

Applications

- High performance supertrunking links
- High power distribution networks
- Redundant ring architectures
- FTTx networks

Features

- Full Functionality 1 RU EDFA
- Low Noise Figure (Typ < 5dB)
- Total Input Power Range:
-10 dBm to +12 dBm
- +14 dBm to +27 dBm Output Power
- Optional Internal Optical Power Splitters
- Standard RS-232 Communication (RS-485 or I²C is optional)
- Key lock switch
- Standard and Optional Gain Flatness (1530nm - 1562nm)
- VFD Panel Status Indicator
- Low Electrical Power Consumption
- Input / Output Isolation > 40/40 dB
- Polarization Dependant Gain < 0.1 dB
- Polarization Mode Dispersion < 0.5 ps

PONA 2100 Series Erbium Doped Fiber Amplifier



The Ortel PONA 2100 Series Erbium Doped Fiber Amplifier (EDFA) is an ideal building block for OEM system integrators. The family of PONA 2100 series EDFAs is designed to meet the most demanding noise performance requirements of CATV applications, and performs all the functions required of an optical amplifier for system integration. PONA 2100 series EDFAs provide optical isolation on the input and output of the gain block for stable, low noise operation. The input and output optical signal power levels are detected for monitoring and control. The input optical signal is amplified with active gain control for a constant output power level, or with active output power control for constant gain mode. The PONA 2100 series EDFAs also provide monitors and associated alarms for all vital characteristics. The optical output of the PONA 2100 series EDFAs can be split into multiple ports by an optional external splitter.

Optical / Electrical Characteristics

PROPERTY	UNIT	LIMIT	PONA MODELS						COMMENTS	
Product Code			2114	2117	2120	2122	2124	2126	2127	
PERFORMANCE										(note 1)
Operating Input Power	Pin (dBm)	Max	12	12	12	12	12	12	12	
Operating Input Power	Pin (dBm)	Min	-10	-10	-10	-10	-10	-10	-10	
Output Power	Po(dBm)		14 +/- .25	17 +/- .25	20 +/- .25	22 +/- .25	24 +/- .25	26 +/- .25	27 +/- .25	Nominal
Noise Figure (Note 2)	NF (dB)	Typ/Max	4.5/5.0	4.5/5.0	4.5/5.0	4.5/5.0	5.0/5.5	5.0/5.5	5.0/5.5	-00 and -01 versions
	NF (dB)	Typ/Max	4.0/4.5	4.0/4.5	4.0/4.5	4.0/4.5	4.5/5.0	4.5/5.0	4.5/5.0	-02 version
	NF (dB)	Typ/Max	4.0/4.5	4.0/4.5	4.0/4.5	4.0/4.5	4.5/5.0	N/A	N/A	-03 version
Static Gain Flatness	GF (dB)	Max	+/-0.5	+/-0.5	+/-0.5	+/-0.5	+/-0.5	+/-0.5	+/-0.5	(Note 3)
Dynamic Gain Flatness (Note 4)	(dB)	Max	+/-1.0	+/-1.25	+/-1.5	+/-2.0	+/-2.0	+/-2.0	+/-2.0	-00 and -02 versions
	(dB)	Max	+/-0.5	+/-0.5	+/-1.0	+/-1.0	+/-1.0	N/A	N/A	-01 version
	(dB)	Max	+/-0.5	+/-0.5	+/-1.0	+/-1.0	+/-1.0	N/A	N/A	-03 version
Output Power Stability	(dB)	Max	+/- 0.1	+/- 0.1	+/- 0.1	+/- 0.1	+/- 0.1	+/- 0.1	+/- 0.1	(Note 5)
Power Consumption (steady state regime)	Psys(W)	Max	5	7	9	12	20	27	32	50°C Case

Notes:

1. Unless stated otherwise all specifications apply over the full temperature range and humidity
2. Measured with 8 evenly spread signals @ 25°C, Σ Pin = 0 dBm.
3. Measured with a swept Probe Signal (Pp), where Pp = 0 dBm @ 25°C
4. Measured with a swept Probe Signal (Pp), and a fixed Tone Signal (Pt) @ 1545 nm; (Pt = Pp+20 dB; Pt + Pp = 0 dBm) @ 25°C; Gain Flattened Option with ΔG = +/-0.5dB is available for some Models
5. Stability over polarization and temperature

