

iMATRONIC
A Global Laser Brand

FireFly Mini

FireFly Mini Green

The new FireFly Mini green range sets a new standard for small industrial grade, green laser diode modules. A radical new design provides TE stabilised performance without TE size cost and power consumption.

The self-contained laser offers the user an output power of 1mW with impressive power stability over a wide operating temperature with a quick warm up time. It operates from a 3.3 to 5V DC Voltage supply with a operating current of < 400mA.

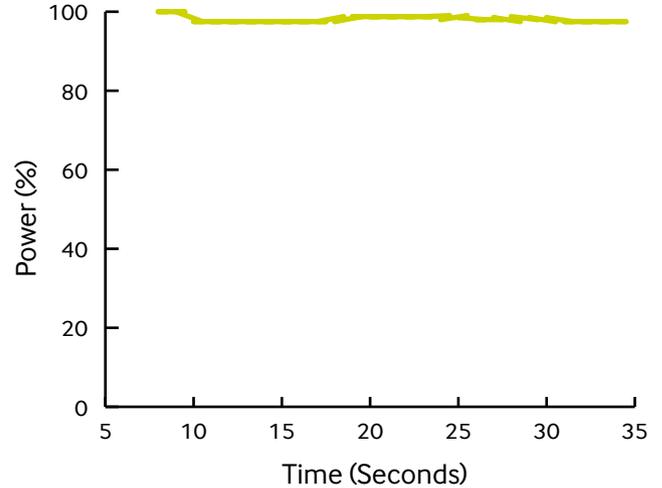
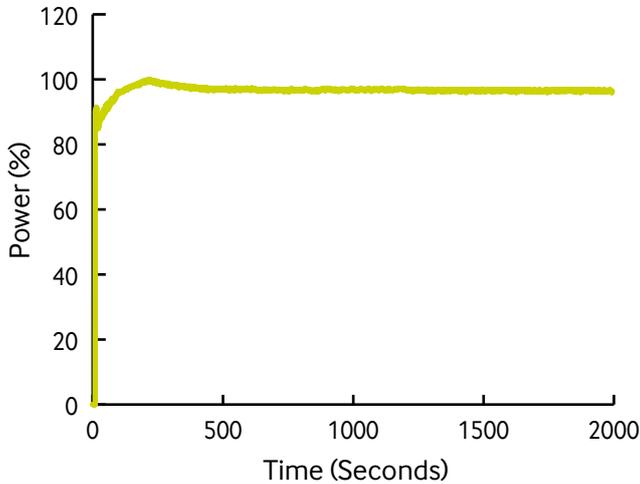
The new unit is ideal for space constricted applications whilst still offering the high performance modulation capabilities that have come to be expected from Global Laser. The FireFly Mini PWM version allows you to use pulse width modulation of the output intensity from a TTL level input signal, within the limits of the laser module's maximum rise and fall time. You can therefore control the mean intensity of the laser beam simply by changing the mark to space ratio or modulate the laser with coded information.

A high accuracy bore sight aligned spot with low divergence, achieved by the integrated optics allows focusing over a wide operating range.



Power Stability

The profiles below show the typical power stability vs. time and power stability vs. temperature.



Driver Types

Pulse Width Modulation TTL Digital Control (PWM)

The FireFly Mini is also available with a TTL driver board that allows the unit to be gated on and off, or pulse-width modulated at TTL voltage levels via the yellow control lead. The standard version offers non inverting TTL where an input signal of $< 0.4\text{ V}$ = off and $> 2\text{ V}$ = on and vice versa for the inverted model. Frequency bandwidth is typically 10 kHz.

