

Prima NEW

3-color picosecond laser

- 3-color picosecond laser (450, 515, 640 nm)
- Compact, stand alone, affordable
- Pulsed and CW operation, fast CW switching
- Suitable for measuring fluorescence lifetime (ns) and photoluminescence lifetime (μs - ms)
- Triggerable internally and externally, up to 200 MHz
- Fully computer controlled



Applications

- Materials science and chemical research
- Life science
- Photoluminescence lifetime and quantum yield measurements
- Fluorescence lifetime measurements
- Time-resolved microscopy and single molecule detection (FLIM, FRET, PIE-FRET, FCS)

Prima is a solution for researchers who

- need more than one wavelength
- don't have space in the lab
- measure a short decay time (ns) and a long one (μs - ms)
- deal with materials that have a poor luminescence quantum yield
- would like to avoid daily alignment and laser maintenance.

Specifications

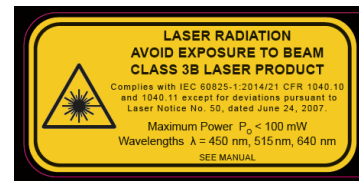
Optical output			
Available wavelengths ¹ [nm]	450	515	640
Max. pulsed power ² [mW]	10	10	10
Pulse duration [ps]	< 100	< 170	< 100
Max CW power [mW]	50	50	50
Beam dimension ³ [mm]	0.55 ± 0.10	0.60 ± 0.10	0.8 ± 0.20
Beam circularity	typ > 0.5	typ > 0.5	typ > 0.5
Polarization	typ. linear		
Polarization Extinction Ratio (PER)	typ. > 1:10 (> 10 dB)		
Spectral width FWHM (pulsed) [nm]	< 4	< 6	< 2
Spectral width FWHM (CW) [nm]	< 2	< 3	< 2

Repetition rates	
Internal	
Range	User selectable 1 kHz to 200 MHz 1000 increments of 1 kHz from 1 to 999 kHz 200 increments of 1 MHz from 1 to 200 MHz
External	
Range	0 Hz to 200 MHz
Trigger level	-1V ... +5V into 50 Ohm
Jitter	< 20 ps
Connector	SMA
Synchronization output	
Amplitude	< -800 mV into 50 Ohm (NIM)
Connector	SMA
Gating	
Rise/Fall Time	< 3 ns
ON Time Gate	freely adjustable from < 10 ns to 1 ms
OFF Time Gate (as a factor of ON Time Gate)	freely adjustable from 1 to 255
Impedance	10 kOhms with pull-up 50 Ohms with pull-down
Connector	SMA
Dimensions	
Size (h × w × l)	75 × 83 × 140 mm
Weight	approx. 1 kg
Operation	
Temperature range	10 - 35 °C
Rel. humidity	< 80 % (non condensing)
Maximum power consumption	< 30 W
Interface	
PC interface	USB 2.0
Connector	USB-C
Operating system	Windows™ 10

¹ Typical value in pulsed mode. A slight shift to longer wavelengths in cw mode.

² This is the maximum average power at maximum intensity setting and max repetition rate. A pulse broadening up to 500 ps FWHM is possible at maximum intensity setting.

³ Measured at 1 m distance from laser aperture



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