



Unifiber™

Quattro Optical Receivers

IDLF-RXQX01-XXXXX-OPR
Item 6125, 6126, 6131, 6132

User manual

1. Optical Quattro Recivers

PRODUCT DESCRIPTION

The optical receivers 6125/ 6126/ 6131/ 6132 (are intended to convert optical signals into electrical RF signals. The recivers are compatible with Inverto wideband SAT IF transmitting system.

The receiver is equipped with AGC system based on optical input level (OLC - optical level control). The product is intended for indoor usage only.

SAFETY INSTRUCTIONS

- Installation of the receiver must be done according IEC60728-11 and national safety standards.
- The receiver is powered from low DC voltage, which is not dangerous to life.
- Any repairs must be done by a skilled personnel.

To ensure safe operation of the receiver follow these instructions:

- Do not connect supply voltage until all cables have been connected correctly.
- Receiver shall not be exposed to dripping or splashing water.
- Avoid placing receiver next to central heating components and in areas of high humidity.
- If the receiver has been kept in cold conditions for a long time, keep it in a warm room no less than 2 hours before powering.
- The ventilation should not be impeded by covering receiver with items, such as newspapers, table-cloths, curtains.
- Avoid looking directly into beam, laser light can cause eye injuries and result in permanent loss of vision.



This product complies with the relevant clauses of the European Directive 2012/19/EC. The unit must be recycled or discarded according to applicable local and national regulations.



Equipment intended for indoor usage only.



Functional grounding. Connect to the main potential equalization.

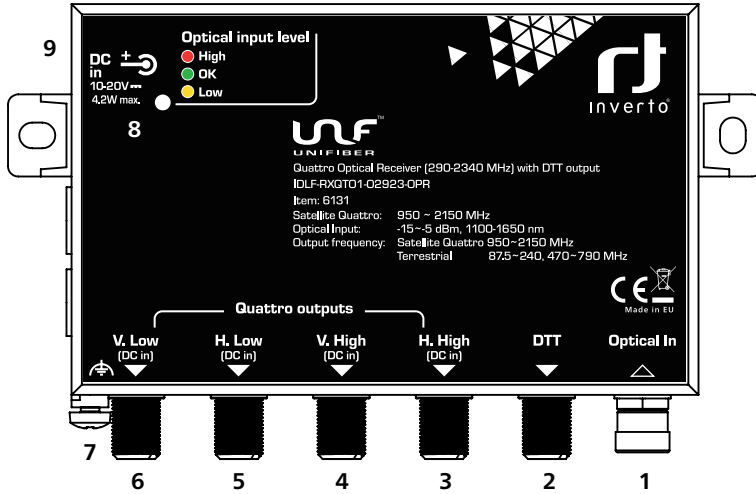


This product is in accordance to following norms of EU: EMC norm EN50083-2, safety norm EN62368-1 and RoHS norm EN50581.

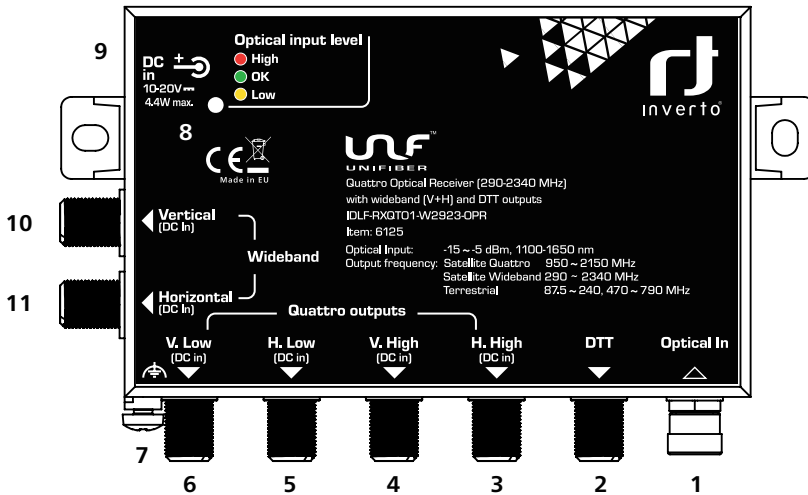


This product is in accordance with Custom Union Technical Regulations: "Electromagnetic compatibility of technical equipment" CU TR 020/2011, "On safety of low-voltage equipment" CU TR 004/2011.

EXTERNAL VIEW OF THE RECEIVERS



Items: 6131/6132



Items: 6125/6126

Figure 1. External view of the receivers

- | | |
|--|---|
| 1. OPTICAL IN | Optical input. FC/UPC connector |
| 2. DTT | DTT, DAB, FM output. F-type, female |
| 3. Horizontal High out (DC in) | SAT IF horizontal high RF signal output, DC input. F socket |
| 4. Vertical High out (DC in) | SAT IF vertical high RF signal output, DC input. F socket |
| 5. Horizontal Low out (DC in) | SAT IF horizontal low RF signal output, DC input. F socket. |
| 6. Vertical Low out (DC in) | SAT IF vertical low RF signal output, DC input. F socket. |
| 7. Functional grounding clamp | |
| 8. LED indicator of optical input power: | |
| | - Red – too high |
| | - Green – correct (OLC range) |
| | - Yellow – too low |
| 9. DC IN | 10 V ÷ 20 V DC powering input (3.5/1.3 mm DC jack) |
| 10. Vertical out (DC in) | SAT IF vertical polarization output, DC input. F socket |
| 11. Horizontal out (DC in) | SAT IF horizontal polarization output, DC input. F socket |

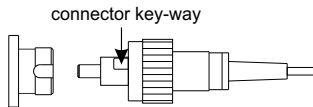
OPTICAL CONNECTIONS

Note: All optical connectors and adaptors should be cleaned before connecting them.

