

# MS-1604XE-M12

## 16+4 Port M12 Industrial Managed Ethernet Switch with 10G Uplink



- 16x 10/100/1000T(x) M12 connector
- 4x 1G/10GBASE-T Ethernet
- 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
- Supports industrial automation protocols Ethernet/IP and Modbus TCP



## Specifications

### Technology

IEEE 802.3 10BaseT  
 IEEE 802.3u 100BaseTX  
 IEEE 802.3ab 1000BaseT  
 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

### Standards

**Processing Type** Store and Forward

### Switch Properties

**Switch Fabric** 112Gbps

**Priority Queues** 8 Queues

**Jumbo Frame** 12288byte

**MAC Table Size** 32K

**Packet Buffer** 32Mbits

**VLAN Table Size** 4094

**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, RSPAN

**Configuration** DHCP Server/Client, Relay Option 82, TFTP

**Filter** 802.1Q VLAN, Q-in-Q, IGMP Snooping v1/v2/v3, IGMP Querier, Independent Vlan Learning

**Time Sync.** NTP, IEEE1588v2 TC

**QoS** CoS, DSCP, WRR/SPQ Queuing, Storm Protection

**Industrial Profiles** Ethernet/IP, Modbus TCP, Profinet

### Interface

**Network Connector** 16x 10/100/1000T(x) M12 Female X-coded 8-pole, auto negotiation speed duplex mode, auto MDI/MDI-X  
 4x 1G/10GBASE-T M12 Female X-coded 8-pole, auto negotiation speed duplex mode, auto MDI/MDI-X

**LED Indicators** Per unit: PWR1, PWR2

**Ports:** Link/Active with highest speed(Green), low speed(Amber)

<b>Serial Console</b>	1x RS232 in M12 Male A-coded 5-pole connector with console cable, 115.2Kbps, 8N1
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### Power Requirements

<b>Operation Voltage</b>	LV: 24-48VDC, HV: 72-110VDC, redundant dual inputs
<b>Connection</b>	M12 Male K-coded 5-pole
<b>Power Consumption</b>	1.27A@24V
<b>Protection</b>	Overload Current Protected, Reverse Polarity Protected

### Mechanical Construction

<b>Enclosure</b>	SECC/Aluminum
<b>Protection Class</b>	IP40/IP54(Optional)
<b>Dimensions</b>	220x176x100 mm (WxHxD)
<b>Weight</b>	3.0 kg
<b>Mounting</b>	Wall Mounting Kits

### Environmental Limits

<b>Operating</b>	Extended: -40°C ~ 75°C (-40°F ~ 167°F)
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### Temperature

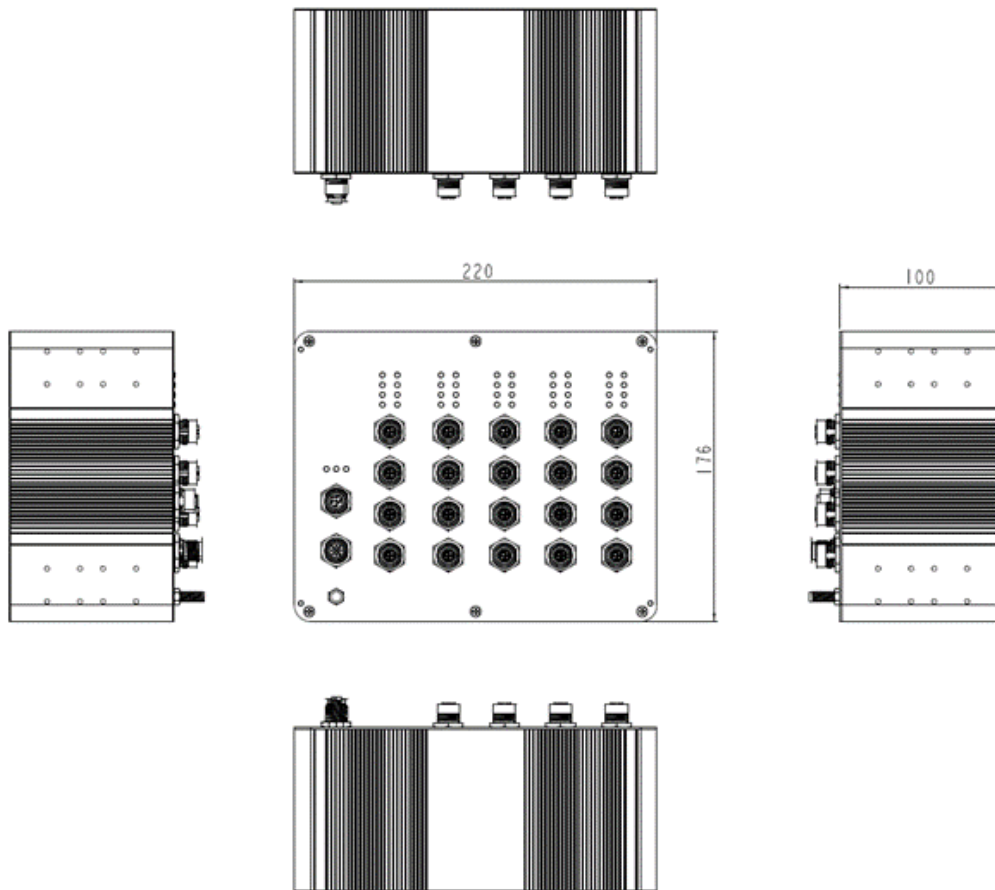
<b>Storage Temperature</b>	-40°C ~ 85°C (-40°F ~ 185°F)
<b>Ambient Relative Humidity</b>	5 to 95%, (Non-Condensing)

### Regulatory Approvals

<b>EMI</b>	FCC Part 15 Subpart B Class A CE EN 55032 Class A
<b>EMS</b>	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)
<b>Free Fall</b>	IEC60068-2-32
<b>Shock</b>	IEC61373
<b>Vibration</b>	IEC61373
<b>Green</b>	RoHS Compliant
<b>Certifications</b>	EN 50155 (Pending) EN 45545-2
<b>MTBF</b>	>100,000 hours
<b>Warranty</b>	5 Years

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.

## Dimensions (unit = mm)



## Ordering Information

<b>MS-1604XE-M12-LVU-T</b>	16+4 Port M12 Industrial Managed Ethernet Switch with 10G Uplink - 16x 10/100/1000T(x) + 4x 1G/10GBASE-T Ethernet M12 connector - Operating Temperature: -40°C ~ 75°C (-40°F ~ 167°F) - Power Input: 24~48VDC
<b>MS-1604XE-M12-HVU-T</b>	16+4 Port M12 Industrial Managed Ethernet Switch with 10G Uplink - 16x 10/100/1000T(x) + 4x 1G/10GBASE-T Ethernet M12 connector - Operating Temperature: -40°C ~ 75°C (-40°F ~ 167°F) - Power Input: 72~110VDC