HK-HDW3/1/1-23/16/47-M/F Insert

Table of contents

1. INTRODUCTION

This specification contains the regulations for assembly of HK-HDW3/1/1-23/16/47-M/F contact inserts and the handling of these inserts.

2. SUPPORTING DOCUMENTS

2.1. Customer drawings

Please refer to the customer drawings of HK-HDW3/1/1-23/16/47-M/F insert series.

2.2. Product specification

The product specifications of the used articles are to be taken into account. The product specification describes the technical data as e.g. regulations, approvals, temperature range and rated voltage.
For further reference refer Product spec. 108-137458.

2.3. Application Specification

Connectors shall be assembled as below mentioned application specifications to ensure correct connector assembly.

2.4. Standards

- EN 61984: Connectors - Safety requirements and tests
- IEC 60664-1: Insulation coordination for equipment within low-voltage systems (Part 1)
- IEC 60999-1: Electrical copper conductors- Safety requirements for the clamping units for conductors

3. DESCRPTION

This application specification describes the male insert and the female insert of the HK-HDW3/1/1-23/16/47-M/F series.

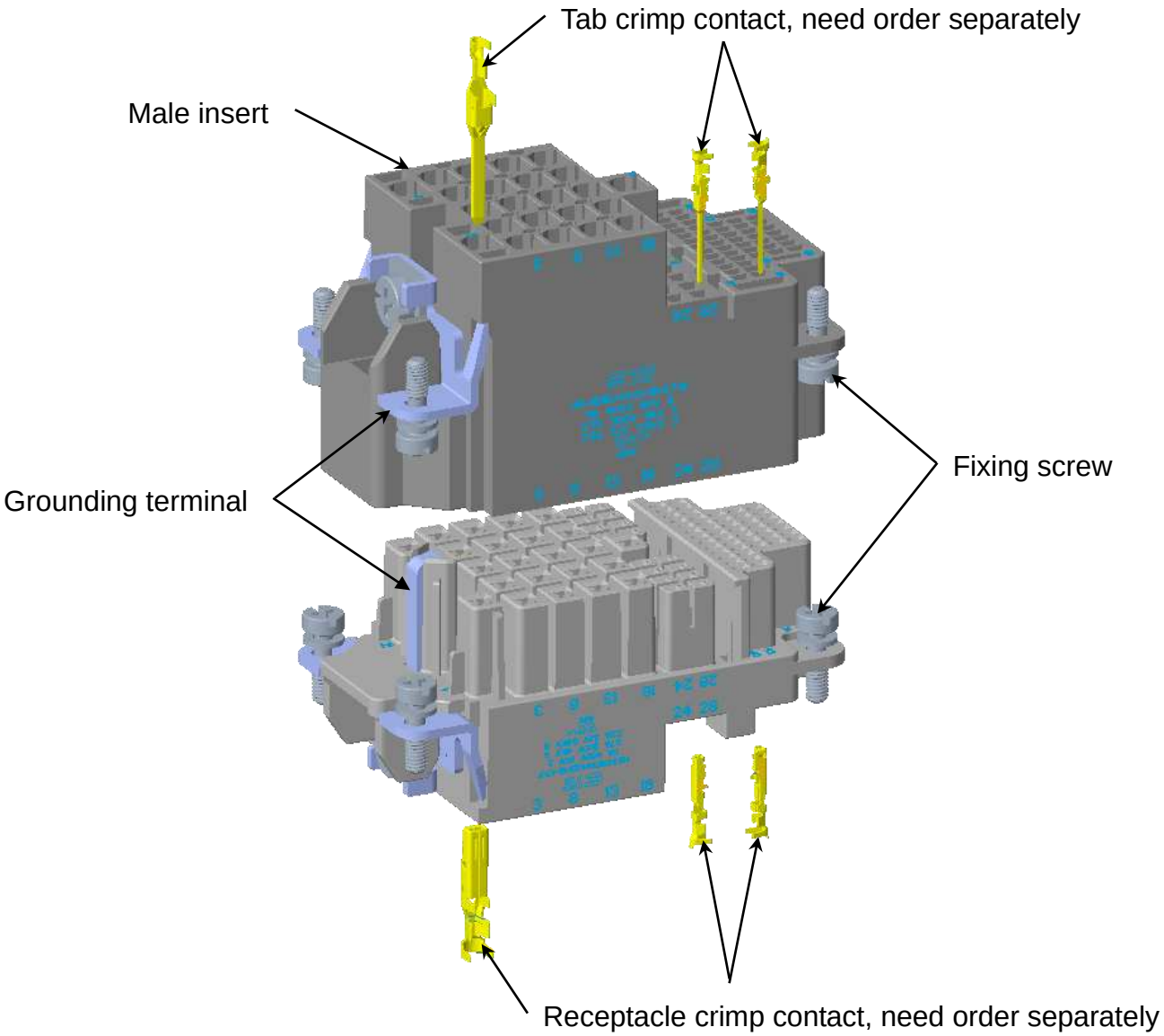


Figure: 1

4. REQUIREMENTS

4.1. Applicable Contacts

Please refer Table 1.

