

High Power Erbium-ytterbium Co-doped Optical Amplifier

P/N: RZ-M-EYDFA- C-3W-SMF28e-FA-1m

1. Document version

Date	Version	Author	Notes
2024.9.10	Rev 1.0	XJ	First edition

Customer mode: RZ-M-EYDFA-C-3W-SMF28e-FA-1m

Internal mode: RZ-M-EYDFA-C-3W-SMF28e-FA-1m

Use stage: None

2. Special process requirements

None

3. Abbreviation

Abbreviation	Description
EDFA	Erbium-doped fiber amplifier
ACC	Automatic current control
APC	Automatic power control

4. Working environment indicators

NO.	Parameter	Min	Typical	Max	Unit	Comment
1.	Operating temperature	-5	-	55	°C	Need to add heat dissipation
2.	Storage temperature	-40	-	85	°C	-
3.	Operating relative humidity	5	-	85	%	No condensation
4.	Storage relative humidity	5	-	95	%	-

5. Optical indicators

Parameter	Min	Typ	Max	Unit	Comment
Center wavelength	1540	1550	1565	nm	
Input optical power range	-10	0	10	dBm	
Output optical power range	17	34.7	37	dBm	@Output up to 5W
Noise figure	-	5	5.5	dB	@Output=34.7dBm
Output fiber type	SMF28E or equivalent fiber, ϕ 3 or ϕ 2 yellow fiber optic cable				
Output fiber length	45	50	55	cm	
Output fiber optic connector type	FC/APC			-	
Working mode	APC (default) /ACC				
Return Loss	45	-	-	dB	
Output power stability			\pm 0.1	dB	

Power reporting accuracy			±0.5	dB	
Input and output isolation	-	-		dB	
Polarization-dependent gain			0.3	dB	
Polarization mode dispersion	-	-	0.5	ps	
Input optical power alarm threshold	-13			dBm	When the input optical power is $\leq -13\text{dBm}$, the alarm is issued and the pump laser is turned off
Output optical power alarm threshold	16			dBm	This alarm is generated when the output optical power is less than 16dBm
980 Pump laser alarm threshold (built-in TEC)	20~30			°C	When the pump laser temperature exceeds the range of 20~30°C, an alarm is issued and the pump laser is turned off
940 Pump laser alarm threshold (without TEC)	-15~85			°C	When the pump laser temperature exceeds the range of -15~85°C, an alarm is issued and the pump laser is turned off
Module temperature alarm threshold	-15~65			°C	When the pump laser temperature exceeds the range of -15~65°C, an alarm is issued and the pump laser is turned off
Optical port	-	-	-	-	2 (1 input + 1 output)
The APC output power can be ranged	17	-	37	dBm	Set the accuracy to 0.1dB
ACC current control accuracy	-	-	5	%	

6. Optical path structure:

None

7.1 Electrical indicators:

NO.	Parameter	Min	Typical	Max	Unit
1	Supply voltage	12	12	14	V
2	Supply current	-	-	6	A
3	Power consumption	-	60	-	W

7.2 Hardware and communication interfaces:

NO.	Item	Material Specification	Length	Comment
1	RS232	JX-DE09SFH	50±5cm	DB9 solid pin female (rear rivet nut, with hexagonal screw)
2	+12V	Φ3.0mm RV1.5 single square core multi-strand soft copper wire Red	20±5cm	Banana plug not included
3	GND	Φ3.0mm RV1.5 single square core multi-strand soft copper wire Black	20±5cm	Banana plug not included

7.3 Pin Definition:

None

8 Software Indicators

8.1 Software Commands

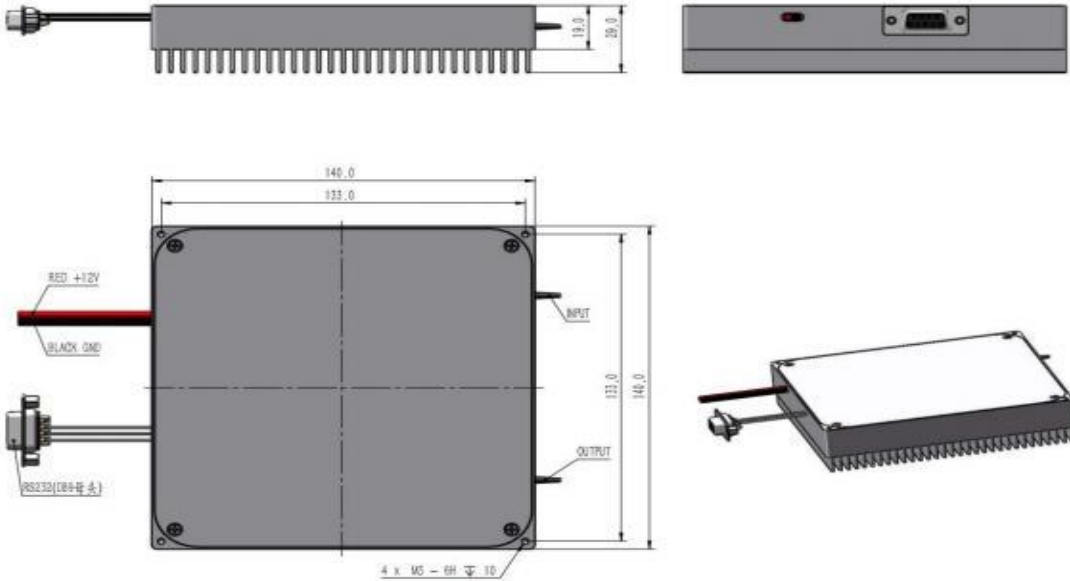
Provide host computer software, detailed instructions and use in the user manual.

