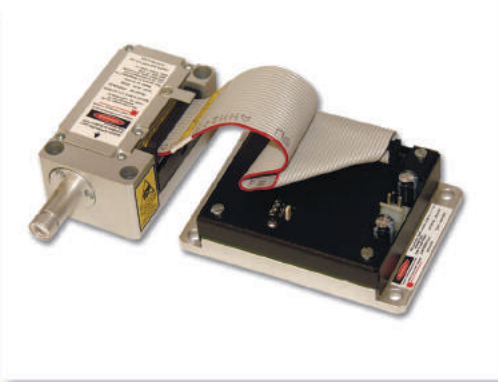


LCM-S-111 LCM-S-112

Single-frequency Laser Modules



✓ FEATURES

- Single longitudinal mode
- Ultra-low optical noise
- Narrow line width
- High coherence length
- Perfect beam quality, TEM₀₀
- RoHS compliance

✓ YOUR BENEFITS

- Long-term reliability (>10,000 hours lifetime)
- Stable output power in wide operating temperature range
- Very suitable for OEM projects
- Special modification for Raman

✓ APPLICATIONS

- Raman spectroscopy
- Laser microscopy
- Interference measurements
- Particle analysis
- Dynamic light scattering
- Flow cytometry
- Holography
- Semiconductor inspection
- Laser-assisted measurements

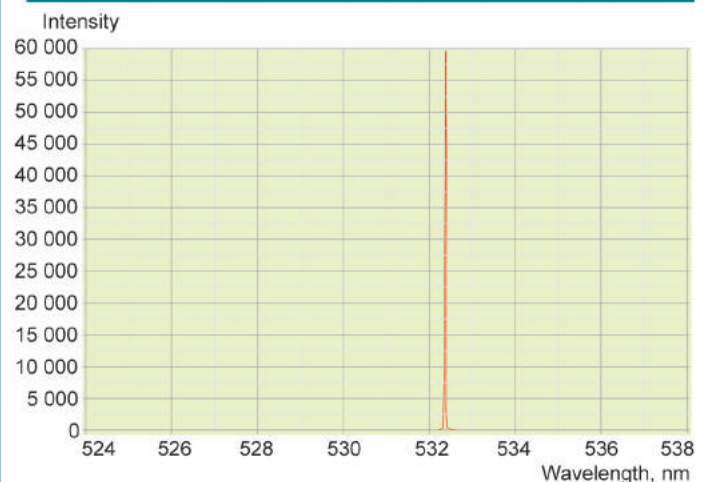
S-series lasers are reliable, low-power, single-longitudinal-mode DPSS laser modules with CW output at 532 or 1064 nm. They are very compact and have optimum parameters and performance for OEM. They are characterized by low optical noise (<0.1% RMS), narrow line width (<0.00001 nm), high coherence length, and stable output power in a wide operating temperature range. The lasers are available in power from 10 to 50 mW in green and up to 100 mW in IR spectrum range.

Main application include Raman spectroscopy, dynamic light scattering, confocal laser microscopy, interference measurements, interference measurements, holography, and laser-assisted measurements.

Modification LCM-S-111-20-R has been specially developed for Raman spectroscopy. Due to a special technical solution, back reflection hitting output laser aperture does not have an essential influence on the output power stability and the level of optical noise.

This advantage makes the laser an ideal source for use in Raman spectroscopy.

CDRH-compliant, all-in-one laser systems SLM-417 (532 nm) and SLM-427 (1064 nm) for laboratory use are also available.