Series Items	Contact Size (Insulation range (mm))	Applicable Contact		Crimp Requirements
		Tab Part Number	Receptacle Part Number	
HK-HDW3/1/1-23/16/47-M/F POWER (23 POS)	S (0.8-1.4)	2316815-1 : Reel 2316817-1 : L/P	2298107-1 : Reel 2311162-1 : L/P	Tab: 114-78024 Receptacle: 114-78030
	M (1.2-2.6)	2316815-2 : Reel 2316817-2 : L/P	2298107-2 : Reel 2311162-2 : L/P	
	L (1.8-2.8)	2316815-3 : Reel 2316817-3 : L/P	2298107-3 : Reel 2311162-3 : L/P	
	2L (2.2-2.8)	2316815-4 : Reel 2316817-4 : L/P	2298107-4 : Reel 2311162-4 : L/P	
	3L (3.1-3.4)	2316815-5 : Reel	2298107-5 : Reel	
	3L (3.1-3.8)	2316817-5 : L/P	2311162-5 : L/P	
HK-HDW3/1/1-23/16/47-M/F POWER (16 POS)	S (0.6-1.2)	2316663-1 : Reel 2316669-1 : L/P	2316670-1 : Reel 2316671-1 : L/P	114-78021
	M (1.08-1.6)	2316663-2 : Reel 2316669-2 : L/P	2316670-2 : Reel 2316671-2 : L/P	
	L (1.08-1.9)	2316663-3 : Reel 2316669-3 : L/P	2316670-3 : Reel 2316671-3 : L/P	
	2L (1.4-2.2)	2316663-4 : Reel 2316669-4 : L/P	2316670-4 : Reel 2316671-4 : L/P	
HK-HDW3/1/1-23/16/47-M/F SIGNAL (47 POS)	S (0.6-1.2)	2316663-1 : Reel 2316669-1 : L/P	2316670-1 : Reel 2316671-1 : L/P	
	M (1.08-1.6)	2316663-2 : Reel 2316669-2 : L/P	2316670-2 : Reel 2316671-2 : L/P	

NOTE To prevent the deformation of contact lance by external force when stock crimped termination after wire termination.

4.2. Assemble wires to inserts

4.2.1. Inserts of crimp termination (HK-HDW3/1/1-23/16/47-M/F)

The crimped terminals are plugged into the insert by gently pushing it into the required position until the contact is locked by the inserts, a click should be heard normally.

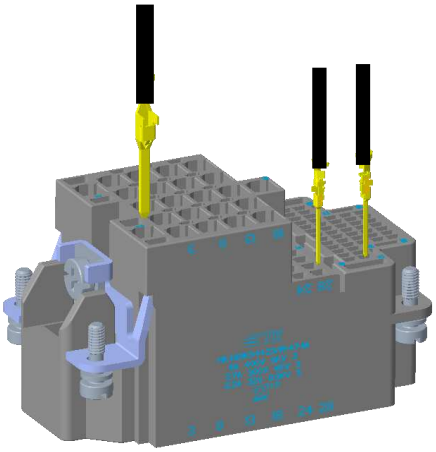
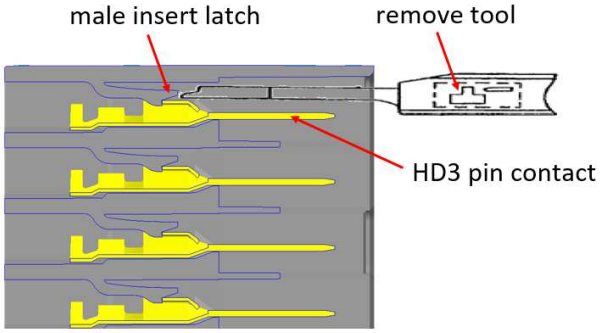


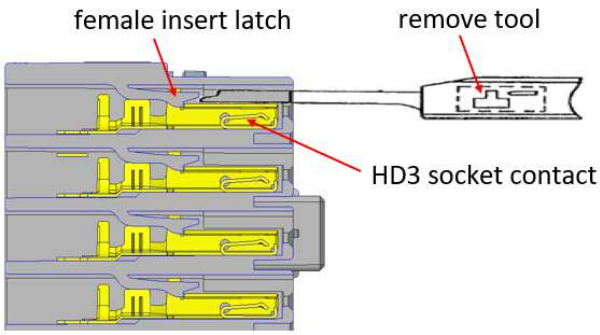
Figure: 2

4.2.2. Extract of crimp termination (HK-HDW3/1/1-23/16/47-M/F)

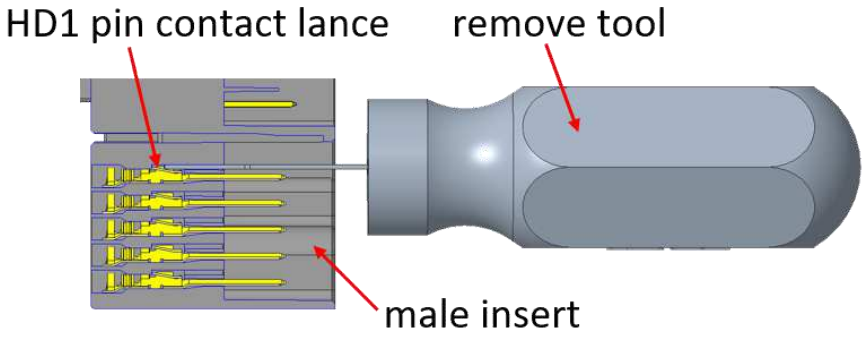
HK-HDW3/1/1-23/16/47-M/F POWER (23 POS)

