

Snow depth

Snow-depth sensor – USH-8

The robust design of the USH-8 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 USH-8 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 this snow-depth sensor deliver reliable readings even when there is a difficult reflection ratio, as is the case with powdery or fresh snow.

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

The operating parameters and adjustment settings of the USH-8 are controlled simply and easily via a standard terminal program installed on a PC or laptop computer.

Features and characteristics

- Hard-wearing, highly robust measuring head
- Precise measurement thanks to integrated temperature compensation
- Reliable readings even with the difficult reflection ratio caused by powdery or fresh snow
- Analog and digital interface ensures universal application
- Intelligent processing of measurement readings for compensation and filtering of effects of the weather
- Watertight design for outdoor use in the open air

Technical specifications

USH-8

Measurement range – Snow depth

Measurement range: 0 to 8 m; resolution: 1 mm; accuracy: 0.1 % (FS)
Measurement principle / sensor: ultrasonic (frequency 50 kHz; beamwidth 12°)

Measurement range – Temperature

Measurement range: -40 °C to +60 °C; resolution: 0.1 °C; non-linearity: ≤0.15 %
Measurement principle / sensor: semiconductor (external sensor in air-cooled radiation shield)

Functions

Distance or depth measurement (configurable)

Interface – Analog

Distance / snow level
Signal: 0/4 to 20 mA (configurable); resolution: 12 bit; max. load 100 Ω

Interface – Digital

Distance / snow level and air temperature
Interface: RS 232; data transmission rate: 1.2 to 19.2 kBd
Protocol: various ASCII protocols

Power supply

Supply voltage: 10,5 to 15 VDC
Current consumption: max. 200 mA (measuring phase, approx. 3 seconds); 5 mA (standby)
Energy consumption: 0.5 Ah / day (with measuring interval of 1 minute)

Lightning protection

Discharge capacity: built in lightning protection with 0.6 kA discharge capacity

Range of application

Operating temperature: -40 °C to +60 °C

Housing

Basic dimensions: diameter: 80 mm; length: 230 mm
Thermal shield: diameter: 110 mm; length: 120 mm
Material: Anodised natural aluminium
Total weight: 2 kg

Protection rating

IP 66

Installation

Mast-mounting device for 61 mm (2 ") pipe