Energy Monitoring Made Simple

OptoEMU Sensor™ Energy Monitoring Units

- Ideal for small- to medium-sized commercial and industrial facilities
- Reduce energy costs and earn income from Demand Response (DR) programs

- **Industrial-quality yet low-cost unit, made in the U.S.A.**
- **Easy to install and use**
- **Immediately starts sending detailed, real-time energy usage data**
- **Free product support**

- **Monitor pulsing meters, panels and subpanels, and equipment**
- **See and analyze data online**
- **Send data to control systems and databases**
- **Automatically turn equipment on or off based on a threshold or DR event**

Get details at **optoemu.opto22.com**.

MADE IN THE USA

Made and supported in the U.S.A.
Call us toll-free at **800-321-6786**.

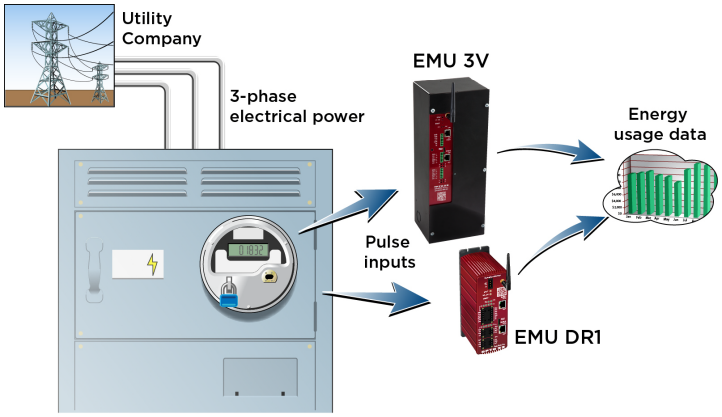
OPTO 22
Automation made simple.

R82375

OptoEMU Sensor Energy Monitoring Units

Monitoring energy usage:

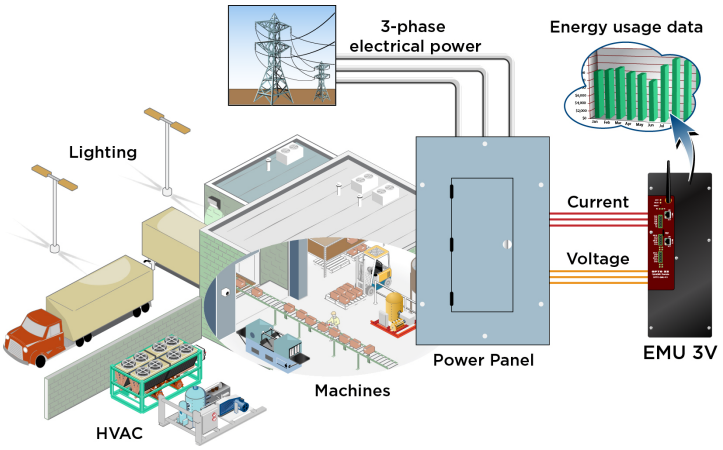
1. Pulse—OptoEMU Sensors can monitor electrical devices that emit a pulse, such as a utility meter or submeter.



2. Serial or Ethernet—OptoEMU Sensors can monitor Modbus devices that communicate over RS-232, RS-485, or Ethernet.

3. Direct—Using current transformers (CTs), the Sensor 3V can monitor voltage and current directly from a building's main electrical panel, subpanels, or electrical equipment such as chillers and air handling units. Wiring must be done by a licensed electrician.

Using data: OptoEMU Sensors send monitored data to an online software service for analysis, to industrial and business control systems, and to company databases. The Sensor DR can also signal equipment to turn on or off, or signal control systems to shed load.



Specifications

	OptoEMU Sensor	OptoEMU Sensor DR
Power Requirements	100–240 VAC, 47–63 Hz, 0.4 A maximum, 8 W	
Enclosure	Metal enclosure	Metal case
Dimensions	6.0"w x 13.5"h x 4.5"d 15.2 cm x 34.3 cm x 11.4 cm	2.45" w x 8.08" h x 4.76" d 6.2 cm x 20.5 cm x 12.1 cm
Ethernet Communication (wired)	Two independent 10/100 Mbps Ethernet network interfaces (RJ-45 connectors).	
Wireless Communication* Security Frequency 802.11a Frequency 802.11b/g Transmit Power Antenna Connector	Wireless LAN interface with separate IP address. 802.11i: AES - Compatible with WPA2 Personal; TKIP - Compatible with WPA Personal. 5.180–5.240 GHz, 5.745–5.825 GHz 2.412–2.472 GHz, 2.484 GHz 15 dBm maximum Reverse polarity SMA (RP-SMA or RSMA)	
Serial communication	One serial port, software configurable for RS-232 (TX, RX, COM, DTR, DCD, RTS, CTS) or RS-485 (2-wire, 4-wire, optional termination, optional biasing).	
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)	None
Current inputs	Input range: 0–333 mVAC current transformer input	None
Signal Relay Outputs	None	Four SPDT relays, 100 mA switching @ 240 VAC/VDC
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	30 months

* OPTEMU-SNR-DR2 does not have wireless capability
** UL and cUL approvals pending

Ordering Guide

Part number	Description
OPTOEMU-SNR-3V	Energy monitoring unit for electrical panels, machines, and equipment, Wired+Wireless™
OPTOEMU-SNR-DR1	Energy monitoring unit with demand response capability, Wired+Wireless™
OPTOEMU-SNR-DR2	Energy monitoring unit with demand response capability, wired Ethernet networks

For complete descriptions and specifications, see the *OptoEMU Sensor Data Sheet* (form 1936) and *OptoEMU Sensor DR Data Sheet* (form 1990), both available on www.opto22.com.

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 or contact Opto 22 Pre-Sales Engineering (phone 800-321-6786 or email systemseng@opto22.com).

Form 1953-120413 • Opto 22 • 43044 Business Park Drive • Temecula, CA 92590-3614 • www.opto22.com • SALES 800-321-6786 • 951-695-3000 • FAX 951-695-3095 • sales@opto22.com