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.

<table>
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<th>FUNCTION</th>
<th>MODEL</th>
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<td>R9MWTU</td>
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<td>Modbus TCP (Ethernet) Power Monitoring Unit</td>
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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.

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.
### 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 MO 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**
  - SD Card Slot
  - PC Configurator Connection Jack
  - Status LED
  - Current Input 1
  - Current Input 2
  - Voltage Input / Auxiliary Power Supply

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**Your local representative:**

- **Switchboard**
- **Multi power monitor**
- **Air conditioning**
- **Electrical outlet**
- **Lighting**
- **Scada server**
- **Client computers**
- **LAN**

**[ Product Cost Analysis ]**

- **Flowmeter**
- **Production unit detector**
- **Production unit (pulse)**
- **Motor for cooling water**
- **Total energy consumption**
- **Energy consumption**
- **Data exported for production cost analysis**

**[ Building Energy Management System (BEMS) ]**

- **Switchboard**
- **Multi power monitor**
- **Air conditioning**
- **Electrical outlet**
- **Lighting**
- **Scada server**
- **Client computers**
- **LAN**

**[ Application Examples ]**