

Datasheet

Multi-wavelength laser engine - iFLEX-Viper

The iFLEX-Viper™ is a compact multi-line laser source with a modular singlemode fiber delivery system. Up to five individual lasers (selected from the range 405, 445, 488, 532, 561, 640 and 780nm) are efficiently combined and delivered through one singlemode, polarization maintaining fiber. The system is mode-hop free and wavelength stabilized as a direct result of active temperature control. A closed loop control provides long term power stability.

The iFLEX-Viper is guaranteed for long lifetime and delivers exceptional power stability with low amplitude noise. All units feature diffraction-limited output beams with zero astigmatism, high spatial coherence and low dynamic pointing error. High dynamic range analog modulation (up to 3MHz) is available on each individual laser line.

The modular approach offers independent and simultaneous control over each laser enabling new experiments not possible with AOTF controlled devices. The iFLEX-Viper 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.

Novel design and proprietary manufacturing processes eliminate the need for user alignment of the internal laser sources and the kinematic design of the laser-to-fiber coupling enables true turnkey installation and operation.

The iFLEX-Viper is controlled via a turnkey power supply that is available in rack mountable (19 inch 2U high) or bench top versions.

Some of the product features include:

- Up to 5 laser wavelengths ranging from 405 to 780nm
- Laser power of up to 60mW per line by special request
- Low optical noise (0.3% rms)
- Analog modulation up to 3MHz
- Turnkey power supply with USB control
- Custom OEM versions available



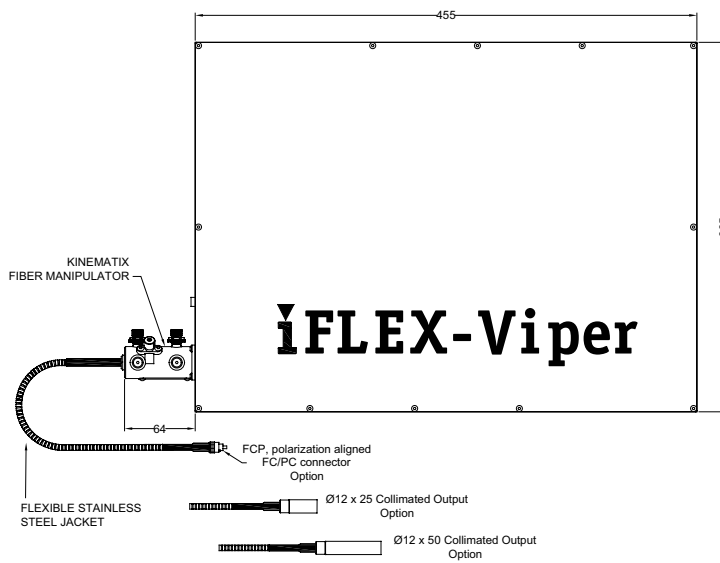
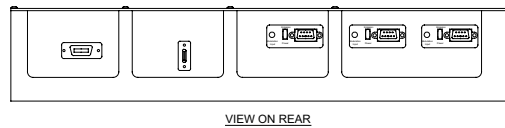
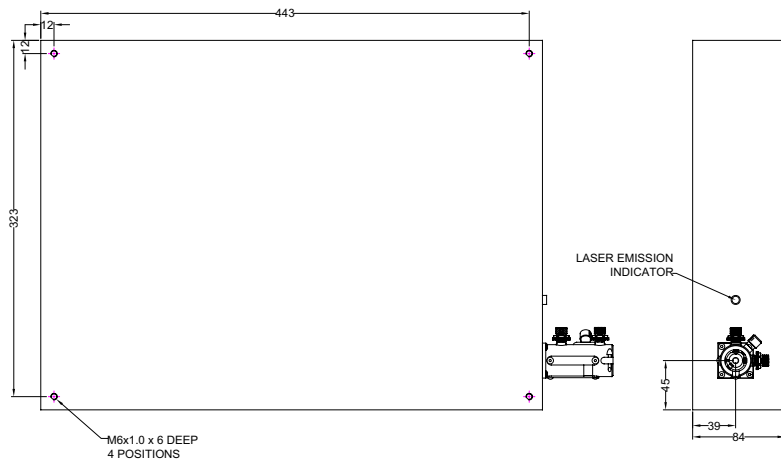
Technical specification

Laser module								units
Wavelength	405	445	488	532	561	640	780	nm
Fiber coupled power (high power version)	40	20	40	40	40	40	20	mW
Fiber coupled power (low power version)	25	20	15	15	15	15	10	mW
Optical noise (20Hz to 2MHz) rms*	< 0.1	< 0.1	< 0.3	< 0.3	< 0.3	< 0.1	<0.1	%
Optical power stability	< 2% (over 8 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

Example of 5 line iFLEX-Viper operating at 405, 445, 488, 561 and 640 nm



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-Mustang™

Fiber coupled solid state laser with on-board acousto-optic modulation

- DPSS lasers, 488, 532 and 561nm
- High long term stability and low noise
- 25mW of output power



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™

For further information please contact:

Mitchell Point, Ensign Way, Hamble, Hampshire, SO31 4RF

Email: sales@qpl.qioptiq.com

Tel: +44 (0) 23 80 744 500 Fax: +44 (0) 23 80 744 501

www.qioptiq.com



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