



**ONU-E100:** 10/100/1000Base-T to EPON ONU Managed Converter

**Key Features**

- Supports two ports for CPE LAN site, one is 10/100/1000Base-T Gigabit Ethernet port and one is 10/100Base-Tx Fast Ethernet port
- Supports one EPON port for EPON site
- Supports Gigabit Ethernet-PON IEEE 802.3ah compliance
- Supports IEEE 802.3ah OAM function
- Supports IEEE 802.3ah forward error correction
- Supports 802.3z Gigabit Ethernet local-side interface
- Supports bandwidth control
- Supports up to 8 Logical Link IDs (LLID)
- Supports 64 MAC address entries per Ethernet port
- Supports 802.1p QoS
- Supports 802.1Q VLAN
- Supports 40 queues (20 upstream / 20 downstream)
- Supports 1.25M Bytes packet buffer
- Assurance of security for subscribers
  - Encryption in the PON layer assures security between subscribers.
- Supports each converter module media configured and monitored ability:
  - Supports port state enabled/disabled
  - Supports auto-negotiation/forced mode
  - Supports port speed and duplex mode
  - Supports flow control enabled/disabled
- Supports wire speed packet forwarding ability as below:
  - 10Base: 14880 pps
  - 100Base: 148800 pps
  - 1000Base:1413600 pps (64Bytes up to 95% utilization) (1518Bytes up to 97% utilization)

**Technical Specifications**

**• LED Description**

LED	Color	Function
PWR	Green	Lit when power is coming up
OLTLNK	Green	Lit when EPON port detects the signal from OLT.
LLID1-8	Green	Off when LLID is used, or else is light.
UNI1-GbE LINK/ACT	Green	Lit when GbE port is linked. Blink when GbE port is transmitting or receiving.
UNI1-GbE 10/100/1000	Green/ Yellow	Green lit when GbE port links on 1000Mbps speed. Yellow lit when GbE port links on 100Mbps speed. Off when GbE port links on 10Mbps or unlinks.
UNI1-GbE FDX	Yellow	Lit when Full-Duplex is enabled
UNI2-FE LNK/ACT	Green	Lit when FE port is linked. Blink when FE port is transmitting or receiving.
UNI2-FE 10/100	Green	Lit when FE port links on 100Mbps speed. Off when FE port links on 10Mbps or unlinks.
UNI1-FE FDX	Yellow	Lit when Full-Duplex is enabled

**• Network Interface**

<b>Converter TP Port</b>	100Base-TX: - Auto-Negotiation - Auto-MDIX - flow control for Full-Duplex - backpressure for Half-Duplex 1000Base-T: - Auto-Negotiation Mode only - Auto-MDIX only for Auto-Negotiation - flow control for Full-Duplex only
<b>Converter Fiber Port</b>	ONU 1000Base-PX-U: - Link partner must be OLT 1000Base-PX-U

- **TP Cable Limitations:** Cat. 5 and up to 100m

**• Fiber Cable Limitations:**

**ONU 1000PX** Single-Mode Fiber 9/125µm

Single-Mode transceiver Output:1310nm 10 / 20Km

Note: Upstream=1310nm, Downstream=1490nm is the wavelength of EPON fiber transceiver

**• TP-Fiber Technical Specifications**

- **Standards:** IEEE802.3 10Base-T, IEEE802.3u 100Base-TX, IEEE802.3z/ab 1000Base-T, IEEE802.3ah 1000Base-PX-U (EPON)

- **UTP Cable:** Cat. 5 cable and up to 100m

**• Fiber Cable:**

1000Base-PX-U: 8.3/125, 8.7/125, 9/125 or 10/125µm Single-Mode

- Supports EPON module per port basic counters for traffic raw data monitor of fiber and TP port. as below
  - Octets transferred
  - Total Frames transferred
  - Unicast Frames transferred
  - Broadcast Frames transferred
  - Multicast Frames transferred
  - CRC-32 Errors
  - Undersize Frames
  - Oversize Frames
  - Collisions
  - 64 Octet Frames
  - 65-127 Octet Frames
  - 128-255 Octet Frames
  - 256-511 Octet Frames
  - 512-1023 Octet Frames
  - 1024-1518 Octet Frames
  - 1519+ Octet Frames
  - Frames dropped (queue overflow)
  - Pause Frames
- Supports alarm log function
- Supports counters for port traffic quality monitoring function
- Supports IGMP snooping function
- Supports max packet length: 1536 bytes
- Supports firmware upgrade
- Supports device Information (S/N, MAC, Model Name,....)
- Supports per port basic LEDs for monitoring
- Supports media type, connector, wavelength and distance information
- RoHS Compliance

### Overview

The Converter is designed to make conversion between 10/100/1000Base-T and EPON fiber Ethernet in the CPE site conversion device. It could be managed with CO site chassis by web-based management and CLI (command line interface), the network administrator can monitor, configure and control the activity of each port. In addition, the EPON CPE converter implements bandwidth rating management capability via the intelligent software. The overall network management is enhanced, and the network efficiency is also improved to accommodate and deliver high bandwidth applications.

- **LED Indicators:**  
PWR, EPON LLID 1-8, OLT LNK, UNI1-GbE LNK/ACT, 10/100/1000, FDX UNI2-FE LNK/ACT, 10/100, FDX
- **Data Transfer Rate:**  
Upstream: Max. Up to 950 Mbps  
Downstream: Max. Up to 970 Mbps
- **TP Interface (UNI1-GbE and UNI2-FE):**
  - 10/100Base-TX:**
    - NWay auto-negotiation
    - Auto-MDIX
    - Full/Half-Duplex
  - 1000Base-T:**
    - NWay auto-negotiation or force
    - Auto-MDIX (only for Auto mode)
    - Full-Duplex only
- **Fiber Interface :**
  - 1000Base-PX-U (EPON):**
    - Connector: SC/BiDi
    - Max. Cable Length: 20Km for 9/125μ
    - Upstream (ONU TX) Wavelength: 1310nm
    - Downstream (ONURX) Wavelength: 1490nm
- **Power Requirement:** 0.8A up @5VDC
- **Power Consumption:** 3.5 W
- **Ambient Temperature:** 0 to 50°C
- **Humidity:** 5% to 90%
- **Dimensions:** 26.8(H) x 139(W) x 101.5(D) mm

Note: For connecting this device to Router, Bridge or Switch, please refer to the corresponding device's Technical Manual.

### Ordering Information

Model	Description
<b>ONU-E100BS3.S10</b>	2-Port Gigabit Ethernet /Fast Ethernet to EPON ONU Converter CPE SC 10km, 1310nm
<b>ONU-E100BS3.S20</b>	2-Port Gigabit Ethernet /Fast Ethernet to EPON ONU Converter CPE SC 20km, 1310nm

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