



## Ecosmart Sensors: ES-TEMP2 & ES - RH2

## Ecosmart Enablers: ES-THERMOSTAT2 & ES-HUMIDISTAT2

# Installation Guide



CE The EMC Directive  
2014/30/EU  
The Low Voltage  
directive  
2014/35/EU



**IMPORTANT!** Please refer to the installation instructions of the fan to check the compatibility of this unit.

### Parts check list:

- 1 Ecosmart sensor or enabler
- 1 off 10 metre length of pre-plugged SELV cable

All units are compatible with the Nuairé Ecosmart system, and operates with Safe Extra Low Voltage (SELV) with power supplied from the fan via the communications cable.

## Installed Environment

0 - 40°C up to 90%RH non-condensing.

## Installing the unit

The unit must be installed away from any direct source of heat (e.g. radiators) and areas where it would be subjected to steam or water spray.

The mounting surface must be vibration free.

The unit is supplied complete with 10 metres of connecting cable with plugs attached. Fasteners for wall fixing are included in the package.

- Fix one end of the 10m cable to the fans customer connection box (connection sockets marked NET).
- Select a suitable location for the sensor and arrange the cable in position. Leave approx. 75mm of the cable free at the mounting point to ease the connection of the plug. (Fig. 1).
- Hold the base of the unit with one hand and the top half with the other. Twist the upper half anti-clockwise to open the unit. (Fig. 2).
- Feed the cable through the hole of the lower half of the unit and mark the locations of the fixing holes on the wall. There is a raised line inside the base of the unit to aid alignment to the horizontal or vertical. (see Fig.3).
- Fix the base of the unit to the wall using the fasteners provided, or other suitable fasteners.

f) Plug the cable into the socket of the PCB. (Fig.4).

g) Align the slots of the upper and lower halves of the unit and twist the upper half clockwise to lock the 2 halves together. (see Fig. 5).

## Data cable installation

A 4-core SELV data cable is used to connect devices.

Do not run data cable in the same conduit as the mains cables and ensure there is a 50mm separation between the data cable and other cables. The maximum cable run between any two devices is 300m when it is installed in accordance with the instructions.

Please note that the total data cable length used in any system must be less than 1000m. Keep the number of cable joints to a minimum to ensure the best data transmission efficiency between devices.

## Adjusting the set point

Use a small screwdriver through the hole of the casing to reach the adjustment potentiometer. Gently turn the screwdriver either clockwise or anti-clockwise to increase or decrease the set point.

Alternatively, open the unit to gain easy access to the pot.

When adjustments are made to the sensor, the LED light on the sensor front will flash on and off to show the set point. First, green flashes will indicate the set point in TENS, then red flashes will indicate UNITS. For example two green flashes and three red flashes show a set point of 23.

See overleaf for Sensor and Enabler operations.

Figure 1.

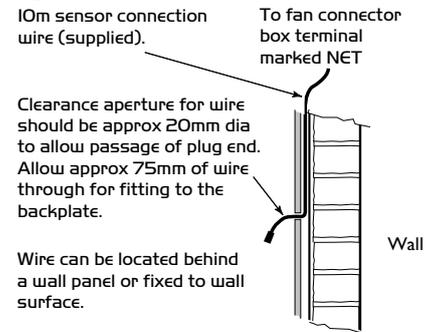


Figure 2.

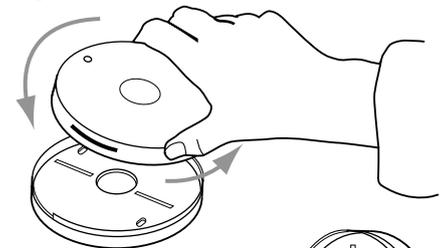


Figure 3.

Feed the cable through the hole in the bottom half of the unit and mark the fixing hole locations on the wall. Fix this half of the unit to the wall using the fasteners provided.

Figure 4.

Plug end mounted into the PCB socket inside the front half of the unit.

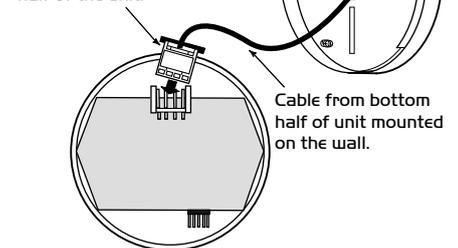
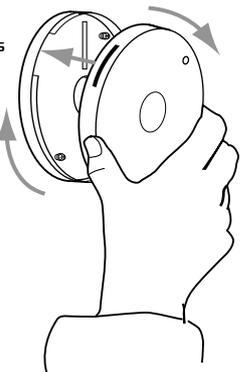


Figure 5.

Line up the slots in the 2 halves, push together and rotate to lock them together.



