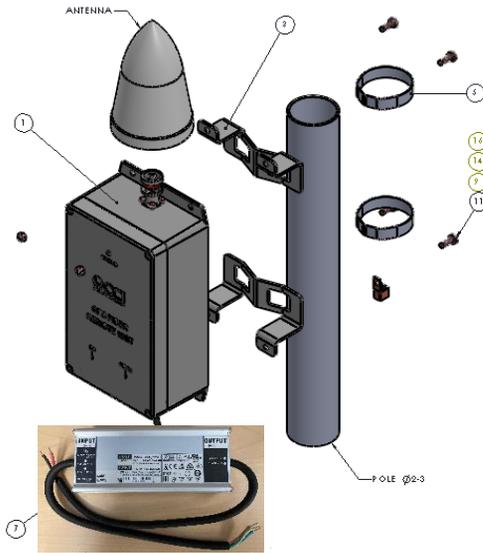


**Fig. 1: Outdoor GPS to Fiberoptic Transmitter (GPS Fiber Remote Unit) BOM**

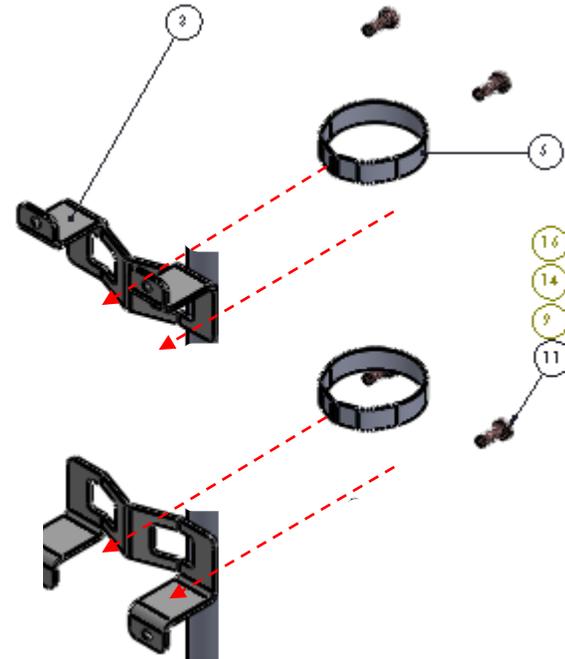


| ITEM | QTY | PART NUMBER     | DESCRIPTION   |
|------|-----|-----------------|---|
| 1    | 1   | GPS-FO-Tx-1     | ASSY, REMOTE UNIT, GPS OVER FIBER                         |
| 3    | 2   | DRMPBR211361    | BRACKET, POLE MOUNT, REMOTE UNIT                          |
| 5    | 2   | HD12005416K35   | CLAMP, 2" - 3", WORM-DRIVE, STAINLESS STEEL               |
| 7    | 1   | GPS-ACC-48V     | OPTIONAL AC INPUT POWER SUPPLY, SINGLE OUTPUT, 60W, 48VDC |
| 9    | 1   | CN1402CFS70     | LUG, GROUND, 1/4" THD, COPPER, CR4-14                     |
| 11   | 4   | HD9499M516MMBSS | SCREW, M5-0.8mm, 16mm, BUTTON HD, STAINLESS STEEL         |
| 14   | 4   | HD0799M5HSS     | NUT, M5, HEX, STAINLESS STEEL                             |
| 16   | 4   | HD0699M5LSS     | WASHER, M5, SPLITLOCK, STAINLESS STEEL                    |

**Step Task**

- 1 See Fig. 1 for the Outdoor GPS to Fiberoptic Transmitter Installation BOM.

**Fig. 2: Mount Worm-Drive Clamps to Pole Mount Bracket**

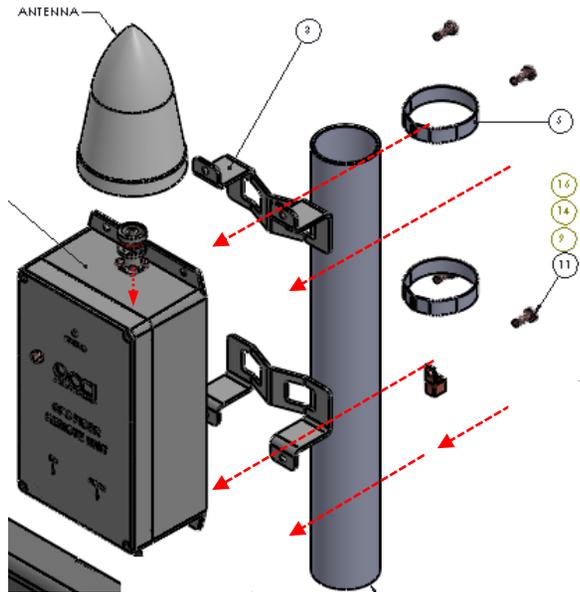


**Step Task**

- 2 Place the two (2) Worm-Drive Clamps (Item 5) through the slots in the Pole Mount Bracket (Item 3) in preparation to mount GPS Fiber Remote Unit on a pole/mast.

