

ELECTRONIC HUMIDITY SENSOR

(RH70 Series)

Features

- Fully interchangeable tip
- Linear output frequency
- Sturdy construction
- Reliable humidity measurements

Applications

- Meteorology
- Crop studies
- Pest management
- Ecology
- Environmental studies

The RH70 series relative humidity sensor features a field-interchangeable tip that requires no field re-calibration. State-of-the-art microprocessor technology is employed, together with a capacitive polymer sensing element that changes di-electric constant with atmospheric relative humidity and a band-gap temperature sensor for thermal compensation. Both are coupled to a 14 bit analogue to digital converter and processed digitally.

This results in a linear output change as a function of relative humidity. Response time is 1 to 2 minutes.

At extremely high relative humidity levels condensation (dew) occurs - condensation on the sensing element itself will give readings of 100%.

Correct readings will return when the moisture has evaporated, with no permanent damage done to the tip.



RH70 Electronic Humidity Sensor

Mechanical protection from insects etc. and particulate contamination is provided by a series of filters.

NB The standard Envirodata warranty does not extend to relative humidity sensor tips and their replacement, as these are consumable items.

The average life of the sensing tip is approximately 12 months. However in environments with higher levels of airborne contaminants, the life expectancy might be shorter.

Electronic relative humidity sensors are not recommended for accurate measurements below 3% and above 98% relative humidity.

ELECTRONIC HUMIDITY SENSOR SPECIFICATIONS

Sensing Element

- Sensiron Capacitive Polymer Integrated Circuit

Measurement units

- Percent (%) relative humidity

Humidity range

- 0 % to 100 % RH

Resolution

- ± 0.1 % RH

Hysteresis

- ± 1.0 % RH

Linearity

- < 1% RH

Repeatability

- ± 0.1 % RH

Total Accuracy

- ± 2 % RH (10%-90% RH)
- ± 4 % RH (<10% or >90% RH)

Interchangeability

- Fully interchangeable

Long Term Stability

- < 0.5 % RH per year

Electronic housing

- Grey - high impact PVC
- Electronics fully sealed to IP68

Sensing Tip housing

- Machined black delron

Operating conditions

- Temperature: -40°C to +80°C
- Humidity: 0% to 100%

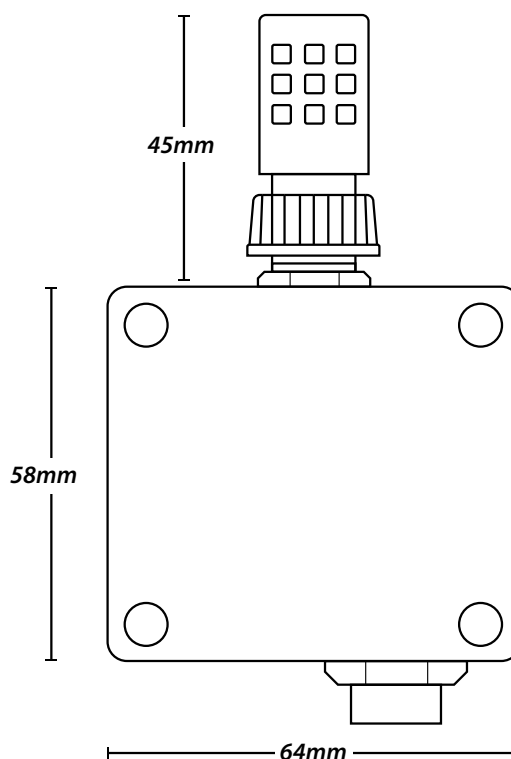
Sensor Mounting

- Inside a weather shield that protects it from direct exposure to the elements. Airflow should not be obstructed.

Supply Voltage

- 5.5 to 15 Volts DC

Electronic Humidity Sensor Dimensions



Current Drain

- 2 mA @ 12 Volts DC

Output

- +5 Volt pulse
- 3 pin male Conxall socket

Configurations

Range 0% to 100% RH 10-20Hz

Resolution 0.1%

Cable 3 core shielded

Other output frequency ranges are available on request

Options

- Sensor shelter required
- Bottom mounted Sensor Shelter (SS32)
- Top mounted Sensor Shelter (SS33)
- FX1M5 - 1.5m cable
- FX16 - 16m cable