



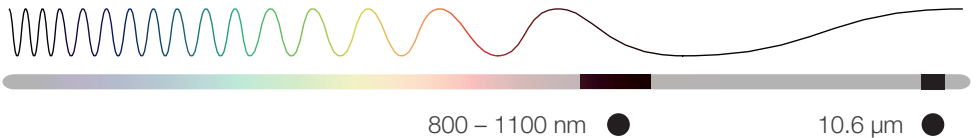









-  Fiber and disc laser
-  Diode laser
-  Ultrashort pulse laser
-  CO<sub>2</sub> laser



**Reliable, robust and mobile laser power measurement. Your power meter of choice for laser maintenance in everyday production.**

-  Caustic
-  Raw beam
-  Power
-  Beam profile
-  Pointing stability
-  Vector
-  Focus shift

|                             |  |
|-----------------------------|--|
| POWER RANGE                 | 25 W – 12 kW   |
| BEAM QUALITY M <sup>2</sup> | Everything is possible – application is only power density dependant |
| BEAM DIAMETER               | Up to 36 mm  |
| HIGHLIGHT                   | Separate absorber  |
| INTERFACE                   | Display screen   |

# Tech Corner

The PocketMonitor (PMT) calculates the energy of a laser pulse by determining the temperature changes within its absorber. The length of the laser pulse measured can be between 10-20 seconds. The accurate effective laser power is based on calculations resulting from the temperature curves of absorbing tool. The system is suitable for CO<sub>2</sub> and NIR (800 – 1100 nm) laser radiation with respective calibration.

The PocketMonitor is a mobile, easy-to-use power meter developed specifically for everyday use in service and production. It is sure to impress with its compact, durable design as well as its fast and uncomplicated operation. A full aluminum casing protects sensitive electronics from shocks and moisture. When folded together, the absorber protects operating elements from undesired damages.

PocketMonitor must be air/water cooled and dried between consecutive measurements.

## Models & Options

- 1 Four absorber versions for different power ranges: PocketMonitors 70icu or 120icu with a copper cone (icu) are designed for the highest power ranges. Lower power ranges can be measured with 05p and 30p variants.
- 2 When it comes to choosing a suitable device, the power density is often just as important as the maximum power. Especially high power reserves are offered by PMT 70icu and PMT 120icu, that can be used for laser powers up to 5 kW/cm<sup>2</sup>.
- 3 All models are also available with a cable-connected absorber with various cable lengths.
- 4 PocketMonitors PMT70 and PMT120 are also available with silver coated cones (iag) for higher energy density measurements in the NIR range.  
Such applications can be individually discussed with PRIMES.
- 5 We recommend having a suitable case for safe transport and storage.



| MEASUREMENT PARAMETERS                                 | PMT 05p   | PMT 30p                                | PMT 70icu                              | PMT 120icu                             |
|--|---|--|--|--|
| Power range  | 25 W – 500 W  | 150 W – 3000 W                         | 350 W – 7 000 W                        | 500 W – 12 000 W                       |
| Wavelength range                                       | 800 - 1100 nm<br>or 10.6 $\mu\text{m}$  | 800 - 1100 nm<br>or 10.6 $\mu\text{m}$ | 800 - 1100 nm<br>or 10.6 $\mu\text{m}$ | 800 - 1100 nm<br>or 10.6 $\mu\text{m}$ |
| Max. beam diameter on the absorber                     | 27.5 mm   | 48 mm                                  | 36 mm                                  | 36 mm                                  |
| Max. power density on the absorber<br>(inlet aperture) |   |  |  |  |
| at < 1 kW  | 2.5 kW/cm <sup>2</sup>  | 2.5 kW/cm <sup>2</sup>                 | 5 kW/cm <sup>2</sup>                   | 5 kW/cm <sup>2</sup>                   |
| at < 3 kW  | –   | 1.5 kW/cm <sup>2</sup>                 | 5 kW/cm <sup>2</sup>                   | 5 kW/cm <sup>2</sup>                   |
| at 5 kW  | –   | –                                      | 5 kW/cm <sup>2</sup>                   | 5 kW/cm <sup>2</sup>                   |
| Irradiation time                                       | 10 s (at maximum permissible laser power),<br>20 s (at 50 % of the maximum permissible laser power) |  |  |  |

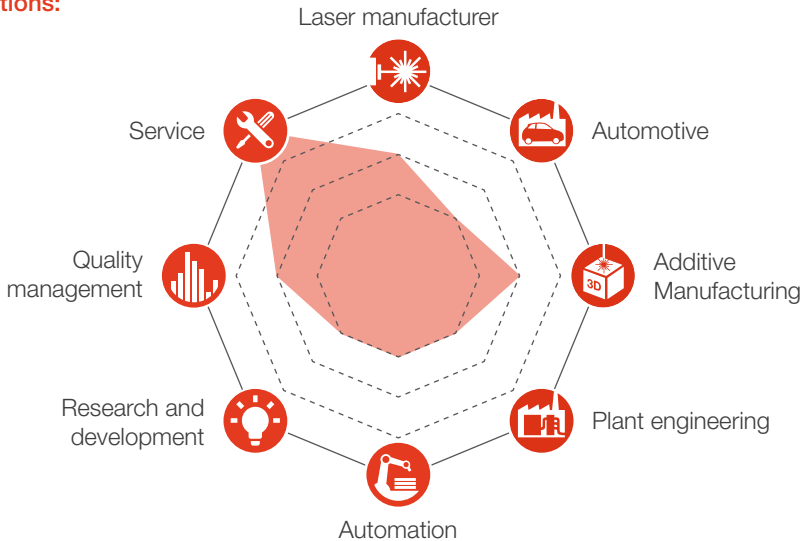
#### DEVICE PARAMETERS

|   |               |               |               |               |
|---|---------------|---------------|---------------|---------------|
| Max. angle of incidence perpendicular to inlet aperture | $\pm 5^\circ$ | $\pm 5^\circ$ | $\pm 5^\circ$ | $\pm 5^\circ$ |
| Max. centered tolerance                                 | $\pm 2.0$ mm  | $\pm 2.0$ mm  | $\pm 2.0$ mm  | $\pm 2.0$ mm  |
| Measuring accuracy                                      | $\pm 4\%$     | $\pm 4\%$     | $\pm 4\%$     | $\pm 4\%$     |
| Reproducibility   | $\pm 2\%$     | $\pm 2\%$     | $\pm 2\%$     | $\pm 2\%$     |

#### DIMENSIONS AND WEIGHT

|                   |         |         |         |         |
|-------------------|---------|---------|---------|---------|
| Absorber diameter | 45 mm   | 79 mm   | 79 mm   | 99 mm   |
| Absorber height   | 15 mm   | 20 mm   | 75 mm   | 75 mm   |
| Weight            | 0.56 kg | 0.67 kg | 1.11 kg | 1.55 kg |

## Applications:



**System description:** The PocketMonitor (PMT) is a compact and precise laser power meter that utilizes a proven calorimetric measurement principle. It offers high accuracy of +/- 4 % and is designed to measure both continuous wave (CW) and pulsed laser systems. The PMT is suitable for lasers operating in the near-infrared (NIR) and CO<sub>2</sub> wavelength ranges.

**Your benefit:** Thanks to its robust and compact design, the PocketMonitor is a cost-effective and reliable tool that fits easily in service boxes. The display not only shows all the information at a glance, but can provide even more parameters with the press of a button.

## CONCLUSION

The power measurement for CO<sub>2</sub> and NIR lasers can be ensured by the robust and reliable PocketMonitor.

For further information please visit [www.primes.de/pmt](http://www.primes.de/pmt)

