Manual P/N：8P1173
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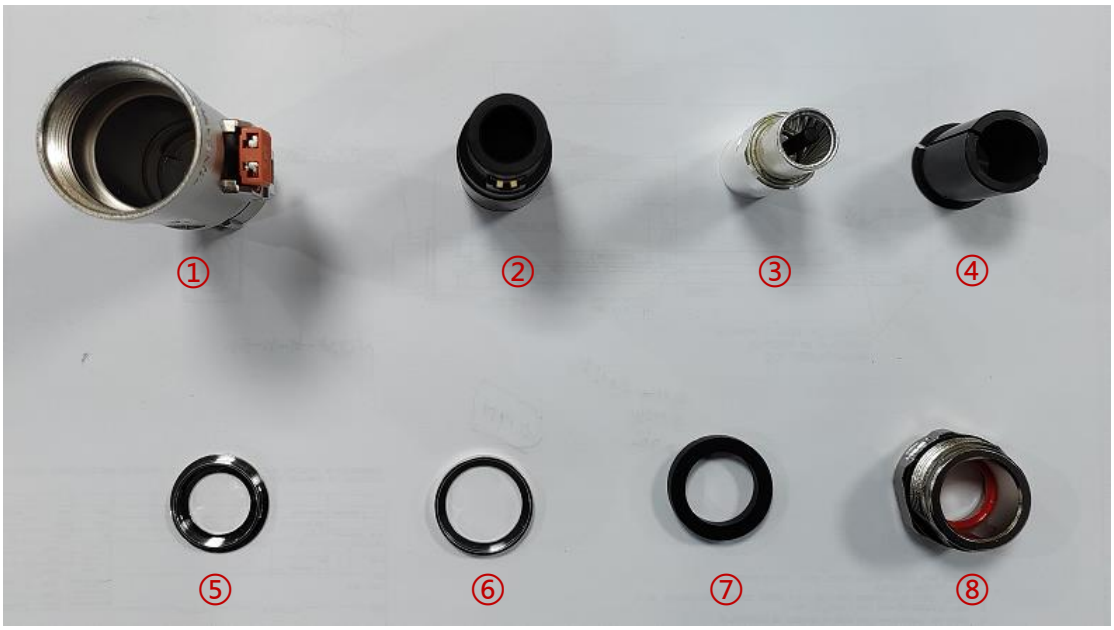
PL18X-301-70-G95 单芯直头组装规范
PL18X-301-70-G95 1 POS 180D Plug
Assembly Manual

PL18(X)-30(X)-70-G95

键位	Key	高压互锁	线缆大小 Cable Size mm2	线缆类型 Cable type
X 键	X	0：无		
Y 键	Y	1：有		
U 键	U			
V 键	V	HVIL		福斯
W 键	W	0：No		FHLR2GCB2G
T键	T	1：Yes	70	

第一部分：包装清单
Part 1： Package contents



① 屏蔽壳组件 Shielding shell assembly ×1

② 带高压互锁弹片的绝缘筒 Insulation sleeve with HVIL contact spring ×1
（300系列无高压互锁弹片 No HVIL contact spring for 300 series）

③ R4端子组件 R4 terminal Assy ×1

④ 定位套 Positioning sleeve ×1

⑤ 内铜套 Inner metal gasket ×1

⑥ 外铜套 Outer metal gasket ×1

⑦ 密封圈 Seal ×1

⑧ 尾盖 End cap ×1

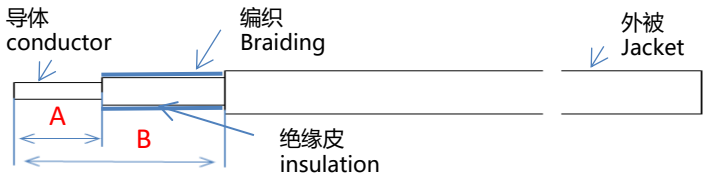
安装步骤 Assembly Instruction

步骤1：取出连接器, 如上页图示拆开零件

Step1：Take out the connector and take it apart as the picture shown on the previous page.

