

2. 1550nm EDFA Module WOS-WE-1550-4K

1. Product Overview

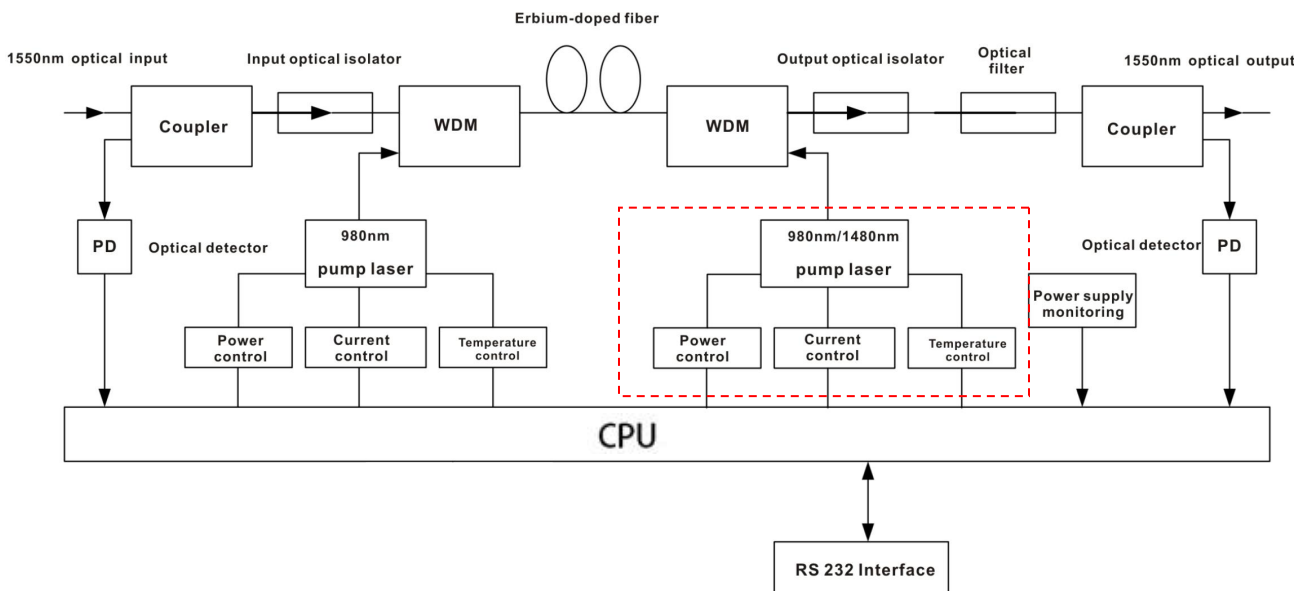
Optical fiber amplifier (EDFA) is an important optical transmission device in 1550nm optical fiber communication system. This module uses imported high-performance erbium-doped fiber, low-noise pump laser and well-designed embedded automatic monitoring system to ensure the excellent index. Each EDFA module contains optical power detection components on input and output ports to automatically adjust the laser pump and keep the output power stable. The internal control circuit accurately maintains the output power and temperature of the laser; the parameters can be set and displayed through CMM management unit.



2. Performance Characteristics

- Support hot swap.
- Optional CWDM.
- Optical power input and output status indicator.
- Adjustable attenuator for output from 0~4dB, 0.1dB stepping.
- Pump temperature, bias current, and cooling current are detected in real time.
- Wide input optical power range: -5 ~ +10 dBm.

3. Block Diagram



Note: The above figure is a block diagram of two pumps. The type with single pump doesn't have the components in the dashed box.

4. Technical Parameters

Item	Unit	Technique Parameter	
EDFA			
Operating bandwidth	nm	1535 - 1565	
Input optical power range	dBm	-5 - +10	0 - +5dBm recommended
Output optical power	dBm	13 - 24	
Output power stability	dBm	±0.5	
Noise figure	dB	≤ 5.0	Input optical power 0dBm
Return loss	dB	≥ 45	
CNR	dB	≥ 52	550MHZ 59CH analog signal 77dBuV/CH
CTB	dB	≥ 63	550-870MHZ 40CH digital signal 67dBuV/CH
CSO	dB	≥ 63	Optical receiving power is -1dBm
Pump leakage power	dBm	≤ -30	
Optical connector type		SC/APC	
CWDM			
Wavelength	nm	1310±10, 1490±10, 1550±10	
Maximum input power	mw	500	
Insertion loss	dB	≤0.6	
Optical connector type		SC/APC or SC/UPC	
Optical isolation	dB	≥15: Com-PON ≥30: Com-CATV	
Others			
Operating temperature range	℃	-5 - +55	
Storage temperature range	℃	-30 - +70	
Maximum power consumption	W	≤20	
Weight	Kg	1	

