

# Honeywell HumidCon™ Digital Humidity/Temperature Sensors Product Nomenclature



For example, **HIH9130-000-001** defines a Honeywell HumidCon™ Digital Humidity/Temperature Sensor, HIH9000 Series, 2.3 Vdc to 5.5 Vdc supply voltage, SOIC-8 SMD housing style, without hydrophobic filter, ±1.7 %RH accuracy, SPI output, 1000 units on tape and reel

	HIH Product Type	9 Output Type	1 Supply Voltage	3 Housing Style	0 Filter	—	0 Accuracy	00 Output	—	001 Packaging
<b>9000 Series</b>	<b>HIH</b> Humidity/Temperature Sensor	<b>9</b> Digital	<b>1</b> 2.3 Vdc to 5.5 Vdc	<b>2</b> SIP 4 Pin	<b>0</b> Without hydrophobic filter	—	<b>0</b> ±1.7 %RH	<b>00</b> SPI	—	<b>001</b> SOIC 8 SMD: 1000 pieces on tape and reel SIP 4 PIN: 100 to 249 units on tape and boxed; 250 units or more on tape and reel
				<b>3</b> SOIC-8 SMD	<b>1</b> With hydrophobic filter			<b>21</b> I <sup>2</sup> C		
<b>001S</b> 5 pieces on tape (sample)										
<b>8000 Series</b>	<b>HIH</b> Humidity/Temperature Sensor	<b>8</b> Digital	<b>1</b> 2.3 Vdc to 5.5 Vdc	<b>2</b> SIP 4 Pin	<b>0</b> Without hydrophobic filter	—	<b>0</b> ±2.0 %RH	<b>00</b> SPI	—	<b>001</b> SOIC 8 SMD: 1000 pieces on tape and reel SIP 4 PIN: 100 to 249 units on tape and boxed; 250 units or more on tape and reel
				<b>3</b> SOIC-8 SMD	<b>1</b> With hydrophobic filter			<b>21</b> I <sup>2</sup> C		
<b>001S</b> 5 pieces on tape (sample)										
<b>7000 Series</b>	<b>HIH</b> Humidity/Temperature Sensor	<b>7</b> Digital	<b>1</b> 2.3 Vdc to 5.5 Vdc	<b>2</b> SIP 4 Pin	<b>0</b> Without hydrophobic filter	—	<b>0</b> ±3.0 %RH	<b>00</b> SPI	—	<b>001</b> SOIC 8 SMD: 1000 pieces on tape and reel SIP 4 PIN: 100 to 249 units on tape and boxed; 250 units or more on tape and reel
				<b>3</b> SOIC-8 SMD	<b>1</b> With hydrophobic filter			<b>21</b> I <sup>2</sup> C		
<b>001S</b> 5 pieces on tape (sample)										
<b>6000 Series</b>	<b>HIH</b> Humidity/Temperature Sensor	<b>6</b> Digital	<b>0</b> 2.3 Vdc to 5.5 Vdc	<b>2</b> SIP 4 Pin	<b>0</b> Without hydrophobic filter	—	<b>0</b> ±4.5 %RH	<b>00</b> SPI	—	<b>001</b> SOIC 8 SMD: 1000 pieces on tape and reel SIP 4 PIN: 100 to 249 units on tape and boxed; 250 units or more on tape and reel
				<b>3</b> SOIC-8 SMD	<b>1</b> With hydrophobic filter			<b>21</b> I <sup>2</sup> C		
<b>001S</b> 5 pieces on tape (sample)										
<b>6100 Series</b>	<b>HIH</b> Humidity/Temperature Sensor	<b>6</b> Digital	<b>1</b> 2.3 Vdc to 5.5 Vdc	<b>2</b> SIP 4 Pin	<b>0</b> Without hydrophobic filter	—	<b>0</b> ±4.0 %RH	<b>00</b> SPI	—	<b>001</b> SOIC 8 SMD: 1000 pieces on tape and reel SIP 4 PIN: 100 to 249 units on tape and boxed; 250 units or more on tape and reel
				<b>3</b> SOIC-8 SMD	<b>1</b> With hydrophobic filter			<b>21</b> I <sup>2</sup> C		
<b>001S</b> 5 pieces on tape (sample)										

