

The selection shown here is intended to give an insight into our activities, but is by no means complete. We are also active in groups such as „Advanced UV for Life“ or „bayer Photonics“.

Certificates and Memberships

Testing and calibration laboratory

Our calibration and testing laboratory has two accreditations according to DIN EN ISO/IEC 17025:2018

Calibration laboratory D-K-15047-01-00 and testing laboratory D-PL-15047-01-00

We guarantee traceability to national or international standards for our optical radiation measurements carried out in the laboratory.

A detailed range of services and the accreditation certificates of Gigahertz Optik GmbH can be found on our homepage in the calibration laboratory area.

DAkkS - ISO/IEC 17025

DIN EN ISO/IEC 17025 is the worldwide standard for laboratory accreditation in the field of testing and calibration. [source DAkkS]

The German Accreditation Body (DAkkS) is the national accreditation body of the Federal Republic of Germany. The DAkkS confirms through accreditations that the work in laboratories is carried out according to the requirements of internationally valid standards. Such an accreditation requires a high level of competence of the employees as well as the procedures used in the laboratory and the entire company.

We have this quality standard for our accredited. Calibration and testing laboratory, but this is not the end of our high quality concept. We also apply these principles and this quality standard to our products. This means that our products benefit directly from the quality standards of the calibration laboratory.

DKD, German Calibration Service

For 30 years now, our calibration laboratory has been a member of the DKD (formerly DKD-K-10601, since 1993) for safety and consistency in metrology.



The German Calibration Service (DKD) is a body headed by the PTB (Physikalisch-Technische Bundesanstalt) that fulfill their legal mandate.



SILVER SUPPORTIVE MEMBER
International Commission on Illumination
Commission Internationale de l'Éclairage
Internationale Delektungskommission

Passing on the units of measurement in terms of technical traceability for industry to calibration laboratories. The goals of the DKD are the development of metrological bases for calibrations as well as the implementation for securing and passing on the units. The DKD stands for the promotion of uniformity in calibration in the sense of technical support and the exchange of information between the members, consisting of calibration laboratories in industry, research institutions and technical authorities.

CIE

The CIE is one of the most important international lighting commissions. A large number of industrial and scientific standards come from her hand.

CIE Silver Supportive Member

Gigahertz-Optik produces a variety of products that meet the current standards and regulations. In addition, Gigahertz-Optik provides support and advice in the standardization work of the CIE. Gigahertz-Optik therefore decided to become a „Silver Supportive Member“ of the CIE in recognition of the CIE's work.

Made in Germany

Production, development, calibration as well as sales and support are located at the headquarters of Gigahertz-Optik. Our products are Made in Germany and benefit from this close connection between all departments.

Quality made in Germany

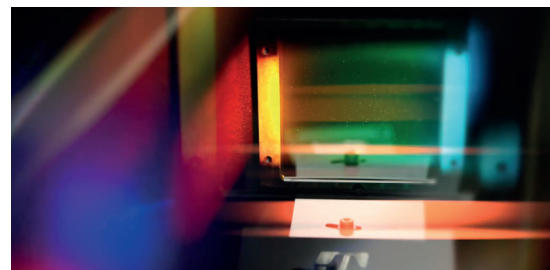
This is perfectly complemented by our global distribution network with partners and in particular our subsidiary in the USA.

Innovative through research

Among other things, Gigahertz-Optik received the "Innovative through Research" award for the BTS2048-UV series. This underlines our goal of always being innovative in order to be able to offer our customers the best possible products.

Environmental protection is important to us

That's why we at Gigahertz-Optik use 100% electricity from renewable energies. Certified by our electricity supplier.



Our Vision - Enabling Accuracy

Gigahertz-Optik enables success in challenging light measurement tasks through smart solutions based on the combination of accuracy, reliability, flexibility, ease of use, productivity and innovation recognized by industry and science.

We are your worldwide partner in photonics offering UV to IR measurement equipment through own German development, production, high level support and a high-class ISO 17025 calibration laboratory.



Broadband Light Meters

- UV radiometers
- Photometer
- Radiation protection

Spectral Light Meters

- hand-held measuring devices
- High-end devices
- UV spectroradiometer
- Weatherproof devices
- Light transmission

Complementary Products

- integrating spheres
- Integrating sphere light sources
- Calibration standards
- Electronics, optomechanics
- Optically diffuse materials

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2023

enabling
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Our ISO 17025 Calibration Laboratory

enables
maximum precision.

questions to...

