

Software Features

Management

- Interface
 - CLI, Telnet and Web Browser
 - SNMP v1/v2c/v3
- Firmware and configuration upgrade and backup via TFTP
- Supports DHCP Server/Client
- RMON (Remote monitoring)
- Port mirroring: TX/RX and both
- NTP (Network Time Protocol) time synchronization
- IEEE 802.1ab LLDP (Link Layer Discovery Protocol)

Security

- MAC address filtering
- Enable/disable port
- Storm control (broadcast and multicast types)
- IEEE 802.1x LAN access control
- Remote authentication through RADIUS
- SSH for CLI and Telnet security
- SSL for web security
- ACL

Quality of Service (QoS)

- Priority Queues: 4 queues per port
- Traffic classification based on IEEE 802.1p CoS, DSCP, WRR (Weighted round robin) and strict mode
- Rate Limiting (Ingress/Egress)

Layer 2 Features

- Auto-negotiation for port speed and duplex mode
- Flow Control
- IEEE 802.3x full duplex mode
 - Back-Pressure half duplex mode
- Redundant Protocol
 - IEEE 802.1D Spanning Tree Protocol (STP)
 - IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
 - IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
 - EtherWAN's Alpha-Ring network fault recovery (<15ms) and Alpha-Chain
- VLANs
 - IEEE 802.1Q Tag VLANs (128 groups, 4096 VID)
 - GVRP (GARP VLAN Registration Protocol)
 - GMRP (GARP Multicast Registration Protocol)
- Link Aggregation
 - Static Trunk (4 groups, support MAC base)
 - IEEE 802.3ad Link Aggregation Control Protocol
- IGMP Snooping
 - IGMP snooping v1/v2/v3

Layer 3 Features

- IP Packet Routing
 - Maximum number of routes in hardware: 64 entries
 - Static routing
 - RIP v1/v2
- Routing Redundancy
 - VRRP

Hardware Specifications

Technology

Standards

- IEEE 802.3 10BASE-T
- IEEE 802.3u 100BASE-TX/100BASE-FX
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3z 1000BASE-SX/1000BASE-LX
- IEEE 802.3x Full duplex and flow control
- IEEE 802.1p QoS
- IEEE 802.1Q Tag VLANs
- IEEE 802.1w RSTP
- IEEE 802.1x Port-based Network Access Control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps
- 1,488,100pps for 1000Mbps
- 14,880,952pps for 10Gbps

Packet Buffer Memory

- 12M bits

Processing Type

- Store-and-Forward
- Auto-Negotiation
- Half-duplex back-pressure and IEEE 802.3x full-duplex flow control
- Auto MDI/MDIX

Address Table Size

- 16K MAC addresses

Power

Input

- Redundant power inputs:
Terminal Block: 12-24VDC

Power Consumption

- 31.08W

Mechanical

Casing

- Metal Case
- IP30

Dimensions

- 430 x 254 x 44.2mm (W x D x H)
(16.9" x 10" x 1.74")

Weight

- 3.29kg (7.25lbs)

Installation

- Rack mounting

Interface

Ethernet Ports

- 10/100/1000BASE-TX: 24 or 16 ports
- 100/1000BASE SFP: 8 ports
- 10G SFP+: 4 ports

Console Port

- One RJ45 RS-232 port

USB port

- One USB port (Type A connector)

Alarm Contact

- One relay output with current 0.6A/30VDC

LED Indicators

- Per Unit: Power
- Per Port: Link/Activity (Green)

Environment

Operating Temperature

- -40 to 75°C (-40 to 167°F)

Storage Temperature

- -45 to 85°C (-49 to 185°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

ISO

- Manufactured in an ISO 9001 facility

Safety

UL 62368

EMI

FCC Part 15B Class A

VCCI Class A

EN 61000-6-4

EN 61000-3-2

EN 61000-3-3

EMS

EN 61000-6-2

- EN 61000-4-2 (ESD Standards)
- EN 61000-4-3 (Radiated RFI 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 Resistance)

