

# Zehnder ComfoAir 155 CM

The Zehnder ComfoAir 155 CM is a heat recovery unit designed to enable better and easier specification of ventilation in new properties. It contains features such as its automatic true summer by-pass, high heat recovery efficiency and integrated humidity sensor to provide a comfortable, healthy and energy-efficient indoor climate.



ZGRC1 Speed controller



ZGS2 Switch



ZGS1 Switch

## Key Features

- Left or right hand configuration through software alone, no mechanical alteration required.
- 100% full and filtered summer bypass.
- Modern, discreet design.
- Easy installation to ceilings.
- Light to handle.
- BMS capability.
- Tool free filter access.
- Volt free contact boost capability.
- CommissionSMART is a commissioning wizard that enable a quick and simple set-up process.
- SummerSMART ensures automatic full by-pass activation providing filtered supply air 365 days a year.
- TimerSMART eliminates nuisance noise and over-ventilation by determining the duration of occupancy and allocating a suitable overrun time.
- HumidiSMART continuously monitors the humidity level within the home and looks for a man-made spike before boosting the unit, irrespective of distance or dilution.
- 100% variable AUX speed for use as away mode, medium speed or purge boost.
- Independently tested sound data.

## SAP PCDB Test Results

|     | SFP (W/l/s) |      | Efficiency (%) |      |
|-----|-------------|------|----------------|------|
|     | 2009        | 2012 | 2009           | 2012 |
| K+1 | 0.5         | 0.57 | 93%            | 92%  |
| K+2 | 0.55        | 0.71 | 92%            | 91%  |
| K+3 | 0.65        | 0.92 | 91%            | 90%  |
| K+4 | 0.8         |      | 90%            |      |

## SEC Class



Based on average climate with  
local demand control

## Article Numbers

| Description                                                                                  | Product Code |
|----------------------------------------------------------------------------------------------|--------------|
| Zehnder ComfoAir 155 CM for ceiling mounting with SMART technology                           | CA155CM-GB   |
| Controls, three position switch for ComfoAir 155/185 and Centair range                       | ZGS1         |
| Controls, two position switch for ComfoAir 155/185 and Centair range                         | ZGS2         |
| Controls, dual speed controller for ComfoAir 155/185 with operational and service indicators | ZGRC1        |
| Controls, remote air quality sensor                                                          | AQR          |
| Controls, remote humidity sensor                                                             | HHRW         |
| Controls, remote passive infra-red movement sensor                                           | PIRR         |
| Controls, remote temperature sensor                                                          | THR          |

## Article Numbers

### Description

### Product Code

|                                                                    |
|--------------------------------------------------------------------|
| Filter for Zehnder ComfoAir 155 CM, ISO Coarse >45% (G3), 2 Pieces |
| Filter for Zehnder ComfoAir 155 CM, ISO Coarse >60% (G4), 2 Pieces |
| Heat exchanger for Zehnder ComfoAir 155 CM                         |

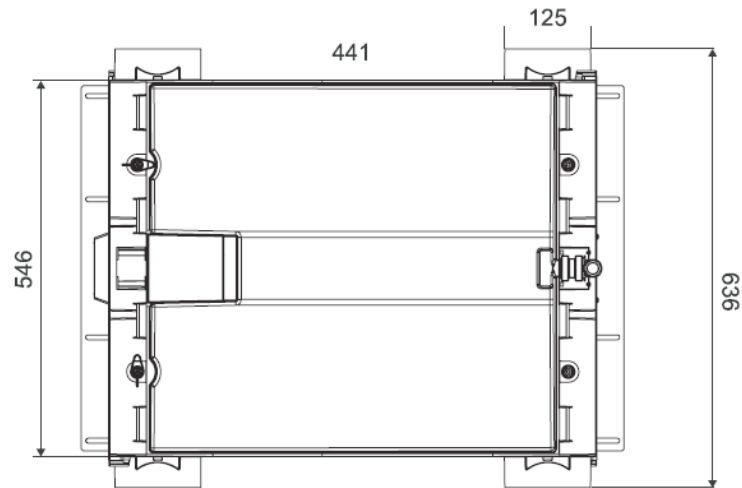
|              |
|--------------|
| CA155FIL     |
| CA155FIL.UPG |
| CA155EX      |

## Technical Specification

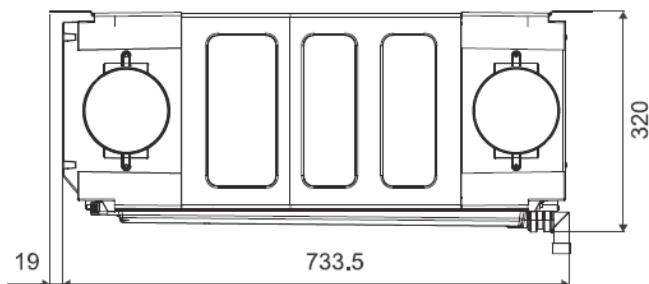
## Dimensions

|                           |                                                                   |
|---------------------------|-------------------------------------------------------------------|
| Weight                    | 20.5 Kg                                                           |
| Ducting ø                 | 125 mm                                                            |
| Condensate connection ø   | 21.5 mm                                                           |
| Filter grade              | Standard -ISO Coarse >45% (G3)<br>Optional - ISO Coarse >60% (G4) |
| Materials                 | Internal PP/EPS<br>External ABS                                   |
| Supply voltage            | 230V / single-phase / 50Hz                                        |
| Maximum power consumption | 165W                                                              |
| Current draw              | 1.1A                                                              |
| Fuse                      | 3 amp                                                             |
| Specific Fan Power        | 0.5 W/l/s                                                         |
| Heat Recovery Efficiency  | 93%                                                               |

