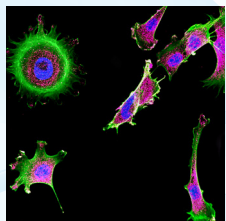
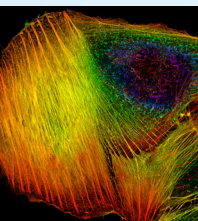
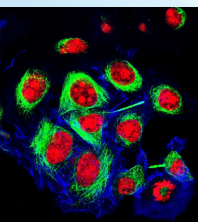


DeltaDiode

TCSPC Pulsed Sources

ELEMENTAL ANALYSIS
FLUORESCENCE
GRATINGS & DEM SPECTROMETERS
OPTICAL COMPONENTS
CUSTOM SOLUTIONS
PARTICLE CHARACTERIZATION
RAMAN / AFM-RAMAN / TERS
SPECTROSCOPIC ELLIPSOMETRY
SPR IMAGING



Ultimate Short-pulsed,
Picosecond Lasers and LEDs
from 265 to 1310 nm

DeltaDiode TCSPC Pulsed Sources

DeltaDiode laser and LED sources offer plug and play ease of use while delivering excellent performance and reliability for the most demanding TCSPC experiments. With available wavelengths from the UV to the NIR, these picosecond sources can operate at rates up to 100 MHz. Each DeltaDiode laser has thermoelectric temperature control for individual optimization, and they are all controlled by a common DeltaDiode-C1 control module that is interfaced to EzTime software.

DeltaDiode Specifications

DeltaDiode heads are manufactured with either laser diodes or LEDs as their primary sources. Laser diodes offer shorter pulse durations, brighter

intensities and operate at faster repetition rates than the LED versions. DeltaDiodes with a laser diode source are denoted with an L, or LB, in the part number, such as the DeltaDiode-370L.

DeltaDiode Benefits

- Up to 100 MHz repetition rate for faster acquisitions
- Measure lifetimes down to 5 ps (depending on detector and electronics selected)
- One DeltaDiode-C1 controller works with all DeltaDiode sources
- Over 30 wavelengths to choose from, between 265 and 1,310 nm
- DeltaDiode "LB" models are more affordable than their "L" counterparts and operate at repetition rates up to 25 MHz
- Continuous mode available for some models

DeltaDiode Controller Specifications

	Function	Specification
DD-C1 Controller	Repetition Rates	10 kHz, 20 kHz, 50 kHz, 100 kHz, 250 kHz, 500 kHz, 1 MHz, 2 MHz, 4 MHz, 5 MHz, 8 MHz, 10 MHz, 16 MHz, 20 MHz, 25 MHz, 50 MHz, 80 MHz, 100 MHz, or Trigger Input (single-shot to 50 MHz). Subject to attached head.
	Trigger Input	Pulse amplitude +0.5 V to +5 V, trigger threshold software programmable from +0.2 V to +2 V, 50 Ω, 20 ns minimum spacing
	Sync Outputs	Simultaneous output of NIM-compatible (-0.8 Vpp 50 Ω) and TTL-compatible (+2 Vpp 50 Ω), automatic width selection 4-15 ns nominal
	Sync Delay Control	Adjustment of sync output pulse timing in range -10 ns to +10 ns nominal in 1 ns steps, uncalibrated
	Fast Gate Input	Pulse amplitude +0.5 V to +5 V, trigger threshold software programmable from +0.2 V to +2 V, 50 Ω. Selectable Inhibit/Enable modes
	Slow Gate Input	Pulse amplitude +2 V to +5 V. 10 kΩ. Selectable Inhibit/enable modes. Operates in Pulsed and CW modes
	Interlock	2-pin connector (included). Contacts must be short-circuited to enable emission
	Connection to Head	1.5 m cable (included)