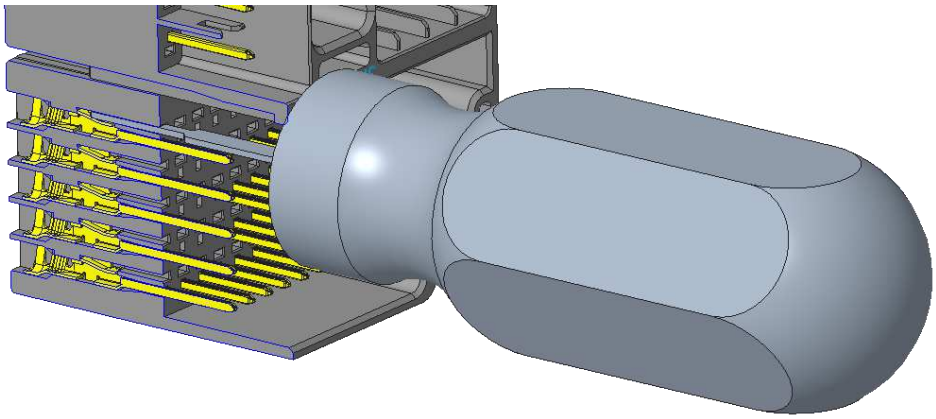
remove tool PN: 234169-1, detailed as below shown:



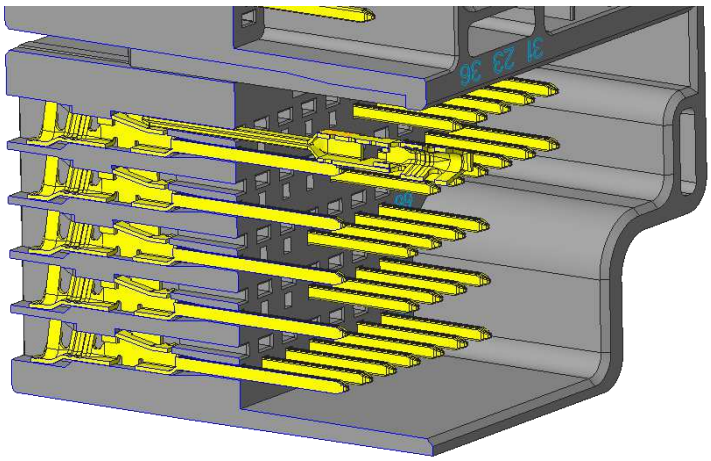


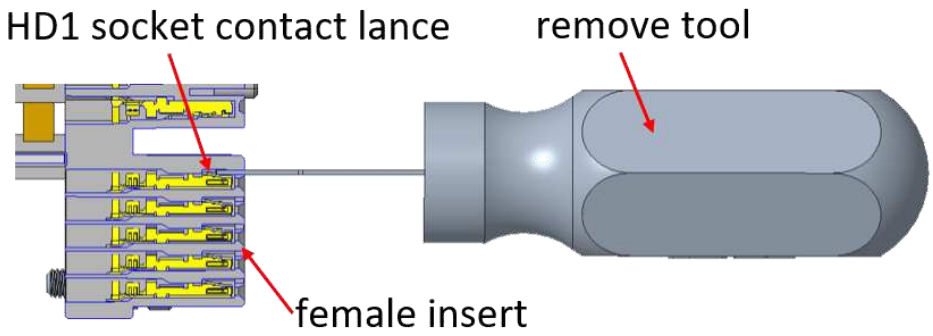
HK-HDW3/1/1-23/16/47-M/F POWER(16 POS) & HK-HDW3/1/1-23/16/47-M/F SIGNAL(47 POS) remove tool PN: T3100000038-000 , detailed as below shown:

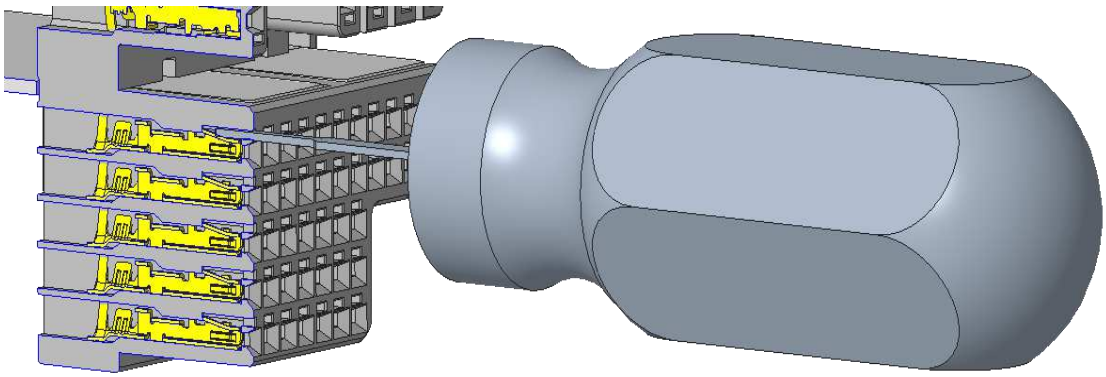




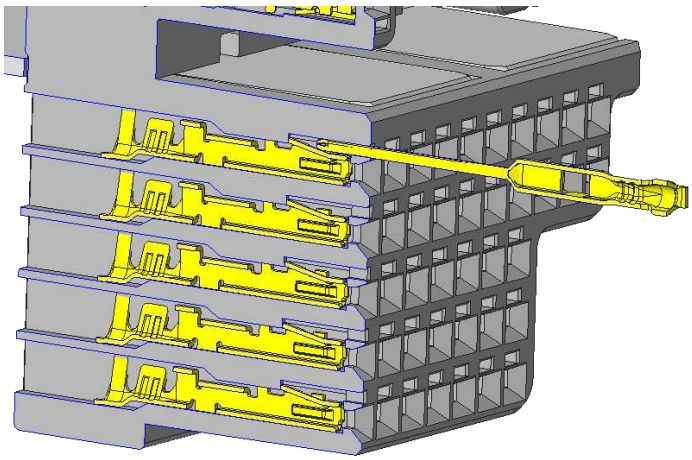
If no remove tool on hand, for urgent case, you can use HD1 pin contact self as remove tool like below shown.







