Pavilion Integration Corporation
2528 Qume Drive, Suite-1, San Jose, CA 95131 USA
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Lapis®
Integrated Multi-laser Engine

The Lapis 3 or 4-laser integrated engine features an advanced optical plate with 3 or 4 laser channels that focused precisely at the same focal plane. It offers up to four selectable output laser wavelengths, including the common options of 405nm, 488nm, 561nm, and 638nm, as well as other customizable wavelengths.

The module provides independently adjustable beam positions for each wavelength. Users have the flexibility to adjust the focal plane to their specific requirements, while the beam spot position can be controlled with high precision.

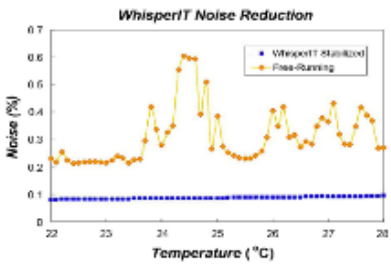
Incorporates up to four PIC lasers. Lapis 4-laser module reduces cost, space and complexity by eliminating electronic redundancy. Minimizes setup time for researchers and time/cost to market for instrument OEMs. Ideal for flow cytometry with co-linear or separated beams.

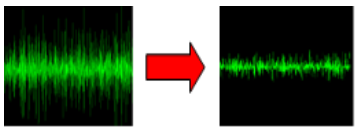
FEATURES

- **Custom focus beam**
- **Highly integrated**
- **Co-linear or separated beams**
- **User-adjustable**
- **Minimizes setup time**
- **Minimizes time/cost to market**
- **Custom wavelengths available**

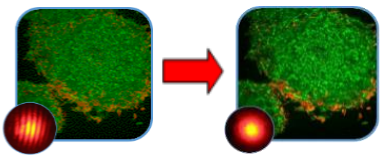
APPLICATIONS

- **Flow Cytometry**
- **Cell Sorting**
- **Diagnostics**
- **Medical Imaging**
- **Confocal Microscopy**





Low Noise



Low Coherence

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Product Specifications

SPECIFICATIONS	405	488	561	638
Wavelength (nm)*	405	488	561	638
Typ. Output Power (mW)	100			
Max. Output Power (mW)**	<200			
RMS Noise (20Hz to 20 MHz) (%)	<0.25			
Peak to Peak Noise (20Hz to 20kHz) (%)	<1			
Digital Modulation Frequency (TTL) (KHz)***	<60			
Rise /Fall Time (μs)***	<4			
Long-Term Power Stability (8hrs, ±3ºC) (%)	<2			
Collimated Beam Diameter	0.5~3mm Circular or elliptical			
Focus Beam Size in Vertical (μm) ($1/e^2$)	10±2			
Focus Beam Size in Horizontal (μm) ($1/e^2$)	75±10			
Focus Side-lobes Vertical (% of peak)	<3			
Laser Out Height From Base Plate (mm)	25.4			
Beam Position Adjustment @V-focal plane (μm)	±100 in V, H			
Beam Waist Position Adjustment (mm)	±3			
Pointing Stability Over Temperature (μrad/°C)	<5			
Warm-up Time (From cold start) (minutes)	<5			
Polarization Extinction Ratio	>100:1			
Polarization Orientation (Reference to baseplate)	Vertical ±5º			

* Wavelength tolerance: 405nm±3nm; 488nm±3nm; 561nm±3nm; 638nm±5nm;
Extendable wavelength selection (customizable): 450/488nm; 544/553/561/577/588/594nm; 638/660nm;
** The maximum output power for each channel can be customized;
*** The modulation function needs to be customized, Time sequential operation is available;

ELECTRICAL SPECIFICATIONS	Conditions	Min.	Specifications Typ.	Max.	Units
DC Supply Voltage		11.5	12	12.5	VDC
Voltage Ripple				5	%
Current Consumption				7	A
Total Power Consumption				84	W

MECHANICAL SPECIFICATIONS	Conditions	Specifications Typ.	Units
Laser Module Dimension	L x W x H	155 x 180 x 52.2	mm
Focus Head Dimension	L x W x H	22×22×56	mm

