



H8238 Series

**BACNET
CONNECTIVITY
Via E8951 GATEWAY**



H8238

MONITOR EIGHT 3-PHASE CIRCUITS WITH ONE DEVICE

DESCRIPTION

The **H8238 Multi-Circuit Monitor** power monitoring system provides a convenient solution for monitoring multiple electrical services that share a common voltage source. It also reports diagnostic information such as power factor, volts, amps, and kVAR, over an RS-485 network using the industry standard Modbus communication protocol. To protect valuable equipment, it has built-in alarm registers for over- and under-voltage, current, and kVA.

The monitoring capabilities and open systems compatibility of the H8238 make it an ideal power monitoring solution for OEM, tenant submetering applications, & load management of power distribution units commonly used in internet data centers.

FEATURES

- Revenue Grade measurements
- Save labor and installation costs by monitoring up to eight 3Ø, (or six 3Ø plus neutral current) loads from a single service with common voltage connections
- Minimizes the need to install multiple transducers – fewer components to install...saves time and space
- Easily connect up to 24 industry standard 5A CTs (solid-core and/or split-core)
- Modbus communication for efficient data collection
- Improve monitoring system efficiencies by accessing 26 data points per circuit, plus alarms, with one RS-485 drop
- Daisy chain up to 30 units on a single drop...easy wiring
- Field-selectable address, baud rate, parity and wiring connections...simple configuration
- Use with E8951 gateway for BACnet connectivity...expanded system compatibility
- Use with U013-0012 serial to ethernet protocol converter...easy system integration

SPECIFICATIONS

| | |
|-----------------------|---|
| Agency Approvals | UL508, EN61010-1, Cat. III, pollution degree 2 |
| INPUTS: | |
| Control Power | (90 to 132 Vac); (180 to 264 Vac for H8238E), 50/60 Hz |
| VOLTAGE INPUT | |
| Maximum Voltage | 480 Vac +10% = 528 Vac |
| Frequency | 60 Hz |
| CURRENT INPUT | |
| Number of Channels | 24 (8 meters x 3 phases/meter), 6 meters if neutral monitored |
| CT Input Type | 5 Amp (customer supplied) |
| CT Range | Each 3-phase circuit is independently configurable from 1 to 9999 A (using 5 A output CTs) |
| ACCURACY | |
| Accuracy | ±1% when amperage is at 10% to 100% of range (exclusive of user-supplied CTs) |
| Sample Rate | 1280 Hz |
| Variable Update Rate | 200 msec for voltages, 1.6 secs for all other |
| OUTPUTS | |
| Type | RS-485 Modbus RTU |
| Connection | DIP-switch selectable 2-wire or 4-wire |
| Address | DIP-switch selectable base address (1 to 233 in steps of 8). Each H8238 has 8 Modbus addresses. |
| Baud Rate | DIP-switch selectable 2400, 4800, 9600, or 19200 |
| Parity | DIP-switch selectable NONE/ODD/EVEN |
| Communication Format | 8 data bits, 1 start bit, 1 stop bit |
| Termination | 5-position pluggable connector |
| ENVIRONMENTAL | |
| Altitude of Operation | 3000 m |
| Operating Temp Range | 0 to 60 °C (32 to 140 °F) |
| Storage Temp Range | -40 to 70 °C (-40 to 158 °F) |
| Humidity Range | 0 to 95% non-condensing |
| ENVIRONMENTAL | |
| Limited Warranty | 5 years |

APPLICATIONS

- Tenant submetering
- Real-time power monitoring
- Activity-based costing
- Managing loads

ACCESSORIES

AL, BL, CL 5AAC Solid-Core Current Transformers
H681x-5A Split-Core Current Transformers
Modbus-to-BACnet Converter (E8951)
Modbus TCP Gateway (U013-0012)



