



R1U-RX100BX4

Return Path Receiver

Motorola Return Path Receivers are an integral part of two-way RF access networks, converting upstream optical signals into RF signals at the headend or remote hubs. Four independent receivers are packaged in a compact “pizza-box” and serve up to 256 RFoG optical units in a 1RU 19-inch rack-mounted unit. A low-noise receiver design improves noise performance by 4dB or more over typical return receivers. Low noise enables DOCSIS® 3.0 upstream bonding on PON architectures such as 20Km and 32 splits.

All receivers are temperature-hardened for installation in any network environment, including outside plant sites where temperatures are not controlled. SNMP management, along with front panel controls, complement the features that optimize the Motorola Return Path Receiver for headend and remote installations.

Features and Benefits

- Compact size
 - 19” rack mounted, 1 RU form factor
- Flexible management
 - Front-panel & remote SNMP
- 4-port receiver supports up to 256 Optical Network Units
- 4 dB improved noise performance over typical return receivers
- Supports DOCSIS® 3.0 upstream bonding on PON architectures – i.e. optical budget of 20km with 32 splits
- Temperature-hardened for outside plant environments
- In-home power over 75Ω coax cabling
- Test/monitor points for each RF output
- Compatible with any FTTX PON technology: EPON/GEAPON, GPON, BPON, DPON
- Wideband optics 1200 – 1620nm
- CW or burst mode operation
- Front mounted SC/APC connectors
- Rear mounted RF ports

Specifications

DIMENSIONS

19 in H x 12 in W x 1.72 in D (483 mm x 305 mm x 44 mm)

MOUNTING

1 RU 19 in Rack Mounting

OPTICAL PORTS

SC/APC Connectors

Wavelength 1200 – 1620nm

Optical input range –13dBm to –27dBm

RF PORTS

Female F-type connectors

RF output bandwidth 5MHz to 100 MHz

Flatness (peak to valley) ±0.75dB

RF output power 30dBmV/Ch to +60 dBmV/Ch

RF gain adjustment 0dB to 30dB, settable in 1dB increments

RF test point/monitor –20dB ±0.5dB from RF output power

Return loss (min.) 16dB

PERFORMANCE

Equivalent Input Noise

Current (max) 4pA / √Hz

NPR/Dynamic Range @

–20dBm optical input 30/10dB

INDICATORS AND ALARMS

Power, port activity, port select

Attenuator display

POWER AND ENVIRONMENTAL

Temperature range –40 °C to +65 °C

Humidity 5% to 95% non-condensing

Power –48 VDC, redundant A/B inputs;
12W per receiver module; 48W max.

REGULATORY

FCC Part 15, Class B

CISPR 22 Level B

TUV

CE Mark

Ordering Information

R1U-RX100BX4	Quad Return-path receiver, 5–100MHz, 1200–1620nm, rear output
Related Products	
ONU100K	Optical Network Unit, RFoG, 50MHz–1.1GHz FWD, 5–42MHz RTN, 1310nm RTN TX
ONU100A	Optical Network Unit, RFoG, 88MHz–1.1GHz FWD, 5–65MHz RTN, 1310nm RTN TX
ONU120K	Optical Network Unit, RFoG, 50MHz–1.1GHz FWD, 5–42MHz RTN, 1610nm RTN TX
ONU120A	Optical Network Unit, RFoG, 88MHz–1.1GHz FWD, 5–65MHz RTN, 1610nm RTN TX
ONU150K	Optical Network Unit, RFoG, 50MHz–1.1GHz FWD, 5–42MHz RTN, 1610nm RTN TX, PON Expansion Port
ONU150A	Optical Network Unit, RFoG, 88MHz–1.1GHz FWD, 5–65MHz RTN, 1610nm RTN TX, PON Expansion Port
ONU190K	Optical Network Unit, RFoG, 54MHz–1.1 GHz FWD Pass-thru, 5–42MHz RTN, 1610nm RTN TX
ONU190A	Optical Network Unit, RFoG, 88MHz–1.1GHz FWD Pass-thru, 5–65MHz RTN, 1610nm RTN TX
WT-12V-110-NEMA1-F	ONU Wall Transformer, 12VDC Output, COAX feed, 110VAC Input, NEMA 1–U.S. Style plug
WT-12V-220-EU-B	ONU Wall Transformer, 12VDC Output, Bayonet style connector, 220VAC Input, European Style wall plug
UPS-12V-NB	UPS for ONU, 12VDC, 24W, with charger (battery not included)
UPS-12V-NB-H	UPS for ONU, 12VDC, 24W, with charger (battery not included), Hardened
ONU-CBL-COAX-UPS	UPS to Coax adapter cable, 8" long
ONU-CBL-BAYONET-UPS	UPS to Bayonet adapter cable, 8" long
ONU-OSPE301	ONU Standard outside enclosure
R1U-RX100BX4	Quad Return-path receiver, 5–100MHz, 1200–1620nm, rear output
AM-OCM-II-WDM-1310/1550-M-SCA	Optical Mux/Demux, 1310nm & 1550nm, monitoring port, SC/APC
AM-OCM-II-WDM-1310/1490/1550-M-SCA	Optical Mux/Demux, 1310nm, 1490nm, & 1550nm, monitoring port, SC/APC
AM-OCM-II-WDM-1310/1490/1550/1610-M-SCA	Optical Mux/Demux, 1310nm, 1490nm, 1550nm, & 1610nm, monitoring port, SC/APC



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