



ONU100

RF-Over-Glass (RFOG)

Optical Network Unit

Flexible Installation

- Operates on a single PON fiber architecture
- Powered via an independent 12VDC power source
- Supports power over COAX
- Temperature hardened

Motorola's ONU100 Optical Network Unit provides operators with the capability to deploy reliable all-fiber optical distribution networks that offer operational savings while leveraging existing investments in RF and DOCSIS® technology.

The Motorola ONU100 Optical Network Unit allows in-home content distribution over existing home coaxial cabling to cable modems, televisions, and set-top boxes. Using standard HFC optical wavelengths, the ONU100 extends bi-directional services over RF frequencies up to 1.1 GHz, while eliminating HFC nodes, RF amplifiers, and the long-term operating expenses associated with an active access network architecture. The ONU100 is transparent to headend and customer premises equipment, and remains compatible with today's operational and billing support systems. Motorola's flexible Optical Network Unit offers cable operators the ability to meet today's broadband demands while evolving their networks in support of new business and residential services.

Features and Benefits

- Extended spectrum RF Video
- Analog and digital video formats
- Universal HFC set-top box and head-end support
- Transparent return path capability (protocol and modulation format agnostic)
- Optical AGC with positive RF up-tilt
- Supports most in-home applications without amplifiers
- Multiple set-top box support
- In-home power over 75Ω coax cabling

Data Sheet
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Specifications

PHYSICAL

1.2 in H x 3.5 in W x 5 in D (30 mm H x 89 mm W x 127 mm D)

INDICATORS/EXTERNAL ALARMS

Green LED power indicator
 Red LED loss of signal indicator

OPTICAL INTERFACE

One recessed SC/APC female connector

CUSTOMER INTERFACE

75 Ω coax F connector

FORWARD PATH CHARACTERISTICS

Input wavelengths 1545 – 1560nm
 Input power range 0 to –6dBm
 Loss of signal alarm threshold –12.5dBm
 RF Output @ 550MHz +18dBmV/ch ±2dBmV
 Frequency response
 ONU100K 50MHz to 1.1GHz
 ONU100A 88MHz to 1.1GHz
 Up-tilt 50MHz – 1.1GHz: 3dB

CNR @ –6dBm input power: 48
 CSO @ 0dBm input power: 60
 CTB @ 0dBm input power: 65

RETURN PATH CHARACTERISTICS

Wavelength 1270 – 1350nm
 Output power +2 dBm to +4 dBm
 RF Input dynamic range +15dBmV to +40dBmV
 Frequency response
 ONU100K 5MHz to 42MHz
 ONU100A 5MHz to 65MHz

Compatible with DOCSIS, DSG, Aloha (SCTE-55-1), and DAVIC (SCTE-55-2)

POWER AND ENVIRONMENTAL

Operating temperature range –40 °C to +65 °C
 Humidity 5% to 95% non-condensing
 Power input 10 to 18 VDC (+12 VDC nominal)
 Power consumption 3.0 W

STANDARDS AND CERTIFICATIONS

TUV listed, CE mark certified
 Meets or exceeds FCC part 15b
 IEC 60825-1:1993+A1:1997+A2:2001
 RoHS compliant

Ordering Information

Model Name	Description
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
Related Products	
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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