

PLA 10 mm 二芯弯头连接器安装说明

The Assembly Manual For PLA 10mm 2Pos Right Angle Plug



PLA282(X)-30(X)-XX

键位	Key	高压互锁 0: 无 1: 有	线缆大小 Cable Size mm ²
X 键	X	HVIL 0: NO	35
Y 键	Y	1: WITH	50
U 键	U		70
V 键	V		

第一部分：包装清单

Part 1 : Package contents



- ① 屏蔽壳组件 Shield shell assembly ×1
- ② 端子1 Terminal 1 ×2
- ③ 内铜环 Inner Copper ring ×2
- ④ 外铜环 Outer Copper ring ×2
- ⑤ 塑料垫圈 Plastic Gasket ×2
- ⑥ 密封圈 Seal ×2
- ⑦ 尾盖 End cap ×2
- ⑧ 螺母 Nut x2
- ⑨ 端子2 Terminal 2 ×2
- ⑩ 胶壳 Plastic Housing ×2

第二部分：插头组装

Part 2: Plug Assembly

步骤1：从表1选择合适尺寸的线缆，按照要求的长度与数量进行切线。

Step1 : Select the right cable from table 1 and cut the cable according to actual requirements for length and quantity.

表1：线材规格
Table 1 : Cable size

连接器 Connector	线缆尺寸 Cable size	线缆外径 Accepted cable OD (mm)	导体结构(mm) Conductor	线材用量 The number of cable
PLA282(X)-30(1)-XX	35mm ²	14.10±0.30	1070/ (0.20±0.008)	2PCS
	50mm ²	15.50±0.30	1600/ (0.20±0.008)	2PCS
	70mm ²	17.80+/-0.40	2175/ (0.20±0.008)	2PCS

步骤2：按表2尺寸剥离线缆绝缘皮和外被。

Step 2 : Strip off cable insulation and jacket according to the dimensions in table 2.

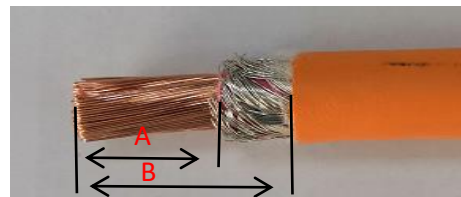
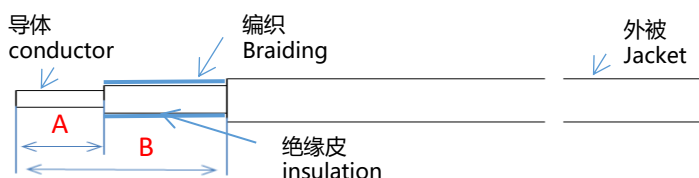


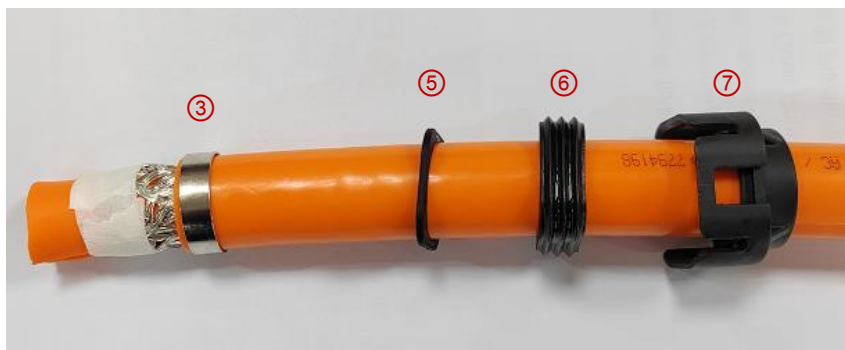
表2：剥线长度
Table 2 : Strip length

连接器 Connector	线缆尺寸 Cable size	绝缘皮剥线长 A Stripping insulation (mm)	外被剥线长度 B Stripping jacket (mm)
PLA282(X)-30(1)-XX	35mm ²	17.0±0.5	28.0±1.0
	50mm ²	17.0±0.5	28.0±1.0
	70mm ²	17.0±0.5	28.0±1.0

步骤3：取各1pcs的⑦尾盖，⑥密封圈，⑤塑料垫圈和③内铜环，从左边依次穿过线缆。

Step 3 : Take each 1pcs of ⑦ end cap, ⑥ Seal, ⑤ Plastic gasket and ③ Inner Copper ring , and make them pass through the cable from left in sequence.

