



UVB Radiometer S9090

Narrowband radiometers for measuring UVB and UVA irradiance. Designed in close cooperation with the Royal Dutch Meteorological Institute, the purpose of the design is to offer a solution for continuous (non-scanning) meteorological monitoring of trends in UV radiation.

For analyzing specific atmospheric conditions it is impossible to rely only on broadband UV measurements. To solve this problem, the sensor is designed with a sensitivity in a very narrow spectral band.

In order to obtain the required accuracy, the UV meters are temperature stabilized at 40°C using a heating element. Two voltage outputs are available: the sensor signal (representing UV radiation) and the internal radiometer temperature (for quality control of the measurement).

For one option, the central wavelength was chosen at 306 nm. This wavelength represents an optimum of the multiplication of the human skin (erythema (sunburn) action) spectrum and the solar spectrum. The other wavelength available is 368 nm. This particular wavelength is used in the WMO air pollution network.





Technical Specifications

S9090

Central Wavelength:	306 ± 0.2 nm 368 ± 2 nm
Bandwidth, 50%:	2 ± 0.5 nm 10 ± 1 nm
Bandwidth, 0.1%:	14 nm 20 nm
Side Band Rejection:	10-8 (400-3000 nm) 10-6 (400-3000 nm)
Sensitivity (nominal):	-25 V/W/m ² nm -2 V/W/m ² nm
Signal Range:	0 to -6 V max. 0 to -2 V max.
Offset:	nom. ± 0.5 mV, max. ± 2 mV
Offset Drift:	Within band of 0.1 mV during 24 h
Cosign Error (any azimuth direction):	± 10% (0 - 80% zenith angle)
Temperature Setting (internally):	+40°C, stable within 2 K
Temperature Signal:	3.13 V at 40°C, 10 mV/K
Required Power Supply:	+15 VDC, -15 VDC ±20%, 40 VA
Ambient Temperature:	-30°C to +50°C