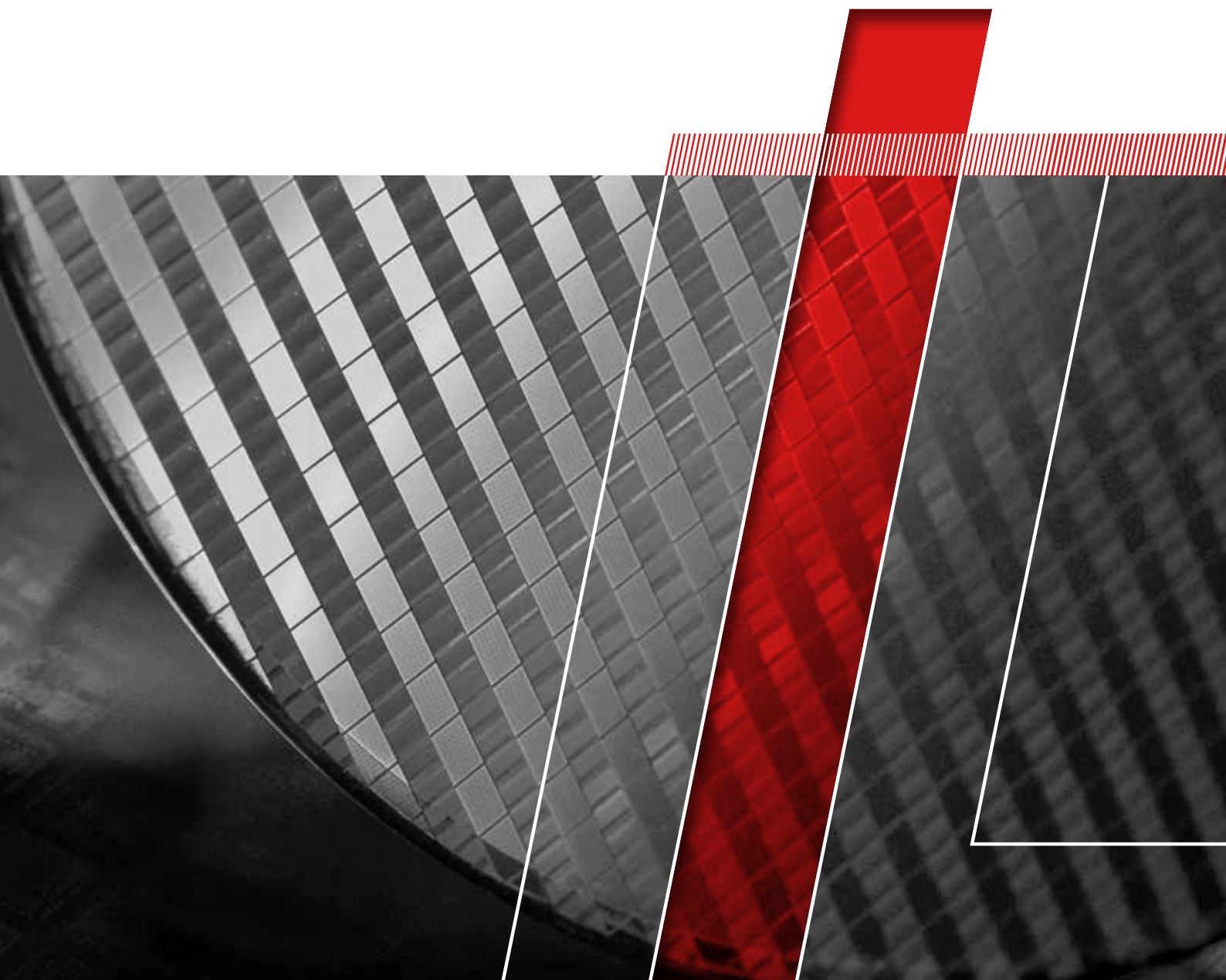


mosquito*
Mini DPSS Lasers



Think of **LASER** as a tool



mosquito* Mini DPSS Lasers

Versatility. Flexibility. Reliability.

The all new mosquito series of mini DPSS lasers is designed to deliver exceptional performance in a compact footprint. The innovative system architecture provides a nearly diffraction limited beam with short pulse widths and superior pulse-to-pulse stability even at high repetition rates. The compact, conduction cooled laser head and the field proven

InnoLas Laser Control (ILC) interface allows easiest integration and make this laser a rugged tool with exceptional performance and reliability. Our clean room production and the use of highest quality components ensures consistent quality and longest laser lifetimes.

