



## Applications

- CATV Supertrunking
- High Power Distribution Networks
- Redundant Ring Architectures
- FTTx Networks

## Features

- High Saturation Output Power up to 27dbm
- Dual Power Supplies, Redundant & Hot Swappable – AC or DC
- Front Panel Optical Input & Output Monitor Ports
- SNMPv2 Control Interface
- Low Noise Figure for CATV
- Wide Input Dynamic Range
- Very Stable Output Power Over a Wide Operating Temperature Range
- Optional Automatic Gain Control or Constant Output Power Operation
- Optional Gain Flatness Specifications

## NMOA8100 Series EDFA

This product line is a family of state-of-the-art high performance CATV Erbium Doped Fiber Amplifiers (EDFA). Packaged in convenient 1RU housing, this line of fiber amplifiers uses the latest DSP technology at the core of electrical control circuitry resulting in superior output power stability & exceptionally low noise figures demanded by CATV applications.

The NMOA8100 provides very stable optical outputs over a wide operating temperature range. Internally it is supported with input and output isolators for enhanced system stability and performance. Optical power is continuously monitored at the input and output for automatic power control during operation over a wide operating temperature range.

The NMOA8100 offers a rich set of features. These include remote management capability through SNMPv2 and telnet. The NMOA8100 also supports MIBs specified by SCTE (Society of Cable Television Engineers) for this product class. Additionally, the front panel's LCD and button provides the operator with the option to both monitor the status of the amplifier and control/operate the amplifier locally.

## High Level Features

- Automatic Power Control and/or Automatic Gain Control Modes
- Port Count, Optical Power, and Connector Style Options
- Gain Flattened Options for WDM Applications

## Monitors & Alarms

- Loss of Input Signal
- Loss of Output Power
- Pump Laser Diode Bias Current
- Pump LD Temperature
- Case Temperature
- Redundant Power Supplies
- Redundant Fans

## Electrical Characteristics

Property	Symbol	Min	Typ	Max	Unit
AC Power Supply Voltage	V <sub>AC</sub>	85		265	V <sub>AC</sub>
DC Power Supply Voltage	V <sub>DC</sub>	-36	-48	-72	V <sub>DC</sub>
Power Consumption <sup>Note 1</sup>	P <sub>TOT</sub>			10	W

Note 1: 10W valid at 0 dBm input and 14 dBm output power within specified operating temperature range.

## Optical Characteristics

Property	Symbol	Min	Typ	Max	Unit
Wavelength Range	V <sub>AC</sub>	1528	1550	1562	nm
Input Power	P <sub>IN</sub>	-10	0	12	dBm
Total Output Power Options <sup>Note 1</sup>	P <sub>OUT</sub>	14		27	dBm
Output Power Delta to Nominal	P <sub>OUTΔ</sub>	-0.5		0.5	dB
Output Port Count Options (SC) <sup>Notes 1,2</sup>	-	1		10	
Noise Figure <sup>Note 3</sup>	NF			5.0	dB
Optical Isolation	ISO	30			dB
Input Power Alarm	LOS	-12	-11	-10	dBm
Input Monitor Loss	I <sub>MON</sub>	22.5	23.5	24.5	dB
Output Monitor Loss	O <sub>MON</sub>	19	20	21	dB

Note 1: Total Output Power and Number of Ports varies by model type.

Note 2: Model Types are specified by Output Power per Port.

