

TERRA TWINS

Double-pulse diode-pumped Nd:YLF laser, kHz repetition rates



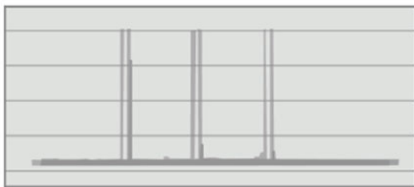
MAIN FEATURES

- > 60 mJ total energy at 1 kHz
- Average power > 100 W @ 3 kHz
- Independent external trigger for each oscillator
- External and internal triggering
- Built-in optics for beam combination
- 3 min. diode module replacement
- Flexible time delay and energy adjustment

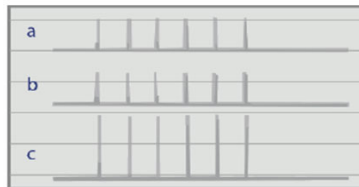
MAIN APPLICATIONS

- PARTICLE IMAGE VELOCIMETRY
- LASER INDUCED FLUORESCENCE
- LASER INDUCED BREAKDOWN SPECTROSCOPY

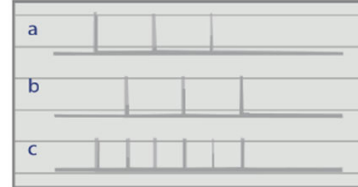
CAPABILITIES



Generation of pulse pairs
Flexible time delay adjustment

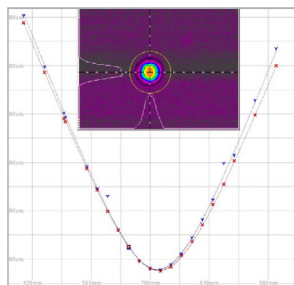


Two laser outputs synchronized to double the pulse energy and peak power,
a) one laser output,
b) a second laser output,
c) combined laser output



Two laser outputs combined with an adjustable delay to double the repetition rate of the pulse,
a) one laser output,
b) a second laser output with delay,
c) combined laser output

Typical beam profile and M² fittings



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Many options and configurations are available. Please contact Lumibird to find the best match for your needs and compatibility between options.



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SPECIFICATIONS

	Terra Twins 527-100	Terra Twins 527-80	Terra Twins 527-60	Terra Twins 527-40
Wavelength (nm)	527			
Pulse repetition rate (kHz) ⁽¹⁾	0.1 - 10			
Energy per oscillator at 0.1 - 1 kHz (mJ)	30	25	20	15
Total pulse energy at 0.1 - 1 kHz (mJ)	60	50	40	30
Average power @ 3 kHz (W)	100	80	60	40
Pulse-to-pulse energy stability (% RMS)	< 0.5			
Pulse width (ns)	< 210	< 230	< 250	< 270
Beam diameter at output (mm) ⁽²⁾	~ 3.0			
Beam divergence (mrad) ⁽²⁾	8			
Pointing stability (µrad RMS)	< 25			
Time jitter (ns RMS)	< 3			
Polarization ⁽³⁾	Circular			
Beam quality (M ²)	< 25			

All specifications at 1 kHz unless otherwise noted

(1) Single shot to 0.1 kHz available with external trigger

(2) Measured at 13.5 % level at output window

(3) Cross-polarization available as option

OTHER INFORMATION

Power requirements	Power supply	Single phase: 200-240 VAC, 50/60 Hz Operating current: 10 A, max current: 20 A
	Chiller	Single phase: 230 ± 10 % VAC, 50/60 Hz Operating current: 12A, max current: 20 A
Cooling	Water to air - Water to water cooling options available	
Operating temperature	+ 15 °C to + 35 °C	
Storage temperature ⁽¹⁾	- 20 °C to + 50 °C	
Relative humidity	8 - 80 %, non-condensing	
Cable length (m)	3.65	
Weight (kg)	Laser head	31.5
	Power supply	27
	Chiller	65
Control interface	Serial interface	RS 232
	Rear connections	External beam enable, external trigger
	Control software	MS Windows-based laser commander