ISO 17025
Accredited

... the calibration lab.

What does working with LIGHT mean to you?

Light accompanies each of us in our everyday life and is often taken for granted and often underestimated! Photonics makes many things possible and is very diverse in its applications. That's why I find the work in our calibration laboratory exciting and impressive. I learn something new every day and am enthusiastic about all the possibilities that modern light measurement technology opens up for us.

What is your special task and passion at Gigahertz-Optik?

Together with my team, which consists of engineers and technicians, we work every day to calibrate the devices that we produce in the company and thus make them ready for use for our customers. The high quality standards for our products and the satisfaction of our customers are our daily incentive to deliver the best result. Thanks to our DAkkS accreditation of the calibration and testing laboratory, we can also make our service externally traceable and are subject to constant efforts to maintain these standards. Personal ambition and the passion for dealing with

light measurement technology and the associated possibilities enriches my everyday work for me personally.

Where are the challenges?

I don't call it a challenge, I see it as an opportunity for further development, which is of particular importance to me at a time like today. There are more and more competitors on the market whose products seem tempting to companies or customers who are considering purchasing a light meter for the first time.

However, in order to meet the highest quality requirements, the highest quality is also required for the clear traceability of the measurement results in the specific application - and that starts after development and production in the calibration laboratory.

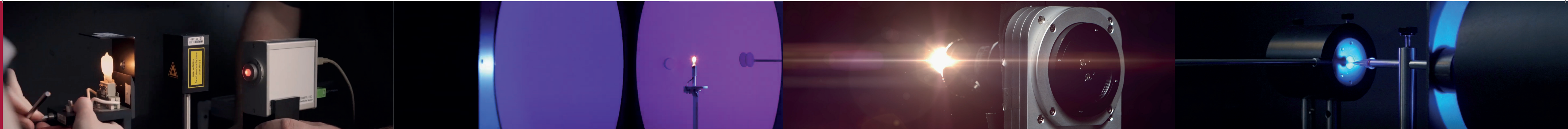
What spurs you on?

To constantly improve ourselves, to maintain our standards and to make our customers' work easier in their own application through our quality standards. Because when the customer receives a perfect device that delivers the most accurate measurement results in

accordance with the guidelines and standards without being cumbersome or complicated to use, we have made our contribution to the customer's success.

What do you want to achieve

I wish to gain customer satisfaction through the work of my team. Because we can "measure" ourselves by their satisfaction. Our goal as the „calibration team“ is to make our wealth of experience visible, to develop further, to improve and to produce products every day that meet the demands of everyone involved.



Thanks to the traceability of lighting standards to NMIs such as PTB, Metas or NIST, the DAkkS accreditation certification **D-K-15047-01-00 (DIN EN ISO/IEC 17025:2018)** of the calibration laboratory and the DAkkS accreditation **D-PL-15047-01-00 (DIN EN ISO/IEC 17025:2018)** of the testing laboratory according to DIN EN ISO/ With **IEC 17025** we can also be sure of achieving this goal.

How does that work, or how can you be sure?

The calibration laboratory and the range of services offered there are compared with national standards in inter-laboratory comparisons and regular audits. This gives us the security of always meeting the current requirements

and specifications. The regular training of our team also guarantees us and our customers the highest level of professionalism when calibrating or recalibrating a measuring device.

Recalibration at Gigahertz-Optik, how does it work?

In order to have his own measuring equipment recalibrated by us, the customer is asked to request a calibration in advance - preferably directly via our homepage. After an appointment has been made, the calibration item will be sent to us. Then the device, like any new device, goes through the entire calibration process.

If a defect in your measuring equipment is found, it will be repaired after

consultation and a subsequent recalibration with adjustment of the measuring equipment will be carried out. For devices with measured variables outside of our accredited. Calibration scope, we can offer you many measured variables in our test laboratory in the form of an internationally recognized accredited test report or an alternative WERK calibration.

After the calibration, you get a ,new/ ready-to-use measuring device.

In addition, we also provide these services in the calibration and testing area for your third-party device manufacturers.

