

# Humidity & Temperature Sensor SHT71

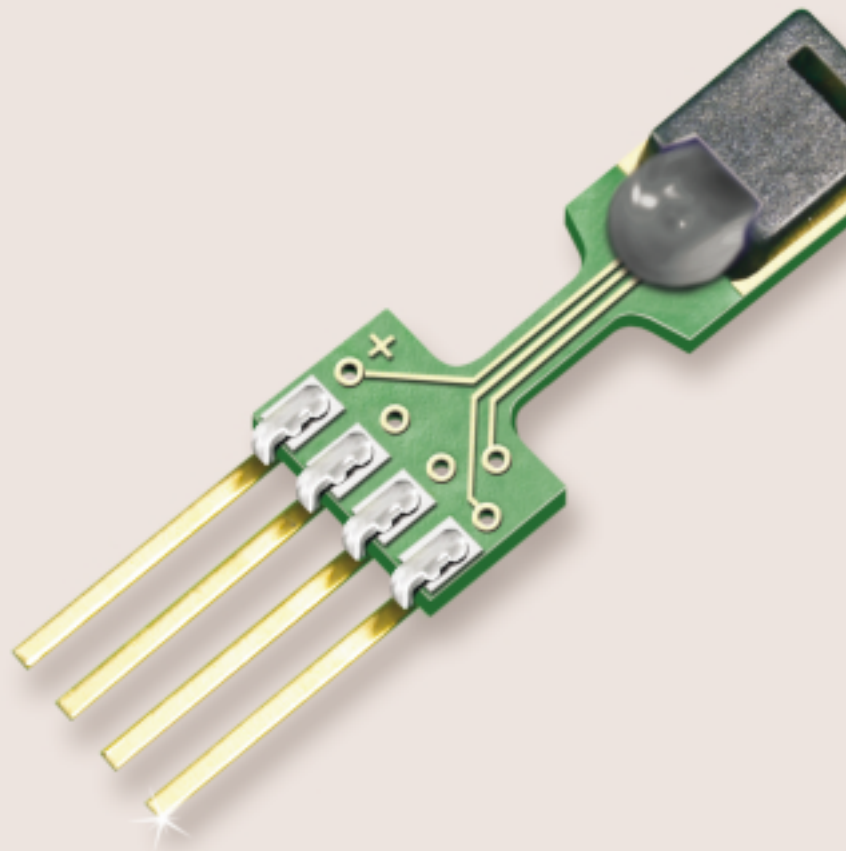
The SHT71 humidity and temperature sensor is designed for demanding applications. Every sensor is individually calibrated in a precision humidity chamber and supplies a fully calibrated, digital signal for relative humidity and temperature. Innovative CMOSens® technology guarantees 100% interchangeability without recalibration and provides for attractive system cost and a very user-friendly system.

- \_ Relative humidity & temperature
- \_ Dew point
- \_ Fully calibrated
- \_ Interchangeable without recalibration
- \_ Digital 2-wire interface
- \_ Excellent long-term stability
- \_ cost-effective

powered by

**CMOSens®**  
TECHNOLOGY

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real photo  
actual size



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Technical drawing of a mechanical part, showing a top view and a side view. The drawing includes dimensions in millimeters (mm) and inches (in).

**Top View Dimensions:**

- Overall width: 3.7 (0.15)
- Overall height: 13.5 (0.53)
- Top width: 3.1 (0.12)
- Top width (inner): 2.2 (0.09)
- Top width (inner, bottom): 0.6 (0.024)
- Top width (inner, bottom): 0.4 (0.02)
- Top width (inner, bottom): 0.2 (0.01)
- Top width (inner, bottom): 2 (0.08)
- Top width (inner, bottom): 0.46 (0.018)
- Top width (inner, bottom): 1.27 (0.05)
- Top width (inner, bottom): 5.08 (0.2)
- Top width (inner, bottom): 1.2 (0.05)
- Top width (inner, bottom): 3.7 (0.15)
- Top width (inner, bottom): 3.4 (0.13)
- Top width (inner, bottom): ~6 (~0.24)

**Side View Dimensions:**

- Overall height: 13.5 (0.53)
- Top width: 3.1 (0.12)
- Top width (inner): 2.2 (0.09)
- Top width (inner, bottom): 0.6 (0.024)
- Top width (inner, bottom): 0.4 (0.02)
- Top width (inner, bottom): 0.2 (0.01)
- Top width (inner, bottom): 2 (0.08)
- Top width (inner, bottom): 0.46 (0.018)
- Top width (inner, bottom): 1.27 (0.05)
- Top width (inner, bottom): 5.08 (0.2)
- Top width (inner, bottom): 1.2 (0.05)
- Top width (inner, bottom): 3.7 (0.15)
- Top width (inner, bottom): 3.4 (0.13)
- Top width (inner, bottom): ~6 (~0.24)

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- \_ Combined relative humidity and temperature measurement
- \_ Precise dew point measurement
- \_ Fully calibrated, interchangeable without recalibration
- \_ Ultra fast response time
- \_ Digital 2-wire interface (no external components required)
- \_ Ultra small size (20.0 x 3.7 x 3.1 mm)
- \_ High reliability
- \_ Optimized for long-term stability
- \_ Fully immersible
- \_ Low power due to measurement on demand
- \_ Self test capability of sensor elements
- \_ Heatable sensor elements for excellent precision and stability

<b>Relative Humidity (RH)</b>	
Range:	0 to 100 % RH
Accuracy:	± 3.5 % RH (20 to 80 % RH)
Response time:	≤ 3 sec.
Reproducibility:	± 0.1 % RH
Resolution:	0.03 % RH
Operating temperature:	−40°C to 120°C
<b>Temperature (T)</b>	
Range:	−40°C to 120°C
Accuracy:	± 0.5°C @ 25°C, ± 0.9°C (0°C – 40°C)
Response time:	≤ 15 sec.
Reproducibility:	± 0.1°C
Resolution:	0.01°C

_Power consumption:	typ. 30 $\mu$ W (@ 5 V, 12-bit, measure every 2 sec.) typ. 1 $\mu$ W (@ 2.4 V, 8-bit, measure every 2 min.)
_Supply voltage range:	2.4 to 5.5 V
_Input current during measurement:	0.5 mA
_Input current standby:	0.3 $\mu$ A

- \_Pluggable pin-type packaging for 1.27 mm sockets
- \_The whole system, including packaging, is qualified

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