Laser Power Probes for Low to Mid Power Lasers: the FIT Series

- Fully Automatic
- 3 Models for Power up to 500W
- 4 sec to Measure and Display
- 1% Repeatability, + 3% Accuracy
- Recalibration by the User

Fit is a fully automatic, broadband, hand held laser power meter designed for low to mid power range lasers.

Fit features a microprocessor based patented measurement technique of temperature dynamics through a broadband thermopile sensor; measurement and data acquisition are fully automatic making this technique virtually free from operator induced errors.

Three models cover from 500mW to 500W.

Their innovative measurement concept reduces the time of measurement and display down to 4 s providing excellent repeatability (±1%), accuracy (±3%), high resolution (±60 mW up to 50W full scale) associated with a wide range of power measurement (down to 1% of full scale).

Fit features a large multifunction LCD that simultaneously indicates, the measured power, the (selectable) wavelength of operation (CO2, Nd-YAG), probe model and low-battery warning. Furthermore a moving bar shows the actual sensor temperature; this informs the operator whether he can still perform one or more measurements before the sensor reaches its maximum allowable temperature.

Additionally the probe status is displayed by a two colour LED: the sensor is ready for measurement (steady green few seconds), the measurement is in progress (flashing green), the measurement is over (steady red few seconds), cooling is needed (flashing red).

Fit is operated by a single button; beside intentional shut off, it shuts automatically off after 5 minutes of non operation and always stores its last measurement in memory.

Two common AA batteries allow a minimum of 4000 measurements. Fit has been ergonomically designed in all its details: the low profile thermopile sensor head connected to the display body by 1m extensible cord, permits remote testing even in tiny spaces.

The range of sensors feature broadband low reflection coatings with high damage threshold and are factory replaceable for cost saving. Recalibration can be made by the users.

Fit is accurate, easy to use and significantly cheaper than any power meter with comparable performance.

Fit Series LaserProbes:Technical Specifications(*)

Parameter	Fit50	Fit200	Fit500
Maximum Measurable Power (W)	50	200	500
Minimum Measurable Power @ ±3% accuracy (W)	2 (1)	8 (1)	20 (1)
Absolute Minimum Measurable Power (W)	0.5	2	5
Max Laser beam Diameter (mm)	20	20	25
Power Density Damage Threshold @ 250W(10J-0.5msec-25Hz) at 1.064µm (YAG laser)(W/cm^2)		10000	
Power Density Damage Threshold @ full scale at 10.6µm (CO_2 laser) (W/cm^2)		2500	
Repeatability		± 1%	
ADC Resolution (W)	± 0.06	± 0.25	± 0.60
Display Resolution (W)	0.01	0.1	0.1
Accuracy		±3%	
Maximum Allowable Probe Temperature (°C)		70	
Time to measure and display data (s)		4	
Consumption in ON status (mW)		26	
Consumption in OFF status (µW)		25	
Power Supply (2 Batteries AA type) (V)		3	
Continuous Operation without Battery Replacement (h)		200	
Operating Temperature Range (°C)		+10 to +40	
Storage Temperature Range (°C)		-10 to +60	
Weight (Body) (g)		336	
Weight (Sensor Head with cable) (g)	178	200	280
M4 Holes on Diamtere D (mm)	49	49	59
Sensor Aperture (mm)	20	20	25
Dimensions (Sensor Head) DxH (mm)	56x20.5	56x25	66x30
Dimensions (Body) LxWxH (mm)		95x71x46	

(*) All specifications subject to change without notice
(1) Individually compared against a NIST reference; NIST traceability can be quoted on request