

Data sheet

iFLEX-iRIS™ CLM 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
- Customized designs optimised for your application, please contact us to discuss

Applications:

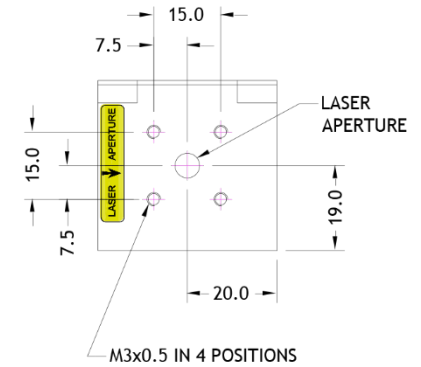
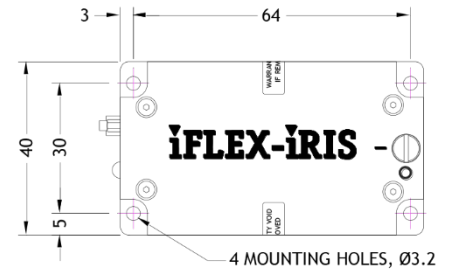
- Confocal Microscopy
- Flow Cytometry
- Medical Imaging & Instrumentation
- DNA Sequencing
- Metrology
- Ophthalmology
- Analytical Instrumentation



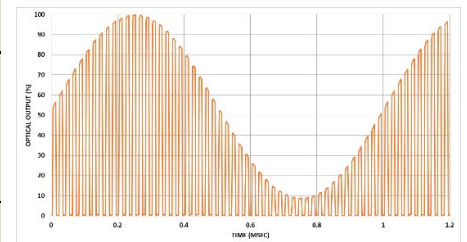
iFLEX-iRIS Specifications

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

	iFLEX-iRIS CLM, 375-520 nm & 633-852 nm
Spatial mode, TEM ₀₀	M ² < 1.2 typical
Beam Ø at 1/e ²	0.7 ± 0.2mm (0.8 ± 0.2mm for λ=660, 670, 730, 852nm)
Beam circularity	≤ 1:1.2
Pointing stability	< 5 μrad/°C
Static beam alignment	Beam centration < 0.3mm Beam alignment < 5mrad
Polarization ratio	≥ 200:1, Vertical ± 2°
Power supply	12V DC, 1A
Base plate temp.	40°C maximum
Heat dissipation	12W maximum, < 5W typical
Operation modes	CW, Digital Modulation, Analogue Modulation, Dual Mode Modulation, Computer Control
Power stability, 8hrs	< 0.5%
RMS noise (20 Hz to 20 MHz)	< 0.2%* (typical)
Peak-Peak noise (20 Hz to 2 MHz)	< 0.5%*
Max Periodic noise spike (20 Hz to 2 MHz, at 100% laser power)	< 0.05%* or < -105dBc/Hz
CW, power adjust	0 - 100%**
Digital Modulation	Digital signal
Extinction ratio	1,000,000:1
Rise / fall time	< 100nsec
Analogue Modulation	0 - 5V signal
Large signal bandwidth	DC to 5 MHz
Small signal bandwidth	8 MHz***
Extinction ratio	1,000,000:1
Power adjustment	0 - 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
Communication	micro-USB, RS232
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



*Noise levels are wavelength specific. Please ask for details according to the specific laser configuration.

**Not true off.

***Small signal bandwidth is wavelength dependent.

All specifications at rated power unless specified otherwise.

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