



EX41922

**Hardened Unmanaged 2-port 10/100/1000BASE +
2-port 100/1000 SFP Ethernet Switch**

User's Guide

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Warranty

For details on the EtherWAN warranty replacement policy, please visit our web site at:

<https://kb.etherwan.com/index.php?View=entry&EntryID=27>

Products Supported by this Manual:

EX41922

Preface

Audience

This guide is designed for the person who installs, configures, deploys, and maintains the Ethernet network. This document assumes the reader has moderate hardware, computer, and Internet skills.

Document Revision Level

This section provides a history of the revision changes to this document.

Revision	Document Version	Date	Description
A	Version 1	03/31/2017	

Changes in this Revision

This is first version of this document.

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Introduction

Congratulations on your purchase of the EX41922 Hardened Unmanaged Switch from EtherWAN Systems, Inc. Your switch is a state-of-the-art IEEE-compliant network solution designed for users who require high-performance to eliminate bottlenecks and increase productivity.

To simplify installation, the switch is shipped ready for use.

Unpacking the Hardware

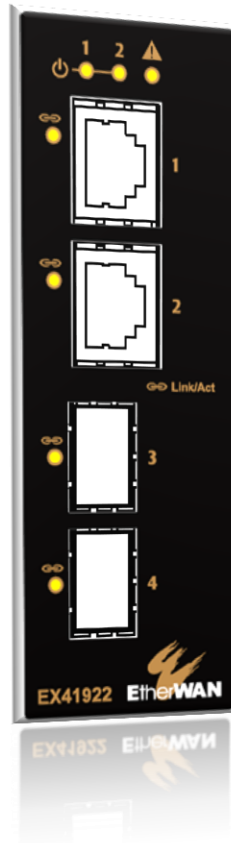
Unpack the items and confirm that no items are missing or damaged. Your package should include:

- One EX41922 Hardened Unmanaged Switch
- One CD containing this user's guide
- One quick start guide

If any item is damaged or missing, notify your authorized EtherWAN representative. Keep the carton, including the original packing material, in case you need to store the product or return it.

Hardware Features

Front Panel



10/100/1000BASE Ports

The switch is equipped with two 10/100/1000 Mbps RJ-45 ports. These ports can be connected to routers, other switches, or end devices. Use category 5e or higher UTP/STP cable.



100/1000 SPF Slots

Your switch model has two SFP slots. SFP transceivers can be installed directly into these ports. Ensure that the same type of transceiver is used at both ends of the link and that the correct type of fiber cable is used.

LEDs

The EX41922 front panel LEDs show power and link/activity status. The table below summarizes the LED indicator functions.

Table 0-1. Front Panel LEDs

LED	Color	Status
 PWR 1, 2	Green	ON = switch is receiving power.
10/100/1000TX Ports		
 Link/Activity (port number)	Green	ON = valid network connection.
		OFF = no data transmission on port.
		Flashing = port is sending or receiving data.
100/1000SPF Ports		
Link/Activity	Green	ON = valid network connection.
		OFF = no data transmission on port.
		Flashing = port is sending or receiving data.

Preparing the Installation Site

Before you install your Hardened Unmanaged Switch, be sure your operating environment meets the operating environment requirements in the table below.

Site Requirements

Characteristic	Requirements
DIN Rail Mounting	Insert the top of the rail clip onto the DIN rail track, and then push the bottom of the switch until it snaps into place.
Power source	Provide a power source within 6 feet (1.8 meters) of the installation location. Power specifications for the Hardened Unmanaged Switch are shown in Appendix A.
Environment	
Temperature	Install the Hardened Unmanaged Switch in a dry area, with ambient temperature between -40 and 75°C (-40 and 167°F).
Operating humidity	The installation location should have a maximum relative humidity of 95%, non-condensing.
Ventilation	Do not restrict airflow by covering or obstructing the top and side panels of the Hardened Unmanaged Switch. Keep at least 2 inches (5.08 centimeters) free on all sides for cooling.