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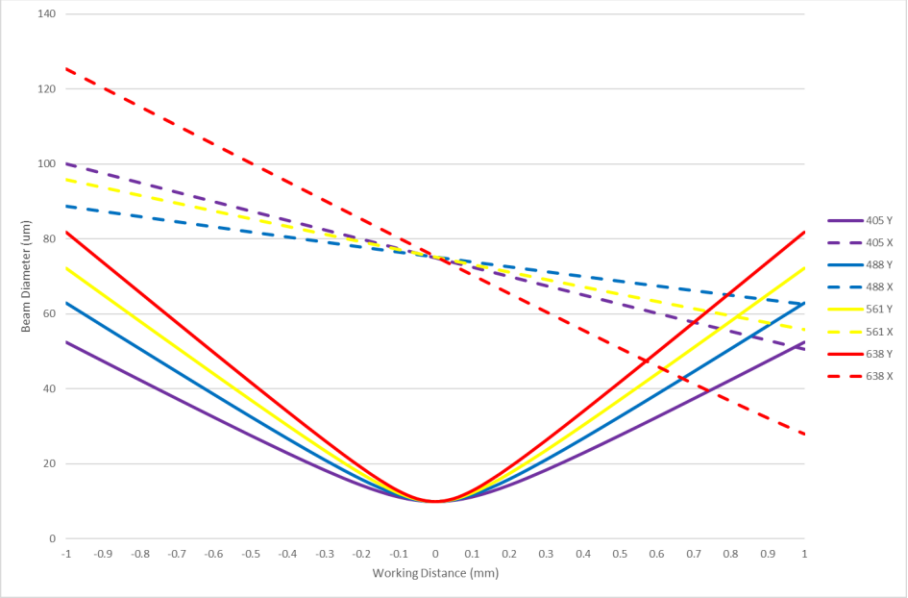
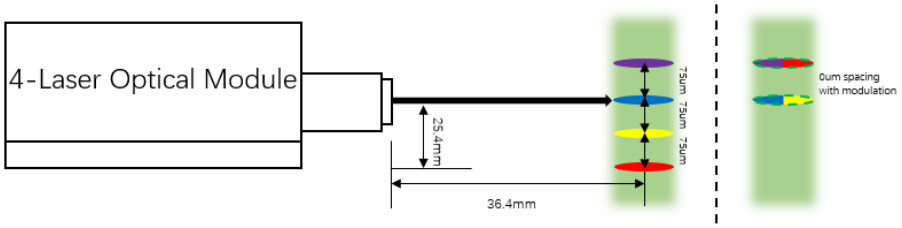
Nominal Optical Performance



4 lasers focus with separated positions, 0~150um spacing is available to offer upon request.
More extended applications can be achieved through the modulation (0um spacing, Time sequential operation is available)



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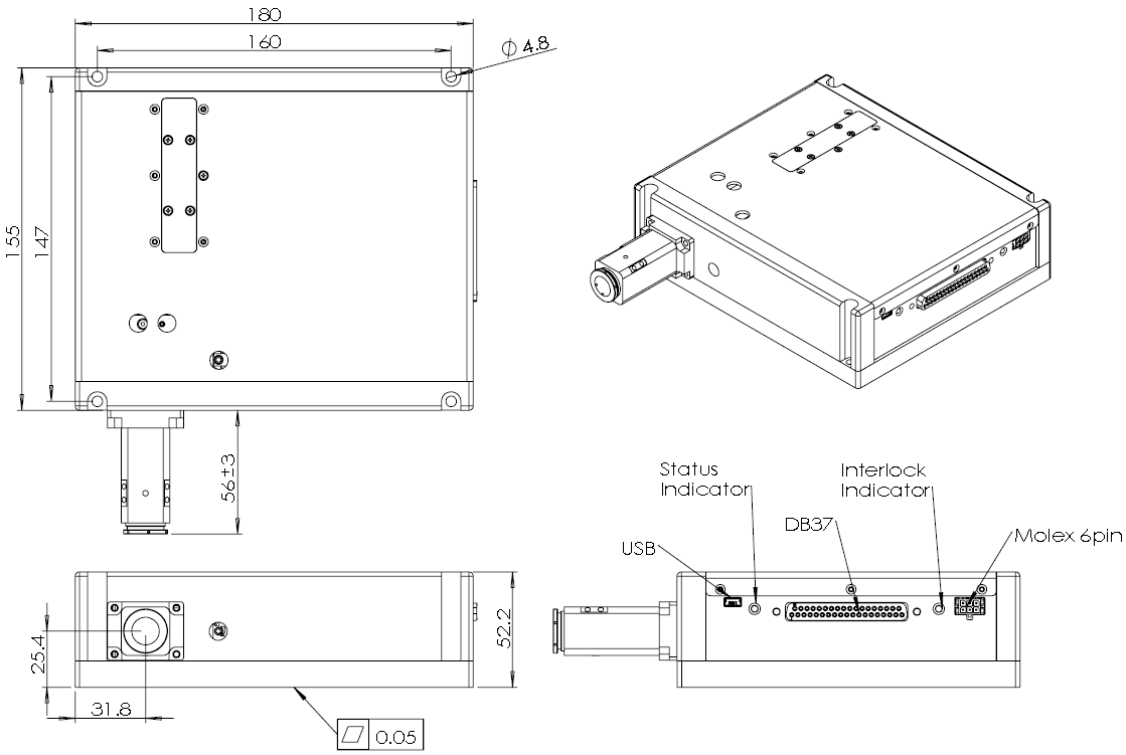
Mechanical Specifications



This OEM laser does not comply with 21 CRF 1040.10 and 1040.11 without appropriate integration. Please contact Pavilion Integration Corp. for additional support or questions.

ISO9001 & ISO13485 Registered