



# OZ Optics

shop.ozoptics.com  
www.ozoptics.com

219 Westbrook Road  
Ottawa, ON, Canada, K0A 1L0

Toll free: 1-800-361-5415  
Telephone: 1-613-831-0981  
Fax: 1-613-836-5089  
sales@ozoptics.com

## HANDHELD OPTICAL SPECTROMETERS

### PRELIMINARY

#### Features

- Compact design with no moving parts
- Cellphone interface through Bluetooth
- Transmittance or Reflectance detachable module
- Spectrum: UV/VIS, VIS or UV/VIS/NIR
- High signal to noise ratio: 10000:1 (50 dB)

#### Applications

- Full spectrum analysis
- Quality control for food industry
- Chemical identification

#### Product Description

OZ Optics' handheld optical spectrometers provide our customers with a compact, cellphone based, easily networkable (receiving and transmitting, emailing) high standard instrument to cover wavelengths from 250–1100 nm.

There are three different wavelength ranges. 200–800 nm, 400–800 nm, and 400–1100 nm. They have different applications.

There are apps available for all three spectrometers.



Handheld Spectrometer  
OS-VIS/NIR-12.5-5



Handheld Spectrometer With A  
Reflectance Module Installed  
OS-VIS/NIR-12.5-5 + OS-T



Handheld Spectrometer With A  
Reflectance Module Installed  
OS-VIS/NIR-12.5-5 + OS-R

## Specifications

### A. Spectrometers

	OS-UV/VIS/NIR-12.5-5	OS-VIS-12.5-5	OS-VIS/NIR-12.5-5
Wavelength (nm)	200–1050	400–800	400–1050
Center Spectral Resolution (nm)	~1	~0.7	~1
Edge Spectral Resolution (nm)	3~5	2~4	3~5
Wavelength Accuracy (nm)	+/-0.3		
Wavelength Repeatability (nm)	+/-0.1		
Measurement Speed (ms)	20+Bluetooth transmission		
Integration	10, default 20 ms, user adjustable (10 up)		
Wavelength Increment (nm)	0.4	0.3	0.4
S/N Ratio	10,000:1		
Dynamic Range	> 2000:1		
Magnifications	1.13X		
Input NA	0.14		

Detector	
Sony ILX526A CCD	3000
Pixel Width (um)	7
Pixel Height (um)	200
Detector Length (mm)	21
Dimensions (mm)	48 x 57.4 x 29 (D x W x H)
Input Connector	SMA905
Slit Width (um)	12.5 (25, 50 available)

Electronics and Communications	
AD	16 bit A/D
Communication	Low-energy Bluetooth
Power Port	Micro USB
Cell Phone App	Provide with device

Environmental and Compliance	
Storage Temperature	-30 °C to +70 °C
Operating Temperature	0 °C to +50 °C
Material	RoHS
Electrical	USB 5 V

### B. Detachable Reflectance And Transmission Modules<sup>1</sup>

	Reflectance Module	Transmission Module
Configuration	50/0 Illumination/Detection	U shaped
Relation with Spectrometer	Detachable and exchangeable with transmission module	Detachable and exchangeable with reflectance module
Light Source (Gas filled with front lens)	0.2W bulbs/LED	1x0.2W bulbs with pinhole
Sampling Window	Sapphire	
Sampling Size	~1 mm	
Sampling Distance	Near window	
Pinhole Size		1 mm diameter
Collimating Beam Diameter		7 mm diameter
Cuvette Holder	12.5 x 12.5 x 45 mm	
Filter Slot		Neutral density or other special filters (optional)
Dimensions (D x W x H)	21.3 x 57.3 x 21 mm	67.8 x 53 x 29.5 mm
Product Part Number	OS-R	OS-T

<sup>1</sup> Not available for 200/1050.

### Ordering Information For Custom Parts

#### Part Number

**OS-W-S-X**

**W** = VIS: 400–800 nm  
VIS/NIR: 400–1050 nm  
UV/VIS/NIR: 200–1050 nm

**X** = Optical Receptacle:  
5 = SMA-905 (default)  
3 = FC

**S** = Slit Width (um): 12.5 (default)  
25.0  
50.0