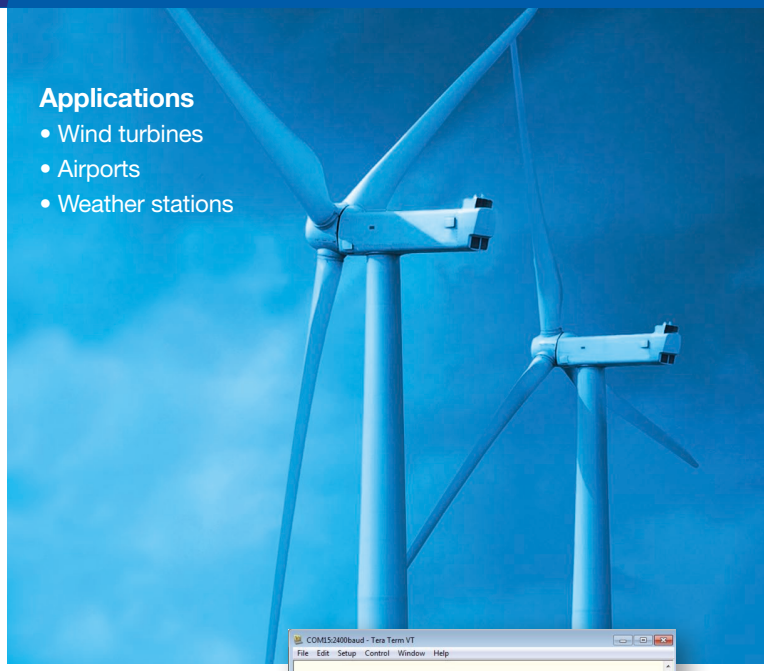
Data sheet

LID-3300IP Type 2 Ice Detector

LID-3300IP Type 2 Ice Detector

Efficient ice detection brings reliability and safety to cold climate wind turbines.

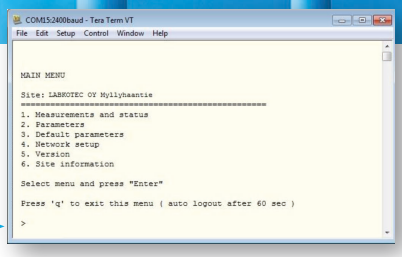


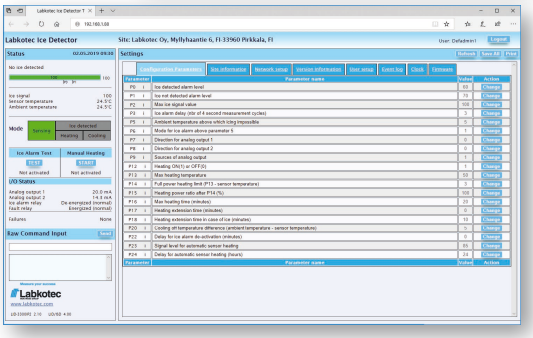
The Labkotec Ice Detectors have been specially designed for detecting icing conditions on the rotor blades.

LID monitors the icing weather conditions on-line and reports icing events through various interfaces. Ice alarm and other measurement information are available via 2 relay outputs, 2 analog outputs, front panel, optical fiber interface, TCP/IP Web user interface and Modbus.

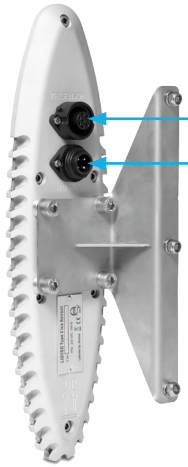
Front Panel:
- Power
- Ice Alarm
- Heating
- Fault
- Test button

RS-232:
Command maintenance interface for PC





TCP/IP:
- Web UI
- Modbus



Mains power

Sensor signal

Heating

Electrical Outputs:
- Alarm relay
- Fault relay
- 2 pcs analog output 4...20 mA (e.g. ice value and temperature)

Optical fiber interface:
Configuration and connection to SCADA systems

LabkoNet compatible

The LID-3300IP Ice Detectors can be connected to the cloud based LabkoNet system. LabkoNet is an easy and reliable way to transfer and control alarm data. For further information on LabkoNet, please visit **www.labkonet.com**

Technical specifications on next page >

Labkotec Oy
Myllyhaantie 6
FI-33960 Pirkkala, FINLAND
Tel. int. +358 (0)29 006 260
E-mail info@labkotec.fi

Labkotec GmbH
Veritaskai 8
DE-21079 Hamburg, GERMANY
Tel. int. +49 (0) 40 808107096
E-mail info@labkotec.de