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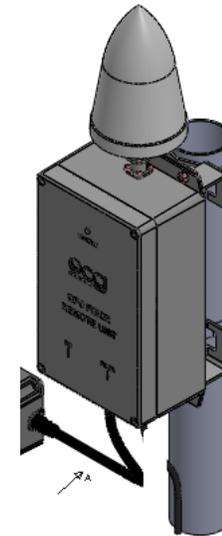
**Fig. 3: Mount the GPS Fiber Remote Unit to Bracket and Install GPS Antenna**



**Step Task**

- Place the Pole Mount Brackets onto the GPS Fiber Remote Unit, and then install the three (3) M5 screws (Item 11) through the bracket to the GPS Fiber Remote Unit. Attach the screws to the ears of the GPS Fiber Remote Unit for the two (2) on the top bracket and one (1) side of the bottom bracket using three (3) M5 splitlock washers and three (3) M5 hex nuts (Items 16 and 14 respectively). Repeat this for the other side of the bottom bracket, but include the Ground Lug (Item 9) on the outside of the bottom bracket. Hand tighten all four screws, and then torque to 20 in-lbs (or 1.667 ft-lbs). Install the GPS Antenna onto the N-type male "GPS Antenna Input Connector" on the GPS Fiber Remote Unit.

**Fig. 4: Install the GPS Fiber Remote Unit/Bracket/Clamp Assembly to the Pole/Mast**



**Step Task**

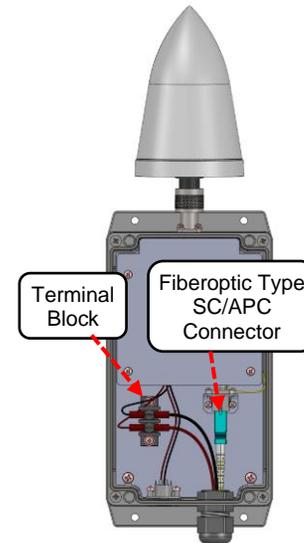
- Place the GPS Fiber Remote/Bracket/Clamp Assembly onto the 2" to 3" pole/mast near the top of the pole/mast. Once the assembly is in the proper position on the pole/mast, tighten the Worm-Drive Clamps to securely mount the assembly onto the pole/mast. Torque the screws on the worm drive clamps to 2 ft-lbs.

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**Fig. 5: Install the Fiberoptic Cable and 48VDC Cable into the GPS Fiber Remote Unit**



**Fig. 6: Install the Fiberoptic Cable and 48VDC Cable (When Using the Hybrid FO/DC Cable or Separate FO Cable & 48VDC Source) into the GPS Fiber Remote Unit**

