



## Sensors and Components for

# Airport Weather Observation Systems



Since its founding by Gotthilf Lufft in 1881, G. Lufft GmbH has been the leader in developing and producing climatological measuring equipment – always true to the motto “tradition meets innovation”. Lufft’s capacity for innovation and precision has helped its products to establish the solid reputation they enjoy around the world. The company’s sensors can be found in use wherever weather variables such as cloud heights, sky conditions, runway conditions, friction, precipitation, visibility and other environmental factors need to be measured.

Airports around the world use Lufft technology because it’s flexible, comes with open protocols and is therefore easy to integrate into existing solutions. Moreover Lufft’s sensors are maintenance-free and work reliably under any weather conditions.



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## Sensors for Airport Runway Safety

*A Passion for Precision*

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## Active & Passive Runway Sensors IRS31Pro / ARS31Pro

By combining flush-mounted active and passive runway sensors, the freezing point can be detected for all kinds of airport de-icers.



92% of all landing accidents are caused by slippery runway conditions (source: The Boeing Company). To avoid this, runway condition sensors from Lufft inform on several surface status such as temperature, water film height, ice percentage and friction.

### Passive Runway Sensor IRS31Pro-UMB



Besides determining freezing points for NaCl, MgCl and CaCl as well as the surface temperature, the IRS31Pro-UMB records water film heights of up to 4 mm, road conditions (dry, damp, wet, ice or snow, residual salt, freezing water), ice percentages and friction.

Optionally, it can be complemented with up to two different depth temperature sensors with a length of 5 or 30 cm. The sensors help detect if the surface is freezing or has black ice.

### Active Runway Sensor ARS31Pro-UMB

The active runway sensor ARS31Pro-UMB was proven successfully by the German Road Authority BASt following the valid inspection rules of CEN/TS 15518-4:2013. The sensor measures the active freezing temperature by means of cooling and heating independently from the de-icing mixture. In addition, it measures the surface temperature.



## Mobile Runway Sensor MARWIS

MARWIS transforms any vehicle into an instrument to measure real time surface conditions of any rwy surface.



ice covered, snow/ice covered, chemically wet, critically wet), air temperature\*, humidity\*, surface temperature, dew point, humidity, ice percentage, and water film height to calculate a coefficient of friction.

With a measurement frequency of 100 times per second, the innovative MARWIS satisfies the requirements of a smooth, movable and real time measurement device. The data can be viewed on a free iOS or Android app as well as remotely in the operation centre. As all-in-one sensor it covers a big variety of weather parameters including dry, moist, wet, snow, ice, chemically and critically wet, temperatures, dew points, ice percentages, water film heights, relative humidity as well as friction.



With a measurement frequency of 100-times/second, the MARWIS provides the information for quantitative decision of the true status of the entire runway. This real-time non-contact measurement tool provides runway operations personal with metrics of surface condition (dry, damp, wet,



The data can be viewed real-time or historically on any Maintenance Decision Support System (MDSS) or locally using the Free iOS or Android downloadable apps.



## Cloud Height Meter CHM15k

Lufft ceilometer allows for the measurement of cloud heights, cloud cover and Sky Condition Index.



The highly accurate and stable Lufft CHM 15k cloud height sensor features high optical sensitivity for accurate results and a great measuring range of up to 15km. It's eye-safe laser is protected by a double case housing and works in foggy, rainy, icy and hot weather conditions.

Recognized by the German Weather Service (DWD) as the measurement device of choice to equip their nationwide cloud monitoring network, the Lufft CHM 15k reliably detects various cloud heights, amount of clouds as well as cloud cover. Moreover it provides other essential parameters such as: Sky Condition, visibility and aerosol layers.

