

# T-SENSE-VAV AND T-SENSE-VAV-D

Carbon dioxide, temperature and RH regulator



## TECHNICAL DATA

<b>Supply voltage:</b>	12V DC, 24V AC/DC $\pm 20\%$ , (50-60 Hz)
<b>Power consumption</b>	
<b>Average:</b>	<0.6W with display* <0.35W without display
<b>Max/peak:</b>	<2W
<b>Output signal/P band:</b>	Route <100 $\Omega$ , Load: >5 k $\Omega$
<b>OUT1, Combined output:</b>	0-10V DC:
<b>CO2:</b>	600-900 ppm
<b>Temperature:</b>	22-23°C
<b>Relative humidity:</b>	75-85% RH
<b>OUT2, CO2:</b>	0-10V DC, 0-2,000 ppm
<b>OUT3, Temperature:</b>	0-10V DC, 0-50°C
<b>Relay output:</b>	Energised > 1,000ppm CO <sub>2</sub> , de-energised <900ppm CO <sub>2</sub>
<b>CO2</b>	
<b>Accuracy:</b>	$\pm 30$ ppm $\pm 3\%$ of the measured value
<b>Measurement method:</b>	NDIR
<b>Measurement range:</b>	15 s
<b>Temperature sensor</b>	
<b>Accuracy:</b>	$\pm 0.3^\circ\text{C}$ *2
<b>Measurement range:</b>	15 s
<b>Relative humidity</b>	
<b>Accuracy*:</b>	$\pm 5\%$ RH (@ 20-80% RH)
<b>Measurement range:</b>	15 s
<b>Relay:</b>	Alternating potential-free 1A, 50V AC/24V DC
<b>Communication (RS485):</b>	Modbus or Bacnet
<b>Storage temperature:</b>	-30 to +70°C
<b>Operating temperature:</b>	0 to +50°C
<b>Operating humidity:</b>	0-95% RH
<b>Dimensions (HxWxD):</b>	125x85x22 mm
<b>Protection class:</b>	IP20

\* Depending on the screen brightness.

\* 2 The measurement accuracy depends on the installation conditions for the product. See MOUNTING header

## FEATURES

- 3 sensors in one enclosure
- Colour touch screen (T-SENSE-VAV-D)
- PIN code for configuration
- Infrared CO<sub>2</sub> measurement technology (NDIR)
- Internally separated measuring chamber for moisture and temperature
- 5-year warranty
- Normally maintenance-free
- Ensures reduced energy costs for demand-controlled ventilation

## FUNCTION

T-SENSE-VAV-D is an advanced and versatile 3-in-1 control unit with a colour touch screen. T-SENSE-VAV-D measures the CO<sub>2</sub> concentration, temperature and relative humidity in the ambient air. Features include an alternating relay output and three separate 0-10V outputs, one of which is pre-programmed as a combined output for CO<sub>2</sub>, temperature and humidity. This combined 0-10V output has three separate p-bands (adjustable via touch screen) for CO<sub>2</sub> (600-900ppm), temperature (22-23°C) and humidity (75-85% RH). You can also configure the relay output in a similar way. The touch screen allows the function to be configured, PIN code protected. T-SENSE-VAV-D can also communicate via Modbus or Bacnet.

For T-SENSE-VAV, which has no display, configurations and settings are made using a PC.

## USE

T-SENSE-VAV combines all the necessary data to allow the efficient regulation of the indoor environment such as in offices, hotels, schools, etc. The use of CO<sub>2</sub> measurement for demand-controlled ventilation provides a healthy, comfortable and cost-effective environment in your property.

## MOUNTING

The T-SENSE-VAV is fitted in a normal indoor environment to a wall where it is not exposed to any direct sunlight or drafts. When mounting over an electrical box or conduit it should be sealed to avoid draft that could affect its accuracy.

## MAINTENANCE

T-SENSE-VAV is normally maintenance-free once the Auto Background Calibration (ABC) function is enabled.

## EXAMPLE OF ORDER

Item code	Name
T-SENSE-VAV	CO <sub>2</sub> , temperature, moisture control, without display
T-SENSE-VAV-D	CO <sub>2</sub> , temperature, moisture control, with display

## ACCESSORIES

Item code	Name
USB CABLE 3.5	Programming cable for the T-SENSE series

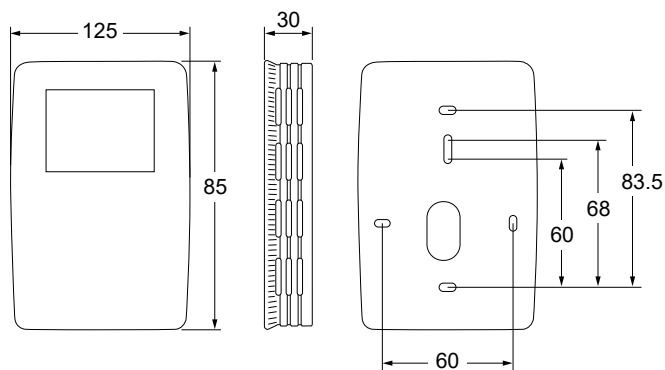
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## DIMENSIONS

(mm)



## WIRING DIAGRAM

NC (NTC/Temp)	—	∅ 12
COM	—	∅ 11
NO (NTC/Temp)	—	∅ 10
RS485 GND/MB/BAC	—	∅ 9
RS485 B(-)/MB/BAC	—	∅ 8
RS485 A(+)/MB/BAC	—	∅ 7
Analogue GND	—	∅ 6
Analogue OUT(3)	—	∅ 5
Analogue OUT(2)	—	∅ 4
Analogue OUT(1)	—	∅ 3
GND	—	∅ 2
24V AC/DC (±20%)	—	∅ 1

## STANDARD CONFIGURATION OF OUTPUTS

Customised settings can be delivered on request.

Block	Standard configuration	Standard setting
UTG.1 CO <sub>2</sub> Temperature Relative humidity	0-10V DC	600-900 ppm CO <sub>2</sub> 22-23°C 75-85%
UTG.2 CO <sub>2</sub>	0-10V DC	0-2,000 ppm CO <sub>2</sub>
UTG.3 Temperature	0-10V DC	0-50°C
Relay CO <sub>2</sub>	0-10V DC	900-1,000 ppm