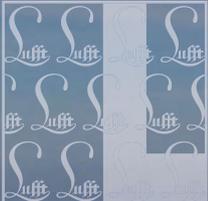


A Passion for Precision

e · a passion for precision · passion pour la précision · pasión por la precisión · passione per la precisione



 **Lufft**



Innovation and

Imagination

G. Lufft Mess- und Regeltechnik GmbH, located in Fellbach near Stuttgart, has been developing and producing professional sensors and systems for climate and environment measurement for more than 130 years. The precision workmanship of highly skilled specialists has enabled our LUFFT label to be known and the products to be purchased worldwide. Intelligent meteorological sensors form the basis of highly available measuring networks along roads, rails and at airports all over the world. Meteorological services and environmental bodies appreciate the precise and long lasting Lufft quality as do building equipment manufacturers and energy suppliers as well. We underline our claims to high quality by operating our own calibrating laboratory.

Environmental and industrial measurement technology

Wind and Weather:

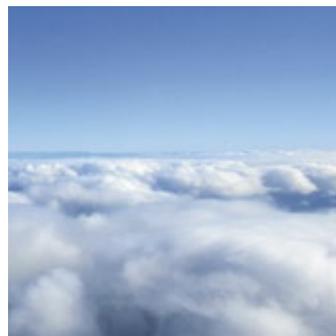
Intelligent environmental sensor technology – compact “all-in-one”, individual stand-alone sensors as well as mobile solutions.

The modular concept offers the ideal sensor solutions for every application. In addition to robustness (metal housing) and the high accuracy, long-term stability, calibration capabilities as well as a virtually maintenance-free operation form the base for the reliable use of environmental sensors. A wide variety of digital interfaces ensures easy integration into many systems



Traffic and Weather:

A key element for reliable travel times on land (rail and road), in the air (at airports) and for ships (off-shore). Our sensors and systems support proactive decision-making for winter maintenance services or the switching of variable message signs on motorways in real time. Ships rely on our wind sensors in the same way as airports depend on the precise measurement of runway conditions. For this we offer both mobile and stationary sensor systems.



Industrial Measuring Devices:

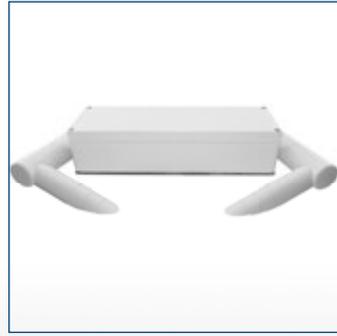
Industrial climate measurement technology must not only ensure reliable climate conditions – it must also monitor them.

Our high precision portable and stationary measuring devices ensure compliance with your indoor air quality specifications. And our software solutions fulfil exactly what you wish from your specific application.

Optical Sensors

By means of laser technology, environmental sensors detect snow layer changes accurate to a millimeter. Moreover, laser beams reaching heights of up to 15 km inform about the chemical weather. The different measurements of the sensor include the detection of aerosols, cloud layers and thicknesses as well as cloud heights.

Intelligent Weather Sensing Technology made by Lufft



Weather-critical processes

optimized

Traffic weather, renewable energy (solar and wind), agricultural weather, building automation, smart homes, smart cities...

Cooperation with system partners worldwide demands a wide variety of different models and interfaces. The environmental sensors from Lufft, whether used stationary or mobile, can be integrated into new or existing applications by means of many different protocols.

Sustainable meteorological and hydro-meteorological measurement networks

Environmental sensors help to record climate changes, to generate accurate short and medium term weather forecasts, and to protect technical equipment from imminent inclement weather when operating outdoors.



Wind and rain cause extreme weather such as tornadoes and floods, worldwide. Fine particulate air pollution (“chemical weather”) is a relatively new problem. In all cases this concerns microclimates. Dense measurement networks with high-quality sensors contribute

to minimizing the consequences of extreme weather affecting the population.

Environmental systems typically are in service for more than 10 years. In such cases sensors must provide a long-term stable operation, be suitable for calibration and upgradable in order to generate reliable measurement data over their entire life.

Intelligent Weather-Sensors made by Lufft



When each droplet

counts!

It's hard to believe that it is possible to measure the thickness of a rain droplet and that our radar sensor is able to detect how much precipitation is falling, what type of rain it is and its size! In such cases high-tech sensor systems are extremely precise and scrupulous in every detail. When it comes to dealing with traffic safety, Lufft measuring technology knows no mercy.



Every time when traffic comes to a standstill...

...it not only affects the mood of the motorist, but also cleverly devised supply chain systems. The result of this are delayed deliveries or cancellations and ultimately the loss of time; time which none of us has!

Decision-makers need to act quickly at the onset of winter. Available capacities have to be deployed where they are needed. Motorists require reliable travel time calculations before beginning a journey. And high-speed trains can only travel at breakneck speeds if the wind allows them to do so.



