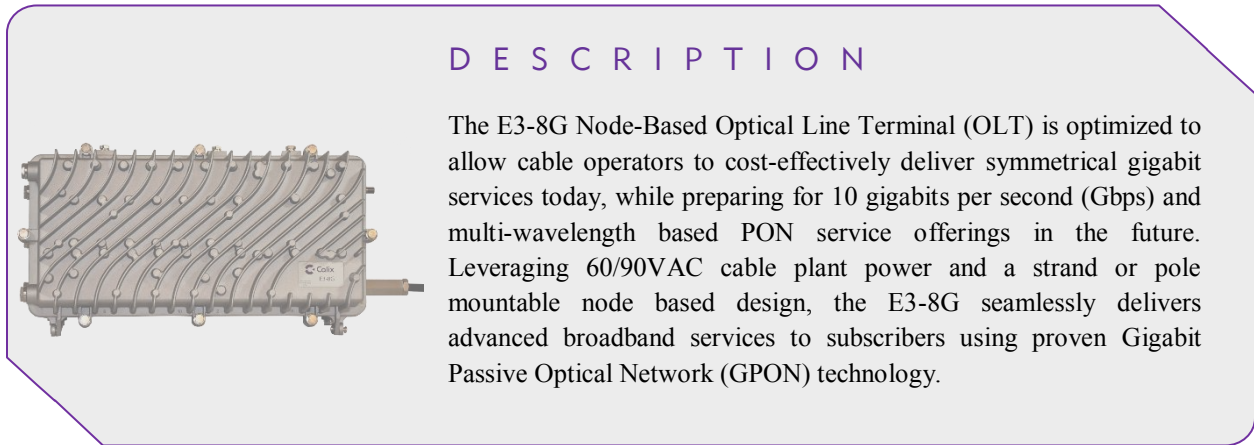


# Calix E3-8G Node-Based OLT



## DESCRIPTION

The E3-8G Node-Based Optical Line Terminal (OLT) is optimized to allow cable operators to cost-effectively deliver symmetrical gigabit services today, while preparing for 10 gigabits per second (Gbps) and multi-wavelength based PON service offerings in the future. Leveraging 60/90VAC cable plant power and a strand or pole mountable node based design, the E3-8G seamlessly delivers advanced broadband services to subscribers using proven Gigabit Passive Optical Network (GPON) technology.

## KEY ATTRIBUTES

**NODE-BASED OLT:** The Calix E3-8G Node-Based OLT provides multiservice capability over IP/Ethernet-based networks. Each E3-8G provides eight GPON OLT ports that subtend up to 64 ONTs each, for a total capacity of 512 GPON ONTs.

E3-8G features and capabilities include:

- Node-based design requiring no active cooling
- 60VAC/90VAC coaxial square wave input power
- DOCSIS® provisioning support with Open Link Cable
- Integrated fiber management
- Based on ITU G.984 GPON family of standards
- GPON: 2.488 Gbps downstream, 1.244 Gbps upstream
- GEM (Ethernet) based GPON
- Interoperable with all Calix ONTs
- Integrated 10GE XFP transport interfaces
- Class B+ ODN, +28 dB link budget, up to 20 km at 32-way splits
- Supports external 2 way RF video overlay

**ENVIRONMENTALLY HARDENED REMOTE OLT:**

The Calix E3-8G Node-Based OLT is a compact, self-enclosed product designed to be installed in OSP locations: strand mount, wall, pole, cabinet, or pedestal. The E3-8G is temperature hardened and does not require active cooling, making it a perfect solution for outside plant (OSP) deployments.

**INTEGRATED HIGH-CAPACITY AGGREGATION:**

Built on a core Layer 2 and Layer 3 switch, the E3-8G is capable of full-duplex, line rate forwarding at all frame sizes and traffic types across all interfaces. Each OLT port has a dedicated 2.5 Gbps switch interface. Industry standard pluggable modules are used for all interfaces, including ITU G.984 compliant GPON and 10GE XFP.

**COAXIAL INPUT POWERING:**

The Calix E3-8G Node-Based OLT supports existing cable plant powering: coaxial square wave input from 60VAC to 90VAC.

**SERVICE DELIVERY:**

The Calix E3-8G Node-Based OLT delivers a full spectrum of IP access services over GPON networks.

- High-Speed Internet (HSI) access
- Voice – Native SIP/VoIP and TDM Gateway support
- IPTV – broadcast and Video on Demand (VoD)

**NETWORK RESILIENCY:**

The E3-8G supports a flexible set of standards-based network topology protocols for use in point to point or ring based transport.

