



SHM-31 Snow Depth Sensor

Datasheet

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The laser-based snow depth sensor SHM31 stands for millimeter-accurate snow level detection over long distances in all weather conditions without any maintenance, due to opto-electronic/laser based rangefinder technology.

Features

- Parameters measured: Snow depth
- Measurement technology: opto-electronic measuring technique (rangefinder; laser distance sensor) with eyesafe laser. Determination of snow depth over long distances, heating options allow high quality measurements in all weather conditions, simplified installation due to automatic inclination angle compensation
- Interfaces: RS485 & RS232 with Modbus RTU, UMB, UMB-ASCII 2.0 & SDI12 protocol

Millimeter-accurate snow levels in all weather conditions:

The SHM 31 operates with a visible, easy-to-measure measuring beam. The snow depth is given up to 15 meters within seconds, millimeter-accurate and reliable.

Various heating functions significantly extend the lifetime of the laser diode and allow high-quality measurement data in all weather conditions.

Regular maintenance becomes redundant with the SHM 31. A very robust housing and an elaborate operation principle allows almost no maintenance work throughout the lifetime of the sensor.

Data summary

Technical data

- Dimensions 302mm x 130mm x 234mm
- Weight approx./ 2.35 kg

Operating parameters

- Temperature range -40°C ... 50°C
- Relative humidity 0% ... 100%
- Heating activity < 0°C (programmable)

Measuring parameter

- Snow depth 0...15 m
- Mounting distance to surface 0.1 ... 16 m
- Repeatability 0.6 mm
- Measuring accuracy ± 1 mm
- Measuring accuracy snow $\pm (5 \text{ mm} + 0.06\%)$
- Intermediate precision/reproducibility 5mm

Data interfaces

- RS232 ASCII-protocol
- RS485 Modbus RTU, ASCII, UMB protocol
- SDI-12 protocol

Electrical parameters

- Power consumption 0,7W (without heating), 3.4W (with heating)
- Power supply 12, 24VDC, 18W (with heating)

Safety parameters

- Laser classification Laser Class 2 (IEC60825-1:2014)
- Environmental conditions ISO 10109-11
- Protection class IP68
- EC 2014/30/EU & RoHS 2011/65/EU
- EMC EN 61326-1:2012 (industrial standard)

Accessories

- Mounting clamp, steel, up to 72 mm \varnothing , 80 mm \varnothing and 300mm \varnothing
- Connecting cable 15 m or 50 m

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