

TRLi HR Range

High Repetition Rate Compact High Energy Q-switched Pulsed Nd:YAG Lasers

Applications include

OPO Pumping
Ti:Sa Pumping
Dye Laser Pumping
Deflashing
Cleaning
Spectroscopy
LIBS
LIDAR
Flash Photolysis
Ablation
PLD
Photoacoustic Imaging

TRLi HR features

- Plug and play interchangeable harmonic modules to 266nm
- Twin-rod architecture for high beam homogeneity
- Intelligent motorised auto-tuning of harmonics
- Auto-stabilisation for 'set and forget' operation
- Integrated motorised attenuator
- Easy connections and fast start up
- High repetition rate output
- Stable resonator
- Rugged industrial design
- LUCi touchscreen or PC control interface



TRLi HR Range

Model options

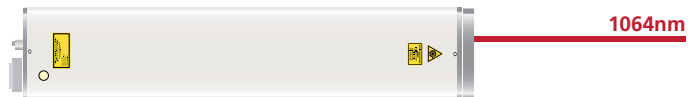
All model options are available with harmonic auto-tuning, auto-stabilisation and variable motorised attenuators.

Other model options include:

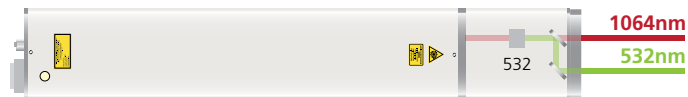
Built-in harmonic diode pointer.

Fully motorised hands free auto wavelength switching option with 532, 355, and 266nm available as a single unit.

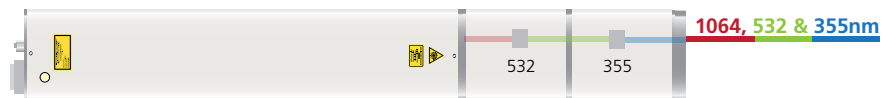
Options for 1064nm output



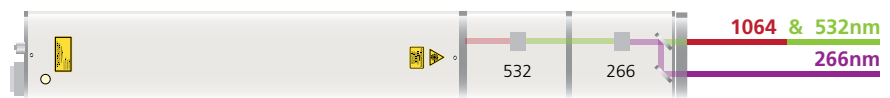
Options for 532nm output



Options for 355nm output



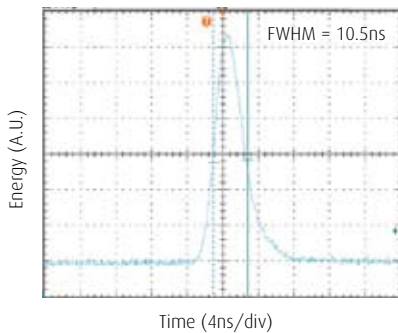
Options for 266nm output



TRLi HR RANGE SPECIFICATIONS

Model	TRLi HR 320-50	TRLi HR 100-100	TRLi HR 250-100	TRLi HR 80-200	TRLi HR 120-200
Repetition Rate (Hz)	50	100	100	200	200
Output Energy (mJ)					
1064nm	320	100	250	80	120
532nm	160	60	130	45	65
355nm	60	20	45	15	20
266nm	30	10	20	7	9
Pulse Stability ($\pm\%$) [RMS] ⁽¹⁾					
1064nm	2 [0.6]	2 [0.6]	2 [0.6]	2 [0.6]	2 [0.6]
532nm	3 [1]	3 [1]	3 [1]	3 [1]	3 [1]
355nm	4 [1.3]	4 [1.3]	4 [1.3]	4 [1.3]	4 [1.3]
266nm	6 [2]	6 [2]	6 [2]	6 [2]	6 [2]
Pulse Duration (ns) ⁽²⁾					
1064nm	~9	~10	~10	~10	~10
532nm	~8	~10	~10	~10	~10
355nm	~8	~9	~9	~9	~9
266nm	~8	~8	~8	~8	~8
Beam Parameter					
Beam Diameter (mm) ⁽³⁾	6.35	5	6.35	5	6.35
Beam Divergence (mrad) ⁽⁴⁾	2.5	2.5	2.5	2.5	2.5
Pointing Stability (μ rad) ⁽⁵⁾	<100	<100	<100	<100	<100
Timing Jitter (ns) ⁽⁶⁾	<0.5	<0.5	<0.5	<0.5	<0.5
Linewidth @ 1064nm (cm^{-1})	<0.7	<0.7	<0.7	<0.7	<0.7
Polarisation Ratio (%) ⁽⁷⁾	>90	>90	>90	>90	>90
Lamp Life (pulses)	10 ⁸	10 ⁸	10 ⁸	10 ⁸	10 ⁸
Services					
Voltage	220-250VAC	220-250VAC	220-250VAC	220-250VAC	220-250VAC
Frequency ⁽⁸⁾	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Power Phase	Single	Single	Single	Single	Single
Cooling	Water cooled	Water cooled	Water cooled	Water cooled	Water cooled
Ambient Temp ⁽⁹⁾	8-35°C	8-35°C	8-35°C	8-35°C	8-35°C
PSU Type	19" Rack	19" Rack	19" Rack	19" Rack	19" Rack

