

SMT-IAQ3

Indoor Air Quality Sensor

Making Life Comfortable

General Description

A combination of poor ventilation and / or over population in an enclosed space can lead to a build up of toxins in the air that, if left unchecked, can reduce your ability to concentrate, cause headaches or cause other health conditions.

Introducing fresh air into the environment in high enough quantities to keep indoor air quality fresh without some intelligent control may lead to excessive heating and cooling running costs as well as out of control humidity levels. A better method is to bring in fresh air only when necessary and only in the quantity that is needed to maintain a healthy indoor environment.

Carbon dioxide has been a long recognised indication of indoor air quality. By monitoring carbon dioxide levels and applying strategies to introduce clean, fresh air only when needed helps keep the indoor environment healthy for all occupants while managing energy costs and comfort levels.

The SMT-IAQ3 from Smart Temp has a high quality and accurate non- dispersive infrared sensor that constantly measures the level of carbon dioxide in the environment. When the carbon dioxide level begins to increase, the SMT-IAQ3 will begin to initiate corrective action when connected to a fresh air system. If the carbon dioxide level continues to worsen then the SMT-IAQ3 can warn building occupants using a fitted visual and audible alarm.

If enabled, the SMT-IAQ3 can even compar inside air temperature with outside air temperature and if suitable, bring in a constant flow of fresh air to keep indoor air quality at its best.

To ensure the SMT-IAQ3 is up to the task, a PIN protected installer menu permits the adjustment of the alarm thresholds as well as how it will manage the building ventilation systems. All three analogue (0-10V) outputs are scalable and have definable on/off thresholds. Additionally the colour LCD back light warning light and volt free relay are individually adjustable so corrective action can be initiated well before alarms sound.

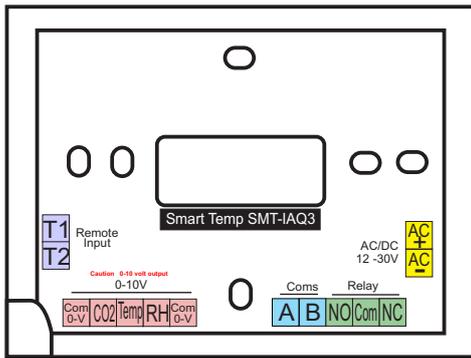
Modbus and BACnet communications make the SMT-IAQ3 suitable for integration into building management systems.



Features

- Clear Indication of Current IAQ Conditions**
- Multicolour Back Light - Visual Alarm Warning**
- Long Life NDIR CO2 Sensor (10+ Years)**
- Clear, Audible Alarm**
- Assisted Ventilation Function[®]**
- Programmable Volt Free Relay**
- Three 0-10V Outputs (Fully Scalable)**
- Pin Protected Installer Options Menu**
- Modbus RTU & BACnet MSTP Communications**
- Powered from 12 - 30V AC or DC**
- Universal Input with Programmable Functions**
- CE Certified**
- Comprehensive 3 Year Warranty RTB**
- Designed and Built by Smart Temp Australia**

Terminal Wiring



- AC / DC** The SMT-IAQ3 is powered from 12 to 30V AC or DC. If powering with DC +ve is applied to the top terminal and -ve is applied to the bottom terminal.
- Relay** A volt free relay is provided with a maximum switching capacity of up to 30V @1A. This relay can be assigned to any or all of the SMT-IAQ3 sensors (CO2, Temp or RH). Independent alarm thresholds can be assigned to this relay.
- Coms** Modbus RTU and BACnet MSTP communication is provided. Please see the SMT-IAQ3 communications manual for detailed information.
- Input** A digital / analogue input is provided with assignable functions to further increase the capability of the SMT-IAQ3.
- 0-10V** Three separate 0-10V outputs are provided, one per sensor (CO2, Temp and RH). Each 0-10V can be individually spanned and hi / low limits can be set if required.

