Power Xpert® Gateway 200E

Delivers real-time, Web-enabled monitoring of electrical distribution and control equipment

Product snapshot

The Power Xpert Gateway 200E (PXG 200E) is designed to provide a Web-enabled gateway to serially communicating energy meters via a standard Web browser. The PXG 200E supports revenue grade single and multipoint energy meters via Modbus RTU and INCOM. Operates as a cost-effective hardware solution for better energy management, i.e.; no software required, can export data for use in other new or existing monitoring systems.

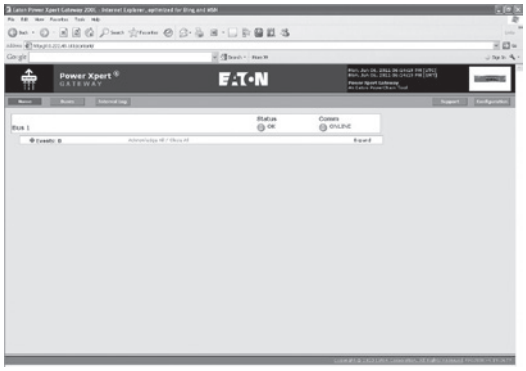
Product overview

The PXG 200E allows you to:

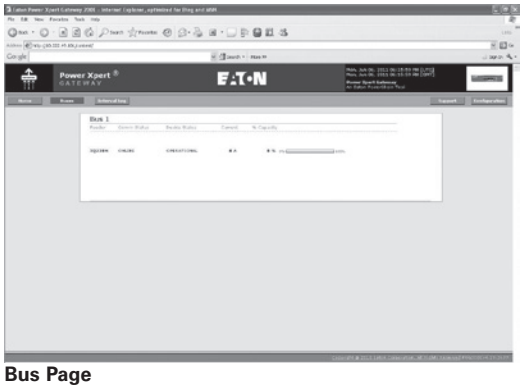
- Monitor energy usage patterns and reveal opportunities for efficiency improvements
- Remotely monitor real-time conditions and profile 5-minute interval trend logs, and export data in csv format
- Allocate energy costs to departments or processes
- Reduce peak demand surcharges
- Reduce power factor penalties
- Identify billing discrepancies
- Allows user to daisy-chain multiple Ethernet compatible downstream devices via RJ-45 port (see Page 5, Figure 5)
- Connect to downstream devices via a Web browser, Modbus master, SNMP or BACnet/IP clients separately or concurrently

In Firmware version 5.08 the ability to upload EDS files was introduced in the PXG200E. Please contact the CST (Technical Support) to obtain the standard supported EDS files for the other PXG-E models (400E, 600E, 800E). As standard the PXG200E supports a reduced list of devices.

