20Pos Through Wall Connector Application Specification

20 位穿缸件连接器应用规范

				DRW: M.Bao DATE: 8NOV 2023	*TE Connectivity*		
				CHK: C.Wan DATE: 8NOV 2023			
				APVD:Z.Zhou DATE: 8NOV 2023	NO **114-160334**	REV **A**	LOC **ES**
A	Initial Release	Z.Zhou	8NOV2023	PAGE **1 OF 14**	Title **20Pos Through Wall Connector Application Specification**		
REV	REVISION RECORD	APVD	DATE				

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1 GENERAL

1 综述

1.1 Purpose

1.1 目的

This specification includes the guidelines for application and mounting of the 20pos through wall connectors and their accessories.
本规范用于指导 20 位穿缸件连接器及其配件的应用和安装。

1.2 Customer Drawing

1.2 客户图纸

For dimensions, materials and surface finishes etc. see the current customer drawings.
有关尺寸，材料和表面光洁度等，请参见当前的客户图纸。

- **Connectors：**

Drawing	Description
2410750	20Pos AMP MCP 1.5K REC HSG.ASSY
2410751	20Pos TWC TAB HOUSING.ASSY

- **Accessories:**

Accessories are sold separately.

Drawing	Description
1718277-1	FLAT CONTACT 1.5mm SYSTEM（1.0mm²）
1823686-1	FLAT CONTACT 1.5mm SYSTEM（1.5mm²）
1241380-3	AMP MCP 1.5K（0.5~1.0mm²）
1418884-3	AMP MCP 1.5K（>1.0~1.5mm²）
2050856-1	CAVITY BLIND PLUG
963531-1	PLUG FOR CAVITY DIA 3.6mm
2410758-1	CLIP SPRING FOR 20POS TWC TAB
1-1718284-2	90 DEGREES COVER FOR NW13 CORRUGATED TUBE
1823735-1	90 DEGREES COVER FOR NW15 CORRUGATED TUBE
1813505-1	STRAIGHT COVER FOR 14P SOCKET HOUSING FOR NW15 CORRUGATED TUBE
1813506-1	STRAIGHT COVER FOR 14P SOCKET HOUSING FOR NW19 CORRUGATED TUBE

1.3 Product Specification

1.3 产品规范

This application specification is valid for products specified in product specification 108-160594, which provides a description of the electrical and mechanical properties of multi-pos. connectors. Also see the cur-rent relevant contact systems product and application specifications.

该应用规范对产品规范108-160594中指定的产品有效，该规范提供了多位连接器的电气和机械性能的描述。另请参阅当前相关的端子系统产品和应用规范。

2 Product Description

2 产品说明

As figure 2.1 show, the 20pos TWC connector consists of a tab connector（1） and a receptacle connector（2）.

图 2.1 所示的 20 位连接器由一个公端连接器（1）和一个母端连接器（2）组成。

During mounting it is to assure that there is enough free space to the parts of the connector.

在安装过程中，要确保有足够的空间。

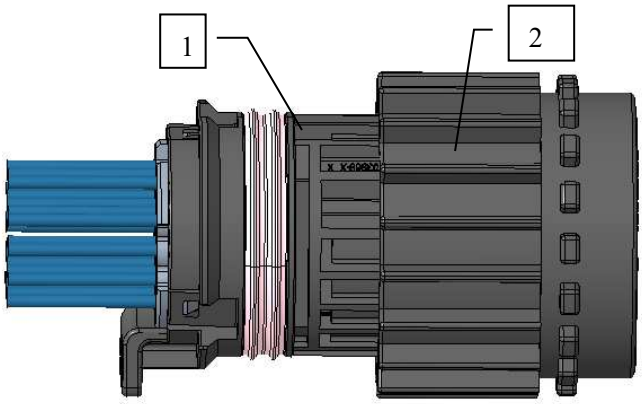

Figure 2.1
图 2.1

2.1 20 Pos Receptacle Connector

2.1 20 位母端连接器

The 20pos receptacle connector is shown in figure 2.2 The connector consists of 1) bayonet ring, 2) secondary locking device, 3) cavity block and 4) radial seal.

