

C-FLEX

Compact and Flexible | Laser combiner



- Combines up to 4, 6 or 8 wavelengths
- Compatible with 28 different wavelengths
- Flexible and field upgradeable
- High speed modulation capabilities
- Fiber coupling available with single or dual fiber outputs

As a highly-flexible, compact laser combiner, C-FLEX lets you combine up to 8 wavelengths out of 28 available wavelengths.

The lasers can be controlled via common USB port. C-FLEX is field-upgradeable and ready to mount Diode Pumped Lasers (DPLs) or Modulated Laser Diodes (MLDs) of the Cobolt 06-01 Series, the single frequency diode pumped lasers of the Cobolt 04-01 Series and Cobolt 05-01 Series, as well as the narrow linewidth lasers of the Cobolt 08-01 Series. The flexible design enables integration of optional AOM modulators that allow fast modulation of DPSS lasers. Free space beam output or fiber coupling options are available.

C-FLEX features a common power supply and common interlock (key switch plus remote interlock) for all lasers. The compact and robust design of the C-FLEX provides excellent long-term stability and outstanding flexibility for your application. C-FLEX comprises application specific options to integrate lasers with performance ideally suited for raman spectroscopy, fluorescence microscopy and holography applications.

Applications

Fluorescence Microscopy
Raman Spectroscopy
Holography
Flow Cytometry
Optogenetics
Argon-Ion Replacement
Custom Solutions



HÜBNER Photonics



C-FLEX

Available Wavelengths

405 nm	365 mW	●
415 nm	120 mW	●
425 nm	120 mW	●
445 nm	400 mW	●
457 nm	400 mW	●
473 nm	300 mW	●
488 nm	200 mW	●
491 nm	200 mW	●
505 nm	80 mW	●
515 nm	300 mW	●
532 nm	1000 mW	●
553 nm	50 mW	●
561 nm	500 mW	●
594 nm	100 mW	●
633 nm	80 mW	●
638 nm	180 mW	●
640 nm	1000 mW	●
647 nm	130 mW	●
660 nm	500 mW	●
685 nm	40 mW	●
730 nm	50 mW	●
760 nm	25 mW	●
785 nm	250 mW	●
808 nm	120 mW	●
830 nm	100 mW	●
940 nm	250 mW	●
975 nm	120 mW	●
1064 nm	1000 mW	●

Combiner Optical Specifications

Output power losses per beam diverter	< 10 %
Fiber coupled power stability (8 hrs, ± 3 °C)	± 10 %
Achievable fiber coupling efficiency	> 50 %
Temperature dependant pointing stability per laser (10-40 °C)	< 20 µrad / °C
Static beam pointing stability per laser (8 hrs, ± 3 °C)	< 50 µrad
Achievable beam position overlap at exit	< 50 µm
Achievable beam-to-beam angle deviation	< 150 µrad

Configuration

C-FLEX Model	C4	C6	C8
Maximum number of lasers	4	6	8
Maximum number of Cobolt 04-01 Lasers	1	3	5
Maximum number of Cobolt 05-01 Lasers	0	0	4
Maximum number of AOMs	1	3	3
Minimum wavelength separation	15 nm		

Modulation Capabilities

Cobolt Laser Series	04-01	05-01	08-01	06-01
Modulation type	AOM			Integrated
Wavelength	473 - 660 nm		405 - 515 nm 633 - 975 nm	532 - 561 nm
Max. Mod. Frequency	3 MHz		150 MHz	Up to 50 kHz

Fiber coupling options

Wavelength Range	405 - 660 nm 660 - 1064 nm
Fiber Types	SM / PM Multimode
Fiber Outputs	Collimated FC / APC FC/PC
Number of fiber outputs	Single Dual Custom

Operational Environment

Power supply requirement	15 V / 7 A
Communication protocol	USB
Maximum baseplate temperature	50 °C
Warm-up time to system thermal stability	15 min
Intended use environment	Laboratory
Storage temperature	10 - 40 °C
Humidity (non-condensing)	0-90% RH
Ambient air pressure	950-1050 mbar
Heat sink thermal impedance at 30 °C	< 0.2 K/W
Power consumption	< 100 W



This device is sensitive to Electrostatic Discharge (ESD). Always handle diode lasers with extreme care to prevent electrostatic discharge, the primary cause of unexpected diode failure.

