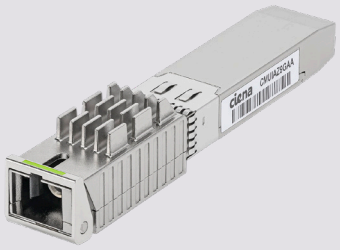
DATA SHEET

# 3800 XGS-PON uONU



**The 3800 XGS-PON uONU is a hot-pluggable SFP+ optical transceiver with a built-in 10G Ethernet-to-10G PON MAC bridge (XGS-PON and 10G-EPON for ITU-T and IEEE modes, respectively). It is a complete ONU solution contained in a small form-factor pluggable device. This micro ONU (uONU) can operate in Ethernet switches with standard SFP/SFP+ interfaces and other Ethernet-enabled devices, such as home gateways, enterprise/campus switches, WiFi access points (APs), and 4G/5G base stations.**

The uONU plugs into commercially available Ethernet switches or other Ethernet-enabled networking equipment, enabling validated equipment to join a 10G PON network. It provides standard PON management interfaces: XGS-PON ONU management control interface (OMCI), in-band management through Ethernet operations, administration, and maintenance (OAM), and 10G-EPON OAM.

## Applications

There are several potential applications for the uONU, including:

- PON ONU connectivity for CPE devices
- Home gateway/WiFi solutions
- High-bandwidth enterprise PON connectivity
- Wireless backhaul/midhaul
- Multi-dwelling unit (MDU)–located PON bridge
- High-density PON aggregation
- Outside plant PON access bridge connectivity
- Machine-to-machine (M2M) industrial applications

## Features and benefits

- Embedded 10G PON-to-Ethernet MAC bridge ONU (1G SFP/10G SFP+)
- XGS-PON and 10G-EPON protocols with AutoSense
- Hot-pluggable SFP/SFP+ footprint
- Symmetric 10G/10G mode of operation support for both ITU-T XGS-PON and IEEE 10G-EPON
- XGS-PON mode: compliant with ITU-T G.9807.1 and G.988 specifications
- 10G-EPON mode: compliant with IEEE 802.3av, IEEE 1904.1 (Package A), and DPoE for 10G-EPON and SIEPON specifications
- IEEE AES-128 encryption on the PON side:
  - ITU-T G.9807.1 AES-128 encryption (XGS mode)
  - IEEE AES-128 encryption (10G-EPON)
- Class N2 (XGS)/PR30 (EPON) optics:
  - 1,270 nm DML burst laser
  - 1,577 nm APD/TIA receiver
- Integrated digital diagnostics and monitoring (SFF-8472)
- Single-fiber SC/UPC receptacle
- Enhanced jitter performance
- Low power
- Option for on-device personality (default configuration) storage in nonvolatile memory to allow autonomous boot mode deployment
- IEEE 1588v2 and SyncE support (future/FW upgrade)
- Forward error correction (FEC) support for reliable transmission over long distances

## Technical specifications

### XGS-PON interface

- 1-port SC/APC optical interface
- 10G/10G bi-directional optical subassembly (BOSA) on board
- Wavelength: 1,577 nm downstream and 1,270 nm upstream
- Bandwidth: 9.9532 Gb/s upstream and 9.9532 Gb/s downstream data rate

### Transmitter parameters

- Nominal line rate: 9.95328 Gb/s
- Operating wavelength range: 1,260 nm~1,280 nm
- Maximum average launch power: +9 dBm
- Minimum average launch power: +4 dBm
- Minimum side mode suppression ratio: 30 dB
- Minimum extinction ratio: 6 dB
- Transmitter eye mask: compliant with ITU-T G.9807.1

### Receiver parameters

- Nominal line rate: 9.95328 Gb/s
- Operating wavelength range: 1,575 nm~1,580 nm
- Overload: ≥-9.0 dBm
- Receiver sensitivity: ≤ -28.5 dBm

### Operating environment

- Temperature: -40°C to 85°C industrial temperature (case temperature)
- Humidity: 5% to 85%, noncondensing

### Storage environment

- Temperature: -40°C to 85°C
- Humidity: 5% to 85%, noncondensing

### Enclosure

- Dimension: 79.04 mm (L) x 13.9 mm (W) x 15.35 mm (H)

## Ordering information

| Part number | Description |
|---|---|
| XCVR-SGPN03 | UONU 10G XGS-PON / 10G-EPON SFP+ 1/10G UNI I-TEMP |