

X-2000

<https://www.gigahertz-optik.com/en-us/product/x-2000/>

Product tags: UV , Dosimeter ,



Description

Personal UV Irradiance Dosimeter

The X-2000 series meters are designed as personal UV monitoring dosimeters. As the instrument is typically worn by the subject under test the X-2000 is built in a very compact light tight housing weighing only 60g including battery.

Low power consumption and large memory for long term datasampling

A large memory supports long term data logging with storage capacity for up to 129000 sample measurement values of the two photodiode and the internal temperature sensors. The low power consumption electronics feature a sleep mode and flash memory supported by power flash capacitor for long battery life. The measurement set-up for readout of long or short term samples and data storage is remote controlled via RS232 interface by the OS-X2000 software supplied (option).

Various UV Sensors for use in different UV measurement campaigns

Up to two photodiodes can be implemented into the X-2000 dosimeter. Their spectral responsivity is filter corrected to match different radiometric or photo biological actinic standard functions. Each photodiode is set-up with diffuse window for cosine corrected field of view.

Five standard models are available for UV hazard assessment and UV biological studies:

- X-2000-5 UV-A (315-400nm) and UV-B (280-315nm) sensors for use with artificial light use
- X-2000-6 UV-C 254nm) sensor
- X-2000-10 Two cell Eyrthermal meter with UV-Aeff and UV-BCeffsensors
- X-2000-11 Two cell ICNIRP meter with UV-Aeff and UV-BCeff sensors
- X-2000-14 UV-A (320-400nm) and UV-B (280-320nm) sensors for day light use

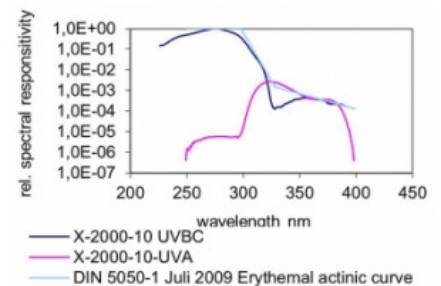
Traceable calibration

The detectors are calibrated for irradiance responsivity in W/m^2 according to the spectral sensitivity range and spectral locus of the detectors. Calibration is performed by Gigahertz-Optik's calibration laboratory for optical radiation measurement units and include a calibration certificate describing the calibration procedure and its traceability.

