

# TRLi G 850/450 Range

Super Gaussian Series 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

## Advanced TRLi G850/450 features

- Plug and play interchangeable harmonic modules to 213nm
- 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 energy output
- Super Gaussian-coupled resonator
- Rugged industrial design
- LUCi touchscreen or PC control interface



# TRLi G 850/450 Range

## Model options

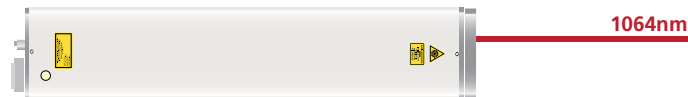
All model options are available with harmonic auto-tuning, auto-stabilisation and variable motorised attenuators.

### Other model options include:

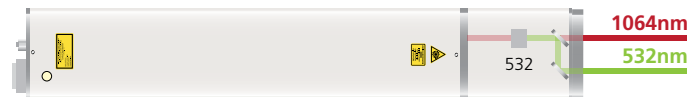
Built-in harmonic diode pointer.

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

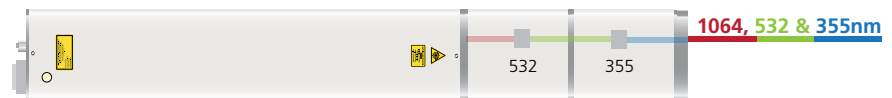
### Options for 1064nm output



### Options for 532nm output



### Options for 355nm output



### Options for 266nm output

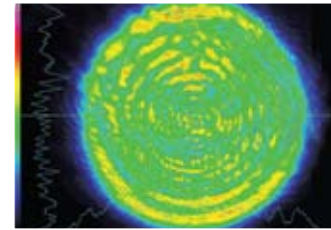


### Option for 213nm output

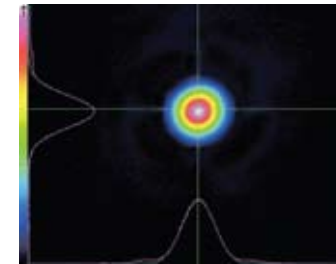


# TRLi G 850/450 RANGE SPECIFICATIONS

Model	TRLi G 850-10	TRLi G 650-10	TRLi G 450-10	TRLi G 400-20
<b>Repetition Rate (Hz)</b>	10	10	10	20
<b>Output Energy (mJ)</b>				
1064nm	850	650	450	400
532nm	435	325	220	200
355nm <sup>1</sup>	230	150	130	120
266nm	100	70	60	50
213nm	20		10	
<b>Pulse Stability (±%) [RMS] <sup>2</sup></b>				
1064nm	2 [0.6]	2 [0.6]	2 [0.6]	2 [0.6]
532nm	3 [1]	3 [1]	3 [1]	3 [1]
355nm	4 [1.3]	4 [1.3]	4 [1.3]	4 [1.3]
266nm	6 [2]	6 [2]	6 [2]	6 [2]
213nm	9 [3]		9 [3]	
<b>Power Drift (±%) <sup>3</sup></b>				
1064nm	3	3	3	3
532nm	5	5	5	5
355nm	5	5	5	5
266nm	10	10	10	10
213nm	14		14	
<b>Pulse Duration (ns) <sup>4</sup></b>				
1064nm	~6	~6	~6	~6
532nm	~5	~5	~5	~5
355nm	~5	~5	~5	~5
266nm	~5	~5	~5	~5
213nm	~4		~4	
<b>Beam Parameter</b>				
Beam Diameter (mm) <sup>5</sup>	9.5	8	6.5	6.5
Beam Divergence (mrad) <sup>6</sup>	0.5	0.5	0.5	0.5
M <sup>2</sup> @ 1064nm <sup>7</sup>	<2	<2	<2	<2
Pointing Stability (µrad) <sup>8</sup>	<70	<70	<70	<70
Timing Jitter (ns) <sup>9</sup>	<0.5	<0.5	<0.5	<0.5
Linewidth @ 1064nm (cm-1)	<0.7	<0.7	<0.7	<0.7
Polarisation Ratio (%)	>90	>90	>90	>90
Spatial Profile Near Field <sup>10</sup>	>0.75	>0.75	>0.75	>0.75
Spatial Profile Far Field <sup>11</sup>	>0.95	>0.95	>0.95	>0.95
Lamp Life (pulses)	10 <sup>8</sup>	10 <sup>8</sup>	10 <sup>8</sup>	10 <sup>8</sup>
<b>Services</b>				
Voltage	220-250VAC	220-250VAC	220-250VAC	220-250VAC
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Power Phase	Single	Single	Single	Single
Cooling	Air Cooled	Air Cooled	Air Cooled	Air Cooled
Ambient Temp <sup>12</sup>	8-30°C	8-30°C	8-30°C	8-30°C
PSU Type	LPU1000	LPU1000	LPU1000	LPU1000



Near Field at 1064nm



Far Field at 1064nm >95% Gaussian fit.

