R9 Series Power Monitoring Unit for Multi-channel Online & Offline Data Logging

■ **Basic unit can measure up to 8 heavy current circuits on a common voltage unit.**

■ **Easy setup with clamp-on current sensors for input**

■ **Flexible range of 5 to 600 A input**

■ **Time-stamped data logging in SD card**

■ **Extension unit for 8 additional current circuits or 8 discrete I/O can be attached.**

FUNCTION	MODEL
Modbus RTU Power Monitoring Unit	R9MWTU
Modbus TCP (Ethernet) Power Monitoring Unit	R9EWTU
CC-Link Power Monitoring Unit	R9CWTU
LONWORKS Power Monitoring Unit	R9LWTU
Extension Unit (8 circuits)	R9WTU-EP
Discrete I/O Extension Unit	R9WTU-ED

Modbus   **CC-Link**
Modbus/TCP   **LONWORKS**

MULTI-CHANNEL POWER MONITORING

The R9 Series Power Monitoring Unit is a compact all-in-one module that can measure up to 8 heavy current circuits with a common voltage input. An extension unit for additional 8 circuits (model: R9WTU-EP) can be attached to the side of basic unit. At the maximum of 16 measuring input unit provides for cost-effective multi-channel power monitoring solution for office buildings and manufacturing plants.

A discrete I/O extension unit (model: R9WTU-ED) is also available for 8 pulse inputs and 8 contact outputs. Pulse count signals such as gas/air pressure and water flow from other utility equipment, and production unit count signals can be taken in all together to the R9 unit for use with energy consumption rate calculation and energy efficiency improvement analysis of an entire manufacturing line.

Basic unit   *Discrete Extension Unit (model: R9WTU-ED)*

CLAMP-ON CURRENT SENSOR INPUT

Current sensors that can take in a flexible range of 5 to 600 amperes directly to the unit can be fitted easily without need of extensive installation work. They are purchased independently to minimize introduction cost of the energy monitoring system that can be expanded later when more measuring points are needed.

Current Sensor (model: CLSE)

OFFLINE MONITORING

The unit is equipped with a SD memory card slot. Data stored in its internal memory are transferred to the card at 0 minute every hour. A 4-GB SD memory can store information of 8 channels for approximately 16 years.

Energy (watthour) and pulse count input data per hour for each channel are stored with date/time. Voltage, current and power in addition to energy and pulse count per minute are also stored. All data are exported to the SD memory card every hour and saved in a CSV format file.

ONLINE MONITORING

Modbus RTU, Modbus TCP (Ethernet), CC-Link or LONWORKS interface types are available as standard. All parameters can be polled from a SCADA system on the PC: current, voltage, active/reactive/apparent power, power factor, frequency, active/reactive/apparent energy, harmonic distortion and date/time.

Contact outputs at the discrete extension I/O unit can be controlled from the host via the network for alarm and external count purposes.
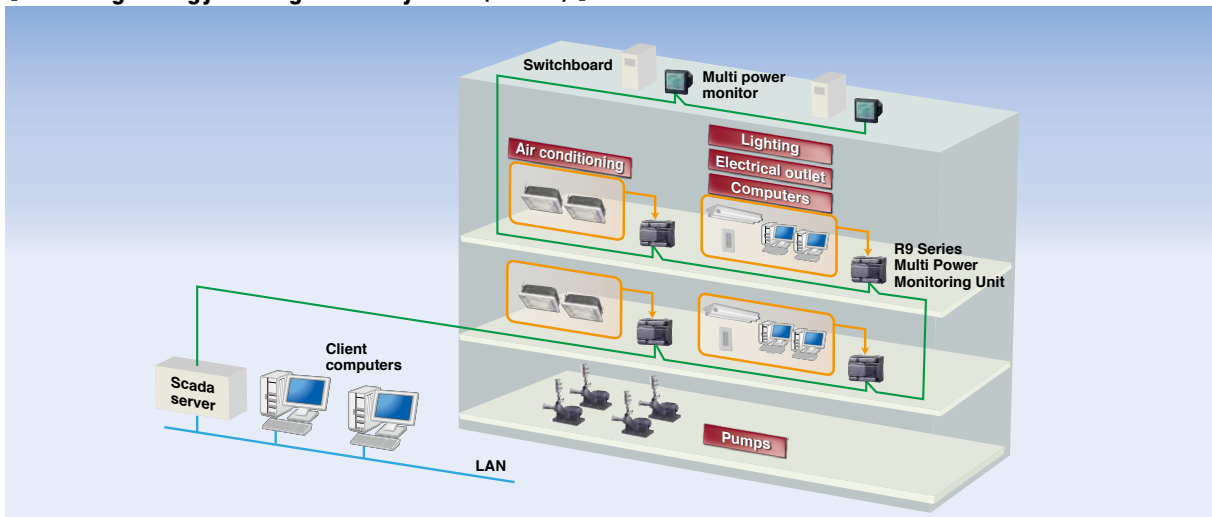
For M-System product information and downloadable data sheets, visit M-System web site at: www.m-system. co.jp.

