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PL28(X)-201-50-G59 单芯弯头插头组装规范
PL28(X)-201-50-G59 1POS 90D Plug Assembly Manual

PL28(X)-201-50-G59

键位	Key	颜色
X 键	X	橙 OR
Y 键	Y	黑 BK
U 键	U	黄 YL
V 键	V	绿 GN
W 键	W	红 RD

线缆大小

Cable Size mm2

50

线缆类型

TEVBA50-XX-268

安装步骤 Assembly Instruction

步骤1：取出连接器, 如图示拆开零件
Step1：Take out the connector and take it apart as the picture shown below

① 接头主体 Connector Body ×1

② 绝缘套 Insulation Sleeve ×2

③ 金属套 Metal Sleeve ×1

④ 金属环组件 Metal Gasket Assy ×1

⑤ 橡胶密封圈 Rubber Seal×1

⑥ 金属外壳 Back Shell ×1

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

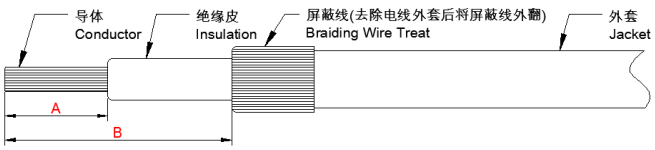
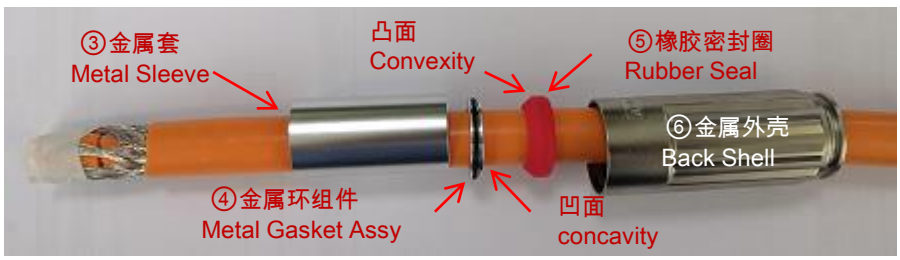


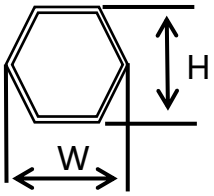
表1：剥皮尺寸
Table 1: Strip length

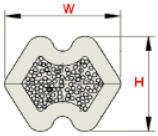
线材尺寸 Cable Size	A (mm)	B (mm)
50mm²	17±1	27 ±1

步骤3：将零件按下图套在剥好的电线上
Step3：Put the parts on the cable in order as shown below



步骤4：压接端子(规格参照手册最后的附录,附录数据仅供参考)。
Step4：Crimp the terminal(please refer to the appendix for details at the end of this manual).





横截面
Cross section

端子压接高宽度尺寸，“W”:为压接宽度，“H”为压接高度（压接高宽度尺寸及拉力标准参考手册后的附录）

Terminal crimping quality depends on 2 parameters: "W" crimping width and "H" crimping height.(please refer to the appendix at the end of this manual for details)

(1) 建议使用附录中的线材，如果要使用客户定制的线材，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，压缩比要求为 80~90%。

Customers need to check cross section on crimping area and conduct pull-out force test to confirm the quality of crimp process，

Terminal crimping must meet the 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 。

Cross section shape is only for reference，all crimping tools needed are supposed to be prepared by customers.

步骤5：按图示装好绝缘套。
Step5：Assemble insulation sleeves as shown in photo.

步骤6：屏蔽处理
Step6：Process the shielding

6-1 自右向左推动金属套盖住绝缘套

6-1 Make the cable through the copper sleeve, and slide the copper sleeve to cover inner insulation layer

注意编织需均匀打散，便于后工序装配

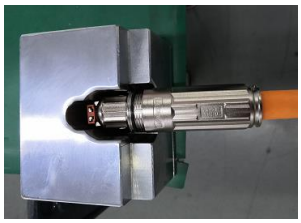
Note that the shielding should be evenly dispersed to facilitate subsequent assembly

6-2 外翻屏蔽线，将其覆盖到金属套上，剪切屏蔽线, 保留长度约20mm

6-2 Flip over the shielding braid and cut it into 20mm’s length, and put it on the surface of ③metal sleeve

