IPC 16/ 5-ST-10,16 - PCB connector

1969409

https://www.phoenixcontact.com/us/products/1969409

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PCB connector, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: IPC 16/..-ST, pitch: 10.16 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON PC 16, locking: without, mounting: without, type of packaging: packed in cardboard

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Inverted connector with pin contacts for touch-proof device outputs or free-hanging cable/cable connections

Commercial data

Item number	1969409
Packing unit	25 pc
Minimum order quantity	25 pc
Sales key	AA05
Product key	AAEABA
Catalog page	Page 558 (C-1-2013)
GTIN	4017918943653
Weight per piece (including packing)	48.24 g
Weight per piece (excluding packing)	46.994 g
Customs tariff number	85366990
Country of origin	PL

Technical data

Product properties

Product type	PCB connector
Product family	IPC 16/..-ST
Product line	COMBICON Connectors XL
Type	Inverted
Number of positions	5
Pitch	10.16 mm
Number of connections	5
Number of rows	1
Number of potentials	5
Mounting flange	without

Electrical properties

Nominal current I_N	76 A
Nominal voltage U_N	1000 V
Degree of pollution	3
Contact resistance	0.3 mΩ
Rated voltage (III/3)	1000 V
Rated surge voltage (III/3)	8 kV
Rated voltage (III/2)	1000 V
Rated surge voltage (III/2)	8 kV
Rated voltage (II/2)	1000 V
Rated surge voltage (II/2)	6 kV

Connection data

Connection technology

Type	Inverted
Connector system	COMBICON PC 16
Nominal cross section	16 mm²
Contact connection type	Pin

Interlock

Locking type	without
Mounting flange	without

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor/PCB connection direction	0 °
Conductor cross section rigid	0.75 mm² ... 16 mm²
Conductor cross section flexible	0.75 mm² ... 16 mm²
Conductor cross section AWG	18 ... 6
Conductor cross section flexible, with ferrule without plastic	0.5 mm² ... 16 mm²

sleeve	
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.5 mm² ... 10 mm²
2 conductors with same cross section, solid	0.75 mm² ... 6 mm²
2 conductors with same cross section, flexible	0.75 mm² ... 6 mm²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.5 mm² ... 4 mm²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm² ... 6 mm²
Cylindrical gauge a x b / diameter	- / 5.4 mm
Stripping length	12 mm
Tightening torque	1.7 Nm ... 1.8 Nm

Material specifications

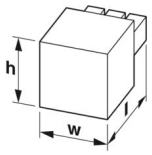
Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	completely silver-plated
Metal surface terminal point (top layer)	Silver (4 - 8 µm Ag)
Metal surface contact area (top layer)	Silver (4 - 8 µm Ag)

Material data - housing

Color (Housing)	green (6021)
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	10.16 mm
Width [w]	53.84 mm
Height [h]	27.75 mm
Length [l]	49 mm

Mounting

Drive form screw head	Slotted (L)

Notes

Notes on operation	In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load.

Mechanical tests

Test for conductor damage and slackening

Specification	IEC 60999-1:1999-11
Result	Test passed

Pull-out test

Specification	IEC 60999-1:1999-11
Conductor cross section/conductor type/tractive force setpoint/actual value	0.75 mm² / solid / > 30 N
	0.75 mm² / flexible / > 30 N
	16 mm² / solid / > 100 N
	16 mm² / flexible / > 100 N

Insertion and withdrawal forces

Result	Test passed
No. of cycles	50
Insertion strength per pos. approx.	12 N
Withdraw strength per pos. approx.	11 N

Torque test

Specification	IEC 60999-1:1999-11

Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
Result	Test passed

Polarization and coding

Specification	IEC 60512-7:1993-08 (Polarization)
Result	Test passed

Visual inspection

Specification	IEC 60512-1:2001-01
Result	Test passed

Dimension check

Specification	IEC 60512-1:2001-01
Result	Test passed

Environmental and real-life conditions

Vibration test

Specification	IEC 60068-2-6:1995-03

Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

Durability test

Specification	IEC 60512-5:1992-08
Impulse withstand voltage at sea level	9.8 kV
Contact resistance R_1	0.3 mΩ
Contact resistance R_2	0.4 mΩ
Insertion/withdrawal cycles	50

Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	KFW 0.2 S/1 cycle
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	4.26 kV

