

Fiber Optical RF Unit (for U) Transceiver micro-Node



Transceiver micro-Node, **ORS-10xx** is designed for upstream path transmission of burst mode optical signal. CMTS analog signals are fed into the input of the **ORS-10xx** and converted into optical signal and transmitted to HFC/ CATV networks.

Additionally, the micro-Node's ability to operate over a wide optical input range allows for a variety of system designs without degrading performance. The wide bandwidth supports the delivery of up to 77 CATV analog signals or a combination of analog and digital channels, including HDTV broadcast. The **ORS-10xx** exhibits excellent distortion performance with values above standards over the entire bandwidth and temperature specifications. The **ORS-10xx** is flexibility to grow your network to meet customer demand now and coming future.

Features

- PON compatible
- Extended spectrum RF video
- Universal HFC set top box and head-end support
- Transparent return path capability
- Optical loss AGC with 0 ~ -6dBm
- Support most in-home applications without amplifiers
- Multiple set-top box support
- In-home power over 75ohm coaxial cabling
- Burst-mode Laser Operation

Applications

- Receiver module for CATV network in HFC and RFoG nodes
- Video overlay in passive optical networks (PON)

Fiber Optical RF Unit (for U)

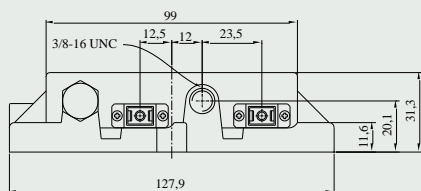
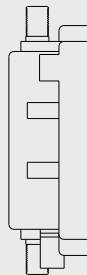
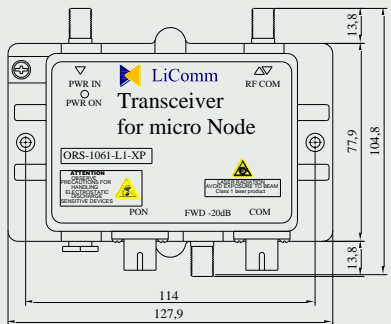
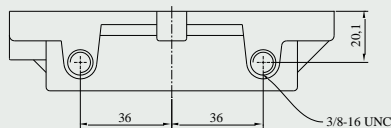
Transceiver

micro-Node

Mechanical Dimension

(The dimensions are in millimeters)

ORS-10xx-L1 (127.9 X 104.8 X 31.3mm)



Electrical / Optical characteristics

Parameter	Value	Unit
Supply Voltage	+12	V _{DC}
Operating Temperature Range	-40 ~ +65	°C
Supply Current	+12V _{DC} 350~450	mA
Down Stream		
Input Optical Power	-6 ~ 0	dBm
Optical Loss AGC	-6 ~ 0	dBm
Input Wavelength	1290 ~ 1610	nm
Responsivity (@1550nm)	> 0.9	A/W
Optical Input Return loss*	< -40	dB
Up Stream		
Output Optical Power	0 ~ +4	dBm
Output Wavelength	1310 / 1610	nm

* Optical connector type : SC/APC connector

RF Characteristics

Parameter	Value	Unit
Down Stream		
Bandwidth	54 ~ 1000 / 88~1000	MHz
Frequency Response *	≤ 3	dBp-p
Output RF signal level ** @547MHz	12~16	dBmV/CH
Output Impedance	75	ohm
Output Return Loss	≤ -14	dB
Carrier to Noise Ratio (CNR) *** @-6dBm	≥ 45	dB
Composite Second-Order (CSO) **	≥ 60	dBc
Composite Triple Beat (CTB) **	≥ 60	dBc
RF Test Point	-21 ~ -19	dB
Up Stream		
Bandwidth	5 ~ 42	MHz
Frequency Response *	≤ 2	dBp-p
Input RF Signal Level	15~ 45	dBmV
IMD3****	≥ 60	dBc
Input Return Loss	≤ -14	dB

* Peak to valley

** 77NTSC Channel loading, 0dBm Optical input with OMI=3.5%

*** 77NTSC Channel loading, OMI=3.5%, -6dBm Input

**** 2-Tone 30dBmV RF Input

Ordering Information

ORS	-	XXXX	-	L1	-	XX
RF Bandwidth		LD Wavelength		RF Port		Optical Port
10:54~1000MHz		31:1310nm		L1:1Port		BD:COM
11:88~1000MHz		61:1610nm				XP:COM+PON

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