Terraplus

LF-Series InGaAs Photodiode Array NIR Spectrometers

The LF-series InGaAs NIR spectrometers provide optimized signal-to-noise ratio using an all photodiode array optical system directly mated to fiber optic for maximum throughput. All units utilize a stable TE-cooled multiplexed InGaAs Array and include all necessary order separating and/or long pass filters. LF-series Single InGaAs array spectrometers come standard with USB and wireless Bluetooth communication for easy setup and use. All the products include our exclusive DARWin SP Data Acquisition & Analysis Software for rapid data analysis and easy setup.

All Units Feature:

- All photodiode array construction– no moving optical parts
- Optimized gratings for maximal S/N ratio across full range
- Built-in autoshutter & autoexposure for one-touch measurements
- USB and wireless Bluetooth interface
- Stable, TE cooled InGaAs arrays
- DARWin SP Data Acquisition software included

Typical Applications:

- Spectroscopy
- Water/Moisture Analysis
- Process Monitoring
- Petrochemicals
- Environmental
- Refining
- Food
- Polymers

LF-series Single InGaAs array spectrometers come in a standard bench package with SMA-905 fiber optic input. Units can be customized with a wide choice of fiber optic accessories including probes, lenses, integrating spheres, right angle diffuser and more. We also offer customized input formats– please inquire for additional information

TECHNICAL SPECIFICATIONS

	LF-2500	LF-2300	LF-2100	LF-1250
Spectral Range (nm)	1000-2500	1850-2500	1100-2100	900-1700
Sampling Bandwidth	5.9 nm	2.5 nm	3.9 nm	1.6 nm
Choice of slit (µm)	All models have choice of 25, 50 or 100µm slit			
Spectral Resolution (slit dependent)	10, 14 or 20nm	5, 6.5 or 8nm	8, 10 or 12nm	3, 4 or 5nm
Spectrometer Input	Fiber optic SMA-905 input (screw-on optics options available)			
Detector Type	256 element extended InGaAs photodiode array			512 element InGaAs photodiode array
A / D Converter	16 bit (all models)			
λ Reproducibility	0.5nm (all models)			
λ Accuracy	±0.5 bandwidth (all models)			
Dark noise	8 RMS @10ms	8 RMS @10ms	3 RMS @50ms	3.5 RMS @100ms
Dynamic Range	$6x10^5$ (system) 5000:1 single scan	$6x10^5$ (system) 5000:1 single scan	$6.5x10^6$ (system) 6500:1 single scan	$5x10^6$ (system) 10,000:1 single scan
Integration Time (ms)	0.5-10,000 (all models)			
Power (typical)	6V, 8W	6V, 8W	6V, 5W	6V, 5W
Size	8" x 6" x 3"			
Weight	< 3 lbs			
Interface	USB, Bluetooth			

