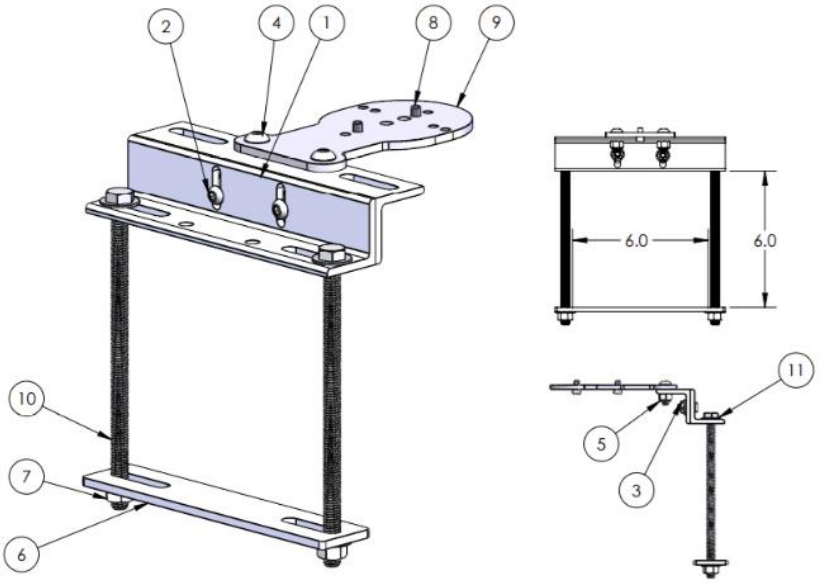
Pyranometer Mount #16073 | Square Torque Tube

Introduction

Kit #16073 is designed to mount a pyranometer to a 6-inch square torque tube using Universal Mounting Plate #15498 and a sandwich plate assembly. The mount can be attached to square tubing sized down to 3.5 inches and up to a maximum size of 6 inches. This mount also provides plate isolation via nylon hardware for improved protection of the pyranometer from electrostatic discharge.

