Relative Humidity Sensors
Coreci H2000 and H6100

HP Relative Humidity Range

Function: The H2000 and H6100 sensors are capacitive sensors suitable for measuring relative humidity in the range 0 to 75% RH and 0 to 100% RH, respectively.The development of the sensors took place over a number of years and a long programme of advanced polymer engineering has resulted in a polymer which gives good linearity over 0 to 100% RH as well as a negligible thermal coefficient. Both the H2000 and the H6100 sensors are constructed with one plate etched on to a metallised glass substrate which is very thinly coated with an active polymer dielectric. The second plate consists of a moisture permeable metallic film which sits over the polymer. The main difference between the H2000 and the H6100 sensors lies in the operating temperature that each can withstand. The H2000 is good for temperatures between 0ºC and +40ºC whilst the H6100 is good for temperatures in the range -30 to +140ºC. The H6100 with its higher temperature specification is suitable for use in difficult applications such as tile, brick and pasta drying. Furthermore, the H6100 is protected against chemical contents in the air and is therefore also suitable for poultry farms, and fruit/vegetable storage environments.

SPECIFICATIONS

	H2000	H6100
Operating Humidity Range	0 to 75% RH	0 to 100% RH
Operating Temperature Range	0 to +40ºC	-30 to +140ºC
Nominal Capacitance at 75% RH	500pF±10%	500pF±10%
Average Sensitivity	1.6pF per % RH	0.86pF per % RH
Linearity (11 to 75% RH)	±1% RH	±2.5% RH
Hysteresis	±2% RH	±0.5% RH
Reversible Drift 1 day @ 75% 1 week @ 75%	1% RH 1% RH	2% RH 2% RH
Loss Tangent	0.02 typical 0.04 max	0.007 typical 0.01 max
Maximum applied voltage	5 Volts	5 Volts
Operating Frequency Recommended	5 to 300kHz 33kHz	5 to 300kHz 33kHz
Response Time to reach 90% of final value in a 11% to 75% RH Step Change	3 secs	< 10 secs
Pressure	0.4 to 10 bar 0.56 to 281 psi	0.4 to 30 bar 0.56 to 843 psi

DEFINITIONS:

Operating Range
The operating range is defined as maximum range for humidity and temperature wherein basic data and tolerances are valid. Users have to take into consideration the interdependency of humidity and temperature.

Nominal Capacitance
Nominal capacitance is given as basic value at 75% RH, 25ºC and operating frequency of 10kHz.

Hysteresis
Hysteresis is defined as the maximum difference between two cycles 10 to 90% RH and 90 to 10% RH. Cycling is performed in steps of 20% RH with a stabilisation time of 15 minutes after each step.

Reversible Drift
The variation in capacitance between the stabilised reading of 75% RH after 1 hour, 1 day and 1 week.

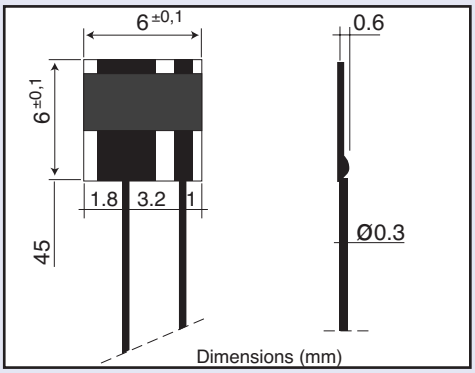
D Factor (Loss Angle)
Loss tangent is given to quantify the resistive value of the impedance. It is measured at 25ºC, 75% RH and operating frequency of 10kHz.

Maximum Applied Voltage
Limits are given as peak to peak voltage. Take care to avoid any DC voltage on the sensing elements.

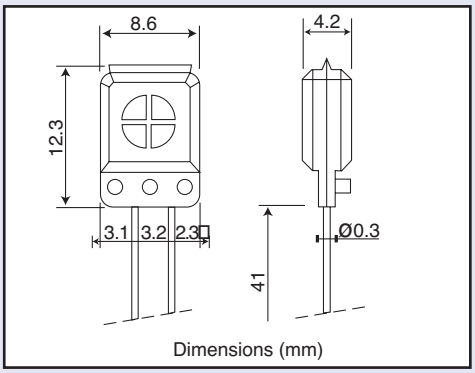
Operating Frequency
For best results we recommend an operating frequency of 33kHz. All given data is based upon this frequency. Frequencies of below 10kHz should be avoided as frequency effects may arise.

MECHANICAL DETAILS

H2000 Sensor



H6100



ORDERING DETAILS

(a) Specify sensor type and quantity

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