8.2 Serial communication protocol:

None

NO.	Item	Value	Unit
1	Baud rate	115200	Bit/s
2	Data bits	8	Bit
3	Stop bit	1	Bit
4	Check bits	-	

9. Structural appearance: (unannotated position tolerance according to GB/T1184-K; Unmarked dimensional tolerance $X \pm 0.15$, $. X \pm 0.1$ 、 $. XX \pm 0.05$, special tolerances are shown in figure)



10. Product naming rules

None

11. Packaging Requirements

No.	Item	Description	Size	Quantity	Comment
1	Outer packaging label	Thermal label paper	70*90mm	1	The label content depends on the actual situation
2	Product label	Matte silver label paper (strong adhesive)	52*18mm	1	



包装标签示意

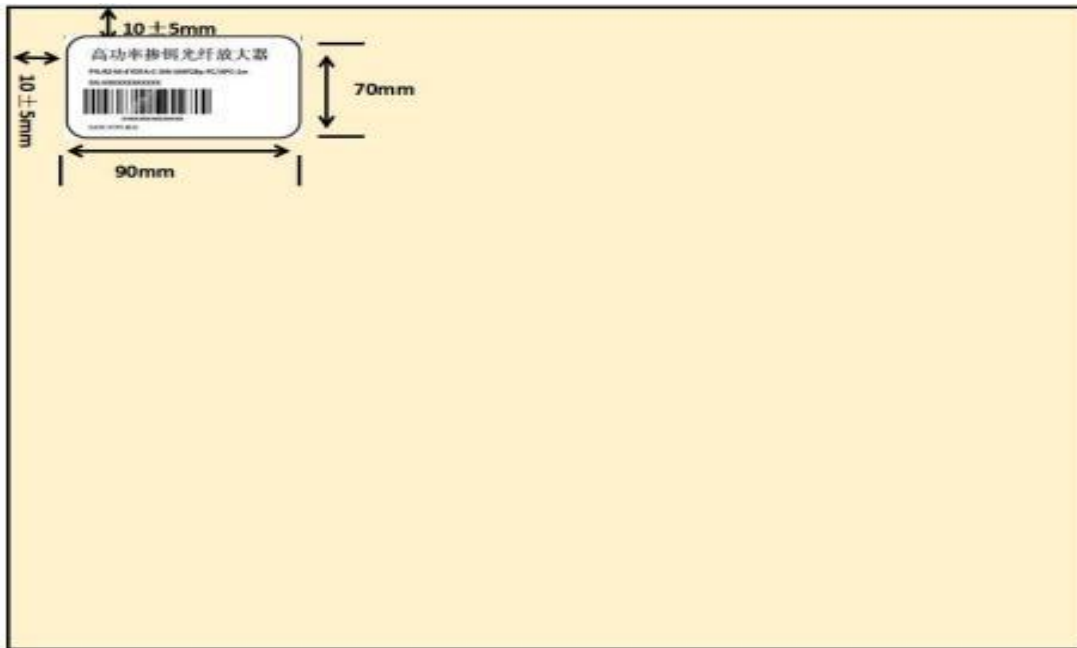


产品标签示意

The product label is centered on the side of the module using silver label paper (52*18mm), as shown in the figure below



The outer packaging label is labeled with thermal label paper (90*70mm) and pasted in the upper left corner of the box, as shown in the figure.



12. Other

No.	Item	Description	Quantity	Remark
1	Packaging requirements	Neutral packaging	/	
2	Product text	English	/	
3	Product accessories	Test report	1	
		Serial port adapter cable	1	
		CD (with host computer software)	1	
		User manual	1	
		Serial port screws	4	
		Certificate of conformity	1	