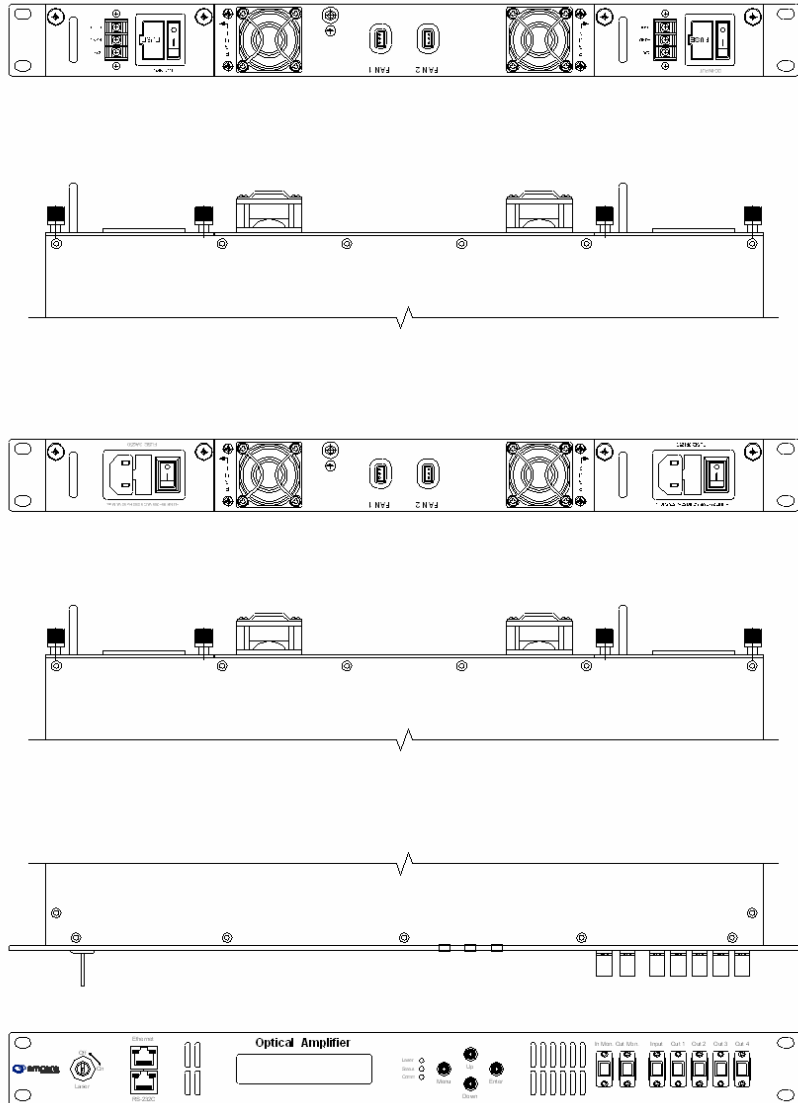
Note 3: Test Condition with Input Power = 0 dBm (@ 1550nm)

Note 4: Specifications valid within operating temperature range.

## Absolute Maximum Ratings

Property	Symbol	Min	Typ	Max	Unit
Operating Temperature Range	TO	0		50	°C
Storage temperature Range	TS	-40		85	°C
Relative Humidity	H	0		95	%

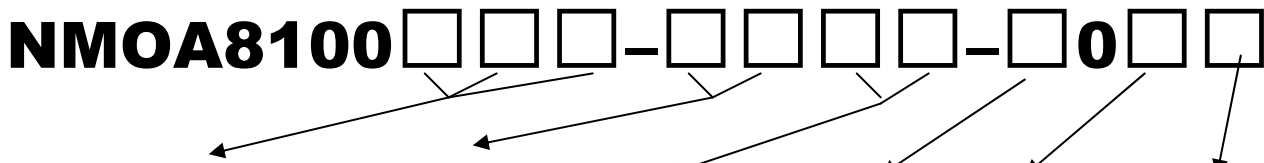
## Outline Drawing



## European Union “RoHS Directive” Compliance

Except for the exemption claimed herein for lead used in solder for network infrastructure equipment, all homogenous materials contained in the product contain less than the maximum concentration levels for lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and polybrominated biphenyl ethers permitted under the European Union Directive 2002/95/EC (the "RoHS Directive").

## Model Number Information (note 1)



Custom Option	Output Power per Port	Number of Output Ports	Optics	Output Location	Power Supply
<b>BLANK</b> – Constant Output Power Amplifier <b>GFF</b> – Gain Flattened Filter <b>CGA</b> – Constant Gain Amplifier	<b>xx</b> – xx dBm/port (Maximum: xx = 21 dBm for 1 port)	<b>01</b> – 1 port <b>02</b> – 2 ports <b>04</b> – 4 ports <b>08</b> – 8 ports	<b>1</b> – SC/APC <b>2</b> – FC/APC <b>4</b> – SC/UPC <b>5</b> – FC/UPC	<b>0</b> – Front <b>1</b> – Rear	<b>1</b> – AC primary <b>2</b> – DC primary <b>3</b> – AC primary, AC secondary <b>4</b> – AC primary, DC secondary <b>5</b> – DC primary, DC secondary

Note 1: Not all configurations are available; please contact your EMCORE Sales Representative.

e.g. NMOA8100-1401-1005 (14 dBm per port, 1 port, SC/APC, Front Fiber, Dual DC)  
 e.g. NMOA8100-1708-1003 (17 dBm per port, 8 ports, SC/APC, Front Fiber, Dual AC)

## Laser Safety Information

FDA/CDRH Class 1M and IEC® 60825 Class 1M laser product.  
 All versions are Class 1M laser products per IEC 60825-1:2007 EN 60825-1:2007  
 Maximum Output: 30 mW, Wavelength: 1550 nm

Caution: Use of controls, adjustment and procedures other than those specified herein may result in hazardous laser radiation exposure.

