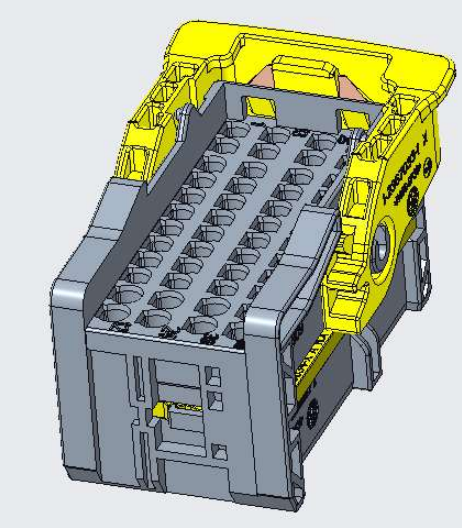
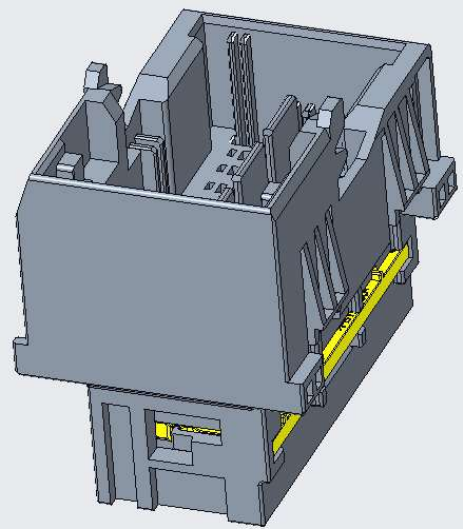
# 48P MCON 1.2 LL Unseal Connector Application Specification
# 48 位 MCON 1.2 LL 非密封连接器 应用规范





| | | | | | | | |
|---|---|---|---|---|---|---|---|
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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 connectors.
本规范包括连接器的应用和安装。

## 1.2 Customer Drawing

## 1.2 客户图纸

For part number, dimensions, materials etc. see the current customer drawings.
有关料号，尺寸，材料等，请参见当前的客户图纸。

## 1.3 Product Specification

## 1.3 产品规范

This application specification is valid for products specified in product specification 108-32618, which provides a description of the electrical and mechanical properties of the series connectors. Also see the current relevant contact systems product and application specifications.

该应用规范对产品规范 108-32618 中指定的产品有效，该规范提供了改系列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. 产品描述

### 2.1 Plug Connector

### 2.1 母端连接器

As figure 2.1.1 shows, Dawing 2366036: plug connector contains 3 parts(1. TPA, 2. Housing, 3. Lever).
如图 2.1.1 所示，图纸 2366036：母端连接器包含 3 个零件（1. TPA，2. 塑壳，3. Lever）。

As figure 2.1.2 shows, Dawing 2394434: plug connector contains 2 parts(1. Housing, 2. Lever).
如图 2.1.2 所示，图纸 2394434：母端连接器包含 2 个零件（1. 塑壳，2. Lever）。

TPA is to provide position assurance after the terminal is inserted into the housing.
TPA 用来提供端子插入塑胶后的位置保证。

The housing is to protect the terminal, fix the terminal position, provide the fixed way and provide coding error proof for plug.
塑壳可以保护端子，固定端子位置，提供固定方式及用不同 Coding 防错。

Lever is to reduce the mating and unmating force with receptacle connector and provide the locking function.
Lever 可以减小和公端连接器配合的插入力和拔出力，并提供锁止功能。

Just as figure 2.1.3 shows, there are 4 kinds of coding in A, B, C, D. There are differences in the colour and structure of code parts between various Coding. In case of mis-insertion, please assemble according to same coding. (For example, the male coding A must be assembled with female coding A).
如图 2.1.3 所示，此产品有 A， B， C，D 4 种 Coding, 每种 Coding 间的零件颜色及结构存在差异，以防误插。请根据相同的 coding 对应装配（比如，公端 coding A 装配母端 coding A）。

*Note: if the insertion force is very big, please confirm whether the wrong product is installed. Please avoid excessive force in the case of mis-insertion to cause damage to the product. If excessive force causes damage to the product, replace the damaged product for assembly.*
*注意：如当插入力量过大时，请确认是否装错产品，请避免错插情形下过度用力导致产品损坏.若过度用力导致产品损坏需更换破损产品进行装配。*

