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## Service Bulletin: Mean Well Power Supply Wiring

### Revision History

Revision	Release Date	Author	Description of Change
0	August 2023	Lexa Bauer	Release
1	June 2024	Lexa Bauer	Updated instructions and drawings for gland sizing

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## 1. Overview

The purpose of this document is to show how to terminate the AC connectors for the Pivot 5G GA2 Mean Well power supply.

### 1.1 Requisite Pivotal Item Numbers

PN	Description
172-0017-02	AC/DC CONVERTER 48V 322W, IP68
125-0346-01	CONN RCPT FEMALE 3P NICKEL SCREW
125-0349-01	Connector, OCTIS PLUG KIT 4P

## 2. Requirements

### 2.1 Tools

- Tape Measure
- Caliper or means of measuring cable thickness
- Wire strippers (for 18-gauge stranded wire)
- Wire cutters
- Pliers
- Flat head screwdriver
- Bulgin contact carrier removal tool: 15065/SP
- Bulgin extraction tool: 14944/SP or 14945/SP
- X-Acto knife
- Temperature Masking Tape – Tape Master model number GPT530-2998

### 2.2 Parts

- Mean Well Power Supply HEP-320-48 or HEP-320-48A
- Heat shrink tubing: Digi-Key part number - 3M161650-ND
- 14-gauge wire: Digi-Key part number - M3845BK005-ND
- 14-16 AWG Crimp connector: Digi-Key part number - 94788-01-ND
- Bulgin Connectors
  - PXP7010/03P/ST/0709
  - PXP7011/03S/ST/0709

### 3. Assembly & Disassembly Instructions

#### 3.1 Mean Well Power Supply

##### 3.1.1. Requirements

##### 3.1.1.1 Maximum Cable Length

Single Sector: 500-feet

Multi Sector: 350--feet

##### 3.1.2. Assembly

- [1] Acquire Mean Well power supply and note side labeled *Input*



Figure 1

- [2] Use wire cutters and 18AWG wire strippers to strip the three input wires as shown in [Figure 2](#).

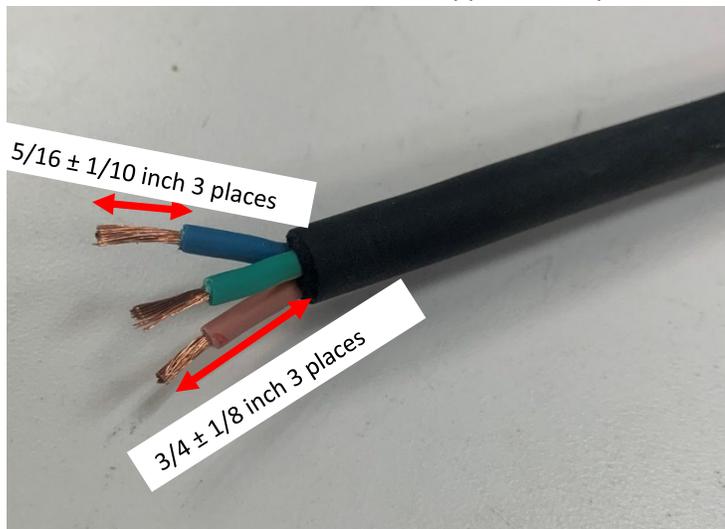


Figure 2

[3] Arrange Bulgin connector parts as shown in [Figure 3](#):

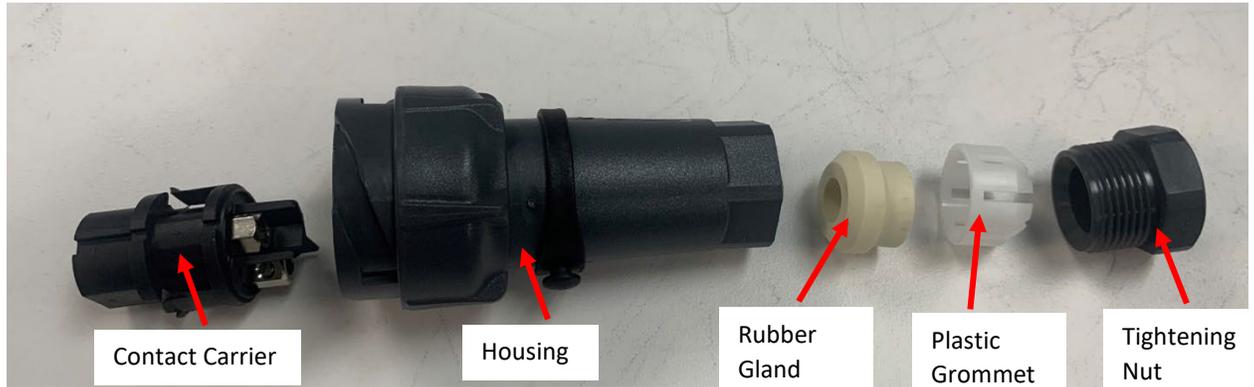


Figure 3

[4] Note that the rubber glands are color coded by cable size. Select the proper gland size for the cable per [Figure 4](#).

