



Product: 1408-TR2A-ENT

Description: 1408 Powermonitor 1000



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

POWERMONITOR DATA

Model Functionality	Voltage, Current, and Power Transducer
Control Power	120/240V AC
Communications	Serial and Ethernet Communication

Bulletin 1408 - PowerMonitor 1000 Unit

Overview

The PowerMonitor 1000 unit is a compact, cost-effective, electric power and energy metering device intended for use in industrial control applications, such as distribution centers, industrial control panels, and motor control centers. The power monitor measures voltage and current in an electrical circuit, meeting revenue accuracy standards. The power monitor communicates power and energy parameters to applications, such as FactoryTalk EnergyMetrix, over Ethernet or serial networks. The power monitor works with these software applications to address the following key customer applications:



- **Load profiling** – log power parameters, such as real power, apparent power, and demand, for analysis of power usage by loads over time
- **Cost allocation** – reporting actual energy cost by department or process to integrate energy information into management decisions
- **Billing and sub-billing** – charging users of energy the actual usage cost rather than allocating by square footage or other arbitrary methods
- **Power system monitoring and control** – display and control power flow and energy utilization

Features

PowerMonitor 1000 Unit Features



Features	TR1	TR2	EM1	EM2	EM3
Voltage	X	X			X
Current	X	X			X
Frequency	X	X			X
Consumption					X
Demand					X
Analog output					X
Pulse (digital) output					X
Voltage unbalance	X	X			X
Current unbalance	X	X			X
kW		X			X
kVAR		X			X
kVA		X			X
True Power Factor					X
kWh			X	X	X
kVARh				X	X
kVAh				X	X
kW demand				X	X
kVAR demand				X	X
kVA demand				X	X
Projected kW demand				X	X
Projected kVAR demand				X	X
Projected kVA demand				X	X
Demand power factor				X	X
Energy log			X	X	X
Min/Max log	X	X		X	X
Load factor log				X	X
Status log	X	X	X	X	X
RS-485	X	X	X	X	X
Ethernet	X	X	X	X	X

Product Selection

Available Product

Cat. No.	Description
1408-TR1A-485	PowerMonitor 1000 voltage and current transducer with serial network communication
1408-TR1A-ENT	PowerMonitor 1000 voltage and current transducer with Ethernet network communication
1408-TR2A-485	PowerMonitor 1000 voltage, current, and power transducer with serial network communication
1408-TR2A-ENT	PowerMonitor 1000 voltage, current, and power transducer with Ethernet network communication
1408-EM1A-485	PowerMonitor 1000 KWh submeter with serial network communication
1408-EM1A-ENT	PowerMonitor 1000 KWh submeter with Ethernet network communication
1408-EM2A-485	PowerMonitor 1000 energy and demand monitor with serial network communication
1408-EM2A-ENT	PowerMonitor 1000 energy and demand monitor with Ethernet network communication
1408-EM3A-485	PowerMonitor 1000 energy, demand, and power monitor with serial network communication
1408-EM3A-ENT	PowerMonitor 1000 energy, demand, and power monitor with Ethernet network communication



Specifications

Technical Specifications

Attribute	Accuracy in % of Reading at 25 °C (77 °F) 50/60 Hz Unity Power Factor						Nominal / Range
		Applies to					
		TR1	TR2	EM1	EM2	EM3	
Voltage sense inputs: V1, V2, V3	±0.5%	X	X			X	Line-neutral rms: 347V / 15...399V Line-line rms: 600V / 26...691V
Current sense input: I1, I2, I3	±0.5%	X	X			X	5A / 0.05...10.0 A rms
Frequency	±0.05 Hz	X	X			X	50 or 60 Hz / 40...75 Hz
Power functions: kW, kVA, kVAR	EN62053-21:2003 Accuracy Requirement Class 1		X			X	
Demand functions: kW, kVA					X	X	
Energy functions: kWh, kVAh				kWh only	X	X	
Metering update rates		100 ms V, I, Hz 200 ms Power	X	X	X	X	



Input and Output Specifications

Attribute	Value
Control power	85...264V AC 47...63 Hz 125...250V DC 4VA max
Voltage sense inputs: V1, V2, V3	Input impedance: 5 M Ω min Input current: 2 mA max
Current sense inputs: I1, I2, I3	Overload withstand: 15 A continuous, 200 A for 1/2 s Burden: 0.05V A Impedance: 0.002 W Max crest factor at 5 A is 3.0 Starting current: 5 mA
Status inputs	Contact closure (internal 24V DC)
KYZ output	80 mA at 240V AC / 300V DC

Environmental Specifications

Attribute	Value	
Dielectric withstand	Control power	2500V
	Voltage inputs	2500V
	Current inputs	2500V
	Status inputs	2500V
	KYZ output	2500V
Terminal blocks	0.34...2.5 mm ² (22...14 AWG), 75 °C (167 °F) min copper wire only Recommended torque 0.8 N•m (7 lb•in)	
Temperature, operating	-10...60 °C (14...140 °F)	
Temperature, storage	-40...85 °C (-40...185 °F)	
Humidity, noncondensing	5...95%	
Vibration	2.0 g 10...500 Hz	
Shock, operating	30 g peak each axis	
Shock, nonoperating	50 g peak each axis	