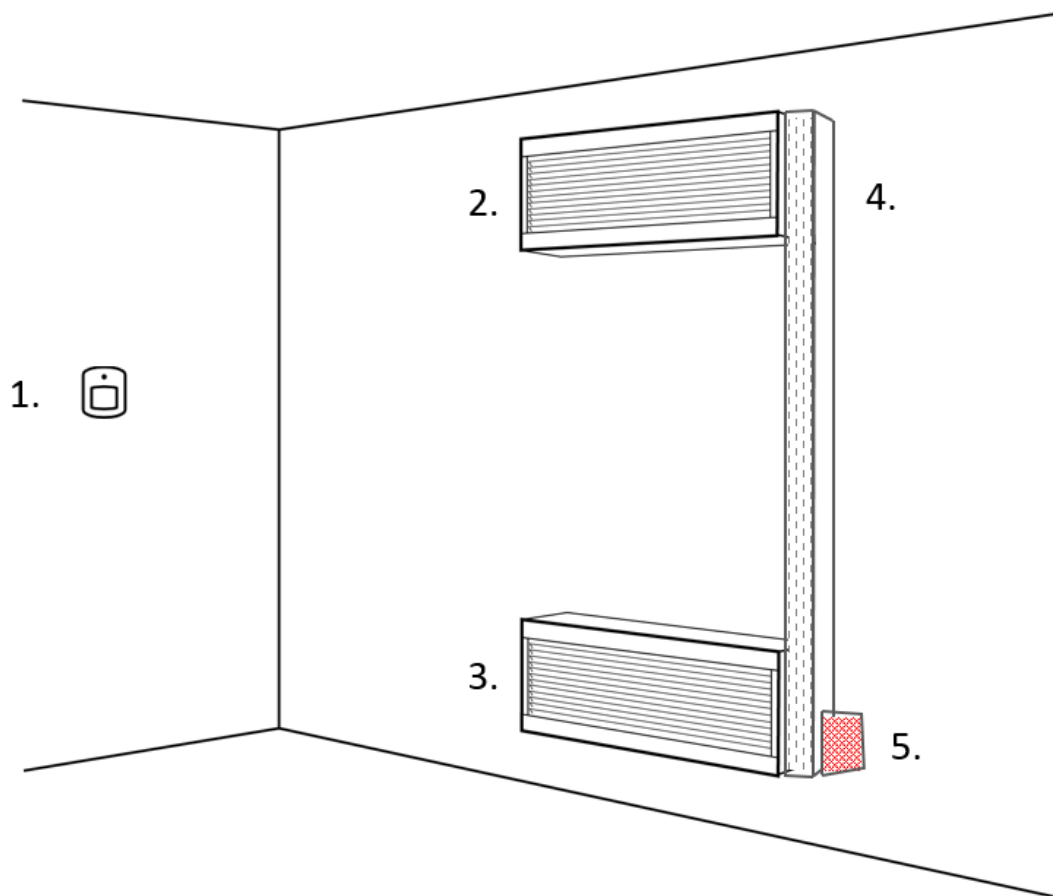


Ventive In-vent active is supplied pre-assembled but must be disassembled prior to installation. Remove the internal louvre assembly, angle frame and acoustic cassette. Detach the sleeve from the external louvre assembly by unscrewing the fixing screws connecting the two components. Retain the screws for later use.

(Please note that this document covers the installation only and not the enabling builders works such as a structural opening and structural support which are a responsibility of the relevant project engineer or contractor. In-vent active is not load bearing. It is the electrical contractor / installer's responsibility to ensure that the correct earth bonding is carried out if necessary.

The dimensions of the prepared structural opening for the in-vent active unit should be that quoted on drawings / quotations +5mm / -5mm. Check the diagonal dimensions to ensure the structural opening is square).

Please note that sufficient space is to be provided for the connecting pipework, either concealed in the wall or by appropriate trunking. All pipework connections and pressurization to be completed by the commissioning engineer (provided by Ventive).



