

PowerLok™ 4.0 三芯插头组装规范

PowerLok™ 4.0 3POS Plug Assembly Manual



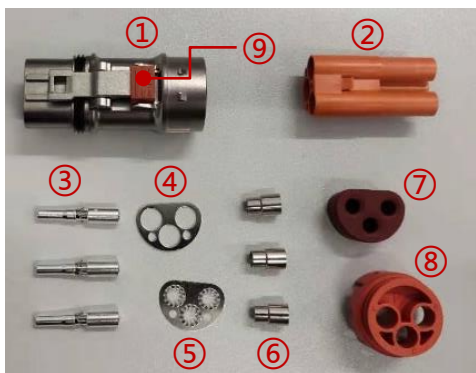
Product Type 产品类型		Plug Type 插头类型		Key & Color ⁽¹⁾ 键位 & 颜色		Series 系列		Cable Size 线材尺寸	
PL	PowerLok™ 4.0	183	3POS plug connector, Straight, Shielding 三芯插头连接器, 直头, 屏蔽线	X	Key "X" Orange X 键位 橙色	40	40 Series without HVIL 40 系列 不带高压互锁	2.5	2.5mm ²
				Y	Key "Y" Black Y 键位 黑色			4	4mm ²
				U	Key "U" Yellow U 键位 黄色	41	41 Series With HVIL 带高压互锁 的41系列	6	6mm ²

(1) 颜色是指插头上CPA的颜色。Color refers to the color of the CPA on the plug.

安装步骤 Assembly Instruction

步骤1: 取出连接器, 如图示零件

Step1: Unpack all components as shown below



- ① 连接器组件 Connector Component x1
- ② 胶芯 Plastic Shell x1
- ③ 端子 Terminal x3
- ④ 金属垫片 Gasket x1
- ⑤ 金属屏蔽片 Shielding Sheet x1
- ⑥ 铜套 Copper Sleeve x3
- ⑦ 密封圈 Seal Ring x1
- ⑧ 后盖 Back Cover x1
- ⑨ CPA

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, 并剪掉多余屏蔽线

Step2: Select the right cable(refer to the appendix), prepare the cable according to the sketch and Table 1 below, cut off excessive braiding wire as shown below

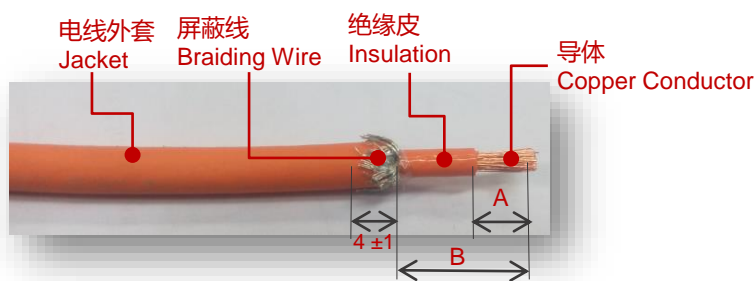


表1: 剥皮尺寸

Table 1: Strip length

线缆规格 Cable Size	直径 OD (mm)	绝缘皮剥线长度 Strip length "A" (mm)	外皮剥线长度 Jacket strip length "B"(mm)
2.5mm ² or 14AWG	5.2±0.2	9±0.5	24±1
4mm ² or 12AWG	5.8±0.2	9±0.5	24±1
6mm ² or 10AWG	6.7±0.3	9±0.5	26±1

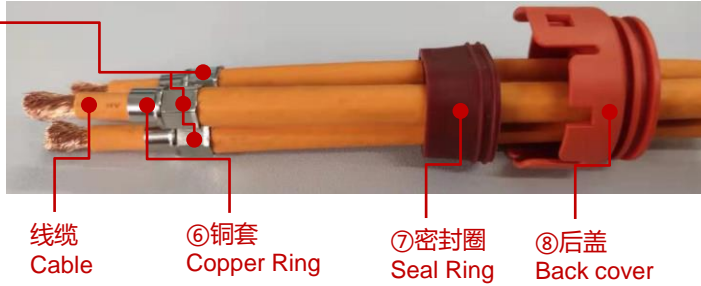
步骤3: 3-1 拿取⑧后盖, ⑦密封圈, ⑥铜套, 自左端依次穿过已剥好的线缆

3-2 采用专用六角刀具将三个铜套依次压接在屏蔽线上, 压紧后铜套的抗拉拔力不少于50N

Step3: 3-1 Take ⑧back cover ⑦seal ring ⑥copper sleeve, insert cables through their holes from right in sequence

3-2 Crimp ⑥copper sleeves with the hexagonal crimping tool and the minimum retention force is 50N

此处压接铜套
Crimp copper ring here



步骤4: 采取⑤金属屏蔽片, ④金属垫片, 自左端依次穿过线缆

Step4: Take ⑤shielding sheet and ④gasket, have cables insert through them from the right in sequence

④金属垫片
Gasket
⑤金属屏蔽片
Shielding Sheet

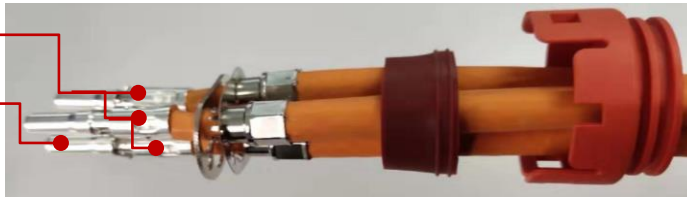


步骤5: 自左端穿上③端子, 用专用压接工具将其压接在线缆导体上, 压接后线缆抗拉拔力不小于如下表格数值

Step5: Insert cable conductor into ③terminal then crimp it with the specific crimping tool, the retention force should respect the values in the table below

此处压接端子
Crimp terminal here

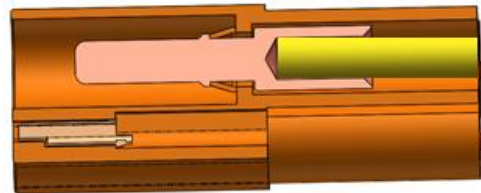
③端子
Terminal



线缆规格 Cable size	保持力 Min retention force
2.5mm ² or 14AWG	220N
4mm ² or 12AWG	300N
6mm ² or 10AWG	350N

步骤6: 拿出胶芯, 将端子推进胶壳底部, 至听到一声“啪”, 方可插到位

Step6: Push terminals to bottom of the plastic shell. It will be in place when it clicks



步骤7: 将胶壳装进①连接器组件里, 扣上⑧后盖, 完成组装。

Step7: Push the parts to the bottom of ①connector component and buckle up ⑧back cover to finish the assembly



步骤8: 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

Step8: 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

8-1 绝缘电阻测试

8-1 Insulation Resistance Test

位置 Positions	测试电压 (直流) Test Voltage(DC)	绝缘电阻 Insulation Resistance
电缆到壳体 Cable(power) to shell	1000 V	> 500 MΩ
电缆到高压互锁 Cable(power) to HVIL	1000 V	> 500 MΩ
高压互锁到壳体 HVIL to shell	1000 V	> 100 MΩ

8-2 耐压测试

8-2 Dielectric Withstand Voltage Test

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

附录APPENDIX

线缆参考规范
Reference specification for cable

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
屏蔽线 Shielding cable	2.5mm ²	217*0.12	2.1	5.20±0.2
	4.0mm ²	350*0.12	2.9	5.80±0.2
	6.0mm ²	525*0.12	3.6	6.70±0.2



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