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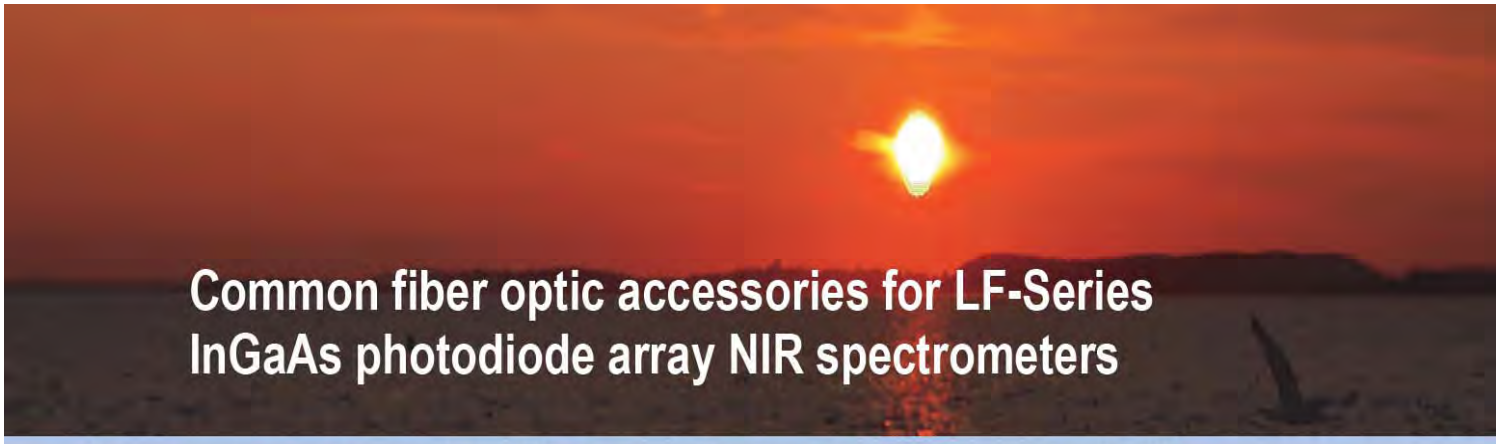
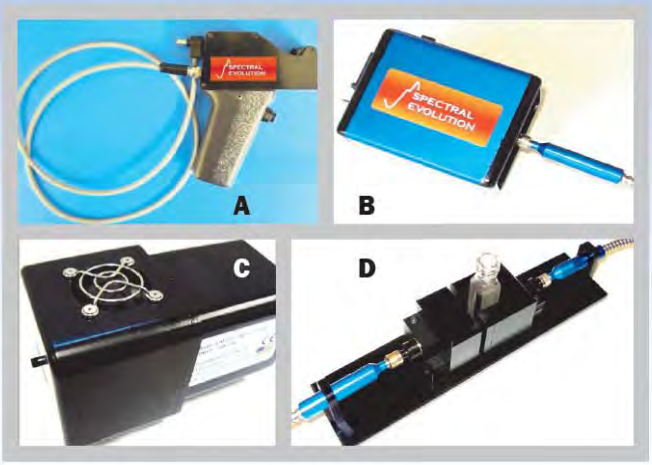


Common fiber optic accessories for LF-Series InGaAs photodiode array NIR spectrometers

All spectrometers may be ordered with SMA-905 compatible fiber optics (please specify length). We also offer many unique accessories to help measure just about anything. Please contact us with your needs and we will create a convenient solution for you! Some of our commonly ordered options are shown below:



Illuminators and filter/cuvette holders

A. Contact probe– *with 5 watt tungsten halogen illuminator and pistol grip. Accepts SMA-905 fiber input. Powered off 7.5 volt Li-Ion rechargeable battery or AC power supply.*

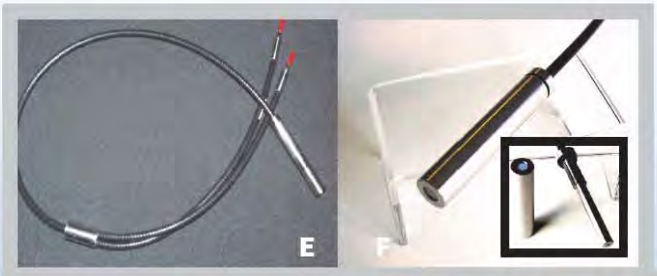
B. ILM-105 Fiber optic illumination module- *5 watt tungsten halogen source with fan for improved bulb life. SMA-905 fiber input. Powered off AC power supply.*

C. ILM-120 Fiber optic illumination module- *with continuously adjustable 20 watt tungsten halogen source. SMA-905 input. Can be purchased with either AC power supply or rechargeable Li-Ion battery for field operation.*

D. Fiber optic cuvette & filter holder– dual SMA-905 input and output. Convenient, modular operation for easy portability and experimentation.

Fiber optic probes

We offer probes for many common and specialized applications. Here are some recent examples:



E. Bifurcated dark field reflectance probe– *dual SMA-905 inputs for spectrometer and fiber optic illumination source. Ideal for measuring powders or solids*

F. Stainless steel irradiance probe- *SMA-905 fiber input. Screw-on diffuser module for measuring source irradiance- can also be removed (see inset) for measuring reflectance or radiance of sources. Submersible for measuring liquids.*

G. Stainless steel transflectance probe– *Bifurcated fiber dual SMA-905 input and output. Annular dark field illumination zone with mirror for dip-transflectance measurements. Useable for both liquids and slurries. Please specify path length when ordering.*

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