

# PONA 2114 PA Series EDFA

Erbium Doped Fiber pre-Amplifier



DATASHEET | DECEMBER 2013

FIBER OPTICS



## Applications

- High-Performance Supertrunking Links
- Optical Distribution Networks
- Redundant Ring Architectures
- FTTx Networks.

## Features

- Full Functionality 1 RU EDFA (pre-Amp)
- Low Noise Figure (Typ < 3.3 dB)
- Total Input Power Range: -45 dBm to 0 dBm
- +14 dBm Saturated Output Power (min)
- Small Signal Gain 37 dB (min)
- Standard RS-232 Communications (RS-485 or I<sup>2</sup>C is Optional)
- Key Lock Switch
- VFD Panel Status Indicator
- Low Electrical Power Consumption
- Output Isolation >40 dB
- Polarization Dependant Gain < 0.1 dB
- Polarization Mode Dispersion < 0.5 ps

The EMCORE PONA 2114 PA Series Erbium Doped Fiber pre-Amplifier (EDFA) is an ideal building block for OEM system integrators. The family of PONA 2114 PA series preamps is designed to meet the most demanding noise performance requirements of any fiber link application, and perform all the functions required of an optical pre-Amplifier for system integration. The PONA 2114 PA series provides optical isolation on the output of the gain block for stable, low noise operation. The output optical signal power levels are detected for monitoring and control. The PONA 2114 PA series also provides monitors and associated alarms for all vital characteristics. The relay outputs of the PONA 2114 PA series provide electrical monitoring of alarm conditioning of the unit.

## General and Mechanical Specifications

Property	Requirement	Comments
Operating Wavelength	1530 – 1562 nm	Standard
Operating Case Temperature	0°C to 50°C	
Storage Temperature	-40°C to 85°C	Standard
Operating Humidity	20% to 85%	Non-condensing
Voltage Supply Range	85 VAC to 265 VAC 50/60 Hz -36 to -60 V DC	Standard 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

## Optical/Electrical Characteristics<sup>1</sup>

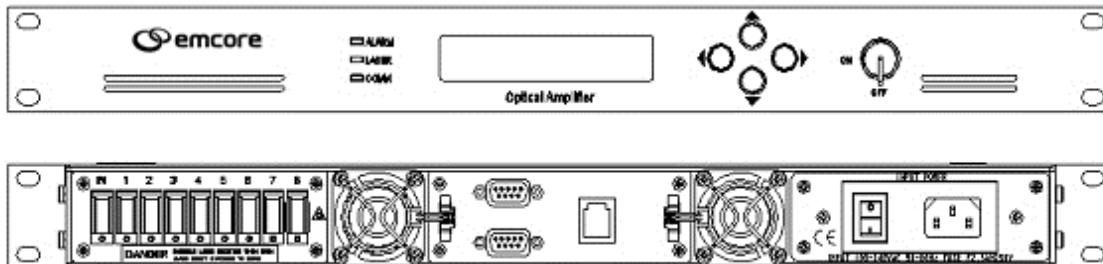
Property	Symbol (Units)	Limit	Specifications	Comments
Operating Input Power	Pin (dBm)	Max	0	
Operating Input Power	Pin (dBm)	Min	-45	
Saturated Output Power	Po (dBm)		14	Minimum (Note 2)
Operating Wavelength Range	nm	Min/Max	1530 – 1562	Nominal
Noise Figure	NF (dB)	Max	3.3	(note 3)
Power Consumption	Psys (W)	Max	6	+50°C case

Notes:

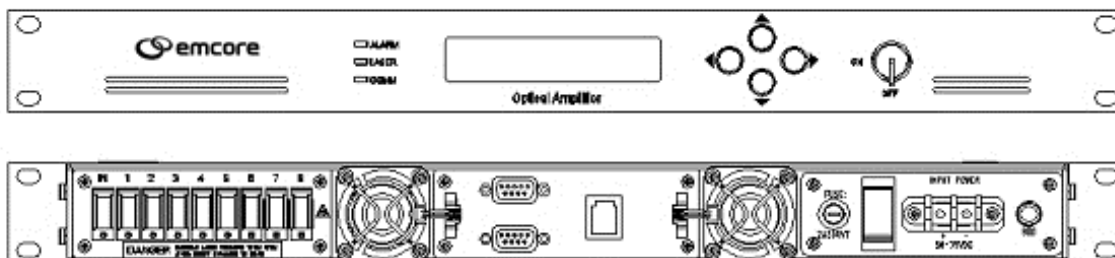
1. Unless stated otherwise, all specifications apply over the full operating temperature and humidity ranges.
2. Measured @ 1550 nm, Pin -4 dBm and @ 25°C.
3. Measured @ 1550 nm, Pin -30 dBm and @ 25°C.

## Outline Drawing

AC versions shown below with 8-port option



DC versions shown below with 8-port option



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## 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
Fit Rate:	90% level of confidence < 1700 @ 30°C (PONA 2130)

## Ordering Information

PONA 2114 - 1 -   -   - PA

Input Voltage	Connector Type
AC – 90-260V 50/60 Hz	SC – SC/APC
DC – 48 V	FC - FC/APC
	EC – E2000/APC
	TC – SC/UPC
	GC – FC/UPC

## Laser Safety Information

This product meets the applicable requirements of 21 CFR 1010 & 1040 and is classified as a Class IV laser product based on the maximum optical output power shown below. During use as intended, the laser energy is fully contained within the fiber network such that there is no accessible laser radiation and would meet the requirements for a Class I laser product. The laser product report has been submitted to the CDRH and the accession number is expected by October 2006.

Wavelength = 1530 ~ 1562 nm (dependant on input source)

Maximum Output Power = 30 mW (single output)