Cable diameter	Gland Colour
5.0-7.0mm	Grey
7.0-9.0mm	White
9.0-11.0mm	Black
11.0-13.0mm	Yellow
13.0-15.0mm	Light Grey

Figure 4

[5] Feed input cable through tightening nut, plastic and rubber grommets, and housing as shown in [Figure 5](#).



Figure 5

- [6] Note 3 screw terminal locations of contact carrier labeled *E (Earth)*, *L (Line)*, and *N (Neutral)* in [Figure 6](#):



Figure 6

- [7] Using flathead screwdriver, loosen screws on all three terminals as shown in [Figure 7](#).



Figure 7

- [8] Feed stripped end of green/yellow lead (earth) in screw terminal position labeled *E (earth)* and tighten with flathead screwdriver as shown in [Figure 8](#).

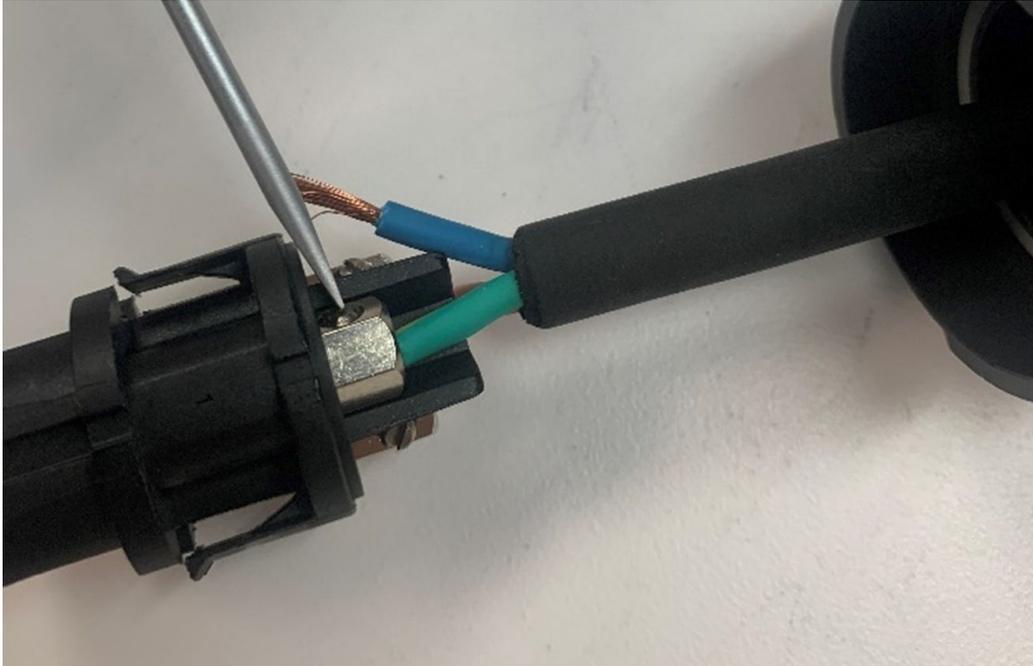


Figure 8

- [9] Feed stripped end of blue lead(neutral) in screw terminal position labeled *N(neutral)* and tighten down with flathead screwdriver as shown in [Figure 9](#).