步骤2：选取合适线缆(参考手册最后的附录），按照表1尺寸剥离绝缘皮和外皮

Step2：Select the right cable(refer to the appendix), prepare the cable according to the sketch and Table 1 below



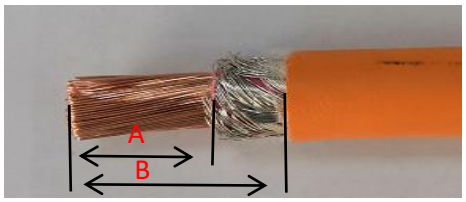


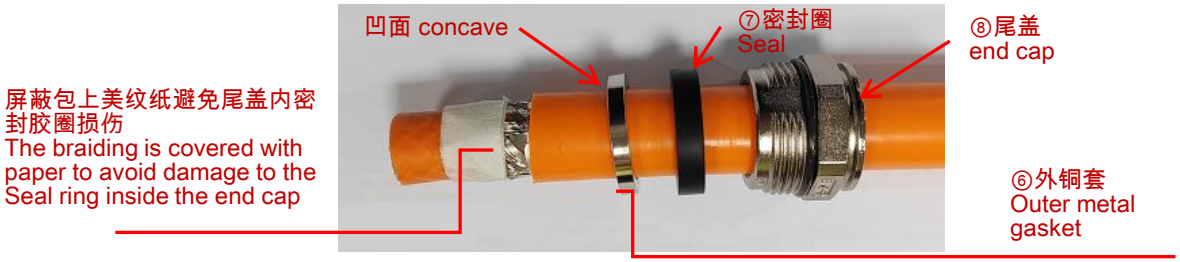
表1：剥皮尺寸

Table 1: Strip length

线材尺寸 Cable Size	A (mm)	B (mm)
95mm²	18±1	27 ±1

步骤3：取各1pcs的⑧尾盖, ⑦密封圈 Seal和⑥外铜套, 依次穿过线缆。

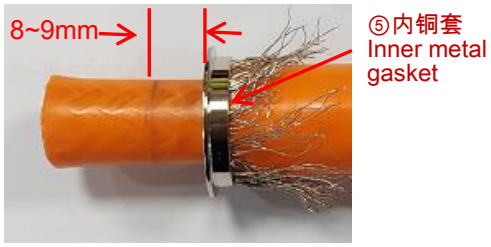
Step3：Take each 1pcs of ⑧ end cap, ⑦ Seal and ⑥ Outer metal gasket and make them through the cable in turn as shown in the picture below.

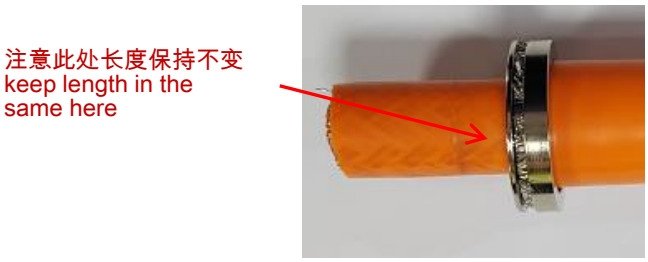


步骤4：将编织均匀打散反折，取1PCS的⑤内铜套压入编织上，再将编织反折在其上，如图示修剪平齐，再将外铜套压紧在内铜套上如图示。

Step4：Scatter and fold the braiding evenly, Take 1PCS of ⑤ inner metal gasket onto the braiding, then fold the braiding onto it. Trim it flat as shown in the figure.

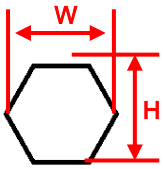
Then press the outer metal gasket on the inner metal gasket as shown in the figure.