|        |          |
|--------|----------|
| Height | 320mm    |
| Width  | 636 mm   |
| Depth  | 752.5 mm |

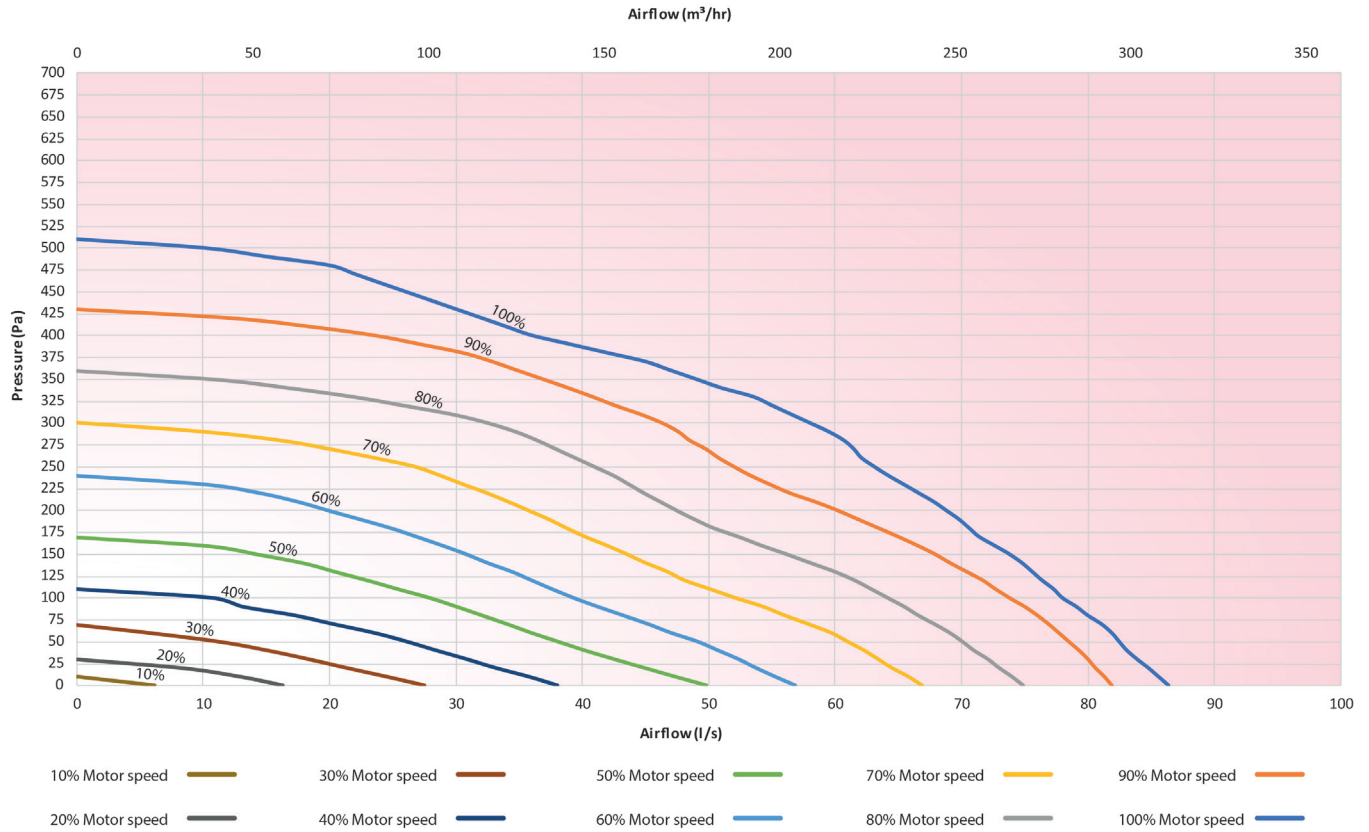


Front View



Side View

## Pressure Curve

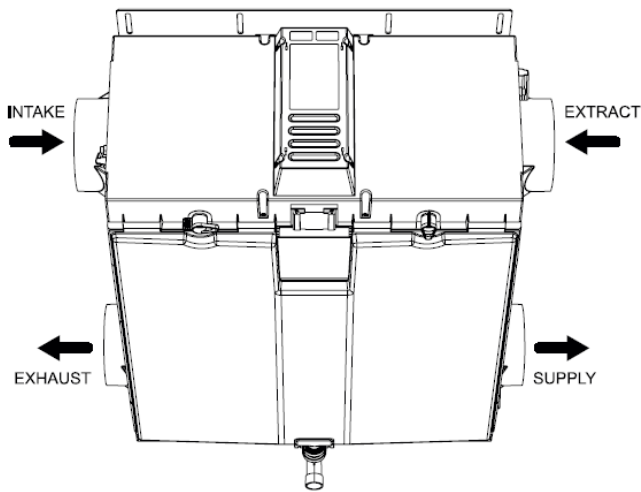


## Sound Data

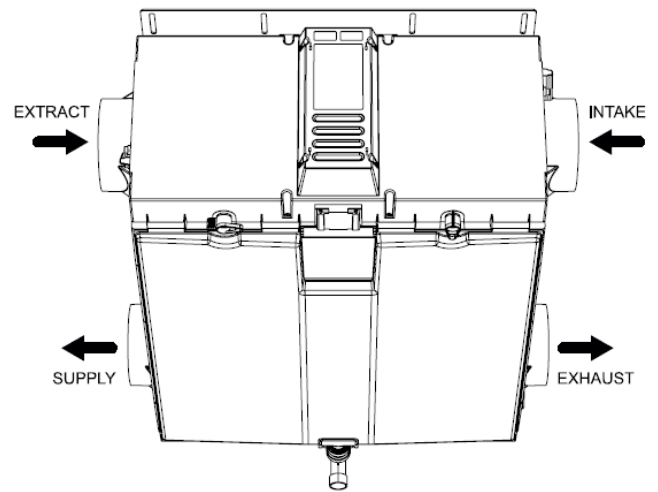
| Speed | Test area      | Octave Band (Hz) Sound Power Level, dB |      |      |      |      |      |      |      | Overall LwA, dB | dB(A) @ 3m |
|-------|----------------|----------------------------------------|------|------|------|------|------|------|------|-----------------|------------|
|       |                | 63                                     | 125  | 250  | 500  | 1000 | 2000 | 4000 | 8000 |                 |            |
| 20%   | Casing         | 29.7                                   | 26.5 | 23.7 | 22.2 | 19.3 | 15   | 18.2 | 23   | 26.8            | 9.3        |
|       | Supply/Exhaust | 48.3                                   | 42.7 | 37.9 | 31.5 | 23.9 | 16.2 | 17.9 | 22.7 | 34.1            |            |
|       | Extract/Intake | 46.5                                   | 37.7 | 33.4 | 24.9 | 17.7 | 14.5 | 18   | 22.8 | 29.8            |            |
| 40%   | Casing         | 36.7                                   | 41.5 | 36   | 34.1 | 32.8 | 24   | 19.7 | 23   | 36.5            | 19.0       |
|       | Supply/Exhaust | 63                                     | 59.5 | 55.5 | 50.8 | 48.9 | 43.8 | 34.5 | 32.1 | 54              |            |