WARNING VISIBLE AND INVISIBLE LASER RADIATION

Avoid eye or skin exposure to direct or scattered radiation.

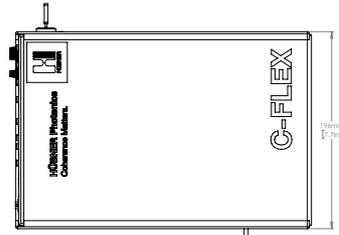
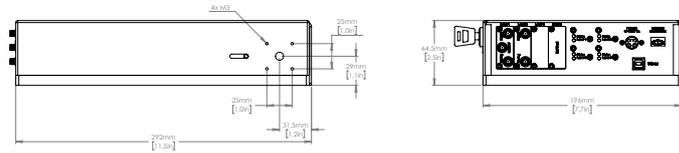
Class 4 Laser Product
Classified per IEC 60825-1:2014



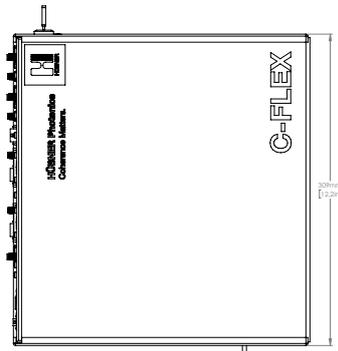
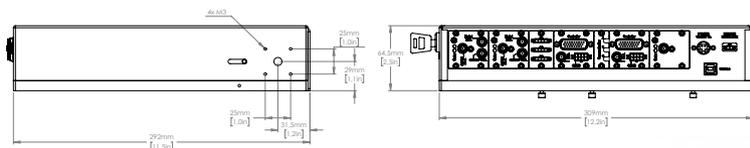
C-FLEX

Mechanical Dimensions

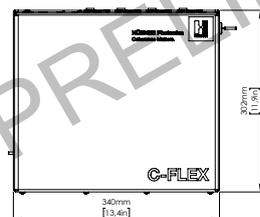
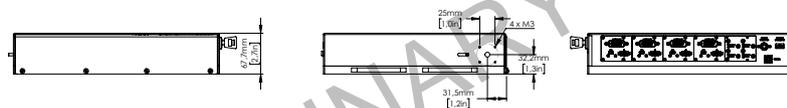
C-FLEX Model	C4	C6	C8
Laser combiner (mm)	196 x 292 x 64.5	309 x 292 x 64.5	340 x 302 x 67.7
Weight, combiner without lasers or heatsink	< 3 kg	< 5 kg	< 10 kg



C-FLEX C4 Laser Combiner



C-FLEX C6 Laser Combiner



C-FLEX C8 Laser Combiner

C-FLEX

Compatible Laser Products

Cobolt 04-01 Series

Powerful, single frequency, CW diode pumped lasers:

457 nm – 1064 nm up to 400 mW

<https://www.coboltlasers.com/lasers/dpss-lasers/>

Cobolt 05-01 Series

High Power , single frequency, CW diode pumped lasers:

457 nm – 1064 nm up to 1000 mW

<https://www.coboltlasers.com/lasers/dpss-lasers/>

Cobolt 06-01 Series

Plug & play modulatable lasers:

405 nm – 975 nm up to 400 mW

<https://www.coboltlasers.com/lasers/diode-lasers/>

Cobolt 08-01 Series

Compact narrow linewidth lasers:

405 nm – 1064 nm up to 400 mW

<https://www.coboltlasers.com/lasers/narrow-linewidth-lasers/>



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Find local sales representatives at www.coboltlasers.com/contact-us

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