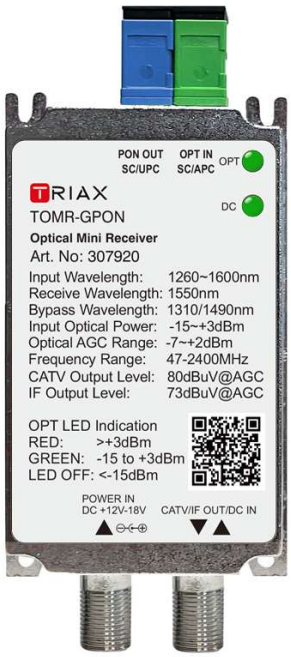

User Manual

TOMR-GPON OPTICAL MINI RECEIVER

Article				Article no.
TOMR-GPON	Optical mini receiver			307920
Version	V2.0	**Date**	2025/06	**EN**

triax.com

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1 Safety Instructions

Read these instructions carefully before connecting the unit

ATTENTION

- Failure to comply with the specified precautionary measures may cause serious injury to persons or damage to property.
- The assembly, installation, additional electrical wiring, servicing and commissioning may only be performed by suitably qualified persons, technicians or installers in compliance with safety regulations.
- Damage due to improper installation and commissioning, defective connectors on cables or any other incorrect handling will void the warranty.

CAUTION

- The safety requirements are according to the standards EN 62368-1 resp. EN 60728-11 and must be observed, especially concerning equipotential bonding and earthing.
- Observe the relevant country-specific standards, regulations and guidelines on the installation and operation of antenna systems.
- Before starting installation or service work disconnect the receiving system from mains.
- Installation or service work should NEVER be undertaken during electrical / thunderstorms.
- Avoid short circuits!
- To ensure electromagnetic compatibility, make sure all connections are tight and that the covers are screwed on securely.
- Take action to prevent static discharge when working on the device!
- Due to the risk of fires caused by lightning strikes, we recommend that all mechanical parts (e.g. distributor, equipotential bonding rail, etc.) be mounted on a non-combustible base. Wood panelling, wooden beams, plastic covered panels and plastic panels are all examples of combustible bases.

⚠ To prevent fire, short circuit or shock hazard:

- Do not expose the unit to rain or moisture.
- Install the unit in a dry location without infiltration or condensation of water.
- Do not expose it to dripping or splashing.
- Do not place objects filled with liquids, such as vases, on the apparatus.
- If any liquid should accidentally fall into the cabinet, disconnect the power plug.

⚠ To avoid any risk of overheating:

- Install the unit in a well aired location and keep a minimum distance of 5 cm around the apparatus for sufficient ventilation.
- Do not place any items such as newspapers, tablecloths, curtains, on the unit that might cover the ventilation holes.
- Do not place any naked flame sources, such as lit candles, on the apparatus.
- Do not install the product in a dusty place.
- Use the apparatus only in moderate climates (not in tropical climates).
- Respect the minimum and maximum temperature specifications.

⚠ To avoid any risk of electrical shocks:

- The mains plug shall remain readily operable.
- Pull out power plug to make the different connections of cables.
- To avoid electrical shock, do not open the housing of the product.

⚠ Warning

To avoid exposure to laser radiation from optical fibre or active optical devices like transmitters or receivers which pose a hazard to your health, you should:

- Never look into an exposed end of an optical fibre or mirror surfaces that could reflect light from an open optical fibre.
- Never look into an optical fibre connected to the radiation source with optical instruments (magnifying glass, microscope, etc…).
- Use an approved fibre optic cable to maintain conformity with applicable laser safety requirements.

Concerning fibre optic cables:

- Wearing protective goggles is recommended.
- You should handle fibre optic cables with extreme caution, particularly when unbundling or terminating a cable. The internal glass core of a fibre optic cable is brittle when the shielding and buffer material is removed. It will easily disintegrate into small pieces which may cause injury to the human body.
- Remove all filings immediately using tweezers, place them in a tightly sealed dustbin and dispose in accordance with local regulations.

Maintenance

⚠ Only use a dry soft cloth to clean the cabinet.

⚠ Do not use solvent.

⚠ For repairing and servicing, refer to qualified personnel.

Dispose according to your local authority's recycling processes

Electronic devices should never be disposed of in the household rubbish. In accordance with directive 2002/96/EC of the European Parliament and the European Council from January 27, 2003 which addresses old electronic and electrical devices, such devices must be disposed of at a designated collection facility. At the end of its service life, please take your device to one of these public collection facilities for proper disposal.

2 Introduction

2.1 Product description

The TRIAX TOMR-GPON is a compact optical mini receiver combining CATV and SAT-IF signal reception with integrated GPON WDM technology, ideal for fibre-to-the-home (FTTH) applications requiring efficient signal distribution over a single optical fibre.

