

MatchBox Combiner

Ultra-Compact Wavelength Combiner



Ultra Compact Laser Combiners

The MatchBox Combiner includes up to four wavelengths, with output to multi-mode fiber or free space. This ultra-compact Wavelength Combiner, in the standard MatchBox housing measuring just 30 x 50 x 16mm, offers alignment-free operation.

A classical diode/mirror combining technique is used in combination with proprietary micro-optics to make this system both economical and compact. Individual wavelengths are controlled through an easy to use PC interface.

The Laser Combiners feature hands-free operation supported by fast-warm up time and multiplexing electronics. All optics and electronics are fitted into the ultra-compact Matchbox housing and are designed with built-in thermally stabilized optics.

Matchbox Wavelength combiners integrated precision driver electronics provide low-noise and stable operation over a broad temperature range. The laser diode modules incorporate fast-warm up time (bi-directional TEC).

The Laser Combiners have a standard matchbox footprint and are compatible with all MatchBox accessories.

In addition to the off-the-shelf configurations, ProPhotonix and Integrated Optics will work with you to design a custom laser solution to suit your specific application needs.

Key Features

- Compact Laser Combiner with Four Wavelengths
- Plug-and-Play Solution
- Single User Interface for all Four Lasers

Key Applications

- Wide Field and Fluorescence Microscopy
- Medical Applications
- Flow Cytometry
- Food Sorting and Inspection
- Metrology

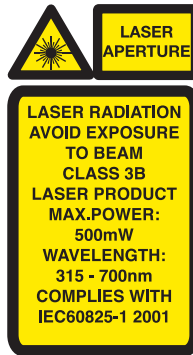
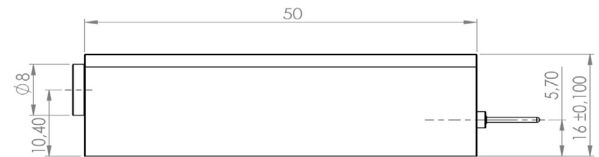
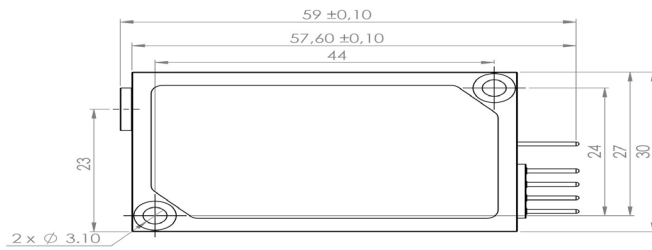
Specifications

	Wave-length (nm)	Output Power (mW)	Power Stability (%) RMS, 8hrs	Noise (%) RMS, 20Hz to 20MHz	Spectral line width FWHM (nm)	Polarization Contrast	Transversal Modes	M2 effective
40A-48A-XXY-64A-11-DM-NT	405	130	0.2	<1	<1.5	1:100	TEM00	<1.5
	488	40						
	638	130						
40A-48A-52A-64A-11-DM-NT	405	130	0.2	<1	<1.5	1:100	TEM00	<1.5
	488	40						
	520	40						
	638	130						
40A-48A-52A-64A-14-DM-PT	405	120	<1	<1	<1.5	N/A	Multimode	<1.5
	455	70						
	520	40						
	638	130						
40A-45A-52A-64A-11-DM-NT	405	120	0.2	<1	<1.5	1:100	TEM00	<1.5
	445	70						
	520	40						
	638	130						
XXY-45A-52A-64A-14-DM-PT	405	30	<1	<1	<1.5	N/A	Multimode	<1.5
	520	30						
	638	130						
40A-45A-52A-64A-14-DM-PT	405	100	<1	<1	<1.5	N/A	Multimode	<1.5
	488	25						
	520	30						
	638	100						

Platform Product Structure

Wavelength (e.g.)	Detector/Emitter Type	Laser Platform	Output Type	Modulation	Fiber Termination
40: 405nm	A: direct diode laser	1: MatchBox	1: free-space	DM: Direct TTL	PT: FC/PC connector
52: 520nm	B: DPSS laser		3: SM fiber	AM: Direct Analogue	AT: FC/APC connector
10: 1064nm	G: Si photodiode		4: MM fiber	PM: Waveguide piezo	ST: SMA connector
15: 1550nm	H: Si avalanche photodiode		5: PM fiber	TM: Waveguide thermal	CT: Collimator
	I: InGaAs photodiode		6: SMA port	OM: Acousto-optic	
	J: InGaAs avalanche PD		7: FBG SM fiber		
			8: FBG PM fiber		
			9: PCF		

Dimensional Diagram



Laser Safety

The light emitted from these devices has been set in accordance with IEC60825. However, staring into the beam, whether directly or indirectly, must be avoided. IEC60825 classifies laser products into three different categories depending on light emitted, wavelength and eye safety.

CLASS II

“Caution”, visible laser light less than 1.0mW. Considered eye safe, normal exposure to this type of beam will not cause permanent damage to the retina.

CLASS IIIR

“Danger”, visible laser light between 1.0mW and 5.0mW. Considered eye safe with caution. Focusing of this light into the eye could cause some damage.

CLASS IIIB

“Danger”, infrared (IR), and high power visible lasers considered dangerous to the retina if exposed.

NB: It is important to note that while complying with the above classifications, unless otherwise stated, our laser diode products are not certified and are designed solely for use in OEM products. The way in which the device is used in the final product may alter its original design classification, and it is the responsibility of the OEM to ensure compliance with the relevant standards.

NB. Without the inclusion of laser drive circuits, the output powers cannot be set in accordance with EN60825 since they are designed for OEM use and not certified devices as defined in the specification. The manufacturer of the complete laser product is responsible for complying with the requirements of EN60825. If the case temperature of the laser diode exceeds its maximum specification, premature or catastrophic failure may occur. To ensure the maximum life of the laser diode, it is recommended that an additional electrically insulated heatsink, of at least 35 sq. cm. be used, Thermal transfer paste can be used to improve contact and heat dissipation.

Do not restrict air circulation around the device. Specifications subject to change without notice.

Errors & Omissions Excepted. The information describes the type of product and shall not be considered as assured characteristics.

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