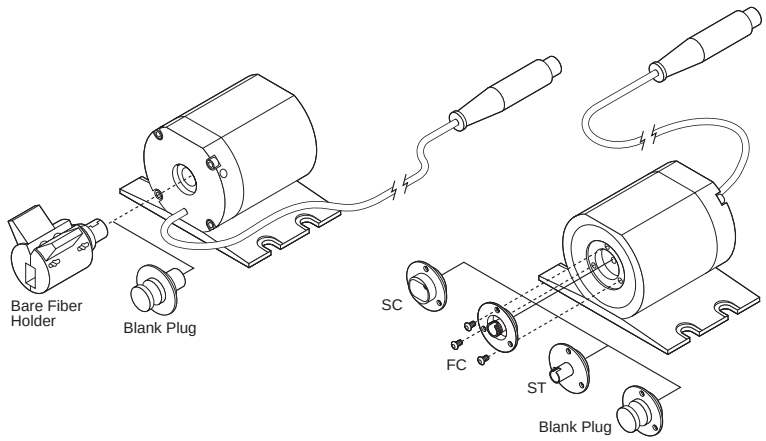
Model 918D-IS / 818-IS Series

Universal Fiber Optic Detector

- Integrating sphere design enables accurate and polarization independent measurements from all fiber optic sources
- Continuous measurements over the entire 400–1650 nm wavelength range
- Optical power input up to 200 mW
- Accepts bare fiber and FC, ST, LC, and SC terminated fiber inputs

Model 818-IS-1 and 918D-IS-1 Universal Fiber Optic Detectors use a symmetrical integrating sphere design to ensure accurate calibration, regardless of the fiber type measured. The integrating sphere uses a novel dual detector design, with special optics that improve temperature sensitivity markedly from ordinary detectors. Both are fully calibrated to NIST traceable standards over the wavelength range of 400–1650 nm. The 918D-IS-IG uses a single InGaAS detector and is calibrated over the range of 800-1650 nm. The 918D-IS-SL uses a single Silicon detector and is calibrated over the range 400-1100nm. The calibration data is encoded in a calibration module integral to the electrical connector. The 818-IS-1 is compatible with Newport's legacy power meters utilizing calibration modules, while the 918D-IS versions have an integral DB15 connector and are compatible with Newport's new power meters.

Maximum versatility is provided by the detector's dual port design. A variety of adaptors for connector-terminated fibers are provided, and plug into the detector's front port. The rear port is designed to measure light from straight and angle cleaved bare fibers, using Newport's FP3-FH1 bare fiber holder. A complete kit of adaptors is included with each detector, together with a rugged carrying case.



818-IS-1 shown. 918D-IS Series are terminated with a 15-pin D-Sub connector.

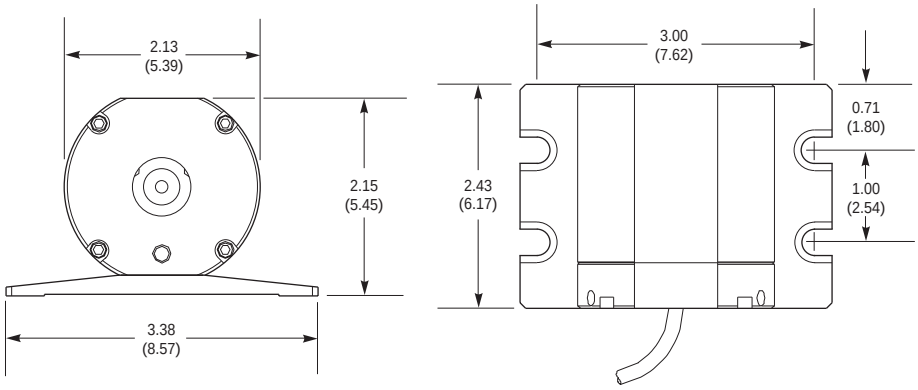
The specified accuracy of the Universal Fiber Optic Detectors equals two times the root-sum-of-square of NIST's combined standard uncertainty and Newport's calibration process standard deviation. This method results in a 95% confidence level for the accuracy specified. For more information on Newport's calibration process, see page 1130.

A bare fiber holder and various fiber optic connector adaptors are provided with all Universal Fiber Optic Detectors 818-IS-1 (LC adapter not shown).

Specifications

Model	818-IS-1	918D-IS-1	918D-IS-SL	918D-IS-IG
Spectral Range (nm)	400–1650		400-1100	800-1650
Saturation Power (mW)		>200		
Saturation Energy (µJ) 10–15 ns pulse		>1		
Pulse Energy, Maximum (µJ)		100		
Calibration Uncertainty	<5% @ 410-640nm, 3% @ 650-1650nm		<5% @ 410-640nm, 3% @ 650-1100nm	3% @ 800-1650nm
Responsivity	>0.0025 (400–600 nm) >0.0040 (610-1650 nm)		>0.0025	≥0.0040
Rise Time (µs)		≤2		
Shunt Resistance (MΩ)		≥20		
Die Capacitance (pF)		800 max.		
NEP @ 5 Hz and 1 A/W (pW/√Hz)		3		
Material	InGaAs/Si		Silicon	InGaAs

Dimensions



Ordering Information

Model	Description
818-IS-1	818-IS-1 Universal Fiber Optic Detector, 400-1650nm, CAL Module
918D-IS-1	918D Universal Fiber Optic Detector, 400-1650nm, DB15 Connector
918D-IS-IG	918D Universal Fiber Optic Detector, 800-1650nm, DB15 Connector
918D-IS-SL	918D Universal Fiber Optic Detector, 400-1100nm, DB15 Connector