# QUICK START GUIDE

M-Sens NIR

OVERVIEW

The guide is intended to provide a brief overview of how to get the ENVEA setup for usage. Please refer to the supplemental manuals for the Controller, Sensor, and Software for detailed information.

CONTROLLER

The following steps should be taken to setup the controller.

1. **Mount**. Mount the enclosure in an area that does not exceed the environmental specifications.
2. **Power**. Provide power, 90-264 VAC @47-63 Hz (120-Watt max) to the controller (see controller manual for wiring schematic).
3. **Ethernet**. Plug in an Ethernet cable to the controller processor board and set the IP address using the 4-line display on the controller.
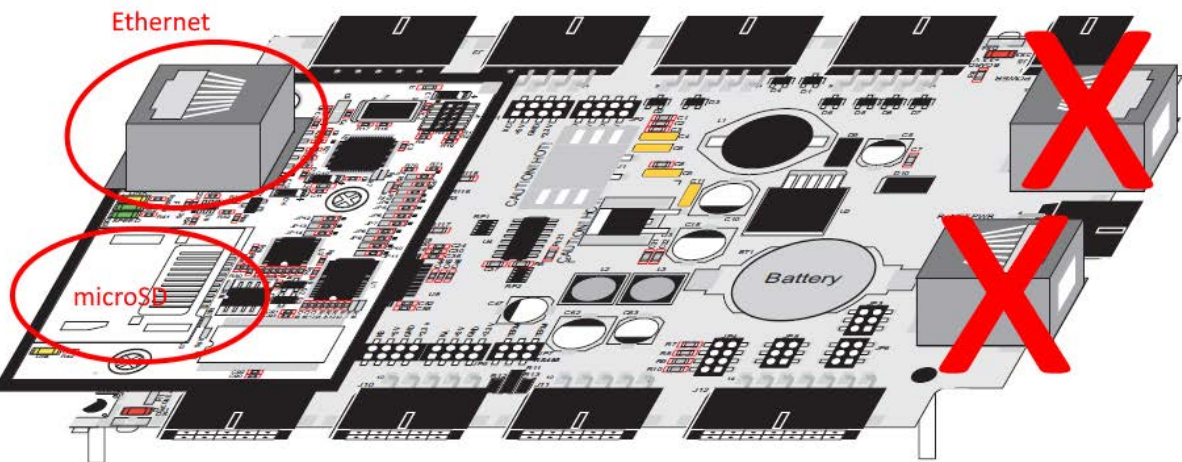
4. **4-20mA**. If 4-20mA analog outputs are used, terminate the wires to the terminal blocks (see controller manual for wiring schematic)

AO Channel	Field Terminal Number
0	TB4 (+) and TB5 (Gnd)
1	TB6 (+) and TB7 (Gnd)

5. **Factory Floor Communication Protocol**. When sending data via a communication protocol (e.g. Ethernet/IP), terminate the communication cable to the factory floor adapter per the module's manual.

Rev. February 2021

SENSOR

The following steps should be taken to setup the sensor.

1. **Mount**. Mount the sensor over the material being measured with the sensor lens pointing towards the material.
2. **Power and Communication**. Route two M12 cables between the sensor and the controller, paying attention to the gender prior to routing (i.e. male connector is mated to female connector). The cables are keyed to prevent users from inserting the wrong cable into the wrong port. Once determining which cable is connected to each port, secure the M12 cables at both the sensor and controller.

DO NOT FORCE the cables into the wrong port or permanent damage may occur.

I*f power is connected to the sensor correctly, a light will illuminate from the bottom of the sensor.*

SOFTWARE

After mounting the hardware and providing power, the ENVEA software should be installed on a PC to finalize the configuration.

1. I**nstallation**. Install the software on a PC. Check for updates to ensure you are running the most recent version.

An internet connection is required to upgrade the application.

---

2. **Connection**. Ensure the PC is on the same network as the controller, then navigate to App Settings → Connection. Enter the IP address of the controller that was setup under the controller section. Press the **Test Connection** button to confirm the PC is communicating to the controller.
3. **Database**. Under App Settings → Database, enter the database name and press **Save**. The software will prompt you to confirm the database does not exist and it will be created.

Rev. February 2021

PRODUCT SETUP

Navigate to Configuration → Products and select an available product on the left side. The following values should be used when setting up a product.

- I**nitial Product Values**
  - Refresh rate: 1.0 sec
  - Gain: 50%
  - Smoothing time: 15.0 sec
  - Min Scaled value: 0.0
  - Max Scaled value: 255.0
  - Disable all alarms.
  - Typically disable the Opto Port unless the accessory was purchased.
- **Calibration**. Enter the following initial values into the table:

Raw Value	Actual Value
10000	100
20000	200

- **Filter Set**. Select the filter set installed in the sensor. Select *Dry Filter* for MC% between 0-60% and *Wet Filter* when the MC% is greater than 60.
- **Save**. Save the data before leaving the screen.

Ensure the product being modified is currently running on the Home → SPC screen. If necessary, change to the product being modified.

Navigate to Configurate → Optimize to view raw values. When setting up the system there are minimum of two calibration points required, a low and high MC.

Measure the low MC sample with the NIR and wait for the signal to stabilize for approximately 60 seconds. Depending upon the filter installed, enter the appropriate CAL value into the first row of the of **Raw Value**. Measure the actual value of the sample using the customer's standard (e.g. oven dry) and enter into the first row **Actual Value**.

Repeat the test using the wet sample and enter the **Raw** and **Actual** values into the second row.

Set the smoothing to 0.00 and save the result.

Other items to consider changing are:

Rev. February 2021

- **Smoothing Time**. If the measured data is too variable, increase the smoothing time.
- **Control Limits**. Set high and low specification limits for the product.
- **Min/Max Scaled Value**. Change to re-scale the y-axis.

Rev. February 2021