

TIN Series Optical Node (Receive Only)

Model	Bandwidth
TIN – 40 -1000	54-1000 MHz (RF Out)



FEATURES

Receive only indoor optical node for CATV applications.

Full forward bandwidth up to 1GHz,

High RF output range; 40dBmV stable within wide optical input range (-6 to 2dBm) with AGC feature,

0 or 8 dB selectable via jumper midstage equalizer,

GaAs E-pHEMT push-pull technology for high and stable output level with very low power consumption,

Optical input test point,

Three colored LED indicator for optical input level,

External powering (11-35Vdc) or remote powering over coax line via power inserter,

Surge protection (6kV) at RF output,

SCTE compliant F type connectors,

Diecast aluminum housing for excellent heat dissipation and RFI shielding.

**REMEMBER TO REPLACE COVER AFTER ADJUSTING.
COVER MUST BE IN PLACE FOR CE, SAFETY AND PROTECTION.**

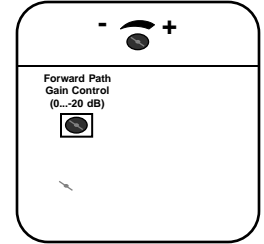
NO SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

**WARNING: TO PREVENT SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.
THIS APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING WATER AND NO OBJECTS FILLED WITH LIQUIDS,
SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.**

NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV System Installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Connect only to power adapter supplied with the amplifier.



**Layout Scheme for
Control Adjustments under the cover**

SPECIFICATIONS

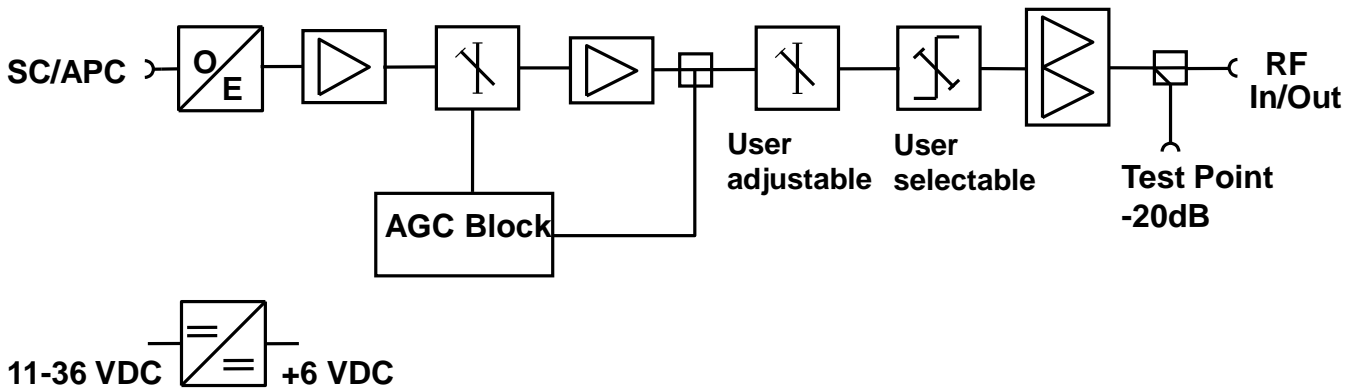
Typical, for T = 20 °C

Parameter	Notes	TIN-40	Units
Optical Performance			
Wavelength		1200 - 1600	nm
Operational AGC		Available	
Input Optical Power Range		AGC is operational within -6 to +2	dBm
Optical Input Test Point	External, with calibrated power meter	1	V/mW
Optical Input LED		3 colour	
RF Performance			
Bandwidth		54-1000	MHz
Gain Flatness		± 1	dB
Gain Control	Variable attenuator	0 to 18	dB
Equalizer	on board jumpers	0 or 8dB selectable	dB
Output Return Loss		≤ -14	dB
Test Point		-20	dB
Link Performance (0dBm optical input power, CENELEC42 channel, OMI=%3,8)			
Output Level		min. 40dBmV (stable from -6 to 2dBm optical level due to AGC)	dBmV
CNR		52	dBc
CSO		≥ 62	dBc
CTB		≥ 62	dBc
Electrical & Physical Performance			
Surge Withstand		IEEE62.41 Cat.A3(6kV,200A)	
Powering		11-36 VDC external via F type connector	VDC
Powering over coax		11-36 VDC external powering available	
Power Consumption		4,5	W
Operating Temperature		0 to 55	°C
Optical connector		SC/APC	
Enclosure		Aluminum diecast housing (IP54)	
Weight		650 / 1.43	gr / lbs
Dimensions		5,5" * 5,5" * 1,7" / 125 * 105 * 50	inch / mm

INSTALLATION PRECAUTIONS TABLE

PRECAUTIONS	REQUIREMENT
Ensure easy access to rack wiring	Allow a minimum of 20 in. (50 cm) clearance behind the equipment rack(s).
Facilitate service and maintenance	Allow a minimum of 35 in. (90 cm) clearance in front of the equipment rack(s).
Avoid direct heating or air conditioning	If unavoidable, use deflector plates.
AC Power source outlets	Locate equipment near sufficient outlets to provide power for test equipment and power tools.
Rack support	Make certain rack supports are sufficiently rigid to support rack(s).
Building leakage	Beware of dripping water onto equipment from leaky roofs, waveguide roof entries, and cold water pipe condensations.

BLOCK DIAGRAM



External Power Input
11-36VDC, 4.5W

Optical Input
SC/APC

Test P.
(-20dB)

RF Output
(54-1000MHz)
DC IN

Midstage equalizer
Under the lid
0dB or 8dB selectable

Optical input (dBm)	Optical input (mW)	Optical Monitor Out (V)
2	1,58	1,62
1	1,26	1,29
0	1	1
-1	0,79	0,81
-2	0,63	0,65
-3	0,5	0,52
-4	0,4	0,41
-5	0,32	0,32
-6	0,25	0,25

Optical Input Monitor Out
1V/mW

3 Colored LED indicator for Optical Input

RED >2dBm
GREEN -6....2dBm
YELLOW <-6dBm