

The Erbium Doped Fiber Amplifier (EDFA) is designed to plug into PBN's latest generation Advanced Intelligent Multi-services Access platform - the AIMA3000.

PBN's AIMA3000 EDFA module works in conjunction with 1550 nm optical transmitter modules to meet client requirements for different environments and transmission distances.

The EDFA employs a highly reliable pump laser with an advanced design to ensure that the unit can achieve a very low noise profile and high pump efficiency. The unit uses single or dual-pump lasers designed with inter-stage isolators. Its output power ranges from 13 dBm (19.95 mW) to 24 dBm (251.18 mW). The EDFA supports a fixed gain setting for dense wave division multiplexing (DWDM) applications as well as a number of user-selectable output ports.

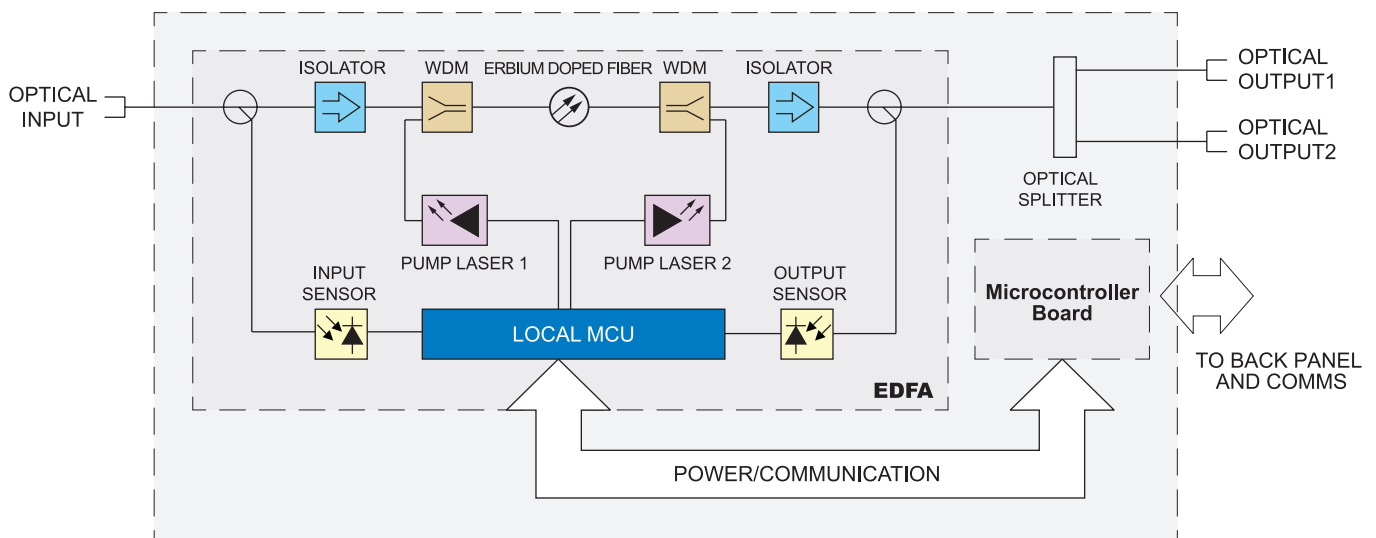
The EDFA can also be conveniently monitored and controlled through a computer connected to one of the Ethernet ports via the ASMM module.



## Key Features and Functions

- Plug-and-play AIMA platform optical signal amplifier
- Single/Dual 980 nm and 1480 nm pump amplifier models
- Suits 1550 nm DWDM applications
- Adjustable optical outputs for dynamic link configurations
- Low noise profile and gain flattening
- Suitable for large scale FTTx deployment
- Automatic power control (APC) for a consistent optical output power (A-EDFA-x-x-P-x only)
- Automatic Gain Control (AGC) for maintaining a consistent amount of power amplification for each wavelength (A-EDFA-x-x-G-x only)
- Automatic thermo-cooler control (ATC) for a consistent laser temperature
- Remote firmware upgrade and auto upload/download of configuration files through ASMM web interface or using PBN's NMSE
- Bulk firmware updates through PBN's NMSE
- Fully FCC, CE, and RCM compliant

