technetix

Solutions for Passive Optical Networks

09.2026-AE/V10

Passive Optical Networks

Passive Optical Networks (PONs) form the backbone
of secure and high speed communications networks. Our high-quality equipment is engineered for premium-performance broadband and supports low latency gigabit speeds. To help operators focus on delivering great subscriber service, our GPON and XGS-PON active components offer maximum quality and a choice of configurations to suit a variety of requirements.

And to be sure we always offer our customers the most cost-effective products, our in-house experts continuously and rigorously test ONU and OLT interoperability in our state-of-the-art fiber lab. This testing also ensures that our feature-rich GPON and XGS-PON-ready solutions are compatible with industry-standards, and operator network and upgrade requirements - be it for in-home setups, centralized OLTs, or for challenging environments that demand

Why choose passive optical networks?

Cost-effective and futureproof

The comprehensive Technetix PON portfolio has been engineered for reliability, scalability, and long-term sustainability. Our end-to-end fiber solutions help operators deploy cost-effective, high-capacity broadband services while minimizing operational costs and environmental impact

Streamlined deployment and maintenance

Compared to traditional copper and active Ethernet networks, PON technology eliminates the need for active electronics in the distribution network, lowering CapEx and OpEx by reducing power consumption and failure point potential. Additional benefits include the reduction of costly intermediate equipment to support long distance reach, simplified architecture for improved network maintenance, and long-term investment protection with equipment that is easy to upgrade.

Quality through rigorous testing

The Technetix commitment to quality promises seamless integration into existing and future network environments, giving operators confidence in their deployments. Our extensive testing protocols ensure that our equipment is interoperable for compatibility with third-party ONUs, OLTs, and other network elements, and that they run at optimum performance for high throughput, low latency and minimal packet loss. Our ONUs are also stress tested for reliability and long-term durability against temperature variations and power fluctuations, and for data integrity and security to protect against cyber threats and unauthorized access.

An enhanced network sustainability option

PON architecture presents a reduced maintenance, resource-light network option. In combination with intrinsically lower power consumption, streamlined equipment requirements, improved hardware lifespan for reduced waste and fewer upgrades, PON infrastructure offers more attractive economic and environmental potential for network operators.

Superior speed, capacity, and reliability for end users

GPON provides potential for up to 2.5 Gbps downstream, with XGS-PON's symmetrical 10 Gbps. These ultra-fast speeds in combination with PON's capability to support more users per OLT provide operators high capacity connectivity and scalability to satisfy growing demand.

Furthermore, passive architecture reduces failure points for enhanced service reliability and minimal downtime, and assures continued service improvements to support new 50 GPON and 100 GPON standards without requiring modifications. The result is optimum customer satisfaction and futureproofed connectivity.

Technetix: Your partner for future-proof fiber networks

Technetix' PON portfolio provides flexible, scalable, and cost-effective fiber solutions for network operators the world over. With our cutting-edge technology, rigorous testing, and commitment to sustainability, we promise solutions for reliable, high-speed broadband today and into the future.

For more information, visit **technetix.com**



mira GPON HGU

Our high-performance Home Gateway Unit (HGU) delivers multiple services via gigabit fiber to residential and small business customers. With user-friendly configuration and Wi-Fi 6 technology enabled, the Mira GPON HGU ensures fast and reliable connectivity for modern network needs.

Key features

1x GPON interface for open OLT interoperability for seamless integration with existing network infrastructures

Dual-band Wi-Fi 6 supports 2.4G and 5G wireless connectivity for enhanced performance and coverage

External antennas optimize signal throughout the premises

4x Ethernet RJ45 interfaces provide wired connectivity options for various devices

1x VOIP RJ11 interface for seamless communication

1x USB 3.0 interface offers fast data transfer and connectivity for USB devices

1x Optional CATV interface (Mira GH3141 only) supports CATV services with high-quality signal parameters (C/N ≥43 dB, C/CTB ≥55 dB, C/CSO ≥55 dB, MER ≥32 dB, BER ≤1x10E-6)

Safe and efficient low voltage (12 V) power connector and regional AC mains adapter options.

