

SH1 PRECISE AND FAST HUMIDITY SENSOR

Wiiste
SOLIDRH

Wiiste SH1 is a sensor designed and manufactured in Finland, intended for measuring the humidity and temperature of concrete. The SH1 includes a new W-Tip sensor structure. Due to its significantly accelerated relaxation time, the sensor enables an accurate humidity measurement of the concrete straight after casting, even in fluctuating temperatures.

The SH1 has been developed for construction site conditions, and it enables the humidity monitoring during not only the construction phase, but for the entire lifetime of the building.

The data is read and stored using a hand-held scanner (Wiiste SolidRH RD1).

Reporting and sharing the data in a cloud computing service

With the USB connection of the hand-held scanner, the data can be easily transferred to Relia cloud computing service via computer. The browser-based Relia scales for different terminal devices, and its other features include filing, reporting and sharing the data, and planning the measuring on the ground plans.

Measurement depth

The sensors are delivered predimensioned and the measurement depth preprogrammed into the sensor memory. For further information on the selection of the correct measurement depth, refer to, for example, RT product information card RT 103333 "Betonin suhteellisen kosteuden mittaus" (Measurement of relative humidity of concrete).

Calibrating

The permanently installed sensors of the SolidRH SH series are delivered with factory calibrations. The calibration is valid for one year when stored and installed according to the instructions. The sensors are typically not calibrated after installation, therefore the diminished measurement accuracy occurring over time (see technical data) must be taken into account when examining the measurement results.



FEATURES OF THE SH1

- Can be permanently installed in concrete during casting
- Wireless contactless reading (SolidRH RD1)
- Fast Wiiste W-Tip sensor
- Measurement depth 15 to 70 mm

TECHNICAL DATA

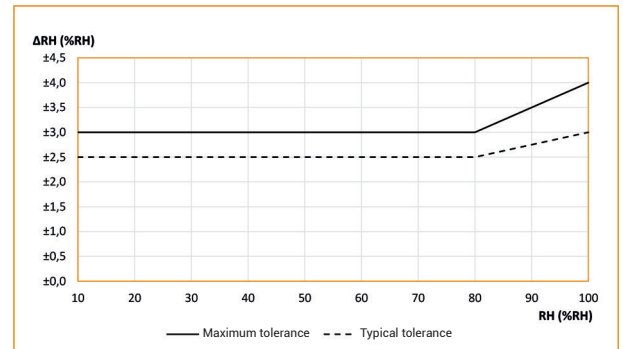
Humidity measurement

Measurement range ⁽¹⁾	10 ... 100 %RH
Measuring accuracy ⁽²⁾ (see picture 1)	±2.5%RH (10 ... 80%RH)
Repeatability ⁽³⁾	±0.2%RH
Hysteresis	< ±1%RH
Resolution	0.1%RH
Linearity error	< ±1%RH
Response time (T10-90%)	< 20s
Transfer accuracy	< 0.5%RH/a
Sensor type	Capacitive polymer

(1) Max dew point has been limited to 80°C.

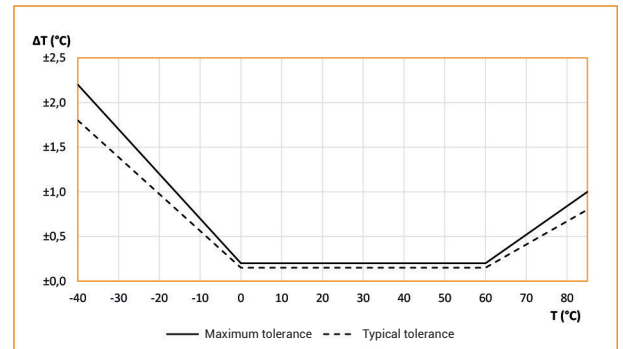
(2) Accuracy has been tested 23°C towards the rising relative humidity. Linearity error and hysteresis has not been taken into account in the accuracy.

(3) Repeatability has been measured in the same direction, and does not take hysteresis into account.



Temperature measurement

Measurement range	-40 ... 85°C
Measuring (see picture 2)	±0.2°C (0... 60°C)
Repeatability	±0.1°C
Resolution	0.1°C
Response time (T10-90%)	< 10min
Transfer accuracy	< 0.05°C/a
Sensor type	PTAT



Electrical properties

Distance of contactless reading	0 ... 40 mm
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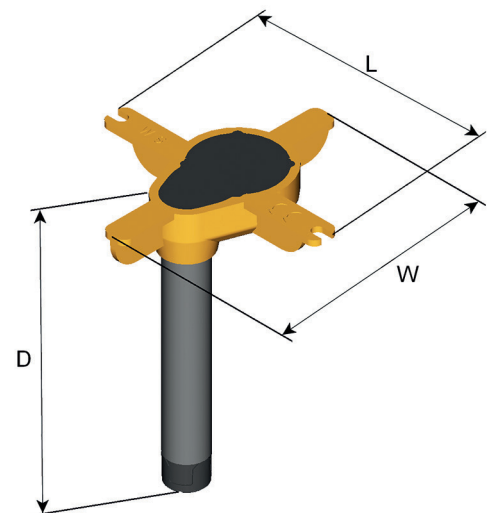
Mechanical properties

External dimensions (see picture 3)	
L	60mm
W	60mm
D	≥ 15mm
Weight	7 ... 15g (D = 15 ... 70mm)
IP rating	IP68

Use and storage

Operating temperature range	-40 ... 85°C
Storage conditions	20 ... 30°C / 40 ... 60%RH

Must be kept away from sun light, dust, and chemicals and their vapours.



MANUFACTURING, SALES AND INFORMATION

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