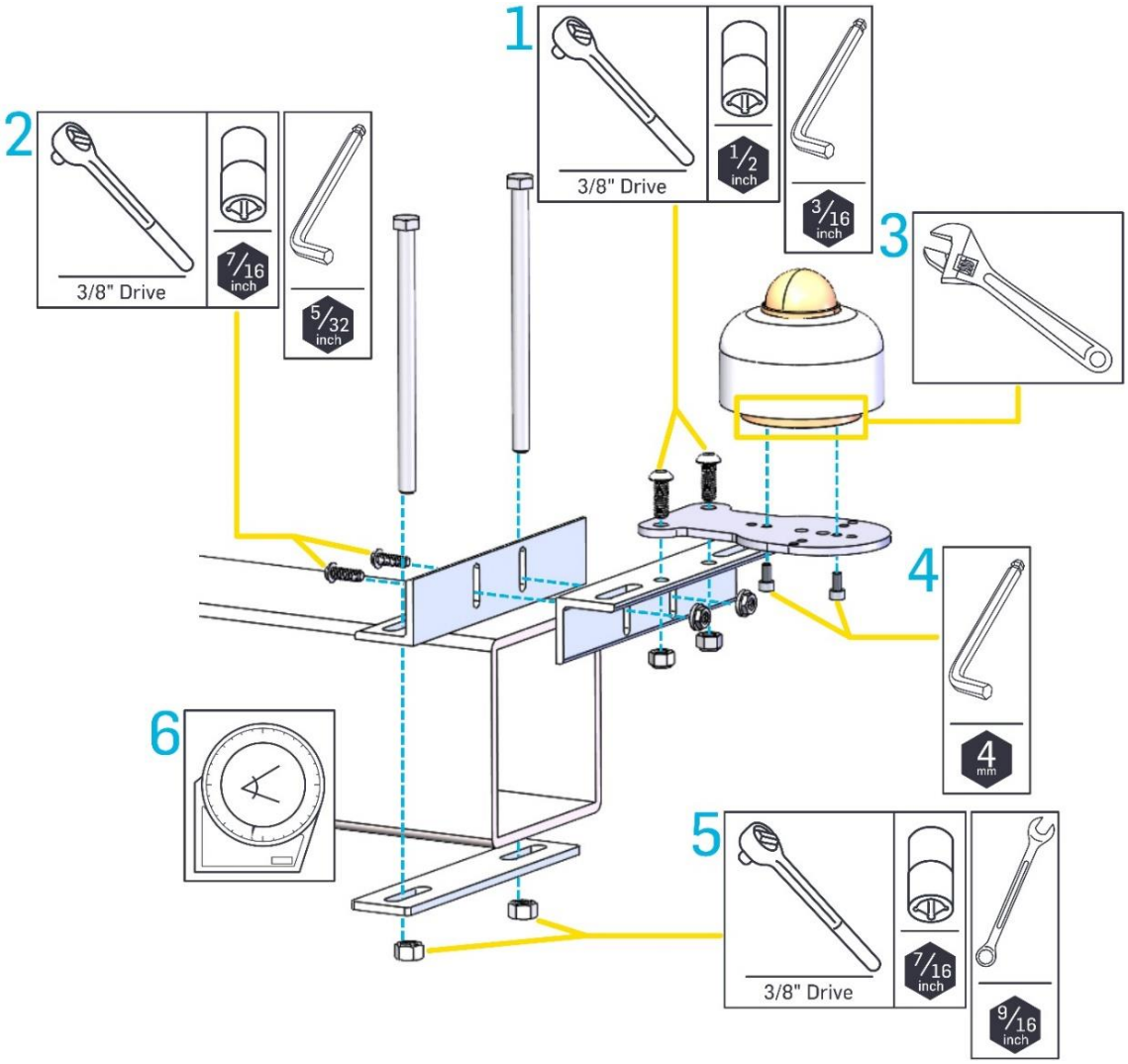


#16073: Parts/BOM

NRG Part Number	Part Description	Part Specification Notes	Qty	Diagram Key
15821	Angle Bracket	Pre-drilled angled aluminum	2	1
14980	Button Head Screw	5/16-18 thread | 0.875” length| Stainless	2	4
14979	Nyloc Nut	5/16-18 thread | Stainless	2	5
12022	Button Head Screw	1/4-20 thread | 0.75” length | Stainless	2	2
15869	Serrated Flange Locknut	1/4-20 thread | Stainless	2	3
14397	Mounting Screws	M5 x 0.8 | 10mm length | Stainless	2	8
15498	Mounting Plate	Aluminum | 3/16” thickness	1	9
16091	Sandwich Plate	Aluminum | 0.19” thickness | Pre-drilled	1	6
17245	Mounting Bolts	3/8-16 full-thread | 7” length | Stainless	2	10
16101	Mounting Nuts	3/8-16 thread | Stainless	2	7
12095	Washers	3/8” ID | Stainless	4	11
18249	Nylon washers	Washer, Nylon, .34 ID	2	
18250	Nylon washers	Washer, Nylon, .375 ID	2	
18251	Nylon sleeve washer	Washer, Sleeve, Nylon, .3125 ID	2	