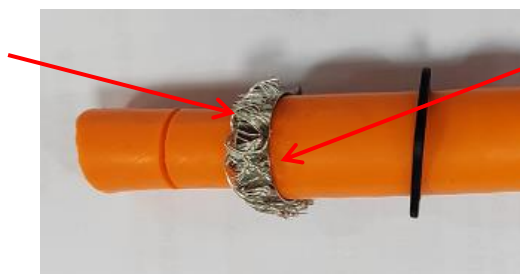
屏蔽包上美纹纸避免密封圈损伤
The braiding is covered with paper to avoid damage to the seal



步骤4：将编织均匀打散反折剪留 6+/-0.5mm 如图示。

Step 4 : Scatter the braiding evenly and leave 6+/-0.5mm as shown in the figure.

确保此处铜环前端和外被前端贴紧
Be sure to be closely in here, the best clearance is 0mm



屏蔽线末端与铜环后端平齐
Ensure braid end is even with copper ring end

步骤5：取1pcs的 ② 端子1自左端穿上线缆，并压接在其上(规格参照表3)

Step 5: Take a ② Terminal 1 , load it to the cable end on the left, then crimp (refer to table 3)



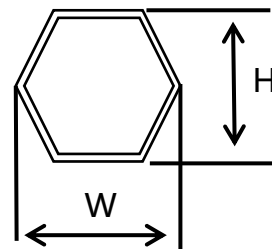
表3：端子与线缆压接规格&拉拔力要求

Table 3 : Terminal Crimping spec & retention force requirement

连接器 Connector	线缆尺寸 Cable size	线缆外径 (1) Accepted cable OD (mm)	压接高度 (2) Crimping height (mm)	参考抗拉拔力 (3) Retention Force
PLA282(X)-30(1)-XX	35mm ²	14.10±0.30	10.20 ±0.25	2300N
	50mm ²	15.50±0.30	11.50 ±0.25	2800N
	70mm ²	17.80+/-0.40	12.80 ±0.25	3400N

压接工具：免换模压接机 BZW-6C

Crimping tool : Dieless crimping machine BZW-6C



(1) 建议使用推荐的 线材 (详细要求参照步骤1-1) ， 如果客户选用其它电缆， 请联系安费诺业务， 协商订制零配件。

Recommend to use the recommended cable. (for details of cable refer to step 1-1) If you need to use customized cable, Please contact local sales for product extensions.

(2) 压接高度和拉拔力需要配合压接截面的金相分析， 客户才能判断压接质量合格， 芯线压缩比要求为 80~90%。

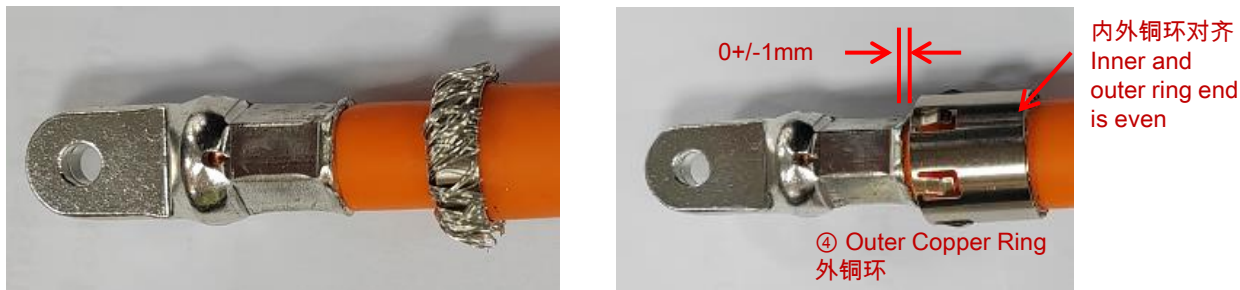
Customers need to reconfirm cross section on crimping area and pull out force test to confirm the quality of crimp process , Terminal crimping must meet the conductor compression ratio requirements: 80~90%.

(3) 横截面仅供参考， 客户负责采购压接工具或刀模。

The cross section is for reference only. The customer is responsible for purchasing crimping tool or dies.

步骤6：确认内铜环与外被口平齐，取1PCS④外铜环如图示套在内铜环上，确认铜环前端与端子距离符合要求。

Step 6: Make sure the inner copper ring is flush with the outer jacket, then take 1PCS ④ outer copper ring and put it on the inner copper ring as shown in the figure., and make sure that the distance between the front end of the copper ring and the terminal meets the requirements.



步骤7：取1PCS胶壳1P2001196，去掉凸点作为定位治具，将端子凹孔面朝下装入胶壳，将外铜环缺口与胶壳导向键对齐后，取出辅助治具后再将屏蔽环压接好。

Step 7: Take 1PCS plastic housing 1P2001196, remove the convex point as a positioning tool, insert the terminal into the housing with the concave hole face bottom, align the outer copper ring notch with the housing guide key, and then crimp the shielding ring after taking out the auxiliary tool.

