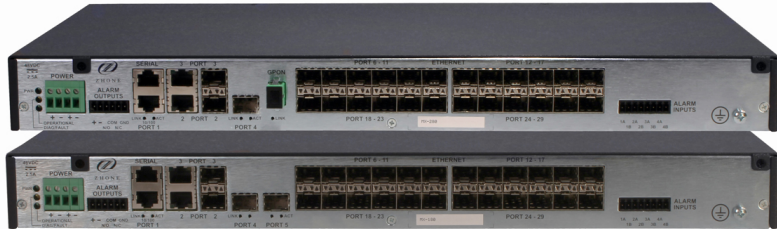


## Compact, High-Performance 1U Active Ethernet OLT/MDU ONU

- ✓ *High-Performance 1U AE OLT/MDU ONU (GPON and Active Ethernet Uplinks)*
- ✓ *24-Port Fast Ethernet (SFP-based, fiber or copper)*
- ✓ *SLMS family member supporting industry-leading multimedia traffic management*
- ✓ *Environmentally Hardened*
- ✓ *Fiber or Copper Fast/Gigabit Ethernet Uplinks with EAPS, RSTP (802.w), or LAG/LACP (802.3ad)*
- ✓ *Removable Fan Tray*
- ✓ *WebGUI, CLI, SNMP Management*



The Zhone MX-180/280 provides next generation Active Ethernet OLT/MDU ONU features in a compact, hardened form-factor that makes it easy and cost-effective to deliver uncompromising triple play services throughout serving area. Models are available with 24 Fast Ethernet Ports (SFP-based).

This MX family product is designed for easy configuration and management via built-in Web Graphical Interface. It's compact design allows easy deployment in remote cabinets and space constrained central offices.

The MX-180/280 offers multiple Fast/Gigabit Ethernet and GPON (MX-280 only) uplink interfaces. The Fast/Gigabit Ethernet interfaces on MX family products can be configured as linear, ring, or aggregated links.

Zhone's MX-180/280 Ethernet solution offers full-rate Fast Ethernet performance for packet-based service delivery. This low-power, fully programmable, high performance solution enables service providers to cost-effectively generate additional revenue through their triple-play offering, including the different iterations of video services emerging in the marketplace. As an end-to-end solution, Zhone offers Fast Ethernet ONTs and CO products to offer high-speed, long reach and low cost solutions for multi-tenant and multi-dwelling unit (MxU), remote terminal and CO deployments.

### **Ease of Management**

MX-180/280 provides simple yet powerful management facility via embedded Web GUI along with complete NMS integration.

### **Triple Play Services**

MX-180/280 includes high-performance packet switching with advanced IP capabilities to deliver secure, reliable, and efficient voice, data, and video services. Now service providers can offer compelling bundles of multi-line voice, high-speed Internet access, and multi-set IP video (including HDTV) over their existing fiber infrastructure.

MX-180/280 is defined by its ease of use and packet processing/switching capability to support rich triple-play services on each subscriber port.

### **Optical or Copper Transport**

MX-180/280 provides multiple SFP-based and RJ45 Fast/Gigabit Ethernet uplinks, supporting both copper and fiber, to provide simple cost-effective transport. The FastE/GigE uplink ports allow daisy-chained linear or ring deployments, and on rings the MX-180/280 provides standards-based EAPS support.

### **End-to-End Access Management**

The easy-to-use Zhone Management System (ZMS) provides OSMINE-certified management and provisioning across the access network, from CPE to the Central Office. The MX-180/280 is fully remote managed, allowing carriers to reduce service turn-up intervals, reduce truck rolls, and ultimately, improve customer service.

## Technical Specifications

### Dimensions

- 1.72in H x 17.32in W x 9.06in D
- 4.37cm H x 43.99 cm W x 23.02 cm D

### Weight

- 10lbs (4.53kg)

### Power

- DC: -43.75V to -59.90V
- Optional AC and Line Power Supplies

### Interfaces

- Uplink Interfaces:
  - MX-180
  - (4) 100/1000Mbps Ethernet (Copper or Fiber) SFP slots
  - (2) 10/100/1000Mbps Ethernet (Copper) RJ45
  - MX-280
  - (1) GPON (Fiber) with SC/APC connector
  - (3) 100/1000Mbps Ethernet (Copper or Fiber) SFP slots
  - (2) 10/100/1000Mbps Ethernet (Copper) RJ45
- Subscriber Line Interfaces:
  - (24) 100Mbps Ethernet SFP slots (Copper or Fiber)
- Serial craft management interface
- 10/100BT management interface
- Alarm Output & Input connections
- Port Status LEDs

### Standards Support

- ITU-T G.984 (GPON) (MX-280 only)
- IEEE 802.3 Ethernet
- IEEE 802.1p
- IEEE 802.1Q
- IEEE 802.w
- IEEE 802.3ad

### Protocol Support

- IP host and gateway support
- EAPS RFC3619 support
- RIP v1 (RFC 1058) RIP v2 (RFC 2453)
- DHCP server (RFC 2131, 2132)
- DHCP Relay with Option 82
- Bridging 802.1D support
- VLAN 802.1p/q support
- RSTP 802.w support
- Link Aggregation and LACP 802.3ad support
- Dense / sparse multicast support, IGMPv2
- Integrated access control and content protection
- RADIUS Authentication

### Management

- In-band IP
- Out-band IP over 10/100BT Ethernet or V.24 RS-232 serial for async terminal
- ZMS (Zhone Management System) via SNMP v2c for GUI and CORBA/XML Northbound interface
- Embedded Web Graphical Interface
- Command Line Interface (CLI)

### Regulatory Compliance

- Safety
  - CSA 22.2 No. 60950-1
  - EN 60950-1
  - IEC 60950-1
  - UL 60950-1
- EMC Emissions
  - FCC Part 15 Class A
  - EN 55022 Class A
  - ICES-003 Class A
- EMC Immunity
  - EN 300 386 v1.4.1
- Environmental
  - ETS 300 019-2-x
  - ISTA Transportation and Handling

### Operating Requirements

- Operating Temperature: -40°F to 149°F (-40°C to 65°C)
- Storage temperature: -40°F to 158°F (-40°C to 70°C)
- Humidity: Up to 85%, non-condensing
- Altitude: -200ft to 16,500ft (-60m to 5,000m)

## Ordering Information

### Models

MX-180	MX 24-PORT FE (SFP), 4 FE/GE, -48V DC (REQUIRES SFPS)
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MX-280	MX 24-PORT FE (SFP), 3 FE/GE, 1 GPON, -48V DC (REQUIRES SFPS)
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### Accessories

XP-AC-SUPPLY	Raptor/MALC XP AC Power Supply, 90-264 VAC, 48 VDC, 150W
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XP-CO-LP-SHELF	Raptor/MALC XP Line Power CO Shelf 40-60VDC IN, +/- 190VDC OUT, w/ 24 channels
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XP-RT-LP-UNIT	Raptor/MALC XP Line Power RT Unit +/- 190VDC IN, 40-60VDC OUT, w/ 5 channels
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