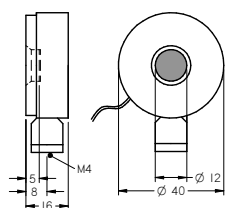


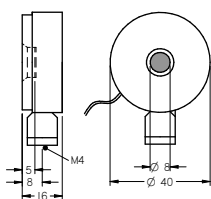
# Pyroelectric Energy Detectors

## PEM HiRep

These sensors have a thin metallic (MC) or black absorption (BC) layer leading to a faster heat transfer to the sensor element. Repetition rates up to more than 5000 pps. are possible. The spectral behaviour of the MC types is flat in the VIS and NIR but for longer wavelengths the absorption properties have to be taken into account. The absorption of the BC type detectors is very flat from UV up to IR. Main application is the use at one wavelength. The metallic coating of the two MC types is more stable in the ultraviolet region than the organic black coating.



PEM 12 HiRep BC  
PEM 12 HiRep MC



PEM 8 HiRep BC  
PEM 8 HiRep MC



	PEM 8 HiRep BC	PEM 12 HiRep BC	PEM 8HiRep MC	PEM 12 HiRep MC
Diameter of active area	8 mm	12 mm	8 mm	12 mm
Sensitivity / Scope	10 .. 20 V/J	10..20 V/J	30 .. 50 V/J	30..50 V/J
max. repetition rates / Scope	1.5 kHz		5 kHz	
working range / Scope	50 µJ - 5 mJ		20 µJ - 5 mJ	
Working range with display*	<b>10 µJ - 2 mJ</b>	<b>10 µJ - 5 mJ</b>	<b>2 µJ - 2 mJ</b>	<b>2 µJ - 5 mJ</b>
Max. repetition rate with display*	<b>1.5 kHz</b>	<b>1.5 kHz</b>	<b>5 kHz</b>	<b>5 kHz</b>
max. energy density (10 ns pulse)	80 mJ/cm <sup>2</sup>		100 mJ/cm <sup>2</sup>	
max. peak power density	8 MW/cm <sup>2</sup>		10 MW/cm <sup>2</sup>	
max. average power	1 W	2 W	1 W	2 W
Wavelength	190 nm .. 25 µm		190 nm .. 2.5 µm	
accuracy	±3%			
dimension (diameter x length)	40 mm x 16 mm			

\* PEM710, Pyrobox

# Power and Energy Meter PEM 710

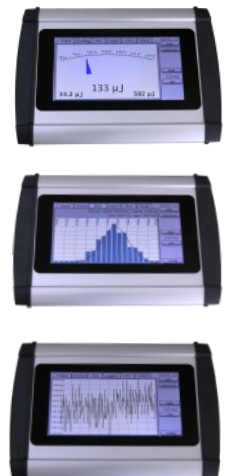
A large 7" capacitive touch panel and clearly arranged menus make this device very comfortable and easy to handle.

Very low noise amplifiers and for every signal path optimised AD converters, allow to use a wide range of sensor heads. After connecting a detector, the display read all relevant parameters from detector-EEPROM and setting up the device automatically. Manually setup possibilities for wavelength and correction are possible.

The large graphic display offers space for a variety of display and analysis choices. The digital display can be used for determining the energy, frequency and average power. The analogue part with its bar graph display is useful for e.g. laser adjustments. Laser stability can be monitored using the data logger and statistics window. Also a data logging window and a statistic window with histogram in selectable

The PEM 710 is equipped with USB interfaces. These ports allow remote control and transferring of all data to a PC or USB memory stick. An analogue output offers a lot of possibilities to integrate the display into own measurement arrangements.

- For pyroelectric energy sensor heads and thermopile power sensor heads
- Digital display, analogue display, graphic data logger, statistics and histogram
- HiRes 7" Graphic display with background illumination and capacitive touch panel
- Wide dynamic range
- Wavelength correction
- Adjustable trigger level
- Analogue output
- USB 2.0 interface for remote operation
- Data storage on USB memory stick
- compatible to all heads of PEM, HP, LP and BB series
- In energy mode rep rates 2000 pps
- Input of correction factors e.g. for mirrors or beam splitters
- Compatible with E-connector with integrated EEPROM with all detector parameters
- Dimension 220 mm x 190 mm x 57 mm



## Pyrobox

Use this interfaces to connect your pyroelectric detector directly to your PC. The interfaces contains many of the same features as the PEM710, except it does not have a display screen or built-in console controls. Instead, the console and sensor are completely controlled via a USB connection and the supplied software. The Pyrobox converts the signal from the attached sensor and transfers it to the PC. Each interface uses an analogue signal path which is optimised for the specified detectors.

- USB 2.0 connection
- LabVIEW based software for different applications available (Analogue and digital display, data logger, statistics)
- Data transfer as ASCII code
- Compatible with E-connector
- 8 ranges
- Power supply from USB
- Dimensions 110 mm x 62 mm x 30 mm

