


**SKU:** 81.11S-OLT1
**Category:**

# FlexSym Optical Line Terminal One (OLT1)

The Tellabs FlexSym® Optical Line Terminal One (OLT1) provides a small form-factor OLT supporting both GPON and XGS-PON in the same OLT. It provides flexible choices for designing a modern enterprise network to exactly align with contemporary connectivity such as IoT, wireless, cloud, open/shared office and smart buildings demands. Efficiently converge all enterprise connectivity by leveraging fiber cabling's limitless capacity deep into your buildings and campus by equipping the OLT1 with the precise 2.5G or 10G PON capacity that is warranted – thus, minimizing space, energy and costs.

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# Features

- Supports up to 512 ONTs (64 way optical split) and up to 2,560 Ethernet connectivity (5-port ONTs) from 1RU 1.75 inches
- 8-port PON service module with XFP selectable ITU G.984 G-PON 2.5G or ITU G.989 XGS-PON symmetrical 10G connectivity
- XGS-PON bi-directional AES128 Encryption with churning key
- 4-ports Gigabit Ethernet and 2-ports 10-Gigabit Ethernet network uplink interfaces for flexible network design options
- Interworks with all Tellabs ONTs, both closet-based and deep fiber ONTs, including both G-PON and XGS-PON versions
- Environmentally-hardened for remote deployments in main data centers, or remote locations, with no air conditioning nor heating

# Highlights

## Services

Tellabs OLT1 connects contemporary voice, video, data, wireless access, access control, security, surveillance, building environmental and building automation inside buildings and across extended campus. This is inclusive of must-have enterprise features and functionality such as, bridging, access security, mission critical reliability and operational efficiencies. The Tellabs OLT1 operates with Tellabs complete line of true enterprise ONTs, both closet-based and deep fiber ONTs, including G-PON and XGS-PON flavors.

## Scalability

Tellabs FlexSym OLT1 scales from 2.5G G-PON to symmetrical 10G XGS-PON. Optical distribution network splits can be designed with up to 1:64 split ratio with 10km reach. With proper optical budget and split ratio design, the extended optical reach can be as far as 30 km with1:16 split ratio. Tellabs OLT1 provides four Gigabit Ethernet and two 10-Gigabit Ethernet network uplink interfaces. The 1GbE SFPs and 10GbE XFPs are sold separately for flexible network design options.

## Simple

All features and functionality can be defined in software and dynamically allocated, based on real-time needs. Being controlled by the Tellabs Panorama PON Manager helps speed installations and daily operations. Centrally controlled by the Tellabs Panorama PON Manager, the Tellabs FlexSym OLT1 supports quick provisioning using global profiles, and offers smart troubleshooting tools, all of which allow for speedy moves, adds and changes for everyday operations. The Tellabs OLT1 can support open-source and standards-based SDN with future software upgrade.

## Security

Industry leading XGS-PON bi-directional AES128 Encryption with churning key every minute is provided for ultimate security – that's two-way PON encryption securing the downstream and upstream traffic! Tellabs OLT1 supports best in class Network Access Controls and IEEE 802.1x integration, including Change of Authorization support for ForeScout CounterACT, Cisco Identity Services Engine (ISE), and HP/Aruba ClearPass Policy Management.

## Stability

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The Tellabs FlexSym OLT1 provides industry leading fiber route diversity and geographically dispersed OLTs with FSAN-based Type-B PON Protection support to maximize network availability and uptime for critical services.

# Specifications

## Physical

- Depth: 13 in/33 cm
- Weight: 15 lb/6.8 kg
- Width: 17.7 in/45 cm
- Height: 1.75 in/4.4 cm

## Interfaces

- PON: Eight (8) either G-PON or XGS-PON (XFPs sold separately)
- 1GbE SFPs: Four (4) SFPs (sold separately)
- 10GbE XFPs: Two (2) XFPs (sold separately)

## Power

- Max draw 5.0 A @ 48 VDC
- Dual 100/240 VAC
- Total input power 240 W
- Power cords sold separately
- 2nd power supply for redundancy sold separately

## Environmental

- Temperature: 23°F/-5°C to +131°F/+55°C
- Relative humidity: 5% to 95%, noncondensing
- Altitude: -200 ft/-61 m to +10,000 ft/+3 km
- Five (5) Optical Fan Assemblies (OFA1)
- Fans are horizontal discharge (front/rear to right)

