Superb Interchangeability

Hy-Cal Engineering's IH-3602-L Integrated Circuit Relative Humidity Sensor is designed for OEM users who require a balance between cost and performance in a rugged TO-39 can.

The output of every IH-3602-L sensor is laser trimmed with interchangeability of ±5%. Tight sensor interchangeability reduces or eliminates OEM production calibration costs. If desired, factory two-point calibration will establish ±2% RH accuracy.

Unsurpassed Quality

The IC employs Hy-Cal's well-proven capacitive polymer to sense humidity, and is performing reliably in thousands of demanding commercial and industrial applications making Hy-Cal the most trusted name in humidity.

Ultra Reliability

The IH-3602 series is the world's only proven humidity sensor on an IC, in effect a complete system front end, with very stable, low drift performance. Configured in a corrosion-resistant six-pin slotted TO-39 can, the IH-3602-L withstands rough handling. An operating range of 32 to 185°F, lets the IH-3602-L serve a wide range of harsh applications, including refrigeration, drying, meteorology, and many others. It also successfully resists contaminant vapors such as chlorine, ammonia, and organic solvents and wetting or condensation.

Linear Signal, Low Drain

The IH-3602-L provides a nominal output of 0.8 to 3.9 Vdc linear over 0-100% RH when excited with a 5 Vdc reference. On-board signal conditioning slashes product development times while a typical current draw of only 200 microamps, makes the IH-3602-L is perfect for battery-powered systems.

OEM Perfection

The IH-3602-L mounts in tight spaces via standard sockets or direct solder. Built-in static protection assists handling. Cost, installation, and calibration have all been optimized for a wide variety of OEM applications. The hidden packaging and calibration costs of "raw" sensors have been designed out. And there's never a need for maintenance or recalibration.

Fast Delivery

Samples from stock, production releases in two to four weeks. Hy-Cal's significant experience in high volume sensor manufacturing means you will have parts when you need them. Customer service is Hy-Cal's number one commitment.
General Specifications:

Total Accuracy: ±2% RH, 0-100% RH* @ 25°C and 5Vdc, non-condensing.
Interchangeability: ±5% RH up to 60% RH, ±8% RH at 90% RH (Typical).
Operating Temperature: -40 to 85°C (-40 to 185°F).
Hysteresis: ±0.8% of Span maximum.
Linearity: ±0.5% RH typical.
Repeatability: 30 seconds in slowly moving air at 25°C
Time Constant: ±1% RH typical at 50% RH in 5 years.
Humidity Stability: ±0.5% RH.
Temperature Compensation: Correct RH = Sensor RH Reading/(1.093 - .0012T); where: T = °F.
Temp. Effect on 0% RH Voltage: ±0.007% RH/°F [Negligible]
Temp. Effect on 100% Span Voltage: -0.22% RH/°F (<1% RH effect typical in occupied space systems above 15°C)
Output: $V_{dc_{out}} = \left( V_{dc_{supply}} \right) \times 0.16$ to 0.78) nominal relative to supply negative for 0-100% RH; i.e. $V_{dc_{out}} = 0.9 V_{dc_{supply}}$ for 60% RH, 0.8 - 3.9 $V_{dc_{supply}}$ for 5 Vdc supply.
Sink capability 50 microamps; Drive capability 5 microamps typical; Low pass 1kHz filter required. Timer on time <0.1 sec. to full output.

VS . Supply Voltage Requirement:
Current Requirement: 4 to 9 Vdc, regulated or use output/supply ratio; Calibrated at 5 Vdc.
Handling: 200 microamps typical @ 5 Vdc, increases to 2 mA typical at 9 Vdc.
Sensor Housing: Six pin TO-39 with slotted nickel cap. Shade slots from intense light. 0.8 grams weight nominal.

* EXTENDED EXPOSURE TO ±90% RH CAUSES A REVERSIBLE SHIFT OF APPROXIMATELY 3%.

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### Ordering Information

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<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
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<td>IH-3602-L</td>
<td>Integrated circuit humidity sensor in TO-39 can.</td>
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<th>Code</th>
<th>Calibration Option</th>
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<td>-CP</td>
<td>Calibration printout.</td>
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- 30 -