

MENTAD Product Line

1.5 μ m Miniaturized Pulsed Fiber Laser Transmitter

Features:

- High energy up to 50 μ J
- Wide range of fixed pulse duration available from 500ps to 1.25 μ s
- Excellent beam quality ($M^2 < 1.1$)
- Adjustable pulse duration on few ns
- Burst mode
- Monitor output
- Internal or external TTL or LVDS trigger
- Maintenance free operation
- Highly reliable laser diode pumps
- Operating temperature from -35°C to +65°C
- Compact & rugged design
- Very low power consumption
- Air cooled
- **Custom versions available**



Applications:

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

MLT-PL-R-OEM15 Series

The MLT-PL-R-OEM15 is a miniaturized (90 x 70 x 15 mm³ only) pulsed fiber laser providing short to ultra short pulse duration (0.5ns to 1250ns fixed pulse duration available) through a near diffraction limited randomly polarized beam ($M^2 < 1.1$). The MLT-PL-R-OEM15 is optimised for LI-

DAR, telemetry or range finding application. The design and configuration of this amplifier 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 MENTAD is an open platform for your specific requirements : internal or external LVDS or TTL trigger, monitor output for synchronization, burst mode for pulse monitoring, adjustable pulse width duration on few ns. 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 1.0 μ m operating wavelength.

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. **MENTAD** in Breton stands for *Measure* and also *Size, Dimensions*. It ideally suits to our 1.5 μ m miniaturized pulsed fiber laser transmitter used for measurement in LIDAR application.

www.manlight.com

Ordering Information: MLT-PL-R-OEM15-xx-yy-zz

xx = pulse duration in ns

yy = pulse repetition frequency in kHz

zz = energy in μJ

Technical Specification:

Parameter	Value	Unit	
Operation mode	Pulsed	-	
Seed laser wavelength	1550 typ.	nm	Other wavelengths available
Average output power	up to 1200	mW	
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	≤ 50	μJ	
Peak power	up to 9	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	FC/APC or Collimated beam	-	
Laser linewidth (FWHM)	< 0.2	nm	0.15 nm typical
Typical beam diameter @1/e ²	2,4	mm	for collimator
Beam quality M ²	< 1.1	-	
Dimensions	90 x 70 x 15	mm ³	
Weight	130	g	
Operation Temperature	0 to +50	°C	-35 to +65 optional
Control mode	Continuous operation or burst	-	
Connector	SAMTEC SMM-115-02-SD	V	
Operating voltage DC	5	V	
Typ. power consumption (nom. power @ 25°C)	< 15	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-OEM15-03-50-24:
1550nm, 3ns, 50 to 600kHz, 24 μJ , 1.2W Average, 8kW peak, 15W consumption.

MLT-PL-R-OEM15-05-100-08:
1550nm, 5ns to 10ns, 100 to 500kHz, 8 μJ , 0.8W Average, 1.2kW peak, 15W consumption.

MLT-PL-R-OEM15-0.5-100-1.5:
1550nm, 0.5ns, 100kHz to 1MHz, 1.5 μJ , 0.2W Average, 7W 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:

