

OLT LTP-4X

GPON central office node terminal

Description:

Optical Line Terminal (OLT) is designed to provide broadband access over Passive Optical Network (PON).

GPON interfaces are used to connect the optical distribution network (PON). You can connect up to 64 subscriber optical terminals via a single fibre for each interface. Access to the operator's transport network is provided through 10 Gigabit or combined Gigabit uplink interfaces.

OLT LTP-4X allows the operator to build scalable, fault-tolerant "last mile" networks to ensure the highest safety standards. OLT manages subscriber devices, traffic switching and connection to the transport network.



- *Up to 4 GPON line ports*
- *Ideal solution for a cottage village or an apartment building*
- *Remote control via CLI, SNMP*
- *G.988, G.984.x and TR-156 Standard*
- *Ability to provide cable TV together with data communication services*

Design:

The device has a 1U metal case available for 19" form-factor rack-mount shelf installation. Dimensions: with internal power supply module 430x44x258 (HxWxD) mm

Features and benefits:

Support for standard device management interface through EMS, CLI, web, SNMP interfaces, RS232 console
Aggregate switch functions with the support of the following features:

- MAC-address learning /aging
- MAC-address-table limit
- Handling unknown MAC-address
- Storm control
- Support to 1024 multicast groups
- Double tagging (Q-in-Q support), IEEE802.1ad
- STP, RSTP, MSTP
- IGMP Proxy
- IGMP Snooping
- IGMP fast leave
- Static routing
- VLAN 1 port-isolation
- Received Signal Strength Indication (RSSI)

Interaction with internal monitoring and control devices with Telnet, SSH, SNMP protocols.

Error data gathering of device and interface modules, alarm and information messages forming for monitoring systems.

Temperature conditions and ventilation system control.

Software updating control.

Physical and environmental specifications:

Power:¹ 160-250 VAC 50 Hz, -48 VDC

Power consumption: max. 20 W

Ambient Operating Temperature: +5° to 40°C

Humidity: up to 80%, non-condensing

¹ You can choose this option when ordering

Technical specifications:

Network interfaces

Uplink:

- 2x 10GBase-X (SFP+) / 1000Base-X ports
- 4x Combo 10/100/1000Base-T / 1000Base-X (SFP) ports

Downlink - Subscribers Line Interfaces :

- 4x SFP-based GPON ports (2.5/1.25 Gbps) with G.984.2

Processor

- Processor type: Marvell, ARMv5TE architecture
- Clock frequency: 800 MHz
- Core quantity: 1
- Main memory: DDR2 SDRAM 256 MB 320 MHz
- Non-volatile memory: 32 MB SPI Flash

Switching

- Processor: Marvell Packet Processor
- Switch performance: 128 Gbps
- Table of MAC addresses: 16K
- VLAN support up to 4K in accordance with IEEE802.1Q, double tagging (Q-in-Q)
- Quality of Services (QoS)

Port modes

- Duplex / half-duplex mode 10/100/1000 Mbps for electrical ports
- Duplex mode 1/10 Gbps for optical ports

Class B+ SFP PON parameters

- Connector type: SC/UPC
- Standards: ITU-T G.984.2, FSAN Class B+, SFF-8472
- Transmission medium: fiber optical cable SMF- 9/125, G.652
- Transmitter: 1490 nm DFB laser
 - Data rate: 2488 Mbps
 - Average Launch Power: +1.5 to +5 dBm
 - Spectral Line Width @ -20 dBm: 1.0 nm
- Receiver: 1310 nm APD/TIA Detector/Amplifier
 - Data rate: 1244 Mbps
 - Receiver Sensitivity: -28 dBm
 - Receiver Optical Overload: -8 dBm
- Splitting ratio: 1:4, 1:8, 1:16, 1:32, 1:64
- Max. transmission distance: up to 20 km

Class C+ SFP PON parameters

- Connector type: SC/UPC
- Standards: ITU-T G.984.2, FSAN Class C+, SFF-8472
- Transmission medium: fiber optical cable SMF- 9/125, G.652
- Transmitter: 1490 nm DFB laser
 - Data rate: 2488 Mbps
 - Average Launch Power: +3 to +7 dBm
 - Spectral Line Width @ -20 dBm: 1.0 nm
- Receiver: 1310 nm APD/TIA Detector/Amplifier
 - Data rate: 1244 Mbps
 - Receiver Sensitivity: -32 dBm
 - Receiver Optical Overload: -2 dBm
 - Receiver Burst Mode Dynamic Range 20 dB
- Splitting ratio: 1:4, 1:8, 1:16, 1:32, 1:64
- Max. transmission distance: up to 20 km

DDM support

- Digital RSSI
- Module Temperature
- Supply Voltage
- Laser Bias Current
- TX Optical Power Output