Applications

- * Photovoltaic Manufacturing
- * LED Chip and PCB Marking
- * Stereo Lithography
- * Semiconductor Manufacturing
- * Resistor Trimming

Features

- * Short pulse widths of <math><10\text{ ns}</math>
- * Rugged design for hands-off operation
- * Contact cooling
- * Small footprint
- * Long life pump diode



Pulse widths as short as 6 ns and pulse peak powers above 10 kW open new possibilities in laser material processing applications. Processes which previously required cost intensive high power lasers can now be accomplished with the compact and conduction cooled mosquito laser.



mosquitoo

Specifications

	1064-3-V	532-2-V
Laser Medium	Nd:YVO ₄	Nd:YVO ₄
Wavelength	1064 nm	532 nm
Nominal Power	3 W @ 100 kHz	2 W @ 50 kHz
Repetition Rate	Single Shot to 200 kHz	Single Shot to 200 kHz
Pulse Width	< 13 ns @ 50 kHz	< 12 ns @ 50 kHz
Pulse Energy	50 µJ @ 50 kHz	40 µJ @ 50 kHz
Peak Power	> 3.8 kW @ 50 kHz	> 3.3 kW @ 50 kHz
Pulse-to-Pulse Stability	< 2 %	< 3 %
Power Stability (rms, 8h)	< 2 %	< 2 %
Spatial Mode	M ² < 1.2, TEM ₀₀	M ² < 1.3, TEM ₀₀
Nominal Beam Diameter (at waist)	0.4 mm	0.3 mm
Nominal Waist Location (from output)	-85 mm	-164 mm
Beam Divergence (full angle)	4.0 mrad	2.9 mrad
Nominal Beam Diameter (at output)	0.5 mm	0.6 mm
Polarization	Vertical, > 100:1	Horizontal, > 100:1
Circularity	> 90 %	> 85 %
Warm-up Time	< 10 min	< 10 min
Operating Voltage	115-230 VAC ± 10 %, 50-60 Hz, single phase (24 VDC on request)	115-230 VAC ± 10 %, 50-60 Hz, single phase (24 VDC on request)
Laser Power Consumption	< 150 W	< 150 W
Cooling	Contact, < 80 W, 40 °C Maximum Base Temperature	Contact, < 80 W, 40 °C Maximum Base Temperature
Ambient Temperature	15-35 °C (59-95 °F), non-condensing	15-35 °C (59-95 °F), non-condensing
External Control	RS232, USB, TTL and Analog Q-Switch Control	RS232, USB, TTL and Analog Q-Switch Control
Dimensions Laser Head (L x W x H)	165 x 95 x 54 mm (6.5 x 3.74 x 2.13 in.)	165 x 95 x 54 mm (6.5 x 3.74 x 2.13 in.)
Dimensions Power Supply (L x W x H)	408 x 447 x 44 mm (16.06 x 17.6 x 1.73 in.) 19" system, 1 RU high	408 x 447 x 44 mm (16.06 x 17.6 x 1.73 in.) 19" system, 1 RU high
Weight Laser Head	1.5 kg (3.3 lbs.)	1.5 kg (3.3 lbs.)
Weight Power Supply	6 kg (13.2 lbs.)	6 kg (13.2 lbs.)

