

# Product Details and Certifications

Cross Reference RA Part Number: PN-125791



Product: **1420-V2-ENT**

Description: PowerMonitor 500, EtherNet/IP power meter, 400V AC V-LN and 600V AC V-LL



Representative Photo Only (actual product may vary based on configuration sections)

## **POWERMONITOR DATA**

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Bulletin	1420- PowerMonitor 500 Unit
Control Power	Nominal: 120/240V AC (50/60 Hz) or 120/240V DC Range: 100...240V AC (48...62 Hz)
Voltage Sense Inputs: V1,V2	V1 model: Nominal: 120V AC LN, 208V AC LL Range: 40...144V AC LN RMS, 70...250V AC LL RMS V2 model: Nominal: 400V AC LN, 600V AC LL Range: 160...480V AC LN RMS, 277...830V AC LL RMS
Current Sense Inputs	Nominal: 5 A Range: 0.01...6 A
Sampling Rate	3840 samples/second at 60 Hz, 3200 samples/second at 50 Hz
Rated Inputs	System type: 1, 2, or 3-phase
Current range (by CT)	5 A nom (6 A max)
Voltage (by direct connection or VT/PT)	V1: 120/208V LL; V2: 400/600V LL

## **CERTIFICATIONS AND APPROVALS**

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UL

CE

For UL Certifications Directory:

<http://database.ul.com/cgi-bin/XYV/template/LISEXT/IFRAME/index.htm>

**PowerMonitor 500 Unit Features**

Feature	Availability <sup>(1)</sup>
<b>Demand</b>	
Demand (kW)	X
Demand (kVAR)	X
Demand (kVA)	X
Demand Power Factor	X
<b>Communication</b>	
EtherNet/IP and Modbus TCP/IP	0
RS-485 (Modbus RTU)	0
<b>Input/Outputs</b>	
Analog Output (0...20 mA)	0
Pulse (digital) Output	0
<b>Other Features</b>	
Configurable via software tool	X
Configurable Alarms	X
Voltage rotation (phase sequence)	X

(1) An '0' indicates that these features are optional.

**Product Selection****Available Product**

Cat. No.	Description
1420-V1	PowerMonitor 500 power meter indicator, 240V AC V-LL 120V AC V-LN/240V AC V-LL
1420-V1A	PowerMonitor 500 power meter, 240V AC V-LL 120V AC V-LN/240V AC V-LL, analog output
1420-V1P	PowerMonitor 500 power meter, 240V AC V-LL 120V AC V-LN/240V AC V-LL, pulse (digital) output
1420-V1-485	PowerMonitor 500 serial power meter, 240V AC V-LL 120V AC V-LN/240V AC V-LL
1420-V1A-485	PowerMonitor 500 serial power meter, 240V AC V-LL 120V AC V-LN/240V AC V-LL, analog output
1420-V1P-485	PowerMonitor 500 serial power meter, 240V AC V-LL 120V AC V-LN/240V AC V-LL, pulse (digital) output
1420-V1-ENT	PowerMonitor 500 EtherNet/IP power meter, 240V AC V-LL 120V AC V-LN/240V AC V-LL
1420-V1A-ENT	PowerMonitor 500 EtherNet/IP power meter, 240V AC V-LL 120V AC V-LN/240V AC V-LL, analog output
1420-V1P-ENT	PowerMonitor 500 EtherNet/IP power meter, 240V AC V-LL 120V AC V-LN/240V AC V-LL, pulse (digital) output
1420-V2	PowerMonitor 500 power meter indicator, 400V AC V-LN and 600V AC V-LL
1420-V2A	PowerMonitor 500 power meter, 400V AC V-LN and 600V AC V-LL, analog output
1420-V2P	PowerMonitor 500 power meter, 400V AC V-LN and 600V AC V-LL, pulse (digital) output
1420-V2-485	PowerMonitor 500 serial power meter, 400V AC V-LN and 600V AC V-LL
1420-V2A-485	PowerMonitor 500 serial power meter, 400V AC V-LN and 600V AC V-LL, analog output
1420-V2P-485	PowerMonitor 500 Serial power meter, 400V AC V-LN and 600V AC V-LL, pulse (digital) output
<b>1420-V2-ENT</b>	<b>PowerMonitor 500 EtherNet/IP power meter, 400V AC V-LN and 600V AC V-LL</b>
1420-V2A-ENT	PowerMonitor 500 EtherNet/IP power meter, 400V AC V-LN and 600V AC V-LL, analog output
1420-V2P-ENT	PowerMonitor 500 EtherNet/IP power meter, 400V AC V-LN and 600V AC V-LL, pulse (digital) output

