

## HDC HA 16 FS 33-48

**Weidmüller Interfaces GmbH & Co. KG**

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The small and slim HA series can be used wherever space is limited.

The wire connection level is designed for screw connections. All screw connection elements are equipped with wire protection (with the exception of size 1).

Screw connection

### General ordering data

|            |   |
|------------|---|
| Version    | HDC insert, Female, 250 V, 16 A, Number of poles: 16, Screw connection, Size: 5 |
| Order No.  | <a href="#">1651020000</a>  |
| Type       | HDC HA 16 FS 33-48  |
| GTIN (EAN) | 4008190299644   |
| Qty.       | 1 pc(s).  |

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**Technical data**
**Dimensions and weights**

|            |         |                 |            |
|------------|---------|-----------------|------------|
| Depth      | 73 mm   | Depth (inches)  | 2.874 inch |
| Height     | 31.1 mm | Height (inches) | 1.224 inch |
| Width      | 23 mm   | Width (inches)  | 0.906 inch |
| Net weight | 71 g    |                 |            |

**Temperatures**

Limit temperature -40 °C ... 125 °C

**Environmental Product Compliance**

REACH SVHC Lead 7439-92-1, Potassium perfluorobutane sulfonate 29420-49-3

SCIP b67daa31-7dca-434d-8290-da7fb52f83a2

| Chemical resistance | Substance                 | Chemical resistance     |
|---------------------|---------------------------|-------------------------|
|                     | Acetone                   | Resistant               |
|                     | Ammonia, watery           | Conditionally resistant |
|                     | Petrol                    | Resistant               |
|                     | Benzene                   | Resistant               |
|                     | Diesel oil                | Conditionally resistant |
|                     | Acetic acid, concentrated | Resistant               |
|                     | Potassium hydroxide       | Conditionally resistant |
|                     | Methanol                  | Conditionally resistant |
|                     | Motor oil                 | Conditionally resistant |
|                     | Lye, diluted              | Resistant               |
|                     | Hydrochlorofluorocarbons  | Conditionally resistant |
|                     | Outdoor use               | Conditionally resistant |

**Dimensions**

|                  |         |                   |       |
|------------------|---------|-------------------|-------|
| Height of socket | 31.1 mm | Total length base | 73 mm |
| Width            | 23 mm   |                   |       |

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## Technical data

## General data

|                                      |   |                              |                     |
|--------------------------------------|---|------------------------------|---------------------|
| BG                                   | 5   | Conductor cross-section      | 2.5 mm <sup>2</sup> |
| Insulating material                  | PC glass-fibre reinforced (UL-listed and railway-certified) | Insulating material group    | IIIa                |
| Insulation strength                  | 10 <sup>10</sup> Ω  | Material                     | Copper alloy        |
| Max. torque for main contact         | 0.55 Nm   | Min. torque for main contact | 0.5 Nm              |
| Number of poles                      | 16  | Plugging cycles, silver      | ≥ 500               |
| Pollution severity                   | 3   | Rated current (DIN EN 61984) | 16 A                |
| Rated impulse voltage (DIN EN 61984) | 4 kV  | Rated voltage (DIN EN 61984) | 250 V               |
| Rated voltage according to UL/CSA    | 600 V AC/DC   | Series                       | HA                  |
| Size                                 | 5   | Surface finish               | Silver passivated   |
| Type                                 | Female  | UL 94 flammability rating    | V-0                 |
| Volume resistance                    | ≤2 mΩ   |                              |                     |

## Connection data PE

|                                       |                     |                                       |              |
|---------------------------------------|---------------------|---------------------------------------|--------------|
| Blade size, crosshead                 | size PH1            | Blade size, slotted (PE connection)   | SD 0.8 x 4.0 |
| Connection type PE                    | Screw connection    | Fixing screw                          | M 4          |
| Rated cross-section                   | 2.5 mm <sup>2</sup> | Stripping length PE connection        | 10 mm        |
| Tightening torque, max. PE connection | 1.5 Nm              | Tightening torque, min. PE connection | 1.2 Nm       |
| Wire cross section, AWG (PE), max.    | AWG 14              | Wire cross section, AWG (PE), min.    | AWG 20       |

