

# PCB connector - SPC 5/ 3-STF-7,62



1996139

<https://www.phoenixcontact.com/us/products/1996139>

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PCB connector, nominal cross section: 6 mm<sup>2</sup>, color: green, nominal current: 41 A, rated voltage (III/2): 1000 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: SPC 5/..-STF, pitch: 7.62 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON PC 5, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

## Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Clamping space opened by means of fixed screwdriver enables convenient conductor connection
- Integrated double steel spring provides additional safety in the event of temperature and power fluctuations
- Optimized for tight installation situations: operation and conductor connection from one direction
- Screwable flange for superior mechanical stability
- 600 V UL approval in the smallest of dimensions

## Commercial Data

Item number	1996139
Packing unit	1 pc
Minimum order quantity	50 pc
Sales Key	A02
Product Key	AADFBB
Catalog Page	Page 531 (C-1-2013)
GTIN	4046356037877
Weight per Piece (including packing)	18.88 g
Weight per Piece (excluding packing)	18 g
Customs tariff number	85366990
Country of origin	IN

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## Technical Data

### Product properties

Type	Standard
Product line	COMBICON Connectors L
Product type	PCB plug
Number of positions	3
Pitch	7.62 mm
Number of connections	3
Number of rows	1
Mounting flange	Screw flange
Number of potentials	3

### Electrical properties

Nominal current $I_N$	41 A
Nominal voltage $U_N$	1000 V
Pollution degree	3
Contact resistance	0.5 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

### Connection data

#### Connection technology

Type	Standard
Connector system	COMBICON PC 5
Nominal cross section	6 mm <sup>2</sup>
Type of contact	Female connector

#### Interlock

Locking type	Screw locking
Mounting flange	Screw flange
Tightening torque	0.3 Nm ... 0.7 Nm

#### Conductor connection

Connection method	Push-in spring connection
Conductor/PCB connection direction	0 °
Conductor cross section solid	0.2 mm <sup>2</sup> ... 10 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross section AWG	24 ... 8
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 4 mm <sup>2</sup>

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2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Cylindrical gauge a x b / diameter	4.3 mm x 4.0 mm / 4.0 mm
Stripping length	15 mm

## Specifications for ferrules without insulating collar

recommended crimping tool	1212034 CRIMPFOX 6
ferrules without insulating collar, according to DIN 46228-1	Cross section: 0.5 mm <sup>2</sup> ; Length: 10 mm ... 15 mm
	Cross section: 0.75 mm <sup>2</sup> ; Length: 10 mm ... 15 mm
	Cross section: 1 mm <sup>2</sup> ; Length: 10 mm ... 15 mm
	Cross section: 1.5 mm <sup>2</sup> ; Length: 12 mm ... 15 mm
	Cross section: 2.5 mm <sup>2</sup> ; Length: 12 mm ... 15 mm
	Cross section: 4 mm <sup>2</sup> ; Length: 12 mm ... 15 mm
Cross section: 6 mm <sup>2</sup> ; Length: 12 mm ... 15 mm	

## Specifications for ferrules with insulating collar

recommended crimping tool	1212034 CRIMPFOX 6
ferrules with insulating collar, according to DIN 46228-4	Cross section: 0.5 mm <sup>2</sup> ; Length: 10 mm ... 15 mm
	Cross section: 0.75 mm <sup>2</sup> ; Length: 12 mm ... 15 mm
	Cross section: 1 mm <sup>2</sup> ; Length: 12 mm ... 15 mm
	Cross section: 1.5 mm <sup>2</sup> ; Length: 12 mm ... 15 mm
	Cross section: 2.5 mm <sup>2</sup> ; Length: 12 mm ... 15 mm
	Cross section: 4 mm <sup>2</sup> ; Length: 12 mm ... 15 mm

## 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	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (4 - 8 µm Sn)
Metal surface contact area (top layer)	Tin (4 - 8 µm Sn)

### Material data - housing

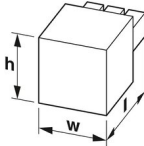
Housing color	green (6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

## Dimensions

# PCB connector - SPC 5/ 3-STF-7,62

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Dimensional drawing	
Pitch	7.62 mm
Width [w]	38.08 mm
Height [h]	19.8 mm
Length [l]	38.5 mm
Installed height	19.8 mm

## Mounting

### Flange

Tightening torque	0.3 Nm ... 0.7 Nm
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## 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.
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## Mechanical tests

### Test for conductor damage and slackening

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

### Repeated connection and disconnection

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	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	6 mm <sup>2</sup> / flexible / > 80 N

### Insertion and withdrawal forces

Result	Test passed
No. of cycles	50
Insertion strength per pos. approx.	5 N
Withdraw strength per pos. approx.	4 N