20 位母端连接器如图 2.2 所示。母端连接器由 1)卡口环、2)二次锁、3)内塑壳和 4)径向密封圈组成。

ATTENTION:
Don't turn the bayonet ring in any other process than mating !
注意：除配合外，不要在任何其他过程中转动卡口环 ！

If the bayonet ring of the receptacle connector is not in the pre-locked position, then it has to be moved there again.

如果母端连接器的卡口环不在预锁位置，则必须转回至预锁位。

Use the following procedure: Turn the bayonet ring as shown in figure 2.2 (on the bottom right) clockwise until it stops. The reaching of the pre-locked position is echoed perceptible by a “click” noise.

使用以下步骤: 如图 2.2 右下图所示顺时针旋转卡口环，直到它停止。到达预锁的位置时，会发出“咔哒”声。

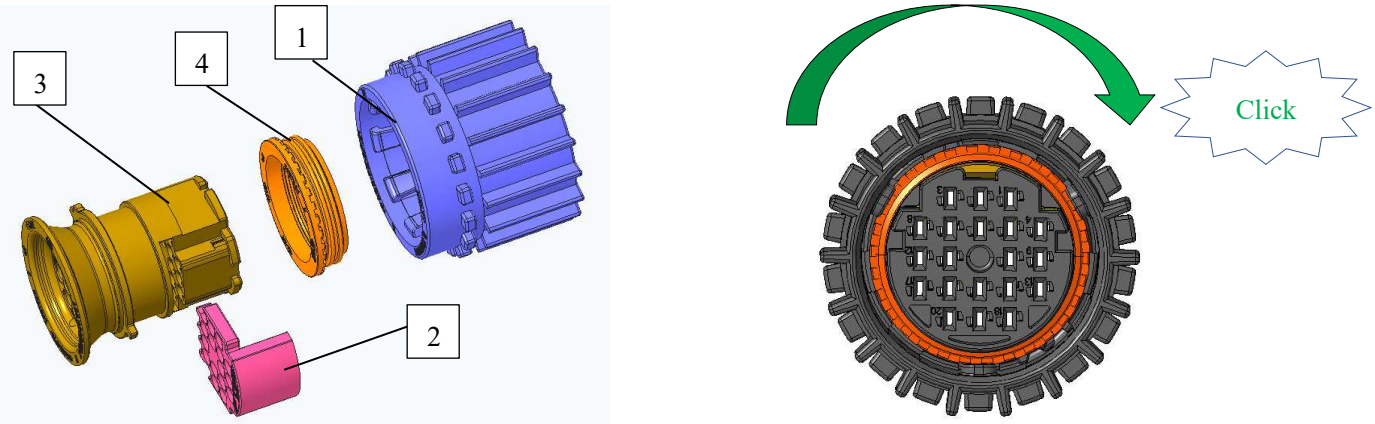

Figure 2.2
图 2.2

2.2 20Pos Tab Connector

2.2 20 位公端连接器

The 20pos tab connector is shown in figure 2.3. The tab connector consists of 1) tab housing, 2)family seal ,3)o-ring seals and 4)cavity block .

20 位公端连接器如图 2.3 所示。连接器由 1)外壳，2)密封垫，3)密封圈和 4)内塑壳组成。

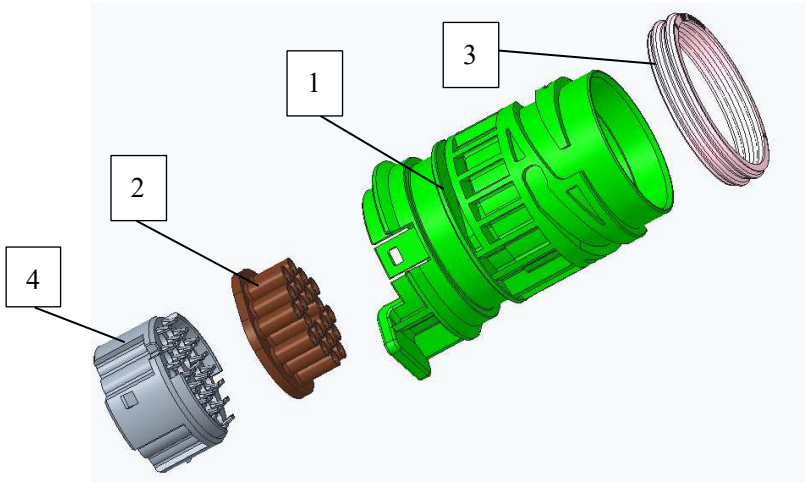

Figure 2.3
图 2.3

2.3 Accessories

2.3 附件

2.3.1 Back shells

2.3.1 尾夹

The Back shell only adapt for receptacle connector. As table1, the part numbers and types are available for selection.

