

sensorHUB

Setup Manual

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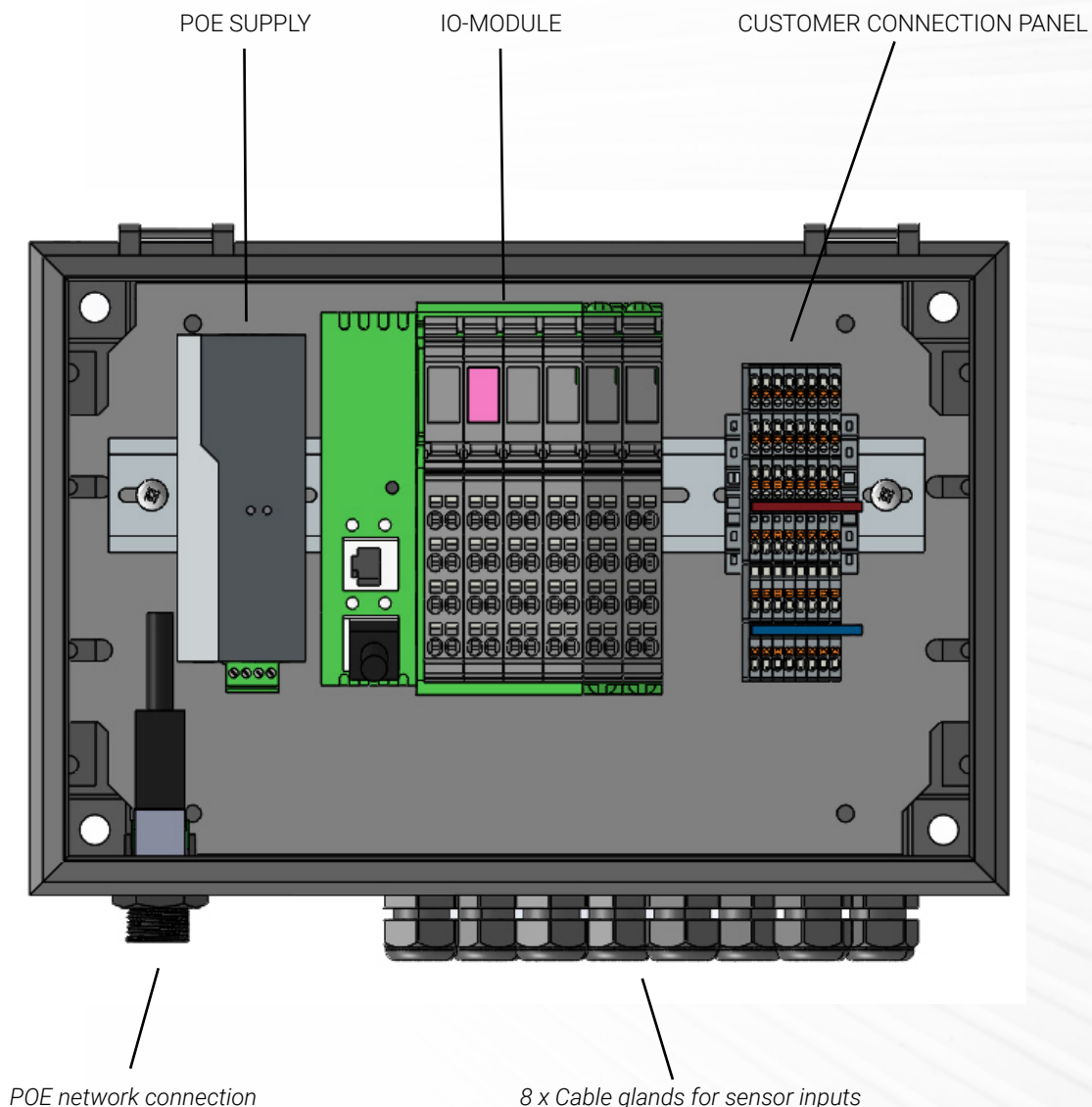
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1. Product Overview

sensorHUB is enabling the possibility for the helioCORE system to be able to collect real world data. The data could then for example be used for controlling how much added light need for supplying the plants with the correct amount of light.

