Data Sheet

Building Management Systems • 207-370-6517 • www.powerwisesystems.com

24 Channel Electricity Meter Modbus:

These networked power meters can capture kWh/kW energy and demand data as well as virtually all relevant energy parameters for diagnostics and monitoring on three-phase or single-phase circuit installations. The flexibility, size, and ease-of-use make these meters ideal tools to gather detailed consumption data in commercial, industrial, government and retail environments.

Features

- USB Port for Quick & Easy Setup to configure CT type, communication protocol, and other parameters.
- Choose between Serial or Ethernet interface
- Over 50 measured parameters for energy measurement, monitoring and diagnostics. Monitors voltage, current, power, energy, and many other electrical parameters on single and three-phase systems.
- 24 channels for multi-circuit monitoring
- Single or 3-phase energy and power meter for submetering applications
- Mix-and-match a full range of Split-Core or RoCoil™ Rogowski-style current transformers
- LED indicators ensure correct CT orientation during installation
- Line-Powered; 60-600V Phase-Phase Power Supply (Use on 120/240V, 208/120V, 480/277V, or 580/335V, 380/220 volt services; 50 or 60 Hz
- Equipped with industry-standard Modbus and BACnet Communications
- Data updates occur every 1 second
- UL
- CE Mark

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Specifications

Technical

Service Type	Single Phase, 3 Phase - 4 Wire (WYE), 3 Phase - 3 Wire (Delta)
Power	From L1 Phase to L2 Phase. 80-600VAC CAT III 50/60Hz, 70mA Max. Non-user replaceable .5 Amp internal fuse protection
Power Out	Unregulated 5VDC output, 500 mA Max
Voltage Channels	80-346 Volts AC Line-to-Neutral, 600V Phase-to-Phase, CAT III
Current Channels	3 24 channels, 0.67 VAC max, 333 mV CTs, 0-5,000A
Maximum Current Input	200% of current transducer rating (mV CTs) Measure up to 5000A with RoCoil CTs
Measurement Type	True RMS using high-speed digital signal processing (DSP)
Line Frequency	50/60 Hz
Waveform Sampling	12 kHz
Parameter Update Rate	1 second
Measurements	Volts, Amps, kW, kWh, kVAR, kVARh, kVA, kVAh, aPF, dPF
Accuracy	1% (<0.5% typical) for V, A, kW, kVAR, kVA, PF.
Resolution	0.01 Amp, 0.1 Volt, 0.01 watt, 0.01 VAR, 0.01 VA, 0.01 Power Factor depending on scalar setting
LED Indicators	Bi-color LEDs (red and green): 1 LED to indicate communication, 3 LEDs for correct CT-to-phase installation (per meter element).
Pulse Output	Open Collector, 75mA max current, 40V max open voltage

Communications

Direct	User selectable Modbus/BACnet Master Slave Token Passing protocol (MS/TP) or (optional) BACnet IP/Modbus TCP over Ethernet.
Max Distance	1200 meters with Data Range of 100K bits/second or less
Baud Rate	9600 (Modbus default), 19200, 38400, 57600, 76800 (BACnet default), 115200
Data Bits	8
Parity	None, Even, Odd
Stop Bit	2, 1
Data Formats	Modbus or BACnet

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Mechanical

Operating Temperature	-20° to 60°C (-4° to 140°F)
Humidity	5% to 95% non-condensing
Enclosure	(optional): PC UL 94 5V
Weight (Excluding CTs)	Without Enclosure: 369 g (13 oz)
	With Enclosure: 610 g (21.5 oz)
Dimensions	Without Enclosure: 25.5 x 16.5 x 3.2 cm (10.0" x 6.5" x 1.3")
	With Enclosure: 27.8 x 18.8 x 13.0 cm (10.9" x 7.4" x 5.1")

Modbus Register/BACnet Object Descriptions

System True Energy +/- (kWh)	Individual Phase to Phase Voltages
Instantaneous Total True Power +/- (kW)	Individual Phases True Energy +/- (kWh)
Peak Demand (Adjustable Window) (kW)	Individual Phases True Power +/- (kW)
Maximum Instantaneous Power +/- (kW)	Individual Phases Reactive Energy +/- (kVARh)
Minimum Instantaneous Power +/- (kW)	Individual Phases Reactive Power +/- (kVAR)
System Reactive Energy +/- (kVARh)	Individual Phases Apparent Energy kVAh)
System Apparent Energy (kVAh)	Individual Phases Apparent Power (kVA)
System Apparent Power (kVA)	Individual Phases Apparent Power Factor (aPF)
System Displacement Power Factor (dPF)	Individual Phases Displacement Power Factor (dPF)
System Apparent Power Factor (aPF)	Individual Phases Line to Neutral Voltages (Volts)
Average Line to Line Voltage (Volts)	Individual Phases Line to Line Voltages (Volts)
Average Line to Neutral Voltage (Volts)	PS3037: Net system true energy (kWh)