



Controls by Monodraught

Temperature and CO₂ Sensors

Combined CO₂ & Temperature Sensor (IN0081)

The IN0081 is a Combined CO₂ /Temperature Sensor suitable for use as an additional with iNvent 2 panels.

It uses a room CO₂ measurement device using NDIR technology with a range of 400 - 2000 ppm, and includes a temperature sensor with a range of 0 – 50°C. The unit also incorporates LED indicators for the CO₂ level to advise occupants when it might be sensible to operate additional manually controlled ventilation, such as windows.

The CO₂ sensor features an Automatic Background Calibration which will recalibrate the sensor back to a background level during unoccupied periods to cancel sensor drift and maintain accuracy over the typical product lifespan.

The unit has a combined output for use with iNvent 2 which indicates the temperature, unless a CO₂ threshold of 1500 ppm is triggered, and stays in this mode until the CO₂ drops down below 1200 ppm. iNvent 2 can receive the separate temperature and CO₂ signals, providing more precise control of temperature and CO₂.

External Temperature Sensor

The External Temperature Sensor, with a range of -10 to + 40°C, has an IP65 rating and the sensor is encapsulated within this enclosure to reduce the risk of damage from high humidity or condensing conditions.

This unit is suitable for most applications requiring ventilation control linked to external temperature and is recommended for use with Monodraught iNvent 2 control systems or third party BMS solutions.

Room Temperature Sensor (IN0045)

The IN0045 is a Room Temperature Sensor device with a range of 0 – 50°C.

This unit is suitable for most applications requiring temperature controlled ventilation and is recommended for use with Monodraught iNvent 2 control systems, third party BMS or Monodraught custom control systems such as our BACnet/IP solutions.



Technical Details

Material

- Enclosure is manufactured from Flame Retardant Polycarbonate

Power Supply

- 24V DC @ 100mA Nom

Terminals

- Cable size 1 mm² max
- Cable size 0.5 mm² multi-strand recommended

Warm-Up Time (CO₂)

- 2 minutes (operational)
- 10 minutes (full accuracy)

Protection

- IP20 (Room Sensors)
- IP65 (External Temperature Sensor)

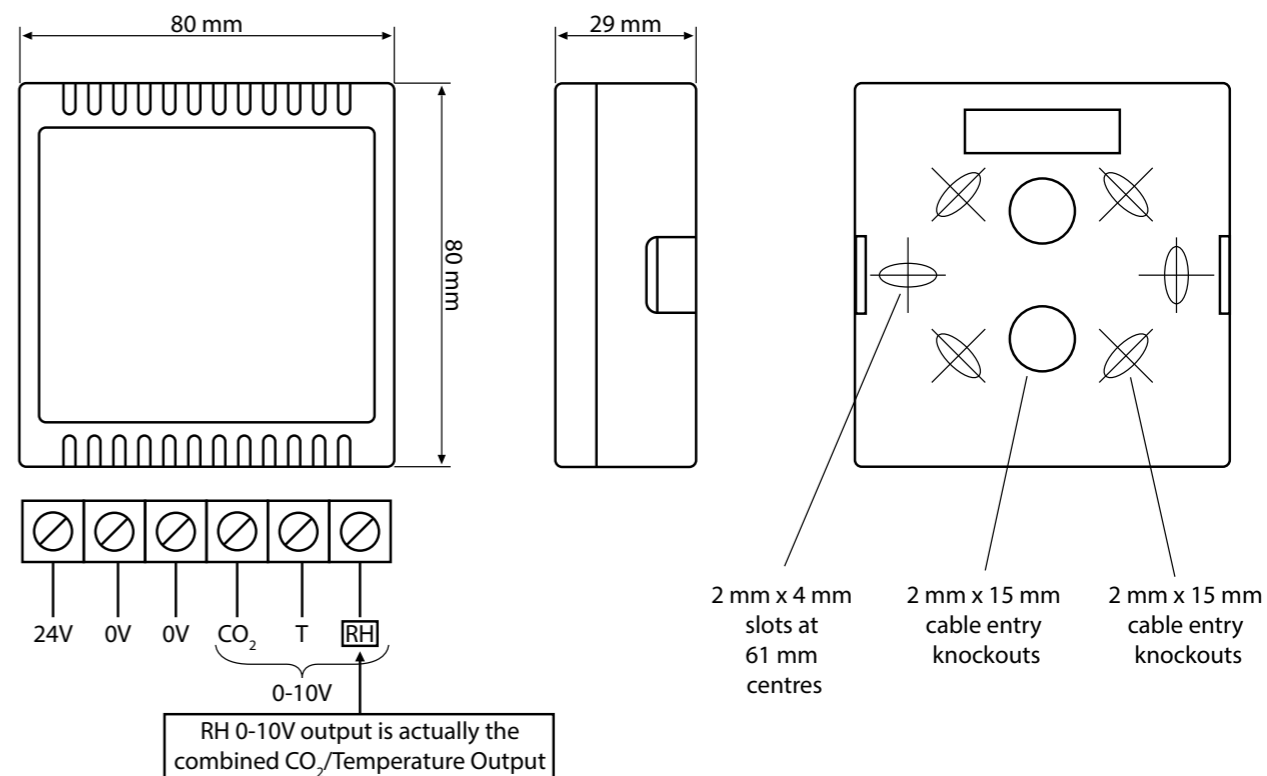
Operating Conditions

- Room Temperature & Combined CO₂ and Temperature Sensors
 - 0 - 50°C
 - 10 - 80% RH (Non-Condensing)
- External Temperature Sensor
 - 50 to + 70°C
 - 0 - 100% RH (When used with IP65 gland)

Mounting

- Combined CO₂ & Temperature Sensor
 - To be wall mounted 1.2 - 2.1 m from floor out of direct sunlight (1.5 m recommended)
- External & Room Temperature Sensors
 - To be fixed to a north facing wall free from the effects of direct sunlight or shaded by a soffit or similar

Dimensions for Room Temperature & Combine CO₂ and Temperature Sensors



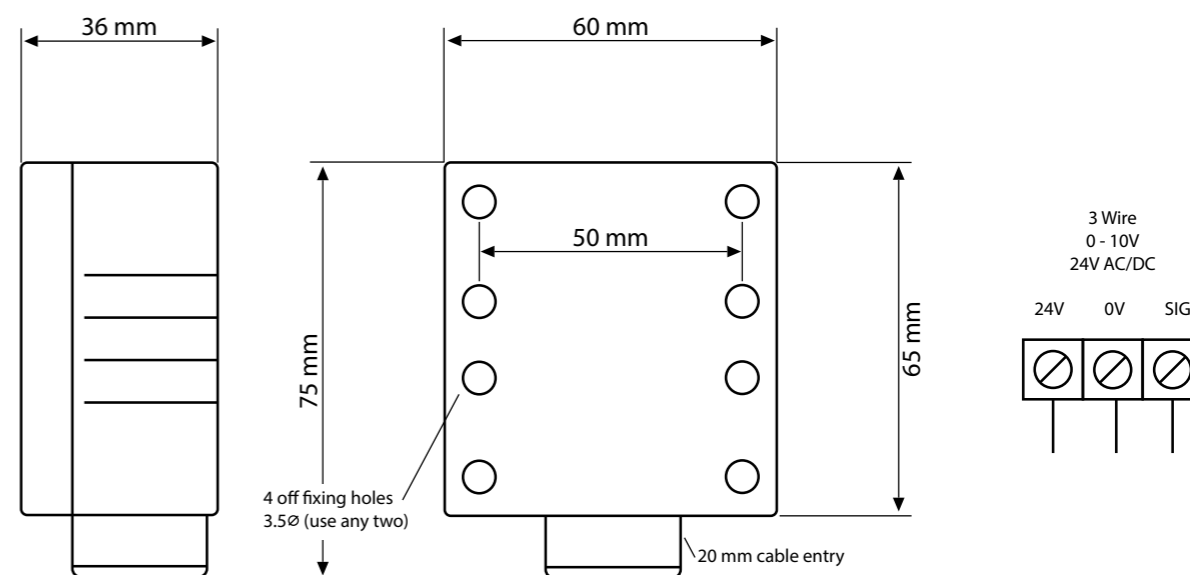
Outputs


Output	Voltage Range	Measured Range	Accuracy
CO ₂	0 - 10V	0 - 2000 ppm	+/- 40 ppm + 2% of reading
Temperature	0 - 10V	0 - 50°C	+/- 0.5°C
Combined Temperature & CO ₂	0 - 9.1V (Temp)	0 - 45.5°C	+/- 0.5°C
	9.1 V - 10V (CO ₂ Triggered)	1500 ppm Trip Threshold 1300 ppm Reset Threshold	+/- 40 ppm + 2% of reading


LED Meanings


Output	Voltage Range
Green ON	< 800
Yellow ON	800 - 1500
Red ON	1500 <

Dimensions for External Temperature Sensor



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