Checking the Installation

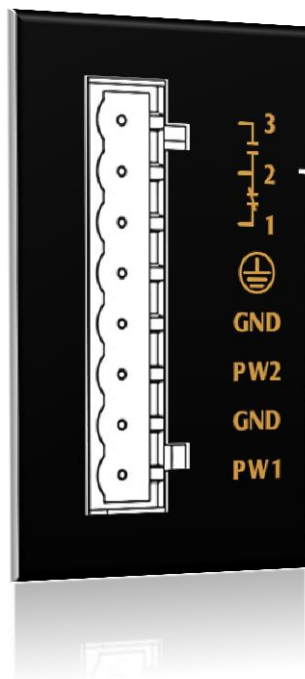
Before you apply power:

- Inspect the equipment thoroughly.
- Verify that all cables are installed correctly.
- Check cable routing to make sure cables are not damaged or create a safety hazard.
- Be sure all equipment is mounted properly and securely.

Applying DC Power

The switch is equipped with an 8-pin terminal block, with two power inputs having operating voltage of 12~48VDC, and a relay output with current 1A @ 250VAC :

Only one power input is required to operate the switch. However, redundant power supply functionality is supported.



When you apply power:

- All green **Link/Activity** LEDs blink momentarily.
- The green **Power LED** goes ON.
- The **Link/Activity** LEDs for every port connected to a device flash, as the Hardened Unmanaged Switch conducts a brief Power On Self-Test (POST).

Set DIP Switches

The switch has a 6-position DIP switch that controls the alarm status on each port. Alarms are sent through the relay output.

DIP Switch	Setting and Description
1	ON = Port 1 Alarm is enabled. OFF = Port 1 Alarm disabled.
2	ON = Port 2 Alarm is enabled. OFF = Port 2 Alarm disabled.
3	ON = Port 3 Alarm is enabled. OFF = Port 3 Alarm disabled.
4	ON = Port 4 Alarm is enabled. OFF = Port 4 Alarm disabled.
5	ON = Port 3 100SFP is enabled. OFF = Port 3 100SFP disabled.
6	ON = Port 4 100SFP is enabled. OFF = Port 4 100SFP disabled.

Relay Output Alarm

Alarm Contact (for two power inputs: PW1, PW2). Default state is PW1 and PW2 both off, Points 1 & 2 closed and Points 2 & 3 open.

Relay contact	PW1	PW2	Points 1 & 2	Points 2 & 3
Alarm state	Off	Off	Closed	Open
Alarm state	Off	On	Closed	Open
Alarm state	On	Off	Closed	Open
Non-Alarm	On	On	Open	Closed

Specifications

Technology

Specification	Description
Standards	IEEE802.3 10BASE-T IEEE802.3u 100BASE-TX/100BASE-FX IEEE802.3ab 1000BASE-T IEEE802.3z 1000BASE-SX/1000BASE-LX IEEE802.1x, Full duplex flow control IEEE802.1az Energy Efficient Ethernet
Forward and Filtering Rate	10 Mbps: 14,880 pps 100 Mbps: 148,810 pps 1000 Mbps: 1,488,100 pps
Packet Buffer memory	1MB
Processing Type	Store-and-Forward Half-duplex back-pressure and IEEE802.3x full-duplex flow control Auto Negotiation Auto MDI/MDIX
Jumbo Frame	10 kB
Address Table Size	8K MAC addresses

Power

Specification	Description
Power Input:	12 ~ 48 VDC
Power Consumption:	3.2W Max. 0.26A @ 12VDC, 0.13A @ 24VDC, 0.06A @ 48VDC

Mechanical

Specification	Description
Casing	Aluminum IP30
Dimensions	36 x 90 x 100mm (W x D x H) (1.42" x 3.54" x 3.94")
Weight	0.25Kg (0.55lb)
Installation	DIN-Rail

Interface

Specification	Description
Ethernet Ports	10/100/1000BASE-T: 2 ports 1000BASE SFP: 2 ports
LED Indicators	Per Unit: Power1 (Green), Power2 (Green), Alarm (Red) Per Port: Link & Activity (Green)

