

Data sheet

Order No.: 1711026

Type: MKDS 3/ 2

PCB terminal block, Wave soldering, Screw connection with tension sleeve



1 Main features



- | | | | |
|---------------------------|--------------------------------------|------------------------|---------------------|
| • No. of pos. | 2 | • Nominal current | 24 A |
| • Conductor cross section | 2.5 mm ² | • Nominal voltage | 400 V |
| • Color | green | • Connection direction | 0° |
| • Pitch | 5 mm | • Type of packaging | packed in cardboard |
| • Connection method | Screw connection with tension sleeve | | |

2 Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Allows connection of two conductors
- ✓ Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve
- ✓ The latching on the side enables various numbers of positions to be combined



Make sure you always use the latest documentation.

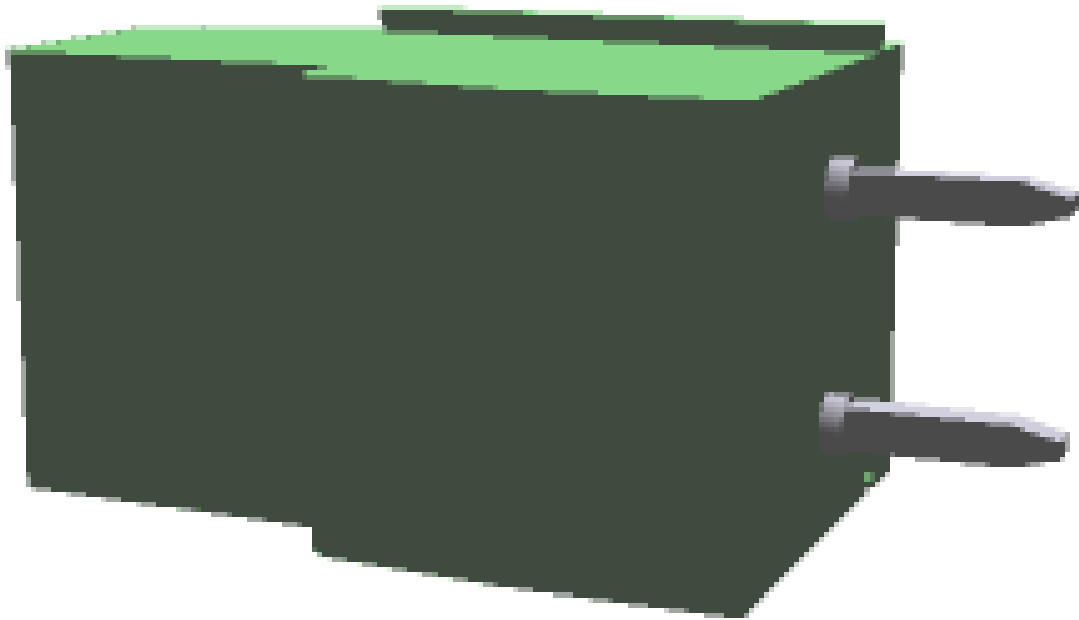
It can be downloaded at: phoenixcontact.net/product/1711026

1711026 MKDS 3/ 2**3 Table of contents**

1	Main features.....	1
2	Your advantages	1
3	Table of contents	2
4	3D model in PDF can be activated (Acrobat Reader only).....	3
5	item properties.....	4
	5.1 Connection capacity	4
	5.2 Material data	4
6	Dimensions.....	5
	6.1 Dimensions for the product	5
	6.2 Dimensions for PCB design.....	5
7	Series drawing.....	6
8	Packaging information	7
9	Application.....	7
	9.1 Processing notes	7
	9.2 Temperature limit values	7
10	Mechanical tests.....	8
	10.1 Torque test.....	8
	10.2 Check for damage to conductor or loosening	8
	10.3 Pull-out test	8
11	Electrical tests	9
	11.1 Electrical data	9
	11.2 Air clearances and creepage distances	9
	11.3 Temperature rise test.....	9
12	Current carrying capacity/derating curves	10
13	Environmental and durability tests	11
	13.1 Resistance to ageing, humidity and penetration of solids	11
	13.2 Insulation resistance.....	11
	13.3 Test of the power frequency electric strength.....	11
	13.4 Glow-wire test.....	11
	13.5 Mechanical strength/tumbling barrel	11
	13.6 Vibration test	11
14	Approvals	12
15	Commercial Data.....	13
16	Accessories.....	13

1711026 MKDS 3/ 2

4 3D model in PDF can be activated (Acrobat Reader only)



1711026 MKDS 3/ 2**5 item properties**

Order No.	1711026
Type	MKDS 3/ 2
Range of articles	MKDS 3
Pitch	5 mm
Number of positions	2
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm
Mounting type	Wave soldering
Pin layout	Linear pinning
Product note	The article can be aligned to create different nos. of positions!

