

Key Features

- Output Power >0.5W
- Linewidth 1MHz to 10kHz
- Stable Single Frequency
- Low intensity noise
- Single Mode, $M^2 \approx 1$
- Standard or All-PM version
- Adjustable Wavelength & Power
- Compact & Rugged Module
- PM Output with High PER
- RS 232 Interface
- Operation Temp: 0 to 50°C

Applications

- LIDAR
- Fiber Optic Sensing
- Laser Spectroscopy
- Coherent communications
- Analog & RF Photonics

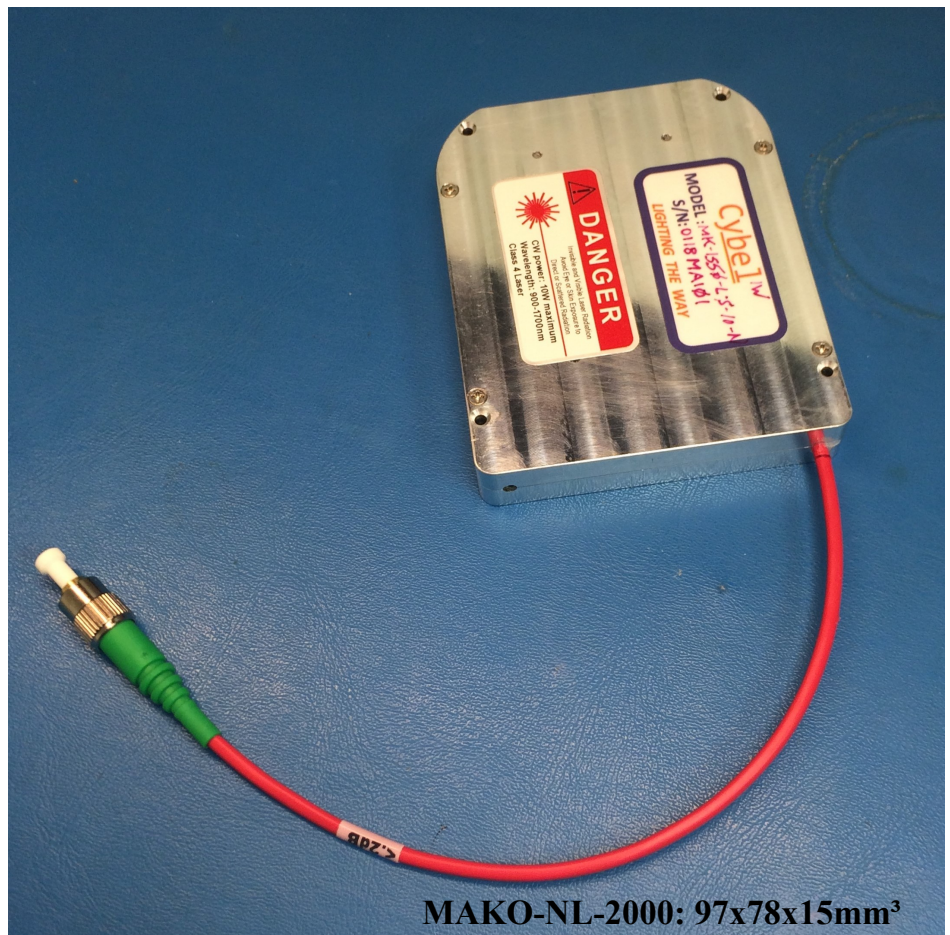
MAKO SERIES

Also available at different standard wavelengths with same high performance and compact footprint:

- ◆ MAKO-1030
- ◆ MAKO-1064
- ◆ MAKO-NL-1550
- ◆ MAKO-NL-1900

The **CYBEL MAKO-NL-2000** is a single frequency narrow linewidth fiber laser designed for low noise applications in the wavelength range from 2000 to 2100nm. The **MAKO-NL 2000** OEM module produces a highly stable CW output of more than a 0.5W with a sub-MHz linewidth range, low RIN and intensity noise and excellent OSNR.

Since the **MAKO-NL 2000** design available in a robust and small form factor packaging ($97 \times 78 \times 15 \text{mm}^3$). This OEM laser product comes as either a standard or an all polarization maintaining (PM) laser that provides steady performance in adverse environmental conditions. External monitoring and control can be achieved via RS 232 computer interface.



MAKO-NL-2000: $97 \times 78 \times 15 \text{mm}^3$

MAKO-NL-2000 Specifications

| OPTICAL | Unit | Value | Comment |
|--------------------------------|--------|--------------------------|--------------------------------|
| Center wavelength | nm | 2000 | 1950 to 2100nm |
| Output power | W | 0.5 | Scalable; High power available |
| Output signal linewidth (3 dB) | MHz | <1 | Option of 10KHz or less |
| Beam quality (M^2) | kHz | <1.1 | |
| Side mode sup. ratio (SMSR) | dB | 50 | @Pout=1W, Res; 0.05nm |
| Polarization ext. ratio | dB | ≥ 18 | PM version |
| Relative intensity noise (RIN) | dBc/Hz | <120 @ 500Hz | |
| Output fiber stability | % | <1 | With 30dB output isolator |
| Pigtail output fiber | m | SMF 28 or PM Panda fiber | Armored cable, optional |
| Fiber length | m | 1 | FC/APC connector termination |
| Output power tuning range | % | 10 to 100 | |
| ELECTRICAL/MECHANICAL | | | |
| Voltage | V | 12 & 2 | |
| Warm-up Time | min | 20 | |
| Mechanical package | mm | 97x78x15 | |
| Supply power consumption | W | 20 | @Pout max=0.5W |
| Control interface | | RS 232 | |
| ENVIRONMENTAL | | | |
| Operating temperature | °C | 0 to 50 | |
| Operating relative humidity | % | 0 to 95 | Non-condensing |

CUSTOMIZATION

The MAKO-NL-2000 is a laser platform that can be customized to match Customers' 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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