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 M² < 1.5
- Wide operating temperature range from -35 ºC to +65 ºC

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

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

<table>
<thead>
<tr>
<th>@25 °C</th>
<th>PEFA-EOLA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode of operation</td>
<td>Pulsed</td>
</tr>
<tr>
<td>Operating wavelength</td>
<td>1543 nm¹</td>
</tr>
<tr>
<td>Energy per pulse</td>
<td>Up to 220 µJ</td>
</tr>
<tr>
<td>Peak power</td>
<td>Up to 900 W</td>
</tr>
<tr>
<td>Average input power</td>
<td>16 µW</td>
</tr>
<tr>
<td>Average output power</td>
<td>Up to 2200 mW</td>
</tr>
<tr>
<td>Pulse repetition frequency</td>
<td>From 10 to 20 kHz</td>
</tr>
<tr>
<td>Pulse duration</td>
<td>From 100 to 800 ns</td>
</tr>
<tr>
<td>Polarization</td>
<td>Linear</td>
</tr>
<tr>
<td>Input/output termination</td>
<td>FC/APC or collimator</td>
</tr>
</tbody>
</table>

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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Lumibird undertakes a continuous and intensive product development program to ensure that its products perform to the 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 to connect with any of our global sites.