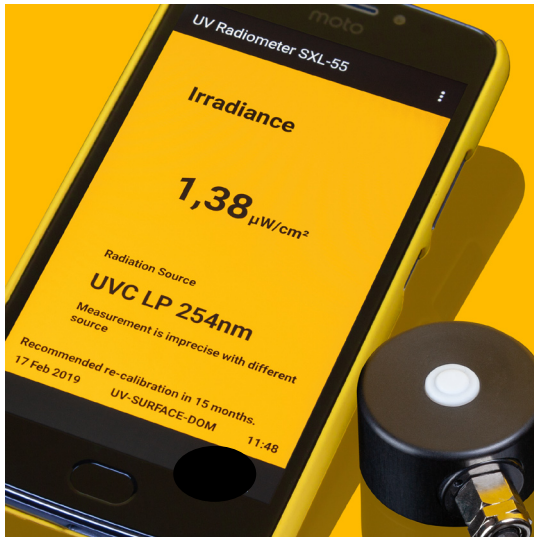


UV Radiometer SXL 55

Measuring device for determination of the UV irradiance

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GENERAL FEATURES



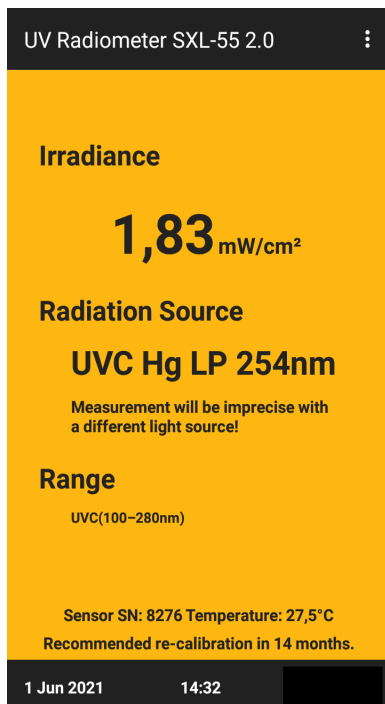
Properties of the UV Radiometer SXL 55

The UV Radiometer SXL55 is an instrument for diverse applications in UV detection. It consists of a calibrated SiC UV sensor probe and an Android smartphone which serves as a display unit with a dose meter and datalogging function.

By default the radiometer is configured with the sensor "UV-Surface" as shown on the left hand picture. Alternatively all other sglux UV sensors can be connected to the radiometer SXL 55.

The SXL 55 will be configured and calibrated according to the customer's requirement regarding the dynamic range and the spectral responsivity.

GETTING STARTED



The radiometer's app starts automatically after connection of the sensor to the micro USB terminal of the smartphone. The app consists of two different screens. The basic view displays the irradiance, details of the calibration and sensor status values. The expert view allows to start a dose measurement or the data logging function.

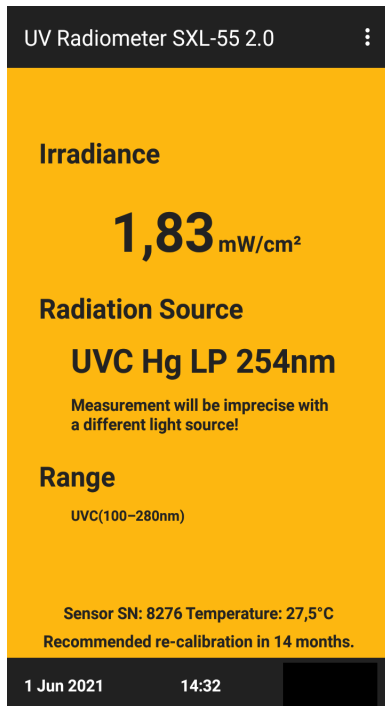
If multiple calibrations are stored in the sensor, the first step is to select the correct calibration for the light source to be measured. This selection has to be done thoughtfully. An incorrect selection of the calibration leads to unusable absolute values and only allows relative measurements, the comparison of different values. In case of doubt please contact us -we are happy to provide assistance.

