Snow Temperature Profile Sensor SCA

Generating a snow temperature profile

The SCA-sensor measures the temperature in the different layers of the snow pack as well as at the bottom. With this, a very exact temperature profile for the specific snow pack is generated.

Features and advantages

- Continuous recording of the snow and ground temperatures at the individual profile depths
- Use of very exact and highly durable resistance temperature detectors (Pt100)
- Better and more exact measurement results through the layer arrangement - the detector measures in the snow and not the air temperature
- Simple installation and exchange of the temperature candles is possible
- Easy integration into existing systems

Fields of application

The SCA-sensor carries out several independent temperature measurements in the snow pack with which an exact temperature profile can be generated. The measuring points can be compared to candles with different lengths and are distributed throughout the layers within the snow pack (25, 50, 75 and 100 cm). A further measurement for the ground temperature is also carried out directly on the ground. The results from the temperature profile in the snow can be used for further analysis of the consistency of the snow pack.

Optimal material choice and setting

The temperature candles made from plastic (= bad heat conductor) do only allow a very low radiation influence. The base made from consistent larch wood prevents from unnecessary heat conduction. Furthermore, the vertical and upwards oriented structure of the temperature sensors do not break under the snow load. Therefore, a reliable and exact snow temperature measurement can be provided always.

Technical details

- **Total weight** 1.8 kg
- **Sensor width** 130 mm
- **Power supply** 8 x AA batteries

- **Battery life** > 25 h continuous use (alkaline batteries)
- **Operating temperature** -20 °C ... +50 °C
- **Storage temperature** -20 °C ... +50 °C