Pavilion Integration Corporation
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WhisperIT®

Whisper Compact Package – Fiber Coupled (WCP-FC series)

WhisperIT® WCP-FC Series Compact Lasers offer an excellent signal-to-noise ratio. Low coherence leads to a reduction of laser speckle and the elimination of diffraction patterns. High reliability & consistent performance enables demanding biomedical and scientific instrumentation applications.

WhisperIT® WCP-FC Series Compact Lasers are laser diode-based continuous-wave solid-state lasers that offer significantly increased lifetime and improved efficiency over DPSS, HeCd or Argon lasers. The proprietary WhisperIT® technology eliminates mode hops and delivers lasers with extremely low optical noise.

WhisperIT® Lasers with integrated patented driver electronics for highly stable, low coherence and low speckle operation guarantees outstanding performance over time and temperature.

The WhisperIT® WCP-FC series lasers are tailored to match specific application requirements.

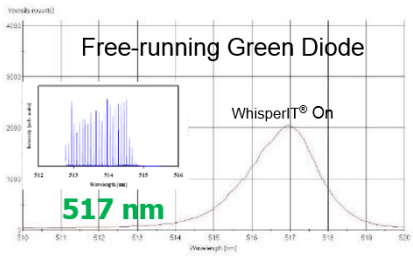
FEATURES

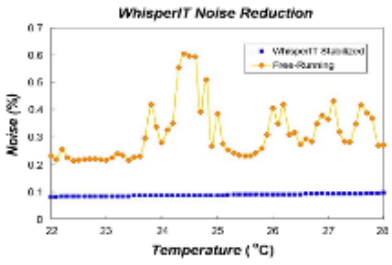
- **Ultra-Low Noise**
- **Low Coherence**
- **Mode-hop Free**
- **Back Reflection Protection**
- **Integrated Control Electronics**
- **Digital / Analog Modulation**

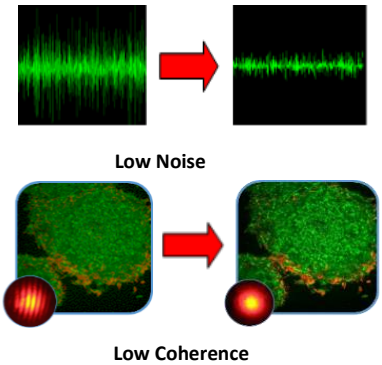
APPLICATIONS

- **Flow Cytometry**
- **DNA Sequencing**
- **Medical Imaging**
- **Confocal Microscopy**
- **Optogenetics**
- **Metrology**
- **Semiconductor Instrumentation**









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Table 1. Optical Specification

SPECIFICATIONS	WCP405	WCP488	WCP505	WCP515
Wavelength (nm)*	405	488	505	515
Output Power (mW)**	20,50	20,50,80,100	20,50	20,50,80,100
RMS Noise (20Hz to 20 MHz) (%)	≤0.2	≤0.2	≤0.2	≤0.25
Peak to Peak Noise (20Hz to 20kHz) (%)	<2	<2	<2	<2
Long-Term Power Stability (8hrs, ±3ºC) (%)	<2	<2	<2	<2
Spatial Mode (TEM_{00}) M^2	≤1.1	≤1.1	≤1.1	≤1.1
Fiber Type	PM Fiber	PM Fiber	PM Fiber	PM Fiber
Fiber Jacket	0.9mm/3mm	0.9mm/3mm	0.9mm/3mm	0.9mm/3mm
Fiber Length (m)	1±0.1	1±0.1	1±0.1	1±0.1
Connector Type*	FC/APC with Narrow key	FC/APC with Narrow key	FC/APC with Narrow key	FC/APC with Narrow key
Polarization Extinction Ratio	>50:1	>50:1	>50:1	>50:1
Polarization Orientation	Parallel or Perpendicular to the Key position	Parallel or Perpendicular to the Key position	Parallel or Perpendicular to the Key position	Parallel or Perpendicular to the Key position
Warm-up Time (From cold start) (minutes)	<5	<5	<5	<5