Ambient conditions

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

Electrical tests

Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	9

Insulation resistance

Specification	IEC 60512-2:1985-00
Insulation resistance, neighboring positions	10^{12} Ω

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	1000 V
Rated surge voltage (III/3)	8 kV
minimum clearance value - non-homogenous field (III/3)	8 mm
minimum creepage distance (III/3)	12.5 mm
Rated insulation voltage (III/2)	1000 V
Rated surge voltage (III/2)	8 kV
minimum clearance value - non-homogenous field (III/2)	8 mm
minimum creepage distance (III/2)	8 mm

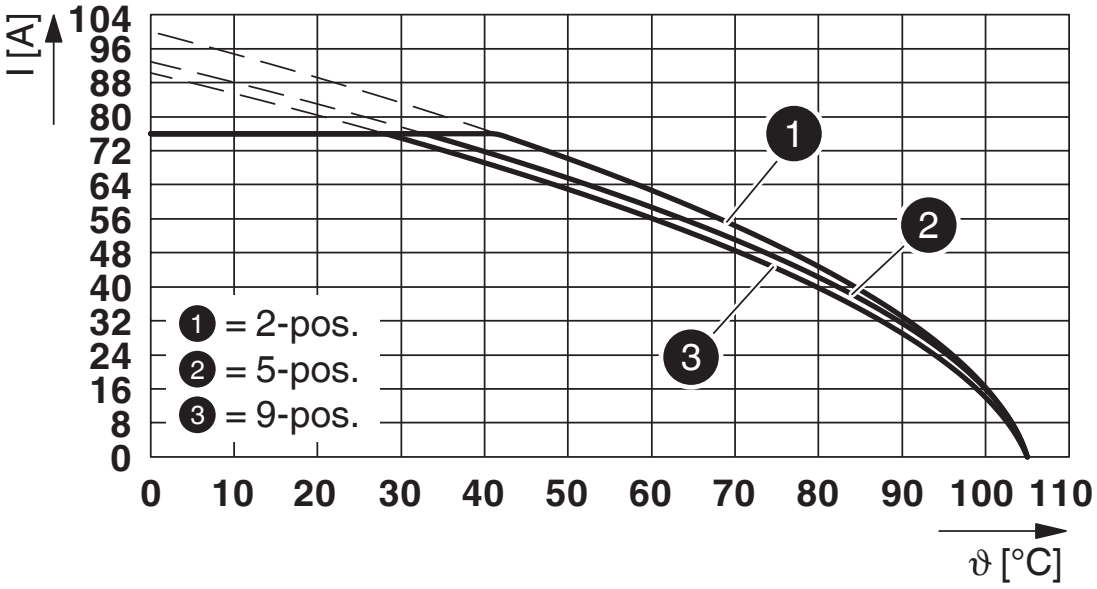
Rated insulation voltage (II/2)	1000 V
Rated surge voltage (II/2)	6 kV
minimum clearance value - non-homogenous field (II/2)	5.5 mm
minimum creepage distance (II/2)	5.5 mm

