



NTSeal Series Sealed Connector Application Specification
NTS 系列密封连接器应用规范

				DRW: C. Wan DATE:12May2020	*TE Connectivity*		
C2	Add NTS 36P connector	Z.Zhou	13Jun2024	CHK: E.Jiang DATE: 12May2020			
C1	Correct color of sealing plug	Z.Zhou	23Aug2023				
C	Add NTS 26P connector	Z.Zhou	07Aug2023				
B	Add NTS 48P connector	Z.Zhou	11Mar2022	APVD: I. Yin DATE: 12May2020	NO **114-32209**	REV **C2**	LOC **ES**
A2	detail information for radial seal defective and correction	E.Jiang	24Jun2020				
A1	Correct typographical error	E.Jiang	15May2020				
A	Initial Release	I. Yin	12May2020	PAGE **1 OF 24**	Title **NTSeal Series Sealed Connector Application Specification**		
REV	REVISION RECORD	APVD	DATE				

CONTENT
目录

1. General....3
1. 综述....3
1.1 Purpose....3
1.1 目的....3
1.2 Customer Drawing....3
1.2 客户图纸....3
1.3 Product Specification....3
1.3 产品规范....3
2. Product Description....4
2. 产品描述....4
2.1 20Pos Plug Connector....4
2.1 20 位母端连接器....4
2.2 20Pos Receptacle Connector....6
2.2 20 位公端连接器....6
2.3 48Pos/26Pos/36Pos Plug Connector....7
2.3 48 位/26 位/36 位母端连接器....7
2.4 48Pos/26Pos/36Pos Receptacle connector....8
2.4 48 位/26 位/36 位公端连接器....8
2.5 Accessories....10
2.5 附件....10
2.5.1 Back shells....10
2.5.1 尾夹....10
2.5.2 Mounting clip....11
2.5.2 安装夹....11
2.5.3 Sealing Plug....12
2.5.3 盲堵....12
2.5.4 Fix Ring for Flange Rec. connector....13
2.5.4 法兰公端连接器的安装环....13
2.6 Applicable terminal and crimping specifications....15
2.6 适用端子及压接规范....15
3. Application Description....17
3. 应用描述....17
3.1 Loading connector with Contacts....17
3.1 组装端子和连接器....17
3.1.1 Loading Plug connector with Contacts....17
3.1.1 母端连接器组装端子....17
3.1.2 Loading Receptacle connector with Contacts....18
3.1.2 公端连接器组装端子....18
3.2 Extracting Crimped terminals from the connector....19
3.2 从连接器中退端子....19
3.2.1 Extracting Crimped terminals from plug connector....19
3.2.1 从母端连接器中退端子....19
3.2.2 Extracting Crimped terminals from Rec. connector....21
3.2.2 从公端连接器中退端子....21
3.3 Mating Plug& Receptacle connector....22
3.3 公母端连接器装配....22
3.4 Unmating Plug& Receptacle connector....24
3.4 公母端连接器分离....24

1. General

1. 综述

1.1 Purpose

1.1 目的

This specification includes the guidelines for application and mounting of NTS series subject connectors and their accessories.
本规范包括 NTS 系列主体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
2350890	NTS20P Plug Connector
2366494	NTS48P Plug Connector
2405007	NTS26P Plug Connector
2445859	NTS36P Plug Connector

Drawing	Description
2350891	NTS20P Receptacle Connector
2366509	NTS48P Receptacle Connector
2405028	NTS26P Receptacle Connector
2445860	NTS36P Receptacle Connector

- Accessories information see chapter 2.5 .
  附件详细信息见章节 2.5.

1.3 Product Specification

1.3 产品规范

This application specification is valid for products specified in product specification 108-101662, which provides a description of the electrical and mechanical properties of multi-pos. connectors. Also see the current relevant contact systems product and application specifications.

该应用规范对产品规范 108-101662 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. 产品描述

2.1 20Pos Plug Connector

2.1 20 位母端连接器

As figure 2.1.1&2.1.2 show, 20Pos plug connector contains 6 parts (1.TPA, 2.Radial seal, 3. Housing, 4.Family seal, 5. Rear cap and 6.CPA (optional)).
如图 2.1.1 和 2.1.2 所示，NTS20pos 的母端连接器包含 6 部分（1.TPA，2.密封圈，3.塑壳，4.密封垫, 5.后盖，6.CPA(可选项)）

TPA is to provide position assurance after the terminal is inserted into the plastic, and lock the circumferential seal ring.
TPA 用来提供端子插入塑胶后的位置保证，及锁紧周向密封圈。

The radial seal is to provide seal protection after the assembly of Plug and Rec.
密封圈可以提供 Plug 与 Rec.装配后的密封保护。

The housing is to protect the terminal, fix the terminal position, provide the fixed way and provide Coding error proof and 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。

The family seal is to provide seal protection for connector and wire.
密封垫可提供连接器和导线的密封保护。

The rear cap is to fix and protect the family seal.
后盖用来固定和保护密封垫.

CPA is to withstand the lock on the housing to prevent the housing from moving.
CPA 是用来卡住塑壳上的卡扣，防止塑壳脱扣。

Just as figure 2.1.3 shows, there are 4 kinds of CODINGs in A, B, C and D. There are differences in the colour and structure of housing and rear cap parts between various CODINGs. In case of mis-insertion, please assemble according to different coding. (The male CODING A must be assembled with female CODING A).
正如图 2.1.3 所示，此类产品有 A,B,C,D 4 种 CODING,各种 CODING 间的 housing 和后盖零件的颜色及结构存在差异，以防误插，请根据不同的 coding 对应装配（即公端 CODING A 装配母端 CODING A ）,详见产品图。

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。

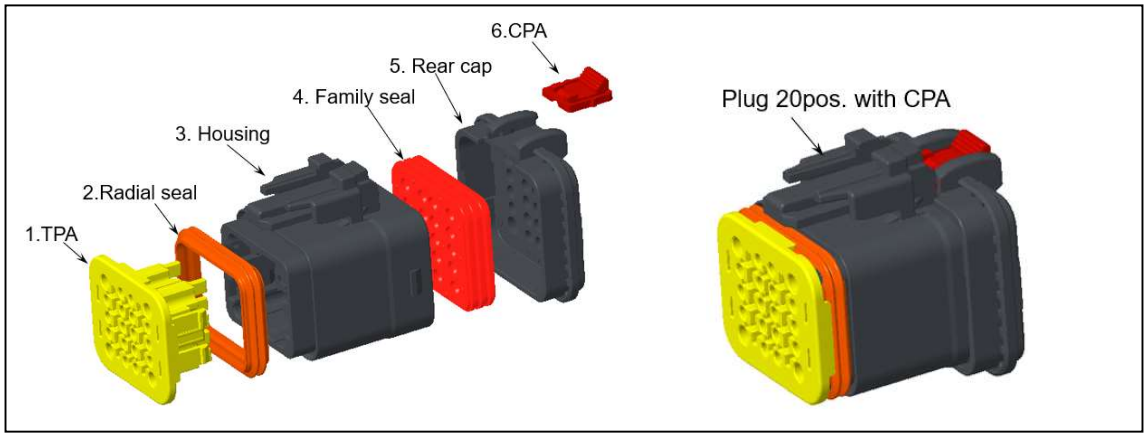


Figure 2.1.1 20pos. Plug Connector with CPA
图 2.1.1 带 CPA 的 20 位母端连接器

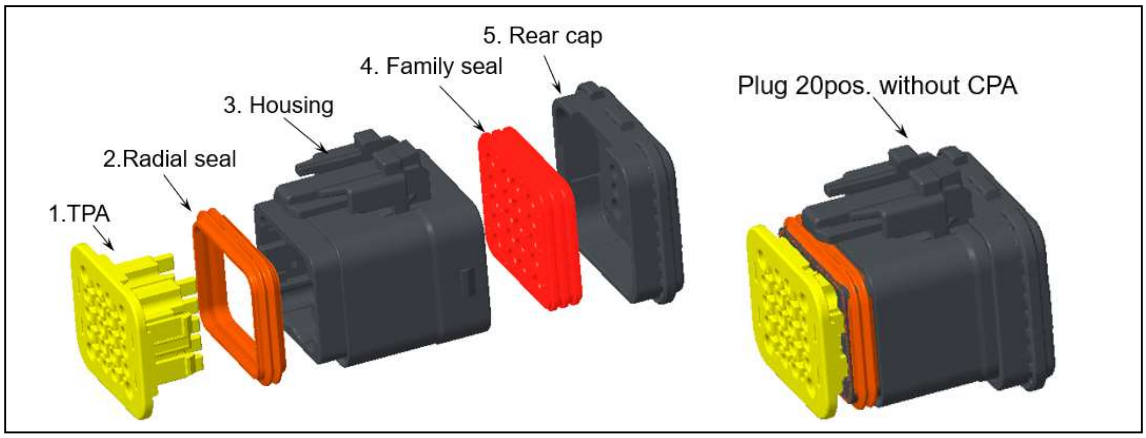


Figure 2.1.2 20pos. Plug Connector without CPA
图 2.1.2 无 CPA 的 20 位母端连接器

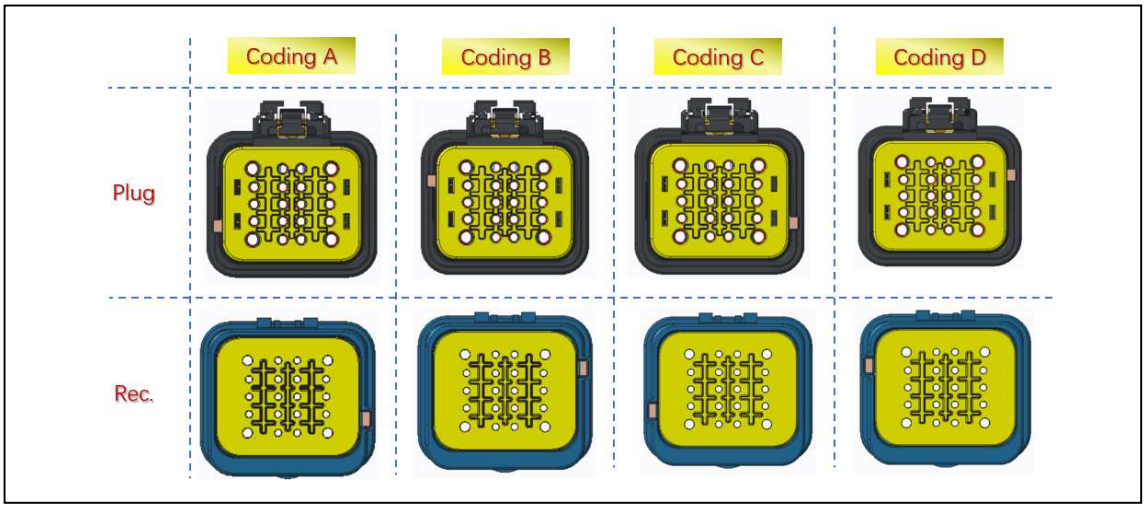


Figure 2.1.3 CODING of 20Pos Connector
图 2.1.3 20 位连接器 CODING 示意图

2.2 20Pos Receptacle Connector

2.2 20 位公端连接器

As figure 2.2.1&2.2.2&2.2.3 show, 20Pos receptacle connector contains 5 parts(1.TPA, 2.Facial seal and cushion(optional), 3. Housing, 4.Family seal, 5. Rear cap).
如图 2.2.1/2.2.2 和 2.2.3 所示，20 位公端连接器包含 5 部分（1.TPA，2.面板密封圈和圆形平垫圈(可选项)，3.塑壳，4.密封垫, 5.后盖）。

