TERAHERTZ-SPECTROMETER
T-COGNITION

HÜBNER

DETECTING HAZARDS. PROTECTING PERSONS.

We highlight the risks – for the public and for the individual. HÜBNER is a systems provider with tradition for the technical industry developing innovative technologies for the world market.

Our expertise enables us to create innovative, intelligent products that make life simpler and safer – the renowned T-COGNITION is part of it.
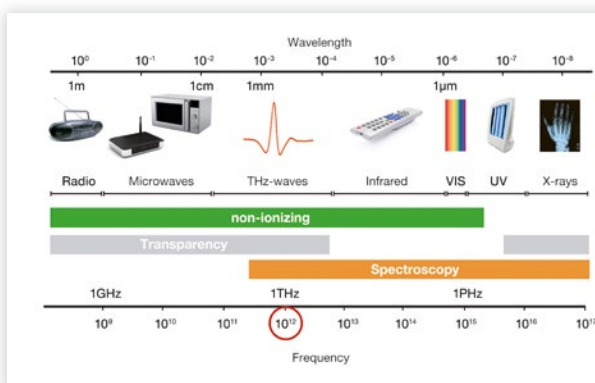
Terrorist threats, drug smuggling, assassination attempts and attacks – the rise in worldwide threats calls for increased security measures.
As an effective step to counteract present and future dangers, HÜBNER, in close cooperation with the Fraunhofer Institute for Physical Measurement Techniques, has developed a innovative and intelligent security system: The HÜBNER Terahertz-Spectrometer T-COGNITION.

This extremely effective security technology is based on the most up-to-date research results. With reliability and precision, T-COGNITION identifies hidden drugs and explosives in letters and small packages.

It is a fact that persons responsible for the security of public institutions and for the protection of prominent people are highly exposed to danger.

T-COGNITION identifies threats with precision and dependability without the necessity of handling or opening the item in question. Within seconds, T-COGNITION identifies the spectroscopic fingerprint of the hazardous substance or material by comparing the data with its own database. This system enhances work safety in prisons, at custom controls, at authorities, in companies and embassies, to name but a few.

Terahertz waves essentially stand for the frequency range of the electromagnetic spectrum ranging between 0.1 THz and 10 THz. Numerous non-conductive materials such as plastics or PVC, compounds, ceramics, paper or clothing appear almost transparent on THz frequencies. Substances with a variety of applications such as drugs, explosives, pharmaceuticals, etc. display characteristic absorption properties within the spectral region. These absorption properties act as a "spectroscopic fingerprint" and can serve to identify the substances concerned, even if these are hidden, for example under clothing.

WITH SAFETY.

Safety for health and work

There is no need for precautionary measures to be taken by persons working in the supervised area.
The THz waves employed by T-COGNITION have low energy levels and are, in contrast to x-rays, not ionizing.

User-friendly

The T-COGNITION can be used immediately after startup. Thanks to the easy-to-understand and intuitive operation, the user can be instructed easily and quickly. It is not necessary to hold long staff seminars for this purpose. The output log can be varied for individual customer requirements.

Individually adaptable

T-COGNITION can be „trained" to recognize a large quantity of dangerous substances. This means that it can also be useful for identifying substances in medication. Plus: T-COGNITION is heavily expandable through a variety of additional databases, extending the number of recognizable substances even further.

Optimized for investigation purposes

An item can be checked without opening it. This enables it to be forwarded on for police investigation purposes.

Mobile and flexible

Thanks to its small size and its light weight, T-COGNITION is easy to transport and can be used as and where needed. The device is modular in its construction and can therefore be adapted to specific customer requirements.

Dimensions and weight

Height:	60 cm
Width:	72 cm
Depth:	73 cm
Weight:	87 kg
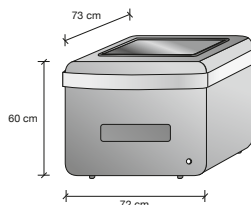
Maximum dimensions of scanned object

Size:	DIN C4
Height:	40 mm

Electricity supply and surroundings

Voltage:	100 - 230 VAC
Frequency:	50 - 60 Hz
Ideal operating temperature:	16 - 32 °C
Power consumption:	< 200 Watt

The postal deliveries that are to be checked are placed on the retractable tray and are photographed while drawing in.
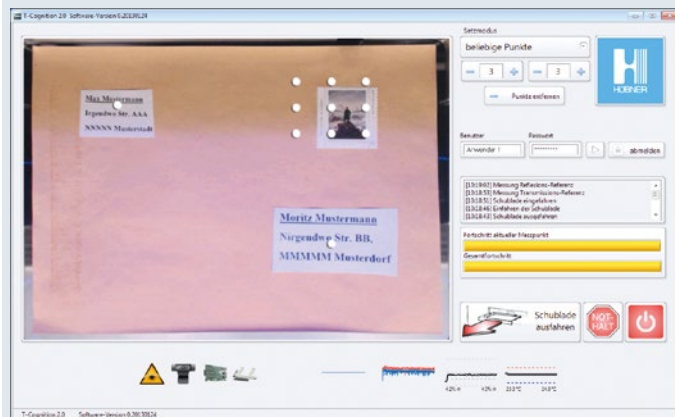
The generated image is shown on the user interface and the area to be examined is set using individual points and/or grid points.

If a suspicious material is identified, the red warning light flashes. The respective measuring points are marked in red.

All measurement results are documented on an output log that can be varied for individual customer requirements.

Sweden
Russia
United Kingdom
Germany
France
Hungary
Italy
Turkey
USA
China
India
Malaysia
Brazil
South Africa

About us

The HÜBNER Group has made a name for itself as an innovative system supplier for the transportation industry since the 1940's. It is headquartered in Kassel, Germany, and employs over 2,400 staff members in more than 13 different countries.

In collaboration with renowned research institutes, the HÜBNER New Technologies division develops and markets products based on laser, terahertz and high-frequency technologies for applications in industry, research and science. A proof for the keen interest in the new technology products by HÜBNER: the tunable laser C-WAVE and the terahertz spectro-meter T-COGNITION® were both awarded a Prism Award of the international photonics industry.
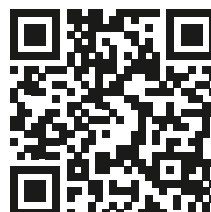
For further information, please visit **www.hubner-terahertz.com** and **www.hubner-photonics.com.**

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Project in cooperation with

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