尾夹仅适用于母端连接器。如下表所示，以下料号和类型可供选择。

ADAPT CONNECTOR	TYPE	CORRUGATED TUBE SIZE	BACKSHELL P/N
RECEP.	90°	NW13	1-1718284-2
RECEP.	90°	NW15	1823735-1
RECEP.	180°	NW15	1813505-1
RECEP.	180°	NW19	1813506-1

Table 1 Back shell

表 1 尾夹

ATTENTION:

Before mounting the back shell, it is necessary to load the connector with contacts and corrugated tube (nominal width 13mm or 15mm). The back shell should be used with a corrugated tube.

Figure 2.4 shows the open back shell. Both half of the back shell are connected with a hinge.

To mount the back shell in the right way, the single rib of the socket housing has to be fixed in the groove of one half of the back shell.

While inserting the corrugated tube, the first two grooves should match with the two holding ribs of the back shell.

注意:

在安装尾夹之前，有必要将连接器装入连接器和波纹管(公称宽度 13mm 或 15mm)。尾夹应采用波纹管。

图 2.4 是打开的尾夹。尾夹用铰链连接。

为了以正确的方式安装尾夹，插座外壳的凸肋必须固定在尾夹的凹槽中。

当装入波纹管时，波纹管前两个凹槽应与尾夹的两个凸筋相匹配。

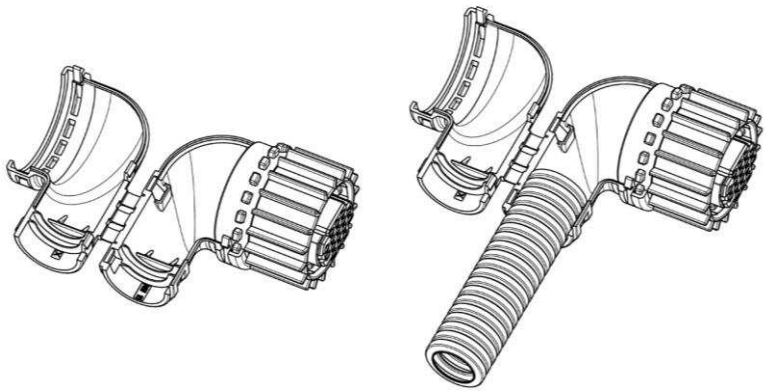

Figure 2.4
图 2.4

If the tube and the cables are in the correct position and fixed, then the two halves of the back shell will be snapped in the area of the hinge. The locking hooks have to be locked in the corresponding holes. There will be a correct snapping-in of the two halves of the back shell, if the corrugated tube was cut on its wave crest according to the supplier requirements. In this case the end of the tube will lie ahead of the stopper rib.

波纹管和电缆在正确的位置和固定后，尾夹将在铰链处被折弯扣合。锁钩必须锁在相应的孔里。如果波纹管是按照供应商的要求在波峰处切断波纹管，那么尾夹的两半将会正确地扣合。在这种情况下，波纹管的末端将位于止推凸筋前。

The cable should be fastened behind the back shell in a distance of 100mm max.（Figure 2.5）
尾夹后的电缆需要绑扎，绑扎距离尾夹不超过 100mm。（Figure 2.5）