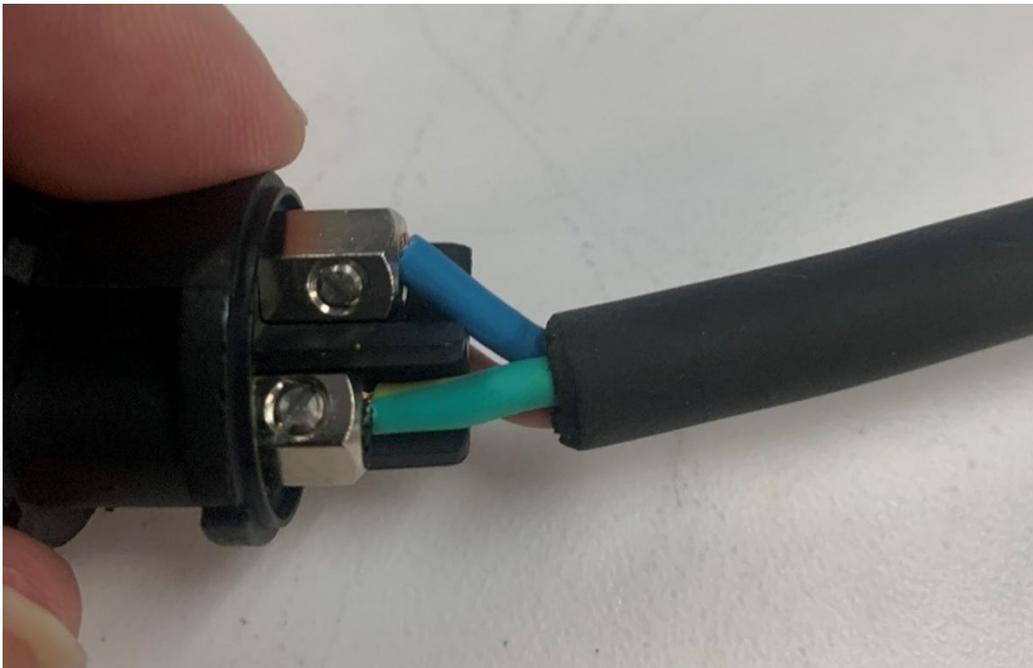


Figure 9

- [10] Feed stripped end of brown lead(line) in screw terminal position labeled L(line) and tighten down with flathead screwdriver ([Figure 10](#)). Tug all wires to make sure they are captured by screw terminals.

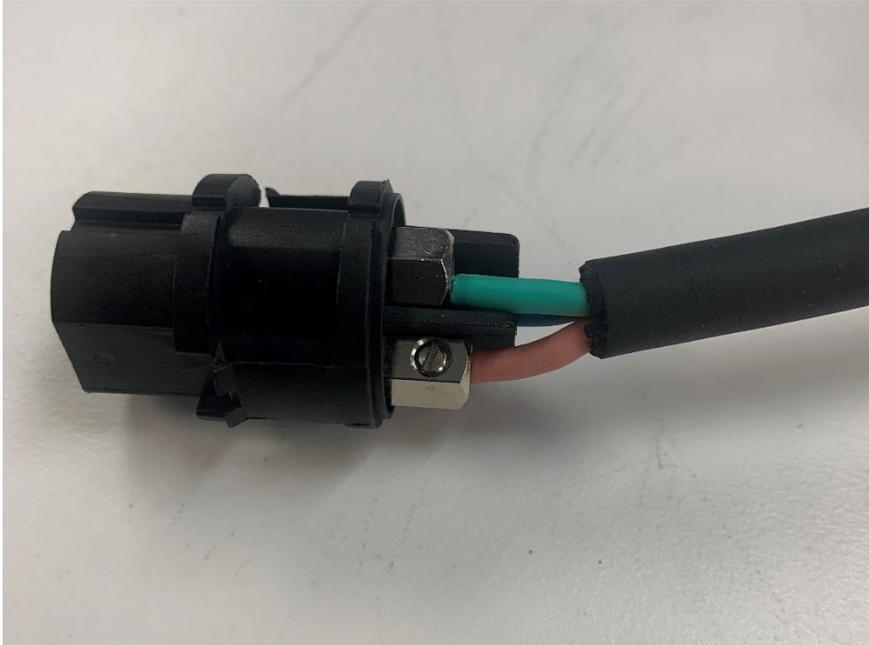


Figure 10

- [11] Slide contact carrier into housing until it snaps in place ([Figure 11](#) & [Figure 12](#)).



Figure 11



Figure 12

- [12] Place plastic grommet over rubber grommet ([Figure 13](#)) and feed both of them into body as shown ([Figure 14](#)).



Figure 13



Figure 14

- [13] Slide up tightening nut and thread it to body. Tighten until snug as shown in [Figure 15](#).



Figure 15

- [14] Using X-Acto knife, carefully remove outer jacket of AC power supply cable without cutting inner conductors. Leave about 1" of the inner conductor leads as shown in [Figure 16](#).

