



Ice Detection System IDS-30

Precise and reliable ice detection with contact free technology

Ice Detection Sensor IDS-30 to measure icing conditions and ice growth for various fields of application. The IDS-30 system is the next simplified version of the advanced and powerful IDS-20 which is setting the standard for the next generation of ice detection systems on the market. The IDS-30 is an ALL-IN-ONE design which was developed together with our customers and their feedback over the nearly 10 years of experience with the IDS-20. The IDS-30 is the second non-contact ice detection system (after the IDS-20) which is able to measure from 0,2mm up to 40mm of ice thickness and ice growth. The IDS-30 system is an extremely flexible system to cope with different situations and applications. One of the main targets is of course to recognize dangers and dangerous situations. The sensors have different measurement ranges and applications. The design of the IDS-Cube sensor is to recognize ice layers and icing events from 0,2 mm up to 2mm, so very sensitive to small icing events. Additionally there is a rod sensor which is designed to measure the total ice thickness throughout the season or year. The measuring range of the IDS-Rod sensor is from 1mm up to 40mm. The IDS-system design is made to be used with one sensor or up to max two IDS-sensors at the same time.

FEATURES AND ADVANTAGES

- Continuous and non-contact measurement
- Detection of icing
- Distinction between ice and water
- Ice detection 0.2 mm to 2mm ice thickness Ice detection 1 mm to 40 mm ice thickness
- Different sensor versions according to specific applications - cube and rod sensors
- Very reliable measurement results due to plausibility check
- Suitable for existing and new systems, easy and quick installation
- Maintenance-free operation, low power consumption

PARAMETERS MEASURED

- Icing
- Analysis Quantity and duration of icing events

FIELDS OF APPLICATION

The IDS-30 system is an extremely easy to use and customer friendly system to cope with different situations and

applications like weather forecast, road forecast, condition monitoring in the wind power sector, cableway, railway, tram and traffic control. The system is an ALL-IN-ONE design with different sensor options. The sensors have different measurement ranges and applications. There is one cube sensor for icing measurement and icing detection. The design of the IDS-Cube sensor is to recognize ice layers and icing events from 0,2mm up to 2mm. Additionally there is a rod sensor which is designed to measure the total ice thickness thru out the season or year. The measuring range of the IDS-Rod sensor is from 1mm up to 40mm.

IMPLEMENTATION

There are three different versions already available. Each version is designed to work for different applications.

IDS-30c: There is a version for the measurement of total ice thickness thru out the whole season or year. This bundle contains a single sensor application with just an IDS-Rod sensor. The target with this installation is monitoring and measuring the total ice thickness. Possible applications are ice monitoring on constructions, masts, towers, antennas, landlines and power lines.

IDS-30r: The second single sensor application is the IDS-30 system with the IDS-Cube sensor. This bundle is designed to measure thin icing events between 0,2mm up to 2mm of ice thickness. Here the target is to measure the icing events and the thin ice layers. With the internal software control and adjustment possibilities it is easy to set the sensor to exactly the range you interested in measuring. The internal heating system helps to deice the sensor as soon as a customer-defined threshold is reached. Possible applications is ice monitoring in wind power and road industry.

IDS-30cr: The double sensor setup is the combination of both above sensors. In this bundle, we combine the total ice thickness measurement IDS-Rod and the icing measurement of the IDS-Cube into one system. Due to the combination of the two technologies and the advantages of these two sensors, the system can measure the thin ice layers and icing events and in parallel the IDS-Rod sensor measures and monitors the total ice thickness at the same spot.

TECHNICAL DETAILS

- Measurement principle complex impedance measurement
- Digital interface RS-485 various ASCII formats or MODBUS, SDI-12, LORA (option)
- Relay interface three relay-outputs (rain, ice, hart-beat)
- Power supply 10 ... 28VDC
- Power consumption max 50 mA at 12 VDC
- Power supply heating 24VAC/VDC
- Power consumption heating max. 7A at 24VAC/DC
- Ambient temperature -40 °C to +60 °C (-40°F to +140°F)
- Protection class IP 66
- Bracket for 61 mm (2 inch) mast diameter

IDS-CUBE

- Range 0,2mm - 2mm ice thickness
- Material Aluminium cube and mounting pole, ceramic sensor plates hermetically sealed and glass surface
- Heating separate heating for cube and mounting pole
- Weight 0,7 Kg
- Length 560mm
- Ambient temperature -40 °C to +60 °C (-40°F to +140°F)

IDS-ROD

- Range 1mm - 40mm ice thickness
- Material Aluminium
- Heating not available
- Weight 2,3 Kg
- Length 580mm
- Ambient temperature -40 °C to +60 °C (-40°F to +140°F)

Other Instruments you are might interested in

- Exact Ice-Detection [IDS-20](#)
 - Exact Snow depth [USH-9](#)
 - Roof snow load [SSR-2](#), [Laser Dachlastmessung](#)
 - Snow water equivalent (SWE) [SSG-2](#)