

# iFLEX-iRIS™ Laser Systems

The iFLEX-iRIS™ laser series is a range of solid-state, high performance lasers with low amplitude noise. All wavelengths are offered in the same small size with the same control inputs. All TEC and smart control electronics are inside the laser.

Precision control electronics make these lasers ultra-low noise and ideally suited to demanding imaging applications which benefit from improved signal-to-noise ratios.

Automatic power control ensures excellent power stability for lasers operating CW and also during modulation for iFLEX-iRIS lasers with CLM feature. The innovative Closed Loop Modulation (CLM) feature maintains excellent power stability during modulation and over the laser lifetime, plus precision adjustment at all output power levels. Unlike traditional open loop laser modulation, there is no need for laser calibration reset when using iFLEX-iRIS lasers with CLM feature.

The lasers are CDRH compliant when used with an iFLEX-iRIS CDRH interlock remote power supply. This is recommended for laboratory use.

## Features:

- All wavelengths same compact size
- Fully integrated electronics
- Class leading power stability
- Ultra-low noise performance
- Class-leading beam pointing stability
- USB, RS232

## Options:

- Analogue, Digital, Dual Mode Modulation with CLM feature
- Fiber delivery: SM PM, modular design with kineFLEX® and it can be added later
- OEM and End User versions

## Applications:

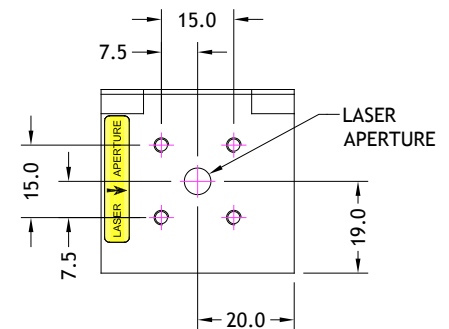
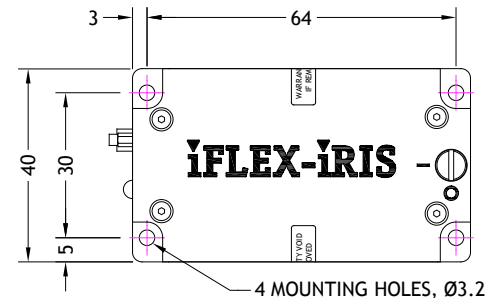
- Flow Cytometry
- Confocal Microscopy
- Medical Imaging & Instrumentation
- DNA Sequencing
- Metrology
- Ophthalmology
- Analytical Instrumentation



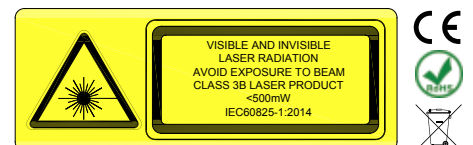
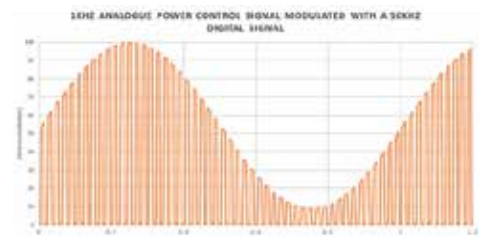
# iFLEX-iRIS™ Specification Overview

Wavelengths (nm) and power (mW)																							
375	405	413	445	458	473	488	505	515	520	532	561	594	633	637	642	647	660	670	730	780	830	852	
20	50	100	20	20	75	20	50	20	30	20	20	20	30	20	20	50	80	10	20	70	100	35	
40	100		50	70		40		50		40	40		70	100	40								
50	200		75			100		60							100								
	20					140																	

	iFLEX-iRIS CLM, 375-520nm & 633-852nm	532	561	594
Spatial mode, TEM <sub>00</sub>	M <sup>2</sup> < 1.2 typ			
Beam Ø at 1/e <sup>2</sup>	0.7 ± 0.2 mm			
Beam circularity	≤ 1:1.2			
Pointing stability	< 5 µrad/°C			
Static beam alignment	Beam centration < 0.3 mm Beam alignment < 5 mrad			
Polarization ratio	≥ 200:1, Vertical ± 2°			
Power supply	12V DC, 1A			
Base plate temp.	40 °C maximum			
Heat dissipation	12 W maximum, < 5W typical			
Operation modes	CW, Digital Modulation, Analogue Modulation, Dual Mode Modulation, Computer Control	CW		
Power stability, 8 hrs	< 0.5 %	< 2 %		
RMS noise (20Hz - 20MHz)	< 0.05* %	< 0.3* %, <0.1% 561nm		
Peak-Peak noise (20Hz to 1MHz)	< 0.5* %	< 3* %		
Max Periodic noise spike (1KHz - 1MHz @ 10-100% power)	< 0.05* %	<0.3*%		
CW, power adjust	0%, 0.1 - 100%	Off, 50-100% and at 561nm Off, 15-100%		
Digital Modulation Bandwidth Extinction ratio Rise / fall time	Digital signal DC to 5 MHz 1,000,000:1 < 100 nsec	OEM options		
Analogue Modulation Bandwidth Extinction ratio Rise / fall time Power adjustment	0 - 5V signal DC to 5 MHz 1,000,000:1 < 100 nsec Off and 0.1-100%	OEM options		
Dual Mode Modulation	Two input ports for modulation. Same specifications as above Digital and Analogue. Simultaneous input signals for a) fast digital On/Off, and b) analogue power adjustment via external 0-5V input or internal software setting	OEM options		
Communication	micro-USB, RS232	OEM options		
Environment	Operating temp. 10-40°C, Storage temp. 10-50°C, Humidity is non-condensing			
Laser only	70(L) x 40(W) x 38(H) mm			



Example: Dual Mode Modulation



\*wavelength specific.



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