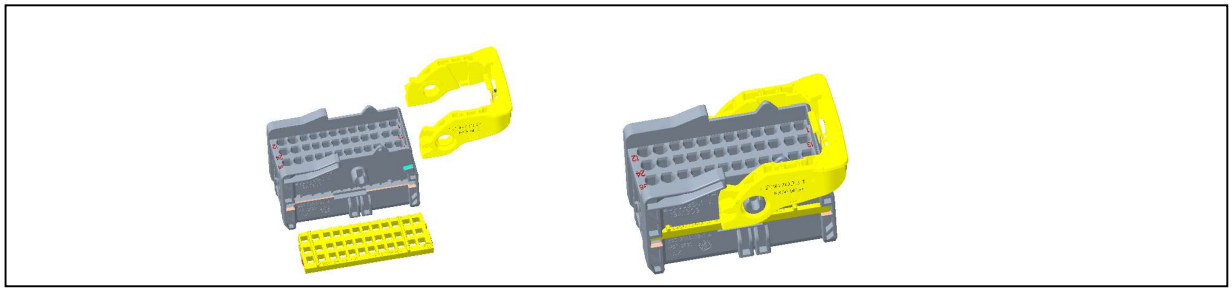


Figure 2.1.1 Dawing 2366036: Plug Connector
图 2.1.1 图纸 2366036：母端连接器

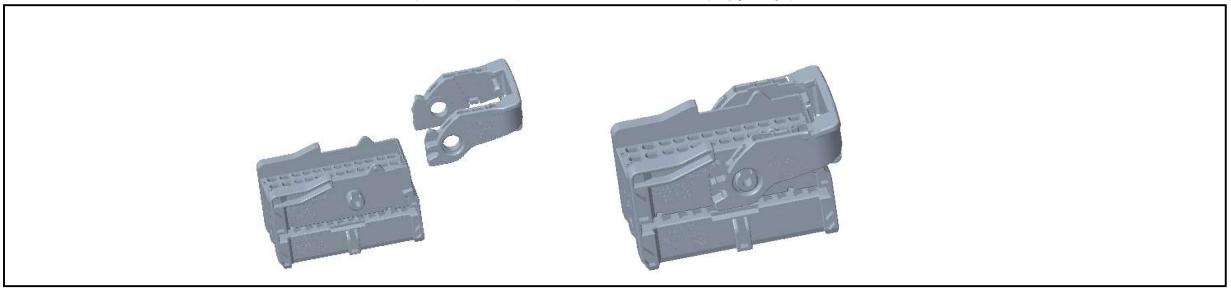


Figure 2.1.2 Dawing 2394434:Plug Connector
图 2.1.2 图纸 2394434：母端连接器

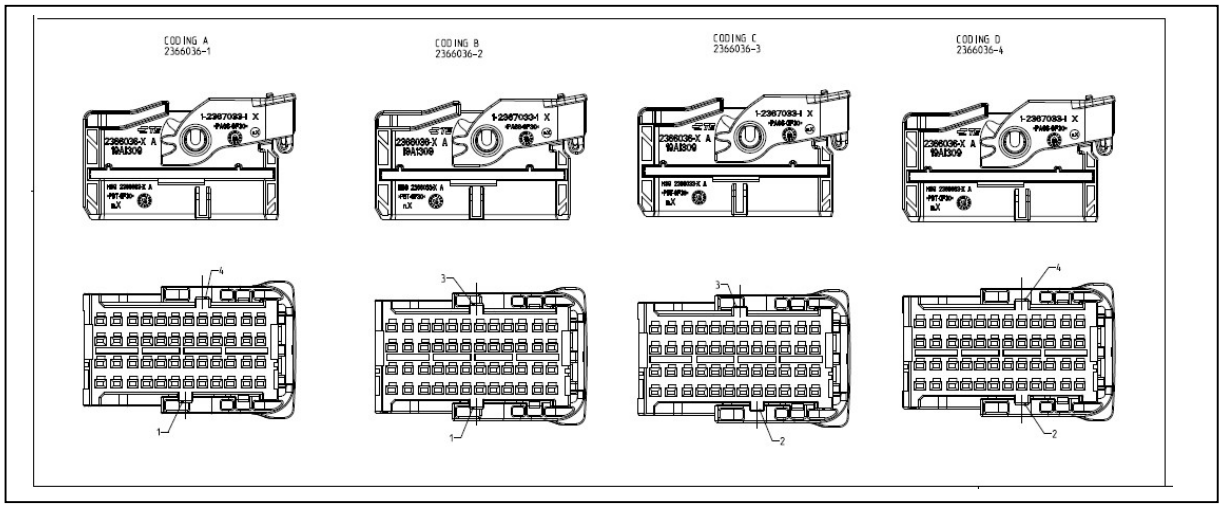



Figure 2.1.3 Four Coding of Plug Connector
图 2.1.3 母端连接器的 4 个 Coding

## 2.2 Receptacle Connector

## 2.2 公端连接器

As figure 2.2.1 shows, Dawing 2366066:receptacle connector contains 2 parts(1. TPA, 2. Housing).
如图 2.2.1 所示，图纸 2366066：公端连接器包含 2 个零件（1. TPA，2. 塑壳）。

As figure 2.2.2 shows, Dawing 2366035:receptacle connector contains 1 parts(1. Housing).
如图 2.2.2 所示，图纸 2366035：公端连接器包含 1 个零件（1. 塑壳）。

TPA is to provide position assurance after the terminal is inserted into the housing.
TPA 用来提供端子插入塑胶后的位置保证。

The housing is to protect the terminal, fix the terminal position, provide the fixed way and provide coding error proof for plug.
塑壳可以保护端子，固定端子位置，提供固定方式及用不同 Coding 防错。

As figure 2.2.3 shows, receptacle connector also has 4 kinds of coding in A, B, C, D. There are differences in the colour and structure of code parts between various Coding. In case of mis-insertion, please assemble according to same coding.
正如图 2.2.3 所示，公端连接器也有 A， B， C，D 4 种 Coding, 每种 Coding 间的零件颜色及结构存在差异，以防误插。请根据相同的 coding 对应装配。