- Designed for FTTH (Fibre To The Home) networks
- Wide operating frequency range: 47-2400MHz
- Excellent linearity and flatness
- Wide range of optical input power
- High return loss
- Uses GaAs amplifiers
- Ultra-low noise technology
- Compact design for easier installation
- LED for power indication
- LED for optical level indication:
    - Not lit: optical power < -15dBm
    - Green: optical power > -15dBm <+3dBm
    - Red: optical power > +3dBm
- Built-in WDM, 1310nm/1490nm Optical Bypass Port
- Built-in AGC function

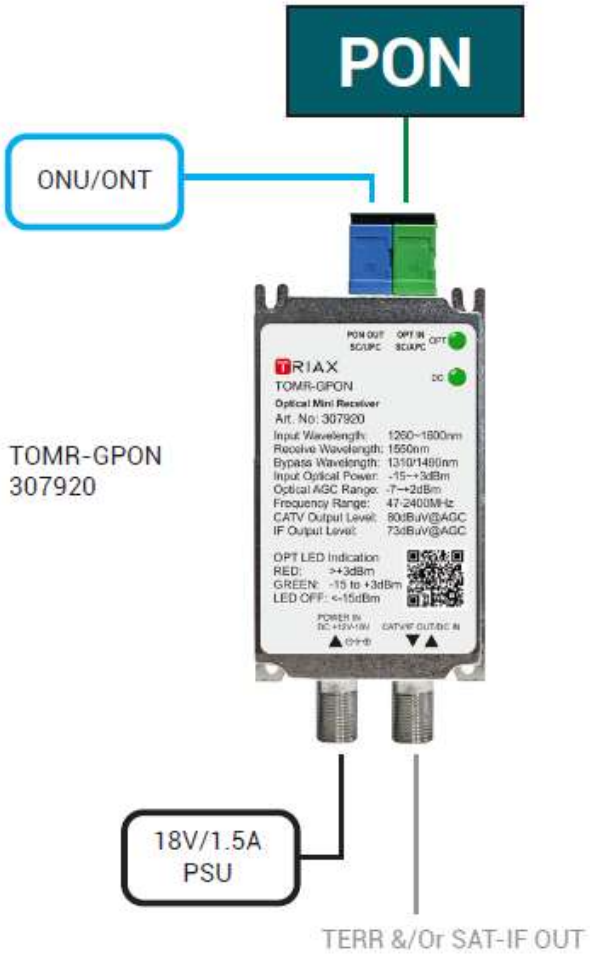
Remark: Each installed TOMR requires a 1.2A 18V PSU. TRIAX article no. 318165UK/318162EU. Sold Separately

2.2 Installation

Preparation before installation:

- **Observe instructions given at chapter 1**
- Please ensure the interface of the fibre is clean before connecting the fibre
- If needed clean the fibre connector with the correct tool

2.3 Installation schematic example



3 Technical Specifications

Category	Items	Unit	Value	Remark
Connectors	RF	-	F-female	
	Optical	-	SC/APC	
	Power supply	-	F-female	
Optical parameters	Responsivity	A/W	0.9	
	Input optical power	dBm	-15 to +3	
			-7 to +2	AGC
	Optical return loss	dB	≥ 45	
	Input wavelength	nm	1260 - 1600	
	Received wavelength	nm	1550	
	Bypass wavelength	nm	1310/1490	
	Optical fibre type	-	Single mode	
RF parameters	Frequency range	MHz	47-862 @ CATV	
			950-2400 @ SAT-IF	
	CATV flatness	dB	± 0.75	
	CATV output Level	dBµV	> 80	AGC
	CNR	dB	≥ 50.5	-1dBm input power
	CSO	dB	≥ 64	
	CTB	dB	≥ 66	
	Return loss	dB	≥ 16 @ CATV	
			≥ 10 @ SAT-IF	
	AGC stability	dB	± 1	
	Output impedance	Ω	75	
	SAT-IF flatness	dB	± 1.5	
	SAT-IF output level	dBµV	≥ 73	AGC
Other parameter	Power supply	VDC	12-18	
	Power consumption	W	< 1	
	Altitude operation	m	Max. 2000m above sea level	
	Dimension	mm	88 × 50 × 22	

4 EU Declaration of Conformity

The product Declaration of Conformity can be downloaded from the product page at www.triax.com

5 Conditions of warranty

TRIAX UK warrants the product as being free from defects in material and workmanship for a period of 24 months starting from the date of production indicated on it. See note below.

If during this period of warranty, the product proves defective, under normal use, due to defective materials or workmanship, TRIAX UK, at its sole discretion, will repair or replace the product. Return the product to your local dealer for reparation.

THE WARRANTY IS APPLIED ONLY FOR DEFECTS IN MATERIAL AND WORKMANSHIP AND DOES NOT COVER DAMAGE RESULTING FROM:

- Misuse or use of the product outside of its specifications,
- Installation or use in a manner inconsistent with the technical or safety standards in force in the country where the product is used,
- Use of non-suitable accessories (power supply, adapters...),
- Installation in a defective system,
- External cause beyond the control of TRIAX UK such as drop, accidents, lightning, fire, …

THE WARRANTY IS NOT APPLIED IF

- Production date or serial number on the product is illegible, altered, deleted or removed.
- The product has been opened or repaired by a non-authorized person.

NOTE

Date of production can be found in the product's serial number code. The format is "YYWW123456 (YEAR, WEEK, 123456 product unique number), e.g. 2532000020 = year 2025 week 32, product No.20 of this batch.

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