

## UV Dosimeter & Radiometer curelog



Simple, precise. The curelog is a precise radiometer with dose measurement and up to four spectral ranges. Due to its fast and precise measurements the curelog can universally be used for applications in the fields of lacquer curing, bonding, sterilization, disinfection, lithography and many other applications.

The adjustable data recording rate of up to 2000 Hz (measurements per second) allows reliable measurements on fast running UV belt systems.

The recording time of up to 180 h allows the measurement of long-lasting processes at low doses, like UV disinfection. The curelog simultaneously records up to four spectral ranges, each with a high-precision 24 bit ADC. The high-precision ADC gives the curelog a extremely high dynamic range. The resolution of 0.0001 mW/cm<sup>2</sup> and a measurement range of 50 W/cm<sup>2</sup> are the main features of the curelog.

All common UV lamps and UV-LEDs can be measured and compared, no matter if spot or area lamps, fibre optics or UV/VIS LEDs are used. The display directly shows maximum irradiance and dose.

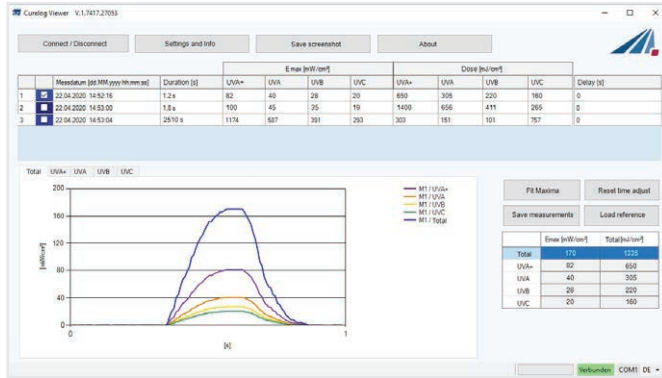
With the curelog software measurements can be analyzed, exported and compared. Previously stored reference measurements can be read in and superimposed in a time-synchronous manner. So, changes in the irradiation belt profile, i.e. irradiance over time, are visible. Errors that occur over time, such as dirty reflectors, are reliably and easily detected.

A further application is the adjustment and focusing of the reflector in UV systems. Due to its small dimensions the curelog can be placed on most objects / surfaces and records the irradiance with pinpoint accuracy.

The curelog spectral ranges do not overlap, so crosstalk is not possible. Regardless of whether you use low powered UVC disinfection lamps, high intensity mercury / xenon lamps or LEDs for bonding or medium pressure lamps for UV curing, with the curelog you always measure accurately and reproducibly.

## SOFTWARE

On the PC, measurements can be displayed, evaluated, compared and exported. By time synchronization and comparing the measured data, changes in irradiance can simply be seen. The date and time of each measurement are saved.



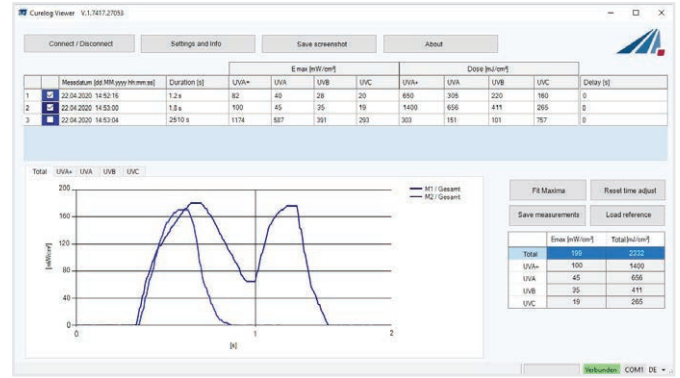
Software Curelog Viewer

### Settings:

- Data storage rate & trigger threshold
- Measuring time from approx. 5 s to 180 hours

### Data export:

- Measurements with irradiance profile & dose
- Measurement parameters, date/time, duration

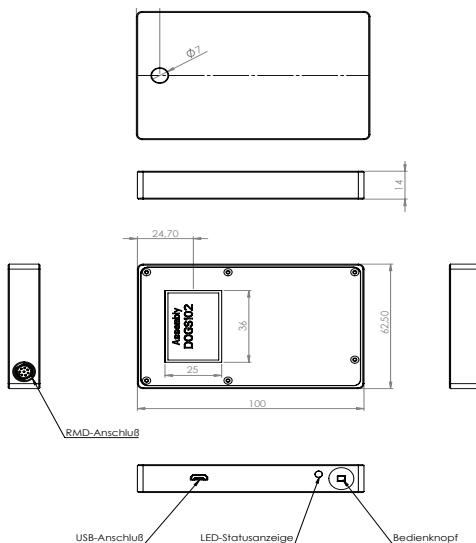


Software: Irradiance comparison of two measurements

## PART NUMBERS

|                              |          |
|------------------------------|----------|
| <b>curelog PRO</b>           | 680004   |
| <b>curelog LED</b>           | 680002   |
| <b>curelog ONE UVC</b>       | 680001C  |
| <b>curelog ONE UVB</b>       | 680001B  |
| <b>curelog ONE UVA</b>       | 680001A  |
| <b>curelog ONE UVBB</b>      | 680001BB |
| <b>curelog ONE LUX</b>       | 680001L  |
| <b>ISO 17025 Calibration</b> | 17025    |

## DIMENSIONS



## SCOPE OF DELIVERY

curelog, USB cable, power supply, manufacturers' calibration certificate, manual, carrying case, PC software for any number of workstations

For best results, our ISO 17025 accredited calibration laboratory is also at your disposal. Therefore we deliver curelogs either with factory or ISO 17025 calibrations.