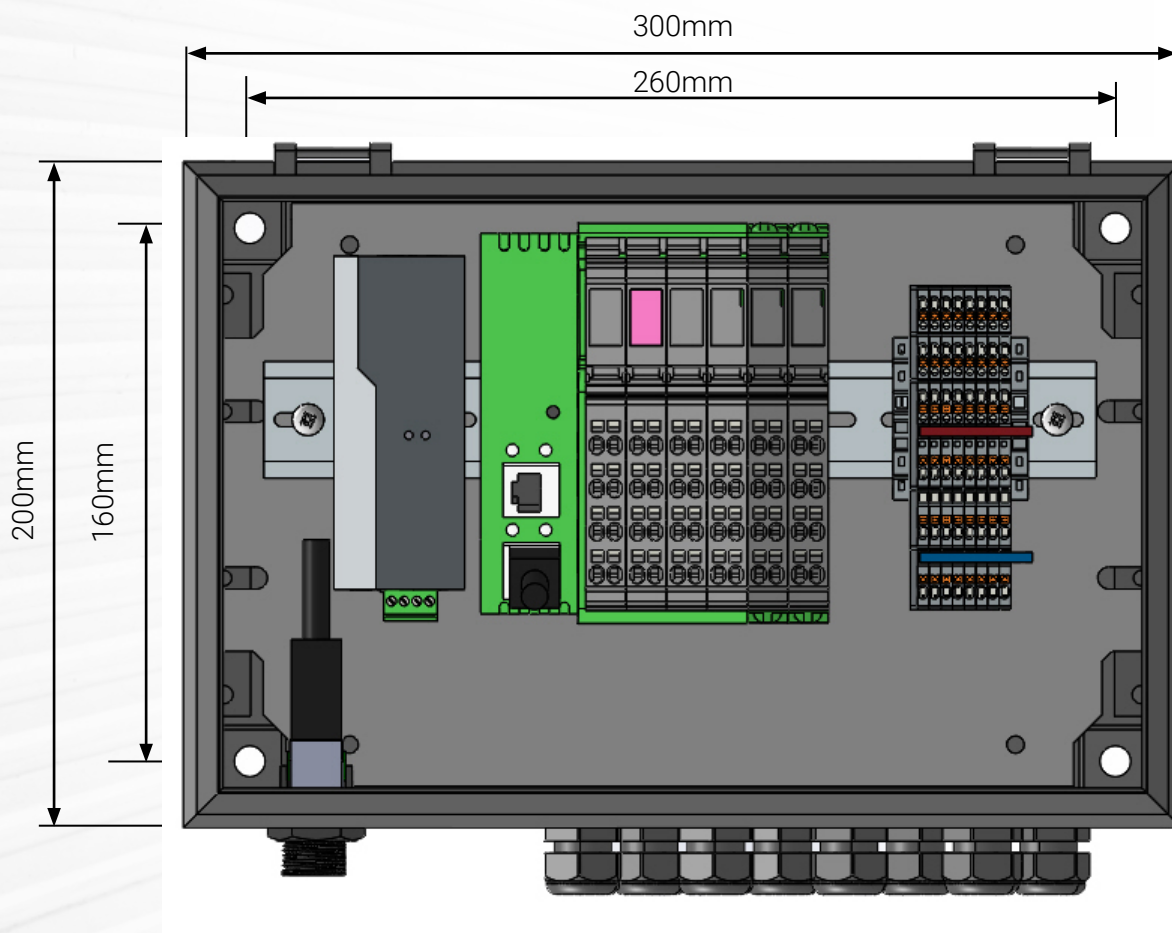
Specifications	
Input Voltage	POE 48VDC (IEEE 802.3at)
Power	21.5W
Input Current	0.45A
IP rating	IP65
Weight	4kg (8.8 lbs)
Dimensions	300x200x160mm
Temperature	-25 ... +70 °C (operation) -40 ... +85 °C (storage)
Humidity	5 ... 90% no condensation
Certifications	UL, CE, ROHS



2. Box Installation

2.1 Wall Mounting

Mount the box to a flat sturdy surface, the box is also allowed to be laying down, but should be fixed to the surface. The box weight is 4 kg (9 lbs) so please take the appropriate measures to make sure that the box is stable. Place the box in such way, so it is available for service and maintenance. When mounting the cabinet, please use galvanized or stainless M6-M8 screw that withstand humid environments over time.

