VPL SERIES

Adjustable Pulse Width Diode Lasers

EDINBURGH INSTRUMENTS

The VPL series of diode lasers provide variable width pulses in the ns to ms range, as well as CW operation with powers up to 60 mW.

They are optimised for long photoluminescence lifetime measurements using the Multi-Channel Scaling (MCS) detection method. The width of the excitation pulses is easily controlled from the VPL allowing quick optimisation of the measurement conditions.

The VPL lasers are compact, maintenance free, and user-friendly. Although they are designed to match Edinburgh Instruments spectrometers, they can be incorporated into any experiment thanks to their external trigger capability.

KEY FEATURES

- Optimised for MCS
- 14 Pre-set pulse widths from 50 ns to 1 ms
- External trigger capability
- Adjust pulse width and repetition rate with input trigger pulse
- Operation in CW mode
- Spectrally purified output
- Compact plug-and-play design
- Extremely low RF radiation
- Optimised collimated beam

SPECIFICATIONS

Model (VPL-)	375	405	420	445	450	475	485	510	635	640	655	670	700	730	785	800	980
Nominal Wavelength (±10 nm)	375	405	420	445	450	475	485	510	635	640	655	670	700	730	785	800	980
Typical CW Average Power (mW)	30	25	55	15	30	25	25	15	35	35	10	10	15	15	35	40	10
Minimum CW Average Power (mW)	20	10	30	10	20	10	30	10	25	15	15	8	15	15	25	10	10
Typical Peak Power (mW) *	100	45	150	45	100	30	90	25	110	45	34	24	40	40	100	100	30
Minimum Peak Power (mW) *	60	30	100	30	85	20	60	20	80	30	30	16	30	30	70	20	20

Pulse Widths	ns: 50, 100, 200, 500 µs: 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000
External Trigger Width Mode	Pulse width and repetition rate defined by external trigger input Max. duty cycle 50%
CW Mode	Yes
Bias Supply	15 Vdc +/- 5%, 15W (2.1mm DC jack)
Trigger Output	SMA, NIM Standard
Interlock Input	Hirose HR10A-7P-4P(73), (Link pin 1 and pin 2 to ground - interlock healthy)
Trigger Input	Hirose HR10A-7P-4P(73), (Signal pin 4 and ground pin 3)
Trigger Input Signal	TTL > 50 ns pulse. Trigger on rising edge. 0.0 V < Low level < 0.5 V, 2.5 V < High level < 5 V
Key Switch	Yes
Beam Quality	10% - 90% knife edge method Beam diameter < 9.5 mm at VPL output aperture Beam diameter < 25 mm after 250 mm propagation
Spectral Conditioning	Built-in filter to minimise out-of-band emission (no spectral filtering needed)
Physical Dimensions	Overall: 168 mm length x 64 mm x 64 mm Collimator tube: ø 30 mm x 38 mm
Tapped Holes for Stud Mount	2 x M6
Weight	750 g

CLASS 3B LASER PRODUCT

Avoid exposure to beam. Light emitted by the source may be harmful to the human eye and to skin. Please obey laser safety regulations.
This product complies with the US federal laser product performance standards.

Customer support is available worldwide.

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