If no remove tool on hand, for urgent case, you can use HD1 pin contact self as remove tool like below shown.



4.2.3 Cable length inside the housing

For the optimal cable lay inside the housing it is necessary to make sure that the striped length is fit to used cable type; is fit to permitted bending radius of the cable and make sure that the contact insert is fit to the type of hood. For recommended cable lengths (cable entry: TOP, SIDE), please refer to the Table 2. In accordance with the application it is proposed the cable length is selective to shorten (e.g., shorter cable near the cable gland longer cable at the turned off side).

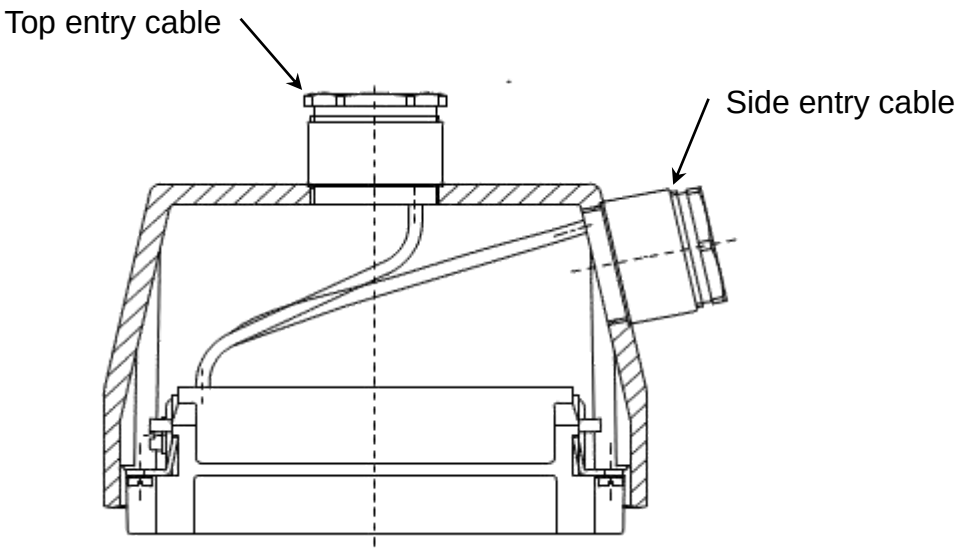


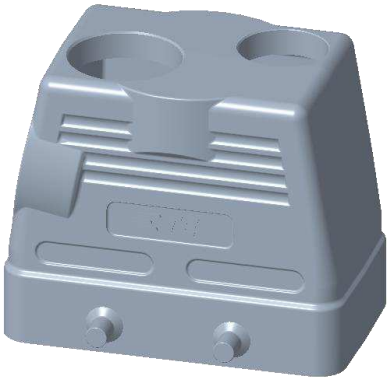
Figure 3

Table 2

Hood Size	Type of hood	Cable length (mm)		Note
		Top entry cable	Side entry cable	
H10B	HBPR(Central locking)	~60	~80	For reference only
	HBPR(Opposite angle locking)	~75	~85	For reference only
	HB	~40	~60	For reference only
	HB(High structure)	~50	~55	For reference only

The below show the hood and housing parts for reference.

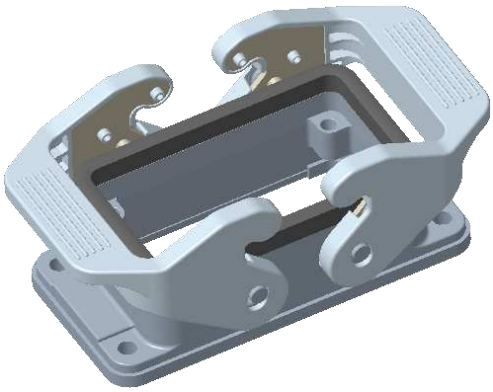
T1220102025-000 H10B-TG-M20/M25, SHORT RIB



T1240100132-002 H10B-TGH-M32, SHORT RIB

T1230100132-002 H10B-TSH-M32, SHORT RIB

T1410100000-001 H10B-AG-SL, ONE RIB



Note:

Above are the hoods for the typical applications.

For the special applications, also can be provided. The below are the examples for reference.

- Hoods with different cable entries.
- Hoods color for Grey, Black and Silver white.

Refer to drawings for the detailed information.

5. ASSEMBLY

Assembling the contact inserts for both Male & Female connector has to be carried out with proper tools.

5.1. Contact inserts

The contact inserts are screwed into a corresponding hood or housing by fixing screws M3. The torque is 0.5Nm for reference.
Note: * The distance for safe contact of the contact inserts is max. 21mm. See Figure 4.

