

# BCH-500HS-21 GY - PCB header



5432559

<https://www.phoenixcontact.com/us/products/5432559>

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PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: signal grey, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of potentials: 21, number of rows: 1, number of positions: 21, number of connections: 21, product range: BCH-HS, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.23 mm, number of solder pins per potential: 1, plug-in system: BASICLINE 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, 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
- Plug-in direction parallel to the PCB
- Closed contour for optimum stability of the plug-in connection
- Easy PCB replacement thanks to plug-in modules

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 5432559                        |
| Packing unit                         | 100 pc                         |
| Minimum order quantity               | 100 pc                         |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA03                           |
| Product key                          | AACSPC                         |
| GTIN                                 | 4046356493079                  |
| Weight per piece (including packing) | 22.22 g                        |
| Weight per piece (excluding packing) | 22.22 g                        |
| Customs tariff number                | 85366930                       |
| Country of origin                    | CN                             |

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## Technical data

### Product properties

|                           |                       |
|---------------------------|-----------------------|
| Product type              | PCB headers           |
| Product family            | BCH-HS                |
| Product line              | COMBICON Connectors M |
| Type                      | Standard              |
| Number of positions       | 21                    |
| Pitch                     | 5 mm                  |
| Number of connections     | 21                    |
| Number of rows            | 1                     |
| Number of potentials      | 21                    |
| Mounting flange           | without               |
| 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     |
| 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 |

### 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 $\mu\text{m}$ Sn)   |
| Metal surface contact area (middle layer)   | Nickel (1.5 - 4 $\mu\text{m}$ Ni)  |
| Metal surface soldering area (top layer)    | Tin (4 - 8 $\mu\text{m}$ Sn)   |
| Metal surface soldering area (middle layer) | Nickel (1.5 - 4 $\mu\text{m}$ Ni)  |

#### Material data - housing

|                 |                    |
|-----------------|--------------------|
| Color (Housing) | signal grey (7004) |
|-----------------|--------------------|

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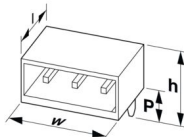
<https://www.phoenixcontact.com/us/products/5432559>

|   |        |
|---|--------|
| 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. |
|--------------------|--|

## Dimensions

|                       |   |
|-----------------------|---|
| Dimensional drawing   |  |
| Pitch                 | 5 mm  |
| Width [w]             | 107 mm  |
| Height [h]            | 11.8 mm   |
| Length [l]            | 12 mm   |
| Installed height      | 8.57 mm   |
| Solder pin length [P] | 3.23 mm   |
| Pin dimensions        | 1 x 1 mm  |

## PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.4 mm |
|---------------|--------|

## Electrical tests

### 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                |

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|   |       |
|---|-------|
| 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

### 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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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/5432559>

|  <b>cULus Recognized</b><br>Approval ID: E60425-20071007 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B   |                       |                       |                   |                             |
|   | 300 V                 | 15 A                  | -                 | -                           |

|  <b>VDE Gutachten mit Fertigungsüberwachung</b><br>Approval ID: 40040694 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|   | 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 |
|----------|----------|

### 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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