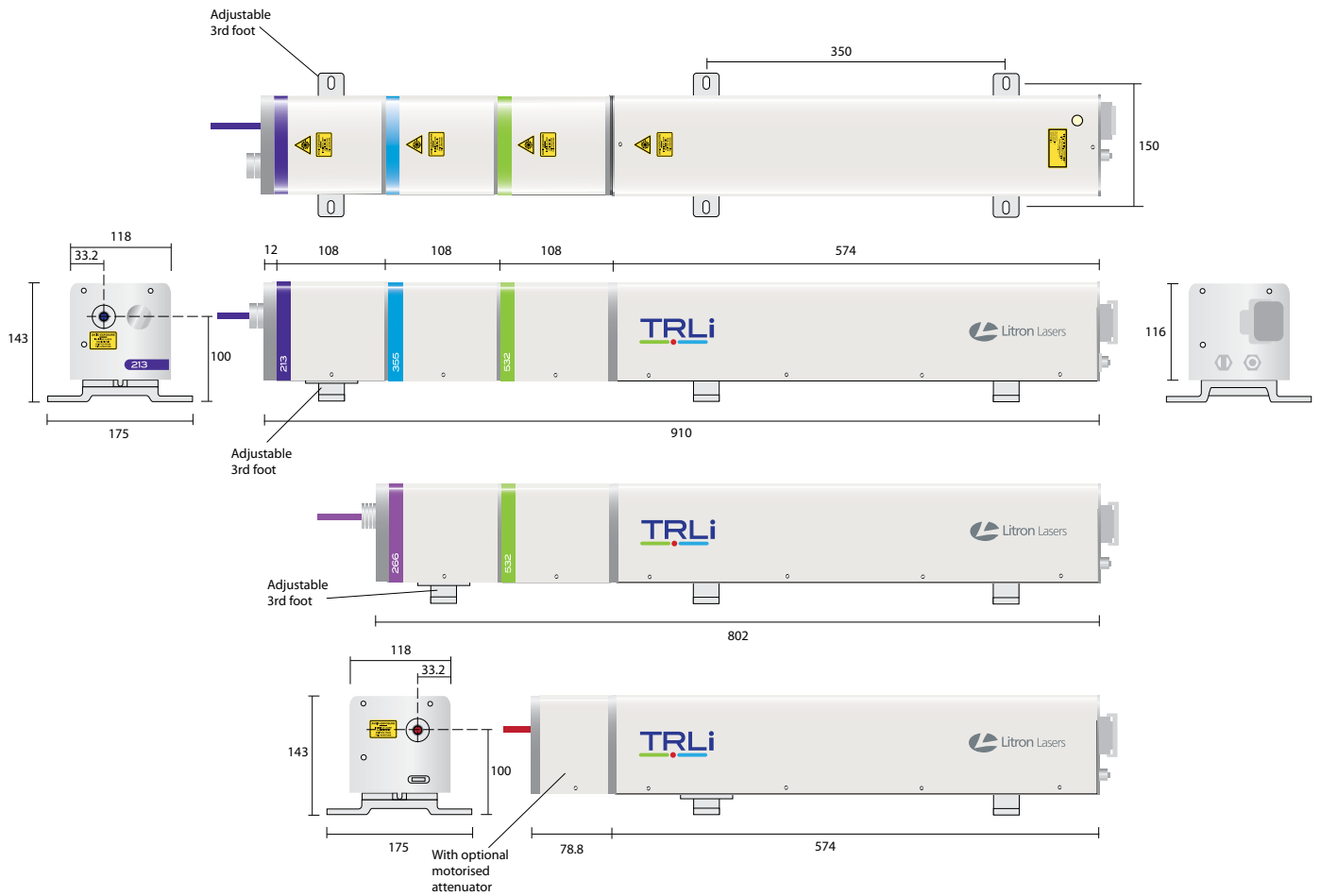


1. High energy 355nm as standard with standard 2HG module.
2. Peak to Peak Energy - 100% of pulses.
3. 8 Hours continuous running without adjustment.
4. FWHM - Fast photodiode and >1Ghz oscilloscope.
5. 100% diameter at laser exit port.
6. Full angle for 90% of the output energy.
7. Measured using ISO 11146-1:2005.
8. Measured using ISO 11146-1:2005.
9. Jitter is measured with respect to the Q-switch trigger input.
10. Least squared fit to Gaussian at ~ 0.4m from the laser output.
11. Least squared fit to Gaussian at the focus of a 1m lens.
12. 5 to 80% relative humidity (non condensing).

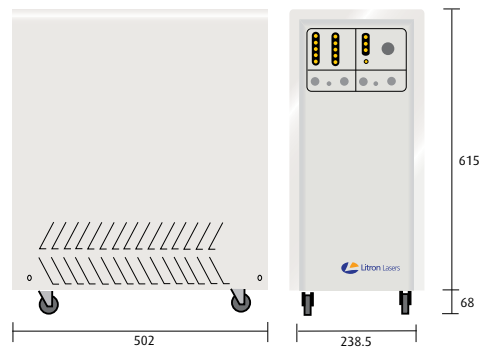
# TRLi G 850/450 RANGE MECHANICAL DATA

All dimension in mm unless stated.

## Laser Head with Doubler, Tripler, Quadrupler & Quintupler Units



LPU1000 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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