

SKU: 81.11S-BOLT
Category:

FlexSym BOLT Optical Line Terminal (FlexSym BOLT)

The Tellabs FlexSym BOLT Optical Line Terminal is a multi-purpose Optical Line Terminal (OLT) enabling open, simple, and scalable connectivity for wired and wireless networks over fiber and copper networks. It supports multiple technologies, massive bandwidth, and a compact size to enable flexible design options for both fixed and mobile connectivity. FlexSym BOLT has optically connected distributed endpoints that can be GPON or symmetrical 10G XGS-PON. In addition, it offers multiple point to point interfaces including 10G, channelized 40G and channelized 100G Ethernet interfaces. It's an open OLT switching platform offering any management, any speed, across extended reach, using any technology in an all-optical architecture. The BOLT is Trade Agreement Act compliant.

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Features

- •16 PON interfaces that can be G-PON or symmetrical 10G XGS-PON
- •4 SFP+ 10G interfaces, 4 QSFP+ 40G interfaces, 2 QSFP28 interfaces
- •Open APIs, including REST and NETCONF (YANG) Zero Touch Provisioning (ZTP) to speed installation, provisioning, and recovery times
- •Stack OLTs with integrated DC power and aggregated uplinks
- •Out-of-band or In-Band management
- •The BOLT is Trade Agreement Act compliant

Highlights

The FlexSym BOLT provides an open architecture that better accommodates future technologies. It offers flexible design options that allow easy installation a nd vastly simplified management. The FlexSym BOLT delivers greater density, capacity, and scale in a smaller footprint.

Open Architecture

FlexSym BOLT provides industry standard open API interfaces for management, monitoring, and provisioning of the system. Included are NETCONF/YANG, REST, and a common industry accepted Command Line Interface (CLI) interfaces allowing the system to easily be incorporated into standalone or cloud-based management systems.

Simplified Management

FlexSym BOLT offers all the management options that IT staff expect. It has integrated management with client-based, web-based and industry accepted CLI options. Its open APIs include the NETCONF API and through the Panorama EMS a REST API. Zero Touch Provisioning (ZTP) function allows for faster commissioning and recovery.

Greater Scalability

There supports four QSFP+ interfaces configurable as 40 gigabit or four 10 gigabit optical interfaces, plus two QSFP28 interfaces supporting 100G, 40G, four 25G or four 10G. The FlexSym BOLT also is equipped with four SFP+ slots allowing use of 10G and 1G SFP modules. The PON modules can be configured for 2.5G G-PON, or symmetrical 10G XGS-PON on a per port basis. In the future, they can also be deployed as 10G Active Ethernet ports. FlexSym BOLT provides massive uplink bandwidth to aggregate other OLTs in the stack, and also to aggregate other networks with up to 300 gigabits of sustained switching capacity.

Specifications

Physical

- •Depth: 16.9 in / 43 cm
- •Width: 17.5 in / 44.5 cm
- •Height: 1.73 in / 4.4 cm
- •Weight: 15 lb / 6.8 kg

Interfaces

- •Sixteen (16) G-PON, XGS-PON
- •2 x QSFP28 supporting 1 x 100G, 2 x 50G, 2 x 40G, 4 x 25G, 4 x 10G

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- 4 x QSFP+ supporting 1 x 40G, 4 x 10G
- 4 x SFP+ supporting 10G, 1G
- 1 x Ethernet out-of-band management port

Uplink Modules

- F/O XCVR SFP+ 10GBASE-LR: 0410-0470
- F/O XCVR SFP+ 10GBASE-SR: 0410-0471
- QSFP PLUS 40GBASE-SR4 850nm 150m MMF: 81.11T-QSFPP40GSR4
- QSFP PLUS 40GBASE-LR4 1310nm 10km SMF: 81.11T-QSFPP40GLR4
- QSFP28 100GBASE-SR4 850nm 100m MMF: 81.11T-QSFP28100GSR4
- QSFP28 100GBASE-LR4 1310nm 10km SMF: 81.11T-QSFP28100GLR4

Power

- Max draw for front-panel DC input: 3.65A @ 48VDC
- Max draw for 100/240 VAC input: 10.17A (with 5 BOLT units daisy chain powered)
- 720W and 110W power supplies sold separately
- Power cords (C15) sold separately

