RENESAS
BIG IDEAS FOR EVERY SPACE

RELATIVE HUMIDITY SENSOR FAMILY

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

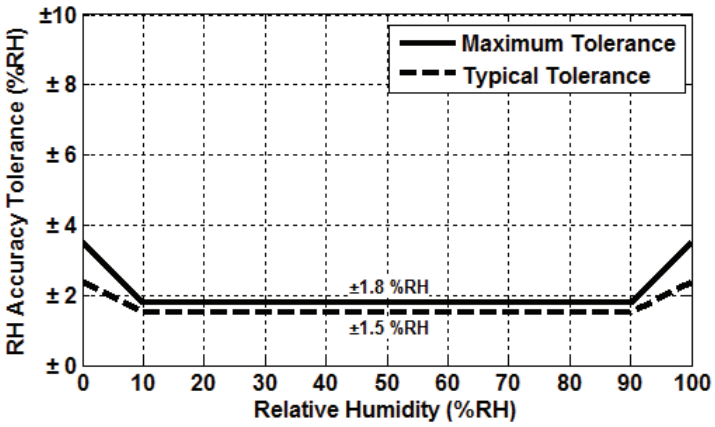
Benefits

- 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

Part Number	Relative Humidity Accuracy Typ (±%RH)
HS3001	1.5
HS3002	1.8
HS3003	2.5
HS3004	3.5

High Relative Humidity Accuracy and Long Term Stability You Can Depend On



HS3001 RH Accuracy Tolerance at 25°C

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

idt.com/humidity

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