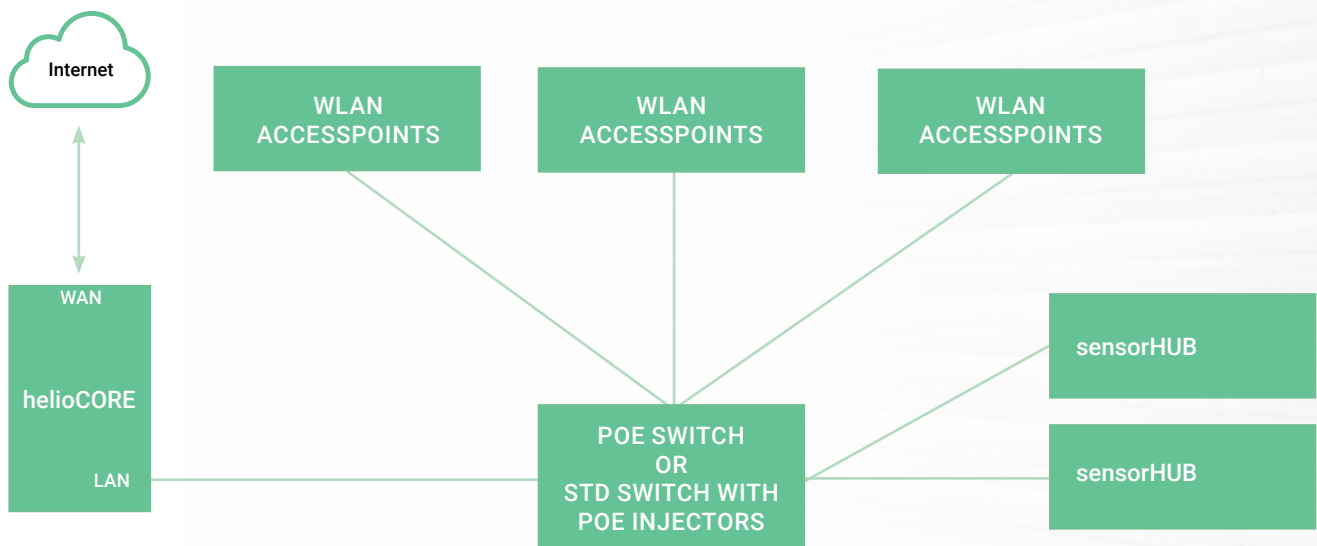


The box has prefabricated mounting holes designed for M6 screw installation. Note the dimensions in the figure above.

2.2 Network Installation

sensorHUB is supplied with power through the ethernet cable, also named POE or Power Over Ethernet. This means that no power cable has to be connected, but instead the other end of ethernet cable must be connected to a switch that supports POE+. The power consumption for the sensorHUB is a maximum of 21.5W, depending on how many sensors that is connected.

Below you can see a simplified setup of the sensorHUB in a helioCORE network:



3. Sensor Installation

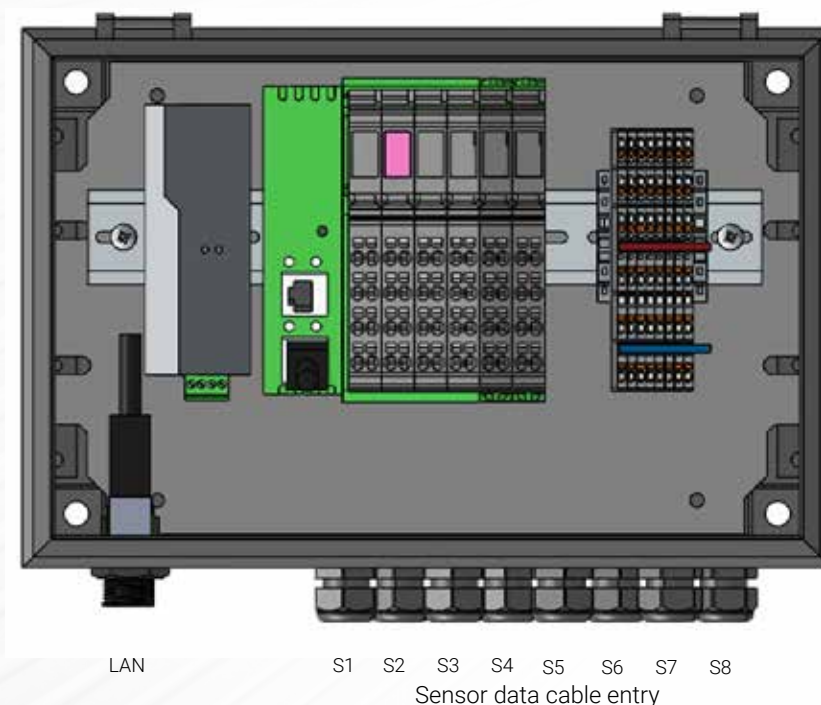
The sensorHUB has eight inputs for sensors, the input module expects a 4-20mA sensor signal. Any sensor with this sensor signal could be connected to the system, as long as the sensor could be supplied with the 24 volts that the sensorHub supplies and that the helioCORE system has support for it.

