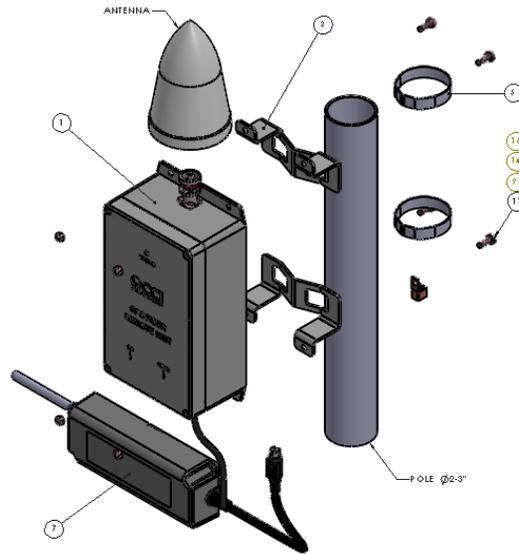
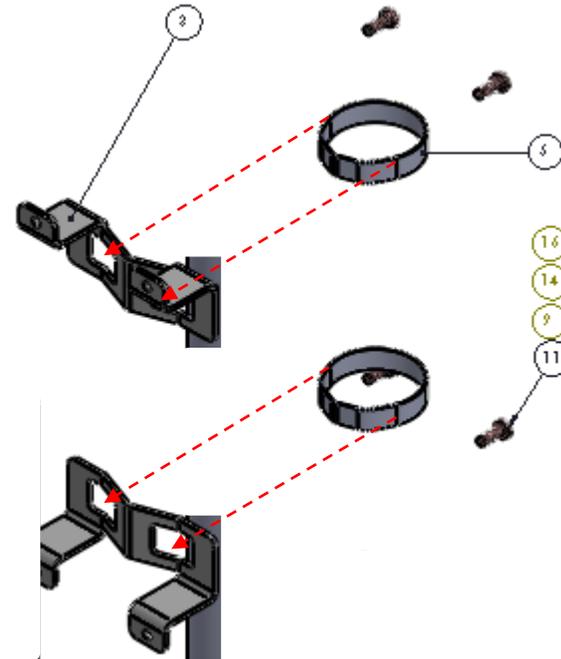


**Fig. 1: Outdoor GPS to Fiberoptic Transmitter (GPS Fiber Remote Unit) BOM**



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	DRASSY211360	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-AC-48V	OPTIONAL AC INPUT POWER SUPPLY, SINGLE OUTPUT, 90W, 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

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



**Step Task**

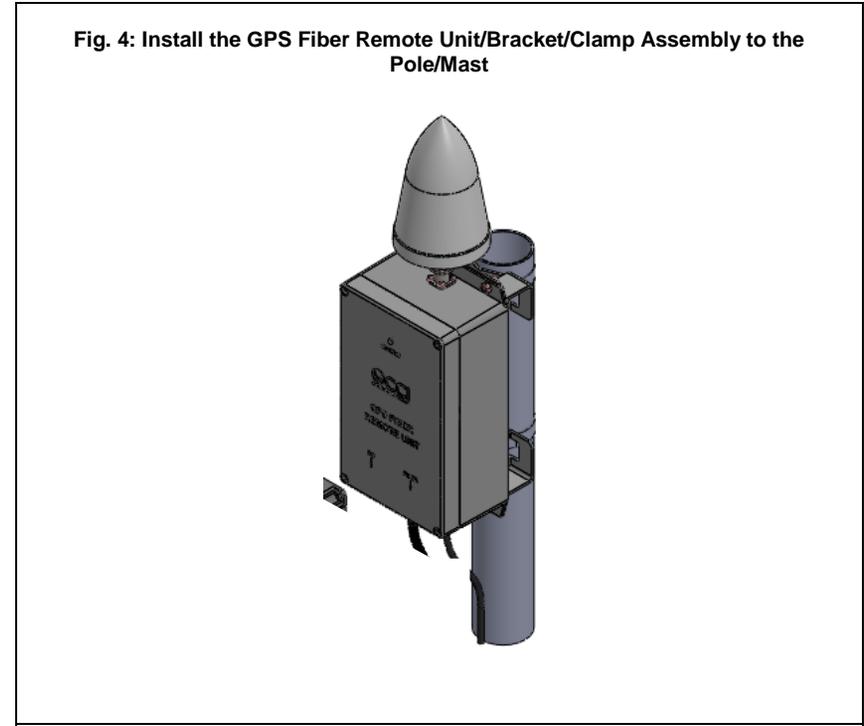
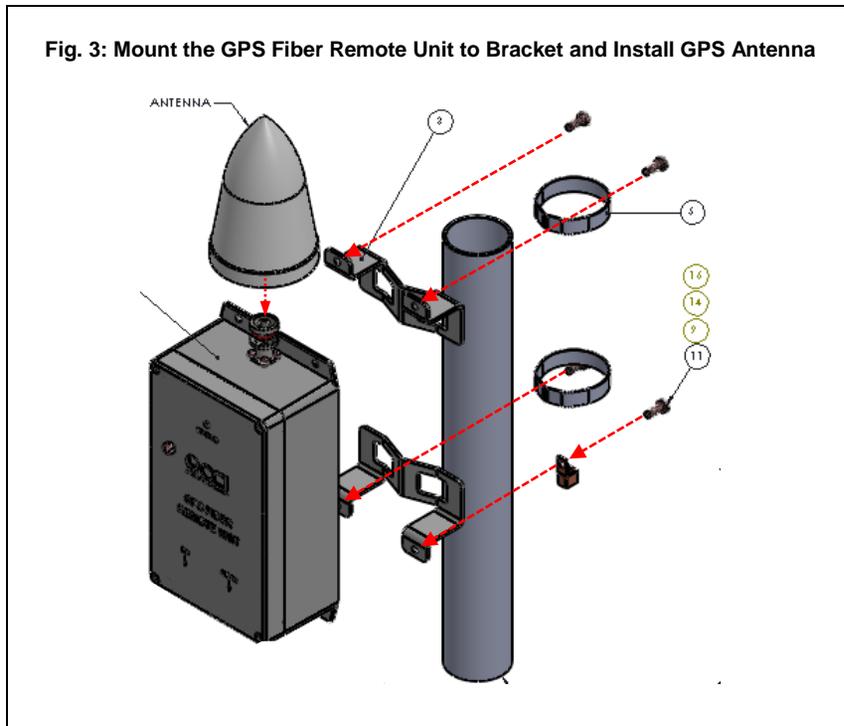
- 1 See Fig. 1 for the Outdoor GPS to Fiberoptic Transmitter Installation BOM.