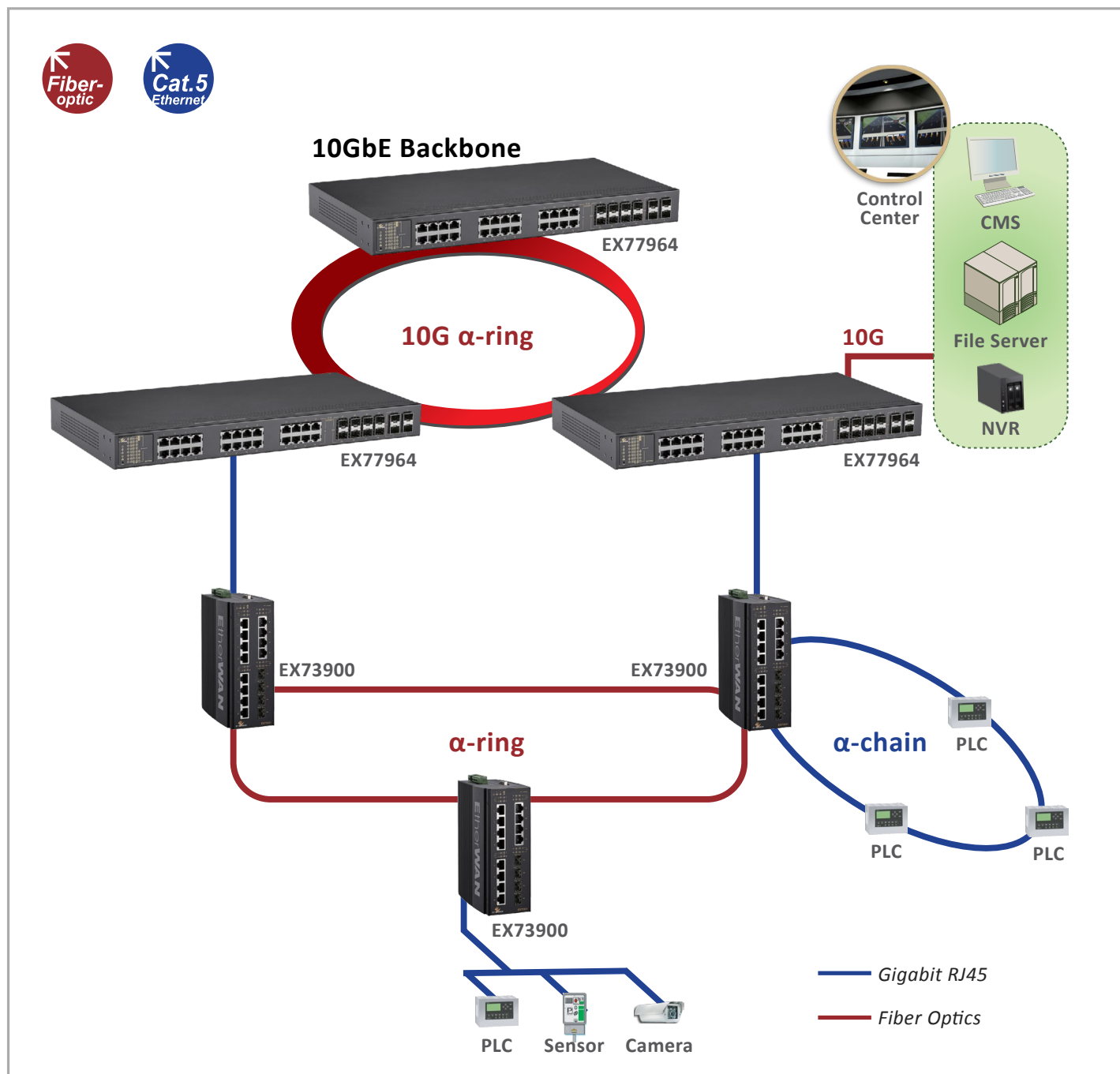
IEC 60068-2-27 Ea (Shock)

FED STD 101C Method 5007.1 (Free fall w/package)