TPA is to provide position assurance after the terminal is inserted into the plastic, and lock the circumferential seal ring, and provide Coding error proof and plug.
TPA 用来提供端子插入塑胶后的位置保证，及在互配时提供导向作用。

Facial seal and cushion(optional), fix the connector on the panel, and seal protection with panel.
Facial seal is a bump red washer, it can pass the vibration and seal test.
Cushion is a flat black washer, it can't pass the vibration and seal test.
面板密封圈和圆形平垫圈(可选)，用来将连接器固定在面板上，及和面板密封保护。
面板密封圈红色，可满足震动和密封测试。
圆形平垫圈黑色，不能满足震动和密封测试。

The housing is to protect the terminal, fix the terminal position, provide the fixed way and provide coding error proof and 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。

The family seal is to provide seal protection for connector and wire.
密封垫可提供连接器和导线的密封保护。

The rear cap is to fix and protect the family seal.
后盖用来固定和保护密封垫。

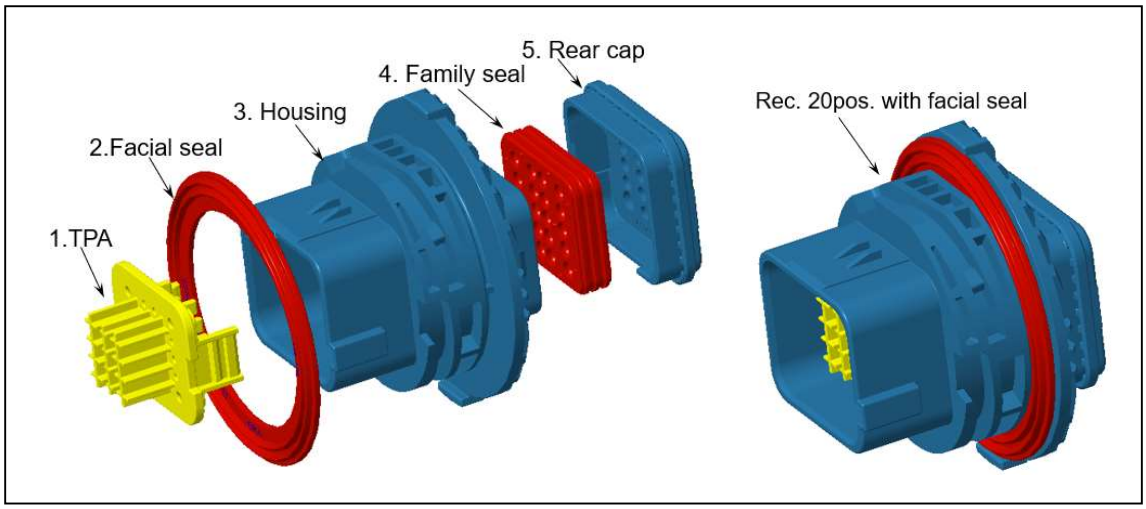


Figure 2.2.1 20pos. Receptacle Connector with facial seal
图 2.2.1 带红色密封圈的 20 位公端连接器

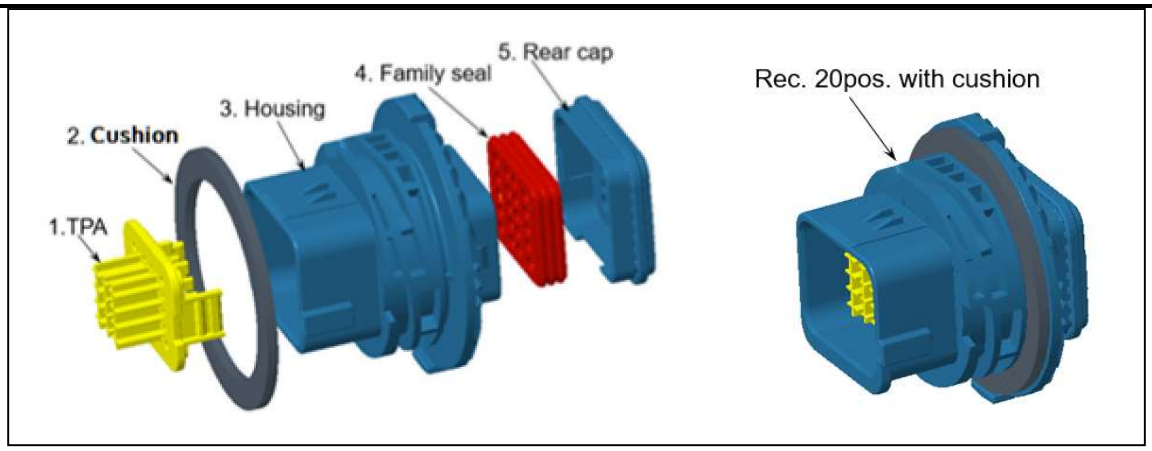


Figure 2.2.2 20pos. Receptacle Connector with cushion
图 2.2.2 带黑色平垫圈的 20 位公端连接器

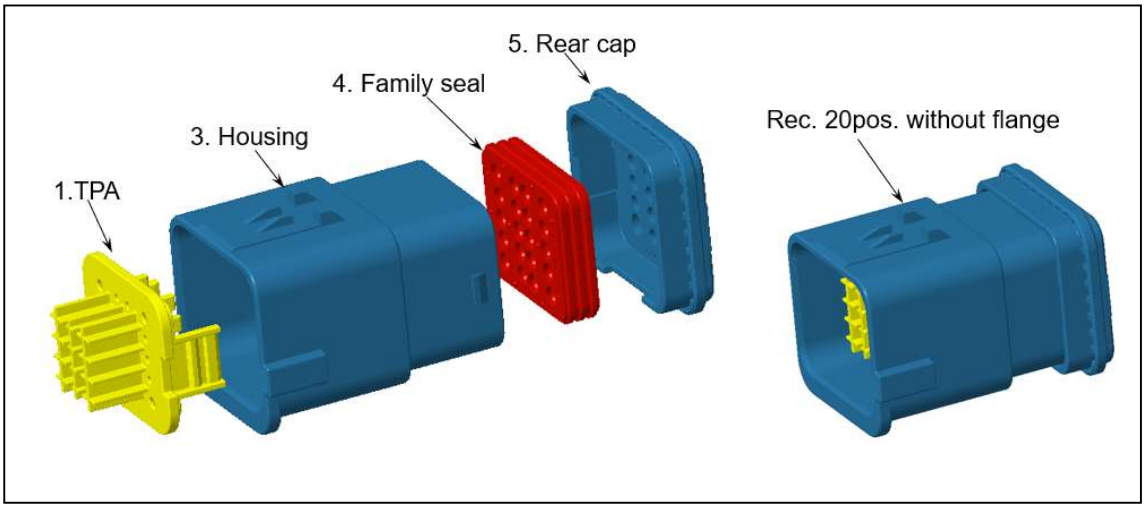


Figure 2.2.3 20pos. Receptacle Connector without flange
图 2.2.3 无法兰的 20 位公端连接器

2.3 48Pos/26Pos/36Pos Plug Connector

2.3 48 位/26 位/36 位母端连接器

NTS48Pos/NTS26Pos/NTS36Pos plug connectors have similar structure.
NTS48 位/NTS26 位/NTS36 位母端连接器有相似的结构。

Taking NTS48Pos connector as an example, as figure 2.3.1 shows,plug connector contains 7 parts (1.TPA, 2.Radial seal, 3. Housing, 4.Family seal, 5. Rear cap, 6.CPA, 7. Lever).
以 NTS48 位连接器为例，如图 2.3.1 所示，母端连接器包含 7 部分（1.TPA，2.密封圈，3.塑壳，4.密封垫, 5.后盖，6.CPA， 7. Lever）

There are 4 kinds of CODINGs in A, B, C and D as shown in figure 2.3.2. There are differences in the colour and structure of housing and rear cap parts between various CODINGs. In case of mis-insertion, please assemble according to different coding. (The male CODING A must be assembled with female CODING A).
如图 2.3.2 所示，该产品有 A,B,C,D 4 种 CODING,各种 CODING 间的 housing 和后盖零件的颜色及结构存在差异，以防误插，请根据不同的 coding 对应装配（即公端 CODING A 须装配母端 CODING A ）,详见产品图。