1. CO₂ sensor

Height from floor: 1.1m (more details on CO₂ sensor below)

2. Top louvre

Height: 400mm

Width: 1200mm

Distance from roof: no more than 300mm

3. Bottom louvre

Height: 400mm

Width: 1200mm

Distance from floor: no more than 300mm

4. Connection trunking

Contains: 2x 10mm refrigeration-grade copper pipes (to be installed by others)

Width: 100mm

Depth: 100mm

5. 240V Fused Connection Unit

To be placed snug alongside bottom of wiring housing to enable connection with wiring

Critical Information

In-vent active opening size: 1230mm W x 430mm H

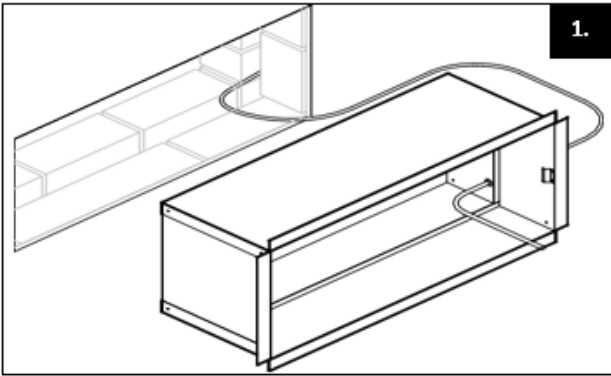
In-vent active weight: 45kg each

Lintel overspan: min 200mm each side

Depth: variable

**PLEASE NOTE THAT TWO STRUCTURAL OPENINGS ARE REQUIRED PER ROOM,
REFER TO DRAWINGS FOR DETAILS**

**BEFORE COMMENCING INSTALLATION, ENSURE THAT THE LINTEL IS PROTECTED
WITH A CAVITY TRAY WITH END STOPS.**

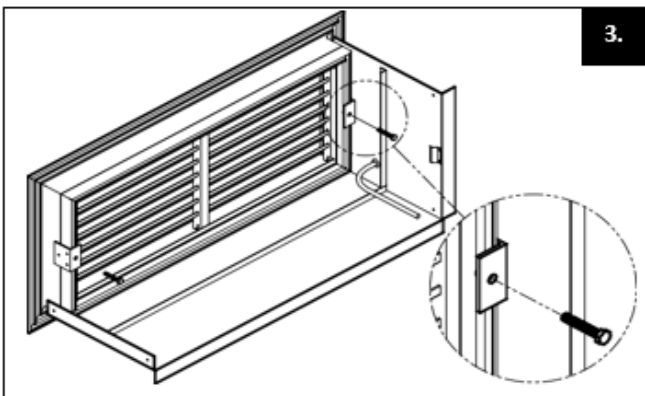
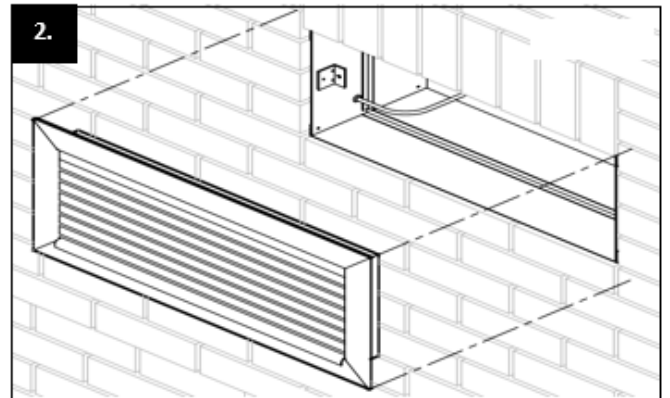


STEP 1.

Feed the power supply from the inside of the building through one of the rubber grommets at either end of the wall sleeve for the high unit. Make sure to leave enough cable to allow connection to the junction box inside the actuator housing on the louvre unit. Insert the wall sleeve into the wall ensuring that the unit is the correct way up

STEP 2.

From the outside of the building, apply silicon sealant to the back of the wall flange and insert the external louvre assembly into the aluminium sleeve. Ensure that the structural openings on the internal side of the frame align with the brackets on the sleeve



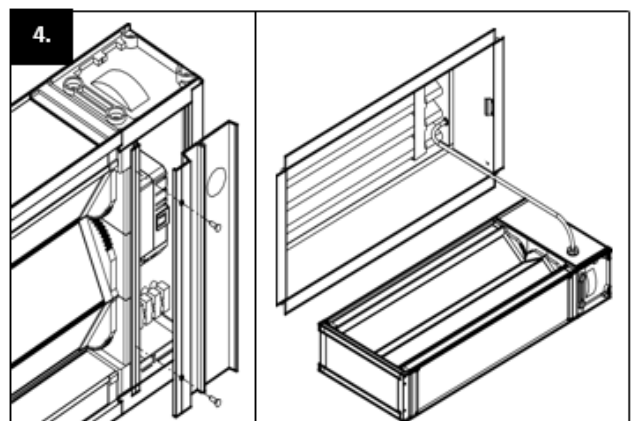
STEP 3.

