

# IPC 16/ 7-ST-10,16 - PCB connector



1969425

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PCB connector, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Pin, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, 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	1969425
Packing unit	25 pc
Minimum order quantity	25 pc
Note	Made to order (non-returnable)
Sales key	AA05
Product key	AAEABA
Catalog page	Page 558 (C-1-2013)
GTIN	4017918943677
Weight per piece (including packing)	66.22 g
Weight per piece (excluding packing)	64.534 g
Customs tariff number	85366990
Country of origin	PL

# IPC 16/ 7-ST-10,16 - PCB connector



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## Technical data

### Product properties

Product type	PCB connector
Product family	IPC 16/..-ST
Product line	COMBICON Connectors XL
Type	Inverted
Number of positions	7
Pitch	10.16 mm
Number of connections	7
Number of rows	1
Number of potentials	7
Mounting flange	without

### Electrical properties

Nominal current $I_N$	76 A
Nominal voltage $U_N$	1000 V
Contact resistance	0.4 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 mm <sup>2</sup>
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 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Conductor cross section flexible	0.75 mm <sup>2</sup> ... 16 mm <sup>2</sup>
Conductor cross section AWG	18 ... 6
Conductor cross section flexible, with ferrule without plastic sleeve	0.5 mm <sup>2</sup> ... 16 mm <sup>2</sup>

# IPC 16/ 7-ST-10,16 - PCB connector

1969425

<https://www.phoenixcontact.com/us/products/1969425>

Conductor cross section, flexible, with ferrule, with plastic sleeve	0.5 mm <sup>2</sup> ... 10 mm <sup>2</sup>
2 conductors with same cross section, solid	0.75 mm <sup>2</sup> ... 6 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.75 mm <sup>2</sup> ... 6 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Cylindrical gauge a x b / diameter	- / 5.4 mm
Stripping length	12 mm
Drive form screw head	Slotted (L)
Tightening torque	1.7 Nm ... 1.8 Nm

## Material specifications

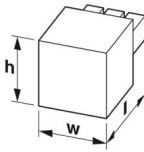
### Material data - contact

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]	74.16 mm
Height [h]	27.8 mm
Length [l]	44.1 mm

## Notes

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1969425

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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.
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## 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 mm <sup>2</sup> / solid / > 30 N
	0.75 mm <sup>2</sup> / flexible / > 30 N
	16 mm <sup>2</sup> / solid / > 100 N
	16 mm <sup>2</sup> / flexible / > 100 N

### Insertion and withdrawal forces

Result	Test passed
No. of cycles	50
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	9 N

### Torque test

Specification	IEC 60999-1:1999-11
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### Resistance of inscriptions

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

### Polarization and coding

Specification	IEC 60512-13-5:2006-02
Result	Test passed

### Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

### Dimension check

Specification	IEC 60512-1-2:2002-02
Result	Test passed

## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)

# IPC 16/ 7-ST-10,16 - PCB connector



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Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

## Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	9.8 kV
Contact resistance R <sub>1</sub>	0.4 mΩ
Contact resistance R <sub>2</sub>	0.4 mΩ
Insertion/withdrawal cycles	50
Insulation resistance, neighboring positions	> 5 MΩ

## Climatic test

Specification	ISO 22479:2019-05
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Thermal stress	105 °C/168 h
Power-frequency withstand voltage	4.26 kV

## Ambient conditions

Ambient temperature (operation)	-40 °C ... 105 °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 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

### 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

# IPC 16/ 7-ST-10,16 - PCB connector



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minimum clearance value - non-homogenous field (I1/2)	5.5 mm
minimum creepage distance (I1/2)	5.5 mm