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BASIC VIEW



Drop-down menu

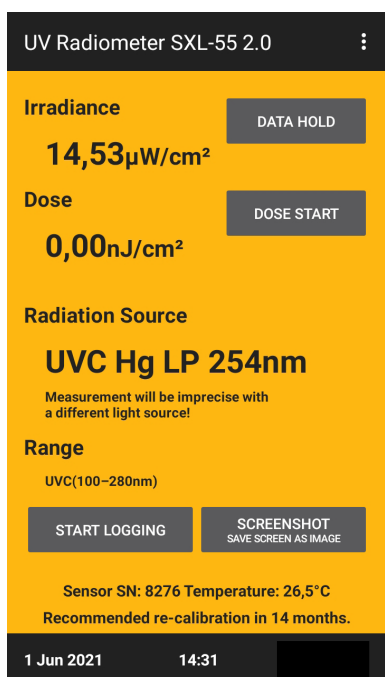
The radiation source (calibration) can be selected, the basic or expert view can be activated and service information can be retrieved.

Display of the current irradiation in power per cm².

Information about the source used for calibration of the sensor and the wavelength range within the source's spectrum was used for the calibration. Alternatively, if applicable, the weighting type of the calibration is displayed. Absolute readings are only possible if exactly this source is measured with the sensor.

Information about the remaining validity period of the calibration certificate, the sensor's temperature and serial number, date and time.

EXPERT VIEW



This button freezes the display for easier reading of the information or to take a screenshot.

Start of the dose measurement. Please find further instructions on page 3 of this datasheet.

Depending on the calibration type this information shows the wavelength range within the calibration was done ("Range") or the applied weighting function ("Weighting").

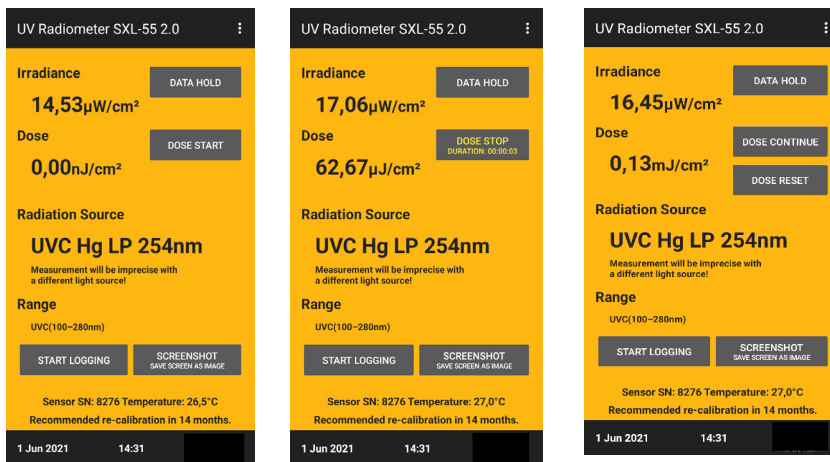
Start of the data logging process and opportunity to take a screenshot. The screenshot is stored in the download folder on the smartphone. Please find instructions about data logging and how to transfer files to a computer on page 3.

UV Radiometer SXL 55

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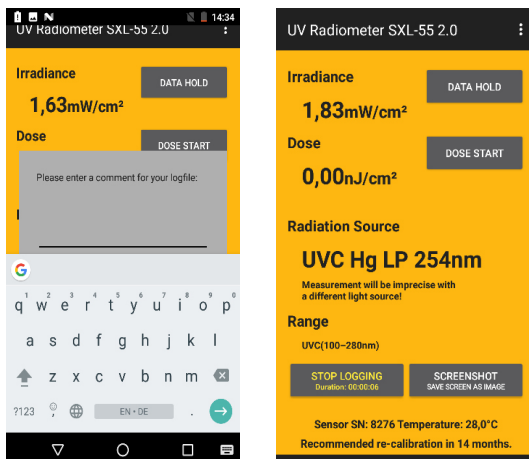
▶ DOSE MEASUREMENT

The dose value shows the irradiation value integrated since activation of this feature. Pressing on "DOSE START" (left hand picture) starts the dose measurement. Then (center picture) the screen displays the dose value and the time elapsed since starting of the measurement. Pressing on "DOSE STOP" stops the integration. Then (right hand picture) the integration can either be continued ("DOSE CONTINUE") or resetted ("DOSE RESET"). An activated logging process does not influence the dose measurement.



