

HDC insert HDC HA 10 MS

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

The wire connection level is designed as a screw element. All screw connections are equipped with a wire protection spring (with the exception of size 1).

Pole count: 10

Rated current: 22 A

Rated voltage 250 V

Nominal voltage acc. to UL/CSA: 600 V AC/DC

Screw connection

General ordering data

| | |
|------------|--|
| Type | HDC HA 10 MS |
| Order No. | 1650610000 |
| Version | HDC insert, Male, 250 V, 16 A, No. of poles: 10, Screw connection, Size: 2 |
| GTIN (EAN) | 4008190299286 |
| Qty. | 1 pc(s). |

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Technical data
Dimensions and weights

| | | | |
|------------|---------|-----------------|------------|
| Length | 56.6 mm | Length (inches) | 2.228 inch |
| Width | 23 mm | Width (inches) | 0.906 inch |
| Height | 29 mm | Height (inches) | 1.142 inch |
| Net weight | 49 g | | |

Temperatures

| | |
|-------------------|-------------------|
| Limit temperature | -40 °C ... 125 °C |
|-------------------|-------------------|

Dimensions

| | | | |
|----------------|-------|-------------------|---------|
| Height of plug | 29 mm | Total length base | 56.6 mm |
|----------------|-------|-------------------|---------|

General data

| | | | |
|------------------------------|---------------------|--------------------------------------|---|
| Conductor cross-section | 2.5 mm ² | Insulating material | PC glass-fibre reinforced (UL-listed and railway-certified) |
| Insulating material group | IIIa | Insulation resistance | 10 ¹⁰ Ω |
| Material | Copper alloy | Max. torque for main contact | 0.55 Nm |
| Min. torque for main contact | 0.5 Nm | No. of poles | 10 |
| 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 | 2 |
| Surface finish | Silver passivated | Type | Male |
| UL 94 flammability rating | V-0 | Volume resistance | ≤ 2mΩ |

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 ² | Stripping length PE connection | 10 mm |
| Tightening torque, max. PE connection | 1.5 Nm | Tightening torque, min. PE connection | 1.2 Nm |
| Wire connection cross section, finely stranded, max. | 2.5 mm ² | Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max. | 2.5 mm ² |
| Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min. | 0.5 mm ² | Wire connection cross-section, finely stranded, min. | 0.5 mm ² |
| Wire cross section, AWG (PE), max. | AWG 14 | Wire cross section, AWG (PE), min. | AWG 20 |
| Wire cross-section, solid, max. | 2.5 mm ² | Wire cross-section, solid, min. | 0.5 mm ² |

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Technical data**Version**

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

Classifications

| | | | |
|------------|-------------|------------|-------------|
| ETIM 3.0 | EC001121 | ETIM 4.0 | EC000438 |
| ETIM 5.0 | EC000438 | ETIM 6.0 | EC000438 |
| UNSPSC | 30-21-18-01 | eClass 5.1 | 27-14-34-19 |
| eClass 6.2 | 27-26-12-04 | eClass 7.1 | 27-44-02-05 |
| eClass 8.1 | 27-44-02-05 | eClass 9.0 | 27-44-02-05 |
| eClass 9.1 | 27-44-02-05 | | |

Product information

| | |
|---------------------------------|---|
| Descriptive text technical data | Rated voltage 320 V / 4 kV at pollution degree 2 |
| Descriptive text accessories | Accessories, see chapter J - Tools, see chapter K |

Approvals

Approvals



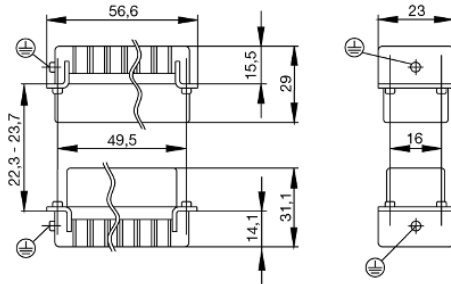
ROHS Conform

Downloads

| | |
|-------------------------|---|
| Brochure/Catalogue | CAT 3 HDC 17/18 EN FL FIELDWIRING EN |
| Engineering Data | EPLAN, WSCAD, Zuken E3.S |
| Technical Documentation | 1650610000_HDC_HA_10_MS_STP_Blatt_1.pdf |

Data sheet**HDC insert
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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 |
|---------------------------------------|---|---|--|
| M 2.5 | Signal contacts | | |
| | S 6/6 | 0.5 - 0.55 | SD 0.6 x 3.5 mm or PZO |
| | S 6/12 | 0.5 - 0.55 | SD 0.6 x 3.5 mm or PZO |
| M 2.9 x 0.5 | Fastening screws | | |
| | 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 |
| M 3 | Contact screws | | |
| | 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 PZO |
| | HVE | 0.5 - 0.55 | SD 0.6 x 3.5 mm or PZO |
| | Signal contacts: | | |
| | S 4/2 | 0.5 - 0.55 | SD 0.6 x 3.5 mm or PZO |
| | S 4/8 | 0.5 - 0.55 | SD 0.6 x 3.5 mm or PZO |
| | PE connection via female contact | | |
| | 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 |
| | PE terminal | | |
| | 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 |
| | Fastening screws | 0.5 - 0.55 | SD 0.6 x 3.5 mm or PZO |
| | Guide pin | 0.5 - 0.55 | SD 0.6 x 3.5 mm or PZO |
| | Guide bush | 0.5 - 0.55 | SD 0.6 x 3.5 mm or PZO |
| | Coding pins | 0.5 - 0.55 | SD 0.6 x 3.5 mm or PZO |
| | M 4 | Contact screws | |
| HSB | | 1.2 - 1.5 | SD 0.6 x 3.5 or 0.8 x 4 mm or PZ1 |
| PE connection via male contact | | | |
| 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 |
| PE terminal | | | |
| 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 |
| M 5 | | PE terminal | |
| | 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 |
| | M 6 | Power contacts | |
| S 4/0 (Screw connection) | | 1.2 (1.5 mm ²) / 2 (2.5 mm ²) / 3 (4-16 mm ²) | SD 0.8 x 4 mm |
| S 4/2 | | 1.2 (1.5 mm ²) / 2 (2.5 mm ²) / 3 (4-16 mm ²) | SD 0.8 x 4 mm |
| S 4/8 | | 1.2 (1.5 mm ²) / 2 (2.5 mm ²) / 3 (4-16 mm ²) | SD 0.8 x 4 mm |
| M 7 x 0.75 | Power contacts | | |
| | S 4 | 1.1 - 1.7 | SW 2 |
| | S 6/6 (+ PE) | 6 - 8 | SW 4 |
| M 8 x 0.75 | Power contacts | | |
| | S 6/12 | 1.1 - 1.7 | SW 2 |
| | S 8/0 (+ PE) | 6 (10-16 mm ²) - 7 (25 mm ²) | SW 4 |
| M10 x 1 | Power contacts | | |
| | 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.