CO2, Temp & Humidity Combined Sensors
Automatic Calibration Technology

The Titan TPVRCO2 sensor range provide CO2 measurement using NDIR technology and can be supplied with temperature and humidity output options.

The sensors are designed for ventilation on demand systems, providing 0-10V signals for CO2, temperature and humidity conditions in the measured space along with a resistive 10K3A1 temperature output.

The sensors offer automatic calibration technology removing the need for manual calibration and are available with traffic light LED indication to illustrate the CO2 condition in the space visually.

The sensors are perfect for applications in schools, offices, libraries and public buildings and they are fully compatible with the Titan Products BACnet natural ventilation and multi-purpose controllers.
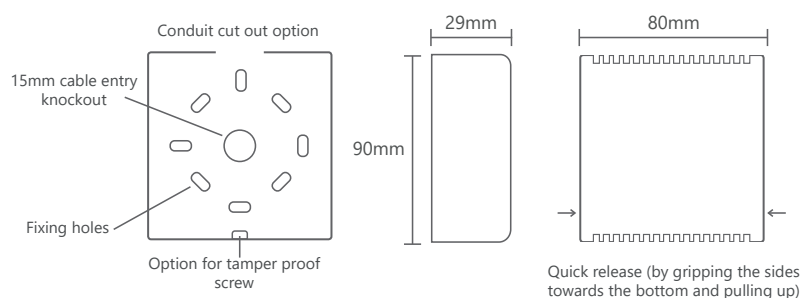
Specification

Material:		Flame retardant polycarbonate
Sensor:		NDIR technology
Outputs:	CO2:	0-10V for 0-2000ppm
	Temp:	0-10V for 0-50°C
		10K3A1 thermistor fitted as standard (other types available)
	Humidity:	0-10V for 0-100%
Accuracy @ 25°C and 50% RH:		
	CO2:	+/- 40ppm +2% of reading
	Temp (voltage):	+/- 0.5°C
	Temp (resistive):	+/- 0.5°C
	Humidity :	+/- 3% RH
Power Supply:		24V AC/DC (+/- 15%)
Power Consumption:		100mA
Operating Conditions:		5-50°C
		10-80% RH non-condensing
Warm up time:		2 mins (operational)
		10 mins (peak accuracy)
3x LED Indication:		Green - on below 800ppm
		Yellow - on at 800 to 1000ppm
		Red - on above 1000ppm
Terminals:		Max cable size 1.0mm
Dimensions:		80mm x 90mm x 29mm
Country of Origin:		UK
Product codes:		See table

Product Codes

Product Code	Sensor Type
Non LED Indication	
TPVRCO2	Room CO2 only 0-10V output
TPVRCO2T-RT/10K3	Room CO2 and Temp 0-10V outputs *10K3 thermistor also fitted*
TPVRCO2HT-RT/10K3	Room CO2 with Humidity 0-10V and Temperature 0-10V *10K3 thermistor also fitted*
c/w LED Indication	
TPVRCO2/L	Room CO2 only 0-10V output plus LEDs for CO2 concentration indication
TPVRCO2T-RT/10K3/L	Room CO2 and Temp 0-10V outputs *10K3 thermistor also fitted* plus LEDs for CO2 concentration indication
TPVRCO2HT-RT/10K3/L	Room CO2 with Humidity 0-10V and Temperature 0-10V *10K3 thermistor also fitted* plus LEDs for CO2 concentration indication

Dimensions

Conduit cut out option
15mm cable entry knockout
Fixing holes
Option for tamper proof screw
29mm
90mm
80mm
Quick release (by gripping the sides towards the bottom and pulling up)

Wiring

24V	0V	0V	CO2	T	RH		2 wire
			0-10V	0-10V	0-10V		10K3A1*

Other thermistor types available on request

Applications

The sensors are ideal for applications which require ventilation on demand such as schools, offices, theatres.

Automatic Calibration Operation

Automatic calibration requires the background CO2 levels to drop to 400ppm at least once during the first 24 hours of power up and to at least once every 7 days thereafter. This will become the base rate the sensor will calibrate to preventing long term drift.

Installation and Maintenance

Solvents in the air derived from sources such as paints, cleaning products and adhesives can have a detrimental impact on the sensor cell. All sensors should therefore be installed after the space has been decorated and any flooring fitted. The sensors should also be kept away from adhesives and should the housing require cleaning a dry non-solvent based product must be used. Do not spray any liquid or cleaning products directly onto the ventilated housing. Exposing the sensor to such solvents or moisture will invalidate the product warranty. Do not blow directly on to the CO2 cell within the sensor, this can damage the cell membrane and could cause incorrect readings