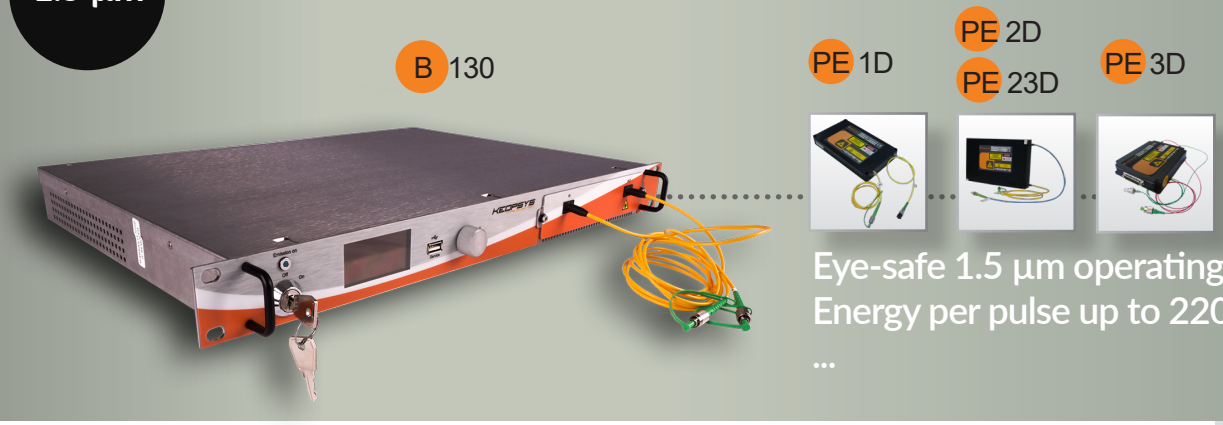
PEFA-LP-C (PEFA-EOLA)

PULSED ERBIUM FIBER AMPLIFIER

1.5 µm LONG PULSE FIBER AMPLIFIER

KEOPSYS BY LUMIBIRD

1.5 µm



Eye-safe 1.5 µm operating wavelength,
Energy per pulse up to 220 µJ,
...

The PEFA-LP-C-PM (PEFA-EOLA) series is a range of 1.5µm 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 220µJ energy and up to 900W peak power with a linear polarization and an excellent output beam quality (diffraction limited or M2 <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.

Key features

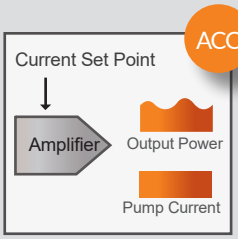
- Eye-safe 1,5 µm operating wavelength
- Energy per pulse up to 220 µJ
- Peak power up to 900 W
- Pulse duration from 100 to 800 ns
- Pulse repetition frequency from 10 kHz to 20 kHz
- Polarization maintaining
- Fourier transform limited linewidth operation
- Diffraction limited or $M^2 < 1.5$
- Wide operating temperature range from -35 °C to +65 °C

What applications

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

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.

For ordering information and custom solutions, please contact us : websales@keopsys.com

Non contractual photos

PEFA-LP-C (PEFA-EOLA)

PULSED ERBIUM FIBER AMPLIFIER

1.5 µm LONG PULSE FIBER AMPLIFIER

Optical Specifications @ 25 °C	PEFA-EOLA
Mode of operation	Pulsed
Operating wavelength	1543 nm[1]
Energy per pulse	Up to 220 µJ
Peak power	Up to 900 W
Average input power	16 µW
Average output power	Up to 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.