## Packaging specifications

Type of packaging	packed in cardboard
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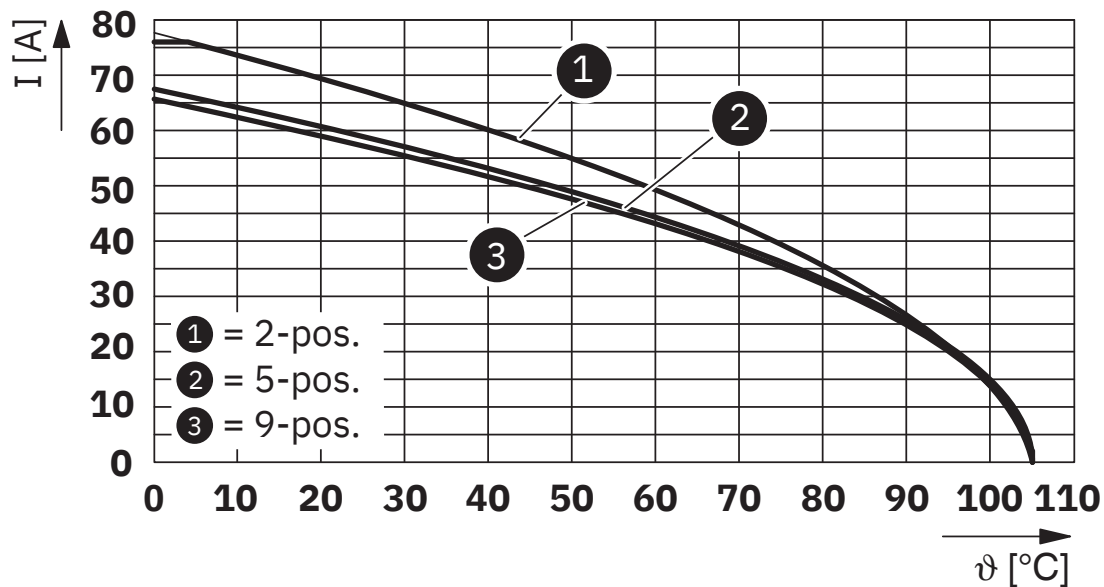
# IPC 16/ 7-ST-10,16 - PCB connector

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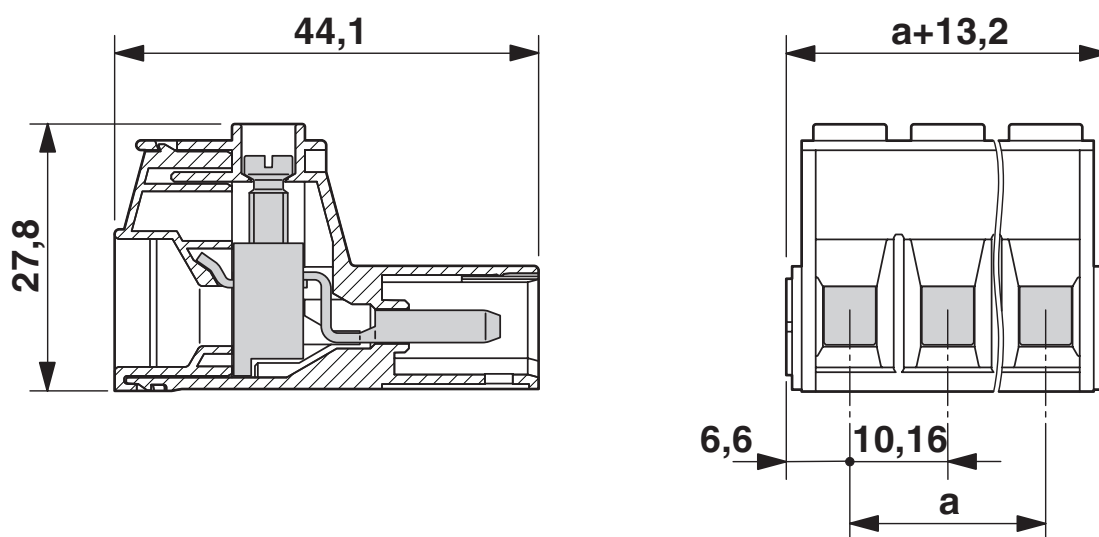
## Drawings

