

Medallion 7100 Series CATV Fiber Amplifier

Erbium Doped Fiber Amplifier (EDFA)



DATASHEET | MARCH 2014

FIBER OPTICS



Applications

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

Features

- High Saturation Output Power up to 27 dBm (Pre-Splitter)
- Dual Power Supplies, Redundant & Hot Swappable – AC or DC
- Front Panel Optical Input & Output Monitor Ports
- SNMPv2 Control Interface
- Web Server
- IPv4 10/100bT
- 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

The Medallion 7100 series product line is a family of state-of-the-art high performance CATV Erbium Doped Fiber Amplifiers (EDFA). Packaged in convenient 1 RU housing, this line of fiber amplifiers has been design optimized for superior output power stability and the exceptionally low noise figures demanded by CATV applications.

The Medallion 7100 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 Medallion 7100 offers a full range of flexible configurations and a rich set of features. These include remote management capability through SNMPv2, Telnet and a resident Web Server. The Medallion 7100 also supports MIBs specified by SCTE (Society of Cable Television Engineers) for this product class. For local management, an RS-232 port is standard, along with a convenient front panel control menu provided on a Vacuum Fluorescent Display (VFD).

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

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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 ^{Note 1}	P_{TOT}			10	W

Note 1: 10 W 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_{AC}	1528	1550	1562	nm
Input Power	P_{IN}	-10	0	12	dBm
Total Output Power Options ^{Note 1}	P_{OUT}	14		27	dBm
Output Power Delta to Nominal	$P_{OUT\Delta}$	-0.5		0.5	dB
Output Port Count Options (SC) ^{Notes 1,2}	-	1		10	
Noise Figure ^{Note 3}	NF			5.0	dB
Optical Isolation	ISO	30			dB
Input Power Alarm	LOS	-12	-11	-10	dBm
Input Monitor Loss	I_{MON}	22	23	24	dB
Output Monitor Loss	O_{MON}	22	23	34	dB

Note 1: Pre-splitter total output power. Number of Ports vary by model type.

Note 2: Model Types are specified by output power per port. Output power per port is limited to 21 dBm

Note 3: Test condition with input power = 0 dBm (@ 1550 nm)

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	%

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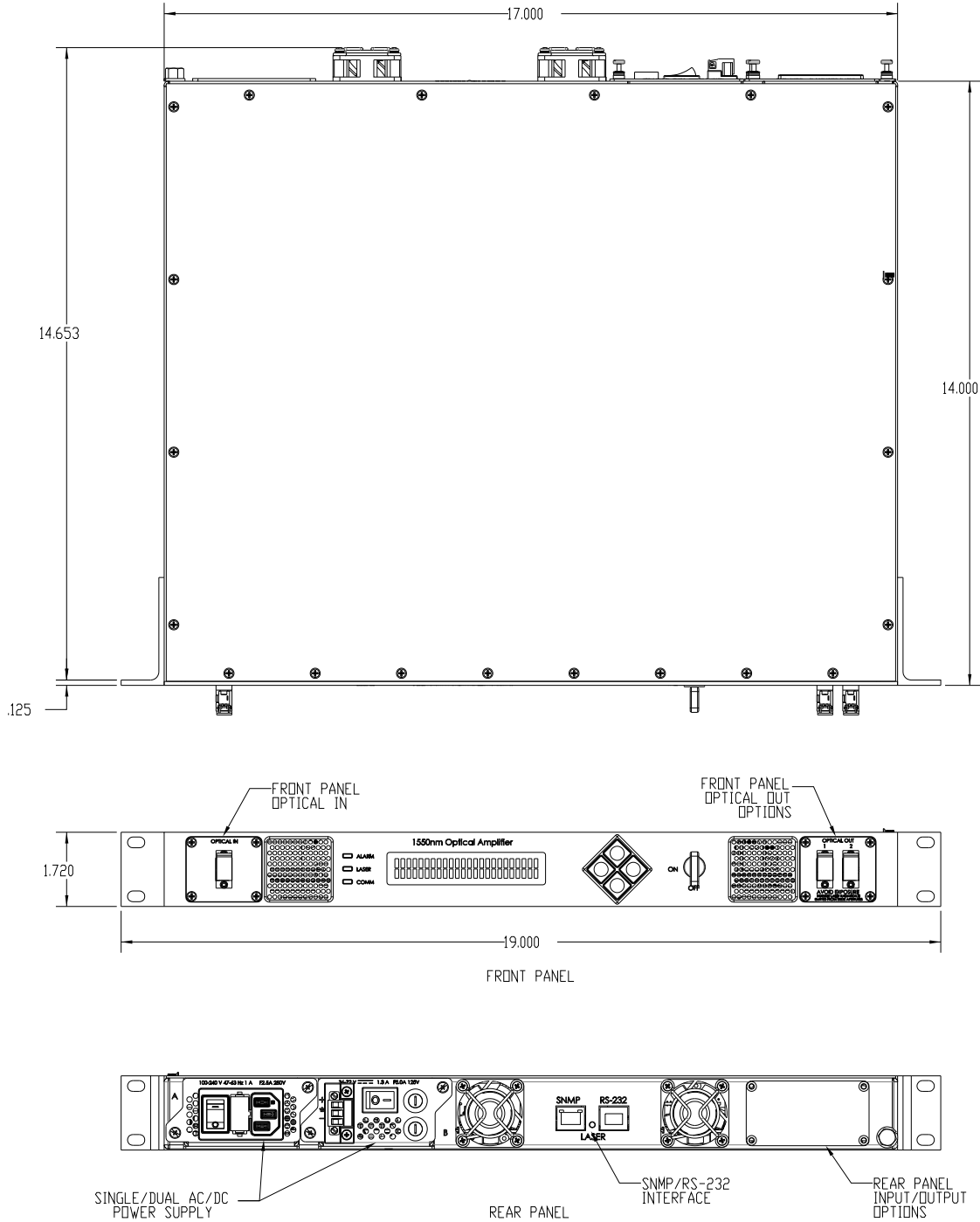
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Outline Drawing