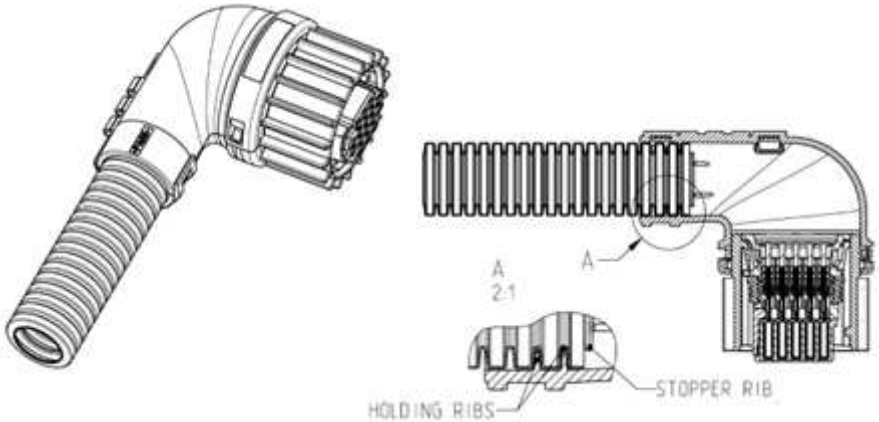

Figure 2.5
图 2.5

2.3.2 Mounting clip

2.3.2 安装夹

A metal clip spring secures the housing in the mounting wall. A “Stop” for the clip spring should be provided, in order to prevent an unplanned removing of the clip spring. Details are defined with interface drawing 114-160667.

金属弹簧夹片将连接器固定在缸壁上。应为弹簧夹片提供“止动块”，以防止意外拆卸弹簧夹片。详细信息见图纸 114-160667。

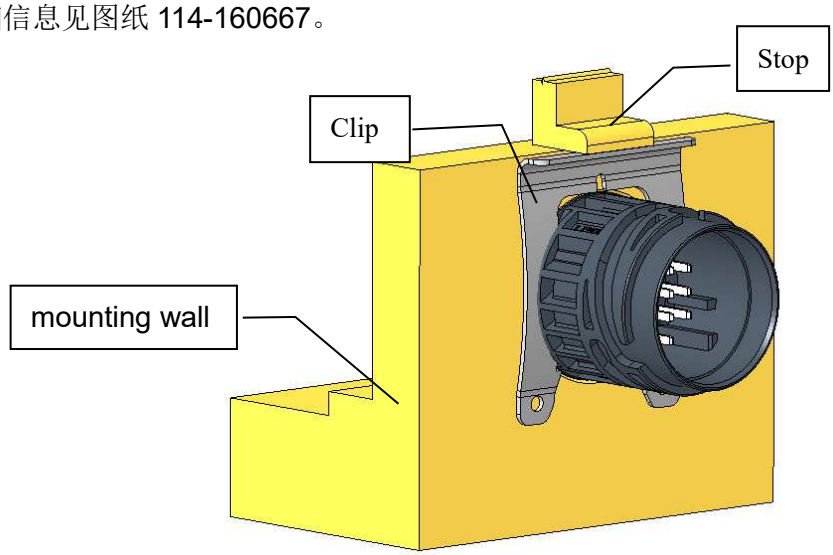

Figure 2.6
图 2.6

2.3.3 Sealing Plug

2.3.3 盲堵

Empty cavities have to be closed with sealing plugs.
空端子腔必须用盲堵封闭。

Sealing plugs for receptacle connector empty cavities as follow. The sealing plug can be assembled manually or with an auxiliary tool. **The defined insertion depth of 1^{+3}mm has to be met.** At the assembly process one has to pay attention to avoid damaging the sealing lips.
母端连接器的盲堵如下图所示。盲堵可以手工组装或使用辅助工具组装。**必须满足定义的插入深度 1^{+3}mm**。在装配过程中，必须注意避免损坏密封唇。

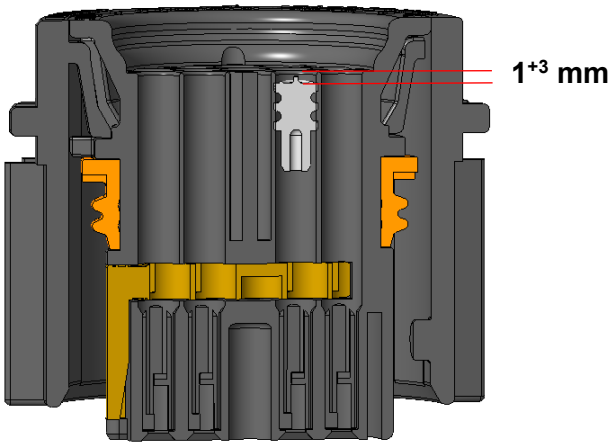

Figure 2.7
图 2.7

Sealing plugs for tab connector empty cavities as follow. The sealing plug can be assembled manually or with an auxiliary tool. The installation method is the same as male termina insertion.

