

# HP EDFA Module for Free-Space Communication Application

## Key Features

- Fiber coupled output up to 15W
- Eye-safe wavelength in 1550nm range
- Narrow linewidth operation
- Low RIN & low phase noise
- Wide operating temperature, from -20 to +65°C
- Robust and reliable, compact design
- 24 VDC power supply with lowest consumption
- High reliability & Maintenance free



↑  
1550nm - CW

## Description

Amonics' HP (high power) EDFA module series offers eye-safe, single mode, single mode (linear polarized) fiber amplifier. The module can be applied to laser link among satellites in low-Earth orbit. It offers advantages over radio frequencies for ground station-to-satellite and inter-satellite links above the atmosphere: higher transmission bandwidth, smaller receivers, and tighter beams to enhance security.

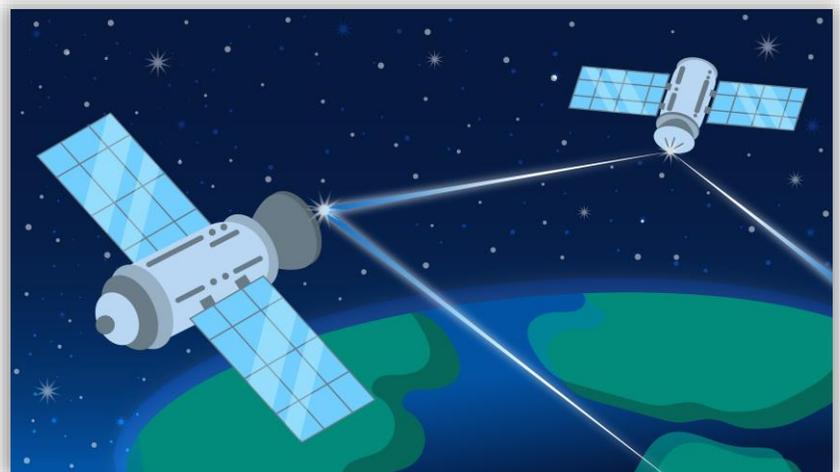
The HP EDFA module series is maintenance free with no post-installation service required. It is a versatile, ready-to-use and durable laser source for various free space communication applications as well as integration to OEM system.

## Application

- Laser communication among satellites
- Laser links between ground stations to satellites
- CW LiDAR

## Options

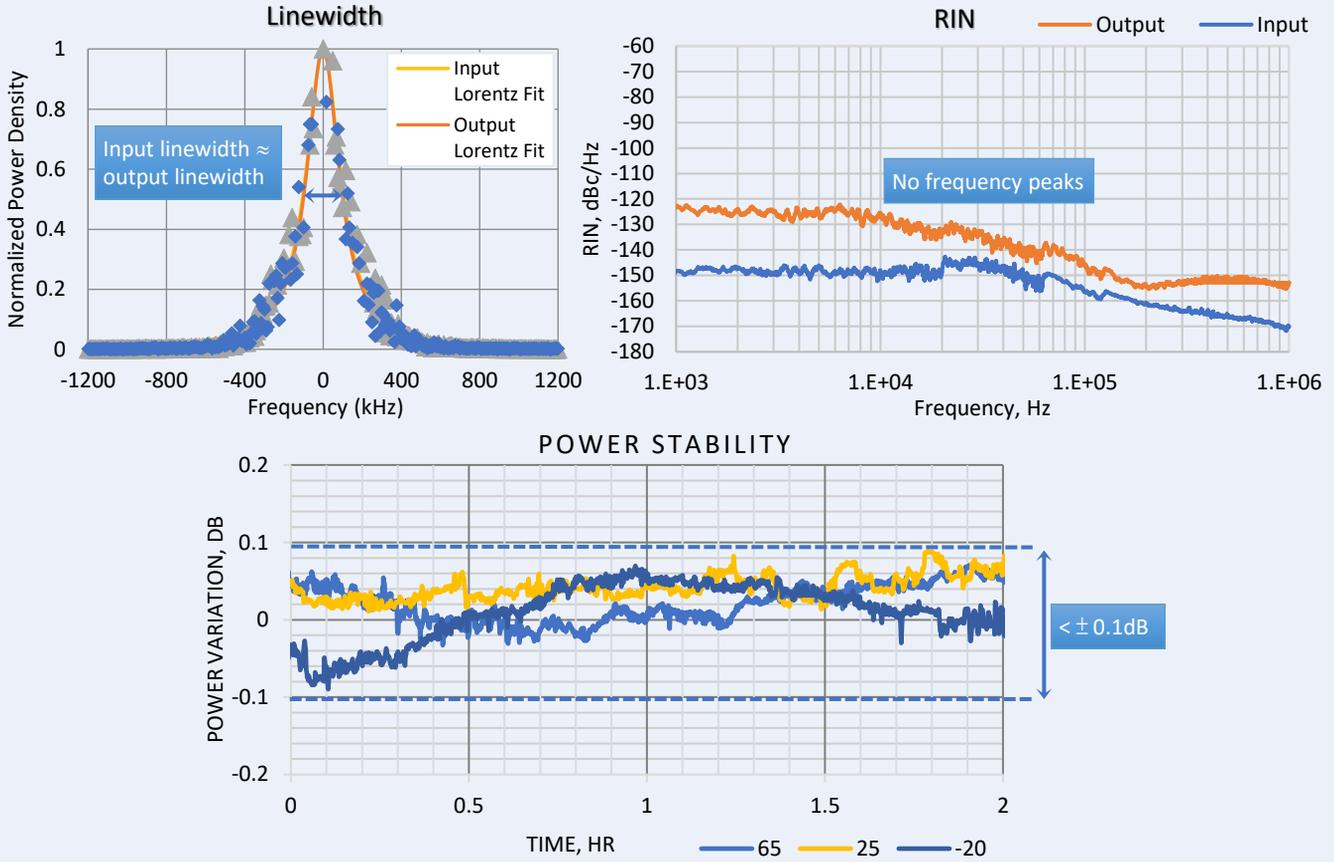
- Other voltage supply
- Linear polarization emission
- Mid-stage bandpass filter for different wavelength and low input power



