

## Series PEM K

Main applications for this detector are pulse lasers with high power density (Excimer-, CO<sub>2</sub>-TEA-, Nd-YAG-Laser). With this device we offer a sensor that can be used in a wide range of applications due to a high damage threshold, a short time constant, relatively high sensitivity and high aperture.

In opposite to other coatings these coating is very resistant. So it is possible to clean the surface with most solvents or disinfectants. This fact and the high damage threshold for Excimer lasers make these types ideal for medical applications.

	PEM 45 K	PEM 20 K
Diameter of active area	45 mm	20 mm
sensitivity	1.5 .. 3.5 V/J at 1 MOhm 0.5 .. 1.5 V/J at 100 kOhm	10 .. 15 V/J at 1 MOhm
Max. repetition rate	30 Hz at 1 MOhm	30 Hz at 1 MOhm
Max. average power	5 W	3 W
Max. average power density	0.5 W/cm <sup>2</sup>	0.5 W/cm <sup>2</sup>
Detection threshold	1 mJ	500 µJ
Accuracy	±3 %	±3 %
Connector	BNC, E-connector with EEPROM	
Dimensions (Ø x Length)	68 mm x 51 mm	46 mm x 21 mm

permissible power- and energy densities at selected wavelengths:

	Peak power density	Energy density
Excimer, 308 nm, $\tau = 20$ ns	50 MW /cm <sup>2</sup>	1 J/cm <sup>2</sup>
Nd:YAG, THG, 355 nm, $\tau = 7$ ns	65 MW /cm <sup>2</sup>	450 mJ/cm <sup>2</sup>
Nd:YAG, SHG, 532 nm, $\tau = 8$ ns	70 MW /cm <sup>2</sup>	560 mJ/cm <sup>2</sup>
Nd:YAG, 1064 nm, $\tau = 8$ ns	120 MW /cm <sup>2</sup>	970 mJ/cm <sup>2</sup>
CO <sub>2</sub> -TEA, 10,6 µm, $\tau = 0,5$ µs	10 MW /cm <sup>2</sup>	5 J/cm <sup>2</sup>