公端连接器的盲堵如下图所示。盲堵可以手工组装或使用辅助工具组装。安装方法同公端子的安装方法。

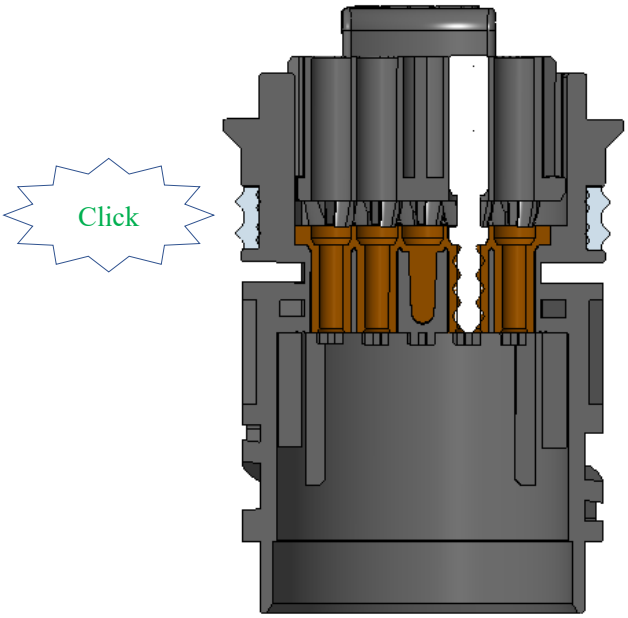

Figure 2.8
图 2.8

2.3.4 Aplicable terminal and crimping specifications

2.3.4 适用端子及压接规范

Bellow table shows the information of terminals that applicable to corresponding products.
下表是适用于相应产品的端子信息。

ADAPT CONNECTOR	DESCRIPTION	WIRE SIZE (mm2)	TERMINAL P/N	SPECIFICATION
TAB	FLAT CONTACT 1.5mm SYSTEM	1.0mm²	1718277-1	114-18226
TAB	FLAT CONTACT 1.5mm SYSTEM	1.5mm²	1823686-1	114-18226
RECEP.	AMP MCP 1.5K	0.5~1.0mm²	1241380-3	114-18386
RECEP.	AMP MCP 1.5K	>1.0~1.5mm²	1418884-3	114-18386

Table 2 Terminals
表 2 端子

2.3.5 Mounting Tab Connector Into Mounting Wall

2.3.5 公端连接器安装到缸壁

The connector is designed to be mounted into a wall with cut off, in order to fix it in a solid position and support vibration requirements. Figure 2.9 shows the tab connector and the mounting wall.The tab connector will be mounted from one side (see product drawing) into the hole of the mounting wall. The application of grease on the sealing surface facilitates assembly. Due to an unsymmetrical flange on the housing only one assembly direction is possible. At the same time the flange applies a rotation stop.

A clip spring secures the housing in the wall. For details dimensions of mounting wall, see 114-160667.

连接器被设计为安装在具有开口的缸壁上，以满足固定可靠及振动要求。图 2.9 展示了连接器和缸壁。连接器将从一侧(见产品图纸)安装到缸壁的开口中。在缸壁密封面上涂上润滑脂将利于安装。由于壳体上的法兰不对称，因此只能有一个装配方向。同时法兰具备防转功能。

弹簧夹片将连接器固定在缸壁上。缸壁的详细开孔尺寸请参见 114-160667。

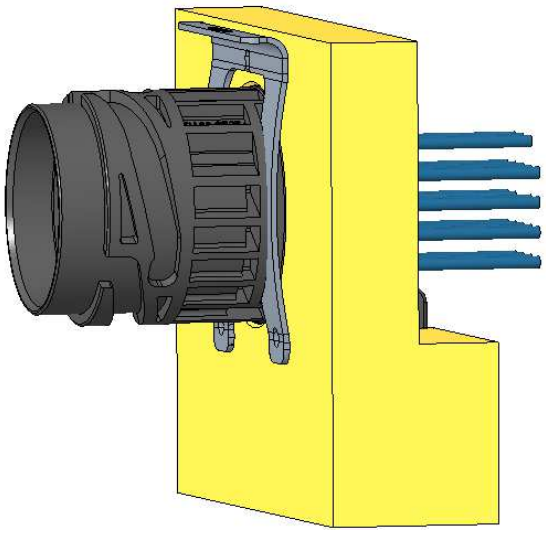

Figure 2.9
图 2.9

3 Application Description

3 应用规范

3.1 Loading connector with Terminal

3.1 组装端子和连接器

3.1.1 Female Terminal Insertion

3.1.1 母端子插入

The receptacle housing described in this specification is equipped with a captive pre-assembled secondary locking device. Delivery state is the pre-locked position. Terminals can only be inserted when the TPA is in the pre-locked position. If the TPA is in the final lock state, the TPA needs to be pulled to the pre-lock and then operates.