5.1 Connection capacity

Conductor cross section, solid	0.2 mm ² to 4 mm ²
Conductor cross section, flexible	0.2 mm ² to 2.5 mm ²
Conductor cross section AWG/kcmil	24 to 12
2 conductors with same cross section, solid	0.2 mm ² to 1.5 mm ²
2 conductors with same cross section, stranded	0.2 mm ² to 1.5 mm ²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² to 2.5 mm ²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm ² to 2.5 mm ²
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.25 mm ² to 0.75 mm ²
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm ² to 1.5 mm ²
Cylindrical gauge a x b / diameter	2.4 mm x 2.8 mm / 2.5 mm
Stripping length	8 mm

5.2 Material data

Material of metal parts	
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Terminal point surface	Sn 4 µm ... 8 µm
Soldering area surface	Sn 4 µm ... 8 µm
Surface characteristics	Tin-plated
Insulating material data	
Insulating material	PA
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Color	green (6021)
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

1711026 MKDS 3/ 2**6 Dimensions****6.1 Dimensions for the product**

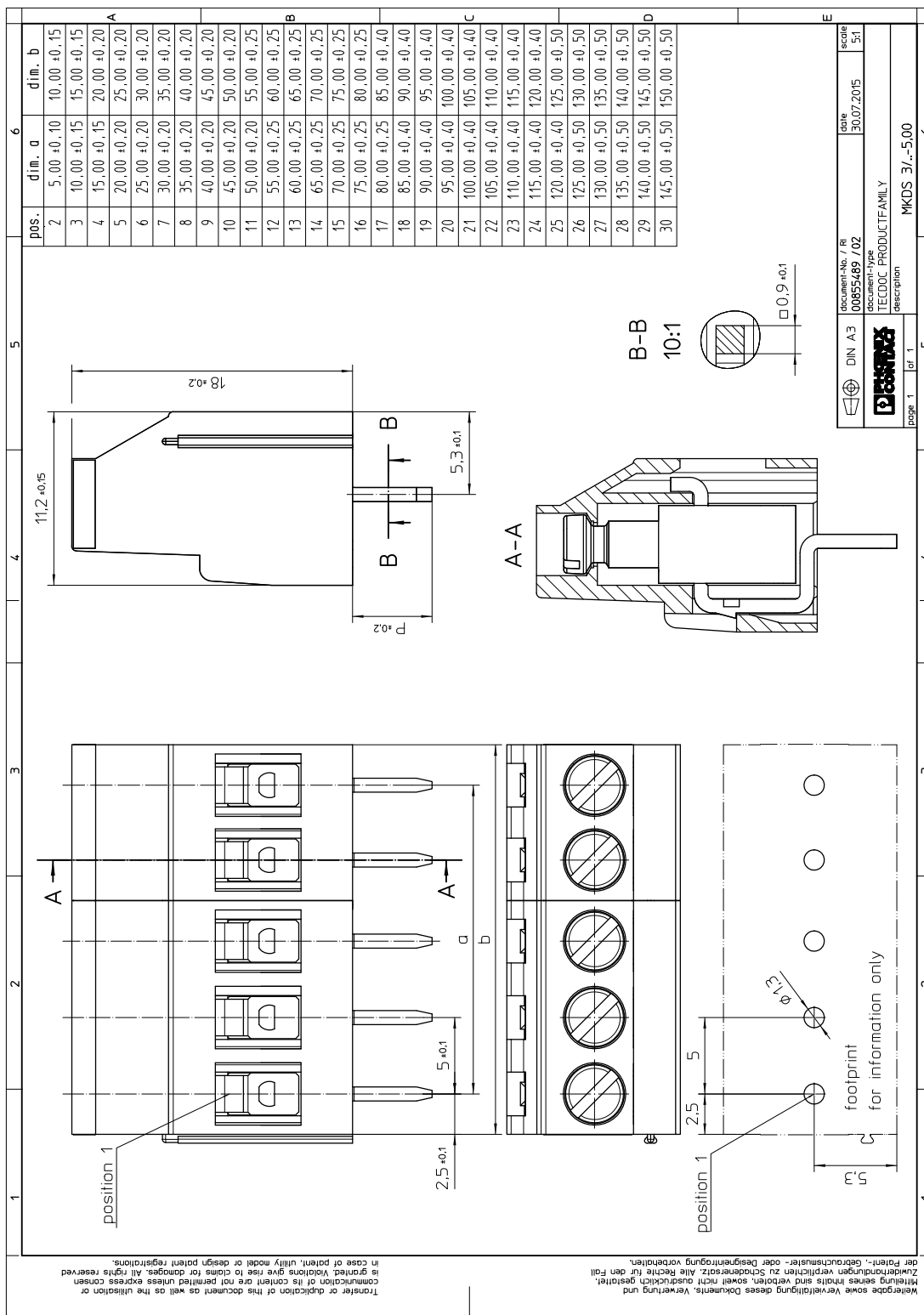
Length	11.2 mm
Width	10 mm
Height (without solder pin)	18 mm
Total height	23 mm
Solder pin [P]	5 mm
Dimension a	5 mm