(1) System flushed and drained with ethylene glycol/water mixture

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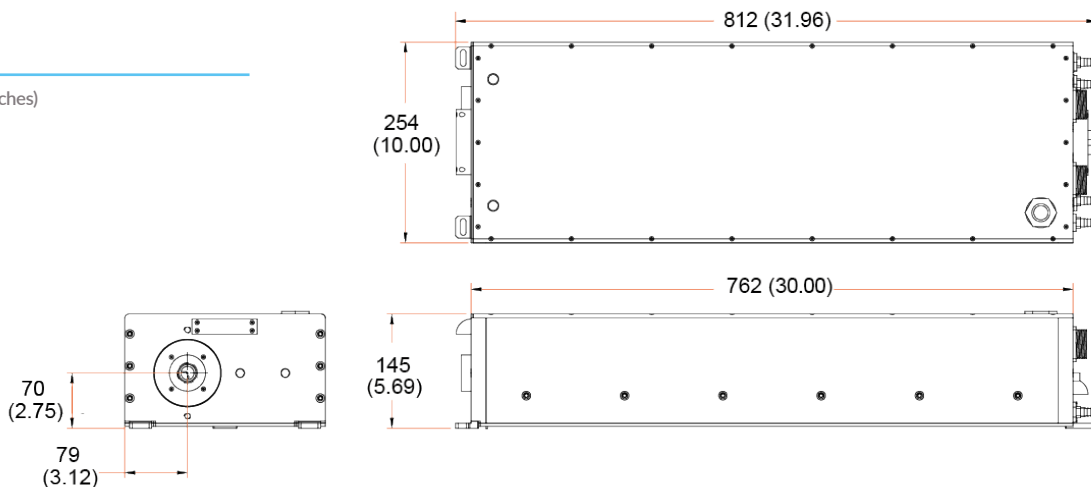
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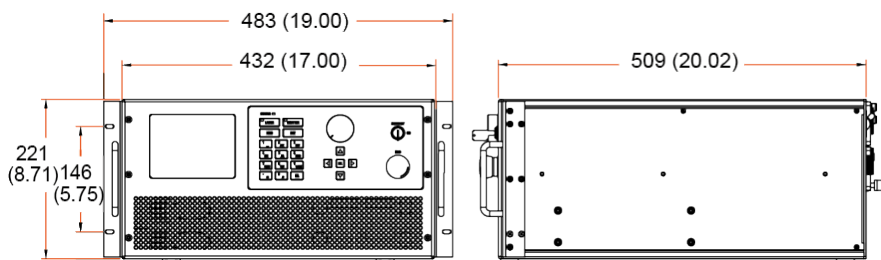


Laser head

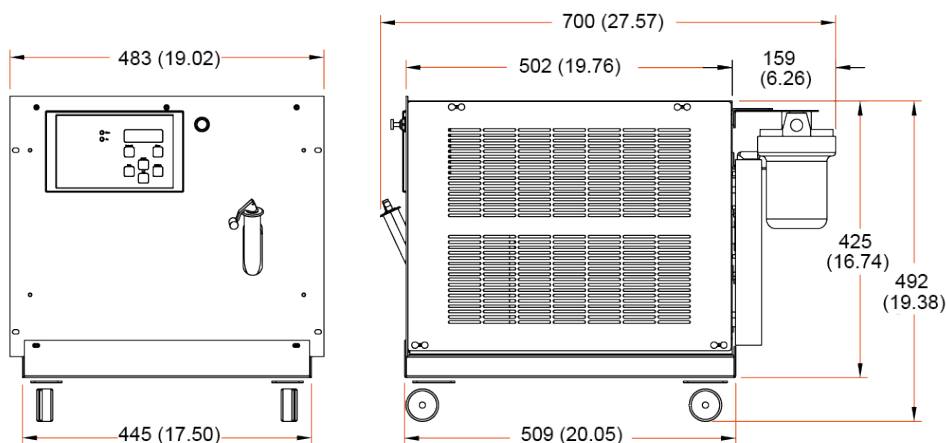
Dimensions in mm (inches)



Power supply



Chiller



DANGER
INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT

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