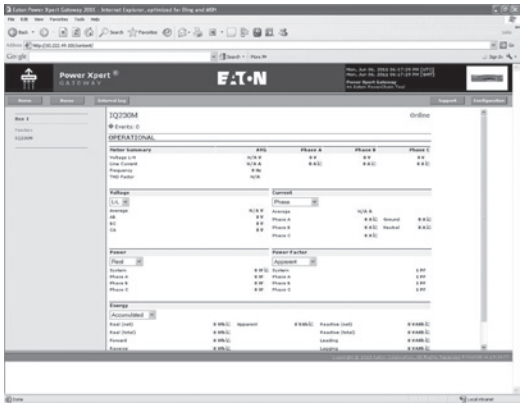
Power Xpert Gateway Screenshots



Home Page



Bus Page



Device Page

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PXG 200E Features

Features	PXG 200E
Total number of supported devices	64
Maximum number of INCOM devices supported	64
Maximum number of Modbus devices supported	32
Protocols supported on downstream devices: (INCOM and Modbus RTU)	Yes
Number of downstream communication ports	2
Number of downstream protocols supported simultaneously	2
USB port for configuration	Yes
Two RJ-45 Ethernet ports—10/100Base-T	Yes
Modbus TCP/IP protocols supported	Yes
SNMP client access v.1 and v.3	Yes
BACnet/IP	Yes
INCOM slave action commands supported	Yes
INCOM date and time settings supported	Yes
Modbus write commands supported from Modbus master	Yes
Device summary screens per main, bus and device	Yes
Event notification via the Web interface	Yes
Secure Ethernet communications—SSL encryption	Yes
Secure communication ports via access control/trusted host list	Yes
IPv4 & IPv6 support	Yes
Save and restore configuration file	Yes
Interval logging—csv file format, downloadable to Excel	Yes
Ability to upload additional or modified EDS files	No
Device waveform access and storage—COMTRADE file format	No
Set user-defined events	No
Trend graph displayed	Yes
Data logging—csv file format, downloadable to Excel	No
Event logging—csv file format, downloadable to Excel	No
E-mail notification on events and threshold alarms	No
Custom summary Web page creation	No
Ability to create custom events	No

The Eaton Power Xpert Gateway 200E Includes:

- The Power Xpert Gateway module
- Mounting provisions and required hardware for panel and DIN rail mounting

CD-ROM: contains the user manual, Modbus register maps, USB driver and other associated files

Enclosed Version

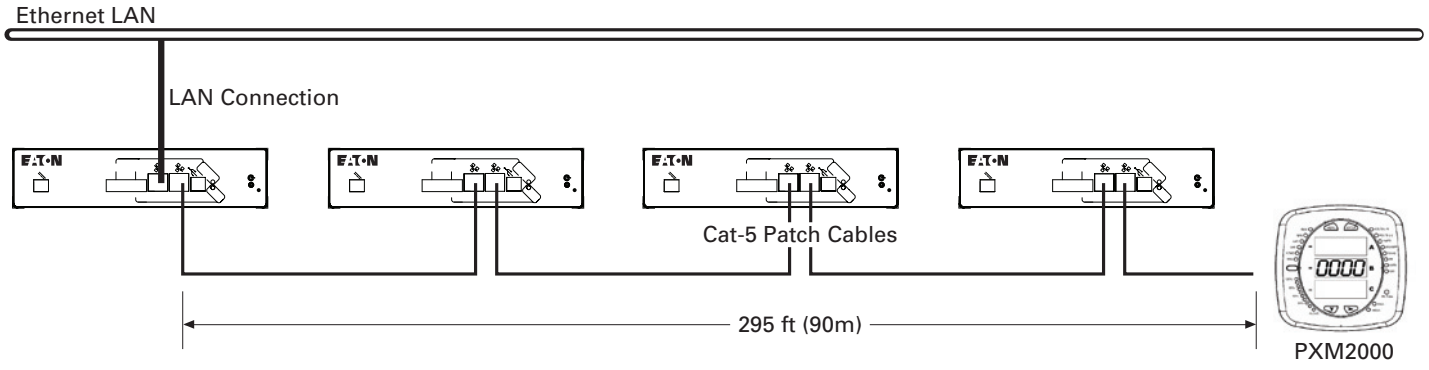
- Cost effective solution to add communications to new or existing equipment that has no physical space to install the PXG-E in the equipment structure
- NEMA 12 Enclosure rating
- Prewired with a ELC-PS02 power supply and Terminal Blocks for ease of wiring of incoming power and connected devices

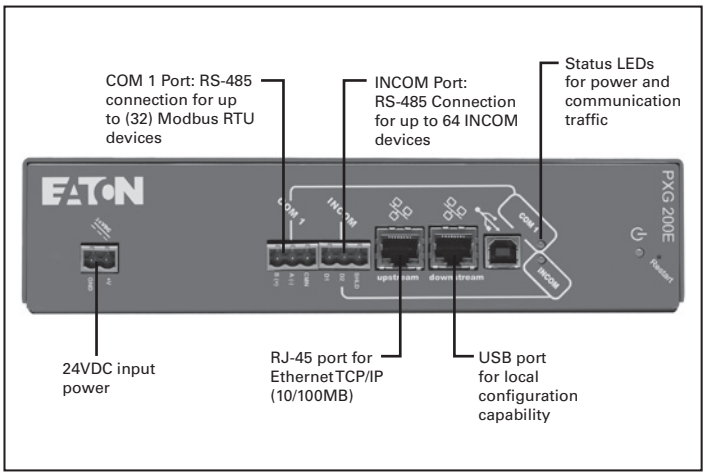
PXG-E Daisy Chain Application

The PXG-E allows for units to be connected together through two RJ-45 10/100 connectors on the front of the PXG-E series of products. This arrangement is a pass-through of Ethernet communications allowing a single network drop to connect up to five Ethernet communicating devices. The maximum length of a copper cable run should not exceed 295 ft (90m) total.