6.2 Dimensions for PCB design

Hole diameter	1.3 mm
Pin dimensions	0,9 x 0,9 mm
Pin spacing	5 mm

1711026 MKDS 3/2

7 Series drawing



DIN A3	document-No. / Ri	date	scale
	00655489 / 02	30.07.2015	1:5:1
	document-type		
	TECDOC PRODUCTFAMILY		
	description		
page 1	of 1		
			MKDS 3/-5,00

© PHOENIX CONTACT 2017

1711026 MKDS 3/ 2**8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	100

9 Application**9.1 Processing notes**

Process	Wave soldering
Specification	Following IEC 61760-1:2006-04
Specification	Following IEC 60068-2-54:2006-04

9.2 Temperature limit values

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

1711026 MKDS 3/2**10 Mechanical tests****10.1 Torque test**

Specification	IEC 60998-2-1:2002-12
Result	Test passed
Screw thread	M3
Tightening torque	0.5 Nm to 0.6 Nm

10.2 Check for damage to conductor or loosening

Specification	IEC 60998-2-1:2002-12
Result	Test passed

10.3 Pull-out test

Specification	IEC 60998-2-1:2002-12
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.2 mm ² / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.2 mm ² / stranded / > 10 N
Conductor cross section/conductor type/tractive force actual value	4 mm ² / solid / > 60 N
Conductor cross section/conductor type/tractive force actual value	2.5 mm ² / stranded / > 50 N

1711026 MKDS 3/2**11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	24 A / 2.5 mm ²
Rated insulation voltage (III/2)	400 V
Rated surge voltage (III/2)	4 kV
Contact resistance	0.4 mΩ
Degree of pollution	2

11.2 Air clearances and creepage distances

Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	250 V	400 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	3 mm	3 mm	3 mm
Minimum value of the creepage path requirement in acc. with table	3.2 mm	3 mm	3.2 mm
Note on connection cross section	With connected conductor 4 mm ² (solid).		
Note			

11.3 Temperature rise test

Specification	IEC 60998-1:2002-12
Result	Test passed
Requirement temperature-rise test	Increase in temperature ≤ 45 K
Conductor cross section/test current/temperature rise	4 mm ² / 32 A / 36 K
Specification	Following IEC 60512-5-2:2002-02
Result	Test passed
Conductor cross section/test current/temperature rise	2.5 mm ² / 24 A / 38 K

1711026 MKDS 3/ 2**12 Current carrying capacity/derating curves**

Specification	IEC 60512-5-2:2002-02
Reduction factor	1
Number of positions	5

Type: MKDS 3/2 and MKDS 3/3**Test following DIN EN 60512-5-2:2003-01****Reduction factor = 1****No. of positions: 5**

24871_2000_en

1711026 MKDS 3/2**13 Environmental and durability tests****13.1 Resistance to ageing, humidity and penetration of solids**

Specification	IEC 60998-1:2002-12
Result	Test passed
Dry heat	168 h/100°C
Damp heat	48 h/30 °C/92 %

13.2 Insulation resistance

Specification	IEC 60998-1:2002-12
Result	Test passed
Insulation resistance, neighboring positions	10 ⁹ Ω

13.3 Test of the power frequency electric strength

Specification	IEC 60998-1:2002-12
Result	Test passed
Test voltage between neighboring positions	3 kV

13.4 Glow-wire test

Specification	IEC 60998-1:2002-12
Result	Test passed
Temperature	850 °C
Time of exposure	5 s

13.5 Mechanical strength/tumbling barrel


Specification	IEC 60998-1:2002-12
Result	Test passed
Height of fall	50 cm
Number of drop cycles	50


13.6 Vibration test

Specification	IEC 60068-2-6:1995-03
Result	Test passed
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis
Specification	IEC 61032:1997-12
Note	unenclosed basic insulation - protected against finger contact with IP20 test finger in acc. with IEC 60529 when connected, above the PCB

1711026 MKDS 3/2


14 Approvals

CSA 				
Use group	B	D		
mm ² /AWG/kcmil	28-12	28-12		
Voltage	300 V	300 V		
Current	10 A	10 A		

SEV 				
mm ² /AWG/kcmil	4			
Voltage	250 V			
Current	28 A			

CCA				
mm ² /AWG/kcmil	4			
Voltage	250 V			
Current				

EAC 				

cULus Recognized 				
Use group	B	D		
mm ² /AWG/kcmil	30-12	30-12		
Voltage	300 V	300 V		
Current	15 A	10 A		

DNV GL				

1711026 MKDS 3/ 2**15 Commercial Data**

Order No.	1711026
Type	MKDS 3/ 2
Pieces per package	100
Net weight	3.72 g
GTIN	4017918023652
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

16 Accessories

Description	Order No.	Type
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	1205053	SZS 0,6X3,5
Pitch spacer, for adjusting the pitches between MKDS and GMKDS terminal blocks in mixed rows, 1.25 mm thick	1703047	RZ 1,25-MKDS 3
	0804183	SK 5/3,8:FORTL.ZAHLEN
	0805409	SK 5/3,8:UNBEDRUCKT
	0805072	SK 5/3,8:SO
	0803906	SK U/3,8 WH:UNBEDRUCKT
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT



SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product suppliers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

www.scatts.co.uk