

PowerLok™ 4.0 二芯插头组装规范

PowerLok™ 4.0 2POS Plug Assembly Manual



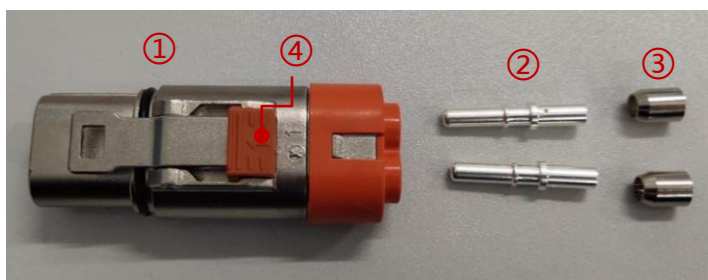
Product Type 产品类型		Plug Type 插头类型		Key & Color ⁽¹⁾ 键位 & 颜色		Series 系列		Cable Size 线材尺寸	
PL	PowerLok™ 4.0	182	2POS plug connector, Straight ,Shielding 二芯插头连接器， 直头，屏蔽款	X	Key "X" Orange X 键位 橙色	60	60Series 60系列	2.5	2.5mm ²
				Y	Key "Y" Black Y 键位 黑色			4	4mm ²
				U	Key "U" Yellow U 键位 黄色	61	60 Series With HVIL 带高压互锁 的60系列	6	6mm ²
								10	10mm ²

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

2.5mm²-4mm²线缆安装步骤 2.5mm²-4mm² 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 ×1
- ② 端子 Terminal ×2
- ③ 铜套 Copper Sleeve×2
- ④ CPA

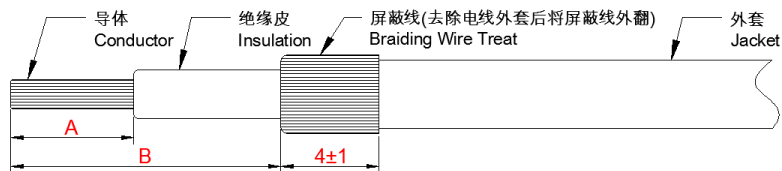
步骤2：选择符合如下尺寸要求的屏蔽线缆（参考手册最后的附录）

Step2：Select the right cable according to your connector and the cable specification below (refer to the appendix)

线缆规格 Cable Size	绝缘皮剥线长度 strip Length "A" (mm)	外被剥线长度 Jacket strip length "B"(mm)
2.5mm ² or 14AWG	7±0.5	24±1
4mm ² or 12AWG	9±0.5	24±1

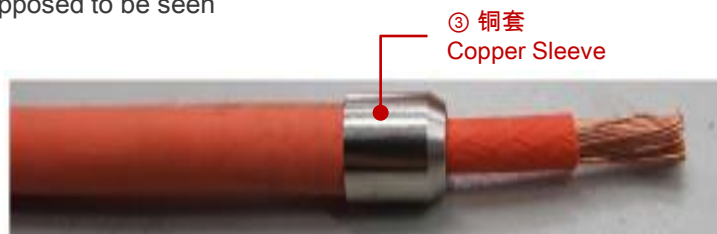
步骤3：按步骤2剥线尺寸剥开电线外套、屏蔽层及绝缘皮，翻折屏蔽线，并剪掉多余屏蔽线

Step3：Refer to value(A&B) in step 2, strip jacket, insulation, then fold back the braid and trim off any excess



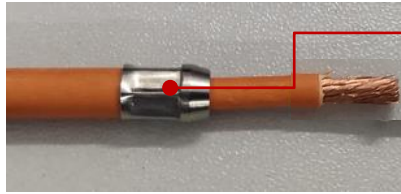
步骤4：在屏蔽层上套上③铜套，③铜套需套到底，套上铜套后屏蔽线不能露出

Step4：Make cable through ③copper sleeve and bring ③copper sleeve to the left as far as possible, and the braid is not supposed to be seen



