

# Spectrometers 1000 – 1650 nm

(low cost, high sensitivity, USB)

Patent pending



DATASHEET

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## Features

- High Sensitivity
- Low Cost
- USB/GUI
- Deep-Cooling Option
- MEMS Chopper option

## Applications

- Laboratory use
- Testing
- Instrumentation

The SFSD series of Spectrometer is a cost-effective USB user friendly spectrometer based on a novel patent-pending scanning technology, offering unprecedented benefits:

- 1) Unmatched low cost
- 2) Highest sensitivity in the industry with Deep-Cooling to -40 °C
- 3) extending spectral bands beyond traditional spectrometers' coverage;
- 4) Low power consumption.
- 5) Integrated MEMS chopper

The spectrometer has a photon integration option for low noise detection, a USB or RS232 interface with a user-friendly GUI. OEM module and turn-key unit with built-in power supply are available.

## Specifications

Parameter	Min	Typical	Max	Unit
Center Wavelength	1000		1650	nm
Resolution Bandwidth	0.2	0.4	0.6	nm
Wavelength Accuracy	0.05	0.08	0.1	nm
Wavelength Repeatability	-	±20	±100	pm
PDL	-	0.15	0.35	dB
Noise Floor <sup>[1]</sup>	-110		-10	dBm
Wavelength Accuracy		±0.05	-	nm
Power Accuracy		±0.05	-	dB
Scan Time	1			s
Input Optical Power	Standard version		0.3	W
	High power version		5	W
f-number		1.8		
Electronic Interface			Mini USB	
Operating Temperature	0	20	60	°C
Storage Temperature	-10	-	70	°C

### Notes:

[1]. The low level requires -40 cooling, the high level is room temperature. These also related to the integration time setting.

**Note:** The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link](#):

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## Dimensions (mm)

\*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

## Electrical/Computer Connection

Module comes with a 12V DC power wall pluggable power supply

Turn-key unit has a 110-220 ACV input and a USB input at the back and optical input at the front.

USB 2.0, 480 Mbps; RS-232 (3-wire)

## Ordering Information

Prefix	Type	Wavelength	Input Optical Power	Cooling	Entry Slit	Detector Slit	Chopper	Connector
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>SPFD-</b>	Module = 1 Turn-Key = 2	1000-1660nm = 1 Special = 0	Standard = 1 High Power = 2	Non = 1 -10°C = 2 -20°C = 3 -30°C = 4 -40°C = 5	Non = 1 25µm = 2 50µm = 3 100µm = 4 200µm = 5 300µm = 6 500µm = 7 Special = 0	Non = 1 25µm = 2 50µm = 3 100µm = 4 200µm = 5 300µm = 6 500µm = 7 Special = 0	Non = 1 Yes = 2	SMA905 = 1 FC/PC = 2 SC/PC = 4 ST/PC = 6 Special = 0