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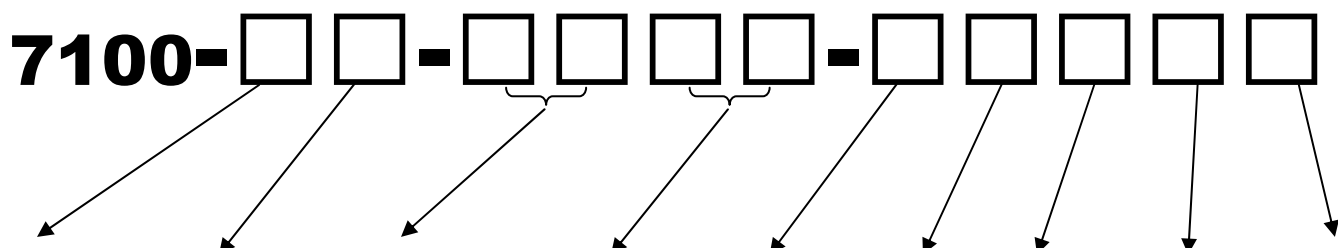
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European Union “RoHS Directive” Compliance

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



Logo & Customer Specific	Gain Flattened	Output Power per Port	Number of Ports	Optics	Optical Input	Optical Output	Optical Monitor	Power Supply
0= EMCORE Logo	0 = Gain Flattened	XX = xxdBm/port (Maximum: xx=21dBm)	01 = 1 port	1 = SC/APC	1 = Front	1= Front	1= Input Front, Output Front	1= AC primary, no secondary
1=No Logo	1 = Not Gain Flattened		02 = 2 ports	2 = FC/APC	2 = Rear	2= Rear	2= Input Rear, Output Rear	2=DC primary, no secondary
			04 = 4 ports	3 = E2000			3 = None	3=AC primary, AC secondary
			08 = 8 ports	4 = SC/APC Angled				4=AC primary, DC secondary
			10 = 10 ports	5= FC/APC Angled				5=DC primary, DC secondary
				6= E2000 Angled				

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

e.g. 7100-1401-11135 (14 dBm per port, 1 port, SC/APC, Front Fiber, Dual DC)

e.g. 7100-1708-11133 (17 dBm per port, 8 ports, SC/APC, Front Fiber, Dual AC)

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Laser Safety Information

Class 1M Laser Products IEC 60825-1:2007 EN 60825-1:2007

Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50 dated June 24, 2007

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