## Block Diagram



## Specifications

### Optical Performance

<b>Optical wavelength</b>	1529 nm~1564 nm			
	Min	Typical	Max	
<b>Input power</b>	For A-EDFA-x-x-P-x	-6 dBm	0 dBm	10 dBm
	For A-EDFA-x-x-G-x	0 dBm	11 dBm	14 dBm
<b>Total Output Power</b>	13~29 dBm			
<b>Number of output ports</b>	1~8 (optional)			
<b>Adjustable output optical power</b>	-3~+0.2 dBm (for A-EDFA-x-x-P-x only) total output power < 20dBm			
<b>Optical return loss</b>	> 50 dB			
<b>Noise figure (NF)</b>	< 5dB (EDFA) < 6dB (YEDFA) total power > 24dBm			
<b>Typical Input Isolation</b>	30 dB			
<b>Typical Output Isolation</b>	30 dB			
<b>Optical output level accuracy</b>	± 0.5 dB			
<b>Multi-wavelength gain flatness (for A-EDFA-x-x-G-x only)</b>	±0.5 dB (1548 ~ 1562 nm) <sup>(1)</sup> ±0.75 dB (1536 ~ 1562 nm) <sup>(1)</sup>			
<b>Pump laser</b>	980 nm and/or 1480 nm			
<b>Remnant pump power</b>	-30 dBm			
<b>Polarization dependent gain (PDG)</b>	< 0.3 dB			
<b>Optical connector</b>	SC/APC <sup>(2)</sup> , FC/APC, LC/APC, E2000/APC			

### General

<b>Power consumption</b>	Total power less than 20 dBm < 15.0 W Total power less than 24 dBm < 20.0 W Total power less than 29 dBm < 28 W
<b>Operating temperature</b>	-5 °C to +55 °C
<b>Storage temperature</b>	-25 °C to +70 °C
<b>Operating humidity</b>	90% (non-condensing)
<b>Storage humidity</b>	90% (non-condensing)
<b>Dimensions (WxDxH)</b>	24.6 x 410 x 152.5 mm
<b>Weight</b>	0.95 kg
<b>Supported network management options</b>	PBN's NMSE or through ASMM's Web Interface

**Note :**

- (1) The recommended input power for an A-EDFA-1-17-G-S with 11 dBm optical input with a 6 dB gain typically has an output of 17 dB.
- (2) Standard option. Contact a PBN Sales Representative for availability of other options.

## Order Details

**A-EDFA-[W]-[X]-[Y]-[Z]** .....| Erbium Doped Fiber Amplifier

**Options:**

<b>W</b>	Optical Ports	<b>X</b>	Power per Port	<b>Y</b>	Working Mode
<b>1</b>	(max 24 dBm per port)	<b>13</b>	13 dBm	<b>P</b>	Constant Power
<b>2</b>	(max 21 dBm per port)	<b>16</b>	16 dBm	<b>G</b>	Constant Gain
<b>4</b>	(max 20 dBm per port) <sup>(1)</sup>	<b>17</b>	17 dBm	<b>Z</b>	Optical Connector Type
<b>6</b>	(max 20 dBm per port) <sup>(1)</sup>	<b>18</b>	18 dBm		
<b>8</b>	(max 20 dBm per port) <sup>(1)</sup>	<b>19</b>	19 dBm		
		<b>20</b>	20 dBm		
		<b>21</b>	21 dBm		
		<b>22</b>	22 dBm		
		<b>23</b>	23 dBm	<b>S</b>	SC/APC <sup>(2)</sup>
		<b>24</b>	24 dBm	<b>E</b>	E2000/APC
				<b>F</b>	FC/APC
				<b>L</b>	LC/APC

**Note:**

- (1) For output ports, only LC/APC connector.
- (2) Standard option. Contact a PBN Sales Representative for availability of other options.

### Examples

<b>A-EDFA-1-20-P-S</b> .....	AIMA3000 1-Slot EDFA Module with 1 output port, 20 dBm each, Constant Power, SC/APC connector
<b>A-EDFA-2-21-G-E</b> .....	AIMA3000 1-Slot EDFA Module with 2 output ports, 21 dBm each, Constant Gain, E2000/APC connector
<b>A-EDFA-4-17-P-L</b> .....	AIMA3000 1-Slot EDFA Module with 4 output ports, 17 dBm each, Constant Power, LC/APC connector
<b>A-EDFA-6-13-P-L</b> .....	AIMA3000 1-Slot EDFA Module with 6 output ports, 13 dBm each, Constant Power, LC/APC connector