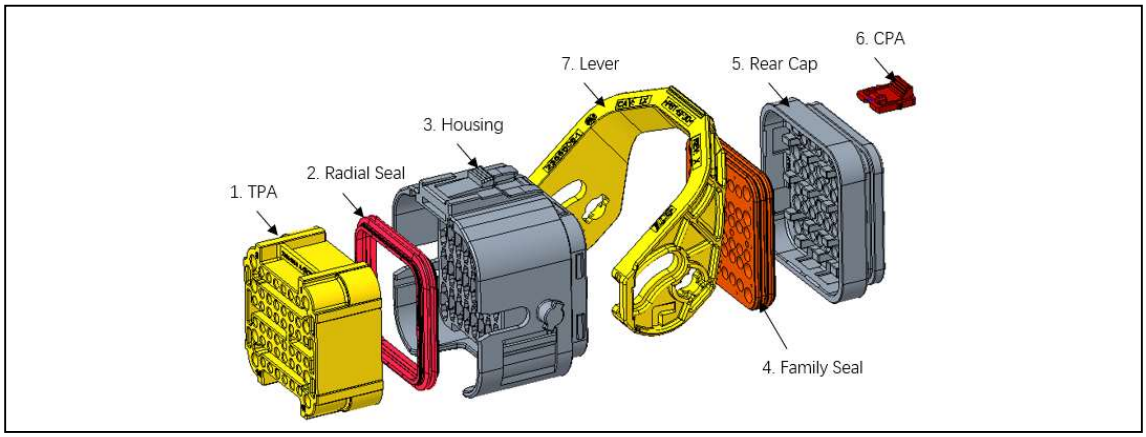


Figure 2.3.1 48pos. Plug Connector
图 2.3.1 48 位母端连接器

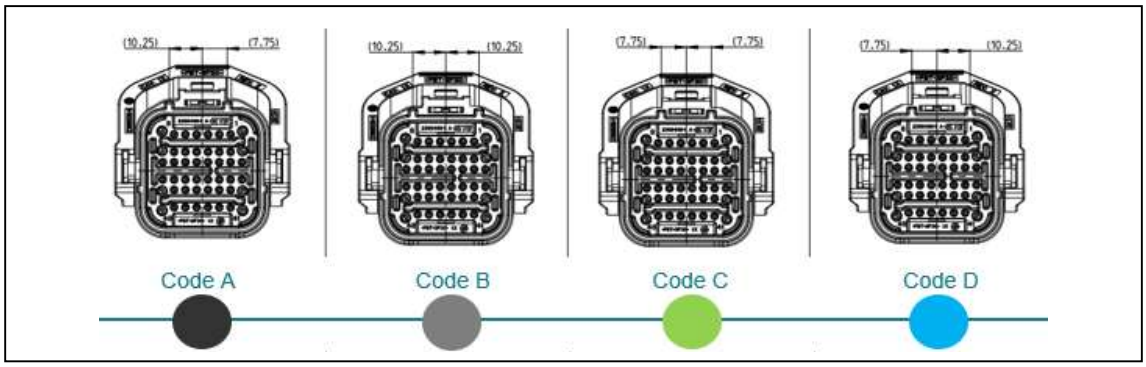


Figure 2.3.2 CODING Of 48Pos Connector
图 2.3.2 48 位连接器 CODING 示意图

2.4 48Pos/26Pos/36Pos Receptacle connector

2.4 48 位/26 位/36 位公端连接器

NTS48Pos/NTS26Pos/NTS36Pos receptacle connectors have similar structure.
NTS48 位/NTS26 位/NTS36 位公端连接器有相似的结构。

Taking NTS48Pos connector as an example, as figure 2.4.1 & 2.4.2 show, receptacle connector contains 5 parts (1.TPA, 2. Housing, 3.Family seal, 4. Rear cap 5.Facial seal (only for flange version)).
以 NTS48 位连接器为例，如图 2.4.1 和 2.4.2 所示，公端连接器包含 5 部分（1.TPA，2. 塑壳，3. 密封垫，4.后盖，5.面板密封圈（仅法兰版本有））。

There are 4 kinds of CODINGs in A, B, C and D as shown in figure 2.4.2. There are differences in the colour and structure of housing and rear cap parts between various CODINGs. In case of mis-insertion, please assemble according to different coding. (The male CODING A must be assembled with female CODING A).
如图 2.4.3 所示，该产品有 A,B,C,D 4 种 CODING,各种 CODING 间的 housing 和后盖零件的颜色及结构存在差异，以防误插，请根据不同的 coding 对应装配（即公端 CODING A 装配母端 CODING A ）,详见产品图。

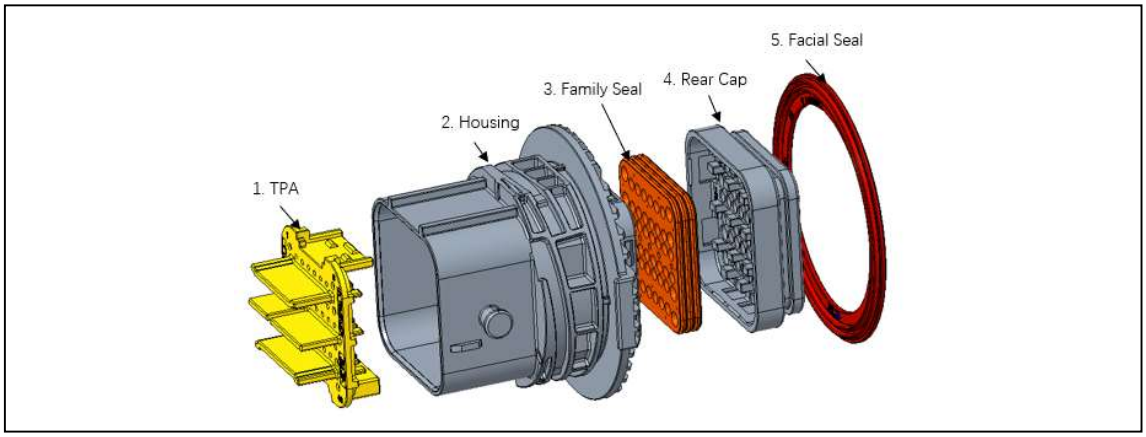


Figure 2.4.1 48pos. Receptacle Connector (Flange Version)
图 2.4.1 48 位公端连接器（法兰版本）

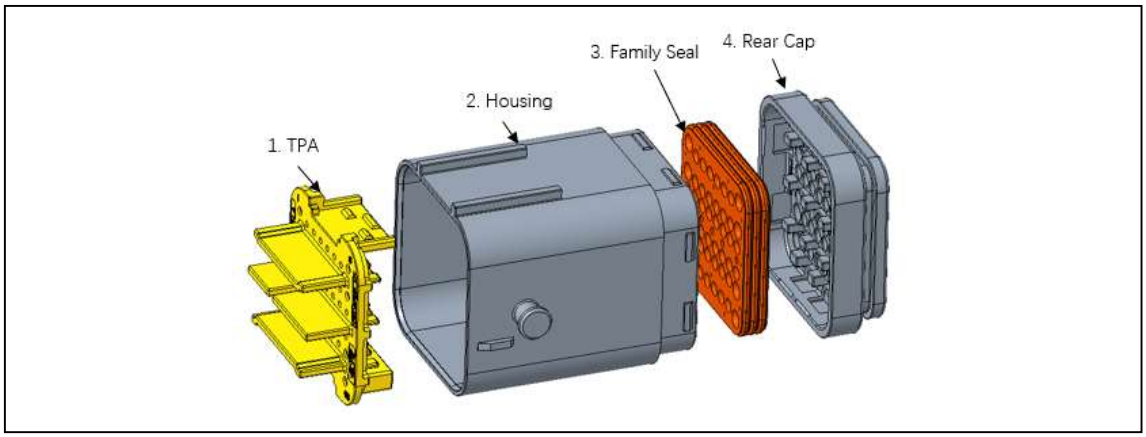


Figure 2.4.2 48pos. Receptacle Connector (Inline Version)
图 2.4.2 48 位公端连接器（无法兰版本）

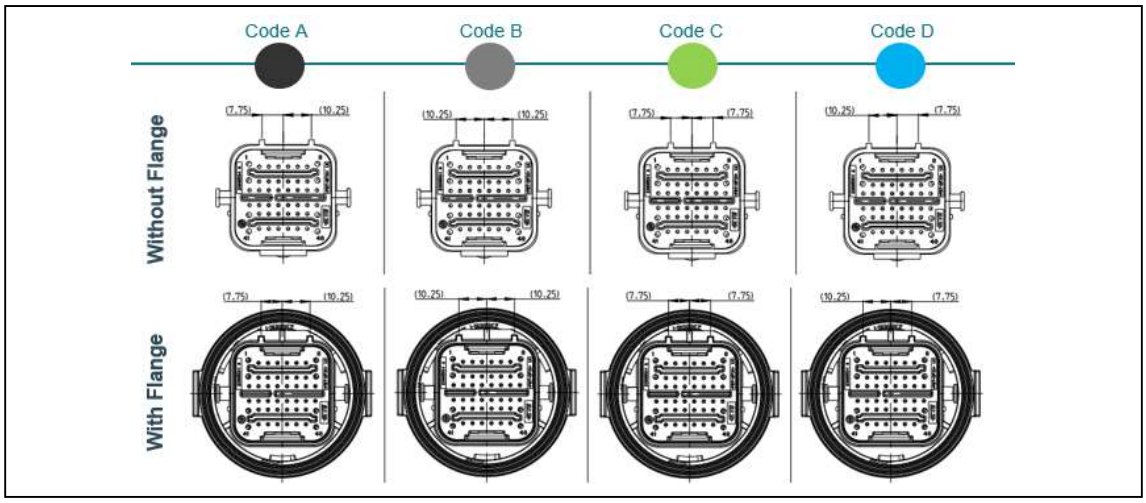


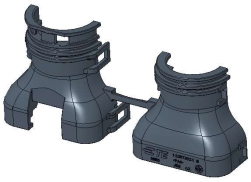
Figure 2.4.3 CODING Of 48Pos Connector
图 2.4.3 48 位连接器 CODING 示意图

2.5 Accessories
2.5 附件

2.5.1 Back shells
2.5.1 尾夹

Figure 2.5.1.1 shows backshells which can provide protection against the rear of the connector to achieve IPX9K.
图 2.5.1.1 是尾夹示意图，提供连接器尾部的防护，安装尾夹后产品防护可达到 IPX9K 等级。

For NTS 20Pos Connector：



With notch for plug



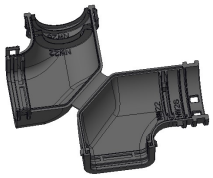
Without notch for recep.



Both for plug & recep.

For NTS 48Pos/26Pos Connector：





Both for Plug & recep.

Figure 2.5.1.1 Back shells
图 2.5.1.1 尾夹示意图

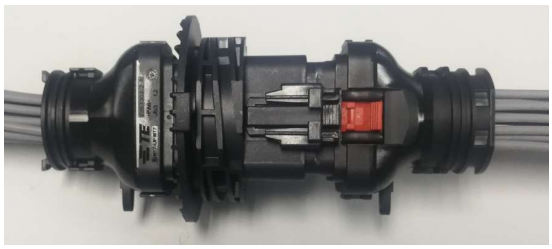
As figure 2.5.1.2, the part numbers and types of back shells are available for selection.
如图 2.5.1.2 所示，以下尾夹的料号和类型可供选择。

CONNECTOR	TYPE	CORRUGATED TUBE SIZE	BACKSHELL P/N	USED ON
PLUG	180°	NW17&UFW17	2357302-1	NTS 20P Plug
PLUG	180°	NW16	1-2357302-1	NTS 20P Plug
RECEP.	180°	NW17&UFW17	2357302-2	NTS 20P Rec.
RECEP.	180°	NW16	1-2357302-2	NTS 20P Rec.
PLUG&RECEP.	90°	NW17&UFW17	2357921-1	NTS 20P
PLUG&RECEP.	90°	NW16	1-2357921-1	NTS 20P
PLUG&RECEP.	180°	NW26&UFW26	2378521-1	NTS 48P
PLUG&RECEP.	90°	NW26&UFW26	2378527-1	NTS 48P
PLUG&RECEP.	180°	NW19&UFW19	2428519-1	NTS 26P
PLUG&RECEP.	90°	NW19&UFW19	2428518-1	NTS 26P

Figure 2.5.1.2
图 2.5.1.2

The installation picture as below figure 2.5.1.3, the 90° back shell assembled with 180° back shell (take NTS 20P connector as an example).