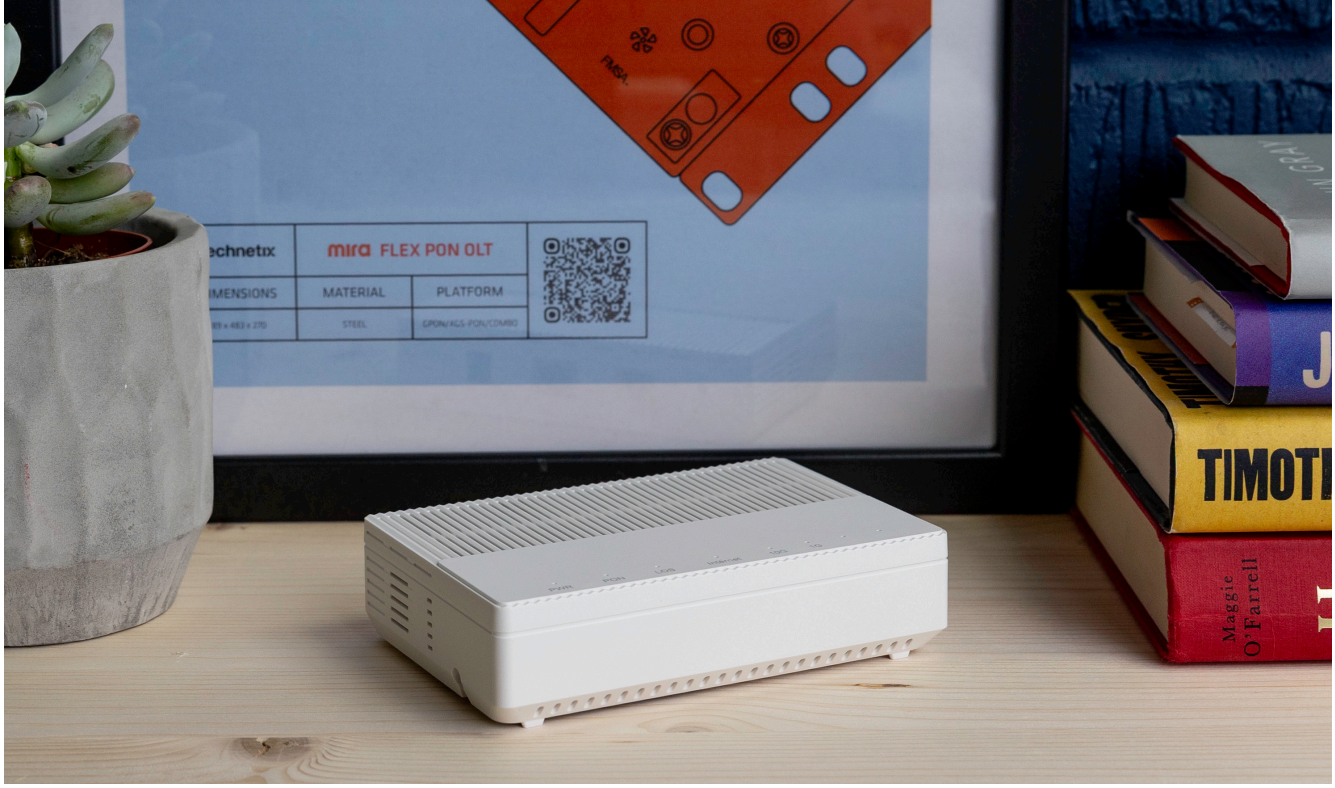
Intuitive GUI is user-friendly for both residential and small business customers.

Applications

Residential use: For delivering high-speed internet and multiple services

Small businesses: Provides robust and reliable connectivity

Multiple services: Supports routing, VOIP, gigabit Ethernet, and optional CATV services.



mira XGS-PON ONU

A high-performance, free standing ONU for next-generation FTTH deployments, our Mira XGS-PON ONU offers versatility, reliability, and superior speed. Flexible configuration options and compliance with industry standards present an ideal choice for operators, ISPs, and enterprises seeking a futureproof and cost-effective networking solution.

Key features

XGS-PON SC/APC connector ensures reliable high-speed connectivity

Receiver sensitivity at -28dBm for enhanced signal reception

Class B+ type PMD supports long-range deployments up to 20 km

1x 100/1000/2500/10,000Mbps Ethernet RJ45 port offers flexibility

MAC address learning and filtering ensures efficient network management and security

IEEE 802.1Q VLAN support enables efficient network segmentation and management

802.1p priority with 8 queues prioritizes critical traffic for optimal performance and Quality of Service (QoS)

Fully managed with OMCI, CLI, and GUI

Safe and efficient low voltage (12 V) power connector and regional AC mains adapter options.

