



*Representative photograph, actual product appearance may vary.*

*Due to regional agency approval requirements, some products may not be available in your area. Please contact your regional Honeywell office regarding your product of choice.*

## HIH-4000-001

**HIH-4000 Series Integrated Circuitry Humidity Sensor, 2,54 mm (0.100 in) Lead Pitch SIP**

### Features

- Molded thermoset plastic housing with cover
- Linear voltage output vs %RH
- Laser trimmed interchangeability
- Low power design
- High accuracy
- Fast response time
- Stable, low drift performance
- Chemically resistant

### Typical Applications

- Refrigeration
- Drying
- Meteorology
- Battery-powered systems
- OEM assemblies

### Description

The HIH-4000 Series Humidity Sensors are designed specifically for high volume OEM (Original Equipment Manufacturer) users. Direct input to a controller or other device is made possible by this sensor's linear voltage output. With a typical current draw of only 200  $\mu$ A, the HIH-4000 Series is ideally suited for low drain, battery operated systems. Tight sensor interchangeability reduces or eliminates OEM production calibration costs. Individual sensor calibration data is available.

The HIH-4000 Series delivers instrumentation-quality RH (Relative Humidity) sensing performance in a low cost, solderable SIP (Single In-line Package). Available in two lead spacing configurations, the RH sensor is a laser trimmed, thermoset polymer capacitive sensing element with on-chip integrated signal conditioning. The sensing element's multilayer construction provides excellent resistance to most application hazards such as wetting, dust, dirt, oils and common environmental chemicals.



# HIH-4000-001

HIH-4000 Series Integrated Circuitry Humidity Sensor, 2,54 mm (0.100 in) Lead Pitch SIP

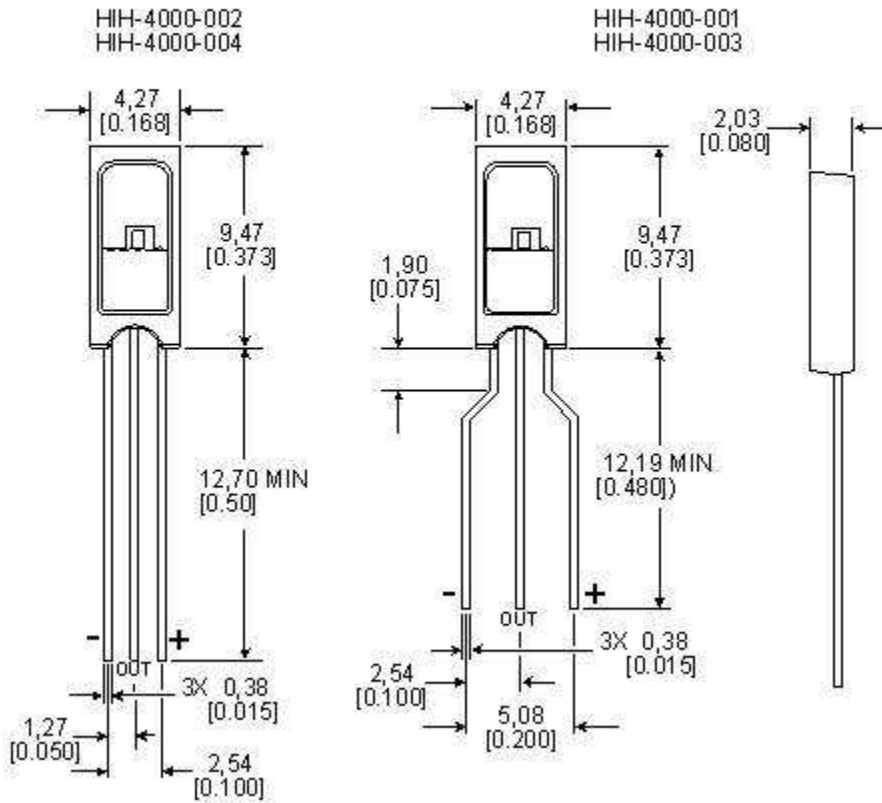
Product Specifications	
<b>Package Style</b>	Solderable SIP
<b>Termination Details</b>	2,54 mm [0.100 in] Lead Pitch
<b>Series Name</b>	HIH-4000 Series
<b>RH Accuracy</b>	± 3.5% RH, 0-100 % RH non-condensing, 25 °C, 5 Vdc supply
<b>RH Interchangeability</b>	± 5% RH, 0-60% RH; ± 8% @ 60-100% RH Typical
<b>RH Hysteresis</b>	± 3% of RH Span Maximum
<b>RH Repeatability</b>	± 0.5% RH
<b>RH response time, 1/e</b>	15 s in slowly moving air @ 25 °C
<b>RH Stability</b>	± 0.2% RH Typical at 50% RH in 1 Year
<b>Supply Voltage</b>	4.0 Vdc to 5.8 Vdc
<b>Supply Current</b>	500 µA Max.
<b>Operating Humidity Range</b>	0 to 100% RH, non-condensing
<b>Operating Temperature Range</b>	-40 °C to 85 °C (-40 °F to 185 °F)
<b>Temperature Compensation</b>	True RH = Sensor RH / (1.0305 + 0.000044T - 0.0000011T <sup>2</sup> ) T in °C (True RH = Sensor RH / (0.9237 - 0.0041T + 0.000040T <sup>2</sup> ) T in °C)
<b>Availability</b>	Global
<b>Comment</b>	Light sensitive, shield from bright light.
<b>UNSPSC Code</b>	411121
<b>UNSPSC Commodity</b>	411121 Transducers