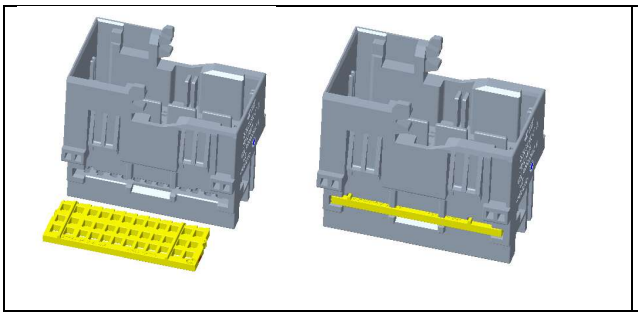


Figure 2.2.1 Dawing 2366066:Receptacle Connector
图 2.2.1 图纸 2366066:公端连接器

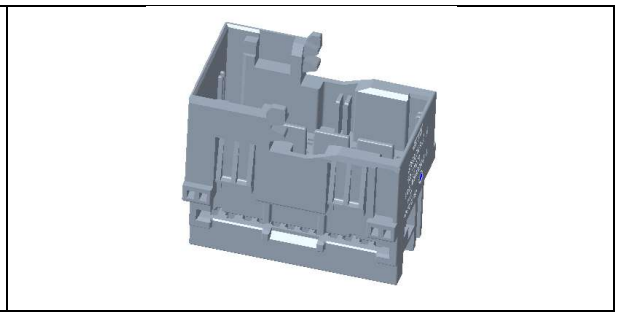


Figure 2.2.2 Dawing 2366035:Receptacle Connector
图 2.2.2 图纸 2366035 公端连接器

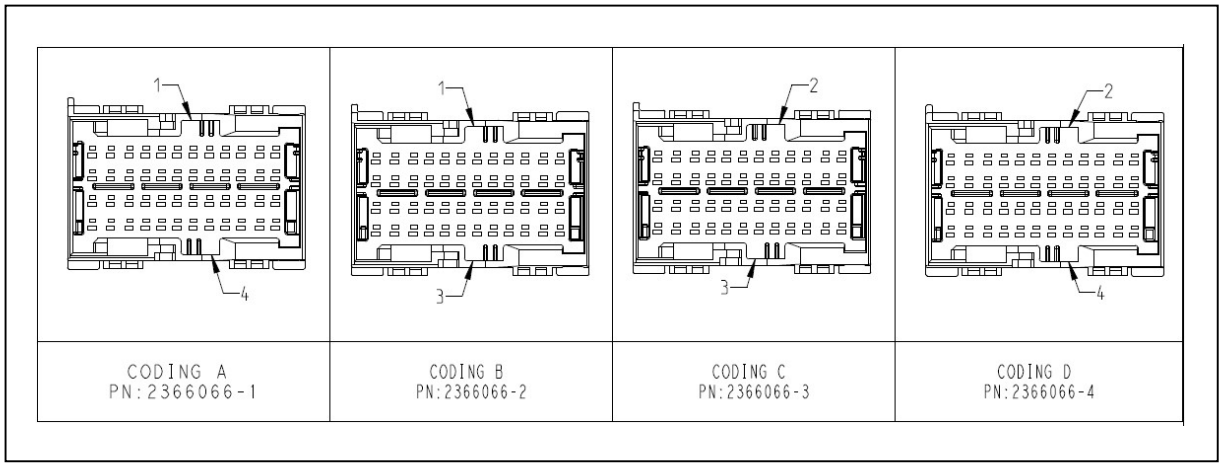



Figure 2.2.3 Four Coding of Receptacle Connector
图 2.2.3 公端连接器的 4 个 Coding

## 2.3 Applicable Terminal and Crimping Specifications

## 2.3 适用端子及压接规范

Bellow table shows the PNs of MCON 1.2 LL terminals and wire diameter that applicable to plug connector.

下表是母端连接器适配的 MCON 1.2 LL 端子料号及线径。

| Terminal PN<br>端子料号 | Terminal contact area Plating<br>端子接触区电镀 | Wire Size ($mm^2$)<br>线类型（平方毫米） | Wire Insulation Diameter (mm)<br>绝缘外径（毫米） |
|---|---|---|---|
| 7-1452656-1 | Tin 锡 | 0.5~0.75 | Ø1.40—Ø1.90 |
| 7-1452659-1 | Tin 锡 | 1.0~1.5 | Ø1.90—Ø2.40 |

Table 2.3.1 Terminal and wire diameter applicable to Plug
表 2.3.1 母端适配端子料号及线径

Detailed application Specification for the MCON 1.2 LL terminals please refer to 114-18464.
MCON 1.2 LL 端子应用规范，具体可参考 114-18464 压接规范。

Bellow table shows the PNs of TAB 1.2×0.6 LL and wire diameter that applicable to receptacle connector.

下表是公端连接器适配的 TAB 1.2×0.6 LL 端子料号及线径。

| Terminal PN<br>端子料号 | Terminal contact area Plating<br>端子接触区电镀 | Wire Size ($mm^2$)<br>线类型（平方毫米） | Wire Insulation Diameter (mm)<br>绝缘外径（毫米） |
|---|---|---|---|
| 1418760-1<br>5-1418760-1 | Tin 锡 | 0.5~0.75 | Ø1.40—Ø1.90 |
| 1418762-1 | Tin 锡 | 1.0~1.5 | Ø1.90—Ø2.40 |

Table 2.3.2 Terminal and wire diameter applicable to Receptacle

表 2.3.2 公端适配端子料号及线径

Detailed application Specification for the TAB 1.2×0.6 LL terminals please refer to 114-18464.
TAB 1.2×0.6 LL 端子应用规范，具体可参考 114-18464 压接规范。

In the event of conflict between the requirements of this specification and the drawing, the drawing shall take precedence.
在本规范的要求与图纸发生冲突时，以产品图纸为准。

In the event of conflict between the requirement of this specification and the referenced documents, this specification shall take precedence.
在本规范的要求与参考文件发生冲突时，以本规范为准。

## 3. Application Description

## 3. 应用规范

### 3.1 Loading Connector with Contacts

### 3.1 组装端子和连接器

#### 3.1.1 Loading Plug Connector with Contacts

#### 3.1.1 母端连接器组装端子

Step 1, check the initial status of product. Contacts only can be inserted when the TPA is in the pre-locked position (as shown in figure3.1.1).
端子只有当 TPA 处于预锁状态时（如图 3.1.1 所示）才能插入。
If the TPA is in the end-lock state, the TPA must to be pried to the pre-lock and then operates (as shown in figure3.1.1).
如果 TPA 处于 终锁位置，必须撬起二次锁（无破坏）使其回到预锁位置再组装端子（如图 3.1.1 所示）。