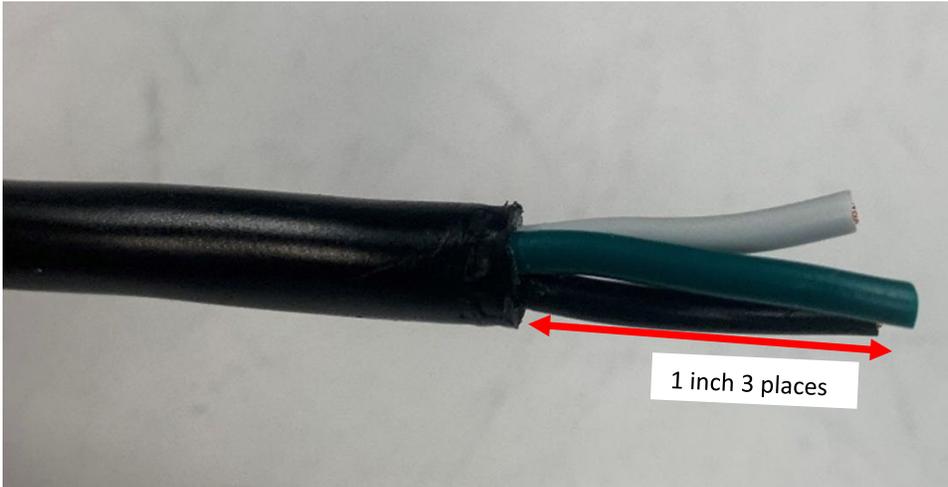


Figure 16

- [15] Using wire cutters and wire strippers cut down and strip three wire leads as shown in [Figure 17](#). Some trimming of the exposed wire may be required.

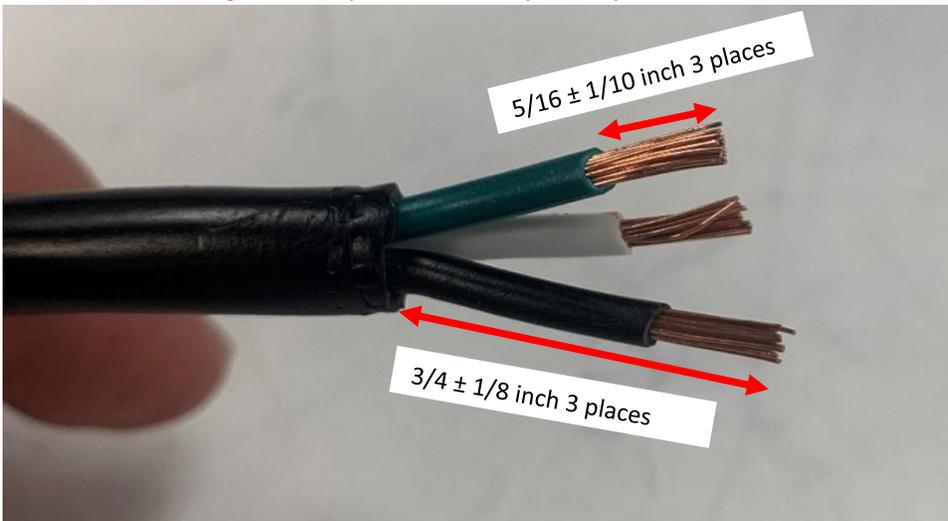


Figure 17

- [16] Repeat steps 3-13 for receptacle connector to AC power supply line. Colors of conductors for supply line may be *black (line)*, *white (neutral)*, and *green (earth)*. Consult with an electrician if unsure.

### 3.1.3. Disassembly

- [17] To disassemble use contact carrier extraction tool ([Figure 18](#)).



Figure 18

- [18] Disassemble tightening nut, and plastic and rubber grommets. Pliers may be needed for this. Place extraction tool into contact carrier as shown in [Figure 19](#). It must go into tabs of contact carrier that hold it to body. At same time, squeeze extraction tool and push up on other end of contact carrier with a flathead screwdriver ([Figure 20](#)). Contact carrier should come out.



Figure 19



Figure 20

- [19] If contact carrier doesn't come out a flat head screwdriver can be inserted into one of tabs and pressed inward while at same time pushing on other end with flathead screwdriver ([Figure 21](#)).



Figure 21

- [20] Starting at step 10, reverse through step 5 to fully disassemble.

### 3.1.4. Weatherproofing

The Vo and Io adjustments on the power supply are not needed and should be sealed for environmental resiliency.

- [1] Cut a 2-inch by 2-inch strip of tape.
- [2] Center the tape over the plugs and press firmly against the power supply. Smooth the tape down and ensure there is a full seal all the way round the plugs ([Figure 22](#)).



Figure 22

### 3.2 Octis Connector

#### 3.2.1. Requirements

##### Cable type and size

- The Octis plug kit supports cable outer diameters between 4.8-mm and 8-mm.
- A round cable must be used. Flat cables or twisted cables should not be used.
- Measure the cable diameter to confirm before consulting the gland sizing chart ([Figure 23](#)).
  - **IMPORTANT:** If the cable measures between sizing ranges, select the **SMALLER** gland.



Figure 23

##### Gland sizing

The gland that weatherproofs and secures the cable to the connector **MUST** be sized properly. The default Octis kit comes with glands 6, 7, & 8 which support outer cable diameters of 4.8 mm to 7.8 mm.

The Octis assembly drawings and gland sizing tables can be found in [Section 4.2](#). The recommended gland size for different cable diameters is outlined on [Figure 40](#) with the standard gland kit shown in [Figure 41](#).

##### Cone

The cone **MUST** be used to ensure a proper fit and to ensure the connector gate and latch function properly.

