

UV Tube 3C, 3CT, 3C LED, 4C

Integrator for measuring UV intensity and dose plus temperature *

- + UV-A, -B, -C and Vis (UV Tube 4C only) and UV-LED (UV Tube 3C LED only)
- + Intensity in mW/cm² + Dose in mJ/cm²
- + Full UV Intensity in mW/cm² + Dose in mJ/cm²
- + Temperature in °C / °F (UV Tube 3CT only)*
- + high sampling rate
- + Storage of all measured values on SD card
- + PC software with many user-friendly features

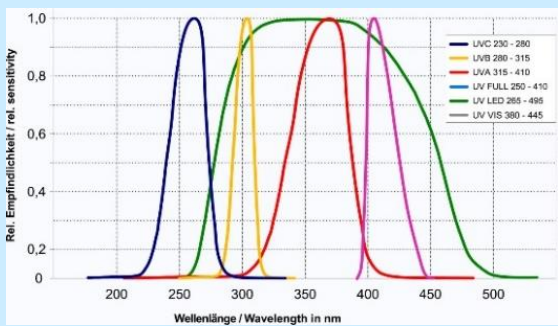


The UV Tube Integrator is UV multi-channel-measuring instrument for curing applications. It is designed to measure, record and display peak UV intensity, UV dosage and temperature* (UV Tube 3CT) in bottle/tube machines. The sensor has to be fixed during passage in a customer-side dummy. The small size and extremely low weight of the UV Tube allows UV measurements under realistic conditions.

Due to its different UV sensors and the integrated microprocessor the UV Tube can measure and record the peak of the UV intensity for each UV band individually. Additionally, this UV-Integrator is calculating the uv dosage of the uv energy supplied during the time of exposure of one measuring cycle for each uv bandwidth separately. 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. The measuring sensors are located next to each other on the cylindrical housing wall of the integrator.

The readings are stored on the included SD card and can be downloaded to a PC, edited and stored, e.g. to document a diagram based on the measured values history of a UV lamp through graphics.

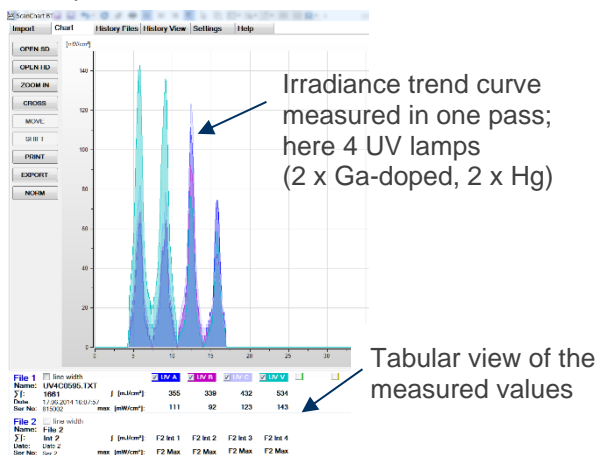
The LED version of the UV Tube has switchable measuring ranges to measure either UV medium pressure lamps (up to 2000 mW/cm) or UV LEDs (up to 20 W/cm).

Technical data						
Spectral ranges				Art. No.	Spectral ranges	
C	B	A		321 02903 0000: UV Tube 3C	UV-VIS 395 – 445 nm	
C	B	A		321 02902 0000: UV Tube 3CT	UV-A 315 – 410 nm	
C	B	A		321 02904 0000: UV Tube 3C LED	UV-B 280 – 315 nm	
C	B	A	LED	321 02900 0000: UV Tube 4C	UV-C 230 – 280 nm	
C	B	A	VIS		UV-LED 265 – 495 nm* (for UV-LEDs in between 320...405 nm)	
Sensitivity curves of the uv ranges						
Measuring range				1 – 2,000 mW/cm ² (UV-A, -B, -C, -Vis) oder 1 – 20,000 mW/cm ² (= 20 W/cm ²) (UV LED)		
Sampling Rate				5 msec (200/sec)		
Recording cycle				90 sec.		

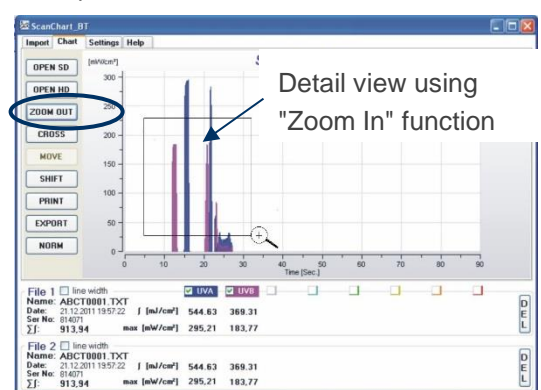
Technical data	
Trigger time	400 sec.
Accuracy	± 5%
Position photo diodes	Positioned on the longitudinal axis in 10 mm distances from each other
Display	./.
Housing	Aluminium housing. The housing must be protected from strong UV light and heat, eg by a suitable support or light shield.
Power source	LiPO 3,7 V permanently installed, Auto-Off after 1 minute, service life: approx. 100 hrs. Recharging is done with USB cable (scope of delivery).
Dimensions / Weight	UV Tube 3C and: Ø 25 mm, L= 60 mm / approx. 40 g UV Tube 3CT, 3C LED und 4C: Ø 25 mm, L= 80 mm / approx. 55 g
Temperature range	0 to 110° C / 32 to 230° F (UV Tube 3CT only)
Operating temperature	0 to 45° C / 32° to 113° F , ambient temp. max. 110 °C / 230 ° F for 10s
Memory card	Micro SDHC
Scope of delivery	UV Tube, micro SD card, USB cable, PC software, plastic case
Calibration	Calibration is conform to DIN EN ISO/IEC 17025 and can be traced back to PTB (Phys. Technische Bundesanstalt). Each UV Tube Integrator is certified.

Software for PC (scope od delivery): Examples of some functions

Example 1:



Example 2:



Example 3:

ScanChart BT

Import	Chart	History Files	History View	Settings	Help																
Date \ [mW/cm²]	L1 UV-A	L1 UV-B	L1 UV-C	L1 UV-V	L2 UV-A	L2 UV-B	L2 UV-C	L2 UV-V	L3 UV-A	L3 UV-B	L3 UV-C	L3 UV-V	L4 UV-A	L4 UV-B	L4 UV-C	L4 UV-V					
17.06.2014 16:07:57 UV4C0595.TXT	62	68	82	143	62	64	78	76	111	92	123	59	74	47	45	4					

'History View' - Tabular view of peak values of all UV lamps. The UV lamp (L1 to L4, i.e. 4 UV lamps) are automatically separated. The irradiance values are listed individually for each bandwidth. This facilitates the evaluation on machines where multiple UV lamps are operated simultaneously.