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.)

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

- 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 AIM-121 and drill four 1/4" holes
- Use four 10-32 screws with lock nuts to mount the AIM-121 (not included)
Step 5: Daylight Harvesting Sensor connection

- Drill 7/8\textsuperscript{th} 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.
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

Step 6: Assembly Instructions
• Tape and Gaskets
• AIM-121 Product ID Decal

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.

Optional
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)

- Belden 18/3 stranded (500 ft max run)
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.