Detailed DeltaDiode Specifications

Model	Peak Wavelength	Spectral FWHM	Pulse Width Typical	Pulse Width Max	Peak Power	Average Power	Maximum Rep. Rate	CW Mode
DeltaDiode-265	265 ± 10 nm	<15nm	750 ps	1 ns	0.42 mW	8 uW	25 MHz	No
DeltaDiode-285	285 ± 15 nm	<15nm	950 ps	1 ns	0.42 mW	10 uW	25 MHz	No
DeltaDiode-310	310 ± 10 nm	<15nm	900 ps	1 ns	0.13 mW	3 uW	25 MHz	No
DeltaDiode-325	325 ± 10 nm	<15nm	750 ps	1 ns	0.32 mW	6 uW	25 MHz	No
DeltaDiode-340	340 ± 10 nm	<10nm	950 ps	1 ns	0.30 mW	7 uW	25 MHz	No
DeltaDiode-360	360 ± 10 nm	<15nm	750 ps	1 ns	0.64 mW	12 uW	25 MHz	No
DeltaDiode-370	370 ± 10 nm	<15nm	750 ps	1 ns	0.32 mW	6 uW	25 MHz	No
DeltaDiode-375LB	375 ± 10 nm	<5nm	65 ps	100 ps	65 mW	0.5 mW	25 MHz	No
DeltaDiode-390	390 ± 10 nm	<15nm	650 ps	1 ns	0.8 mW	13 uW	25 MHz	No
DeltaDiode-455	455 ± 10 nm	<15nm	1.4 ns	1.5 ns	0.34 mW	12 uW	25 MHz	No
DeltaDiode-375L	375 ± 10 nm	<5nm	80 ps	100 ps	260 mW	2.0 mW	100 MHz	Optional
DeltaDiode-395L	395 ± 10 nm	<5nm	45 ps	90 ps	440 mW	2.6 mW	100 MHz	Optional
DeltaDiode-405L	405 ± 10 nm	<5nm	45 ps	70 ps	438 mW	1.9 mW	100 MHz	Optional
DeltaDiode-405LB	405 ± 10 nm	<5nm	45 ps	70 ps	110 mW	0.5 mW	25 MHz	No
DeltaDiode-415L	415 ± 10 nm	<5nm	50 ps	70 ps	600 mW	2.9 mW	100 MHz	Optional
DeltaDiode-420LB	405 ± 10 nm	<5nm	50 ps	70 ps	600 mW	0.7 mW	25 MHz	No
DeltaDiode-425L	425 ± 10 nm	<5nm	50 ps	70 ps	390 mW	1.9 mW	100 MHz	Optional
DeltaDiode-440L	440 ± 10 nm	<5nm	75 ps	90 ps	335 mW	2.4 mW	100 MHz	Optional
DeltaDiode-450L	450 ± 10 nm	<5nm	70 ps	90 ps	415 mW	2.8 mW	100 MHz	Optional
DeltaDiode-450LB	450 ± 10 nm	<5nm	70 ps	90 ps	100 mW	0.7 mW	25 MHz	No
DeltaDiode-470L	470 ± 10 nm	<5nm	85 ps	95 ps	190 mW	1.6 mW	100 MHz	Optional
DeltaDiode-470LB	470 ± 10 nm	<5nm	85 ps	95 ps	160 mW	0.4 mW	25 MHz	No
DeltaDiode-485L	485 ± 10 nm	<6nm	100 ps	115 ps	40 mW	1.6 mW	100 MHz	Optional
DeltaDiode-485LB	485 ± 10 nm	<6nm	100 ps	115 ps	130 mW	0.4 mW	25 MHz	No
DeltaDiode-495L	495 ± 10 nm	<7nm	110 ps	130 ps	47 mW	1.4 mW	100 MHz	Optional
DeltaDiode-510L	510 ± 10 nm	<5nm	125 ps	150 ps	48 mW	0.6 mW	100 MHz	Optional
DeltaDiode-510LB	510 ± 10 nm	<5nm	125 ps	150 ps	12 mW	0.15 mW	25 MHz	No
DeltaDiode-532LN	532 ± 10 nm	<2nm	60 ps	80 ps	19 mW	0.12 mW	100 MHz	Optional
DeltaDiode-560LN	560 ± 10 nm	<2nm	80 ps	100 ps	13 mW	0.10 mW	100 MHz	Optional
DeltaDiode-590LN	590 ± 10 nm	<2nm	60 ps	75 ps	18 mW	0.10 mW	100 MHz	Optional
DeltaDiode-635L	635 ± 10 nm	<5nm	55 ps	75 ps	295 mW	1.6 mW	100 MHz	Optional
DeltaDiode-650L	650 ± 10 nm	<5nm	50 ps	75 ps	65 mW	0.33 mW	100 MHz	Optional
DeltaDiode-660L	660 ± 10 nm	<5nm	60 ps	90 ps	630 mW	3.8 mW	100 MHz	Optional
DeltaDiode-670L	670 ± 10 nm	<5nm	60 ps	85 ps	120 mW	0.7 mW	100 MHz	Optional
DeltaDiode-730L	730 ± 10 nm	<5nm	65 ps	85 ps	11 mW	0.7 mW	100 MHz	Optional
DeltaDiode-780L	780 ± 10 nm	<8nm	60 ps	85 ps	260 mW	1.5 mW	100 MHz	Optional
DeltaDiode-830L	830± 10 nm	<5nm	65 ps	75 ps	70 mW	0.4 mW	100 MHz	Optional
DeltaDiode-980L	980 ± 10 nm	<15nm	95 ps	150 ps	250 mW	2.4 mW	100 MHz	Optional
DeltaDiode-1060L	1060 ± 20 nm	<10nm	250 ps	350 ps	60 mW	1.7 mW	100 MHz	Optional
DeltaDiode-1310L	1310 ± 20 nm	<20nm	300 ps	500 ps			100 MHz	Optional

Peak Power and Average Power measured at Max Rep Rate.
In CW mode spectral bandwidth is typically < 2 nm

HORIBA Scientific has a policy of continuous product development, and reserves the right to amend part numbers, descriptions and specifications without prior notice.

info.sci@horiba.com

fluorescence.com

HORIBA

USA: +1 732 494 8660
UK: +44 (0)1604 542 500
China: +86 (0)21 6289 6060
Taiwan: +886 3 5600606

France: +33 (0)1 69 74 72 00
Italy: +39 06 51 59 22 1
India: +91 80 41273637
Brazil: +55 (0)11 2923 5400

Germany: +49 (0) 6251 8475 0
Japan: +81(75)313-8121
Singapore: +65 (0)6 745 8300
Other: +33 (0)1 69 74 72 00