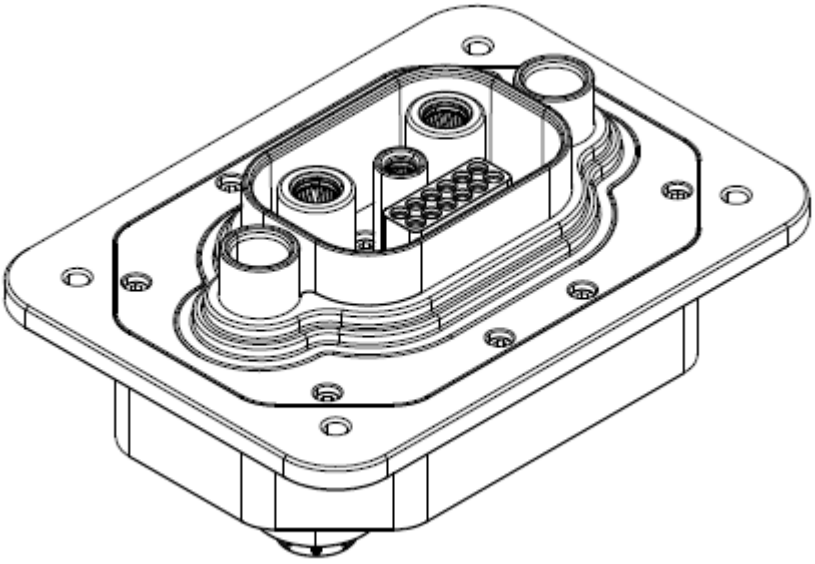
Document No: 8P1216
Rev.01

PFSC2815-301-TS1-XX 二芯高压换电插座组装规范
PFSC2815-301-TS1-XX 2POS HV Swapping Receptacle Assembly Manual



PFSC2815-30(1)-TS(1)-70

高压互锁 0：无 1：有 HVIL 0：NO 1：WITH	温度传感器 0：无 1：有 Temperature Sensor 0：NO 1：WITH	线缆大小 Cable Size mm2 70 50

第一部分：包装清单
Part 1： Package contents

① 外壳组件 Outer shell assembly ×1

② DC盖板 DC Cover plate ×1

③ 螺钉 Screw ×3

④ DC尾盖 DC Cap x2

⑤ DC密封圈 DC Cable Seal ×2

⑥ DC垫圈 DC Gasket ×2

⑦ 屏蔽罩 Shielding Case ×2

⑧ 屏蔽外环 Shielding Outer Ring ×2

⑨ DC端子 DC Terminal ×2

⑩ 屏蔽内环 Shielding Inner Ring ×2

⑪ 信号线端子 Signal Terminal ×12

⑫ 端子前盖 Terminal Front Housing ×2

⑬ 信号线盖子 Signal Cap ×1

⑭ 信号线密封圈 Signal Seal Gasket ×1

⑮ 信号线后壳 Signal Rear Housing ×1

⑯ 信号线壳体 Signal Front Housing ×1

⑰ 地线护套 Ground sheath ×1

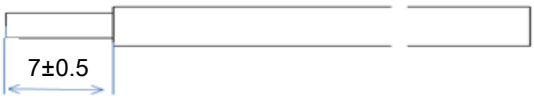
⑱ 感温器 Temperature sensor ×2

第二部分：插座组装
Part 2: Receptacle Assembly

步骤1：选取合适线缆（7P1000301 0.5mm2 OD=1.85+/-0.1mm），按照要求的长度与数量切剥线，剥线尺寸如图1。

Step1：Select the right cable(7P1000301 0.5mm2 OD=1.85+/-0.1mm), cut and strip cables according to actual requirements, Strip dimension is shown in Figure 1.

图1
Figure 1

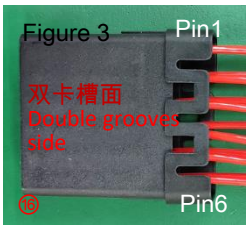


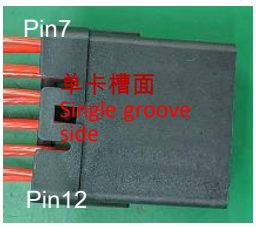
步骤2：调试好机器，将信号端子⑪压接好，压接形状不作要求，图示形状仅供参考，要求芯线压缩比为80~90%，拉力要求大于 75N。

Step2：Adjust the machine and crimp the signal terminal ⑪, The crimp profile is not required, The figure is for reference only, The compression ratio of conductor should be 80~90% and the tension force should be greater than 75N.