# Specifications

## General Specifications - 1420-Vx, 1420-Vxx, 1420-Vxx-xxx

Attribute	Accuracy (Display and RS-485) (at 25 °C ±5 °C, R.H. ≤ 60%, 48...62 Hz)
V1 model	I <sub>nom</sub> : 5 A, I <sub>max</sub> : 6 A Line-neutral RMS: 40...144V AC Line-Line RMS: 70...250V AC
V2 model	I <sub>nom</sub> : 5 A, I <sub>max</sub> : 6 A Line-neutral RMS: 160...480V AC Line-line RMS: 277...830V AC
Current all models	From 0.01...0.25 A: ±(1.0% of reading (RDG) + 2 digits) From 0.25...6 A: ±(0.5% RDG +2 digits)
Line-neutral voltage	In the range V <sub>nom</sub> : ±(0.5% RDG +1 digit)
Line-line voltage	In the range V <sub>nom</sub> : ±(1.0% RDG +1 digit)
Frequency	±0.1 Hz (45...65 Hz)
Real and apparent power	From 0.05...0.25 A, PF 1: ±(2% RDG +1 digit) From 0.25...6 A, PF 0.5L, PF1, PF 0.8C: ±(1.0% RDG+1 digit)
Power factor (PF)	±[0.001+0.5% (1.000 -'PF RDG')]
Reactive power	From 0.5...6 A, sinφ 0.5L/C: ±(2.0% RDG +1 digit) From 0.25...0.5 A, sinφ 0.5L/C: ±(2.5% RDG +1 digit) From 0.25...6 A, sinφ 1.0: ±(2.0% RDG+1 digit) From 0.1...0.25 A, sinφ 1: ±(2.5% RDG+1 digit) TIP: sinφ = VAR/VA
Real energy	Class 1 according to EN62053-21, ANSI C12.1 Class B according to EN50470-3
Reactive energy	Class 2 according to EN62053-23, ANSI C12.1
Start up current	5 mA



## Input/Output Specifications - 1420-Vx, 1420-Vxx, 1420-Vxx-xxx

Attribute	Value
Voltage Sensing	V1 model: Nominal: 120V AC LN, 208V AC LL Range: 40...144V AC LN RMS, 70...250V AC LL RMS V2 model: Nominal: 400V AC LN, 600V AC LL Range: 160...480V AC LN RMS, 277...830V AC LL RMS
Current Sensing	Nominal: 5 A Range: 0.01...6 A
Control Power	Nominal: 120/240V AC (50/60 Hz) or 120/240V DC Range: 100...240V AC (48...62 Hz)
Sampling Rate	3840 samples/second at 60 Hz, 3200 samples/second at 50 Hz
Rated inputs	System type: 1, 2, or 3-phase
Current range (by CT)	5 A nom (6 A max)
Voltage (by direct connection or VT/PT)	V1: 120/208V LL; V2: 400/600V LL
Crest factor	≤3 (15 A max peak)

**Environmental Specifications - 1420-Vx, 1420-Vxx, 1420-Vxx-xxx**

Attribute	Value
Temperature, operating	-25...+40 °C (-13...+104 °F) (R.H. from 0...90% noncondensing @ 40 °C) according to EN62053-21, EN50470-1 and EN62053- 23
Temperature, storage	-30...+70 °C (-22...+158 °F) (R.H. < 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	100 dB, 48...62 Hz
EMC	According to EN62052-11
Electrostatic discharge	15 kV air discharge
Immunity to radiated electromagnetic fields	Test with current: 10V/m from 80...2000 MHz
	Test without any current: 30V/m from 80...2000 MHz
Burst	On current and voltage measuring inputs circuit: 4 kV
Immunity to conducted disturbances	10V/m from 150 KHz...80 MHz
Surge	On current and voltage measuring inputs circuit: 4 kV; on 'L' auxiliary power supply input: 1 kV
Radio frequency suppression	According to CISPR 22

**Standard Compliance - 1420-Vx, 1420-Vxx, 1420-Vxx-xxx**

Attribute	Value
Safety	IEC60664, IEC61010-1 EN60664, EN61010-1
Metrology	EN62052-11, EN62053-21, EN62053-23, EN50470-3
Pulse output	DIN43864, IEC62053-31
Approvals	CE, cULus (E56639)
Connections	Screw-type
Cable cross-section area	2.5 mm <sup>2</sup> (14 AWG) max Screw tightening torque: 0.4 N•m min/0.8 N•m max Suggested screw tightening torque: 0.5 N•m

**Housing DIN - 1420-Vx, 1420-Vxx, 1420-Vxx-xxx**

Attribute	Value
Dimensions (WxHxD), approx	Module holder: 96 x 96 x 50 mm (3.78 x 3.78 x 1.97 in.) Digital and analog output type modules: 89.5 x 63 x 16 mm (3.52 x 2.48 x 0.63 in.) Serial and Ethernet Communication type modules: 89.5 x 63 x 20 mm (3.52 x 2.48 x 0.79 in.)
Depth behind panel, max	81.7 mm (3.2 in.)
Material	ABS, self-extinguishing: UL 94 V-0
Mounting	Panel mounting
Pollution degree	2
Front	IP65, NEMA4x, NEMA12
Screw terminals	IP20
Weight, approx	400 g (0.88 lb) (packing included)

**Certifications - 1420-Vx, 1420-Vxx, 1420-Vxx-xxx**

Attribute	Description
UL/CUL	cULus (E56639)
CE Certification	CE Certifications apply when product is marked. See our Product Certification site for Declarations of Conformity, certificates and other certification details.