

Product Details and Certifications

Cross Reference RA Part Number: PN-125790

Product: 1420-V2A

Description: PowerMonitor 500 power meter, 400V AC V-LN and 600V AC V-LL, analog Output



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

POWERMONITOR DATA

| | |
|---|--|
| 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

UL

CE

For UL Certifications Directory:

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

PowerMonitor 500 Unit Features

| Feature | Availability ⁽¹⁾ |
|-----------------------------------|-----------------------------|
| Demand | |
| Demand (kW) | X |
| Demand (kVAR) | X |
| Demand (kVA) | X |
| Demand Power Factor | X |
| Communication | |
| EtherNet/IP and Modbus TCP/IP | 0 |
| RS-485 (Modbus RTU) | 0 |
| Input/Outputs | |
| Analog Output (0...20 mA) | 0 |
| Pulse (digital) Output | 0 |
| Other Features | |
| 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 |
| 1420-V2-ENT | PowerMonitor 500 EtherNet/IP power meter, 400V AC V-LN and 600V AC V-LL |
| 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 _{nom} : 5 A, I _{max} : 6 A Line-neutral RMS: 40...144V AC Line-Line RMS: 70...250V AC |
| V2 model | I _{nom} : 5 A, I _{max} : 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 _{nom} : ±(0.5% RDG +1 digit) |
| Line-line voltage | In the range V _{nom} : ±(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 ² (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. |