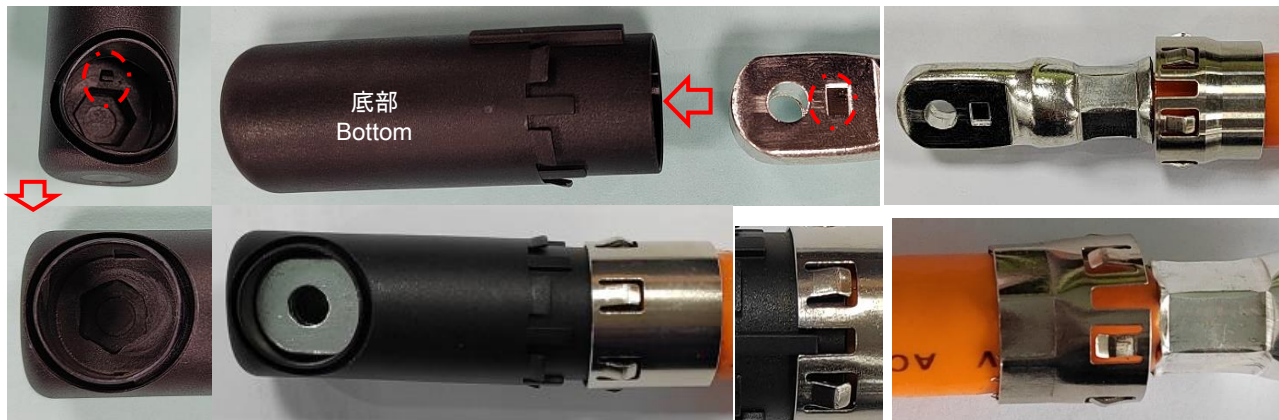
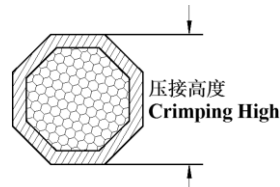


表4：铜环与线缆屏蔽编织层压接规格&拉拔力要求

Table3 : Copper Ring and Cable braids Crimping spec & retention force requirement

连接器 Connector	线缆尺寸 Cable size	线缆外径 (1) Accepted cable OD (mm)	压接高度(2) Crimping height (mm)	参考抗拉拔力 (2) Retention Force
PLA282(X)-30(1)-XX	35mm ²	14.10±0.30	17.6±0.30	150N
	50mm ²	15.50±0.30	17.6±0.30	150N
	70mm ²	17.80+/-0.40	19.4±0.30	150N

压接工具：油压机
Crimping tool : Hydraulic press
35/50mm²压模：TY-052
70mm²压模：TY-073



(1) 建议使用推荐的 线材（详细要求参照步骤1-1），如果客户选用其它电缆，请联系安费诺业务，协商订制零配件。

Recommend to use the recommended cable. (for details of cable refer to step 1-1) If you need to use customized cable, Please contact local sales for product extensions.

(2) 压接高度和拉拔力需要配合压接截面的金相分析，客户才能判断压接质量合格。

Customers need to reconfirm cross section on crimping area and pull out force test to confirm the quality of crimp process.

步骤8：在①屏蔽壳组件PINA中放入③螺母，再如图示将PINA线材端子凹孔面朝下装入PINA。
 Step 8: Put ③ nut into the ① shield shell assembly PINA, and then put the PINA cable terminal into the PINA with concave hole face down as shown in the figure.

