

# RHT175

## Relative Humidity and Temperature Probe

The new generation of Relative Humidity and Temperature Probe RHT175, developed and manufactured by MicroStep-MIS, provides reliable and accurate relative humidity and temperature measurement.



 <b>Accuracy typical 1 %RH</b>	 <b>Long-term stability &lt; 1 %RH/year</b>
 <b>Humidity sensor 0 to 100 %RH</b>	 <b>Digital and analog interface</b>

### Relative humidity measurement

<b>Measurement range</b>	0 to 100 %RH
<b>Accuracy (@ 25 °C)</b>	±1 %RH
<b>Short term hysteresis</b>	< 0.6 %RH
<b>Accuracy over temperature range</b>	$1 +  t - 25  * (0.008 + 0.00052 * RH)$
<b>Typical long-term stability</b>	±1.0* % per year
<b>Calibration traceability</b>	MBW calibration
<b>Sensor type</b>	capacitive sensor
<b>Resolution</b>	0.05 %RH, 0.01 °C

### Temperature measurement

<b>Measurement range</b>	-65 °C to +70 °C
<b>Accuracy</b>	±0.2 (-40 to +60) °C

\* Possibility with passive PT100

**General**

<b>Operating temperature range</b>	-65 °C to +70 °C
<b>Housing classification</b>	IP 65 (except sensors)
<b>Sensor protection</b>	PTFE sintered filter
<b>EMC compliance</b>	tested and conforms to IEC 61326:2002
<b>Connector</b>	M12 5-pin male (optional)
<b>Power consumption (1 measurement per 10 s, analog output ON)</b>	2 mW
<b>Power consumption (1 measurement per 10 s, analog output OFF)</b>	1.2 mW
<b>Settling time at power-up</b>	< 3 s
<b>Communication standard</b>	<ul style="list-style-type: none"> <li>• SDI-12 V1.3</li> <li>• analog out (0 V to 1 V)</li> <li>• RS-485 (optional)</li> <li>• 3.3 V UART (optional)</li> <li>• second analog out (0 V to 1 V) (optional)</li> </ul>
<b>Measurement period</b>	from 1 s
<b>Supply voltage</b>	5 to 30 V DC

**Optional continuous heating**

<b>Heating power</b>	≤ 250 mW (adjustable)
<b>Output value</b>	Dew point [°C]

**Factory calibration**

<b>Relative humidity [%RH]</b>	<b>Expanded uncertainty U [%RH]</b>
10	0.60
30	0.60
50	1.0
70	1.0
95	1.2