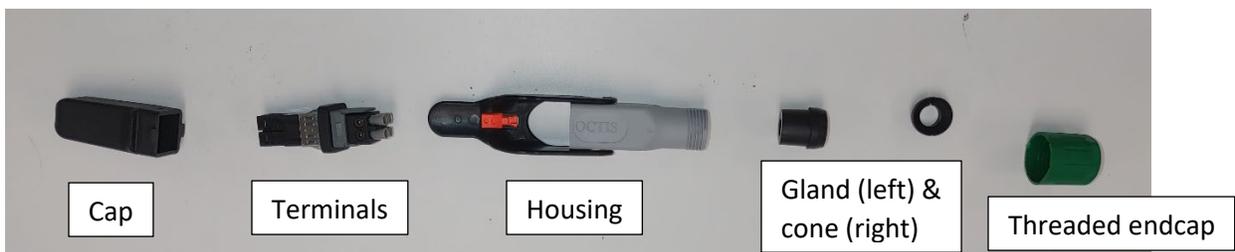


Figure 24: All Octis kit materials

#### 3.2.2. Assembly Instructions

- [1] Strip one end of red and black wires per [Figure 25](#).

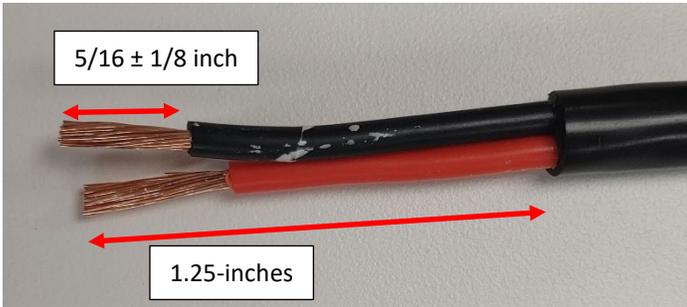


Figure 25

- [2] Thread the cable and wires through the threaded endcap, cone, and gland as shown in [Figure 26](#).



Figure 26

- [3] There should be no gaps between the cable and the gland surrounding it. [Figure 27](#) shows two different cable thicknesses with two different glands. Note that in both cases the gland is flush to the cable with no gaps. The cone is shown at the right of the photo.



Figure 27

- [4] **DO NOT** tighten the green endcap yet. You will do this after connecting and securing the wires to the connection ferrules.

- [5] Line up locking hinge per [Figure 28](#) before connecting the wires to the connector.



Figure 28

- [6] Insert the wires into the appropriate pins of the connection terminal.
- a. Red wire – pin 2
  - b. Black wire – pin 3
- [7] Slide cable into gray insertion ferrule until wire stops moving.
- a. **IMPORTANT:** NO conductive material should be visible outside the ferrule [Figure 30](#) shows an incorrect wiring with conductive material visible.

- [8] Tighten screws fully and test to make sure wires cannot pull out of ferrules. Screws will recess into connector when fully tightened ([Figure 29](#)).

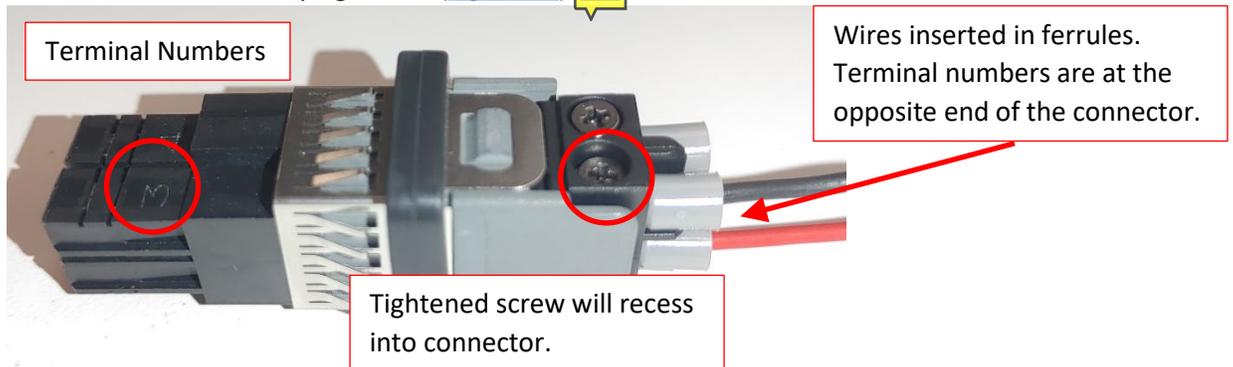


Figure 29



Figure 30

- [9] Line arrow up on connector with arrow on connector housing per [Figure 31](#) and slide connector into housing until you hear a click.



