

# CF1108-03g Series Junction Box Manual

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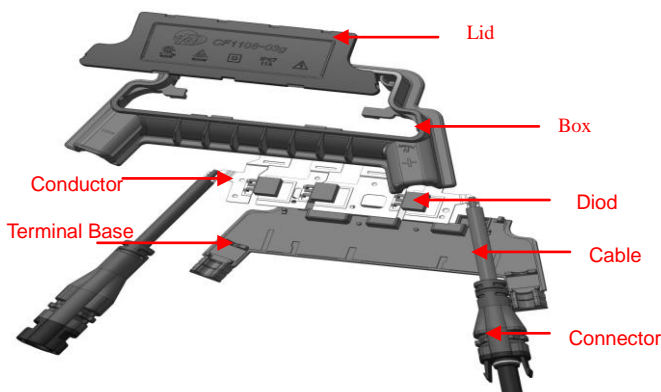
## 1. Safety Instructions

The products may be installed only by qualified or trained specialists with due observance of all applicable safety regulations. Friends Connector Technology declines any liability in the events of failure to observe these warnings.

- a) Energized operation is dangerous when installing the J-box or Connectors.
- b) J-box and Connectors cannot be exposed in organic solvents or corrosive substances.
- c) Normally, the J-box, cable and connectors should not be applied pulling force over 100N. Take them gently during transportation and installation. J-box and connectors should not be washed by water cannons when cleaning module.
- d) Connectors should not be installed in the lowlands where easy to accumulate rainwater or dusts.
- e) Cable cannot be bended hardly for long time to prevent damage.
- f) Connectors should be inserted down to designed position to insure connection and sealing well.
- g) The force should be applied to the head of connectors, but not the cable when engage or disengage Connectors.
- h) Unmated plug connectors must be protected from moisture and dirt with sealing cap. The polluted connectors must not be plugged together.

## 2. Structure

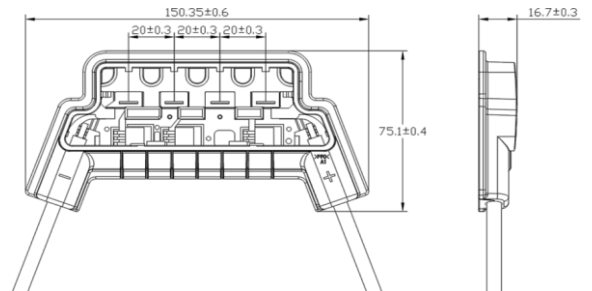
CF1108-03g exploded view



## 3. Summary / 摘要

CF1108-03g series is Friends' new generation junction boxes for electric connection of bus ribbons on crystalline modules. Its special design of angled cable connection with J-box prevents long term stress damage to cable and J-box, and its optimized structure design has achieved minimal potting volume, enhanced heat dissipation, and effective anti-aging performance. CF1108-03g series of J-box is Friends' solution for cost effectiveness and top performance.

Dimensions of the J- box



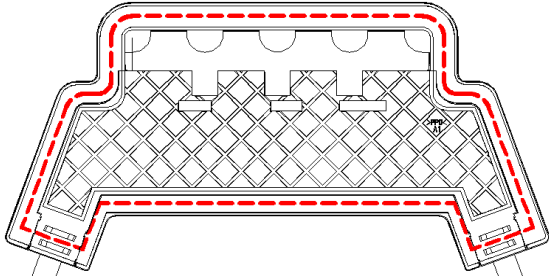
## 4. Specifications

Rated String Voltage	1000V IEC/600V UL for CF1108-03g 1000V IEC/1000V UL for CF1108-03gb 1500V IEC 1500V UL for CF1108-03ge
Current Rating	15A
Max Reverse Current	30A
Max Withstand Voltage	12 kV / 16 kV
Ambient Temperature Range	-40℃ to 85℃
Storage Temperature Range	-40℃ to 85℃
Cooling Method	Potting
Degree of protection	IP67
Flame class	UL94 V-0
Diode Type	SB3045DY/GF3045MG
Number of Bypass diode	3
Number of Bus ribbons	4
Connection of Bus Ribbons	Welding/Soldering
Cabling Type	PV1-F/PV Wire for CF1108-03g/ge H1Z2A2-K/PV Wire for CF1108-03ge
Cable Length	1m / Customized
Connector	PV2 / Customized
Wire Cross Section	1×4.0 mm <sup>2</sup> , 12 AWG
Outer Cable Diameter	6.3 ± 0.2 mm for CF1108-03g 6.6 ± 0.2 mm for CF1108-03gb 6.4 ± 0.2 mm for CF1108-03ge