 **Laser-compact group**
Laser-export Co.Ltd

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**Parameter / Model**

	LCM-S-111	LCM-S-111-R	LCM-S-112
LASER HEAD:			
Wavelength, nm	532		1064
Output Power, mW, CW	11 ± 1	22 ± 2	110 ± 10
Transverse Mode	TEM ₀₀ , M ² < 1.2 (typ. 1.05)		
Longitudinal Modes	Single Longitudinal Mode		
Line Width, nm	0.00001		
Coherence Length, m	> 50		
Polarization Linearity	> 100:1, horizontal		> 50:1, horizontal
Ellipticity	0.95 - 1.05		
Noise (10Hz-20MHz, 15-50 C°)	<0.2% RMS and <0.9% p-to-p		<0.3% RMS and <1.3% p-to-p
Noise (10Hz-20MHz, 25 C°)	<0.1% RMS and <0.5% p-to-p		<0.2% RMS and <0.9% p-to-p
Noise with back reflection (10 Hz - 20 MHz)	-	<6% RMS*	-
Long Term Stability	<2% p-to-p / 8 hours		
Dimensions, mm (without beam expander)	65 x 40 x 29		
Weight, kg	<0.15		
Housing Base Temperature Range, °C	15 - 50		
Heating Power, W	max. 10 (typ. 6)		
DRIVER:			
Input Voltage	4.5 - 6 VDC, stabilized		
Current Consumption (max)	4 A @ 5VDC		
Heating Power (max)	5 W @ 5VDC		
Dimensions, mm (max)	85 x 60 x 31		

* - back reflection is 15%, relation between noise and back reflection is approximately linear.

Model number description: LCM-S- 11X - Y - Z, for example, LCM-S-111-20-NP25

X (wavelength): _____

- 1, if 532 nm
- 2, if 1064 nm

Y (output power): _____

- 50, if 55 ± 5 mW
- 20, if 22 ± 2 mW
- 10, if 11 ± 1 mW
- 100, if 110 ± 10 mW

Z (beam expander model) _____

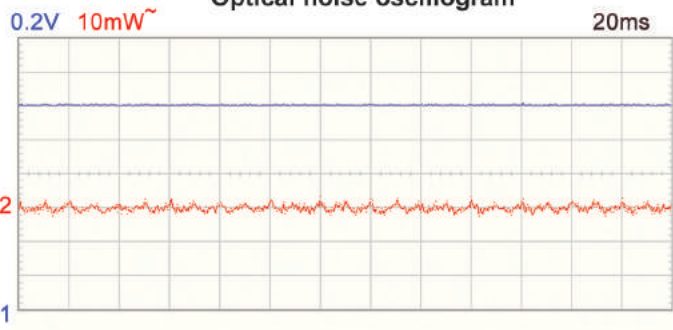
different beam parameters are available as option:

Model of beam expander	Beam diameter, mm		Beam divergence, mrad	
	532 nm	1064 nm	532 nm	1064 nm
NP25	∅1.1 ± 0.1	∅2.0 ± 0.2	0.6 ± 0.1	0.8 ± 0.1
NNP25	∅2.2 ± 0.2	-	0.33 ± 0.05	-
NP35	∅1.6 ± 0.1	-	0.45 ± 0.05	-
P35	∅0.35 ± 0.03	-	1.8 ± 0.2	-
P25	∅0.25 ± 0.02	-	2.5 ± 0.2	-
(w/o beam expander)	<0.25 (beam waist 0.07 ± 0.007)	<0.5 (beam waist 0.07 ± 0.007)	10 ± 1	20 ± 2

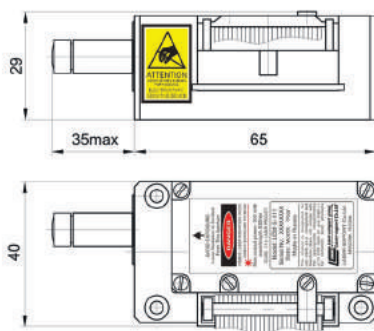
Typical beam profile



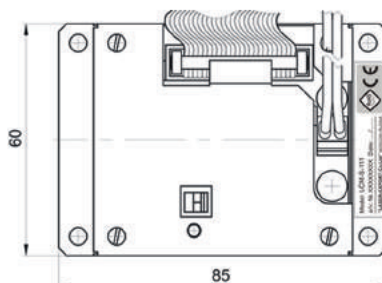
Optical noise oscillogram



Laser Head



Power Supply



Model: LCM-S-111
 s/n: № XXXXXXXX Date: / /
 "LASER-EXPORT Co.Ltd" MOSCOW, RUSSIA

ISO 9001:2008
 certified



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