Figure 31

- [10] Slide connector cap over connector with pins on the same side as locking mechanism hooks per [Figure 32](#).



Figure 32

- [11] Screw the threaded endcap into the connector housing with the gland and cone so that the gland and cone come together and tighten over the insulated portion of the cable.
- IMPORTANT:** The red switch **MUST** be in the **UNLOCKED** position before the gate lock is closed or it can break during the closing of the gate lock ([Figure 33](#)).
  - IMPORTANT:** The endcap must be tightened enough so that the red latch catches when the gate lock is closed.

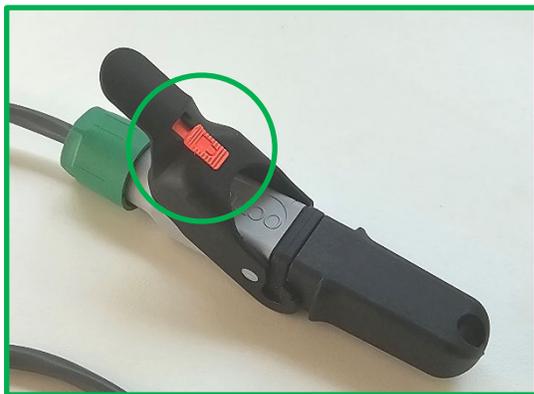


Figure 33: Right

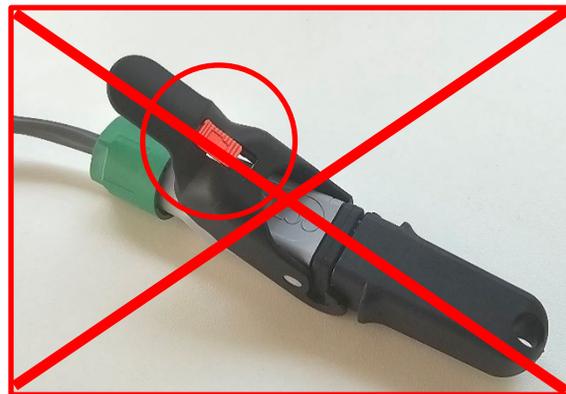


Figure 34: Wrong

- [12] Swing connector lock into place with red locking mechanism in the **UNLOCKED** position ([Figure 35](#)) and slide it towards green cap when the gate lock is completely closed ([Figure 36](#)).



Figure 35



Figure 36

- [13] Make sure that the green endcap is screwed on all the way and that the red latch catches when the gate lock is swung into place.



Figure 37: Gland and cone in place prior to tightening green end cap.



Figure 38: Green endcap screwed into place with gate lock closed and red latch catching on the green cap.

- [14] Perform a test pull on the lock hinge to make sure it is locked into place.

### 3.3 14 Gauge Wire Extension

14 AWG wire is appropriate for splice and extension of the DC cable ([Figure 39](#)).

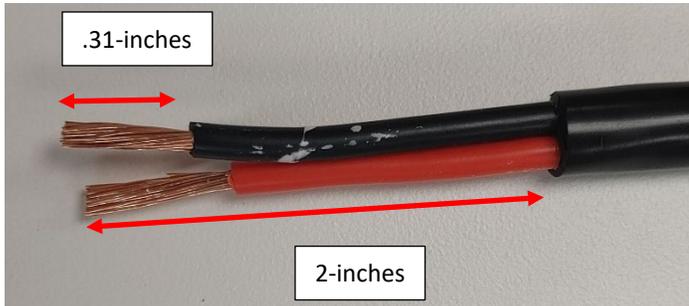


Figure 39

- [1] Strip the red and black wires at the other end of the cable to the specifications indicated above. Cut down remaining colored wires.
- [2] Cut 6-inches of shrink wrap and slide onto one of the cables. This will slide over the connections made in the next steps. You MUST do this before connecting the cables or you will not be able to get the shrink wrap on.
- [3] The butt splice connector is marked at each end to indicate where to insert the 14- and 16-gauge wires ([Figure 40](#)).



Figure 40

- [4] Crimp the connectors when wires are inserted.
- [5] Slide the shrink wrap over the connectors and ends of each cable. There should be 1- to 1.5-inches of shrink wrap overlapping the insulated cables at both ends ([Figure 41](#)).



Figure 41: Shrink wrap fully covers connections and exposed wires

- [6] Use a heat gun at 300° Fahrenheit on shrink wrap. Shrink wrap MUST be sealed to insulated cable ends, but may not seal completely to connectors in center. DO NOT over-heat shrink wrap.

- a. The shrink wrap has an interior adhesive which will provide weatherproofing with proper application.