|       | Extract/Intake | 50.4                                   | 46.8 | 48.9 | 37.5 | 32.2 | 26.2 | 20.8 | 23   | 42.4            |            |
| 60%   | Casing         | 44.7                                   | 50   | 44.8 | 40.9 | 39.8 | 34.7 | 26.8 | 23.6 | 44              | 26.5       |
|       | Supply/Exhaust | 68.9                                   | 71   | 63   | 55.5 | 56.2 | 53.9 | 46.7 | 46   | 62              |            |
|       | Extract/Intake | 57.5                                   | 54.8 | 54.2 | 44.5 | 38.8 | 34.2 | 26.2 | 24.5 | 48.5            |            |
| 80%   | Casing         | 45.8                                   | 54.7 | 48.5 | 45.1 | 43.8 | 40.1 | 32.5 | 25.7 | 48.4            | 30.9       |
|       | Supply/Exhaust | 73.2                                   | 74.5 | 68   | 62.7 | 61   | 60.1 | 53.4 | 54   | 67.5            |            |
|       | Extract/Intake | 62.6                                   | 59.8 | 60.5 | 48.5 | 43.2 | 41.2 | 31.9 | 28.5 | 54.1            |            |
| 100%  | Casing         | 51.6                                   | 56.5 | 51.6 | 50.1 | 46.5 | 43.8 | 36.6 | 28.3 | 52              | 34.5       |
|       | Supply/Exhaust | 74.9                                   | 75.2 | 71.3 | 65   | 63   | 62.7 | 56.2 | 57.4 | 69.8            |            |
|       | Extract/Intake | 63.8                                   | 61.6 | 63.7 | 51.3 | 45.6 | 44   | 35.5 | 31.1 | 56.9            |            |

Tested according to BS EN 13141-7:2010. Supply and Extract showing induct sound power level. Casing dBA @ 3m given as hemispherical.

