



SMART SENSOR 2024



PRODUCT OVERVIEW

The new Smart Sensor from Flamefast Controls is one of the most versatile sensors available, with unrivalled levels of flexibility and a wide range of network writable inputs and outputs, effectively doubling up as a controller.

BACnet and Modbus are provided as standard, as are two 0-10V inputs to allow monitoring of external devices with an analogue output. With the optional I/O module, the Smart Sensor can also provide 3x Analogue Outputs, 1x Digital Input, and 1x Relay Output, all of which are network writable, so can be driven remotely to control a wide range of HVAC systems.

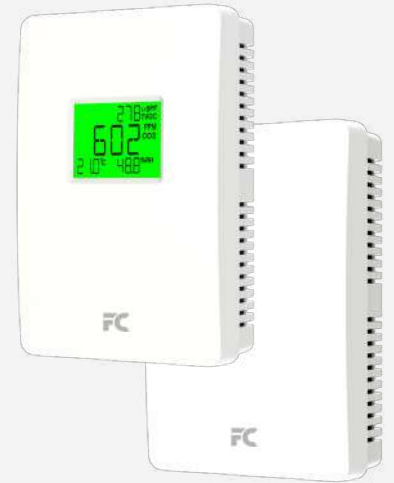
With the capacitive touch buttons, the sensors providing the Smart Sensor can provide a Temperature Set Point Adjust facility, and a momentary switch/button can be used for a wide range of control functions. Although the default supply options are for Boost and Fan Control facilities, the print on the sensor fascia can be fully customised to suit any application, with a maximum of eight States available.



When only two Momentary States are used, the Momentary can directly control the Binary Output for local control or override, and the Analogue Outputs can also be referenced back to the momentary States to drive local devices with a 0-10V input control, with the output being scaled from 0V for State 1, to 10V for the Max State.

With the optional signature Flamefast multi-colour display, the sensor can provide a clear, bold indication of the air quality in the monitored space with various combinations of CO2, TVOC, Temp & RH readouts, and line one of the display can also be tied into the State text when using the Momentary/Touch button (max 8 characters).

The Smart Sensor is also available in a Duct Mount enclosure, to provide direct monitoring of supply and return air systems, with the I/O being able to be utilised to control the local plant being monitored.



CLASSROOMS



OFFICES



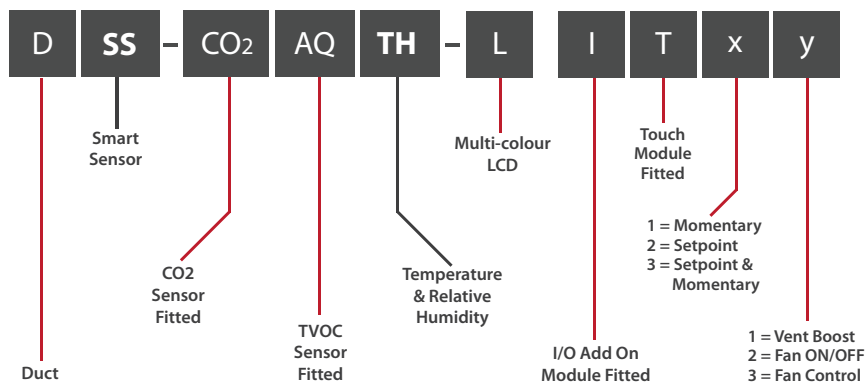
HEALTHCARE

INPUTS & OUTPUTS

- Dual 24V and 0V Terminals for Larger Cables
- RS485 Interface for BACnet & Modbus
- 2x Analogue Inputs
- With I/O Module fitted
 - 3x Analogue Outputs (Network Writable)
 - 1x Digital Output (Network Writable)
 - 1x Digital Input



PART NUMBER BUILDER



SS and **TH** are the minimum unit specification.