Packaging specifications

Type of packaging	packed in cardboard

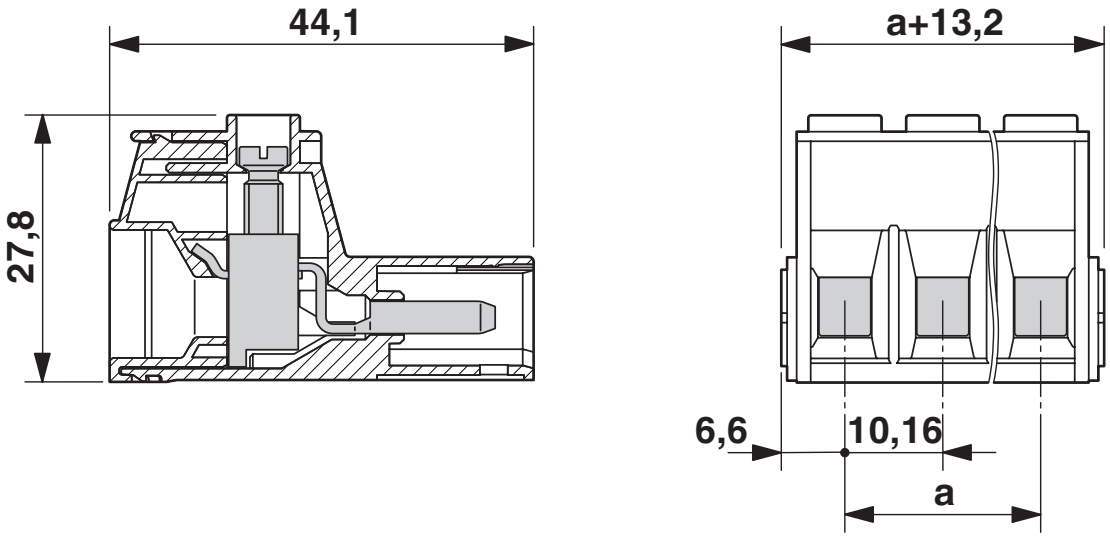
Drawings

Diagram



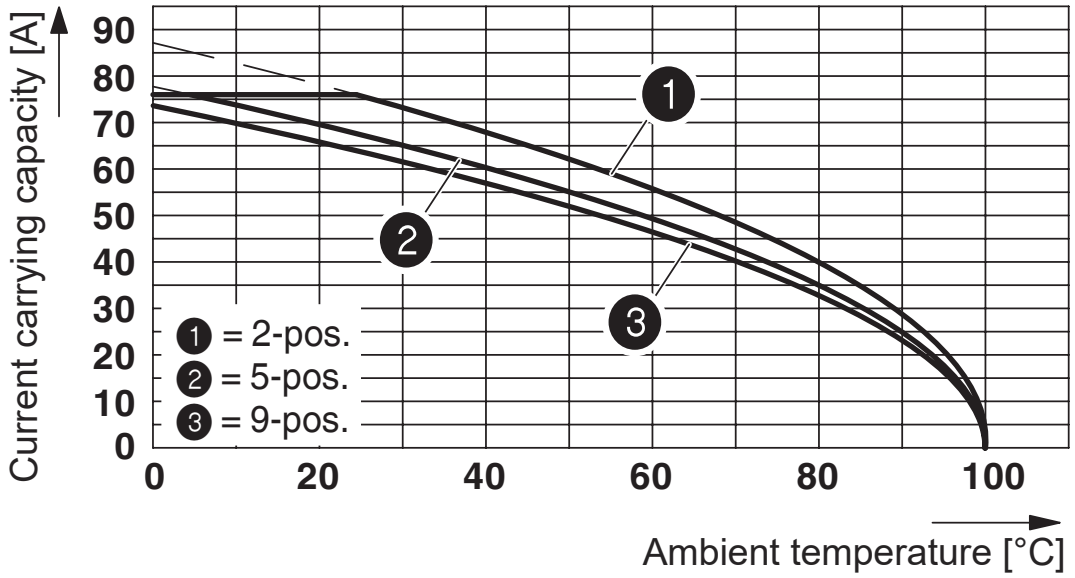
Type: SPC 16/...-ST-10,16 with IPC 16/...-ST-10,16

