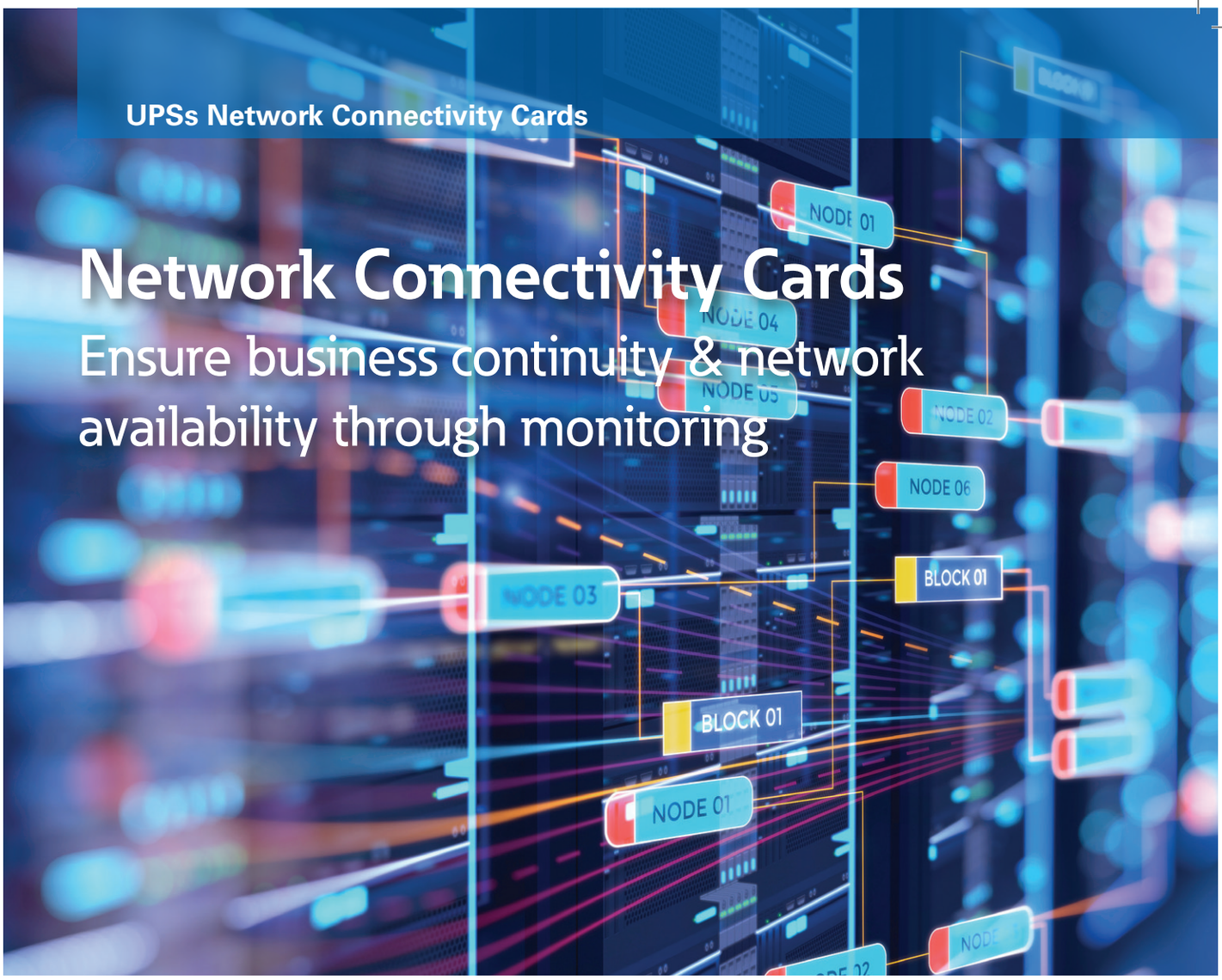


Network Connectivity Cards

Ensure business continuity & network availability through monitoring

Eaton's full range of network connectivity devices enables you to remotely monitor and manage your power quality equipment.
From outlet by outlet energy consumption reports to temperature and humidity readings, connectivity devices give you full control of your IT environment from offsite. This high level of awareness and control allows you to take full advantage of helping ensure business continuity.

EATON
Powering Business Worldwide

Why a Network card?

Network cards allow for secure monitoring and control of an individual UPS by connecting it directly to the network.

This connectivity is the conduit for your device's data and information, providing status, alerts and remote capabilities. The notification features keep you informed of problems as they occur, avoiding shutdown in the event of an extended power outage, always keeping your business information safe.