Our **ISO 17025** accredited **Calibration Lab.** enables *maximum* **precision...**

enabling
ACCURACY

... and so you too can benefit from our quality standards:

all calibrations,

Our claim to a perfect result and the highest precision enables you to get the most out of your application. You will benefit from the many years of experience of our highly qualified specialist staff. The accredited calibration laboratory at Gigahertz Optik GmbH has existed since 1993 and, in addition to the highest quality in calibrations and recalibrations, is characterized by the ever-growing know-how of our employees. In order to be able to provide you with the highest and most up-to-date standard, our employees receive regular internal training from experts. Years of expertise and the latest specialist knowledge are a constant part of the daily work in our calibration laboratory.

Regular attendance...

... in interlaboratory comparisons serves to ensure the quality of our measurements and calibrations and to compare calibration processes with other laboratories. This process serves our daily demand for the highest quality and gives you the security of receiving a first-class product.

A complete device history...

The calibrations of our new devices as well as re-calibrations of customer or external devices are carried out in our in-house calibration laboratory by both technicians and engineers. The process is supported by automated, proprietary software solutions.

These facts are particularly interesting for you:

Metrological traceability...

By regularly recalibrating the standards we use, we ensure that the metrological traceability of the measured variables is always up-to-date. This not only requires the current standards, such as the ISO 9000 series of standards, but also industry-specific standards such as e.g. B. the IATF 16949 of the automotive industry.

Measurement uncertainty...

...considerations are based on the latest version of CIE 198. This helps you to make a qualified statement about your measurement result to be able to meet, which you in turn can pass on - for example to your customers.

Even with factory calibrations...

... you always receive extensive calibration certificates. Including traceability and listed calibration uncertainties. So you always have all the important documents and information about your device with you.

As a special service...

...the calibration and testing laboratory of Gigahertz Optik GmbH offers its own customer login area. Here you will find all the important information and dates in general and news concerning the calibration laboratory, device software as well concerning firmware updates.

With your access data

... and your device serial number, you can download your calibration certificate online. An email reminder reminds you to recalibrate your device once a year. If necessary, you can request your desired date from us directly via the online platform.

Ours offers everything you need for your devices *comprehensive service.*

Possible calibrations are:

DAkkS accredited calibrations (according to DIN EN ISO/ IEC 17025 calibration laboratory):

- Spectral irradiance of incandescent and deuterium lamps
- Spectral sensitivity of photodiodes
- Irradiance from broadband radiometers
- DC current from meters

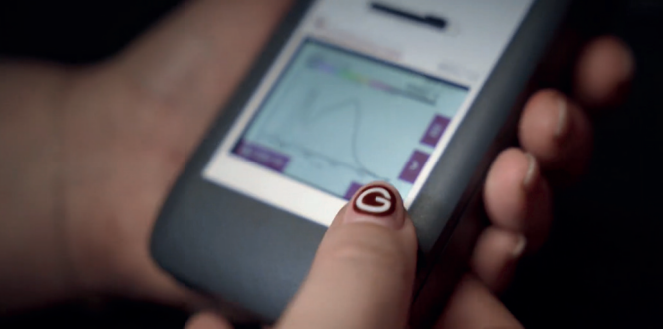
Standard and test methods used:

- Here you will find a list of standard and used by u-test procedure as well as our **scope**.



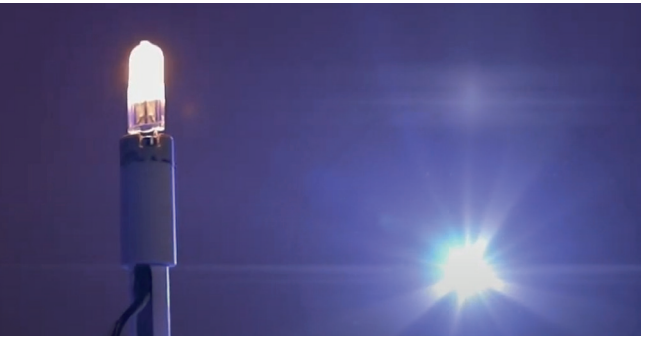
Factory calibrations:

- All light-technical and radiation-physical variables traceable to a National Metrology Institute (NMI) such as PTB or NIST
- Order measurements for typical parameters, such as for example measurement of f^*1 , $V(\lambda)$ or $f2$, field of view and many more
- Measurement and evaluation of the UV, VIS and IR exposures according to DIN EN 14255
- Job security risk assessments for artificial optical radiation



DAkkS accredited tests (according to DIN EN ISO/ IEC 17025 test laboratory):

- Testing of narrow and broadband radiometers
- Spectral irradiance from spectroradiometers
- Spectral irradiance of light sources
- Illuminance of photometers
- Spectral radiant flux and luminous flux of radiators
- Spectral radiance and luminance of radiators



Thanks to the professional equipment of our measurement laboratory, the best standard is *always* guaranteed for your devices

As a customer, you benefit from the extensive equipment:

Our more than 300 m2 large, in-house calibration and testing laboratory, with structurally separate measuring rooms, is of course completely temperature-controlled - one of the most important prerequisites for calibrating optical devices and obtaining the most precise measurement results.