步骤5：用六角刀具把③铜套压紧，压紧后铜套的保持力不少于50N

Step5 : Crimp ③copper sleeve with hexagonal crimping tool, minimum retention force is 50N after crimping



此处压接铜套
Crimp Copper Sleeve here

步骤6：套上②端子，采用四点压接模压接端子，压紧后端子保持力不小于下表中数值

Step6 : Insert the cable conductor into ②terminal and use four point crimping tool to crimp, the retention force should respect the values written below



此处压接端子
Crimp terminal here

线缆规格 Cable Size	保持力 Min retention force
2.5mm ² or 14AWG	200N
4mm ² or 12AWG	310N

步骤7：按相同方法组装另一条线，将压好端子的电线插入①连接器组件

Step7 : Prepare the other cable in the same way then insert them into the ①connector component



步骤8：完成组装

Step8 : Harness well finished as the picture shown below



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)	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

9-2 耐压测试

9-2 Dielectric Withstand Voltage Test

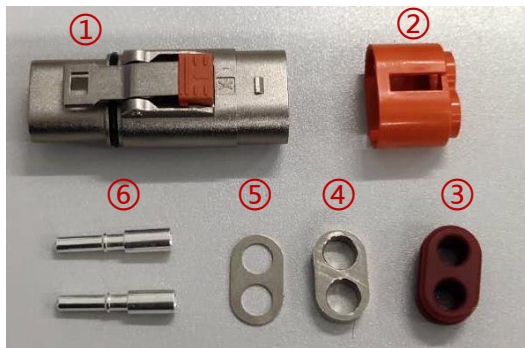
位置 Positions	测试电压 (直流) Test Voltage(DC)	漏电流 Leakage Current
电缆芯线到壳体 Cable(power) to shell	5000 V	<5mA
电缆芯线到高压互锁 Cable(power) to HVIL	5000 V	<5mA
高压互锁到壳体 HVIL to shell	500 V	<5mA

6.0mm²-10.0mm²线缆安装步骤

6.0mm²-10.0mm² Assembly Instruction

步骤1：取出连接器，如图所示零件

Step1：Unpack all components as shown below



- ① 连接器组件 Connector Component ×1
- ② 后盖 Back Cover×1
- ③ 胶垫 Seal×1
- ④ 金属屏蔽环 Shielding Gasket ×1
- ⑤ 金属薄垫片 Metal Gasket ×1
- ⑥ 端子 Terminal ×2

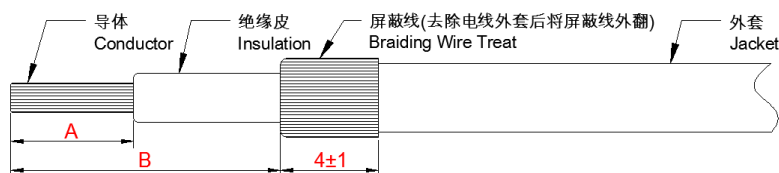
步骤2：选择符合如下尺寸要求的屏蔽线缆(参考手册最后的附录)

Step2：Select the right cable according to your connector and the cable specification below (refer to the appendix)

线缆规格 Cable Size	绝缘皮剥线长度 Insulation strip length "A"(mm)	外被剥线长度 Jacket strip length "B"(mm)
6mm ² or 10AWG	9±0.5	27±1
10mm ² or 8AWG	9±0.5	27±1

步骤3：按步骤2尺寸剥开电线外套、屏蔽层及绝缘皮，翻折屏蔽线，并剪掉多余屏蔽线

Step3：Refer to value(A&B) in step 2, strip jacket, insulation, then fold back the braid and trim off any excess



步骤4：套上⑥端子，采用四点压接模压接端子，压紧后端子保持力不少于下表中数值

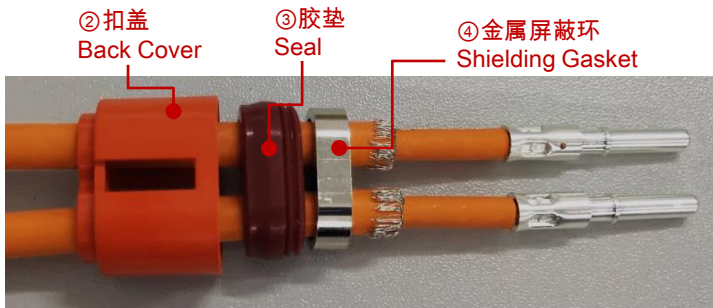
Step4：Insert the cable conductor into ⑥terminal and use four point crimping tool to crimp, the retention force should respect the values written below.



