CSS-45-UV

https://www.gigahertz-optik.com/en-us/product/css-45-uv/

Product tags: UV ,



Description

Some UV LED measurement applications require the UV sensor to be installed within a measurement system or operated remotely. Industrial applications often require integration with PLC systems. Continuous and remote operation requires light measurement sensors to be robust. For such tasks, Gigahertz-Optik offers the compact spectral UV sensor CSS-45-UV. It is a precise spectroradiometer covering the wavelength range 200 nm to 440 nm.



Spectral radiometer sensor

UV Spectroradiometer Sensor Head for UV LEDs and other UV sources

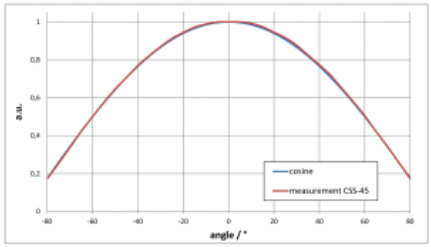
- Individual wavelength and linearity correction guarantee precise measurements of UV LEDs irrespective of intensity and spectral distribution.
- Mathematical bandwidth correction according to CIE 214 for accurate colorimetric measurements.
- Another unique feature of the CSS-45-UV is its electromechanical shutter which enables the remote-controlled dark adjustment of the sensor. This is essential for temperature-independent and long-term operation of array spectrometers.
- Diffuser with a precise cosine adjustment ($f_2 \leq 1.5$ %) for measuring the irradiance of extended UV sources.



Spectroradiometer sensor CSS-45-UV

Robust and compact

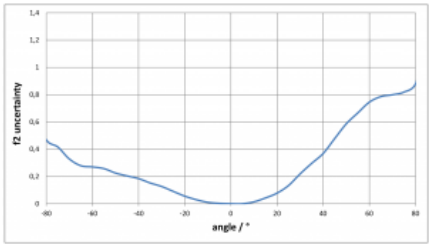
The compact metal housing features an M6 threaded hole and a V-groove around the device for universal attachment of the CSS-45-UV. The dimensions are given in the technical drawing available for download. The housing with its splash-proof electrical connectors meets the requirements of protection class IP62. For IP65 rated protection, a sensor variant with quartz dome is required.



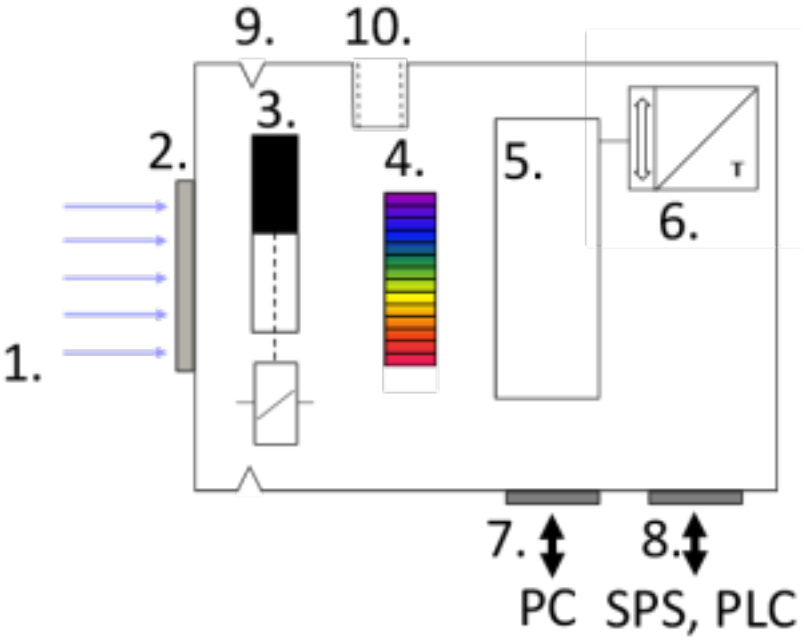
CSS-45 cosine field of view

Interfaces and Software

The sensor offers both an RS-485 and a USB interface for remote operation. The addressable RS-485 interface allows very long supply lines. Multiple CSS-45-UV sensors can be operated together under RS-485 control as well as in USB remote operation. In addition to the provided end-user software, a software development kit (SDK) is optionally available for simplified integration of the sensor into user written software.



Angle dependent f2 error of CSS-45



Schematic draft of CSS-45-UV sensor
1) Incident light 2) Cosine diffuser 3) electromechanical shutter 4) array spectrometer 5) CPU 6) temperature sensor 7) USB connector 8) RS-485 connector 9) V-groove 10) M6 mounting thread



Use of CSS-45 as a handheld instrument by combining it with the control unit CSS-D

Numerous metrics for a wide field of measurement applications

The CSS-45-UV includes an integrated processor. It calculates a comprehensive set of radiometric and spectroradiometric quantities out of the measured spectral measurement data.

