

Installation Instructions for the Honeywell HumidCon™ Digital Humidity/Temperature Sensors: SOIC-8 SMD Versions of the HIH6000 Series, HIH7000 Series, HIH8000 Series, HIH9000 Series

1.0 GENERAL INFORMATION

The following additional technical information is available for reference on the [Web](#):

- Product data sheets for the HIH6000 Series, HIH7000 Series, HIH8000 Series, and HIH9000 Series
- Application sheets:
 - Humidity Sensor Performance Characteristics
 - Humidity Sensor Theory and Behavior
 - Humidity Sensor Moisture and Psychrometrics
 - Humidity Sensor Chemical Resistivity
 - Thermoset Polymer-based Capacitive Sensors
- Technical Notes:
 - SPI Communication with the Honeywell HumidCon™ Digital Humidity/Temperature Sensors
 - Using Alarms on the Honeywell HumidCon™ Digital Humidity/Temperature Sensors
 - Entering and Using Command Mode on the Honeywell HumidCon™ Digital Humidity/Temperature Sensors
 - Total Error Band Specification for Honeywell Digital Humidity/Temperature Sensors



2.0 SENSOR HANDLING

CAUTION

IMPROPER HANDLING

- Do not remove the sensor from its original protective packaging until it is ready to be installed.
- Do not touch the sensor surface. Use latex finger cots. Handle the sensor by its package edges or leads.
- Do not allow objects to enter the cavity of the sensor element.
- Do not allow debris or contaminants to accumulate on the filter.

Failure to comply with these instructions may result in product damage.

3.0 SENSOR CLEANING

CAUTION

IMPROPER CLEANING

- Insert and solder the sensor after the PCB cleaning process.

Failure to comply with these instructions may result in product damage.

4.0 SENSOR POSITIONING

CAUTION

IMPROPER SENSOR POSITIONING

- Position the sensor so that its face is exposed to the atmosphere being monitored.
- Ensure that dust and condensation are avoided.

Failure to comply with these instructions may result in product damage.

5.0 SENSOR SOLDERING

CAUTION

IMPROPER SOLDERING

- For better product reliability, the sensor is factory-shipped with a protective tape on the cover (sensing face). This tape must remain in place during soldering.
- After soldering, remove the protective tape as described below to activate the sensor.

Failure to comply with these instructions may result in product damage.

- **Automated:** Use a no-clean flux. Limit the contact of the flux to the leads only. Reflow soldering profile specified by J-STD-020D for a small package is a peak temperature of 260 °C [500 °F] for 30 s.
- **Manual:** Do not exceed 350 °C [662 °F] for 4 s max.

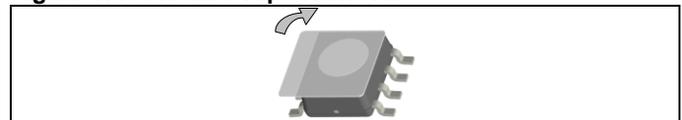
6.0 MOISTURE SEALING THE LEADS

If, in the presence of intermittent moisture or other contaminants, there is the possibility of galvanic paths between the leads, moisture seal the leads and exposed pads prior to removing the protective tape.

7.0 PROTECTIVE TAPE REMOVAL

1. Use proper ESD protection.
2. Using covered fingers or tweezers to ensure that no debris falls into the filter, sensor cover or die, grip the overhanging front edge of the protective tape and peel it back from the top surface of the sensor. (See Figure 1.)
3. Ensure the complete rectangle of protective tape is removed.

