

# Meteo M&R

## radiation & light



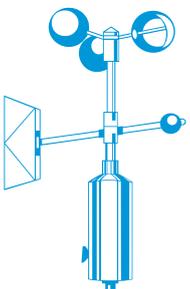
## NR01 net radiation sensor

4-COMPONENT

NET RADIATION SENSOR

EASY TO USE

NR01 is a 4-component net-radiation sensor that is used for scientific-grade energy balance studies. The instrument has separate measurements of solar (Short Wave) and Far Infra-Red (Long Wave) radiation. Major improvements relative to comparable instruments include weight (reduced), solar offsets in the Long Wave W signal (reduced), ease of leveling (high, because levelling assembly is included).



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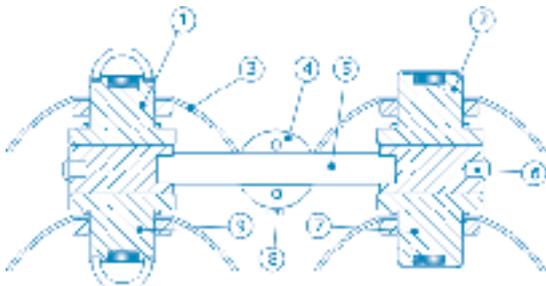
scientific and meteorological instruments

# radiation & light

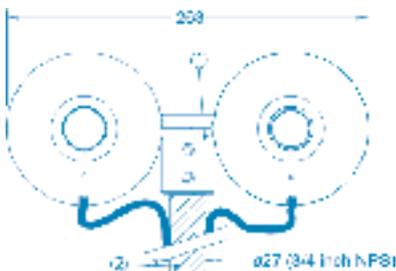
## NR01 net radiation sensor

NR01 is a 4-component net-radiation sensor that is used for scientific-grade energy balance studies. The instrument has separate measurements of solar (Short Wave or SW) and Far Infra-Red (Long Wave or LW) radiation. Major improvements relative to comparable instruments include weight (reduced), solar offsets in the LW signal (reduced), ease of leveling (high, because levelling assembly is included).

NR01 serves to measure the 4 separate components of the surface radiation balance. Working completely passive, using a thermopile sensors, NR01 generates 4 small output voltage proportional to the incoming and outgoing SW and LW fluxes. The SW solar radiation sensors are also called pyranometers, the LW sensors are also called pyrgeometers. For calculation of sky- and surface temperature, a Pt100 temperature sensor is included in the pyrgeometers. In order to avoid deposition of dew, the pyrgeometers may be heated. A 2-axis levelling assembly is included.



**Figure 1**  
NR01 4-component net radiation sensor. SW solar radiation sensor or pyranometer (1), LW Far Infra-Red radiation sensor or pyrgeometer (2), radiation shield (3), levelling assembly for x- and y axis (4, 5 and 8).



**Figure 2**  
NR01 top view. Standard cable length is 5 m. Cable can be installed / replaced by the user. Attachment to a 1 inch tube (2), not included, is extremely easy, levelling possibilities are included. Dimensions in mm.

The NR01 cable can easily be installed or replaced by the user. See also RA01 radiometer, which is a single side version of NR01. Combined with estimates of SW albedo- and of surface temperature, this instrument can also be used for estimation of net-radiation.

### TECHNICAL SPECIFICATIONS

#### General

Temperature range	-40 to +80°C
Range	0 to 2000 Wm <sup>-2</sup>
Temperature sensor	Pt100
Temperature sensor	users own preference can be plugged in

#### Pyranometer (SW)

Pyranometer ISO classification	second class
Spectral range	305 to 2800 nm
Calibration traceability	WRR

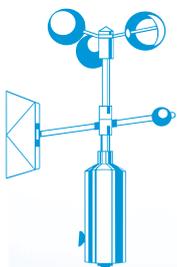
#### Pyrgeometer (LW)

Spectral range	4500 to 50000 nm
Calibration traceability	NIST
Window heating offset @ 1000 Wm <sup>-2</sup> solar radiation	<15 Wm <sup>-2</sup>
heating power	5 Watt @12VDC

### OPTIONS

Additional cable length x metres (add to 5m)

made to measure



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