步骤3：取信号线壳体⑯，将压好的12根线按图3 4示PIN位装入。

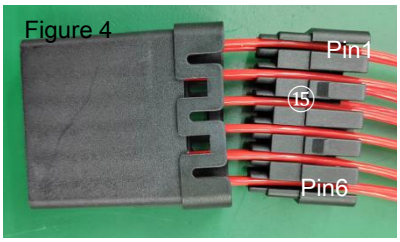
Step3：Take the signal front housing ⑯ and assemble the 12 wires crimped into the PIN position as shown in Figure 3 and 4.

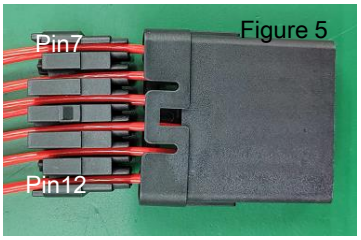


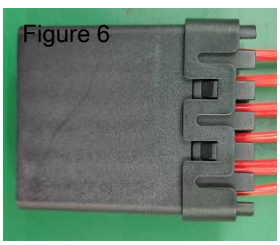


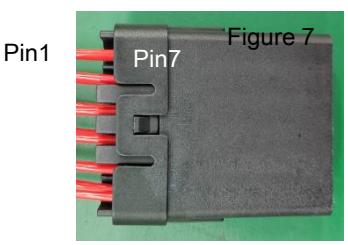
步骤4：用信号线后壳将信号线按顺序分隔开并装入信号线壳体。

Step4：Use the signal rear housing to separate the signal wires and Assemble the signal rear housing into the signal front housing.









步骤5：选取合适线缆，按照要求的长度与数量切线与剥线，线材规格与剥线尺寸如表1。

Step5：Select the right cable, cut and strip cables according to actual requirements, Cable SPEC and strip dimension is shown in table 1.

表1：线材规格与剥皮尺寸

Table 1: Cable SPEC and Strip length

线材尺寸 Cable Size	电线外径(mm) Wire OD	导体结构(mm) Conductor	剥绝缘皮 A Strip Insulation A (mm)	剥外被 B Strip Jacket B (mm)	线材型号 Cable PN
50mm²	17.0+/-0.50	4403*0.12	20+/-0.5	32+/-1	7P0050S
70mm²	18.3±0.3	2405/0.193	20+/-0.5	32+/-1	WDZ-DCYJYJRP-125

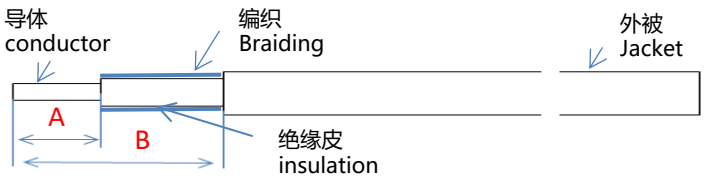
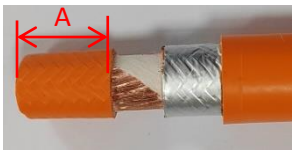
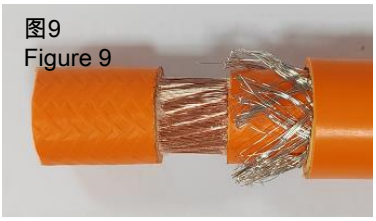


图8
Figure 8



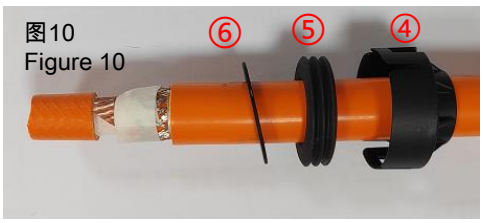
步骤6：将铝箔齐外被口剪齐，将编织均匀打散，齐内绝缘皮口剪齐。

Step6：Cut the aluminum foil even with jacket bottom, Disperse the braid evenly, then cut it in the end of inner insulation.



步骤7：取各1pcs ④ DC尾盖, ⑤DC密封圈⑥DC垫圈, 依次穿入线缆如图10所示 。

Step7：Take 1pcs ④ DC cap, ⑤DC cable seal ⑥ DC gasket , and assemble it on the cable successively, as shown in the figure 10 .

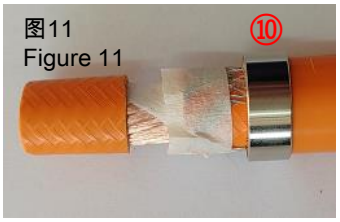


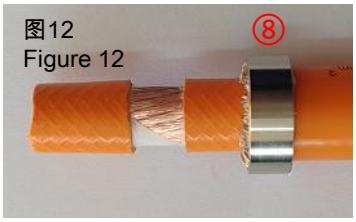
★密封圈装配前建议整体涂上一层薄硅脂油，硅脂油型号：BSR-3201A。

It is recommended that the cable seal be coated with a thin layer of silicone oil before assembly. Silicone oil model: BSR-3201A.

