



XGS-PON/10G ONT Portfolio

Overview

IPhotonix newest Next Generation 10G XGS-PON Optical Network Termination (ONT) incorporates a highly scalable integrated networking approach leveraging new and improved standard XGS-PON's inherent reach and passive nature to deliver advanced network access solutions using the most simplified architecture. iPhotonix ONTs are Optical Line Terminal (OLT) agnostic and interoperable with OLT systems from several vendors making them the ONTs of choice when operators design their networks to deploy cost-effective FTTx solutions. iPhotonix 10G ONTs are built using the latest generation XGS-PON SoC leveraging the latest advances technology, along with unrivaled hardware acceleration, QoS and efficient power management that meets the bandwidth demands of premium businesses and backhaul services, while also delivering valued solutions for residential market of Broadband operators.



7691 Model

Highlights

Optical Interface

The iPhotonix iVolve 10G/XGS-PON ONT terminates fiber via an ITU G.9801.7 Pluggable SFP+ cage, allowing for Asymmetrical 10GEPON (10G/1G), Symmetrical 10GEPON (10G/10G), XGSPON1, XGSPON 2 and NGPON2 uplinks.

Local Area Network (LAN) Interface

In addition to the four Gigabit Ethernet ports compliant with IEEE 802.3, 802.3u, and 802.3ab standards, the iPhotonix iVolve 10G/XGS-PON ONT features one 10-Gigabit Ethernet port compliant with IEEE 802.3u, 802.3ab, 802.3bz and 802.3an standards.

Power Over Ethernet (POE)

With POE functionality, the ONT connects to any powered device (PD) terminal devices such as IP-Phones, IP-Camera, and other equipment that can be powered from the Ethernet ports. With a total of 120W over the five GE ports and, along with sophisticated power management between the ports, allows a single port to reach 30W for type 2 PD equipment.

SDN-Ready Solution

The iPhotonix iVolve 10G/XGS-PON ONT supports provisioning through iPhotonix next generation, SDN based management system. The 7691 supports OMCI provisioning, bridging the gap between current and next generation Software Defined Access networks.

Model	PoE	POTS	GE	10G	SFP+
7605			4	1	✓
7625		2	4	1	✓
7691	✓		4	1	✓

Technical Specifications

Services and Features:

Optical

- 9.953 Gbps downstream, 9.953 Gbps upstream
- Optical wavelengths: 1577 +/-3nm Rx, 1270 +/-10nm Tx
- Launch power: 0.5 to +5 dBm
- Receiver Sensitivity: -27 dBm
- Input power overload: -8 dBm
- Received optical power monitoring
- Pluggable SFP+ cage for XGS-PON interface

10G PON

- Serial number discovery and Registration ID provisioning
- ITU-T G.9807.1 compliance for XGS-PON
- DBA support via mode-0 DBRu (piggy-back) reporting
- Dying Gasp
- Downstream Advanced Encryption Standard (AES) support
- Forward Error Correction (FEC)
- Upstream Traffic Management using Priority-based or Rate-controlled scheduling
- Support for up to 8 T-CONTS with multiple priority queues per T-CONT
- Multiple GEM ports with flexible mapping between TCONTs and Priority queues
- pBit based GEM port and upstream Priority queue selection
- IPTV traffic filtering (Multicast GEM port)

OAM and Management

- ITU-T G.988 management
- Remote firmware upgrade and automatic rollback
- Webserver for local management
- SIP configuration from remote server
- ACS - CWMP (TR-069) configuration, performance monitoring, diagnostics and software download
- TR-101, TR-111, TR-124, TR-143

Enterprise LAN

- Four RJ-45 10/100/1000 Base-T interfaces
- One RJ-45 100/1/2.5/5/10G Base-T interface
- MDI/MDIX auto-sensing and auto-negotiation
- 802.1d Ethernet bridging and switching
- 802.1p marking/remarking, DSCP mapping
- 802.1Q including VLAN translation, filtering, tagging, stacking (QinQ)
- Up to 25 VLAN groups per port
- Automatic MAC address learning, aging and filtering
- Up to 1024 MAC address entries
- Up to 256 multicast groups
- IGMP v2/v3 Snooping with immediate leave
- Downstream pBit and flow-based LAN port queue selection
- Downstream Flow and port-based Rate Limiting
- WAN DHCP Client and LAN DHCP Server
- Network Address and Port Translation
- Firewall and WAN, LAN Security

Features of GE Power over Ethernet Ports

- Five Independent Power Sourcing Equipment (PSE) Gigabit Ethernet Ports, including 10G port
- Compliant with IEEE 802.3at Types 1 and 2, 802.af, 802.bt (pre-standard)
- GE1, GE2 and 10GE capable of 60W PoE across all three ports; GE3 and GE4 capable of 60W across both ports
- 16 independent PSE channels
- 0.25Ω sense resistance per channel
- Automatic detection of Power Type and Status Power Priority Management; support legacy power device and LLDP power device

LED Indicators

- Power/Battery
- PON
- MG5
- GE1
- GE2
- GE3
- GE4

Dimensions (H x W x D)

- Size: 6.30" x 8.66" x 1.34" (160mm x 220mm x 34mm)
- Weight: 0.7 lbs (300g)

Working Environment

- Temperature: 0°C to +40 °C (32°F to +104 °F)
- Humidity: 10% to 95%

Power

- Wall Adaptor
- UPS/BBU
 - 2x4 Molex Connector
 - 100-240VAC in, 50/60Hz
 - 54VDC out, 2.78A max
 - 4 alarms (on battery, battery failure, battery missing, battery low)
- Remote Power: Phoenix Connector
 - 2-pin
 - 54VDC out, 2.78A max
- PoE Input

Regulatory Compliance

EMC: FCC PART 15, SUBPART B, CLASS B, EN 55022, EN 55024, EN 300 386, CLASS B, CE, RoHS6, WEEE Compliant
Safety: UL/CSA 60950, IEC 60950, ETSI
FDA – FCC 47 CFR Part 15, Class B and FDR 21 CFR 1040.10 and 1040.11 Class 1