

YLMO-930

Femtosecond Fiber Laser for Life Sciences and Microscopy



Menlo Systems' femtosecond fiber laser integrates the latest developments in fiber technology and incorporates these enhancements into an easy-to-use solution.

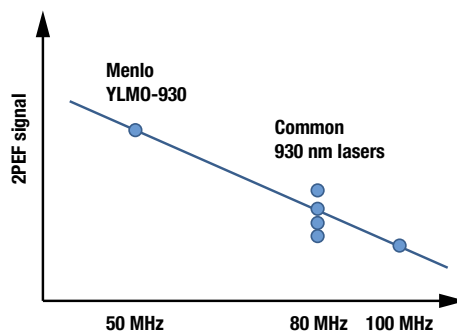
Our patented figure 9[®] technology delivers reliable and consistent mode-locking, which is ideally suited to ensure long-term stable operation in demanding environments. The YLMO-930 with its PM-fiber design guarantees excellent stability and consistent long-term performance. The YLMO-930 is engineered with life science applications in mind. The pulses can be pre-chirped to attain their shortest width within their intended target sample.

The installation of the laser system is as easy as it gets, taking only a few minutes. For ease of operation, the laser is switched on by the push of a single button. The maintenance free operation translates to a worry-free device that enables our customers to focus their time and resources on their actual application.

PERFORMANCE DATA

Maximize your signal - avoid heating

Get higher multi-photon signals with the YLMO-930 using higher pulse energy levels. The repetition rate of 50 MHz allows to have higher multi-photon signals when using low average powers. Highest signal - minimal heating of the sample.

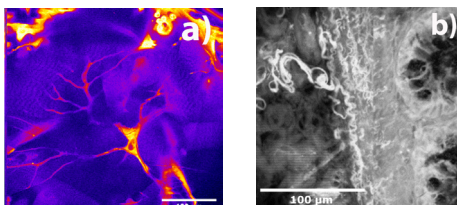


Graph shows 2-Photon Excitation Fluorescence Signal (2PEF) as function of laser repetition rate for a given constant average power

Application examples

Two-photon microscopy images using the YLMO-930 for fluorescence excitation.

- a) In-vivo image of drosophila larvae (GFP),
- b) Colon tissue.



Images courtesy of Hervé Rigneault, Institut Fresnel

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KEY SPECIFICATIONS

- Wavelength 930 nm
- Repetition Rate 50, 80, or 100 MHz
- Pulse Width <140 fs (typ. 120 fs)
- Pulse Energy >10 nJ

APPLICATIONS

- Multi-Photon Excitation
- Activation of GFP

FEATURES

- figure 9[®] Technology
- Reliable Mode-Locking
- Long-Term Stable Operation
- Robust Design for Harsh Environments
- Fast and Easy Installation
- Maintenance-Free Operation
- Compact Design and Silent Operation
- Simple Front-Panel and Easy Software Interface
- Fast Startup within 60 Seconds
- User-Settable Pre-Chirped Pulse Compressor

OPTIONS

- **VARIANT 1:** 50 MHz
- **VARIANT 2:** 80 or 100 MHz
- **Fast Amplitude Modulation** rise-time <1 µs

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Femtosecond Fiber Laser for Life Sciences and Microscopy

SPECIFICATIONS	YLMO-930 VARIANT 1	YLMO-930 VARIANT 2
Center Wavelength	930 nm ± 10 nm	930 nm ± 10 nm
Pulse Width (FWHM)	<140 fs, (typ. 120 fs)	<140 fs, (typ. 120 fs)
Average Power	>0.5 W	>1 W (@ 100 MHz)
Pulse Energy	>10 nJ	>10 nJ
Repetition Rate	50 MHz ± 1 MHz *	100 MHz ± 1 MHz and 80 MHz ± 1 MHz*
Polarization	linear, (>50:1)	linear, (>50:1)
Beam Diameter	2.0 mm ± 0.5 mm	2.0 mm ± 0.5 mm
Bandwidth	>10 nm	>10 nm
Output Port	freespace	freespace
Beam Height	56 mm	56 mm
Beam Divergence	<2 mrad	<2 mrad
Beam Quality	M ² <1.2 (typ. <1.1)	M ² <1.2 (typ. <1.1)
Dispersion Control	0 fs ² ... - 60.000 fs ²	0 fs ² ... - 60.000 fs ²

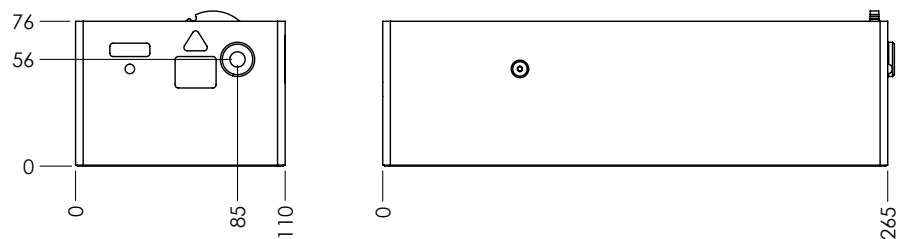
*Please inquire about your specific repetition rates.

REQUIREMENTS AND DIMENSIONS

Operating Voltage	110 / 115 / 230 VAC, 50 to 60 Hz
Max. Power Consumption	200 W
Operating Temperature	15 °C - 30 °C
Laser Head	265 x 110 x 76 mm ³ / <5 kg
Control Unit	19", 2 HU (449 x 496 x 96 mm ³), <20 kg
Umbilical Cord Length	2 m*
Interfaces	USB, Interlock, Trigger-Out

*Please inquire your specific umbilical cord lengths.

TECHNICAL DRAWING



Technical drawing of the YLMO-930 laser head. The laser head comes equipped with detachable 25 mm posts and post clamps. Please contact us for more details and technical drawings of the control unit.

ORDERING INFORMATION

Product Code	YLMO-930 VARIANT 1	YLMO-930 VARIANT 2
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Please call for pricing. Specifications are subject to change without notice. Custom modifications are available, please inquire.

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Invisible laser radiation
avoid exposure to beam
Class 4 laser

