

# BTS-Solar

<https://www.gigahertz-optik.com/en-us/product/bts-solar/>

**Product tags:** UV , Weatherproof ,



---

## Description

### Accuracy shown in intercomparison measurement campaigns

The BTS-Solar has been compared to Brewer and Dobson in several scientific publications to verify and show the measurement capabilities. These showed an excellent agreement, see, [long term intercomparison at DWD \(Deutscher Wetterdienst\)](#) and [International Intercomparison at Izaña Atmospheric Observatory/Teneriffa](#) .

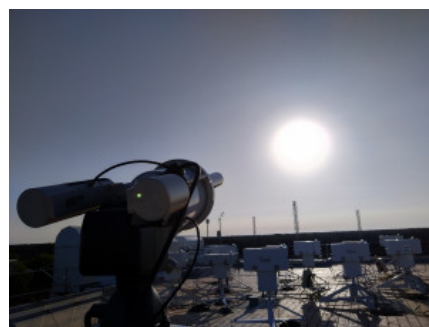


*measurement system*

---

### BTS-Solar for TOC and AOD

Measurement system for direct spectral irradiance measurements of solar radiation. The system consists of a BTS2048-UV-S-WP (Spectroradiometer with tube), SUT-1711 (Suntracker), SUT-Z01 (Sunfinder), SolarRunner (Software) and connection cables. Evaluations like TOC (Total Ozone Column) are supported by the measurement system.



*BTS-Solar at Brewer intercomparison in Mazagon/Huelva*

### BTS-Solar Versions before VIS and NIR

Versions with [BTS2048-VL-TEC-WP](#) (UVvisNIR) as well as [BTS2048-IR-WP](#) (IR) are also available. This is of particular interest for spectral AOD (Aerosol Optical Depth). See for example this publication: [AOD with BTS](#)

---

### Compact sun tracker design

The SUT-1711 is a compact sun tracker for worldwide use under all weather conditions. It is equipped with a tripod stand and a spirit level for adjustment. Two variants with low (BTS-Solar-1901) and increased (BTS-Solar-1902) mounting heights of the sun tracker are available.

---

### Payload designed for single devices

The accurate motion system does not require maintenance. The maximum payload depends on the resulting leverage and is typically limited to 5.5 kg. The unit is perfectly suited for the BTS2048-xx-WP series.

---

### Fine sun tracking accessory

For extended accuracy sun tracking a direct sun sensor with integrated GPS receiver and four quadrant diode can be used as an accessory (SUT-Z01). This system automatically configures location and provides precise time information. This sensor is usually connected with the measurement device and communicates via the application software with the sun tracker.



*A large tracker version is also available (taller tripod)*

---

### Software controlled

The SolarRunner software is the application software for the full measurement system.

In addition the SUT-1711 can be controlled by a software development kit (SDK) or by the application software of the used Gigahertz-Optik GmbH measurement device (e.g. BTS2048-xx-WP series). The software automatically controls the SUT-1711 in order to track the sun position depending on the GPS position and time. For even more precise control and automatic setup the fine sun tracking accessory SUT-Z01 is recommended.



*SUT-1711 equipped with BTS2048-UV-S-WP and tube for direct sun measurement*

---

## Global spectral irradiance

In addition we have achieved very good results for the BTS2048-UV-S-WP in a [scientific intercomparison with double monochromator](#). A scientific publication by [INTA](#) showed a very good agreement in a three comparison campaigns of global UV spectral irradiance measurements: [Comparison of global UV spectral irradiance measurements between a BTS CCD-array and a Brewer spectroradiometer](#).

## Specifications


### General

Short description	Direct spectral irradiance measurement system for e.g. TOC measurements
Main features	accurate TOC determination, compact design, price attractive
Measurement range	depending on quantity, see specific data sheet
Typical applications	Sun tracking with the BTS2048 WP series for direct solar spectral irradiance measurements and TOC determination
Calibration	a calibration of the BTS2048-UV-S-WP spectroradiometer is needed

### Product

General	Specifications spectroradiometer see: <a href="#">BTS2048-UV-S-WP</a>
	Suntracker: <ul style="list-style-type: none"><li>• Pan resolution of 0.006°</li><li>• Tilt resolution of 0.003°</li><li>• IP67</li><li>• temperature range:(-30 to 70) °C</li><li>• Load: 2.7 kg to 2.85 kg BTS2048-xx-WP + 3.2 kg collimator + 2 kg accessory</li><li>• Solar finder with GPS for fully automatic tracking</li></ul>

## Configurable with

Product Name	Product Image	Description	Go to product
SUT-1711		Sun tracker for use with e.g. BTS2048-xx-WP series meter for direct solar irradiance measurement.	<a href="https://www.gigahertz-optik.com/en-us/product/sut-1711/">https://www.gigahertz-optik.com/en-us/product/sut-1711/</a>

## Purchasing information

Article-Nr	Modell	Description
<b>Product</b>		
15310546	BTS-Solar-1901	Full system consistent of BTS2048-UV-S-WP (Spectroradiometer with tube), SUT-1711 (Suntracker), SUT-Z01 (Sunfinder), SolarRunner (Software) and connection cables
15315652	BTS-Solar-1904	Full system consistent of BTS2048-UV-S-WP (Spectroradiometer with tube), SUT-1711 (Suntracker), SUT-Z01 (Sunfinder), SolarRunner (Software) and connection cables. Includes a stand with increased base mounting height (100 cm) of sun tracker.
	BTS-Solar VIS or NIR	Please ask for quote and further information
<b>Components</b>		
15309077	SUT-1711	Sun tracker
15309861	SUT-Z01	Fine sun tracking unit (4 quadrant diode with GPS)
15307929	BTS2048-XX-WP-Z02	tube for the measurement of the direct solar irradiance
15309878	BTS2048-XX-WP-Z11	adapter for a BTS2048-XX-WP
15310548	SolarRunner	Software for BTS-Solar system

## 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](mailto: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](mailto:info-us@gigahertz-optik.com)

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