Kipp & Zonen
SINCE 1830

CA 2

LABORATORY THERMOPILE

DESCRIPTION

With thermopile CA 2 radiant fluxes can be measured. It is sensitive to radiation from 0.2 to 50 μm, and has a field of view of 10 °.
The field of view is determined by a cylindrical brass housing, that contains a conical reflector and a removable glass window.

APPLICATIONS

The thermopile is very suitable for control (ovens) or demonstration (schools) purposes and can be used for reference-measurements.

PHYSICAL PRINCIPLE

The CA 2 thermopile contains a thermal detector. It responds to the total power absorbed. Because the absorber is coated with Kipp & Zonen Carbon Black paint it is spectrally non-selective.

The thermopile output is a voltage that is proportional to the radiation that is received. The thermopile is delivered with a calibration certificate.

Irradiance measurements are easily affected by convection and thermal radiation losses to the environment. Therefore a glass window can shield the detector. By using this window, the spectral range is limited to 0.3 to 3 μm.

ORDERING INFORMATION

	Part No.
CA 2 Laboratory Thermopile with 170 mm Rod	1311907

SPECIFICATIONS

Spectral range -Without glass window -With glass window	 0.2 - 50 μm 0.3 - 3 μm
Sensitivity -S1; homogeneous irradiance on front window -S2; power falling through the window and aperture stop directly on the absorber -Without window;	 approx. 20-40 μV/W/m^2 approx. 0.1 μV/μW 1.10 x higher
Response time (95 %)	18 s.
Field of view	10 °
Non-linearity (50 mV)	3 %
Impedance	approx. 150 Ω
Irradiance	max 2000 W/m^2
Absorber paint	Carbon Black
Weight	500 g
Absorber surface	Ø12 mm
Rod	170 mm Ø10 mm

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