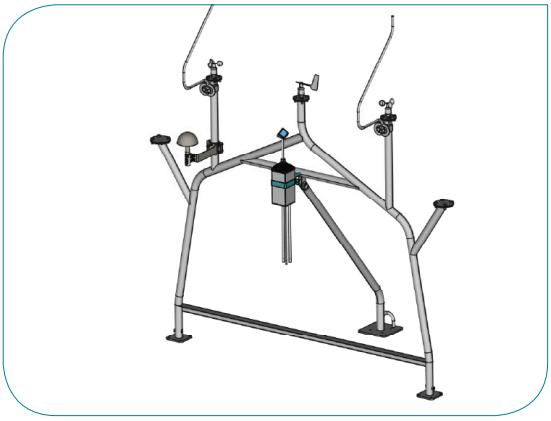
Properties and benefits

The RHD sensor is a low-cost, high precision, ultra-robust rain gauge instrument.

It is a very low-power, maintenance-free and totally sealed acoustic instrument with no mobile parts. The sensing part of the instrument is a polished stainless steel hemisphere supported by a strong stainless steel arm. Impact of raindrops or hailstones induces change in internal acoustic pressure. In addition to the rain and hail intensity data, the disdrometer function also provides information about the drop size distribution.



Pic: RHD on a sensor rack of a wind turbine

The RHD in Wind industry

The impact of heavy precipitation or hail on the leading edge of wind power turbine blades can reduce the life time of the blade extremely.

Main factors to damage the leading edge are:

Speed of the blade, Rain intensity, Droplet size of Rain or Hail

In order to reduce the erosion of the leading edge of the blade, and save money in the long run, it is important to monitor the precipitation and the droplet size, so the blade can be controlled if necessary.

General	
Power supply	6V to 30 V DC
Operating temperature	-40 ... 60 °C (−50 °C to 100 °C extended)
Housing	Dimensoins: Ø160mm x 265mm (mounting bracket is 426mm long) Material: Stainless steel Weight: 1,2 kg
Consumption	< 1 mA in stand-by mode and 20 mA max in acquisition mode.
Protection	IP 67
Rain intensity resolution	Sensitivity @voltage range +2.5V: [50 mV/(mm/h)] i.e. +2.5V corresponds to 50 mm/h Sensitivity @voltage range +5V: [100 mV/(mm/h)] i.e. +5V corresponds to 50 mm/h
Accuracy Rain intensity	+/- 5%

Interfaces	
Analogue	2 x Analog (0-2,5VDC or 0-10VDC)
Digital	SDI-12, RS232, Option: Motbus RTU

Packaging	
Carton (mm)	475 x 225 x 255 mm Weight: about 1,6 kg