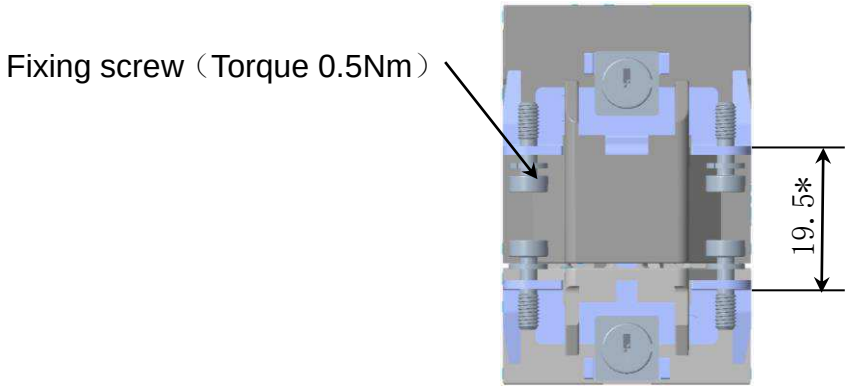
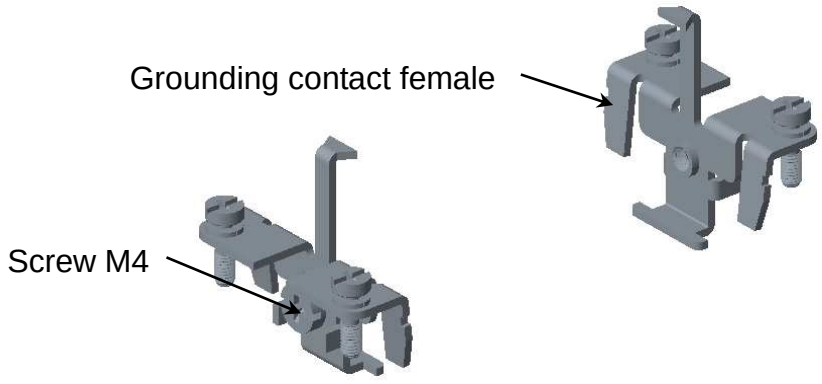


Figure: 4

5.2. Grounding

Fixed to the contact inserts are grounding contacts, on which with the grounding screw (M4). The cable can be locked on the earth potential. The grounding contact in an assembly is the only part that will be having press contact with corresponding grounding contact on the other assembly near the interfacing portion of the housings.



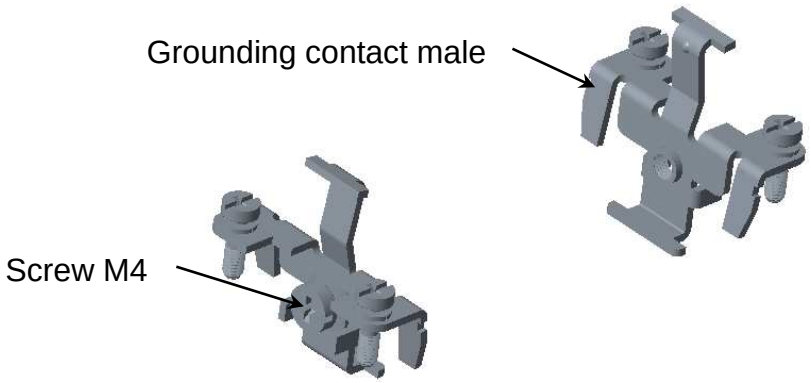


Figure 5

This clamping point is suitable for connection of a cable with a nominal cross section of up to 4 mm². It is recommended to use cables with insulated barrels. The stripped end of the cable has to be put under the clip tab. Earthing is to be executed according to IEC 61984. Tighten torque 1.2Nm.

5.3. Shield plate (Optional)

Based on the actual application, can add the shield plate and order separately.