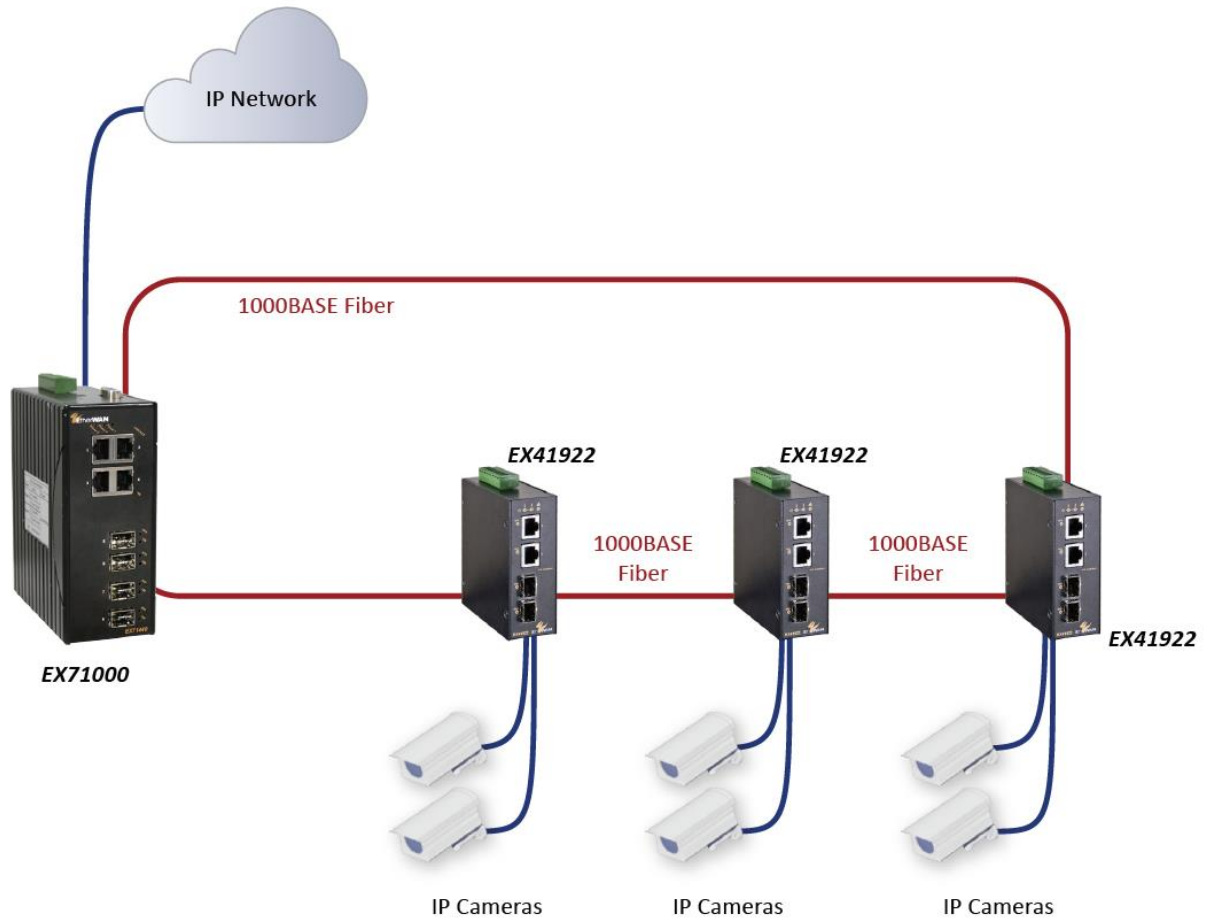
Environment

Specification	Description
Operating Temperature	-40°C to 75°C (-40°F to 167°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Ambient Relative Humidity	5% to 95% (non-condensing)

Regulatory Approvals

Specification	Description
ISO	Manufactured in an ISO 9001 facility
EMI	FCC Part 15B Class A VCCI Class A EN 61000-6-4
EMS	EN 61000-6-2 EN 61000-4-2 (ESD Standards) EN 61000-4-3 (Radiated FRI Standards) EN 61000-4-4 (Burst Standards) EN 61000-4-5 (Surge Standards) EN 61000-4-6 (Induced RFI Standards) EN 61000-4-8 (Magnetic Field Standards)
Environmental Test Compliance	IEC 60068-2-6 Fc (Vibration) IEC 60068-2-27 Ea (Shock) FED STD 101C Method 5007.1 (Free fall w/ package)

Application Example





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EX41922 Hardened Unmanaged Switch User Guide

March 28, 2017

Document version: Version 1