

MS-0412XF

4+12 Port Industrial Managed Ethernet Switch with 10G Uplink



- 4x Gigabit Ethernet ports
- 12x 1/10 Gigabit Ethernet SFP+ Slot
- Built for harsh environments and wide temperature range application
- RSTP, MSTP, ERPS, LACP for Network Redundancy
- QoS CoS/DSCP to increase determinism
- Supports IGMP Snooping v1/v2/v3, up to 4096 groups
- DHCP Relay Option 82 for policies IP address assignment
- SNMP v1/v2c/v3 for network management
- Supports Storm Protection
- USB storage for configuration-free replacement
- Supports industrial automation protocols Ethernet/IP and Modbus TCP

Specifications

Technology

Standards	IEEE 802.3 10BaseT
	IEEE 802.3u 100BaseTX
	IEEE 802.3ab 1000BaseT
	IEEE 802.3ae 10GBase over Fiber
	IEEE 802.3x Flow Control
	IEEE 802.3az Energy-Efficient Ethernet
	IEEE 802.3ad/802.1AX LACP
	IEEE 802.1D Spanning Tree Protocol
	IEEE 802.1w Rapid STP
	IEEE 802.1s Multiple STP
	ITU-T G.8032 / Y.1344 ERPS
	IEEE 802.1Q VLAN Tagging
	IEEE 802.1ad Stacked VLANs
	IEEE 802.1p Class of Service
	IEEE 802.1X Network Authentication
	IEEE 802.1AB LLDP
	IEEE 1588 PTP

Processing Type	Store and Forward
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Switch Properties

Switch Fabric	248Gbps
Priority Queues	8 Queues
Jumbo Frame	12288bytes
MAC Table Size	32K
Packet Buffer	32Mbits
VLAN Table	4094

Size

IGMP Group	4096
ACL Group	4096

Software Feature

Network Redundancy	RSTP, MSTP, G.8032 ERPSv2, Port Trunking with LACP
Security	802.1X, RADIUS, TACACS+, SSL, SSH
Management	IPv4, IPv6, Web, Telnet, Serial Console, CLI, SNMP v1/v2c/v3, uPnP
Diagnostics	RMON, SNMP Inform/Trap, Syslog, SMTP, Port Mirroring, LLDP, DDM, RSPAN
Configuration	DHCP Server/Client, Relay Option 82, TFTP, USB
Filter	802.1Q VLAN, Q-in-Q, IGMP Snooping v1/v2/v3, MLD Snooping v1/v2, IGMP Querier, Independent Vlan Learning
Time Sync.	NTP, IEEE1588v2 OC (Software Timestamp), TC (Hardware Timestamp)
QoS	CoS, DSCP, WRR/SPQ Queuing, Storm Protection
Industrial Profiles	Ethernet/IP, Modbus TCP, Profinet

Interface

RJ45 Port	4x 10/100/1000T(x), auto negotiation speed duplex mode, auto MDI/MDI-X
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Fiber Port	12x 1/10 Gigabit Ethernet SFP+ Slot
LED Indicators	Per unit: PWR1, PWR2, Fault, Ring Master, Ring State Ports: Link/Active with highest speed(Green), low speed(Amber)
Alarm Contact	1x relay output with current carrying capacity of 1A @ 24 VDC
Digital Inputs	1x isolated input from the electronics. +13 to +30V for state "1" -30 to +3V for state "0" Max. input current: 8mA
Button	Multiple functions reset button
Serial Console	1x RS232 in RJ45 connector with console cable, 115.2Kbps, 8N1
Storage	1x USB 2.0 storage for firmware update, configuration backup, restore, boot up and syslog

Power Requirements

Operation Voltage	12-48VDC, redundant dual inputs
Connection	1x removable 4-contact terminal block
Power Consumption	1.53A@24VDC
Protection	Overload Current Protected, Reverse Polarity Protected

Mechanical Construction

Enclosure	Aluminum
Protection Class	IP30
Dimensions	72x145x178 mm (WxHxD)

Features with star(*) implies those are under development.