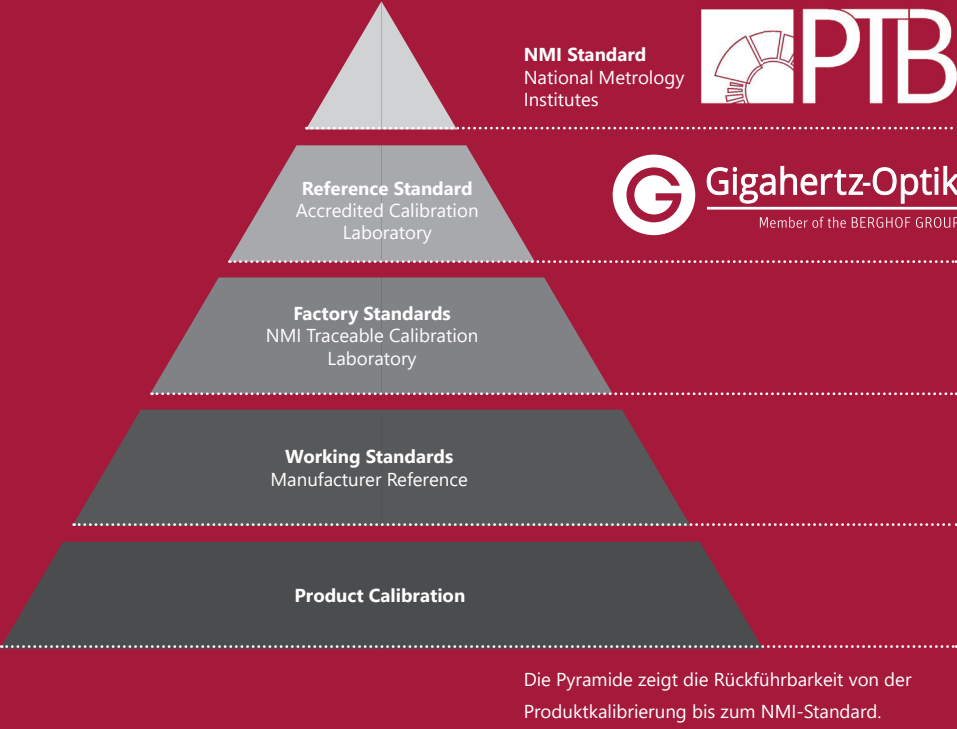
The laboratory provides various optical setups according to the highest standards. This includes spectral and integral measured variables such as irradiance, radiant intensity, radiant flux, radiance, illuminance, luminous intensity, luminance as well as the spectral variables from UV to IR in the wavelength range (200 – 2500) nm.



In order to meet the various requirements for the calibration and testing of a wide variety of measuring devices from our own production or customer devices, the laboratory has a large number of measuring devices:

- A 10 m long optical bench, for radiant power or linearity measurements
- Integrating spheres in various sizes
- Detector spheres for luminous flux and radiant power measurement.
- Homogeneous light sources as luminance and radiance standards
- Goniometer for luminous flux reference measurements and light distribution curves
- Climatic chamber (temperature and humidity) for testing and optimizing own products.
- Tunable laser (OPO) for spectral investigations of the highest quality, such as scattered light matrix determination of array spectroradiometers or spectral sensitivity measurement without influence optical band width of the illumination source
- Various double monochromators from the UV to IR range for precise measurements with low stray light
- Large number of devices for electrical measurement technology (multimeters, shunts, digital and analog oscilloscopes, frequency generators, power sources, etc.)
- Metrological traceability with traceable light technical standards from worldwide NMIs (PTB, METAS, NIST)

Increasing quality requirements and a high reliability and stability of our products, we take into account that in the field of thermal aging and accelerated pre-aging processes in the UV range reduce the failure rate of devices and Materials can ensure.



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