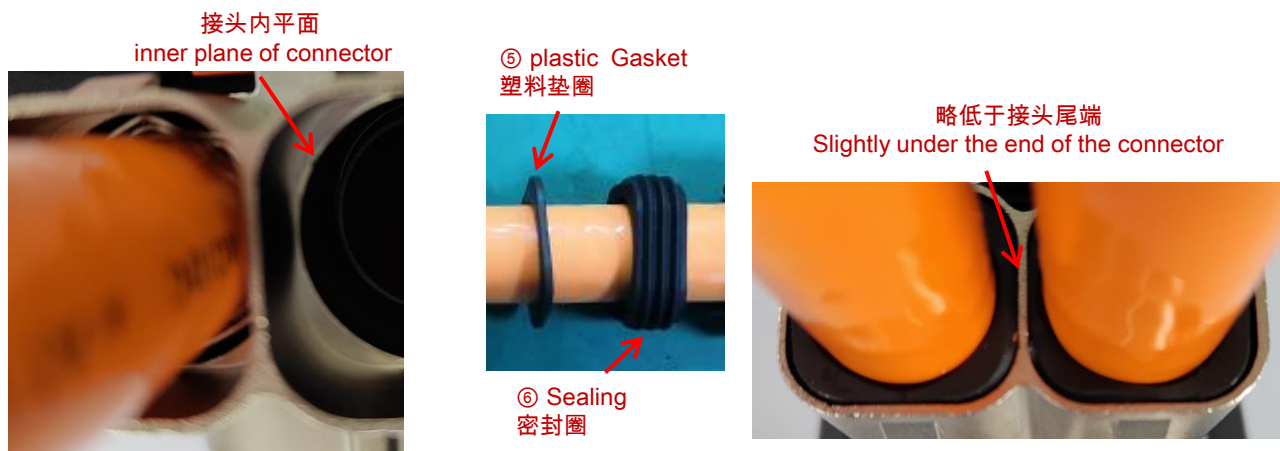


步骤9：将⑨端子2旋入接头，确认治具可以归中，用3N.m将端子锁紧，再将⑩胶壳如图示装入接头PINA。
 Step 9: Screwing ⑨ terminal 2 into the connector, make sure the fixture can be centered, lock the terminal with 3N.m, and then put ⑩ the plastic housing into the connector PINA as shown in the figure.



步骤10：重复步骤8与步骤9，将接头PINB装好。
 Step 10: Repeat steps 8 and 9 to assemble the connector PINB.

步骤11：确认屏蔽环后端低于接头内平面，然后将塑料垫圈与密封圈装入接头如图示。
 •Step11: Make sure the rear end of the shield ring is lower than the inner plane of the connector, then load the plastic Gasket and seal into the connector as shown.



步骤12：先后盖上后盖，完成产品组装。

Step 12: Cover the end cap successively and complete the product assembly.



步骤13：在线缆组装好后需要做绝缘电阻和耐压测试，建议客户参考下面的测试参数

Step 13: Need to do the Insulation Resistance and DWV test after cable assembly. It is recommended that the customer refer to the following test parameters

13-1 绝缘电阻测试

13-1 Insulation Resistance

Positions 位置	Test voltage/time 测试电压/时间	测试时间 (推荐) Test Time (recommended)	Insulation resistance 绝缘电阻
Cable(power) to shell 电缆芯线到壳体	1000 VDC	5S	> 500 MΩ
Cable(power) to HVIL 电缆芯线到高压互锁	1000 VDC	5S	> 500 MΩ
HVIL to shell 高压互锁到壳体	1000 VDC	1S	> 100 MΩ

13-2 Dielectric Withstand Voltage

13-2 耐压测试

Positions 位置	Test voltage 测试电压	测试时间 (推荐) Test Time (recommended)	Leakage Current 漏电流
Cable(power) to shell 电缆芯线到壳体	5000 VDC	10S	< 5mA
Cable(power) to HVIL 电缆芯线到高压互锁	5000 VDC	10S	< 5mA
HVIL to shell 高压互锁到壳体	500 VDC	1S	< 5mA

13-3 测试说明:

警告:建议的电气测试及其参数应根据终端应用要求进行审查，以确保安全性并防止损坏其他部件。提供的参数是基于PowerLok连接器和其峰值1000VDC额定。提供的测试参数可能超出电缆组件或设备上使用的其他部件/材料的限制。

13-3 Test note:

caution: Recommended electrical tests and their parameters should be reviewed against end application requirements to ensure safety and to prevent damage to other components. Parameters provided are based on the PowerLok connectors and their peak 1000VDC rating. Test parameters provided may exceed the limit of other components/materials used on the cable assembly or device.

版本记录 Revision history

序号 Number	版本 Rev	变更内容 Content of change	日期 Date
1	01	新出 New issue	2022/05/12
2	02	端子设计优化 Terminal design Optimization	2022/12/12
3	03	增加端子方向图片 Add the terminal direction figure	2024/05/09



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Asia Pacific

ChangZhou, China
Tel: +86 519-8981 9713
Add: No.11 Fengxiang Road, New District, Changzhou, Jiangsu
P.C: 213001

Asia Pacific

GuangZhou, China
Tel: +86 20-3210 6099
Add: 9th Floor, No. 10, the 4th Street, Kehui Jingu, Luogang District, Guangzhou ,Guangdong
P.C: 510663

North America

Winnipeg, Canada
Tel: +1 204 697 2222
Add: 2110 Notre Dame Avenue

Europe

Milano, Italy
Tel: +39 02 932541
Add: Via Barbaiana 5, 20020 Lainate(MI)

Email: info@Amphenol-GEC.com