## IP/Ethernet Network

- Total MACs: 32,000
- Multicast Flows: 1,024
- Total VLANs: 4,096
- Ethernet: IEEE 802.3
- Gigabit Ethernet: IEEE 802.3z
- 10Gigabit Ethernet: IEEE 802.3ae
- Change of Authorization including ForeScout CounterACT, Juniper Unified Access Control (UAC), Cisco Identity Services Engine (ISE), HP/Aruba ClearPass Policy Management and Microsoft Network Policy Server (NPS)
- Dynamic ARP Inspection (DAI)
- MAC Authentication Bypass (MAB)
- Private VLAN support
- Access Control Lists (ACL)
- SNMP Agent

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- IPv4 and IPv6
- Syslog: RFC 5426
- Priority Queuing: RFC 1048
- IGMPv3 Snooping and Proxy: RFC 3378 and RFC 2238
- Flow Control: IEEE 802.3x
- Port Authentication Entity: IEEE 802.1X
- Port-based Network Access Control: IEEE 802.1X
- Virtual LANs: IEEE 802.1Q
- Traffic Classification: IEEE 802.1p
- Multiple Spanning Tree Protocol (MSTP): IEEE 802.1s
- Rapid Spanning Tree Protocol (RSTP): IEEE 802.1D
- Link Aggregation Protocol: IEEE 802.3ax
- LLDP/LLDP-MED: IEEE 802.1AB

## Passive Optical Network

- Eight (8) PON ports
- Up to 64-way optical split
- 512 UNIs per PON port
- Flexible mapping of GEM ports and T-CONT with priority queue-based scheduling
- Activation with automatically discovered Serial Number (SN) and password
- AES-128 bi-directional encryption with 60 second churning of keys
- Forward Error Correction (FEC)
- IP DSCP to 802.1p mapping
- Support for multicast GEM port

## ITU-T G.989 10G PON

- Compliant to ITU-T, G.9807.1 and ITU-T G.989 standards
- Connectors: SC XFP module
- Wavelength downstream: 1580 nm
- Wavelength upstream: 1280 nm
- 9.95328 Gbps burst mode upstream
- 9.95328 Gbps downstream receive
- Maximum split ratio 1:64 (reach 6.2 miles/10 km)
- Maximum reach: 18.5 miles/30 km (split ratio 1:16)
- Optical budget: 28 dB (Class B+)

## ITU-T G.984 2.5G PON

- ITU-T G.984 compliant
- Connectors: SC XFP module
- Wavelength upstream: 1310 nm Â3 50 nm
- Wavelength downstream: 1490 nm Â3 10 nm
- Maximum split ratio 1:64 (reach 6.2 miles/10 km)
- Maximum reach: 18.5 miles/30 km (split ratio 1:16)
- Optical budget: 28 dB (Class B+)

## LED Indicators

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- XFP 1-2
- SFP 1-4
- STAT OLT Management
- STAT PON CPU
- Dual STAT 1-8 PON

## Management

- Tellabs Panorama PON Manager
- RS-232 Craft port

## Software Support

- Minimum base software SR32.0 and higher [In Development]
- Holds two versions of software with image integrity checking and automatic rollback

## Installation

- Mounting: 19 or 23 rack options
- Alarming: No dry relay contact inputs
- Timing: No timing support for fax or modem traffic

## Ordering Information

- Tellabs FlexSym OLT1: 81.11S-OLT1
- SFPs and XFPs are ordered separately
- 1000Base-SX with LC/MM connector (850nm with up to 550 meter reach): SFP 128211
- SFP 1000 Base-SX and LC/SM connector (1310nm and 10 kilometer reach): C.11T-S1GBELX1131S
- XFP G-PON module: 81.11T-XFPGPON-IT ordered separately
- XFP XGS-PON OLT module: 81.11T-XFPXGSPON ordered separately
- 2nd power supply for redundancy: 81.11P-1134ACPW-R6
- Power cords sold separately

## Compliance

- CE and RoHS 6 of 6
- EN 300386
- IEC-60950
- FCC Class A
- UL-60950

## General

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