Accessories

The light sensor CSS-45-UV can be combined with the control unit CSS-D in order to be used as a handheld light meter.

Traceable factory calibration

An essential quality feature of light measuring instruments is their precise and traceable calibration. The calibration laboratory of Gigahertz-Optik GmbH guarantees the high quality and traceability of their factory calibrations. Calibration of the CSS-45-UV is confirmed by a factory calibration certificate.

Specifications

General	
Short description	Remote UV spectroradiometric detector for UV LED measurements

Main features	Remote operation via USB 2.0 or RS 485. Compact, robust, splashproof housing with universal mounting options. Direct output of radiometric quantities. Precision cosine diffuser. Remote controlled dark level shutter. Application software.
Measurement range	typ. (1E-4 - 1E2) W/(m²nm)
Typical applications	Radiometric setups requiring remote positioning of single or multiple detectors. Use with positioning equipment e.g. for mapping. Industrial monitoring, UV germicidial lighting, UV curing, UV phototherapy
Calibration	Factory calibration. Traceable to international calibration standards.
Product	
Input optics	Diffuser window with 10 mm diameter, cosine corrected field of view, $f_2 \leq 1.5$ %
Spectral Detector	
Spectral range	(200 - 440) nm
Optical Bandwidth	5.5 nm optical bandwidth correction applied according to CIE 214
Spectral irradiance responsivity range (spectral measurement)	typ. (1E-4 - 1E2) W/(m²nm)
Peak wavelength	± 1 nm
Calibration	
Calibration uncertainty	Spectral Irradiance, traceable to national standard
Miscellaneous	
Interface	USB 2.0, RS 485
Temperature range	Operation: 10°C to +30°C Storage: -10°C to +50°C
Power Supply	5 VDC by USB (3.5 - 25) VDC by custom plug max. current 500 mA
Weight	130 g, only sensor without cables
Dimensions	45 mm diameter 53 mm height* * height without WT protection dome
Housing	Splashproof/Watertight class: CSS-45-UV: IP62 CSS-45-UV-WT: IP65

Downloads

Type	Description	File-Type	Download
technical drawing	CSS-45 technical drawing	pdf	https://www.gigahertz-optik.com/assets/Uploads/V127682.pdf

Purchasing information

Article-Nr	Modell	Description
Product		
15317011	CSS-45-UV	Meter, USB cable, software, calibration certificate. Options: Carry case BHO-24, control unit CSS-D.
15317920	CSS-45-UV-WT	Splash-proof measurement device, USB cable, software, calibration certificate. Options: Carry case BHO-24, control unit CSS-D.
15309361	CSS-D	Control unit for CSS-45. Connector cable.
Re-calibration		
15317581	K-CSS45UV-E-S	Re-calibration of a CSS-45-UV's spectral irradiance including wavelength adjustment. Calibration certificate.
15317921	K-CSS45UVWT-E-S	Re-calibration of a CSS-45-UV-WT's spectral irradiance including wavelength adjustment. Calibration certificate.
Software		
15306347	S-SDK-MSC15	Software Development Kit for software implementation of the CSS-45 into custom software.
15310347	S-SRK-CSS45	Software readout kit, for use with RS485 interface
Accessories		
15308887	BHO-24	Carry case for CSS-45 and accessories.
15309091	CSS-45-Z01	RS-485 interface connector for CSS-45.
15309559	CSS-45-Z02	25 m long RS485 cable for CSS-45.

Contact, Calibration, Service & Support

We are known worldwide for excellent technical consulting and after sales support. Contact us to find together the best solution for you. Our services:

- Technical Consulting & Sales
- After-Sales Support
- Calibrations & Re-Calibrations (ISO/IEC 17025 Calibration Services, factory calibration, Calibration of Third-Party Products)
- Repairs & Updates
- OEM & Feasibility Consulting of Customized Solutions

Send us your inquiry or contact us by phone or e-mail. We would welcome your feedback too or review us on Google.

Gigahertz Optik GmbH (Headquarter)

Tel.: +49 (0)8193-93700-0
Fax: +49 (0)8193-93700-50
info@gigahertz-optik.de

An der Kaelberweide 12
82299 Tuerkenfeld, Germany

Gigahertz-Optik, Inc. (US office)

Phone: +1-978-462-1818
info-us@gigahertz-optik.com

Boston North Technology Park
Bldg B - Ste 205
Amesbury, MA 01913 USA