

SWM-HE-24TX-4GX-2D8

IEC 61850-3/IEE 1613 HARDENED MANAGED SWITCH

FEATURES

IEC 61850-3
IEE 1613

NEMA T2

EN 50121-4

FANLESS

Wide Temperature



SWM-HE-24TX-4GX provides a hardened fully managed 28-port switching platform combining high performance switching backbone with robust and secure management features required for mission critical and harsh environments where sustained connectivity is crucial.

SWM-HE-24TX-4GX is equipped with 24 fast Ethernet ports, in combination with up to 4 Gigabit SFP combo ports, mountable on a 1U rack.

Users are able to access management features such as port security, IGMP snooping, VLANs, GARP protocols, and LACP via web browser, Telnet, SNMP, RMON, TFTP, and RS-232 console interfaces. The **SWM-HE-24TX-4GX** allows GOOSE messages to be passed through without modifying the frame contents.

With its IEC 61850-3 and IEEE 1613 certified for power substations, EN 50121-4 certified for railway applications, and NEMA-TS2 certification for traffic applications, the **SWM-HE-24TX-4GX** is capable of operating under high EMI environments at the temperatures ranging from -40 to 75°C (-40 to 167°F), making it an ideal choice for harsh environment applications.

Hardened Grade

- Wide operating temperature range for extreme environments
- Fanless and ruggedized housing
- High shock and electric noise immunity

KEMA-Certified

- IEC 61850-3 and IEEE 1613 performance tests conducted by KEMA

Features

Interface

- CLI, Telnet and Web Browser
- SNMP v1/v2c/v3

Management

- Firmware and configuration upgrade and backup via TFTP
- Supports DHCP Server/Client
- RMON (Remote Monitoring)
- Port mirroring: TX/RX and both
- NTP time synchronization
- IEEE 802.1ab LLDP
- IPv4/IPv6

Security

- MAC address filtering
- Enable/Disable port
- Storm Control (Broadcast and multicast types)
- IEEE 802.1x LAN access control
- Remote authentication through RADIUS and TACACS+
- SSHv1/v2 for CLI and Telnet security
- SSL for web security
- ACL
- Multi-level user account/password against unauthorized configuration

Quality of Service (QoS)

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

Layer 2 Features

- Auto-negotiation for speed port and duplex
- 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 STP (RSTP)
- IEEE 802.1s Multiple STP (MSTP)

VLANs

- IEEE 802.1Q Tag VLANs (128 groups, 4096 VID)
- GVRP
- GMRP

Link Aggregation

- Static Trunk (8 groups, support MAC base)
- IEEE 802.3ad Link Aggregation Control Protocol (LACP)

IGMP Snooping

- IGMP Snooping v1/v2/v3

Performance

- Switching Capability: 12.8Gbps
- Jumbo Frame: 9K bytes

Specifications

Standards

- IEEE 802.3 10Base-T
- IEEE 802.3u 100Base-TX/FX
- IEEE 802.3ab 1000Base-T
- IEEE 802.3z 1000Base-SX/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

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

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

- $\pm 48\text{VDC}$ (Terminal Block)

Power Consumption

- 25W

Mechanical

Casing

- Metal Case

IP30

Dimensions

- 442*375*44mm (W*D*H)

Weight

- 5Kg

Installation

- Rack mounting

Interface

Ethernet Port

- 10./100Base-TX : 24 ports
- Gigabit: 4 ports

Console Port

- One DB9 RS-232 port

Alarm Contact

- One relay outout with current 0.6A/30VDC

LED Indicators

- Per Unit: Power1, Power2, Alarm
- Per Port: Link/Activity (Green)
- Per Slot: Selected (Green)

Environment

Operating Temperature

- -40 to 75°C (-40 to 167°F)
- Tested @ -40 to 85°C (-40 to 185°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
- EN 61000-6-4

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)
- IEC 61000-4-10 (Oscillatory wave magnetic field test)
- IEC 61000-4-16 (Power frequency immunity test)

