APN SERIES
Power Monitors

APN Power Monitor with **Modbus RTU** Output

APN Series Power Monitors measure three phases of current and voltage and computes 14 values necessary to track power usage. These monitors use current transformers to measure the amperes. The line voltage connects directly to the transducer, up to 600 VAC. The result is 14 data points in the RS485 **Modbus RTU** format. There is also a pulse contact which opens and closes as watt hours are accumulated. The APN can be configured to accept 5 A secondary current transformers or the safer ProteCT™ low voltage output CTs. Either type will produce an accurate set of data to help you save energy and avoid utility surcharges.

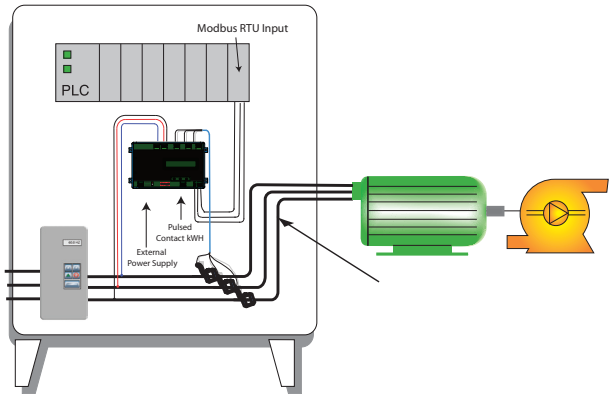
Power Monitoring Applications

Plant Energy Management
- Measure the power usage of a single piece of equipment, an area of a plant, or the entire facility.

Conveyors
- Detect jams and overloads.
- Check that the belt is loaded properly by measuring the power consumption.

Pump Monitoring
- Detect dry run from clogged, intake, or discharge line.
- Monitor impeller cavitation and bearing wear.

Pump Jam & Suction Loss Protection



For additional Application Examples, go to www.nktechnologies.com/applications

Power Monitoring Features

Modbus RTU Output
- RS485 communication protocol reduces the cost involved with proprietary data logging software.
- Compatible with most automation systems.

Externally Powered
- Improves reliability when used in conditions where power interruptions and voltage sags are common.

Compact DIN Rail* or Panel Mounted Case
- Clearly labeled terminals provide quick installation.
- Low profile reduces cabinet depth requirements.

LED Displays Network Communication
- Provides quick visual indication that network is operational.

Finger Safe Terminals
- Safe and secure connectors.

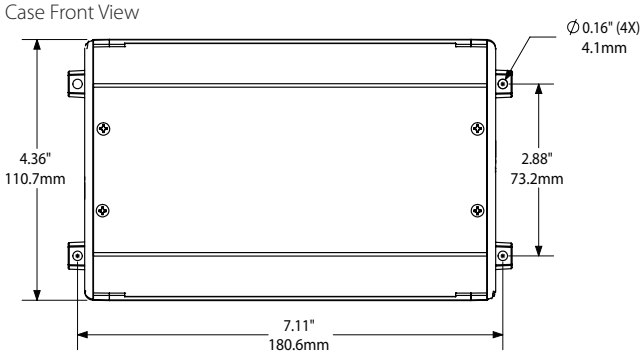
UL/cUL Approved
- Accepted worldwide.

*For information on the DIN rail accessories kit, see page 147.

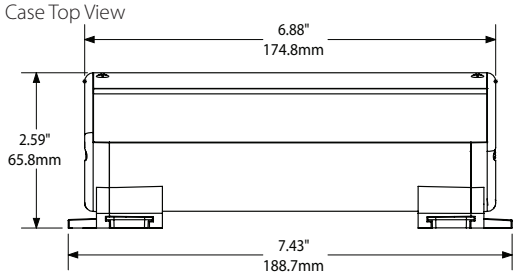
OEMs **Test & Evaluation Units for OEMs**
Free program expedites evaluation process. See page 3 for details.

Power Monitoring Dimensions

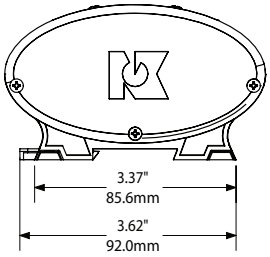
Case Front View



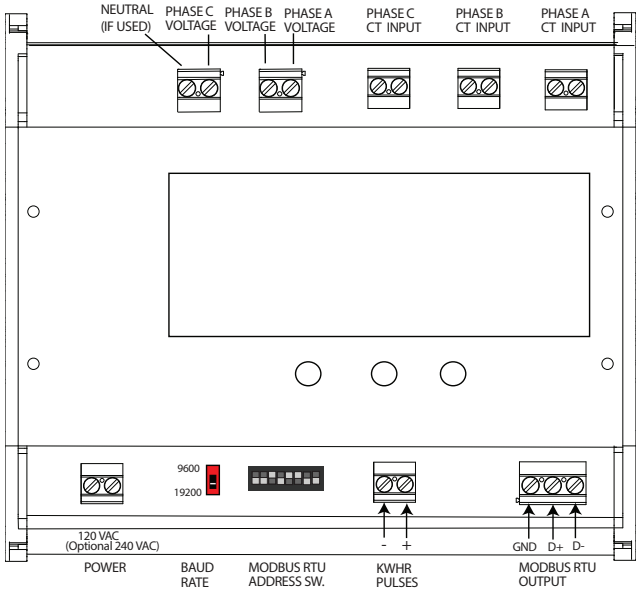
Case Top View



Case Side View



Power Monitoring Connections



Power Monitoring Specifications

Power Supply	• 24 VAC/VDC +/-10% • 120 VAC +/-10% • 240 VAC +/-10%
Power Consumption	• 24 VAC/VDC: <180 mA • 120 VAC: <50 mA • 240 VAC: <25 mA
Measurement	5A CT input: 3000 A 0.333 mV input: 1500 A
Primary Voltage	100 to 600 VAC
Output	• **Modbus RTU** - 14 Data Points • Pulsed Contact KWH
Accuracy	<1% FS
Response Time	120 ms
Isolation Voltage	UL listed to 5400 VAC
Frequency Range	50/60 Hz
Case	UL94 V-0 Flammability Rated
Environmental	-4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing
Listings	UL/cUL approved

Power Monitoring Data Point Table (Modbus)

	Phase A	Phase B	Phase C	Type
Current	●	●	●	RMS
Voltage	●	●	●	RMS
kW	●	●	●	Active
Power Factor	●	●	●	Instantaneous
Power Factor	–	–	–	Average
kWH	–	–	–	Total

Power Monitoring Ordering Information

Sample Model Number: APN-600-MV-120-MOD

AC power transducer, 600 VAC maximum input, ProteCT™ current inputs, 120 VAC powered, RS485 **Modbus** output with pulse contact for kWH.

	(1)			(2)		(3)			(4)		
APN –	**6**	**0**	**0**	**–**		**–**			**–**	**M**	**O**	**D**

(1) Maximum Primary Voltage

600	600 VAC

(2) Current Input Type

MV	ProteCT™ current transformers, 333 mVAC secondary
5 A	5 A secondary current transformers

(3) Rating Power Supply

24U	24 VAC/VDC (180 mA max.)
120	120 VAC (50 mA max.)
240	240 VAC (25 mA max.)

(4) Output Type

MOD	**Modbus RTU** (RS485), pulse contact for kWH