Diagram

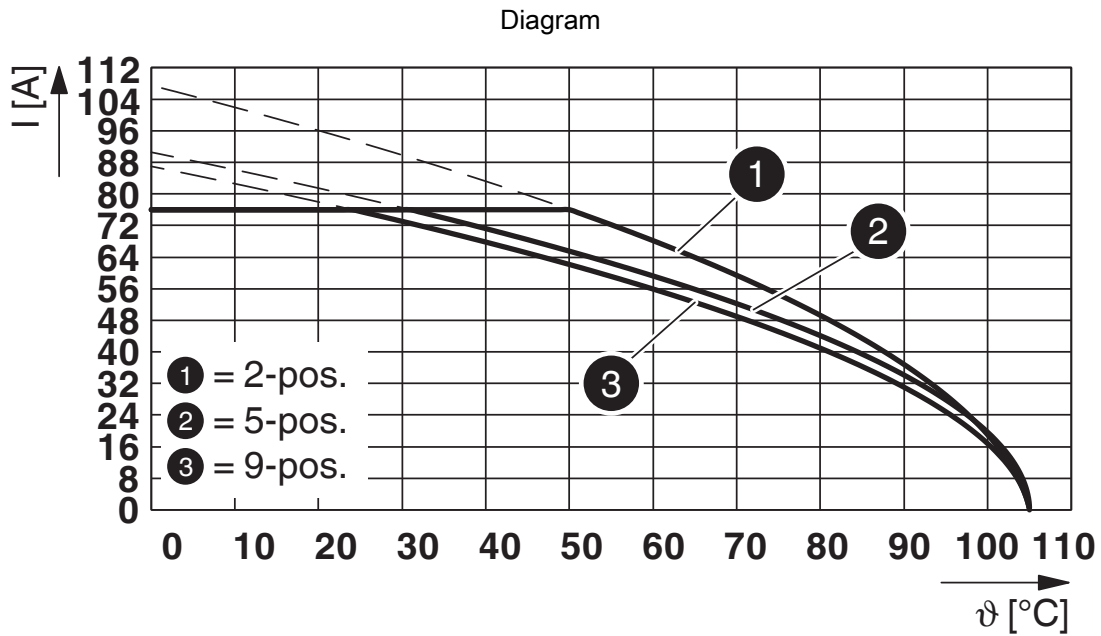


Type: IPC 16/...-ST-10,16 with IPC 16/...-G-10,16

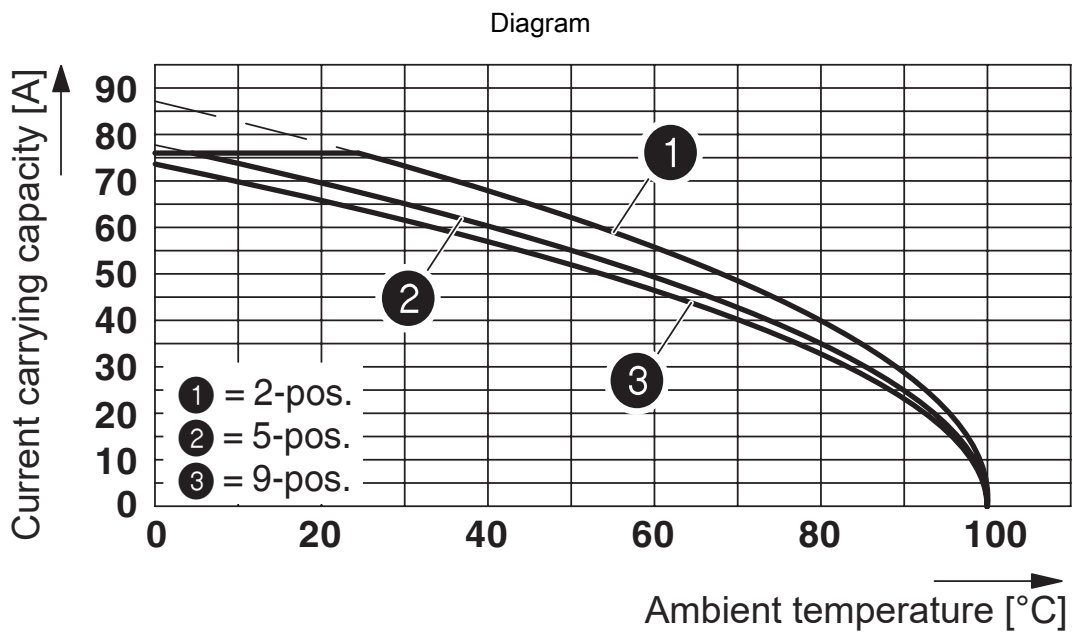
Dimensional drawing



The figure shows the 3-pos. version



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



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

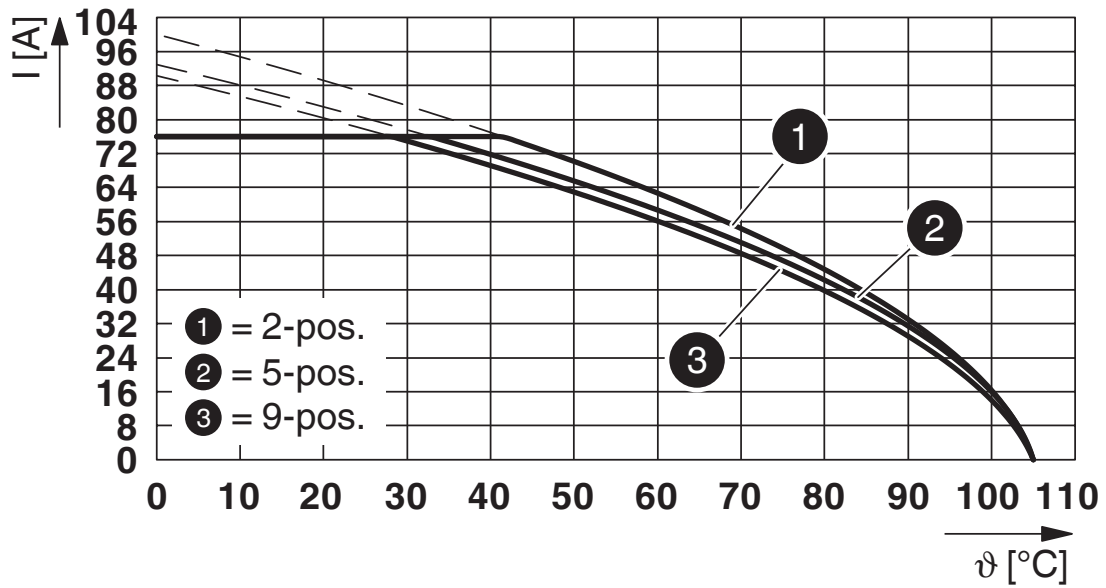
# IPC 16/ 7-ST-10,16 - PCB connector



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Diagram



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

# IPC 16/ 7-ST-10,16 - PCB connector





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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1969425>

 <b>cULus Recognized</b> Approval ID: E60425-20040202				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B	600 V	55 A	20 - 6	-
Use group C	600 V	55 A	20 - 6	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40055586				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	1000 V	76 A	-	0.75 - 16

# IPC 16/ 7-ST-10,16 - PCB connector



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## Classifications

### ECLASS

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

### ETIM

ETIM 9.0	EC002638
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### UNSPSC

UNSPSC 21.0	39121400
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# IPC 16/ 7-ST-10,16 - PCB connector



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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### 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%
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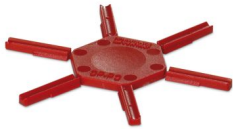
## Accessories

### 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



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### 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



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## 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

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## 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<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

# IPC 16/ 7-ST-10,16 - PCB connector



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## PCU 6/ 7-STD-10,16 - PCB connectors

1922682

<https://www.phoenixcontact.com/us/products/1922682>



Direct plug-in block, nominal cross section: 6 mm<sup>2</sup>, color: green, nominal current: 41 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, 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/ 7-ST-10,16 - PCB connector

1967427

<https://www.phoenixcontact.com/us/products/1967427>



PCB connector, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, 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/ 7-ST-10,16 - PCB connector

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## TPC 16/ 7-ST-10,16 - PCB connector