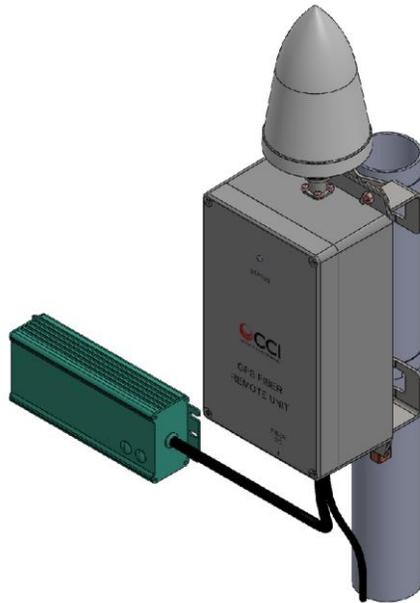


**Step Task**

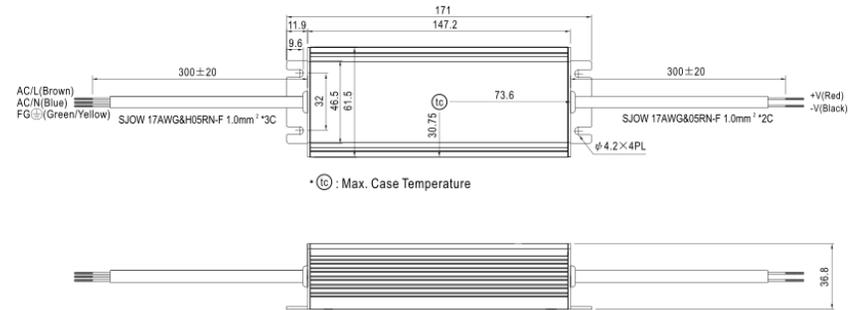
- 5 Open the lid on the GPS Fiber Remote Unit shown in Figure 5. Install the fiber optic cable and the DC cable to the GPS Fiber Remote Unit shown in Figure 5 by loosening the weatherproof sealing gland ("cord grip") and placing the fiber optic cable through the "cord grip." Then insert the fiber optic cable into the fiber optic Type SC/APC connector shown in Figure 6 (for the internal connector image). Insert the DC wires and connect the black wire to the black wire and red wire to the red wire on the terminal block (see Figure 6). When wiring is complete tighten the "cord grip" onto the GPS Fiber Remote Unit. Now you can close the lid on the GPS Fiber Remote Unit. *Note: The 48VDC may be supplied via a "Hybrid FO (Fiberoptic) & DC Cable," a 48 VDC source at the mast location, or via the "Optional AC Powered 48VDC, 60W Power Supply." Some older units may come equipped with an optional circular DC input connector.*

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**Fig. 7: GPS Remote Unit Final Assembly (shown with the Optional 48VDC Power supply)**



**Fig. 8: Optional Outdoor 48VDC (AC to DC) Power Supply Mechanical Specifications and Wire Color Identification**



**Step Task**

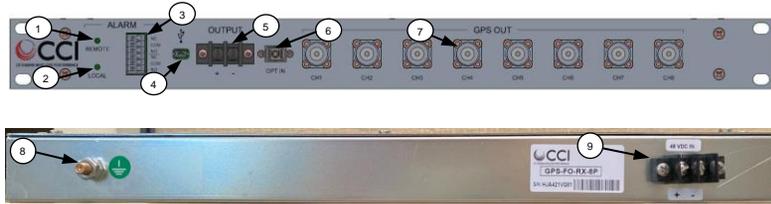
- 6 The GPS Fiber Remote Assembly is shown with the "Optional" 48VDC (AC to DC) Power Supply connected to the GPS Fiber Remote Unit in Figure 7.

**Step Task**

- 7 Figure 8 shows the mechanical specifications of the Optional 48VDC (AC to DC) Power Supply with stripped wires. *Note: The same "Optional" 48VDC (AC to DC) Power Supply can be used to power the Indoor Fiberoptic to GPS Receiver.*

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**Fig. 9: Indoor Fiberoptic to GPS Receiver Front and Rear Panels for 8 Channel Receiver**

