

## Features:

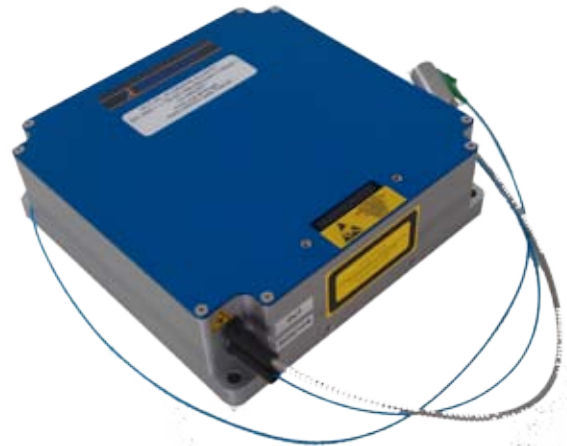
- High energy (up to 100μJ)
- PM version available up to 100μJ
- Wide range of fixed pulse duration available from 500ps to 1.25μs
- Excellent beam quality ( $M^2 < 1.1$ )
- Burst mode
- Adjustable pulse width on few ns
- Monitor output
- Internal or external TTL or LVDS trigger
- Maintenance free operation
- Highly reliable laser diode pumps
- Compact & rugged design
- Low power consumption
- Air cooled
- **Custom versions available**

## Applications:

- LIDAR
- Target ID
- Mapping
- Telemetry
- 3D scanning
- Range finding
- Topography scanning
- Weather and pollutant detection
- OPO pumping
- **YOUR APPLICATION**

## LUSKENN Product Line

1.5μm Compact Pulsed Fiber Laser



## MLT-PL-R-OEM45 Series MLT-PL-P-OEM45 Series

The LUSKENN is a compact high power pulsed fiber laser at 1.5μm (and 1.0μm on request) providing short pulse duration through a near diffraction limited randomly polarized beam. The MLT-PL-R-OEM45 is optimised for LIDAR, telemetry or range finding application. The design and configuration of this laser render it unique and reliable. Our patented "Injection Technology" allows the use of highly reliable broad area laser diode pumps, for a cost-effective and maintenance-free operation. The all-fibre design guarantees the robustness of the system, without any optical parts to align or to stabilise. The LUSKENN is an open platform for your specific requirements : adjustable pulse width on few ns, internal or external LVDS or TTL trigger, monitor output for synchronization, burst mode for pulse monitoring. The simple integration of the OEM system requires no after-installation service. Power consumption is reduced to the minimum with extended operation temperatures. Obviously, custom configurations are possible, such as 1.0μm operating wavelength and polarization maintaining version (MLT-PL-P-OEM45 series).

Manlight, based in Brittany, has chosen words in local Celt language, the Breton, to personalize its product portfolio. Each of the eight fiber laser and amplifier product lines starts with a letter of Manlight. **LUSKENN** in Breton stands for *Pulse*. It ideally suits to our 1.5μm and 1.0μm high power pulsed fiber lasers used in LIDAR application.

[www.manlight.com](http://www.manlight.com)

Ordering Information: MLT-PL-R-OEM45-xx-yy-zz  
 xx = pulse duration in ns  
 yy = pulse repetition frequency in kHz  
 zz = energy in  $\mu\text{J}$

### Technical Specification:

Parameter	Value	Unit	
Operation mode	Pulsed	-	
Seed laser wavelength	1550 typ.	nm	Other wavelengths available
Average output power	up to 7	W	
Pulse duration	from 0.5 to 1250	ns	Fixed duration in the range
Pulse repetition frequency	from 5 to 2000	kHz	in a limited range depending on pulse width and ASE
Output pulse energy	$\leq 100$	$\mu\text{J}$	
Peak power	up to 17	kW	
Output power tunability	1 – 100	%	
Long term stability (RMS, over 1h@25°C)	$\pm 1$	%	
Polarization	Random	-	PM optional
Output fibre length	typ. 50	cm	
Output fibre termination	Collimated beam	-	
Laser linewidth (FWHM)	$< 0.2$	nm	0.15 nm typical
Typical beam diameter @ $1/e^2$	2,4	mm	
Beam quality $M^2$	$< 1.1$	-	
Dimensions	150 x 150 x 45	$\text{mm}^3$	
Weight	1200	g	
Operation Temperature	0 to +50	$^{\circ}\text{C}$	-35 to +65 optional
Control mode	Continuous operation or burst	-	
Connector	SAMTEC SMM-115-02-SD	V	
Operating voltage DC	12-36	V	
Typ. power consumption (nom. power @ 25°C)	$< 150$	W	

- Options:**
- Adjustable pulse duration (few ns)
  - Internal or external trigger
  - TTL or LVDS trigger
  - Collimated output
  - Burst mode
  - Monitor output
  - Customised specs on request
  - Extended warranty

### Examples of possible configurations:

MLT-PL-R-OEM45-03-150-45:  
 1550nm, 3ns, 150 to 600kHz, 45 $\mu\text{J}$ , 7W Average, 15kW peak, 120W consumption.

MLT1-PL-R-OEM45-03-50-24:  
 1064nm, 3ns, 50 to 600kHz, 24 $\mu\text{J}$ , 2W Average, 8kW peak, 25W consumption.

MLT-PL-P-OEM45-10-70-100:  
 1550nm, Polarized version, 10ns, 70kHz to 500kHz, 100 $\mu\text{J}$ , 7W Average, 10kW peak, 130W consumption.

MLT1-PL-R-OEM45-0.7-100-7 :  
 1064nm, 0.7ns, 100kHz to 1MHz, 7 $\mu\text{J}$ , 1W average, 10kW peak, 20W consumption.

YOUR CONFIGURATION ....

The Manlight Fibre Amplifiers emit both invisible Class IV and visible Class II radiations. Direct and scattered radiation can be harmful to the human eye. Proper laser safety eyewear must be worn during operation. Information in this document is subject to change without notice.

Operating and safety considerations  
 Manlight Fibre Amplifiers comply with CE, FDA & RoHS. All Manlight Fibre Lasers are patent pending.

### Mechanical drawings:

