

Snow depth sensor



Description

The robust design of the PCTSL212 makes it ideal for the reliable measurement of snow-depth in extreme conditions. It is used by the central weather services all over Europe as well as by the avalanche warning services in high mountain regions. The ultrasonic membrane incorporated into the sensor stands out due to its long service life.

The additional air-temperature detection feature permits precise measurement of snow-depth over a wide temperature range.

The powerful ultrasonic impulses emitted by the snowdepth sensor deliver reliable readings even in the presence of complex reflections as encountered by freshly fallen powder snow. The design of the sensor protects the ultrasonic membrane from icing and precipitation does not interfere with the measurements.

The sensor is characterized by its high level of operating reliability, low energy consumption and ease of use in the field.

It can be integrated into existing monitoring systems through either the analog (4...20mA) or the digital interface (SDI-12, RS-485).

The selection of a suitable measurement spot is crucial for representative snow-depth measurements. The terrain should be flat, not exposed to wind and save from avalanches.

Some of its further features are:

- Continuous and non-contact measurement;
- Equipped with a maintenance free ceramic membrane with protective shield against ice and snow;
- High level accuracy thanks to the integrated temperature compensation and filtering of snow and rainfall using intelligent spectrum analysis;
- Energy-saving operation through sleep modulus.



Snow depth sensor



Snow depth sensor — installation example

Technical specifications may be varied without prior notice

Technical specifications

GENERAL SPECIFICATIONS	
Power supply	9...28Vdc with reverse polarity and surge protection
Consumo a 12Vdc	Sleep mode: <0.4mA Active measuring: typical 40mA (max. 300mA for 0.05s) Heating of the shield (optional): 1A
Outputs	RS-485 ASCII / Modbus RTU SDI-12 2 analog outputs 4...20mA (14 bit, max. load 250Ω)
Operating temperature	-40 ... +60°C
Storage temepature	-40 ... +60°C
Enviromental humidity	0 ... 100%RH
Protection index	IP64
Protection against lightning strikes	Integrated protection against indirect lightning with a peak discharge capacity of 0,6KV
Material	Anodized aluminium
Fastening	Ø32...60 mm
Dimensions Ø x H	Ø180 x 320 mm
Weight	1,2 kg
SNOW DEPTH MEASURE	
Measuring range	0,7 ... 10m
Blanck area near the sensor	0,7m
Accuracy	max. ± 1cm; tipico 0.1% FS
Resolution	1mm
Non-linearity	≤0.15%
Duration of the measure	2...20 s
Measuring principle	Ultrasonic (frequency 50KHz)
Beam angle	12°
TEMPERATURE MEASUREMENT	
Temperature sensor	Pt1000 with shielding with natural ventilation
Measuring range	-40 ... +60°C
Accuracy	0.3 °C
Resolution	0.01 °C

Ordering codes

Ultrasonic snow depth sensor with cable length 10m and mounting device

PCTSL212

Technical specifications may be varied without prior notice