### Resistance of inscriptions

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

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## 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 - 60.1 Hz)
Sweep speed	5g (60.1 - 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 $R_1$	0.5 m $\Omega$
Contact resistance $R_2$	0.6 m $\Omega$
Insertion/withdrawal cycles	50
Insulation resistance, neighboring positions	> 5 M $\Omega$

### Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/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	12

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## Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

## Temperature cycles

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

## Air clearances and creepage distances |

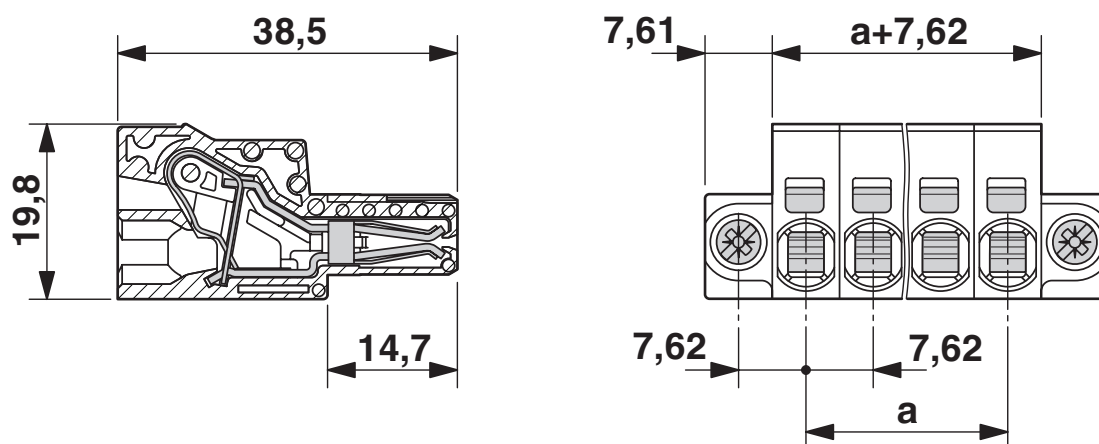
Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	1000 V
Rated surge voltage (III/3)	8 kV
minimum clearance value - non-homogenous field (III/3)	8 mm
minimum creepage distance (III/3)	12.5 mm
Rated insulation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

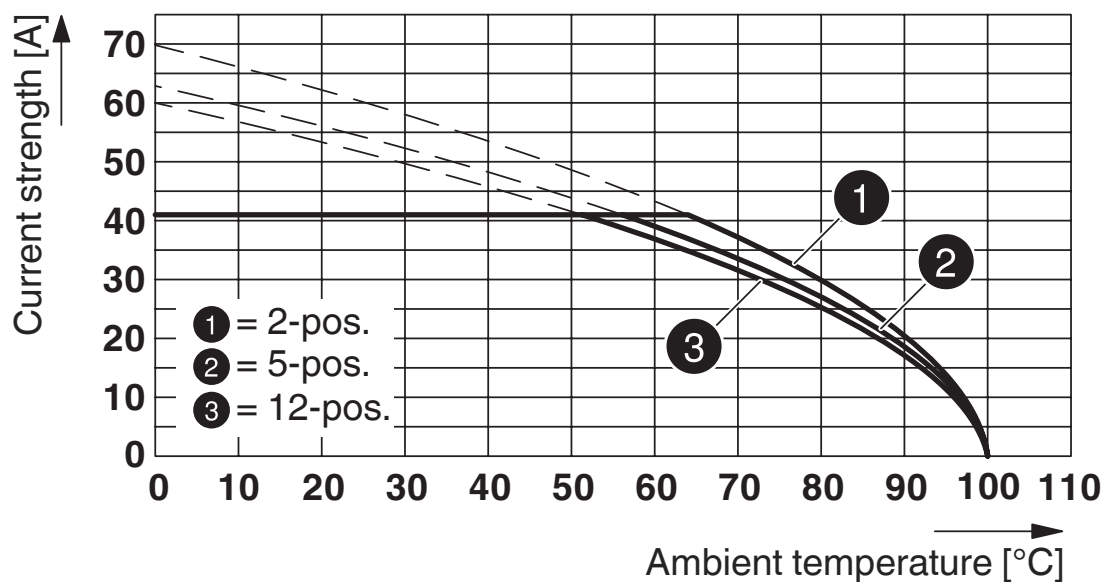
Type of packaging	packed in cardboard
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## Drawings

Dimensional drawing



Diagram



Type: SPC 5/...-STF-7,62 with DFK-PC 5/...-STF-7,62  
 Conductor cross section: 10 mm<sup>2</sup>

# PCB connector - SPC 5/ 3-STF-7,62



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## Approvals



**EAC**

Approval ID: B.01687



**cULus Recognized**

Approval ID: E60425-19920722

	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
Use group B				
	600 V	35 A	24 - 8	-
Use group C				
	600 V	35 A	24 - 8	-



