

# iFLEX-iRIS Laser Systems

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

Precision control electronics make these lasers ideally suited to demanding imaging applications, which need excellent signal-to-noise ratios.

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

iFLEX-iRIS lasers are CDRH compliant when used with the iFLEX-iRIS 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
- Customised designs optimised for your application, please contact us to discuss

## Applications:

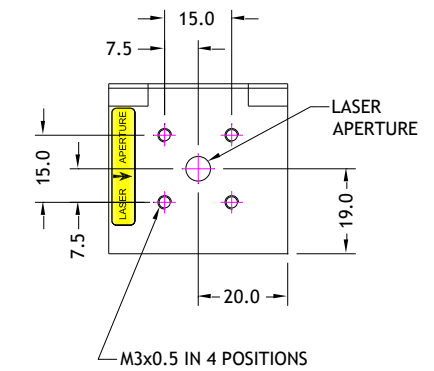
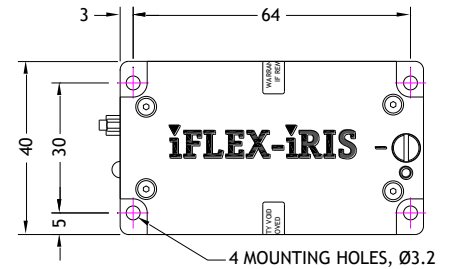
- Confocal Microscopy
- Flow Cytometry
- Medical Imaging & Instrumentation
- DNA Sequencing
- Metrology
- Ophthalmology
- Analytical Instrumentation



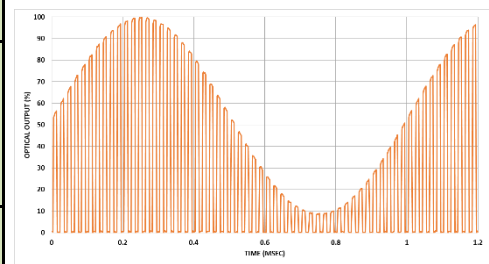
### iFLEX-iRIS Specification Overview

375	405	413	445	458	473	488	505	515	520	532	561	594	633	640	647	660	670	730	780	852
20	50	100	20	20	75	20	50	20	30	20	20	20	30	20	50	80	10	20	70	35
40	100		50	70		40		50		40	40		70	40						
50	200		75			100		60						100						
	220					140								150						

	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 (0.8 ± 0.2 mm for λ=660, 670, 730, 852nm)			
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	Digital signal	OEM options		
Bandwidth	DC to 5 MHz			
Extinction ratio	1,000,000:1			
Rise / fall time	< 100 nsec			
Analogue Modulation	0 - 5V signal	OEM options		
Bandwidth	DC to 5 MHz			
Extinction ratio	1,000,000:1			
Rise / fall time	< 100 nsec			
Power adjustment	Off and 0.1-100%			
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.  
 All specifications at rated power unless specified otherwise

For technical information contact:  
[sales.ham@excelitas.com](mailto:sales.ham@excelitas.com)  
 phone +44 (0) 2380 744 500  
[www.qioptiq.com](http://www.qioptiq.com)



Qioptiq Photonics Ltd. follows a continuous improvement process. Specifications are subject to change. iFLEX-iRIS®, kineFLEX® and iFLEX® are trademarks of Qioptiq Photonics Ltd. © Qioptiq Photonics Ltd. 2018