



PART NUMBER XXY-48A-52A-66A-14
 ITEM NAME MULTI-WAVELENGTH LASER

PRODUCT DATASHEET



DESCRIPTION

A multi-wavelength laser featuring 3 laser diodes integrated within an ultra-compact MM (multi-mode) fiber-coupled 'Matchbox' housing. A classical dichroic mirror combining technique is used in combination with our proprietary micro-optics assembly to make this system both economical and compact. All optics and electronics are fitted into 'Matchbox' housing. This particular configuration combines wavelengths, which are standard for use in Life Sciences, Food sorting, Metrology, and Medical applications. An easy-to-use PC interface and separate TTL inputs allow full control over the individual wavelengths.

Features:

- Three wavelengths
- Plug-and-play
- Single user interface for all 3 wavelengths

Advantages:

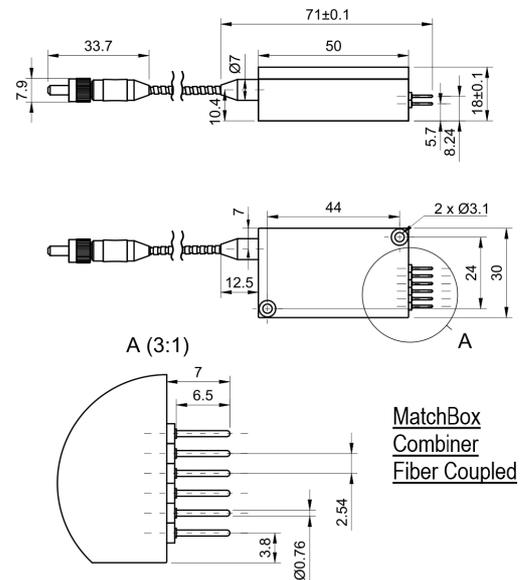
- Space-saving design
- No optics realignment
- Remote PC control

SPECIFICATIONS

Specifications updated: 14 March 2024

Parameter	Minimum Value	Typical Value	Maximum Value
Output power, mW	-	488 nm - 40 520 nm - 70 660 nm - 80 ¹	-
Wavelength tolerance, nm	480 515 657	488 520 660	495 530 663
Fiber core diameter, μm	50	105 ²	200
Power stability, % (RMS, 8 hrs)	-	0.2 ³	1
Longitudinal modes	-	Multiple	-
Spectral line width FWHM, nm	-	<1.5	-
Intensity noise, % (RMS, 20 Hz to 20 MHz)	-	<1 ⁴	-
Transversal modes	-	multimode (top-hat-like)	-
Control interface type	-	UART ⁵	-
Operation mode	-	ACC (CW)	-
Input voltage, VDC	8	9	12
External power supply requirement	-	+9 V DC, 1.5 A ⁶	+12 V DC, 1.5 A
Dimensions (WxDxH), mm	-	50 x 30 x 18 ⁷	-
Heat-sinking requirement, °C/W	-	<0.5	-
Optimum heatsink temperature, °C	-	25	-
Warm up time, mins (cold start)	0.1	0.5	1
Temperature stabilization	-	Internal TEC	-

DRAWING



MatchBox
Combiner
Fiber Coupled

Overheat protection	-	Yes	-
Storage temperature, °C (non-condensing)	-	-	-
Net weight, kg	-	0.2	-
Power consumption, W	-	2 ⁸	18
Warranty, months (op. hrs)	-	14 (10000) ⁹	-
RoHS	-	Yes	-
CE compliance	-	- General Product Safety Directive (GPSD) 2001/95/EC - (EMC) Directive 2004/108/EC	-
OEM lasers are not compliant with	-	IEC60825-1:2014 (compliant using additional accessories)	-
Modulation bandwidth, MHz	-	10 ¹⁰	-

¹ The optical power can be tuned from virtually 0% to 100% by changing the driving current of the laser diodes. However, other specifications, such as central wavelength, power stability, noise, polarization ratio, beam shape, quality, and circularity are not guaranteed at power levels other than factory preset power. Significantly worse power stability is to be expected at very low power levels, e.g. <3% from specified nominal power.

² Customer's choice.

³ The long term power test is carried out at constant laser body temperature (+/-0.1 °C) using an optical power meter with an input bandwidth of 10 Hz. The actual measurement rate has a period of about 20 seconds to 1 minute.

⁴ Noise level is measured with a fast photodiode connected to an oscilloscope. The overall system bandwidth is from 2 kHz to 20 MHz.

⁵ The break-out-box AM-C9 can be used for conversion of UART communication to USB.

⁶ If the break-out-box AM-C9 is used, a PD (Power Delivery) type of power supply can be used.

⁷ Excluding control interface pins and an output window/fiber assembly.

⁸ For single enabled wavelength.

⁹ Whichever occurs first.

¹⁰ TTL digital modulation up to 10 MHz.

Note: Product specifications are subject to change without prior notice to improve reliability, function or design or otherwise.