## Air Direction/Connection



Right Hand (factory setting)

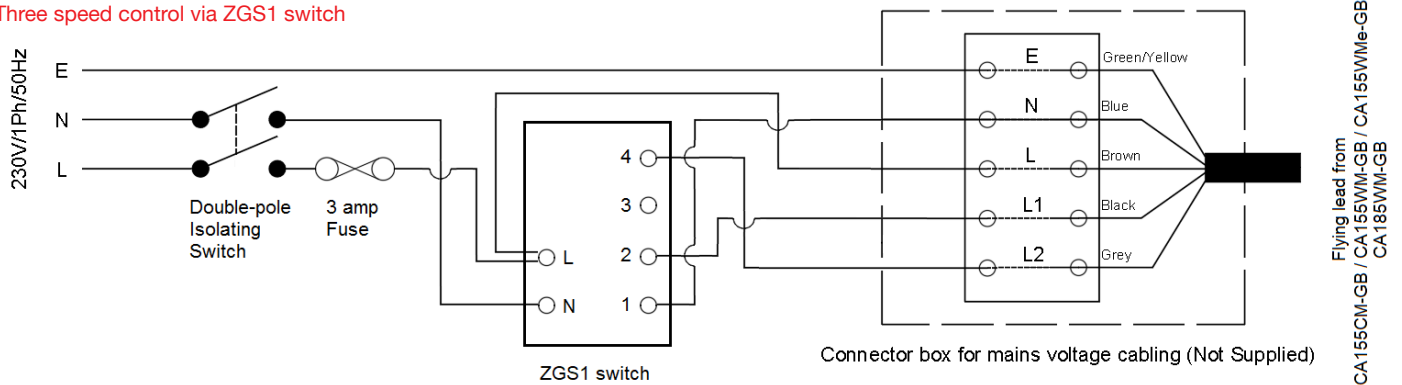


Left Hand

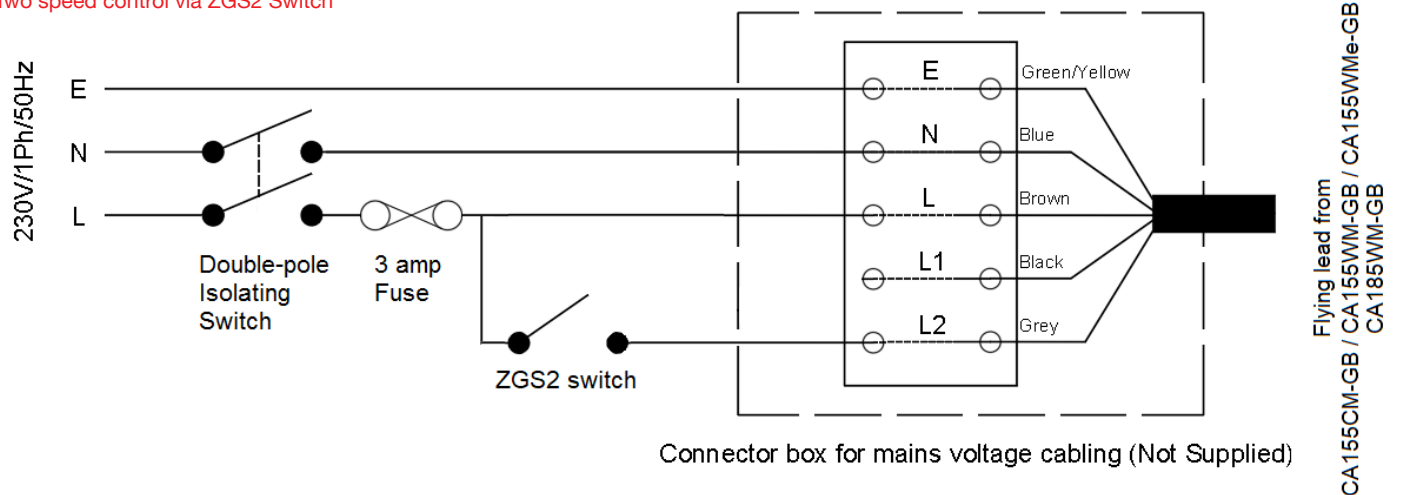
## Wiring

Electrical connections should be carried out in accordance to IEE regulations by a qualified electrician. The unit is supplied with a flying lead for connection to the mains supply.

