

1. Product Overview

The Nokia Optical Network Terminal (ONT) XS-220X-A with one 10 Gigabit Ethernet (GigE), one GigE, and two plain old telephone services (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.

The Nokia ONT XS-220X-A is designed for small businesses and residential customers. This ONT offers data, voice, and video services to the subscriber through fibre to the home (FTTH) or fiber to the premises (FTTP) applications.

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).

Compliant with the standard optical network unit (ONU) management and control interface (OMCI) definition, the ONT XS-220X-A can be managed from a remote site and supports the full range of fault, configuration, accounting, performance, and security (FCAPS) functions.



Figure 1: Nokia ONT XS-220X-A front view

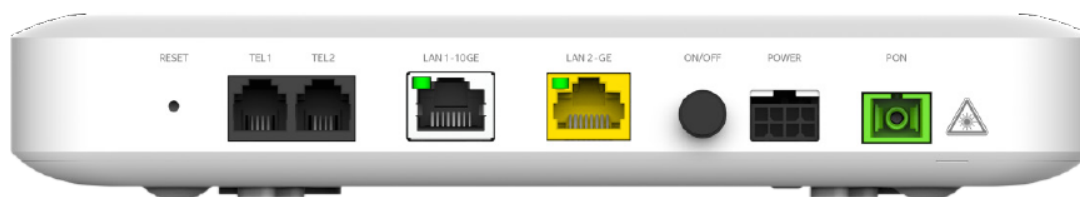


Figure 2: Nokia ONT XS-220X-A back view

A. Technical Specifications

Height: 33.3 mm (1.3 in)

Width: 208 mm (8.2 in)

Depth: 142 mm (5.6 in)

Weight 0.38 kg (0.8 lb)

Installation: Wall or desk mounted

Power consumption:

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- Standby mode: 4.9 W
- Typical mode: 11 W

B. Manufacturer Information

For Products Purchased in EU/EAA Countries

The products are manufactured and imported by Nokia Solutions and Networks Oy, Karakaari 7, 02160 Espoo, Finland.

Nokia is a registered trademark of Nokia Corporation.

For Products Purchased in the United States

The products are imported by Nokia of America Corporation.

- Offices: <https://www.nokia.com/contact-us/worldwide-offices/north-america>
- Support: <https://www.nokia.com/support/>
- Other contacts: <https://www.nokia.com/contact-us/>

Please contact your Internet Services Provider in case of questions on the product.

2. Safety Guidelines

ALWAYS READ THE PRODUCT GUIDE BEFORE SET UP OR USE OF THE PRODUCT. IT IS YOUR RESPONSIBILITY TO FAMILIARIZE YOURSELF WITH THE PRODUCT GUIDE AND WARNINGS, AND TO USE A PRODUCT PROPERLY. CONTACT YOUR INTERNET SERVICES PROVIDER FOR FURTHER QUESTIONS.

Warning - Risk of electric shock or fire

Connect the Product power adaptor or cord to the right supply voltage (for example, 230V in Europe, Australia, South Africa and 120V in US).

The socket-outlet shall be easily accessible.

Pay attention to the power load of the electrical outlet and possible extension cord. An overburdened power outlet or damaged cords and plugs may cause electric shock or fire. Check the power cords regularly. If you find any damage, replace the cord immediately.

Do not connect the plug into an extension cord, receptacle, or other outlet unless the plug can be fully inserted with no part of the blades exposed.

Leave adequate space for heat dissipation to avoid any damage caused by overheating the Product. Do not cover the Product or its ventilation holes. Blocking the ventilation holes may cause fire.

Use the power adapter provided with your Product and do not fasten the power cable to building surfaces. Ensure the cable can move freely. Do not place heavy objects on the cable.

Do not use the Product outside, and make sure all the connections are indoors.

Do not install, use, or service this Product during a thunderstorm. There is a remote risk of electric shock from lightning.

Caution - Potential equipment damage

Follow these recommendations to protect yourself and the Product from harm:

- Do not look directly at the optical port without protection.
- Do not insert any sharp object into the openings of a Product.
- Do not put the Product near a heat source. Avoid placing the Product in direct sunlight.
- Do not put the Product in damp or wet locations, for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool. Do not spill any liquid on the Product.
- Do not touch the Product or its power adapter or cord with wet hands.
- Do not place the Product on an unstable surface or support.
- Do not place heavy objects on top of the Products.
- Do not use liquid or aerosol cleaners; unplug the Product and use a soft, dry cloth for cleaning.
- When connecting a PC or other electronic device to a Product, make sure you use the right cables and connect the device to the right port of the Product. Incorrect connections may damage the device and/or the Product.
- Do not open or try to open the Product. Opening or removing covers can expose you to dangerous high voltage points or other risks.

It is recommended that users and other individuals maintain a distance of at least 10 cm between themselves and the Product to avoid exposure. The Product contains components that emit an electromagnetic field and could interfere with pacemakers or other electronic medical

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devices. If you have a pacemaker or other implantable or personal medical device, please consult your physician or manufacturer about the required minimum safe distance between the Product and your medical device.