安装效果示意图见图 2.5.1.3，90°的尾夹安装在 180°的尾夹后面（以 NTS 20P 连接器为例）。



With 180° back shell



With 90° back shell

Figure 2.5.1.3 Installation figure
图 2.5.1.3 安装效果示意图

Note: The 90° back shell need be assembled with 180° back shell only for NTS20Pos.
The assembly method of 90° back shell is the same as 180° back shell for NTS48Pos/NTS26Pos. No need for overlay installation.

注意：90° 的尾夹需安装在 180° 的尾夹后面仅适用于 NTS20 位连接器。
对 NTS48 位/NTS26 位连接器，90° 尾夹同 180° 尾夹的安装方式一样。无需叠加安装。

2.5.2 Mounting clip

2.5.2 安装夹

Figure 2.5.2.1 show the installation of mounting clips. Mounting clip only used on receptacle connector whithou flange version.

安装夹的安装效果示意如图 2.5.2.1。安装夹适用于无法兰版本的公端连接器。

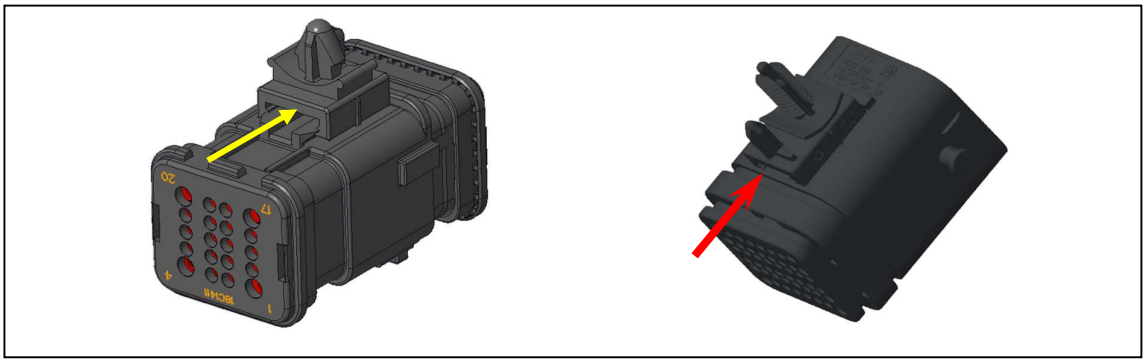


Figure 2.5.2.1 Installation of the mounting clip
图 2.5.2.1 安装夹安装示意图

As figure 2.5.2.2 shows, the following part numbers and types are available for mounting clip selection . For other detailed information, please refer to the drawings of each mounting clip.

如图 2.5.2.2 所示，以下安装夹的料号和类型可供选择。其他详细请参考各安装夹的图纸。

PN	Mounting Direction	Color/Material	Hole O.D. Inches (mm)	Picture
1027-003-1200	Straight	Stainless steel	.433(11.0)	
1027-005-1200	Straight	Stainless steel	.512(13.0)	
1027-004-1200	Straight	Steel w/zinc plating	.512(13.0)	
1027-008-1200	Side	Steel w/zinc plating	.433(11.0)	
1027-017-1200	Side	Steel w/zinc plating	.323(8.2)	
1011-026-0205	Straight	Gray plastic	.200(5.08)	
1011-030-0205	Straight	Black plastic	-	
1011-310-0205	Straight	Black plastic	-	
2355806-1	Straight	Black plastic	-	
2357922-1	Straight	Black plastic	-	

Figure 2.5.2.2 Applicable mounting clips
图 2.5.2.2 适用的安装夹

2.5.3 Sealing Plug

2.5.3 盲堵

Figure 2.5.3.1 shows sealing plug.
图 2.5.3.1 是盲堵。

PN	For Terminal Size	Color	Length/mm	Used On	Picture
2373921-1	16	Grey	≈24.2	NTS 20P	
2373921-2	20	Yellow	≈24.2	NTS 20P	
2373921-3	16	Blue	≈27.8	NTS 48P/26P	
2373921-4	20	Green	≈27.8	NTS 48P/26P	
2428520-1	12	Purple	≈31.2	NTS 26P	

Figure 2.5.3.1 Sealing plug
图 2.5.3.1 盲堵

Taking NTS 20P connector as an example to show the assembly process. As figure 2.5.3.2 shows, guarantee TPA in pre-lock position, 2373921-1 (grey) is for big holes, large diameter end insert into cavity 1,4,17,20 to end-lock with click sound.
以 NTS20P 连接器为例说明组装过程。如图 2.5.3.2，确保 TPA 在预锁位置，用于大孔的盲堵 2373921-1（灰色），将盲堵的大头端装入 1、4、17 或 20#孔，直至听到咔哒声，表示安装到位。

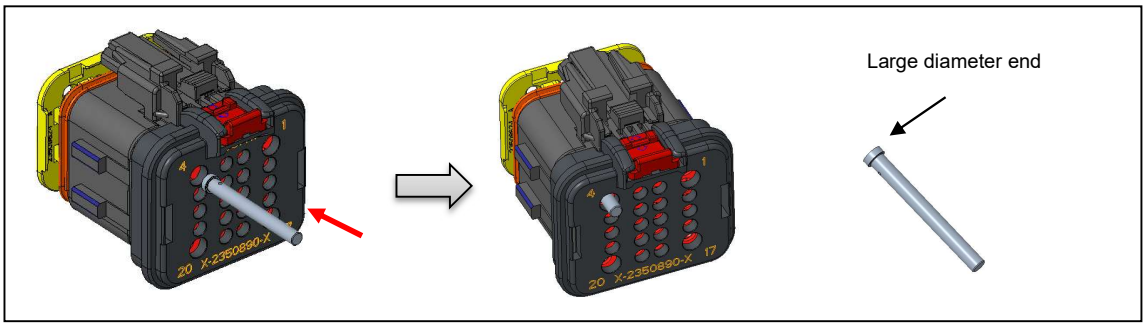


Figure 2.5.3.2
图 2.5.3.2

As figure 2.5.3.3, guarantee TPA in pre-lock position, 2373921-2 (yellow) is for small holes, large diameter end inserted into other cavities to end-lock also with click sound.
如图 2.5.3.3，确保 TPA 处于预锁位置，用于小孔的盲堵 2373921-2（黄色），将盲堵的大头端装入其余的小孔，同样会有咔哒声提示装配到位。

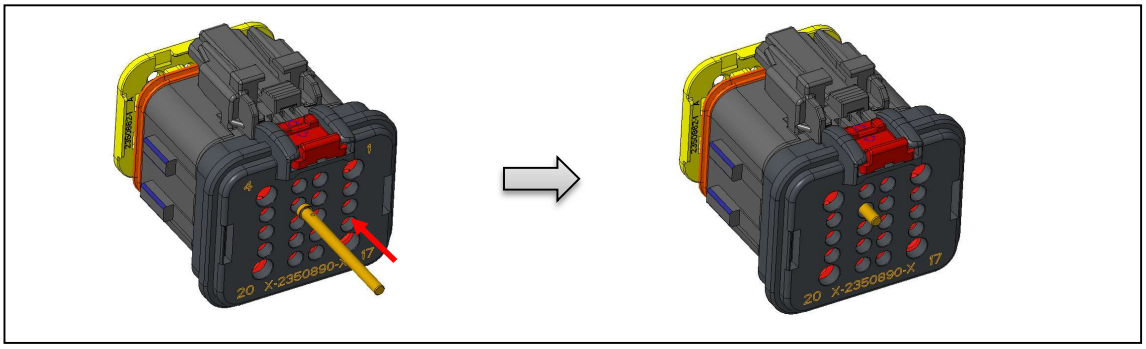


Figure 2.5.3.3
图 2.5.3.3

2.5.4 Fix Ring for Flange Rec. connector
2.5.4 法兰公端连接器的安装环

As figure 2.5.5.1, fix the flange rec. connector on the panel, twist the mounting-ring to end-lock with click sound (same operation procedures for NTS series products, taking NTS 20P connector for illustation).
如图 2.5.5.1，带法兰的公端连接器安装到面板上后，再组装安装环，当听到咔哒声，表示安装到位 （NTS 系列公端连接器安装环固定步骤相同，此处以 NTS 20P 连接器为例说明）。

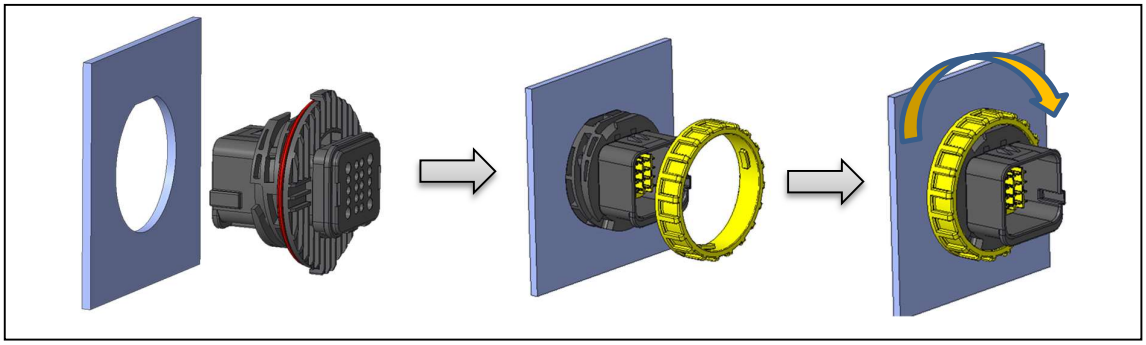


Figure 2.5.5.1 Mounting Procedure
图 2.5.5.1 安装步骤

The bellow table show the fix-rings apply for different panel and for corresponding product.

