



CaterSense V2 & CS-V2+ATSC-02-08

***MULTI FUNCTION
GAS SUPPLY CONTROLLER***

***INSTALLATION and COMMISSIONING
INSTRUCTIONS***

Product Overview

The CaterSense system is based on a range of products and ancillary equipment designed to meet the ever changing requirements of the catering industry and associated regulations.

CaterSense V2 intelligent controller *with Multi function solutions*

The controller has a unique "self-set" system which makes for easy system commissioning.

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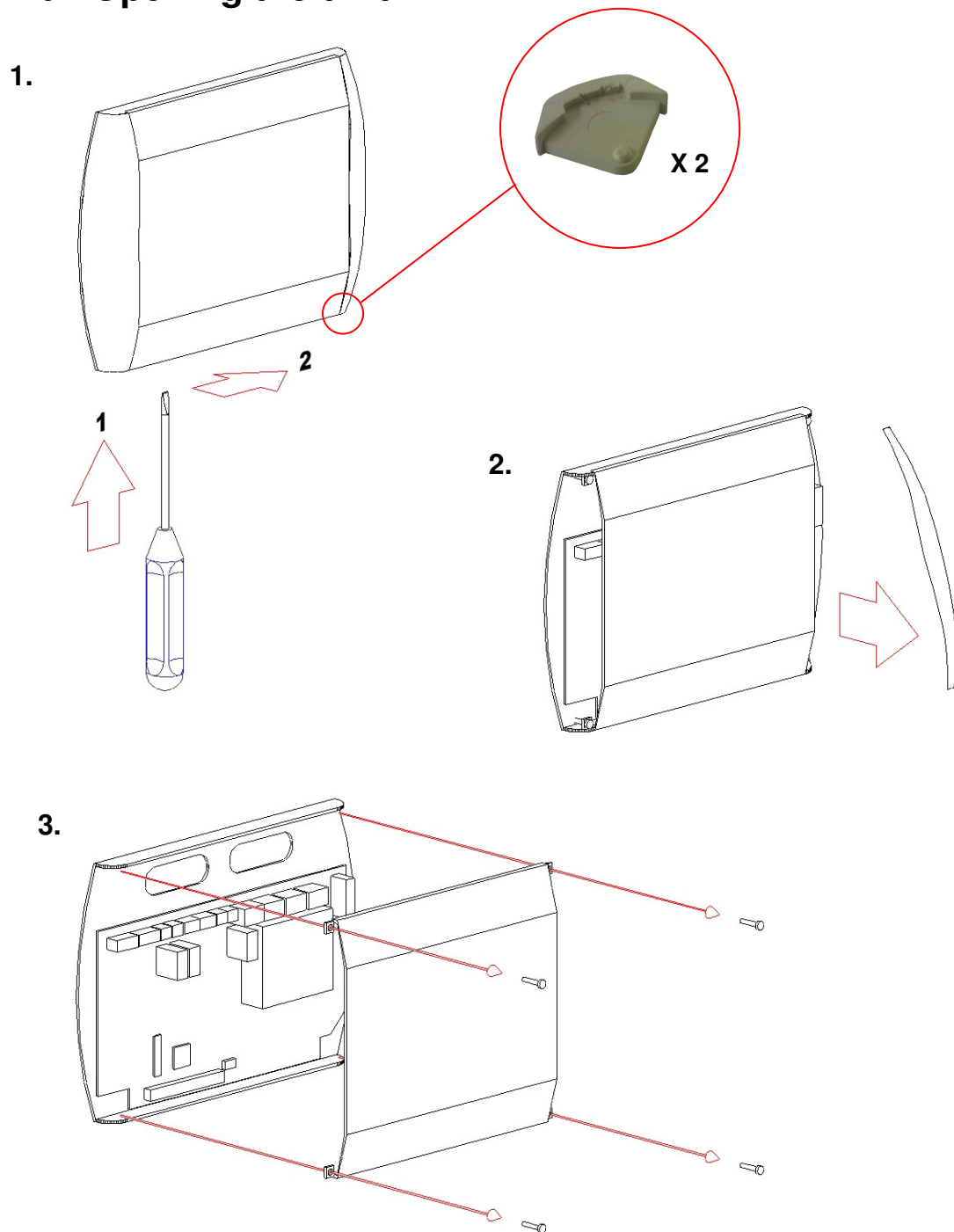
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1.0 General Information

1.01 Opening the unit



- 1) To open the enclosure, first remove the snap-in clips at the bottom of the two side panels: using a flat bladed screwdriver push the clip from below away from each side panel.
- 2) Press the release pad on each side at the bottom of the enclosure and lift off each side panel in turn by first pulling the bottom towards you. This will reveal the four fascia plate fixing screws.