Intuitive Display



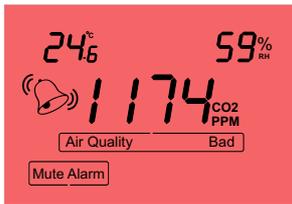
Green

This display shows that the indoor air quality is within an acceptable range. No user action is required. 0-10V signals are monitoring the conditions as they change.



Amber

The level of CO2 (in this example) is rising, caution is advised. Begin corrective action such as opening a door or window. 0-10V signals are increasing so ventilation system can introduce clean air.

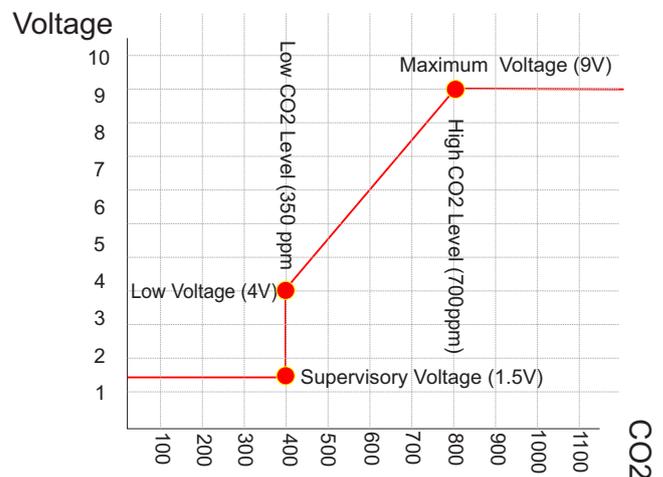


Red

The level of CO2 is high. Exit the building. Audible and visual alarms have begun. Automated systems should now be running to return the air to acceptable quality. The onboard communications system is reporting the IAQ conditions to any Building Management System connected.

Advanced 0-10volt output logic

The SMT-IAQ3 has advanced 0-10v output logic that will permit you to scale the individual 0-10V output for each of the three sensors, CO2, Temperature and Relative Humidity. In the given example you can define the minimum CO2 threshold and voltage as well as the maximum voltage and CO2 level. This will permit you to control and scale a damper or VSD directly from the SMT-IAQ3.



Condensed Specifications

Power	12 to 30V AC or DC
Relay Output	30V AC/DC @ 1A Max
Touch Method	"XY" Resistive
Back Light	Multicolour LED
Back Light Life	40,000 Hours to Half Intensity
Operating Temperature	-5°C To 50°C
Operating Rh	0 To 95% (Non Condensing)
0-10V Outputs	5ma Max
Temperature sensor	-20 - +50c
Temp Sensor Accuracy	+/- 0.5°C at 25°C
RH sensor	0 to 95% RH
RH Sensor Accuracy	+/- 5% at 25°C (30% to 80% RH)
CO2 Sensor Range	0-2000ppm
CO2 Sensor Accuracy	+/- 30ppm at 25°C
Warranty	3 Years RTB
Approvals	CE
Communications	Modbus RTU 4.8 / 9.6 / 19.2 / 38.4k BacNET MSTP 38.4 to 512k
Size	103mm X 113mm X 26mm

Designed and Manufactured by
Smart Temp Australia 2020

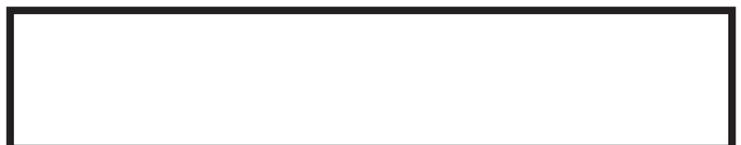
The SMT-IAQ3 works well with...

The SMT-IAQ3 is a completely stand alone and powerful product however it can form part of a complete HVAC control package where indoor air quality and room comfort levels can be maintained in an energy efficient and safe manner.

The SMT-920 "Viking" is a powerful comfort control system with full economy cooling and 365 day time clock.

The SMT-770 is a standalone commercial HVAC control solution with built in after hour run timers and start/stop commercial programming.

Authorised Distributor



PS-AIQ 321

