



Easily Monitor Industrial Equipment over the Internet

The Sensor Synergy Network Enabled Equipment Monitor (NEEM) simplifies and reduces the cost of remote equipment monitoring. It continuously measures sensors on target equipment, recording data for immediate viewing or later analysis. Users can explore data via a web browser or download it for use with tools like spreadsheets or AI Assistants. NEEM provides critical insights to identify unexpected equipment issues and address discrepancies between planned and actual activities. This enables key personnel to make data-driven decisions to improve operations and reduce equipment-related impacts.

In the industrial sector, actual events often differ from planned activities. Variations in equipment utilization, power consumption, and process cycle times can arise from operator issues, control system adjustments, shift deviations, and equipment breakdowns. These factors can greatly affect productivity and efficiency, underscoring the importance of monitoring for informed decision-making.

Operation

NEEM set up is straightforward. Begin by connecting to power and the local network (LAN) using the Ethernet connection. (After set up, the included wireless adapter can be used.) Attach the included sensors to the NEEM's analog inputs, and it will automatically start recording data to its internal memory. Next, as needed, access and customize the NEEM's sensor settings through a web browser connected to the same LAN as the NEEM. For added flexibility, you can optionally sync the NEEM data to the *Sensor-Info Web Portal*, enabling secure Internet data viewing access and custom alarm configurations for email or text notifications.

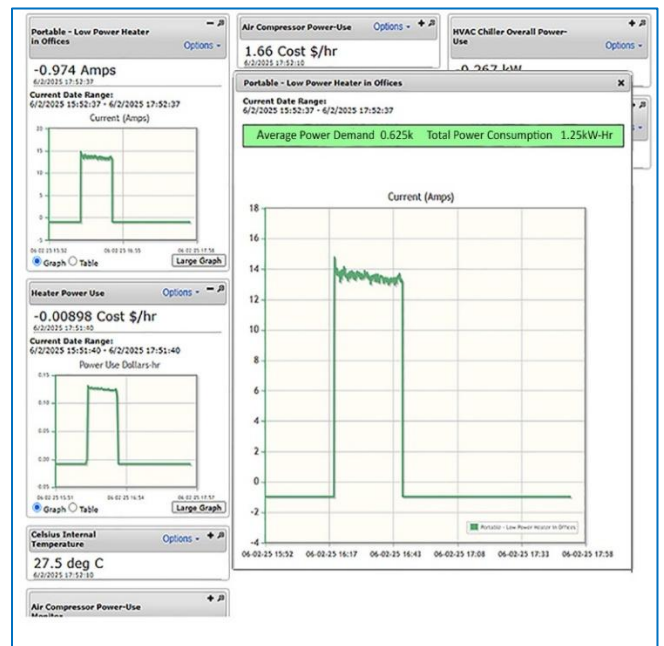
Access real-time or historical data from anywhere using an Internet-connected web browser. This capability enables you to monitor current factory floor activities or review past sensor measurements to evaluate equipment performance. Data can be displayed in tabular or graphical formats for any timespan directly from the browser. Additionally, you can download sensor measurements as common CSV files for any connected sensor using the same browser window.

Key Features

- Deploy in 60 minutes or less, with zero integration efforts required...truly, a “Do-It-Yourself” setup.
- Monitors industrial equipment from any web browser, over the Internet, or only on your local network.
- Reveals equipment and process irregularities.
- Identify gaps between “by-the-book” intended procedures and what’s taking place on the shop floor.
- Enables data-driven decision-making to improve resource utilization by reducing energy use and scrap.
- Compatible with AI Assistants for more complex multi-sensor analysis.
- Rapid payback in energy savings, troubleshooting time, and lengthening equipment life.

Applications

- Power monitoring of energy-intensive equipment such as furnaces, injection molding equipment, air compressors, motors, dust collection systems, kilns, factory automation equipment, and chemical reactors.
- Asset utilization monitoring.
- Enables aggregate leakage determination for an entire compressed air system.
- Condition or operation-based equipment monitoring.
- Reduce plant carbon footprint by identifying sources of wasted energy.



Example display of utilization, current, and cost per hour.



Rear view of Sensor Synergy NEEM Model 112.

- **Complete "Stand-Alone" Solution—no additional hardware, software, or programming required.**
- **Make legacy or new machines IIoT connected, quickly and easily.**
- **Track machine activity or availability.**
- **Monitor production cycles per hour, energy consumed, electricity kWh, or natural gas BTUs.**
- **Sends out-of-normal condition alerts by text or email.**
- **Accepts sensor data from up to 5 external sensors.**
- **Enhanced security for data protection.**

Software Capabilities

Included with the NEEM-2 purchase price is a one-year subscription to the Sensor-Info Web Portal. To use the Web Portal, the NEEM must be connected to a network with Internet access. The NEEM can also function on a factory's in-house LAN without Internet connectivity, ensuring that all measured data remains within a physical facility.

The Sensor-Info Web Portal provides secure, remote access to data for viewing, analysis, and download. Out-of-range email or text notification alerts can be set in the web portal for key personnel to receive messages if monitored equipment operates outside of the expected range.

Internal Software

The software within the NEEM records 60 sensor readings per minute and stores up to 10 years of data in non-volatile memory. If connected to the Internet, data is automatically backed up to the Sensor-Info Web Portal for added data security.

Authorized users can log into the NEEM using a web browser from any device connected to the same network as the NEEM, such as the company's local network. Data viewing screens can be accessed through a standard web browser, enabling customizable data analysis and the option to download data for use in various applications, such as spreadsheets and AI assistants.

Specifications

I/O	
Ethernet	RJ-45 10/100Mbps (autosensing)
Wi-Fi	USB to Wi-Fi adapter included
Analog Inputs	Four 0-5 volt single-ended analog inputs. Internal temperature sensor.
Digital Inputs	Single input can be configured as an event counter. 5-volt maximum input.
USB	USB 2.0 for Wi-Fi adapter
Data	
Sampling Rate	Up to 60 samples per minute total
Storage	Up to 10 years of non-volatile data storage on the NEEM; optionally up to 10 years of storage & backup in the Sensor-Info Web Portal. Upload of data to the Sensor-Info Web Portal requires user permission.
Alerts	Optional email and text alerts if out-of-normal conditions are detected (service to the Sensor-Info Web Portal required).
Physical	
Dimensions (L x W x H)	172 x 208 x 58 mm (6.8" x 8.2" x 2.3")
Weight	1.375 kg (3lbs)
Status LEDs	Included on-panel
Enclosure	Aluminum extruded
Mounting	Mounting bracket included
Power Requirements	
Power Input	7.5 VDC, 100 - 240V AC adapter incl.
Power Consumption	3 W typical, x 5 W max.
Environmental	
Operating Temperature	0 to +50 °C
Storage Temperature	-40 to +50 °C
Humidity	Non-condensing, 20% to 80% RH
Warranty	
Product Warranty	1 year

Ordering Information

Part Number	Description
NEEM2-XXX-P12	Complete Sensor/Monitor solution packages available for Power Monitoring, Compressor Air Pressure Monitoring, or both. For details, see www.SensorSynergy.com

Sensor Synergy products are continually upgraded. As such, specifications may change without notice.