

BCH-381HF-10 GY - PCB header



5431453

<https://www.phoenixcontact.com/us/products/5431453>

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PCB headers, nominal cross section: 1.5 mm², color: signal grey, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: BCH-HF, pitch: 3.81 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm, number of solder pins per potential: 1, plug-in system: BASICLINE 1,5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting: Threaded flange, type of packaging: packed in cardboard

Commercial data

Item number	5431453
Packing unit	100 pc
Minimum order quantity	100 pc
Note	Made to order (non-returnable)
Sales key	AA02
Product key	AABSYB
GTIN	4046356169141
Weight per piece (including packing)	3.142 g
Weight per piece (excluding packing)	2.7 g
Customs tariff number	85366930
Country of origin	CN

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Technical data

Product properties

Product type	PCB headers
Product family	BCH-HF
Product line	COMBICON Connectors S
Type	Standard
Number of positions	10
Pitch	3.81 mm
Number of connections	10
Number of rows	1
Number of potentials	10
Mounting flange	Threaded flange
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Nominal current I_N	8 A
Nominal voltage U_N	160 V
Degree of pollution	3
Contact resistance	2 mΩ
Rated voltage (III/3)	160 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Rated voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 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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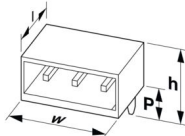
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Metal surface soldering area (middle layer)	Nickel (1.5 - 4 µm Ni)
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Material data - housing

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

Dimensions

Dimensional drawing	
Pitch	3.81 mm
Width [w]	48.49 mm
Height [h]	10.55 mm
Length [l]	9.2 mm
Installed height	7.15 mm
Solder pin length [P]	3.4 mm
Pin dimensions	0.8 x 0.8 mm

PCB design

Hole diameter	1.2 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

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

Polarization and coding

Specification	IEC 60512-7:1993-08 (Polarization)
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Result	Test passed
Contact holder in insert	
Specification	IEC 60512-8:1993-01
Contact holder in insert Requirements >20 N	Test passed
Insertion and withdrawal forces	
Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	7 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	20

Insulation resistance	
Specification	IEC 60512-3-1:2002-02
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)	160 V
Rated surge voltage (III/3)	2.5 kV
minimum clearance value - non-homogenous field (III/3)	1.5 mm
minimum creepage distance (III/3)	2 mm
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
minimum clearance value - non-homogenous field (III/2)	1.5 mm
minimum creepage distance (III/2)	1.5 mm
Rated insulation voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 kV
minimum clearance value - non-homogenous field (II/2)	1.5 mm
minimum creepage distance (II/2)	1.6 mm

Environmental and real-life conditions

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)

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

Durability test

Specification	IEC 60512-5:1992-08
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R ₁	2 mΩ
Contact resistance R ₂	2.5 mΩ
Insertion/withdrawal cycles	25

Climatic test

Specification	ISO 6988:1985-02
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	1.39 kV

