

# Bulletin 1420 PowerMonitor 500



Achieve Greater Visibility and Control Over Your Energy Spend

The Allen-Bradley® PowerMonitor™ 500 features an on-device LCD display in a compact footprint giving you instant visibility into your energy use.

## Features

- Measure voltage, current, power, energy, demand and power factor
- Multiple communication types including Modbus RTU or EtherNet/IP™
- Two optional analog outputs for variable speed process control
- Two optional digital relay outputs
- Four configurable alarms notify you of specified conditions

## Benefits

- Display and data communications allow you to record data centrally and display it locally
- Fewer components to install and compact size can help save time and space
- LCD display can help you make at-process decisions using real-time data
- Instant and accurate energy information can help lower operating costs
- Easy-to-configure on-device display can help simplify installation
- Fully integrated with RSEnergyMetrix® software for a complete energy management solution



Allen-Bradley PowerMonitor 500

## Product Description

The Allen-Bradley® PowerMonitor™ 500 can give you greater insight into energy consumption across the plant floor and enterprise-wide. Featuring an at-process display, the PowerMonitor 500 allows you to view energy data directly at the monitoring site without the need for additional human-machine interface (HMI) components. The local display provides instant and accurate sub-metering data to help keep you well-informed of how much power you use, what your major loads are and when you use power the most.

The PowerMonitor 500 features a compact, space-saving design which mounts directly on the panel door. Installation is simplified with on-device configuration. Offering digital or analog outputs and Serial Modbus or EtherNet/IP™ communications, the PowerMonitor 500 can be easily integrated into your existing energy monitoring systems. RSEnergyMetrix® software can further enhance your view into your energy spend. As part of an integrated network, the PowerMonitor 500 can easily communicate with your existing Allen-Bradley PLCs (PLC-5®, SLC™, ControlLogix® Compact/Control family), allowing energy data to be used in control systems.

The PowerMonitor 500 is a cost-effective sub-metering option, providing critical data that can help you make at-process decisions, reduce energy usage and increase your company's profits.

LISTEN.  
THINK.  
SOLVE.®

## Product Specifications

Catalog Number	Description
1420-V1	PowerMonitor 500 Power Meter Indicator 240V AC V-LL 120V AC V-LN/208V AC V-LL
1420-V1P	PowerMonitor 500 Power Meter 240V AC V-LL 120V AC V-LN/208V AC V-LL Pulse (digital) Output
1420-V1A	PowerMonitor 500 Power Meter 240V AC V-LL 120V AC V-LN/208V AC V-LL Analog Output
1420-V1-ENT	PowerMonitor 500 EtherNet/IP Power Meter 240V AC V-LL 120V AC V-LN/208V AC V-LL
1420-V1P-485	PowerMonitor 500 Serial Power Meter 240V AC V-LL 120V AC V-LN/208V AC V-LL Pulse (digital) Output
1420-V1P-ENT	PowerMonitor 500 EtherNet/IP Power Meter 240V AC V-LL 120V AC V-LN/208V AC V-LL, Pulse (digital) Output
1420-V1P-485	PowerMonitor 500 Serial Power Meter 240V AC V-LL 120V AC V-LN/208V AC V-LL, Pulse (digital) Output
1420-V1A-ENT	PowerMonitor 500 EtherNet/IP Power Meter 240V AC V-LL 120V AC V-LN/208V AC V-LL Analog Output
1420-V1A-485	PowerMonitor 500 Serial Power Meter 240V AC V-LL 120V AC V-LN/208V AC V-LL Analog Output
1420-V2	PowerMonitor 500 Power Meter Indicator 400V AC V-LN and 690V AC V-LL
1420-V2P	PowerMonitor 500 Power Meter 400V AC V-LN and 690V AC V-LL, Pulse (digital) Output
1420-V2A	PowerMonitor 500 Power Meter 400V AC V-LN and 690V AC V-LL, Analog Output
1420-V2-ENT	PowerMonitor 500 EtherNet/IP Power Meter 400V AC V-LN and 690V AC V-LL
1420-V2-485	PowerMonitor 500 Serial Power Meter 400V AC V-LN and 690V AC V-LL
1420-V2P-ENT	PowerMonitor 500 EtherNet/IP Power Meter 400V AC V-LN and 690V AC V-LL, Pulse (digital) Output
1420-V2P-485	PowerMonitor 500 Serial Power Meter 400V AC V-LN and 690V AC V-LL, Pulse (digital) Output
1420-V2A-ENT	PowerMonitor 500 EtherNet/IP Power Meter 400V AC V-LN and 690V AC V-LL, Analog Output
1420-V2A-485	PowerMonitor 500 Serial Power Meter 400V AC V-LN and 690V AC V-LL, Analog Output

