

# HC-BB46-I-PT-M - Contact insert



1014424

<https://www.phoenixcontact.com/us/products/1014424>

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Contact insert, number of positions: 46+PE, size: B24, power contacts: 46, control contacts: 0, number of connections per position: 1, Pin, Push-in connection, 500 V, 16 A, 0.5 mm<sup>2</sup> ... 2.5 mm<sup>2</sup>, application: Power

## Your advantages

- Easy installation without tools, even when mounted, with push-in connection technology
- Shortest installation time compared to other connection technologies
- Quick and effortless wiring, in particular when space is tight
- Automatic cabling with robots possible
- Safe wiring and operation with color-coded actuators
- Shock and vibration-resistant in accordance with DIN EN 61373
- Cost-effective and fast coding with plastic profiles
- High contact density

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1014424       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF61          |
| Product key                          | AF7ABD        |
| GTIN                                 | 4055626492988 |
| Weight per piece (including packing) | 150.3 g       |
| Weight per piece (excluding packing) | 150.3 g       |
| Customs tariff number                | 85366990      |
| Country of origin                    | CN            |

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## Technical data

### Notes

|         |                                                                                                                                                                       |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General | for flexible conductors with or without ferrules                                                                                                                      |
| General | Connectors may be operated only when there is no load/voltage.                                                                                                        |
| General | Flexible conductors may be used without ferrules as long as they comply with IEC 60228 Class 1 ... 5. The individual litz wires must have a min. diameter of 0.17 mm. |

### Mounting

|               |                                                                                           |
|---------------|-------------------------------------------------------------------------------------------|
| Assembly note | To ensure correct use, installation in housing with IP54 protection or better is required |
|---------------|-------------------------------------------------------------------------------------------|

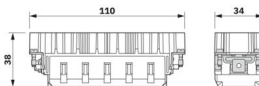
### Product properties

|                                    |                                              |
|------------------------------------|----------------------------------------------|
| Product type                       | Contact insert with a fixed no. of positions |
| Series                             | HC-BB                                        |
| Application                        | Power                                        |
| Type                               | B24                                          |
| Number of positions                | 46                                           |
| Connection profile                 | 46+PE                                        |
| Contact numbering                  | 1 - 46                                       |
| Number of connections per position | 1                                            |
| No. of power contacts              | 46                                           |
| No. of control contacts            | 0                                            |
| Contact material type              | turned                                       |

### Insulation characteristics

|                      |     |
|----------------------|-----|
| Overvoltage category | III |
| Degree of pollution  | 3   |

### Dimensions

|                                 |                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing             |  |
| Width                           | 34 mm                                                                                |
| Height                          | 38 mm                                                                                |
| Length                          | 110 mm                                                                               |
| Drill hole distance, horizontal | 104 mm                                                                               |
| Drill hole distance, vertical   | 27 mm                                                                                |

### Mechanical characteristics

|                        |        |
|------------------------|--------|
| Minimum housing height | 72 mm  |
| Contact diameter       | 2.5 mm |

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## Connection data

### Connection technology

|                                    |                    |
|------------------------------------|--------------------|
| Connection technology              | Push-in connection |
| Number of connections per position | 1                  |
| Connection in acc. with standard   | IEC / EN           |

### Conductor connection

|                                         |                                                                                                               |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Conductor cross section                 | 0.5 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>                                                                   |
| Connection cross section AWG            | 20 ... 14                                                                                                     |
| Tightening torque                       | 0.8 Nm ... 1.2 Nm (PE connection)<br>0.5 Nm ... 0.8 Nm (Mounting screws for mounting in the HEAVYCON housing) |
| Stripping length of the individual wire | 10 mm                                                                                                         |

## Electrical properties

|                       |                       |
|-----------------------|-----------------------|
| Rated voltage (III/3) | 500 V                 |
| Rated surge voltage   | 6 kV                  |
| Rated current         | 16 A (power contacts) |

## Mechanical properties

### Mechanical data

|                             |       |
|-----------------------------|-------|
| Insertion/withdrawal cycles | ≥ 500 |
|-----------------------------|-------|

## Material specifications

|                                        |              |
|----------------------------------------|--------------|
| Flammability rating according to UL 94 | V0           |
| Contact material                       | Copper alloy |
| Contact surface material               | Ag           |
| Contact carrier material               | PC           |
| Standards/regulations                  | PC           |

## Environmental and real-life conditions

### Ambient conditions

|                                 |                                                      |
|---------------------------------|------------------------------------------------------|
| Ambient temperature (operation) | -40 °C ... 125 °C (including heating up of contacts) |
|---------------------------------|------------------------------------------------------|