- ITU G.8032 Ethernet Ring Protection Switching (ERPS)
- ITU G.8032v2 Ethernet Ring Protection Switching (ERPS)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.3ad/802.1AX Link Aggregation

# SPECIFICATIONS

## Calix E3-8G Node-Based OLT

### MINIMUM SYSTEM REQUIREMENTS

Calix E7 Software Release 2.5

### PORTS

Eight GPON OLT ports

Two XFP ports supporting 10GE

### PHYSICAL DIMENSIONS

Width: 9 in (22.9 cm)

Height: 9 in (22.9 cm)

Depth: 19 in (48.3 cm)

### WEIGHT

27 lbs. (12.2 kg)

### PACKET SWITCHING CAPACITY

Wire speed forwarding across all

Ethernet and GPON OLT ports

32,000 MAC addresses per system

1500 byte frames over GPON

4,096 VLANs

4,000 IGMP Multicast channels

### QUALITY OF SERVICE

Service classification based on port,  
SVLAN-ID, CVLAN-ID, P-Bit

Port and flow-based policing to

1Mbps increments

8 CoS queues per port

Strict priority scheduling with  
minimum bandwidth guarantee

Congestion avoidance: Tail Drop

### STANDARDS AND RFC SUPPORT

TR101 VLAN Service models

IEEE802.1ag Connectivity Fault  
Management (G.8032 support)

IEEE 802.1D Rapid Spanning Tree

IEEE 802.1p CoS Prioritization

IEEE 802.1 MAC Bridges

IEEE 802.1Q VLAN tagging

IEEE 802.1ad VLAN stacking

(Q-in-Q) support

IEEE 802.1w RSTP

IEEE 802.3ad/802.1AX Link

Aggregation

RFC 2236 IGMP v2

RFC 3376 IGMP v3

RFC 3046 DHCP Relay Agent

Information Option ("Option 82")

RFC 4541 IGMP snooping

RFC 4553 Structure-Agnostic Time

Division Multiplexing (TDM) over

Packet (SAToP)

ITU-T G.8032 Ethernet Ring

Protection Switching

(ERPS)/Enhanced EAPS

ITU-T G.8032v2 Ethernet Ring

Protection Switching (ERPS)

ITU-T G.984 GPON

Dynamic Bandwidth Assignment

(DBA)

NIST Advanced Encryption Standard  
(AES)

IPv6 for Management

### COMPLIANCE

ANSI/SCTE 158 2009

ANSI/SCTE 186 2012

FCC Part 15 Class A

ICES-003 Class A

### POWER SPECIFICATIONS

E3-8G power/heat dissipation:

90 Watts

60VAC/90VAC coaxial square wave  
input power

### OPERATING ENVIRONMENT

Temperature: -40° to +65° C

(-40° F to +149° F)

Humidity: 5 to 95%

(non-condensing)

### STORAGE ENVIRONMENT

Temperature: -40° to +85° C

(-40° F to +185° F)

Humidity: 5 to 95%

# Calix E3-8G Node-Based OLT

## CALIX ONT s

The Calix E3-8G Node-Based OLT supports all Calix ONTs, including 700GX, 700GE, 836GE, 800G GigaCenter, 800G GigaPoint, 800G GigaHub and T-Series ONTs Single Family Unit (SFU), Small Business Unit (SBU), Multi-Dwelling Unit (MDU), and rack-mount models. Calix ONTs support auto sensing GPON and GE network interfaces, allowing service providers to manage service changes without subscriber onsite technical support.

### CALIX E3-8G NODE-BASED OLT

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100-04353 ..... E3-8G Node-Based OLT (8x GPON OIM, 2x 10GE XFP)

### CALIX PLUGGABLE TRANSCEIVER MODULES

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The E3-8G supports pluggable modules for all service and network interfaces. Refer to the Calix Optical Transceiver Modules Datasheet (#250-00191) for a complete list of modules and specifications.

XFP..... 10GE optical XFP modules  
GPON OIM ..... 2.5Gbps GPON (Class B+ ODN with minimum 28dB link budget, up to 1:64 splits)

Notes:

- For GPON OIM and 10GE XFP only products purchased directly from Calix are supported. The use of GPON OIM and 10GE XFP pluggable transceivers not purchased directly from Calix is not supported and will void all product warranties covering the Calix equipment to which such third-party materials are connected.