

# PEFA-LP-C SERIES (PEFA-EOLA)

## PULSED ERBIUM FIBER AMPLIFIER

1.5  $\mu\text{m}$  LONG PULSE FIBER AMPLIFIER



### KEY FEATURES

- Eye-safe 1545 nm operating wavelength
- Energy per pulse up to 110  $\mu\text{J}$
- Peak power up to 360 W
- Pulse duration from 200 to 400 ns
- Pulse repetition frequency from 10 kHz to 20 kHz
- Polarization maintaining
- Fourier transform limited linewidth operation
- Diffraction limited or  $M^2 < 1.5$
- Wide operating temperature range from -35  $^{\circ}\text{C}$  to +65  $^{\circ}\text{C}$

### Description

**PEFA-EOLA series are Erbium doped fiber amplifiers for polarization maintaining applications. These eye-safe amplifiers are designed for long pulse operation like LIDAR, wind sensing...**

The Keopsys device delivers high energy per pulse up to 110  $\mu\text{J}$ , thanks to our unique architecture.

The output beam is diffraction-limited (output fiber with  $M^2 < 1.5$  for energy above 15  $\mu\text{J}$ ).

The PEFA-EOLA is a completely fibered and compact device meaning robustness, reliability and maintenance free, ideal for integration into a complete optical system.

### APPLICATIONS



- Aerosol detection
- 2D/3D wind profiler
- Weather monitoring
- Pollution monitoring

### 3 Platforms

PE 1D

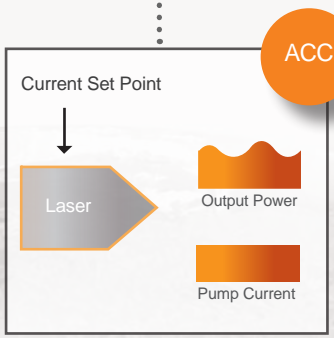
PE 3D



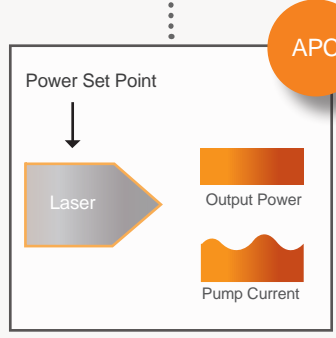
PE 2D

### Modes of operation

The devices offer several modes of operation :



**ACC** (Automatic Current Control) mode is standard for all devices. The laser is controlled from diodes current set point.



**APC** (Automatic Power Control) mode allows to control the laser at a fixed output power set point. The device maintains a constant optical output power monitored with a photodiode. The current is adjusted automatically.

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1.5 $\mu$ m LONG PULSE FIBER AMPLIFIER

### Optical Specifications

@ 25 °C

	PEFA-EOLA
Mode of operation	Pulsed
Operating wavelength	1543 nm
Energy per pulse	From 10 to 110 $\mu$ J
Peak power	From 50 to 360 W
Average input power	16 $\mu$ W
Average output power	From 200 to 2200 mW
Pulse repetition frequency	10 or 20 kHz
Pulse duration	From 200 to 400 ns
Polarization	Linear
Input/output termination	FC/APC or collimator

The PEFA-LP-C-PM series amplifiers are available as benchtop or as OEM module.

### RELIABILITY

The Keopsys range of fiber amplifiers are manufactured with tested components and are submitted to several inspections during the manufacturing process under a rigorous quality management certified in accordance with the ISO 9001:2008 standard. Our all-in-fiber systems offer maintenance free operation. Countless units are continuously running in demanding environments with no failure.

### GUARANTEE

Our fiber systems are under 1 full year parts and labor guarantee. We offer a warranty extension of 1 or 2 years. Please contact us.

### PEFA-LP-C SERIES (PEFA-EOLA)

#### 1.5µm LONG PULSE FIBER AMPLIFIER

### Optical Specifications

@ 25 °C

	PEFA-EOLA*			
	E01	E02	E03	E04
Mode of operation	Pulsed			
Operating wavelength	1543 nm**			
Energy per pulse	10 µJ	40 µJ	80 µJ	110 µJ
Peak power	50 W	200 W	200 W	360 W
Average input power	16 µW			
Average output power	200 mW	400 mW	800 mW	2200 mW
Pulse repetition frequency	20 kHz	10 kHz		20 kHz
Pulse duration	200 ns	200 ns	400 ns	300 ns
Polarization	Linear			
Polarization extinction ratio	> 20 dB	> 17 dB		
Beam quality, M <sup>2</sup>	<1.1	<1.5		
Input fiber type	Panda SM			
Output fiber type	Panda SM	Panda LMA		
Input and output pigtail length	100 +/-2 cm for input, 35 +/-2 cm for output			
Input/output termination	FC/APC or collimator			
Power consumption	<10 W	<20 W	<40 W	<50 W
Associated platform	PE1D, PE3D	PE1D	PE2D	

### Platform Specifications

	Platform type		
	PE1D	PE2D	PE3D
DC voltage	20 to 26 V		5 V
Control Interface	RS232		
Warm-up time	<5 min	<10 min	<5 min
Dimensions	200x120x25 mm	240x170x40 mm	150x120x25 mm
Weight	<800 g	<1800 g	<500 g
Operating case temperature***	-10 °C to +65 °C (-35 °C to +65 °C optional)		
Storage temperature	-40 °C to +85 °C		

\* For each model, other sets for energy, pulse duration and repetition rate are possible

\*\* Other wavelength as option : 1545 nm, 1550 nm

\*\*\* Limited at (0 °C to 65 °C) if the PEFA-EOLA is associated with a PEFL-EOLA.

### Ordering information

