



2U High Power OFA for FTTH Product Description

HA225 Series

www.Fiber-Mart.com

2U High Power OFA for FTTH Product Description

Version	Date	Author	Approver	Remarks
V1.0	2/4/2020			1) Not open to the third party
				2)

www.Fiber-Mart.com

TABLE OF CONTENTS

1 Overview	4
1.1 Product Description	4
1.2 Features	5
2 Technical Specifications	6
2.1 Environmental Characteristics	7
2.2 Electrical Characteristics	7
2.3 Interface Definition	8
3 Mechanical Dimensions	9
4 Order Information.....	9

www.Fiber-Mart.com

1 Overview

1.1 Product Description

The product is a high output power C-Band Er-Yb co-doped double cladding optical fiber amplifier. A proprietary ATC (Automatic Temperature Control) and an APC (Automatic Power Control) circuit ensure the high stability and reliability output power, and the unique optical circuit design ensures the excellent optical performance. The high stability and high precision MPU system ensure the control, adjustment and display are intelligent and user-friendly.

The product can realize different service wavelength (GPON/XGPON1/OTDR and CATV) multiplexing in FTTX network to maximize the value of optical distribution network (ODN). To suit multiple application scenarios, the GPON ports are compatible with the XGPON1 and OTDR wavelength.

Figure 1-1 Front Panel Schematic Structure



This high power EDFA is mainly used in following applications:

- Analog CATV Transmission
- FTTH Optical Access
- Optical Distribution
- Free Space Optical

1.2 Features

The equipment has the following features:

1. Suitable for CATV, PON system or video combiner. (Optional)
2. Power Supply: Redundancy Hot Swap Power module
3. All optical and management ports front panel access, and works for 19' or 21' racks
4. The Fan and power supplies can be plugged in 2U rack, which is very convenient to maintain
5. LCD display shows and controls the system parameters, LED status indication shows the alarm status
6. Support ETH, RS232 and Monitor ports
7. Network Management interface supporting SNMP via ETH port.
8. APC (Automatic Power Control) optical output
9. High power components, high reliability, low noise

2 Technical Specifications

See Table 2-1 for technical parameters of 2U high power OFA device:

Table 2-1 Technical Parameters

No.	Item	Min.	Typ.	Max.	Unit
1	CATV EDFA Optical Specifications				
1.1	CATV Port Wavelength Range(λ_1)	1545- 1565			nm
1.2	Input Power	-10	0	10	dBm
1.3	Output Power (Every Port)			23	dBm
1.4	Total Output Power			40	dBm
1.5	Numbers of Output ¹			128	
1.6	Output Power Uniformity (among Output Ports)		± 1 dB		dB
1.7	Output Power Stability	-0.5		0.5	dB
1.8	NF (In=0dBm, $\lambda=1550$ nm)		5.5	6.0	dB
1.9	Pump leakage @ Input/output port			-30	dBm
1.10	Isolation @ Input/output port	30			dB
1.11	PMD (Polarization Mode Dispersion)			0.5	ps
1.12	PDG (Polarization dependent gain)			0.5	dB
1.13	RL (Optical Return Loss)	50			dB
1.14	Output Power Adjustable	Output power can control 5 dB			
2	Built-in WDM Specifications (Optional in PON system)				
2.1	CATV Port Wavelength Range (λ_1)	1545- 1565			nm
2.2	PON Port wavelength Range (λ_2)	1260-1360&1480-1500 &1575 - 1581 &1616 -1660			nm
2.3	Insertion Loss	Pass Band		1.2	dB
		Reflection Band		1.2	dB
2.4	PDL (Polarization Dependent Loss)			0.1	dB
2.5	PMD (Polarization Mode Dispersion)			0.1	Ps
2.6	Isolation (Com→PON@ λ_1)	15			dB
2.7	Isolation (Com→CATV@ λ_2)	40			dB