## Standards and regulations

### Testing

|                       |                                                                                                                         |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------|
| Standards/regulations | PC: Fire protection in rail vehicles - requirement sets R22, R23, and R24 acc. to DIN EN 45545-2 (Risk level HL1 - HL3) |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------|

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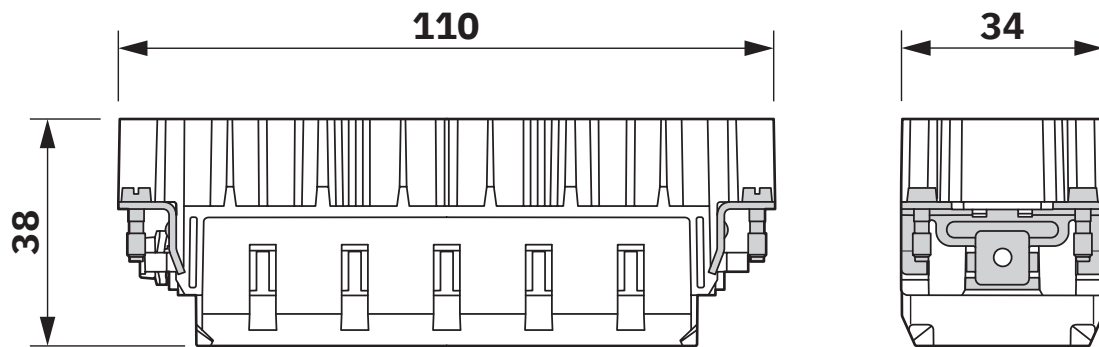
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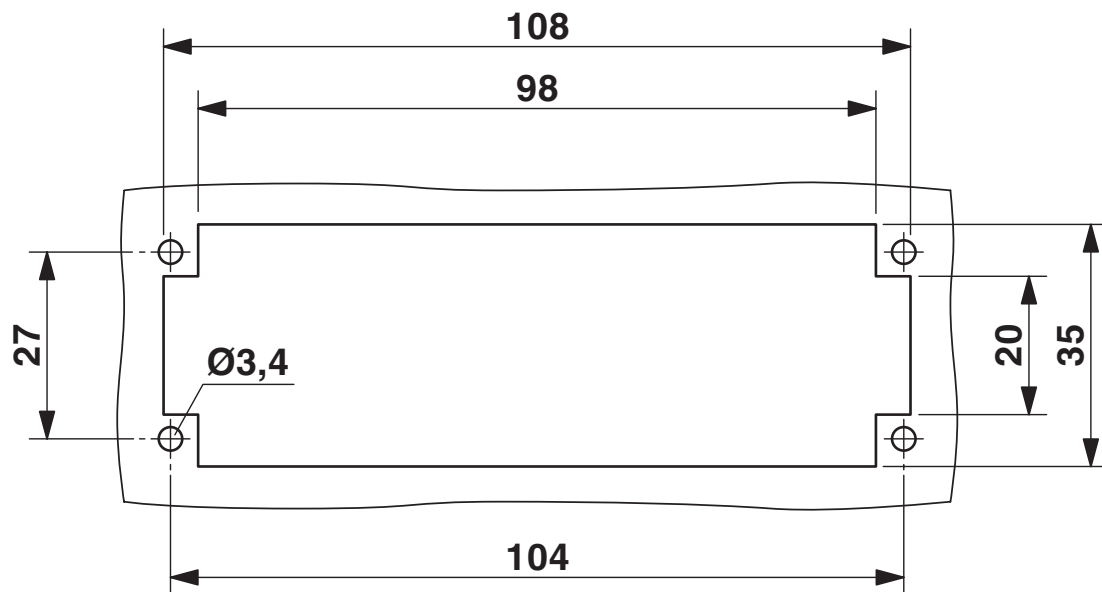
## Drawings

