

# ULM30 – Snow Depth Sensor

ULM30 is an ultrasonic snow depth sensor, equipped with its own electronics with microprocessor and storage memory.

ULM30 is designed to measure the snow depth and its changes. This measurement, combined with that of the temperature of the snow layers deposited, is crucial to forecast a possible avalanche risk in a timely manner.

ULM30, like all products in the new CAEtech product line, can be interfaced with any data logger on the market and is characterised by high reliability thanks to implementation of Zero Breakdown Technology (ZBT). ULM30 is extremely robust, characterised by low power consumption, compact design, absence of contact with the snow and mechanical moving parts.

## TECHNOLOGY AND OPERATION

ULM30 consists of a latest generation ultrasonic transducer, suitable for both transmission and reception. Snow cover measurement takes place with the emission of a series of ultrasonic pulses and subsequent analysis of the echo received. The sensor, via this data, appropriately compensated according to the air temperature measured by the integrated thermometer, provides the distance from the target surface.



The sensor has a real time clock and a permanent storage memory and communicates with other modules via: Caenet bus, standard SDI-12 protocol on RS485 and 4-20 mA analogue output. This allows interfacing with any datalogger.

ULM30 characteristics:

- the sampling intervals for snow depth and temperature measurement can be programmed by the user;
- internal diagnostic elements are present (ZBT):
  - verification of battery voltage,
  - verification of internal temperature conditions,
  - verification of the correct inclination,
  - verification of the quality of the measurement acquired;
- attention to consumption: the sensor is normally in Stand-by mode, from which it exits only when strictly necessary;
- possibility of remote control via a wireless module, such as ACTI-Link, thus eliminating all problems due to cable connection;
- the sensor software is reprogrammable, also remotely, without the need to replace any components.



Measurement range	0.5 - 15 m
Operating temperature range	-40 °C/+60 °C
Measurement accuracy	± 0.01 m
Resolution	1 cm
Communication interface	RS485 CAE protocol
	RS485 SDI-12
	Analogue 4-20 mA
Dimensions	210(∅) x 390 mm
Weight	2.25 kg



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