Standards compliance

- ITU-T G.988 GPON, ITU-T G.984x GPON
- IEEE 802.3i 10BASE-T Ethernet, 802.3u 100BASE-T Fast Ethernet, 802.3ab 1000BASE-T Gigabit Ethernet
- IEEE 802.3z 1000BASE-X Fiber Gigabit Ethernet
- ANSI/IEEE 802.3 NWay auto-negotiation
- IEEE 802.3x Flow control and Full Duplex
- IEEE 802.3ad Link aggregation (LACP)
- IEEE 802.1p Protocol for Traffic prioritization
- IEEE 802.1Q VLANs
- IEEE 802.1ad Provider Bridges (QinQ)
- IEEE 802.1v VLAN Classification by Protocol and Port
- IEEE 802.3 ac VLAN tagging
- IEEE 802.1d MAC bridges
- IEEE 802.1w RSTP Rapid Spanning Tree Protocol
- IEEE 802.1s MSTP Multiple Spanning Tree Protocol
- IEEE 802.1x User authentication
- ITU-T G.984x, G.988, TR-156

Typical application diagram

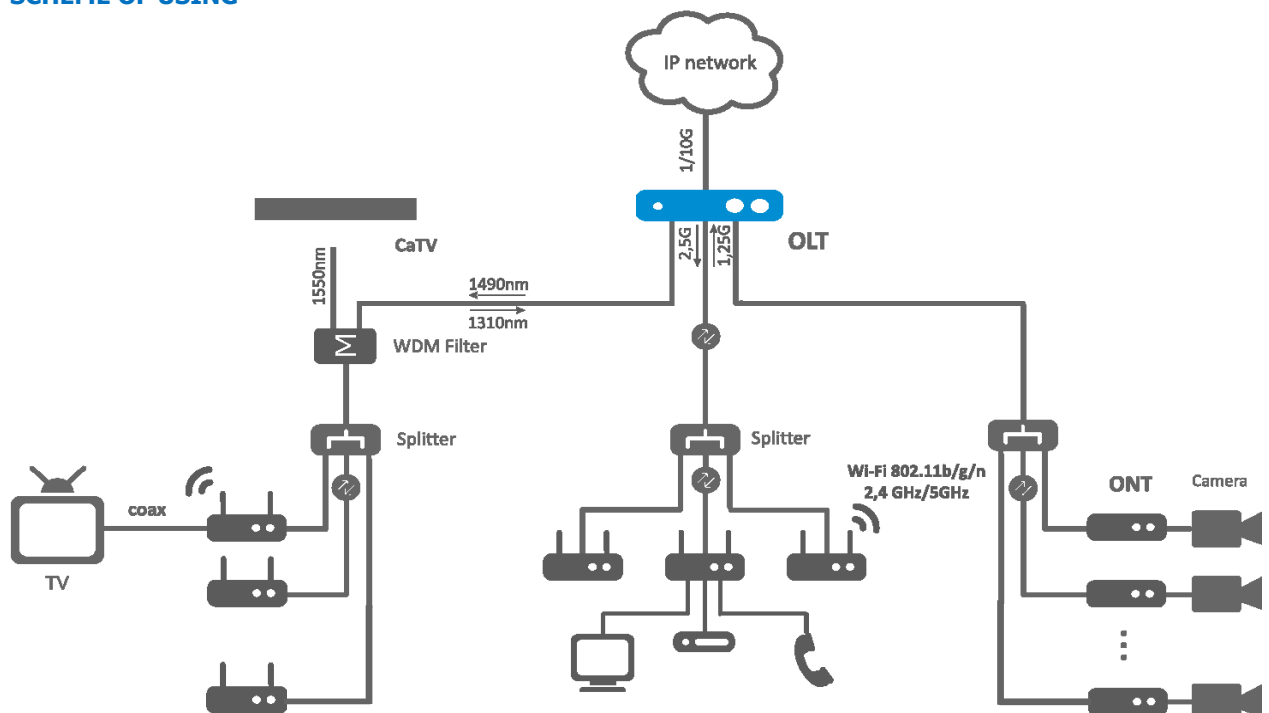
GPON network

Broadband subscriber access via "Fiber to the home" is the highest quality method of sending Triple Play, as it provides high data transmission rate at a long range.

The key advantage of PON technology is the absence of the active nodes that require a power supply on the section from OLT to ONT that significantly reduces expenditures for network exploitation. In addition, PON technology enables to save on cable infrastructure because of the reduced optical fiber total length, as far as one fiber is used for the group of up to 64 subscribers from the central node to splitter.

GPON LTP-8X equipment produced by OPTOKON is the best solution for network building in tenement houses and cottage settlements. It enables to connect large and small corporative clients in business centers.

SCHEME OF USING







Apartment buildings, Business centers

Campus structures and villages

Long stretchers of road and objects

Ordering Code:

Part number	Description	Picture
LTP-4X-AC¹	OLT LTP-4X, 4 PON ports (SFP), 4 combo 10/100/1000Base-T/1000Base-X ports, 2 10GBase-X (SFP+) ports, L2+, RSSI, power supply module PM150-220/12	
LTP-4X-DC²	OLT LTP-4X, 4 PON ports (SFP), 4 combo 10/100/1000Base-T/1000Base-X ports, 2 10GBase-X (SFP+) ports, L2+, RSSI, power supply module PM75-48/12	
PM150-220/12	Power supply module 220 V AC, 150 W	
PM75-48/12	Power supply module 48 V DC, 350 W	
GP-LP-LX-D	SFP xPON 2.5 GE 20 km, 1 fiber	
EMS-OLT	EMS management system option EMS-OLT for management of network equipment OPTOKON . Per 1 OLT	

Note: 1-2) OLT is equipped with defined power supply module