### Three speed control via ZGS1 switch

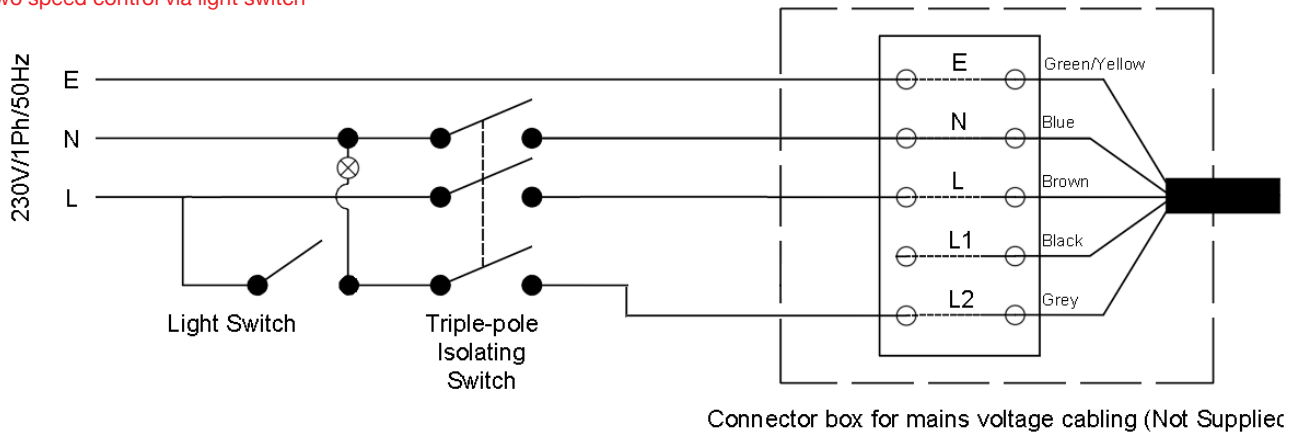


### Two speed control via ZGS2 Switch



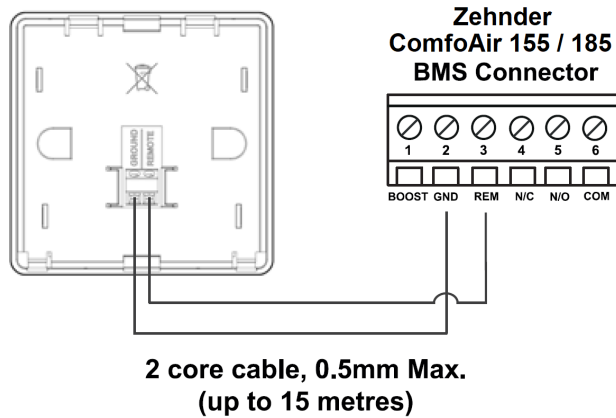
## Wiring

### Two speed control via light switch



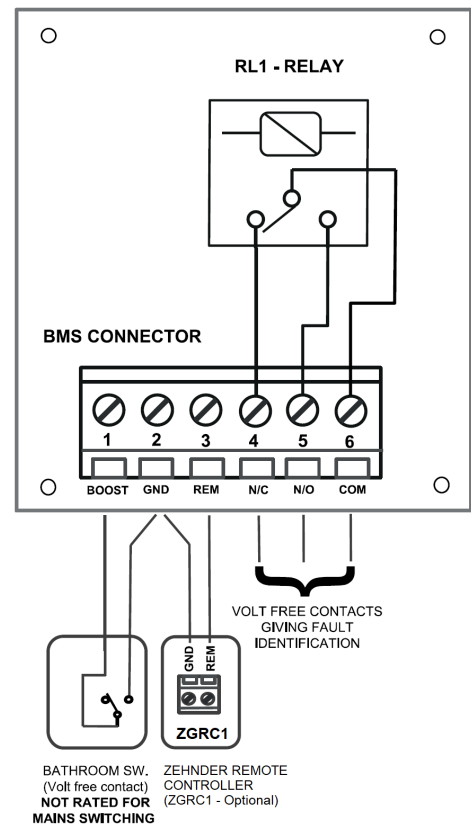
CA155CM-GB / CA155WM-GB / CA155WMe-GB / CA185WM-GB

### Two speed control via ZGRC1 switch



### ComfoAir + BMS Connection

#### ELECTRICAL CONNECTION / TERMINAL DIAGRAM



# Controls

Intelligent ventilation control for customised year round comfort. Power is nothing without control... Our MEV, MVHR units and extraction fans can be simply and effectively controlled to ensure optimal performance around the clock.

## ZGS1



The Zehnder ZGS1 is a three position switch designed to enable the user to manually select the desired ventilation systems flow rate.

### Key Benefits

- 3 separate ventilation flow rate options to select in 1 controller

### Technical Specification

|                  |                                          |
|------------------|------------------------------------------|
| Mounting options | Recessed                                 |
| Supply voltage   | Mains power - 230V / single-phase / 50Hz |

### Description

Suitable for MEV and MVHR units:

|                                                                              |             |
|------------------------------------------------------------------------------|-------------|
| Centair CMEV.4eHT for wall, floor or cupboard mounting with SMART technology | CMEV.4eHT   |
| Zehnder ComfoAir 155 CM for ceiling mounting with SMART technology           | CA155CM-GB  |
| Zehnder ComfoAir 155 WM for wall or cupboard mounting with SMART technology  | CA155WM-GB  |
| Zehnder ComfoAir 155 WMe for wall or cupboard mounting with SMART technology | CA155WMe-GB |
| Zehnder ComfoAir 185 WM for wall or cupboard mounting with SMART technology  | CA185WM-GB  |

### Product Code

### Dimensions (recessed)

|        |      |
|--------|------|
| Height | 84mm |
| Width  | 84mm |
| Depth  | 22mm |

### Dimensions (surface mounted)

|        |      |
|--------|------|
| Height | 84mm |
| Width  | 84mm |

### Article

ZGS1

## ZGS2



The Zehnder ZGS2 is a two position switch designed to enable the user to manually select the desired ventilation systems flow rate.