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## Classifications

### ECLASS

ECLASS-9.0	27440309
ECLASS-10.0.1	27440309
ECLASS-11.0	27460202

### ETIM

ETIM 8.0	EC002638
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental Product Compliance

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

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## Accessories

### Coding profile

Coding profile - CP-PC RD - 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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### Screwdriver

Screwdriver - SZF 1-0,6X3,5 - 1204517

<https://www.phoenixcontact.com/us/products/1204517>

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



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## Crimping pliers

Crimping pliers - CRIMPFOX 6 - 1212034

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



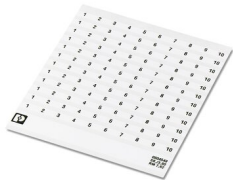
Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

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## Marker card

Marker card - SK 7,62/3,8:FORTL.ZAHLEN - 0804549

<https://www.phoenixcontact.com/us/products/0804549>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: adhesive, for terminal block width: 7.62 mm, lettering field size: 7.62 x 3.8 mm

# PCB connector - SPC 5/ 3-STF-7,62

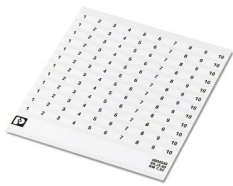
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<https://www.phoenixcontact.com/us/products/1996139>

## Marker card

Marker card - SK 3,8 REEL P7,62 WH CUS - 0825128

<https://www.phoenixcontact.com/us/products/0825128>



Marker card, can be ordered: by card, white, labeled according to customer specifications, mounting type: adhesive, for terminal block width: 7.62 mm, lettering field size: continuous x 3.8 mm

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## Marker card

Marker card - SK U/3,8 WH:UNBEDRUCKT - 0803906

<https://www.phoenixcontact.com/us/products/0803906>



Marker card, Sheet, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, lettering field size: 186 x 3.8 mm, Number of individual labels: 1440

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## Marker strip

Marker strip - SK 3,8 WH:REEL - 0805218

<https://www.phoenixcontact.com/us/products/0805218>



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 90000 mm, lettering field size: continuous x 3.8 mm, Number of individual labels: 210000

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## Ferrule

Ferrule - AI 4 -15 GY - 1200264

<https://www.phoenixcontact.com/us/products/1200264>



Ferrule, sleeve length: 15 mm, length: 23 mm, color: gray

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<https://www.phoenixcontact.com/us/products/1996139>

## Crimping pliers

Crimping pliers - CRIMPFOX CENTRUS 6S - 1213144

<https://www.phoenixcontact.com/us/products/1213144>



Crimping pliers, for uninsulated and insulated ferrules, DIN 46228 Part 1 and 4, from 0.14 mm<sup>2</sup> ... 6 mm<sup>2</sup>, also for TWIN ferrules up to 2 x 4 mm<sup>2</sup>, automatic cross section adjustment, lateral insertion, equipped with fall protection

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## Crimping pliers

Crimping pliers - CRIMPFOX CENTRUS 6H - 1213146

<https://www.phoenixcontact.com/us/products/1213146>



Crimping pliers, for uninsulated and insulated ferrules, DIN 46228 Part 1 and 4, from 0.14 mm<sup>2</sup> ... 6 mm<sup>2</sup>, also for TWIN ferrules up to 2 x 4 mm<sup>2</sup>, automatic cross section adjustment, lateral insertion, equipped with fall protection

# PCB connector - SPC 5/ 3-STF-7,62

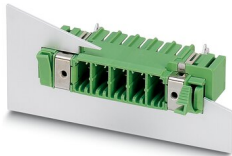
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## Feed-through header

Feed-through header - DFK-PC 5/ 3-GF-SH-7,62 - 1716072

<https://www.phoenixcontact.com/us/products/1716072>



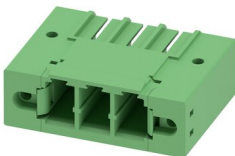
Feed-through header, nominal cross section: 6 mm<sup>2</sup>, color: green, nominal current: 41 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: DFK-PC 5/..-GF-SH, pitch: 7.62 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 5 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 5, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard

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## PCB header

PCB header - PC 5/ 3-GF-7,62 - 1720806

<https://www.phoenixcontact.com/us/products/1720806>



PCB headers, nominal cross section: 6 mm<sup>2</sup>, color: green, nominal current: 41 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PC 5/..-GF, pitch: 7.62 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 5 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 5, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard



# PCB connector - SPC 5/ 3-STF-7,62



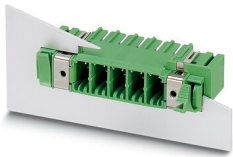
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## Feed-through header

Feed-through header - DFK-PC 5/ 3-GF-7,62 - 1727702

<https://www.phoenixcontact.com/us/products/1727702>



Feed-through header, nominal cross section: 6 mm<sup>2</sup>, color: green, nominal current: 41 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: DFK-PC 5/...-GF, pitch: 7.62 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4.9 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 5, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard

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