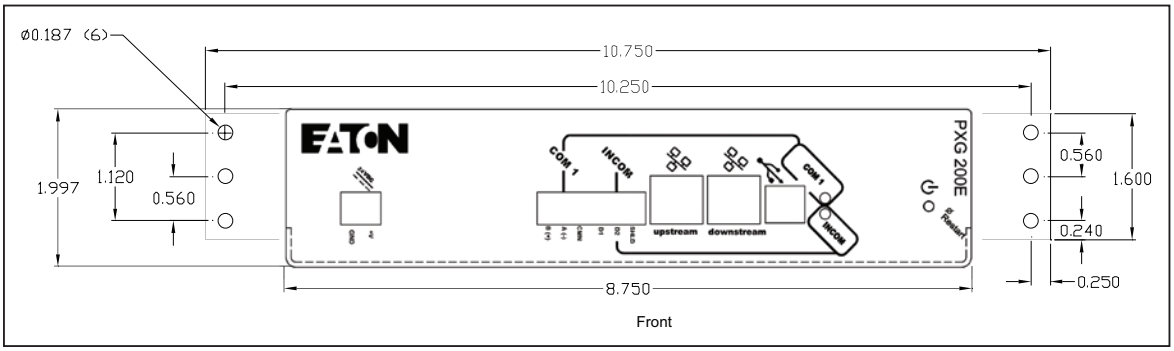
Note: In this configuration, if any of the PXG-E units go offline or lose power, the communication to the downstream Ethernet devices will lose connection to the LAN.

PXG-E Daisy Chain Application

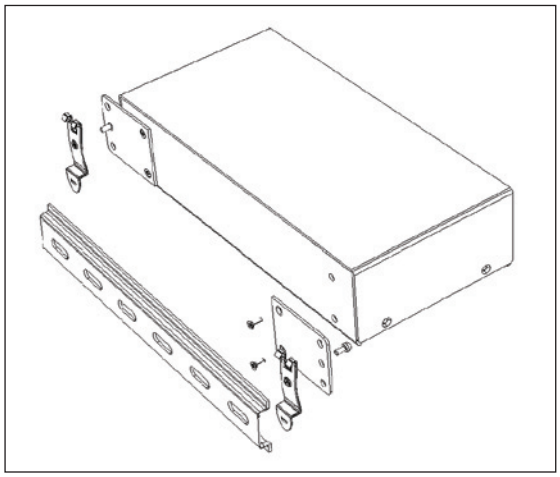




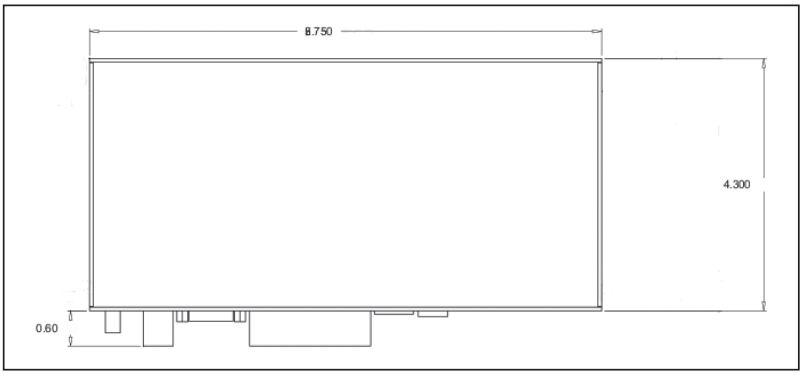
Power Xpert Gateway 200E with port descriptions



Power Xpert Gateway 200E with Standard Panel Mounting (Brackets Included)

