

Datasheet

Fiber coupled, modulated solid state laser - iFLEX-Mustang

The iFLEX-Mustang™ is a fiber-coupled solid-state laser system with on-board acousto-optic modulation. The system operates at 488, 532 or 561nm and delivers 25mW of power from a singlemode fiber with a polarization extinction ratio of greater than 100:1.

The iFLEX-Mustang is supplied with the Qioptiq kineFLEX™ fiber delivery system which enables true 'Plug & Play' benefits with both sub-micron and sub-microradian repeatability and stability. The kineFLEX fiber features diffraction-limited output beams with zero astigmatism, high spatial coherence and low dynamic pointing error. The perfect TEM₀₀ output beam is available with the option of collimated, divergent, circular or elliptical beams profiles.

The iFLEX-Mustang is manufactured with an on-board acousto-optic modulator operating in first order to ensure a modulation dynamic range of 30dB, modulation speed of 3 MHz and a rise and fall time of 350 ns.

The iFLEX-Mustang is compatible with a number of commercially available imaging software packages such as Olympus cell[^]R™, MetaMorph® and µManager and a number of add-on interfaces ensure a complete solution for all microscope systems.

With an operating wavelength of 488, 532 or 561nm the iFLEX-Mustang is ideal for use in biomedical instrumentation including confocal microscopes, flow cytometers and DNA sequencers and is also suitable for demanding specialized semiconductor metrology.

Some of the product features include:

- TEM₀₀ true Gaussian Beam
- Modulation speed up to 3MHz
- Rise and fall time :< 350ns
- Power stability: < 2% over four hours
- Noise: less than 0.3% over the frequency range 20Hz to 2MHz
- Custom OEM versions available



Technical specification

Laser module				units
Wavelength	488	532	561	nm
Fiber coupled power	25	25	25	mW
Optical noise (20Hz to 2MHz)*	< 0.3			% rms
Optical power stability	< 2% (over 4 hours)			-
Centre wavelengths	± 5			nm
Modulation parameters*				
3dB modulation bandwidth frequency	≥ 3			MHz
Input control voltage level	0 - 5			V
Dynamic Range	≥ 30			dB
Rise and fall time over 10 - 90% intensity levels	≤ 350			ns
Fiber delivery system				
Polarization ratio	≤ -20			dB
Output termination	0.7 mm collimated, FCP, FCP8 or APC connectors			-
M squared	typ 1.1			-
Beam divergence	Diffraction limited			-
Beam position (collimated beam)	≤ ± 0.15			mm
Beam angle (collimated beam)	≤ ± 0.5			mrad
Fiber protective jacket	Stainless steel, 5 mm OD			-
Fiber length	1, 2 or 3			m
Environmental				
Max. base plate temperature	+ 40			°C
Storage temperature	10 to 50			°C
Operating pressure	Atmospheric			-
Operating temperature	10 to 40			°C
Operating humidity	Non-condensing			-
Warranty				
5000 hours or 12 months (whichever comes sooner)				

* Model specific please contact Qioptiq for details

Note: OEM versions available please call

Order code:

