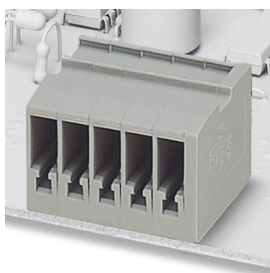


# ST 2,5-PCB/ 9-G-5,2 - PCB header

1980446

<https://www.phoenixcontact.com/us/products/1980446>

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The figure shows the 5-pos. version

ST-COMBI receptacle, plug-in direction horizontal to the PCB, pitch: 5.2 mm, no. of positions: 9

## Your advantages

- Universal plug-in solutions from the DIN rail through to the device can be implemented with the same plug
- The pitch width of this base strip is matched to that of the COMBI plug

## Commercial data

Item number	1980446
Packing unit	50 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Sales key	AA03
Product key	BE643X
GTIN	4017918972110
Weight per piece (including packing)	15.03 g
Weight per piece (excluding packing)	13.419 g
Customs tariff number	85366930
Country of origin	PL

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## Technical data

### Product properties

Product type	PCB headers
Product family	ST 2,5-PCB/..-G
Product line	COMBICON Connectors M
Number of positions	9
Pitch	5.2 mm
Number of rows	1
Mounting type	without
Pin layout	Zigzag pinning W
Solder pins per potential	1

### Electrical properties

#### Properties

Nominal current $I_N$	20 A
Nominal voltage $U_N$	630 V
Contact resistance	1 m $\Omega$
Rated voltage (III/3)	500 V
Rated surge voltage (III/3)	6 kV
Rated voltage (III/2)	630 V
Rated surge voltage (III/2)	6 kV
Rated voltage (II/2)	1000 V
Rated surge voltage (II/2)	6 kV

### Mounting

Mounting type	Wave soldering
Pin layout	Zigzag pinning W

### 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	Tin-plated
Metal surface contact area (top layer)	Tin (4 $\mu$ m - 8 $\mu$ m Sn)
Metal surface soldering area (top layer)	Tin (4 $\mu$ m - 8 $\mu$ m Sn)

#### Material data - housing

Color (Housing)	gray (7042)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600

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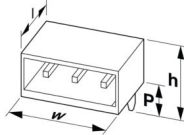
<https://www.phoenixcontact.com/us/products/1980446>

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

## Notes

Note on application	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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## Dimensions

Dimensional drawing	
Pitch	5.2 mm
Width [w]	48.9 mm
Height [h]	21.55 mm
Length [l]	21.7 mm
Installed height	18.05 mm
Solder pin length [P]	3.5 mm
Pin dimensions	11 mm

## PCB design

Hole diameter	1.6 mm
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## Mechanical tests

### Visual inspection

Specification	IEC 60512-2:1985-00
Result	Test passed

### Dimension check

Specification	IEC 60512-2:1985-00
Result	Test passed

### 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

### Contact holder in insert

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Specification	IEC 60512-8:1993-01
Contact holder in insert Requirements >20 N	Test passed

## Insertion and withdrawal forces

Specification	IEC 60512-7:1993-08
Result	Test passed
No. of cycles	50
Insertion strength per pos. approx.	6 N
Withdraw strength per pos. approx.	4 N

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	12

### Insulation resistance

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

### 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)	500 V
Rated surge voltage (III/3)	6 kV
minimum clearance value - non-homogenous field (III/3)	5.5 mm
minimum creepage distance (III/3)	6.3 mm
Rated insulation voltage (III/2)	630 V
Rated surge voltage (III/2)	6 kV
minimum clearance value - non-homogenous field (III/2)	5.5 mm
minimum creepage distance (III/2)	5.5 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

## Environmental and real-life conditions

### Durability test

Specification	IEC 60512-5:1992-08
Impulse withstand voltage at sea level	7.3 kV
Contact resistance $R_1$	1 m $\Omega$
Contact resistance $R_2$	1.5 m $\Omega$
Insertion/withdrawal cycles	50

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## 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	3.31 kV

## 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
Test directions	X-, Y- and Z-axis

## Ambient conditions

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

## Packaging specifications

Type of packaging	packed in cardboard
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## Drawings

Diagram



Type: SP 2,5/... with ST 2,5-PCB/...-G-5,2

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1980446>

 <b>cULus Recognized</b> Approval ID: E60425-20000825		Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B		300 V	15 A	-	-
C		300 V	15 A	-	-

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## Classifications

### ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

### ETIM

ETIM 10.0	EC002637
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### UNSPSC

UNSPSC 21.0	39121400
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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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### EF3.1 Climate Change

CO2e kg	0.1 kg CO2e
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