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PremiseNode Model OTPN-400C Receive Only Optical Node

Features / Benefits

Entry level member of the Olson Technology's *Premise-Node* 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 -8dBm at 1310/1550nm.

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

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

Calibrated DC test point for optical input power (1V/mW).

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

+12 V_{DC} for local 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.

New compact, light-weight, rugged cast aluminum housing for easy installation.

The Olson *PremiseNode* OTPN-400C Optical Node is a low-cost, compact, indoor CATV receive-only node in a cast Aluminum housing. It is 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-400C is ideal for direct fiber transmission of CATV RF signals in FTTH, FTTx, MDU, corporate, government, educational, and other 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-400C offers good optical sensitivity, high RF output level, optical input power DC test point and optical level 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/+12V_{DC}" port via an optional Power Inserting Coupler (PIC). The OTPS-12A-F ships with the unit. The OTPS-12A-F consists of a +12V/1.5A AC/DC power supply and a "F" connector adapter.

The Model OTPN-400C is the perfect companion to the Olson Technology, Inc. *LaserLite* and *LaserPlus* forward transmitter product families. It is also designed to mate with 1310nm, 1550nm, CWDM and DWDM optical transmitters from most leading manufacturers.

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

	Min	Typ	Max	Units
Operating Wavelength	1270		1610	nm
Optical Input Power	-8		0	dBm
Optical 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)			

Electrical and Environmental Characteristics

	Min	Typ	Max	Units
Power Supply Voltage (1)	+11	+12	+13	V_{DC}
Current Draw		300		mA
DC Ripple Tolerance			50	mV
Power Dissipation		3.5	5	W
Operating Temp. Range	0		+70	°C

(1) Via Power Supply Model OTPS-12A-F.

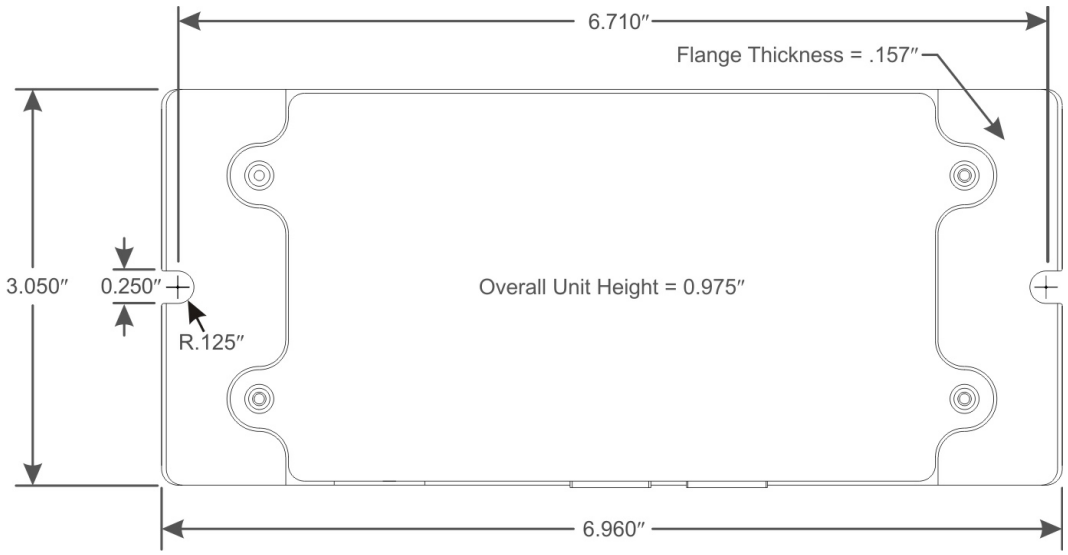
RF Output and Performance Characteristics

Receiver	Min	Typ	Max	Units
Frequency Range	40		1,000	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) (1)	52			dB
CNR (@ -6dBm Opt. In) (1)	48			dB
CSO (@ -2dBm Opt. In) (1)		-59		dBc
CTB (@ -2dBm Opt. In) (1)		-62		dBc

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

Physical Characteristics

	Min	Typ	Max	Units
Weight		11.0		oz.
		0.31		kg
Dimensions (H x D x W)		3.05 x 6.96 x 0.975		in.
		7.75 x 17.67 x 2.48		cm



Ordering Information

OTPN-400C	*PremiseNode* (40-1,000MHz), Receive Only, +28dBmV @ -1dBm, SC/APC Optical Connector The OTPN-400C comes with an OTPS-12A-F power supply - See Below for details
OTPS-12A-F	Power Supply and “F” Connector Adapter, 110/220 Volts AC => +12 Volts/1.5A DC
OTPS-12A-PIC	Power Supply and Power Inserter Coupler, 110/220 Volts AC => +12 Volts/1.5A DC
OTLL-SCFCKIT	Optical Connector Adapter Kit, SC/APC to FC/APC