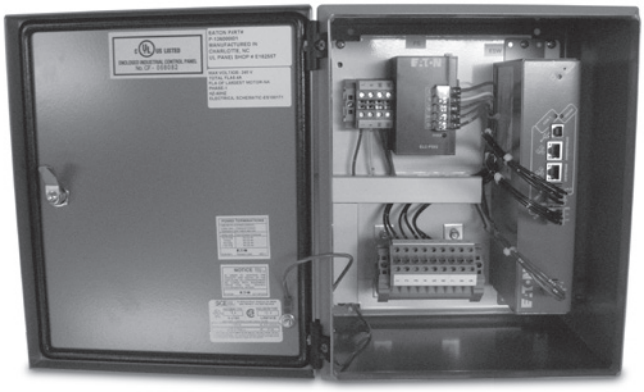


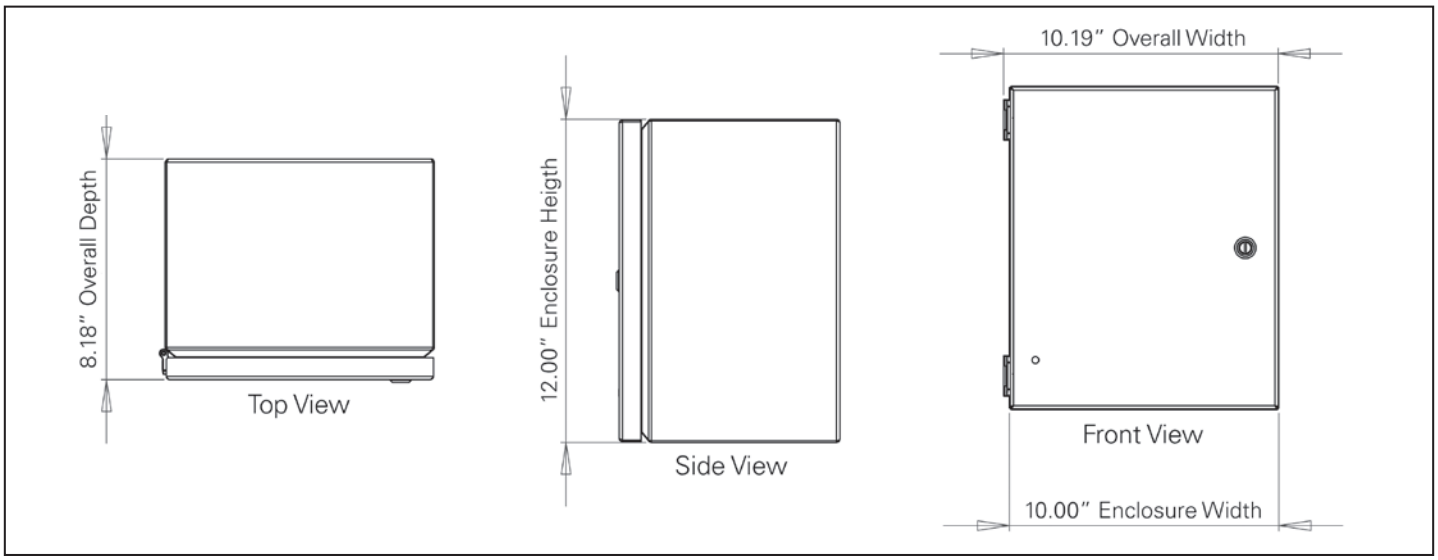
Power Xpert Gateway with DIN Rail Mounting (Brackets Included)



Power Xpert Gateway 200E dimensions

Power Xpert Gateway Enclosed Version





Device parameters displayed via the PXG Web UI

The table below represents many of the parameters displayed on the Web UI page for a given device; however it is not exhaustive. For the complete list of parameters displayed, per device, refer to the Device Data Map file at **www.eaton.com/pxg**.

