

LaserCheck™ Operating Instructions



Specifications

Sensor type	Silicon cell	Aperture size	8 mm
Spectral response	400 to 1064 nm	Built-in range step attenuator	1 mm thick NG-9
Accuracy	+/- 5%	Measurement display	3 digit LCD w/power unit indicator
Max. CW power	10 mW	Displayed power ranges	9.99 μ W to 999 mW
w/built-in attenuator1 W	Peak sample time2 sec.
Max. CW power density	0.5 W/cm ²	Display hold time	10 sec.
w/built-in attenuator	30 W/cm ²	Battery life	180,000 measurements (at 12 sec./sample)
Min. full scale power	9.99 μ W	Overload display indication	---
Min. power resolution	0.01 μ W	Overload audible indication	Beep tone
Min. detectable power	3 to 10 μ W (wavelength dependent)	Size	6.59" L x 0.92" W x 0.78" T
		Weight	1.54 oz.

Safety Information

NOTICE: In order to exclude possible hazards due to potential reflections within the scope of using the LaserCheck for measuring lasers, it must be ensured before each use of the LaserCheck that all protective measures prescribed for the safe operation of the respective laser to be measured are fulfilled, e.g. necessary protective equipment or shielding is used.

CAUTION! The sensor of the LaserCheck will be destroyed if the maximum permissible power density is exceeded (without attenuator > 0.5W/cm², with attenuator > 30W/cm²). The LaserCheck should only be used by persons who are trained to operate the laser to be measured in accordance with necessary legal requirements.

Battery Life

The battery is not replaceable. The service life of the battery is normally approximately 180,000 measuring cycles.

Warranty

LaserCheck is warranted against all manufacturing defects for one year from date of purchase. Contact Coherent for complete warranty statement.

Manufacturer:

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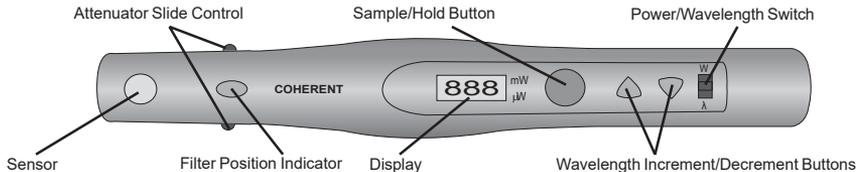
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Operating Instructions



Measure Power

- 1) Move the Power/Wavelength switch (from λ back again) to W (watt display). The LaserCheck is only suitable for power measurements of CW (continuous wave) lasers or QCW (quasi continuous wave) lasers (each $> 20\text{KHz}$). The wavelength must be set to wavelength of the laser to be measured before the measurement (see above).
- 2) If the expected power to be measured is above 10mW , slide the built-in attenuator (neutral density filter) over the sensor. Move the 'Attenuator Slide Control' towards the sensor. The attenuator display 'Position Indicator' at the front of the device is then filled in black.

If the attenuator is not inserted, this indicator is filled in yellow. The power density without attenuator must not be greater than $0.5\text{W}/\text{cm}^2$. With the attenuator inserted, the power density must not be greater than $30\text{W}/\text{cm}^2$.

NOTICE: If the LaserCheck is operated with a power of $> 10\text{mW}$ without the attenuator inserted and is then different than the above application note, there is a risk. The sensor surface could be damaged or even destroyed.

NOTICE: If a laser of unknown power is to be measured, a measurement with the attenuator inserted must always be performed first as a precautionary measure.

- 3) Hold the LaserCheck in the laser beam and align it centrally, at a right angle to the beam. Immediately press the 'Sample/ Hold' button for 2 to 3 seconds and remove the LaserCheck from the beam again. **CAUTION!** Always set the sensor at right angles and as centered as possible to the laser beam to minimize measurement errors and any reflections in the room.

- 4) If an acoustic warning signal is heard, remove the LaserCheck safely from the laser beam immediately, and then see the display. If the display shows "—" the maximum power has been exceeded.

NOTICE: In the event of the warning signal sounding, the settings should be checked. A visual inspection of the LaserCheck should be performed after removal from the laser beam, in addition to the immediate and safe removal of the LaserCheck from the laser beam.

- 5) The peak power measured in the measuring cycle (pressing the Sample/Hold button) is displayed. After 10 seconds, the LaserCheck will automatically shut off.

NOTICE: In the event of visual and acoustic abnormalities, the measurement must be aborted and the LaserCheck checked for proper functioning.

Set Wavelength

- 1) Move the Power/Wavelength switch from W to λ . The current wavelength shows on the display.
- 2) Set the wavelength from 400nm to 1064nm with the Wavelength Increment or Decrement buttons. For wavelengths greater than 999nm , the display shows 000 to 064, instead of 1000 to 1064nm . **NOTICE:** The wavelength setting is stored. Changing the wavelength setting is not required unless the wavelength being measured is changed.

Laser Damage Caution

LaserCheck sensor will be damaged if the specified maximum power density is exceeded. Warranty is void if maximum power density is exceeded.