expella™

INSTRUCTION MANUAL

PRODUCT CODE: 1EX9900   **DESCRIPTION:** Ceiling Humidity Sensor

MANUFACTURER: Expella Pty Ltd

PRODUCT OVERVIEW

The Expella Humidity sensor incorporates advanced technology to automatically activate an exhaust fan when the **relative** humidity in the home **exceeds** a pre-set level.

HOW IT WORKS

Inside the **Expella Humidity Sensor** is a micro controller, adjustment dial and high precision electronic sensor that measures temperature and water vapour content of the surrounds. By measuring these two properties, the percentage relative humidity (RH) is calculated. The micro controller reads the RH from the precision sensor and compares the reading to the dial. If the RH is above the set point of the dial, then the microcontroller will connect power to the exhaust fan connected in series with the unit. Once the RH drops below the dial set point, the microcontroller continues to supply power to the fan for a 5 min time interval before disconnecting the fan. This additional run-on time is to ensure that any residual moisture from the room is exhausted.

INSTALLATION

Location

For best results, the humidity sensor should be located in the ceiling positioned close to any source of water vapour. For example, above a shower or near a clothes dryer.
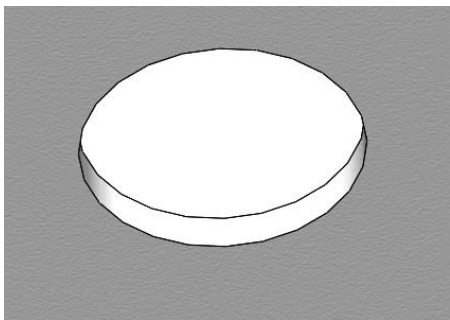
Ensure there are no structural members in this location that inhibit installation. Consider that wiring must be connected from the fan power outlet.

Tools required

- 70mm hole saw
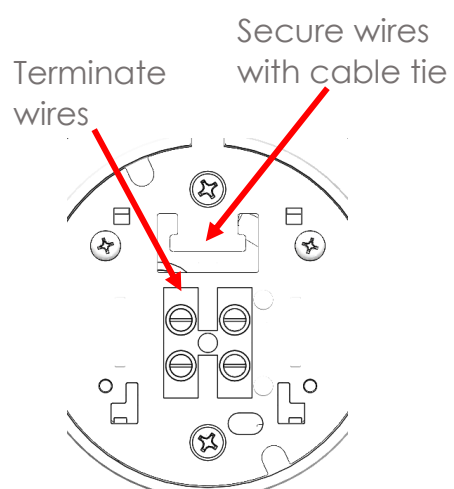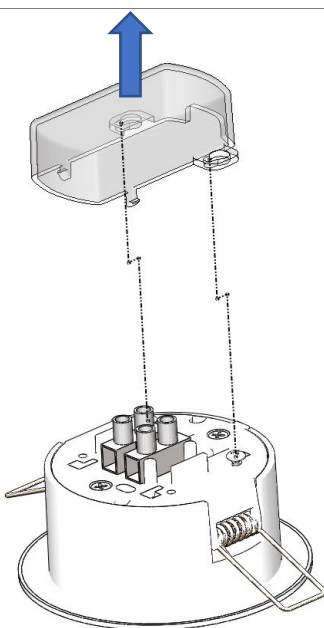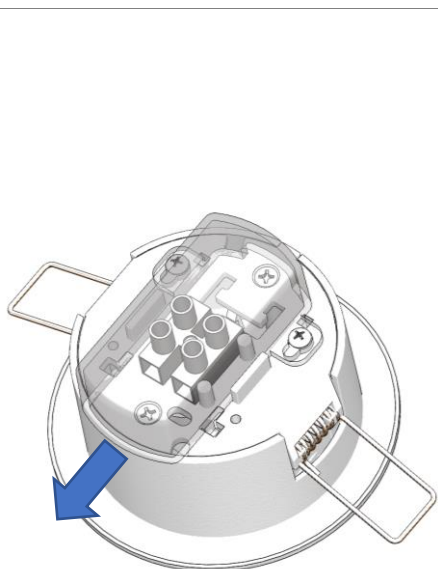- Small flat blade screwdriver (for electrical terminals)

Procedure

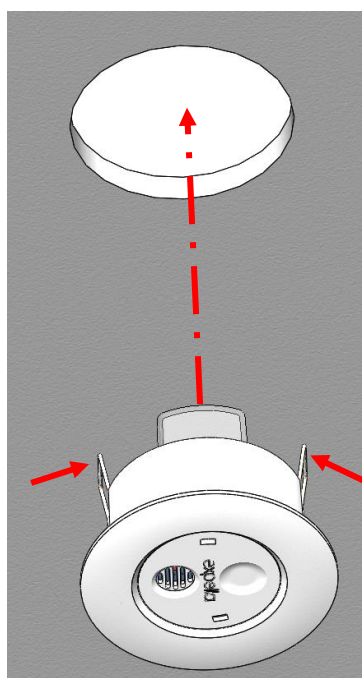**NOTE:** Expella humidity sensor must be installed by a qualified electrician