### Key Benefits

- 2 separate ventilation flow rate options to select in 1 controller

### Technical Specification

|                  |                                          |
|------------------|------------------------------------------|
| Mounting options | Recessed                                 |
| Supply voltage   | Mains power - 230V / single-phase / 50Hz |

### Description

Suitable for use with MEV and MVHR units:

|                                                                              |             |
|------------------------------------------------------------------------------|-------------|
| Centair CMEV.4e for wall, floor or cupboard mounting                         | CMEV.4e     |
| Centair CMEV.4eHT for wall, floor or cupboard mounting with SMART technology | CMEV.4eHT   |
| Zehnder ComfoAir 155 CM for ceiling mounting with SMART technology           | CA155CM-GB  |
| Zehnder ComfoAir 155 WM for wall or cupboard mounting with SMART technology  | CA155WM-GB  |
| Zehnder ComfoAir 155 WMe for wall or cupboard mounting with SMART technology | CA155WMe-GB |
| Zehnder ComfoAir 185 WM for wall or cupboard mounting with SMART technology  | CA185WM-GB  |

### Product Code

### Dimensions (recessed)

|        |      |
|--------|------|
| Height | 86mm |
| Width  | 86mm |
| Depth  | 15mm |

### Article

ZGS2

# ZGRC1



The Zehnder ZGRC1 is a two position switch designed to enable the user to manually select the desired ventilation systems flow rate and provide system notifications.

## Key Benefits

- 2 separate ventilation flow rate options to select in 1 controller
- Summer bypass indicator
- Frost protection indicator
- Service and Maintenance alert
- Automatic switching back to low speed after a preset time period to avoid the unit accidentally being left in its high speed

## Technical Specification

|                   |                                                         |
|-------------------|---------------------------------------------------------|
| Mounting options  | Recessed / Surface                                      |
| Supply voltage    | Low voltage direct from the MVHR units<br>BMS connector |
| Recommended cable | 2 core cable, 0.5mm Max. (up to 15 metres)              |
| RAL colour        | 9016                                                    |

## Description

Suitable for MVHR units:

|                                                                              |             |
|------------------------------------------------------------------------------|-------------|
| Zehnder ComfoAir 155 CM for ceiling mounting with SMART technology           | CA155CM-GB  |
| Zehnder ComfoAir 155 WM for wall or cupboard mounting with SMART technology  | CA155WM-GB  |
| Zehnder ComfoAir 155 WMe for wall or cupboard mounting with SMART technology | CA155WMe-GB |
| Zehnder ComfoAir 185 WM for wall or cupboard mounting with SMART technology  | CA185WM-GB  |

## Product Code

## Dimensions (recessed)

|        |      |
|--------|------|
| Height | 90mm |
| Width  | 90mm |
| Depth  | 21mm |

## Dimensions (surface mounted)

|        |      |
|--------|------|
| Height | 90mm |
| Width  | 90mm |
| Depth  | 37mm |

## Article

ZGRC1

## AQR



The Zehnder AQR remote air quality sensor enables a signal to be sent to the ventilation system to automatically place the unit into a higher flow rate.

### Key Benefits

- Set activation level covering a range of pollutants such as hydrogen, CO, methane, ethanol and isobutane
- Adjustable overrun timer between 2-40 minutes
- Can be fitted with locking security straps to prevent tampering
- Suitable for locating where temperatures don't exceed 45°C

### Technical Specification

|                  |                                          |
|------------------|------------------------------------------|
| Mounting options | Surface                                  |
| Supply voltage   | Mains power - 230V / single-phase / 50Hz |

### Dimensions (recessed)

|        |      |
|--------|------|
| Height | 86mm |
| Width  | 93mm |
| Depth  | 20mm |

### Dimensions (surface mounted)

|        |      |
|--------|------|
| Height | 86mm |
| Width  | 93mm |
| Depth  | 37mm |

### Description

Suitable for use with MEV and MVHR units:

### Product Code

### Article

AQR

|                                                                              |             |
|------------------------------------------------------------------------------|-------------|
| Centair CMEV.4e for wall, floor or cupboard mounting                         | CMEV.4e     |
| Centair CMEV.4eHT for wall, floor or cupboard mounting with SMART technology | CMEV.4eHT   |
| Zehnder ComfoAir 155 CM for ceiling mounting with SMART technology           | CA155CM-GB  |
| Zehnder ComfoAir 155 WM for wall or cupboard mounting with SMART technology  | CA155WM-GB  |
| Zehnder ComfoAir 155 WMe for wall or cupboard mounting with SMART technology | CA155WMe-GB |
| Zehnder ComfoAir 185 WM for wall or cupboard mounting with SMART technology  | CA185WM-GB  |
| Zehnder ComfoAir 160                                                         | 471218950   |
| Zehnder ComfoAir 200, left handed                                            | 471226010   |
| Zehnder ComfoAir 200, right handed                                           | 471226015   |
| Zehnder ComfoAir 350, left handed                                            | 471233400   |
| Zehnder ComfoAir 350, right handed                                           | 471233405   |

## HHRW



The Zehnder HHRW remote humidity sensor enables a signal to be sent to the ventilation system to automatically place the unit into a higher flow rate.