Network cards types:

IT-based

SNMP Cards connect UPSs to the network via Ethernet, provide you with a complete UPS monitoring, control and shutdown solutions in a networked IT environment. You can control it using your standard web browser.

Industrial protocols

provide real-time management of UPSs by connecting to any Building Management System Using Modbus TCP, RTU, and BACNet.

Relay

provides the signal to your device through open or closed contacts.

Environmental monitoring probe

enables you to collect temperature and humidity readings in rack enclosures and monitor environmental data remotely using Eaton's power monitoring solutions or a standard web browser.

Eaton Gigabit Network Card for IT

The Eaton Gigabit Network Card (Network-M2) is Eaton's latest UPS connectivity device that delivers IT professionals with new and exciting capabilities and features.



With faster speed and enhanced cybersecurity, the Gigabit Network Card improves power system reliability by providing warnings of pending issues to administrators and helping to perform orderly graceful shutdown of servers and storage.

The new network card works with Intelligent Power Manager (IPM) v 1.61 or higher to improve business continuity by triggering policies configured to keep mission critical applications running in the event of power or environmental anomalies, including virtual machine relocation or automated disaster recovery action.

Details

- **Gigabit speed**: compatible with better performing, cost effective and widely deployed gigabit network switches
- **Compliance** with Gigabit only data center networks
- **Cybersecurity** enhancements, including stronger encryption, configurable password policy and usage of CA and PKI signed certificates
- **Real-time clock** with battery backup and NTP
- **Increased memory** for improved operation and larger data storage
- **Modern user experience** with latest web technology
- **Secure SMTP** for email alerts
- **LDAP/ActiveDirectory and Radius** for centralised user authentication
- **Syslog integration**

Eaton gigabit Network Card

Function	Web/SNMP communications
UPS supported	5SC rack or RT, 5P, 5PX, 9SX, 9PX, 9E, 93PM, 9PHD, 93PS, 91PS, 93PS Marine
Compatible with	SNMP v1/v3 and IP v4/v6
Catalog number	Network-M2
Eaton Gigabit Network Card	Fast Gigabit ETHERNET, 10/100/1000 Mbits, autonegotiation, Protocol Support HTTP, HTTPS 1.1, TLS 1.2, SNMP V1, SNMP V3, NTP, SMTP, SMTPS BOOTP/DHCP, CLI, SSH, ARP, Syslog, Radius, LDAP, ActiveDirectory
UPS slot type	Mini-Slot
Network support	Ethernet 10/100/1000BaseT
Temperature and humidity monitoring	Yes, only with the Eaton Environmental Monitoring Probe Gen 2 (up to 3 sensors daisy-chained)
Software Support Network Management System (NMS)	Intelligent Power Manager 1.61 and higher, Intelligent Power Protector 1.61 and higher, any SNMP compliant
Supported MIB	MIB II – Standard IETF UPS MID (RFC 1628) – Eaton PowerMib (XUPS.MIB) O/S supported for shutdown Microsoft Windows, UNIX, and Linux (check powerquality.eaton.com for a detailed list of systems supported)
Local language support	English, French, German, Italian, Spanish, Chinese Simplified, Chinese Traditional, Japanese
Operating temperature	0 to 40° C
Operating humidity	5%-95% max. Without condensation
Power input	5 V – 12 V
Current consumption	500/1000mA max. depending on UPS
Dimensions (H x W x D)	132 x 66 x 42 mm
Weight	70 g
Regulatory	Same as UPS

Industrial protocols card
Eaton Industrial Gateway Card

The New Industrial gateway card features the same cybersecurity protection as the Network Card and is designed for building management, industrial facilities and large data centers.



Industrial Gateway Card is compatible with the MODBUS communications protocol.

The card enhances the protection given by the UPS by providing real-time monitoring of the UPS system and environment through a Building Management System (BMS) or Industrial Automation System (IAS). The card allows facility managers to monitor the state of the UPS, power conditions, temperature and humidity within the UPS network, enabling early warning of any threats to the system.