3.1 Cable Installation

The sensors should be placed at canopy level or as close to the canopy as possible. Once the sensors have been placed appropriately, then make sure to place the cable in safe locations out of direct passing traffic as they are fragile by nature. The best is to install them close to a structural element such as a support pole and pull the cables along the truss space to the sensorHUB.

Most sensors come equipped with 5 m (16 ft 5 in) long cables, prebuilt extensions could also be purchased. If extensions are made with a general cable, it is important that the cable fulfills this requirements: Shielded Twisted Pair AWG20 (0,52mm²). It is also very important that the cable shielding connected and intact all the way from the sensor into the sensorHUB and then connected to the GND bar.

Each sensor has an indented cable gland, make sure that the cable gland seals correctly around the cable, so that no moisture enters. Each gland have a pushout seal that seals the gland when no cable is connected. Only one cable is allowed in each gland, to ensure proper sealing. The cable gland will accept cable dimensions between 3 and 5mm (12 to 14 AWG).

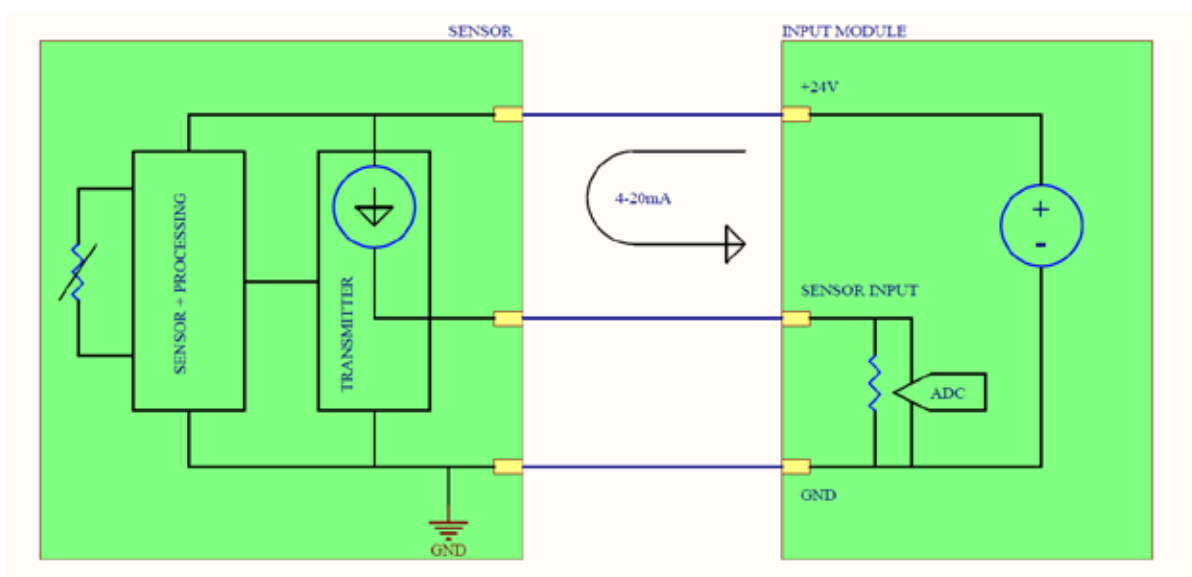
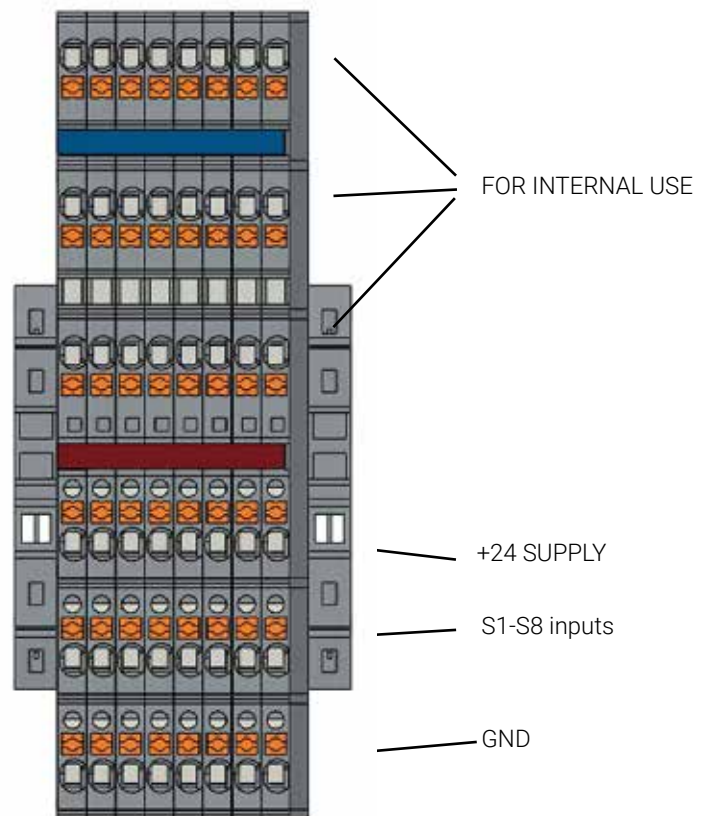


