OVERVIEW

The Digital T/H Sensor B-TH-01 is dedicated to Temperature and Air Humidity Measurement for dusty environment. It comes with digital I2C output, and ESD +15kV protection.
APPLICATIONS

Agriculture & Greenhouse

Environmental Monitoring

Medical lab & clean room

Cold chain traceability

Heating, ventilation, and air conditioning
**MAIN FEATURES**

- Measuring range: 0 to 100 %RH for Humidity, Temperature Range: -40°C to +80°C
- Accuracy: ±2% RH for humidity, ±0.2 °C for temperature
- Power Supply: 5VDC
- Waterproof IP67
- Digital Output: I2C with 14-bit of resolution

**RH ACCURACY VS RH (AT 25°C)**

![Graph showing RH accuracy vs RH at 25°C](image-url)
TEMPERATURE ACCURACY VS TEMPERATURE (AT 25°C)

TECHNICAL SPECIFICATIONS

PRODUCT REFERENCE

B-TH-01-CL

CL : Cable length in cm (minimum cable length 20 cm, maximum cable length 150 cm)

TEMPERATURE SENSOR SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Sensor technology</td>
<td>Thermistor</td>
</tr>
<tr>
<td>Measurement range</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Accuracy (5°C to 60°C)</td>
<td>±0.2 °C</td>
</tr>
<tr>
<td>Sensor resolution</td>
<td>0.015 °C</td>
</tr>
<tr>
<td>Long term drift</td>
<td>&lt; 0.05 K / year</td>
</tr>
<tr>
<td>Response time</td>
<td>&lt; 20s with sensor cap</td>
</tr>
</tbody>
</table>
## TECHNICAL SPECIFICATIONS

### HUMIDITY SENSOR SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity Sensor technology</td>
<td>Capacitive polymer humidity sensor</td>
</tr>
<tr>
<td>Measurement range</td>
<td>0 to 100 %RH</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±2 %RH (Temp: 25°C, range: 20-60 %RH)</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.1 %RH</td>
</tr>
<tr>
<td>Sensor resolution</td>
<td>0.01% RH</td>
</tr>
<tr>
<td>Hysteresis* (0 to 70 %RH)</td>
<td>&lt; ±1% RH</td>
</tr>
<tr>
<td>Response time</td>
<td>&lt;20s with sensor housing</td>
</tr>
<tr>
<td>Long term drift</td>
<td>0.25 % RH / year</td>
</tr>
</tbody>
</table>

### SENSOR OUTPUT

- **Digital Output**: I2C up to 400 kHz, 14-bit resolution

### SENSOR HOUSING

- **Dimensions**: Diameter 18 mm, Length: 57 mm
- **Sensor housing**: Waterproof (IP66) stainless steel with 30-45µm of pore size
- **Pressure Resistant**: Up to 16 bar
- **Operating Temperature**: -40°C to +85°C
- **Weight**: 40g
- **Dew formation resistant**: Yes

### ENVIRONMENTAL AND MECHANICAL

- **Operating Temperature**: -40°C to +75°C
- **Norms**: FCC & CE compliant
  - Electromagnetic compatibility EN61326-1, EN61326-2-3
  - ROHS - Directive 2002/95/EC

### POWER SUPPLY

- **Power Supply Volatge**: 5VDC
- **Current**: xxx µA

### OPTION(S)

- **Calibration**: DakkS connected calibration
The hysteresis value is the difference between an RH measurement in a rising and falling RH environment, at a specific RH point.