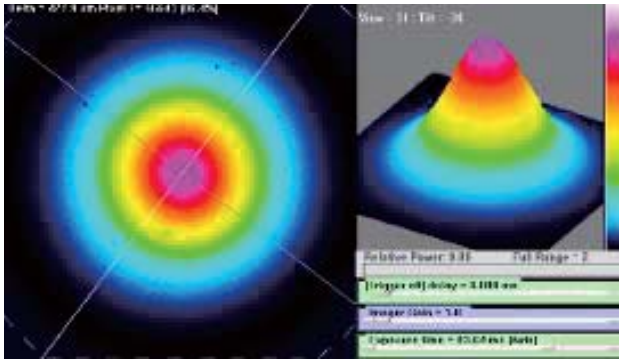
Technical information SS03-d

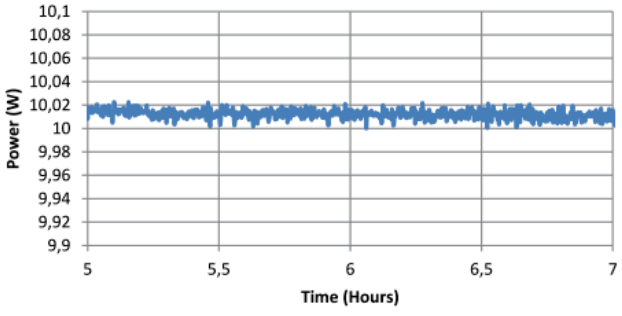
# ALS 532 CW Fiber Lasers 1W 2W 5W 10W

## All-fiber based MOPA Technology



ALS-GR-532 lasers are based on only single mode fibers architecture, demonstrating an ultra-stable high quality single spatial mode.
Typical value: $M^2 < 1.05$ specified at $M^2<1.1$

### Short term stability

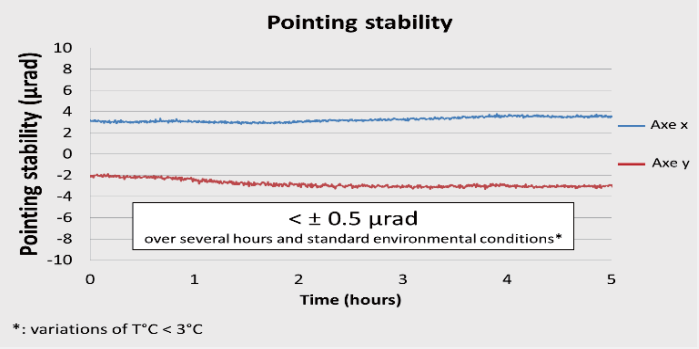



The graph below shows the power stability of the entire range of ALS-GR-532 lasers: short term fluctuations < +/- 0.2% (limited by detector noise) and long term fluctuations < +/- 0.3%.

## Control-Measurement
## Interferometry
## Ar Laser replacement
## Laser Doppler velocimetry
## High resolution interferometry
## Holography

### key features :

- **TEM00 mode**
- **Long coherence length**
- **$M^2 < 1.1$**
- **Single frequency**
- **Ultra-low noise**
- **Excellent pointing stability**
- **Ultra stable power output**
- **High polarization ratio and stability**
- **Coolerless laser head**
- **Compact design**
- **Maintenance free - long life**
- **Low power consumption**
- **OEM versions available**
- **RoHS Compliant**




The graph shows the stability of pointing of a standard ALS-GR-532 lasers. Customers from industry validated our solution as the only one on the market to be able to replace and improve their performances performed with Argon lasers regarding the central frequency stability and the pointing stability.

# SPECIFICATIONS

| | 532nm Fiber Lasers with internal seeder | | | | Unit |
|---|---|---|---|---|---|
| **Wavelengths** (1) | 532 ± 0,25 | | | | nm |
| **Output power** | 1 | 2 | 5 | 10 | W |
| **Output power Tunability** | 1 to 100 (10 to 100 recommended) | | | | % |
| **Beam quality** | $M^2 < 1.1$ | | | | - |
| **Beam diameter « free space »** | 1 ± 0.2 (other upon request) | | | | mm |
| **Beam divergence ½ Ang.** | < 0.5 | | | | mrad (@1/e^2) |
| **Spatial mode** | $TEM_{00}$ | | | | - |
| **Spectral width** - single frequency (2) | < 200 | | | | kHz |
| **Power stability** | < ± 0.3 (short term)<br>< ± 0.5 (over 8 hours) | | | | %<br>% |
| **Noise** [100Hz - 10MHz]: - single frequency | < 0.05 | | | | % rms |
| **Frequency stability** (3) | < 0.1 | | | | pm |
| **Output polarization** | Linear > 300:1 | | | | - |
| **Pointing stability** | < ± 0.5 | | | | µrad/°C |
| **Output**(4) | Free space laser head | | | | - |
| **Laser control** | Multi-turn potentiometer, Touch screen, Analog voltage | | | | - |
| **Supply requirements** | 90-240V/50-60Hz | | | | - |
| **Electrical power consumption** | 200<…<300 | | | | W |
| **Cooling** | Air cooled | | | | - |

(1): Other wavelengths available on request.
(2): With standard internal laser seed , linewidth reduction down to 10kHz available as an option with an external seeder rack.
(3): For single frequency version only. Measured over 8 hours and temperature variation < 3°C.
(4): Optional output depending on the laser power: PM980 / HI1060 / LMA / Collimated fiber / Multiple output beam splitting

**Options**: external ALS seeder (FC/APC) or external tunable ( thermal & piezo) seeder (FC/APC)

| Dimensions | |
|---|---|
| **Laser Rack** | 480 x 460 x 130mm |
| **Laser Heads** | <5W: 275 x 120 x 50mm or 5+W: 325 x 120 x 50mm |

About 1,5 meters cable length between rack and the beam output from the laser head
Coolerless laser head
19'' 3U air cooled power unit
Passive or active fibered 1,5m IR beam dumper for output power >1W

**Customized optical output option available according to the Fiber Laser power :**
**beam splitting: 1:3 or more, free space or fibered**
**Beam shaping**
**Advanced optical setup**

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