

Sentinel Totus D-ERV

Demand Control



The precise control of the Sentinel Totus D-ERV system, driven by the ventilation requirements of the room at any one time, means that the system is only running to the level required, using energy when it is

needed. A range of sensors are employed to determine the occupancy of the rooms, and manage the system ventilation rates accordingly. This optimises the use of energy whilst meeting the legislation requirements of the building.

This compares to a 'traditional' fixed volume system, which in general is either 'ON' or 'OFF' often using energy to ventilate an empty or half occupied room, over ventilating and wasting energy.

System Overview

The Sentinel Totus D-ERV system is made up of 4 parts:

- ✓ Up to 90% energy recovery (EN 308)
- ✓ Low energy EC/DC motors
- ✓ Sentinel Totus D-ERV, Demand Energy Recovery control
- ✓ Sensors and Controls

The ventilation demands of the room are detected by the wall or ceiling mounted Sentinel Totus D-ERV sensors/switches. These communicate with the Sentinel Totus D-ERV unit, which in turn drives the fan to the required speed to deliver the airflow. As the ventilation is provided to the room, the sensors continuously feedback to the control unit, driving the fan motor to the exact level required in the room at any one time.

Hierarchical Control

The system is controlled by on board electronics, with an LCD display showing fan status and allowing for simple commissioning and installation, whether as a local sensor control

unit or linked into a building management system. The LCD display unit can be remotely mounted if required.

1. Switched on/off or minimum/maximum level control

In an environment such as an office, the system is activated and runs between minimum and maximum levels by a choice of sensors.

- PIR Detector
- Thermostat
- Humidistat
- BMS (remote enable)

2. Hierarchical – maximum demand multi sensor input

Used with a combination of sensors, with a defined level of priorities to simultaneously control a number of atmospheric conditions within a room, such as a meeting room.

- CO₂/temperature – room mounted
- CO₂ – duct mounted
- Building Management System (0-10V)

Constant Pressure extract

Applied in a discreet central extract system, such as hotel bathrooms or apartment blocks, the system grilles and/or duct dampers are controlled by the presence of a person in the room or by achieving required levels of humidity. The central system will respond to the demand depending on the number of active rooms.

- PIR/Humidity Extract Grille 125mm
- PIR 12 - 70m³/h
- Humidity: 12m³/h – 30% RH
70m³/h - 75% RH
- Motorised Duct Dampers -
100mm - 315mm Dia. with built-in end stop adjustment for setting minimum and maximum volume and 24V On/Off or 0-10V DC proportional control options.



Flexible control solutions

CO₂ + Temp Room Sensor *



HVAC temperature and carbon dioxide room sensor for proportional ventilation control. Sensor will monitor both CO₂ and temperature levels between the set points, the air flow rate following the higher of the 2 outputs.

24V DC SELV. 0 - 2000ppm CO₂ working range. 0 - 50°C working range. Auto-calibrating NDIR CO₂ absorption sensor. Dimensions: 100 x 84 x 25mm (H x W x D).

Stock Ref: 433257

CO₂ Duct Probe



Sensor monitors CO₂ level in extract ducts from conference areas, offices, theatres etc. In proportional control mode, air flow rate tracks the CO₂ level to improve indoor air quality.

24V DC SELV. 0 - 2000ppm CO₂ working range. Auto-calibrating NDIR absorption sensor. Adjustable probe length. MAX. IP Rating 65.

Stock Ref: 433259

Vent-Axia PIR *



A wall or ceiling mounted presence detector for use with Sentinel Totus D-ERV. Can be used in MIN - MAX mode or for direct damper control.

Fits any UK single gang mounting box. Adjustable timer overrun (5-25 minutes). Range of detection up to 10 metres. Designed to meet IP43. Ambient operating temperature range 0°C to +50°C. Supply voltage 24V DC SELV.

Stock Ref: 433162

Vent-Axia ThermoSwitch®



Automatically switches on fans on either a rise or fall in air temperature. Used for Trickle/ Boost operation. Setting range: +6°C to +30°C. IP20 rated. Sealed sensing mechanism. Mounting direct on surface only.

Dimensions: 80 x 104 x 36mm (H x W x D). Volt free switch connection to Sentinel Totus D-ER, Demand Energy Recover.

Stock Ref: 563502B

Constant Pressure System Accessories

PIR Grille *



PIR grille is on extract grille with an integral flap damper. Suitable for bathrooms and WC's. The PIR function fully opens the damper when a person presence is detected. The opening time is fixed at 20 mins. Spigot size is 125mm.

12V AC SELV unit using the main transformer unit supplied. Integral PIR person presence sensor controlling damper. Auto-humidity control damper response at all times. 100° viewing angle. Temperature range 0 - 50°C. Dimensions: 158 x 150 x 35mm (H x W x D). MAX airflow 70m³/hr @100 Pa.

Stock Ref: 434184

Dampers *



Two types available:

- a) MM type - opening shut/MIN to open/MAX controlled by switches and
- b) PC type - opening proportionally when controlled by sensors.

Duct sizes available: 100, 125, 150, 200, 250 and 315. Industry standard actuators.

Typical ordering designation: DVD size MM or PC

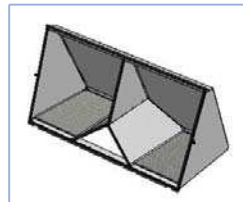
Power Supply *



For those situations where a separate 24V DC SELV supply source is required to power duct dampers. 24W output capacity. See F & W for connection details.

Stock Ref: 433193

Inlet Cowl



For these situations where there is no ducted inlet or extract and the unit is roof mounted. Offers, weather protection to ensuring air paths do not recirculate.

Mini/Midi: 441205

Maxi: 441365

*** PLEASE NOTE: These sensors/controls are unique to Sentinel Totus D-ERV and CANNOT be used with any other product.**