

## Nokia ONT XS-230X-A



The Nokia Optical Network Terminal (ONT) XS-230X-A with one 10 Gigabit Ethernet (GigE), two GigE, and two plain old telephone service (POTS) ports is part of the industry-leading Nokia ONT product family and is compatible with the Nokia ISAM and Lightspan fiber to the x (FTTx) product line. It is designed to deliver triple play services in a fiber to the home (FTTH) environment to single family units (SFUs) where multiple Ethernet and voice ports are required. The Nokia ONT terminates the 10G symmetrical Passive Optical Network (XGS-PON) fiber interface that is compliant with a Full Service Access Network (FSAN).

The Nokia ONT XS-230X-A is designed for small businesses and residential customers. This ONT offers data, voice and video services to the subscriber through FTTH or fiber to the premises (FTTP) applications. The XS-230X-A is a temperature-hardened ONT for outdoor and indoor deployments. For outdoor deployment, the XS-230X-A should be mounted in a Nokia universal SFU ONT enclosure.

The ONT XS-230X-A is compliant with ITU-T G.9807.1, supporting a line rate of 10 Gb/s downstream and 10 Gb/s upstream. With XGS-PON as the uplink interface, the ONT XS-230X-A supports standard triple play services: voice, video and high-speed internet access to support home networking. Compliant with the standard optical



network unit (ONU) management and control interface (OMCI) definition, the ONT XS-230X-A can be managed from a remote site and supports the full range of fault, configuration, accounting, performance, and security (FCAPS) functions.

## Features

- Compliant with ITU-T G.9807.1 and supports a line rate of 10 Gb/s upstream and 10 Gb/s downstream
- One RJ-45 100M/1G/2.5G/5G/10G auto-negotiating interface
- Two RJ-45 10/100/1000M auto-negotiating interfaces
- With XGS-PON as the uplink interface, supports standard triple play services: voice, video and high-speed internet access for home networking
- Managed via OMCI with the Nokia 5520 Access Management System (AMS) or Altiplano
- Supports the full range of FCAPS functions
- Temperature hardened and outdoor capable

## Benefits

- Enables operators to capture new revenues with services that require 10 Gb/s symmetrical
- Coexistence with GPON (ITU-T G.984.x), XGPON1 (ITU-T G.987.x), NGPON2 (ITU-T G.989.x) and 25GPON
- Delivers connectivity to devices within the home or business via the Ethernet port
- Supports full triple play services including voice, video and high-speed internet access
- Supports IP video distribution
- Delivers voice services using voice over IP (VoIP)
- Supports T.38 fax services
- Delivers video services efficiently with multicasting or unicasting
- Network management using the Nokia 5520 Access Management System (AMS) or Altiplano
- Internet Group Management Protocol (IGMP) snooping

## Technical specifications

### Physical

- Height: 34.3 mm (1.4 in)
- Width: 142 mm (5.6 in)
- Length: 208 mm (8.2 in)
- Weight: 0.53kg (1.2 lb)

### Installation

- Desktop and wall mounting
- Outdoor mounting in a Nokia universal ONT enclosure

### Power requirements

- Local powering with +12 V input, feed uses external AC/DC adapter – molex connector
- Dying gasp support
- Power consumption: < 14 W

### Operating environment

- Temperature (inside the outdoor enclosure): -40°C to 65°C (-40°F to 149°F)
- Relative humidity: 5% to 95%, non-condensing

### XGS-PON uplinks

- Wavelength: 1260 nm–1280 nm upstream; 1575 nm–1580 nm downstream
- G.9807.1 XGS-PON standards compliant: 4 dBm ~ 9 dBm launch power; -28 dBm ~ -9 dBm for receiving
- SC/APC connector
- 10G burst mode upstream transmitter
- 10G downstream receiver
- G.9807.1-compliant 10 GPON Encapsulation Method (XGEM) framing
- Flexible mapping between XGEM ports and T-CONT

- Advanced Encryption Standard (AES) 128
- Forward error correction (FEC)
- Activation with automatic discovered serial number and password
- Center for Devices and Radiological Health (CDRH) laser safety for the U.S. FDA

## Ethernet interfaces

- One RJ-45 100M/1G/2.5G/5G/10G auto-negotiating interface
- Two RJ-45 10/100/1000M auto-negotiating interfaces
- Ethernet port auto-negotiation or manual configuration with medium dependent interface/medium dependent interface crossover (MDI/MDIX)
- Virtual switch based on IEEE 802.1Q virtual LAN (VLAN)
- VLAN stacking (Q-in-Q) and VLAN translation
- CoS based on VLAN ID, IEEE 802.1p bit
- IGMP v2/v3 snooping
- Supports RFC 2236 (v2), RFC 3376 (v3), any source multicast (ASM) and source specific multicast (SSM)

## POTS interfaces

- Two FXS ports for VoIP service with RJ-14 connector
- 5 ringer equivalence numbers (RENs) per line
- Dual-tone multi-frequency (DTMF) dialing
- Echo cancellation
- Voice activity detection (VAD) and comfort noise insertion (CNI)

- SIP
- Real-time Transport Protocol (RTP) (RFC 3550/3551)
- Supports various CLASS services: caller identification (CID), call waiting, direct call, call forwarding, call transfer, three-way calling
- ITU-T G.711, G.729
- ITU-T T.38 fax

## Operations, administration, and maintenance (OA&M)

- Standard compliant OMCI (the embedded operations channel) interface as defined by ITU-T G.984.4 and ITU-T G.988
- Supports local web GUI for the ONU authentication password configuration from the LAN side
- Management information base (MIB) manipulation over OMCI with create, delete, set, get and get next commands
- Provisions diverse services including Ethernet and VoIP
- Alarm reporting and performance monitoring
- Remote software image download over OMCI, as well as activation and rebooting
- Supports subscriber line identifier (SLID) using POTS port or web GUI

## Buttons

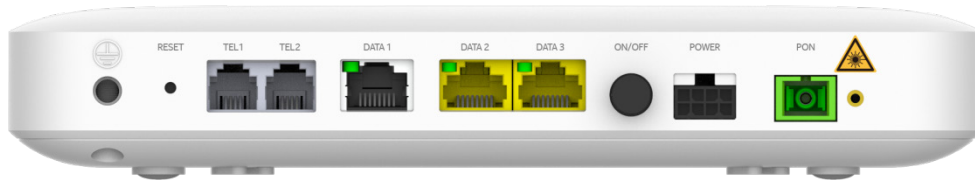
- Reset
- Power button

## Safety and electromagnetic interference (EMI)

- FCC compliant
- UL 62368



## XS-230X-A ONT connections



### From left to right

- Grounding plug
- Reset button
- Two POTS interfaces
- 10G Base-T Ethernet interface
- Two 1000Base-TX Ethernet interfaces
- Power on/off button
- Molex UPS interface

- XGS-PON optical SC/APC interface

### LEDs

- POWER
- PON
- DATA
- TEL

### RJ-45 LED

- Link/Status