Dimensional drawing



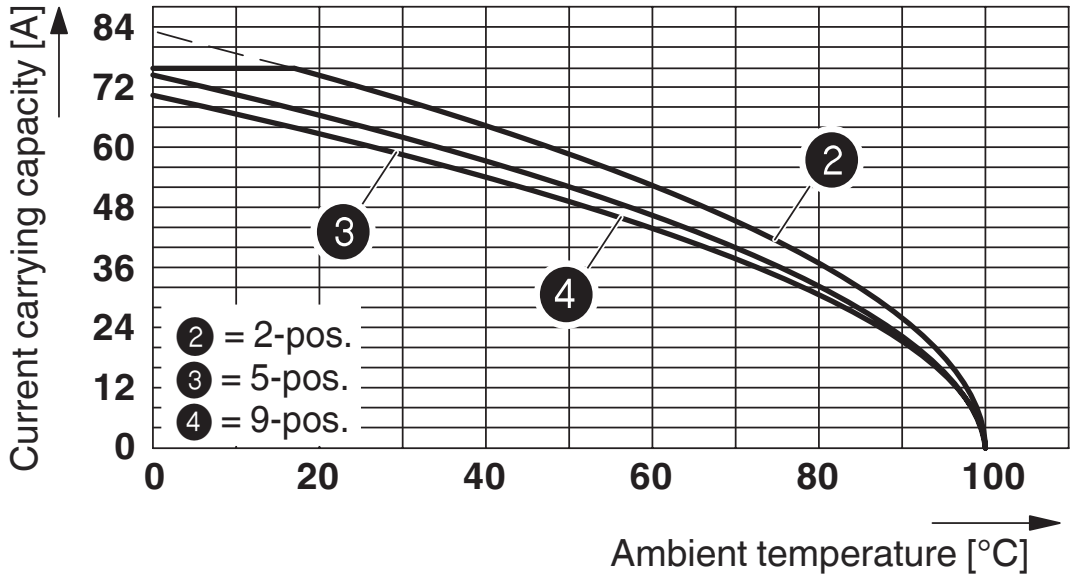
The figure shows the 3-pos. version

Diagram



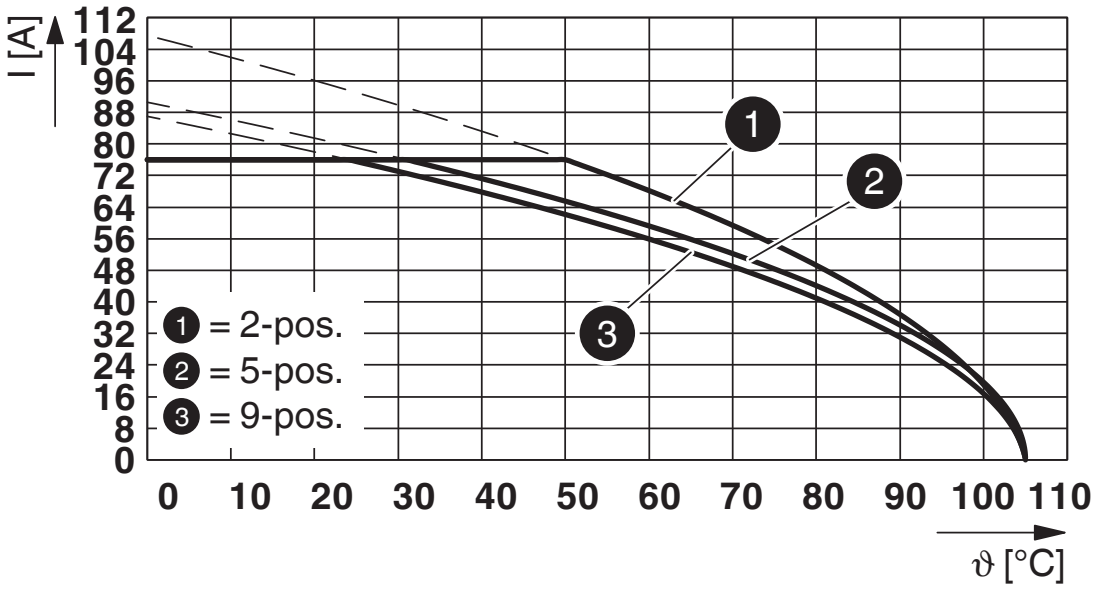
Type: IPC 16/..-ST-10,16 with DFK-IPC 16/..-G-10,16

Diagram



Derating curve for: IPC 16/...-ST-10,16 with IPC 16/...-G-10,16

Diagram



Type: PC 16/...-ST-10,16 with industrial PC 16/...-ST-10,16

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1969409

cULus Recognized
Approval ID: E60425-20040202

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	600 V	55 A	20 - 6	-
Use group C				
	600 V	55 A	20 - 6	-

VDE Zeichengenehmigung
Approval ID: 40055586

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	1000 V	76 A	-	0.75 - 16

Classifications

ECLASS

ECLASS-11.0	27460202
ECLASS-12.0	27460202
ECLASS-13.0	27460202

ETIM

ETIM 9.0	EC002638

UNSPSC

UNSPSC 21.0	39121400

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions

China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

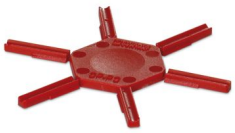
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

Accessories

CP-PC RD - Coding profile

1701967

https://www.phoenixcontact.com/us/products/1701967



Coding profile, for plugging into the coding ribs of the plug at a later date, insulating material, color: Red

SZS 1,0X4,0 VDE - Screwdriver

1205066

https://www.phoenixcontact.com/us/products/1205066

Screwdriver, slot-headed, VDE insulated, size: 1.0 x 4.0 x 100 mm, 2-component grip, with non-slip grip

