

Thank You

Thanks for purchasing Nomad from us! We appreciate your business and your trust. Please take a moment to familiarize yourself with the product and this manual before installation. If you have any questions, at any time, don't hesitate to call us at 888-525-7300. You can also find a full list of our product manuals at: <https://www.apgsensors.com/resources/product-resources/user-manuals>.

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1 Description

The Nomad Remote Monitor is capable of monitoring RS485 ModbusRTU sensors almost anywhere on earth via satellite. It has Wifi configurability and a very accurate GPS. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

2 How To Read Your Label

Every APG instrument comes with a label that includes the instrument's model number, part number, and serial number. Please ensure that the part number on your label match your order.

The Nomad label also contains the Wifi name and password, and a QR code to easily connect to the Wifi for initial setup.

3 Warranty

This product is covered by APG's warranty to be free from defects in material and workmanship under normal use and service of the product for 24 months. For a full explanation of our Warranty, please visit: www.apgsensors.com/resources/warranty-certifications/warranty-returns/. Contact Technical Support to receive a Return Material Authorization before shipping your product back.

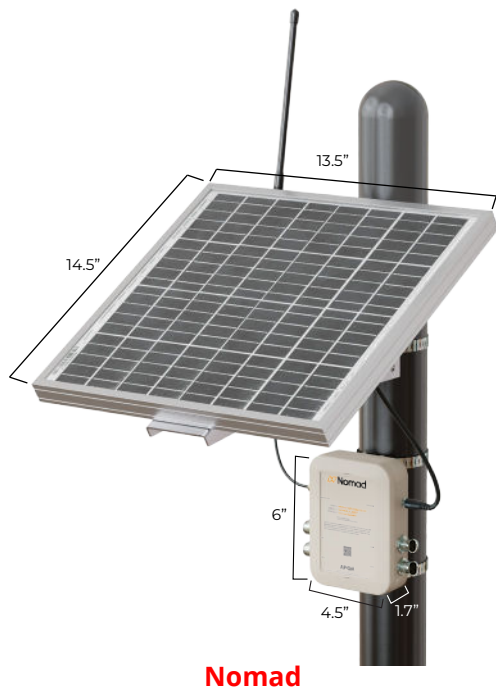
If your Nomad needs repair, contact us via email, phone, or on-line chat on our website. We will issue you an RMA number with instructions. You can also find the form on our website by clicking "RMA" in the web footer, or go to https://share.hsforms.com/1rPTIAWbsTMiD0XD_SkBs6g2rio0.

- Phone: 888-525-7300
- Email: sales@apgsensors.com
- Online chat at www.apgsensors.com

Please have your part number and serial number available.

4 Dimensions

Solar Panel: 13.5" x 14.5"
Nomad Box: 6" x 4.5" x 1.7"



Nomad

NOMAD

Installation Guide



Automation Products Group, Inc.
 1025 W 1700 N Logan, UT 84321
 www.apgsensors.com | phone: 888-525-7300 | email: sales@apgsensors.com

Part #201129
 Doc #9006845 Rev A

5 Installation

- Step 1.** Mount your solar panel in an area with an unobstructed view of the sky, at least 3 ft off the ground. Orient the solar panel to capture as much light as possible (ie. facing south in the northern hemisphere).
- Step 2.** Secure the Nomad box using the hose clamps or other mounting hardware beneath the solar panel to optimize shading when the sun is high. The LEDs on the box must be facing down to comply with FCC testing and certification.
- Step 3.** Connect the ¼ wave antenna to the top of the solar panel.
- Step 4.** Connect Antenna extension from the solar panel to the Nomad box. Twist the head to fasten it securely.
- Step 5.** Connect the power cable from the solar panel to Nomad. Push the cable in firmly and twist the head clockwise to fasten it securely. Repeat pushing and twisting until it is firmly installed.
 - The yellow LED will turn on and remain solidly on, the red LED will blink once per second to indicate the system is operational.
- Step 6.** Connect your first sensor to Power Line 1 (PL1).
 - If your sensor doesn't have an M12 5-pin connector, ask us about our adapter accessories.



6 Wiring Information

M12 5-Pin Sensor Connector

Connector Callout	Cable ID
1	B
2	A
3	12V
4	Ground
5	Earth

M12 2-Pin Relay Connector

Relay wire orientation does not matter.

7 Wifi Configuration

- Step 1.** Using a mobile device, scan the QR code on Nomad's label. If QR scanning is not available, enter the Wifi name into your device's Wifi settings. The password is **9876543210**
- Step 2.** Open a web browser and type **192.168.4.1** into the search bar to navigate to Nomad's configuration page.
- Step 3.** In the Info tab, press "Request" under the Nomad Health Status. The boxes will populate.
- Step 4.** Tap the GCR tab.
- Fill in the Modbus Fct (options: 3 for Input Registers or 4 for Holding Registers), ModbusID, Register, Qty, and Power Line (PL) boxes. Tap the "Add Line" button to add additional sensors and registers.
 - Set the Time Before Reading to the slowest sensor's time to transmit a reading (default: 10 seconds).
 - Set the Fast Timer for how frequently Nomad wakes up and reads the sensors and checks for alarms. The software will suggest the optimal time.
 - Set the Slow Timer for how frequently Nomad communicates with the satellite to transmit the data. 60 minutes is the minimum and recommended time.
 - Tap "Send GCR".
- Step 5.** Tap the Comm tab to test sensor communication.
- Enter the ModbusID Register, and the Power Line (PL 1 or 2) your sensor is connected to.
 - Press "Read Holding" or "Read Input," depending on your sensor. Text will appear at the bottom of the screen to confirm sensor communication
 - The blue LED will blink, indicating that the sensor is being powered.
- Step 6.** Tap the Swarm Tab.
- Press RSSI 1s to display the signal to noise ratio. The status and RSSI will be returned.
 - > -75: Signal to noise ratio is severe, communication with the satellite is unlikely
 - 75 to -85: Bad signal to noise ratio
 - 85 to -95: Good signal to noise ratio
 - 95 to -110: Excellent signal to noise ratio
 - =< -113: The antenna is not connected.
 - Press RSSI 0s to turn off signal to noise ratio. **Failure to turn RSSI off will result in miscommunication.**

Congratulations, you have set up your Nomad's basic parameters! You can now safely leave Nomad to remotely monitor your sensors.

After 30 minutes of inactivity, Nomad will enter sleep mode, disconnecting the wifi and powering down the sensors.

Note: For more detailed setup instructions, see the user manual.

8 General Care

Your Nomad device is designed for rugged environments. Generally, the solar panels should be cleaned at least once or twice per year. It is recommended to clean dust or debris off your solar panel after significant weather events to optimize performance.

To clean the solar panels:

- Step 1.** Disconnect solar panel power and ensure Nomad connectors are still connected or covered to prevent water intrusion.
- Step 2.** Remove debris from panel with a soft bristled cloth or a clean, dry cloth.
- Step 3.** Rinse gently with water.
- Step 4.** If necessary, mix mild detergent with water and apply to the panel with a soft sponge or cloth.
- Step 5.** Rinse again with clean water.
- Step 6.** Dry the panel with a squeegee or clean, dry cloth. Avoid letting the panel air-dry, as this can leave water spots.

9 Connect to Explorer

To connect to your Nomad from afar and see your sensor data, go to explorer.apgsensors.com.

You should have received an invitation email when you purchased Nomad. If you did not receive this email, check your spam folder or contact us for help.

- Phone: 888-525-7300
- Email: sales@apgsensors.com
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