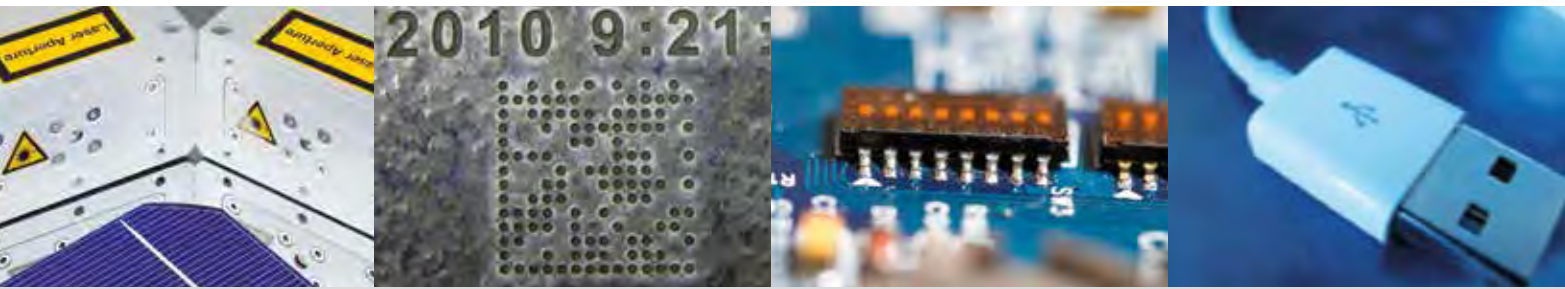
Available Options

Umbilical length between laser head and power supply 1-20 m. Standard is 3 m. External beam expander box, beam expanders and scan head adapter flanges. Customized power supply front design. Variable attenuator.



532-2-Y	355-0.3-V	355-0.3-Y
Nd:YAG	Nd:YVO ₄	Nd:YAG
532 nm	355 nm	355 nm
2 W @ 10 kHz	0.3 W @ 50 kHz	0.3 W @ 10 kHz
Single Shot to 100 kHz	Single Shot to 200 kHz	Single Shot to 100 kHz
< 15 ns @ 10 kHz	< 10 ns @ 50 kHz	< 13 ns @ 10 kHz
200 µJ @ 10 kHz	6 µJ @ 50 kHz	30 µJ @ 10 kHz
> 13.3 kW @ 10 kHz	> 0.6 kW @ 50 kHz	> 2.3 kW @ 10 kHz
< 3 %	< 4 %	< 4 %
< 2 %	< 2 %	< 2 %
M ² < 1.3, TEM ₀₀	M ² < 1.3, TEM ₀₀	M ² < 1.3, TEM ₀₀
0.3 mm	0.2 mm	0.2 mm
-164 mm	-164 mm	-164 mm
2.9 mrad	2.9 mrad	2.9 mrad
0.6 mm	0.5 mm	0.5 mm
Horizontal, > 100:1	Vertical, > 100:1	Vertical, > 100:1
> 85 %	> 85 %	> 85 %
< 10 min	< 10 min	< 10 min
115-230 VAC ± 10 %, 50-60 Hz, single phase (24 VDC on request)	115-230 VAC ± 10 %, 50-60 Hz, single phase (24 VDC on request)	115-230 VAC ± 10 %, 50-60 Hz, single phase (24 VDC on request)
< 150 W	< 150 W	< 150 W
Contact, < 80 W, 40 °C Maximum Base Temperature	Contact, < 80 W, 40 °C Maximum Base Temperature	Contact, < 80 W, 40 °C Maximum Base Temperature
15-35 °C (59-95 °F), non-condensing	15-35 °C (59-95 °F), non-condensing	15-35 °C (59-95 °F), non-condensing
RS232, USB, TTL and Analog Q-Switch Control	RS232, USB, TTL and Analog Q-Switch Control	RS232, USB, TTL and Analog Q-Switch Control
165 x 95 x 54 mm (6.5 x 3.74 x 2.13 in.)	165 x 95 x 54 mm (6.5 x 3.74 x 2.13 in.)	165 x 95 x 54 mm (6.5 x 3.74 x 2.13 in.)
408 x 447 x 44 mm (16.06 x 17.6 x 1.73 in.)	408 x 447 x 44 mm (16.06 x 17.6 x 1.73 in.)	408 x 447 x 44 mm (16.06 x 17.6 x 1.73 in.)
19" system, 1 RU high	19" system, 1 RU high	19" system, 1 RU high
1.5 kg (3.3 lbs.)	1.5 kg (3.3 lbs.)	1.5 kg (3.3 lbs.)
6 kg (13.2 lbs.)	6 kg (13.2 lbs.)	6 kg (13.2 lbs.)

InnoLas follows a policy of continuous product improvement. All specifications are subject to change without notice. Rev. 2.1, 04/2014.
 InnoLas Laser GmbH is DIN EN ISO 9001 certified.



Services

Applications Lab

Our in-house applications lab offers a wide variety of lasers, scanning and measurement equipment to find the ideal solution for your application tasks. Supported by our application experts, our open house policy allows for fast results and short lead times for your sample processing requests.