## 4. Reference Images

### 4.1 Full Assembly

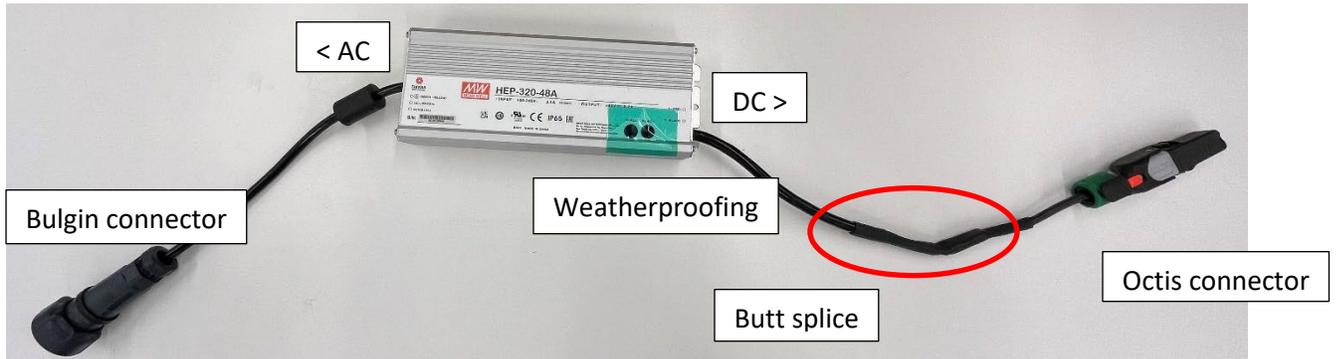


Figure 42: Full Octis and Mean Well Assembly

### 4.2 Octis Plug Kit Drawing

The Octis Plug Kit Drawing and gland sizing tables are on the following two [pages](#).