Details

- **Gigabit speed**: compatible with better performing, cost effective and widely deployed gigabit network switches
- **Compliance** with Gigabit only data center networks
- **Cybersecurity** enhancements, including stronger encryption, configurable password policy and usage of CA and PKI signed certificates
- **Real-time clock** with battery backup and NTP
- **Increased memory** for improved operation and larger data storage
- **Modern user experience** with latest web technology
- **Secure SMTP** for email alerts
- **LDAP/ActiveDirectory and Radius** for centralised user authentication
- **Syslog integration**

Eaton Industrial Gateway card

Function	Web/SNMP/Modbus communications
UPS supported	5SC rack or RT, 5P, 5PX, 9SX, 9PX,9E, 93PM, 9PHD, 93PS, 91PS, 93PS Marine
Compatible with	SNMP v1/v3 and IP v4/v6
Catalog number	INDGW-M2
Network	Gigabit ETHERNET, 10/100/1000Mb/s, auto negotiation, HTTP 1.1, SNMP V1, SNMP V3, NTP, SMTP, DHCP
UPS slot type	Mini-Slot
Network support	Modbus Ethernet 10/100/1000BaseT
Temperature and humidity monitoring	Yes, only with the Eaton Environmental Monitoring Probe Gen 2 (up to 3 sensors daisy-chained)
Software Support Network Management System (NMS)	Intelligent Power Manager 1.61 and higher, Intelligent Power Protector 1.61 and higher, any SNMP compliant
Supported MIB	MIB II – Standard IETF UPS MID (RFC 1628) – Eaton PowerMib (XUPS.MIB) O/S supported for shutdown Microsoft Windows, UNIX, and Linux (check powerquality.eaton.com for a detailed list of systems supported)
Local language support	English, French, German, Italian, Spanish, Chinese Simplified, Chinese Traditional, Japanese
Operating temperature	0°C to 70°C
Operating humidity	5%-95%, noncondensing
Power input	5 V – 12 V
Current consumption	500/1000mA max. depending on UPS
Dimensions (H x W x D)	132 x 66 x 42 mm
Weight	70 g
Regulatory	Same as UPS

Environmental Monitoring Probe Gen2

The New Environmental Monitoring Probe (EMP) Gen 2 (EMPDT1H1C2), is a second-generation environmental monitoring probe.



The new EMP maintains all the functionality of the previous generation of sensors (temperature, humidity and dry-contact monitoring) while adding the ability to be daisy-chained (up to 3 per host), allowing multiple sensor connection to a single host.

This enhances the richness of rack level environmental data for the top, middle and bottom of the rack. Temperature, humidity, and contact status can be viewed with a Web browser through the Network user interface. Hot-swap feature simplifies installation to enable you to install the probe without turning off the power to the device or to the loads that are connected to it. The EMP monitors the status of the two user-provided contact devices and can be located 50m from the network card using standard CAT5 network cable. The probe is delivered with a screw and screw anchor, nylon fasteners, tie wraps, and magnets.

Eaton Environmental Monitoring Probe Gen 2

Product snapshot	
Type	Environmental monitoring device
Compatibility	Gigabit Network Card (Network-M2) / Industrial Gateway Card (INDGW-M2) / Eaton G3/G3+ ePDU
Operating Temperature	0 ° C to 70 ° C with an accuracy of ± 2 ° C
Operating humidity	10% to 90% with an accuracy of ± 5%
Dimensions (L x W x H)	57 x 37 x 29 mm
Weight	34 g
Catalog number	EMPDT1H1C2

IT-based & Industrial protocols



PowerXpert UPS X-Slot card (PXGX UPS) (103007974-5591)

Provides Web interface, ModBus TCP and SNMP communication over Ethernet.

- Installation in Eaton X-Slot Enhancement Bay
- 10/100 Mbit Ethernet (2 port hub for daisy chaining)
- IP v4 & v6, SNMP v1 & v3, http & https
- MODBUS TCP and BACNet
- Alarms through Email (SMTP)
- Automatic Time Synchronisation (NTP)
- Configuration through USB, DHCP
- Supports optional EMP (Temperature, Humidity, 2 x Digital inputs)
- Compatible with Eaton Intelligent Power Software



PowerXpert UPS MiniSlot card (PXGMSUPS)

Provides Web interface, ModBus TCP, BACNetIP and SNMP communication over Ethernet.

- Installation in Eaton 93PM, 93PS or 9PHD MiniSlot Enhancement Bay
- 10/100 Mbit Ethernet
- IP v4 & v6, SNMP v1 & v3, http & https
- MODBUS TCP, BACNet IP, MODBUS 2-wire RS-485
- Alarms through Email (SMTP)
- Automatic Time Synchronisation (NTP)
- Configuration through USB, DHCP
- Supports optional EMP (Temperature, Humidity, 2 x Digital inputs)
- Compatible with Eaton Intelligent Power Software

Relay

Relay card MS (Relay-MS)



Provides communication through voltage free relays or RS-232.

- Installation in Eaton Mini-Slot Enhancement Bay
- 1 x 9-pin Dsub connector
- 1 x RS232 or 5 x Relay output / 1 x Input

Industrial relay card MS (INDRELAY-MS)



Provides communication through voltage free relays.