## Sales Resource – Product Overview

### Honeywell HumidCon™ Digital Humidity/Temperature Sensors

#### DESCRIPTION

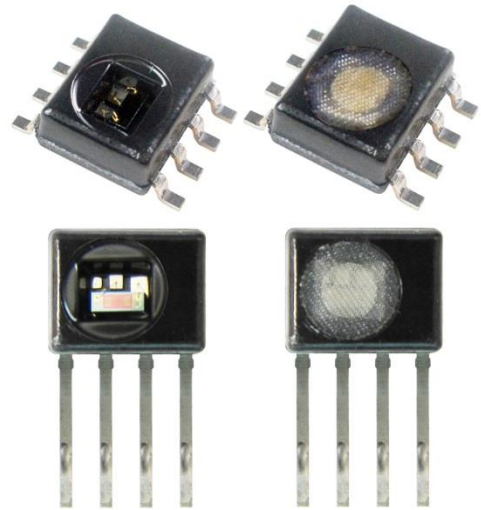
Honeywell HumidCon™ Digital Humidity/Temperature Sensors are digital output-type relative humidity (RH) and temperature sensors combined in the same package.

They are available in the following accuracies:

- ±1.7 %RH (HIH9000 Series)
- ±2.0 %RH (HIH8000 Series)
- ±3.0 %RH (HIH7000 Series)
- ±4.5 %RH (HIH6000 Series)
- ±4.0 %RH (HIH6100 Series)

The Honeywell HumidCon™ sensors provide:

- Industry-leading long-term stability
- True temperature-compensated digital I<sup>2</sup>C or SPI output
- Industry-leading reliability
- Energy efficiency
- Lowest total cost solution
- Ultra-small package size and options



#### FEATURES AND BENEFITS

- **Industry-leading long term stability (1.2 %RH over five years):**
  - Minimizes system performance issues
  - Helps support system uptime by eliminating the need to service or replace the sensor during its application life
  - Eliminates the need to regularly recalibrate the sensor in the application, which can be inconvenient and costly
- **Industry-leading reliability (MTTF 9,312,507 HR):** Thermoset-polymer capacitive sensing element's multilayer construction provides resistance to most application hazards such as condensation, dust, dirt, oil, and common environmental chemicals, which help provide industry leading reliability.
- **Lowest total cost solution:** Delivers the lowest total cost solution due to the sensor's industry leading combined humidity/temperature sensor
- **Combined humidity and temperature sensor:** Allows the RH measurement to be temperature compensated, and provides a second, standalone temperature sensor output; allows the user to purchase one sensor instead of two
- **Energy efficient:**
  - Low supply voltage: Can operate down to 2.3 Vdc, which allows use in low energy and wireless-compatible applications to enhance energy savings and prolong system battery life
  - Low power consumption: The sensor goes into sleep mode when not taking a measurement within the application, consuming only 1 µA versus 650 µA in full operation in a battery operated system; sleep mode helps maximize battery life, reduces power supply size, and reduces the application's overall weight
- **High resolution:** High 14-bit humidity sensor resolution and 14-bit temperature sensor resolution within the application help the user's system detect the smallest relative humidity or temperature change
- **True, temperature-compensated digital I<sup>2</sup>C or SPI output:** Typically allows the customer to remove the components associated with signal conditioning from the PCB to free up space and reduce costs associated with those components (e.g., acquisition, inventory, assembly). True, temperature-compensated digital I<sup>2</sup>C or SPI output often eliminates problems that could occur from having multiple signal conditioning components across the PCB, as well as simplifies integration to the microprocessor, eliminating the need for customer-implemented, complex signal conditioning.
- **Housing style:** SOIC-8 SMD (Surface Mount Device) or SIP 4 Pin; ultra-small size allows for flexibility of use within the application, occupies less space on the PCB, and typically simplifies placement on crowded PCBs or in small devices; industry standard design simplifies design-in
- **Filter:** Available with hydrophobic filter and condensation-resistance, allowing for use in many condensing environments, or without hydrophobic filter, non-condensing
- **Tape and reel:** Allows for use in high volume, automated pick-and-place manufacturing, eliminating lead misalignment to the PCB and helping the customer to reduce manufacturing costs
- **Wide operating temperature range:** Allows for use in many applications
- **Optional one or two %RH level alarm outputs:** Provides the ability to monitor whether the RH level has exceeded or fallen below pre-determined and critical levels within the application
- **Multi-function ASIC:** Delivers flexibility within the application by lowering or eliminating the risk and cost of OEM calibration
- RoHS and WEEE compliant, halogen-free