步骤8：穿入⑩屏蔽内环，使其与外被口大致平齐，再将编织反折在内环上，并穿入⑧屏蔽外环使其与内环对齐。

Step8：Put ⑩ the shielding inner ring on the cable so that it is roughly flush with the outer jacket, then fold the braiding over the inner ring and assemble ⑧ shielding outer ring so that it is aligned with the inner ring.





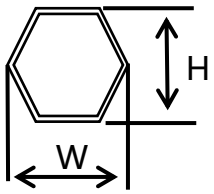
步骤9：将屏蔽铜套压紧在线材上，压接刀模与压接高度、拉力要求等参照表2，压接过程避免内外铜环移位。

Step9：Crimp the shield ring on the cable , Crimp die and crimp height and pull force refer to Table 2 . To avoid the inner and outer ring slide in the crimp process.

表2：铜环压接规格&拉拔力要求

Table2：Copper Ring Crimping spec & retention force requirements

线材尺寸 Cable Size	压接模具 Crimp die	压接高度 Crimping height H(mm)	参考抗拉拔力 Retention Force
50mm2	BZW-6C	21.4±0.2	150N
70mm2	BZW-6C	21.4±0.2	150N



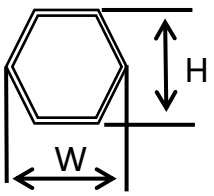
步骤10：剪掉芯线上残存的纸带，取1pcs的⑨DC端子自左端穿上线缆，并压接在其上（规格参照表3）。

Step10：Cut off any remaining paper tape on the conductor, take a ⑨ DC terminal , load it to the conductor from the left, then crimp it (crimp SPEC refer to table 3).

表3：端子压接规格&拉拔力要求

Table 3：Terminal Crimping spec & retention force requirement

线材尺寸 Cable Size	压接模具 Crimp die	压接高度 Crimping height H(mm)	参考抗拉拔力 Retention Force
50mm2	BZW-6C	11.15±0.3	2800N
70mm2	BZW-6C	12.4±0.3	3400N



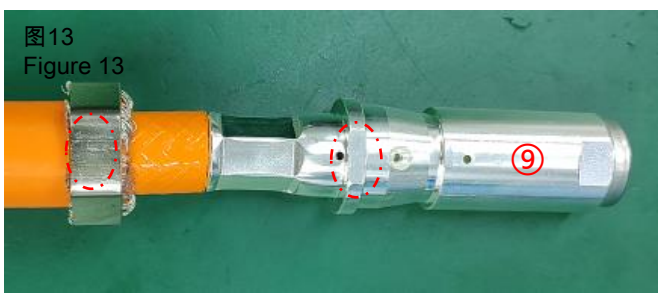


图13
Figure 13

注意保证图示两个面在同一平面
Make sure that the two faces are on the same plane

(1) 建议使用安费诺指定线材，如果客户选用其它电缆，请联系安费诺业务，协商订制零配件。

Recommend to use assigned cable. If you need to use customized cable, Please contact local sales for product extensions

(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 compression ratio of conductor requirements: 80~90%.

(3) 横截面仅供参考（其他举例：带点等边六变形的横截形状），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11：将⑦屏蔽罩如图14装入①接头外壳组件中，屏蔽罩卡爪与图示胶芯缺口对齐。

Step11：Insert the ⑦ shielding case into the ① connector outer shell assembly as shown in Figure 14, and align the shielding clamp with the gap of the plastic housing as shown .

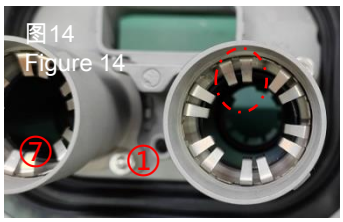


图14
Figure 14

便于保证装配后屏蔽罩卡爪与屏蔽环的六个面接触
To ensure the clamp of the shielding case contact the six plane of the shield ring after assembly

步骤12：将对应Pin位的线材按照要求的方向装入接头，直到听到“咔”声响，表示已装到位，此时后拉线材应不松脱，装入时端子缺口与接头上红线标识面平行。

Step12：Take the corresponding wire and assemble it into the connector in accordance with the required direction , It is in place until you hear the “click” sound, the wire should not be loose when you pull back it at this time， When loading, the terminal notch is parallel to the red marking surface on the connector.