	DESTINATION	GATE#	STATUS
00	COPENHAGEN	---	CANCELLED
05	PARIS	---	CANCELLED
05	LONDON	---	CANCELLED
20	FRANKFURT	---	CANCELLED
05	ZURICH	---	CANCELLED
05	BRUSSELS	---	CANCELLED
00	MILAN	---	CANCELLED



Our sensor technology helps you to proactively prevent critical conditions on roads and runways. You can combine dynamic resource planning with the optimization of gritting materials. The interaction of intelligent sensors and controllers for the application of gritting materials takes place automatically according to your specifications.



Driving gets safer with Lufft.



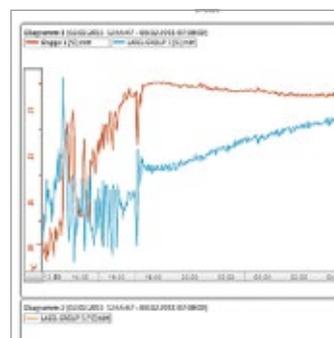
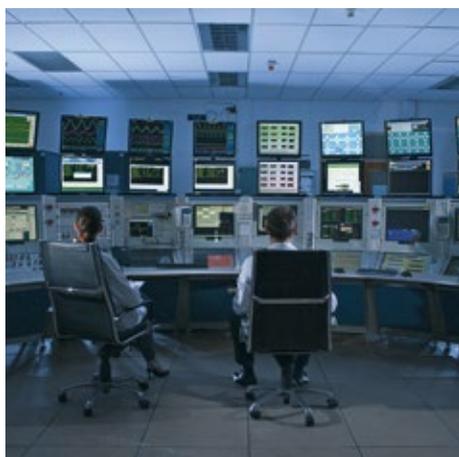
Made for

You

As an architect, technical specialist, consultant, engineer, climate expert or scientist – the list of our typical customers just gets longer – you bear a heavy responsibility for people, equipment, goods and processes.

Our technology supports application-specific solutions

The demanding and complex measuring tasks of today can only be mastered with high-precision measuring instruments. On the one hand you as a customer need the ideal instrument for a specific task, on the other hand a portable measuring instrument can be used multifunctionally to obtain a variety of measurements; sometimes only for a quick test and sometimes with simultaneous recording of measured values on a PC



Whether investigating the temperature of a surface without contact, the dew point temperature of air or on walls, the moisture content of oil, the air flow or various pressures, Lufft portable measuring instruments deliver

precise measurement readings. Our hand-held instruments and stationary solutions for measurement and data recording have one big purpose: to help you to solve your tasks the best possible way.

And this motivates us to always proceed customer first.



One-Day

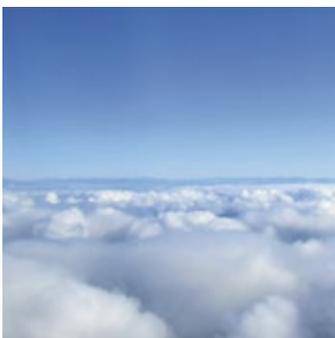
Wonder?

No, our measuring instruments are not disposable electronic products. When we recommend the purchase of Lufft environmental monitoring and measuring technologies, we are talking about a 15 year fully functioning life cycle; in formidable industrial applications we calculate with a time span of 8 to 10 years thanks to our consistent upward compatible concepts and design.



Keywords in measuring technology

The system architecture and construction of Lufft products is not left to coincidence. Our products are designed with sustainable applicability in mind, as well as having an open and upgradable design. This means that our customers do not have repeatedly high initial costs; they are neither threatened every few years by a total overhaul of their equipment due to new innovations, nor will they fall behind the most up-to-date technical standards. Modularity, sustainable data recording and planning of open interfaces in all important areas also aid the development of future products.



Sensors deal with the questions regarding what should be measured, under which conditions and how precisely. Many of today's sensors are already being used as small micro computers. These sensors can complete software tasks such as digital data output, as well as carrying out calibration and calculation functions.

Data recording refers to the way in which single pieces of measured data are processed on site and saved.

Data transfer regulates the transmission of data to the central analysis station. Here we differentiate between wireless and wired transfer. At the moment there are also various transfer and protocol formats such as TCP/IP, GPRS or CDMA.

Software not only analyses, but, more importantly, visualizes all kind of data streams, numbers, codes and measurement series that are collected in the hard drive. Descriptive implementation and sophisticated visualization technology plays a crucial role in comprehending and understanding measurement results.

Apps Modular software solutions for your mobile display units.

Whatever it is, it will be compatible with existing products.



