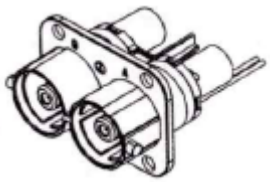
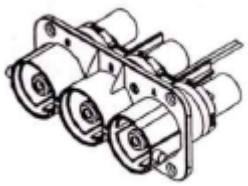
Document No: 8P1225
Rev.02

PowerLok 10mm 二芯和三芯管状接口插座装配作业指导书

The Assembly Manual For 2POS and 3POS PowerLok 10mm Tubular Receptacle Connector

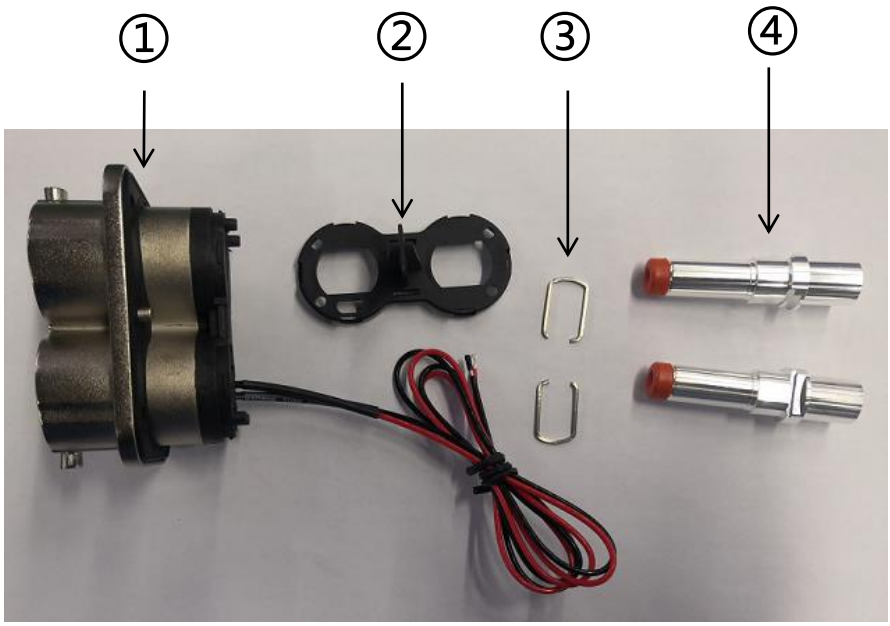




PL082(X)-30(1)-30DXX

芯数 2 3 2: 2pos 3: 3pos	键位 X 键 Y 键 Key X Y	高压互锁 0：无 1：有 HVIL 0：NO 1：WITH	线缆大小 Cable Size mm2 25 35 50 70

第一部分：包装清单
Part 1： Package contents



① 接头主体 Connector body ×1

根据接头类型带或不带高压互锁线

with or without HVIL wire according to connector type

② 后盖 rear cover ×1

③ 金属卡环 metal clip ×2 二芯接头 2pos connector

金属卡环 metal clip ×3 三芯接头 3pos connector

④ 端子 Terminal ×2 二芯接头 2pos connector

端子 Terminal ×3 三芯接头 3pos connector

第二部分：插头组装
Part 2: Plug Assembly

步骤1：线缆准备

Step1： Cable preparation

1-1 线缆准备：按生产需求选择合适尺寸的线缆，并裁剪成合适长度

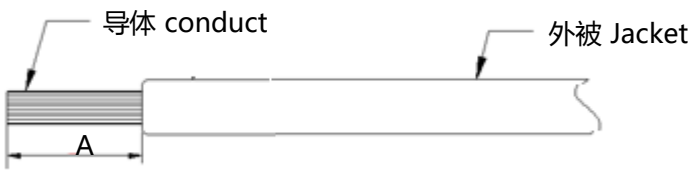
1-1 Cable preparation : take right-sized cable and cut the cable to right length.

步骤2：剥线皮，按表1尺寸剥离外被

Step 2：Stripping, Strip off cable as following size from the table 1

表1：剥线长度
Table 1：Strip length

连接器 Connector	线缆尺寸 Cable size	外套剥线长度 A Stripping jacket (mm)
300/301系列 300/301 Series	25mm²	15±1
	35mm²	15±1
	50mm²	17±1
	70mm²	17±1



步骤3：根据表2切热缩套管

Step 3：cut heat shrink tube as following size from the table 2

表2: 切套管
Table 2：cut heat shrink tube

连接器 Connector	线缆尺寸 Cable size	套管直径 Tube diameter (mm)	套管长度 Tube length (mm)
300/301系列 300/301 Series	25mm²	15	32+/-2
	35mm²	15	32+/-2
	50mm²	20	35+/-2
	70mm²	20	35+/-2

步骤4：压接端子（参照表3要求将端子压接在线材上）

Step 4: Crimping terminal (crimping terminals on wires refer to Table 3

表3：端子与线缆压接压接规格&拉拔力要求

Table 3：Contact and Conductor Crimping spec & retention force requirement

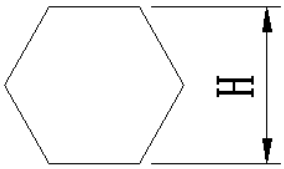
连接器 Connector	线缆尺寸 Cable size	压接高度(2) Crimping height (mm)	参考抗拉拔力 (2) Retention Force
300/301 系列 300/301 Series	25mm²	7.1±0.20	2000N
	35mm²	9.0±0.20	2300N
	50mm²	12.3±0.25	2800N
	70mm²	13.7±0.25	3400N

压接工具：免换模压接机

Crimping tool：Hexagon shape crimping machine

BZW-6C





(1) 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%.

