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Eaton INDGW-X2

Eaton Gigabit Industrial Gateway X2 Card (INDGW-X2) User Manual

Model: INDGW-X2 | Brand: Eaton

1. INTRODUCTION

The Eaton Gigabit Industrial Gateway X2 Card (INDGW-X2) is an advanced UPS connectivity device designed to enhance power system reliability and management. This card provides robust network communication capabilities for Eaton Uninterruptible Power Supplies (UPS), enabling remote monitoring, control, and integration with various industrial and IT management systems. It is engineered to meet stringent cybersecurity standards, ensuring secure and efficient power infrastructure operation.

2. SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the INDGW-X2 card. Failure to follow these instructions may result in injury or damage to the equipment.

- **Electrical Safety:** Ensure the UPS is powered off and disconnected from the main power source before installing or removing the card. Only qualified personnel should perform installation.
- **Handling:** Handle the card by its edges to avoid touching components. Use anti-static precautions to prevent electrostatic discharge (ESD) damage.
- **Environment:** Install the card in an environment free from excessive moisture, dust, and extreme temperatures.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- Eaton Gigabit Industrial Gateway X2 Card (INDGW-X2)
- Quick Start Guide

4. PRODUCT OVERVIEW

The INDGW-X2 card offers enhanced features for UPS network management:

- **Gigabit Speed:** Compatible with high-performance gigabit network switches for faster data transfer.
- **Advanced Cybersecurity:** First UPS network card to meet UL 2900-1 and IEC 62443-4-2 cybersecurity standards, featuring stronger encryption, configurable password policies, and X.509 Public Key Infrastructure.
- **Real-time Clock:** Includes a battery-backed real-time clock with linkage to Network Time Protocol (NTP) servers for accurate timekeeping.
- **Increased Memory:** Provides improved operation and larger data storage capacity.
- **Advanced Management:** Supports RESTful API over HTTPS and Secure SMTP for email alerts.
- **Compatibility:** Works with Intelligent Power Manager (IPM) v1.61 and higher for comprehensive power management.



This image displays the Eaton Gigabit Industrial Gateway X2 Card, highlighting its compact design and the available network (RJ-45) and USB ports for connectivity.

5. SETUP

5.1 Physical Installation

1. Power off the UPS and disconnect it from all power sources.
2. Locate an available X-Slot on your compatible Eaton UPS.

3. Carefully insert the INDGW-X2 card into the X-Slot until it is securely seated.
4. Secure the card with any retaining screws or clips provided by the UPS.
5. Reconnect the UPS to power and turn it on.

5.2 Network Connection

1. Connect a standard Ethernet cable (RJ-45) from the network port on the INDGW-X2 card to an available port on your network switch or router.
2. Ensure the network connection is active and properly configured for your network environment.

5.3 USB Connection

If additional functionality or local connectivity is required, connect a USB cable from the USB port on the INDGW-X2 card to a compatible device.

6. OPERATING

6.1 Initial Configuration

1. Once the card is installed and the UPS is powered on, the card will acquire an IP address (via DHCP by default).
2. Access the card's web interface by entering its IP address into a web browser.
3. Log in using the default credentials (refer to the Quick Start Guide for initial login details).
4. Configure network settings (static IP, subnet mask, gateway, DNS) if DHCP is not desired.
5. Set up NTP (Network Time Protocol) server synchronization for accurate timekeeping.
6. Change default user credentials to strong, unique passwords for enhanced security.

6.2 Supported Protocols

The INDGW-X2 card supports a wide range of communication protocols for versatile integration:

- HTTPS
- TLS 1.2
- SNMP v1, SNMPv3
- NTP (Network Time Protocol)
- TFTP
- SMTP, SMTPS (Secure SMTP for email alerts)
- BootP
- DHCP
- SSH
- MQTTS
- Modbus TCP
- Modbus RTU
- BACnet/IP
- BACnet BBMD

6.3 Cybersecurity Features

The INDGW-X2 card incorporates advanced cybersecurity measures:

- Compliance with UL 2900-1 and IEC 62443-4-2 standards.

- Stronger encryption algorithms.
- Configurable password policy enforcement.
- X.509 Public Key Infrastructure for secure communication.

6.4 Integration with Intelligent Power Manager (IPM)

For comprehensive power management, integrate the INDGW-X2 card with Eaton's Intelligent Power Manager (IPM) v1.61 or higher. IPM allows for centralized monitoring, graceful shutdown of servers, virtual machine relocation, and automated disaster recovery actions in response to power events.

7. MAINTENANCE

7.1 Firmware Updates

Regularly check the Eaton support website for the latest firmware updates for your INDGW-X2 card. Applying updates ensures optimal performance, security enhancements, and access to new features. Follow the instructions provided with the firmware update package carefully.

7.2 Cleaning

Ensure the card and the UPS environment are kept clean and free from dust and debris. Use a soft, dry cloth for cleaning. Do not use liquid cleaners or solvents.

8. TROUBLESHOOTING

If you encounter issues with your INDGW-X2 card, consider the following:

- **Card Not Detected:** Ensure the card is properly seated in the X-Slot and the UPS is powered on. Try re-seating the card.
- **Network Connectivity Issues:** Verify that the Ethernet cable is securely connected at both ends. Check the network switch status and ensure the card's IP address settings (static or DHCP) are correct for your network.
- **Accessing Web Interface:** Confirm you are using the correct IP address and port. Clear your browser's cache or try a different browser.
- **Login Problems:** Ensure you are using the correct username and password. If forgotten, refer to the Quick Start Guide for default credentials or the procedure for password reset (if available).
- **System Logs:** Access the card's system logs via the web interface for error messages or diagnostic information.

For more detailed troubleshooting, consult the comprehensive documentation available on the Eaton support website or contact Eaton technical support.

9. SPECIFICATIONS

Feature	Specification
Proprietary Slot Type	X-Slot
Management	UPS Network Management

Feature	Specification
Protocols	HTTPS, TLS 1.2, SNMP v1, SNMPv3, NTP, TFTP, SMTP, SMTPS, BootP, DHCP, SSH, MQTT, Modbus TCP, Modbus RTU, BACnet/IP, BACnet BBMD
USB Port	Yes
Network (RJ-45) Ports	1
Product Dimensions	7 x 7 x 3 inches
Item Weight	9.6 ounces
Item Model Number	INDGW-X2
Manufacturer	Eaton Corporation
Battery Cell Composition	Lithium Ion (for real-time clock backup)
Connector Type	Ethernet (RJ-45)

10. WARRANTY AND SUPPORT

The Eaton Gigabit Industrial Gateway X2 Card (INDGW-X2) is covered by Eaton's standard product warranty. For detailed warranty terms and conditions, please refer to the warranty statement included with your product or visit the official Eaton website.

For technical support, product inquiries, or service requests, please contact Eaton customer support through their official website or the contact information provided in your product documentation. When contacting support, please have your product model number (INDGW-X2) and serial number ready.