

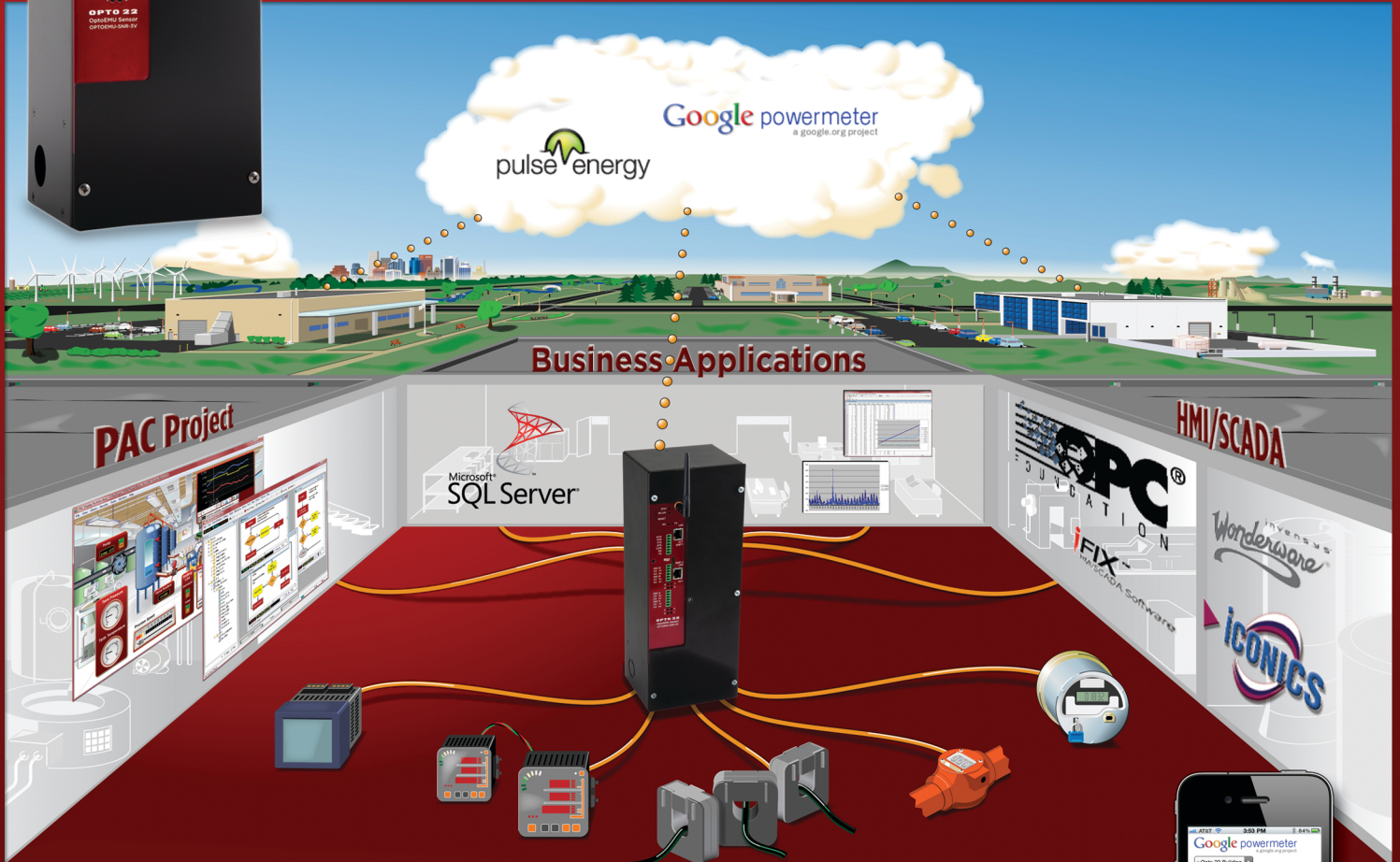
# OPTO 22

## Energy Monitoring Made Simple



**OptoEMU Sensor™**  
**Energy Monitoring Unit**  
 Ideal for small- to medium-sized businesses

- Add easily to existing networks, wired or wireless
- Monitor electricity consumption
- Analyze energy data and pinpoint problems
- Improve your bottom line



### OptoEMU is...

#### Cost effective

Add low-cost OptoEMU to existing networks and devices. Product support is free.

#### Easy to Use

Install on wired or wireless networks. See data online.

#### Easy to expand

Add control only where you need it. Fully compatible with Opto 22's SNAP PAC System.

### Step 1: Capture energy data

- Individual load information
- Real-time and historical usage

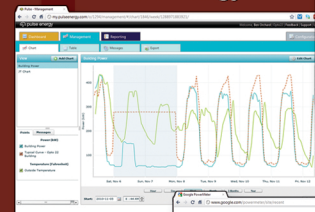
### Step 2: Access data easily

- Mobile devices
- Internet Web browsers
- PAC Project and OPC

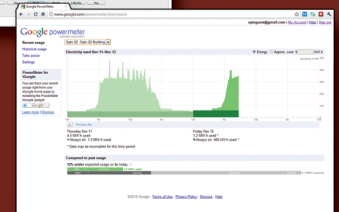
### Step 3: Turn data into action

Analyze where energy is going and find simple ways of saving.