**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.

**DISCLAIMER:**

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. You must refer to the appropriate local safety codes and ensure proper electrical and electromagnetic compatibility before proceeding with the installation. All local codes shall take precedence over information in this document. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment. Communication Components Antennas Inc. disclaims any liability or responsibility for the results of improper or unsafe installation.



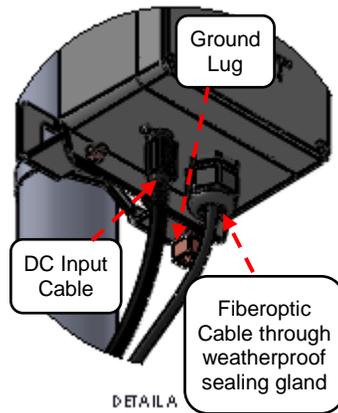
- | Step | Task  |
|------|---|
| 3    | Place the Pole Mount Brackets onto the GPS Fiber Remote Unit, and then install the three (3) M5 screws (Item 11) through the bracket to the GPS Fiber Remote Unit. Attach the screws to the ears of the GPS Fiber Remote Unit for the two (2) on the top bracket and 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. |

- | Step | Task   |
|------|--|
| 4    | 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. |

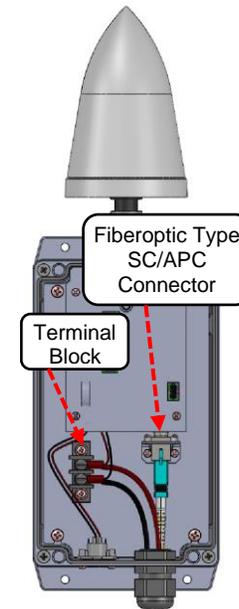
**DISCLAIMER:**

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. You must refer to the appropriate local safety codes and ensure proper electrical and electromagnetic compatibility before proceeding with the installation. All local codes shall take precedence over information in this document. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment. Communication Components Antennas Inc. disclaims any liability or responsibility for the results of improper or unsafe installation.

