

# MT-1604XE-M12

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



- 16x 10/100/1000T(x) M12 connector with IEEE 802.3at PoE+
- 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
- Supports PoE PD Alive Check Function for PoE Device Power Recycle
- Power Boost for PoE+

### Specifications

#### Technology

- IEEE 802.3 10BaseT
- IEEE 802.3u 100BaseTX
- IEEE 802.3ab 1000BaseT
- IEEE 802.3ae 10GBaseT
- IEEE 802.3x Flow Control
- IEEE 802.3af Power over Ethernet
- IEEE 802.3at PoE+
- 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

#### 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 OC (Software Timestamp), TC (Hardware Timestamp)

<b>QoS</b>	CoS, DSCP, WRR/SPQ Queuing, Storm Protection
<b>PoE</b>	Powering Status, PoE Monitoring, Scheduling, PD Alive Check, PoE Priority
<b>Industrial Profiles</b>	Ethernet/IP, Modbus TCP, Profinet
<b>Interface</b>	
<b>Network Connector</b>	16x 10/100/1000T(x) M12 Female X-coded 8-pole with PoE+, auto negotiation speed duplex mode, auto MDI/MDI-X 4x 1G/10GBASET-T M12 Female X-coded 8-pole, auto negotiation speed duplex mode, auto MDI/MDI-X
<b>LED Indicators</b>	<b>Per unit:</b> PWR1, PWR2 <b>Ports:</b> Link/Active (Green) <b>PoE:</b> Output Power (Amber)
<b>Serial Console</b>	1x RS232 in M12 Male A-coded 5-pole connector with console cable, 115.2Kbps, 8N1
<b>Power Requirements</b>	
<b>Operation Voltage</b>	24VDC, 48VDC, HV: 72-110VDC, redundant dual inputs
<b>Connection</b>	M12 Male K-coded 5-pole
<b>Power Consumption</b>	1.27A@24V without PDs' consumption
<b>PoE Power Budget</b>	Max. 30 W per PoE port. Max. total output power for PD: 165W@24V input; 165W@48V input; 156W@110V input
<b>Protection</b>	Overload Current Protected, Reverse Polarity Protected

### Mechanical Construction

<b>Enclosure</b>	SECC/Aluminum
<b>Protection Class</b>	IP40 IP54/IP65(Optional)
<b>Dimensions</b>	220x176x128 mm (WxHxD)
<b>Weight</b>	3.0 kg
<b>Mounting</b>	Wall Mounting Kits

### Environmental Limits

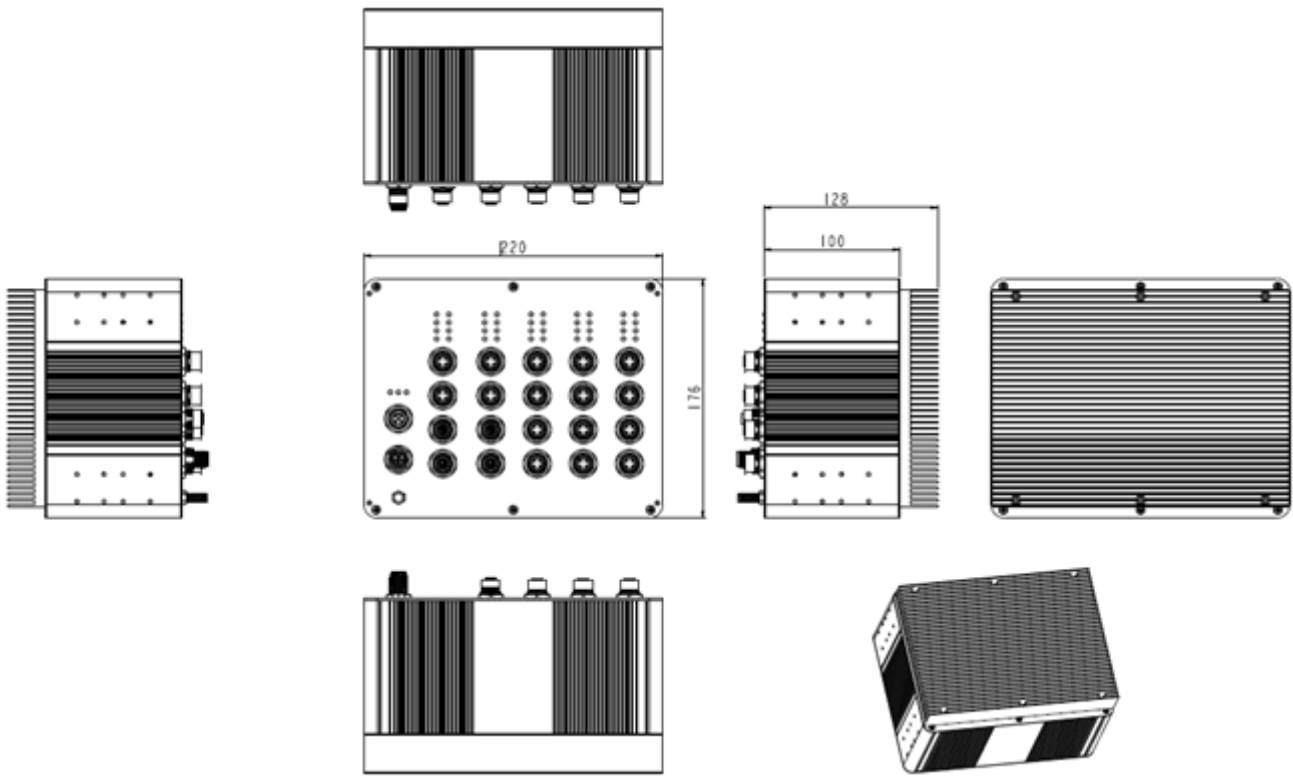
<b>Operating Temperature</b>	Extended: -40°C ~ 70°C (-40°F ~ 158°F)
<b>Storage Temperature</b>	-40°C ~ 85°C (-40°F ~ 185°F)
<b>Ambient Relative Humidity</b>	5 to 95%, (Non-Condensing)