Dimensional drawing



Dimensional drawing

Dimensional drawing



Mounting cutout when used without housing

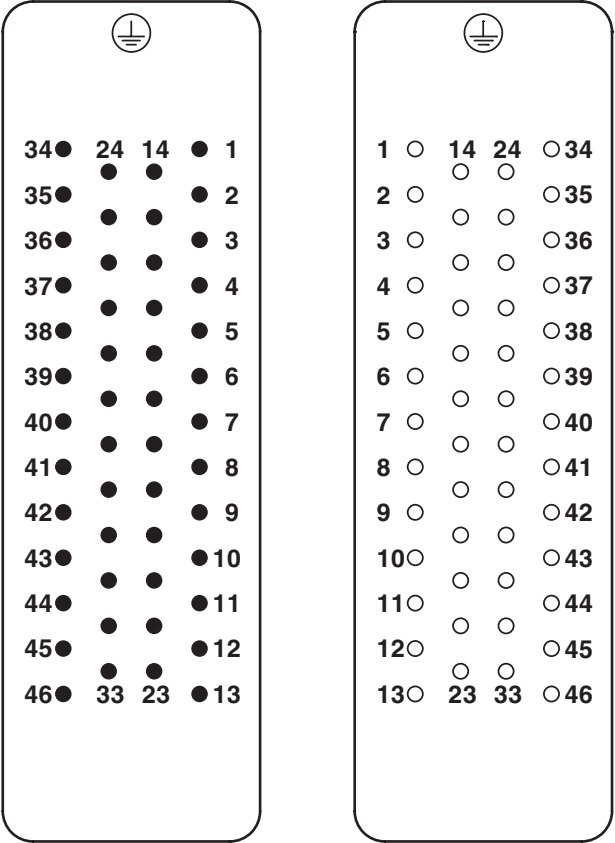
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Schematic diagram



Connection side: male left; female right

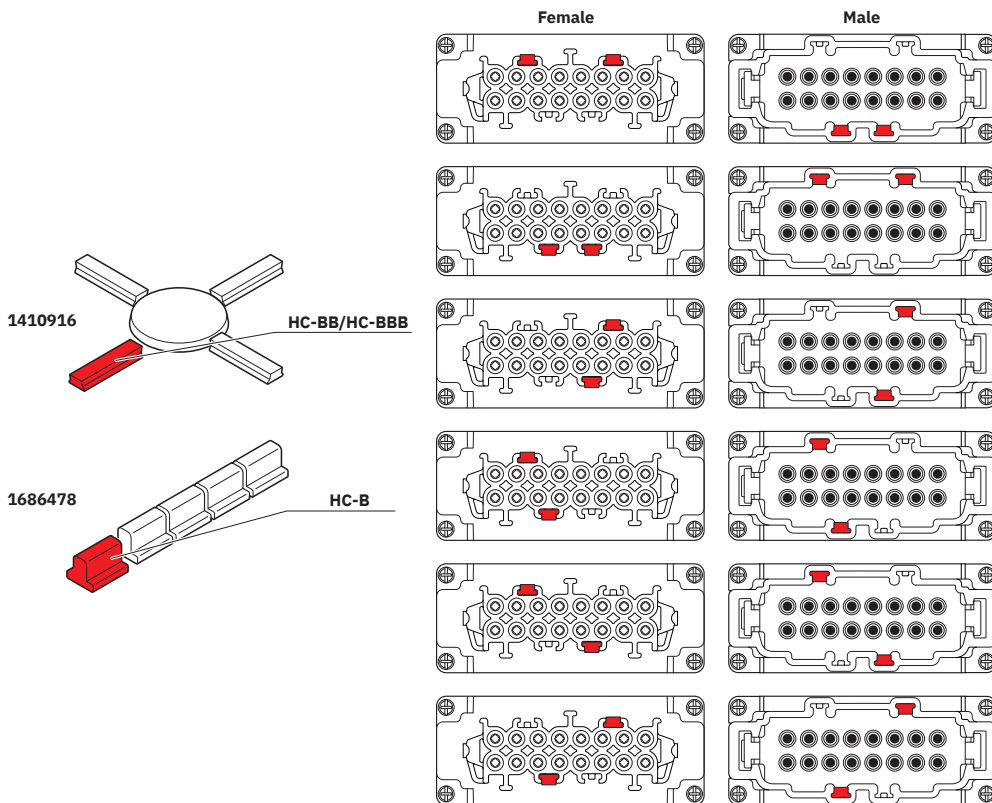
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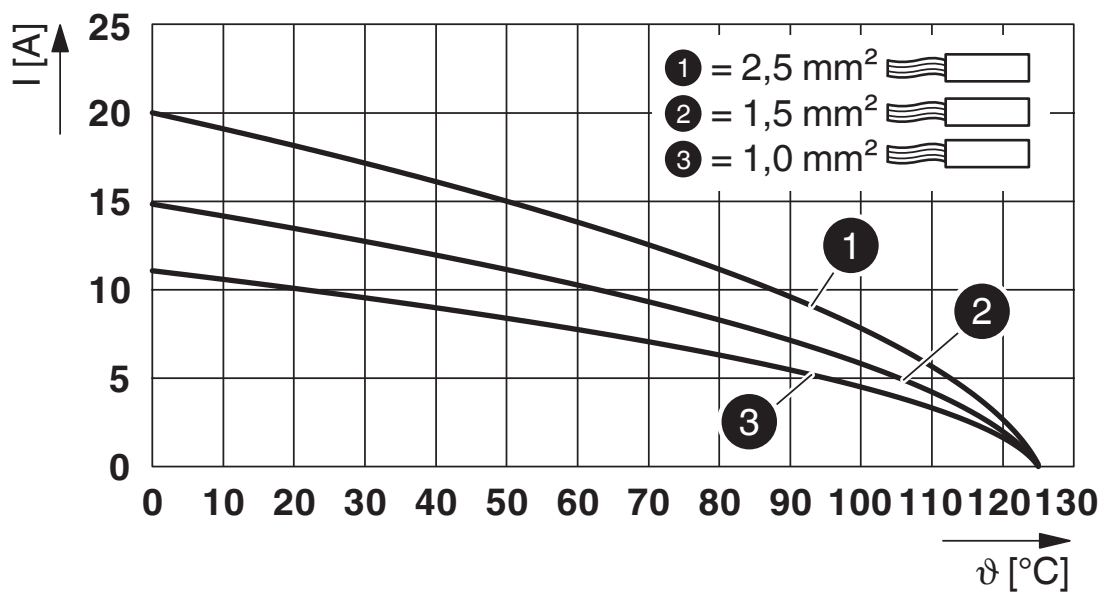


