



PART NUMBER 40A-52A-64A-78A-16  
ITEM NAME MULTI-WAVELENGTH LASER

## PRODUCT DATASHEET



### DESCRIPTION

A multi-wavelength laser featuring 4 laser diodes integrated within an ultra-compact 'Matchbox' housing with an SMA port (for MM fiber). Experience a breakthrough in research with our widely configurable 4-Wavelength Laser Combiner—a compact powerhouse set to transform life sciences and fluorescence applications. Seamlessly integrating four distinct wavelengths into a single housing, this device ensures unparalleled convenience without sacrificing performance.

#### Features:

- Four wavelengths
- Plug-and-play
- Single user interface for all 4 wavelengths

#### Advantages:

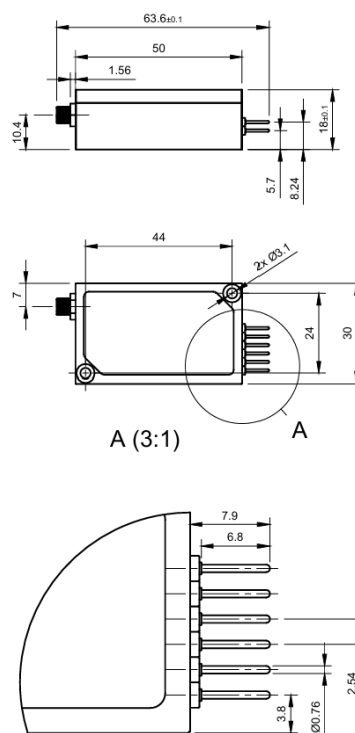
- Space-saving design
- No optics realignment
- Remote PC control

### SPECIFICATIONS

Specifications updated: 21 May 2024

Parameter	Minimum Value	Typical Value	Maximum Value
Output power, mW	-	405 nm - 100 520 nm - 70 638 nm - 100 785 nm - 100	-
Wavelength tolerance, nm	400 515 635 782	405 520 638 785	410 530 641 788
Longitudinal modes	-	Multiple	-
Spectral line width FWHM, nm	-	1	2
Fiber core diameter, $\mu\text{m}$	-	105 $\mu\text{m}$ , 200 $\mu\text{m}$ , 400 $\mu\text{m}$ (+/- 2 %)	-
Power stability, % (RMS, 8 hrs)	-	0.2 <sup>1</sup>	1
Intensity noise, % (RMS, 20 Hz to 20 MHz)	-	0.2 <sup>2</sup>	1
Transversal modes	-	multimode (top-hat-like)	-
Control interface type	-	UART <sup>3</sup>	-
Operation mode	-	ACC (CW)	-
Modulation bandwidth, MHz	-	10 <sup>4</sup>	-
Input voltage, VDC	8	9	12
External power supply requirement	-	+9 V DC, 1.5 A	+12 V DC, 1.5 A
Dimensions (WxDxH), mm	-	50 x 30 x 18	-
Heat-sinking requirement, °C/W	-	<0.5	-
Optimum heatsink temperature, °C	-	25	-

### DRAWING



**MatchBox  
Combiner  
SMA-Port**

Warm up time, mins (cold start)	-	< 1 min	-
Temperature stabilization	-	Internal TEC	-
Overheat protection	-	Yes	-
Storage temperature, °C (non-condensing)	-	-	-
Net weight, kg	-	0.2	-
Max. power consumption, W	-	2	-
Warranty, months (op. hrs)	-	14 (10000) <sup>5</sup>	-
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)	-

<sup>1</sup> 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.

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

<sup>3</sup> The break-out-box AM-C9 can be used for conversion of UART communication to USB.

<sup>4</sup> TTL digital modulation up to 10 MHz.

<sup>5</sup> Whichever occurs first.

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