# HIH-4000-001

HIH-4000 Series Integrated Circuitry Humidity Sensor, 2,54 mm (0.100 in) Lead Pitch SIP

Mounting Dimensions  
For Reference Only [mm/in]

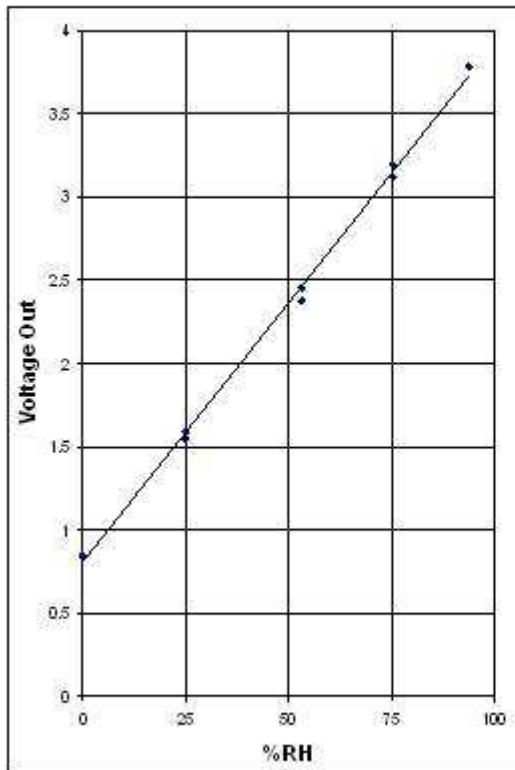




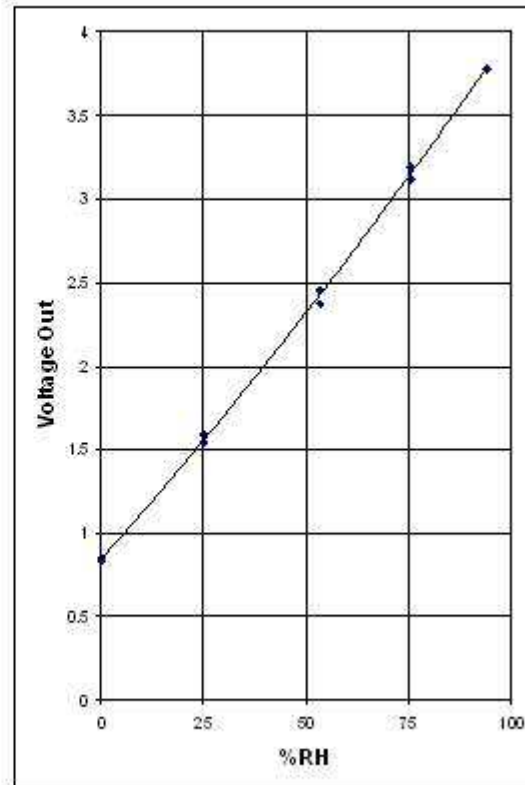
# HIH-4000-001

HIH-4000 Series Integrated Circuitry Humidity Sensor, 2,54 mm (0.100 in) Lead Pitch SIP