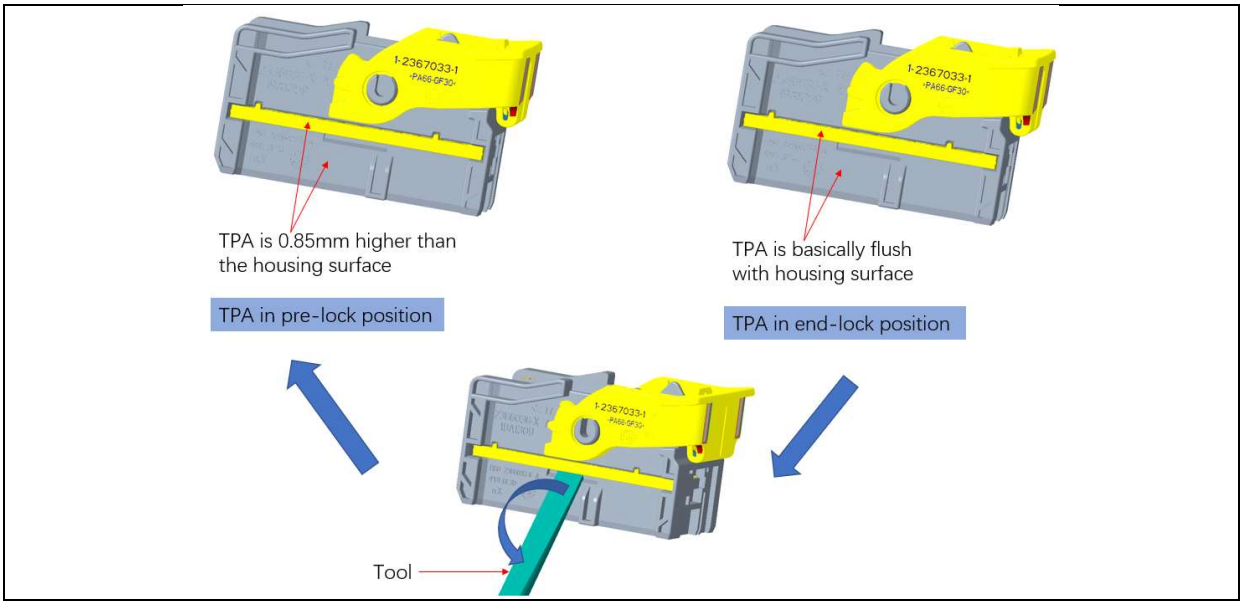



Figure 3.1.1 Check the Position of TPA
图 3.1.1 TPA 位置确认

*Note:*

*Before assemble the terminal, the connector must be confirmed to be free from damage, missing, and other obvious abnormalities.*

*If you find an obvious anomaly, please contact TE for confirmation or to replace it with a new connector.*

*注意:*

*在组装端子前，须先确认连接器无破坏和损伤，无缺失，等明显异常。*

*如果发现某明显异常，请务必联系 TE 确认或者更换新的连接器。*

Step2, please make sure that the terminal is inserted in right orientation as shown in figure3.1.2 (When hearing the click sound, pull the cable gently and it cannot be pulled).

第 2 步，请确保端子依图 3.1.2 所示的正确方向插入且插入到位（听到咔哒声且往后轻拉，线无法拉动）。

Correct orientation of the contacts must be ensured.

请确保插入方向正确。

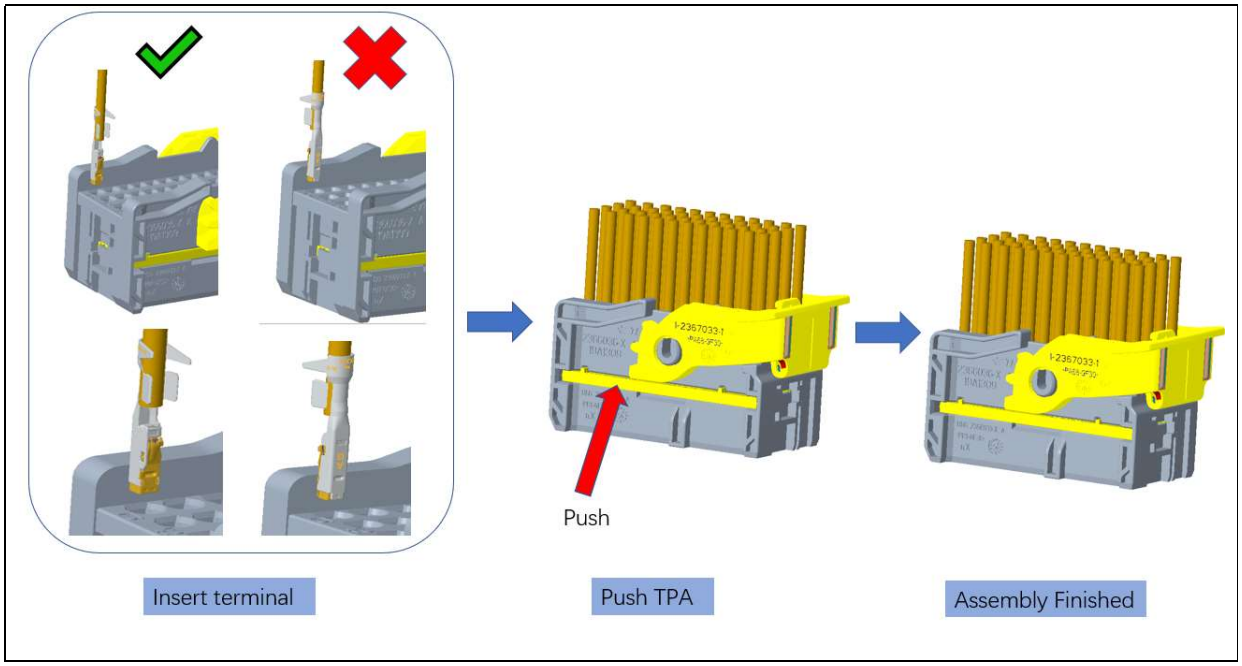



Figure 3.1.2 Terminal and TPA Assembly
图 3.1.2 端子和 TPA 组装

Step 3, after all the terminals are inserted into the right position, then press the TPA from the pre-lock position to the end lock position as figure 3.1.2 shows. (When hearing the click sound, push the TPA gently and TPA cannot be pushed again).

第 2 步，所有端子安装到位后，然后将 TPA 从预锁按压到终锁状态，如图 3.1.2 所示（听到轻微的咔哒声，而且再推 TPA 不能再被推动）。

### 3.1.2 Loading Receptacle Connector with Contacts

### 3.1.2 公端连接器组装端子

Step 1, check the initial status of product. Contacts only can be inserted when the TPA is in the pre-locked position (as shown in figure3.1.3).

端子只有当 TPA 处于预锁状态时（如图 3.1.3 所示）才能插入。

If the TPA is in the end-lock state, the TPA must to be pried to the pre-lock and then o erates (as shown in figure3.1.3).

