

Radiometric sensors



Radiometersensor für RM-12 / PLC



Radiometersensoren für RMD

The radiometer sensors precisely measure the UV irradiance or illuminance with the RM-12 and RMD radiometers and the UV-MAT dose controller. In the PLC sensors with current or voltage output, the integrated electronics generate an output signal that is linear to the irradiance.

The integrated diffusers provide the cosine correction required for non-perpendicular irradiation. The sensors are traceably calibrated to the PTB, can be recalibrated and are supplied with a factory calibration certificate. Excellent long-term stability is achieved through the use of suitable materials. A repair and spare parts service is of course available for many years.

The integrated electronics generate a signal voltage that is transmitted to the radiometer / PLC with low interference. Thanks to the integrated electronics, various sensors can be used on one radiometer.

On the RMD, the sensor is identified by an additional memory, which also contains the calibration and manufacturing date. Our standard range includes seven spectral ranges and four measuring ranges for the sensors. This allows the sensor to be optimally adapted to the application.

Sensors for evaluating the biological radiation effect are also available.

If required, the sensors are also available splash-proof to IP65, in special housings or with extended measuring and spectral ranges.

HIGHLIGHTS

- High-precision radiometric sensors
- Seven available spectral ranges
- Proven long-term stability
- Recalibrateable sensors
- Integrated electronics
- Different measuring ranges can be selected during order
- Customized adaption for special applications
- IP65 splashproof (optional)

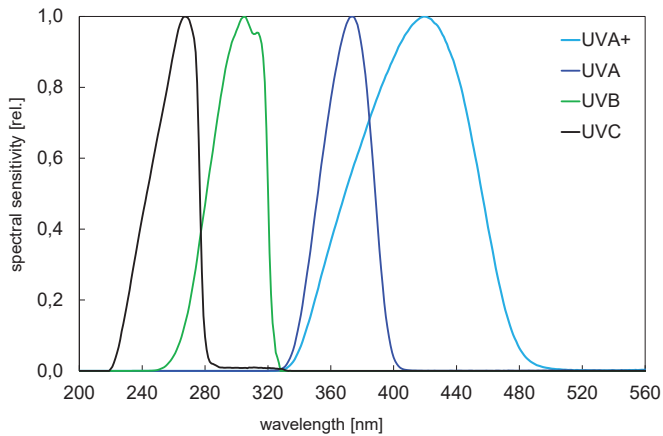
TYPICAL TECHNICAL DATA

Calibration uncertainty	4,5 - 7,0% (k=2)
Linearity error	< 1%
Aging / year	< 3%
Temperature drift	< 0,1%/°C

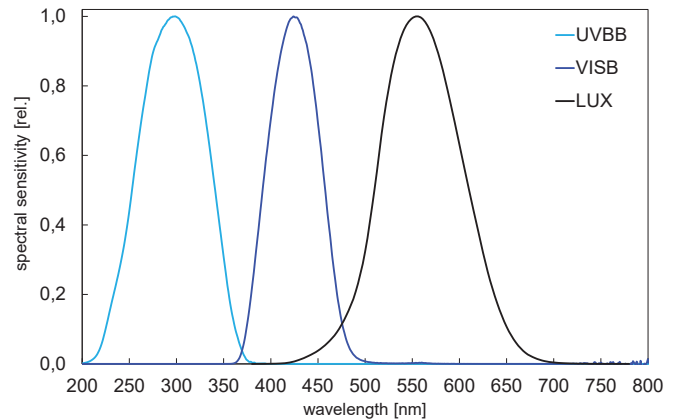
Since 1981, Opsytec Dr. Gröbel GmbH manufactures UV sensors. All sensors are calibrated in our own laboratory.



TECHNICAL DATA



Spectral sensitivity UVA+, UVA, UVB and UVC sensors



Spectral sensitivity UVBB, VISB and LUX sensors

COMMON TECHNICAL DATA

Dimensions	Ø 40 mm, h 35 mm
Weight	150 g
Connecting cable	2 m
Operation temperature	0 to 60 °C
Storage temperature	-10 to 60 °C
Humidity	< 80% non-condensing

SENSOR SPECTRAL RANGES

UVC	200 - 280 nm
UVB	280 - 315 nm
UVA	315 - 400 nm
UVA+	330 - 450 nm
UVBB (broad-band)	230 - 400 nm
VISB	400 - 480 nm
LUX	380 - 780 nm, V(λ)

TECHNICAL DATA SENSORS FOR RM-12

Sensor connector	M12 (5 pole)
Measurement range	0 - 199 mW/cm ² 0 - 1999 mW/cm ² (opt. -1)
Optical area	Ø 10 mm

TECHNICAL DATA SENSORS FOR RMD

Measurement range, typ.	0 - 10 W/cm ²
Resolution	0,001 µW/cm ²
Dynamic range	up to 10 ⁷
AD conversion	24 bit
Temperature sensor	integrated
Optical area	Ø 6 mm

TECHNICAL DATA PLC VOLTAGE OUT.

Operation voltage	24 V
Current input	< 15 mA
Signal output	0 - 10 V
Cable	2 m, opt. up to 10 m
Cable, colours	
V1	V2
blue = 0 V DC / GND	brown = 0 V DC / GND
red = 24 V supply voltage	white = 24 V supply voltage
yellow = signal high	black = signal high
green = signal low	grey = signal low

TECHNICAL DATA PLC CURRENT OUT.

Operation voltage	24 V
Ausgangssignal	4-20 mA
Cable	2 m, opt. up to 10 m
Kabelbelegung	
	brown = +24 V DC
	white = +24 V DC
	black = 0 V
	blue = 0 V

PART NUMBERS

Radiometer RM-12	821200	Radiometer RMD / RMD Pro	814401 / 814400
RM-12 sensor UVC	811010	RMD Sensor UVC	814410
RM-12 sensor UVB	811020	RMD Sensor UVB	814420
RM-12 sensor UVA	811032	RMD Sensor UVA	814432
RM-12 sensor UVA+	811047	RMD Sensor UVA+	814447
RM-12 sensor UVBB	811012	RMD Sensor UVBB	814412
RM-12 sensor VISB	811043	RMD Sensor VISB	814443
RM-12 sensor LUX	811061	RMD Sensor LUX	814461
PLC Sensors	760001		