

# ISD-50-BTS256-LED

<https://www.gigahertz-optik.de/en-us/product/BTS256-LED-ISD-50-V01>

**Product tags:** VIS



# Description

## The BTS256-LED light meter

In its standalone mode, the compact [BTS256-LED](#) meter is designed for the convenient measurement of luminous flux, spectrum, color, and color rendering index of single LEDs. A key feature is the conical measurement port at the entry of the internal integrating sphere which enables the measurement of onboard LEDs. The bayonet connector used to attach the conical adapter makes it possible to combine the BTS256-LED with other accessory components. Gigahertz-Optik offers different accessories as part of the [BTS256-LED Plus Concept](#) which greatly extends the measurement capabilities of the BTS256-LED.

## Enhancement of the BTS256-LED using the ISD-50-V01 integrating sphere

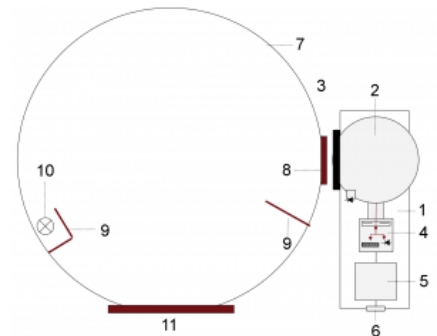
The ISD-50-V01 integrating sphere makes it possible to measure the luminous flux, spectrum, color, and color rendering index of LED arrays and LED spot lamps with diameters of up to 127 mm as well as single LEDs with diameters of up to 10 mm (BTS256-LED without additional integrating sphere).. The integrating sphere is equipped with an auxiliary lamp for self-absorption correction. The BTS256-LED can still be used for single, onboard LEDs. A bayonet adapter enables connection of the device onto the ISD-50-V01 integrating sphere.

## Calibration

One essential quality feature of photometric devices is their precise and traceable calibration. The ISD-50-V01 with the BTS256-LED is calibrated by Gigahertz-Optik's calibration laboratory that is accredited by DAkkS (D-K-15047-01-00) for the *spectral responsivity* and *spectral irradiance* according to ISO/IEC 17025. Calibration of the luminous flux is done using a [BN-LHSF-2P-20](#) calibration lamp that has 2pi radiation characteristics in the sphere. Every device is delivered with its respective calibration certificate.



*BTS256-LED spectroradiometer with integrating sphere for LED spot lamps with diameters of up to 127 mm*

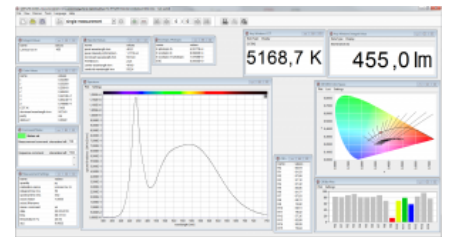


1) BTS256-LED 2) 50mm integrating spherel 3) Precision bayonet mount 4) BiTec sensor with Si photodiode, CMOS diode array spectrometer and shutter 5) Microprocessor 6) USB interface 7) ISD-21 integrating sphere 8) Bayonet mount 9) Baffle 10) Auxiliary lamp 11) Measurement port

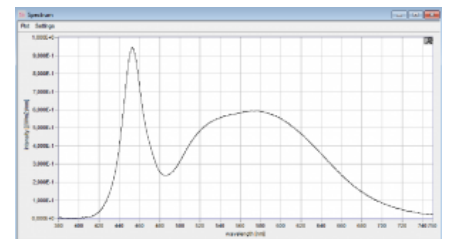


*BTS256-LED for measurement of the luminous flux, spectrum, color, and*

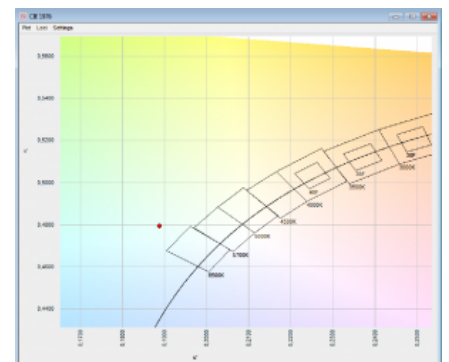
color rendering index of single LEDs



The S-BTS256 user software for the luminous flux with integrated and external sphere.



