



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

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.

SPECIFICATIONS

Spectral range	
-Without glass window	0.2 - 50 μm
-With glass window	0.3 - 3 μm
Sensitivity	
-S1; homogeneous irradiance on front window	approx. 20-40 $\mu\text{V}/\text{W}/\text{m}^2$
-S2; power falling through the window and aperture stop directly on the absorber	approx. 0.1 $\mu\text{V}/\mu\text{W}$
-Without window;	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	\varnothing 12 mm
Rod	170 mm \varnothing 10 mm