Actelis Networks™

ML562Mx

8 Port Industrial Managed 10GE Ethernet Switch

The ML562Mx Industrial Ethernet Switch from Actelis Networks® is a high density hardened, fanless fiber fed switch able to support 2 10G SFP interfaces, 2 2.5/1GE SFP interfaces, and 4 high speed gigabit interfaces per device.

The ML562Mx is part of Actelis' Rackmount family of access switching products designed for industrial, intelligent traffic network, surveillance, pipeline and utility applications as well as in-building connectivity in non-airconditioned environments. The ML562Mx is a cost optimized, managed 10GE switch supporting multiple ten and one gigabit Ethernet connections that allow multiple sensors or cameras at various locations to be connected in a linear chain, MSTP/RSTP/STP mesh or Fast healing ERPS ring configurations.

The ML562Mx offers wire-speed switching across 8 ports, featuring an extremely small factor, and fanless design. The ML562Mx is ideal for deployment in almost any traffic, utility, or industrial networks.

Service providers utilizing the ML562Mx intelligent carrier Ethernet demarcation devices can offer CE 2.0 based services EPL, EVPL, E-LAN with higher throughput advanced bandwidth, highly granular SLA and comprehensive monitoring and management capabilities.

The ML562MS model also supports precision timing mechanisms using 1588v2 and SyncE (ITU-T G.826x).

Environmentally hardened with redundant power inputs, and featuring a robust, field-proven design, the unit is temperature hardened and protected against over voltage and over current conditions, ensuring high reliability and trouble-free operation.

Interoperable with any standard Ethernet switch, router or hub the ML562Mx seamlessly integrates into any Ethernet network. The ML562Mx is equipped with two 10GE Small Form-Factor Pluggable (SFP) ports, two 2.5/1GE SFP ports, and 4x 10/100/1000Base-T copper RJ45 ports. The ML562Mx allows assignment of a service/device per port.

ML562Mx incorporates comprehensive set of mechanisms that include high level authentication, advanced encryption capabilities, as well as sophisticated filtering and access control using layer 2 processes.

The ML562Mx can be managed through Actelis' MetaASSIST EMS multi-platform Element Management System. Various user interfaces/protocols are supported including a WEB based GUI, Cisco Like CLI as well as SNMP MIBs enabling seamless integration with third-party Network Management Systems (NMS).

Highlights

- **High Density Managed** 10GE switch – 8 ports
- **Industrial Design** - Harsh environments, wide temperature range compact IP30
- **Flexible Network Redundancy -** RSTP, MSTP, ERPS, LACP
- **Advanced Traffic Management** - QoS- CoS, DSCP, WRR/SPQ Queuing, Storm Protection
- **L2 wire speed switching** , 9K Jumbo frames
- **Advanced Security: I**EEE 802.1x, RADIUS & TACACS+
- **SNMP** v1/v2c/v3
- **Easy Deployment / Configuration** - USB storage, configuration-free replacement
- **Superior Reliability and Availability**

ML562Mx

Specifications

Interfaces

Ethernet
- **4 x** 1000 BaseT; 4 x RJ45, Auto MDIX
- 2 x 2500 baseFX
- 2 x 10GE

Management (Out-of-Band)
- **1000Base-T: Connector:** RJ45, Auto-MDIX
- **Console port: Connector:** RJ45, Auto-MDIX

Bridging and Routing
- **Dynamic Bridging:** IEEE 802.1
- **VLAN Tagging:** IEEE 802.1Q
- **VLAN Translation**
- **Port Isolation**
- **MAC-based and Protocol-based VLAN**
- **IEEE 802.1ad Provider Bridge**
- **Port and Flow Mirroring**
- **Protocol-Based and IP subnet-based VLAN**
- **Classification of L3 flow**
- **IGMP snooping:** IGMP V2/V3
- **DHCP Option 82 Relay**
- **Universal plug-and-play** (UPnP)
- **IPv4 Unicast Static Routing**
- **OAM:** IEEE 802.3ah clause 57 (EFM OAM) IEEE 802.1ag, ITU Y.1731, ITU-T Y.1564, RFC 2544

Quality Of Service Features
- Classes of Service: 8
- Scheduler: WFQ, SP, Hybrid
- Per-EVC QoS, Policing and shaping for service isolation and traffic isolation
- Classification: Per Port/VLAN/L2/L3/L4
- Rate Limiting: Per Port/VLAN/L2/Flow

Redundancy
- **Ring:** ERPSv2
- **Spanning Tree Protocol:** STP - IEEE 802.1D, RSTP IEEE 802.1w, MSTP IEEE 802.1s
- **Port Trunk with LACP:** Static or Dynamic

Management Applications
- **EMS**: MetaASSIST EMS

Security Protocols
- **Port security:** IP and MAC-based access control
- **Authentication:** IEEE 802.1X
- **Storm Control:** Multicast/Broadcast/Flooding Storm Control

Management Protocols

User Management interfaces
- Command line interface: Cisco-like CLI
- WEB-GUI
- SNMP: V3, V2C, V1
- Telnet

Secure Access
- HTTPS, SSH, SSL, Radius, TACACS+

Configuration
- TFTP, USB

Diagnostic Syslog
- **Per VLAN mirroring**

DHCP
- Client, Server, Snooping, Relay Agent with option Option 82

Time Sync
- NTP

Synchronization (ML562MS model only)
- ITU-T G.8262 SyncE with SSM
- IEEE 1588v2 Boundary and transparent clock with nanosecond accuracy
- ITU-T G.8275.x PTP Telecom Profile supported on boundary and transparent clock

Physical
- **Dimensions (HxDxW):** 1.6" / 40 mm (1U) x 9.05" / 230 mm x 8.66" / 220 mm
- **Racks:** 19", 23" or ETSI racks, Desktop, Wall Mount

Power
- AC model: 90-264 VAC, 50/60 Hz
- DC model: -48V DC

Environmental
- **Operating Temp: -4**0° to +65°C (-40° to 149⁰F)
- **Storage Temp:** -40° to +75°C (-40° to 167⁰F)
- **Relative Humidity:** 5**%** to 95%, non-condensing

Regulatory Compliance/Certifications

Safety
- UL 60950, CSA C22.2, EN61010-1, UL 508

EMC
- ETSI EN 300 386
- FCC Part 15, CISPR 22 (EN55032) Class A
- IEC61000-4-2, -3, -4, -5, -6, -8

CE
- EMC and Safety

Vibration, shock & freefall
- IEC68-2-6, -27, -32

RoHS and WEEE
- RoHS (Pb free) and WEEE compliant