



MLX100

Intelligent Ethernet Loopback Device



Key Features

- Low cost Ethernet loopback device for testing end-to-end network performance when paired with MX100+, MX120+, MX300, TX300, or 3rd party Ethernet testers
- Ideal for testing transparent, switched, routed, and next generation carrier grade Ethernet networks
- 10/100/1000Base-T Electrical port (IEEE802.3), RJ45
- 1000Base-X Optical port supporting hot swappable, MSA compliant SFP transceivers
- BERT, RFC2544 and Throughput application eliminating the need for an expensive remote test partner
- Smart Loop mode for Layer 1, Layer 2, Layer 3, and Layer 4
- Intelligent device Discovery mode
- In-band loopback control; accepts loopback commands from MX100+, MX120+, MX300, or TX300
- Out-of-band operation via 10/100Base-T Ethernet management port and ReVeal software
- Activate a loopback profile from a remote location
- Default loopback profile storage for fast and easy loopback-ready boot-up
- RS232 supervisory port to configure IP address
- Remote control capability and loopback profile creation/upload through ReVeal PC software

Product Description

VeEX™ MLX100 Metro Loopback Expert is an intelligent Ethernet loopback device developed as a perfect companion to the MX100+, MX120+, MX300, and TX300 products. Loopback control can be performed in-band or via the built-in 10/100Base-T Ethernet port via an Internet connection. When paired with the compatible MX/TX series, the MLX100 is the industry's most cost-effective solution for point-to-point Service Level Agreement (SLA) verification and end-to-end performance testing.

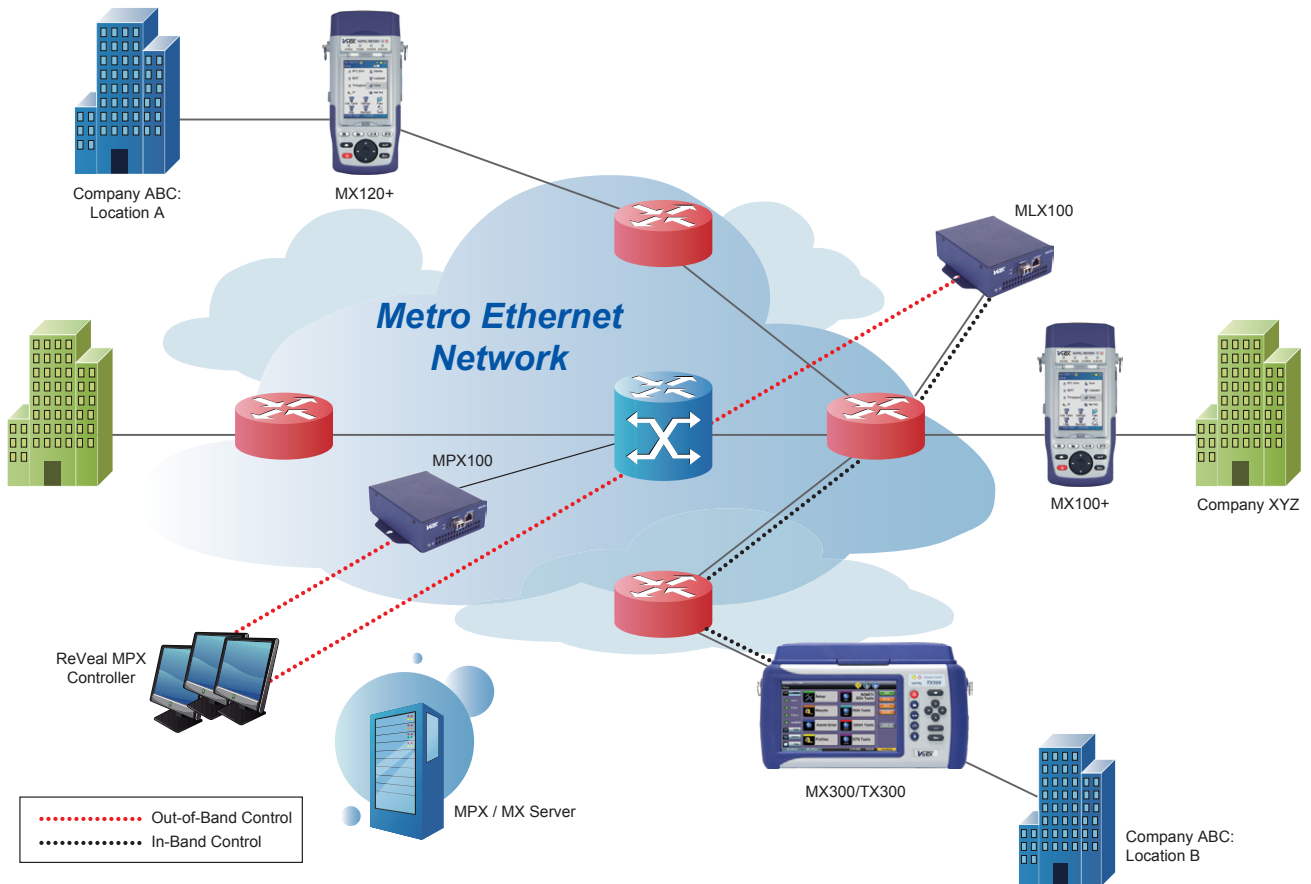
Loopback Modes

- Layer 1, Layer 2, Layer 3, and Layer 4 modes are available for looping back test traffic
- Layer 1: loops back all incoming traffic
- Layer 2: all incoming unicast traffic is looped back with MAC source and destination addresses swapped
- Layer 3: all incoming unicast traffic is looped back with MAC and IP source and destination addresses swapped
- Layer 4: all incoming unicast traffic is looped back with MAC, IP, and UDP/TCP ports swapped