SK 5,0 WH:REEL - Marker strip

0805221

https://www.phoenixcontact.com/us/products/0805221

Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 5 mm, Number of individual labels: 10

CRIMPFOX 6 - Crimping pliers

1212034

https://www.phoenixcontact.com/us/products/1212034

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^2 ... 6.0 mm^2, lateral entry, trapezoidal crimp

PCU 6/ 5-STD-10,16 - PCB connectors

1922666

https://www.phoenixcontact.com/us/products/1922666

Direct plug-in block, nominal cross section: 6 mm^2, color: green, nominal current: 41 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: PCU 6/..-STD, pitch: 10.16 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Direct mounting, conductor/PCB connection direction: 0 °, plug-in system: COMBICON PC 16, locking: without, mounting: without, type of packaging: packed in cardboard

PC 16/ 5-ST-10,16 - PCB connector

1967401

https://www.phoenixcontact.com/us/products/1967401

PCB connector, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: PC 16/..-ST, pitch: 10.16 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON PC 16, locking: without, mounting: without, type of packaging: packed in cardboard

IPC 16/ 5-ST-10,16 - PCB connector

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TPC 16/ 5-ST-10,16 - PCB connector

1715206

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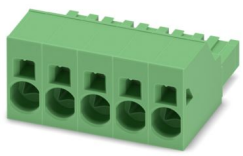
PCB connector, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 10, product range: TPC 16/..-ST, pitch: 10.16 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 50 °, locking clip: - without locking clip, plug-in system: COMBICON PC 16, locking: without, mounting: without, type of packaging: packed in cardboard

SPC 16/ 5-ST-10,16 - PCB connector

1711297

https://www.phoenixcontact.com/us/products/1711297



PCB connector, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: SPC 16/..-ST, pitch: 10.16 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON PC 16, locking: without, mounting: without, type of packaging: packed in cardboard

IPC 16/ 5-G-10,16 - PCB header

1969564

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PCB headers, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: IPC 16/..-G, pitch: 10.16 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 16, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

IPC 16/ 5-GU-10,16 - PCB header

1969881

https://www.phoenixcontact.com/us/products/1969881

PCB headers, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: IPC 16/..-GU, pitch: 10.16 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 16, Pin connector pattern alignment: reversed, locking: without, mounting: without, type of packaging: packed in cardboard, Plug direction parallel to the PCB: connector part rotated by 180° with respect to the plug axis.

IPCV 16/ 5-G-10,16 - PCB header

1969726

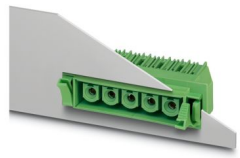
https://www.phoenixcontact.com/us/products/1969726

PCB headers, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: IPCV 16/..-G, pitch: 10.16 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 16, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

DFK-IPC 16/ 5-G-10,16 - Feed-through header

1702442

https://www.phoenixcontact.com/us/products/1702442

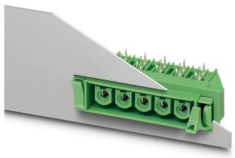


Feed-through header, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: DFK-IPC 16/..-G, pitch: 10.16 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4.1 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 16, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

DFK-IPC 16/ 5-GU-10,16 - Feed-through header

1702523

https://www.phoenixcontact.com/us/products/1702523

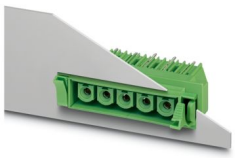


Feed-through header, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: DFK-IPC 16/..-GU, pitch: 10.16 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4.1 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 16, Pin connector pattern alignment: reversed, locking: without, mounting: without, type of packaging: packed in cardboard

DFK-IPCV 16/ 5-G-10,16 - Feed-through header

1703085

https://www.phoenixcontact.com/us/products/1703085



Feed-through header, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: DFK-IPCV 16/..-G, pitch: 10.16 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4.1 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 16, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

IPC 16/ 5-ST-10,16 - PCB connector

1969409

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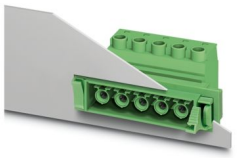
DFK-IPC 16/ 5-ST-10,16 - Feed-through plug

1703726

https://www.phoenixcontact.com/us/products/1703726



Feed-through connector, nominal cross section: 16 mm^2, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: DFK-IPC 16/..-ST, pitch: 10.16 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, plug-in system: COMBICON PC 16, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com