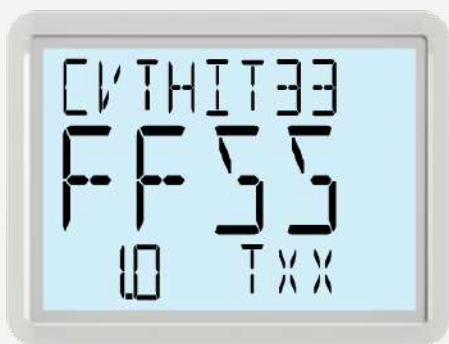
The Touch module (**T**) requires the LCD (**L**).

If **x** = 1 or 3, then **y** must be specified - see manual for factory MSI2 configurations.

Example Part Numbers below:

SS-CO₂AQTH-I
SS-AQTHL-T2
SS-CO₂THL-T13
SS-TH
DSS-CO₂TH

INFORMATIVE BOOT UP SEQUENCE



On startup, the Smart Sensor will display two boot screens for 5 seconds each, highlighting the full unit configuration.

Screen 1 advises what sensors and modules are fitted, hardware and firmware versions:

C	Carbon Dioxide (CO ₂)
V	Total Volatile Organic Compounds (TVOC)
T	Temperature
H	Relative Humidity
I	I/O Module Fitted
T	Touch Module Fitted
xx	Touch Module Configuration

Screen 2 advises the full communication configuration. This allows the installer to quickly verify locally at the sensor that it matches the required network settings.

This will display:

Mac Address / Device ID
Modbus or BACnet Protocol
Communication Baud Rate

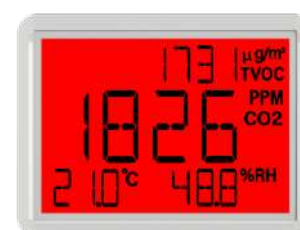
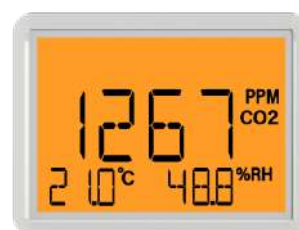
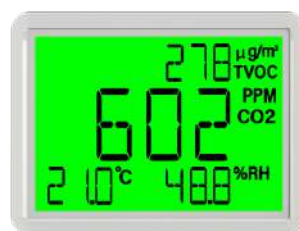


MULTI-COLOUR BACKLIT DISPLAY

The bold, fully backlit LCD readout, provides a clear indication of CO₂ and/or TVOC levels using a traffic light based system, responding to the highest of the CO₂ and TVOC readings if both are fitted.

It comes factory set with recommended levels, however all levels can be customised over the RS485 interface:

	CO ₂	TVOC
Green to Yellow	800ppm	530µg/m ³
Yellow to Amber	1,000ppm	935µg/m ³
Amber to Red	1,500ppm	1620µg/m ³
Relay Setpoint	800ppm	530µg/m ³



TEMPERATURE SETPOINT ADJUST



The Setpoint Adjust utilises the capacitive Plus and Minus buttons printed on the fascia to allow the occupant to select the desired room temperature, which is fed back as an Analogue Input over the Modbus or BACnet network.

When the temperature is adjusted, the backlight will display white, with a flashing set temperature for 5 seconds following any adjustment.

MOMENTARY SWITCH (MSI-2)

The optional momentary switch provided by the touch module, has multiple uses and is fully configurable, although we provide three factory default settings for common applications (as designated in "Y" from the part number builder). These affect the number of States, the default State text, time delay and the print on the front of the plastic enclosure. All of these are fully customisable – please contact Flamefast to discuss.

Within the Device Object Properties, Proprietary Property 1020 sets the Time Delay (in seconds) after which the unit will default back to State 1, then 1021 to 1028 define the state text.

When the button is pressed, the backlight will display white for 5 seconds, and each press will cycle to the next state. If the Momentary is in use, the state text will be permanently shown on line 1 of the display, although this can be changed using Proprietary Property 1007.

If the sensor is configured to only 2 States, Adjusting Proprietary Property 1003 can allow the Binary Output to be directly controlled by the momentary, and through the Proprietary Properties 1000 to 1002, the Analogue Outputs can be referenced to the States, with output being scaled from 0V for State 1, to 10V for the Max State, and each state providing an equal stepped output.