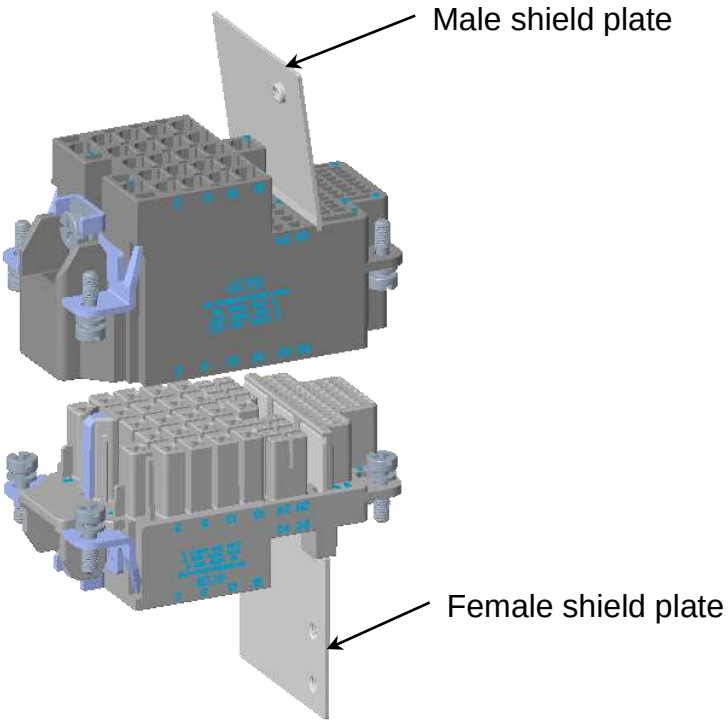
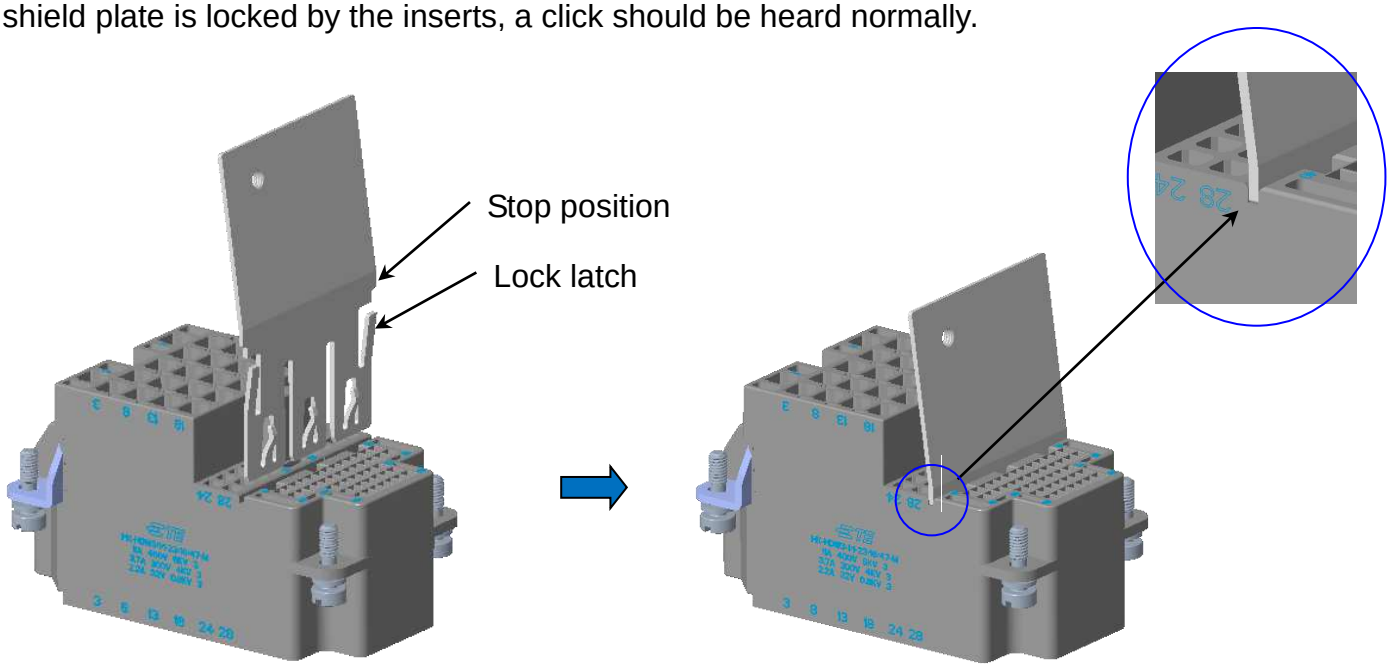
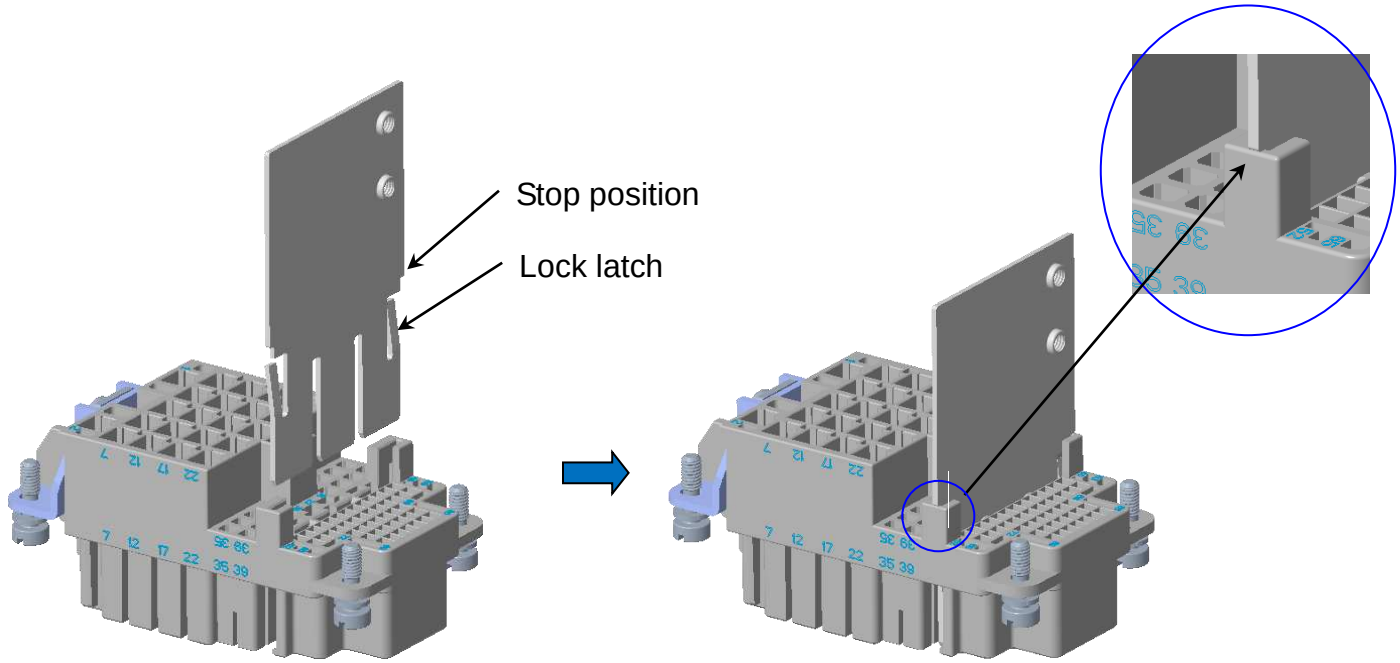


Figure: 6

The below show assembly operation of plates into inserts.
The shield plate is plugged into the insert by gently pushing it into the required position until the shield plate is locked by the inserts, a click should be heard normally.





The below parts for inserts and shield plate.

