

- FIT-IPL-R: Handheld Energy/Power Probes for Intense Pulsed Light (IPL)**

Ordering code	Power Range	Max Intermittent Power	Energy range	Useful Aperture	Spectral Range	Cooling	Connectivity
Fit-IPL-R	1 W - 100 W	N.A.	3.5 J - 350 J	20 x 60 mm	0.4 - 2.1 μm	Convection	N.A.

Fit-IPL-R is a fully automatic, hand-held energy and power meter designed for IPL (Intense Pulsed Light) applications.

Fit-IPL-R measurement and data acquisition are fully automatic, making this technique virtually free from operator induced errors.

Fit-IPL-R can measure both flash-lamps single shot energies up to 350 Joules and average powers, when in burst mode operation, up to 100 W.

Fit-IPL-R innovative measurement concept reduces the time of measurement and display to 10 sec. with excellent repeatability ($\pm 1\%$), accuracy ($\pm 3\%$) and high resolution (10 mW and 100mJ) associated with a wide dynamic range of measurement (down to 1% of f.s.).

The broadband detector works in the range from 400 nm to 1400 nm, which is the range of interest for the majority of applications (photo-epilation, skin rejuvenation, treatments of acne, vascular and pigmented lesions, and psoriasis).

The absorber coating of Fit-IPL-R remains fully responsive also when filters are used to reduce the lamp spectral bandwidth. This absorber is very robust, as it has been designed to face the extreme fluence (up to 90J/cm²) of professional systems (medical and clinic) where the highest pulse energies are involved. Moreover, it is also very flexible since it can operate with semi-professional systems (beauty salons) and consumer-oriented systems (2 to 10J/cm²).

Fit-IPL-R has a window for gel or water coupled handpieces but can also measure air coupled IPLs.

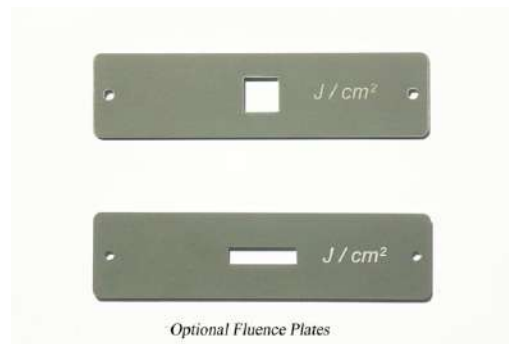
The unit bears a multifunction LCD that simultaneously indicates the flash lamp energy (or power) delivered by the handpiece; it also shows the mode of operation (single shot for energy or repetitive for power), probe model and warning for low-battery. A bar graph shows the sensor temperature to inform the operator whether he can still perform more measurements before the sensor reaches its maximum allowable temperature. Additionally, the probe status is displayed by a two colour LED indicating if the



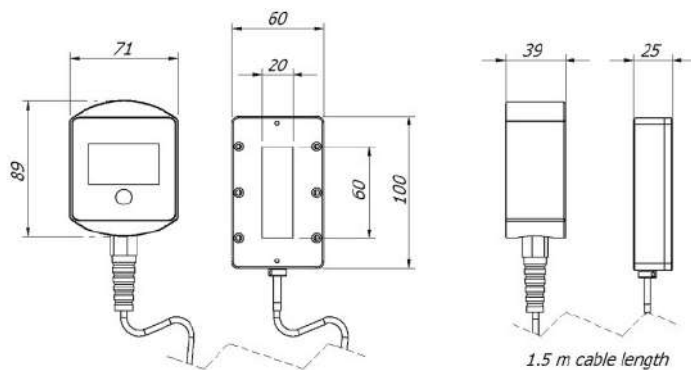
instrument is ready for measurement, if the reading is in progress or over and if cooling is needed.

An important feature of this instrument is the possibility, given to users, to match to a custom reference or make in house recalibrations by means of a lateral micro-switch usable to modify the sensitivity. 1 cm² diaphragm (available as a 10x10mm or 20x0.5 mm) can be mounted on the head to get the value of fluence (J/cm²) delivered to the patient.

Fit-IPL-R is operated by a single button; 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.



Ordering Code	FIT-IPL-R	
Power Mode		
Max. Average Power	100 W	
Min. Measurable Power	1 W	
Min. Meas. Power @3% accuracy	2 W	
Power Resolution	100 mW	
Time to measure and display:	10 sec	
Power Calibration Uncertainty	± 3%	
Repeatability:	± 1%	
Single Shot Energy Mode		
Max. Energy (with 100 ms pulse)	350 J	
Min. Measurable Energy	3.5 J	
Min. Meas Energy @3% accuracy	7 J	
Energy Resolution	100 mJ	
Wait time between 2 measures	25 sec	
Energy Calibration Uncertainty	± 5%	
Repeatability:	± 3%	
Absorber Specs		
Aperture	20 x 60 mm (a)	
Absorber Spectral Range	0.4 - 2.1 μm	
Calibration Spectral Range	0.45 - 1.1 μm	
Max Power Density (1)	10 kW/cm ² @40 W	
Max Energy Density J/cm ² (1)	10ms pulse width: 30 1ms pulse width: 6 100 μs pulse width: 2	
General Characteristics		
Power Supply	3V (2 AA Batteries)	
Battery runtime:	200 hrs	
Cooling	Convection	
Weight	0.6 kg	
Dimension	60 x 100 x 25 mm (sensor head) 89 x 71 x 39 mm (electronics)	
Cable length	1.5 m	
Notes		
(1). Damage thresholds also depend on power level. Please see damage graphs for more details	(a). Option: plate with 1 cm ² bore for fluence (J/cm ²) measurement. Available sizes 10 x 10 mm ² and 20 x 5 mm ² .	



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