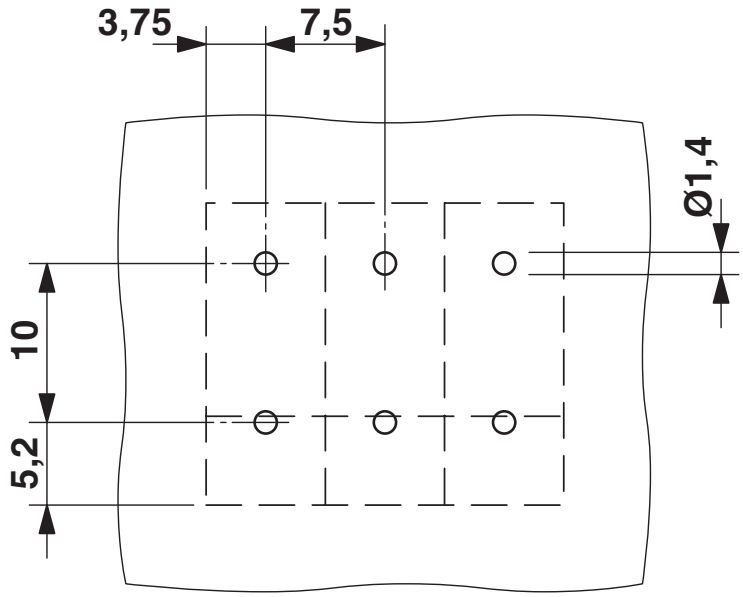
Drawings

Dimensional drawing

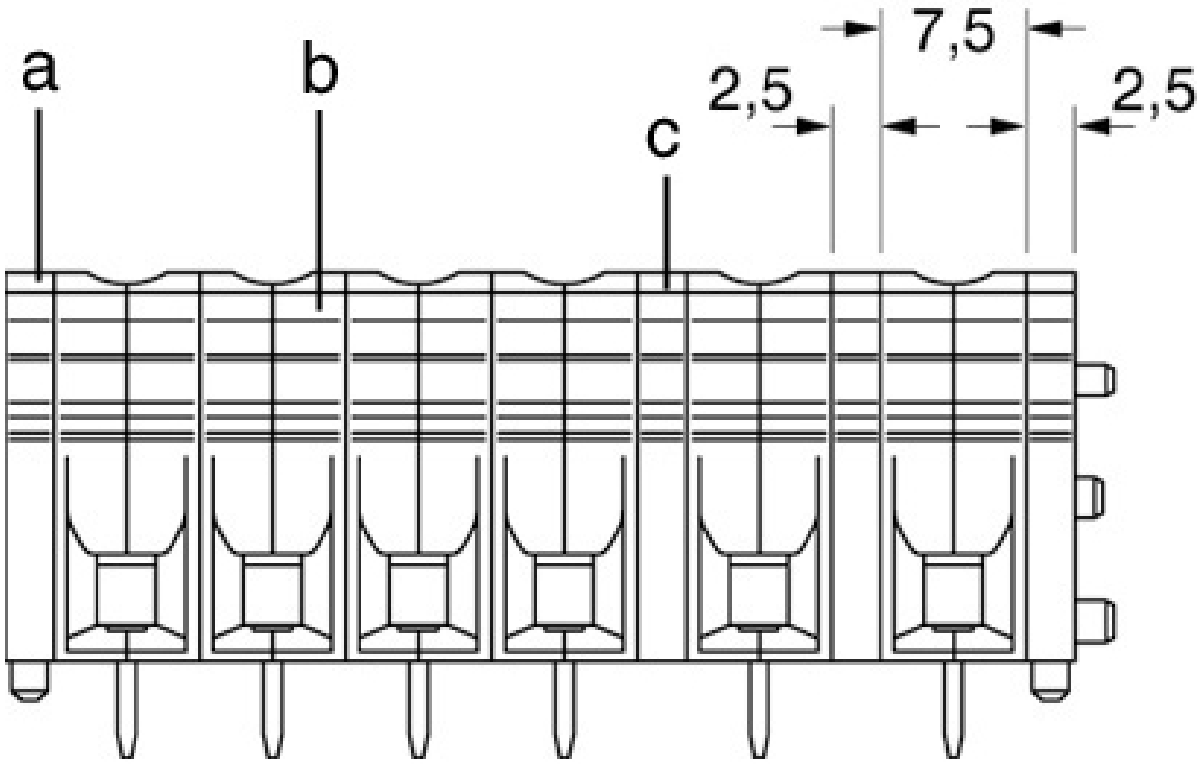


Installation instructions

Drilling plan/solder pad geometry

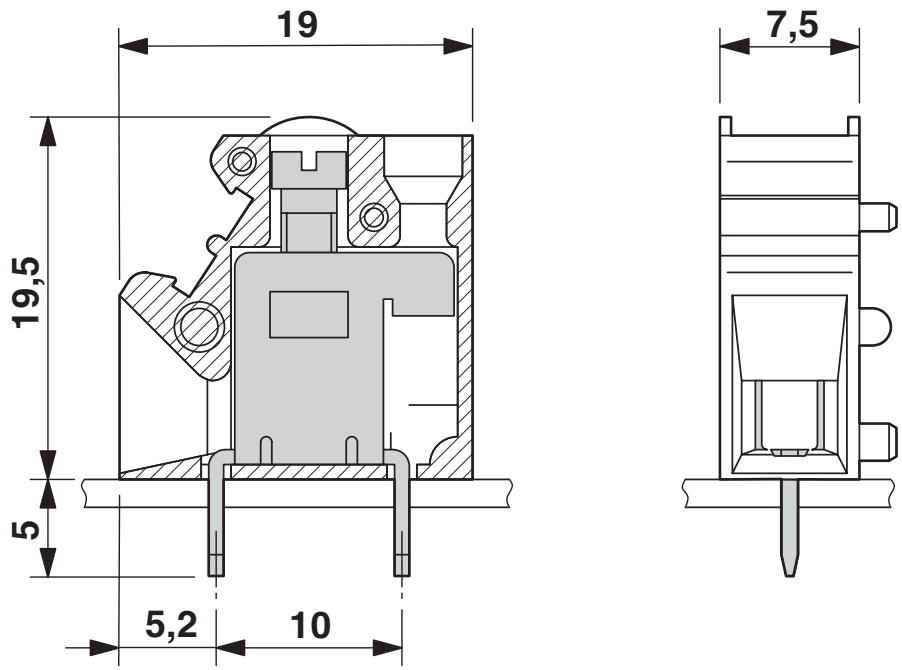


Schematic diagram



a = Flange plate, GRZ 2,5 V-EX
b = Terminal block GKDS-EX
c = Pitch spacer GRZ 2,5-EX

Dimensional drawing



Approvals

ATEX
Approval ID: SEV 15 ATEX 0178 U

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	275 V	20 A	-	0.2 - 2.5
Only rigid conductors	275 V	26 A	-	- 4
with pitch spacer	420 V	20 A	-	0.2 - 2.5

cUL Recognized
Approval ID: FILE E 192998

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	160 V	15 A	30 - 14	30 - 14
with pitch spacer	250 V		30 - 14	30 - 14
Use group C				
	50 V	15 A	30 - 14	30 - 14
Use group D				
	160 V	10 A	30 - 14	30 - 14
with pitch spacer	250 V		30 - 14	30 - 14

IECEx
Approval ID: IECEx SEV 15.0026U

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	275 V	20 A	-	0.2 - 2.5
Only rigid conductors	275 V	26 A	-	- 4
with pitch spacer	420 V	20 A	-	0.2 - 2.5

UL Recognized
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	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	160 V	15 A	30 - 14	-
with pitch spacer	250 V		30 - 14	-
Use group C				
	50 V	15 A	30 - 14	-
Use group D				
	160 V	10 A	30 - 14	-
with pitch spacer	250 V		30 - 14	-

EAC Ex

Approval ID: B.00065/19

