

# YLMO Mid-IR

## Femtosecond Fiber Laser for Mid-IR Spectroscopy



**MenloSystems**

### KEY SPECIFICATIONS

- Spectral Range 3-5  $\mu\text{m}$
- High Output Power Levels >100 mW
- Compact Footprint
- Large Spectral Bandwidth up to 300  $\text{cm}^{-1}$
- Short Pulses <400 fs (typ. <200 fs)

### APPLICATIONS

- Fourier-Transform Spectroscopy in the Mid-IR
- Chemical and Biomolecular Sensing of Molecules
- Fast and Precise Detection of Atmospheric Gases

### FEATURES

- High Intrinsic Stability
- Tunable Wavelength with High Power Levels
- Low Amplitude and Phase Noise
- Short Femtosecond Pulses in the Mid-IR
- All-Polarization Maintaining Solution
- Carrier-Envelope Offset Free Femtosecond Laser
- Menlo figure 9<sup>®</sup> Technology
- Active Output Power Stabilization

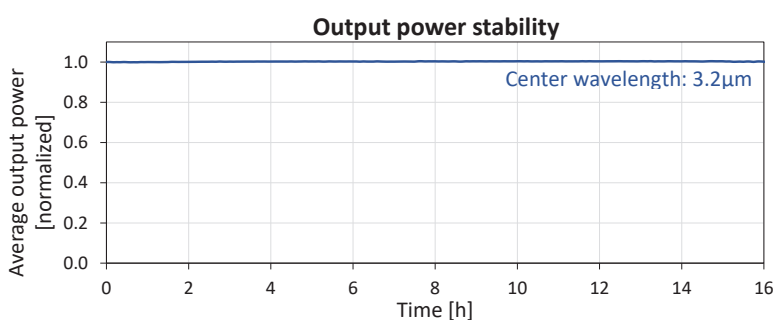
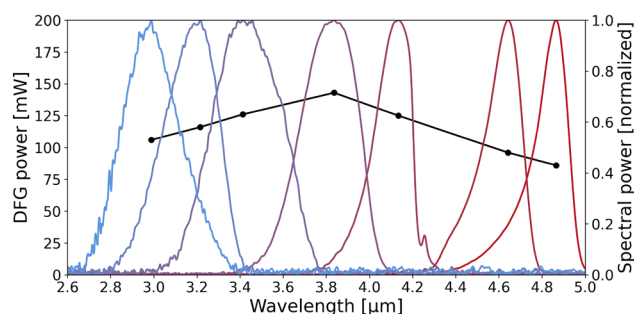
### OPTIONS

- Fully Automated Spectral Tunability
- Different Repetition Rates
- Other Wavelengths on Request
- Fiber Coupled Output Port

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

The YLMO Mid-IR with its compact and robust design guarantees excellent stability and consistent long-term performance. The power levels of more than 100 mW easily serve common requirements of state-of-the-art mid-IR applications. Femtosecond pulse durations of less than 400 fs allow broadband spectroscopy applications as well as time resolved measurements. The maintenance free operation guarantees a worry-free device that enables our customers to focus their time and resources on their actual application. The installation of the laser system is as easy as it gets, taking only a few minutes.

### PERFORMANCE DATA



# YLMO Mid-IR

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## Femtosecond Fiber Laser for Mid-IR Spectroscopy

### SPECIFICATIONS

### YLMO MID-IR

Wavelength Range*	3-5 $\mu\text{m}$ (tunable within this range, other wavelengths on request)
Average Power*	>100 mW in selected spectrum (>100 mW 3.0-4.7 $\mu\text{m}$ , >80 mW 4.7-5.0 $\mu\text{m}$ )
Repetition Rate*	100 MHz
Output*	Free space (fiber coupling on request)
Polarization	linear, s-polarized
Pulse Width*	< 400 fs (typ. 200 fs)

\*Please inquire for your specific combinations of average output power, pulse duration, repetition rate.

### REQUIREMENTS AND DIMENSIONS

Operating Voltage	100-120 V (50/60 Hz), 220-240 V (50/60 Hz)
Max. Power Consumption	200 W
Operating Temperature	15 °C - 30 °C
Laser Head	340 x 290 x 90 mm <sup>3</sup> , <10 kg
Control Unit	19", 2 HU (449 x 496 x 96 mm <sup>3</sup> ), <20 kg
Umbilical Cord Length	2 m*
Interfaces	USB, Interlock, Trigger-Out

\*Please inquire your specific umbilical cord lengths.

### OPTICAL LAYOUT



Starting from Menlo's turn-key, reliable figure 9<sup>®</sup> fiber laser oscillators, a two-color femtosecond laser system is realized using spectral shifting in highly nonlinear fibers. The two branches of femtosecond pulses of different wavelengths are spatially and temporally overlapped and subsequently focused into a nonlinear crystal for difference frequency generation (DFG). This allows the generation of femtosecond pulses in the mid-IR covering the spectral range from 3  $\mu\text{m}$  to 5  $\mu\text{m}$  with high output power levels. The wavelength can be fully automated tuned in the specified wavelength range.

### ORDERING INFORMATION

**Product Code** | YLMO MID-IR

Please call for pricing. Specifications are subject to change without notice. Custom modifications are available, please inquire.



Invisible laser radiation  
avoid exposure to beam  
Class 3B laser

**MenloSystems**

**Menlo Systems GmbH**  
T+49 89 189 166 0  
sales@menlosystems.com

**Menlo Systems, Inc.**  
T+1 973 300 4490  
ussales@menlosystems.com

**Thorlabs, Inc.**  
T+1 973 579 7227  
sales@thorlabs.com

**Menlo K.K.**  
T+81 9074092021  
jpsales@menlosystems.com

**Menlo Systems China**  
chinasales@menlosystems.com

