



# Unifiber™

Wideband Optical Receiver  
with 2x wideband (V+H) and 2x DTT outputs

IDLF-RX0001-W2923-OPR  
Item: 6115

User manual

# Optical Wideband Receiver

## Product description

The optical receiver 6115 is intended to convert optical signals into electrical RF signals. The receiver is dedicated to operate with optical transmitter 6111/6112 and DTT processing units 6118/6119. See manuals of mentioned devices.

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 receiver

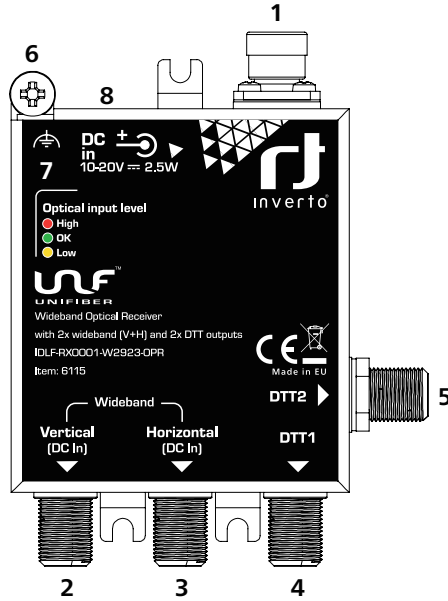


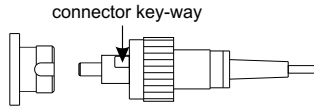
Figure 1. External view of the receiver

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

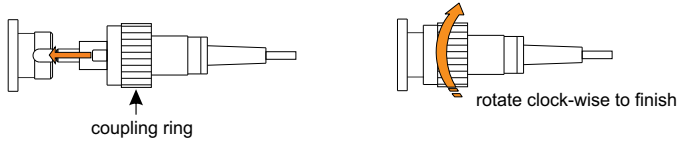
### Optical connections

Note: All optical connectors and adapters 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 acceptable 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  $\Omega$  loads.
- Mount receiver in vertical position with optical connector on top.
- 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. 8, Figure 1) or through RF outputs (pos. 2, 3 Figure 1).

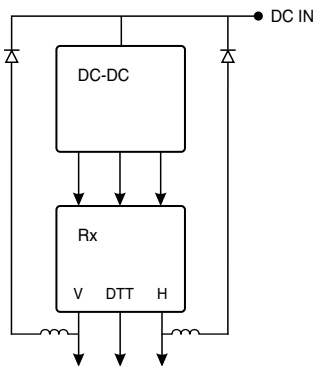



Figure 2. DC path diagram

### 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 - 20V 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

Optical input		
Direction wavelength range		1100 - 1650 nm
Optical input level (OLC range)*		-15 ÷ -5 dBm
RF Outputs		
Frequency range	Wideband	2 x (290-2350 MHz)
	DTT	87.5-240 / 470-790 MHz
SAT IF output level		75 dBµV
DTT output level		DTT1 75 dBµV DTT2 80dBµV
General		
Return loss / impedance		> 10 dB / 75 Ω
Supply voltage	DC input	10-20V
	Wideband outputs	10-20V
Power consumption		2.5 W
Operating temperature range		-20 °C ÷ + 50 °C
Dimensions/Weight (packed)		72x93x23 mm/0.2 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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