

Data sheet

iFLEX-iRIS™ CLM Fiber Coupled Laser Systems

The iFLEX-iRIS™ laser series is a range of solid-state, high-performance lasers with low amplitude noise. For ease of use and integration, all diode wavelengths are offered in the same compact package with the same control inputs. The lasers are wavelength stabilized as a result of active temperature control. They are ideally suited for integration into instruments that demand high performance, yet need to retain a small form factor.

The innovative Closed Loop Modulation (CLM) feature allows the lasers to operate with automatic power control feedback in all modes of operation; CW, plus digital, analogue and dual-mode modulation. Unlike traditional open-loop laser modulation, there is no need for calibration reset when using iFLEX-iRIS lasers with CLM feature.

Lasers with CLM are ultra-low noise in terms of RMS, RIN and periodic noise. They also offer precision power adjustment. This is very useful for imaging applications where a stable, ultra-low noise source will improve the signal-to-noise ratio and image resolution.

Increased freedom of design and ease of servicing is offered with the detachable kineFLEX® single-mode polarization- maintaining fiber delivery system. The single-mode fiber output ensures circular, Gaussian output beam as a result of spatial filtering. This detachable fiber delivers true “Plug & Play” versatility. Fiber type must be placed with order.

Features:

- Fully integrated electronics
- TEM₀₀ output - Gaussian, spatially filtered output beam
- Class leading power and beam pointing stability
- Ultra-low noise performance
- Analogue, digital and dual-mode modulation with CLM feature
- Modular single-mode polarization maintaining fiber output
- All diode wavelengths are the same compact size
- Easy to use: true “Plug & Play” versatility

Options:

- Various fiber lengths
- Collimated or connectorized outputs
- Integrated beam shaping
- OEM and CDRH compliant versions



iFLEX-iRIS CLM fiber-coupled specification overview

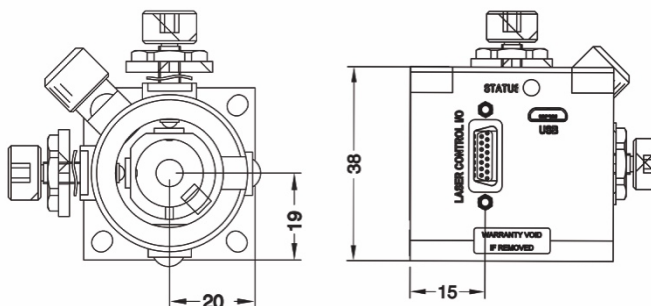
Wavelength (nm)	375	405	415	445	458	473	488	505	515	520	633	640	647	680	670	730	780	852
Power after fiber (mW)	25	30	65	30	45	50	25	30	40	20	20	25	30	50	6	10	45	20
	30	60		50			65				45	65						
		100					90					95						
		140																
Wavelength tolerance (nm)	± 5																	
Power stability, 8hrs	< 2%																	
Noise (rms) 20Hz-20MHz	< 0.2%* (typical)																	
Spatial mode, TEM ₀₀	M ² ≤ 1.1																	
Fiber output	Single-mode polarization maintaining fiber 1m, 2m or 3m 0.7mm diameter collimated or connector FCP / APC / FCP8 OEM custom options																	
Pointing stability	< 1μrad/°C																	
Polarization ratio	≥ 100:1																	
Power supply	12V DC, 1A																	
Max. base plate temp.	40°C																	
Max. heat dissipation	12W, < 5W typical																	
CW, power adjust	0-100% **																	
Digital Modulation	Digital signal																	
Extinction ratio	1,000,000:1																	
Rise / fall time	< 100ns																	
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%**																	
Laser and kineMATIX®	142(L) x 51(W) [†] x 51(H)mm [†] ([†] Full extension travel on screws. Typical setting 48.5mm x 48.5mm)																	

*Noise levels are wavelength and fiber-coupling specific.

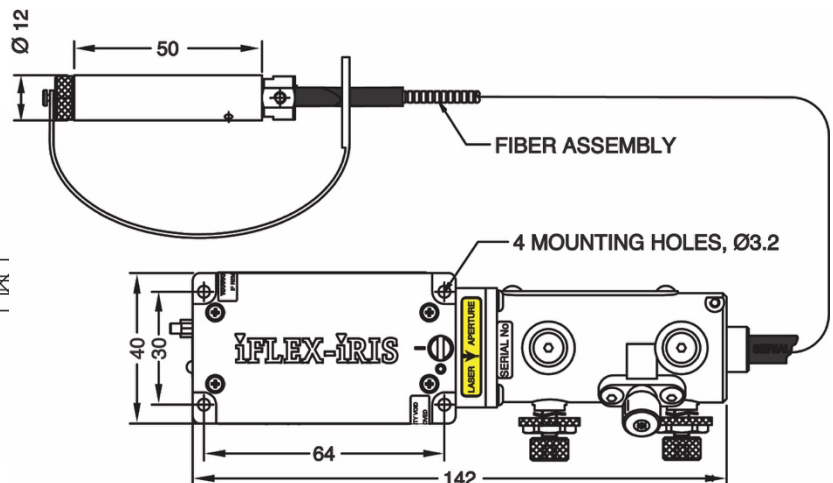
**Not true off.

***Small signal bandwidth is wavelength dependent.

Please ask for details according to the specific laser configuration.



iFLEX-iRIS front and rear view



Fiber-coupled iFLEX-iRIS

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