步骤5： 调试好免换模压接机BZW-6C，将端子压接在线材上(详细规格参照手册最后的附录）

Step5： Set up the mould-free crimp machine BZW-6C, Then crimp the terminal on the wire. (please refer to the appendix at the end of this manual for more crimping information)



横截面
Cross section

(1) 建议使用附录中的线材，如果要使用其它的线材，请联系当地销售，让他们提供延伸的产品。
Cables written in the appendix are highly recommended for crimping, please contact our local sales for help if you want to use other cables out of this table.

(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 conduct compression ratio requirements: 80~90%

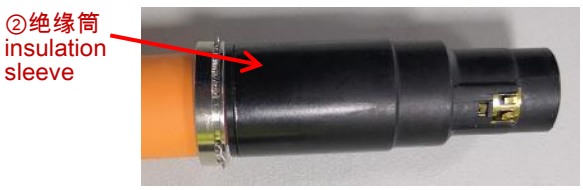
(3) 横截面仅供参考，客户负责采购压接工具或刀模。
The cross section is for reference only. The customer is responsible for purchasing crimping tool or dies.

步骤6：组装④定位套到R4 holder脖颈处的沟槽。

Step6：Take a ④ positioning sleeve and buckle up together to the neck groove of R4 holder.

步骤7：插入R4 holder到②绝缘筒上, 转动使其触底

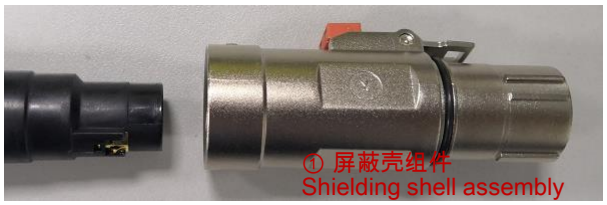
Step7：Bring ② insulation sleeve through R4 holder and rotate ② insulation sleeve until it arrives at a stop position



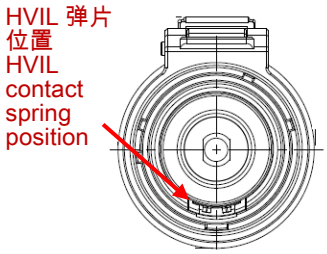
确保R4尾部可见
Make sure R4 end visible

步骤8：将半成品如下图示插入①屏蔽壳组件， 注意方向正确，防止损伤HVIL弹片，插到底后将密封圈推到位，固定外壳与电缆，以10~12N•m拧紧尾盖，完成此端线束组装。

Step8：Insert the semi-finished product into ① Shielding shell assembly as shown below, pay attention to the correct direction to prevent damage to the HVIL contact spring, then insert it into the end, push Seal into its place, fix the housing and cable, tighten the end cap with 10~12N•m, and complete assembly of the wire harness at this end .



将密封圈推到底
Push the Seal to the bottom



步骤9：建议客户参考下面的测试参数，对线束进行绝缘电阻测试和耐压测试

Step9：Insulation resistance and dielectric withstand voltage tests are obligated to be done according to below test parameters to guarantee the good electric performance of the whole harness

9-1 绝缘电阻测试

9-1 Insulation Resistance Test

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

9-2 耐压测试

9-2 Dielectric Withstand Voltage Test

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

9-3 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。

9-3 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.

附录APPENDIX

线缆压接的参考规范
Reference specification for cable crimping

线缆型号 Cable Type	电线尺寸 Cable Size	导体结构 (mm) Conductor	导体外径 (mm) Conductor OD	电线外径 (mm) Wire OD	压接高度H(mm) Crimping height	压接宽度 W(mm) Crimping Width	参考保持力 Retention Force
FHLR2GCB2G	70mm²	2175*0.21	12.5 Max	17.8±0.4	12.6±0.3	14.4±0.3	3400N

版本记录 Revision history

序号 Number	变更内容 Content of change	日期 Date
01	新出 New issue	20221115

Amphenol Technical Products International provides the above product specifications for the standard PowerLok™ 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.

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