Figure 1. Protective Tape Removal



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8.0 SENSOR REHYDRATION

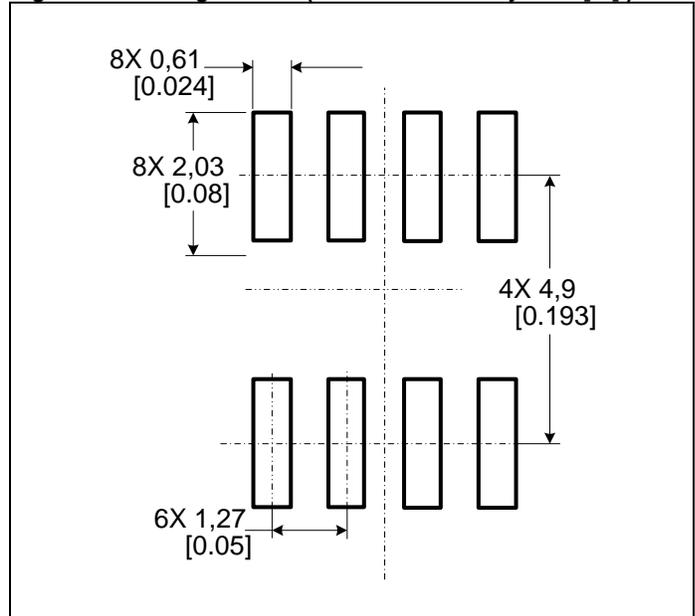
NOTICE

SENSOR REHYDRATION

- Exposure to elevated temperatures, such as those experienced during solder reflow, may dry out the sensing element. It is recommended that the sensor be allowed time to rehydrate after soldering or other high temperature/dry exposures.
- Exposure to these conditions will not permanently damage the sensor. It will generally return to its factory-calibrated value after rehydration.
- If rehydration is not performed, the sensor may read a slight offset that slowly disappears over time as the sensor becomes exposed to ambient conditions. Conversely, extended exposure to condensing and high humidity environments (>90 %RH) may cause a revisable shift in readings which will generally return to normal after the sensor has been allowed to dry off.

To rehydrate the sensor, expose it to room temperature under ambient conditions (>50 %RH) for a minimum of five hours.

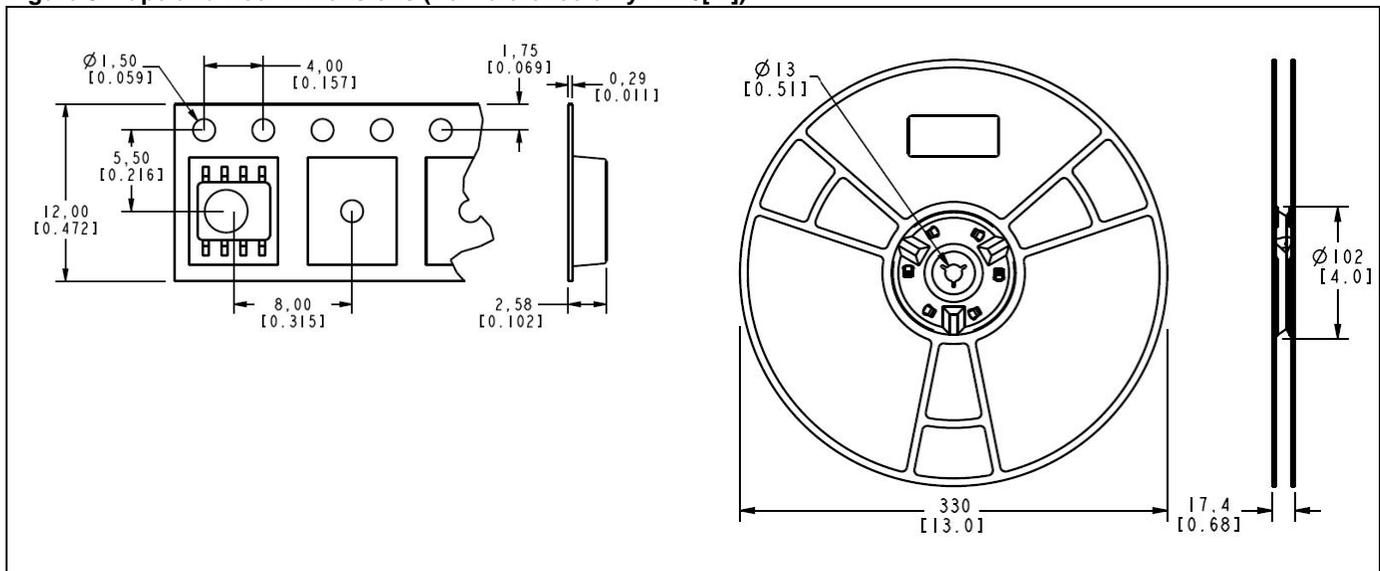
Figure 2. Landing Pattern (For reference only. mm/[in].)



9.0 DIMENSIONS

- Figure 2: Landing pattern.
- Figure 3: Tape and reel.

Figure 3. Tape and Reel Dimensions (For reference only. mm/[in].)



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WARNING

PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.
- The sensor's housing does not provide electrical safety isolation. Mount the sensor in a location where it cannot be touched, or where a surrounding barrier prevents human contact.

Failure to comply with these instructions could result in death or serious injury.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

SALES AND SERVICE

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

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