Kipp & Zonen

CNR 1
NET RADIOMETER

Features

Includes two pyranometers (0.3 - 3 μm) for solar radiation measurement (incoming / reflected / albedo / balance)

Includes two pyrgeometers (5 - 42 μm) for far infrared measurement (balance / soil surface temperature / sky temperature)

Four separate sensors with equal sensitivity

Accurate & reliable

Robust & fully weatherproof

Built-in heating element to avoid dew deposition

Built-in Pt-100 temperature sensor

Benefits

Accurate & dependable measurements

Separate measurement signals:

- Solar / Far Infrared,
- Down- and upward derived quantities,
- Sky and ground temperature
- Net radiation / albedo

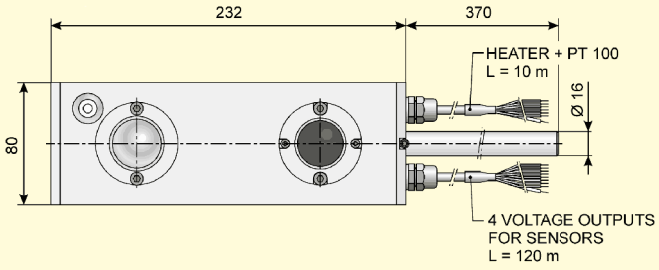
Prevention of condensation with use of heating

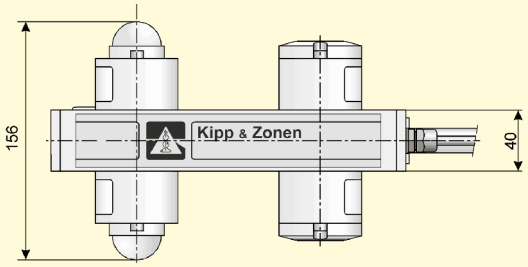
Low maintenance

Easy & straightforward calibration

Alternate verification of data by the individual analysis of albedo and net radiation

Dimensions





Specifications

All four sensors have equal sensitivity

Pt-100 according to DIN class A (option 10 kΩ thermistor)

Heating resistor 24 Ω, 6 W at 12 V (heating recommended only at night to prevent dew and frost formation)

Required data acquisition
For net radiation : 1 x mV channel
For all four components : 4 x mV channels
1 x Pt-100 channel + software

	CM 3	CG 3
Response time (95 %)	18 s	18 s
Directional error (at 1000 W/m^2)	±25 W/m^2	-
Spectral range	0.3 - 3 μm	5 - 42 μm
Expected output range for atmospheric application	0 to 50 mV	-25 to +25 mV
Operating temperature	-40 °C to +70 °C	
Expected accuracy for daily totals	±10 %	
Cable length	10 m	
Weight	4 kg	

Applications

Agro-meteorology:	study of evapotranspiration
Climatology:	study of radiative balances
Building research:	study of thermal stress
Solar energy:	study of heat exchange in thermal solar systems
Safety:	highway condition monitoring
Agriculture:	crop damage prevention

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