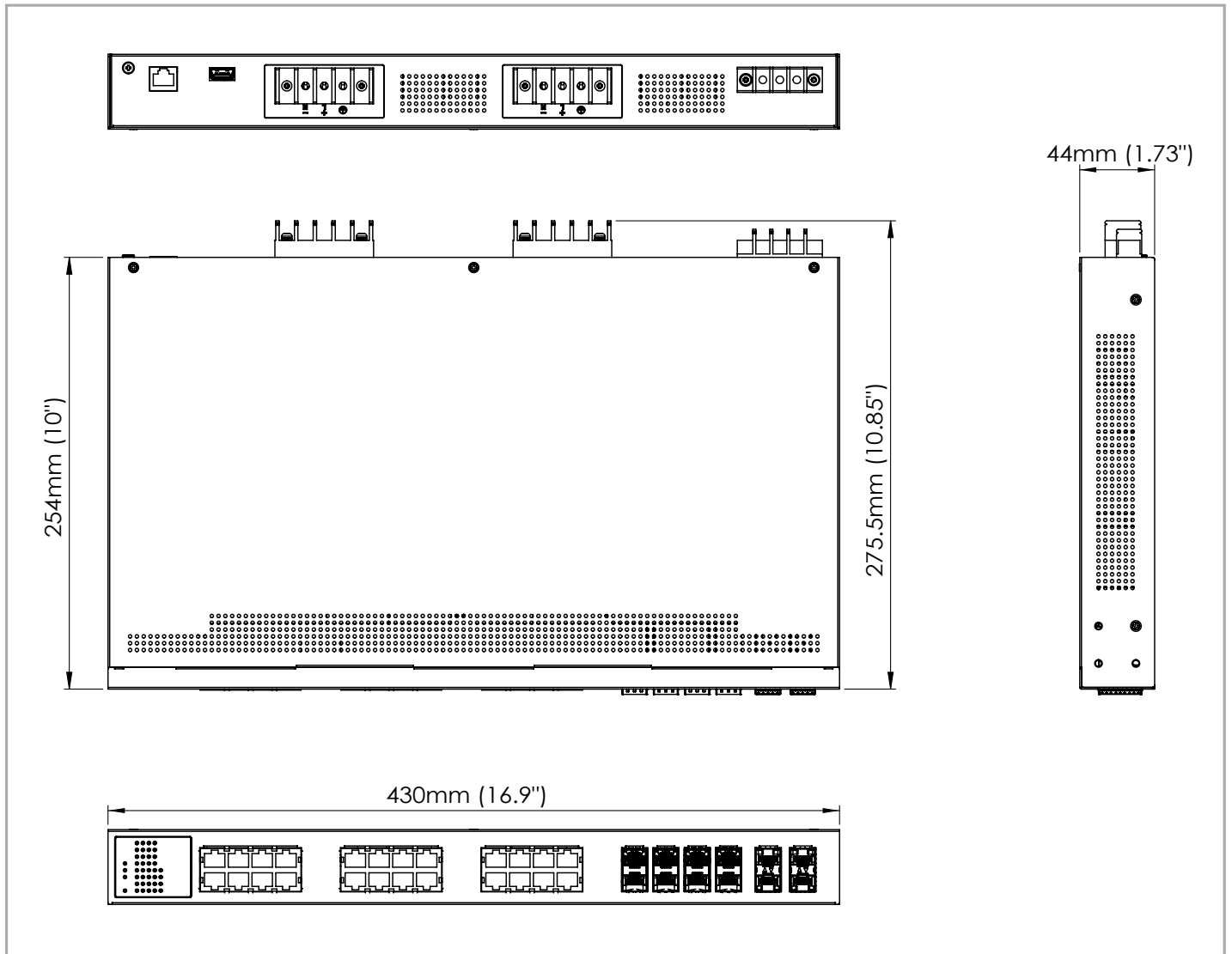
Industrial Compliance

NEMA TS2

Application Diagram



Dimensions



Ordering Information

Model

Model	Description
EX77964-8VB	16-port 10/100/1000BASE-TX +8-port 100/1000BASE SFP Combo +4-port 1G/10G SFP+ Hardened Managed Ethernet Switch (12-24VDC)