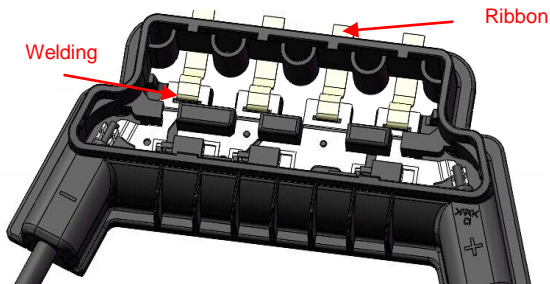
**NOTE: Detailed data please refer to the latest product datasheet.**

**5. Installation of J-box**

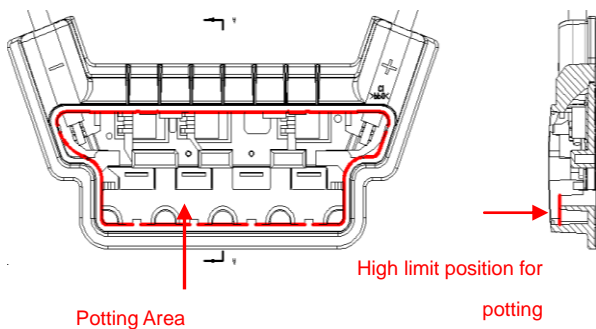
- a) Apply the silicone RTV onto the back edge of J-box (as the red line indication in the drawing below) with a silicone gun , then stick fast J-box to the designed location on backsheet of PV module.



- b) Insert ribbons into the slots in the conductor and bent the ribbons down then solder them onto the conductors firmly. Following the soldering, push down the rest of ribbons toward the conductor surface.



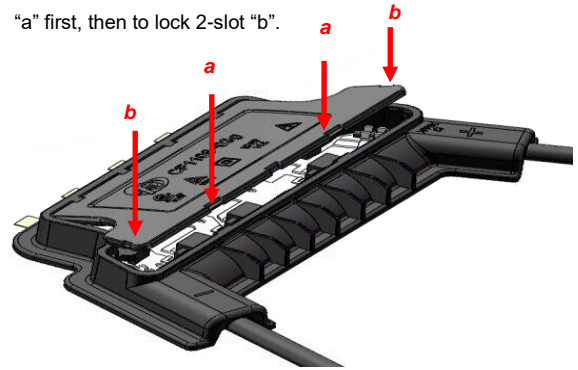
- c) Pot J-box with potting material close to but not over the high limit position, and make sure the potting materials covers all ribbons and conductor. The potting material should also be smooth and no bubbles.



- d) Cover lid: After the potting material is solidified, align the 4-slot on the lid to the 4-tip on the body as shown below.

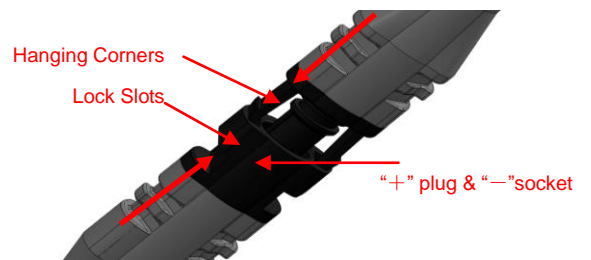


- e) Slowly push the lid down as indicated below, push to lock 2-slot "a" first, then to lock 2-slot "b".

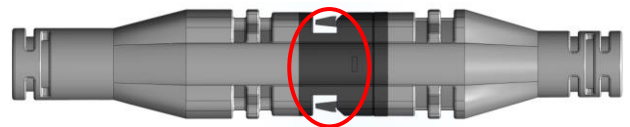


**6. Connector engagement or disengagement**

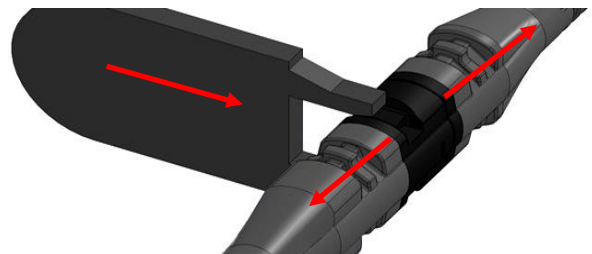
- a) Insert "+" plug into "-" socket and hanging corners into lock slots.



- b) Push both the connectors until the hanging corners come out lock slots, connectors are locked together, as shown below:



- c) In the case, the connectors need to be disengaged, using supplied special unlock tool to push the tool feet into head of hanging corners, then pull to disengage the connectors, as shown below.



The specification and key features described in this manual may deviate slightly and are not guaranteed. Due to on-going innovation, research and product enhancement, Friends Technology reserves the right to make any adjustment to the information described herein at any time without notice.

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