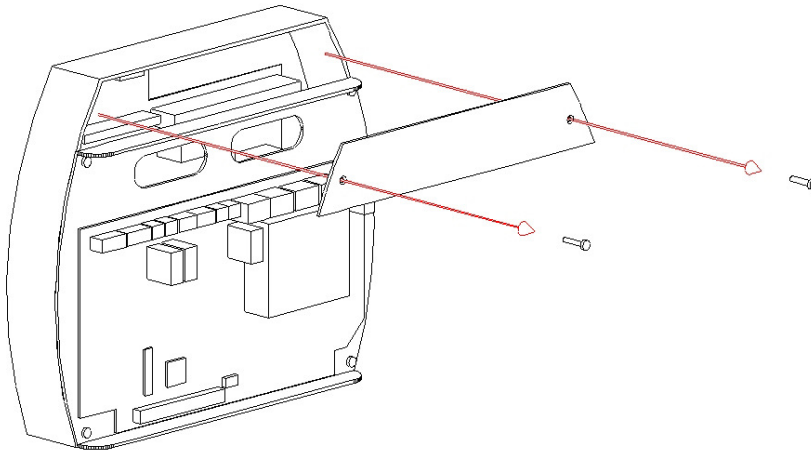
CaterSense the Intelligent answer

- 3) Unscrew these four screws and lift the fascia plate from the back box, ensuring that the ribbon cable between the two PCBs has been unplugged at the main PCB end.

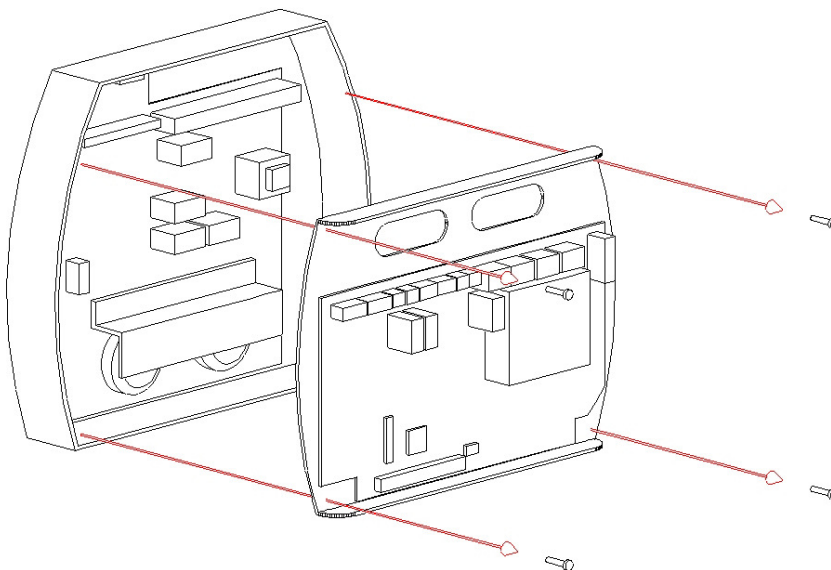
Place the screws, snap-in clips, side panels and fascia plate in a safe place until the back box has been fixed, wired and is ready for reassembly and set-up

***Please note if using a CaterSense V2 with inbuilt twin speed control you will also need to remove the top plate (4) and front control box (5) as shown in the diagrams below.**

4.



5.