# Sales Resource – Product Overview

## Honeywell HumidIcon™ Digital Humidity/Temperature Sensors

### POTENTIAL APPLICATIONS

<b>Industrial</b> <ul style="list-style-type: none"><li>• HVAC/R</li><li>• Air compressors</li><li>• Weather stations</li><li>• Telecom cabinets</li><li>• Incubators/microenvironments</li></ul>	<b>Medical</b> <ul style="list-style-type: none"><li>• Respiratory therapy</li><li>• Incubators/microenvironments</li></ul>
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<b>COMPETITIVE PRODUCTS</b> <p>Sensirion, Measurement Specialties (Humirel), GE CHIPCAP, Samyoung HumiChip, HYGROCHIP</p> <b>CONTACT INFORMATION:</b> <p>Jackie Leff, Global Product Marketing Manager, <a href="mailto:jacqueline.leff@honeywell.com">jacqueline.leff@honeywell.com</a>, +1 763-954-5755</p> <p>Seamus McKenna, EMEA Product Marketing Manager, <a href="mailto:james.mckenna@honeywell.com">james.mckenna@honeywell.com</a>, +44 1698 481486</p> <p>Terry Ta, AP Product Marketing Manager, <a href="mailto:lun.ta@honeywell.com">lun.ta@honeywell.com</a>, +86 21 2219 6410</p> <p>Martin Murray, Applications Engineer, <a href="mailto:martin.murray@honeywell.com">martin.murray@honeywell.com</a>, +1 815-235-5695</p> <p>Bryan Hovey, EMEA Applications Engineer, <a href="mailto:bryan.hovey@honeywell.com">bryan.hovey@honeywell.com</a>, +44 1698 481434</p> <p>David Rong, AP Applications Engineer, <a href="mailto:david.rong@honeywell.com">david.rong@honeywell.com</a>, +86 755 25181226, ext 268</p>	<b>SALES AND SERVICE</b> <p>Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or the nearest Authorized Distributor, contact your local sales office or:</p> <p><b>E-mail:</b> <a href="mailto:info.sc@honeywell.com">info.sc@honeywell.com</a></p> <p><b>Internet:</b> <a href="http://sensing.honeywell.com">sensing.honeywell.com</a></p> <p><b>Phone and Fax:</b></p> <table><tr><td>Asia Pacific</td><td>+65 6355-2828; +65 6445-3033 Fax</td></tr><tr><td>Europe</td><td>+44 (0) 1698 481481; +44 (0) 1698 481676 Fax</td></tr><tr><td>Latin America</td><td>+1-305-805-8188; +1-305-883-8257 Fax</td></tr><tr><td>USA/Canada</td><td>+1-800-537-6945; +1-815-235-6847; +1-815-235-6545 Fax</td></tr></table>	Asia Pacific	+65 6355-2828; +65 6445-3033 Fax	Europe	+44 (0) 1698 481481; +44 (0) 1698 481676 Fax	Latin America	+1-305-805-8188; +1-305-883-8257 Fax	USA/Canada	+1-800-537-6945; +1-815-235-6847; +1-815-235-6545 Fax
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