TRL-HR 250-100: Pulse shape at 100Hz

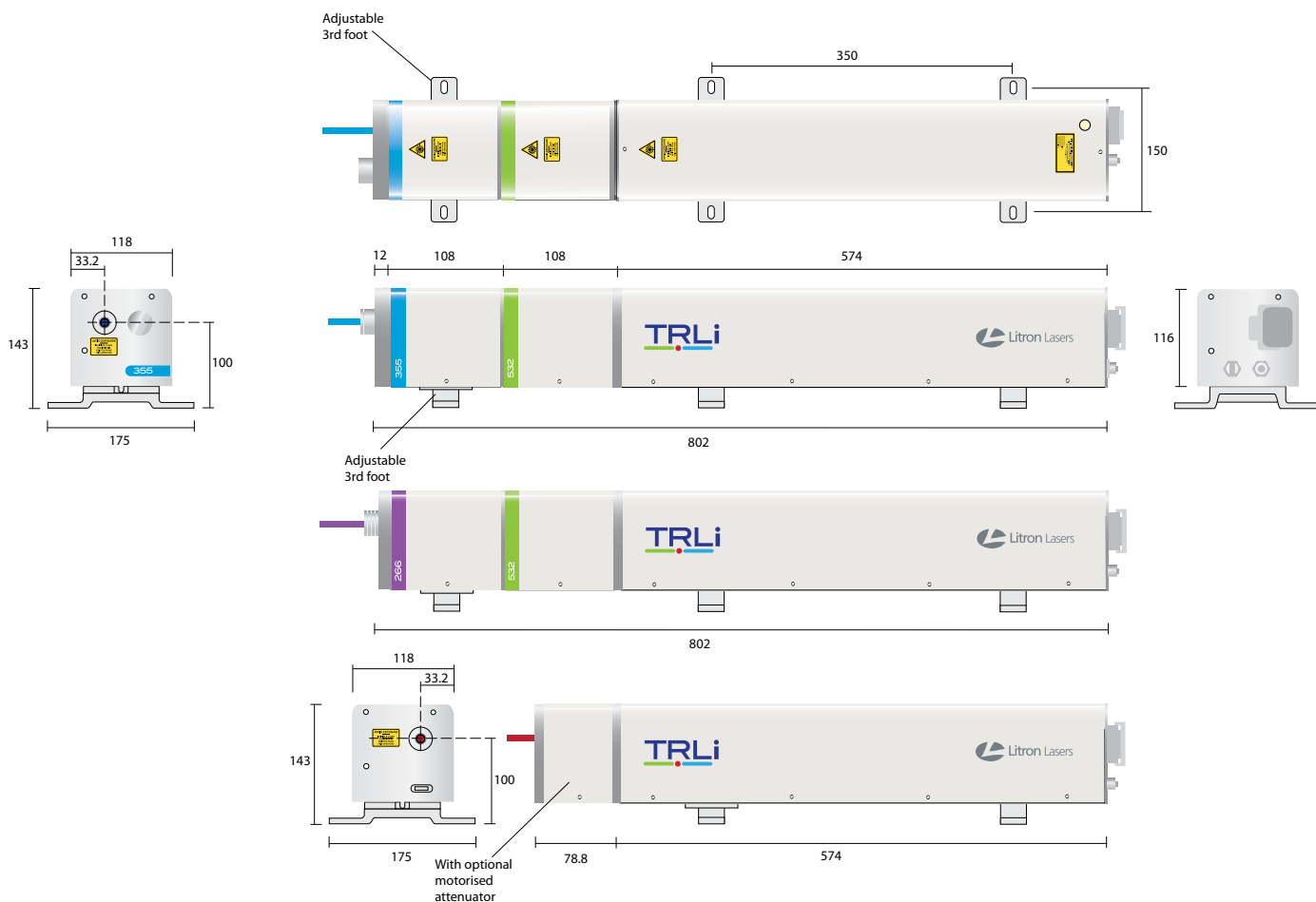


1. Peak to Peak Energy - 100% of pulses.
2. FWHM.
3. Beam diameter is rod diameter.
4. Full angle for 90% of the output energy.
5. Measured using ISO 11146-1:2005.
6. Jitter is measured with respect to the Q-switch trigger input.
7. At 1064nm.
8. 50Hz or 60Hz to be specified at time of order.
9. 5 to 80% relative humidity (non condensing).

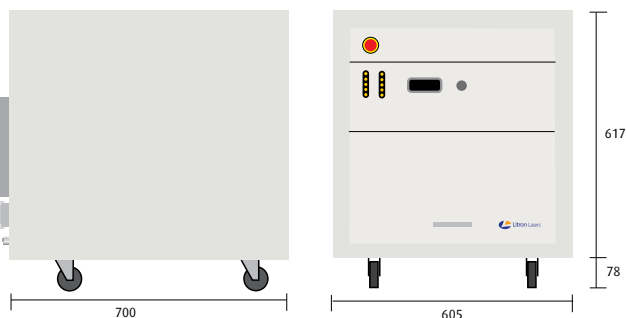
TRLi HR RANGE MECHANICAL DATA

All dimension in mm unless stated.

Laser Head with Doubler, Tripler & Quadrupler Units



12U Rackmount PSU



LUCi Remote Control Box



Our policy is to improve the design and specification of our products. The details given in this document are not to be regarded as binding.



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