**Fig. 5: Install the Fiberoptic Cable and 48VDC Cable (When Using the AC to DC Power Supply) 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, Install the fiber optic cable into the GPS Fiber Remote Unit shown in Figure 5 by loosening the weather proof sealing gland (“cord grip”), and placing the fiberoptic cable through the “cord grip.” Then insert the fiberoptic cable into the fiberoptic Type SC/APC connector (see Figure 6 for the internal connector image) and then tighten the “cord grip” onto the GPS Fiber Remote Unit. Close the lid on the GPS Fiber Remote Unit lid. Next, take the 48VDC cable and plug it into the 4 pin circular DC DIN connector on the GPS Fiber Remote Unit as shown in Figure 5. Install a ground wire into the ground lug. *Note: The 48VDC may be supplied via a “Hybrid FO & DC Cable,” a 48 VDC source at the mast location, or via the “Optional AC Powered 48VDC, 90W Power Supply.”*

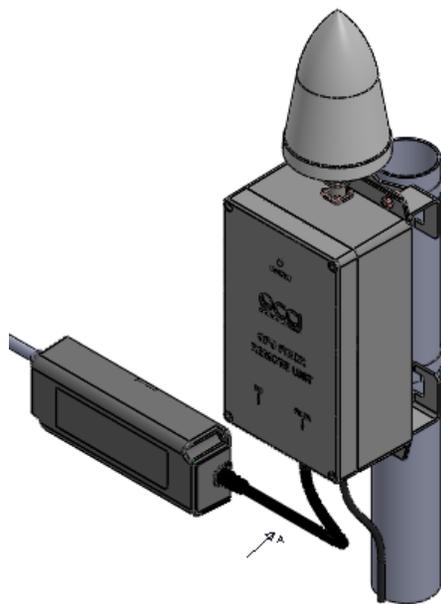
**Step Task**

- 6 Open the lid on the GPS Fiber Remote Unit and Install the fiber optic cable from the Hybrid FO/DC Cable (or other 48VDC source) into the GPS Fiber Remote Unit by loosening the weather proof sealing gland (“cord grip”). Place the fiberoptic cable through the “cord grip.” Insert the fiberoptic cable into the fiberoptic Type SC/APC connector (see Figure 6 for the internal connector image). Next insert the 48VDC wires into the “cord grip” and route them to the terminal block (for 22 AWG to 12 AWG wires) and install the wires on the terminal block. Then tighten the “cord grip” onto the GPS Fiber Remote Unit. Close the lid on the GPS Fiber Remote Unit cover.

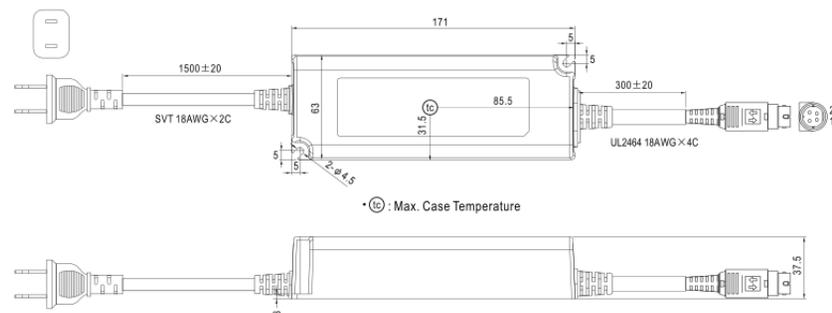
**DISCLAIMER:**

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. You must refer to the appropriate local safety codes and ensure proper electrical and electromagnetic compatibility before proceeding with the installation. All local codes shall take precedence over information in this document. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment. Communication Components Antennas Inc. disclaims any liability or responsibility for the results of improper or unsafe installation.

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

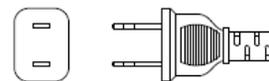


**Fig. 8: Optional Outdoor 48VDC (AC to DC) Power Supply Mechanical Specifications and Pinout of the four Pin Connector**



**Input Plug Type**

All models : NEMA 1-15p male plug



**Output Plug Assignment**

Plug for all standard models(12V~54V) :  
power DIN 4 pins with lock type,  
KYCON KPPX-4P, or equivalent

PIN NO.		OUTPUT
1,4		+V
2,3		-V

**Step Task**

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

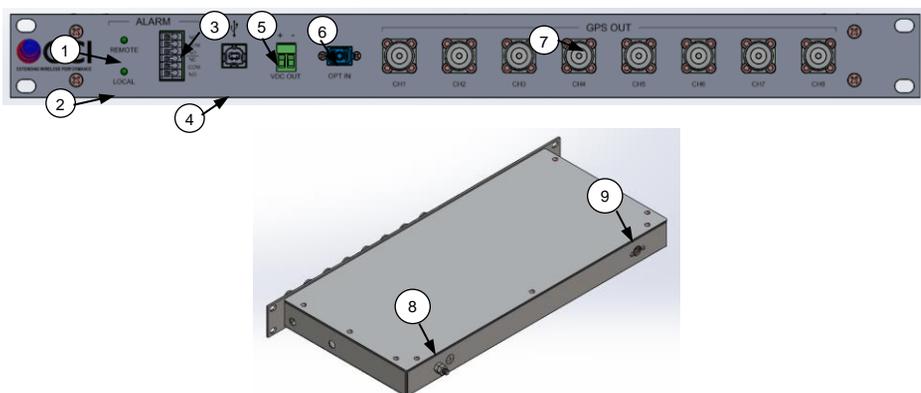
**Step Task**

- Figure 8 shows the mechanical specifications of the Optional 48VDC (AC to DC) Power Supply. It also shows the AC Input connector type, as well as the pinout of the 4 pin Circular DIN type DC output plug. *Note: The same "Optional" 48VDC (AC to DC) Power Supply can be used to power the Indoor Fiberoptic to GPS Receiver.*