H681x-5A



AL



BL



CL



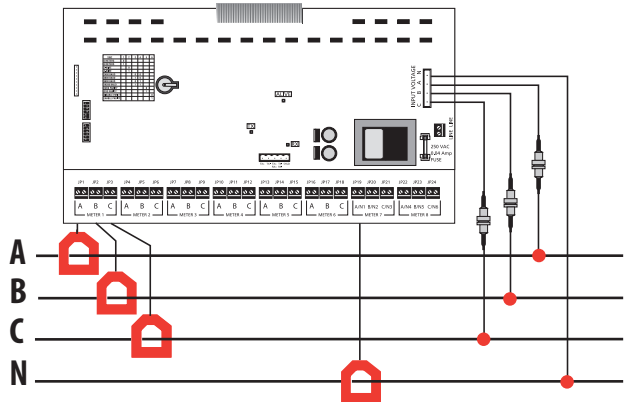
U013-0012



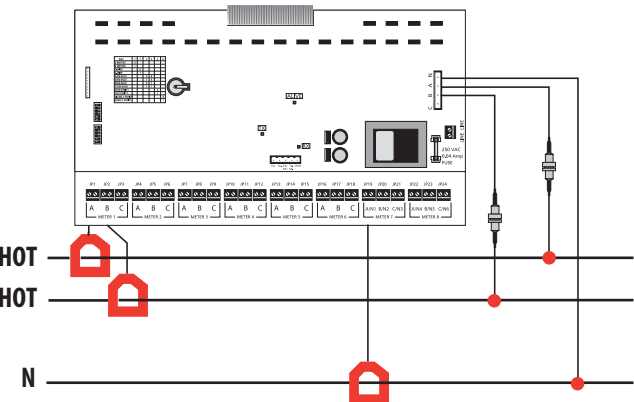
E8951

WIRING DIAGRAMS

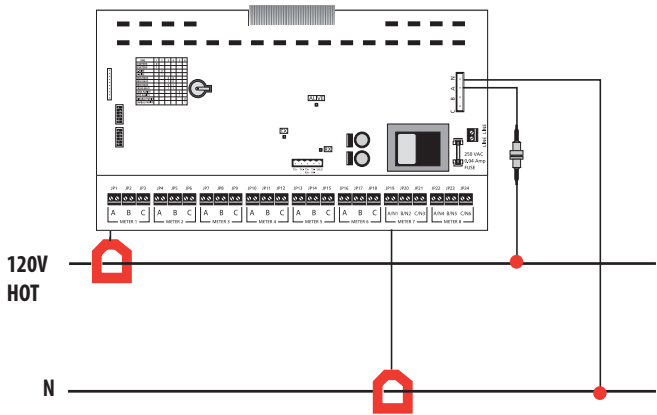
3-Phase 4-Wire Installation



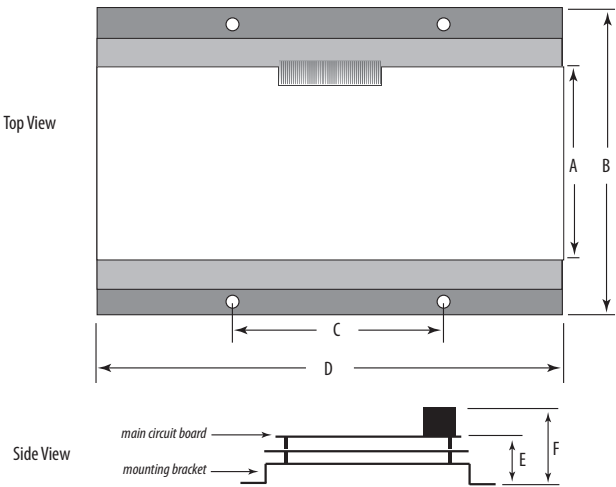
1-Phase 3-Wire Installation



1-Phase 2-Wire Installation



DIMENSIONAL DRAWINGS



WIDTH:
A = 5.3" (135 mm) board
B = 8.9" (226 mm) mounting bracket base

LENGTH:
C = 6.0" (153 mm)
D = 12.8" (325 mm)

HEIGHT:
E = 2.9" (74 mm)
F = 4.0" (101 mm)

DATA OUTPUTS

kWh Energy Consumption
kW Real Power
kVAR Reactive Power
kVA Apparent Power
Power Factor Total
Voltage, L-L, avg. of 3 phases
Voltage, L-N, avg. of 3 phases
Current, average of 3 phases
kW Real Power, phase A
kW Real Power, phase B
kW Real Power, phase C
Power Factor, phase A
Power Factor, phase B

Power Factor, phase C
Line to Line Voltage, phase A-B
Line to Line Voltage, phase B-C
Line to Line Voltage, phase A-C
Line to Neutral Voltage, phase A-N
Line to Neutral Voltage, phase B-N
Line to Neutral Voltage, phase C-N
Current, phase A
Current, phase B
Current, phase C
kW Average
kW Minimum
Frequency (measured from phase A)

Modbus® Alarms:
Over Voltage
Under Voltage
Over Current
Under Current
Over kVA
Under kVA
Phase Loss A
Phase Loss B
Phase Loss C

ORDERING INFORMATION

| MODEL | DESCRIPTION |
|--------|---|
| H8238 | Multi-Circuit Monitor, 90 to 130 Vac supply voltage |
| H8238E | Multi-Circuit Monitor, 240 Vac supply voltage |

For 240 Vac supply voltage version, order H8238E.

ATTENTION
H8238 Series transducers are sold as open devices. Observe handling precautions for static sensitive devices to avoid damage to the circuitry which would not be covered under the factory warranty.

*The CE mark indicates RoHS2 compliance. Please refer to the CE Declaration of Conformity for additional details.

