

BCH-508VF- 3 GY - PCB header

5434133

<https://www.phoenixcontact.com/us/products/5434133>



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PCB headers, nominal cross section: 2.5 mm², color: signal grey, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: BCH-VF, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, number of solder pins per potential: 1, plug-in system: BASICLINE 2,5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting: Threaded flange, type of packaging: packed in cardboard

Your advantages

- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Well-known mounting principle allows worldwide use
- Vertical connection enables multi-row arrangement on the PCB
- Easy PCB replacement thanks to plug-in modules
- Screwable flange for superior mechanical stability

Commercial data

Item number	5434133
Packing unit	100 pc
Minimum order quantity	100 pc
Note	Made to order (non-returnable)
Sales key	AA03
Product key	AACSQF
GTIN	4046356171335
Weight per piece (including packing)	2.682 g
Weight per piece (excluding packing)	2.682 g
Customs tariff number	85366930
Country of origin	CN

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Technical data

Product properties

Product type	PCB headers
Product family	BCH-VF
Product line	COMBICON Connectors M
Type	Standard
Number of positions	3
Pitch	5.08 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Mounting flange	Threaded flange
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Nominal current I_N	12 A
Nominal voltage U_N	320 V
Degree of pollution	3
Contact resistance	2.9 mΩ
Rated voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Rated voltage (II/2)	400 V
Rated surge voltage (II/2)	4 kV

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

Flange

Tightening torque	0.3 Nm
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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 - 8 μm Sn)
Metal surface contact area (middle layer)	Nickel (1.5 - 4 μm Ni)
Metal surface soldering area (top layer)	Tin (4 - 8 μm Sn)

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Metal surface soldering area (middle layer)	Nickel (1.5 - 4 µm Ni)
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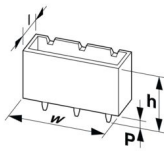
Material data - housing

Color (Housing)	signal grey (7004)
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	5.08 mm
Width [w]	25.4 mm
Height [h]	15.9 mm
Length [l]	8.6 mm
Installed height	12 mm
Solder pin length [P]	3.9 mm
Pin dimensions	1 x 1 mm

PCB design

Hole diameter	1.4 mm
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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

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

Polarization and coding

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

Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	10 N
Withdraw strength per pos. approx.	8 N

Electrical tests

Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	16

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)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	3.2 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3 mm
Rated insulation voltage (II/2)	400 V
Rated surge voltage (II/2)	4 kV
minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	3 mm

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)

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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	4.8 kV
Contact resistance R ₁	2.9 mΩ
Contact resistance R ₂	2.9 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

Climatic test

Specification	ISO 22479:2019-05
Corrosive stress	0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	2.21 kV

Ambient conditions

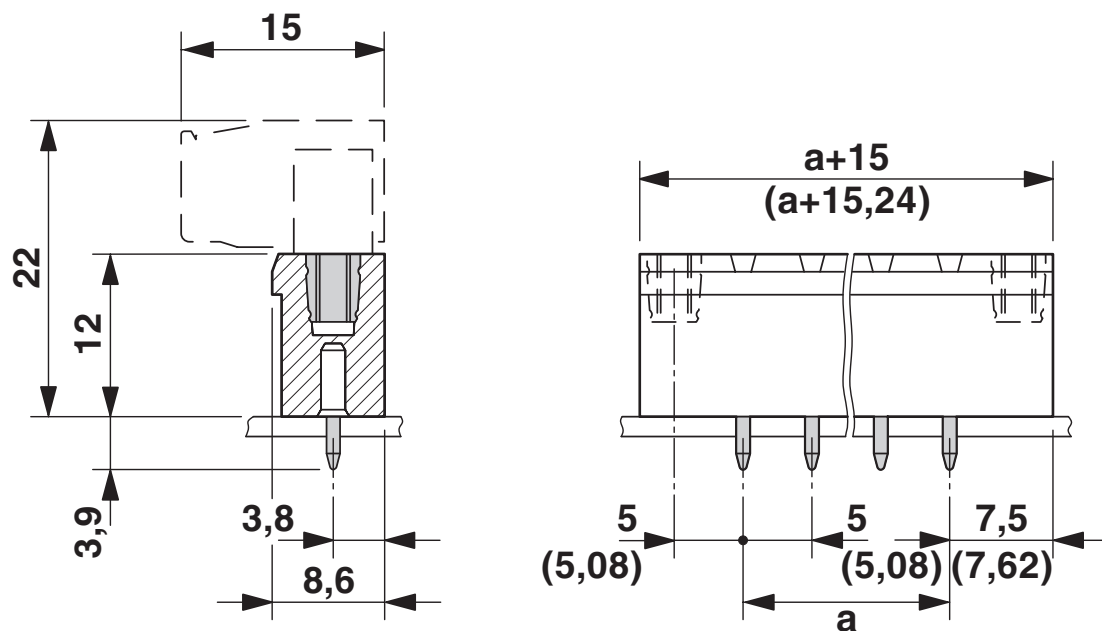
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