本规范中描述的母端连接器有二次锁结构。交付状态为预锁状态。端子只有在 TPA 预锁状态下才能插入。若 TPA 在终锁状态需将 TPA 拉至预锁再进行操作。

Insert terminals in the direction shown in the following (figure 3.1).
With correct orientation the locking is signalized by a metallic “click” noise.
保持下图的方向插端子(图 3.1)。
在正确的插入方向下，锁定的信号是金属“咔哒”声。

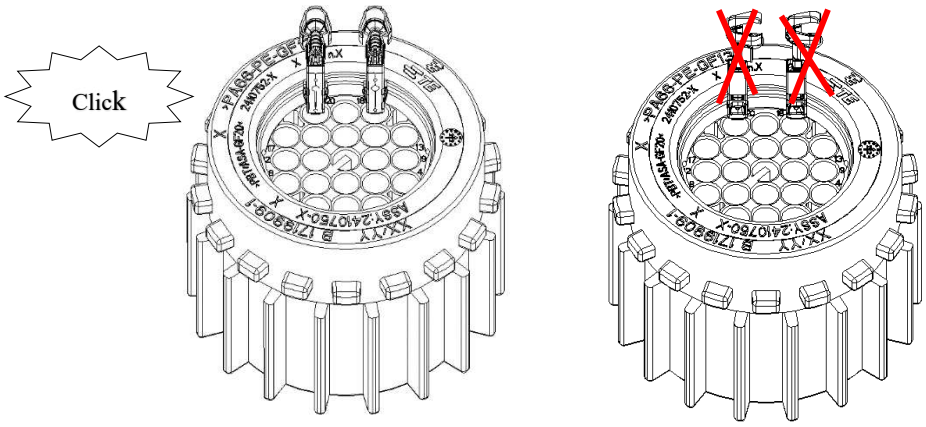

Figure 3.1
图 3.1

After Inserting terminals , the secondary locking device has to be moved by hand or rather with the help of a screwdriver (TE-PN 3-1579018-8) or a similar auxiliary tool into the final locked position (figure 3.2). The reaching of the final position is echoed perceptible and by a “click” noise.
装入端子后，用手或在螺丝刀(TE-PN 3-1579018-8)或类似的辅助工具的帮助下，将二次锁移动到最终锁定位置(图 3.2)。到达最终位置时，可以通过“咔哒”声感知到。

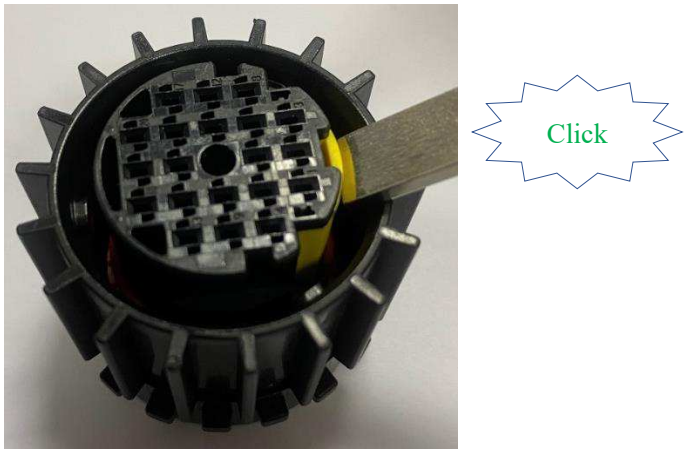

Figure 3.2
图 3.2

3.1.2 Male Terminal Insertion

3.1.2 公端子插入

Insert terminals in the direction shown in the following (Figure 3.3).
With correct orientation the locking is signalized by a“click” noise.