iFLEX-Mustang

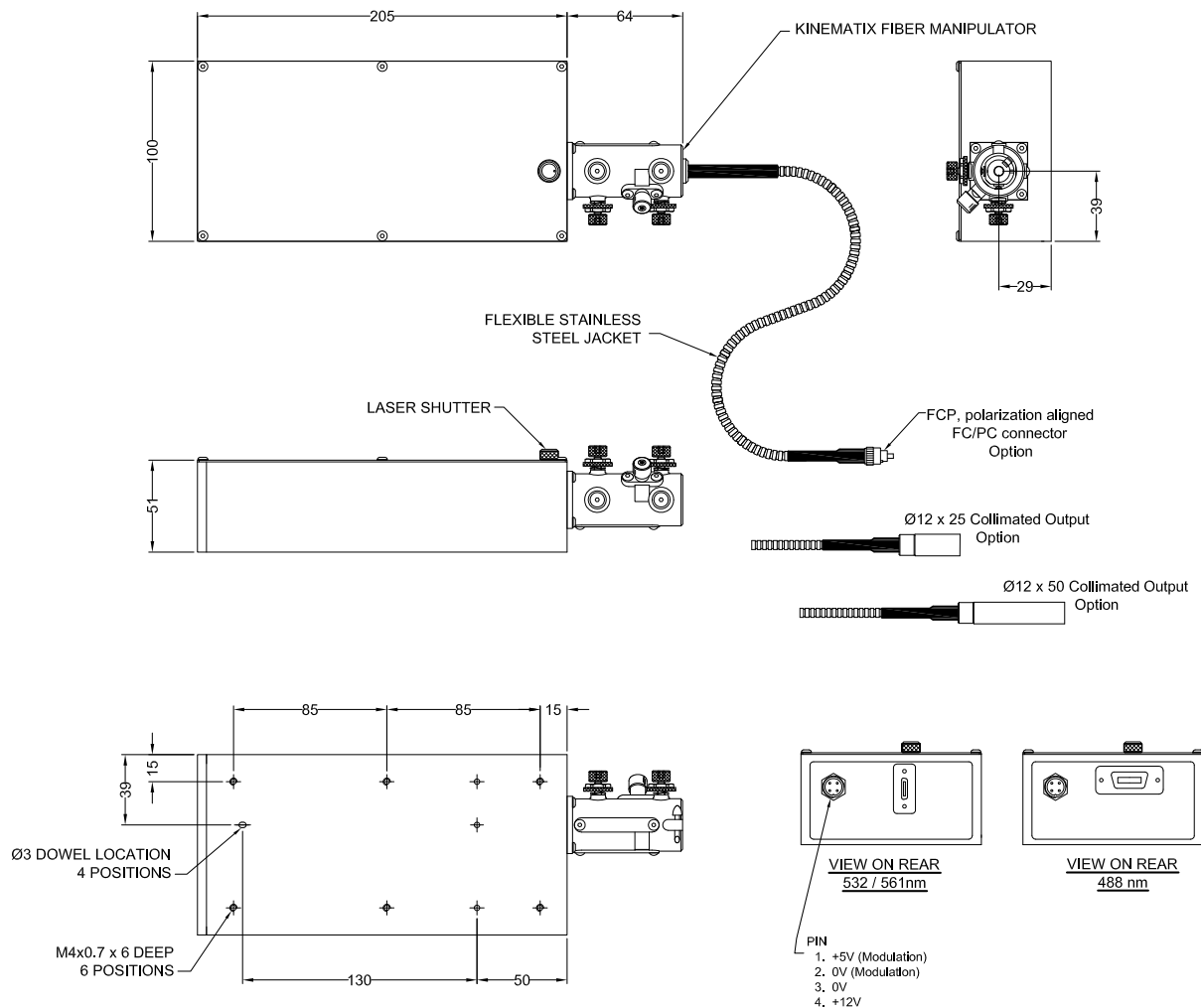
Fiber type, (P)olarization maintaining

Fiber length (m)

Laser Wavelength (nm)

Operating termination 0.7, FCP, FCP8, APC

Output power (mW)



Fiber Optics



kineFLEX™

Robust laser beam delivery system for precision measurement applications

- Fiber coupling for DPSS, diode and gas lasers
- Highly repeatable and stable operation
- Greater than 65% coupling efficiency



kineFLEX-HPV™ / kineFLEX-UV™

Robust high power laser beam delivery system for precision measurement applications

- Input power up to 500mW for 488nm or higher
- Input power up to 20mW for 375nm
- OEM multiple wavelength versions available



kineFLEX-DUO™

Robust laser beam delivery system for two laser sources at visible wavelengths

- Efficient and simple beam combination
- Visible wavelengths
- Rugged platform for industrial applications



laserPLATE™

Rapid and convenient mechanical mounting and packaging system for laser to fiber alignment

- Compatible and integrated laser to fiber coupling
- Combined laser chassis and heatsink
- Easy to integrate and align

Lasers



iFLEX2000™

Extremely reliable and robust fiber coupled laser designed for volume manufacturing

- UV, Visible and NIR Wavelengths
- Integrated drive and temperature control electronics
- Modular singlemode fiber delivery system



iFLEX-Q3™

Compact laser diode system for precision optical instrumentation

- Exceptional brightness, stability and long-term reliability
- Highly polarized beam
- Versatile, small form laser head and remote electronics module

Multi-laser Engines



iFLEX-Adder™

5 into 1 fiber-coupled laser beam combination system

- True 'Plug & Play' capability enabling ultimate flexibility of laser suite
- Upgradeable from 2 to 5 wavelengths as required
- Compatible with kineFLEX™ and kineFLEX-HPV™



iFLEX-Viper™

The world's first integrated Multi-laser Engine

- Combines 5 wavelengths in one instrument
- Delivers wavelengths via a singlemode fiber optic cable
- On-board acousto-optic modulation up to 3MHz

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