## Version

|   |                     |   |                     |
|---|---------------------|---|---------------------|
| BG  | 5                   | Blade size  | size PH0            |
| Blade size, slotted (screw connection)  | SD 0.6 x 3.5        | Clamping screw  | M 3                 |
| Conductor cross-section, max.   | 2.5 mm <sup>2</sup> | Conductor cross-section, min.   | 0.5 mm <sup>2</sup> |
| Material  | Copper alloy        | Max. torque for main contact  | 0.55 Nm             |
| Min. torque for main contact  | 0.5 Nm              | Size  | 5                   |
| Stripping length, rated connection  | 9 mm                | Surface finish  | Silver passivated   |
| Type of connection  | Screw connection    | Volume resistance   | ≤2 mΩ               |
| Wire connection cross section AWG, max.   | AWG 14              | Wire connection cross section AWG, min.   | AWG 20              |
| Wire connection cross section, finely stranded, max.                                    | 2.5 mm <sup>2</sup> | Wire connection cross section, finely stranded, min.                                    | 0.5 mm <sup>2</sup> |
| Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max. | 2.5 mm <sup>2</sup> | Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min. | 0.5 mm <sup>2</sup> |
| Wire cross-section, solid, max.   | 2.5 mm <sup>2</sup> | Wire cross-section, solid, min.   | 0.5 mm <sup>2</sup> |

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC000438    | ETIM 7.0    | EC000438    |
| ETIM 8.0    | EC000438    | ECLASS 9.0  | 27-44-02-05 |
| ECLASS 9.1  | 27-44-02-05 | ECLASS 10.0 | 27-44-02-05 |
| ECLASS 11.0 | 27-44-02-05 | ECLASS 12.0 | 27-44-02-05 |

## Approvals

Approvals



ROHS

Conform

Creation date September 16, 2022 8:40:19 AM CEST

Catalogue status 09.09.2022 / We reserve the right to make technical changes.

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Technical Documentation

[1651020000\\_HDC\\_HA\\_16\\_FS\\_33-48\\_STP\\_Blatt\\_1.pdf](#)

Catalogues

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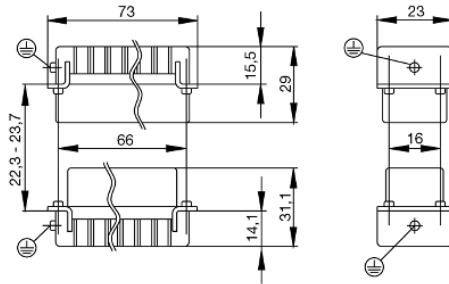
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**Drawings**