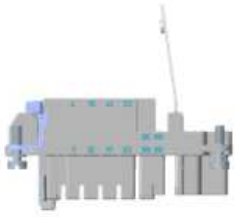
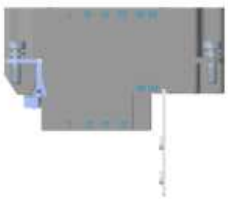
Insert & Shield plate part list for selection	
PNs	Description
T0920013670-000	M SHIELD PLATE FOR HK-HDW3/1/1,BENDED
T0920013670-001	M SHIELD PLATE FOR HK-HDW3/1/1,STRAIGHT
T0920023670-000	F SHIELD PLATE FOR HK-HDW3/1/1,STRAIGHT
T0920023670-002	F SHIELD PLATE FOR HK-HDW3/1/1,BENDED
T2120865101-000	HK-HDW3/1/1-23/16/47-M, male insert
T2120865201-000	HK-HDW3/1/1-23/16/47-F, female insert

The combination for the inserts and the plates as below:

Option 1

	T2120865101-000 + T0920013670-000 mate with hood
	T2120865201-000 + T0920023670-000 mate with housing

Option 2

	T2120865201-000 + T0920023670-002 mate with hood
	T2120865101-000 + T0920013670-001 mate with housing

5.4. Marking

The connector type, rating and the number of position etc. refer to the corresponding HK-HDW3/1/1-23/16/47-M/F insert customer drawings.

5.5. Polarization function

The process of assembling the male and female inserts without any mismatch and difficulty calls for polarization. This is done with the help of ribs or slots and which are present on both the male insert as well as the female insert. As shown in Figure 7.

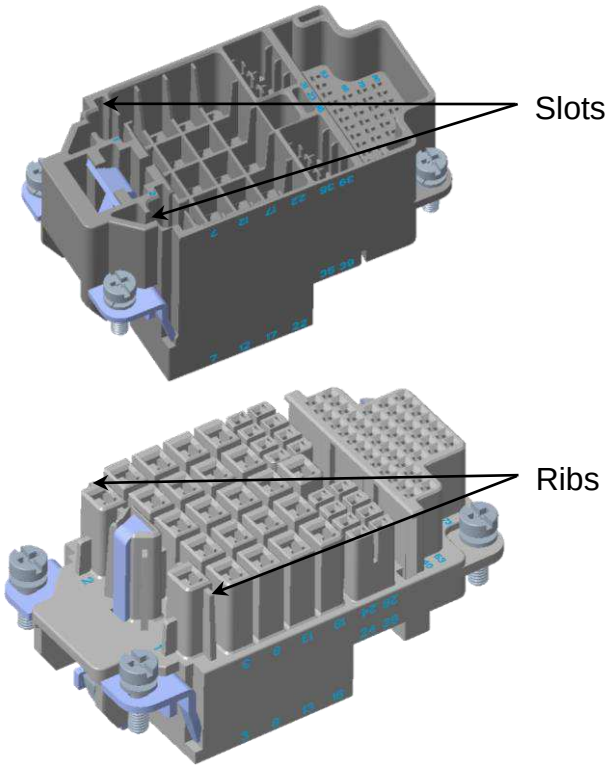
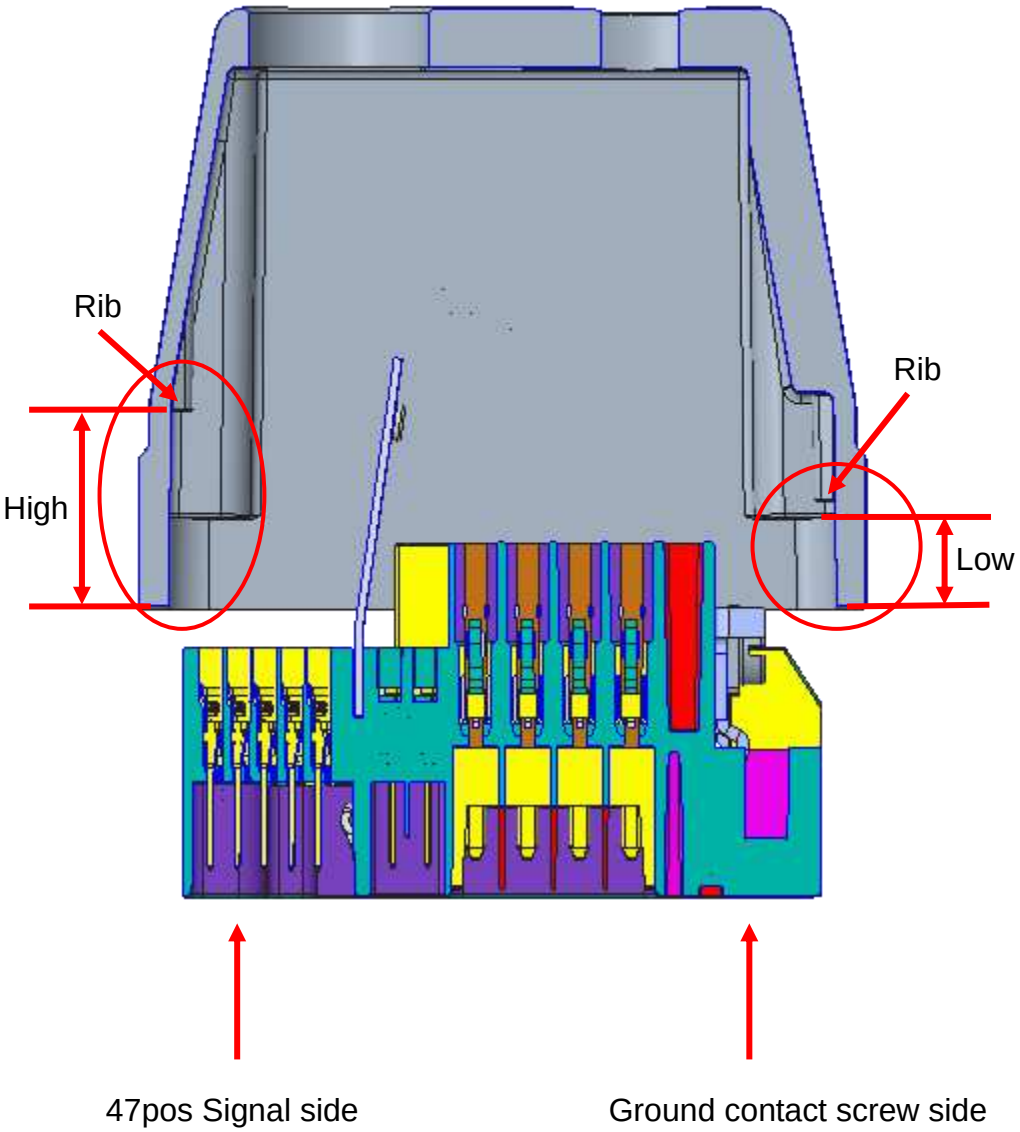