**DISCLAIMER:**

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. You must refer to the appropriate local safety codes and ensure proper electrical and electromagnetic compatibility before proceeding with the installation. All local codes shall take precedence over information in this document. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment. Communication Components Antennas Inc. disclaims any liability or responsibility for the results of improper or unsafe installation.

**Fig. 9: Indoor Fiberoptic to GPS Receiver Front Panel for Optional 8 Channel Receiver**

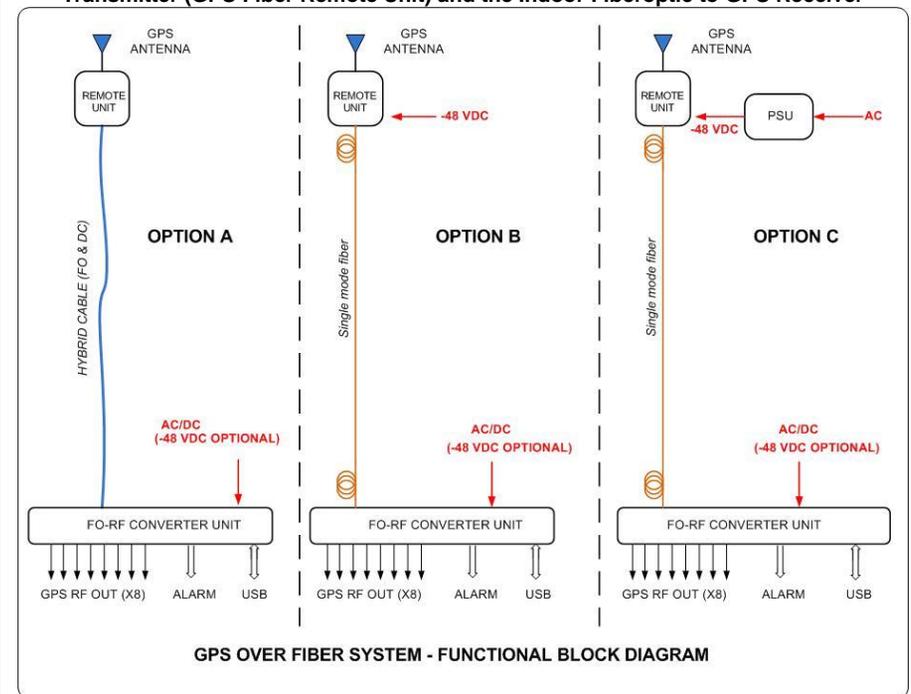


ITEM	QTY	DESCRIPTION
1	1	REMOTE ALARM STATUS LED
2	1	LOCAL ALARM STATUS LED
3	1	NORMALLY OPEN (NC) / NORMALLY CLOSED CONNECTOR ALARM RELAY TERMINAL BLOCK FOR LOCAL & REMOTE UNITS (FOR 16 AWG TO 30 AWG WIRE)
4	1	USB CONNECTOR
5	1	DC OUTPUT CONNECTOR
6	1	OPTICAL INPUT CONNECTOR
7	8	N-TYPE CONNECTOR FOR OPTIONAL 8 CHANNEL GPS RECEIVER OUTPUT SIGNAL
8	1	GROUND STUD
9	1	4 PIN CIRCULAR INPUT CONNECTOR (FOR 48VDC (AC to DC POWER SUPPLY))

### Step Task

- 9 The Indoor Fiberoptic to GPS Receiver Front and Rear Panels are shown in figure 8. The LED's, Connectors and Ground Post are identified and shown in the list shown in Figure 8. Note that the "Optional" 8 Channel GPS Receiver is shown (the standard receiver is a 4 Channel receiver). 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 GPS to Fiberoptic Transmitter (GPS Fiber Remote Unit) and the Indoor Fiberoptic to GPS Receiver**



### Step Task

- 10 Figure 9 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 (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.

### DISCLAIMER:

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. You must refer to the appropriate local safety codes and ensure proper electrical and electromagnetic compatibility before proceeding with the installation. All local codes shall take precedence over information in this document. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment. Communication Components Antennas Inc. disclaims any liability or responsibility for the results of improper or unsafe installation.