		IQ Meters													Circuit Breaker Trip Units		I/O		Third-Party Devices		
	Units	IQ 220/320	IQ 230/330	IQ 230/330M	IQ 250	IQ 260	IQ Power Sentinel	IQ Energy Sentinel	IQ MESII	IQ 130	IQ 140	IQ 150	IQ 35M	PM3	Digitrip 1150	Digitrip OPTIM 1050	Digital Input Module	Digital Input Module KYZ	SQD PM 710	SQD PM 850	Nexus 1262/1272
Voltage																					
Average	V	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-	-	-	x	x
Voltage (Line-Line)	V	x	x	x	x	x	x	-	-	x	x	x	x	x	x	-	-	-	x	x	x
Voltage (Line-Neutral)	V	x	x	x	x	x	x	-	x	x	x	x	x	x	-	-	-	-	x	x	x
Current																					
Average	A	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-	-	x	-	x
Phase	A	x	x	x	x	x	x	-	-	x	x	x	x	x	x	x	-	-	x	x	x
Ground	A	-	-	x	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-	-	-
Neutral	A	x	x	x	x	x	-	-	-	-	-	-	-	-	x	x	-	-	x	-	x
Peak	A	x	x	x	x	x	-	-	-	x	x	x	-	-	x	x	-	-	x	x	x
Demand	A	x	x	x	x	x	-	-	-	x	x	x	-	-	x	x	-	-	x	x	x
Power																					
Apparent	VA	x	x	x	x	x	x	-	-	-	x	x	x	x	x	-	-	-	x	x	x
Reactive	VAR	x	x	x	x	x	x	-	-	-	x	x	x	x	x	-	-	-	x	x	x
Real	W	x	x	x	x	x	x	x	x	-	x	x	x	x	x	x	-	-	x	x	x
Power factor																					
Apparent	PF	x	x	x	x	x	x	-	-	-	x	x	x	x	x	x	-	-	x	x	x
Displacement	PF	x	x	x	x	x	x	-	-	-	-	-	-	-	-	x	-	-	x	-	-
Energy																					
Real	Wh	x	x	x	x	x	x	x	x	-	-	x	x	x	x	x	-	x	x	x	x
Forward	Wh	x	x	x	x	x	-	-	x	-	x	x	-	x	x	x	-	-	-	x	x
Reverse	Wh	x	x	x	x	x	-	-	-	-	x	x	-	x	x	x	-	-	-	x	x
Apparent	Vah	x	x	x	x	x	-	-	-	-	-	x	x	x	x	-	-	-	x	x	-
Reactive	VARh	x	x	x	x	x	-	-	-	-	-	x	x	x	-	-	-	-	x	x	-
Leading	VARh	x	x	x	x	x	-	-	-	-	x	x	-	x	-	-	-	-	-	x	x
Lagging	VARh	x	x	x	x	x	-	-	-	-	x	x	-	x	-	-	-	-	-	x	x
Power quality																					
THD	%	-	-	-	-	x	-	-	-	-	-	-	-	-	-	x	-	-	-	x	-
Current THD	%	-	-	-	-	x	-	-	-	-	-	-	-	-	x	x	-	-	-	-	x
Voltage THD	%	-	-	-	-	x	-	-	-	-	-	-	-	-	-	x	-	-	-	-	x
Frequency	Hz	x	x	x	x	x	x	-	-	-	x	x	-	x	-	-	-	-	x	x	x
Waveform capture	n/a	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-	-	-
Temperature																					
Ambient	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Auxillary	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Load bearing	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Motor bearing	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Winding	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phase (L, C, R)	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Terminal block	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Input status																					
Count		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	4	-	-	8
Status/cause of trip		-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-	-	-
Thermal memory		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pole temp		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Winding temp		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fan status		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alarm/trip relay		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Data acquisition and integration table for supported devices

Supported Devices

Protocol	Device Type	Device Name	HTTP (Web Browser	Web Services (Power Xpert Software)	Modbus TCP (BMS & SCADA)	Pass-through INCOM (PowerNet)	Pass-through QCPort (CHStudio)	SNMP (NMS)	SMTP (Email Client)	File Export (CSV file format)	File Export (COMTRADE file format)	BACnet/IP
INCOM	I/O	DIM	•	•	•	•		•		•		•
	Meter	IQ Energy Sentinel	•	•	•	•		•		•		•
	Meter	IQ220 / IQ320	•	•	•	•		•		•		•
	Meter	IQ230 / IQ330	•	•	•	•		•		•		•
	Meter	IQ Power Sentinel	•	•	•	•		•		•		•
	Meter	IQMESII	•	•	•	•		•		•		•
	Protective	DigiTrip 1150/DT1150V	•	•	•	•		•		•		•
	Protective	Digitrip OPTIM 1050	•	•	•	•		•		•		•
	I/O	DIM-KYZ	•	•	•	•		•		•		•
	Meter	PM3	•	•	•	•		•		•		•
Modbus	Meter	IQ230M / IQ330M	•	•	•			•		•		•
	Meter	IQ250	•	•	•			•		•		•
	Meter	IQ260	•	•	•			•		•		•
	Meter	SQD PM710	•	•	•			•		•		•
	Meter	SQD PM850	•	•	•			•		•		•
	Meter	IQ130	•	•	•			•		•		•
	Meter	IQ140	•	•	•			•		•		•
	Meter	IQ150	•	•	•			•		•		•
	Meter	Nexus 1262/1272	•	•	•			•		•		•
	Meter	IQ35M	•	•	•			•		•		•

