

UV-4C Integrator 120-10

- + UV-A intensity mW/cm^2 + UV-A dose mJ/cm^2
- + UV-B intensity mW/cm^2 + UV-B dose mJ/cm^2
- + UV-C intensity mW/cm^2 + UV-C dose mJ/cm^2
- + UV-V intensity mW/cm^2 + UV-V dose mJ/cm^2
- + Full UV intensity mW/cm^2 + Full UV dose mJ/cm^2
- + permanent or „triggered“ measuring mode*
- + SD Memory Card (option)
- + graphic chart on computer (option)
- + re-chargeable accu cells with charger
- + 4.75" (120 mm), height .4" (10 mm)



The UV-4C Integrator 120-10 is a self-contained, high quality UV measuring instrument. It is designed to measure and display peak UV intensity, UV dosage and temperature in the UV curing process. Thank to its special dimensions it is particularly suitable for the CD and DVD production.

It is equipped with four different UV sensors and one temperature sensor for the individual measuring of

UV-A 315 – 410 nm
UV-B 280 – 315 nm
UV-C 230 – 280 nm
UV-V 395 – 445 nm
UV - 230 – 410 nm

With these four different UV-bands plus the total UV band, most of the measuring requirements of UV curing applications can be covered.

Due to its four different UV sensors and the integrated microprocessor the UV-4C SD can measure and display the peak of the UV-energy (mW/cm^2) for each UV-band individually plus the peak of total UV energy.

Additionally, this UV-Integrator is calculating the UV-dosage (mJ/cm^2) of the UV energy supplied during the time of exposure of one measuring cycle. The UV-dosage is calculated for each UV-band (UV-A, UV-B, UV-C and UV-V) individually and as total Integral of UV-dosage over all three UV-bands. This allows to determine not only the total energy, but also how that energy is delivered, i.e., what intensity and dose at what UV-band.

*This Microprocessor Integrator features a selectable „triggered mode“, i.e. the 30 sec recording cycle starts within a 120 second readiness phase not before the incident UV-intensity exceeds $2 mW/cm^2$.

The sensors are on the back of the unit which also serves as a heat shield. After completion of the measuring cycle all measuring results can be scrolled through on the built in 2 x 16 digit LCD display. A special AUTO-OFF feature that turns off the unit automatically after one minute serves as energy saving and extension of the battery service life.

This microprocessor integrator can optionally be equipped with an SD Memory Card Slot. All measuring data are stored and can be downloaded to a computer. The special evaluation software allows to show, edit and store a history of the measuring results of the entire measuring cycle as graphic and numeric charts (mW/cm^2) and (mJ/cm^2) and ($^{\circ}C/^{\circ}F$)

Item 72.7. UV-3C Integrator 120-10 UV-A, UV-B, UV-C, UV-V

UV-4C Integrator 120-10

Technical Data:

Spectral ranges:	UV-A 315 – 410 nm UV-B 280 – 315 nm UV-C 230 – 280 nm UV-V 395 – 445 nm UV 230 – 410 nm
Max. Power Input	0 to 5,000 mW/cm ²
Measuring range:	0 to 2,000 mW/cm ²
Sampling rate:	0.005 sec (200/sec)
Recording cycle:	30 sec.
Readiness phase:	120 sec.
Display range:	0 to 36,000 mJ/cm ²
Display:	LCD, 2 x 16 digits
Power source:	2 x 3.7 V LiPO Accu
Power consumption:	20 µA
Accu service life:	1,000 re-charging cycles
Dimensions:	Ø 4.75" (120 mm), height .4" (10 mm)
Weight:	approx. 10 ounce (300 g)
Operating temperature:	32° to 113° F / 0 to 45° C
Heat protection:	Heat shield on back plate
Base Accuracy:	± 5 %

Optional Feature:

Stores data on SD-Memory Card for the download of data to a Computer



While on the conveyer belt, the UV-4C Integrator 120-10 can withstand max. 230° F / 110° C for up to 10 seconds. The temperature of the housing should not exceed 113° F / 45° C. Because of uneven radiation distribution of the UV light source and different type of construction of the measuring devices by different manufacturers, different readings may appear under the same measurement conditions.

Calibration:

In order to keep its full function and precision it is recommended to have re-calibration done once per year. Re-calibration will also be necessary after change of battery. PTB traceable calibration acc. to DIN EN ISO / IEC 17025 with certificate