

Datasheet

Dual fiber beam combination system - kineFLEX-DUO

The kineFLEX-DUO™ is a robust all fiber beam combiner and laser beam delivery system for two laser sources at visible wavelengths. Designed around the kineFLEX™ laser to fiber coupler design is a fused fiber singlemode coupler, with pre-focused and integrated optical assemblies. The fiber is automatically mode matched to your laser parameters to achieve end to end efficiencies greater than 60%.

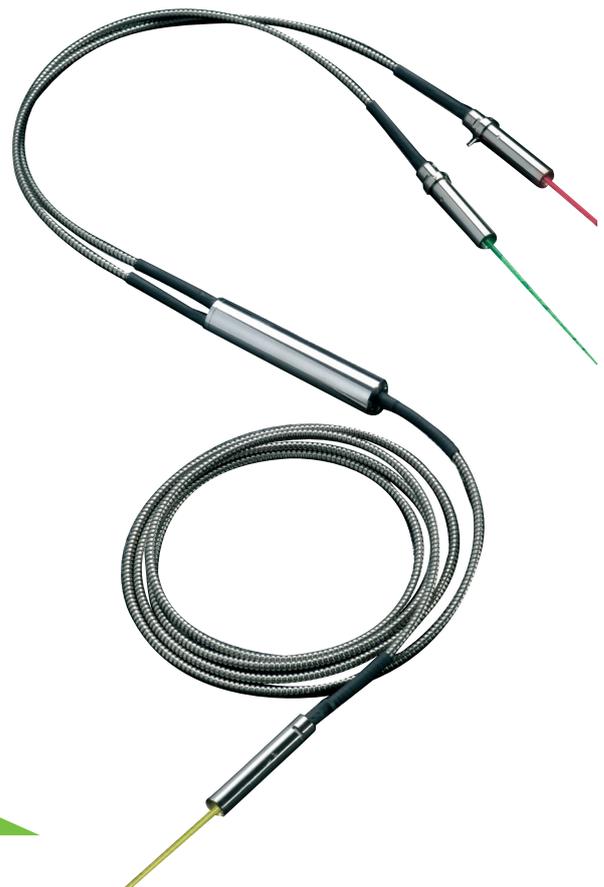
Designed for high precision instrumentation the singlemode fiber design enables the user to decouple laser beam astigmatism and dynamic beam pointing instability from the measurement application. Fiber also provides a convenient packaging solution by relocating sources of heat and by removing bulk components thereby reducing the number of optical surfaces from the beam alignment scheme.

The all fiber nature of this visible beam combiner reduces optical and mechanical complexity into a convenient and easy to install package to deliver truly co-linear beams.

Qioptiq fiber systems can be customized for exacting OEM specifications. Outputs can be configured to produce pure Gaussian profiles, extremely low wavefront and zero aberrations, as well as engineered spatial profiles and shapes. OEM versions for combining custom visible and infrared wavelengths are also possible.

Some of the product features include:

- Efficient and simple laser beam combination
- Highly stable to thermal effects with zero misalignment
- Stable ruggedized platform for industrial applications
- Blue/Green, Green/Red and Blue/Red versions
- Custom OEM versions available



Technical Specifications

Operating wavelengths				Units
Two wavelength combiners	Blue/Green	Green/Red	Blue/Red	-
Operating performance				
Throughput efficiency, Blue/Green ¹		≥ 60		%
Throughput efficiency, Green/Red ¹		≥ 60		%
Throughput efficiency, Red/Blue ¹		≥ 60		%
Fiber parameters				
Input coupler fiber length		1		m
Output coupler fiber length		1		m
Fiber protective jacket		Stainless steel, 5mm OD		-
Wavelength				
Blue		488		nm
Green		532		nm
Red		640		nm
Collimated output beam				
Beam diameter		0.7		mm
M squared		typ 1.1		-
Pointing stability		≤ 1		μrad/°C
Beam divergence		Diffraction Limited		-
Mechanical dimensions		Ø12 x 50		mm
Beam position		≤ ± 0.15		mm
Beam angle		≤ ± 0.5		mrad
Connectorized output beam				
Singlemode fiber		FC FC8, APC (8 degree polished)		-
Environmental conditions				
Storage temperature		10 to 50		°C
Operating pressure		Atmospheric		-
Operating temperature		10 to 40		°C
Operating humidity		Non-condensing		-

¹ Assuming TEM₀₀ Gaussian profile and Ø0.7 input beam.

Note: OEM versions available please call

Order Code

kineFLEX-DUO -

Fiber type, (S)inglemode _____

Input fiber length (m) _____

Output fiber length (m) _____

Fiber jacket (S)tainless Steel _____

Operating wavelength 1 (nm) _____

Operating wavelength 2 (nm) _____

Input beam diameter 1 (mm) _____

Input beam diameter 2 (mm) _____

Output termination 0.7, FC, FC8, APC _____

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



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™



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

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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