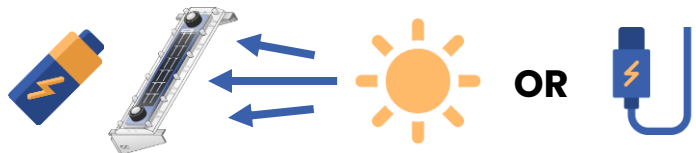




1

Download Mobile Application

- Apple App Store or Google Play. Search 'Denowatts'



2

Charge Deno Sensors

- Via USB cable or Sunlight, 30 mins under full sun



3

Inspect Kits

- Check components in package against shipping list. Each Kit is project specific.

Gateway Kit (One per Site):

- Gateway
- Antenna (w/ mounting bracket + hardware, 15' cable, cable gland and surge protector)
- Ethernet Cable (CAT5) (3')
- Power Cable (3')



Deno Kit (typ. 1-3 per Site):

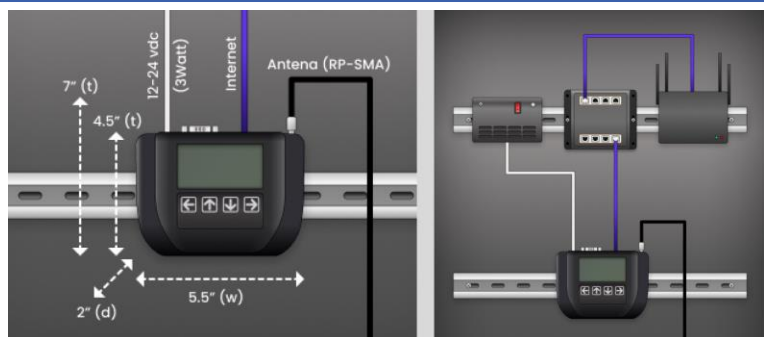
- Deno, Bracket, and (2) C-Clamps
- Antenna(s) - 2 per Deno if POA is tracker system. Mounting brackets & washers for between the panel mount, 15' cable
- BOM Temperature Sensor
- Alcohol-prep pad and drying cloth
- Wire clips
- (optional) Auxiliary Pyranometer
 - GHI or rPOA



4

Install Gateway

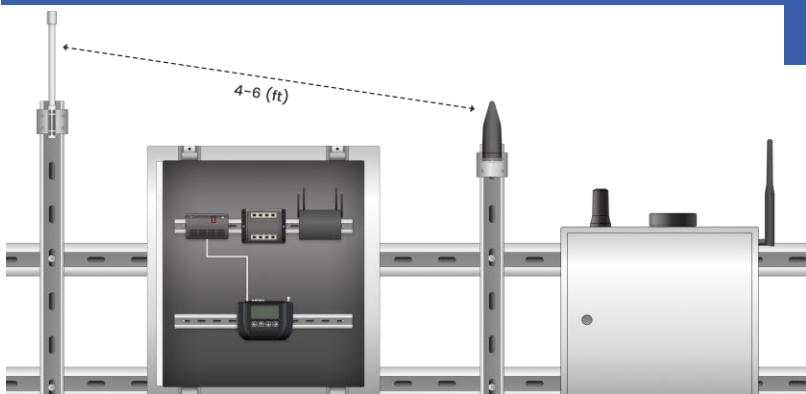
- Mount in a weatherproof enclosure using DIN rail brackets, (typically in another DAS enclosure)
- Connect power (12-24Vdc)
- Connect communications (CAT5 Cable)
- Observe LCD (Lights 90 secs. after boot)



5

Install Gateway Antenna

- 4-6 feet away from other antennas (Cellular, GPS, Trackers)
- Vertical orientation
- High up as possible (e.g. on vertical piece of Unistrut/conduit)
- Connect surge protector
- Connect to Denowatts Gateway (finger tight)



Launch Mode



6

Test Deno Sensor Communications

- With fully charged Denos within 10' of the gateway observe data transmissions using one of the following
 - Gateway LCD screen (use Deno button)
 - Mobile app (appx 90sec lag)
 - S-O-L-A-R LED activity. S-O-L flashes in unison mean successful transmissions

**Launch Mode: If dark conditions, use a magnet placed over the top end of the circuit board until all S-O-L LEDs illuminate. Transmissions will be attempted every 15 seconds (A-R LEDs illuminate). If all S-O-L lights remain lit after 1 minute then all transmissions are successful.



7

Move to Final Locations

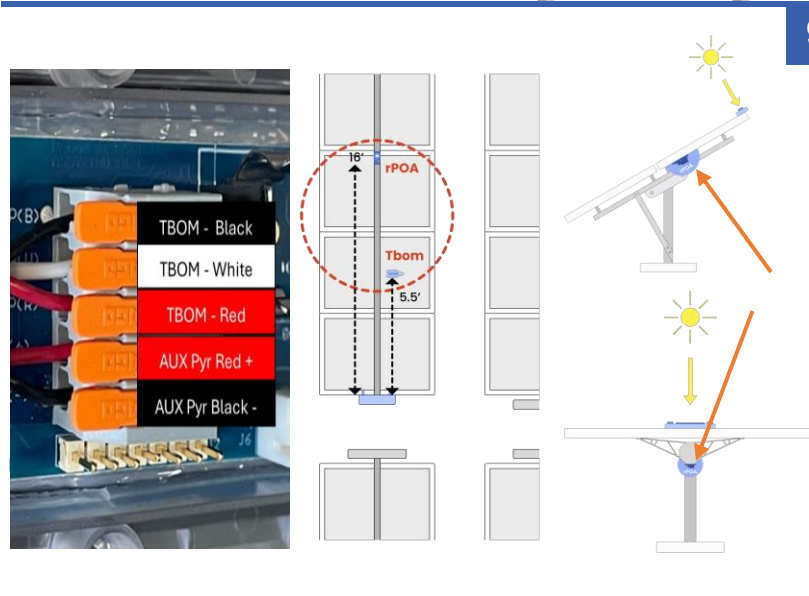
- Place Denos in the **sunniest location** of the array (away from shading obstructions) that best represents the **average Plane of the array**.
- Do not put Deno on first or last row/column of array
- Ensure antenna (deno to gateway) are line of sight within 1200'
- Attach antenna cable to Deno (RP-SMA screw connector)
- Repeat step 6 to verify sensor communications at final location prior to mounting**



8

Mount Deno Sensor and Antenna

- Mount Deno to panel edge
 - Fixed tilt – top edge of panel
 - Tracker – end of row, close to center of module
- Mount antenna and bracket in between two modules
 - Make sure antennas don't shade the Deno (10')
- Tidy up and secure any loose wires.
 - Away from sharp edges, moving parts, and DC cables



9

Install Auxiliary Sensors

- If not already, connect aux sensors to terminal block and ensure back-of-sensor enclosure is completely closed.
- BOM temperature sensor should be placed atleast 24" from edge of panel and **not be mounted at the end of the row**.
- If rear pyranometer (rPOA) is required:
 - Tracker:** (16') from the end of row on bottom of torque tube. Should also not be on array perimeter panel
 - Fixed Tilt:** 2/3rds up from bottom of array, should also not be on array perimeter panel
- Use alcohol pad to clean and then PERFECTLY DRY the attachment area. Hold pressure for 30 seconds when attaching and test for proper adhesion after 10 minutes.
- Secure any loose wires, away from edges, moving parts and DC cables.

9

Verify Data and Confirm with Denowatts

- Verify all metrics are reporting to Gateway using LCD
- Upload pictures of installation to mobile app
- With DAS powered on, contact Denowatts support for verification. We are happy to support along any step of the way.