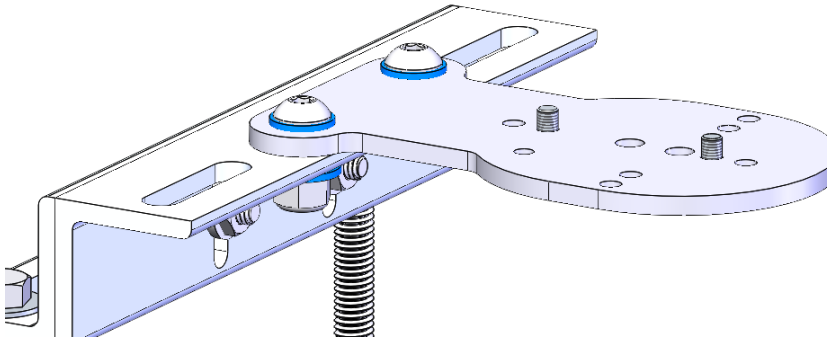
Tools

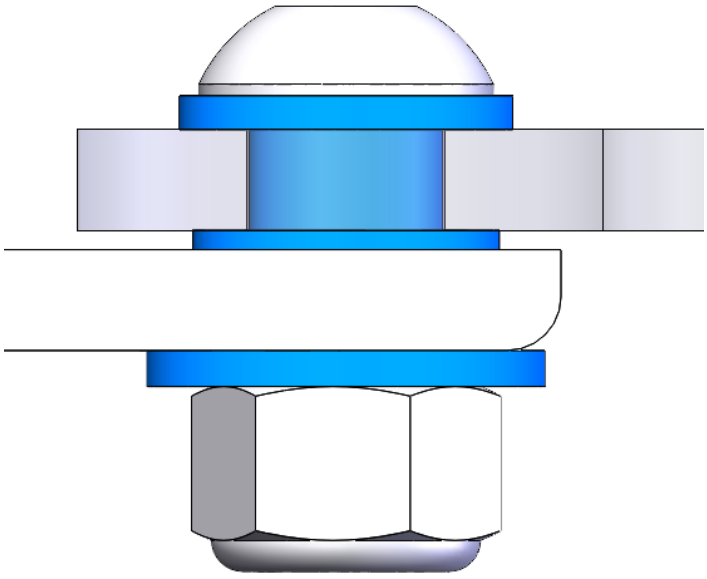
Procedure



Refer to the diagram on the previous page.

1. Attach Universal Pyranometer Mounting Plate (#15498) to one angle bracket (#15821) with the 5/16-18 stainless hardware as described below and shown in step 1 of the Procedure numbered diagram above.
   - Insert the screws (#14980) into the sleeve washers (#18251) and then through the holes in the pyranometer mounting plate (#15498). Add nylon washers (#18250) to the ends of the screws, and insert the screws through the holes in the angle bracket (#15821). Add nylon washers (#18249) to the ends of the screws before adding the nuts (#14979) as shown below. Nylon sleeve washer and disc washers are represented in blue.





2. Attach both angle brackets together with the 1/4-20 stainless bolt (#12022) and nut (#15869) hardware. Leave slightly loose for final adjustment at the end.

3. Remove the pyranometer feet. The sensor is secured directly to the pyranometer mounting plate.

4. Attach the pyranometer to plate (#15498) using the M5 stainless hardware (#14397).

Apply a small amount of anti-seize to the bolt threads.

Install the sensor with the cable exiting towards the nearest pole.

5. Attach the assembly to the square torque tube using the sandwich plate (#16091), 7” stainless bolts (#17245), and nuts (#16101).

6. Check that the pyranometer is at the correct angle along both axes. Adjust if necessary and tighten all bolts and nuts to secure.

It is critical that the pyranometer be at the same angle/level as the PV panels.

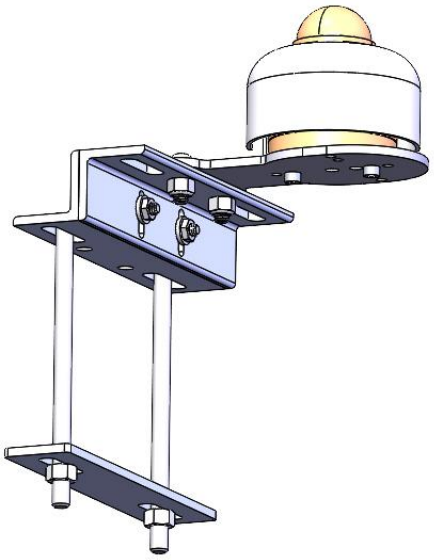
If possible, level the array table and then install the sensor, taking care that the pyranometer mount is at the same level as the PV panels.

Additional Configurations

Pyranometer Mount #15845 can be assembled in several ways for more adjustability. Reverse Plane of Array (RPOA; not shown) is also possible, as Universal Mounting Bracket #15498 is identical on both faces.

When used for RPOA, the white sun shield should be removed and the sensor cable should exit along the array torque tube, typically north or south.

"Z" Configuration (shown in assembly diagram)



"T" Configuration (to reduce sensor height)