安装环料号/颜色与面板厚度的对应关系如下表。

Fix-ring P/N	Color	Panel thickness	Applicable to
2350943-1	Yellow	1.5±0.1mm	NTS 20Pos/26pos
2350943-2	Grey	3.0±0.1mm	NTS 20Pos/26pos
2350943-3	Green	3.5±0.1mm	NTS 20Pos/26pos
2350943-4	Blue	4.0±0.1mm	NTS 20Pos/26pos
2366517-1	Yellow	1.5±0.05mm	NTS 48Pos
2366517-2	Grey	3.0±0.05mm	NTS 48Pos
2366517-3	Green	3.5±0.05mm	NTS 48Pos
2366517-4	Blue	4.0±0.05mm	NTS 48Pos

As figure 2.5.5.2 shows, the recommended panel cutout dimensions for NTS 20P/26P connector are as below.

如图 2.5.5.2，NTS 20P/26P 连接器建议的面板开孔尺寸如下。

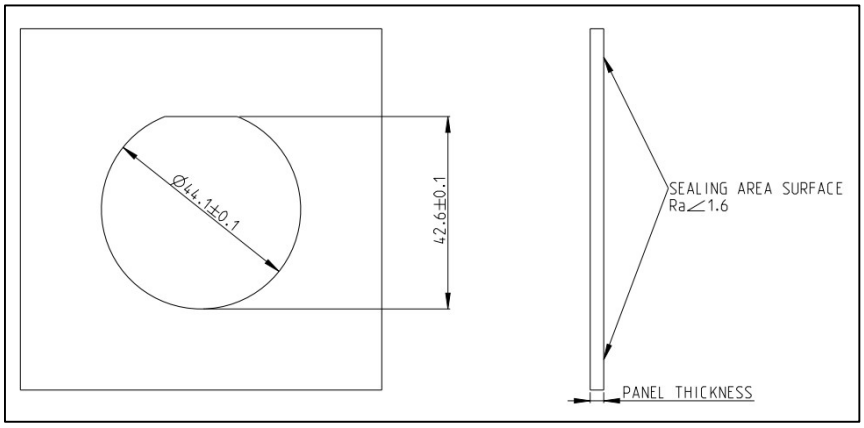


Figure 2.5.5.2
图 2.5.5.2

As figure 2.5.5.3 shows, the recommended panel cutout dimensions for NTS 48P /NTS36P connector are as below, detailed information can refer to drawing 2366517.

如图 2.5.5.3，NTS 48P/NTS36P 连接器建议的面板开孔尺寸如下，详细信息可参考图纸 2366517。

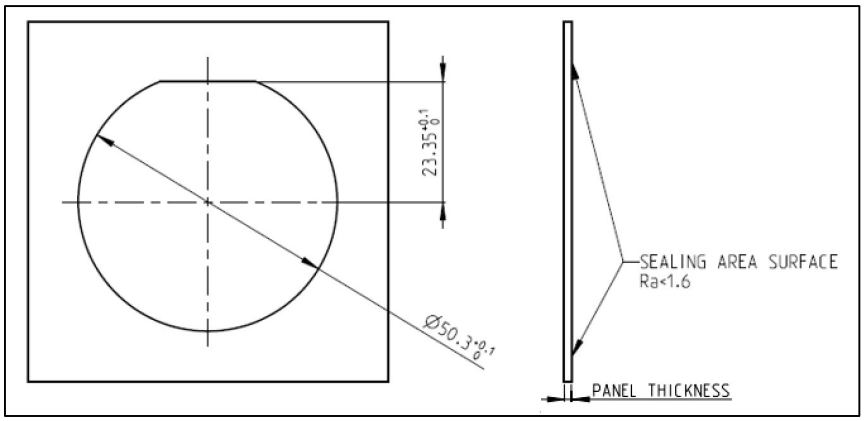


Figure 2.5.5.3
图 2.5.5.3

Note: It is recommended that the roughness of the sealing area in panel should be less than 1.6.
It is recommended that the flatness of the sealing area in panel should be less than 0.1.
注意：建议面板密封区的粗糙度 Ra 小于 1.6。
建议面板密封区的平面度小于 0.1。

2.6 Applicable terminal and crimping specifications

2.6 适用端子及压接规范

Bellow tables shows the information of stamped & formed terminals that applicable to corresponding products, including wire size and insulation diameter.

下表是适用于相应产品（NTS Connector）的端子信息，包含了线径、绝缘外径范围。

Terminal / Connector	Size 20 Terminal		Size 16 Terminal		Size 12 Terminal	
	Wire Size/mm²	Insu. Dia/mm	Wire Size/mm²	Insu. Dia/mm	Wire Size/mm²	Insu. Dia/mm
NTS 20Pos	0.5~1.5	Φ1.4~Φ2.4	0.5~2.5	Φ1.4~Φ3.0	/	/
NTS 48Pos	0.5~1.5	Φ1.4~Φ2.4	1.0~2.5	Φ1.9~Φ3.0	/	/
NTS 26Pos	0.5~1.5	Φ1.4~Φ2.4	0.75~2.5	Φ1.7~Φ3.0	4.0~6.0	Φ3.4~Φ4.3
NTS 36Pos	0.5~1.5	Φ1.4~Φ2.4	0.75~2.5	Φ1.7~Φ3.0	4.0~6.0	Φ3.4~Φ4.3

Table 1 Applicable Terminals and Wires Information of Connectors
表 1 各连接器适配的端子及线径信息

Contact Series	Wire Size (mm²)	Insulation Diameter (mm)	Socket Part Number	Pin Part Number	Applicable to Product
DEUTSCH Size 16 Contact	0.5~1.0	1.4~2.4	1062-16-01**	1060-16-01**	NTS 20Pos
	0.75~1.0	1.7~2.4	1062-16-01**	1060-16-01**	NTS 26Pos
	1.0~1.5	1.9~3.0	1062-16-01**	1060-16-01**	NTS 20Pos, NTS 48Pos, NTS 26Pos
	1.0~2.5	1.9~3.0	1062-16-12**	1060-16-12**	NTS 20Pos, NTS 48Pos, NTS 26Pos
DEUTSCH Size 20 Contact	0.5~1.5	1.9~2.4	1062-20-01**	1060-20-01**	NTS 20Pos, NTS 48Pos, NTS 26Pos
	0.5~1.5	1.4~2.16	1062-20-02**	1060-20-02**	NTS 20Pos, NTS 48Pos, NTS 26Pos
	1.0~1.5	1.9~2.4	1062-20-06**	1060-20-06**	NTS 20Pos, NTS 48Pos, NTS 26Pos
	0.5~1.5	1.9~2.4	1062-20-03**	1060-20-01**	NTS 20Pos, NTS 48Pos, NTS 26Pos
DEUTSCH Size 12 Contact	4.0~6.0	3.4~4.3	1062-12-02**	1060-12-02**	NTS 26Pos

Note ** = Contact Plating Codes	
PN Suffix	Plating Material
22	Nickel
44	Gold
77	Tin



Table 2 Part Information of Applicable Stamped & Formed Terminals
表 2 适配的部分冲压端子信息

For further terminals detail information, refer to application specification 114-151000 / 114-151001/ 114-151003/114-151006.

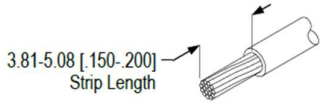
端子具体信息可参考 114-151000 / 114-151001/ 114-151003/114-151006 压接规范。

Some details as below should be paid attention especially.

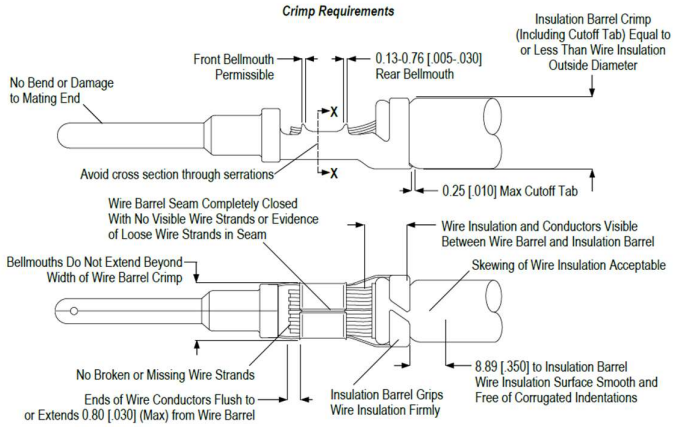
如下细节需特别注意。

（1） The wire must be stripped within the dimension specified in application specification of terminal, the figure is quoted as below.

剥线长度严格遵守压接规范，要求摘录如下。



（2） After crimped, the wire conductors flush from wire barrel 0.8mm maximum. The crimp requirements are quoted as below.
压接后，导线超出压接桶最多 0.8mm。



Similarly, bellow table shows the part information of solid (machining) terminals that applicable to corresponding products.
类似的，下表是适用于相应产品（NTS Connector）的部分实心端子（机加工）信息。

Solid Contacts

Contact Series	Wire Size (mm^2)	Insulation Diameter (mm)	Socket Part Number	Pin Part Number	Applicable to Product
DEUTSCH Size 16 Contact	0.5–1.5	1.4–3.0	0462-201-16**	0460-202-16**	NTS 20Pos
	1.0–1.5	1.9–3.0	0462-201-16**	0460-202-16**	NTS 20Pos, NTS 48Pos
DEUTSCH Size 20 Contact	0.5	1.4–2.4	0462-201-20**	0460-202-20**	NTS 20Pos, NTS 48Pos
	0.75–1.0		0462-005-20**	0460-010-20**	NTS 20Pos, NTS 48Pos

Note ** = Contact Plating Codes	
PN Suffix	Plating Material
31	Gold
141	Nickel



Table 3 Part Information of Applicable Solid (Machining) Terminals
表 3 适配的实心（机加工）端子信息

For further solid (machining) terminals information, refer to application specification 114-151004.
具体的实心端子（机加工）信息可参考 114-151004 压接规范。

3. Application Description

3. 应用描述

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

Contacts 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.
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。

Step1, please make sure that the terminal is inserted horizontally and inserted into the right position as shown in figure3.1.1 (When hearing the click sound, pull the cable gently and it cannot be pulled). If the click sound cannot be heard, please rotate the terminal by 90° then continue insert it.
第 1 步，请确保端子依图 3.1.1.1 朝向水平插入且插入到位（听到咔哒声且往后轻拉，线无法拉动）。若没有听到咔哒声，则尝试将端子旋转 90 度后继续用力插入端子。
Correct orientation of the contacts must be ensured.
请确保插入方向正确。

