



# Irradiation Controller UV-MAT



Fig. 1 Irradiation controller UV-MAT

The irradiation controller UV-MAT serves for the dose controlled operation of UV and daylight irradiation systems and chambers. The UV-MAT measures continuously the irradiance, calculates the irradiation dose and switches the lamps off after reaching the target dose. Two groups of lamps can be switched separately with the two control loops. By this, the irradiation doses for two spectral ranges can be controlled independently. The device is equipped with several safety features to ensure a harmless irradiation.

## Applications

- Control of irradiation chambers
- Control of irradiation systems

## Software

- Menu guided
- Safety features
- Target value of irradiation dose for two spectral groups of lamps
- Calibration function to calculate irradiances at the samples from sensor data at other positions

## Safety Features

- Password protection for calibrations and other safety features
- Warning sound at irradiances above or below certain limits, switching off after repeated warning
- Switching off after certain maximum irradiation time
- Blocking of double irradiation by dead time control
- Hardware watchdog: independent control that switches the lamps off after 1.5 seconds missing signal from the micro-controller



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#### Technical Data

Spectral regions: UV-C 200 - 280 nm  
UV-B 280 - 315 nm  
UV-A 315 - 400 nm  
VISB 400 - 480 nm  
VISBG 400 - 570 nm  
VISL  $V(\lambda)$

Dose setting: 0.1mJ/cm<sup>2</sup>-200kJ/cm<sup>2</sup>  
(UVA/C, VISB/BG)  
0.01mJ/cm<sup>2</sup>-20kJ/cm<sup>2</sup>  
(UV-B)  
0.1 klxs/cm<sup>2</sup> –  
2E8 klxs/cm<sup>2</sup> (VISL)

Irradiance: < 200 mW/cm<sup>2</sup>  
(UVA/C, VISB/BG)  
< 20 mW/cm<sup>2</sup> (UV-B)  
< 200 klx/cm<sup>2</sup> (VISL)

Resolution: 0.1 mW/cm<sup>2</sup>  
(UVA/C, VISB/BG)  
0.01 mW/cm<sup>2</sup> (UV-B)  
0.1 klx/cm<sup>2</sup> (VISL)

Time resolution: 1 s

Dimensions: 165 x 290 x 140 mm  
Weight: 1kg  
Operation temp.: 0 - 40 °C  
Storage temperature: -10 - 40 °C

Humidity: < 80%,  
Non-condensing

Mains: 230V / 50 Hz

Sensor connectors: 2x 5-pole plugs  
Relays: 2x 230V, 1A  
Switching connectors: 2x clamp contacts  
External warning: clamp contact

#### Part number

Irradiation controller UV-AB 820220  
(without irradiation system and sensors)

#### Accessories

Radiometer UV sensors  
Radiometer VIS sensors  
Irradiation chambers BS03 to BS08  
Custom sensors, irradiation chambers and systems

Description of accessories: see separate product sheets.

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