

## Technical Data

LSA 2R/Standard/UV & LSA VIS/IR-I			Unit
Measurement Range	LSA	LSA 2R VIS (330 – 1180 nm)	
		Standard (330 – 1180 nm)	
		UV-I (248 – 1180 nm)	
		UV-II (192 – 800 nm)	
		UV-II/VIS (192 – 1180 nm)	
	LSA 2R	VIS / IR-I (330 – 1750 nm)	
		330 – 420 nm	pm
		420 – 1180 nm	GHz
		192 – 330 nm <sup>2)</sup>	pm
		330 – 420 nm	GHz
Absolute Accuracy <sup>1)</sup>	LSA Standard/UV	420 – 1180 nm	pm
		VIS: 330 – 420 nm	pm
		VIS: 420 – 1060 nm	GHz
		IR-I: 1060 – 1750 nm	
	LSA VIS/IR-I	(with multi mode fiber)	GHz
		330 – 420 nm	pm
		420 – 1180 nm	GHz
		192 – 330 nm <sup>2)</sup>	pm
		330 – 420 nm	GHz
Wavelength Deviation Sensitivity/Measurement Resolution	LSA Standard/UV	VIS: 330 – 420 nm	pm
		VIS: 420 – 1060 nm	GHz
		IR-I: 1060 – 1750 nm	
	LSA VIS/IR-I	40000   20000	Singlemode   Multimode fiber <sup>9)</sup>
		20000   10000	
		20000   10000	
		4000   2000	
		4	
	LSA 2R	7	GHz
		3	pm
		7	GHz
		40	
		0.0001 – 0.04	
Resolving Power ( $\lambda/\Delta\lambda$ ) <sup>4)</sup>	LSA Standard/UV	UV-I, UV-II	$\mu\text{J}$ (or $\mu\text{W}$ )
		IR-I	
		0.0001 – 0.1	
		0.02 – 2	
	LSA VIS/IR-I	500	
		300	Hz
		100	
		0.6	
		1.5	THz
Linewidth Measurement Accuracy <sup>5)</sup>	LSA 2R VIS	2.3	
		~5.4	
		Single mode fiber set, 50 $\mu\text{m}$ MM fiber, use of single mode fiber recommended	
		Built-in calibration <sup>8)</sup>	
		$\leq 1$ month	
	LSA Standard, UV, VIS / IR-I	No warm-up time under constant ambient conditions. Otherwise until thermal and air pressure equilibrium is reached	
		325 $\times$ 180 $\times$ 77	
		2.8	
		High-speed USB 2.0 connection	
		Power consumption < 2.3 W, supply directly via USB cable	
Dimensions L $\times$ W $\times$ H (mm)	Weight (kg)		

## Technical Data

LSA IR-II		
Measurement Range	nm	IR: 1000 – 2250 + VIS: 500 – 1000
Absolute Accuracy <sup>2)</sup>	GHz	IR-II: 25, VIS: 60
Wavelength Deviation Sensitivity/Measurement Resolution	Singlemode	IR-II: 12, VIS:30
Resolving Power ( $\lambda/\Delta\lambda$ ) <sup>4)</sup>	Multimode fiber <sup>9)</sup>	IR-II: 2800, VIS: 2000
Linewidth Measurement Accuracy <sup>7)</sup>	GHz	IR-II: 60, VIS: 70
Minimum required Input Energy and Power	$\mu\text{J}$	0.02 – 2
Calibration		SLR-1532
Calibration Period		$\leq 15$ days
Power Supply	External power supply included	
Technical data Measurement Speed, Maximal Linewidth, Diffraction Grating, Coupling Fiber Diameter, Warm-up Time, Dimensions, Weight, Interface: see technical data of LSA Standard/UV & LSA VIS/IR-I (identical)		

LSA IR-III				
Unit	TYPE 2 – 3	TYPE 2 – 6	TYPE 2 – 11	
Measurement Range	nm	1400 – 3000	1400 – 6000	1400 – 11000
Absolute Accuracy <sup>1)</sup>	nm	1	2	5
Relative Accuracy		$1.25 \times 10^{-4}$	$3 \times 10^{-4}$	$5 \times 10^{-4}$
Wavelength Deviation Sensitivity/Measurement Resolution		$0.7 \times 10^{-4}$	$1.5 \times 10^{-4}$	$2.5 \times 10^{-4}$
Spectral Resolution ( $\Delta\lambda$ )	nm	15	20	30
Linewidth Measurement Accuracy <sup>5)</sup>		15%		
Maximal Linewidth	THz	1		
Measurement Speed <sup>7)</sup>	Wavelength and spectrum calculation	100		
	Wavelength and spectrum calculation with live display	100		
Minimum required Input Energy and Power <sup>6)</sup>	Pulsed	$\mu\text{J}$	10	
	cw	mW	1	
Diffraction Grating	FSR	THz	$\sim 2.7$	
Coupling Fiber		PIR-550/600 or CIR-550/600		
Calibration		SLR-1532 or 3.39 $\mu\text{m}$ HeNe calibration laser (not included)		
Calibration Period		$\leq 15$ days		
Warm-up Time		No warm-up time under constant ambient conditions. Otherwise until thermal and air pressure equilibrium is reached		
Dimensions L $\times$ W $\times$ H	mm	325 $\times$ 180 $\times$ 77		
Weight	kg	3.0		
Interface		High-speed USB 2.0 connection		
Power Supply		Power consumption < 2.3 W, supply directly via USB cable		

1) According to  $3\sigma$  criterion.

2) With multi mode fiber.

3) Use of multi mode fibers. For LSA Standard.

4) Spectral resolution  $\Delta\lambda = \lambda / R$ ; R = resolving power. Assuming that two features are resolved if they are separated by more than the FWHM of the instrument response function.

5) With the use of single mode fibers. But not better than 5 % of the linewidth.

6) The required cw power P can be calculated based on the exposure time t (1-1000 ms) and the pulse energy E using the equation  $P=E/t$ .

7) Depending on PC hardware and settings. Without autocalibration usage. Data acquisition and wavelength and spectrum calculation LSA 2R VIS: 60 Hz.

8) IR-II and IR-III: external calibration sources required, e.g. SLR-1532.

9) Please use 50  $\mu\text{m}$  MM fibers. Please do not use fibers > 50  $\mu\text{m}$ .

Spectrometers · 1-2022 · This document provides general information only and may be subject to change at any time without prior notice.