LSA

Technical Data		Unit	LSA
Measurement Range	Standard (330 – 1180 nm)		■
	UV-I (248 – 1180 nm)		■
	UV-II (192 – 800 nm)		■
	UV-II-VIS (192 – 1180 nm)		■
	VIS / IR (330 – 1750 nm)		■
	IR-I (630 – 1750 nm)		■
	IR-II (1000 – 2250 nm)		■
	IR-III (1400 – 11000 nm)		■ [1]
Absolute Accuracy [2]	192 – 330 nm [3]	pm	6
	330 – 420 nm	pm	3
	420 – 1100 nm	GHz	6
	IR-I		12
	IR-II		25
	IR-III	nm	1 – 5 [1]
Quick Coupling Accuracy (with multi mode fiber)		GHz	20 [4]
Wavelength Deviation Sensitivity/ Measurement Resolution	192 – 330 nm [3]	pm	5
	330 – 420 nm	pm	2
	420 – 1100 nm	GHz	3
	IR-I		6
	IR-II		12
	IR-III	nm	1
Resolving Power (λ/Δλ) [5]	Standard / UV	Singlemode | Multimode fiber	20000 | 10000
	IR-I		4000 | 2000
	IR-II		2800 | 2000
	IR-III		15 – 30 nm [1]
Linewidth Measurement Accuracy [6]	Standard / UV	GHz	7
	IR-I		40
	IR-II		60
	IR-III		15 % (≥ 200 GHz)
Maximal Linewidth		THz	1.5
Measurement Speed [7]	Data Acquisition	Hz	500
	Wavelength Calculation		60
	Spectrum Calculation		15
Required Input Energy and Power [8]	Standard	µJ (or µW)	0.0001 – 0.04
	UV-I, UV-II		0.0001 – 0.1
	IR-I, IR-II		0.02 – 2
	IR-III	mW	1 [1]
Diffraction Grating [12]	FSR	THz	~5.4
Coupling Fiber Diameter			50 µm or single mode fiber set
Calibration			Built-in calibration [9]
Calibration Period			≤ 1 month
Warm-up Time			No warm-up time under constant ambient conditions. Otherwise until thermal and air pressure equilibrium is reached
Dimensions L × W × H		mm	325 × 180 × 77
Weight		kg	2.8
Interface			High-speed USB 2.0 connection
Power Supply			Power consumption < 2.3 W, supply directly via USB cable; IR-II & IR-III: external power supply included

1) For further information on IR-III devices see upper table on following page 2) According to 3σ criterion 3) With multi mode fiber
4) Only for standard range 5) Spectral resolution Δλ = λ / R; R = resolving power. According to Rayleigh criterion. 6) But not better than 5% of the linewidth
7) Depending on PC hardware and settings. Without autocalibration usage

LSA IR-III

Technical Data		Unit	LSA IR-III TYPE 2 – 3	LSA IR-III TYPE 2 – 6	LSA IR-III TYPE 2 – 11
Measurement Range		nm	1400 – 3000	1400 – 6000	1400 – 11000
Absolute Accuracy [2]		nm	1	2	5
Relative Accuracy			1.25×10^{-4}	3×10^{-4}	5×10^{-4}
Wavelength Deviation Sensitivity/Measurement Resolution			0.7×10^{-4}	1.5×10^{-4}	2.5×10^{-4}
Spectral Resolution (Δλ)		nm	15	20	30
Linewidth Measurement Accuracy [6]			15%		
Maximal Linewidth		THz	1		
Measurement Speed [7]	Data Acquisition	Hz	100		
	Wavelength Calculation		100		
	Spectrum Calculation		15		
Required Input Energy and Power [8]	Pulsed	µJ	10		
	cw	mW	0.2		
Diffraction Grating	FSR	THz	~ 2.7		
Coupling Fiber			PIR-550/600 or CIR-550/600		
Calibration			SLR-1532 or 3.39 µm HeNe calibration laser (not included)		
Calibration Period			≤ 15 days		
Warm-up Time			No warm-up time under constant ambient conditions. Otherwise until thermal and air pressure equilibrium is reached		
Dimensions L x W x H		mm	325 × 180 × 77		
Weight		kg	3.0		
Interface			High-speed USB 2.0 connection		
Power Supply			External power supply included		

HDSA

Technical Data		Unit	HDSA Standard	HDSA Customized
Measurement Range		nm	450 – 1000	Various modifications available: other spectral ranges, resolution, accuracy.
Absolute Accuracy [2]		GHz	5	
Wavelength Deviation Sensitivity/ Measurement Resolution		GHz	2	For example:
Resolving Power (λ/Δλ) [5]			25000 @ 633 nm	HDSA UV: Down to 192 nm
Measure-ment Speed [7]	Data Acquisition	Hz	7.5	HDSA IR: Up to 1700 nm
	Wavelength Calculation		7.5	HDSA Custom: With enhanced resolution over a smaller range.
	Spectrum Calculation		7.5	
Required Input Energy and Power [8]		nJ	2 nJ/nm @ 633 nm	Please contact us for further details!
Dynamic range		dB	37	
Calibration			External calibration source (incl. in delivery)	
Calibration Period			≤ 7 days	
Warm-up Time			No warm-up time under constant ambient conditions. Otherwise until thermal and air pressure equilibrium is reached	
Dimensions L × W × H		mm	360 × 210 × 120	
Weight		kg	~4.5	
Interface			USB 3	
Power supply			Directly via USB-cable	

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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) IR-III: external calibration sources required, e.g. SLR-1532 10) Broad line versions. For further information please contact: info@highfinesse.com
11) Various modifications available: other spectral range, resolution, accuracy and measurement speed. Please contact us for further details!
12) Each device in each mode can measure lasers with a linewidth up to 30 % of the correspondig FSR