



# OZ Optics

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## HANDHELD OPTICAL SPECTROMETERS

**PRELIMINARY**

### Features

- Compact design with no moving parts
- Cellphone interface through Bluetooth
- Detachable Transmittance or Reflectance module
- Spectrum: UV/VIS, VIS or UV/VIS/NIR
- High signal to noise ratio: 10000:1 (40 dB)

### Applications

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

### Product Description

OZ Optics' handheld optical spectrometers provide customers with compact, cellphone based, easily networkable (receiving and transmitting, emailing) high standard instruments to cover wavelengths from 200–1050 nm.

There are three different wavelength ranges. 200–1050 nm, 400–800 nm, and 400–1050 nm. The required wavelength range will depend on the application.

There are apps available for all three spectrometers.



Handheld Spectrometer with Reflectance Module



OSM-R: Reflectance Module



OSM-T: Transmittance Module



Handheld Spectrometer OSM-VIS/NIR-12.5-5

## OPTO SCIENCE

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## Specifications

### A. Spectrometers

	OSM-UV/VIS/NIR-12.5-5	OSM-VIS-12.5-5	OSM-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) (D x W x H)	48 x 57.4 x 29
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	Compatible with Android

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	Transmittance 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 (mm)	~1	
Sampling Distance	Near window	
Pinhole Size (mm)		1 mm diameter
Collimating Beam Diameter (mm)		7 mm diameter
Cuvette Holder (mm)		12.5 x 12.5 x 45
Filter Slot		Neutral density or other special filters (optional)
Dimensions (mm) (D x W x H)	21.3 x 57.3 x 21	67.8 x 53 x 29.5
Product Part Number	<b>OSM-R</b>	<b>OSM-T</b>

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

### Ordering Information For Custom Parts: (Spectrometers)

Part Number

**OSM-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

For detachable modules, order OSM-R: Reflectance Module  
OSM-T: Transmittance Module