

Interactive Catalog Replaces Catalog Pages

Honeywell Sensing and Control has replaced the PDF product catalog with the new **Interactive Catalog**. The **Interactive Catalog** is a power search tool that makes it easier to find product information. It includes more installation, application, and technical information than ever before.

These PDF files are no longer being updated and will be removed by January 2001.



**Click this icon to try the new
Interactive Catalog.**

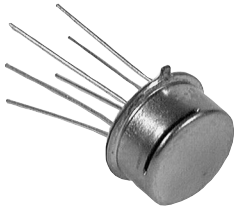
Sensing and Control
Honeywell Inc.
11 West Spring Street
Freeport, Illinois 61032



Humidity Sensors

Relative Humidity

HIH Series



FEATURES

- Linear voltage output vs %RH
- Laser trimmed interchangeability
- High accuracy
- Fast response
- Stable, low drift performance
- Chemically resistant
- Built-in static protection

TYPICAL APPLICATIONS

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

GENERAL INFORMATION

The HIH-3602-L IC (Integrated Circuit) Relative Humidity (RH) sensor delivers instrumentation quality RH sensing performance in a rugged, low cost, slotted TO-39 housing.

The RH sensor is a thermoset polymer capacitive sensing element with on-chip integrated signal conditioning. On-board signal conditioning reduces product development times while a typical current draw of only 200 μ A makes the HIH-3602-L perfect for battery powered systems.

ORDER GUIDE

Catalog Listing	Description
HIH-3602-L	Integrated circuit humidity sensor in TO-39 can
HIH-3602-L-CP	Integrated circuit humidity sensor in TO-39 can with calibration and data printout

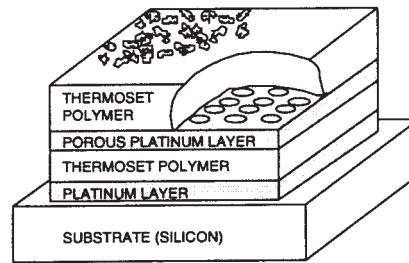
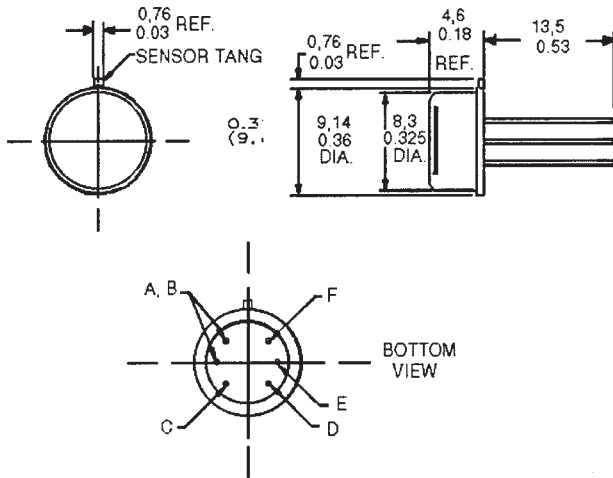
NIST CALIBRATION

HIH-3602-L may be ordered with a NIST calibration and sensor specific data printout. Append “-CP” to the model number to order.

RH SENSOR CONSTRUCTION

Sensor construction consists of a planar capacitor with a second polymer layer to protect against dirt, dust, oils and other hazards.

MOUNTING DIMENSIONS (for reference only)



CAUTION

PRODUCT DAMAGE

The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation, take normal ESD precautions when handling this product.

INTERNAL PIN CONNECTIONS

0.018 (0,46) dia. lead gold plated (6 places)	
A, B	No connection
C	+VDC supply
D	(-) Power or ground
E	VDC out
F	Case ground

Humidity

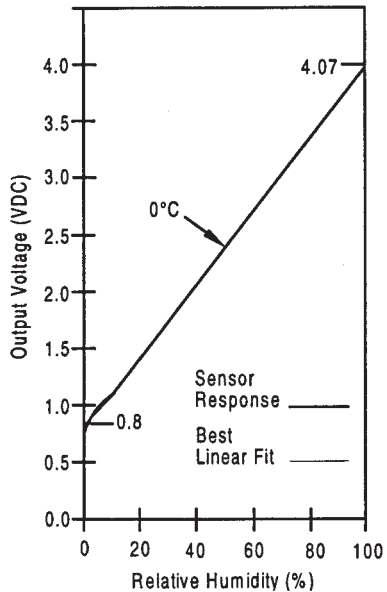
PERFORMANCE SPECIFICATIONS

Parameter	Conditions
RH Accuracy ⁽¹⁾	±2% RH, 0-100% RH non-condensing, 25°C, V _{supply} = 5 VDC
RH Interchangeability	±5% RH, 0-60% RH; ±8% @ 90% RH typical
RH Linearity	±0.5% RH typical
RH Hysteresis	±1.2% of RH span maximum
RH Repeatability	±0.5% RH
RH Response Time, 1/e	30 seconds in slowly moving air at 25°C
RH Stability	±1% RH typical at 50% RH in 5 years
Power Requirements	
Voltage Supply	4 to 5.8 VDC, sensor calibrated at 5 VDC
Current Supply	200 µA at 5 VDC, 2 mA typical at 9 VDC
Voltage Output	V _{out} = V _{supply} (0.0062 (Sensor RH) + 0.16), typical @ 25°C (Data printout provides a similar, but sensor specific, equation at 25°C.)
V _{supply} = 5 VDC	0.8 to 3.9 VDC output @ 25°C typical
Drive Limits	Push/pull symmetric; 50 µA typical, 20 µA minimum, 100 µA maximum Turn-on ≤0.1 second
Temp. Compensation	True RH = (Sensor RH)/(1.093-0.0012T), T in °F True RH = (Sensor RH)/(1.0546-0.00216T), T in °C
Effect @ 0% RH	±0.007% RH/°C (negligible)
Effect @ 100% RH	-0.22% RH/°C (<1% RH effect typical in occupied space systems above 15°C (59°F))
Humidity Range	
Operating	0 to 100% RH, non-condensing
Storage	0 to 90% RH, non-condensing ⁽¹⁾
Temperature Range	
Operating	-40°C to 85°C (-40°F to 185°F)
Storage	-40°C to 125°C (-40°F to 257°F)
Package	Six pin TO-39 with slotted nickel cap ⁽²⁾
Handling	Static sensitive, diode protected to 15 kV maximum

Notes:

1. Extended exposure to ≥90% RH causes a reversible shift of 3% RH.
2. This sensor is light sensitive. For best results, shield the sensor from bright light.

OUTPUT VOLTAGE VS RELATIVE HUMIDITY (at 0°C)



OUTPUT VOLTAGE VS RELATIVE HUMIDITY (at 0°C, 25°C, and 85°C)