## Sensor Operations

### Basic principle of Ecosmart.

Ecosmart enabler activates the system i.e. switch it on and off.

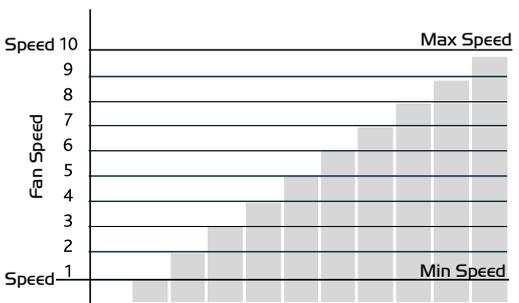
Ecosmart sensors change the fan speed based on ambient condition and the set point.

## Sensor Response

### ES-TEMP2 Temperature Sensor

The ES-TEMP2 will vary the ventilation rate automatically as shown in the chart below. The adjustment range is 10°C to 35°C.

Figure 6.



Example: 19 Set point set to 19°C  
 20 Deadband  
 Room temperature (degree C)

**Note: if the ambient temperature is below the set point, the fan speed is zero (i.e. off) unless trickle is selected at the fan.**

### Normal operation (Proportional band over ten 10°C steps).

When temperature rises, the fans will increase speed. (see Fig. 6) which shows a set point at 19°C. For single phase fans, the speed steps are approximate and the actual running speeds will be dictated by the type of impeller used in the blower.

Typical accuracy +/- 1°C.

### ES-RH2 Ecosmart Humidity Sensor

The ES-RH2 will vary the ventilation rate automatically and has an adjustment range of 65% to 85%. The sensor will set fan speed to 1 (minimum commission setting) when ambient RH is 2% greater than the set point. It will increase the fan speed by 1 step for every 2% above the set until step 10 (maximum commission setting).

If ambient RH is at or below the set point, the fan will be off.

Typical accuracy +/- 5%.

**Note: if the ambient RH is below the set point, the fan speed is zero (i.e. off) unless trickle is selected at the fan.**

## Enabler Operations

### ES-THERMOSTAT2 Ecosmart Thermostat

The ES-THERMOSTAT2 will enable the fan system to run if the ambient temperature is 1°C above set point.

Adjustable range 10 - 35°C.

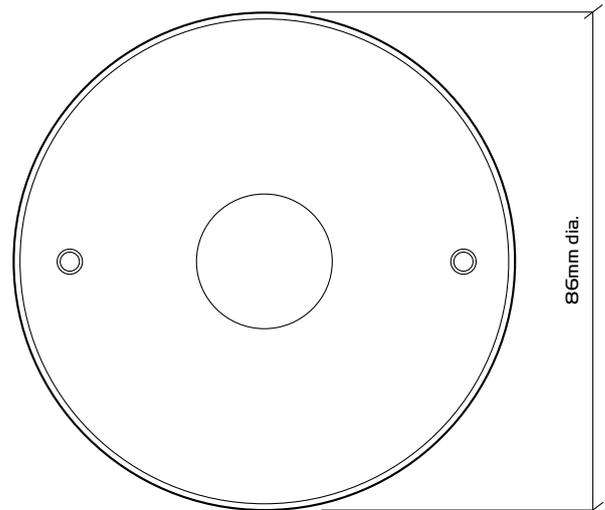
### ES-HUMIDISTAT2 Ecosmart Humidistat

The ES-HUMIDISTAT2 will enable the fan system when the ambient RH is 2% above the set point.

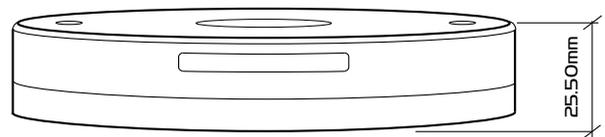
Adjustable range 65% - 85% RH.

## Dimensions

### Plan view



### Side view



## Maintenance

The unit does not require routine maintenance. However, for optimum performance, it is advisable to remove any accumulated dust with a low power vacuum cleaner.

**NOTE:** Installation and Maintenance of the equipment must be as directed in the instructions provided with the unit.

## Warranty

The 3 year warranty starts from the day of delivery and includes parts and labour for the first year. The remaining 2 years covers replacement parts only.

This warranty is void if the equipment is modified without authorisation, is incorrectly applied, misused, disassembled, or not installed, commissioned and maintained in accordance with the details contained in this manual and general good practice.

The product warranty applies to the UK mainland and in accordance with Clause 14 of our Conditions of Sale. Customers purchasing from outside of the UK should contact Nuair International Sales office for further details.

## Service Enquiries

For technical assistance or further product information, including spare parts and replacement components, please contact the After Sales Department.

**Telephone 02920 858 400**

Technical or commercial considerations may, from time to time, make it necessary to alter the design, performance and dimensions of equipment and the right is reserved to make such changes without prior notice.