线缆规格 Cable size	保持力 Min retention force
6mm ² or 10AWG	450N
10mm ² or 8AWG	500N

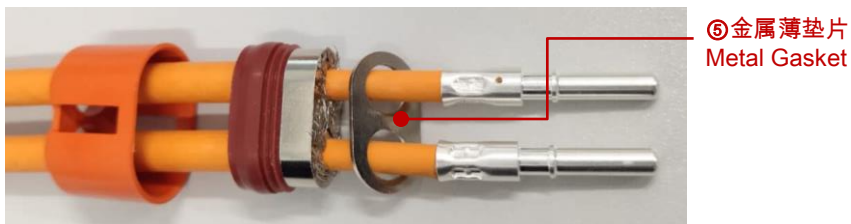
步骤5：将④金属屏蔽环 ③胶垫 ②后盖依次套在线缆上

Step5：Make ④shielding gasket, ③seal and ②back cover through the 2 cables crimped in the right order, as shown below



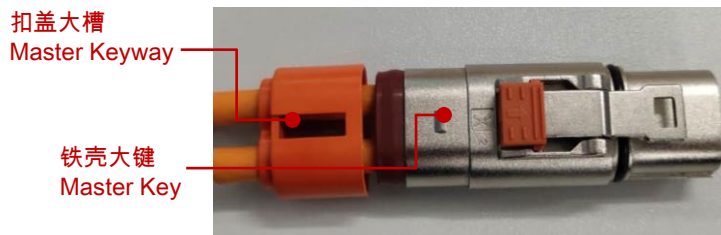
步骤6：将⑤金属薄片套在线缆上，保证屏蔽线均匀分布于④屏蔽环与⑤金属薄片之间

Step6：Make ⑤metal gasket through cables and make the braid clipped evenly between ④shielding gasket and ⑤metal gasket



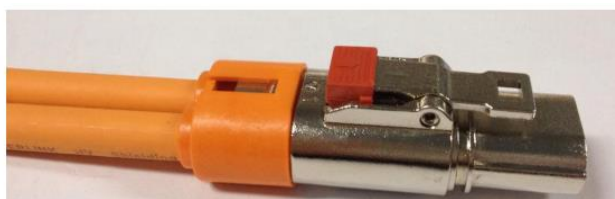
步骤7：将端子部件装入①连接器组件，注意扣盖开槽与壳体上凸起大小相对应。

Step7：Push parts in step 6 into ①connector component and make sure keyway on ②back cover matches the key on shell, as the shown below



步骤8：完成组装

Step8：Harness well-finished as the picture shown below



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)	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

9-2 耐压测试

9-2 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

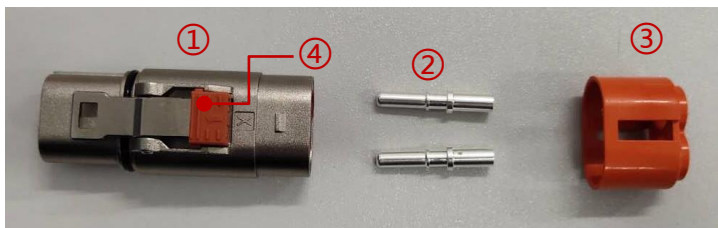
Product Type 产品类型		Plug Type 插头类型		Key & Color ⁽¹⁾ 键位 & 颜色		Series 系列		Cable Size 线材尺寸	
PL	PowerLok™ 4.0	482	2POS plug connector, Straight, Un-shielding 二芯插头连接器, 直头, 非屏蔽线	X	Key "X" Orange X 键位 橙色	60	60Series 60系列	2.5	2.5mm ²
				Y	Key "Y" Black Y 键位 黑色			4	4mm ²
				U	Key "U" Yellow U 键位 黄色	61	60 Series With HVIL 带高压互锁 的60系列	6	6mm ²
								10	10mm 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 ×1