### 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>MT-1604XE-M12-24V2U-T</b>	<p>16 Port M12 Industrial Managed PoE+ Booster Ethernet Switch</p> <ul style="list-style-type: none"> <li>- 16x 10/100/1000T(x) X-coded M12 connector with 30W PSE + 4x 1G/10GBASE-T Ethernet</li> <li>- Operating Temperature: -40°C ~ 70°C (-40°F ~ 158°F)</li> <li>- Power Input: 9~36VDC</li> <li>- Max. Power Budget: 165W</li> <li>- Protection Class: IP40</li> </ul>
<b>MT-1604XE-M12-24V2U-WT</b>	<p>16 Port M12 Industrial Managed PoE+ Booster Ethernet Switch</p> <ul style="list-style-type: none"> <li>- 16x 10/100/1000T(x) X-coded M12 connector with 30W PSE + 4x 1G/10GBASE-T Ethernet</li> <li>- Operating Temperature: -40°C ~ 70°C (-40°F ~ 158°F)</li> <li>- Power Input: 9~36VDC</li> <li>- Max. Power Budget: 165W</li> <li>- Protection Class: IP54</li> </ul>
<b>MT-1604XE-M12-24V2U-UT</b>	<p>16 Port M12 Industrial Managed PoE+ Booster Ethernet Switch</p> <ul style="list-style-type: none"> <li>- 16x 10/100/1000T(x) X-coded M12 connector with 30W PSE + 4x 1G/10GBASE-T Ethernet</li> <li>- Operating Temperature: -40°C ~ 70°C (-40°F ~ 158°F)</li> <li>- Power Input: 9~36VDC</li> <li>- Max. Power Budget: 165W</li> <li>- Protection Class: IP65</li> </ul>
<b>MT-1604XE-M12-48V2U-T</b>	<p>16 Port M12 Industrial Managed PoE+ Booster Ethernet Switch</p> <ul style="list-style-type: none"> <li>- 16x 10/100/1000T(x) X-coded M12 connector with 30W PSE + 4x 1G/10GBASE-T Ethernet</li> <li>- Operating Temperature: -40°C ~ 70°C (-40°F ~ 158°F)</li> <li>- Power Input: 16.5~75VDC</li> <li>- Max. Power Budget: 165W</li> <li>- Protection Class: IP40</li> </ul>
<b>MT-1604XE-M12-48V2U-WT</b>	<p>16 Port M12 Industrial Managed PoE+ Booster Ethernet Switch</p> <ul style="list-style-type: none"> <li>- 16x 10/100/1000T(x) X-coded M12 connector with 30W PSE + 4x 1G/10GBASE-T Ethernet</li> <li>- Operating Temperature: -40°C ~ 70°C (-40°F ~ 158°F)</li> <li>- Power Input: 16.5~75VDC</li> <li>- Max. Power Budget: 165W</li> <li>- Protection Class: IP54</li> </ul>
<b>MT-1604XE-M12-HV2U-T</b>	<p>16 Port M12 Industrial Managed PoE+ Booster Ethernet Switch</p> <ul style="list-style-type: none"> <li>- 16x 10/100/1000T(x) X-coded M12 connector with 30W PSE + 4x 1G/10GBASE-T Ethernet</li> <li>- Operating Temperature: -40°C ~ 70°C (-40°F ~ 158°F)</li> <li>- Power Input: 43~160VDC</li> <li>- Max. Power Budget: 156W</li> <li>- Protection Class: IP40</li> </ul>
<b>MT-1604XE-M12-HV2U-WT</b>	<p>16 Port M12 Industrial Managed PoE+ Booster Ethernet Switch</p>

- 16x 10/100/1000T(x) X-coded M12 connector with 30W PSE + 4x 1G/10GBASE-T Ethernet
- Operating Temperature: -40°C ~ 70°C (-40°F ~ 158°F)
- Power Input: 43~160VDC
- Max. Power Budget: 156W
- Protection Class: IP54