

Daylight Harvesting Sensor Installation Guide

Step 1: Verify all Synapse supplied parts










- NEMA Box w/ Standoff
- AIM-121 w/ Antenna
- PLC Multipoint Daylight Sensor



Additional Components not supplied with the kit

Note: Additional material may be needed for mounting the NEMA enclosure depending on the surface.

(Examples- wall anchors, pole kit, masonry screws, etc.)

Part	Use	Contractor Supplied	Quantity	Picture
1/2" gasket for UF Cable connector	Weatherproofing box	Yes	2	
1/2" Conduit Locknut Steel or 1/2" PVC threaded end	Connecting PVC pipe or sensor to box	Yes	1	
1\8 AWG wire	Connecting sensor to AIM-121	Yes	3	
Small screws & bolts to fasten AIM-121 inside of the box	Fastening AIM-121 to knockout board	Yes	4	
Standard 120/277V power cable with stripped ends	Power to AIM-121 board	Yes	1	
Thread seal tape	Sealing sensor / PVC connections	Yes	1	
Two connector wagos or wire nut	Connecting sensor to AIM-121	Yes	3	
1/2" PVC pipe elbow threaded	Orienting sensor	Optional	N/A	
1/2" UF Cable Connector	Connecting power cable to box	Yes	1	

Step 2: Prepare NEMA Box



Use caution
when drilling.

- Drill 7/8 hole for 120V power connection (1/2" connector not included)



Step 3: Install Back Plate

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- Corners of backplate need to be cut off / sanded to fit the NEMA box
- 1/8" (3.30 mm) 45 degree cut on each corner.



Use caution when cutting and sanding.



Step 4: Mount AIM-121 w/ Antenna

- Mark the four mounting holes of the the AIM-121 and drill four 1/4" holes
- Use four 10-32 screws with lock nuts to mount the AIM-121 (not included)



Use caution
when drilling.



Step 5: Daylight Harvesting Sensor connection

- Drill 7/8th hole for daylight harvesting sensor (1/2" locknut not included)
- Use Belden 18/3 stranded wire for connecting sensor to AIM-121 power and sensor inputs
- If using a remote mount sensor, run conduit with Belden wire from NEMA box to sensor



Use caution
when drilling.



Step 6: Assembly Instructions

- Tape and Gaskets
- AIM-121 Product ID Decal



Apply thread sealing tape in the following locations:

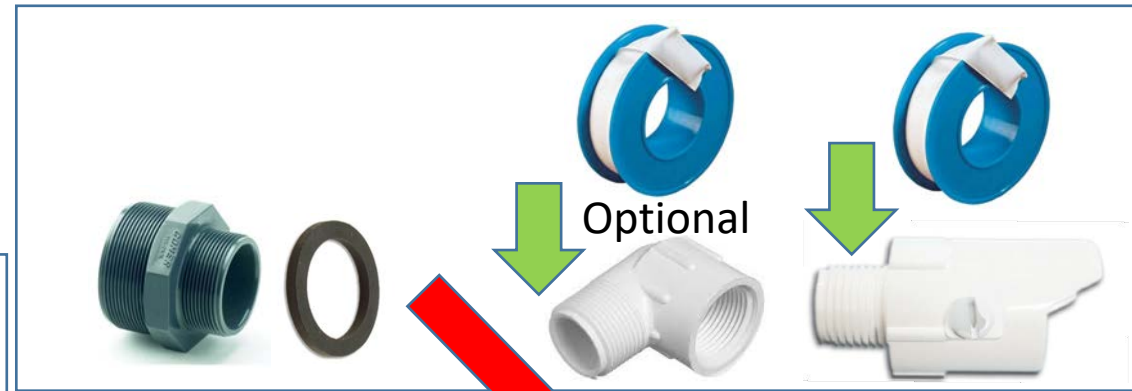
- Power – UF Cable connector
- Sensor – Conduit components



Use a 1/2" rubber gasket in the following locations:

- Power – UF Cable connector
- Sensor – Conduit

Place one ID decal included with the AIM-121 on the outside of the NEMA enclosure and place another on the site map to identify the product location.



Step 7: Power and sensor connections

- See AIM-121 cut sheet or install guide for sensor wiring diagram
- Connect Line, Neutral, and Ground (connect Ground to green ground screw)



Mounting Best Practices

- Must be out of reach of “unauthorized personnel”
- Sensor points horizontally out of opening (recommended)
- Ideally points south (may need sensor for each side of parking garage)
- Position sensor to minimize impact from nearby reflections, if possible



Note: Final configuration of the sensor and the associated light behaviors will be completed as part of project commissioning.