Step2, after all the terminals inserted into the right position, press the TPA from the pre-lock to the final lock state as figure 3.1.1shows. (When hearing the click sound, pull the TPA gently and it cannot be pulled).
第 2 步，所有端子都安装到位后，将 TPA 从预锁按到终锁状态，如图 3.1.1.1 所示（听到咔哒声，往后轻拉 TPA 无法拉动）。

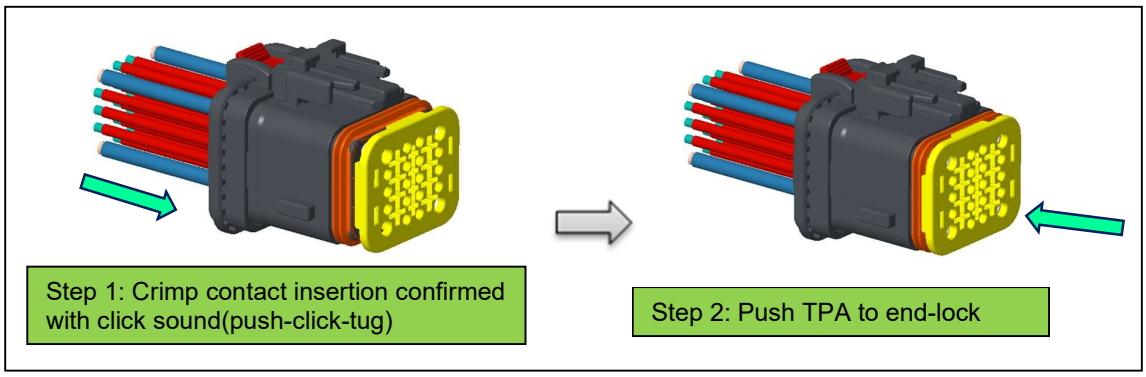


Figure 3.1.1.1 Contact loading into the socket housing.
图 3.1.1.1 端子插入塑壳示意图

Note: Before step 2, please make sure that the radial seal is aligned with the upper surface of the housing(Fig a). If not (fig b), that shouldn't be regarded as defective product. User need to correct the radial seal to position as Fig a to avoid leakage risk. If there is broken or teared up appearance on the seal (Fig c), please contact TE and replace with new seal.
注意: 在第 2 步动作前，须先确认密封圈四周与塑壳上表面贴平，如图 3.1.1.2(图 a)。若出现密封圈不在正常安装位置、部分或全部脱落(图 b)，不应视为产品缺陷，需要客户协助自行校正并安装回如图 a 位置。否则，TPA 会有卡不到位或连接器配对后密封不良。如果发现密封圈破损(图 c)，请务必联系 TE 更换新的密封圈。

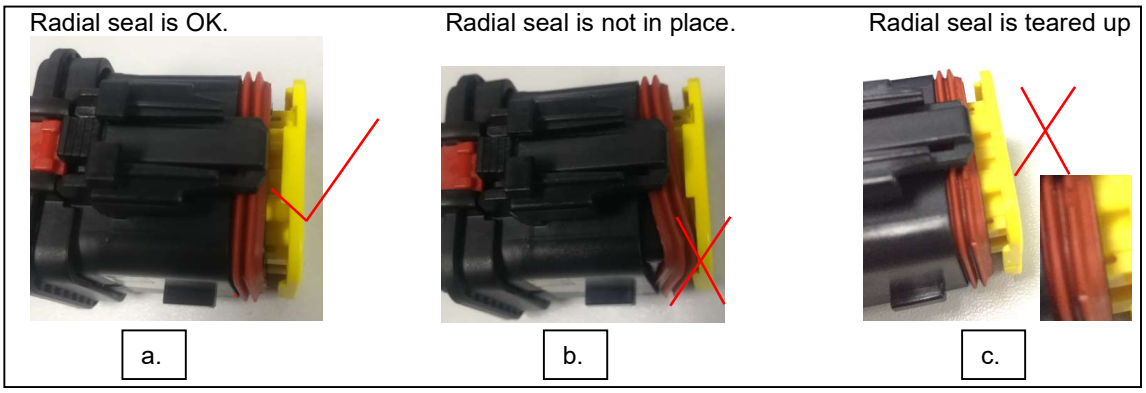


Figure3.1.1.2
图 3.1.1.2

Same as NTS 20P connector, the effect of NTS 48P/26P connector after terminals assembly as figure 3.1.1.3.
同 NTS 20P 连接器一样， NTS 48P/26P 连接器组装端子的效果示意如图 3.1.1.3。

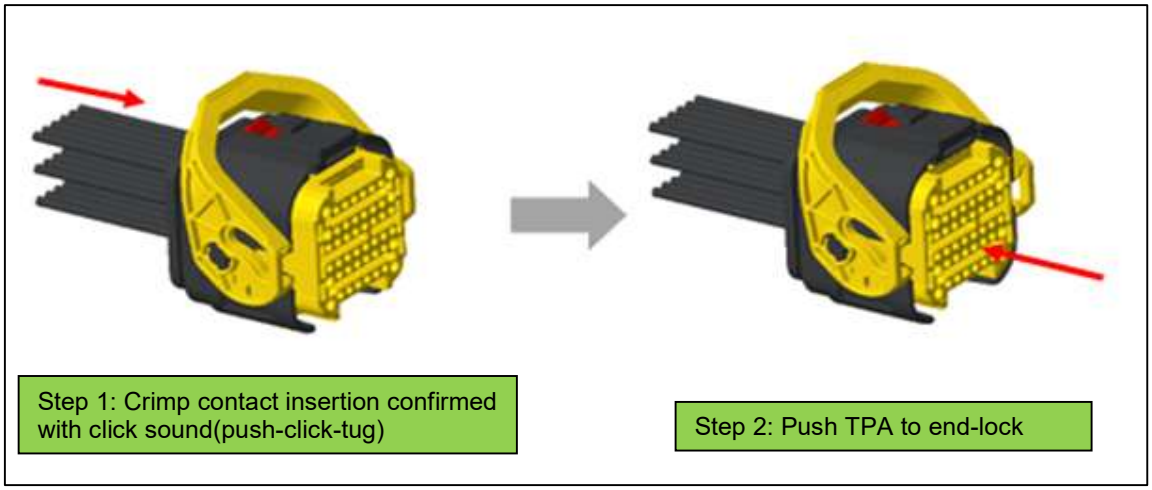


Figure 3.1.1.3
图 3.1.1.3

3.1.2 Loading Receptacle connector with Contacts

3.1.2 公端连接器组装端子

Contacts can only be inserted on condition the secondary lock is on the pre-lock position. If the TPA is in the final lock state, the TPA needs to be pulled to the pre-lock and then operates.
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。

The steps are the same as described in “Plug Housings” see chapter 3.1.1.
步骤和 3.1.1 的描述一样。

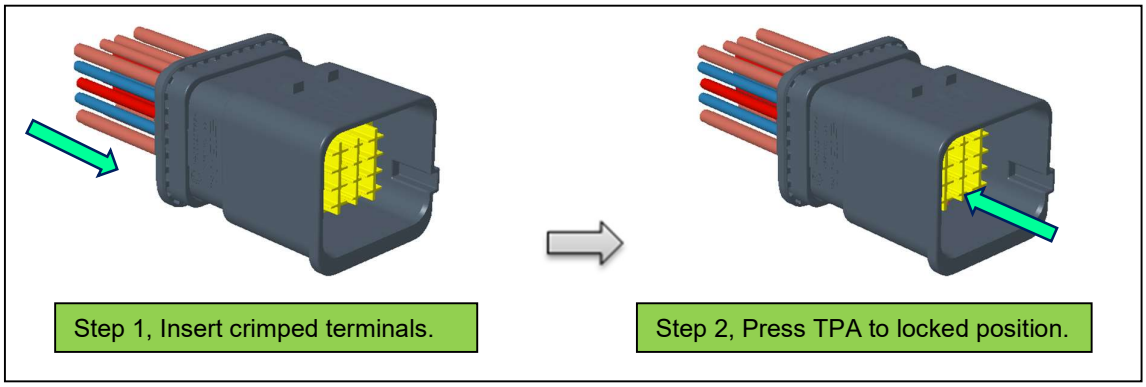


Figure 3.1.2 Contact loading into a tab housing
图 3.1.2 端子插入塑壳

For NTS 48P/26P receptacle, the terminal assembly process is same.
48 位/26 位的公端连接器，端子组装步骤完全相同。

3.2 Extracting Crimped terminals from the connector
3.2 从连接器中退端子
3.2.1 Extracting Crimped terminals from plug connector
3.2.1 从母端连接器中退端子

Before extracting the crimped terminals, TPA must be removed with a proper tool. Take NTS 20P plug connectora as an example.
使用工具(如图 3.2.1.1)将 TPA 取下(如图 3.2.1.2)，进行解锁/退针。以 NTS20P 母端连接器为例。

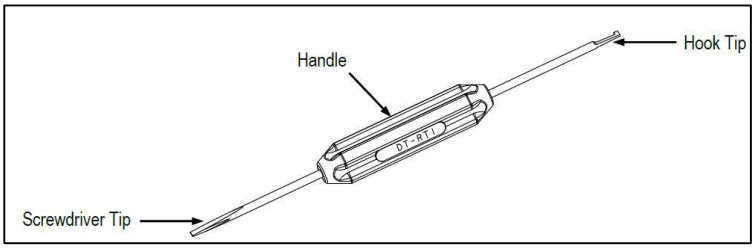


图 3.2.1.1 DT-RT1 退针工具

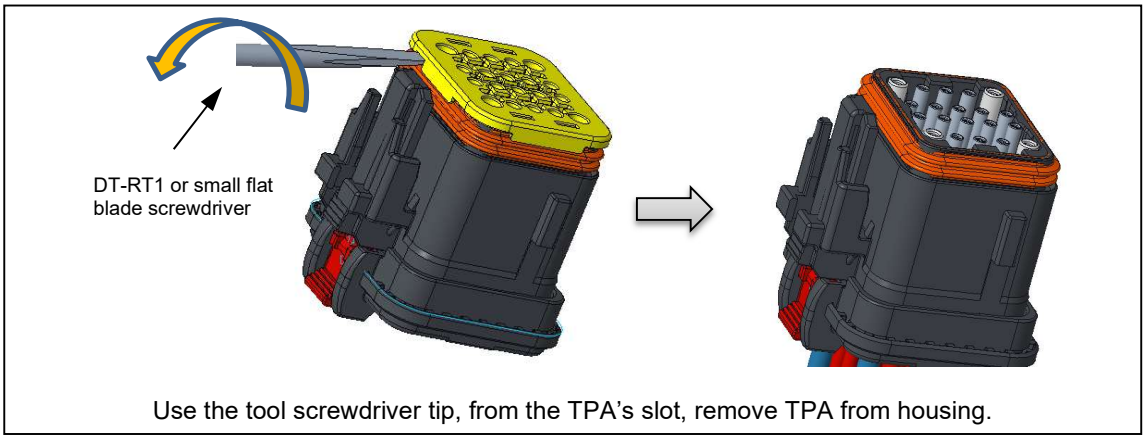


Figure 3.2.1.2
图 3.2.1.2

Use the tool(figure 3.2.1.3) to lift the locking finger and gently pull the wire until the cable can be pulled out to stop lifting the latching tab.