## CURELOG HIGHLIGHTS

- Multi-channel radiometer with dose measurement
- Cordless and battery operated
- 24 bit precision ADC
- Low height of only 14 mm
- Up to 180 h recording time
- Up to 2000 Hz data storage rate
- Software for measurement comparisons



## TECHNICAL DATA

|                               |  |
|-------------------------------|--|
| <b>Irradiance meas. range</b> | 0,0001 - 25000 mW/cm <sup>2</sup>                              |
| <b>Dose range</b>             | 0,0001 mJ/cm <sup>2</sup> - 6 MJ/cm <sup>2</sup>               |
| <b>Resolution</b>             | 0,0001 mWcm <sup>2</sup> / mJ/cm <sup>2</sup>                  |
| <b>Calibration</b>            | traceable to PTB / NIST<br>optional ISO 17025                  |
| <b>Sampling rate</b>          | 1 Hz to 2000 Hz, adjustable                                    |
| <b>Recording time</b>         | 180 h to 5 min, depending<br>on the time resolution            |
| <b>Memory</b>                 | 64 MBit  |
| <b>AD conversion</b>          | 24 bit precision ADC   |
| <b>Display</b>                | graphical, 128 x 64 px   |
| <b>Dimensions</b>             | 62,5 x 100 x 14 mm <sup>3</sup>                                |
| <b>Sensor position</b>        | backside   |
| <b>Weight</b>                 | ~ 125 g  |
| <b>Cosine correction</b>      | yes  |
| <b>Operation temperature</b>  | 70 °C<br>briefly for up to 60s at<br>120°C ambient temperature |
| <b>Power supply</b>           | internal Li-Ion battery  |
| <b>Measuring duration</b>     | 30 h on one battery charge                                     |
| <b>PC interface</b>           | USB  |
| <b>System requirements</b>    | Windows 10,<br>30 MB HDD, 4 GB RAM                             |

For optimal measurement results, we deliver the curelog in three versions:

The **curelog ONE** is a entry level version that measures one spectral range and is the cheapest version.

The **curelog LED** is adapted for LED measurements at the wavelengths 365 nm, 385 nm, 395 nm, 405 nm and 450 nm. The curelog LED also records UV radiation.

The **curelog PRO** measures UVA, UVB, UVC and VISB according to the international CIE classification.

### CURELOG PRO

|                        |                      |
|------------------------|----------------------|
| <b>Spectral ranges</b> | UVA, UVB, UVC & VISB |
| <b>Application</b>     | UV curing            |

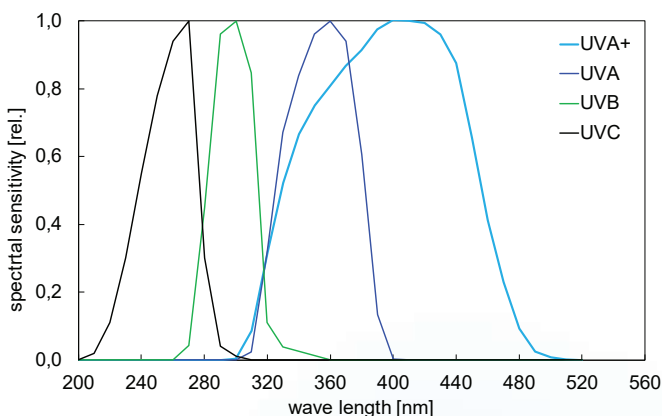
### CURELOG LED

|                        |             |
|------------------------|-------------|
| <b>Spectral ranges</b> | UVA+ & UVBB |
| <b>Application</b>     | UV glueing  |

### CURELOG ONE

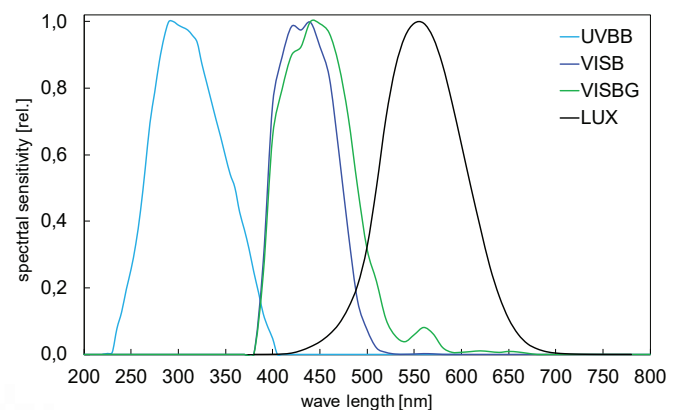
|                        |                         |
|------------------------|-------------------------|
| <b>Spectral ranges</b> | UVC, UVB, UVA oder UVBB |
| <b>Application</b>     | e.g. UV disinfection    |

