



PART NUMBER 40A-48A-XXY-XXY-11
 ITEM NAME MULTI-WAVELENGTH LASER

PRODUCT DATASHEET



DESCRIPTION

A widely configurable 2-wavelength dichroic laser featuring precisely co-aligned optical paths in a free-space output configuration. Experience a new era in research with our state-of-the-art 2-Wavelength Laser Combiner—a compact powerhouse designed to transform life sciences and fluorescence applications. Seamlessly integrating four distinct wavelengths into a single housing, this device ensures unmatched convenience without any compromise in performance.

Features:

- Two wavelengths
- Plug-and-play
- Single user interface for both wavelengths

Advantages:

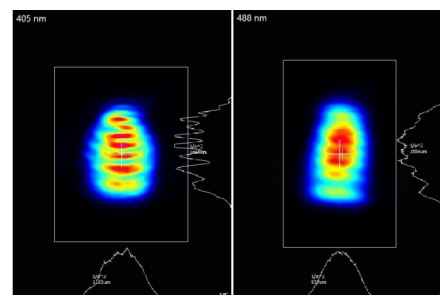
- Space-saving design
- No optics realignment
- Remote PC control

SPECIFICATIONS

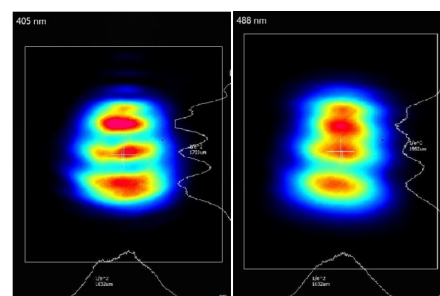
Specifications updated: 14 March 2024

| Parameter | Minimum Value | Typical Value | Maximum Value |
|---|----------------------------|--------------------------------|--------------------|
| Output power, mW | - | 405 nm - 120 488 nm - 40 | - |
| Wavelength tolerance, nm | 400 480 | 405 488 | 410 495 |
| Longitudinal modes | - | Multiple | - |
| Spectral line width FWHM, nm | - | 1 | 2 |
| Power stability, % (RMS, 8 hrs) | - | 0.2 | 0.5 |
| Intensity noise, % (RMS, 20 Hz to 20 MHz) | - | 0.5 ¹ | 1 |
| Transversal modes | - | TEM00 | - |
| Polarization direction | - | Horizontal | - |
| Polarization contrast | 405 nm - 50 488 nm - 10 | 405 nm - 300 488 nm - 100 | - |
| Control interface type | - | UART ² | - |
| Operation mode | - | ACC (CW) | - |
| Modulation bandwidth, MHz | - | 10 ³ | - |
| Input voltage, VDC | 8 | 9 | 12 |
| External power supply requirement | - | +9 V DC, 1.5 A ⁴ | +12 V DC, 1.5 A |
| Dimensions (WxDxH), mm | - | 50 x 30 x 18 | - |
| Beam height from the base, mm | - | 10.4 | - |
| Heat-sinking requirement, °C/W | - | <0.5 | - |
| Optimum heatsink temperature, °C | - | 25 | - |

TYPICAL NEAR FIELD



TYPICAL FAR FIELD



| | | | |
|--|---|--|----|
| Warm up time, mins (cold start) | - | < 1 | 2 |
| Temperature stabilization | - | Internal TEC | - |
| Overheat protection | - | Yes | - |
| Storage temperature, °C (non-condensing) | - | - | - |
| Net weight, kg | - | 0.3 | - |
| Max. power consumption, W | - | 2 ⁵ | 18 |
| Warranty, months (op. hrs) | - | 14 (10000) ⁶ | - |
| 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) | - |

¹ Noise level is measured with a fast photodiode connected to an oscilloscope. The overall system bandwidth is from 2 kHz to 20 MHz.

² The break-out-box AM-C9 can be used for conversion of UART communication to USB.

³ TTL digital modulation up to 10 MHz.

⁴ If the break-out-box AM-C9 is used, a PD (Power Delivery) type of power supply can be used.

⁵ For single enabled wavelength.

⁶ Whichever occurs first.

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

DRAWING

