

Cure-Met

<https://www.gigahertz-optik.com/en-us/product/cure-met/>

Product tags: UV , Dosimeter , Handheld device



Description

Conveyor Belt Type UV Radiometers

UV curing is a process in which photocurable chemicals applied to substrates are irradiated with high energy UV LED, traditional UV arc or blue light sources. This energy accelerates polymerization (cross-linking) and consequently the hardening or drying (curing) process. The irradiating energy must be controlled and monitored since too low a dose will not cure the product, whereas too high a dose may damage the surface layer.

In this industry conveyor belt systems are commonly employed with the product traveling at a set speed through the UV curing station(s). The belt speed is determined to ensure the required UV dose is delivered. One downside to this system is that irradiance intensity profiles are produced due to LED, UV or blue light source spacing along the belt.

Low profile UV radiometers that can travel down the production line under or through UV curing stations are an important quality control tool. They provide real time measurement of UV curing irradiance and dose ensuring fully cured product repeatedly. One critical design element of the UV disc meter is its ability to withstand high temperatures and intense UV radiation while maintaining stability between recalibrations.

For more information see our application page about [accurate UV Curing and Blue Light Curing Measurements](#).

Cure-Met UV Curing Meter for Use on Conveyor Belt Systems

The Cure-Met UV radiometer is designed to handle the high temperature and intense UV or blue light levels normally found in UV curing processes.

It even monitors its internal temperature, which is also displayed, and corrects its reading to compensate for any temperature coefficient differences. A key feature not found in competitive products.

Irradiance profiling is possible with its internal datalogger and graphical display mode.

A reference measurement can be set enabling the percent difference between subsequent test measurements and the reference to be displayed.

All measurement data can be exported to a PC via the device USB port and supplied user software. The Cure-Met is also recharged when connected to the USB port.

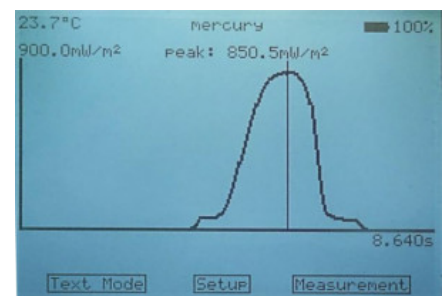
For precise UV curing measurements of LED light sources or other UV and



UV Curing Disc Radiometer for high temperature and intensity conveyor belt applications in flat disc shape with cosine-corrected field-of-view



Many measurement modes with specific evaluations



Internal logger for time resolved measurements

blue light sources, calibration entries for key LED wavelengths are stored in the instrument for user selection to obtain the lowest possible measurement uncertainty. Two version are available:

- **Cure-Met-LED** for LED-based curing 330 nm to 480 nm;
- **Cure-Met-LED-V01** for LED-based curing 350 nm to 460 nm;
- **Cure-Met-UVA** for discharge lamp-based curing 328 nm to 382 nm.

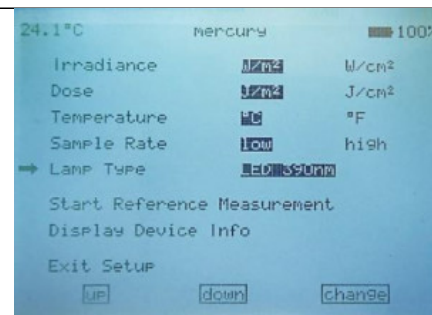
The UV curing meter field of view is cosine corrected as required for accurate irradiance and dose radiometry.

For UV spectral irradiance measurements the [UV Spectroradiometer BTS256-UV](#) is available providing irradiance vs. wavelength data for any type UV or blue light source under test.

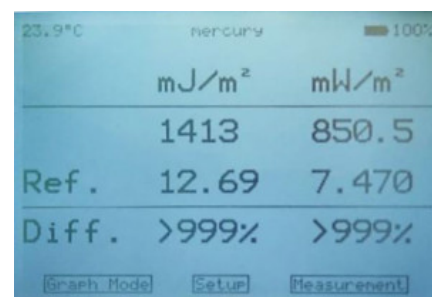
UV Curing Meter Calibration

All applicable Gigahertz-Optik instrumentation is calibrated and certified to internationally traceable standards following ISO 17025 guidelines and requirements. [Gigahertz-Optik optical radiation calibration laboratory is DIN EN ISO/IEC 17025 accredited](#) (DaKKs Registration No. D-K-15047-01-00).