## SPECTRAL RANGES



Spectral sensitivity UVA+, UVA, UVB and UVC sensors

|             |              |
|-------------|--------------|
| <b>UVC</b>  | 200 - 280 nm |
| <b>UVB</b>  | 280 - 315 nm |
| <b>UVA</b>  | 315 - 400 nm |
| <b>UVA+</b> | 330 - 455 nm |



Spectral sensitivity UVBB, VISB, VISBG and VISL sensors

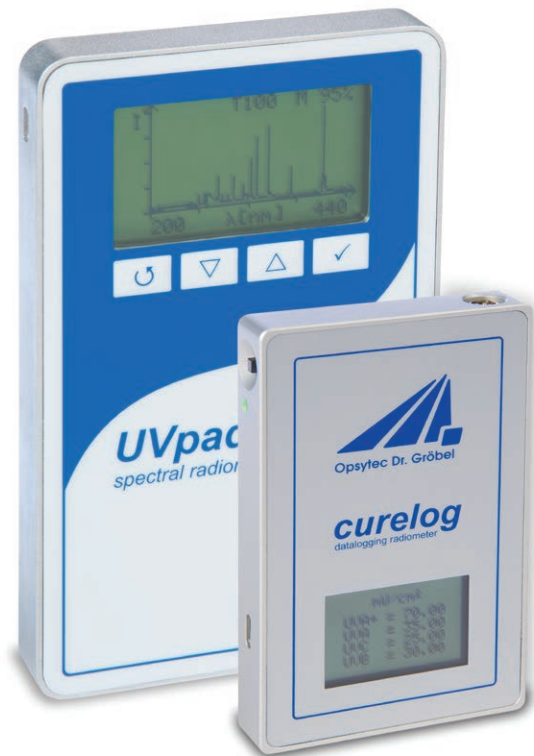
|              |                    |
|--------------|--------------------|
| <b>VISB</b>  | 400 - 480 nm       |
| <b>VISBG</b> | 400 - 570 nm       |
| <b>LUX</b>   | 380 - 780 nm, V(λ) |

## RADIOMETER VS. SPECTRAL RADIOMETER

The curelog is a radiometric measuring device. With this measuring principle the irradiance is recorded for each spectral range by filtering and a photodiode. The filters and photodiodes are robust and the measurements are very well reproducible. However, the filtered radiometers cannot detect changes in the spectrum.

Our spectroradiometer like the UVpad are suitable for this purpose. In the UVpad, the light is spectrally decomposed and measured with 512 photodiodes. Due to the high spectral resolution, measurements of all lamps / LEDs are possible without errors. The curelog is subject to an error called „spectral mismatch“. Please contact us to discuss the calibration of the curelog. The curelogs have the advantage of a larger dynamic range and measure faster.

The comparison should help you to choose the right measuring device.



## UVPAD VS. CURELOG COMPARISON

|  | UVpad                                 | curelog                         |
|--|---------------------------------------|---------------------------------|
| Measurements of different lamps                                    | ideal                                 | possible                        |
| Number of photodiodes  | 512                                   | up to 4                         |
| Irradiance measurement E   | ✓                                     | ✓                               |
| at medium irradiation levels (2 - 5,000 mW/cm <sup>2</sup> )       | ✓                                     | ✓                               |
| at high irradiance levels (25 - 35,000 mW/cm <sup>2</sup> )        | with HP option                        | ✓                               |
| at low irradiance levels (0.1 - 500 mW/cm <sup>2</sup> )           | with HS option                        | ✓                               |
| at lowest irradiation intensities (0.0001 - 2 mW/cm <sup>2</sup> ) | -                                     | ✓                               |
| Dose measurement D   | ✓                                     | ✓                               |
| Application on UV conveyor belt systems                            | E up to 10 m/min<br>D up to 100 m/min | up to 100 m/min                 |
| Recording duration   | 8 min to 5 s                          | 180 h to 5 min                  |
| Data storage rate  | 100 Hz to 0,1 Hz                      | 2000 Hz to 1 Hz                 |
| Reproducibility  | ~ 3%                                  | ~ 1%                            |
| Uncertainty of calibration, typical                                | 5,0% - 9,5%                           | 4,5% - 7%                       |
| Dimensions   | 160 x 100 x 14,4 mm <sup>3</sup>      | 62,5 x 100 x 14 mm <sup>3</sup> |
| Power supply   | 3 x CR2032                            | Li-Ion-Akku                     |
| Remote control from PC   | ✓                                     | ✓                               |
| Software for data display & analysis                               | ✓                                     | ✓                               |
| Software for time synchronization of the measured data             | ✓                                     | -                               |
| Firmware upgrades  | during recalibration                  | simply by software              |