使用工具（图 3.2.1.3）抬起卡锁弹片,同时轻拉导线,至能将线拉出时停止上抬卡锁弹片。

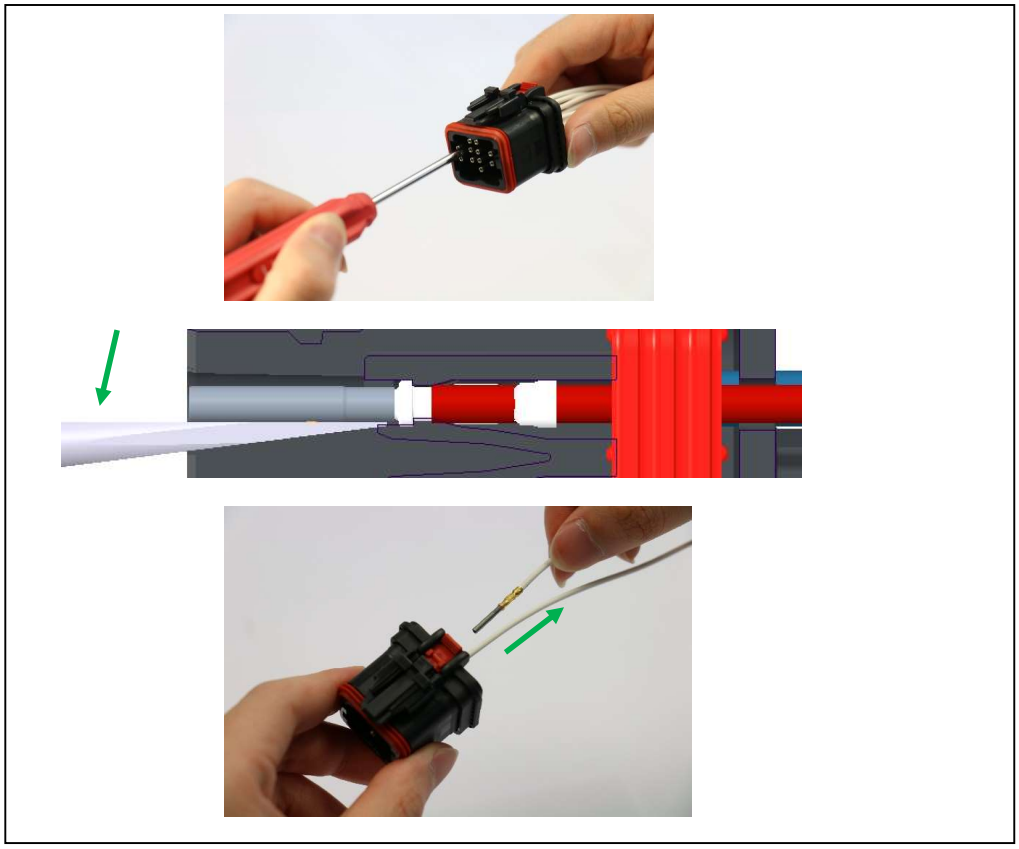


Figure 3.2.1.3
图 3.2.1.3

Note: the operation should be careful to avoid excessive lifting of the elastic piece, which causes the plastic locking finger to break. If the operation is not correct, the housing needs to be replaced.

注意：操作上要避免过度上抬弹片，导致塑料锁片断裂。若操作不当至卡锁断裂需更换塑壳。

For NTS 48P/26P/36P plug connector, the TPA removal procedure is showing as following picture 3.2.1.4. Other procedures are same with NTS 20P connector.

NTS48 位/26 位/36 位的母端连接器，TPA 拆卸步骤示意如下图 3.2.1.4 所示，其余步骤和 NTS 20P 连接器相同。

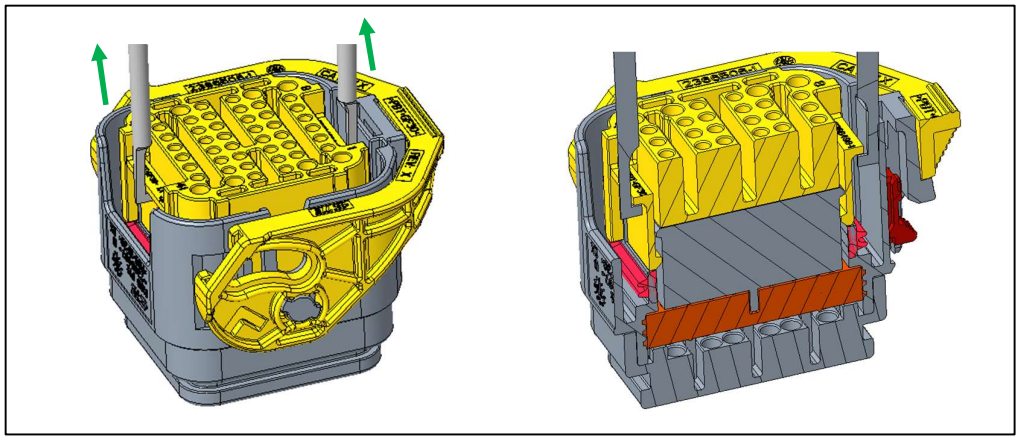


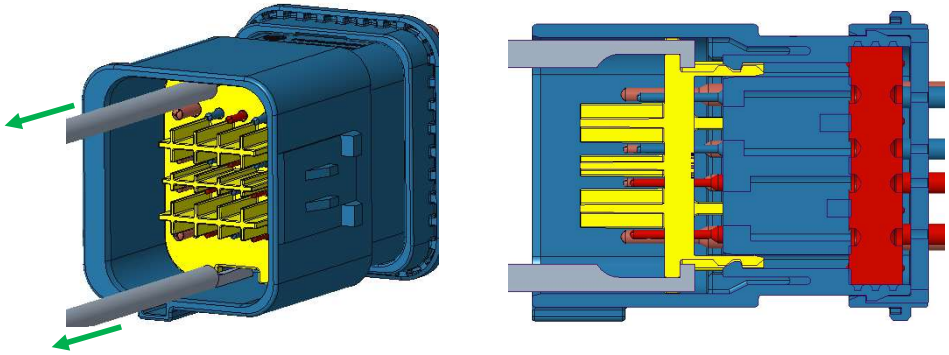
Figure 3.2.1.4
图 3.2.1.4

3.2.2 Extracting Crimped terminals from Rec. connector

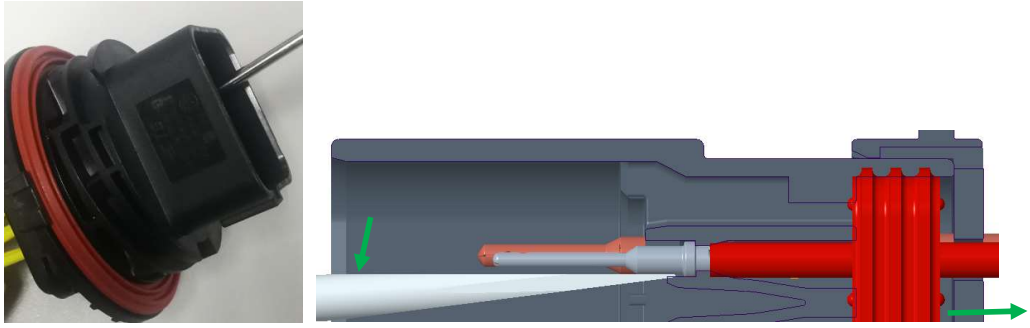
3.2.2 从公端连接器中退端子

For receptacle connector, it is the similar method to remove the crimped terminals as figure 3.2.2.1. Take NTS 20P receptacle connectora as an example.

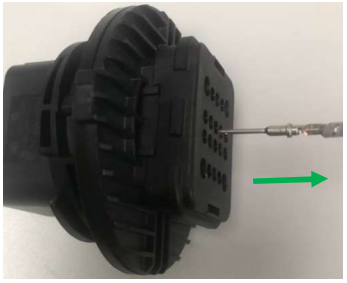
对公端连接器，退端子的方法和母端类似，按如下图 3.2.2.1 步骤。以 NTS20P 公端连接器为例。



Use 2 tools hook tip, from the TPA's slot, remove TPA from housing.
同时使用 2 个工具放入 TPA 槽中，将 TPA 拉出塑壳。



Use the tool(figure 3.2.1.3) to lift the locking finger.
使用工具（图 3.2.1.3）抬起卡锁弹片。



Pull the wire gently till the cable can be pulled out, avoid over lifting to crack the lance
轻拉导线，至能将线拉出时停止上抬卡锁弹片。

Figure 3.2.2
图 3.2.2

Note:The operation should be careful to avoid excessive lifting of the elastic piece, which causes the plastic locking finger to break. If the operation is not correct, the housing needs to be replaced.
Don't use small long nose pliers to get out the TPA. It may broken TPA.

注意： 操作上要避免过度上抬弹片，导致塑料锁片断裂。若操作不当至卡锁断裂需更换塑壳。
不建议用小型长嘴钳夹公端 TPA 将其取出，有可能会夹坏 TPA。

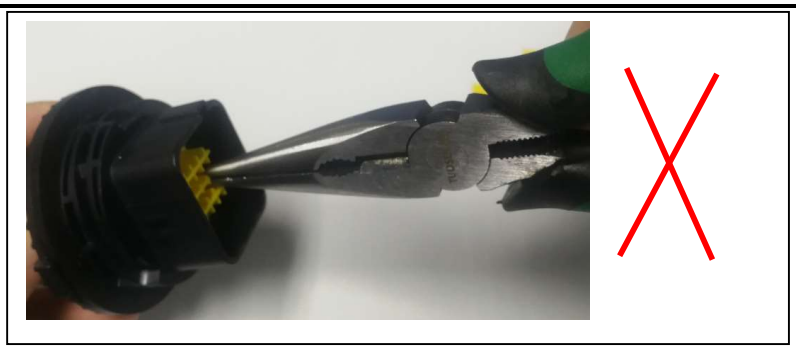


Figure 3.2.2.2
图 3.2.2.2

For NTS 48P/26p receptacle, the terminal extracting process is same.
NTS48 位/26 位的公端连接器，端子拆卸步骤完全相同。

3.3 Mating Plug& Receptacle connector

3.3 公母端连接器装配

As shown in figure 3.3.2.1 for NTS 20Pos connector , ensure that the female end is inserted horizontally and vertically until there is a click sound. Verify plug latch is in full latched position. After installed, push the CPA.