Specifications



X-2000 Data-Logger UV Dosimeter for Mobile Use

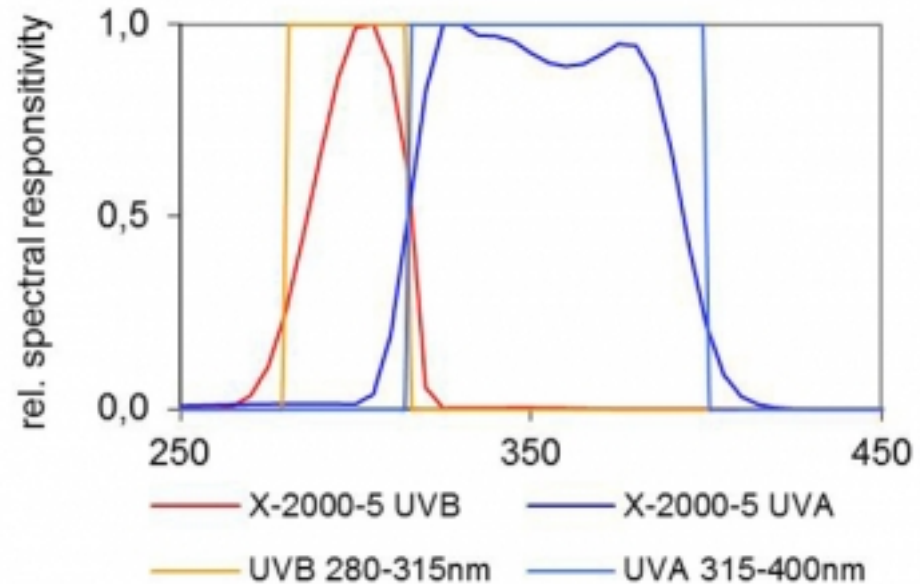


X-2000-10 Erythral Dosimeter Typical Spectral Responsivity

Product				
Sensor	max. two build in detectors			
Measurement range	6 (20µA to 200.0pA) manual or autorange			
Voltage Input	one Input (gain 100x)			
CW integration time	1 ms - 2s			
Offset correction	correction range transcending			
Parameter adjustment	remote control, values permanently stored (eeprom)			
Logger Clock Time	without switch off: 5ms to 1.984s with switch off: 1s to 127min.			
Interface	RS232, 8D, 1S, N, 57600 Baud			
Power Supply	1.0V to 1.6V (one battery type N) current consumption: 5mA with RS232: 16mA switched off: 5µA			
Temperature range	-20°C to 50°C			
Dimensions	85mm x 45mm x 20mm / 50g			
	compatible			
	compatible			
Warranty	12 month			
	NULL			
Logger memory	1042944 bytes memory needs:			
	status:		1 byte	
	channel 1:		3 byte	
	channel 2:		3 byte	
	temperature:		2 byte	
	voltage:		2 byte	
Calibration information	4 entrances each channel			
Measurement range	range(A/V)range max.	rise time (10 - 90%)	gain error *) ± offset errorpermitted detector (at 20 °C)	capacitance
	1x10-5	±20,00µA	3ms	0.2% ±0.01µA
	1x10-6	±2,000µA	3ms	0.2% ±0.001µA
	1x10-7	±200,0nA	3ms	0.2% ±0.01nA
	1x10-8	±20,00nA	3ms	0.2% ±0.01nA
	1x10-9	±2,000nA	30ms	0.5% ±2pA

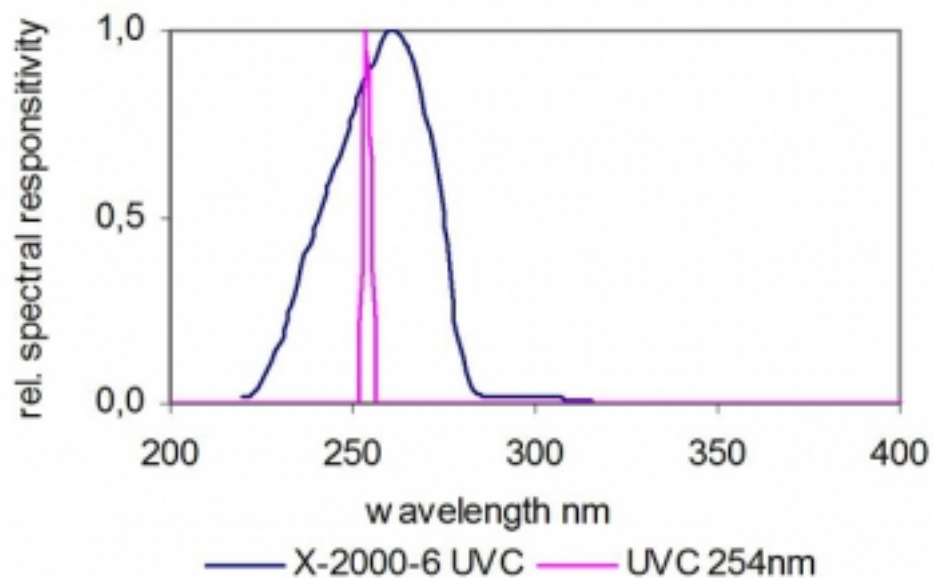
X-2000-5	UV-A & UV-B Irradiance Detector for artificial light use
UV-A Sensor	Spectral responsivity range 315nm to 400nm Responsivity 9.5nA/(W/m ²) Diffuser window with 7mm diameter Measurement range 0.01W/m ² to 2000W/m ²
UV-B Sensor	Spectral responsivity range 280nm to 315nm Responsivity 2.3nA/(W/m ²) Diffuser window with 7mm diameter Measurement range 0.04W/m ² to 8000W/m ²
Note	The maximum measurable irradiance value may be limited by heat radiated by the source under test

Spectral responsivity



X-2000-6	UV-C _{254nm} Irradiance Detector
UV-C Sensor	Spectral responsivity range 220 to 260nm, peak at 260nm Responsivity 3nA/(W/m ²) Diffuser window with 7mm diameter Measurement range 0.04W/m ² to 5000W/m ²
Note	The maximum measurable irradiance value may be limited by heat radiated by the source under test