② 端子 Terminal ×2

③ 后盖 Back Cover ×1

④ CPA

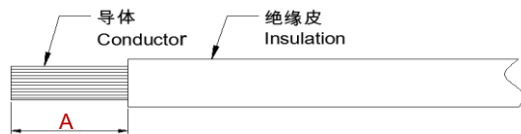
步骤2：选择符合要求的线缆(参考手册最后的附录)

Step2：Select the right cable according to your connector and the cable specification below

线缆规格 Cable Size	剥皮尺寸 (A) strip length (mm)
2.5mm ² or 14AWG	7±0.5
4mm ² or 12AWG	9±0.5
6mm ² or 10AWG	9±0.5
10mm ² or 8AWG	9±0.5

步骤3：按步骤2尺寸A剥开线缆绝缘皮

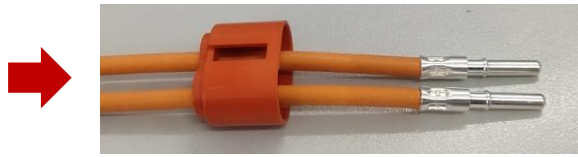
Step3：Strip the jacket of cables according to the cable size and Value "A" in step 2



步骤4：套上②端子，采用四点压接模压接端子，压紧后端子保持力不小于下表中数值，线缆穿过③后盖

Step4：Insert the cable conductor into ② terminal and use four point crimping tool to crimp, the retention force should respect the values written below, Insert cable through ③ back cover

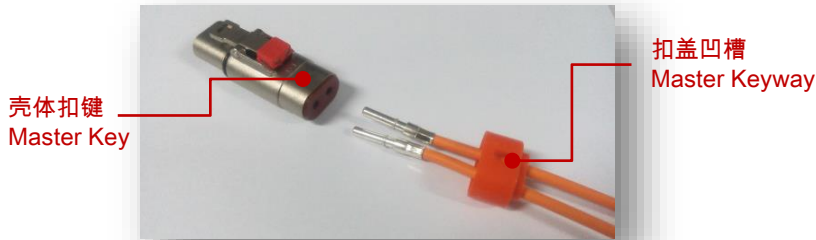
此处压接端子
Crimp terminal here



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
10mm ² or 8AWG	400N

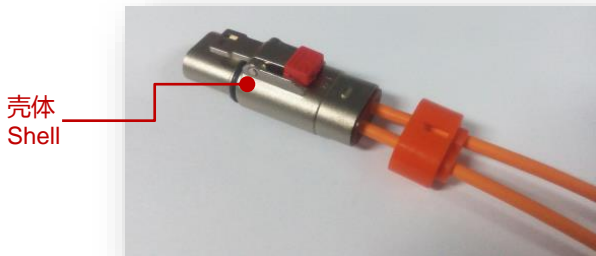
步骤5：转动使扣盖上凹槽与壳体上凸起角度相对应

Step5：Attention to align bump on metal shell with notch on plastics cover



步骤6：把端子匀速推进胶壳穴位底部，听到‘啪’声，方为插到位

Step6：Insert terminals into the ①connector component, it is in place when it clicks



步骤7：扣上扣盖，完成组装

Step7：Buckle up ③back cover on the connector body shell



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	2.10	5.20±0.2
	4.0mm ²	350*0.12	2.90	5.80±0.2
	6.0mm ²	525*0.12	3.60	6.70±0.2
	10.0mm ²	874*0.12	4.65	8.60±0.2
非屏蔽线 Un-shielding cable	2.5mm ²	217*0.12	2.10	3.30±0.2
	4.0mm ²	350*0.12	2.90	4.10±0.2
	6.0mm ²	525*0.15	3.60	4.80±0.2
	10.0mm ²	525*0.15	4.65	6.25±0.2



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