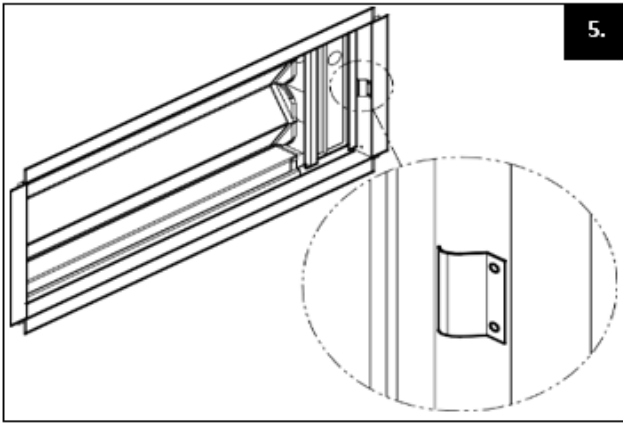
Ensure the structural openings are correctly aligned, then secure the external louvre assembly to the wall sleeve using the fixings retained from earlier. Test to make sure the fixings are fully tightened. The unit will now be fixed to the wall

STEP 4.

Remove the screws from the actuator cover and separate it from the front of the internal louvre. Feed the cable through the grommet at the rear of the internal louvre, pulling the cable through the front of the actuator housing.

The actuator housing must be installed before the heat exchanger is placed into the wall sleeve.





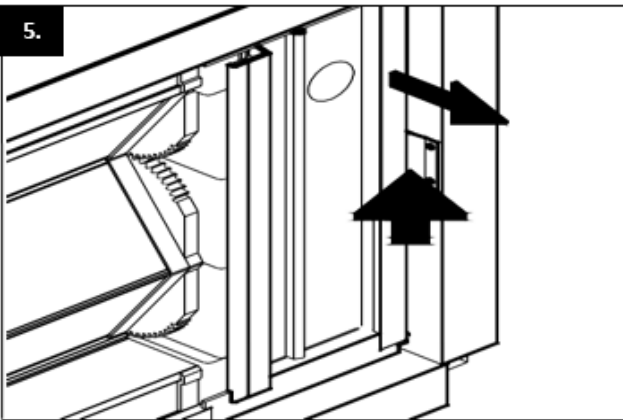
STEP 5.

Insert the inner louvre assembly into the wall sleeve ensuring that it is the correct way up (Note: Sprung retaining clips are pre-fitted towards the sleeve wall when the louvre is inserted). Push the inner louvre assembly into the sleeve until the clips spring back out to retain the front of the assembly.

Coil the cable up and place it in the actuator housing. (Alternatively you can wire into the junction box within the actuator housing. Note that wiring must be carried out as per the wiring diagram supplied). Replace the actuator front cover and fasten fixing screws.

ATTENTION: It is the responsibility of the electrical contractor/installer to ensure correct earth bonding is carried out if required

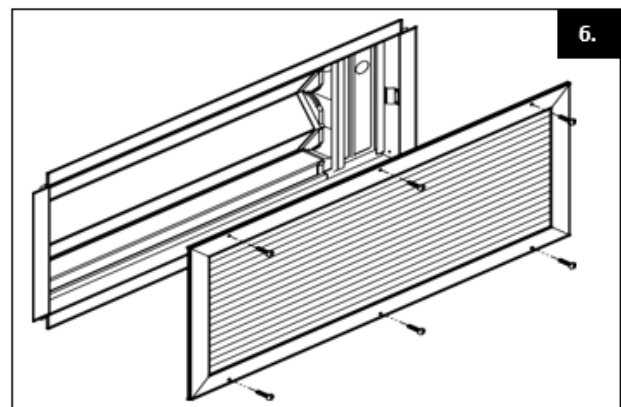
Should it be necessary to remove the louvre assembly for maintenance, depress the clips on either side whilst pulling the assembly out.



STEP 6.

Insert the internal cover grille onto the aluminium sleeve. Once in place, secure with fixing screws provided. Repeat steps 1-6 for the second unit

NOTE: Fixing points and grille types may alter from those shown.