1715222

<https://www.phoenixcontact.com/us/products/1715222>

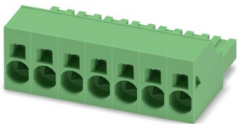


PCB connector, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 14, product range: TPC 16/..-ST, 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/ 7-ST-10,16 - PCB connector

1711310

<https://www.phoenixcontact.com/us/products/1711310>



PCB connector, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, 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/ 7-ST-10,16 - PCB connector



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## IPC 16/ 7-G-10,16 - PCB header

1969580

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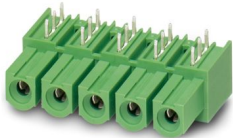


PCB headers, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, product range: IPC 16/..-G, 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/ 7-GU-10,16 - PCB header

1969904

<https://www.phoenixcontact.com/us/products/1969904>



PCB headers, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, 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.

# IPC 16/ 7-ST-10,16 - PCB connector



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## IPCV 16/ 7-G-10,16 - PCB header

1969742

<https://www.phoenixcontact.com/us/products/1969742>



PCB headers, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, 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/ 7-G-10,16 - Feed-through header

1702468

<https://www.phoenixcontact.com/us/products/1702468>



Feed-through header, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, 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

# IPC 16/ 7-ST-10,16 - PCB connector



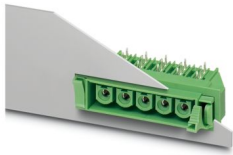
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## DFK-IPC 16/ 7-GU-10,16 - Feed-through header

1702549

<https://www.phoenixcontact.com/us/products/1702549>



Feed-through header, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, 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/ 7-G-10,16 - Feed-through header

1703108

<https://www.phoenixcontact.com/us/products/1703108>



Feed-through header, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, 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/ 7-ST-10,16 - PCB connector



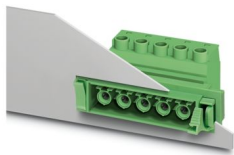
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## DFK-IPC 16/ 7-ST-10,16 - Feed-through plug

1703742

<https://www.phoenixcontact.com/us/products/1703742>



Feed-through connector, nominal cross section: 16 mm<sup>2</sup>, color: green, nominal current: 76 A, rated voltage (III/2): 1000 V, contact surface: Silver, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, 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

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