

DR02

FAST RESPONSE FIRST CLASS
PYRHELIOMETER WITH HEATED WINDOW



Figure 1 pyrheliometer DR02

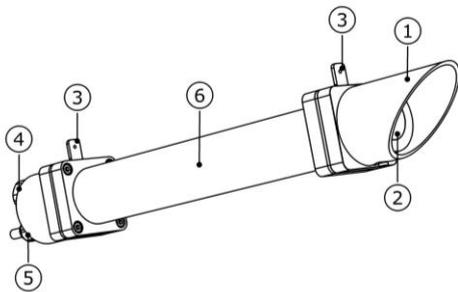


Figure 2 DR02 pyrheliometer , (1) protection cap, (2) window with heater, (3) sight, (4) humidity indicator, (5) cable gland, (6) aperture tube

SUGGESTED USE

- solar renewable resource assessment
- concentrated PV electricity output validation
- solar collector and PV panel efficiency validation
- material testing research

OPTIONS

- Additional cable lengths (per 5m)
- Temperature sensors (Pt100 or 10K thermistor)
- AC100 / AC420 amplifiers
- Various tracking solutions can be offered by SENSOVANT

DR02 is a research grade direct normal incidence (DNI) solar irradiance sensor, also known as pyrheliometer . It complies with 'First Class' classification, as per the latest ISO 9060 and WMO standards. A unique product feature is the fast response and the heated window. DR02 is typically mounted on a (solar) tracker.

DR02 has been developed for use in monitoring of systems in solar energy applications. Because of its fast response, it is ideally suited for PV applications, where it will match the response time of the panels more closely than other types of pyrheliometers. This means improved accuracy in monitoring situations

DR02 also features a thermally isolated low power window heater in the foreoptic. When cycled on/off prior to sunrise the heater effectively eliminates the formation of dew on the pyrheliometer window. This results in improved post sunrise measurement accuracy, as well as lower maintenance, as it requires less cleaning. Determining direct solar irradiance with DR02 requires connection to a data acquisition device and a two-axis solar tracker platform. Each DR02 is calibrated upon manufacture and delivered standard with a WRR (World Radiometric Reference) traceable certificate of calibration.

DR02 SPECIFICATIONS

ISO classification:	First Class
Spectral range:	200 to 4000 nm
Sensitivity:	7-15 $\mu\text{V}/(\text{Wm}^{-2})$
Temperature range:	-40 to +80 °C
Operating range:	0 to 2000 Wm^{-2}
Response time (95%):	1 s
Temperature response:	$\pm 1\%$
Window heating	0.5 W @ 12 VDC
Full opening view angle:	5 degrees
Cable length:	5 m standard