Applications

Residential use: For delivering high-speed internet and multiple services

Small businesses: Provides robust and reliable connectivity

Flexible configurations: Suitable for distributed and cascaded optical networks.



mira GPON OLT

Engineered to meet the needs of operators, ISPs, enterprises, and park applications, our scalable-capacity OLT is fully compliant with ITU-T G.984/G.988 standards, ensuring top-tier performance and reliability. Highly integrated, reliable, versatile, the high-performance Mira GPON OLT meets the demands of modern network infrastructures.

The unit's space-efficient 1RU form factor is easy to install and maintain, and a strong choice for data centers and equipment rooms. Furthermore, integration with varied ONU types for mixed networking capacities provides operators with a cost-efficient option.

Key features

ITU-T G.984 GPON OLT available in 4, 8, and 16 port configurations

ITU-T G.988 OMCI for seamless network management

Compatible with third-party ONUs for flexibility

RIP, OSPF, BGP, and ISIS routing protocols

IPv4 and IPv6 support for network future-proofing

4K VLAN 802.1Q, dual tagging, and Q-in-Q for enhanced network segmentation

Supports up to 64K MAC addresses for efficient network management

802.1P and DSCP to prioritize critical traffic for optimal performance and QoS

Option 82 and PPPoE+ advanced DHCP options for better network control

Supports STP, RSTP, MSTP, ERPS, and LACP link redundancy protocols for enhanced resilience and reliability

CLI, GUI, SNMP V3 interfaces for ease of use

802.3ah OAM and RFC 3164 Syslog ensures comprehensive network monitoring and troubleshooting

1G Base-T and 10G SFP+ uplink options for bandwidth variations.

Applications

FTTH access: Ideal for operators looking to deploy high-speed fiber solutions

VPN services: Supports secure and reliable VPN connections

Government and enterprise park access: Provides robust network access for large-scale deployments

Campus network access: Ensures reliable and high-speed connectivity for educational and corporate campuses.



mira Flex PON OLT

Highly integrated for versatility and high-performance, the Mira Flex PON OLT is a unified platform supporting GPON, XGS-PON, and XG-PON technologies. With its comprehensive feature set and compliance with industry standards, our solution provides easy, cost-effective network upgrades and futureproof PON deployments for network operators, for ISPs, enterprises, and park applications.

Key Features

ITU-T G.984 GPON and Combo PON supporting ITU-T G.984 GPON and G.9807 simultaneously

ITU-T G.988 OMCI for seamless network management

Dual main controllers for continuous operation and high availability

Reliable power backup through dual redundant power supplies

Uplink diversity and resilience through dual network modules

Modular design for hot-swappable components, ensuring minimal downtime and easy maintenance

Third-party ONU support for integrations with a wide range of existing equipment

4K VLAN 802.1Q, dual tagging, and Q-in-Q for enhanced network segmentation

Supports up to 128K MAC addresses for efficient network management

Supports 802.1P and DSCP for traffic prioritization

Supports Option 82 and PPPoE+ DHCP for advanced network control

STP, RSTP, MSTP, ERPS, and LACP link redundancy protocols for enhanced network resilience and reliability

CLI, GUI, SNMP V3 interfaces for ease of use

802.3ah OAM and RFC 3164 Syslog for comprehensive network monitoring and troubleshooting

16 GPON SFP and 16 Combo PON SFP+ ports for GPON and XGS-PON, providing flexibility in deployment

2RU form factor, 19" rack mount and 270 mm depth for street cabinet, central office, and hub site deployments.

Applications

High-speed FTTH broadband services: For delivering high-speed internet to residential and business customers

Business park and campus networks: Robust network access for large-scale deployments

Enterprise communities: Ensures reliable and high-speed connectivity for various enterprise settings.

If you would like further information on the content of this brochure, please contact:

technetix.com
+1 (866) 956-5608
support@technetix.com

© Copyright 2026 Technetix Group Limited. All rights reserved.

This document is for information only. Features and specifications are subject to change without notice. Technetix, the Technetix logo and certain other marks and logos are trade marks or registered trade marks of Technetix Group Limited in the UK and certain other countries. Other brand and company names are trade marks of their respective owners. Technetix protects its technology and designs by registering patents, trade marks and designs in Europe and certain other countries.