## Schematic diagram



Coding options

## Diagram

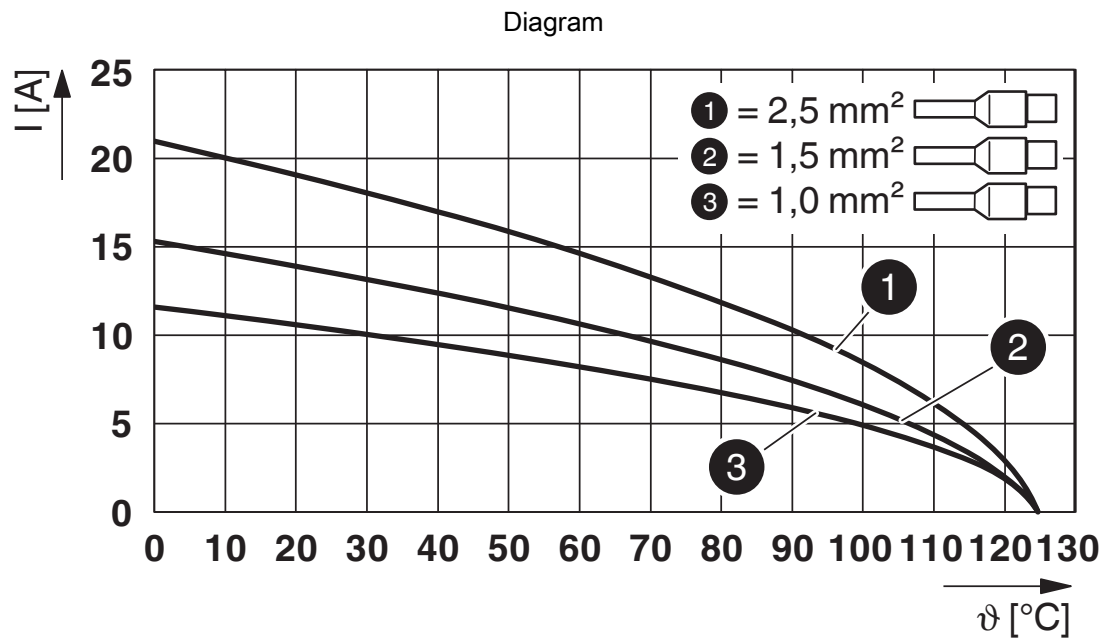


Derating diagram for flexible conductors

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Derating diagram for flexible conductors with ferrule

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1014424>

**DNV**  
Approval ID: TAE000037S

|       |                                                                                                                                                       |                                |                   |                               |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------|-------------------------------|
| keine | <div><div> <b>UL Recognized</b><br/>Approval ID: E468743</div></div> |                                |                   |                               |
|       | Nominal voltage U <sub>N</sub>                                                                                                                        | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
|       | 600 V                                                                                                                                                 | 21 A                           | - 14              | -                             |



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27440205 |
| ECLASS-15.0 | 27440205 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC000438 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121500 |
|-------------|----------|

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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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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)