

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 |

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