Ethernet

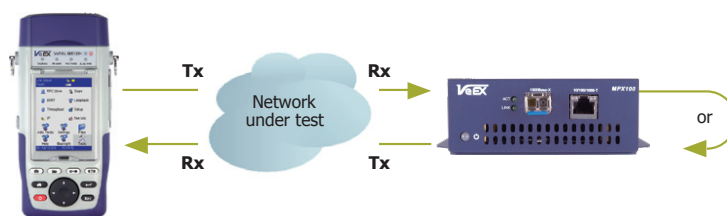
Carrier Ethernet Distributed Testing

When the MLX100 Intelligent Loopback device is used in conjunction with an MX100+, MX120+, MX300, or TX300 test set, a complete end-to-end and distributed test solution becomes available 24/7/365. The MX or TX units generate Ethernet/IP test traffic to the MLX100, which will loopback the test traffic for analysis. This test scenario can be carried out for BERT, RFC2544, and Throughput test applications.



End-to-End Performance Testing

Irrespective of Ethernet service being installed, it is always necessary to verify that the network can carry out and cope with the allocated bandwidth required by the customer. Service Level Agreements (SLA) compel service providers to measure network throughput and other performance characteristics to ensure that bandwidth associated with different service types conform to customer expectations.

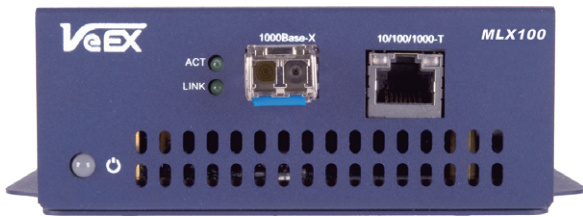


The MLX100 helps provision and troubleshoot Carrier Ethernet. For long-term troubleshooting, the unit can be deployed at a remote site so that technicians can loopback test traffic without needing a second tester or another technician at the remote location.

Ethernet

Ethernet Interfaces

Single 10/100/1000Base-T Port: RJ45 connector, IEEE 802.3 compliant
Single 1000Base-X SFP Port: SFP transceiver, LC connector



1000Base-SX

Wavelength: 850nm
TX level: -9 to -3 dBm
RX level sensitivity: -20 dBm
Max reach: 550m
TX bit rate: 1.25, 1.0625, 2.125 Gbit/s
RX bit rate: 1.25, 1.0625, 2.125 Gbit/s
Jitter Compliance/Ethernet Classification: Per IEEE 802.3 rec.
Eye Safety: Class 1

1000Base-LX

Wavelength: 1310nm
TX level: -9.5 to -3 dBm
RX sensitivity: -22 dBm
Max reach: 10 km
TX bit rate: 1.25 Gbit/s
RX bit rate: 1.25 Gbit/s
Jitter Compliance/Ethernet Classification: Per IEEE 802.3 rec.
Eye Safety: Class 1

1000Base-ZX

Wavelength: 1550nm
TX level: 0 to +5 dBm
RX sensitivity: -22 dBm
Max reach: 80 km
TX bit rate: 1.25 Gbit/s
RX bit rate: 1.25 Gbit/s
Eye Safety: Class 1

General Specifications

Size	45 x 110 x 140 mm (H x W x D) 1.75 x 4.25 x 5.5 in
Weight	Less than 1 kg (less than 2.2 lb)
AC Adaptor	Input: 100-240 VAC, 50-60 Hz Output: 15VDC, 3.5A
Operating Temperature	-10°C to 50°C (14°F to 122°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Humidity	5% to 95% non-condensing
Interfaces	USB 2.0, RJ45, 10/100-T Ethernet

Ethernet Features

Auto Negotiation, Full and Half Duplex, Flow Control

Smart Loop

Layer 1: loops back all incoming traffic
Layer 2: all incoming unicast traffic is looped back with MAC source and destination addresses swapped
Layer 3: all incoming unicast traffic is looped back with MAC and IP source and destination addresses swapped
Layer 4: all incoming unicast traffic is looped back with MAC, IP, and UDP/TCP ports swapped



Compatible with the MX100+, MX120+, MX300, or TX300 field instruments.

Ordering Information

Z03-00-008P MLX100 10/100/1000 Base-T and 1000Base-X Intelligent Loopback Device

SFP Transceiver Options

301-01-001G 850nm SX (550m) SFP - 1GE, 1G/2G FC
301-01-002G 1310nm LX (10km) SFP - 1GE, 1G/2G FC
301-01-003G 1550nm ZX (90km) SFP - 1GE, 1G/2G FC

Recommended Accessories

F05-00-001G LC-LC-M Patch Cord
F05-00-002G LC-LC-S Patch Cord
F05-00-003G LC-SC-M Patch Cord
F05-00-004G LC-SC-S Patch Cord
Z77-00-004G Single Unit - Wallmount Brackets
Z77-00-005G Four Unit - Rackmount Brackets

Replacement Items

A01-00-002G AC Adaptor (3-prong) for metal box
C01-00-001G Carrying Case for V100
F02-00-001G Ethernet Cable RJ45 to RJ45 2 m (6 ft)
F04-00-004G Power Cord - US 2 m (6 ft)
F04-00-005G Power Cord - EU 2 m (6 ft)
F04-00-006G Power Cord - UK 2 m (6 ft)
Z99-99-002G SFP Container