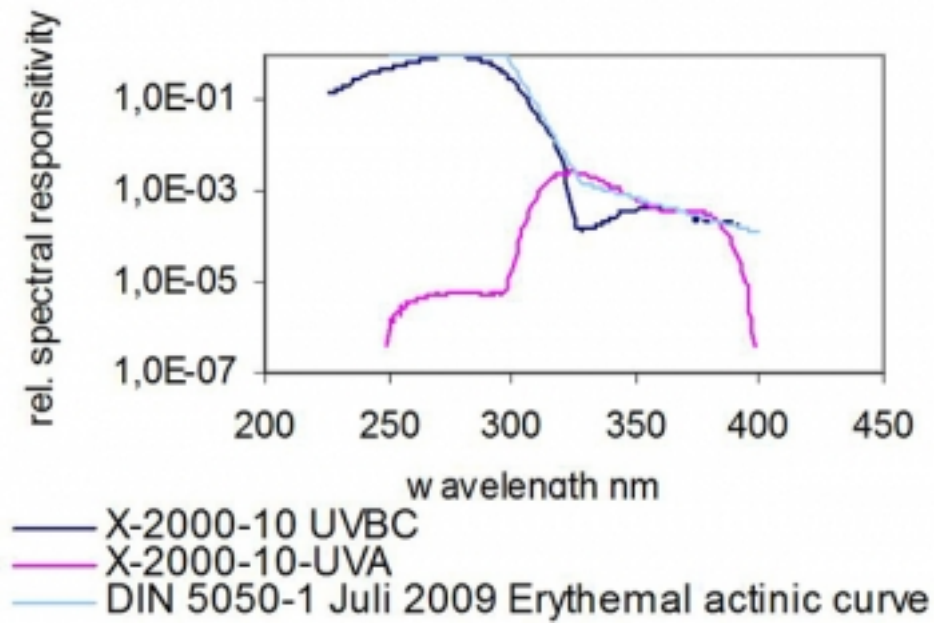
Spectral responsivity



X-2000-10	Two Cell Erythema Irradiance Detector
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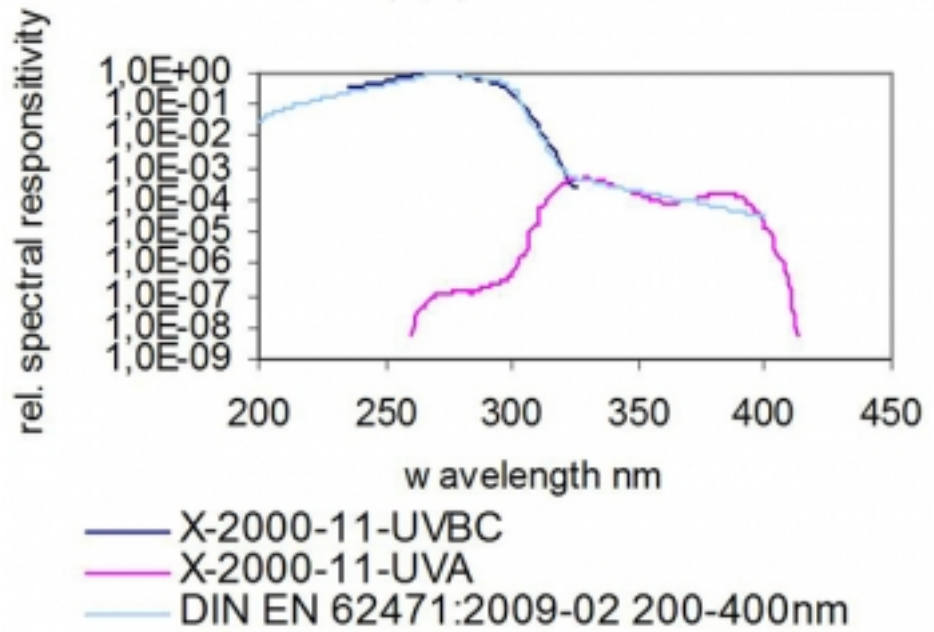
UV-A eff Sensor	Spectral responsivity range 320nm to 400nm Responsivity 0.6 μ A/(W/m ²) Diffuser window with 7mm diameter Measurement range 2mW/m ² to 30W/m ²
UV-BC eff Sensor	Spectral responsivity range 250nm to 320nm Responsivity 3nA/(W/m ²) Diffuser window with 7mm diameter Measurement range 0.03W/m ² to 5500W/m ²
Note	The maximum measureable irradiance value may be limited by heat radiated by the source under test

