

# AIMA-EDFA



- **DOCSIS 3.1 Compatible with operating bandwidth up to 1218 MHz**
- **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 with a noise figure (NF) of less than 5 dB 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**
- **Fully FCC, CE, and RCM compliant**

## Overview

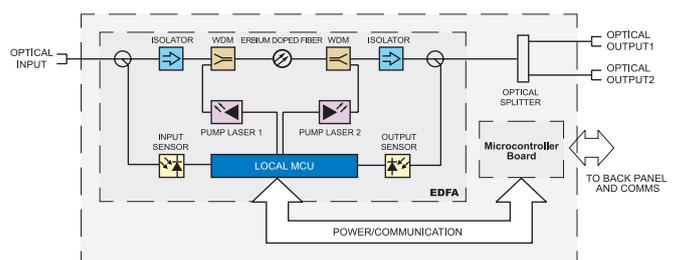
The Erbium Doped Fiber Amplifier (EDFA) is designed to plug into Technetix latest generation Advanced Intelligent Multi-services Access platform - the AIMA3000.

Technetix 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 to 30 dBm (total power). 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.

## Block diagram



## Specifications

### Optical Performance

<b>Optical wavelength <sup>(1)</sup></b>	1525 nm~1578 nm			
		Min	Typical	Max
<b>Input power</b>	For A-EDFA-x-x-P-x	-3 dBm	0 dBm	15 dBm
	For A-EDFA-x-x-G-x	-10 dBm	8 dBm	12 dBm
<b>Total Output Power</b>	13~30 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)			
<b>Optical return loss</b>	> 50 dB			
<b>Noise figure (NF)</b>	< 5.5 dB (Typical: 5.0 dB)			
<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>(2)</sup> ±0.75 dB (1536 ~ 1562 nm) <sup>(2)</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>(3)</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 30 dBm < 20.0 W
<b>Operating temperature</b>	-5 oC to +55 oC
<b>Storage temperature</b>	-40 oC to +70 oC
<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

#### Note:

1. Contact Technetix representatives for detailed optical wavelength information.
2. The recommended input power for an A-EDFA-1-22-G-S with 11 dBm optical input with a 6 dB gain typically has an output of 22 dB.
3. Standard option. Contact a Technetix sales representative for availability of other options.