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AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION
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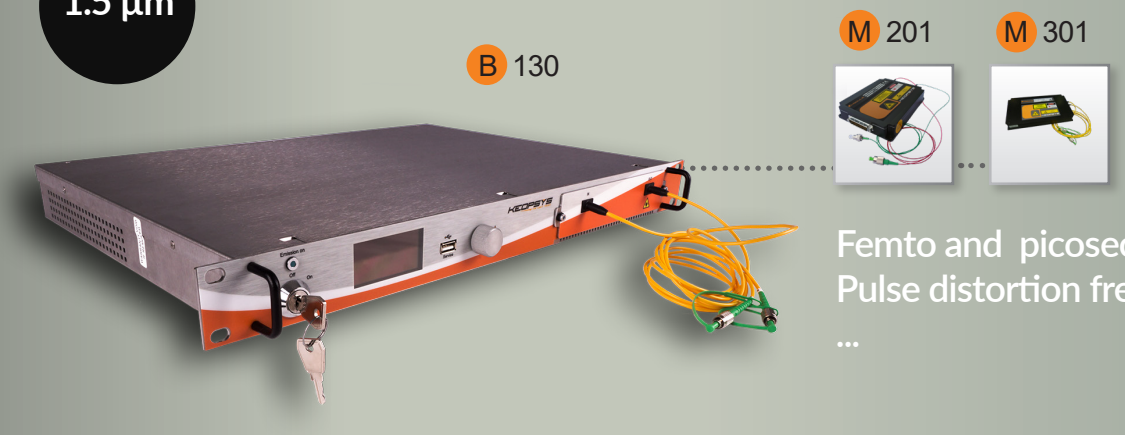
PEFA-SP-C

PULSED ERBIUM FIBER AMPLIFIER

1.5 µm SHORT PULSE FIBER AMPLIFIER

KEOPSYS BY LUMIBIRD

1.5 µm



Femto and picosecond pulse amplification,
Pulse distortion free up to 1 KW,
...

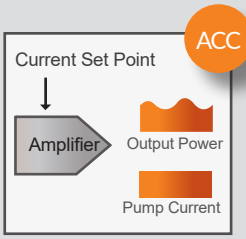
The PEFA-SP-C series is a range of 1.5µm pulsed fiber amplifiers specially designed to amplify femtosecond and picosecond sources up to 1kW without pulse distortion. The all-in-fiber designs offer an amplification with a low noise figure, a very low dispersion and a high gain over the C-band from 1535nm to 1565nm. Solutions are available with an average power up to 33dBm and with standard or polarization maintaining fiber.

The PEFA-SP-C amplifiers are commonly used for applications such as high peak power generation, non-linear optics, high speed transmission systems and supercontinuum generation.

The PEFA-SP-C series is proposed in turn-key easy 1U rack with a user-friendly front panel, a RS232 communication through a USB connector and Webpages/Telnet/SSH/SNMP2 through a RJ45 connector. OEM modules are also available with a microcontroller for internal controls, alarms, and RS232 communications making the amplifier compatible with all systems.

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

- Femto and picosecond pulse amplification
- Pulse distortion free up to 1 KW
- Average power up to 33 dBm
- Operating wavength from 1535 to 1565 nm
- Pulse repetition frequency from 10 MHz to 100 GHz
- Polarization maintaining available
- Choice between turn key easy to use benchtop or compact OEM module

What applications

- High peak power generation
- Non-linear optics
- High speed transmission systems
- Super-continuum and pulse compression

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PEFA-SP-C

PULSED ERBIUM FIBER AMPLIFIER

1.5 µm SHORT PULSE FIBER AMPLIFIER

KEOPSYS BY LUMIBIRD

Optical Specifications @ 25 °C	PEFA-SP-C
Mode of operation	Pulsed
Optical pulse length	0.3 to 10 ps
Operating wavength	1535-1565 nm
Peak power	up 1 kW for pulse distortion free
Average input power	-15 to +5 dBm
Saturated output power (0 dBm input in CW)	From 15 to 33 dBm
Pulse repetition frequency	10 MHz to 100 GHz
Dispersion	< 35 fs/nm
Polarization	Random or Linear
Control mode	ACC
Input/output termination	FC/APC, SC/APC, FC/SPC, SC/SPC, E2PS, C1

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

RELIABILITY

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