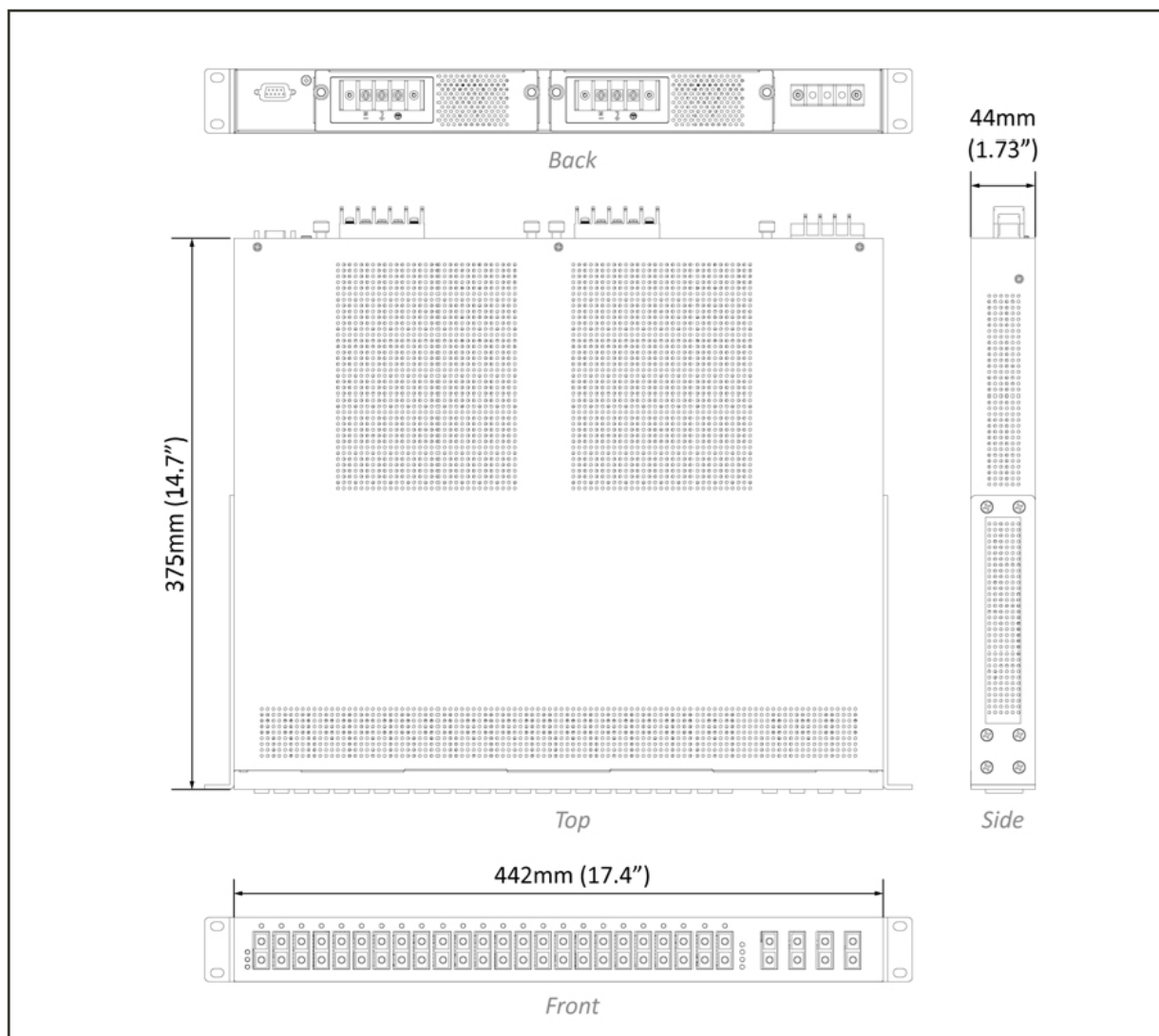
Environmental Test Compliance

- IEC 60068-2-6 Fc (Vibration Resistance)
- IEC 60068-2-27 Ea (Shock)
- FED STD 101C Method 5007.1 5free fall w/ package)

Industrial Compliance

- IEC 61850-3/IEEE 1613
- EN 50121-4
- NEMA TS2

Dimensions



Order Number

SWM-HE-24TX-4GX-2D8

Hardened Layer 2 Ethernet switch , 1U 19", 24 10/100BaseT ports, 4 uplink ports 1000BaseT, VLAN tagging 802.1q, QoS 802.1p, port trunking, RSTP, Alfa-Ring <15ms, SNMP V3, redundant 36-75Vcc, working temperature -40 à +75 °C , EN50121-4 (train station), IEC61850-3/IEEE1613 (energy substation)



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