In a continuing effort of improvement and updated technology, product specifications are subject to change without notice.

Weight	1.58 kg
Mounting	DIN-Rail Mounting, Optional Wall Mounting Kits

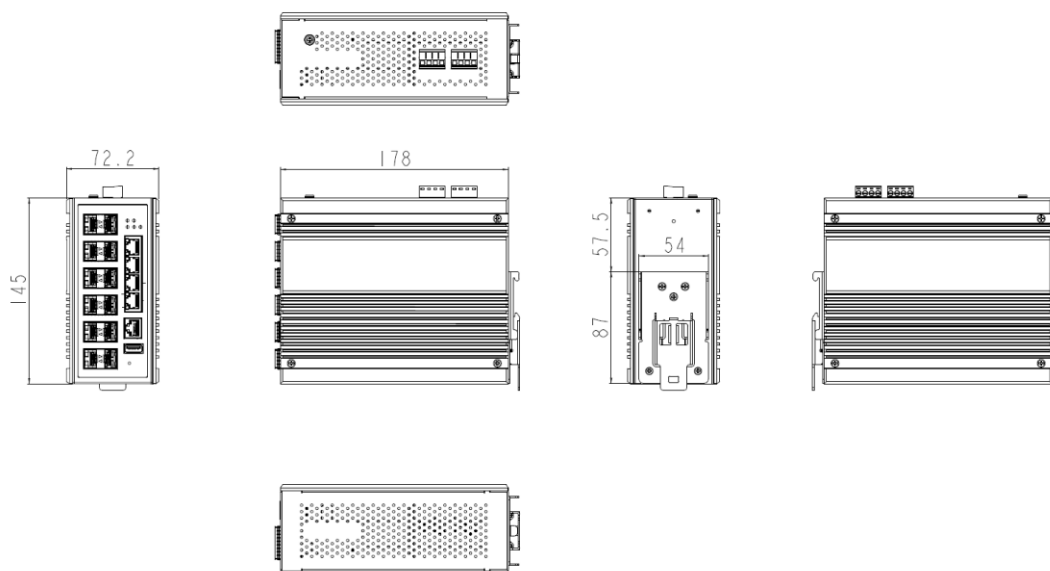
Environmental Limits

Operating Temperature	Standard: -10°C ~ 60°C (14°F ~ 140°F) Extended: -40°C ~ 75°C (-40°F ~ 167°F)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Ambient Relative Humidity	5 to 95%, (Non-Condensing)

Regulatory Approvals

EMI	FCC Part 15 Subpart B Class A CE EN 55032 Class A
EMS	IEC61000-4-2 (ESD) IEC61000-4-3 (RS) IEC61000-4-4 (EFT) IEC61000-4-5 (Surge) IEC61000-4-6 (CS) IEC61000-4-8 (Magnetic Field)
Free Fall	IEC60068-2-32
Shock	IEC60068-2-27
Vibration	IEC60068-2-6
Green	RoHS Compliant
Certifications	UL 60950-1/62368 (Pending) IEC 61000-6-2 IEC 61000-6-4 EN 50121-4
MTBF	>100,000 hours
Warranty	5 Years

Dimensions (unit = mm)



Ordering Information

MS-0412XF	4+12 Port Industrial Managed Ethernet Switch with 10G Uplink - 4x 10/100/1000T(x) + 12x 1/10 Gigabit Ethernet SFP+ Slot - Operating Temperature: -10°C ~ 60°C (14°F ~ 140°F)
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MS-0412XF-T	4+12 Port Industrial Managed Ethernet Switch with 10G Uplink - 4x 10/100/1000T(x) + 12x 1/10 Gigabit Ethernet SFP+ Slot - Operating Temperature: -40°C ~ 75°C (-40°F ~ 167°F)
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Optional Accessories

NDR-75-24	75W Industrial DIN-Rail Power Supply, 24VDC (metal case)
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NDR-75-48	75W Industrial DIN-Rail Power Supply, 48VDC (metal case)
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