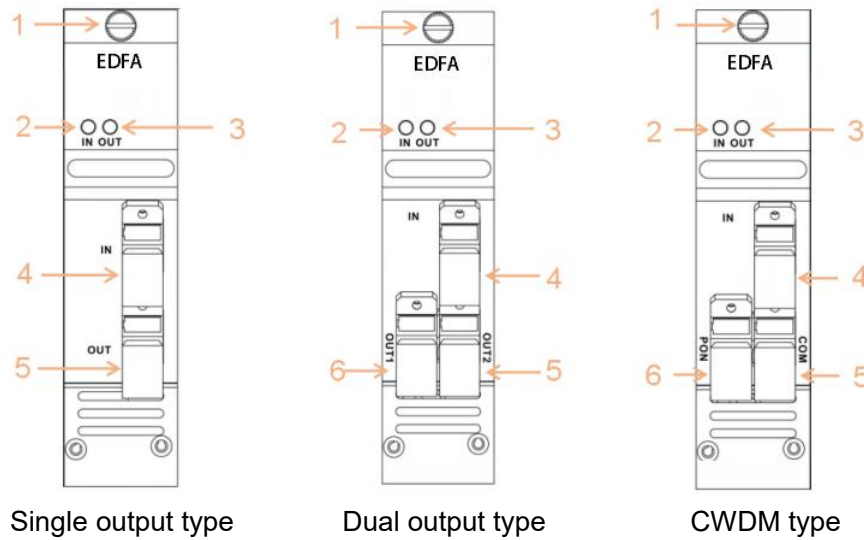
5. Operation Instructions of the Display Menu

Once the module is installed, the corresponding slot in the display menu will highlight.

After entering the submenu, the following parameters can be seen:

InPower XX.XdBm	Input optical power
InputPowerLoXX.XdBm	Alarm threshold of the low input optical power, can be set
OutPowerXX.XdBm	Output optical power
OptATTX.XdB	Output optical power attenuation, 0~4dB, 0.1dB stepping
Pump1 TempXX.X℃	Pump 1 internal temperature
Pump1 BiasXXmA	Pump 1 bias current
Pump1 TECXXmA	Pump 1 cooling current
PumpCtrlON	Pump switch, "ON" is on, "OFF" is off
DevTempXX.X℃	Module internal temperature
SN	Serial number
Version	Version number
WorkTime	Total operating hours of the equipment

6. Structure Description



	Single output type	Dual output type	CWDM type	Note
1	Module fixing screw	Module fixing screw	Module fixing screw	Used to fix the module
2	Optical power input indicator	Optical power input indicator	Optical power input indicator	Green: between the low threshold and +10dBm Red: lower than the low threshold or more than +10dBm
3	Optical power output indicator	Optical power output indicator	Optical power output indicator	Green: within rated output power range from -2dB to +1dB Red: outside rated output power range from -2dB to +1dB
4	Optical power input	Optical power input	CATV optical power input	
5	Optical power output	Optical power output 1	Optical power output	
6		Optical power output 2	PON optical power input	

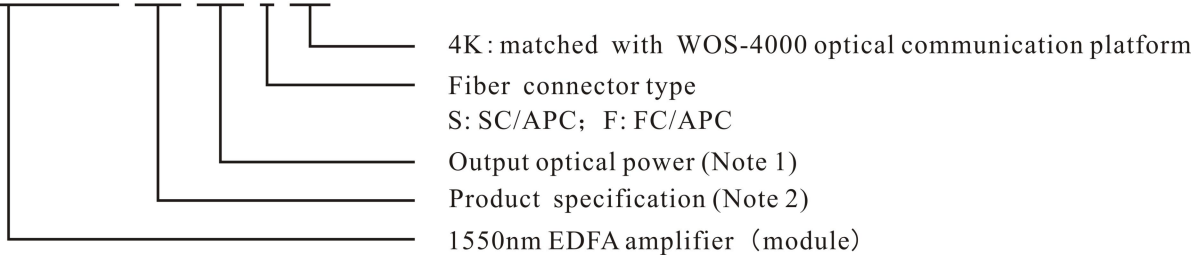
7. Installation

- This module can be installed in slots from 1-16 and can be fully configured.
- Check if the pins on the rear of the module are bent.
- Install the module in place along the guide and tighten the screws.
- When the module is installed and powered, the optical output port must be connected to a fiber or other optical receiving device before the optical input is connected.
- First connect the input, then the output, or the output fiber tip may be burned.
- Avoid direct observation and contact with the fiber tip. You must confirm the equipment is off when cleaning the port.



8. Naming Specification

WOS-WE-1550-HD-XX-S-4K



Note 1:

15: 15dBm output, maximum 24

2X17: Two 17dBm outputs, maximum 2X20

Note 2:

HD: Standard type

HD-CW: Standard + built-in WDM. The default is 1310/1490/1550.