

Deszczomierze radarowe – nowa alternatywa dla miejskich sieci pomiarowych (precipitation sensors – new alternative for rain monitoring networks in cities)

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Recent events involving heavy rainfall in regions away from known flood hotspots show that many cities, towns and villages are having to deal with situations that have never happened in recorded history. Flooding, highways and drainage authorities must therefore adapt to the new circumstances and actively seek solutions.

OTT Hydromet with its Polish partner Retencja can help create an alarm and information infrastructure to provide authorities with improved visualization of flood conditions, and a time advantage, enabling them to respond more effectively to protect assets and save lives.

Especially for the reliable measurement of precipitation OTT Hydromet offers a variety of different precipitation sensors (weighing system, tipping bucket, hybrid, optical and radar-based systems) which enables us to choose for each application the most appropriate device.

Sensor manufacturer Lufft as part of OTT Hydromet has developed, with the WS100, a radar precipitation sensor with switchable heater, which calculates precipitation quickly, reliably, and maintenance-free from the first drop with a resolution of 0.01 mm.

Using a 24-GHz Doppler radar, the WS100 measures the velocity of all forms of condensed water that can be observed on the Earth's surface or in the atmosphere. These include rain, snow, ice, snow and hail. The low-energy sensor detects precipitation from the first drop and differentiates between different types of precipitation. In addition, the sensor measures precipitation intensity up to 200 mm per hour and records drops with a size of up to 5.0 mm. The WS100 owes its maintenance-free operation to an ingenious technology: the automatic radar rain gauge comes with no moving parts. This significantly distinguishes it from other methods for measuring precipitation such as the tipping bucket, weighing principle, or various other optical methods. The integrated, switchable heater allows operation in summer as well as in winter. The sensor heater with a capacity of 9 VA was directly integrated into the WS100's dome wall.

Thanks to the 100% maintenance-free operation, the 19-centimeter high sensor weighing just 600 grams can be used at any time and almost anywhere in the world. This makes it an indispensable indicator for environmental applications, especially in areas that are difficult to access. As a result, its applications are diverse and adapt to the most varied requirements. Especially for storm water applications, where “maintenance free” is of key importance, the WS100 can play an important role in protecting assets and saving lives as part of an early flood warning system.

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