Hydrology · Meteorology · Geology

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

Sommer GmbH & Co KG
Straßenhäuser 27, AT-6842 Koblach, Austria
Tel. +43 (0)5523 55989 – 0
Fax. +43 (0)5523 55989 – 19
E-mail. office@sommer.at
Internet. www.sommer.at

Hydrology · Meteorology · Geology

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

Version 002

Sommer GmbH & Co KG
Straßenhäuser 27, AT-6842 Koblach, Austria
Tel. +43 (0)5523 55989 – 0
Fax. +43 (0)5523 55989 – 19
E-mail. office@sommer.at
Internet. www.sommer.at