

# Firefly-IR

Compact, Widely Tunable, Pulsed  
Mid-Infrared Laser Source



## Applications

- Molecular spectroscopy
- Remote sensing of hydrocarbons
- Stand-off detection of threat agents and fugitive gas emissions
- Environmental survey and monitoring

## Features

- Extremely broad tuning range
- Class-leading peak and average power
- Automated alignment, maintenance free operation
- High repetition rate enables rapid data acquisition and real time imaging
- Instrument control by Ethernet (ICE)

Available in various tuning range, power and linewidth options. Customization and a pulse burst modulation accessory are also available. Please inquire.

Specification	Low Power		High Power	
Tuning Range Options <sup>[1]</sup>	A	B	A	B
Idler Tuning Range <sup>[2]</sup>	2.5-3.7 $\mu$ m	3.7-4.5 $\mu$ m	2.5-3.7 $\mu$ m	3.7-4.5 $\mu$ m
Signal Tuning Range <sup>[2]</sup>	1.5-1.8 $\mu$ m	1.4-1.5 $\mu$ m	1.5-1.9 $\mu$ m	1.4-1.5 $\mu$ m
Output Power	>80mW <sup>[3]</sup>	>50mW <sup>[4]</sup>	>250mW <sup>[3]</sup>	>90mW <sup>[4]</sup>
Linewidth	<10cm <sup>-1</sup> <sup>[3]</sup>	<5cm <sup>-1</sup> <sup>[4]</sup>	<10cm <sup>-1</sup> <sup>[3,5]</sup>	<5cm <sup>-1</sup> <sup>[4]</sup>
Pulse Duration	< 10 ns (FWHM)		< 10 ns (FWHM)	
Pulse Repetition Rate <sup>[7]</sup>	150kHz		150kHz	
Beam Divergence (full angle) <sup>[6]</sup>	< 3mR		< 3mR	
Beam Diameter	< 4.5mm <sup>[8]</sup>		< 2mm	
Dimensions (L x W x H)	347 x 143 x 69mm 14 x 6 x 3 inches		341 x 204 x 75mm 14 x 8 x 3 inches	

## Notes

1. Factory configured as range A or B. For 4.5-4.7 $\mu$ m please contact factory.
2. Factory configured. Default is idler only. Signal only or signal+idler options are available.
3. Specified at 3 $\mu$ m (and at 1.65 $\mu$ m if signal configured).
4. Specified at 4 $\mu$ m (and at 1.45 $\mu$ m if signal configured).
5. Factory configured, 3cm<sup>-1</sup> line narrowed version available with 60% of broadband output power.
6. As 1/e<sup>2</sup> intensity full width.
7. Nominal factory-set. Custom values available: please inquire.
8.  $\pm$  15%

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M Squared Laser's laser products are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Centre of Devices and Radiological Health on all systems ordered for shipment after October 1st, 2003.

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