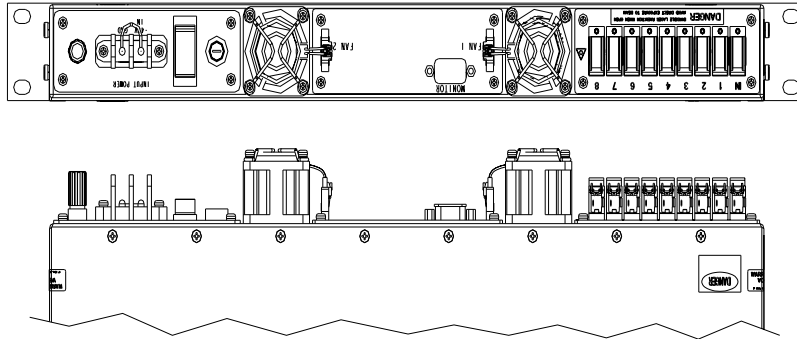
General and Mechanical Specifications

PROPERTY	REQUIREMENT	COMMENTS
GENERAL		
Operating Wavelength	1530 ~ 1562nm	Standard
Operating Case Temperature	0°C to 50°C	
Storage Temperature	-40°C to 85°C	
Operating Humidity	20% to 85%	Non-condensing
Voltage Supply Range	85 VAC to 265 VAC 50/60 Hz	Standard
	-36 to -60 V DC	Optional
Optical Connectors	SC/APC; SC/UPC; FC/APC; FC/UPC; E2000/APC	User Specified
Dimensions In Inches	19.0"W x 14.76"D x 1.72"H	19" Rack Mounted, 1U

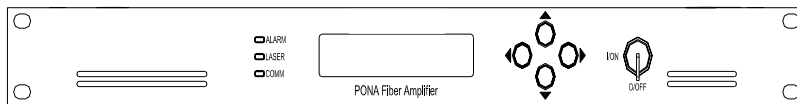
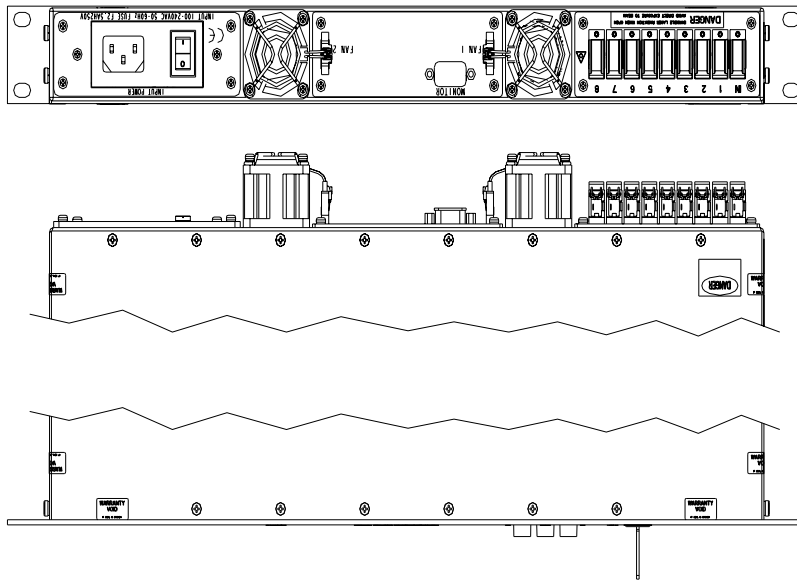
Outline Drawing

AC and DC versions shown below with 8-port option

DC Version



AC Version



Compliance Information

89/336/EEC Electromagnetic Compatibility Directive, amended by 92/31/EEC & 93/68/EEC

73/23/EEC Low Voltage Directive, amended by 93/68/EEC

EN 50083-2, (2001) Cable networks for TV signals, sounds and interactive services, Part 2 Electromagnetic Compatibility for equipment.

EN 55013	Mains Conducted Emissions
EN 61000-3-2	Mains Frequency and its Harmonics, Conducted Emissions
EN 55020	Radiation from Active Equipment, Radiated Immunity
EN 61000-4-6	Immunity of Active Equipment, Radiated Immunity
EN 61000-4-3	Immunity of Active Equipment, Radiated Immunity
EN 61000-4-2	Electrostatic Discharge Immunity
EN 61000-4-4	Electrical Fast Transient / Burst Immunity

EN 60950 Low Voltage Directives

EN 60825-1	Laser Safety Requirement
EN 60825-2	Laser Safety Requirement
CDRH	Laser Safety Requirement

Ordering Information



<i>Optical Output Power</i>	<i>Output Ports</i>	<i>Input Voltage</i>	<i>Connector</i>	<i>GFF/ NF options</i>
14 - 14 dBm	1	AC – 90-260V 50/60 Hz	SC - SC/APC	00 - Standard
17 - 17 dBm	2	DC – - 48 V	FC - FC/APC	01 - Standard with Gain Flattened option
20 - 20 dBm	4		EC - E2000/APC	02 - Standard with Low NF option
22 - 22 dBm	8		TC - SC/UPC	03 - Low NF and Gain Flattened
24 - 24 dBm			GC - FC/UPC	
26 - 26 dBm				
27 - 27 dBm				

Note: The maximum number of output ports when using E2000 connectors is four. All other optical connectors allow for the eight ports option

Example:

PONA2120-2-AC-SC-00:

Standard 20 dBm EDFA with AC Power Supply, two (2) optical outputs, and SC/APC optical connectors

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