Spectral responsivity



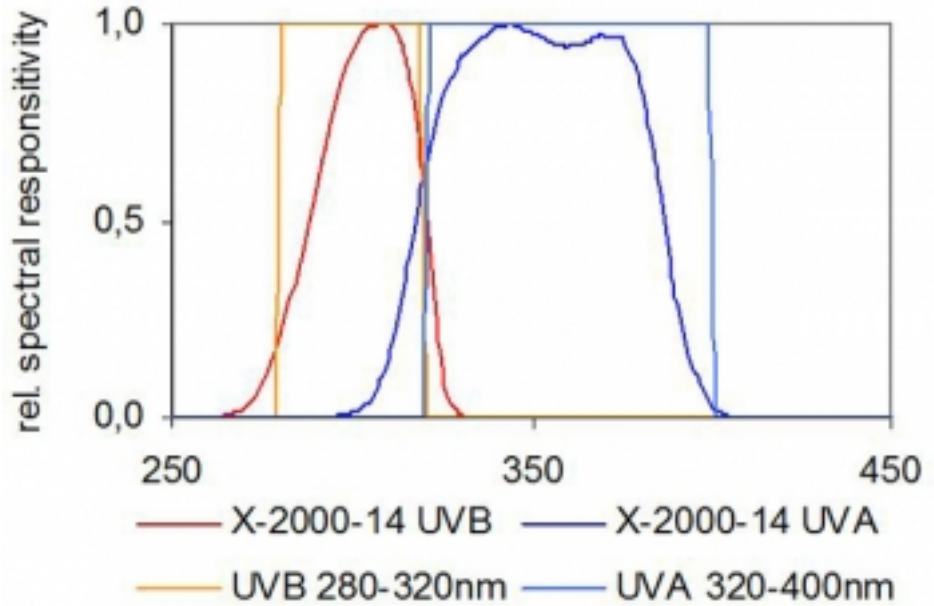
X-2000-11	Two-Sensor ICNIRP/ACGIH Irradiance Detector
UV-A eff Sensor	Spectral responsivity range 320nm to 400nm Responsivity 1.3 μ A/(W/m ²) Diffuser window with 7mm diameter Measurement range 1mW/m ² to 14W/m ²
UV-BC eff Sensor	Spectral responsivity range 280nm to 320nm Responsivity 3.8nA/(W/m ²) Diffuser window with 7mm diameter Measurement range 0.03W/m ² to 5000W/m ²
Note	The maximum measureable irradiance value may be limited by heat radiated by the source under test

