

PocketMonitor PMT



Left to right: PMT 05p, 70icu, 120icu

The PocketMonitor (PMT) is a mobile power measuring device which can be employed easily and was designed for the application in everyday production. The compact and robust design as well as the fast and simple application are key features.

Due to the robust aluminum housing the electronics are protected from shocks and humidity. In its closed state, the absorber protects the control elements from damage.

The microprocessor-based electronics measure the temperature of the absorber by means of which the power of the laser beam is calculated with a resolution of one watt. Due to the high resolution, measurements in a very wide power range with a consistent accuracy can be carried out.

The large 4½ digit display can either display the measured power or the temperature. The integrated lithium cell provides the PocketMonitor with enough power for at least 10,000 measurements.

In Practice

Due to its compact design and the easy handling, the PocketMonitor is employed in environments in which many laser beam sources are used. Thus, it is ideal for service engineers of laser and machine manufacturers as well as technicians in testing facilities and laboratories. The high mobility of the device without any external connections is a striking factor.

Measured Beam Parameters

Power of continuous wave laser sources at:

- Wavelength: 800-1100 nm or 10.6 µm
- Maximum Laser power: 20 W – 12 kW (depending on model)
- Measuring time: 10 s or 20 s depending on the power

PocketMonitor PMT



PMT 01p with separate absorber

Measuring Procedure – the Principle:

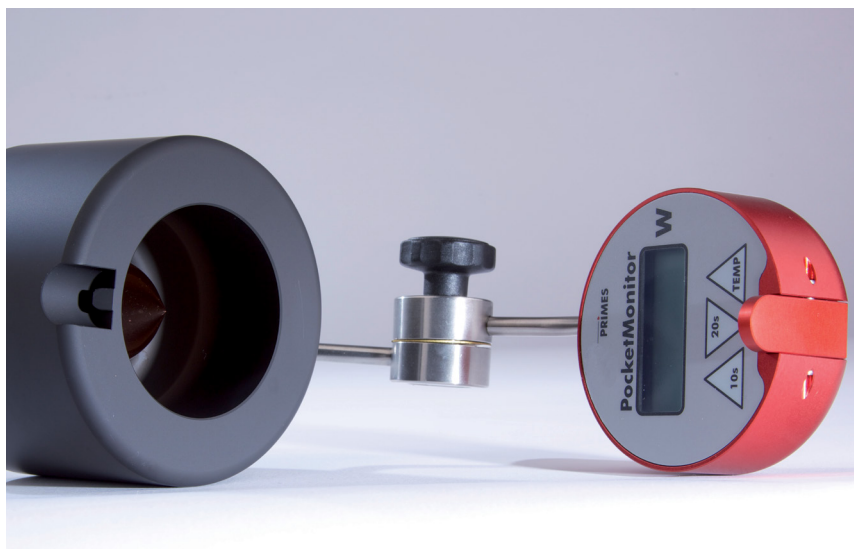
The PocketMonitor measures power density according to the ballistic principle. Here, an absorber is irradiated with laser radiation for a defined period of time (10 s/20 s).

By means of the rise in temperature and the known absorber mass, the irradiated power can be determined with a resolution of up to 1 W (PMT 120icu) or up to 0.01 W (PMT 002p) after a thermalization period.

Different Models

Six different absorber versions are available for different power ranges. The models PocketMonitor 70icu and 120icu with a copper cone are intended for very high power densities.

For selection of the suitable device, the power density and the maximum power are often equally important. The models PMT 70icu and PMT 120icu have particularly high reserves. With these, measurements with more than 5 kW/cm^2 at a laser power of 5 kW or even 12 kW are possible.



PocketMonitor 120icu

PocketMonitor PMT

Options

The PocketMonitor is not only available with different absorbers but also as a special model with a separate absorber.

Furthermore, a version with an analog interface (4–20 mA) as well as an OEM version for a direct, mechanical integration in a processing head is available. The option of a calibration certificate completes the offer. A regular recalibration is recommended.

As all options are available for the entire absorber range, the PocketMonitor is a very flexible measuring device.



Transport box for the PMT

Technical Data

Model	Power Range	Irradiation Time	Accuracy	Reproducibility	Absorber Height*	Absorber Diameter*	Weight
PMT 002p	1 W–20 W	10 or 20 s	4 %	2 %	5 mm	21 mm	530 g
PMT 01p	5 W–100 W	10 or 20 s	4 %	2 %	7.5 mm	25 mm	535 g
PMT 05p	25 W–500 W	10 or 20 s	4 %	2 %	12 mm	45 mm	560 g
PMT 30p	150 W–3000 W	10 or 20 s	4 %	2 %	20 mm	79 mm	670 g
PMT 70icu	350 W–7000 W	10 or 20 s	4 %	2 %	75 mm	79 mm	1110 g
PMT 120icu	500 W–12000 W	10 or 20 s	4 %	2 %	75 mm	99 mm	1550 g

* Dimensions refer to absorbers only, the complete device is larger.

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