TITAN PHOTONICS

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NanoNode RFoG ONU

The Titan NanoNodes are high quality, low cost RFoG ONUs that fully support FTTH/HFC services such as DAVIC, DOCSIS 1, 2, or 3, High-definition video, etc. Fully SCTE compliant, Titan NanoNodes can be installed onto existing RFoG networks, or can be deployed on new PON networks with up to 64 splits! They are designed to one of the smallest footprints of any RFoG ONUs, operate on safe 12VDC power (either direct or via the COAX drop cable) and are constructed with 100% Industrial grade components allowing them to integrate in most FTTX network applications with ease. High performance, precision controlled burst mode lasers provide exceptional return path fidelity, while the low noise high sensitivity receiver sections operate well in even the highest loss RFoG networks. Electrical power present, loss of incoming optical power, and transmitter "ON" LED indicators make the Titan NanoNodes simple to install and troubleshoot. When you are adding onto an existing RFoG network or building new, the Titan NanoNode is the ideal RFoG ONU for your FTTH product offerings.

Features and Benefits

- Standards based1610nm/1310nm versions allow interoperability with other ONUs in the network.
- Small form factor and intelligent interface layout for easy integration to most applications
- Temperature hardened for use in even the most harsh working environments
- Optional high power return lasers with extremely low idle output allow robust 64 split RFoG networks
- Precision laser control circuitry greatly reduces data corruption, and minimizes ingress noise.
- Fully compatible with GPON and EPON and HFC networks
- Powered via standard 12VDC either using a 12V AC adapter, or through the COAX drop cable.

Applications

- Standard RFoG FTTH network with up to 64 splits
- Overlay GPON or EPON networks
- Supports DOCSIS data applicationsas well as HDTV and interactive TV services
- MDU applications for high split, fiber distribution applications

Ordering Information

(FTTH/RFoG Nano-Node with return path)

The Titan NanoNodes can be ordered with options as follows. (Enclosure solutions ordered separately)

TNN-rp-rw-ps

rp = Return path optical power **S =** Standard (+3dBm) **H =**High (+6dBm)

rw = Return path wavelength **3 =** 1310nm, **6 =** 1610**nm**

ps = Power supply **none, AC =** AC Adapter, **CO =** drop coax power injector

969 Horsham Road • Horsham, Pennsylvania 19044 USA • Phone: 215-675-2053 Fax: 215-675-7543 • info@tonercable.com

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Specifications

General

Dimensions W x H x D	3.3” x 1.1” x 4.5”
Weight	Approx 6 oz.
Optical connector	SC/APC
RF connector/power in	75 Ohm female “F” connector
Power in connector	5 mm male bayonet connector
LED Indicators	DC pwr, Low Optical pwr, Return Tx active
Band Plan	42/52Mhz split

Receiver (forward path) Performance

Optical wavelength	1550nm to 1560nm
Optical input power	-6dBm to +1dBm
RF Frequency	52 to 1002MHz
RF output power	+17 dBm (+/- 1dBm)
Gain tilt	+4 dB (+/- 1dB) from 54 to 1002MHz
CNR @-6dBm input	48
CSO @ 0dBm input	-60
CTB @ 0dBm input	-60

Transmitter (return path) Performance

Wavelength	“3” 1310 option	1260 to 1360nm (1310nm typical @25C)
	“6” 1610 option	1595 to 1630nm (1610nm typical @25C)
Laser output power	“S” Standard pwr	3dBm(+/- 1dB
	“H” High pwr	6dBm (+/-1dB)
Laser idle output power		<-48dBm
RF frequency		4 to 42MHz
RF input power range		+20 to +45dBmV
RF input threshold		+5 to +15dBmV (+10dBmV typical)
NPR Dynamic range		>9

Electrical Requirements

DC power	11.5 to 16VDC on Coax or dedicated power lead
Power consumption	3.5 Watt typical @12VDC
AC power adapter	Universal AC Adapter 12VDC out

Environmental

Operating temp range	-20 to +60 ^{O}C
Storage temp range	-40 to +85 ^{O}C
Humidity	5 to 95% (non-condensing)

Specifications Subject To Change Without Notice

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