Signed and
sealed for

Accuracy

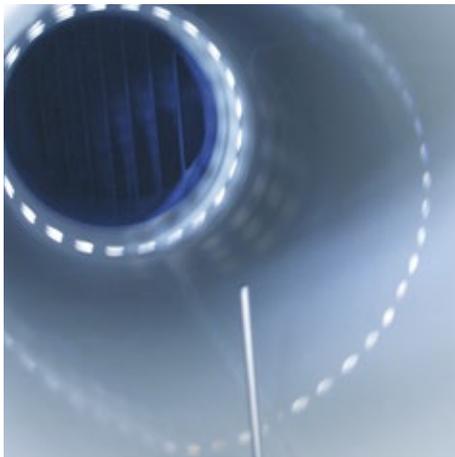
Lufft receives many awards and accolades for innovation and customer orientation.

In recognition of quality and innovation – for more than 130 years. Our motivation: to consistently engage in innovation and customer orientation.



Lufft is certified

Every sensor has to take a break once in a while. Each measuring unit fluctuates slightly during its operating time. This is not a question of a fault or a unit's functional efficiency, but a recognized phenomenon by all parties in this branch. Minimal fluctuations can also occur with Lufft sensors; and our sensors are especially durable modules that are continually placed under extreme conditions (measuring CO2 in incubators, humidity measurements in tropical conditions, e.g. at the equator).



The triple point of water (balance of all 3 physical states solid, liquid and gas) is used to represent the International Temperature Scale and for the highest precision of temperature measurements in the milli-Kelvin range.

HALT vibration test according to IEC 60945, corrosion test in accordance with MIL-STD-810, Method 509.3, ice-free test in accordance with MILSTD-810F, Method 521.2
UL approval
Underwriters Laboratories Inc.



Lufft is certified according to DIN EN ISO 9001



Lufft, as a member of the German Calibration Service (DKD/DAkKS), uses the prescribed reference norms from the Physikalisch-Technischen Bundesanstalt (PTB) for recalibration.



Lufft is DAkKS accredited according to DIN EN ISO/IEC 17025

Lufft continuously receives national and international recognition and awards thanks to their excellent employees.



Passion made in

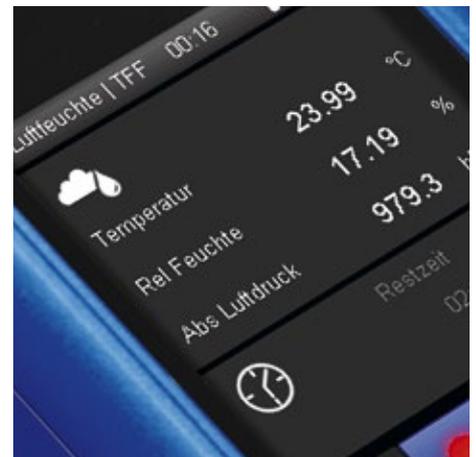
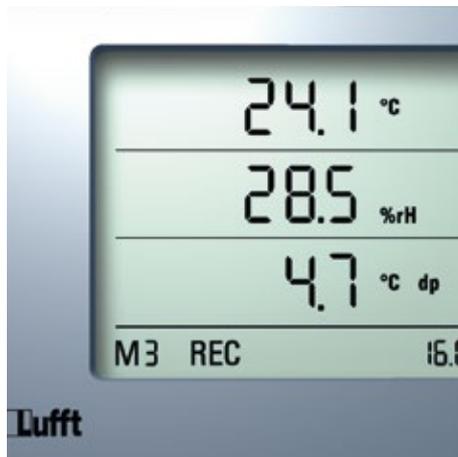
Germany

The breeding of eagles is a science. The breeding procedure can only take place in a narrow temperature and humidity range. This can only be made possible by the precise regulation and observation of climate conditions. Hightech from Lufft is helping to preserve life!

Welcome to Lufft

This brochure has probably appealed to you in some way or other, whether by raising questions or arousing interest.

If you would like more detailed information about state-of-the-art measuring technology products, please contact us or visit our production sites and laboratories. We are more than happy to answer your questions and discuss your extraordinary requirements. We would be delighted if your project, company or product can profit from our expertise.



Over 130 years of expertise in measurement technology has opened up new global horizons. What we produce at the Lufft headquarters in Baden-Württemberg has in the meantime become well known all around the world and is bringing together employees and partners from different nations. Many of our customers permanently rely on Lufft products and this gives us a clear target. Accuracy has a future. And customer orientation is the basis for our actions. Innovation is our driving force. Tell us your problem and we will propose a solution. Measuring technology is continuously finding new and meaningful fields of application. An example of this could be the controlling of the breeding and upbringing of endangered species or the



recording and evaluation of "exposure tests", e.g. in the automotive industry. Monitoring systems are also able to optimize the growth of microbiological cultures for healing substances in the pharmaceutical industry, as well as the research and documentation of climatic changes.

We are inspired by a passion for precision..

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