如果 TPA 处于 终锁位置，必须撬起二次锁（无破坏）使其回到预锁位置再组装端子（如图 3.1.3 所示）。

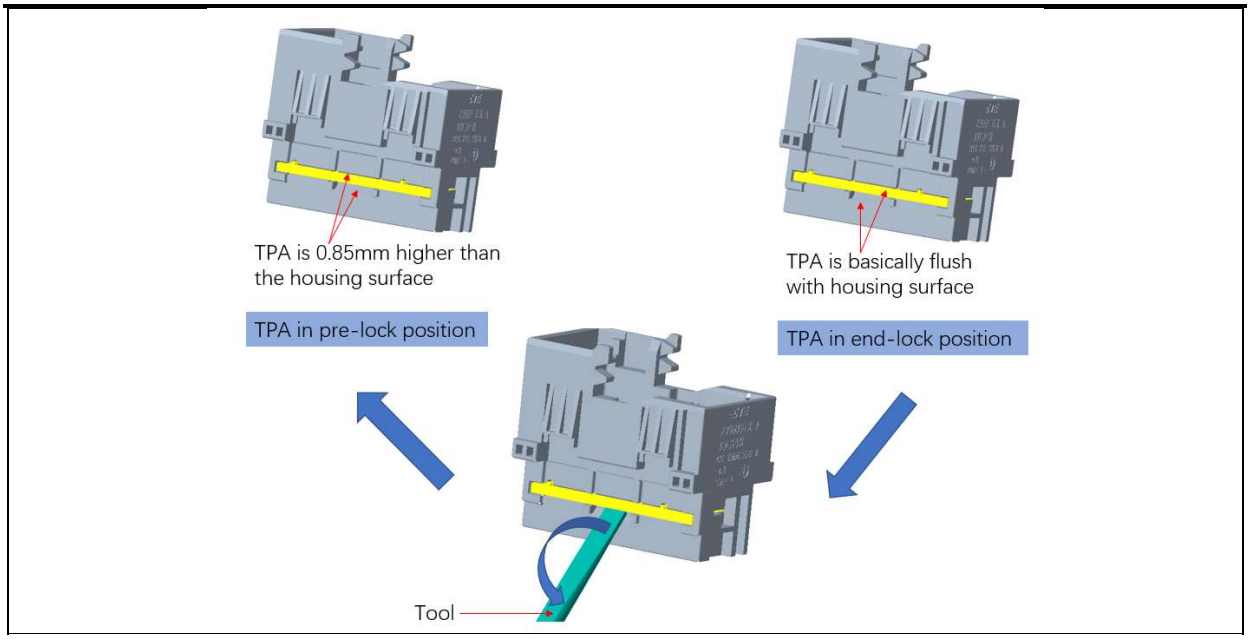



Figure 3.1.3 Check the Position of TPA
图 3.1.3 TPA 位置确认

*Note:*
*Before assemble the terminal, the connector must be confirmed to be free from damage, missing, and other obvious abnormalities.*
*If you find an obvious anomaly, please contact TE for confirmation or to replace it with a new connector.*
*注意:*
*在组装端子前，须先确认连接器无破坏和损伤，无缺失，等明显异常。*
*如果发现某明显异常，请务必联系 TE 确认或者更换新的连接器。*

Step2, please make sure that the terminal is inserted in right orientation as shown in figure3.1.4 (When hearing the click sound, pull the cable gently and it cannot be pulled).
第 2 步，请确保端子依图 3.1.4 所示的正确方向插入且插入到位（听到咔哒声且往后轻拉，线无法拉动）。
Correct orientation of the contacts must be ensured.
请确保插入方向正确。

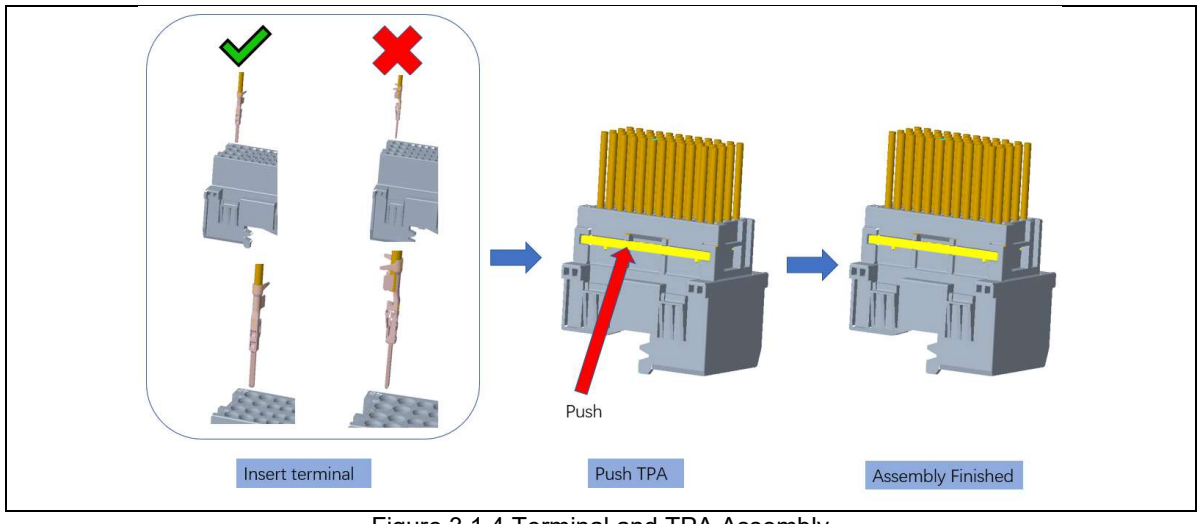



Figure 3.1.4 Terminal and TPA Assembly
图 3.1.4 端子和 TPA 组装

Step 3, after all the terminals are inserted into the right position, then press the TPA from the pre-lock position to the end lock position as figure 3.1.4 shows. (When hearing the click sound, push the TPA gently and TPA cannot be pushed again).
第 2 步，所有端子安装到位后，然后将 TPA 从预锁按压到终锁状态，如图 3.1.4 所示（听到轻微的咔哒声，而且再推 TPA 不能再被推动）。