The Cure-Met UV Curing Radiometer is calibrated at key **LED wavelengths** used in the curing process. The end-user can simply select the LED wavelength of interest for best measurement accuracy.



intuitive display settings and selection of light source to be measured (calibration factor for e.g. different LED wavelength), unit, reference values, etc.



Perform reference measurements and quality checks with displayed deviations



USB port for software operation and charging of the internal battery

Specifications

General

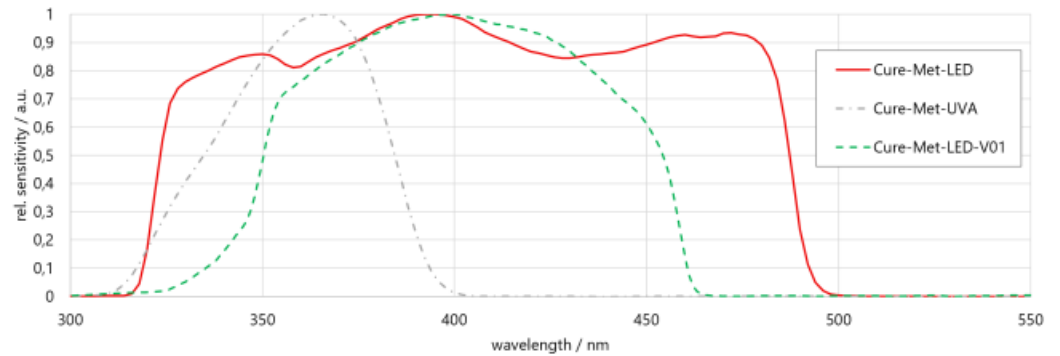
Short description	UV Curing disc radiometer for high-power LED lamps or UVA sources. Suited for conveyor belt applications.
Main features	UV LED and UVA source version available with optimized calibration strategies. Internal memory and battery for time resolved logging e.g. in conveyor belt applications. Cosine corrected field-of-view, flat disc design. Suited for high temperature and high intensity present in UV curing applications.
Measurement range	1 mW/cm^2 to 10 W/cm^2 . Different LED wavelengths and UVA sources

Typical applications	Monitoring and regulation of LED emitters in UV-A and blue light radiation curing, conveyor belt application, etc.
Calibration	Cure-Met-LED: Irradiance calibration (W/cm ²) at specific LED peak wavelengths (365 nm, 375 nm, 385 nm, 395 nm, 405 nm, 430 nm, 460 nm). Cure-Met-LED-V01: Irradiance calibration (W/cm ²) at specific LED peak wavelengths. Cure-Met-UVA: Irradiance calibration (W/cm ²) in the UVA range from 328 nm to 382 nm. Factory calibration. Traceable to international calibration standards. ISO 17025 calibration on request.

Product

Spectral responsivity

(328 to 382) nm (UVA Model)
(330 to 480) nm (LED Model)
(350 to 460) nm (LED-V01 Model)



ADC	16 bit
Housing	Diameter: 117.6 mm Height: 12.7 mm
f2 (directional response/cosine error)	<10%
Data logger	32000 data points possible with 25 Hz or 2500 Hz
Miscellaneous	
Display	Graphical LCD with backlight, 128 px x 64 px
Temperature range	(-10 to 60) °C
Power Supply	USB interface (Mini-B): 5 VDC, 500 mA Lithium polymer battery charged by USB interface
Battery runtime	10 hours (backlight on, no operation) 6 hours (backlight on, full operation) Note: Backlight is automatically switched off during measurements which extends the battery life.

Purchasing information

Article-Nr	Modell	Description
Product		
15314608	Cure-Met-UVA	Cure-Met with UVA calibration, hard case, USB cable, manual

Article-Nr	Modell	Description
15316675	Cure-Met-LED	Cure-Met with different LED peak wavelength calibrations (365nm, 375nm, 385nm, 395nm, 405nm, 430nm, 460nm), hard case, USB cable, manual
15314607	Cure-Met-LED-V01	Cure-Met with different LED peak wavelength calibrations, hard case, USB cable, manual
Re-calibration		
15314922	K-CureMet	Calibration of irradiance sensitivity in $A/(W/cm^2)$ and $A/(W/m^2)$ at different LED Peak Wavelength. Calibration certificate. Option: Calibration of the relative spectral responsivity.
Software		
15314919	S-SDK-CureMet	Software development kit (SDK) for software implementation of the Cure-Met into custom made software.

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