

HS-01 Humidity sensor

Basic characteristic

- ▲ HS-01 is an FBG-based relative humidity sensor usable in various environments.
- ▲ HS-01 offers to measure temperature and relative humidity changes within one body.
- ▲ The small dimensions of the body allow the sensor to be inserted in narrowed spaces.



Benefits

- ▲ Inbuilt particle filter made from PTFE.
- ▲ Integrated temperature sensor for temperature compensation.
- ▲ Can be manufactured completely without any metal.

Applications

- ▲ Relative Humidity and temperature measurement in one body.
- ▲ Combined with the right choice of housing material the sensor is suitable for harsh environments.

Performance properties

Relative Humidity Range ¹⁾	0-99%
Accuracy (guaranteed) ²⁾	<3% FS ⁴⁾
Accuracy (typical) ²⁾	<1.5% FS ⁴⁾
Precision (guaranteed) ³⁾	<1.25% FS ⁴⁾
Precision (typical) ³⁾	<0.75% FS ⁴⁾
Temperature sensitivity	10-11pm/°C
Relative Humidity Sensitivity ⁵⁾	~3pm/rH%
Operating Temperature range	-20°C to +60°C
Ingress Protection rating	IP 42

¹⁾ Calibrated in μm on demand

²⁾ Accuracy is established for each sensor under laboratory conditions and it includes hysteresis, non-linearity, and repeatability of the sensor.

³⁾ Precision is established on a batch basis and it includes hysteresis, non-linearity, repeatability, and reproducibility of the sensor.

⁴⁾ FS: full-scale range

⁵⁾ The relative humidity sensitivity is a combination of temperature and humidity impacts.

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Physical properties

Housing material	PEEK
Other available housing materials ¹⁾	PTFE, 1.4404. 1.4301
Dimensions (without cable) ²⁾	Ø8mm x 80mm
Weight (without cable)	< 10g
Cable type	3mm Dyneema reinforced cable, 900µm tubing
Cable length ³⁾	1mtr
Cable Bend Radius (dynamic)	40mm (for 3mm cable)
Cable Bend Radius (static)	30mm (for 3mm cable)
Connector type ⁴⁾	FC/APC
Mounting method	Clamping to an object

¹⁾ The housing material can be utilized for different applications

²⁾ For further dimensions details see the product drawing

³⁾ Cable length is extendable on request

⁴⁾ Other connector types available on request

Packaging

Cardboard box with dimensions: 370x290x45mm

Quality statement

HS-01 sensor is compliant with IEC 61757:2018

All sensors are 100% tested and calibrated at SYLEX

The sensor is manufactured according to ISO 9001:2008 and ISO 14001:2004

Optional accessories

- ▲ **WCP-01 Watertight connector protection** – used for FC/APC connector protection during the installation against dust and water – IP67 rated.
- ▲ **LCP-03 Longer cable pigtails** – used to extend the cable lengths from 1mtr up to 20mtr.

* Specifications are subject to change without notice