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Order No.: 1774234

Type: MKDSP 10N/ 4-10,16

PCB terminal block, Screw connection with tension sleeve



The figure shows a 2-pos. version of the product

## 1 Main features



- |                           |                                      |                        |                     |
|---------------------------|--------------------------------------|------------------------|---------------------|
| • No. of pos.             | 4                                    | • Nominal current      | 76 A                |
| • Conductor cross section | 10 mm <sup>2</sup>                   | • Nominal voltage      | 1000 V              |
| • Color                   | green                                | • Connection direction | 0°                  |
| • Pitch                   | 10.16 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
- ✓ Quick and convenient testing using integrated test option
- ✓ The latching on the side enables various numbers of positions to be combined
- ✓ Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve



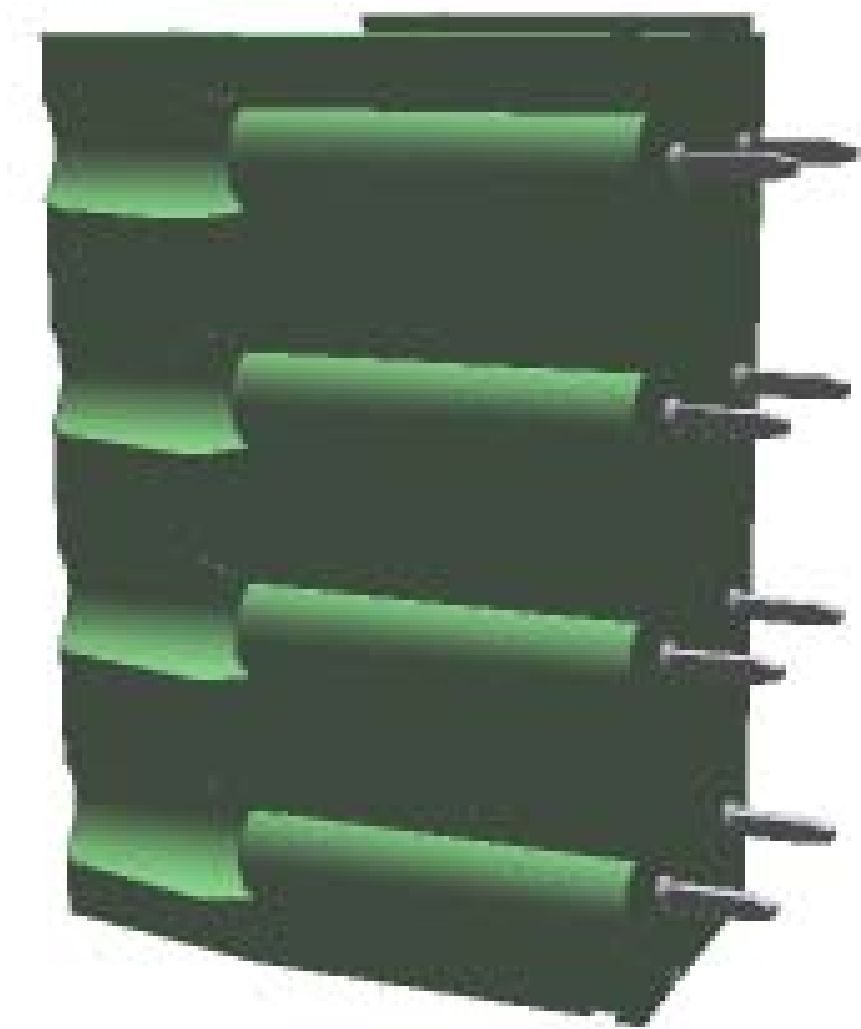
Make sure you always use the latest documentation.  
It can be downloaded at: [phoenixcontact.net/product/1774234](http://phoenixcontact.net/product/1774234)

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



**1774234 MKDSP 10N/ 4-10,16****5 item properties**

Order No.	1774234
Type	MKDSP 10N/ 4-10,16
Range of articles	MKDSP 10N
Pitch	10.16 mm
Number of positions	4
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted
Screw thread	M4
Tightening torque	1.2 Nm ... 1.5 Nm
Mounting type	Wave soldering
Pin layout	Linear double pinning
Product note	The article can be aligned to create different nos. of positions!

**5.1 Connection capacity**

Conductor cross section, solid	0.5 mm <sup>2</sup> to 16 mm <sup>2</sup>
Conductor cross section, flexible	0.5 mm <sup>2</sup> to 16 mm <sup>2</sup>
Conductor cross section AWG/kcmil	20 to 6
2 conductors with same cross section, solid	0.5 mm <sup>2</sup> to 4 mm <sup>2</sup>
2 conductors with same cross section, stranded	0.5 mm <sup>2</sup> to 4 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.5 mm <sup>2</sup> to 16 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve	0.5 mm <sup>2</sup> to 16 mm <sup>2</sup>
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.5 mm <sup>2</sup> to 2.5 mm <sup>2</sup>
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm <sup>2</sup> to 6 mm <sup>2</sup>
Stripping length	10 mm

**5.2 Material data**

<b>Material of metal parts</b>	
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Terminal point surface	Ni 2 µm ... 3 µm , Sn 5 µm ... 7 µm
Surface contact area	Ni 2 µm ... 3 µm , Sn 5 µm ... 7 µm
Soldering area surface	Ni 2 µm ... 3 µm , Sn 5 µm ... 7 µm
Surface characteristics	Tin-plated
<b>Insulating material data</b>	
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