Spectral responsivity

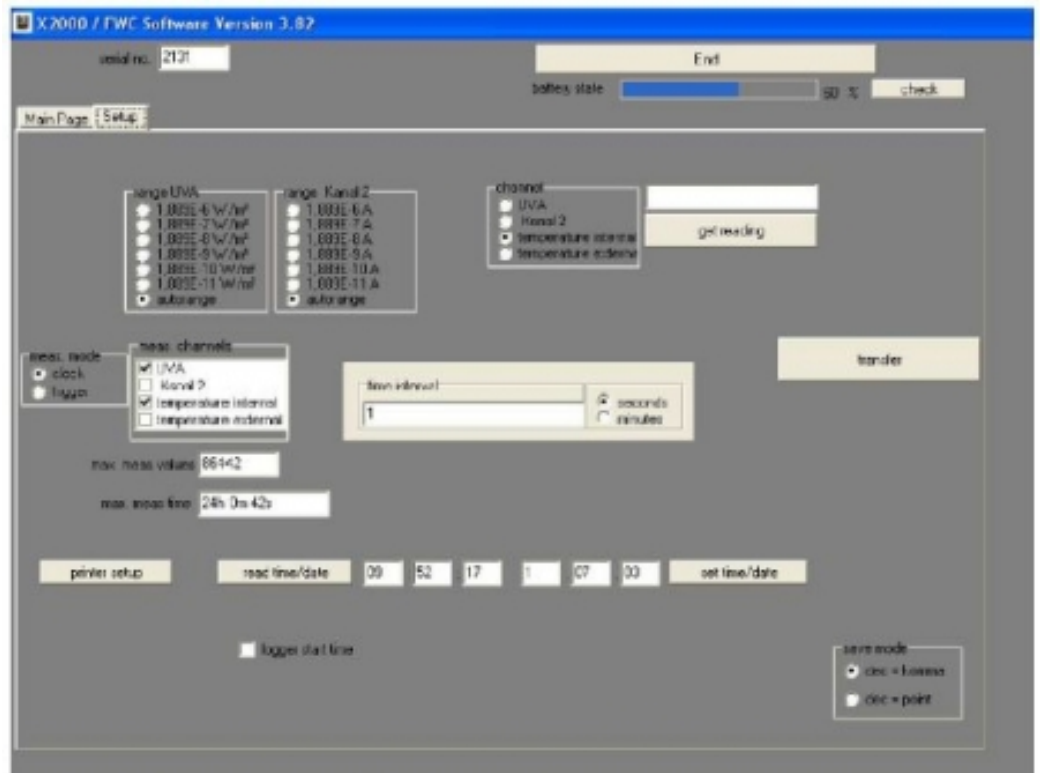


X-2000-14	UV-A & UV-B Irradiance Detector for day light use
UV-A Sensor	Spectral responsivity range 320nm to 400nm Responsivity 5nA/(W/m ²) Diffuser window with 7mm diameter Measurement range 0.02W/m ² to 3000W/m ²
UV-B Sensor	Spectral responsivity range 280nm to 320nm Responsivity 7nA/(W/m ²) Diffuser window with 7mm diameter Measurement range 0.02W/m ² to 2500W/m ²
Note	The maximum measurable irradiance value may be limited by heat radiated by the source under test

Spectral responsivity



Software




OS-X2000 Device Initialization GUI



OS-X2000 Graphical GUI

Configurable with

Product Name	Product Image	Description	Go to product
K-xx-C		Calibration of the signal current sensitivity of optometers. Features: calibration of all gain stages, traceable calibrated current source, calibration certificate	https://www.gigahertz-optik.com/en-us/product/k-xx-c/

Purchasing information

Article-Nr	Modell	Description
Product		
100435	X-2000-5	Meter, battery, RS232 adapter cable, BHO-06 hard case, technical manual, calibration certificate
100902	X-2000-6	Meter, battery, RS232 adapter cable, BHO-06 hard case, technical manual, calibration certificate
101523	X-2000-10	Meter, battery, RS232 adapter cable, BHO-06 hard case, technical manual, calibration certificate
101524	X-2000-11	Meter, battery, RS232 adapter cable, BHO-06 hard case, technical manual, calibration certificate
15297774	X-2000-14	Meter, battery, RS232 adapter cable, BHO-06 hard case, technical manual, calibration certificate
100221	OS-X2000	Software for the operation of one or more X-2000
Re-calibration		
15300165	K-X2000-5-I	Calibration of the integral irradiance responsivities in of the X-2000-5 sensors. Calibration certificate.
15300486	K-X2000-6-I	Calibration of the integral irradiance responsivity of the X-2000-6 sensor. Calibration certificate.
15300745	K-X2000-10-I	Calibration of the integral irradiance responsivities of the X-2000-10 sensors. Calibration certificate.
15300744	K-X2000-11-I	Calibration of the integral irradiance responsivities of the X-2000-11 sensors. Calibration certificate.
15300487	K-X2000-14-I	Calibration of the integral irradiance responsivities of the X-2000-14 sensors. Calibration certificate.
15300571	K-UV-SR	Optional calibration of relative spectral responsivity of X-2000 cell. Wavelength range 250 to 550 nm in 10 nm steps. Calibration certificate.

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