### Pulse Energy™



Smart Phone



Google PowerMeter

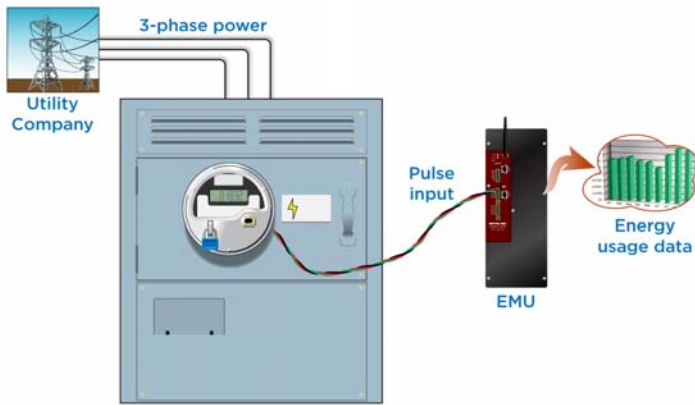


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## OptoEMU Sensor Energy Monitoring Unit

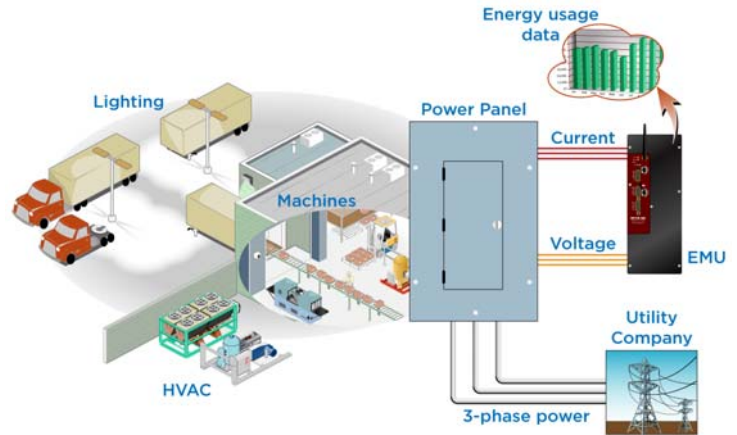
The OptoEMU Sensor monitors utility meters, electrical panels, and machines in two ways, simultaneously:

**Pulse**—The Sensor can monitor up to four electrical devices that emit a pulse, such as a utility meter or submeter.



For a complete description and specifications, see the *OptoEMU Sensor Data Sheet* (form 1936), available on [www.opto22.com](http://www.opto22.com).

**Direct**—Using current transformers (CTs), the Sensor can monitor voltage and current directly from a building's main power load panel, subpanels, or electrical devices such as chillers and air handling units. One Sensor can connect to one 3-phase electrical panel or device or to three single-phase panels or devices. Wiring must be done by a licensed electrician; use CTs with a 0.333 VAC secondary.



## Specifications

Power Requirements (without auxiliary box)	120/240 VAC (50–60 Hz)
Power Requirements (using auxiliary box)	120/240 VAC (single phase) or 277–346 VAC (line to neutral from 480–600 VAC panels)
Enclosure	Sturdy metal enclosure with standard knockouts
Dimensions	6.0" w x 13.5" h x 4.5" d
Ethernet Communication (wired)	Two independent 10/100 Mbps Ethernet network interfaces (RJ-45 connectors).
Ethernet Communication (wireless)	Wireless LAN interface with separate IP address.
Security	802.11i: AES - Compatible with WPA2 Personal; TKIP - Compatible with WPA Personal.
Frequency 802.11a	5.180–5.240 GHz, 5.745–5.825 GHz
Frequency 802.11b/g	2.412–2.472 GHz, 2.484 GHz
Transmit Power	15 dBm maximum
Antenna Connector	Reverse polarity SMA (RP-SMA or RSMA)
Roaming	Supported within an SSID only
Pulse inputs (dry contact)	OptoEMU Sensor supplies 15 V power to each external switch and senses switch closure.
Voltage inputs	Input range: 0 to 400 VAC RMS (line to neutral)
Current inputs	Input range: 0–333 mVAC current transformer input
Operating Temperature	0 to 60 °C (32 to 140° F)
Storage Temperature	-25 to 85 °C (-13 to 185° F)
Humidity	0% to 95% relative humidity, non-condensing
Agency Approvals*	UL, cUL, CE, RoHS, DFARS Wireless: U.S., FCC Part 15 Subpart C; Canada, IC RSS-210
Warranty	30 months

\* UL and cUL approvals pending

## Ordering Guide

Part number	Description
OPTOEMU-SNR-3V	Wired+Wireless monitoring unit for electrical panels, machines, and devices
OPTOEMU-PT600	Auxiliary box for OptoEMU Sensor, with stepdown transformer and fusible disconnect
OPTOEMU-CTS-0750-70	Current Transformer, Split Core, 70 A, 0.333 VAC, 0.75 inch (1.91 cm) Inner Diameter
OPTOEMU-CTS-0750-150	Current Transformer, Split Core, 150 A, 0.333 VAC, 0.75 inch (1.91 cm) Inner Diameter
OPTOEMU-CTS-1250-400	Current Transformer, Split Core, 400 A, 0.333 VAC, 1.25 inch (3.18 cm) Inner Diameter
OPTOEMU-CTS-2000-600	Current Transformer, Split Core, 600 A, 0.333 VAC, 2 inch (5.08 cm) Inner Diameter

## About Opto 22

Industrial and commercial businesses, OEMs, and system designers have used Opto 22 products for more than 35 years for monitoring, control, and data acquisition applications.

Founded in 1974 by a co-inventor of the solid state relay, Opto 22 builds reliable products based on open standards. The company was one of the first to introduce industrial automation products based on standard Ethernet networking and the Internet Protocol (IP).

Opto 22 products are manufactured and supported in the U.S.A. Because we build and test our own products, we can afford to provide free product support.

For more information on Opto 22 products, visit [www.opto22.com](http://www.opto22.com) or contact Opto 22 Pre-Sales Engineering (phone 800-321-6786 or email [systemseng@opto22.com](mailto:systemseng@opto22.com)).