No.	Item	Min.	Typ.	Max.	Unit
2.8	Directivity (P↔R)	50			dB
2.9	PON Signal that passes through when EDFA is turned off	1577, 1270&1310,1490 &1625/1650			nm
2.10	Power Tolerance			26	dBm
2.11	Constant Output	@ variable input: -6 ~ +8 dBm			

1: The max numbers of output ports are 128 without WDM built-in and 64 ports with WDM, LC/APC only

2.1 Environmental Characteristics

Table 2-2 Environmental Characteristics

Item	Min.	Typ.	Max.	Unit
Operation Temperature	-5	-----	+60	°C
Storage Temperature	-40	-----	+85	°C
Operation Humidity	5	-----	95	%
Storage Humidity	5	-----	95	%

2.2 Electrical Characteristics

Table 2-3 Electrical Characteristics

Parameters	Min.	Typ	Max.	Unit
Power supply	-72	-48	-36	VDC
	90		240	VAC
Consumption※	0		50	W

※Actual consumption depends on the output power and environment temperature

2.3 Interface Definition

Figure 3-1 System Interface



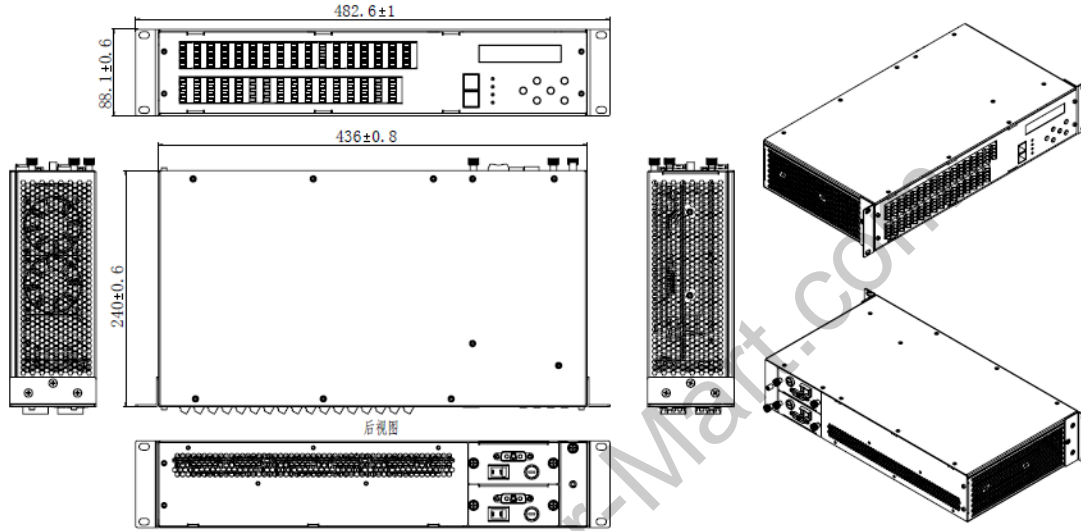
Table 2-1 Interface Definition

No.	Function	Remark
1	Mounting brackets	M5
2	SNMP、RS232 communication with indicators	
3	OLED Screen	
4	Indicator light	
5	Press key	
6	Input ports	SC/APC
7	Output Ports	SC/APC(Optional)

3 Mechanical Dimensions

Size: 483*240*88mm

Figure 3-1 Structure Diagram



4 Order Information

Model	Application	-	Output Port	-	Ports	-	Power	IN Port	COM Port	OLT Port	WDM
HA225	2:EYDFA		17:17dBm ... 23:23dBm		04: 4 ports 08:8 ports 16: 16 ports 32: 32ports 64: 64ports 128: 128ports*		3:dual 100~240VAC 4:dual -48VDC	2:SC/APC	2:SC/APC 6:LC/APC	NC:without 1:SC/UPC 5:LC/UPC	0:W/O WDM 1:With WDM

Note:

*:128 ports only for EDFA without WDM

www.Fiber-Mart.com