SPECIFICATIONS	WCP532	WCP561	WCP638	WCP785
Wavelength (nm)*	532	561	638	785
Output Power (mW)**	20,50,80	20,50,80,100	20,50,80,100	20,50
RMS Noise (20Hz to 20 MHz) (%)	≤0.25	≤0.25	≤0.2	≤0.2
Peak to Peak Noise (20Hz to 20kHz) (%)	<1	<1	<2	<2
Long-Term Power Stability (8hrs, ±3ºC) (%)	<2	<2	<2	<2
Spatial Mode (TEM_{00}) M^2	≤1.1	≤1.1	≤1.1	≤1.1
Fiber Type	PM Fiber	PM Fiber	PM Fiber	PM Fiber
Fiber Jacket	0.9mm/3mm	0.9mm/3mm	0.9mm/3mm	0.9mm/3mm
Fiber Length (m)	1±0.1	1±0.1	1±0.1	1±0.1
Connector Type	FC/APC with Narrow key	FC/APC with Narrow key	FC/APC with Narrow key	FC/APC with Narrow key
Polarization Extinction Ratio	>50:1	>50:1	>50:1	>50:1
Polarization Orientation	Parallel or Perpendicular to the Key position	Parallel or Perpendicular to the Key position	Parallel or Perpendicular to the Key position	Parallel or Perpendicular to the Key position
Warm-up Time (from cold start) (minutes)	<5	<5	<5	<5

*Other wavelengths are available to provide upon request. Wavelength tolerance: ±2nm ~ ±5nm

**Output power is variable in CW mode from 10% to 100% of rated power. Specifications are valid for 100% power.

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Table 2. Mechanical & Environmental Specification

Dimensions (L x W x H) (mm)	70 x 40 x 45
Power Consumption (W)	≤12
Laser Head Baseplate Temperature (Max. ºC)	40
Heat Dissipation of Laser Head (W)	≤12
Operating Temperature (ºC)	10 to 50
Storage Temperature (ºC)	-20 to 60
Humidity (%)	10 to 90
Shock (11ms duration) (Operating) (g)	1
Shock (11ms duration) (Non-operating) (g)	30
Vibration (5Hz – 500Hz) (Operating) (g)	0.3
Vibration (5Hz – 500Hz) (Non-operating) (g)	3
Laser Safety Classification	3b

Table 3: Electrical Specification

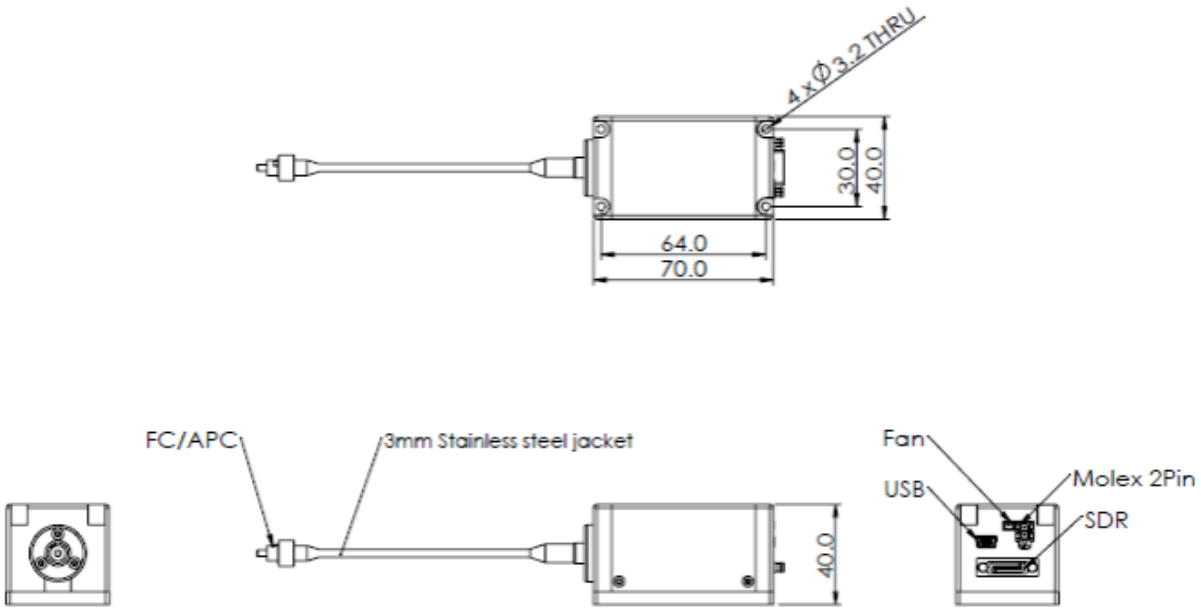
DB9 Connector PIN Assignment	Digital Interface	Analog Interface
1*	LD_5V / 9V / 12V	LD_5V / 9V / 12V
2	Rx for RS232	NC
3	TEC_5V	TEC_5V
4	Tx for RS232	NC
5	TEC_GND	TEC_GND
6	NC	Power Adj
7	NC	Enable
8	GND for RS232	NC
9	LD_GND	LD_GND

*405/488/505/515nm LD driving voltage: 9V or 12V; 532/561/638/785nm LD driving voltage: 5V

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MECHANICAL SPECIFICATIONS



ISO9001 & ISO13485 Registered

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.



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