保持下图的方向插端子(图 3.3)。
在正确的插入方向下，锁定的信号是“咔哒”声。

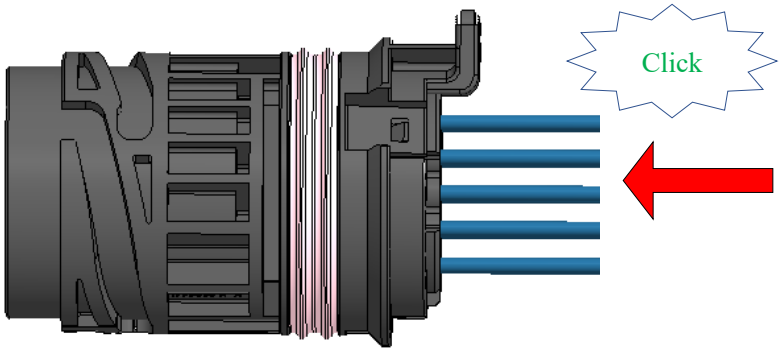

Figure 3.3
图 3.3

3.2 Extracting Terminals From Connector

3.2 从连接器中退端子

To extract single female terminal, the secondary locking device at first must be moved with a small screw driver (TE-PN 3-1579018-8) into the pre-locked position as shown in figure 3.4.
取出母端子前，必须先用小螺丝刀(TE-PN 3-1579018-8)将二次锁移动到如图 3.4 所示的初锁位置。

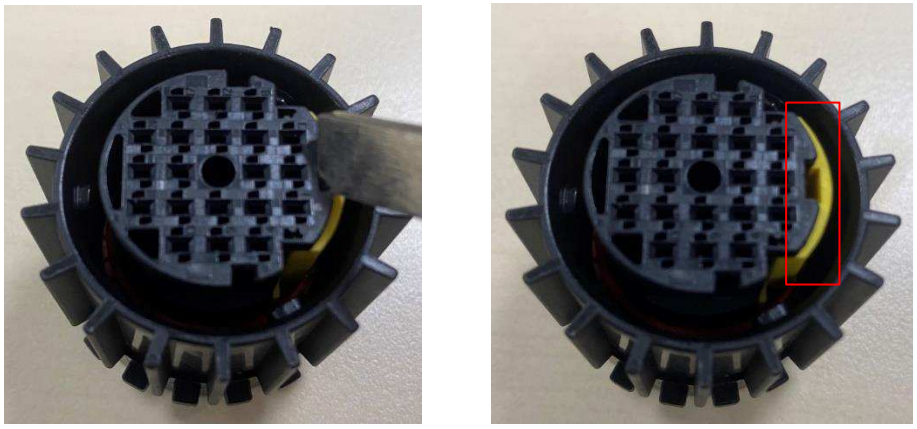

Figure 3.4
图 3.4

The secondary locking device has to be in the pre-locked position before extracting contacts.TE provides a sufficient unlocking and extracting tool (PN 1-1579007-1).
在取卸端子之前，二级锁装置必须处于预锁定位置。TE 提供了解锁和提取端子工具(PN 1-1579007-1)。

The blades of the tool have to be inserted from the connection side into the 2 slots of the according contact cavity until the stop (see figure3.5); the contact will be unlocked thereby. The tool remains in that position and the contact can be taken out now by pulling at the cable.

工具须从连接侧插入相应接触腔的 2 个槽内，直至停止(见图 3.5)；此时端子将被解锁。工具保持在该位置，现在可以通过拉动电缆将端子取出。

Note: Do not pull the cable before unlocking the contact; on the other hand by pressing the cable gently against the cable outlet direction the unlocking procedure will be facilitated.

