

# Extended specifications

## Monochromators

Type	Czerny-Turner design	Czerny-Turner design
Focal length	150 mm	300 mm
Aperture	F/4.2	F/3.9
Stray light rejection	10 <sup>-5</sup>	10 <sup>-5</sup>
Grating*	1200 g/mm, blazed at 500 nm	1200 g/mm, blazed at 500 nm; 600 g/mm, blazed at 1250 nm
Resolution	0.4 nm (at 438.5 nm, slit width 10 µm, 1200 g/mm grating)	0.1 nm (at 438.5 nm, slit width 10 µm, 1200 g/mm grating)
Step size (min)	0.01 nm	0.01 nm
Slit width adjustable between	10 µm - 4 mm (continuously adjustable, completely motorized)	10 µm - 4 mm (continuously adjustable, completely motorized)
Wavelength accuracy	0.25 nm (1200 g/mm grating)	0.2 nm (1200 g/mm grating)
Wavelength repeatability	0.1 nm	0.1 nm

## Excitation sources

Light source	Laser Diode Heads (LDH Series)	pulsed LEDs (PLS Series)	pulsed Xenon lamp	CW Xenon lamp
Wavelengths (nm)	375-520, 530, 560, 595, 635-1990	245-600	200-900	200-900
Pulse width	60 ps - 500 ps	400 ps - 1 ns	< 1 µs	---
Repetition rate	up to 80 MHz	up to 40 MHz	0.1 to 300 Hz	---

## Detectors

Type*	PMT (PMA-C Series)	MCP-PMT	NIR-PMT	PMA Hybrid
Spectral range (nm)	185-700, 300-820, 300-900	160-650, 160-850, 160-910	950-1400, 950-1700	220-650, 300-720, 380-890
Dark counts (cps, at 20 °C, typ. value)	--- < 200 < 3000	< 50 < 500 < 2000	< 10.000, < 200.000**	< 100 < 700 < 1000
Transit time spread	< 180 < 180 < 180	< 25** < 25** < 25**	< 300 ps < 300 ps**	< 50 ps < 120 ps < 160 ps

## Data acquisition

Type	PicoHarp 300	TimeHarp 260	TimeHarp260 NANO
Number of time channels/curve	up to 65536	up to 32768	up to 32768
Count depth	16 bit	32 bit	32 bit
Time resolution (bin width)	4 ps	25 ps, 2.5 ns (long range mode)	1 ns
Dead time	< 95 ns	< 25 ps, 2.5 ns (long range mode)	< 1 ns
Full scale time range	260 ns - 33 µs	819 ns - 1.71 s 81.92 µs - 171 s (long range mode)	32.8 µs - 68.48 s

## Operating environment

Computer system	Windows XP/Vista/7/8/10
Power requirements	110 V to 230 V, 50/60 Hz

## Dimensions (base unit)

Without steady-state option	900 mm × 550 mm × 400 mm (w × d × h)
With steady-state option	900 mm × 1100 mm × 400 mm (w × d × h)

\* Other types are available upon request.

\*\* Values provided by Hamamatsu.

