



CTDI Products: End-to-End Solutions

Outdoor MDU MicroNode™ RFoG ONU

The CTDI 500-series **Outdoor MDU MicroNode RFoG ONUs** deliver advanced bi-directional RF services over a passive fiber optic distribution network to large coax distribution networks, such as those found in MDU applications. The MDU MicroNode RFoG ONU serves as the optical transport layer for RF video, DAVIC, and DOCSIS technologies in deep fiber and FTTH networks. The integrated distribution amplifier provides adjustable slope and gain in both forward and return paths for either one or two RF ports, enabling ideal configurations for demanding subscriber topologies. The MDU MicroNode RFoG ONU provides bi-directional services over extended RF frequencies (up to 1GHz) while being agnostic to both headend and customer premises equipment (CPE), and preserving today's accounting and operating processes. The unit is enclosed in a rugged, sealed cast aluminum housing, suitable for flat surface or strand-mounting in outdoor environments.

CTDI's MDU MicroNode 500 RFoG ONU: Flexibility to Grow Your Network to Meet Customer Demand Now and In The Future.

Features

- Field-adjustable slope and gain
- Field-configurable for 1 or 2 RF ports
- Universal HFC set top box, cable modem and headend support
- High level RF output (55dBmV), eliminating distribution amplifiers at the customer premise
- RF test point (in/out)
- Forward path up to 1000MHz
- All the features of CTDI's MicroNode RFoG ONUs, including
 - 1 or 2 recessed SC/APC female fiber connector
 - PON compatible (single PON fiber architecture – up to 32 drops)
 - Optical AGC with positive RF up-slope
 - Input range 0 ~ -6dBm
 - Loss of optical power alarm : -11dBm
- Transparent return path capability (protocol/modulation format agnostic)
- Rugged sealed aluminum housing and -40C to +65C temperature range for outdoor installations

Benefits

- Brings RFoG technology to the MDU environment
- Eliminates the need for separate distribution amplifiers in long and high-loss networks
- Allows deployment of fiber optic distribution network while leveraging existing RF and DOCSIS investments
- Universal support for headend and CPE equipment
- High performance, ultra low noise burst mode enables use of full RF spectrum for the return path, resulting in increased available bandwidth
- Enables the low maintenance and high reliability of an all-fiber access network
- Reduced power consumption



CTDI Product Sales ~ 866-953-9030 ~ www.CTDI.com



Outdoor MDU MicroNode™ RFoG ONU Specifications

Optical Parameter (MicroNode)	Forward	Reverse
Wavelength	Determined by Model	
Receiver Optical Power	0 ~ -6dBm	-
Transmitter Optical Power	-	2 ~ 4 dBm
Laser Type	DFB	
RF Parameter	Forward	Reverse
PassBand	50/88~1000MHz	5~42/65MHz
Flatness	±1dB	±0.5dB
Return Loss	15dB	15dB
Interstage Equalizer Slope	10dB ±1dB	-
Channel Loading	77 + 320MHz Digital	6Channels
Full Gain	40dB	19dB
CNR	48 [†]	
RF Output Max Level		
Out1	55dBmV @1GHz (MicroNode RF out 18dBmV)	
Out2	Optional [‡]	
CTB	68dB ^{††}	-
CSO	62dB ^{††}	
X-MOD	65dB ^{‡‡}	-
Dynamic Range		-4dBmV to -21dBmV @ 19dB return path gain
AC Bypass Current	15A	
AC Input Voltage Range	40 ~ 90V AC	
DC Voltage	24V ±0.25	
DC Current	1460mA	
Power Consumption	14W	
Operating Temperature Range	-40 ~ 60°C	
Housing Dimension	290(L) × 225(W) × 135(D)mm	
Weight	14 lbs / 6.35kg	

* when Out2 is enabled via 2-way splitter, max level of Out1 & Out2 is 51dBmV
[‡] 50dBmV RF output
[†] 0dBm optical input
^{‡‡} -6dBm optical input



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Ordering Information

Part #	Description
MNTH0501	MDU MicroNode RFoG ONU, Outdoor, (1550/1310 42/54)
MNTH0504	MDU MicroNode RFoG ONU, Outdoor, (1550/1310 65/88)
MNTH0526	MDU MicroNode RFoG ONU, Outdoor, (1550/1610 42/54)
MNTH0527	MDU MicroNode RFoG ONU, Outdoor, (1550/1610 65/88)
MNTH0532	MDU MicroNode RFoG ONU, Outdoor, (1310/1550 65/88)
MNTH0533	MDU MicroNode RFoG ONU, Outdoor, (1310/1550 42/54)
MNTH0556	MDU MicroNode RFoG ONU, Outdoor, (1550/1610 42/54) + PON Port
MNTH0557	MDU MicroNode RFoG ONU, Outdoor, (1550/1610 65/88) + PON Port

Associated Products

Part #	Description
PSB1011	AC line power for outdoor MDU MicroNode ONU
KITMN0500	MDU MicroNode Plug Kit - Spares**

**full kit included with each MDU MicroNode

MDU MicroNode RFoG ONU as a Node

The unit can operate as a small traditional node, using existing headend transmitters, optical amplifiers, and receivers.

MDU MicroNode RFoG ONU as a Fiber Deep Solution

The unit provides Fiber Deep solutions without any change in headend equipment, providing the power and flexibility to implement N + 0 architectures for next generation HFC plant.

MDU MicroNode RFoG ONU with PON

For PON compatibility, the unit provides an integrated PON interface port, enabling easy deployment and expansion with PON services through the Fiber Deep network.

Outdoor MDU MicroNode Applications

