

PremiseNode OTPN-400

LOW-COST CUSTOMER PREMISES FTTX/PON RECEIVE ONLY OPTICAL NODE

Features / Benefits

- Entry-Level member of the OT *PremiseNode* family: **Low Cost, No-Frills, High Sensitivity**
- **Receive-only**, DC-powered indoor optical node for fiber-deep FTTX/PON CATV applications
- **Wide Optical Input Window:** (0dBm to -8dBm) @ 1310/1550nm
- **High RF Output:** (+30dBmV @ -1dBm; +16dBmV @ -8dBm optical input)
- **Low Noise & Distortions:** CNR >52dB @ -2dBm; >48dB @ -6dBm; CSO/CTB >-59/62dBc @ -2dBm
- **Full Forward Path Bandwidth:** 40 to 1,000MHz (Analog and QAM Digital loading)
- **Calibrated Power Meter** (1V/mW) Optical Input power test point
- **Tri-color LED** for optimal Optical Input range and unit Power-On indication
- **+12 V_{DC}:** Local direct or Remote “up-the-coax” powering via Power Inserter Coupler (PIC)
- **Low Power Consumption** (< 5 Watts)
- **> 6kV surge tolerant RF output** & SMT construction for consistency, reliability & performance
- **Compact, Lightweight & Rugged** aluminum extruded housing for Easy Installation

The **OLSON TECHNOLOGY, INC. *PremiseNode* Model OTPN-400** is a low-cost, compact indoor CATV receive-only node designed around the very latest optical receiver technology to reliably deliver a full slate of multiplexed video, high speed data and telephony services in an HFC (hybrid fiber coax) or PON (passive optical network) broadband CATV environment.



The **Model OTPN-400** is ideally suited for direct fiber transmission of CATV RF signals in FTTH, FTTx, MDU, industrial, 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 or exceed its performance specifications over a wide temperature range in an uncontrolled environment, but it does require protection from the elements. It is configured for desktop, shelf or wall-mounting.

The **Model OTPN-400** is a low-profile, rugged standalone optical receiver with: Wide ranging and exceptional optical sensitivity; High RF output; External RF and optical connections, optical input power test point & LED indicator. The OTPN-400 features a unique 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 **Model OTPN-400** is the perfect companion to the Olson Technology, Inc. **LaserLite** and **LaserPlus** forward Tx 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.

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SPECIFICATIONS

RF OUTPUT & PERFORMANCE PARAMETERS:

Frequency Range (& Flatness)	40 - 1,000MHz (± 1.0 dB)
Output Level *	+30dBmV @ -1dBm; +16 dBmV @ -8 dBm @ 550MHz *
Return Loss	14dB typical
Impedance	75 Ohm
CNR*	>52dB @ -2dBm; >48dB @ -6dBm optical input*
CSO*	>-59dBc @ -2dBm optical input*
CTB*	>-62dBc @ -2dBm optical input*
RF Gain Adjustment	none
Slope Adjustment	none
RF Test Point	none
RF Output Connector	Type F

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

OPTICAL PARAMETERS:

Wavelength	1280 - 1600nm
Optical Input Power Range	0dBm to -8dBm
Return Loss	>60dB with APC type connector
Optical Input Power Test Point	1V/mW (external)
Optical Input Power (& Power ON/OFF) LED	ORG: < -8dBm; GRN: > -8dBm & < -1dBm; RED: > -1dBm
Optical Connector	SC/APC standard; FC/APC optional; 8° APC

ELECTRICAL, ENVIRONMENTAL & MECHANICAL PARAMETERS:

Dimensions	3" H x 7" D x 1" W (7.62cm x 17.78cm x 2.54cm)
Weight	10 oz. (0.3 kg)
Operating Temperature Range	-40 to +70°C (temperature at the mounting plate)
Enclosure IP Rating	IP20
Powering	12 V _{DC} via Model# OTPN-12V-PIC
DC Ripple	< 50 mV
Power Dissipation	< 5W

ORDERING INFORMATION

MODEL NUMBER

OTPN-400

OTPN-12V-PIC

OTPN-12V-PIC/U

OTLL-SCFCKIT

OTOA-1000

DESCRIPTION

PremiseNode (40-1,000MHz); Receive-Only; +30dBmV @ -2dBm; SC/APC

Power Supply & Power Inserter Coupler; 110V_{AC} => 12V_{DC}; 1000 mA

Power Supply & Power Inserter Coupler; 110/220V_{AC} => 12V_{DC}; 1000 mA

Optical connector adapter kit; SC/APC to FC/APC

Optical attenuator; 1-7dB Variable Steps; Universal "connector independent"