clamps.

4) Adjust the inclination of the panel. A good rule of thumb for setting the inclination angle is to make it equal to the latitude of your location. For example, Pullman Washington is at latitude 46º 43' 57" N. Therefore in Pullman the angle of inclination (solar panel angle above the horizontal plane) is 47 degrees. If you desire to be more precise, there are several web sites that can help you optimize the position of your solar panel. A good reference website is http://www.mrsolar.com/

5) Tighten all nuts and bolts on the solar panel bracket.

Connect Power

1) Take the solar panel power cable and insert it into the other rubber stopper hole.

2) Feed the power cable through the PVC fitting at the bottom of the enclosure and connect it to the power plug on the bottom of the DataStation.

3) Slide the rubber stopper up the cables and press it into the PVC fitting until it makes a tight fit. To reduce stress and fatigue on the antenna and power cables, use the supplies zip ties to secure the cables to the mounting pole.

4) Connect the battery cable to the DataStation battery connector.

5) The hardware installation is now complete. Refer to the DataStation QuickStart Guide to setup the device. *Note: When the DataStation is running on battery power the power light will flash every 5 seconds instead of constantly lit.*

DataStation Outdoor Enclosure Assembly Instructions

DECAGON® DEVICES

2365 NE Hopkins CT
Pullman, WA 99163
support@decagon.com
www.decagon.com

Components needed but not included

DataStation
Outdoor antenna
Antenna extension cable
Mounting pole (System was designed for a pole 1 1/2 to 2 inch diameter.)

Dimensions

Enclosure: 13.5” height, 9.5” width, 7” depth
Solar Panel: 11 height, 16.5 width, 1” depth

Tools Needed

Flat bladed screwdriver Two 1/2” wrenches
Phillips screwdriver

Outdoor DataStation System components

Your DataStation Remote Location System comes with the following parts:

1) Solar Power assembly 2) Solar Panel Bracket

2) DataStation enclosure assembly (Mounted DataStation not included) 3) 4 zip ties, 2 hose clamps, 2 U-bolts

3) Thread the antenna cable through the PVC fitting in the bottom of the enclosure.

4) Remove the red cap covering the antenna connection at the top of the DataStation. Connect the antenna cable to the antenna connection on the top of the DataStation.

Mount the Solar Panel

1) Cover the solar panel with an opaque object to protect the panel and prevent the solar panel from producing power at the connector.

2) Hold the solar panel bracket against the pole somewhere above the DataStation enclosure and thread the hose clamp around the pole. Feed the flat end of the hose clamp into the other end and tighten enough so that the panel does not slide down the pole.

3) Aim the panel toward the sun. If you are in the northern hemisphere, it needs to be pointed south. If you are in the southern hemisphere, it needs to be pointed north. This should be adequate, but if you desire to be very precise then you can use a compass and find on the web the declination (difference between true north and magnetic north) of your location. Tighten the hose

Enclosure Mounting

1) The backside of the DataStation enclosure has two brackets with “v” shaped notches and holes for the u-bolts as shown below.

2) Place the back side of the enclosure against the pole and attach the two u-bolts. Tighten the bolts just enough so that the enclosure does not slide down the pole. Some adjustment will be needed.

Mount the antenna

1) Connect the antenna extension cable to the antenna.

2) Mount the antenna, standard 900 MHZ antenna shown in illustration, to the top of the pole using two zip ties. It is important that the coil portion of the antenna be above the pole and as high as is practical to ensure the least possible radio signal interference.

   If you use a directional Yagi antenna follow directions from the manufacture to mount and orient.

Connect the antenna cable

1) Open the DataStation enclosure and remove the rubber stopper from the PVC fitting located at the bottom of the enclosure.

2) A slit was cut for each hole in the rubber stopper. Open one of the slits and insert the antenna cable.

Site Selection

The following suggestions will aid in determining a proper site location for the Outdoor DataStation. The range of the radio is at its maximum with a clear and open path between the transmitter and the receiver. Both transmitter and receiver must be at an adequate distance above the ground.

All obstructions will attenuate the radio signal, including the ground. Buildings, hills, vegetation and other obstructions will all shorten the radio’s range. Also, radio frequency (RF) interference in the environment around the radio can reduce the usable range so maximizing the separation from RF sources such as electric motors, transformers and cell-phone towers will increase your transmit range.

Another consideration is to locate the station in an area with an unobstructed view of the sun during daylight hours.

Pole Installation (Supplied by user)

You will need to install a pole using whatever method is best for your application. This may be a pole cemented in or a wood post. It is important that the mounting is secure and will not tip in the wind.

For our example we mounted 1 ½ pole with a tri-pod base, and then anchored the tri-pod to the ground using auger screw anchors.

Outdoor DataStation Assembly

Solar Panel Bracket.

The Solar Panel Bracket comes with its own set of instructions. We recommend reading and following them using the Hose Clamp Mounting instructions. In our assembly of the solar panel bracket we have found the following suggestions to be helpful.

1) Leave the solar panel face down on the cardboard box it was shipped in to protect it from damage during assembly and to prevent it from generating any output power at the plug connector. Keep the solar panel face covered with an opaque covering until the power connection has been made to the DataStation.

2) The bracket comes with both 1/4” and 5/16” hardware, this solar panel uses the 5/16” hardware.

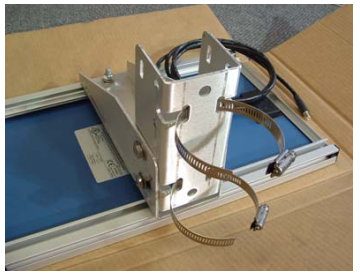
3) Place two bolts, washers, lock washers, and nuts into the longer bracket, by placing a bolt through a hole on the flat side of the bracket. Then place a flat washer followed by a split lock washer, and finally the nut.

4) Attach the longer part of the bracket to the solar panel by sliding the bolt heads into the channels on the back side of the solar panel. Center the bracket on the solar panel and tighten the bolts.

5) Attach the shorter bracket to the longer bracket by first aligning the lower holes and placing the bolts, washers, and nuts per the HPM 18/30 Mounting Kit Instructions.

6) Rotate the short bracket upwards to align the second set of holes with the slots on the longer bracket.

7) Place two bolts, washers, and nuts through the holes as explained previously. Do not tighten the bolts at this time.



8) Take the two hose clamps and open them all the way. Insert the two clamps into the shorter bracket as shown.

DataStation Installation

1) The DataStation is mounted to the External enclosure with two 10-32 screws. One screw in the top right and one in the lower left corners.