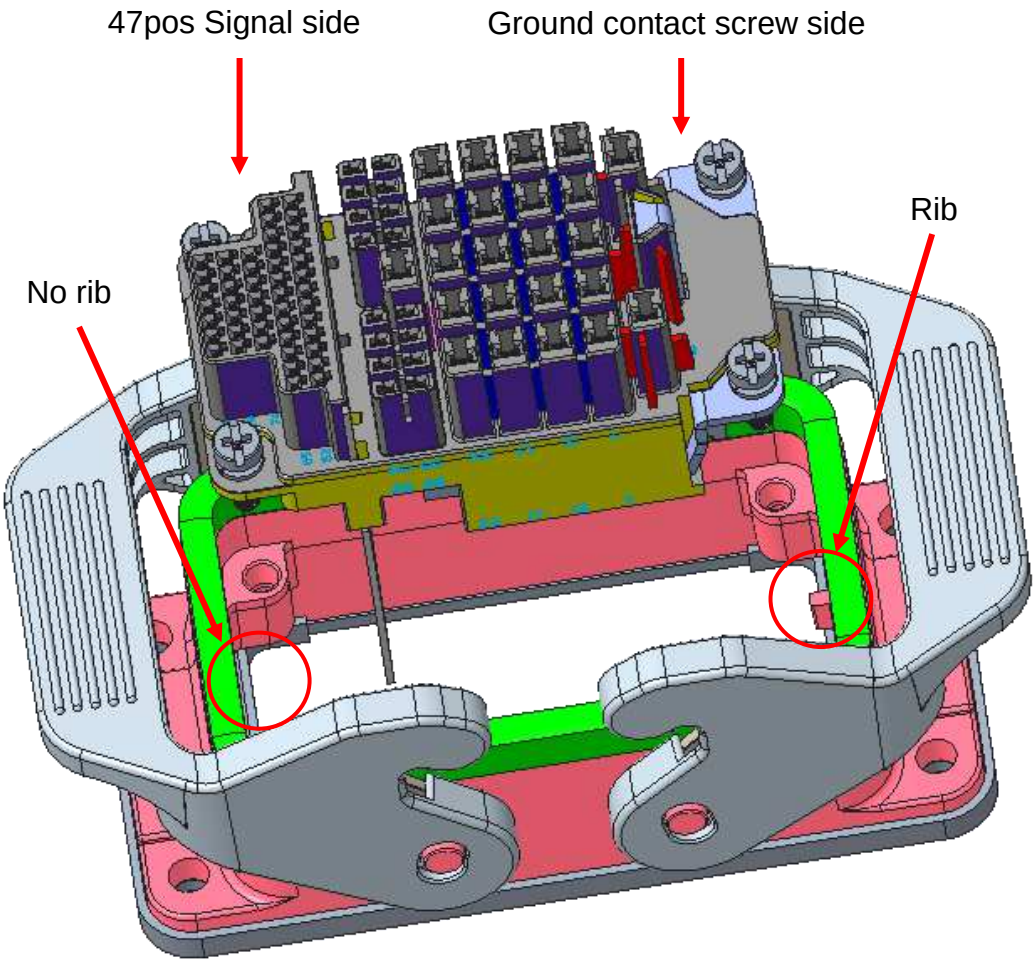
Figure: 7

5.6. Assembly insert into the hood and housing

For the hood assembly, please notice the orientation to set insert as the below shown picture as example. Detailed information can refer the customer drawing.



For the housing assembly, please notice the orientation to set insert as the below shown picture as example. Detailed information can refer the customer drawing.



6. STORAGE

6.1. Chemical exposure

Do not store the connectors near any chemical listed below as they may cause corrosion stress the connector contacts:
Alkalies, Ammonia, Citrates, Phosphates, Citrates, Sulfur, Amines, Carbonates, Nitrites, Sulfides, Nitrites, Tart rates.

6.2. Storage condition

The connectors should be stored in the air ventilation, no corrosive gas, no rain and no snow in the warehouse. Relative humidity: less than 85% RH (For connectors which include insert and contacts or contacts only, the preferred storage temperature is 10˚C~27˚C, Relative humidity: 25%~60%). The connectors should remain in the shipping containers until ready for use to prevent deformation to the contacts. The connectors should be used on a first in, first out basis to avoid storage contamination that could adversely affect electrical functions.

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