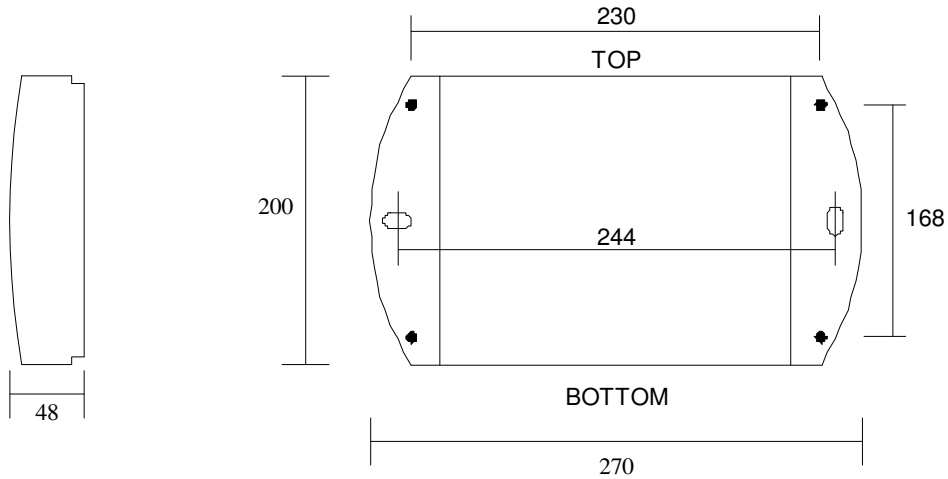
*** IMPORTANT** – Please ensure that when reassembling the CaterSense V2 with inbuilt speed control unit that both the main power plug and control cable plug are firmly fitted before powering the unit.

1.02 Fixing details

1.02A For standard control unit:

The CaterSense V2 unit has six (6) mounting holes which can be used (as shown below)

Note: Ensure that the enclosure is mounted on a clean and level surface away from the direct cooking area or wet surfaces.



1.02B For inbuilt speed control unit:

The CaterSense V2 + ATSC unit has four (4) mounting holes which can be used (see Diagram 2)

Note: Ensure that the enclosure is mounted on a clean and level surface away from the direct cooking area or sinks and other wet areas.

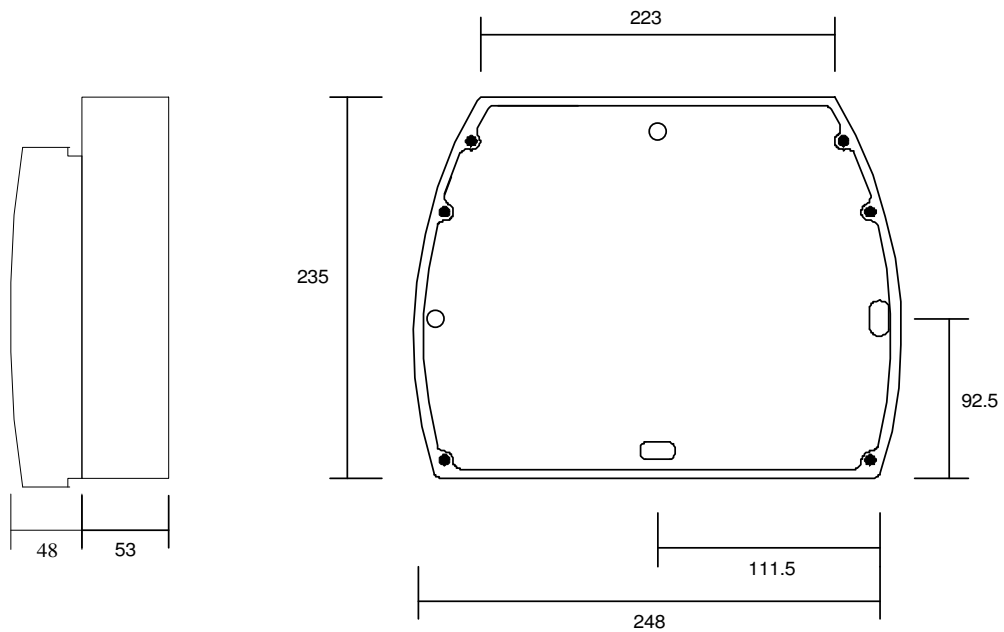


Diagram 2: Fixing details

1.03 Cable entry

1.03A For standard control unit:

The CaterSense V2 enclosure has an area of 190 x 25 mm which can be drilled for conduit entry on the top edge of the enclosure.

1.03B For inbuilt speed control unit:

The CaterSense V2 & ATSC has two main areas for cable entry: the top area (223 x 40mm) and the back of the enclosure (130 x 30mm located at the top).

For ease of installation, most of the connections you will need are made in the enclosure for the ATSC. The inter-connections between the ATSC and the CaterSense controller are achieved via two pre-made cable looms.

