QIOPTIQ
Photonics for Innovation
An Excelitas Technologies Company

iFLEX-Viper

Multi-Line Laser Engine

The iFLEX-Viper™ is a solid-state multi-line laser source with detachable single-mode polarization maintaining fiber output. Up to five individual lasers are efficiently combined and delivered through one SM PM fiber. The system is mode-hop free and wavelength stabilized as a direct result of active temperature control. Automatic closed loop control ensures excellent long term power stability.

Each laser is independently controlled instead of combining beams through an AOTF. This enables instantaneous switching between wavelengths and simultaneous emission of any wavelength combination. Lasers will only emit when requested, so lifetime may be extended.

The novel design of the iFLEX-Viper™ eliminates the need for user alignment of the internal laser sources. It is a true turnkey system and only requires a drive signal per laser line to initiate emission.

The iFLEX-Viper™ is compatible with a number of commercially available imaging software packages, such as; µ-Manager™, MetaMorph®, LabView™ and Olympus cell^R™.

Applications benefitting from the iFLEX-Viper include; fluorescence imaging, cytometry, biotech, single molecular imaging, super resolution microscopy, TIRF, confocal microscopy, quality assurance and metrology.

Key features:

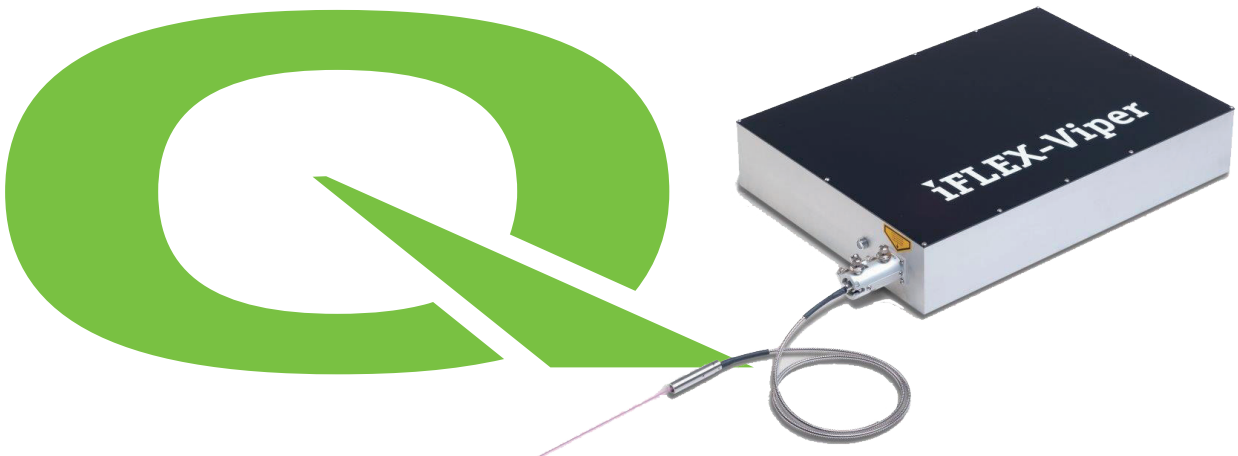
- Output Beam – Combined, Co-axial, Gaussian
- No laser alignment required
- Laser performance guaranteed after fiber
- Fully independent laser control for power adjustment and modulation; set lasers to emit in any sequence, any pairing or simultaneously
- True Off for all wavelengths
- Mechanical shutter included on 50mW 532 & 561nm lines

Benefits include:

- No laser alignment required
- Easy to use, portable, turnkey system
- Class leading power stability
- Ultra-low noise performance
- Class leading beam pointing stability
- Reliable and repeatable measurements

Options:

- Select up to 5 wavelengths from 405 - 640nm
- Select output power levels required
- kineFLEX® fiber options to fit any microscope
- Upgrade option to add wavelengths
- USB comms. interface for software control
- OEM custom and CDRH compliant versions



iFLEX-Viper™ Specification Overview

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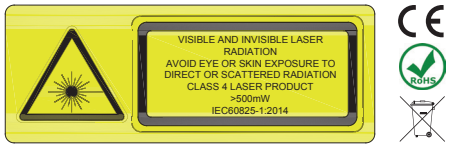
Wavelength (nm)		640 ± 5		561 ± 2		532 ± 2		515 ± 2		488 ± 2		445 ± 5		405 ± 5		Fiber	SM PM Fiber output options			
Nomenclature		R		Y		G1		G		B		I		V		2m	Ø 0.7 mm	FCP	FCP8	APC
Power after fiber (mW)		20	50	20	50	20	50	20	40	20	50	20	50	20	50					
iFLEX-Viper-RYBV Basic System	Low power	●		●		◊		◊		●		◊		●		●	o	o	o	o
	High power		●		●		◊		◊		●		◊		●	●	o	o	o	o
iFLEX-Viper-YGBI Basic System	Low power	◊		●		◊		●		●		●		◊		●	o	o	o	o
	High power		◊		●		◊		●		●		●		◊	●	o	o	o	o
Noise rms (20Hz - 2 MHz)		< 0.1% typ		< 0.3 % typ				< 0.1 % typ												
Power stability (8 hours)		< 2 %																		
Spatial mode, TEM_{00}		M^2 < 1.1 typ, diffraction limited																		
Pointing stability after fiber		< 1 µrad/°C																		
Polarization extinction ratio		(all lines) ≥ 100:1																		
Max. base plate temp.		40 °C																		
CW power adjustment range (per λ)		0, 0.1-100%		0, 0.1-100%		0, 0.1-100%		0, 0.1-100%		0, 0.1-100%		0, 0.1-100%		0, 0.1-100%						
Analogue Modulation (per λ)		0 - 5 V		0 - 5 V		0 - 5 V		0 - 5 V		0 - 5 V		0 - 5 V		0 - 5 V						
Bandwidth		DC to 2MHz, over 3dB bandwidth frequency																		
Dynamic range		≥ 30 dB																		
Rise / fall time over 10 - 90% intensity		≤ 350 ns																		
Dimensions laser head		455mm (L) x 335mm (W) x 84mm (H)																		
Dimensions controller & power supply		370mm (L) x 322mm (W) x 85mm (H) (or H = 91mm with feet)																		
Warranty		12 months or 5000 hours (whichever comes sooner)																		

◊ Options for 5th line. Other wavelength combinations are also available.
o Fiber output options



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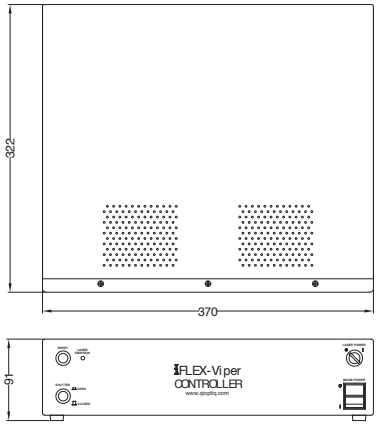
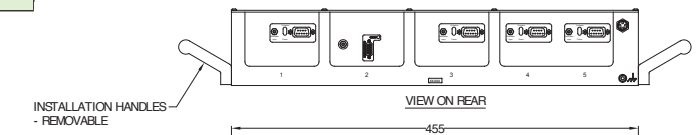
iFLEX-Viper™ Controller





iFLEX-Viper™ Laser Head