

# Sparrow

## Diode pumped passively Q-switched solid state laser

### FEATURES

- Small footprint
- ns pulse width
- Output energy adjustable
- External and Internal Trigger
- Free Beam or Fiber Coupling
- Single Pulse and Burst Mode Operation
- Real-time pulse monitoring output and width extension
- RS-232 and USB interface

### APPLICATIONS

- Light Induced Breakdown Spectroscopy (LIBS)
- Light Detection And Ranging (LIDAR)
- Laser ablation / micromachining
- Time-of-Flight Spectroscopy (TOFS)
- Time Resolved Spectroscopy (TRS)
- Raman spectroscopy



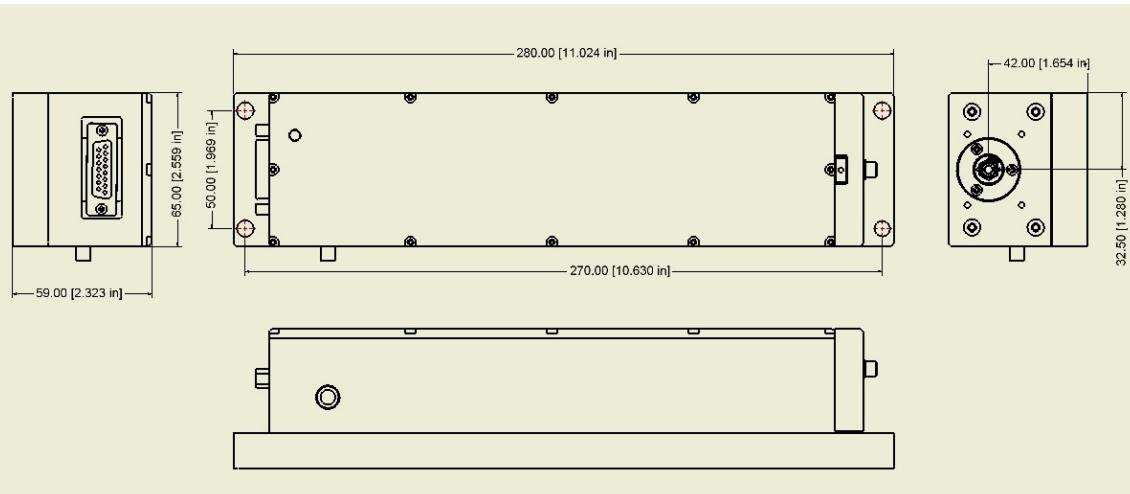
Sparrow is a diode pumped, water-free, passively Q-switched laser based on a microchip with multiple frequency conversion stages. Sparrow is optimized to produce  $TEM_{00}$ , low divergence, ~1 nanosecond pulses in a compact and robust package.

The Sparrow delivers 355nm/532nm/1064nm laser through a collimated free beam or an optional multimode fiber. The fiber core diameter is available in 200 $\mu$ m or 400 $\mu$ m sizes.

The Sparrow is flexible and designed to be used for a variety of applications. All Sparrow models feature internal energy attenuation, built-in burst mode operation, and a real-time pulse trigger output. The laser parameters control and access are available by RS-232 and USB communication.

	Sparrow-1064	Sparrow-532	Sparrow-355
Wavelength (nm)	1064	532	355
Pulse Width (FWHM)	~1 ns	~1 ns	~1 ns
Pulse Energy	>180 $\mu$ J @1kHz	>80 $\mu$ J @1kHz	>20 $\mu$ J @1kHz
Pulse Repetition Rate	Up to 1.0 kHz	Up to 1.0 kHz	Up to 1.0 kHz
Pulse Energy Instability	<3% RMS	<3% RMS	<3% RMS
Beam Divergence	<10 mrad	<10 mrad	<10 mrad
Beam Size (1/e <sup>2</sup> )	~1 mm	~1 mm	~1 mm
Polarization	Vertical	Vertical	Vertical
Laser head cable		HD-26 cable, 2.5 Feet	
Power supply		12VDC 4A	
Operating temperature		10°C to 35°C (Heat sink base is required)	
Storage temperature		0°C to 55°C	
Lasing MTBF <sup>(1)</sup>		1.0x10 <sup>10</sup> pulse shots (25°C, 1KHz PRF)	

**Laser Head Dimensions (mm):**



**Controller Dimensions (mm):**