Display, LEDs, and Commands	
Display refresh time	≤ 100 ms
Display	4 lines, 4 -DGT, 1 lines, 10-DGT
Type	LCD, single color backlight
Instantaneous variables read-out	4-DGT
Energy variables read-out	Imported Total/Partial: 9+1DGT or 10DGT; Exported Total/Partial: 9+1DGT (with '-' sign).
Virtual alarms	4 red LED available in case of virtual alarm ( AL1-AL2-AL3-AL4)
Energy consumption	Red LED (only kWh)

General Specifications	
Temperature, operating	-25°C...55°C(-13...131°F)(R.H. from 0...90% noncondensing @ 40°C) according to EN62053-21, EN50470-1 and EN62053-23
Temperature, storage	-30°C...70°C(-22...158°F)(R.H. < from 90% noncondensing @ 40°C) according to EN62053-21, EN50470-1 and EN62053-23
Installation category	Cat.III (IEC60664, EN60664)
Dielectric strength	4 kV AC RMS for 1 minute
Noise rejection CMRR	100dB, 48...62 Hz
Standard compliance	
Safety	IEC60664, IEC61010-1 EN60664, EN61010-1 EN62052
Metrology	EN62053-21 EN62053-23, EN50470-3. MID 'annex MI-003'
Pulse output	DIN43864, IEC62053-31
Approvals	CE, cULus (E56639)
Dimensions (WxHxD)	Module holder: 96x96x50mm (4x4x2 inches) 'A' and 'B' type modules: 89.5x63x16mm (3.5x2.5x0.6 inches) 'C' type module: 89.5x 63x20mm (3.5x2.5x0.8 inches)
Material	ABS, self-extinguishing: UL 94 V-0
Mounting	Panel mounting
Front	IP65, NEMA 4X, NEMA 12
Screw Terminals	IP20
Weight Approx.	400 g (0.88 lb) (packing included)

Input and Output Ratings	
Parameter	Rating
Control Power	90...260V AC/DC (48...62 Hz)
Voltage Sense Inputs V1, V2, V3	V1:Un: 40-144V LN (70-250V LL); V2: Un: 160-480V LN (277-830V LL)
Current Sense Inputs: I1, I2, I3	Continuous Current: 5 A Max current (Imax): 6 A Accuracy: From 0.01...0.05 In: ±(1.0% of reading (RDG) + 2 digit (DGT)) From 0.05 In to Imax: ±(0.5% RDG +2 DGT)
Digital Output	Relay, SPDT type AC 1-5 A @ 250V AC; AC 15-1.5 A @ 250V AC DC 12-5A @ 24V DC; DC 13-1.5A @ 24V DC
Analog Output	0...20 mA

Allen-Bradley, ControlLogix, PLC-5, PowerMonitor, RSEnergyMetrix and SLC are trademarks of Rockwell Automation, Inc. Trademarks not belonging to Rockwell Automation are property of their respective companies.

[www.rockwellautomation.com](http://www.rockwellautomation.com)

### Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846