Technical Data and Specifications

PXG 200E Part Numbers

Description	Style number	Catalog number
Power Xpert Gateway 200E	103008420-5591	PXG200E
Power supply—24 Vdc	ELC-PS02	ELC-PS02
Mounting bracket kit	66B2146G01	PXGACC01
Enclosed model	P-136000001	PXG200E-2A

Memory
Flash: 1 GB
RAM: 128 MB

Communication ports	
Network port	two 10/100Base-T RJ-45 connector
Configuration port	one USB port
Serial ports PXG 200E	One RS-485 port for connection to INCOM devices One RS-485 port for connection to Modbus RTU devices

Network protocols supported	
Modbus TCP/IP	supports data access from Modbus TCP clients
Web server	supports data access from Web browsers (HTTP and HTTPS)
DHCP	supports automatic IP address assignments, if enabled
SNMP	supports common network management tools
NTP	supports time synchronization via a network time server for PXG synchronization
SMTP	supports mail server for e-mail notification
BACnet/IP	supports data access from BACnet/IP clients

Serial protocols supported
INCOM
Modbus RTU

Supported devices
Refer to **www.eaton.com/pxg** for most current list. Call for information on additional devices.

Web browsers recommended
IE 6.0 or higher
Mozilla Firefox 2.0 or higher
Google Chrome: Future

Number of devices supported
64 total with INCOM Port + COM 1port not to exceed 64. Port limitations are as follows:
• INCOM port: up to 64 INCOM devices
• COM 1 port: up to 32 Modbus devices

Power input	
Input voltage, nominal	24 Vdc; 0.8A
Input voltage range	±20% Nominal

Power consumption
8 watts maximum

Operating temperature
32° to 140°F (0° to 60°C)

Ambient storage temperature
–40° to 185°F (–40° to 85°C)

Relative humidity
5 to 95% noncondensing at 50°C

Size (H x D x L) in inches (mm)
2.10 x 4.50 x 8.90 (53.3 x 114.3 x 226.1)

Weight
1.5 lbs

Regulatory and standards compliance
UL® 508, Standard for Programmable Controller Equipment
FCC, Class A, Part 15, Subpart B, Sections 15.107b and 15.109b
EN55022: 1994 Class A, Information Technology Equipment
EN 61000-6-2:2001 Electromagnetic Compatibility (EMC) Party 6-2: Immunity for Industrial Environments

Enclosed Version

Enclosure Rating	NEMA 12
ELC-PS02 Power Supply	Power Input: 100-240VAC 50/60Hz Output Power: 24VDC (+/-3%) Output Current: 2A max. Environmental: Operating Temp. Range: 0-55° C Storage Temp. Range: -25-70° C Relative Humidity: 50-95% For additional information on the ELC-PS02 refer to IL05003007E.
Size (dimensions) HxDxW	12”x8.18”x10.19”
Weight	16 lbs.
Regulatory and Standard Compliance	UL Panel Shop #: E182557 cULus listed

Note: Features and specifications listed in this document are subject to change without notice and represent the maximum capabilities of the product with all options installed. Although every attempt has been made to ensure the accuracy of information contained within, Eaton makes no representation about the completeness, correctness or accuracy and assumes no responsibility for any errors or omissions. Features and functionality may vary depending on selected options.

Eaton Corporation
Electrical Sector
1000 Cherrington Parkway
Moon Township, PA 15108
United States
877-ETN-CARE (877-386-2273)
Eaton.com/pxg

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