cULus Recognized

Classifications

ECLASS

ECLASS-9.0	27440401
ECLASS-10.0.1	27440401
ECLASS-11.0	27460101

ETIM

ETIM 8.0	EC002643

UNSPSC

UNSPSC 21.0	39121400

Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Accessories

Note: Applying some accessories below might limit this product.

Insertion bridge

Insertion bridge - EB 2- BK 4 - 0801157

https://www.phoenixcontact.com/pc/products/0801157

Insertion bridge, 2-pos., for strip terminal block, BK 4

Max. current carrying capacity: 24 A

Pitch spacer

Pitch spacer - GRZ 2,5-EX - 1724628

https://www.phoenixcontact.com/pc/products/1724628

Pitch spacer, raises the pitch by 2.5 mm, interlocks with terminal block of the same shape, color: black

Pitch spacer

Pitch spacer - GRZ 2,5 V-EX - 1706112

https://www.phoenixcontact.com/pc/products/1706112

Flange plate, must be mounted at both sides for each terminal group or group of ten, color: black

Screwdriver

Screwdriver - SZS 0,6X3,5 - 1205053

https://www.phoenixcontact.com/pc/products/1205053

Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

Test plugs

Test plugs - MPS-MT - 0201744

https://www.phoenixcontact.com/pc/products/0201744

Test plugs, with solder connection up to 1 mm^2 conductor cross section, color: gray

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstraße 8
D-32825 Blomberg
+49 (0) 5235-3 00
info@phoenixcontact.com