Cut hole in ceiling - Φ70mm

Feed through wires

Terminate wires

Secure wires with cable tie

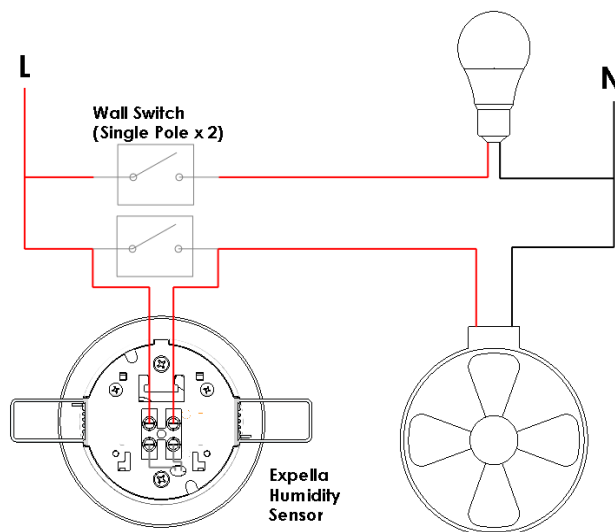Refit terminal cover and tighten terminal cover fasteners.

Fold back springs and install in ceiling hole

WIRING

The wiring connection shown ensures that the ceiling light **DOES NOT** switch on with the fan when the humidity sensor is triggered.
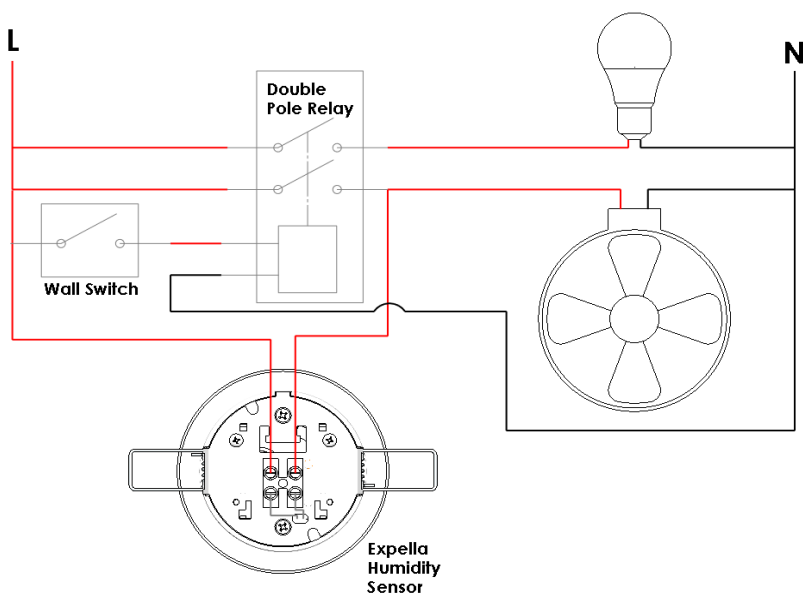
Note: Switches and/or relays not included

Option 1:
Independent
wall switch

L
N
Wall Switch
(Single Pole x 2)
Expella
Humidity
Sensor

Option 2:
Double pole
wall switch

L
N
Wall Switch
(Double Pole)
Expella
Humidity
Sensor
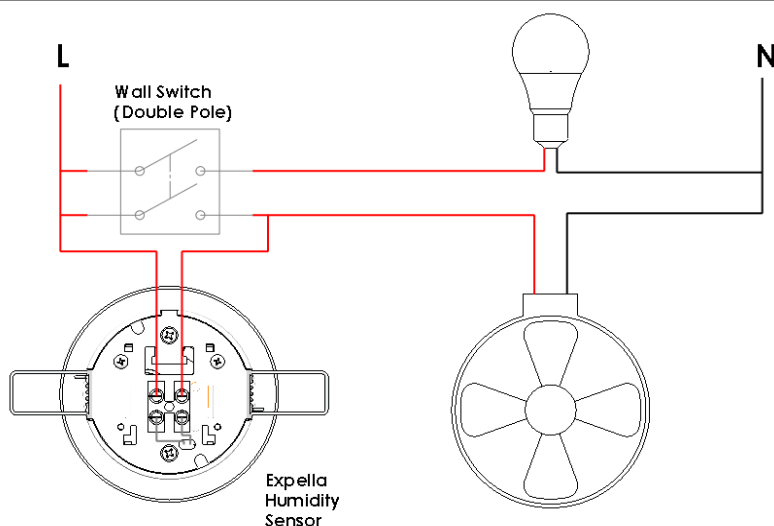
Option 3:
Double pole
relay