Full screen display of the luminous spectrum



CIE 1976 chromaticity diagram with binning fields



Self-Absorption correction (also know under ubstition correction) menu


## Specifications

| General                        |  |
|--------------------------------|--|
| Short description              | Spectroradiometer for efficient measurement of the luminous flux, spectrum, color, and Color rendering index of LED spot lamps with diameters of up to 127 mm  |
| Main features                  | Integrating sphere with a 50 cm diameter and 127 mm measurement port. Spectroradiometer can be used without the integrating sphere – for measurement of single LEDs  |
| Measurement range              | 1.2 lm to 120,000 lm, 360 nm to 830 nm   |
| typical applications           | Inspection of incoming products (single LEDs), LED spot lamps with a diameter of up to 127 mm, quality assurance in production processes, design   |
| Calibration                    | Factory calibration. Traceable to international standards  |
| Product                        |  |
| Calibration uncertainty        | Luminous flux calibration +/-8%  |
| Input optic - ISD-50-V01       | Integrating sphere with barium sulfate coating. Measurement port with 127mm diameter. Port reducer with 50.8mm diameter and knife-edges. 12V/20W Halogen auxiliary lamp. Table stand.  |
| General                        | This device is based on the <a href="#">BTS256-LED</a> , please find detailed specification there.   |
| Spectral Detector              |  |
| typical measurement time       | BTS256-LED: max. 1000 lm ≤ 5 ms (white light)<br>BTS256-LED: min. 10 mlm ≤ 30 s (white light)<br><br>BTS256-LED with ISD-50-V01: max. 120000 lm ≤ 5 ms (white light)<br>BTS256-LED with ISD-50-V01: min. 1,2 lm ≤ 30 s (white light) |
| Integral Detector              |  |
| max. luminous flux             | BTS256-LED typ. 70000 lm<br>BTS256-LED with ISD-50 typ. 8000 klm   |
| Noise equivalent luminous flux | BTS256-LED Tester typ. 0.05 mlm<br>BTS256-LED Tester with ISD-50-V01 typ. 10 mlm   |

## Downloads

| Type       | Description             | File-Type | Download  |
|------------|-------------------------|-----------|---|
| Dimensions | BTS256-LED + ISD-50-V01 | pdf       | <a href="https://www.gigahertz-optik.de/assets/Uploads/102732-01-isd-50-v01.pdf">https://www.gigahertz-optik.de/assets/Uploads/102732-01-isd-50-v01.pdf</a> |

## Configurable with

| Produktname  | Product Image   | Description                                   | Show product  |
|--------------|---|---|---|
| S-SDK-BTS256 |  | Software Development Kit for BTS256 variants. | <a href="https://www.gigahertz-optik.de/en-us/product/S-SDK-BTS256">https://www.gigahertz-optik.de/en-us/product/S-SDK-BTS256</a> |

## Purchasing information

| Article-Nr            | Modell           | Description   |
|-----------------------|------------------|---|
| <b>Product</b>        |                  |   |
| 15298128              | ISD-50-V01       | Integrating sphere, 80mm port reducer, Detector port for the BTS256-LED. Aperture for shadowing of the measurement port. Auxiliary lamp |
| 15308420              | BTS256-LED       | Measurement device, BTS256-LED-CA10 cone adapter, USB cable, hard-top casing, operation manual, software CD, calibration certificate.   |
| <b>Calibration</b>    |                  |   |
| 15300227              | K-BTS256-LED-U-I | Calibration of the BTS256-LED with external integrating sphere  |
| <b>Re-calibration</b> |                  |   |
| 15300226              | K-BTS256-LED-I   | Recalibration of the BTS256-LED Tester. Only possible with the 10mm cone adapter  |
| 15300227              | K-BTS256-LED-U-I | Calibration of the BTS256-LED with external integrating sphere  |
| <b>Software</b>       |                  |   |
| 15298218              | S-SDK-BTS256     | Software Development Kit for the implementation of the BTS256 or variants into custom made software                                     |