Keep your product and accessories out of reach of pets. They could damage it and cause injury or electrocution.

If the Product malfunctions or fails to perform as expected, stop using it immediately.

The product is expected to operate at a temperature of -5 to 45 degrees Celsius for a relative humidity between 5% and 95%.

3. Install the ONT

The ONT is normally installed by a professional installer.

1. Plug the power cable to the ONT into the power input jack.
2. Plug the power socket into the wall socket.
3. Remove the protective cap from the optical port of the ONT.
4. Remove the protective cap from the optical fiber.
5. Plug the optical fiber to the optical port of the ONT.
6. Connect the ONT to the home router via an Ethernet cable into the Ethernet port
7. Push the power button to be "ON". ("ON" = recessed stated, "OFF" = non-recessed state)

4. LED description

The following table describes the LEDs of the device:

LED indicator	LED color and behavior	LED behavior description
POWER	Off	No power or ONT is in a suspended state of operation to conserve the battery (ONT is on battery/watchful sleep).
POWER	Green solid	Normal power is provided and the ONT is not in a suspended state of operation to conserve the battery (ONT is not on battery/not in watchful sleep mode).
POWER	Green flashing	New firmware is downloading.
POWER	Amber solid	Device operating on Battery power.
POWER	Amber flashing	Low battery.
POWER	Red solid	Failure at startup.
POWER	Red flashing	No battery or battery alarm.
PON	Off	No fiber connected or no Rx power (O1).
PON	Green solid	Full communication between OLT and ONT (O5 with OMCI messages are downloaded).
PON	Green flashing	ONT is attempting to range with OLT (O2-O4, O6 (not O5)).
PON	Red solid	O7 and rogue state triggers this.
PON	Red flashing	No full communication between OLT and ONT (O5 without OMCI messages are downloaded).
DATA	Off	Power off or Ethernet link is down.
DATA	Green solid	100M/1G linkup mode.
DATA	Yellow solid	2.5 Gbps or above linkup mode.
TEL	Green	Positive indication that at least one of the POTS lines provisioned has a telephone in off-hook condition.
TEL	Off	The lack of positive status indicates that all of the customers' telephone equipment is in the on-hook state.

5. EU Declaration of Conformity

Hereby, Nokia Solutions and Networks Oy declares that the Product is in compliance. Low Voltage Directive 2014/35/EU; EMC Directive 2014/30/EU, Directive RoHS 2011/65/EU and 2015/863/EU, Directive Eco-design 2009/125/EC, and European Accessibility Act Directive 2019/882/EU. The full text of the EU declaration of conformity, as well as additional compliance information, is available at www.nokia.com/notices/declaration-of-conformity/.

Products are for indoor use only.

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Specific precautions for EMC Warning

The Products are compliant with Class B of EN 55032. In a residential environment, this equipment may cause radio interference. The Products are tested to the requirements of EN 55032 (Emissions) and EN 55024 (immunity). There are no specific precautions which must be taken in order to comply with the requirements of Directive 2014/30/EU Essential Requirements in Section 1 of Annex I. In addition, the Products are further tested to ensure spurious emissions are within the specified limits, as well as meeting the requirements for adaptivity, which mitigates against problems caused by co-location with other wireless products. The Products are not subject to the requirements in Section 2 of Annex I of Directive 2014/30/EU for fixed installations.

End of Life Collection and Treatment



In the European Union and European Economic Area, this label indicates that this product should not be disposed of with household waste. It should be deposited in an appropriate facility to enable recovery and recycling.

The Product is marked with this symbol, which is known as the WEEE mark. WEEE stands for Waste Electronics and Electrical Equipment. Electronic products bearing or referencing the WEEE mark shown above, when put on the market within the European Union (EU) and European Economic Area (EEA), shall be collected and treated at the end of their useful life, in compliance with applicable EU and local legislation. They shall not be disposed of as part of unsorted municipal waste. Due to materials that may be contained in the Product, such as heavy metals or batteries, the environment and human health may be negatively impacted as a result of inappropriate disposal.

At the end of their life, the Products are subject to the applicable local legislations that implement the European Directive 2012/19/EU on WEEE. There can be different requirements for collection and treatment in different member states of the European Union.

In compliance with legal requirements and contractual agreements, where applicable, Nokia will offer to provide for the collection and treatment of Products bearing the logo above at the end of their useful life, or Products displaced by Nokia equipment offers. The equipment can be disposed of at electronic waste collection points or to stores that sell electronics.



For information regarding take-back of equipment by Nokia, or for more information regarding the requirements for recycling/disposal of the Product, contact your service provider. Regulatory compliance information, including EU Declaration of Conformity, can be found at www.nokia.com/notices/declaration-of-conformity/.

6. FCC Declaration of Conformity



This device complies with part 15 of the U.S. FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) these devices must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

No Unauthorized Modifications:

Do not make any changes or modifications to the Product without the prior express written approval of Nokia. Any changes or modifications made without express written approval could void the user's authority to operate the device.

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