

# PEFA-LP-C (PEFA-EOLA)

PULSED ERBIUM FIBER AMPLIFIER

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



1.5  $\mu\text{m}$

B 130

PE 1D

PE 2D

PE 23D

PE 3D



Eye-safe 1.5  $\mu\text{m}$  operating wavelength,  
Energy per pulse up to 220  $\mu\text{J}$ ,  
...

The PEFA-LP-C-PM (PEFA-EOLA) series is a range of 1.5 $\mu\text{m}$  pulsed fiber amplifiers specially designed for Doppler heterodyne LIDAR systems, delivering Fourier transform limited pulses with high energy and high peak power. Shorter pulse duration with high peak power are well suited to high spatial resolution middle range systems whereas longer pulses with high energy are well suited for long range applications.

Thanks to innovative optical designs, the amplifiers can emit up to 220 $\mu\text{J}$  energy and up to 900W peak power with a linear polarization and an excellent output beam quality (diffraction limited or  $M^2 < 1.1$  to 1.5 depending on peak power). This product range is ideal for various wind measurement applications such as windfarm optimization and wind hazard and wake vortices monitoring.

High pulse repetition frequency (maximum 10 to 20 kHz depending on versions) allows speckle averaging and higher measurements rate.

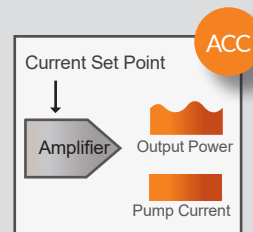
The rugged modules can work in the most stringent environments 24 hours/24. Lumibird provides numerous of PEFA-LP-C-PM (PEFA-EOLA) amplifiers which operates continuously under vibrations, shocks and strong temperature variations.

Furthermore, the OEMs incorporate a microcontroller for internal controls, alarms, and RS232 communications making the amplifier compatible with all systems.

An output circulator can be implemented into the module in order to collect the backscattered light for the Heterodyne measurement.

## Modes of operation

The devices offer one mode of operation :



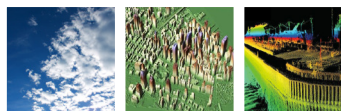
ACC (Automatic Current Control) mode is standard for all devices. The amplifier is controlled from diodes current set point.

## Key features

- Eye-safe 1,5  $\mu\text{m}$  operating wavelength
- Energy per pulse up to 220  $\mu\text{J}$
- Peak power up to 900 W
- Pulse duration from 100 to 800 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  $^{\circ}\text{C}$

## What applications

- Aerosol detection
- Wind monitoring
- 2D/3D wind profiler
- Weather monitoring
- Pollution monitoring
- Wind hazard and wake vortices monitoring
- Wind farm optimization



# PEFA-LP-C (PEFA-EOLA)

PULSED ERBIUM FIBER AMPLIFIER

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



Optical Specifications @ 25 °C	PEFA-EOLA
	Mode of operation
Operating wavelength	1543 nm <sup>1</sup>
Energy per pulse	Up to 220 $\mu\text{J}$
Peak power	Up to 900 W
Average input power	16 $\mu\text{W}$
Average output power	Up to 2200 mW
Pulse repetition frequency	From 10 to 20 kHz
Pulse duration	From 100 to 800 ns
Polarization	Linear
Input/output termination	FC/APC or collimator

1 : Other wavelength as option : 1545 nm, 1550 nm,...

The PEFA-L-PC is available as turn-key benchtop or as OEM module.

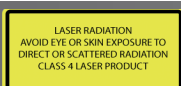
## RELIABILITY

The Lumibird 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 9001:2015 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 warranty. We offer a warranty extension of 1 or 2 years. Please contact us.

For ordering information and custom solutions, please contact us : [websales@keopsys.com](mailto:websales@keopsys.com)



Lumibird undertakes a continuous and intensive product development program to ensure that its products perform to then highest technical standards. As a result, the specifications in this document are subject to change without notice.

Lumibird has locations across the globe that are available to provide support for any product, service or inquiry. Visit [www.lumibird.com](http://www.lumibird.com) to connect with any of our global sites.

