

The smarter solution  
for UV measurement.



**For every part of the  
atmospheric UV spectrum**



**State-of-the-art  
detector technology**



**Improved performance  
at a lower price  
and 5-year warranty**

The new SUV series offers a measurement solution for every part of the ultraviolet solar radiation spectrum. The successful SUV5 total UV radiometer has been re-engineered into dedicated UVA, UVB and UVE (UV Index) models to make a range that is smarter than alternatives; thanks to the latest detector technology, digital signal processing and Modbus® output.

Kipp & Zonen's unique UVIATOR software improves measurement results by correcting for solar angle and ozone column effects.



# SUV | Smart Ultraviolet Radiometers



## Benefits of the new SUV series

- Easy to install and to access data
- Excellent directional response
- Precise temperature correction
- Extremely low power consumption
- RS-485 Modbus® RTU digital output
- 0 to 1 V analogue output
- The only broadband UV radiometers with measurements that can be corrected for changing atmospheric conditions that influence the UV solar spectrum



Specifications	SUV-A	SUV-B	SUV-E
Spectral range (overall)	315 to 400 nm	280 to 315 nm	IEC 17166
Typical output range	0 to 90 W/m <sup>2</sup>	0 to 6 W/m <sup>2</sup>	0 to 0.6 W/m <sup>2</sup>
Response time (95%)	< 0.2 s	< 0.2 s	< 0.2 s
Non-linearity	< 1 %	< 1 %	< 1 %
Temperature response (-40 to +70 °C)	< 2 %	< 2 %	< 2 %
Operational temperature range	-40 to +70 °C	-40 to +70 °C	-40 to +70 °C
Supply voltage DC	5 to 30 V	5 to 30 V	5 to 30 V
Power consumption	< 55 mW	< 55 mW	< 55 mW
Digital output	RS-485, Modbus® RTU	RS-485, Modbus® RTU	RS-485, Modbus® RTU
Analog output	0 to 1 V	0 to 1 V	0 to 1 V

## Brewer

For the ultimate in direct and global solar ultraviolet radiation measurements there is the Kipp & Zonen Brewer MKIII Spectrophotometer.

## The difference between UVA, UVB and UVC

### What is ultraviolet radiation?

Ultraviolet (UV) radiation is part of the Sun's light spectrum that reaches the earth. UV radiation breaks down into wavelengths that are invisible to the naked eye. There are three types of UV rays: UVA, UVB and UVC. They decrease in length from A to C but increase in intensity, meaning that the shorter the wavelength, the more potential for damage. Fortunately, only UVA and UVB rays can penetrate the earth's atmosphere. With the new **SUV-A** and **SUV-B** you can measure both single wavelengths.

### UVA

Accounts for 95% of the UV radiation that reaches the earth's surface

Used in tanning beds

Penetrates the second layer of skin

Contributes to some types of sun damage

Causes wrinkles and premature aging of the skin

Penetrates clouds and glass windows - always use sunscreen

### UVB

Affects the top layer of skin

Cause most sunburns

Linked strongly to skin cancer

Damages DNA in your skin

Burns unprotected skin in as little as 15 minutes

### UVC

Does not reach the earth's surface (absorbed by atmosphere)

Is not normally considered a risk factor for skin cancer

Is found in man-made sources of UVC radiation (mercury lamps, welding torches)

Is used in tanning beds in the past

## UV Index

**SUV-E** measures according to ISO 17166:1999 and CIE/S 007/E-1999 the erythemally active UV radiation that causes harm to human skin. It converts the irradiance in W/m<sup>2</sup> into the UV Index for public health information.

Exposure category	UVI range
Low	<2
Moderate	3 to 5
High	6 to 7
Very high	8 to 10
Extreme	11+

Global Solar UV Index, A Practical Guide, World Health Organisation 2002