Ambient conditions

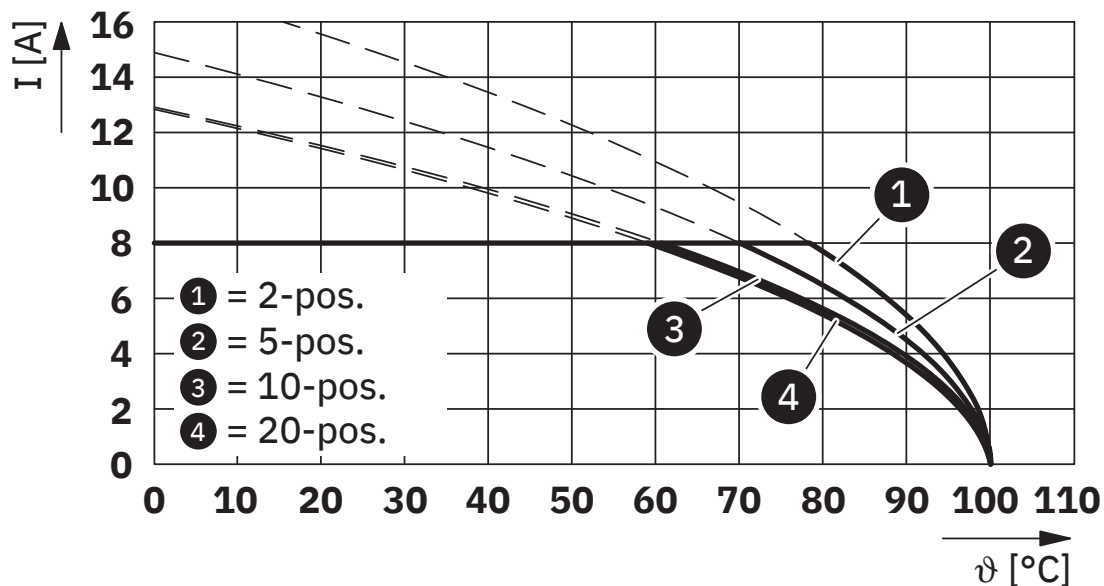
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	packed in cardboard
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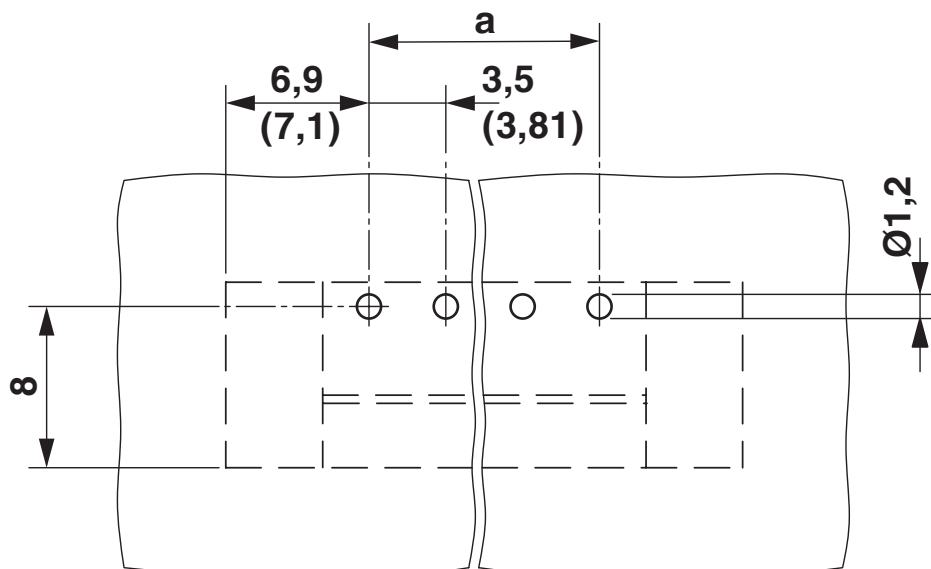
Drawings

Diagram



Type: BCP-381F-... with BCH-381HF-...

Drilling plan/solder pad geometry



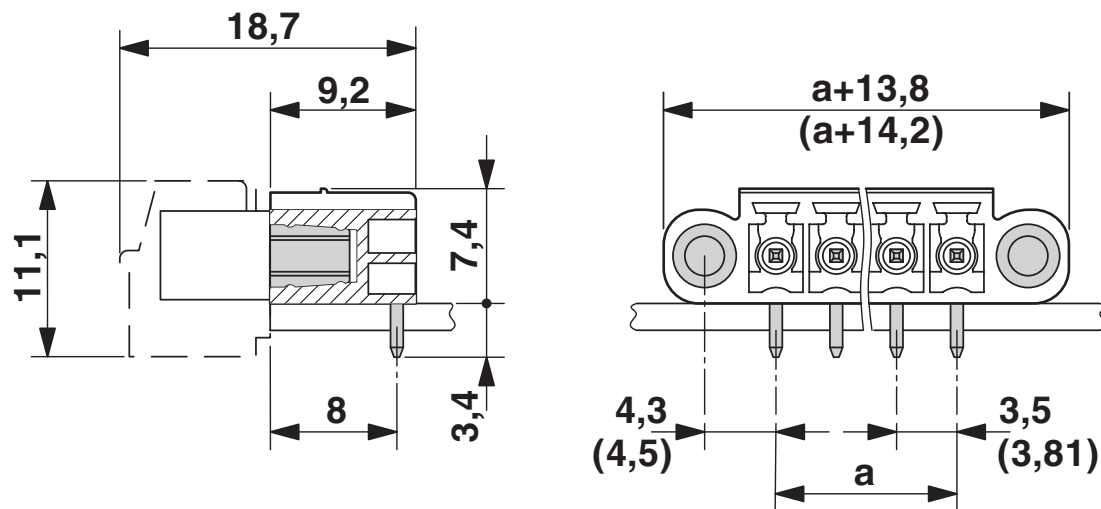
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Dimensional drawing



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/5431453>

 cULus Recognized Approval ID: E60425-20071007				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B	250 V	8 A	-	-
Use group D	300 V	8 A	-	-

 VDE Gutachten mit Fertigungsüberwachung Approval ID: 40040694				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	160 V	8 A	-	0.2 - 1.5

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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

CP-BC-M - Coding profile

5436160

<https://www.phoenixcontact.com/us/products/5436160>

Coding profile



B-STIFT - Marker pen

1051993

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Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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SK 3,5/2,8:FORTL.ZAHLEN - Marker card

0804073

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Marker card, Sheet, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 .
.. 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 3.5
mm, lettering field size: 3.5 x 2.8 mm, Number of individual labels: 14

SK U/2,8 WH:UNBEDRUCKT - Marker card

0803883

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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 2.8 mm, Number of individual
labels: 3600

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