Installation

- Mounting: 19” or 23” options

Environmental

- Temperature: 32°F/0°C to +104°F/+40°C
- Relative humidity: 5% to 95%, noncondensing
- Altitude: -200 ft/-61 m to +10,000 ft/+3 km
- Five (5) field replaceable redundant fan units
- Front to rear airflow for common data center practices

Compliance

- RoHS 6 of 6
- UL-62368/CSA C22.2
- FCC/ICES-003 Class A

Management

- ITU-T G.984.4/G.988 management
- Remote firmware upgrade and automatic rollback
- Via Panorama EMS, NETCONF API, CLI, ZTP
- SIP configuration from remote server

Passive Optical Network

- 512 UNIs per PON port
- Map GEM ports and T-CONT with priority scheduling
- Activation with automatic serial number discovery with password
- Forward Error Correction (FEC)
- IP DSCP to 802.1p mapping
- Support for multicast GEM port
- PON Protection Groups (PPG) with PON Path Protection

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ITU-T G.989 10G PON

- Compliant to ITU-T, G.9807.1 and ITU-T G.989 standards
- Wavelength: 1580 nm downstream, 1280 nm upstream
- 9.95328 Gbps burst mode upstream
- 9.95328 Gbps downstream continuous
- 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 (N1)
- AES-128 bi-directional encryption with 3 sec key churning

ITU-T G.984 2.5G PON

- ITU-T G.984 compliant
- Wavelength: 1490 nm downstream, 1310 nm upstream
- 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+)
- AES-128 downstream encryption with 60 sec key churning

IP/Ethernet Network

- Total MACs: 250,000
- Active Multicast Channels: 1,024
- Total VLANs: 4,096
- Ethernet IEEE 802.3, Gigabit Ethernet IEEE 802.3z and 10Gigabit Ethernet IEEE 802.3ae
- NAC appliance integration and COA support for 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
- IPv4 and IPv6
- Syslog: RFC 5426
- Priority Queuing: RFC 1048
- IGMPv3 Snooping and Proxy: RFC 3378 and RFC 2238
- Flow Control: IEEE 802.3
- Port Authentication Entity: IEEE 802.1X
    - 480 UNIs with MAB+PAE per PON with load-balancing PPG for an approximate reauthentication time of 10 minutes on reboot
    - 240 UNIs with MAB+PAE per PON without load-balancing PPG for an approximate reauthentication time of 10 minutes on reboot
- Port-based Network Access Control: IEEE 802.1
- Virtual LANs: IEEE 802.1Q and Q-in-
- Traffic Classification: IEEE 802.1p

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- •Multiple Spanning Tree Protocol (MSTP): IEEE 802.1s
- •Rapid Spanning Tree Protocol (RSTP): IEEE 802.1
- • Link Aggregation Protocol: IEEE 802.3a
- •LLDP/LLDP-MED: IEEE 802.1AB
- •Sticky MAC

LED Indicators

- •Status LED
- •4x Link/Activity LEDs for each QSFP28 and QSFP+ port
- •1x Link/Activity LEDs for each SFP+ port
- •1x Speed LED for each SFP+ port
- •1x Link LEDs for each SFP+ PON Port
- •1x Low Sig LEDs for each SFP+ PON Port
- •1x Link/Activity LED for the OOB Management port
- •1x Speed LED for the OOB Management port

Software Support

- •Minimum base software SR34.0 (under development) and higher
- •Holds two versions of software with image integrity checking and automatic rollback

Ordering Information

- •Tellabs BOLT: 81.11S-BOLT
- •Spare Fan Module: 81.11A-FA1RU12V
- •FlexSym 720W POWER SUPPLY, C15 CORD REQUIRED: 81.11P-PW720W
- •FlexSym 1100W POWER SUPPLY, C15 CORD REQUIRED: 81.11P-PW1100W
- •PWR AC CORD C5 TO TYPE B US: 81.11W-C15TYPB
- •FlexSym SFP+, XGS-PON Optic Module: 81.11T-SFPXGSPON
- •FlexSym SFP+, GPON 2.5G/1.25G, B+, I-TEMP: 81.11T-SFPGPON

General

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