Rise Time: $< 10\mu\text{s}$ (typical)

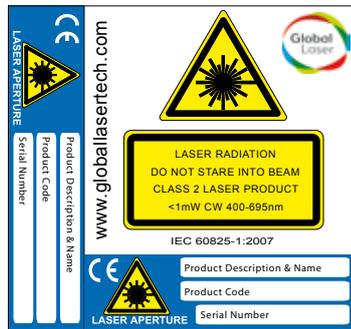
Fall Time: $< 10\mu\text{s}$ (typical)

Specifications

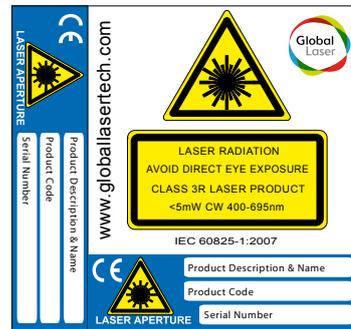
Product Specification		
Farnell Part Number	2065366	
Imatronic Part Number	1715-04	1715-09
Model	Green Mini Laser PWM 1mW	Green Mini Laser PWM 5mW
Output Power (mW)	1	5
Wavelength (nm)	532	
Laser Class	2	3R
Operating Voltage (Vdc)	3.3 to 5.0	
Operating Current (mA)		
Operating Case Temperature (°C)	+5 to +35	
Storage Temperature (°C)	-10 to +85	
Over Temperature Protection	Yes	
Beam Size At Aperture (mm)	0.8	
Minimum Beam Divergence (mrad)	<0.5	
Bore Sighting (mrad)	<2	
User Adjustable Focus	Yes	
Focus Range (mm)	115 to infinity	
Intensity Distribution	TEM ₀₀	
MTTF at 25°C (Hours)	>10,000	
Warm Up Time to 75% of Full Power (seconds)	<30	
Power Stability Over Operating Range (Typ)	<10%	
Power Stability Over Temperature Range (Typ)	<1%	
Mass (g)	30	
Dimensions (mm)	Ø11 x 75	
Housings	Green Anodised Aluminium	
Isolated Body	Yes	
Reverse Polarity Protection	Yes	
Lead Length (mm)	250	
Connector Type	Flying Leads	
Input Leads	Red Lead	+Ve
	Black Lead	0V
	Yellow Lead	Modulation
Frequency Range (Khz)	DC to 10	
Typical Rise & Fall Time (µs)	<10	
Modulation Input Voltage	<4V = Off >2V = On	
NOTES All specifications are typical @ 25°C		

Laser Safety

Our lasers are compliant to IEC 60825-1 standards. The lasers fall within one of the following classifications depending on power and wavelength.



Class 2 Label



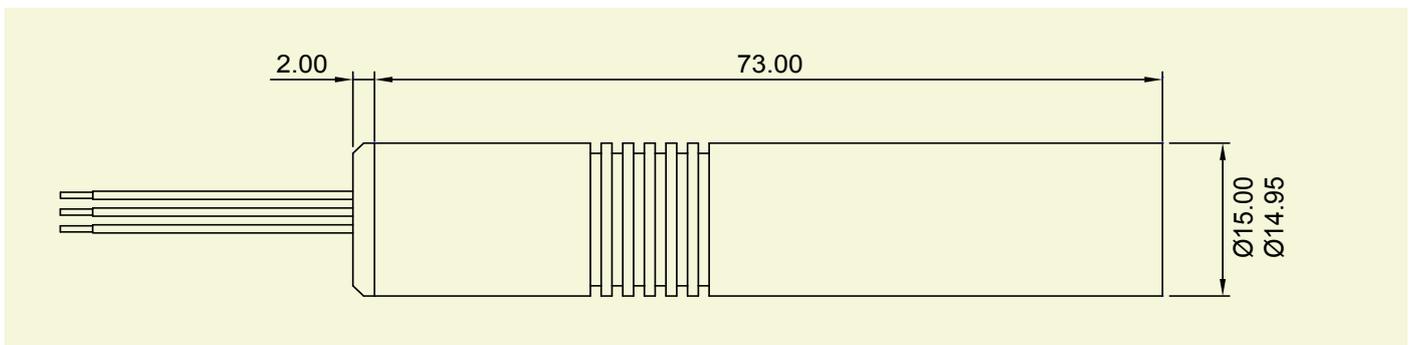
Class 3R Label

Quality & Warranty

The FireFly Mini range is supplied with a 12 month parts and labour warranty. Our manufacturing operations are certified to ISO9001.

Mechanical Drawings

FireFly Mini



Please note: Imatronic reserve the right to change descriptions and specifications without notice.



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