

Portable Spectrometer

Optoplex's **Portable Spectrometer** / portable near-infrared optical spectrum analyzer (NIR OSA) is a spectral engine for Process Analytical Technology (PAT) applications. The Portable Spectrometer acts as a stand-alone spectral engine, imaging and measuring a wide range of vapors, liquids and solids through transmission and diffuse reflection in a rapid non-destructive process. Leveraging our proprietary thin-film coated tunable filter, Optoplex's portable OSA features the following characteristics: (1) compact; (2) light-weight; (3) low power consumption; and (4) wide wavelength coverage. These characteristics of Optoplex's portable spectrometer engines are suitable for a variety of handheld, portable or bench-top OSA/spectrometer applications. Equipped with a state-of-the-art internal wavelength reference, the OSA module is capable of precisely measuring the optical spectrum. Because it does not require an expensive InGaAs detector array, the portable OSA is a cost-effective alternative to other grating-based OSA/spectrometer engines. The OSA communicates with a PC or an instrument motherboard via an RS232, USB or DPRAM interface. Optoplex's portable OSA platform can be installed or co-packaged into existing NIR OSA/spectrometers as a cost-efficient alternative to other scanning engines.

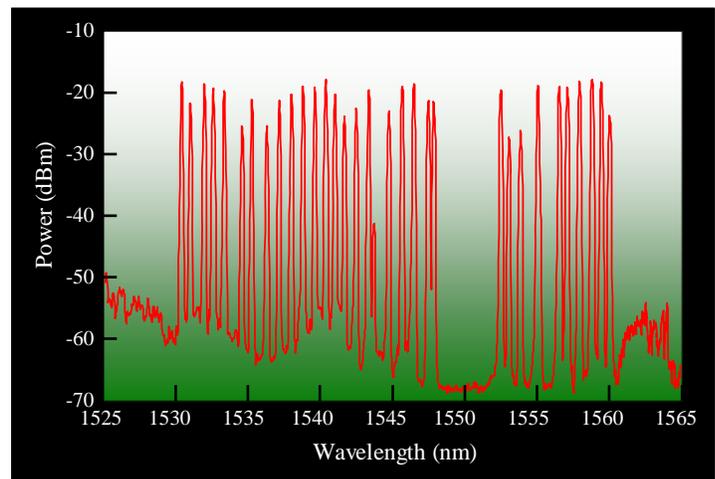


Applications

- Analytical instrumentation
- Pharmaceutical manufacturing
- Chemical & petrochemical manufacturing
- Food, beverage & dairy processing
- Environmental testing
- Defense industry
- Performance monitoring

Key Features and Benefits

- Excellent wavelength accuracy (with built-in wavelength reference)
- High power sensitivity
- Excellent power accuracy
- Compact size, light weight
- Fast scan speed
- Software upgradeable
- Low system cost solution
- Single or multi-mode fiber interface



Portable Spectrometer Product Datasheet¹

Parameter	Unit	Specification	Note
Spectral Range ²	nm	1529 – 1562 1567 - 1602	C-band L-Band
Maximum Input Power	mW	300	Total incident optical power
Input Power Range	dBm	-40 ~ 0	Per single spectrum
Power Accuracy	dB	± 0.5	
Power Repeatability	dB	± 0.1	Short-term measurements
PDL	dB	< 0.3	
Wavelength Resolution	nm	0.20 (Typical) 0.25 (Maximum)	FWHM, applicable to C- or L-band spectrometer
Bandwidth @ -20 dB	nm	0.45	
Wavelength Accuracy	nm	± 0.05	
Noise Floor	dBm	-60	
Output	-	Power Spectrum	Reference to 0.2 nm bandwidth
Response Time	ms	200	
Power Supply	V	5	DC
Power Consumption	W	< 2	
Operating Temperature	°C	0 ~ 60	
Storage Temperature	°C	-40 ~ 85	
Electronics Interface	-	USB/RS232/DPRAM	Optoplex software provided through UART
Dimension (L×W×H)	mm	100×70×17.5	

Notes:

1. Certain parameter specifications can be varied based on customer demands.
2. Spectral range can be custom specified.

Optoplex Corporation, located in Fremont, California, is an ISO9001:2000 certified supplier of cutting-edge photonic components and modules for dynamic wavelength management and signal conditioning. The company designs, develops, manufactures, and markets innovative fiber-optic products to communications networks, and provides customized solutions to instrument, defense, spectroscopy and sensing industries. By combining its proprietary optical design and packaging technology with its state-of-the-art optical coating expertise and facility, Optoplex supplies DPSK demodulators, DQPSK demodulators, 90° optical hybrids, 2-port tunable optical filters, 3-port reconfigurable optical add/drop multiplexers (ROADMs), optical interleavers, flat-top comb filters, optical performance monitors (OPMs), and portable spectrometers.