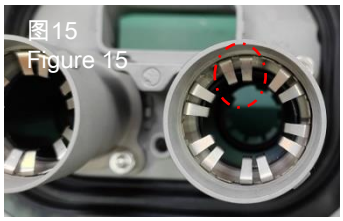
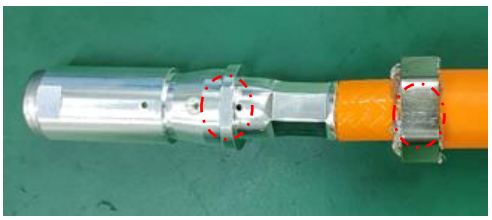


图15
Figure 15



确认此孔处于中心位置
Verify that the hole is centered

步骤13：将垫圈推到底，再将密封圈推到底，最后将尾盖盖上，确认卡扣已安装到位。

Step13：Push the DC gasket to the bottom, then push the DC cable seal to the bottom, and finally assemble the DC cap to ensure that the buckles are installed in place.


图16
Figure 16

步骤14：参照以上步骤将另一个Pin位的线材也装配好，完成成品如图17示。

Step14：Assemble the other Pin Refer to the above steps and complete the finished product as shown in the figure 17.


图17
Figure 17

图18
Figure 18

步骤15：取出⑱感温器，如图18示弯折，并在其表面涂导热硅脂DOW340。

Step15：Take out ⑱ the temperature sensor, bend it as shown in the figure 18, and apply silicone heat sink compound DOW340 to its surface.

步骤16：将两个感温器分别装入接头组件的端子中如图19。

Step16：Install the two temperature sensors separately into the terminals of the connector assembly as shown in Figure 19.


图19
Figure 19

图20
Figure 20

步骤17：将两个⑫端子前盖分别装入接头组件的端子上如图20。

Step17：Install the two ⑫ terminal front housing to each terminal of the connector assembly as shown in Figure 20.

步骤18：将⑰地线护套装入接头组件中的地线端子上如图21。

Step18：Insert ⑰ the ground sheath onto the ground terminal in the connector assembly as shown in Figure 21.

图21
Figure 21


图22
Figure 22

步骤19：将装好的信号线接头装入接头组件中如图22，注意两个卡扣面朝上。

Step19：Assemble the installed signal connector into the connector assembly as shown in Figure 22. Note that the two buckles face up.

步骤20： 将 ② DC盖板如图23装入外壳组件，调整电批扭力为3.0±0.3N.m，用③螺钉将其锁紧。

Step20：Assemble the ② DC cover plate into the outer shell assembly as shown in FIG 23, adjust the torque of the electric screwdriver to 3.0± 0.3 N.m, and tighten DC cover plate with ③ screws.

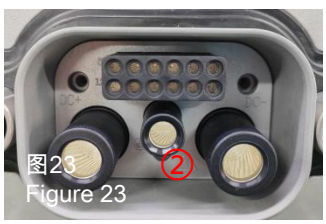


图23
Figure 23

步骤21： 将信号线与传感器线理顺，如图24所示依次穿入密封圈⑭，注意两个传感器线不可错位,再次理顺后将密封圈推到底。

Step21：Straighten the signal cables and sensor cables, push it through ⑭ the signal seal gasket successively as shown in Figure 24. Make sure that the two sensor cables do not misplace, Push the seal gasket to the bottom after straightening all cables again.

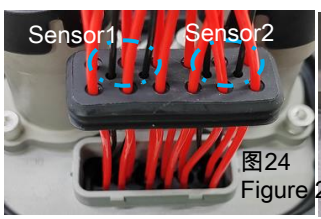


图24
Figure 24

★ 密封圈装配前建议整体涂上一层薄硅脂油，硅脂油型号：BSR-3201A。

It is recommended that the seal gasket be coated with a thin layer of silicone oil before assembly. Silicone oil model: BSR-3201A.

步骤22：如图25示穿入信号线盖子，用图示工具将盖子推到位直到听到“咔”响，确认四个卡扣均到位。

Step22：Insert the cover of the signal cable as shown in Figure 25, and push the cover into place with the graphical tool until you hear a “click” sound, Ensure that all four buckles are in place.

图25
Figure 25

步骤23：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。

Step23：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.

23-1 绝缘电阻测试

23-1 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
信号线PIN与PIN All signal PIN to PIN	500 VDC	0.1S	> 50 MΩ
传感器与端子 Sensor to Terminal	500 VDC	0.1S	> 50 MΩ

23-2 耐压测试

23-2 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
主端子到壳体 Main terminal to shell	3000 VAC	10S	<5mA
所有信号端子到壳体 All signal terminals to shell	1500 VAC	10S	<5mA

23-3 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。提供的参数是基于连接器峰值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。

23-3 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 connectors and their peak 1000VDC rating. Test parameters provided may exceed the limit of other components/materials used on the cable assembly or device.

版本记录 Revision history

序号 Number	变更内容 Content of change	日期 Date
00	新出 New issue	2023/08/29
01	增加密封圈涂油推荐 Add seal oiling recommended	2024/03/06

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