- Installation in Mini-Slot Enhancement Bay
- Terminal connectors, 250 VAC/5A rating
- 5 x Relay output / 1 x Input

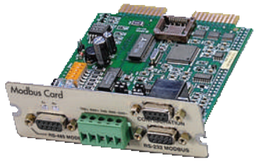
X-Slot Relay Card (1018460)



Provides communication through voltage free contacts.

- Installation in Eaton X-Slot Enhancement Bay
- 1 x 15-pin Dsub Connector/ Terminal blocks
- 4 Switching Relays (both NO and NC) / 1 x Digital Input
- 12VDC unregulated voltage supply

Industrial protocols



X-Slot MODBUS Card (103005425-5591)

Provides MODBUS RTU communication.

- Installation in Eaton X-Slot Enhancement Bay
- MODBUS/JBUS (RTU, RS232 & RS485)
- 3 x 9-pin Dsub connectors; 5 wire terminal block
- Configuration through RS232 and DIP switches

Monitoring probe



Environmental Monitoring Probe (EMP001)

not compatible with Network-M2 or INDGW-M2

Accessory to Web cards and select ePDUs, adds monitoring of temperature, humidity and two digital inputs.

- External device
- Connects to Eaton Web cards and select ePDUs through RJ45 Cat 5 patch cable (1,5 m provided, 20 m max)
- Alarm limits for temperature and humidity can be set in Web cards
- Two potential free digital inputs
- Used as the temperature probe in temperature compensated charging
- Facilitates graceful shutdown of servers in case of unacceptable environmental conditions or contact closure change
- Compatible with Eaton Intelligent Power Software through supported Web cards or ePDUs

Reduce your cybersecurity risk

Eaton's Gigabit Network Card and Industrial Gateway Card are the first in the industry to receive UL 2900-2-2 certification, ensuring it has been reviewed and tested, and meets the benchmark of this trusted brand.



Encryption

- Only secure protocols enabled by default
- Firmware is signed and encrypted, and will not boot if tampered with
- Secure SMTP for email alerts

Password management

- Requires change of password on setup
- Configurable requirements for password complexity
- Certificate based authentication in machine to machine connections— no username/password information saved on the client machine, separate certificates for each protocol

What is UL 2900-2-2?

With more connected devices than ever, Underwriters Laboratories (UL) understands that there is increasing risk of cybercrime occurring through network connected devices. UL has developed a standardized process to assess the vulnerability of connected devices to known malware and protect business from these risks. The UL 2900- 2-2 certification is UL's global standard for connected device cybersecurity.

Products undergo extensive testing, including vulnerability assessments on network protocol. The Eaton Gigabit Network Card was assessed for SSH, SNMPv3, NTP, SMTPS,DHCP and MQTT via TLS 1.2.

UPS/network connectivity compatibility

Connectivity device		Reference	Eaton UPS models												
			5P	5PX	5SC	9PX	9SX	9E	Blade UPS	9155	Power Xpert 9395P	91PS	93PS	93PM	9PHD	93E
	Gigabit Network Card NETWORK-M2	Network-M2	✔	✔	✔	✔	✔	✔				✔	✔	✔	✔	✔
	Industrial Gateway Card	INDGW-M2	✔	✔	✔	✔	✔	✔				✔	✔	✔	✔	✔
	Power Xpert Gateway UPS X-Slot Card	PXGXUPS							✔	✔	✔					
	Power Xpert Gateway Minislot UPS Card	PXGMSUPS											✔	✔	✔	
	Environmental Monitoring Probe (EMP)	EMP001							✔[1]	✔[1]	✔[1]		✔[1]	✔[1]	✔[1]	
	Environmental Monitoring Probe (EMP) Gen 2	EMPDT1H1C2	✔[2]	✔[2]	✔[2]	✔[2]	✔[2]	✔[2]				✔[2]	✔[2]	✔[2]	✔[2]	✔[2]
	Relay Card - MS	RELAY-MS	✔	✔	✔	✔	✔	✔				✔	✔	✔		✔
	Industrial Relay Card - MS	INDRELAY-MS	✔	✔	✔	✔	✔	✔				✔	✔	✔	✔	✔
	X-Slot Relay Card	1018460							✔	✔	✔					
	X-Slot Modbus RTU Card	103005425-5591							✔	✔	✔					

1.Only in combination with Power Xpert Gateway UPS X-Slot Card - PXGXUPS or PXGMSUPS
2. Only in combination with Gigabit Network card - Network-M2 or Industrial Gateway Card INDGW-M2

Powering Business Worldwide

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