LID-3300IP Type 2 Ice Detector

Technical specifications

LID-3300IP Type 2 Ice Detector Control Unit

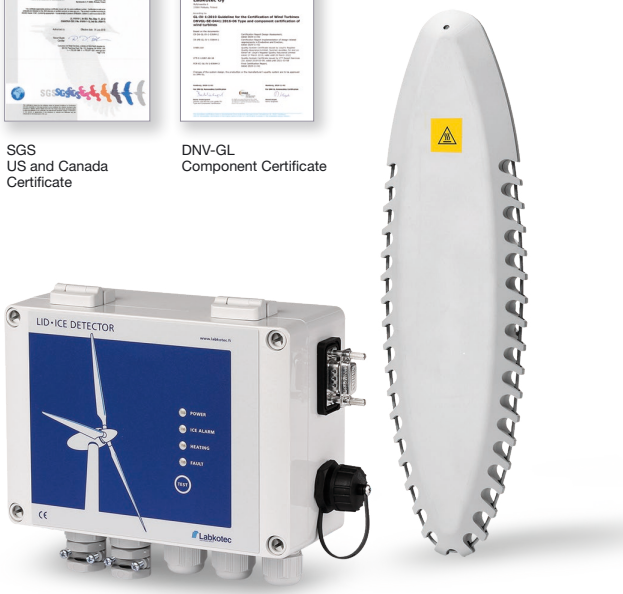
Enclosure	Dimensions: 125 x 175 x 75 mm (h x w x d) Weight: 800 g. Material: Polycarbonate Degree of protection: IP 65
Operating environment	Temperature: -30 ºC …+55 ºC Max. altitude above sea level: 4000 m
Power supply	230 VAC ±10%, 50/60 Hz. Recommended fuse size in the supply line is 10 A, maximum 16 A.
Power consumption	Normally 7 VA. Max 350 W during sensor heating
Fuses	(1) 50 mAT, (2) and (3) 4 AT, IEC 127 5 x 20 mm (Appendix D)
Analog outputs (source)	2 pcs, active and galvanic isolated current output 4-20 mA to max. 1 kΩ load (for Ice signal and temperature). Connector numbers 11 – 14.
Relay outputs	2 pcs (Ice alarm and fault), potential free relay output. Connector numbers 5 – 10. U_{max} = 120VDC (ripple-free) or 50VAC I_{max} = 1A
Front panel	LED indication for Power, Ice Alarm, Heating and Fault. Test button to simulate Ice Alarm.
Serial outputs (one RS-232 and one TTL/Optical fibre)	Galvanic isolated RS-232 serial output for configuration and maintenance. Optical fibre serial output for configuration and automatic reading (optional, requires an additional RS20 Converter module): RS20 Converter module is CLASS 1 LASER PRODUCT RS20 Converter module transmitter: HFBR-1522ETX RS20 Converter module receiver: HFBR-2522ETZ Connector for optical fiber in RS20 converter module: HFBR4531 or equivalent Cable type: POF (1 mm) up to 45m
Ethernet	Integrated Web server and web based user interface for remote access to Ice Detector via Internet. Galvanic isolated standard RJ-45 connector. Network settings can be configured via RS-232. Default IP address: 192.168.1.88 Modbus TCP/IP
Electrical Safety (LVD)	EN/IEC 61010-1, Class I, CAT II EN/IEC 60204-1 UL 61010-1 CAN/CSA-C22.2 NO. 61010-1-12
EMC	EN/IEC 61000-6-4:2007 / A1:2011 (Emission) EN/IEC 61000-6-2:2005 (Immunity)
Functional Safety	LID-3300IP Type 2 ice detector system fullfills the requirements of PLd according to ISO 13849-1. The safety function is validated through relay outputs.
Approvals	US and Canada Certificate SGSNA/17/HEL/00043 / 00044. In the USA and Canada the product is intended to be installed with a 230 Vac wind turbine power system only. Component certificate according to GL-IV-1:2010, Guideline for the Certification of Wind Turbines, Certificate No.: CC-GL-IV-1-03644-2.

LID/ISD Type 2 Ice Sensor

Dimensions	350 x 100 x 25 mm (h x w x d)
Weight	1.3 kg (1.7 kg with standard mounting kit)
Material	Aluminum
Degree of protection	IP 65
Operating environment	Temperature: -40 ºC …+60 ºC Max. altitude above sea level 4000 m
Cable diameters	Signal cable: 7.5 mm Heating cable: 11.5 mm
Approvals	US and Canada Certificate SGSNA/17/HEL/00043 / 00044. In the USA and Canada the product is intended to be installed with a 230 Vac wind turbine power system only. Component certificate according to GL-IV-1:2010, Guideline for the Certification of Wind Turbines, Certificate No.: CC-GL-IV-1-03644-2.

SGS
US and Canada
Certificate

DNV-GL
Component Certificate



LID-3300IP Type 2 Ice Detector Control Unit

LID/ISD Type 2 Ice Sensor

Labkotec Oy reserves the rights to alterations without prior notice.

Labkotec Oy
Myllyhaantie 6
FI-33960 Pirkkala, FINLAND
Tel. int. +358 (0)29 006 260
E-mail info@labkotec.fi

Labkotec GmbH
Veritaskai 8
DE-21079 Hamburg, GERMANY
Tel. int. +49 (0) 40 808107096
E-mail info@labkotec.de