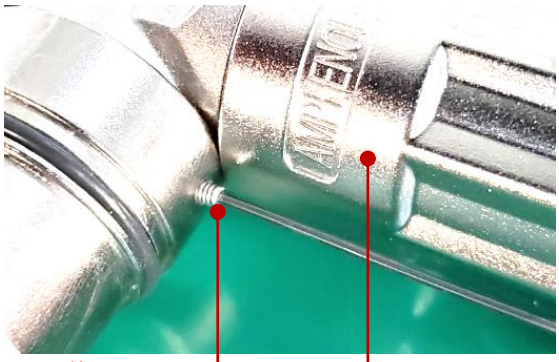
步骤7：组装金属外壳
Step7：Assembly the Back shell

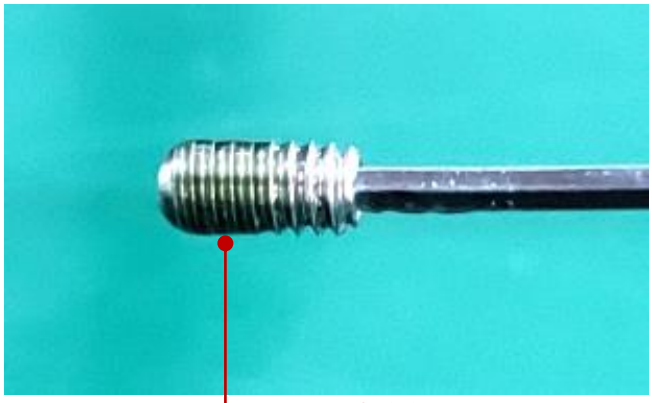
7-1 前推金属环组件和密封圈使其与金属套紧密接触，
7-1 Push the metal gasket Assy and the rubber seal nearer and keep them in touch with the metal sleeve

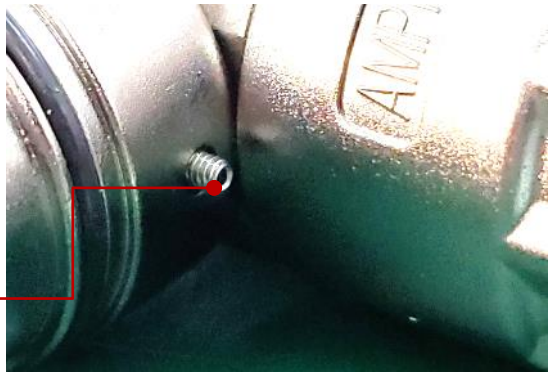


7-2 锁紧金属外壳完成组装，铁壳锁紧力矩为10~12 N.m
7-2 Screw up the shell with a torque of 10-12N.m to finish the assembly

步骤8：使用0.9mm内六角扳手拧下顶丝，涂抹螺纹胶；重新拧紧顶丝，直至外壳固定
Step8：Use 0.9mm hexagon wrench to unscrew the fastening screw and apply the threadlocker; Retighten the fastening screw until the housing is fixed.







(1) 建议使用低强度螺纹胶 乐泰222
It is recommended to use low strength threadlocker LOCTITE 222

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（直流） Test Voltage(DC)	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 V	5S	> 500 MΩ
电缆芯线到高压互锁 Cable(power) to HVIL	1000 V	5S	> 500 MΩ
高压互锁到壳体 HVIL to shell	1000 V	1S	> 100 MΩ

9-2 耐压测试

9-2 Dielectric Withstand Voltage Test

位置 Positions	测试电压（直流） Test Voltage(DC)	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 V	10S	<5mA
电缆芯线到高压互锁 Cable(power) to HVIL	5000 V	10S	<5mA
HVIL to shell 高压互锁到壳体	500V	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

线缆类型 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	刀模编号 Crimping Tool No.
屏蔽线 Shielding cable	50mm²	1600*0.20	10.5	15.50±0.30	10.6+/-0.2	12.2+/-0.2	2800N	BZW-6C
	50mm²	1600*0.20	10.5	15.50±0.30	11.5±0.2	13.3±0.2	2800N	L1145150150D50

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	20210923

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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