

C-Band PM Pre-amp EDFA

User Manual

P/N: EDFA-2Cx121xxxxx

Version: 2025-1



1 Introduction

This EYDFA is an optical gain module offering compact design, cost-reduced amplification of optical signal for a variety of applications. An electronic control circuit is integrated inside the module. The default operating mode is automatic Power Control.

2 Features

- Compact package
- High reliability
- High output optical power with low noise figure
- Low power consumption.

3 Typical Applications

- Metro and Access networks
- Single-channel optical communication network
- CATV system
- Optical fiber sensing

4 Specifications

Parameter	Min.	Typ.	Max.	Unit
Operating Wavelength	1535 - 1565			nm
Input Power	-30		-10	dBm
Max Output Power		20		dBm
Noise Figure (Pin=0dBm, 1550nm)			6	dBm
Input/Output Return Loss	40			dB
PDG			0.3	dB
PMD		0.5		ps
Fiber (input/output)	PM1550			
Supply Voltage	DC 12			V
Operating Temperature	-30		70	°C
Storage Temperature	-40		85	°C
Relative Humidity (non-condensation)	5		95	%

5 Electronic Connector Pin Assignment

Power supply (The pin interval is 5mm)

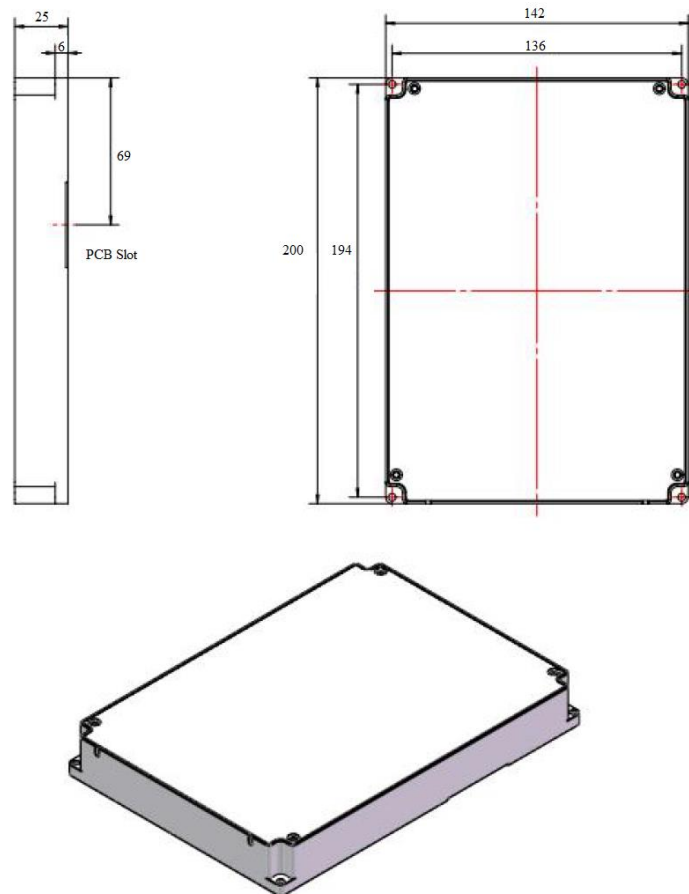
Pin	Description
1	GND
2	+12V

Communication (The pin interval is 2.54mm)

Pin	Description
1	+3.3V
2	GND
3	RX
4	SCLK
5	MOSI
6	MISO
7	TX
8	SS

* Pin 4-6 and 8 are for SPI interface, no connection is needed when use RX and TX for RS232/USB communication.

6 Dimensions



7 Application Notes

- Avoid electrostatic discharge (ESD), which will cause damage of PCBs.
- Both input and output fibers are PM1550.
- Make sure tight contact between EDFA and adaptor PCB (for communication and power ports).
- Avoid short-circuit between pins of the adaptor PCB or to ground.
- Make sure 12V DC power supply is free of spike.
- RS232-to-USB converting needs to be done by user. FTDI chip is recommended.
 - * Benchtop is available at <https://agiltron.com/>.
- Install FTDI driver on host computer.
- Upon accomplishment of the above steps EDFA can be remotely controlled by UART commands or the 'EDFA GUI' program (EDFA-PM option) provided.
- Heatsink needs to be installed for this EDFA, as shown below.