3.2 Sensor Connection

In the picture to the right, the customer connection terminal is shown.

There is eight terminal blocks with three corresponding push-in connectors. The row at the top is the 24 volt supply line, the row at the bottom is the ground and the row in the middle is the signal input.

Depending on sensor type, different connection options are available. Below, a general schematic of a 3-cable based 4-20mA sensor is described. If the sensor is 2-cable based, the GND cable in the schematic is removed.



3.2 Sensor Connection

When connecting sensors, it is very important to fill in the sensor connection map below to ensure that the helioCORE user will know which sensor name in the software is referring to which sensor in the grow facility.

Sensor input port	Sensor serial number	Sensor location	Sensor calibration factor	helioCORE default Display Name
S1				BC01M03AIO01
S2				BC01M03AIO02
S3				BC01M03AIO03
S4				BC01M03AIO04
S5				BC01M04AIO01
S6				BC01M04AIO02
S7				BC01M04AIO03
S8				BC01M04AIO04

If multiple sensorHUBs are connected to the helioCORE they will appear with in with Display Names starting with "BC02" and "BC03" and so forth.

The **sensor serial number** is found on the label of the sensor head.

The **sensor location** refers to the physical placement of the sensor.
Example: "Greenhouse A Bay 1"

The **sensor calibration factor** is found in the Certificate of calibration for LI-COR sensors as the 'Multiplier'-value under the caption "If this is an LI-190R-BL".

4. Software Setup

The sensorHUB will be automatically identified by the helioCORE system when the unit is connected to the network. After identification of the sensorHUB, the helioCORE system has to be mapped up with sensor types, how the sensors are placed and how they should be named. This procedure will be further described in the user manual for helioCORE.

5. Maintenance

No specific maintenance would be needed for the sensorHUB, but it is important that the sensorHUB is handled with care, that the lid is closed at all times and that all cable glands are tightly sealed around the cables.

6. Support

For support questions and more information about the product, for example full product manual, visit support.heliospectra.com/portal or scan the QR code to go straight there.



7. Warranty

sensorHUB carry a warranty that the hardware components will be free from defects in material and workmanship for a period of three (3) years from the date of delivery. The warranty extends only to the original Buyer of the Product and may not be transferred or assigned by the original Buyer. The warranty only applies to sales directly through Heliospectra or any authorized reseller. If the Product was purchased through an authorized reseller, the same terms shall apply, but any claim shall be made via the reseller who sold the Products to the original Buyer. For extended information about warranty, a full version of Heliospectra General Warranty Terms and Conditions can be found in the support portal.



Contact Details

Got questions? Or need info related to how to set up the SENSOR Hub?

Visit our Support Portal for User Manuals, articles and videos. <https://support.heliospectra.com/portal/en/home>

Or sent our dedicated support team an email at support@heliospectra.com

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