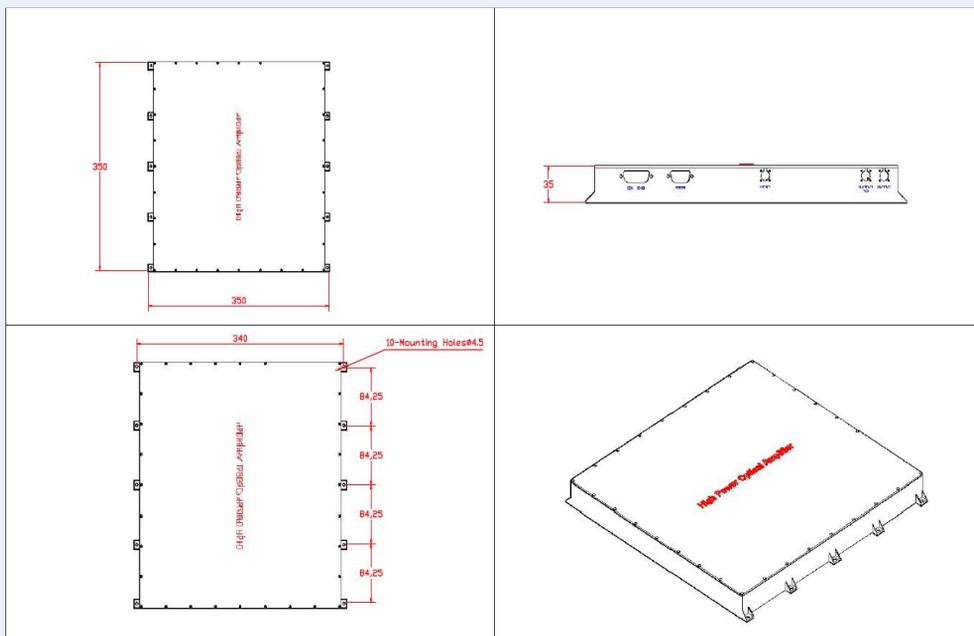
ISO 9001 : 2015  
Certificate No.: CC 5346

Our product is manufactured under a HKQAA ISO 9001 certified quality management system. The ISO 9001:2015 certification applies to the Hong Kong production site only.

## Performance



## Mechanical Drawings



# HP EDFA Module for Free-Space Communication Application

## Specifications

Model	AEDFA-42-M-NC	Remarks
Mode of Operation	CW Mode	
Saturated Output Power	Min. +15 W	Input Power = -10 to 0 dBm
Input Wavelength	1550.12 ± 0.4 nm	ITU Ch34, Other channels are available
Input Signal Level	-20 to 0 dBm	
Noise Figure	Typ. 5.0, Max 5.5 dB	Input Power = 0 dBm
Input & Output Isolation	Min. 30 dB	
Return Loss	Min. 45 dB	
Polarization Dependent Gain	Typ. 0.3 dB, Max. 0.5 dB	SM Version
Polarization Mode Dispersion	Typ. 0.3 ps, Max. 0.5 ps	SM Version
Polarization Extinction Ratio	Typ. 23 dB, Min. 20 dB	PM Version
Control Mode	ACC, APC (10-100%)	

## General Parameters

	Value	Remarks
Operation Temperature	-5 to +65 °C	Case Temperature
Storage Temperature	-10 to 70 °C	
Power Supply	24 ± 0.5 VDC	
Dimensions	350(W) x 350(D) x 35(H) mm	
Protection	Pump Laser (TEC) Overheat, Loss of Input Signal, Output Power Protection, Mid-Stage Protection	
Optical Terminal	Min. 2.0m 3mm PVC cable	Input: FC/APC pigtail Output: Bare fiber
Optical Fiber	SMF-28 or PM 1550 Panda	Output Tap Port: FC/APC Receptacle
Remote Control Port	RS232	
Electrical Connector	7W2C header	

## Ordering Information

Product Code	- SM version: AEDFA-aa-M-bb - PM Version: AEDFA-PM-aa-M-bb	aa : Saturation output power in dBm bb : FA for FC/APC, FC for FC/UPC, SA for SC/APC, SC for SC/UPC, NC for bare fiber, CL for collimator *Output connector can be added for low power testing only (<5W)
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Amonics undertakes continuous and intensive product development to ensure its product performance at the highest technical standards. As a result, the specifications in this document are subject to change without notice.

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