

## HDC insert HDC HA 10 MS

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 Germany  
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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.	<a href="#">1650610000</a>
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
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**Dimensions**

Height of plug	29 mm	Total length base	56.6 mm
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**General data**

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 resistance	10 <sup>10</sup> 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 <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 connection cross section, finely stranded, max.	2.5 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 connection cross-section, finely stranded, min.	0.5 mm <sup>2</sup>
Wire cross section, AWG (PE), max.	AWG 14	Wire cross section, AWG (PE), min.	AWG 20
Wire cross-section, solid, max.	2.5 mm <sup>2</sup>	Wire cross-section, solid, min.	0.5 mm <sup>2</sup>

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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 <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	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 <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 connection cross-section, finely stranded, 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 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



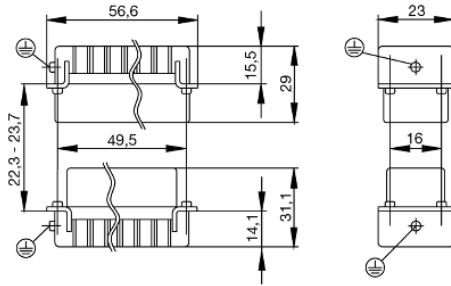
ROHS	Conform
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**Downloads**

Brochure/Catalogue	<a href="#">CAT 3 HDC 17/18 EN</a> <a href="#">FL FIELDWIRING EN</a>
Engineering Data	<a href="#">EPLAN, WSCAD, Zuken E3.S</a>
Technical Documentation	<a href="#">1650610000_HDC_HA_10_MS_STP_Blatt_1.pdf</a>

**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	
<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.