## 3.2 Extracting Crimped Terminals from Connector
## 3.2 从连接器中退端子

### 3.2.1 Extracting Crimped Terminals from Plug connector
### 3.2.1 从母端连接器中退出端子

Step 1, As figure 3.2.1.1 shows, Before extracting the crimped terminals, TPA must be pried to the pre-locked position with a proper tool.
如图 3.2.1.1 所示，退端子之前，必须先使用小工具将 TPA 撬起到预锁位置。

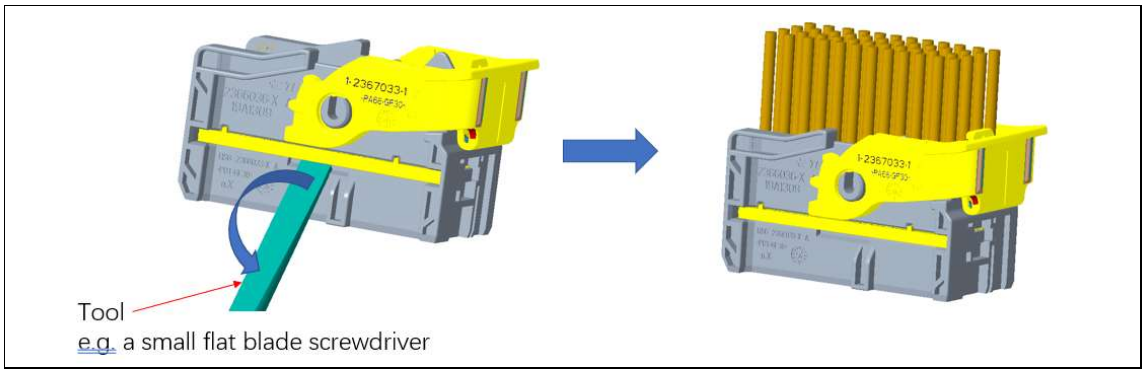



Figure 3.2.1.1 Pry TPA from End-locked to Pre-locked Position
图 3.2.1.1 从终锁位置撬起 TPA 到预锁位置

Step 2, As figure 3.2.1.2 shows, insert the special tool from TE into the corresponding hole of housing and pull the terminal at same time until the terminal is pulled out.
The order NO. of the special tool refer to 114-18464.

如图 3.2.1.2 所示，用来自 TE 的专业工具插入塑壳相应孔位中同时拉动端子直至端子被拉出。

专业工具的订购料号详见端子应用规格书 114-18464。

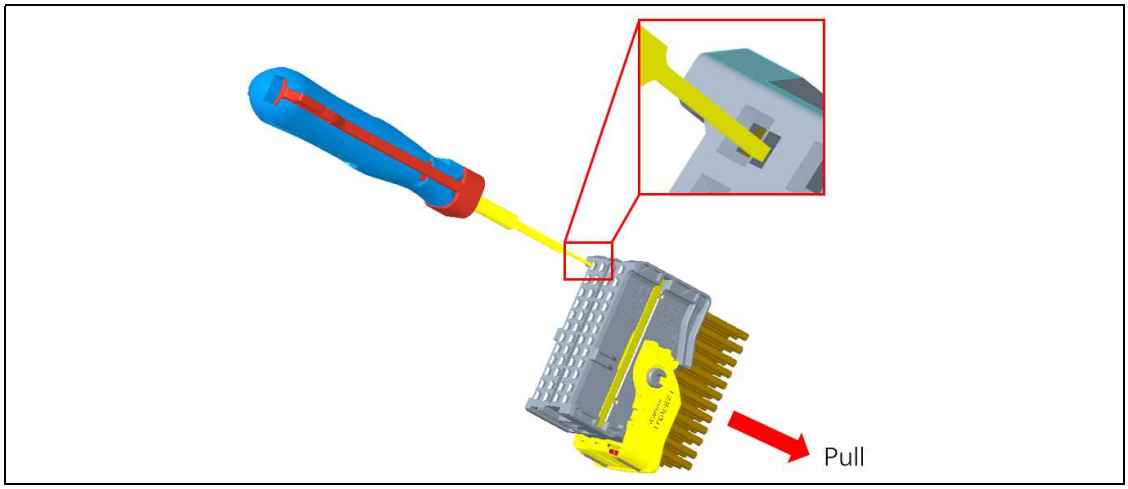



Figure 3.2.1.2 Extract the Terminals
图 3.2.1.2 退端子

*Note: the operation should be careful to avoid damage of the TPA, housing, terminals and tool.*
注意：操作应小心，避免破坏 TPA、塑壳、端子及工具。

### 3.2.2 Extracting Crimped Terminals from Receptacle Connector

### 3.2.2 从公端连接器中退出端子

Step 1, As figure 3.2.2.1 shows, Before extracting the crimped terminals, TPA must be pried to the pre-locked position with a proper tool.
如图 3.2.2.1 所示，退端子之前，必须先使用小工具将 TPA 撬起到预锁位置。

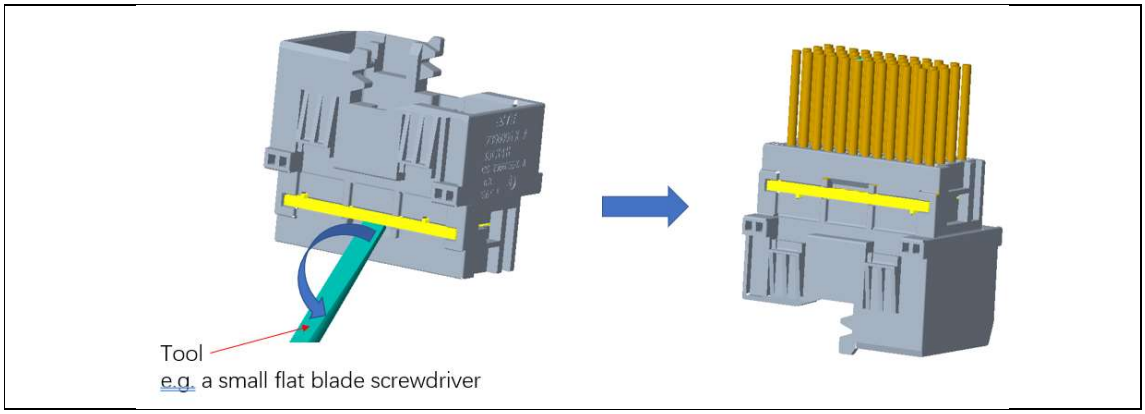



Figure 3.2.2.1 Pry TPA from End-locked to Pre-locked Position
图 3.2.2.1 从终锁位置撬起 TPA 到预锁位置

Step 2, As figure 3.2.2.2 shows, insert the special tool from TE into the corresponding hole of housing and pull the terminal at same time until the terminal is pulled out.
The order NO. of the special tool refer to 114-18082.