Customer Service

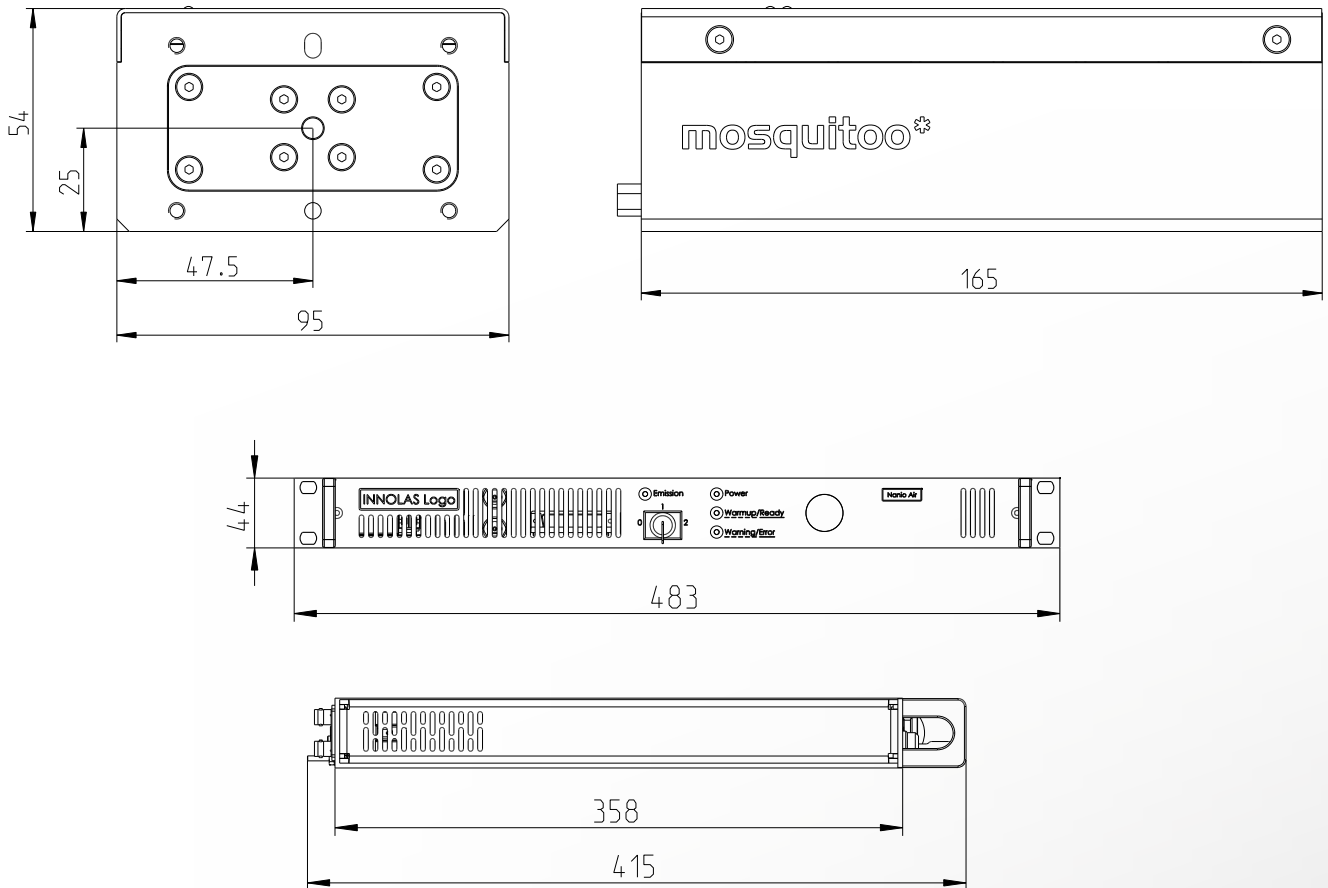
Being close to the customer is our strength. Customer requests, new challenges or service issues are handled directly in our engineering department. And we guarantee fastest response times as you expect it.

Customization

Since today's demanding applications deserve optimized laser parameters, we do not only sell off-the-shelf products. We can tailor our laser performance, design, interfacing or software to perfectly fit your individual application needs.



Technical Drawing



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