Application Examples

[Product Cost Analysis]
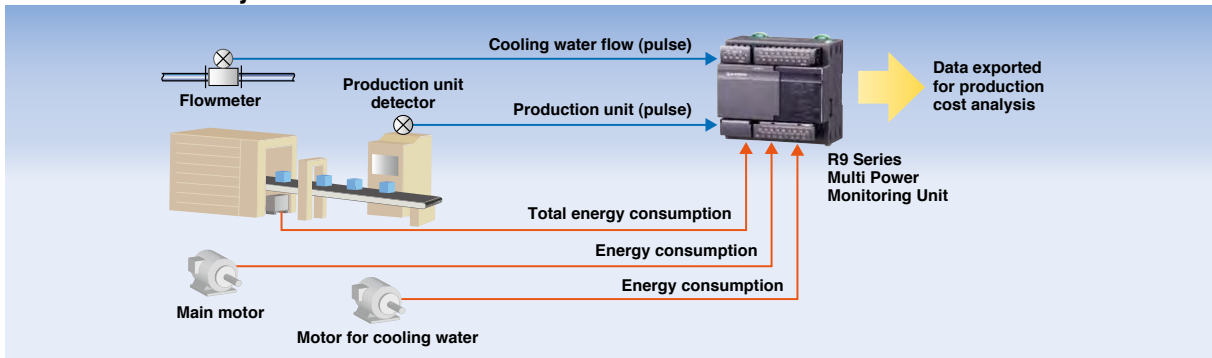

[Building Energy Management System (BEMS)]

GENERAL SPECIFICATIONS

Configuration	Single-phase/2-wire and 3-wire, Three-phase/3-wire
Voltage input	Delta voltage: 400 Vac (line to line) Phase voltage: 230 Vac (line to neutral) Selectable primary range: 50 to 400 000 V
Current input	Clamp-on current sensor model CLSE: 5 A, 50 A, 100 A, 200 A, 400 A, 600 A Selectable primary range: 1 to 20 000 A
Aux. power supply	100-240 Vac or 110-240 Vdc
Operating temperature	-10 to +55°C (14 to 131°F)
Operating humidity	30 to 90% RH (non-condensing)
Mounting	Surface or DIN rail
Accuracy	Voltage, current, power: ±0.5% of rating Energy: ±1% Power factor: ±1.5% Frequency: ±0.1% of rating Harmonic contents: ±2% of rating
Sampling time	Harmonic contents: 1 sec. or less Frequency: 1 sec. or less Other: 500 msec. or less
Insulation resistance	100 MΩ or more with 500 Vdc
Dielectric strength	1500 Vac @1 minute
Dimensions (DIN rail mount)	Basic unit: 125 x 122 x 80 mm (4.92" x 4.80" x 3.15") Extension unit: 93 x 122 x 80 mm (3.66" x 4.80" x 3.15") (when attached to the basic unit)

COMPONENT IDENTIFICATION (R9EWTU)
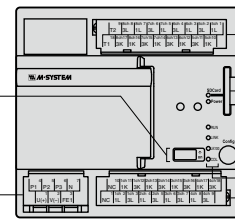
■ TOP VIEW

RJ-45 Connector for Modbus/TCP (Ethernet)
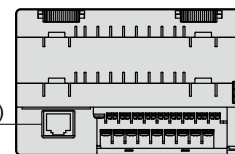
■ FRONT VIEW

Operating Mode Setting DIP SW (SW1)
Voltage Input / Auxiliary Power Supply
Current Input 2
SD Card Slot
PC Configurator Connection Jack
Status LED
Current Input 1

Your local representative: