



EC-PowerMonitor



Everything Ship Shape Thanks to Proper Calibration

Precision is everything. That's why we boosted the heavy-duty superstar PowerMonitor, which is capable of measuring beam power close to the process zone, with an integrated self-test feature, and upgraded it "electronically calibrated" to the EC-PowerMonitor.

It meets highest industrial standards. You benefit from the ability to check the functionality and precision of the measuring device at any time – without any limitations on your planned work processes.

The EC-PowerMonitor is designed for the development departments of laser manufacturers and users for use as a factory standard. With its self-test feature, production using irradiation can be compared across different factories and

branch offices in order to ensure a unified measuring standard. It can measure beam power from continuous wave laser sources with the utmost precision while simultaneously performing internal referencing through the heating element used.

The Principle: Self-Test Feature

A heating cartridge warms up the cooling water and the electrically generated heating power is calorimetrically measured. This value is compared with the electric power recorded from the heating element.

The EC-PowerMonitor has a high-precision measuring system for current consumption and operating voltage of the heating element for exactly this purpose.



The Key Benefits

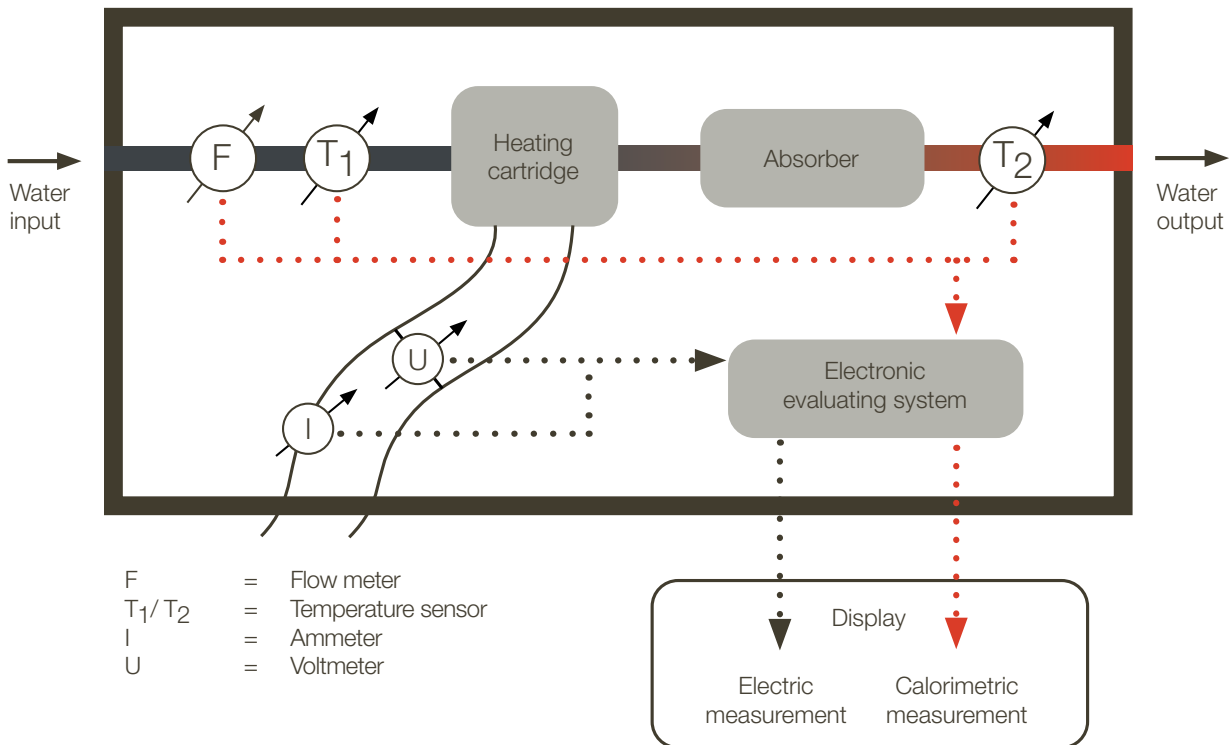
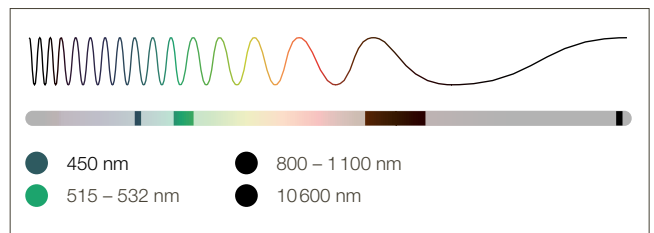
The EC-PowerMonitor meets the highest standards for industrial practice. Its electronic calibration system can act as a reference system, ensuring that you can trust in the consistency of your laser beam power and recognize any problems as soon as possible.

- 1 State-of-the-art power meter suitable for use as a reference and relation system.
- 2 Long-term stability thanks to durable setup and the use of flow rate sensors without moving parts.
- 3 Precision and reproducibility, since PRIMES only uses the best sensors and components.

Your Benefit: Optional Accessories

We provide the following options for the EC-PowerMonitor:

- Fiber adapter for directly measuring irradiation from the fiber for many standard systems like LLKD and QBH
- Holder for mounting a FocusMonitor



Principle of the reference measurement in the EC-PowerMonitor



Technical Data

MEASUREMENT PARAMETERS	
Power range	200 W – 8 kW
Wavelength range	450 nm 515 – 532 nm 800 – 1 100 nm 10 600 nm
Irradiation time	continuous
Max. power density	10 kW/cm ² (450 nm, 515 – 532 nm) 15 kW/cm ² (800 – 1 100 nm, 10 600 nm)
DEVICE PARAMETERS	
Entrance aperture	48 mm
Accuracy	± 2.5 % (450 nm, 515 – 532 nm) ± 2 % (800 – 1 100 nm, 10 600 nm)
Reproducibility	± 1 %
Time constant	15 s up to 99 % of final value
ELECTRONIC CALIBRATION PARAMETERS	
Power heating cartridge	3 200 W
Accuracy self-test	better than 0.5 %
Power consumption heating cartridge	230 V, 16 A
SUPPLY DATA	
Power supply	24 V DC ± 5 %, max. 0.5 A
Cooling water flow rate	> 5 l/min
Maximum water inlet pressure	6.5 bar
COMMUNICATION	
Interfaces	serial/USB
DIMENSIONS AND WEIGHT	
Dimensions (L × W × H)	400 × 242 × 205 mm
Weight (approx.)	16 kg