

# PCV 4/ 3-G-7,62 BK - PCB header

1801164

<https://www.phoenixcontact.com/us/products/1801164>

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PCB headers, nominal cross section: 4 mm<sup>2</sup>, color: black, nominal current: 20 A, rated voltage (III/2): 630 V, contact surface: Sn, contact connection type: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PCV 4/..-G, pitch: 7.62 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 5 mm, number of solder pins per potential: 2, plug-in system: COMBICON PC 4, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: packed in cardboard

## Your advantages

- Well-known mounting principle allows worldwide use
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Easy PCB replacement thanks to plug-in modules

## Commercial data

Item number	1801164
Packing unit	50 pc
Minimum order quantity	1,000 pc
Product key	AADSAD
GTIN	4055626336664
Weight per piece (including packing)	6.12 g
Weight per piece (excluding packing)	5.609 g
Country of origin	GR

## Technical data

### Product properties

Product type	PCB headers
Product family	PCV 4/...-G
Product line	COMBICON Connectors L
Number of positions	3
Pitch	7.62 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Linear pinning
Solder pins per potential	2

### Electrical properties

#### Properties

Nominal current $I_N$	20 A
Nominal voltage $U_N$	630 V
Contact resistance	0.45 mΩ
Rated voltage (III/3)	400 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)	630 V
Rated surge voltage (II/2)	6 kV

### Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

### 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 (5 μm - 10 μm Sn)
Metal surface contact area (middle layer)	Nickel (2 μm - 5 μm Ni)
Metal surface soldering area (top layer)	Tin (5 μm - 10 μm Sn)
Metal surface soldering area (middle layer)	Nickel (2 μm - 5 μm Ni)

#### Material data - housing

Color (Housing)	black (9005)
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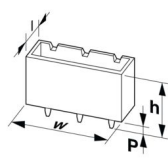
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Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

## 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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## Dimensions

Dimensional drawing	
Pitch	7.62 mm
Width [w]	22.82 mm
Height [h]	34 mm
Length [l]	14.25 mm
Installed height	29 mm
Solder pin length [P]	5 mm
Pin dimensions	1 x 0.8 mm

## PCB design

Pin spacing	7.62 mm
Hole diameter	1.3 mm

## Mechanical tests

### Visual inspection

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

### Dimension check

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

### 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

## Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed

## Insertion and withdrawal forces

Specification	IEC 60512-13-2:2006-02
Result	Test passed
No. of cycles	50
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N

## Electrical tests

### Thermal test | Test group C

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

### Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	>10 <sup>12</sup> 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)	400 V
Rated surge voltage (III/3)	6 kV
minimum clearance value - non-homogenous field (III/3)	5.5 mm
minimum creepage distance (III/3)	5.5 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)	630 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
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Impulse withstand voltage at sea level	7.3 kV
Contact resistance R <sub>1</sub>	0.45 mΩ
Contact resistance R <sub>2</sub>	0.6 mΩ
Insertion/withdrawal cycles	50

## 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	3.31 kV

## 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)
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: PC 5/...-ST1-7,62 with PCV 4/...-G-7,62  
 Conductor cross-section: 4 mm<sup>2</sup>

Diagram



Type: PC 5/...-ST1-7,62 with PCV 4/...-G-7,62  
 Conductor cross-section: 6 mm<sup>2</sup>

Diagram



Type: PC 5/...-STF1-7,62 with PCV 4/...-G-7,62 and BF-PC 4  
 Conductor cross-section: 4 mm<sup>2</sup>

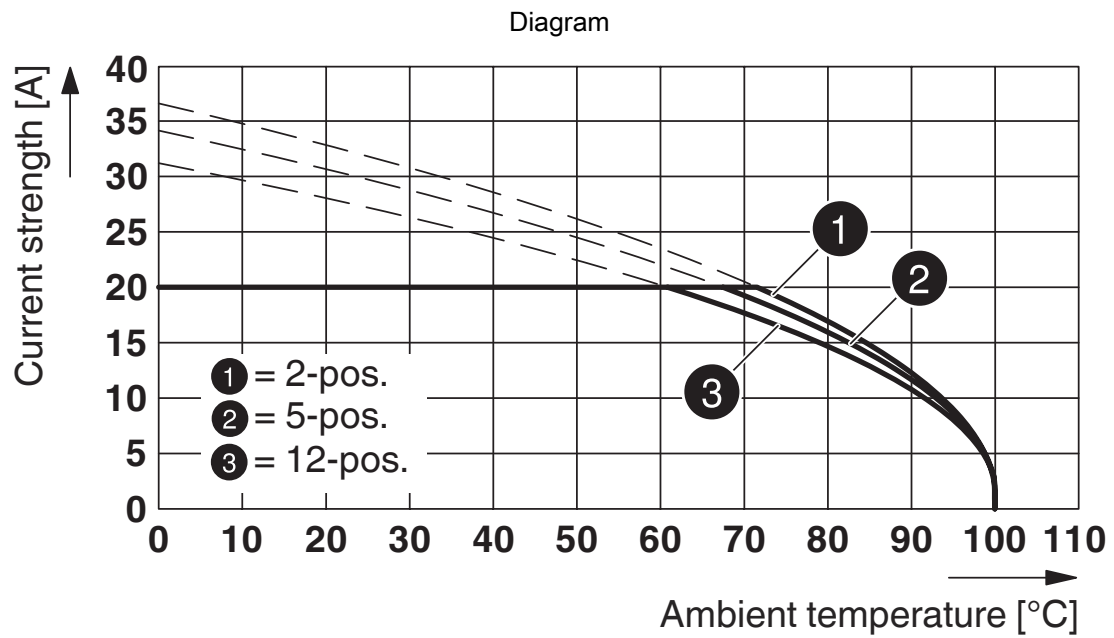
Diagram



Type: PC 5/...-STF1-7,62 with PCV 4/...-G-7,62 and BF-PC 4  
 Conductor cross-section: 6 mm<sup>2</sup>

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Type: PC 4/...-STF-7,62 with PCV 4/...-G-7,62 and BF-PC 4

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1801164>

 <b>cULus Recognized</b> Approval ID: E60425-19920722				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B	300 V	30 A	-	-
C	300 V	30 A	-	-

 <b>CSA</b> Approval ID: 2355836				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B	300 V	20 A	-	-
C	300 V	20 A	-	-

 <b>BV</b> Approval ID: 35433/C0 BV				
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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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