

Powermonitor 3000™ M8

The Allen-Bradley Powermonitor 3000 M8 is a highly sophisticated power meter designed to measure and analyze power quality data in critical energy management applications. The Powermonitor 3000 M8 deploys state-of-the-art dual-port technology that empowers customers to leverage the high performance newer networks without the need for cumbersome serial interface bridges. The M8 has many sophisticated features that makes it a valuable tool for power quality analysis and studies such as:



Benefits

- **Sub-Cycle Transient Detection:** The Powermonitor 3000 M8 continuously monitors all 7 voltage and current input channels and detect transients as small as 200 μ s.
- **Sub-Cycle Transient Capture:** The M8 captures data prior to, during and after a transient event. The M8 provides simultaneous captures of all 7 channels in non-volatile memory with up to 108 cycles per transient capture.
- **Harmonic Analysis:** The Powermonitor 3000 M8 provides individual harmonic analysis up to the 63rd harmonic. The M8 measures percent distortion and magnitude. It also performs harmonic calculations, such as TIF, %THD, %DIN, K-factor, Crest factor and compliance check to IEEE-519.
- **Communications:** Every Powermonitor 3000 M8 comes with a standard native RS-485 communication port that supports the DF1™ half-duplex slave protocol. The M8 is also available with factory-installed communication options such as DeviceNet™ Ethernet®, Remote I/O and DF1 via RS232. The Ethernet communication card includes a built-in HTML web page for Internet read access of all critical power and energy data.

The Complete Power Metering Solution

Perhaps the most important feature of the Powermonitor 3000 M8 is its role as a power quality meter in Rockwell Automation's Power and Energy Management Solutions. These solutions combine 1) Allen-Bradley power metering hardware, 2) Rockwell Software power management software, 3) Variety of communications protocols, such as Ethernet and DeviceNet, and 4) Value-added system integration services. The net result — a complete energy management and automation solution backed by the strength and experience of Rockwell Automation.

Additional Valuable Features

- Real time power monitoring with as low as 40 ms selectable update rate
- Configurable data logs, up to 45,867 records deep
- Event logs that are 100 records deep
- Min-Max logs values for 74 different parameters
- Time stamped data logging to nearest 0.01 second
- All logs stored internally in a non-volatile memory
- 20 configurable setpoints
- Projected demand
- Sag and Swell detection
- Load Factor calculation
- Electronic KYZ pulse output
- Ability to do external demand interval sync via external contact closure or communications
- Support for addressing onboard I/O using RIO discrete data reads
- Protected storage of user entered text for PM3000 detected or manually entered electrical system events
- IEEE 519 power quality pass/fail test
- Revenue metering accuracy compliance to ANSI C12.20 and EN 60687 Class 0.5 (Class 0.2 revenue accuracy is also available)
- ANSI C37.90-1989 breaker trip ratings, transient and oscillatory UL, CUL, CE certified
- PLC-5, SLC 500, ControlLogix, RSLinx, RSPower32, RSEnergyMetrix and RSView32 compatibility

Measurement Accuracy and Range

Parameters	Accuracy ¹	Nominal	Range
Volts	±0.05 %	347V 600V	15...399V _{L-N} RMS 26...691V _{L-L} RMS
Current	±0.05 %	5 A	50 mA...10.6 A RMS
Frequency	±0.05 Hz	50...60 Hz	40...75 Hz
Power	±0.1 %		
Energy	ANSI C12.20 and EN 60687 Class 0.5 Accuracy (Class 0.2 is also available)		

¹ In Percent of Full Scale @ 25 °C 50/60 Hz, unity power factor.

Environmental Ratings

Operating Temp., Ambient	1404-M805X-000, DNT, 1404-DM 1404-M805X-RIO, RS232, ENT	-20...+60 °C (-4...+140 °F) +0...+55 °C (+32...+132 °F)
Storage Temperature		-40...+85 °C (-40...+185 °F)
Humidity		5...95%, Noncondensing
Vibration		10...500 Hz: 2G Operational (±0.012 in) 2.5G Non-operational (±0.015 in)
Shock		1/2 Sine Pulse, 11 ms duration: 30G Operational and 30G Non-operational

Input Output Ratings

Control Power Input		120V...240V ac 50...60 Hz or 125V...250V dc (0.2 A maximum loading)
Voltage Input Impedance		1 MΩ minimum, 399V ac maximum; V1, V2 and V3 to N
Current Inputs	Overload Withstand	15 A continuous, 200 A for one second
	Burden	0.05 VA
	Impedance	0.002 Ω
	Maximum Crest Factor	3 @ 5 A
Status Input		Contact Closure (Internal 24V dc)
Control Relay Output		ANSI C37.90-1989
KYZ Output		Solid State KYZ — 80 mA at 240V dc — 300V dc

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