(2) 横截面仅供参考（其他举例：六边带点的横截形状），客户负责采购压接工具或刀模

Cross section only reference tooling geometry (ex. hex and indent dimensions),customer will take liability for sourcing tools or dies

步骤5：吹套管（将套管穿入端子上，如图示盖住端子铆压部份吹紧）

Step 5: Shrinking tube（cover terminal as shown and heating it to shrinking fastening）



步骤6：装后盖

Step 6: assemble rear cover

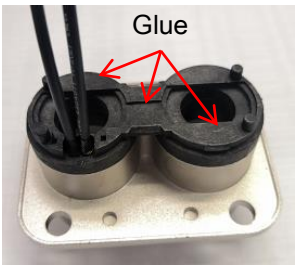
6-1 将端子从后盖图示端穿入 并用金属卡圈卡住。

6-1 Insert the terminal from the rear cover and hold it with a metal clamp.



6-2 在主体图示处涂几滴 LOCTITE 411胶水，再将HVIL线材从后盖对应孔位穿过，再用手将后盖压下，将线材与主体固定好。

6-2 Put a few drops of LOCTITE 411 glue on the main body as diagram, then pass the HVIL wire through the hole in the back cover, then press down the back cover by hand to fasten the wire and the main body.







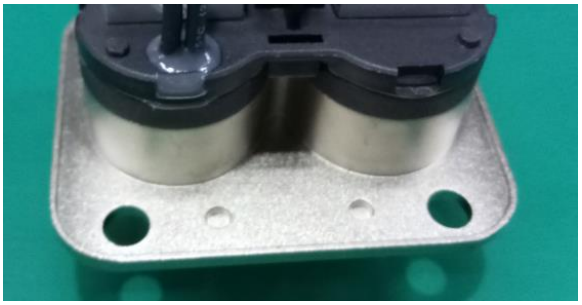
步骤7：打胶

Step 7: potting glue

7-1 取 3M2216胶水按白灰 2比3 体积调配好，用打胶机如图示将HVIL 凹槽部分填充好。

7-1 Take 3M2216 glue and mix it according to the volume of white gray 2 to 3. Fill the HVIL groove with the gluing machine as shown in the picture





7-2 胶水需自然固化 12H 或 93°C 30分钟加速固化。

7-2 The glue should solidify naturally for 12H or at 93℃ for 30 minutes to accelerate the solidification.

步骤8：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 8: Need to do the Insulation Resistance and DWV test after cable assembly. It is recommended that the customer refer to the following test parameters

8-1 绝缘电阻测试

8-1 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

8-2 Dielectric Withstand Voltage

8-2 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

8-3 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。

8-3 Test note:

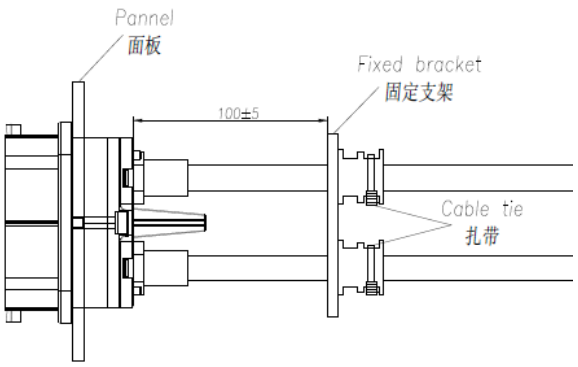
caution: Recommended electrical tests and their parameters should be reviewed against end application requirements to ensure safety and to prevent damage to other components. Parameters provided are based on the PowerLok connectors and their peak 1000VDC rating. Test parameters provided may exceed the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

步骤9：其它要求

Step 9: Other requirements

在出线口100mm处需将线材固定如图示

The cable should be fixed 100mm away from the connector as shown in the figure



版本记录 Revision history

序号 Number	变更内容 Content of change	日期 Date
01	新出 New issue	2022/07/25
02	增加文件编号 Add document number	2023/09/20

Amphenol Technical Products International provides the above product specifications for the standard HC Signal series of connectors to assist users in identifying the correct product for the system to which the connectors may be applied. Specifications are subject to change without notice. Contact your nearest Amphenol Corporation Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied. Statements of suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. Specifications are typical and may not apply to all connectors. Note that these specifications are derived from relevant global standards used in the automotive and industrial transportation markets, but they are not a substitute for system level design validation testing, which is the sole responsibility of the system designer and/or end user.

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