

LOW NOISE VIOLET/BLUE LASERS

Applications

- Spectroscopy
- Metrology
- Wafer Inspection
- Printing
- Micro-material Processing
- Medicine
- Particle counting
- Photoluminescence
- Signal transmission
- Holography
- Resonant Raman spectroscopy



The BVB series are very compact, self-contained, thermoelectric (TE)-cooled, solid-state Violet/Blue lasers. They can be operated over a wide temperature range, 10 to 35°C with a stable and quiet laser output power. The combination of excellent beam characteristics, such as mode quality and low divergence, makes the lasers suitable for beam focusing, as well as long distance beam positioning. The compact power supply can be easily integrated into the OEM version. The end user version has all the applicable safety features, such as key-lock switch, emission indicator and remote interlock.

The models with N as the suffix (see Page 3 for details) are the new products specifically designed with stabilized and narrowed laser spectrum for applications such as metrology instruments, holography and high resolution resonant Raman spectroscopy. They feature long coherence length up to 1 meter while all the typical parameters are kept the same as the standard models.



光技術をサポートする

株式会社オプトサイエンス

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LOW NOISE VIOLET/BLUE LASERS

Specifications (BWB-series)	-375-4-E	-405-40-E	-405-80-E	-440-4-E	-440-10-E	-475-4-E	-475-10-E
Power Output (mW)	4	40	80	4	10	4	10
Wavelength (nm)	375+/-10	405+/-10	405+/-10	440+/-10	440+/-10	475+/-2	475+/-2
Mode	TEM ₀₀ ¹⁾					TEM ₀₀	
Ellipticity	<3:1					<1.5:1	
M ²	---					<1.2	
Beam Size (1/e ²)	<1.4 mm in short arm, <4.2mm in long arm					<1.0 mm	
Beam Divergence	<1.5 mrad					<1.5 mrad	
Noise (rms)	<0.5% (up to 2 GHz)					---	
Power Stability (over 2 hrs)	< 5%						
Polarization	Linear, >50:1						
Operating Temperature	10 - 35 °C						
Warm-up Time	<15 minutes						
Laser Head Dimension	35mm(H) x 50mm(W) x 100mm(L)						
Fiber Pigtail (optional)	Multi-mode fiber with SMA905 Termination						
TTL Modulation (optional)	0-20kHz					---	
Expected Lifetime (hrs)	>500	>10,000	>10,000	>500	>500	>10,000	
End User Driver Specifications							
Operating Voltage	110-240 VAC						
Power Supply Dimension	55mm(H) x 105mm(W) x 125mm(L)						
OEM Driver Specifications							
Operating Voltage	10 VDC					5 VDC	
Power Supply Dimension	25mm(H) x 80mm(W) x 105mm(L)						

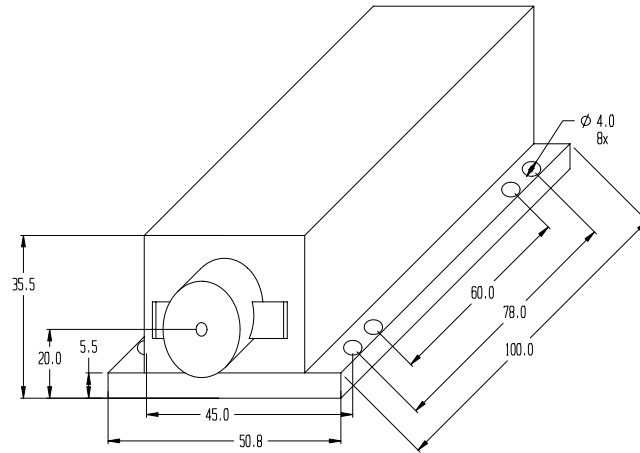
1) Higher than 60% energy is in TEM₀₀ mode.

LOW NOISE VIOLET/BLUE LASERS

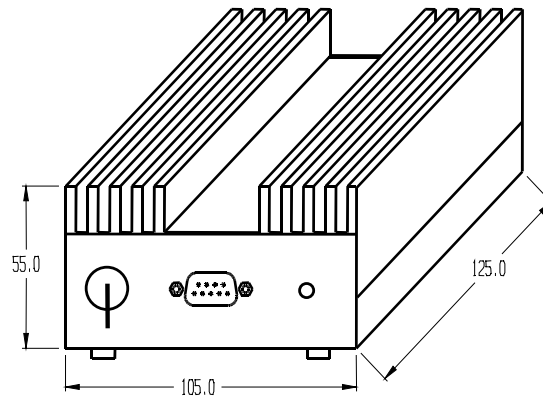
New! Spectrum narrowed and stabilized model: BWB-405-xx-EN

Parameter	-405-5-EN	-405-10-EN
Power Output (mW)	5	10
Wavelength (nm)	405+/-3	
Linewidth	300 MHz (0.16 pm)	
Coherence Length	1 meter	
Transverse Mode	TEM ₀₀ ¹⁾	
Ellipticity	<3:1	
M ²	---	
Beam Size (1/e ²)	<1.4 mm in short arm, <4.2mm in long arm	
Beam Divergence	<1.5 mrad	
Noise (rms)	<0.5% (up to 2 GHz)	
Power Stability (over 2 hrs)	< 5%	
Polarization	Linear, >50:1	
Operating Temperature	10 - 35 °C	
Warm-up Time	<15 minutes	
Laser Head Dimension	35mm(H) x 50mm(W) x 100mm(L)	
Expected Lifetime (hrs)	>10,000	
End User Driver Specifications		
Operating Voltage	110-240 VAC	
Power Supply Dimension	55mm(H) x 105mm(W) x 125mm(L)	
OEM Driver Specifications		
Operating Voltage	10 VDC	
Power Supply Dimension	25mm(H) x 80mm(W) x 105mm(L)	

Laser Head Dimension:



End-User Driver Dimension:



OEM Driver Dimension:

