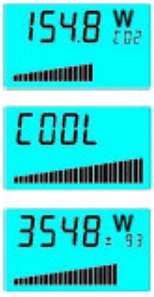
LaserProbes

Fit and Cronos

Many applications do not require the tight specifications of power meters. For others it is simply sufficient to make quick checks and there is no necessity to measure over an extended period of time; while it is sufficient to have readings in a snapshot just to monitor if power is ok. Sometimes water is not available on the machine. Many times it is a bare matter of limited budget. That's the world for a different class of instruments known as laser probes or power probes.
Those instruments are stand alone units made of a thermal probe connected to an electronics and its display. In general, existing instruments of this type are thermometers that measure a temperature difference in a fixed time and have a simple dial or a digital display. They have a number of major drawbacks, like their dependence on measurement time, which in most of cases has to be evaluated by the operator, their poor repeatability or accuracy, the fact that after each measurement they need to be cooled, etc.
LaserPoint has introduced a real breakthrough in the field with two new series of fully automatic laser power probes that calculate laser power by a microprocessor based measurement of temperature dynamics. Their measurement and acquisition technique self-determines the time needed to carry out a measurement: data acquisition is triggered and stopped by detecting set heat parameters thresholds. This technique is totally free from induced errors due to measurements of exposure times and may allow multiple measurements without the need of forcing cooling to the absorber.



Both ***Fit*** and ***CRONOS*** feature a large multifunction LCD that simultaneously indicates the measured power, the wavelength of calibration (CO2, Nd-YAG) and low-battery. Furthermore a moving bar shows the actual absorber temperature; this informs the operator whether he can still perform more measurements before the absorber reaches its maximum allowable temperature and needs to be cooled. Additionally, the probe status is displayed by a two colour LED: probe is ready (steady green), measurement is in progress (flashing green), measurement is over (steady red) or cooling is needed (flashing red).
Fit and ***CRONOS*** are both operated by a single button. They store the last measurement in memory and shut automatically off after 5 minutes of non operation. Two common AA batteries allow a minimum of 5000 measurements.
Fit and ***CRONOS*** have been ergonomically designed in all their details like the LCD display and the balance of weights, to provide a comfortable and safe operation. The absorbers feature low reflections and high damage thresholds; in particular the hi-power, multi kilowatt ***CRONOS*** have a concave conical shape to avoid dangerous back-reflections toward the operator.
Recalibrations can be made user.
Fit, with its low profile sensor head connected to the display body by 1m extensible cord, allows remote testing even in tiny spaces.

Simple, yet Advanced Measurements Tools

CE

CE

CRONOS:

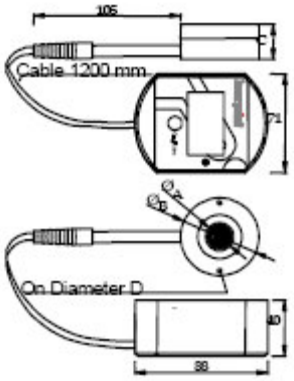
Fully automatic, high power probe series
-3 models cover from 1.5W to 10kW
- dual wavelength (CO2 and Yag) ,
-8sec to measure and display
-±2% repeatability (±5% for 5 and 10KW models)
-±4% accuracy
-1W resolution on 10KW probe
- Recalibration possible by User

Fit:

Fully automatic, low power probe series
-3 models cover from 500mW to 500W.
-dual wavelength (CO2 and Yag) ,
-4sec to measure and display
-±1% repeatability
-±3% accuracy
-10 mW resolution on 50W probe
-Recalibration possible by User

Fit Series: 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 (□W)	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
Dimensions (Sensor Head) L x W x H (mm)	56x20	56x25	66x30
Dimensions (Body) L x W x H (mm)	95x71x46		



Model	A	B	C	D
FIT 50	20	56	20.5	49
FIT200	20	56	25	49
FIT 500	25	66	30	59

Ordering Information

Item *(please add all codes when ordering)*	Code
Digital Laser Power Probe (0.5-50W)	**Fit 50**
Digital Laser Power Probe (2-200W)	**Fit 200**
Digital Laser Power Probe (5-500W)	**Fit 500**
NIST / PTB Traceable Calibration Certificate (on request)	**-Cert**
Example of order Code: Fit50-Cert	