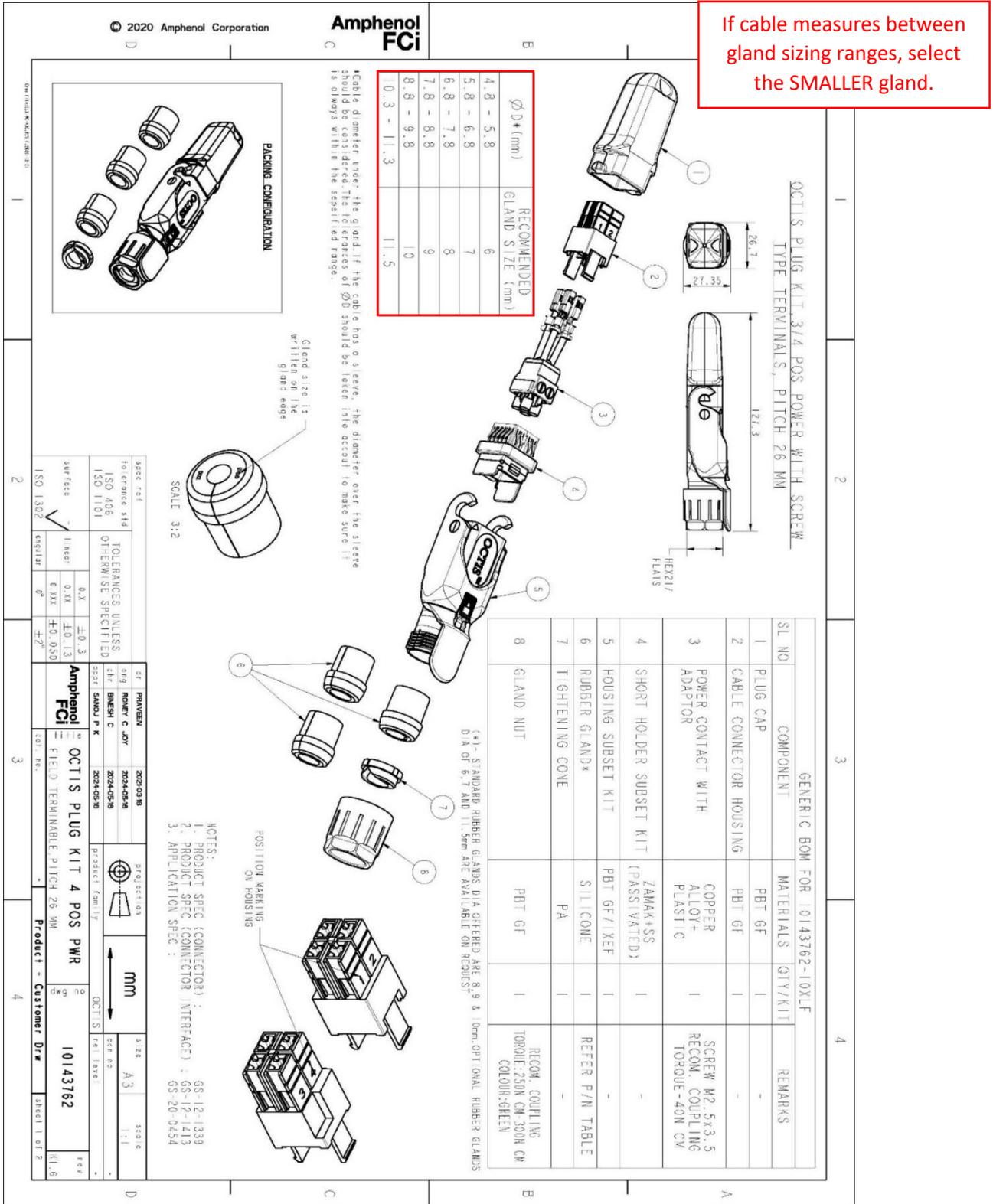


Figure 43

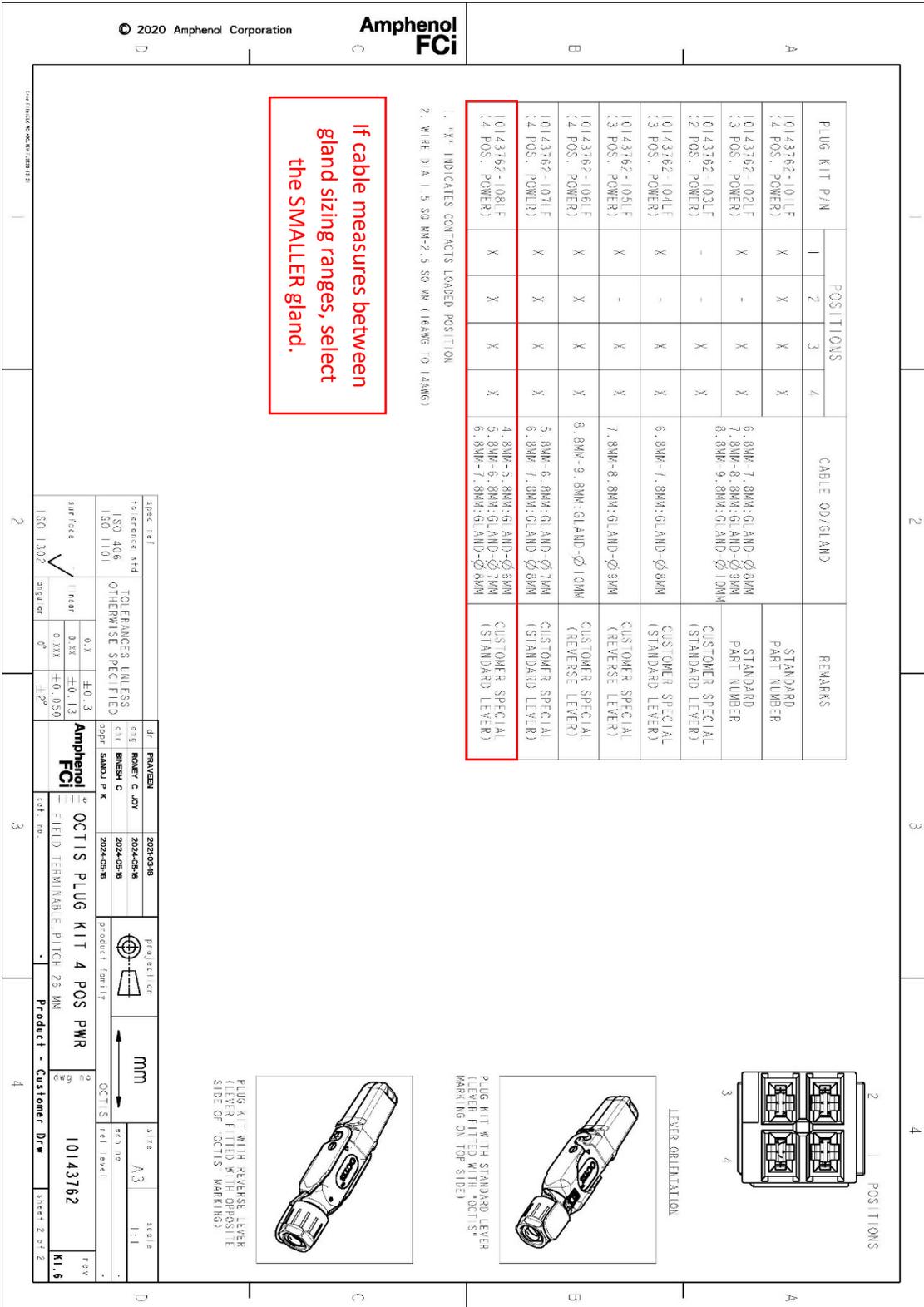


Figure 44