如图 3.2.2.2 所示，用来自 TE 的专业工具插入塑壳相应孔位中同时拉动端子直至端子被拉出。

专业工具的订购料号详见端子应用规格书 114-18082。

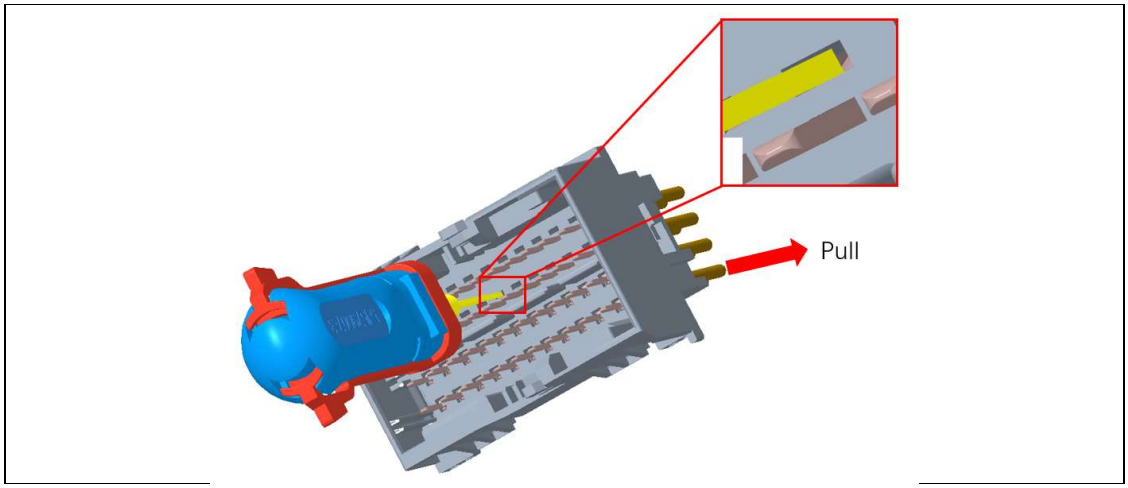



Figure 3.2.1.2 Extract the Terminals
图 3.2.1.2 退端子

*Note: the operation should be careful to avoid damage of the TPA, housing, terminals and tool.*
注意：操作应小心，避免破坏 TPA、塑壳、端子及工具。

## 3.3 Mating Plug & Receptacle Connector

## 3.3 公母端连接器装配

Step 1, the plug connector has a gear lever for making mating and unmating easier by decreasing the mating force. In delivery condition the lever is in final locked position. Before interconnection, the lever must be moved into pre-locked position. This can be achieved by pressing the locking latch and then rotating the lever toward pre-lock direction. Then the lever will be pressed against the stop by hand, as shown in Figure 3.3.1.

母端连接器具备带有齿轮机构的 lever，它的功能是降低配合力使得耦合与分离更容易。运输时 lever 处于终锁位置。在进行互连操作前，必须先把 lever 移动到预锁位置。通过按压锁扣并将 lever 向预锁位置旋转实现。然后，需要将 lever 向止动点方向按住，如图 3.3.1 所示。

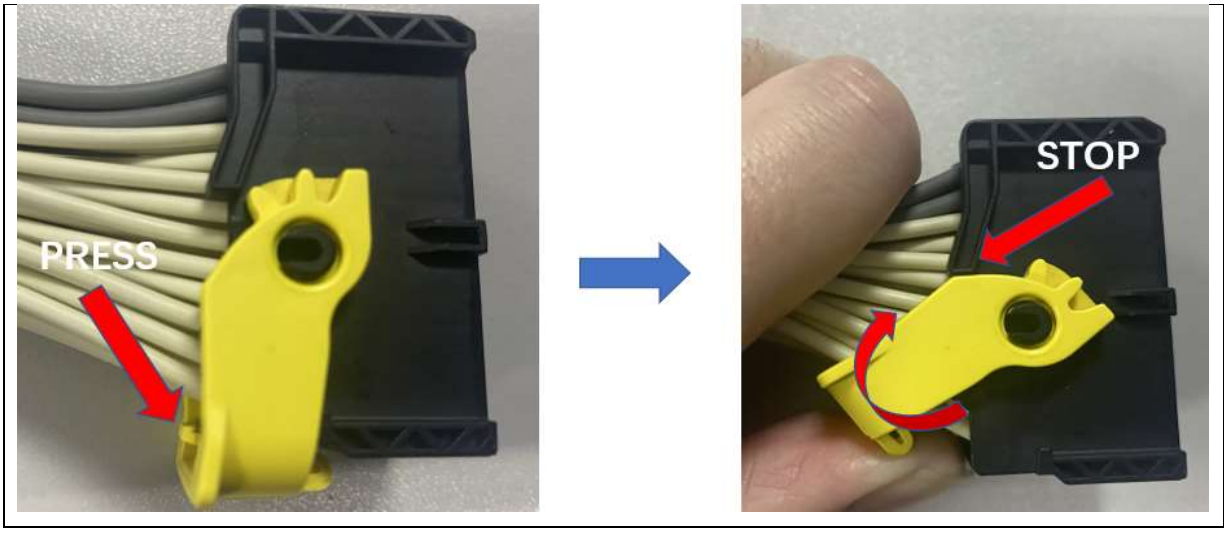



Figure 3.3.1 Move Lever to Pre-lock Position
图 3.3.1 将 lever 移动到预锁位置

*Note: It is correct that inserting horizontally and vertically with same coding. But when the plug is inserted into the receptacle with angular skewing, it is possible to damage the latch locking and code area. the terminals also have the risk of withdrawing the needle. At the same time, mating force when angular should be bigger than right way.*

*注意：正确的方式是连接器应用相同的 coding 且水平且垂直插入。但是，当斜插入装配后，有可能造成产品互锁结构和 code 区域损坏，端子也可能有不易退出的现象。同时，斜插 还可能引起插入力比正常插入更大。*

Step 2, as shown in figure 3.3.2, insert the plug connector into the receptacle connector until full stop, so that the first tooth of the lever will immerse in the tab housing.