TYPICAL BEST FIT STRAIGHT LINE



TYPICAL 2nd ORDER CURVE FIT

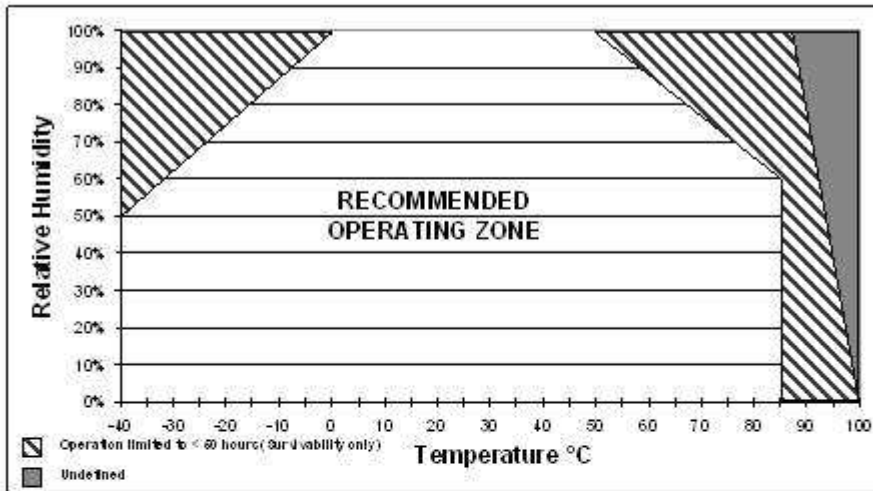




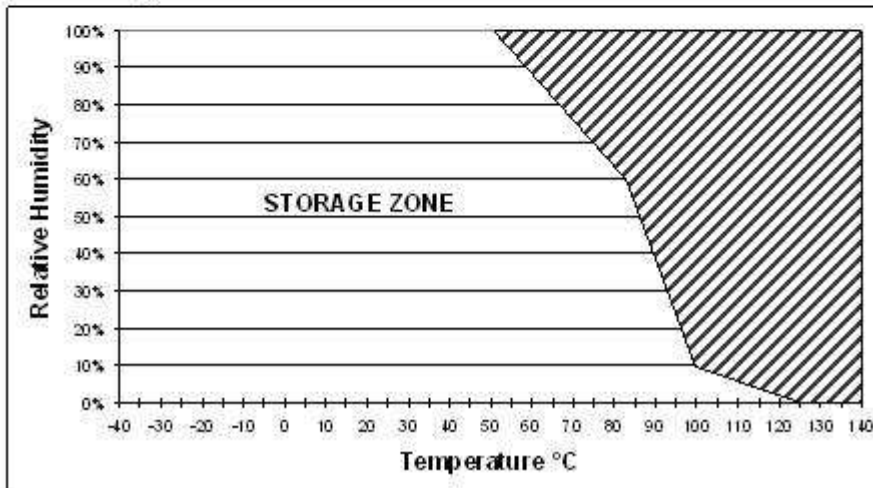
# HIH-4000-001

HIH-4000 Series Integrated Circuitry Humidity Sensor, 2,54 mm (0.100 in) Lead Pitch SIP

Recommended Operating Conditions



Storage Environment





## HIH-4000-001

HIH-4000 Series Integrated Circuitry Humidity Sensor, 2,54 mm (0.100 in) Lead Pitch SIP

### **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.

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

### **WARNING**

#### **MISUSE OF DOCUMENTATION**

- The information presented in this product sheet (or catalog) is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

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

© Copyright Honeywell Inc.1998-2006 All rights reserved.