Renesas’ humidity sensors offer high accuracy with the fastest measurement response time of comparable devices currently on the market.

The HS300x family of relative humidity sensors feature a ±1.5% RH accuracy and four-second response time (rated 20% to 80% RH range in still air and does not require airflow). Since humidity sensors consume the most power when they are taking a measurement, the fast response time to a stable measurement reduces the amount of sampling needed. This is especially important for battery-powered applications where lower power consumption equates to longer battery life. In addition to high-accuracy and fast response times, the HS300x family features excellent long term stability of 0.1% RH per year as a result of a robust silicon carbide construction and an innovative design. This improves useful lifetime and lowers effective cost.

**Features**

- Silicon carbide structure
- ±1.5%RH accuracy (HS3001)
- Fast RH response time (typical 4 seconds)
- 0.1%RH per year drift
- 14-bit resolution: 0.01%RH (typical)
- Low power consumption: 1.0µA average
- Digital/Analog output
- Extended supply voltage: 1.8 to 5.5 V

**Applications**

- Measurement of water vapor content in medical oxygen
- Humidity measurement in home appliances
- Monitor humidity in the air in industrial processes, climate control systems (HVAC), weather stations and portable personal health devices
## HUMIDITY SENSORS PRODUCT DETAILS

### Benefits

- Integrated temperature and humidity sensing solution
- Small form factor solution with lower system cost
- Low power consumption saves battery
- 14-bit high resolution provides extremely tight accuracy
-Insensitive to environmental contaminants like dirt and dust
- Small solution size saves space and BOM for compact designs
- On-board calibration reduces time to market
- Wide supply voltage range eliminates the need for LDO/DC-DC
- Fast RH response time (typical 4 seconds)

### High-Performance Relative Humidity and Temperature Sensors

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Relative Humidity Accuracy Typ (±%RH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS3001</td>
<td>1.5</td>
</tr>
<tr>
<td>HS3002</td>
<td>1.8</td>
</tr>
<tr>
<td>HS3003</td>
<td>2.5</td>
</tr>
<tr>
<td>HS3004</td>
<td>3.5</td>
</tr>
</tbody>
</table>

To request samples, download documentation or learn more, visit:

idt.com/humidity