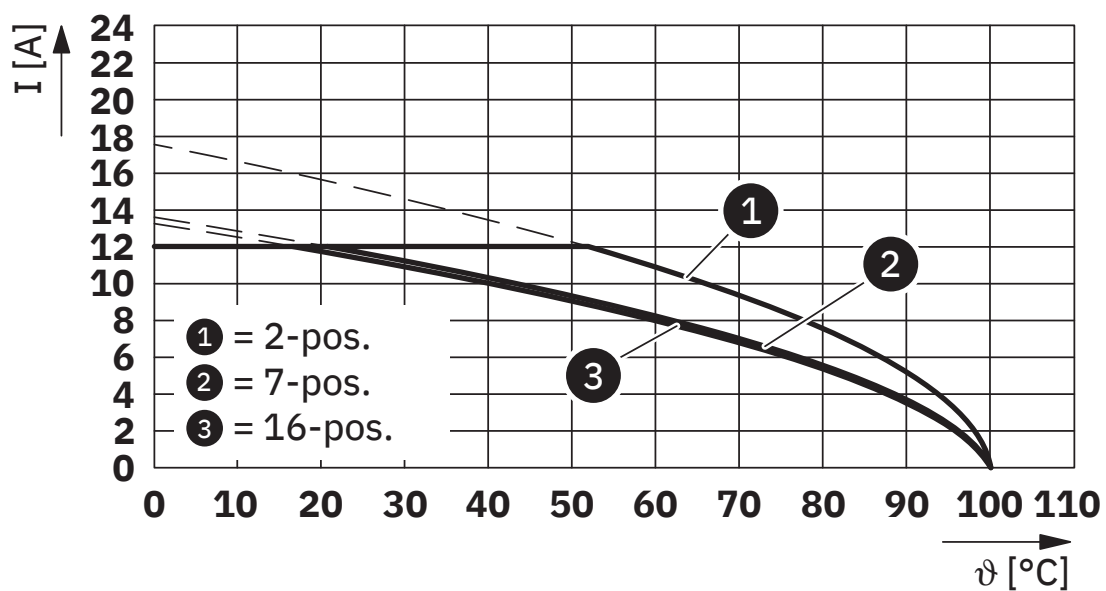
Type of packaging	packed in cardboard
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Drawings

Dimensional drawing



Diagram



Type: BCPV-508WF-... with BCH-508VF-...

Technical drawing of a mechanical part, likely a bracket or support, showing dimensions in millimeters (mm). The drawing includes a top view and a side view.

Top View Dimensions:

- Overall width: 15 mm (indicated by a dimension line with arrows pointing to the left and right edges).
- Distance from the left edge to the center of the first hole: 5 mm (indicated by a dimension line with arrows pointing to the left edge and the center of the first hole).
- Distance between the centers of the two holes: 7,5 mm (indicated by a dimension line with arrows pointing to the centers of the two holes).
- Distance from the center of the second hole to the right edge: 7,5 mm (indicated by a dimension line with arrows pointing to the center of the second hole and the right edge).
- Overall height: 3,8 mm (indicated by a dimension line with arrows pointing to the top and bottom edges).
- Radius of the outer corners: R2 (indicated by a dimension line with arrows pointing to the outer corners).
- Radius of the inner corners: R1 (indicated by a dimension line with arrows pointing to the inner corners).

Side View Dimensions:

- Overall height: 2,4 mm (indicated by a dimension line with arrows pointing to the top and bottom edges).
- Radius of the outer corners: R2 (indicated by a dimension line with arrows pointing to the outer corners).
- Radius of the inner corners: R1 (indicated by a dimension line with arrows pointing to the inner corners).

Other Dimensions:

- Distance from the left edge to the center of the first hole: 5 mm (indicated by a dimension line with arrows pointing to the left edge and the center of the first hole).
- Distance between the centers of the two holes: 7,5 mm (indicated by a dimension line with arrows pointing to the centers of the two holes).
- Distance from the center of the second hole to the right edge: 7,5 mm (indicated by a dimension line with arrows pointing to the center of the second hole and the right edge).
- Overall height: 3,8 mm (indicated by a dimension line with arrows pointing to the top and bottom edges).
- Radius of the outer corners: R2 (indicated by a dimension line with arrows pointing to the outer corners).
- Radius of the inner corners: R1 (indicated by a dimension line with arrows pointing to the inner corners).

Figure 1 is a graph showing the current I [A] on the y-axis (ranging from 0 to 24) versus the temperature ϑ [°C] on the x-axis (ranging from 0 to 110). The graph illustrates the current response of a thermostat for three different positions: 2-pos. (1), 7-pos. (2), and 16-pos. (3). The current starts at 12 A for all positions at 0°C. As temperature increases, the current decreases. The 2-pos. curve (1) drops sharply after 50°C. The 7-pos. curve (2) drops sharply after 75°C. The 16-pos. curve (3) drops sharply after 100°C. A dashed line indicates a linear decrease from 18 A at 0°C to 0 A at 100°C.

Temperature ϑ [°C]	Current I [A] (2-pos.)	Current I [A] (7-pos.)	Current I [A] (16-pos.)
0	12	12	12
10	12	12	12
20	12	12	12
30	12	12	12
40	12	12	12
50	12	12	12
60	10	12	12
70	8	12	12
80	6	10	12
90	4	8	12
100	2	6	12
110	0	4	12

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Approvals

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 cULus Recognized Approval ID: E60425-20071007				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	300 V	15 A	-	-

 VDE Gutachten mit Fertigungsüberwachung Approval ID: 40040694				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	320 V	12 A	-	0.2 - 2.5

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Classifications

ECLASS

ECLASS-11.0	27460201
ECLASS-12.0	27460201
ECLASS-13.0	27460201

ETIM

ETIM 8.0	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
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

CR-BC-M - Coding section

5436157

<https://www.phoenixcontact.com/us/products/5436157>

Coding section



MSTB-BL - Accessories

1755477

<https://www.phoenixcontact.com/us/products/1755477>

Keying cap, for forming sections, plugs onto header pin, green insulating material



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SK 5/3,8:FORTL.ZAHLEN - Marker card

0804183

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Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm

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

0803906

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



Marker card, Din A4, 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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