

## PM Single Frequency CW Fiber Amplifiers

**Model no.: SFA-1550-PM**



### Description

This CW, polarization maintaining, Single Frequency erbium/ytterbium-doped fiber Amplifier is specifically designed to amplify narrow linewidth, single frequency, seed lasers based on distributed feedback (DFB) fiber lasers or solid state technologies. Capable of amplifying low power input signals with kHz spectral linewidth up to 5 W of power, this amplifier uses large mode area fiber technology to avoid non-linearities such as stimulated Brillouin scattering (SBS) and maintain critical seed laser characteristics such as narrow linewidth and relative intensity noise (RIN). This amplifier has internal input and output isolators and incorporates real-time control electronics and firmware that continuously monitor and optimize the operation to prevent system failure due to loss of signal and high back reflection, in order to protect the seed source.

### Optical parameters (at 25°C)

Parameter	Specification <sup>1</sup>	Unit
Operating wavelength <sup>2</sup>	1550 ±5	nm
Output power	2W, 5W	-
Output power adjustment	10 – 100	%
Power stability <sup>3</sup>	< 5	%
Mode	TEM <sub>00</sub>	-
Polarization	Linear	-
Output polarization extinction ratio (with connectors)	> 15	dB
Signal input power	1 – 15 15 – 50	mW
Input signal linewidth	< 10	kHz
Input and Output Isolation	> 30	dB

<sup>1</sup> At room temperature with proper heat sink

<sup>2</sup> Other wavelengths available from 1530nm to 1560nm.

<sup>3</sup> Over 2-hour period. Improved stability available on request.

### Optical connections

Fiber type – input and output signal	Fujikura SM 15-P (or equivalent)
Connector type – input and output signal	FC/APC, key width 2.02 mm, key aligned with slow axis
Polarization – input and output signal	Aligned with slow axis

### Electrical and interface connections (at 25°C)

Parameter	Specification	Unit
DC Power supply	+5 / +12	V
Power consumption	< 50	W
Control interface	USB	-

### Mechanical and environmental specifications

Parameter	Specification	Unit
Operating case temperature	5 - 55	C
Storage temperature	-5 - 75	C
Humidity	0 - 95, Non-condensing	%
Dimensions (WxDxH)	205 x 255 x 48	mm

NOTE: Heat sinking required (cold plate).