如图 3.3.2 所示，将母端连接器插入公端连接器直到完全停止，此时 lever 的第一个齿已与公端壳体上的齿耦合。

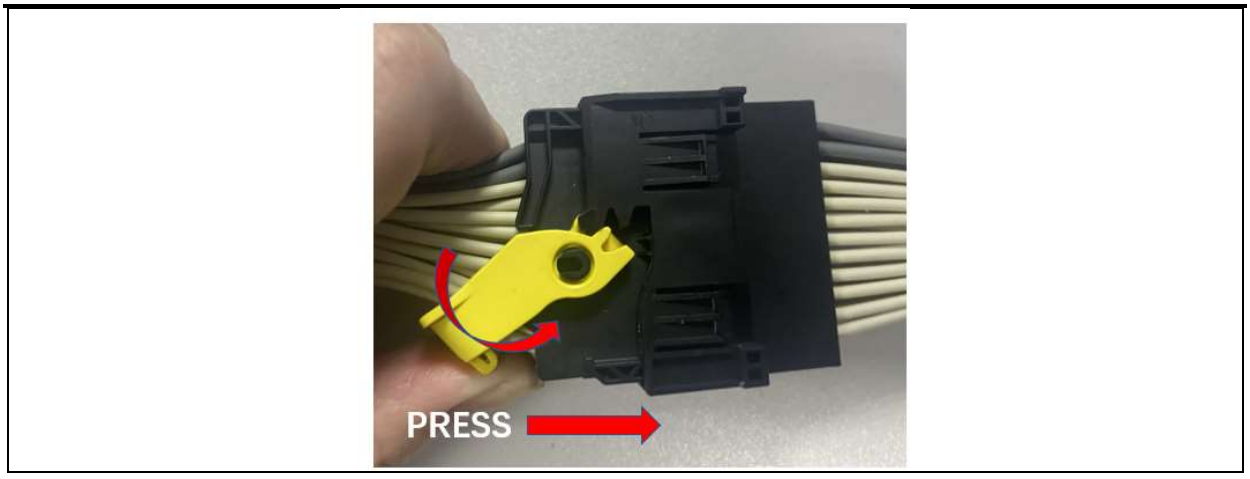



Figure 3.3.2 Preassemble Plug into Receptacle
图 3.3.2 预装插头

Step 3, as shown in figure 3.3.3, rotate the lever toward the final lock position. When the lever has reached its final position there will be a click sound and the lever is locked.
如图 3.3.3 所示，继续向终锁方向旋转 lever。当 lever 到达终锁位置时会有“咔哒”且此时 lever 被锁止。

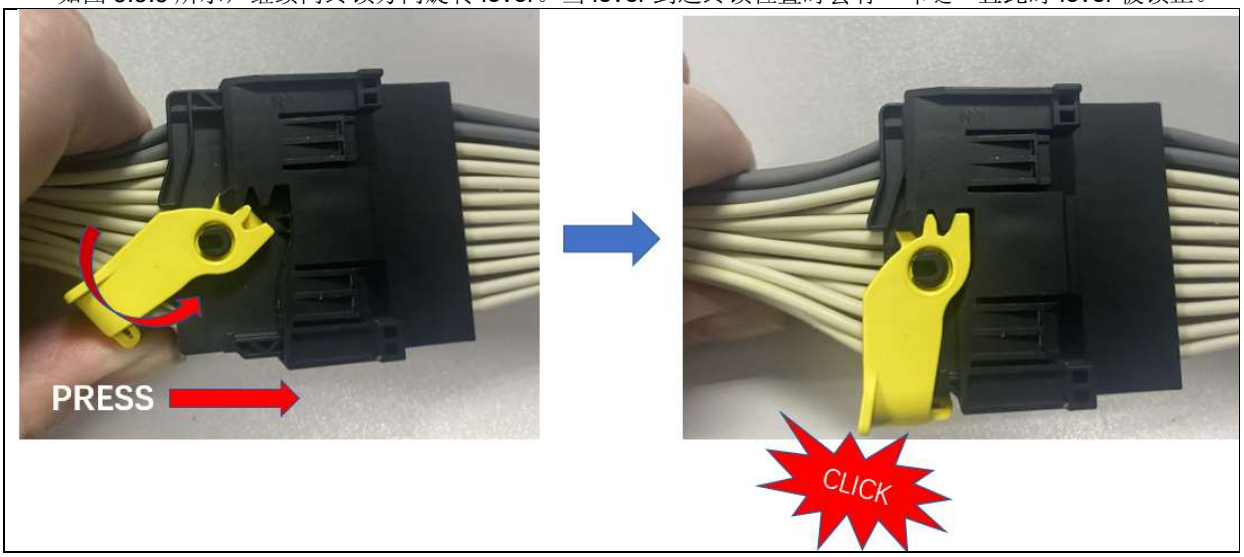



Figure 3.3.3 Rotate Lever to Final Lock Position
图 3.3.3 将 lever 旋转到终锁位置

### 3.4 Unmating Plug & Receptacle Connector

### 3.4 公母端连接器分离

The lever has to be brought into the pre-locked position to disconnect the connection. Previously, the locking latch of the lever has to be unlocked. This will be achieved by pressing the locking latch and rotating lever toward pre-lock direction (refer to figure 3.3.1). Then lever is held in this position by hand. After that the connection can be disconnected in a reverse sequence then shown in figure 3.3.2.

必须将杠杆置于预锁位置，才能断开连接。在此之前，必须打开 lever 上的锁扣。这可以通过按压锁扣和向预锁方向旋转 lever 来实现（参考图 3.3.1）。然后用手将 lever 保持在这个位置。然后按图 3.3.2 所示的相反顺序断开连接。