WARNING: ISOLATE POWER SUPPLY BEFORE COMMENCING ANY MAINTENANCE WORK

CO₂ Sensor & Control Unit with CO₂ Alarm

The Ventive Sensor & Controller is designed to detect Carbon Dioxide concentration and temperature in classrooms and other occupied spaces. The units have "traffic lights" for alarm functionality set to Green (below 1500ppm); Amber (between 1500ppm and 2000ppm) and Red (above 2000ppm), as prescribed by BB101. The CO₂ sensor calibrates automatically. The sensors have linear 0 to 10V signal outputs relating to CO₂ concentration that can also be linked to temperature and humidity.

The sensors should be installed directly onto a wall mounted box in a dry indoor environment. The built-in controller allows ventilation to be boosted automatically when CO₂ levels exceed 1500ppm.



Technical Data

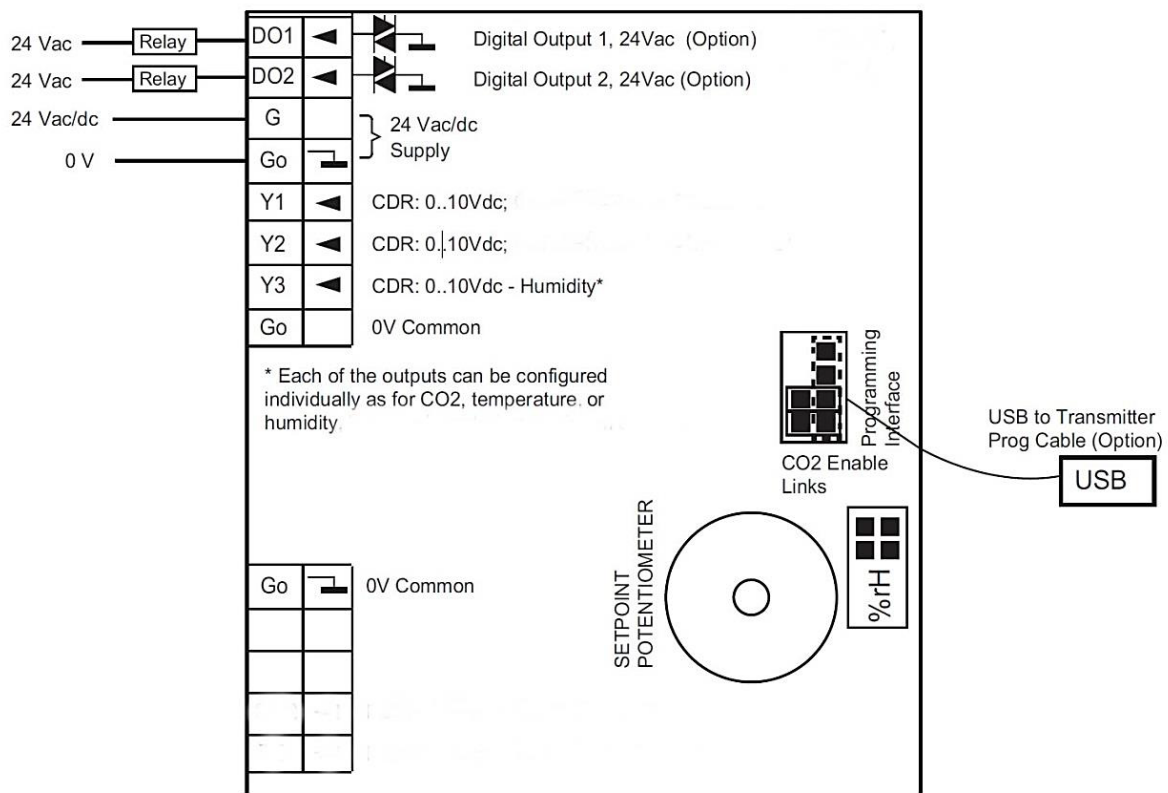
Power Supply		24Vac/dc -10%/+15%, max 1VA
Displays and Interfaces	Alarm LEDs (Traffic Lights)	Green, Yellow and Red LEDs. Alarm limits adjustable (Default: CO ₂ Amber: 1500ppm, CO ₂ Red: 2000 ppm)
Signal Outputs	Analog	Up to 3 0..10Vdc < 5mA; 100k min impedance for 1% accuracy
	Option	2 x 24Vac Triacs; 2A maximum; Requires 24Vac Power Supply
Connections	Terminal Connections	Solid and Stranded Cable; 55° Angle for Wiring; Cable Size: 0.05 to 1.5mm ² (EN ISO); Rising Clamp: Size 2.5 x 1.9mm
Environmental Conditions	Temperature	0°C...+50°C (32..122°F)
	Degree of Protection	IP20
Housing	Material	ABS Plastics, Self-Extinguishing, RAL9010 Pure White
	Mounting	Wall or Junction Box Mounting
	Dimensions	W86 x H120 x D29mm