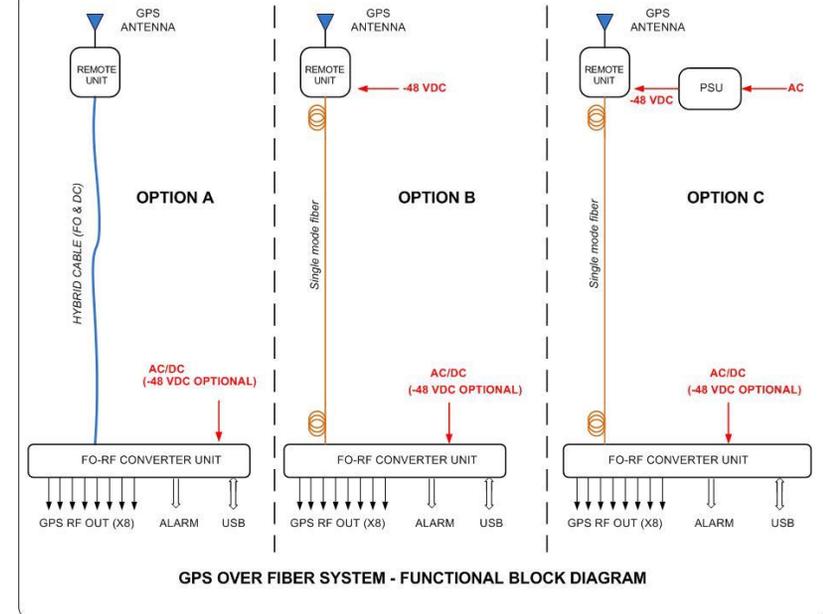


| ITEM | QTY | DESCRIPTION  |
|------|-----|--|
| 1    | 1   | REMOTE ALARM STATUS LED  |
| 2    | 1   | LOCAL ALARM STATUS LED   |
| 3    | 1   | NORMALLY OPEN (NC) / NORMALLY CLOSED CONNECTOR ALARM RELAY TERMINAL BLOCK FOR LOCAL & REMOTE UNITS (FOR 16 AWG TO 30 AWG WIRE) |
| 4    | 1   | USB CONNECTOR  |
| 5    | 1   | DC OUTPUT (TWO CONTACT TERMINAL BLOCK)   |
| 6    | 1   | OPTICAL INPUT CONNECTOR  |
| 7    | 8   | N-TYPE CONNECTOR FOR 8 CHANNEL GPS RECEIVER OUTPUT SIGNAL  |
| 8    | 1   | GROUND STUD  |
| 9    | 1   | DC INPUT (TWO CONTACT TERMINAL BLOCK)  |

### Step Task

- The Indoor Fiberoptic to GPS Receiver Front and Rear Panels are shown in figure 9. The LED's, Connectors and Ground Post are identified and shown in the list shown in Figure 9. The Indoor Fiberoptic to GPS Receiver can be mounted in a standard 19" rack and only requires 1U (1.75") height in the rack. Mount the Indoor Fiberoptic Receiver on a rack within a "shelter" or other indoor facility. Connect the DC Input Power, Ground Wire to the Ground Stud, DC Output Power, Alarm Relay Terminal block (wire size 16 AWG to 30 AWG), USB and GPS RF Output as required.

**Fig. 10: Block Diagram showing the DC & RF Connections Between the Outdoor GPS to Fiberoptic Transmitter (GPS Fiber Remote Unit) and the Indoor Fiberoptic to GPS Receiver**



### Step Task

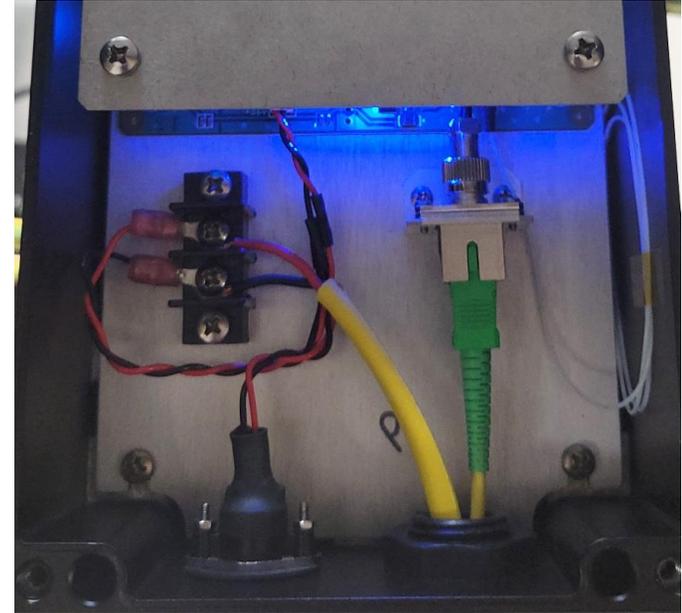
- Figure 10 shows the block diagram for the connections between the Outdoor GPS to Fiberoptic Transmitter, and the Indoor Fiberoptic to GPS Receiver. Note that there are three options shown in the figure above. Option A shows the connection between the units when a "Hybrid Cable" (Fiberoptic (FO) and DC) is used. Option B shows the connections when an external 48 VDC source supplies power to the GPS Fiber Remote Unit. Finally, Option C shows the connections when the Optional AC to DC Power Supply is used to power the GPS Fiber Remote Unit.

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**Fig. 11: Indoor Fiberoptic to GPS Receiver Front Panel DC Output Connection**



**Fig. 12: Outdoor GPS to Fiberoptic Transmitter DC Connection**



| Step | Task |
|------|------|
|------|------|

- |    |  |
|----|--|
| 10 | If the Remote unit is being powered by the Indoor unit make the connections to the front of the Indoor unit as shown in Figure 11. |
|----|--|

| Step | Task |
|------|------|
|------|------|

- |    |  |
|----|--|
| 11 | Figure 12 shows the DC wire connections. |
|----|--|

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