▶ DATA LOGGING

After having activated the data logging process the irradiance and other values are stored each 72 milliseconds into a csv file. After having pressed on "START LOGGING" a name for the file to be created can be entered (left hand picture). The file name automatically also consists of data and time where the logging process stated. The logging starts after pressing of the green "Enter" button and the screen changes to the right hand side picture. Here the logging can be stopped. Using the dose measurement or the data hold function at the same time where the logging is activated does not influence the logging process.

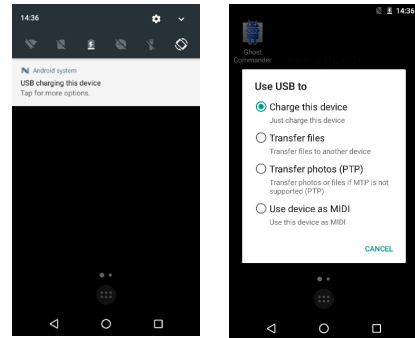


UV Radiometer SXL 55

Measuring device for determination of the UV irradiance

EXPORT AND USE OF THE DATA LOGGING VALUES TO A COMPUTER

First the csv file stored in the smartphone is to be copied to the computer by connecting the smartphone and the computer with a micro USB cable. Then top down wiping on the screen activates the screen shown at the left hand side picture. Then press on "tap for more options" and then on "Transfer files" (right hand picture). This mounts the smartphone as an external volume (e.g. Moto E4") visible at the computer's explorer. Finally navigation to the external volume's "download" folder shows all yet stored data logging files and screenshots. Alternatively the logging file can also be transmitted via email, cloud, Wifi oder Bluetooth.



The below table shows the structure of a logging file after having it imported into an Excel file.

	A	B	C	D	E	F	G	H	I
1	SN	HW_REV	FW_REV	PROD_DATE	CAL_DATE	CAL_SET	CAL_SOURCE		CAL_WEIGHT COMMENTS
2	9990001	256	3	01. Apr 19	21. Jan 21	4	Sun Berlin	erythema weighting according to ISO 17166	
3	Date	Time	CYCLE	STATUS	TIMESTAMP	TEMP (degC)	RAD (W/m2)	DOSE (J/m2)	EVENT
4	11.05.21	17:10:17.928	512	0	38631	27.0	0.0038216		0
5	11.05.21	17:10:18.004	513	0	38706	27.0	0.0034512		0
6	11.05.21	17:10:18.059	514	0	38781	27.0	0.0029216001		0
7	11.05.21	17:10:18.116	515	0	38856	27.0	0.0029608		0
8	11.05.21	17:10:18.227	516	0	38935	27.0	0.0031296		0 dose started
9	11.05.21	17:10:18.288	517	0	39010	27.0	0.0035648001	0.0002287816846743226	
10	11.05.21	17:10:18.348	518	0	39085	27.0	0.003788	0.00125719168446958064	
11	11.05.21	17:10:18.467	519	0	39169	27.0	0.0037304	0.00288527044467628	
12	11.05.21	17:10:18.529	520	0	39243	27.0	0.0038504	0.0031702000433579086	

The headlines 1 and 2 show information about the sensor and the calibration: The cell A2 show the sensor's serial number, B2 is the revision of the sensor's hardware and C2 the revision of its software. D2 shows the date of production of the sensor and E2 the date of calibration. F2 shows the calibration factor selected for the measurement. G2 is the source used for this calibration. H2 shows the weighting of the calibration (if applicable).

The data logging starts from row 4. Column A and B store date and time. Column C stores the ascending number of the value. Column D protocols the status of the AD converter, e.g. an eventual overmodulation. Column E is the ms timestamp of the value. The internal temperature of the sensor electronic is stored in column F. Column G protocols the measured irradiation in W/m². Column H stores the dose value if the dose measurement has been activated. Column H protocols the status of the dose measurement - if activated and informs about an eventual irregular stop of the dose measurement e.g. by removing the sensor from the app or by stopping of the app without having pressed on "DOSE STOP" or "DOSE RESET".