



An Optoelectronic

Laser Sensor

An optoelectronic laser sensor for determining snow depths. Compact, reliable and cost-efficient: The snow depth sensor reliably determines snow depths within a measuring range of up to 10 meter within seconds and with millimeter precision.



Lufft SHM 30 Snow Depth Sensor

Made in Germany by Jenoptik

Compact, reliable and cost-efficient

The SHM 30 snow depth sensor reliably determines snow depths up to 10 meter within seconds and with millimeter precision.

Based on an opto-electronic distance sensor emitting visible eye-safe laser light, the SHM 30 allows probing distances up to 30 meter to detect the surface level. Unlike snow depth sensors using ultrasonic methods, the laser distance measuring technique is independent

of temperature changes.

Even if the measuring process is impaired by precipitation, the SHM 30 reliably finds the snow surface due to its mode of operation. Further evaluation of the transmitted signal strength allows discrimination between snow and grass.

Benefits

- Determination of snow depth over long distances using opto-electronic measuring technique
- MTBF (meantime between failure) >40.000h (duty cycle 30% 3 measurements/min)
The build in heater does mainly keep the build in laser diode in specs to ensure a long lifetime
- Very compact and weatherproof housing
- Efficient background light suppression
- Allows discrimination between snow and grass

Applications

- Weather service
- Traffic and aviation safety, road surveillance
- Winter sport areas
- Water & energy related applications

Lufft SHM 30 Snow Depth Sensor		Order No.
A compact laser sensor with RS232, 10 m cable		8365.10
With RS232 and ext. heat off, 10 m cable		8365.11
With RS422, 10 m cable		8365.20
With RS422, 5 m cable		8365.50
Technical data	Dimensions (LxBxH)	302 mm x 130 mm x 234 mm
	Weight	approx. 3.3 kg
Operating parameters	Temperature range	-40°C ... +50°C
	Relative humidity	0% ... 100%
	Heating activity	< 0 °C (programmable)
Measuring parameter	Snow depth	0 ... 10 m
	Distance to hard targets ^(1,2)	0.1 ... 30 m
	Precision / reproducibility ⁽²⁾	≤ 0.5 mm
	Measuring accuracy ^(2,3,4)	± 1 mm
	Measuring accuracy snow ⁽⁴⁾	± 5 mm
	Programmable measuring interval	1 s ... 600 s
	Time to measure	≤ 10 s
Interfaces	Data interfaces	RS232, analog output
	Interface modes RS 232 analog	2,4 ... 38,4 kBaud, format 8N1 3 mA und 4 ... 20 mA
	Operating modes	Polling, automatic telegram
	Client software	Any terminal program
Electrical parameters	Power consumption	0,5...1W (without heating) <12W (with heating) ⁽⁵⁾ ... 24W
	Power supply	10...30VDC (without heating) 15...24VDC (with heating)
Safety parameters	Laser classification	Laser Class 2 (IEC825-1/EN 60825)
	Environmental conditions	ISO 10109-11
	Protection class	IP65
	EMV	EN 61326-1
Accessories	Mounting clamp, steel, up to 80 mm Ø	8365.608-11X
	Mounting clamp, steel, up to 300 mm Ø	8365.609-11
	Mounting clamp, steel, up to 72 mm Ø	8365.610-11
	connecting cable 10m	8365.610-14
	connecting cable 20m	8365.611-14
	connecting cable 5m	8365.612-14

⁽¹⁾ without far field stray light protection

⁽⁴⁾ 95% statistical spread

⁽²⁾ on natural diffuse reflecting surfaces

⁽⁵⁾ heating cycle 0 ... -30 °C, at 24 VDC

⁽³⁾ offset corrected sensor