如图 3.3.2.1 所示，NTS20 位连接器需确保母端水平且垂直插入, 直至听到咔哒声。需再次确认母端的卡扣已卡到位。最后再将 CPA 向下推到位。

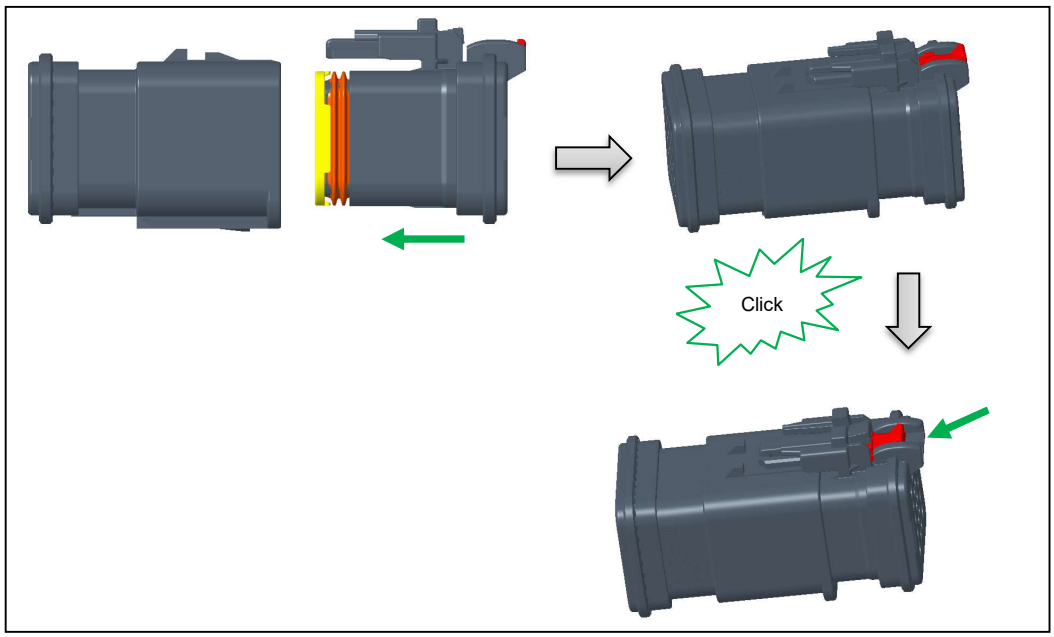


Figure 3.3.1
图 3.3.1

Note: As figure 3.3.2.2 shows, when the plug is inserted into the receptacle with angular skewing, it is possible to bend the male terminal or top the secondary lock. At the same time, the male and female terminals also have the risk of withdrawing the needle.

注意：如图 3.3.2.2 所示，当斜插入装配后，有可能将公端子折弯或顶坏母端二次锁扣。同时公母端子也存在退针的风险。

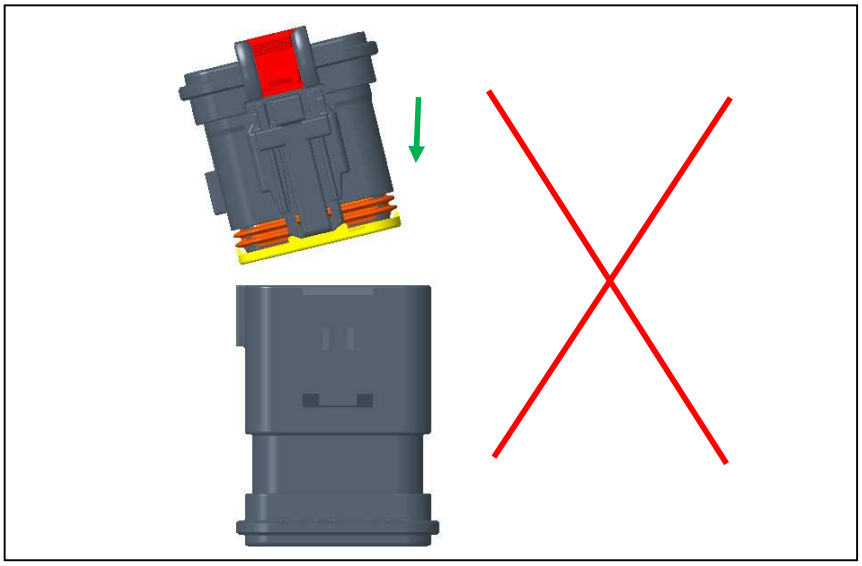


Figure 3.3.2
图 3.3.2

For NTS 48P/26P/36P connector, the mating procedures of plug and receptacle mating are showing in figure 3.3.3 as below. After plug and receptacle connectors are aligned, ensure that the plug is inserted horizontally and vertically to the pre-stage position.Then rotate the lever to mate and lock the connectors in position until there is a click sound. Verify lever is in full latched position. After installed, push the CPA.

NTS 48P/26P/36P 连接器装配步骤如下图 3.3.3 所示。公母端连接器对齐后，确保母端连接器水平且垂直插入到预备位置，然后转动 Lever 以对配和锁定连接器，直至听到咔哒声。再次确认 lever 已卡到位。最后再将 CPA 向下推到位。

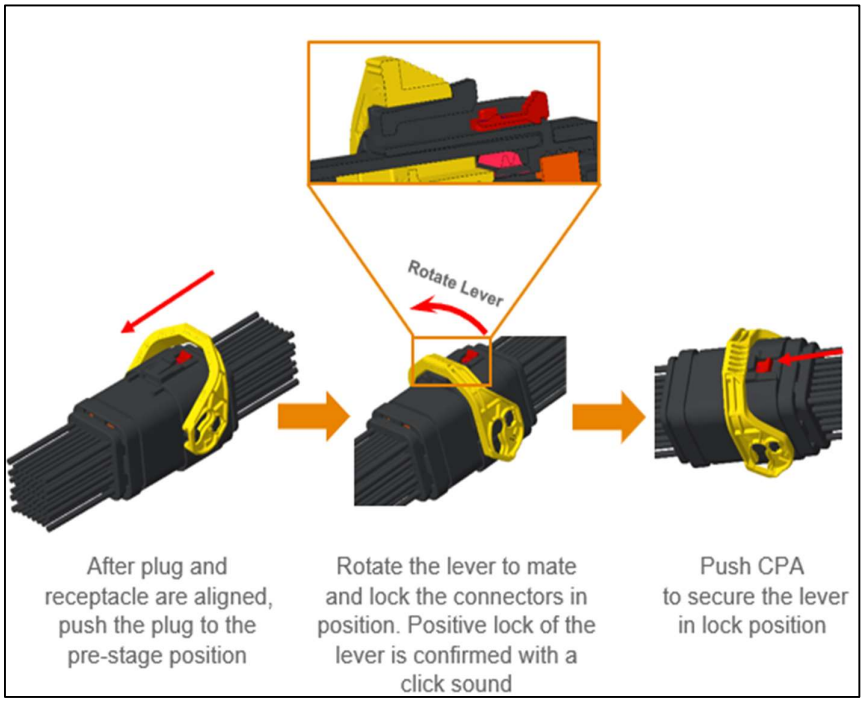


Figure 3.3.3
图 3.3.3

3.4 Unmating Plug& Receptacle connector

3.4 公母端连接器分离

As figure 3.4.1, move CPA to back side. Push the plug latch until a hard stop is felt. Pull the plug from the receptacle until they are fully separated.

如图 3.4.1 将 CPA 移到后面。 按下母端的卡扣，直到感觉到停止为止。 将母端从公端拔出，至完全分开。

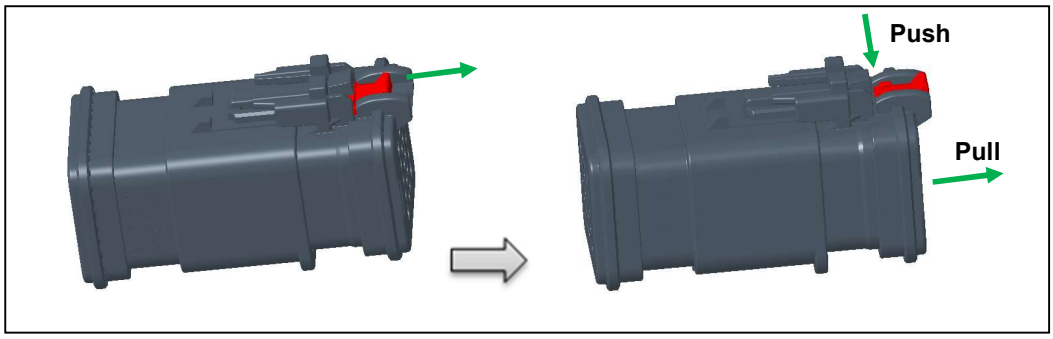


Figure 3.4.1
图 3.4.1

For NTS 48P/26P/36P connector, the unmating procedures of plug and receptacle are just in reverse sequense with mating process. Move CPA back, push the latch and rotate the lever in reverse direction, then the plug and receptacle can be seperated.

NTS 48P/26P/36P 连接器分离步骤正好和装配顺序相反。向后拉 CPA，按下母端卡扣，再反向转动 lever，则公母端连接器被分离。

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

TE Connectivity:

1743455-2 CPF0402B37K4E1 1-962915-1 1393431-1 2310537-1 3631B101LL 650075-000 ROX05SJ18R SBCHE154R7K 2377783-2 2834055-1 3-1393225-0 CRGCQ2010J3K3 MPT100C18RF RH73H2A40MKTN SMW73R0JT U5254-000005-030PA 2005330-1 917696-1 1-794222-0 175977-2 1903112-2 3430B2F51RTDF 936348-1 2380312-2 SBCHE64R7K 141991-2 1969656-1 2-292161-3 TE50BR39J