L
N
Double
Pole Relay
Wall Switch
**Expella**
Humidity
**Sensor**

OPERATION

Start Up

The relative humidity level has been calibrated to compensate for the power dissipation (heat) inside the sensor enclosure. The sensor requires 20 mins (approx.) to warm up until accurate sensing occurs. After power has been applied, the sensor will most likely turn the fan on until internal temperature has stabilised. After 20 mins, the sensor will function normally and accurately measure the relative humidity in the room.

Humidity Control Adjustment

Adjustment of the sensor RH will be required depending on the application, location and environment. This procedure is outlined below:
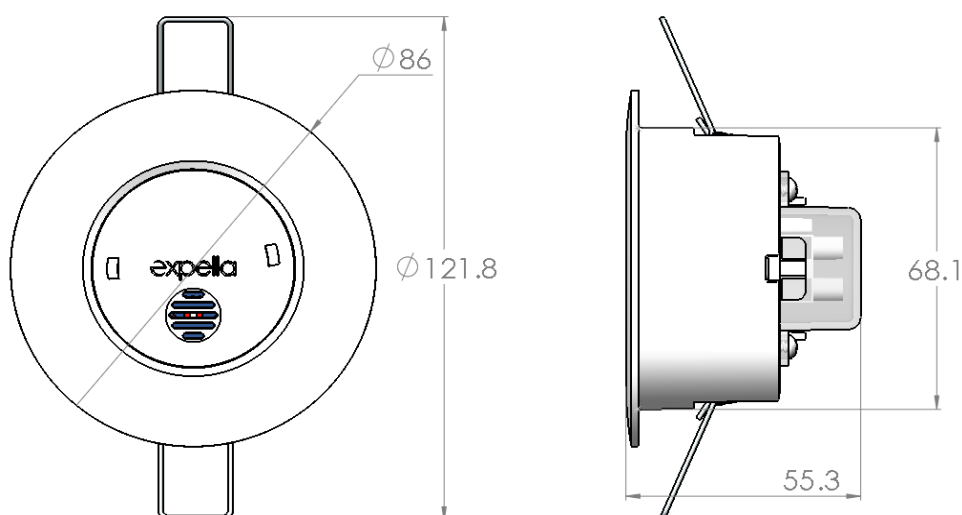
Remove front
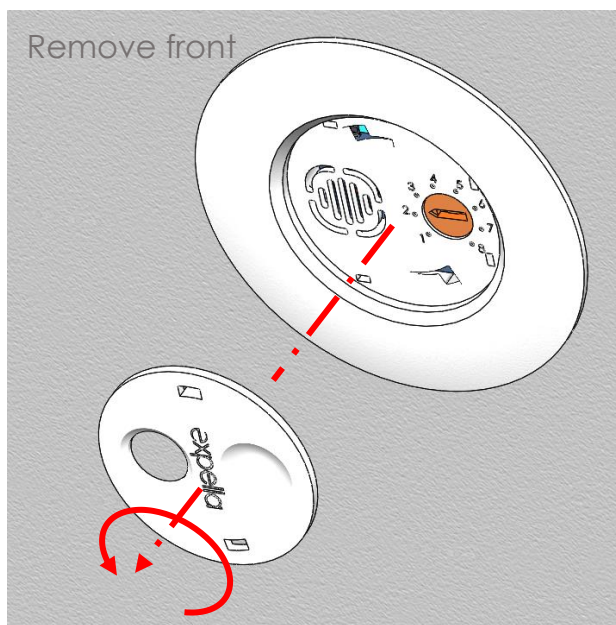
Adjust dial
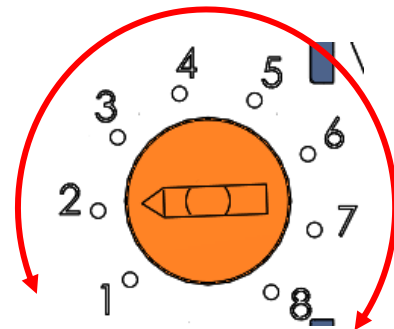
1: Most sensitive - fan turns on at low relative humidity

8: Least sensitive - fan turns on at high relative humidity

SPECIFICATIONS

- Single-phase 220-240 V / 50-60 Hz
- Max load: 250W
- Min load: 1W
- Operating Temperature Range: 0–45oC
- Operating Humidity Range: 40–80% R. H.
- Compliance
  AS/NZS 3100:2017+A1

DIMENSIONS

WARRANTY

2 year warranty from date of purchase

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