

PremiseNode Model OTPN-400

Receive Only Optical Node

Features / Benefits

Entry level member of the **Olson Technology's PremiseNode** family offers **high sensitivity, no frills, and low cost.**

Receive only indoor optical node for fiber-deep FTTX/PON CATV applications.

Wide optical input window of 0 to -8 dBm at 1310/1550nm.

High RF output range: +28 dBmV @ -1 dBm optical input and +14 dBmV @ -8 dBm optical input.

Full forward path bandwidth of 40-1,000MHz with low noise and distortion.

Optical input test point with calibrated power meter (1V/mW).

Tri-colored LED indicates optimal input range and power on.

+12 V_{dc} for local direct or remote "up-the-coax" powering via a Power Inserter Coupler (PIC).

6kV surge tolerant RF output and SMT construction for consistency, reliability, and performance.

Low power consumption and a compact, lightweight, and rugged aluminum extruded housing for easy installation.



The Olson **PremiseNode OTPN-400 Optical Node** is a low cost, compact, indoor CATV receive-only node designed with the latest optical receiver technology to reliably deliver a full slate of multiplexed video, data, and telephony services in an HFC (hybrid fiber/coax) or PON (passive optical network) broadband CATV environment.

The **Model OTPN-400** is ideal for direct fiber transmission of CATV RF signals in FTTH, FTTx, MDU, corporate, government, educational, or other I-Net applications where a high performance, compact indoor node is required. The unit is constructed with high quality components to enable it to meet its performance specifications over a wide temperature range in an uncontrolled environment, but it does require protection from the elements. It is designed for desktop, shelf or wall-mounting.

The **Model OTPN-400** offers good optical sensitivity, high RF output, RF and optical connections, optical input power test point and LED indicator. The unit includes a provision for **flexible powering** of the node, either locally through the DC Power IN "+12V_{dc}" port, or **remotely up the coax drop** through the "RF OUT/+12VDC" port via an optional Power Inserting Coupler (PIC).

The Model OTPN-400 is the perfect companion to the Olson Technology, Inc. *LaserLite* and *LaserPlus* forward transmitter product families, but is also designed to mate with 1310nm and 1550nm optical transmitters from most leading manufacturers. For bidirectional DOCIS-compatible operation, Olson also offers a wide variety of two-way node transceivers in its *PremiseNode* and *MetroNode* product families.

**Optical and Signal Characteristics
(with SM 9/125µm Fiber)**

	Min	Typ	Max	Units
Operating Wavelength	1280		1600	nm
Optical Input Power	-8.0		0	dBm
Return Loss	-55			dB
Optical Input LED				
Orange			-8	dBm
Green	-8		-1	dBm
Red	-1			dBm
Optical Connector (Std.)	SC/APC			
Optical Connector (Option)	FC/APC			
Optical Input Power TP	1V/mW (external)			

**RF Output and Performance
Characteristics**

	Min	Typ	Max	Units
Receiver				
Frequency Range	40		1000	MHz
Flatness	-1		+1	dB
Optical Level (@ -1dBm) (1)		+28		dBmV
Optical Level (@ -8dBm) (1)		+14		dBmV
Return Loss		14		dB
Impedance		75		Ohms
CNR (@ -2dBm Opt. In)	52			dB
CNR (@ -6dBm Opt. In)	48			dB
CSO (@ -2dBm Opt. In)		-59		dBc
CTB (@ -2dBm Opt. In)		-62		dBc

Electrical and Environmental Characteristics

	Min	Typ	Max	Units
Power Supply Voltage (1)		+12		V _{dc}
DC Ripple			50	mV
Power Dissipation			5	W
Operating Temp. Range	0		+70	°C
Enclosure Rating		IP20		

(1) Via Model OTPS-12VA-PIC.

(1) Typical; measured with 0dB slope; 8dBm optical transmitter with OMI @ 2.8% and 77 NTSC channel loading to 550MHz and digital loading from 550-1,000MHz (@ -6dB below analog).

Physical Characteristics

	Min	Typ	Max	Units
Weight		10		oz.
		0.3		kg
Dimensions (H x D x W)	3.0 x 6.96 x 1.0			in.
	7.62 x 17.68 x 2.54			cm

Ordering Information

Model OTPN-400	<i>PremiseNode</i> (40-1,000MHz), Receive Only, +30dBmV @ -2dBm, SC/APC Optical Connector
OTPS-12A-PIC	Power Supply and Power Inserter Coupler, 110/220 Volts AC => +12 Volts DC, 1,500mA
OTLL-SCFCKIT	Optical Connector Adapter Kit, SC/APC to FC/APC
OTOA-1000	Optical Attenuator, 1-7dB Variable Steps, Universal Connector Independent