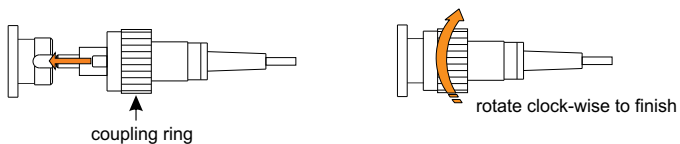
If optical reception power of the receiver decrease, fiber connection should be cleaned and maintained. Reel cleaners or prepackaged lint free wipes or swabs with alcohol are the most convenient means of cleaning optical connectors.

Fiber connectors should never be left uncovered.

1. Align the FC/UPC connector key-way (type R) with the receptable key-way.



2. Push firmly to locate the key-ways and then rotate the coupling ring.



3. Do not exceed the minimum bending radius of fibers: must be not less 30 mm when connecting optic cable to the system.

Installation instructions

- Read the safety instruction first.
- All unused F type connectors must be terminated with 75 Ω loads.
- Mount receiver in vertical position with optical connector underneath.
- From top, left and right side leave 10 cm free space.
- Fasten with screws. Screws are not included in a package.

Powering

The receiver can be powered in two ways: from AC/DC adapter through 3.5/1.3 DC connector (pos. 9, Figure 1) or through RF outputs (pos. 3, 4, 5, 6, 10, 11 Figure 1).

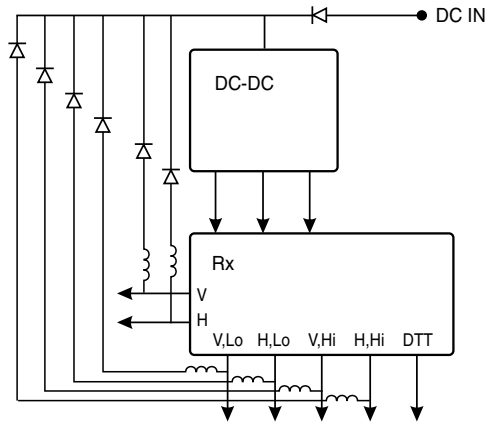


Figure 2. DC path diagram


Optical input and RF outputs

The operational optical input level of the receiver is -15...-5 dBm. In this region OLC is working and provides fixed RF output levels. Ensure optical input level in this range.

A direct optical connection cannot be made between the transmitter and the receiver. Use appropriate optical attenuator.

Requirements for external power supply unit (PSU)

Output voltage 10 V \div 20 V DC

- Output current recommended to use PSU with 50% extra power reserve
- Ripple at single and/or double mains frequency < 10 mV p-p
- Ripple & noise < 200 mV p-p
- Output connector type 3.5/1.3 (+) plug
- Short circuit protection
- Double insulated (marked )

Meet EN 55022 class B conducted emissions requirements, measuring with grounded load

Technical Specifications

| Item | | 6125 | 6126 | 6131 | 6132 |
|------------------------------|-----------------|--------------------------------------|-------------------|---------------------|--------------|
| Optical input | | | | | |
| Detection wavelength range | | 1100 - 1650 nm | | | |
| Input level (OLC range)* | | -15 ÷ -5 dBm | | | |
| Return loss | | > 40 dB | | | |
| Wideband and quattro outputs | | | | | |
| Frequency range MHz) | wideband | 2x (290-2340 MHz) | 2x (300-2350 MHz) | - | |
| | quattro | 2 x (950-2150) & 2 x (1100-2150) MHz | | | |
| Output level | wideband | 80 dB μ V | | - | |
| | quattro | 80 dB μ V | | | |
| DTT output | | | | | |
| Frequency range | | 87.5-240/470-790 MHz | | | |
| Output level | | 80 dB μ V | | | |
| General | | | | | |
| Internal IF | | 290-2340 MHz | 300-2350 MHz | 300-2350 MHz | 290-2340 MHz |
| Return loss / impedance | | > 10 dB / 75 Ω | | | |
| Supply voltage range | DC input | 10-20 V | | | |
| | Wideband output | 10-20 V | | - | |
| Power consumption | | 4.8 W | | 4.6 W | |
| Operating temperature range | | -20 °C ÷ + 50 °C | | | |
| Dimensions/Weight (packed) | | 147x89x26 mm/0.4 kg | | 149x89x26 mm/0.4 kg | |

* The system performance depends on optical level



For purpose of brevity, some product descriptions in this sheet remain at platform level and may not be referred to as detailed datasheets of the products. Inverto Digital Labs reserves the right to amend, omit or add products, product-lines, and / or features without notice. As product specifications may change without notice, always contact Inverto to obtain the latest product specification sheets.

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