

Total Ultraviolet Radiometer

MODEL

TUVR

The Total Ultraviolet Radiometer is a detector for the measurement of solar UV radiation.

This TUVR utilizes a hermetically sealed selenium barrier-layer cell protected by a quartz window. It is operated at low light levels and under conditions of minimum electrical current drain in order to ensure a high degree of performance stability over lengthy periods of exposure. A specially designed teflon diffuser provides close adherence to the Lambert cosine law. An encapsulated narrow bandpass (interference) filter limits the spectral response of the photocell to the wavelength interval 0.295 to 0.385 μm , with negligible secondary transmission.

A calibration certificate traceable to the National Institute of Standards and Technology (NIST) is included.



SPECIFICATIONS

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| Application | Network Measurements |
| Traceability | NIST |
| Spectral Range | 295-385 nm |
| Output | 0-10 mV analog |
| Sensitivity | approx. 150 $\mu\text{V} / \text{Wm}^{-2}$ |
| Impedance | approx. 1,500 Ω |
| 95% Response Time | 1 second |
| Non-Stability | 5% |
| Non-Linearity | 2% |
| Directional Response | 5 Wm^{-2} |
| Operating Temperature | -50°C to +80°C |
| Temperature Response | 0.3% per/degree C |
| Calibration Uncertainty | < 5% |
| Measurement Uncertainty | |
| Single Point | < 5 Wm^{-2} |
| Hourly Average | approx. 5% |
| Daily Average | approx. 3% |