NMOA8200 Series CATV Fiber Amplifier

DATASHEET | OCTOBER 2013 FIBER OPTICS

Applications

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

Features

- High Saturation Output Power up to 36 dBM
- 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

NMOA8200 Series EDFA and EYDFA

This product line is a family of state-of-the-art high performance CATV Erbium Doped Fiber Amplifiers (EDFA) or Erbium/Ytterbium Doped Fiber Amplifiers (EYDFA). Packaged in convenient 2RU 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 NMOA8200 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 NMOA8200 offers a rich set of features. These include remote management capability through SNMPv2 and Telnet. The NMOA8200 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.

Optional Features

- Automatic Power Control and/or Automatic Gain Control Modes
- Port Count, Optical Power, and Connector Style Options
- Integrated per Channel WDM for FTTx PON 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

P 626-293-3400 E catv-sales@emcore.com W www.emcore.com

Electrical Characteristics

Property	Symbol	Min	Typ	Max	Unit
AC Power Supply Voltage	V_{AC}	85		265	V_{AC}
DC Power Supply Voltage	V_{DC}	-36	-48	-72	V_{DC}
Power Consumption	P_{TOT}			80	W

Note 1: 80 W valid at 0 dBm input and 36 dBm output powers within specified operating temperature range.

General and Mechanical Specifications

Property	Symbol	Min	Typ	Max	Unit
Wavelength Range	λ_{OP}	1545	1550	1562	nm
Input Power	P_{IN}	-10	0	12	dBm
Total Output Power Options Note 1	P_{OUT}	30		36	dBm
Output Power Delta to Nominal Note 2	$P_{OUT\Delta}$	-0.5		0.5	dB
Output Port Count Options (SC) Notes 1, 3	-	1		64	
Noise Figure Note 4	NF			6.0	dB
Optical Isolation	ISO	30			dB
Input Power Alarm	LOS	-12	-11	-10	dBm
Input Monitor Loss	I_{MON}	22.5	23.5	24.5	dB
Output Monitor Loss	O_{MON}	19	20	21	dB

Note 1: Total output power and number of ports varies by model type.
Note 2: Valid for 1-20 ports. 32 ports and 64 ports have larger deltas.
Note 3: Model types are specified by output power per port
Note 4: Test Condition with Input Power = 0 dBm (@ 1550nm)
Note 5: Specifications are 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	%

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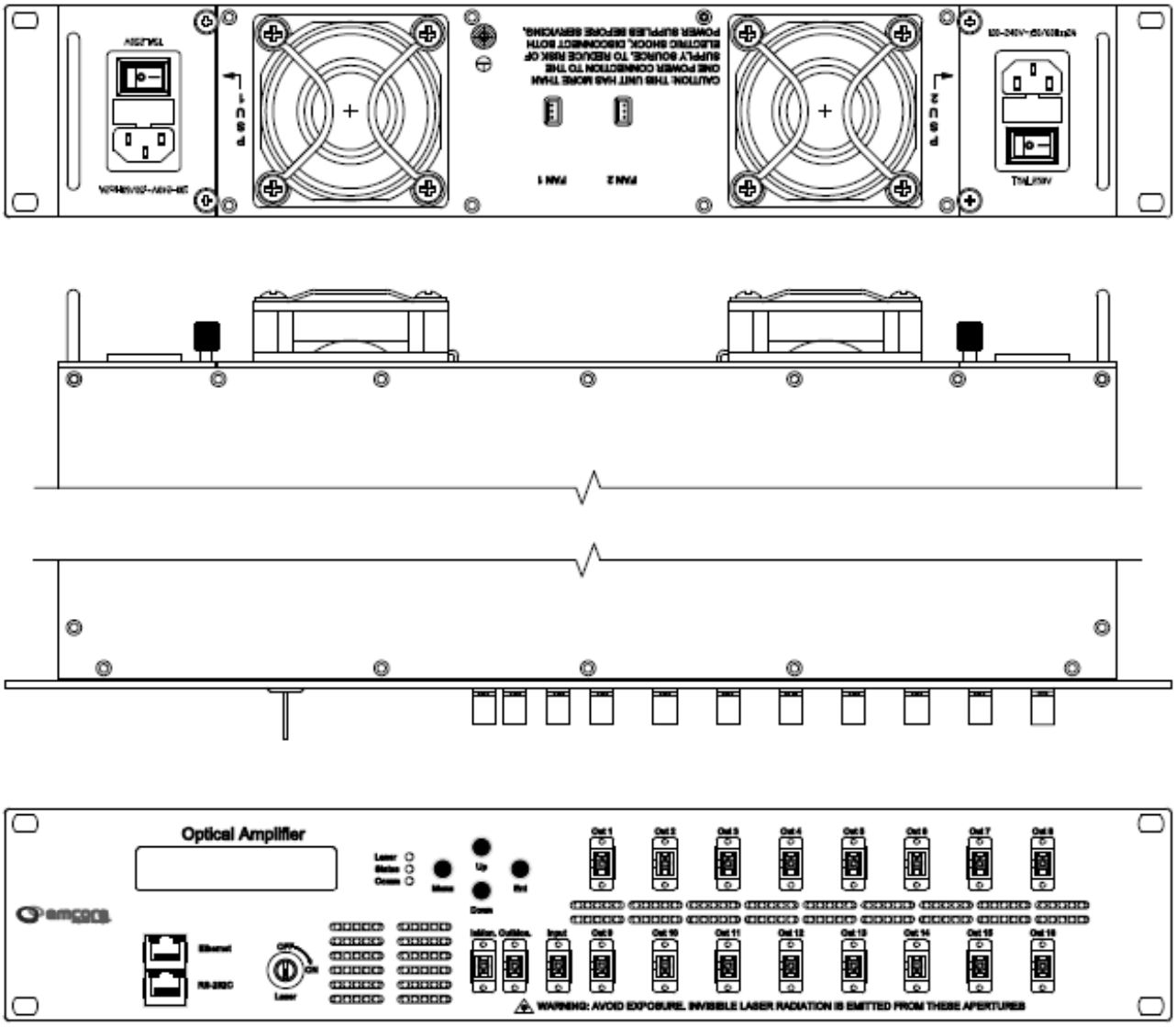
Outline Drawing



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)

NMOA8200□□□-□□□□-□0□□

Integrated WDM	Output Power per Port	Number of Output Ports	Optics	Output Location	Power Supply
BLANK – None **WDM** – 1310/1490/1550 WDM present	**xx** – xxdBm/port (Maximum: xx = **21**dBm for 1 port)	**01** – 1 port **02** – 2 ports **04** – 4 ports **08** – 8 ports **16** – 16 ports **20** – 20 ports **32** – 32 ports **64** – 64 ports	**1** – SC/APC **2** – FC/APC **4** – SC/UPC **5** – FC/UPC	**0** – Front **1** – Rear	**1** – AC primary, no secondary **2** – DC primary, no secondary **3** – AC primary, AC secondary **4** – AC primary, DC secondary **5** – DC primary, DC secondary

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

e.g. NMOA8200-2116-1003 (EYDFA, 21 dBm/port, 16 ports, SC/APC, front fiber, dual DC)
e.g. NMOA8200WDM-2016-1005 (EYDFA with integrated WDM, 20 dBm/port, 16 ports, SC/APC, front fiber, dual DC)

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.