**1774234 MKDSP 10N/ 4-10,16****6 Dimensions****6.1 Dimensions for the product**

Length	18.4 mm
Width	40.64 mm
Height (without solder pin)	29.3 mm
Total height	34.3 mm
Solder pin [P]	5 mm
Dimension a	30.48 mm

**6.2 Dimensions for PCB design**

Hole diameter	1.5 mm
Pin dimensions	1 x 0,9 mm

**1774234 MKDSP 10N/ 4-10,16**

## 7 Series drawing

## 8 Packaging information

Type of packaging	packed in cardboard
Pieces per package	50

## 9 Application

### 9.1 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)

**1774234 MKDSP 10N/ 4-10,16****10 Mechanical tests****10.1 Torque test**

Specification	IEC 60998-2-1:2002-12
Result	Test passed
Screw thread	M4
Tightening torque	1.2 Nm to 1.5 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	0.5 mm <sup>2</sup> / solid / > 20 N
Conductor cross section/conductor type/tractive force actual value	0.5 mm <sup>2</sup> / stranded / > 20 N
Conductor cross section/conductor type/tractive force actual value	16 mm <sup>2</sup> / solid / > 100 N
Conductor cross section/conductor type/tractive force actual value	16 mm <sup>2</sup> / stranded / > 100 N



**1774234 MKDSP 10N/ 4-10,16****11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	76 A / 10 mm <sup>2</sup>
Rated insulation voltage (III/2)	1000 V
Rated surge voltage (III/2)	8 kV
Contact resistance	0.7 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	690 V	1000 V	1000 V
Rated surge voltage	8 kV	8 kV	6 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	8 mm	8 mm	5.5 mm
Minimum value of the creepage path requirement in acc. with table	8 mm	5 mm	5 mm
Note on connection cross section			
Note			

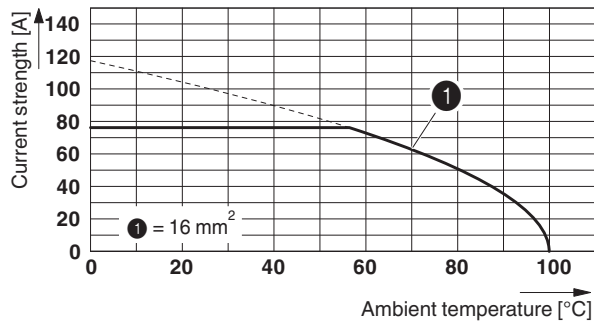
**11.3 Temperature rise test**

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	16 mm <sup>2</sup> / 76 A / 30 K
Specification	Following IEC 60512-5-2:2002-02
Result	Test passed
Conductor cross section/test current/temperature rise	16 mm <sup>2</sup> / 76 A / 43.5 K

1774234 MKDSP 10N/ 4-10,16

## 12 Current carrying capacity/derating curves

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

**Type: MKDSP 10N/...-10,16****Tested in accordance with DIN EN 60512-5-2:2003-01****Reduction factor = 1****No. of positions: 5**

**1774234 MKDSP 10N/ 4-10,16****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	1 TΩ

**13.3 Test of the power frequency electric strength**

Specification	IEC 60998-1:2002-12
Result	Test passed
Test voltage between neighboring positions	5.5 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 60068-2-6:2007-12
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

**13.7 Testing in a saturated atmosphere in the presence of sulfur dioxide**

**1774234 MKDSP 10N/ 4-10,16**

Specification	DIN 50018-EN:1997-06
Result	Test passed
Corrosive stress	KFW 1.0 S/1 cycle
Conductor cross section	0.5 mm <sup>2</sup> to 16 mm <sup>2</sup>
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

## 1774234 MKDSP 10N/ 4-10,16

## 14 Type approval and special tests


## 15 Approvals

VDE Gutachten mit Fertigungsüberwachung 


mm <sup>2</sup> /AWG/kcmil	0.5-16			
Voltage	1000 V			
Current	76 A			

## CCA

mm <sup>2</sup> /AWG/kcmil	0.5-16			
Voltage	1000 V			
Current	76 A			

IECEE CB Scheme 

mm <sup>2</sup> /AWG/kcmil	0.5-16			
Voltage	1000 V			
Current	76 A			

EAC cULus Recognized 

Use group	B	C	D	
mm <sup>2</sup> /AWG/kcmil	20-6	20-6	20-6	
Voltage	300 V	300 V	600 V	
Current	60 A	60 A	5 A	

**1774234 MKDSP 10N/ 4-10,16****16 Commercial Data**

Order No.	1774234
Type	MKDSP 10N/ 4-10,16
Pieces per package	50
Net weight	30.59 g
GTIN	4046356481687
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**17 Accessories**

Description	Order No.	Type
	0201744	MPS-MT
	0201647	RPS
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
	0804688	SK 10/5: 0-9
Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm <sup>2</sup> ... 6.0 mm <sup>2</sup> , lateral entry, trapezoidal crimp	1212034	CRIMPFOX 6
Crimping pliers for ferrules up to 16 mm <sup>2</sup>	1207983	CRIMPFOX 16 S
	0201663	MPS-IH WH
	0201676	MPS-IH RD
	0201689	MPS-IH BU
	0201692	MPS-IH YE
	0201702	MPS-IH GN
	0201728	MPS-IH GY
	0201731	MPS-IH BK