### Key Benefits

- Set humidity activation between 30-90% relative humidity
- Adjustable overrun timer between 2-40 minutes
- Can be fitted with locking security straps to prevent tampering
- Suitable for locating where temperatures don't exceed 45°C

### Technical Specification

|                  |                                          |
|------------------|------------------------------------------|
| Mounting options | Surface                                  |
| Supply voltage   | Mains power - 230V / single-phase / 50Hz |

### Dimensions (recessed)

|        |      |
|--------|------|
| Height | 86mm |
| Width  | 93mm |
| Depth  | 20mm |

### Dimensions (surface mounted)

|        |      |
|--------|------|
| Height | 86mm |
| Width  | 93mm |
| Depth  | 37mm |

### Description

Suitable for use with MEV and MVHR units:

### Product Code

### Article

HHRW

|                                                                              |             |
|------------------------------------------------------------------------------|-------------|
| Centair CMEV.4e for wall, floor or cupboard mounting                         | CMEV.4e     |
| Centair CMEV.4eHT for wall, floor or cupboard mounting with SMART technology | CMEV.4eHT   |
| Zehnder ComfoAir 155 CM for ceiling mounting with SMART technology           | CA155CM-GB  |
| Zehnder ComfoAir 155 WM for wall or cupboard mounting with SMART technology  | CA155WM-GB  |
| Zehnder ComfoAir 155 WMe for wall or cupboard mounting with SMART technology | CA155WMe-GB |
| Zehnder ComfoAir 185 WM for wall or cupboard mounting with SMART technology  | CA185WM-GB  |
| Zehnder ComfoAir 160                                                         | 471218950   |
| Zehnder ComfoAir 200, left handed                                            | 471226010   |
| Zehnder ComfoAir 200, right handed                                           | 471226015   |
| Zehnder ComfoAir 350, left handed                                            | 471233400   |
| Zehnder ComfoAir 350, right handed                                           | 471233405   |

# PIRR



The Zehnder PIRR remote passive infra-red movement sensor enables a signal to be sent to the ventilation system to automatically place the unit into a higher flow rate.

## Key Benefits

- Senses movement upto 7m away
- Adjustable overrun timer between 2-40 minutes
- Can be fitted with locking security straps to prevent tampering
- Suitable for locating where temperatures don't exceed 45°C

## Technical Specification

|                  |                                          |
|------------------|------------------------------------------|
| Mounting options | Surface                                  |
| Supply voltage   | Mains power - 230V / single-phase / 50Hz |

## Dimensions (recessed)

|        |      |
|--------|------|
| Height | 86mm |
| Width  | 93mm |
| Depth  | 20mm |

## Dimensions (surface mounted)

|        |      |
|--------|------|
| Height | 86mm |
| Width  | 93mm |
| Depth  | 37mm |

## Description

Suitable for use with MEV and MVHR units:

## Product Code

## Article

PIRR

|                                                                              |             |
|------------------------------------------------------------------------------|-------------|
| Centair CMEV.4e for wall, floor or cupboard mounting                         | CMEV.4e     |
| Centair CMEV.4eHT for wall, floor or cupboard mounting with SMART technology | CMEV.4eHT   |
| Zehnder ComfoAir 155 CM for ceiling mounting with SMART technology           | CA155CM-GB  |
| Zehnder ComfoAir 155 WM for wall or cupboard mounting with SMART technology  | CA155WM-GB  |
| Zehnder ComfoAir 155 WMe for wall or cupboard mounting with SMART technology | CA155WMe-GB |
| Zehnder ComfoAir 185 WM for wall or cupboard mounting with SMART technology  | CA185WM-GB  |
| Zehnder ComfoAir 160                                                         | 471218950   |
| Zehnder ComfoAir 200, left handed                                            | 471226010   |
| Zehnder ComfoAir 200, right handed                                           | 471226015   |
| Zehnder ComfoAir 350, left handed                                            | 471233400   |
| Zehnder ComfoAir 350, right handed                                           | 471233405   |

# THR



The Zehnder THR remote temperature sensor enables a signal to be sent to the ventilation system to automatically place the unit into a higher flow rate.