注意:在端子解锁前不要拉动电缆;另一方面，通过沿电缆出口方向轻轻按压电缆，将有利于解锁端子。

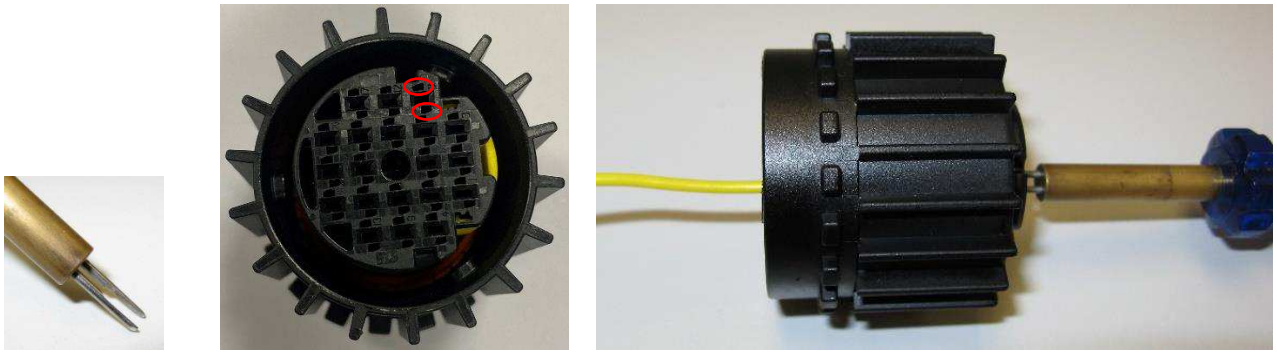

Figure 3.5
图 3.5

3.3 Connector Mating

3.3 连接器对配

The receptacle connector can only be mated with the tab connector, when its secondary locking device is in the locked position (figure 5.1).

当母端连接器的二次锁处于锁定位置时，母端连接器才能与公端连接器对配(图 3.6)。

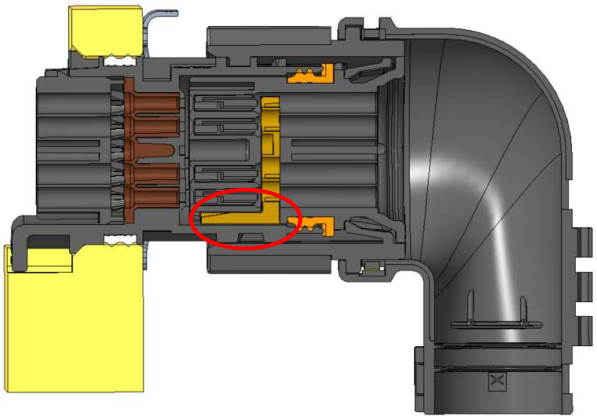

Figure 3.6
图 3.6

Figure 5.2 shows the mated connector pair with the mounted tab connector in the mounting wall. The correct insertion position of both connectors must be found by rotation of the receptacle connector. Afterwards, the coupling ring of the receptacle connector has to be rotated 120 degrees clockwise.

图 3.7 展示了一对安装在缸壁带夹片的连接器。两个连接器的正确插入位置必须通过旋转插座连

接器找到。最后，将连接器的卡口环顺时针旋转 120 度。

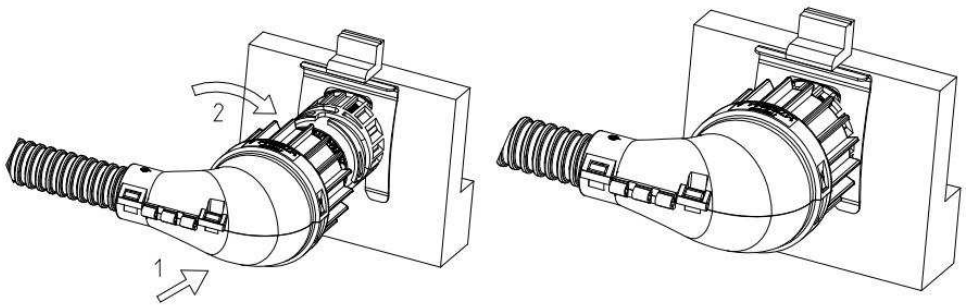

Figure 3.7
图 3.7

ATTENTION:Don't turn the coupling ring in any other process than mating!
注意：除配合外，不要在任何其他过程中转动卡口环!

3.4 Connector Unmating

3.4 连接器分离

The following procedure of unmateing connector is defined:

1. rotation of the coupling ring 120 degrees anticlockwise
2. take off the receptacle connector from the tab connector
3. remove the clip spring stop
4. remove the clip spring
5. remove the tab connector

连接器的分离过程如下:

1. 卡口环逆时针旋转 120 度；
2. 从公端连接器上取下母端连接器；
3. 拆卸夹片止动块；
4. 拆卸弹簧夹片；
5. 取出公端连接器。