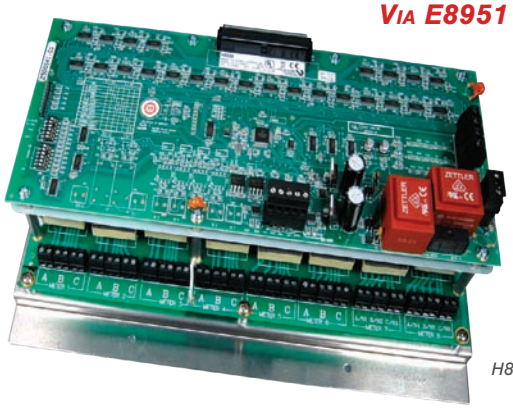
H8238 Series

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

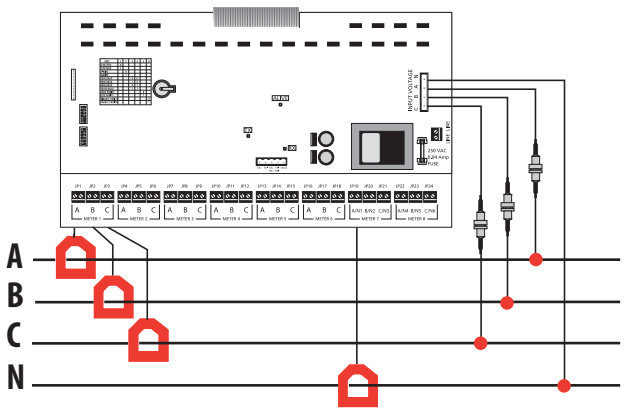
AL BL CL

U013-0012

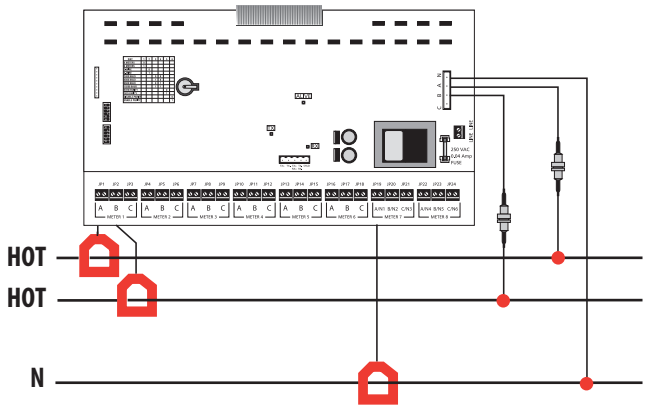
E8951

WIRING DIAGRAMS

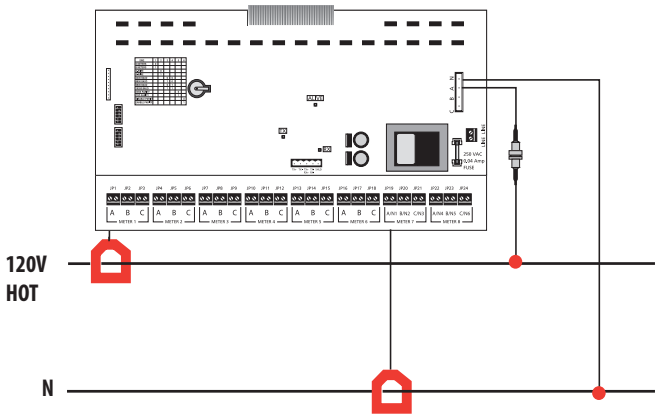
3-Phase 4-Wire Installation



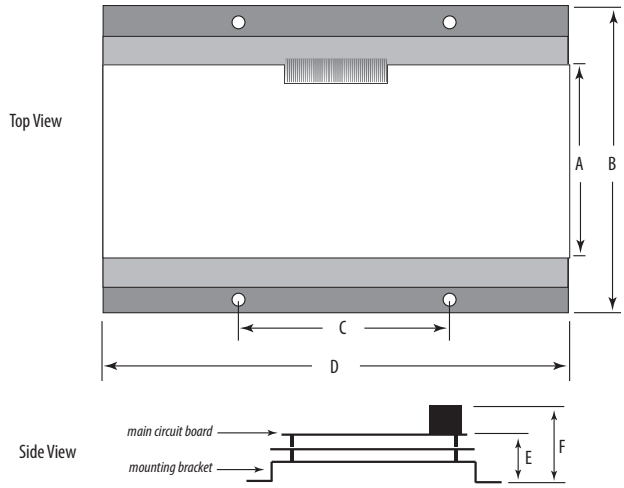
1-Phase 3-Wire Installation



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.

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.*