## Key Benefits

- Set temperature activation between 5-35°C
- Fixed 2 minute overrun timer
- Can be fitted with locking security straps to prevent tampering
- Suitable for locating where temperatures don't exceed 45°C

## Technical Specification

|                  |                                          |
|------------------|------------------------------------------|
| Mounting options | Surface                                  |
| Supply voltage   | Mains power - 230V / single-phase / 50Hz |

## Dimensions (recessed)

|        |      |
|--------|------|
| Height | 86mm |
| Width  | 93mm |
| Depth  | 20mm |

## Dimensions (surface mounted)

|        |      |
|--------|------|
| Height | 86mm |
| Width  | 93mm |
| Depth  | 37mm |

## Description

Suitable for use with MEV and MVHR units:

## Product Code

## Article

THR

|                                                                              |             |
|------------------------------------------------------------------------------|-------------|
| Centair CMEV.4e for wall, floor or cupboard mounting                         | CMEV.4e     |
| Centair CMEV.4eHT for wall, floor or cupboard mounting with SMART technology | CMEV.4eHT   |
| Zehnder ComfoAir 155 CM for ceiling mounting with SMART technology           | CA155CM-GB  |
| Zehnder ComfoAir 155 WM for wall or cupboard mounting with SMART technology  | CA155WM-GB  |
| Zehnder ComfoAir 155 WMe for wall or cupboard mounting with SMART technology | CA155WMe-GB |
| Zehnder ComfoAir 185 WM for wall or cupboard mounting with SMART technology  | CA185WM-GB  |
| Zehnder ComfoAir 160                                                         | 471218950   |
| Zehnder ComfoAir 200, left handed                                            | 471226010   |
| Zehnder ComfoAir 200, right handed                                           | 471226015   |
| Zehnder ComfoAir 350, left handed                                            | 471233400   |
| Zehnder ComfoAir 350, right handed                                           | 471233405   |

## BIM/CAD Components

If you would like to download the BIM / CAD files for this or any other of our products then please visit our BIM library.

**TO VISIT OUR BIM/CAD LIBRARY**

**CLICK HERE**

## Installation Instructions

If you would like to download the installation files for this or any other of our products then please visit our download page by clicking the link below.

**TO VISIT OUR DOWNLOAD PAGE**

**CLICK HERE**

## Our Informational Video



Watch our video on how to change the Zehnder ComfoAir filters.

**TO WATCH OUR VIDEO**

**CLICK HERE**



Watch our video on how to clean the Zehnder ComfoFresh ductwork.

**TO WATCH OUR VIDEO**

**CLICK HERE**

## Consultant specification

### Specification

The unit shall consist of a body manufactured in recyclable ABS. The unit shall be fully insulated with EPS to maintain excellent thermal characteristics. It shall have EC low energy motors with sealed for life bearings. The fan shall have a forward curved centrifugal impellor. The heat exchanger shall be a multi-plate, counter flow design constructed from Polystyrene with laser welded joints and shall retain up to 93% of the temperature differential of outgoing air.

The unit shall contain filters manufactured from synthetic material which has been tested to a minimum of ISO Coarse >45% (G3) standard with the option to upgrade to ISO Coarse >60% (G4).. The filters shall be pleated to reduce the pressure drop whilst increasing the time between maintenance requirement. The unit shall have 125mm duct connections and be suitable for ceiling mounting with the ability to allow left or right hand configuration through the unit's software alone – no mechanical reconfiguration shall be required. The unit shall be compatible with air conditioning systems as condensate can be taken from both sides of the product simultaneously.

The unit shall have 100% full summer by-pass and provide filtered supply air 365 days of the year, even under bypass conditions. The unit shall contain a temperature sensor for each air stream to ensure correct and logical operation of the bypass damper by evaluating differential as well as absolute temperature to maximise the opportunity for free cooling.

The unit shall be constructed to have a removable cover to allow full maintenance access.

The unit shall conform to LVD and EMC standards and be CE Marked in addition to having an EU compliant energy rating label (SEC) with a minimum grade of A. The unit shall be manufactured by Zehnder.

### Operation

The supply and extract unit shall be a ComfoAir manufactured by Zehnder and shall be suitable to mount on the ceiling in accordance with the specification.

The fresh filtered air from outside shall be supplied to each of the habitable rooms and pre-heated by the warm extract air from the wet areas, such as kitchen or bathroom, via the plastic counter flow heat exchanger. The unit shall vary its speed of the EC motors automatically when it receives a signal from one of the inbuilt sensors or via external switches.

The unit shall have the ability to adjust and commission the supply and extract motors independently via the front mounted in-built LCD interface. The motors shall both offer 100% variable speed control.

### Controls

All ComfoAir 155/185 units shall contain the following functions within the unit pre-wired and factory fitted by the manufacturer:

- 100% variable supply and extract motor control
- Variable low and high speed flow rate set point
- BMS compatibility offering speed control and status indication
- Switched live input
- Volt free contact
- Automatic filtered summer bypass with timed manual override option
- Heat exchanger frost protection
- Commissioning wizard to enable commissioning of the unit in just 8 simple steps
- Integral service, fault and operation indicators
- Control panel PIN protection
- Tool free filter access
- Runtime counter
- Humidity sensors to operate the unit in response to humidity spikes above natural background humidity levels as opposed to a single threshold humidity point to activate the high set point
- Variable overrun timer relative to high speed activation period
- 100% variable 3rd "AUX" speed for use as away mode, medium speed or purge boost activated via switched live input

**zehnder**  
always the  
best climate