Sensing Characteristics

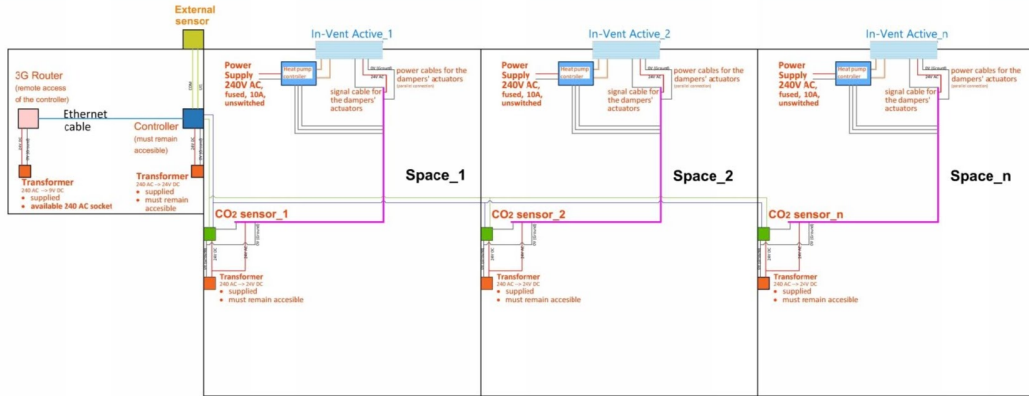
Carbon Dioxide (CO ₂)	Range	0...5000ppm CO ₂ (Range Adjustable)
	Accuracy	± 50ppm + 3% of the reading @ 25°C (@77°F)
	Technology	Auto Calibrating; Non-Dispersive Infrared (NDIR)
	Non-Linearity	<1% FS
	Warm-Up Time	<20 seconds
	Response Time	2 minutes
Temperature (option)	Range	0..50°C (32..122°F)
	Accuracy	±0.3°C
Humidity – RH (option)	Range	0..100%rH
	Accuracy	±2% RH (within 0..90% RH)

Connections

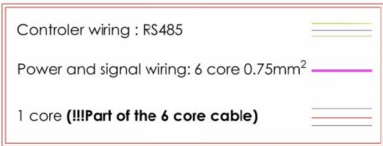
Wiring Terminals	DO1	Digital Output; 24Vac Triac Switching to 0V; max. 2A (option)
	DO2	Digital Output; 24Vac Triac Switching to 0V; max. 2A (option)
	G	24Vac/dc Power Supply
	G0	0V Common
	Y1	0..10Vdc Analogue Output (Function Selectable, default CO2)
	Y2	0..10Vdc Analogue Output
	Y3	0..10Vdc Analogue Output
	G0	0V Common



The following schematic figure describes the whole electrical installation:



- Positioning recommendations**
- Internal sensors**
- positioned 1.2m above FFL
 - away from heating/cooling sources
 - away from spaces exposed to direct sunlight
- External sensor**
- positioned at high level
 - out of direct sunlight
 - away from spaces exposed to direct sunlight



This drawing has been made from available information however measurements are to be verified on project site.
 This drawing must be verified and approved prior to final detailing and fabrication.
 This drawing is the property of Ventive Ltd and is not to be reproduced or copied in whole or in part.

Project reference	Drawing	No:	Revision
Ventive_In-Vent Active_Typical Wiring diagram	Typical plan layout	18_10_7	1_3.10.18

ventive
naturally intelligent ventilation

Address: Thames House, Swan Street, TW7 6RS, UK
 Old Isleworth, London
 Tel: +44 (0) 2056501314
 Website: www.ventive.co.uk
 E-mail: contact@ventive.co.uk

The **Outdoor temperature sensor** is to be positioned on the outside façade of the building. **IT MUST NOT BE IN DIRECT SUNLIGHT AT ANY TIME.**

WARNING: ISOLATE POWER SUPPLY BEFORE COMMENCING ANY MAINTENANCE WORK.

For further information on all Ventive products please contact us.