# Tightening torques and screwing tools

| Screw size                     | Connector type                          | Dia. tightening torque in Nm  | Recommended blade inserts and AF size for hexagon socket |                                   |
|--------------------------------|---|---|--|-----------------------------------|
| <b>M 2.5</b>                   | <b>Signal contacts</b>                  |   |  |                                   |
|                                | S 6/6                                   | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PZ0                                   |                                   |
|                                | S 6/12                                  | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PZ0                                   |                                   |
| <b>M 2.9 x 0.5</b>             | <b>Fastening screws</b>                 |   |  |                                   |
|                                | HQ 4/2                                  | 0.8 (plastic) / 1.1 (metal)   | SD 0.6 x 3.5 mm or PH0                                   |                                   |
|                                | HQ 8                                    | 0.8 (plastic) / 1.1 (metal)   | SD 0.6 x 3.5 mm or PH0                                   |                                   |
|                                | HQ 17                                   | 0.8 (plastic) / 1.1 (metal)   | SD 0.6 x 3.5 mm or PH0                                   |                                   |
| <b>M 3</b>                     | <b>Contact screws</b>                   |   |  |                                   |
|                                | HA 3                                    | 0.5 - 0.55  | SD 0.5 x 3.0 mm  |                                   |
|                                | HA 4                                    | 0.5 - 0.55  | SD 0.5 x 3.0 mm  |                                   |
|                                | HA 10 bis HA 48                         | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PH0                                   |                                   |
|                                | HE                                      | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PZ0                                   |                                   |
|                                | HVE                                     | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PZ0                                   |                                   |
|                                | <b>Signal contacts:</b>                 |   |  |                                   |
|                                | S 4/2                                   | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PZ0                                   |                                   |
|                                | S 4/8                                   | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PZ0                                   |                                   |
|                                | <b>PE connection via female contact</b> |   |  |                                   |
|                                | S 4                                     | 0.5 - 0.8   | SD 0.6 x 3.5 mm  |                                   |
|                                | ConCept modular frame, metal            | 0.5 - 0.55  | SD 0.6 x 3.5 mm  |                                   |
|                                | <b>PE terminal</b>                      |   |  |                                   |
|                                | HQ 5                                    | 0.5 - 0.55  | SD 0.6 x 3.5 or 0.8 x 4 mm                               |                                   |
|                                | HQ 7                                    | 0.5 - 0.55  | SD 0.6 x 3.5 or 0.8 x 4 mm                               |                                   |
|                                | <b>Fastening screws</b>                 | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PZ0                                   |                                   |
|                                | <b>Guide pin</b>                        | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PZ0                                   |                                   |
|                                | <b>Guide bush</b>                       | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PZ0                                   |                                   |
|                                | <b>Coding pins</b>                      | 0.5 - 0.55  | SD 0.6 x 3.5 mm or PZ0                                   |                                   |
|                                | <b>M 4</b>                              | <b>Contact screws</b>   |  |                                   |
|                                |   | HSB   | 1.2 - 1.5  | SD 0.6 x 3.5 or 0.8 x 4 mm or PZ1 |
|                                |   | <b>PE connection via male contact</b>   |  |                                   |
| S 4                            |   | 0.5 - 0.8   | SD 0.6 x 3.5 mm  |                                   |
| ConCept modular frame, metal   |   | 1.2 - 1.5   | SD 0.6 x 3.5 mm  |                                   |
| <b>PE terminal</b>             |   |   |  |                                   |
| HA                             |   | 1.2 - 1.5   | SD 0.6 x 3.5 or 0.8 x 4 mm or PH1                        |                                   |
| HE                             |   | 1.2 - 1.5   | SD 0.6 x 3.5 or 0.8 x 4 mm or PH1                        |                                   |
| HEE                            |   | 1.2 - 1.5   | SD 0.6 x 3.5 or 0.8 x 4 mm or PH1                        |                                   |
| HVE                            |   | 1.2 - 1.5   | SD 0.6 x 3.5 or 0.8 x 4 mm or PH1                        |                                   |
| HD                             |   | 1.2 - 1.5   | SD 0.6 x 3.5 or 0.8 x 4 mm or PZ1                        |                                   |
| HDD                            |   | 1.2 - 1.5   | SD 0.6 x 3.5 or 0.8 x 4 mm or PZ1                        |                                   |
| S 6/6 (for signal contacts)    |   | 1.2 - 1.5   | 0.8 x 4 mm or PZ1  |                                   |
| ConCept modular frame, plastic |   | 1.2 - 1.5   | 0.8 x 4 mm or PZ1  |                                   |
| <b>M 5</b>                     |   | <b>PE terminal</b>  |  |                                   |
|                                |   | HSB   | 2 - 2.5  | SD 1 x 5.5 mm or PZ2              |
|                                | S 4/0 (Screw connection)                | 2 - 2.5   | SD 1.2 x 6.5 mm or PH2                                   |                                   |
|                                | S 4/0 (Axial screw connection)          | 2 - 2.5   | SD 0.8 x 4 mm or PZ 2                                    |                                   |
|                                | S 4/2                                   | 2 - 2.5   | SD 1.2 x 6.5 mm or PH2                                   |                                   |
|                                | S 4/8                                   | 2 - 2.5   | SD 1.2 x 6.5 mm or PH2                                   |                                   |
|                                | S 6/12                                  | 2 - 2.5   | SD 0.8 x 4 mm or PZ 2                                    |                                   |
|                                | S 6/36                                  | 2 - 2.5   | SD 1.2 x 6.5 mm or PH2                                   |                                   |
|                                | S 8/24                                  | 2 - 2.5   | SD 1.2 x 6.5 mm or PH2                                   |                                   |
|                                | S 12/2                                  | 2 - 2.5   | SD 1.2 x 6.5 mm or PH2                                   |                                   |
|                                | <b>M 6</b>                              | <b>Power contacts</b>   |  |                                   |
| S 4/0 (Screw connection)       |   | 1.2 (1.5 mm <sup>2</sup> ) / 2 (2.5 mm <sup>2</sup> ) / 3 (4-16 mm <sup>2</sup> ) | SD 0.8 x 4 mm  |                                   |
| S 4/2                          |   | 1.2 (1.5 mm <sup>2</sup> ) / 2 (2.5 mm <sup>2</sup> ) / 3 (4-16 mm <sup>2</sup> ) | SD 0.8 x 4 mm  |                                   |
| S 4/8                          |   | 1.2 (1.5 mm <sup>2</sup> ) / 2 (2.5 mm <sup>2</sup> ) / 3 (4-16 mm <sup>2</sup> ) | SD 0.8 x 4 mm  |                                   |
| <b>M 7 x 0.75</b>              | <b>Power contacts</b>                   |   |  |                                   |
|                                | S 4                                     | 1.1 - 1.7   | SW 2   |                                   |
|                                | S 6/6 (+ PE)                            | 6 - 8   | SW 4   |                                   |
| <b>M 8 x 0.75</b>              | <b>Power contacts</b>                   |   |  |                                   |
|                                | S 6/12                                  | 1.1 - 1.7   | SW 2   |                                   |
|                                | S 8/0 (+ PE)                            | 6 (10-16 mm <sup>2</sup> ) - 7 (25 mm <sup>2</sup> )                              | SW 4   |                                   |
| <b>M10 x 1</b>                 | <b>Power contacts</b>                   |   |  |                                   |
|                                | S 4/0 (Axial connection)                | 2 - 3   | SW 3   |                                   |

Increasing the tightening torque does not improve the contact resistance. The stated torque settings offer optimal mechanical, thermal and electrical conditions. Exceeding the recommended values may even damage the conductor and terminal.

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