

# Cybel

Lighting the Way

[www.cybel-llc.com](http://www.cybel-llc.com)

## MAKO-1030

Compact Dual Mode 1030nm  
Fiber Laser, Pulsed and CW

### Key Features

- Dual mode: pulsed or CW
- CW: >1.5W power
- High pulse energy: >10μJ
- High peak power: >2.5kW
- Adjustable repetition rate
- Adjustable pulse width
- Gaussian beam profile:  $M^2 < 1.1$
- Compact & rugged design
- Operation: -10 to 50 °C
- PM version

### Applications

- Frequency conversion
- Seed laser
- Range finding

### MAKO SERIES

Also available at different Standard Wavelengths and with same high performance and compact footprint:

- ◆ MAKO-1064
- ◆ MAKO-1550
- ◆ MAKO-1550+

The CYBEL MAKO – 1030 series is a compact 1030 dual-mode (pulsed and CW) fiber laser that can deliver either 2.5kW pulses or CW power greater than 1.5W. The laser output has a near-Gaussian profile ( $M^2 < 1.1$ ).

The MAKO pulse width (4 to 50ns) and repetition rate (10 to 2,000kHz) are continuously adjustable through an analog input control. Output power is adjustable through a separate digital control.

The MAKO is an efficient, ultra-compact (85 x 94 x 15 mm<sup>3</sup>) and ultra-light, all-fiber OEM unit specifically designed for sensing applications requiring small size.



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# MAKO-1030 Specifications

OPTICAL			
Parameter	Unit	Value	Comment
Center wavelength	nm	1030	
Optical bandwidth, CW	MHz	10	>99% of power in band
Optical bandwidth, pulsed	nm	1	>95% pow. in band, 2.5kW peak pow.
Average output power, CW	W	1.5	
Average output power, pulsed	W	1.2	100kHz, 5ns
Pulse repetition rate	kHz	10 to 2000	
Power tunability	%	0 to 100	
Pulse width	ns	4 to 50	
Peak power	kW	2.5	
Energy-per-pulse	μJ	10	
ASE level, pulsed	%	2	%power, 100kHz, 5ns, 1.2W avg. pow.
Output power variation, CW	% RMS	2	1.5W out
Pulse energy variation	% RMS	5	100kHz, 5ns, 1W avg. power
Output mode M <sup>2</sup>	-	1.1	
Output mode MFD	μm	10	
Output fiber length	cm	20	Other lengths available
Output fiber description		3mm SS, FC/APC	3mm PVC available on request
ELECTRICAL/MECHANICAL			
Mechanical package		85x94x15mm <sup>3</sup>	
Supply power consumption	W	15	25 °C, 1.5W output power
Control interface		Analog/digital inputs	
ENVIRONMENTAL			
Operating temperature	°C	-10 to 50	
Operating relative humidity	%	0 to 95	Non-condensing

## CUSTOMIZATION

The **MAKO** is a laser platform that can be customized to match Customer's specific requirements. Please contact Cybel.

**COMPLIANCE with Regulatory Requirements:** These OEM products are Class 4 lasers as designated by the Center for Device and Radiology Health (CDRH). As such they are intended only in integration into other equipment and do not comply with CDRH requirement. It is the customer responsibility for CDRH certification of the full system that incorporates this industrial laser.



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