



# Wavelength Meter Overview



Technical Data		Unit	WS5	WS6-600	WS6-200	WS7-60	WS7-30	WS8-10	WS8-2
Measurement range	UV-II (192 – 800 nm)		■	■	■	■	□	□	□
	UV-I (248 – 1180 nm)		■	■	■	■	■	■	□
	Standard (330 – 1180 nm)		■	■	■	■	■	■	■
	VIS / IR-I (330 – 1750 nm) <sup>16)</sup>		■	■	■	□	□	□	□
	IR-I (630 – 1750 nm)		□	□	□	■ <sup>21)</sup>	■	■	□
	VIS / IR-II (500 – 2250 nm) <sup>16)</sup>		■	■	■	□	□	□	□
	IR-II (1000 – 2250 nm)		□	□	□	■	■ <sup>19)</sup>	□	□
	IR-III (1400 – 11000 nm)		■	□	■	□	□	□	□
Absolute accuracy <sup>1)</sup>	192 – 330 nm <sup>2)</sup>	pm	3	0.6	0.3	0.2	0.1	0.1 <sup>22)</sup>	–
	330 – 375 nm		3000	900	300	100	50	20 <sup>3)</sup>	10 <sup>4)</sup>
	375 – 800 nm		3000	600	200	60	30	10 <sup>3)</sup>	2 <sup>4)</sup>
	800 – 1180 nm		2000	500	150	50	25	8 <sup>3)</sup>	2 <sup>4)</sup>
	1180 – 2250 nm	MHz	2000	400	120	40	20	8 <sup>23)</sup>	–
	1400 – 11000 nm		3000	–	200	–	–	–	–
Quick coupling accuracy (with multi mode fiber)			3000	600	600	150	100	100	100
Wavelength deviation sensitivity/Measurement resolution <sup>5)</sup>			500	20	4 <sup>20)</sup>	2	1	0.4	0.2 <sup>18)</sup>
Linewidth option	Estimation accuracy <sup>6)</sup>		2000	500	400	200	200	100	100
Measurement speed		Hz	950 (IR: 1500, IR-III: 100)	950 (IR: 1500) <sup>7)</sup>	500 (IR: 1500, IR-III: 100) <sup>7)</sup>	500	500	500	500
			0.02 – 15	0.02 – 15	0.02 – 15	0.02 – 15	0.08 – 60	0.08 – 60	0.08 – 60
Required input energy and power <sup>8)</sup>	Standard (VIS)		0.02 – 15	0.02 – 15	0.02 – 15	0.02 – 15	0.08 – 40	–	–
	UV-I	μJ (or μW)	0.02 – 10	0.02 – 10	0.02 – 10	0.02 – 10	–	–	–
	UV-II		0.02 – 200	0.02 – 200	0.02 – 200	0.04 – 400	–	–	–
	IR-I		2 – 200	2 – 200	2 – 200	2 – 200	8 – 800	8 – 800	–
	IR-II <sup>9)</sup>		2 – 80	2 – 80	2 – 80	2 – 80	8 – 800	–	–
	IR-III	mW	1	–	1	–	–	–	–
FSR of the Fizeau interferometers (Fine/wide mode) <sup>10)</sup>		GHz	100	16/100 <sup>11)</sup>	16/100 <sup>12)</sup>	8/32	4/32	2/20	2/20
Calibration <sup>17)</sup>			Built-in calibration <sup>13)</sup>			Built-in calibration <sup>14)</sup>	Stabilized HeNe laser or any other well known laser source Δv < 5 MHz	SLR-780 or any other well known laser source Δv < 2 MHz	I2 stabilized HeNe or any well known laser source Δv < 1 MHz
Recommended calibration period			≤ 1 month			≤ 14 days	≤ 10 hours	≤ 1 hour	≤ 2 minutes
Warm-up time			No warm-up time under constant ambient conditions <sup>15)</sup>				> 30 minutes		
Dimensions L × W × H		mm	360 × 120 × 120	360 × 120 × 120	360 × 200 × 120	360 × 200 × 120	360 × 200 × 120	360 × 200 × 120	360 × 200 × 120
Weight		kg	2.8	2.8	5.5 <sup>17)</sup>	5.9	6.1	6.4	6.4
Interface			High-speed USB 2.0 connection						
Power supply			Power consumption < 2.3 W, power provided directly via USB cable IR-II, IR-III: external power supply included; WS7-60 IR-I, WS7-30 IR-I, WS8-10 IR-I: external power supply included						

- 1) According to 3σ criterion, but never better than 20 % of the laser linewidth.
- 2) With multimode fiber.
- 3) ± 200 nm around calibration wavelength; outside of this range the accuracy as WS7-30.
- 4) ± 2 nm around calibration wavelength; outside of this range the accuracy as WS8-10; note 3 also applies.
- 5) Standard deviation. WS6-200 and higher models require singlemode or photonic crystal fibers to reach this resolution.
- 6) Not better than 20 % of the linewidth.
- 7) Depending on PC hardware and settings. Highspeed models up to 76 kHz available.
- 8) The CW power interpretation in [μW] compares to an exposure of 1s (generally the energy needs to be divided by the exposure time to obtain the required power).
- 9) μJ interpretation for pulsed lasers. CW signals need more power in [μW] since the exposure is limited at IR-II instruments.
- 10) Each instrument in each mode can measure lasers with a linewidth up to 30 % of the corresponding FSR.
- 11) For IR instruments: 32/32.
- 12) For IR-I and IR-II instruments: 16/16, for IR-III instruments: 8/80.
- 13) IR-III: external calibration source needed, e.g. SLR-1532.
- 14) IR instruments: external calibration source needed, e.g. SLR-1532.
- 15) IR-II: > 30 min. warm-up, or until ambient equilibrium.
- 16) These instruments have a decreased sensitivity by a factor of 4, compared to the Standard and IR ranges in the required input fields, respectively.
- 17) 2.8 for IR-I and IR-II.
- 18) 100 kHz for special ranges on request.
- 19) Photonic crystal switches can be used up to 2000 nm. Please contact HighFinesse if you want to measure over 2000 nm.
- 20) IR-III: 20 MHz.
- 21) Measurement range WS7-60 IR-I: 530 – 1750 nm.
- 22) Range is limited from 248 to 330 nm.
- 23) Range is limited up to 1750 nm.