1.04 Electrical connections

1.04A For standard control unit:

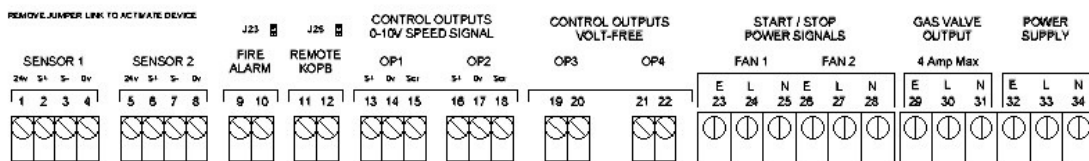
The CaterSense system has two sets of terminals all mounted along the top edge of the main PCB circuit board.

Terminals 1 to 22 are the smaller terminals (1.5 mm² cable) and are used for the sensors, inter-locking devices, remote speed and on/off control, screened cable must be used (**we recommend Beldon 8723 but that should be the choice of the installer and dependant on the individual installation**).

Terminals 23 to 34 are the larger terminals (4 mm² cable) and are for the power connections for the fans, gas valve and power supply to the unit.

The terminals are of the rising clamp type protection.

All cabling should be kept to the top of the unit within the designated area. No cables should be placed or laid across the PCBs as this may cause damage.



1.04B For inbuilt speed control unit:

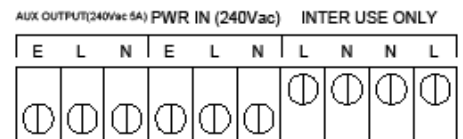
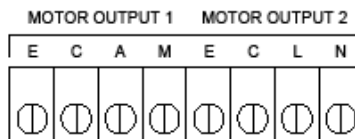
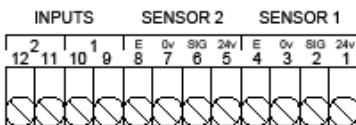
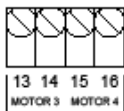
The ATSC-02-xx system has two sets of terminals all mounted along the top edge of the main PCB circuit board.

Terminals 1 to 16, are the smaller terminals (1.5 mm² cable) and are used for the sensors and inter-locking devices including motor thermal contacts. Screened cable must be used (**we recommend Beldon 8723 but that should be the choice of the installer and dependant on the individual installation**).

Remaining Terminals are the larger terminals (4 mm² cable) and are for the power connections for the fans, gas valve and power supply to the unit.

The terminals are of the rising clamp type with protection.

All cabling should be kept to the top of the unit within the designated area. No cables should be placed or laid across the PCBs as this may cause damage.



1.05 System set-up

The CaterSense V2 unit has a number of intelligent control solutions. Each of which is set via a DIL (DIP) switch mounted on the main PCB circuit board. The CaterSense also has a unique "Self-set" system commissioning tool which makes for easy system commissioning.

These devices are located on the main PCB as detailed in *Diagram 3*.

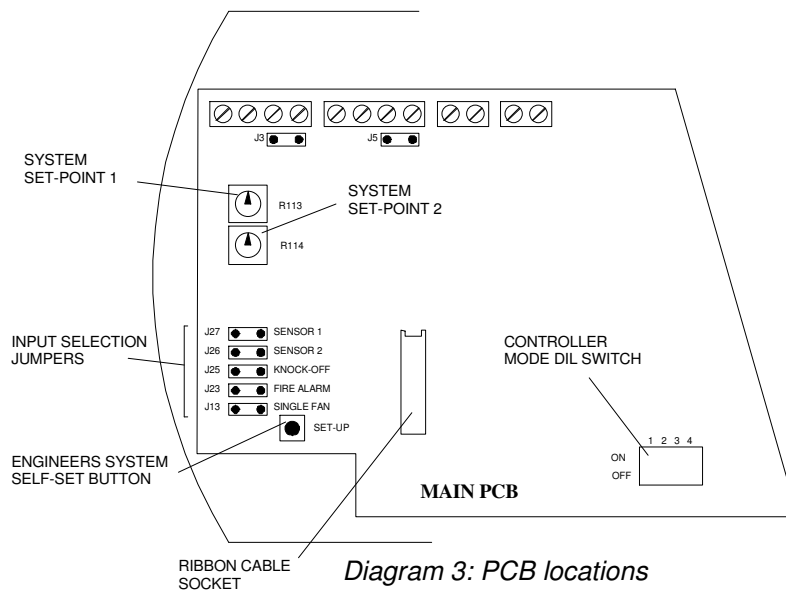


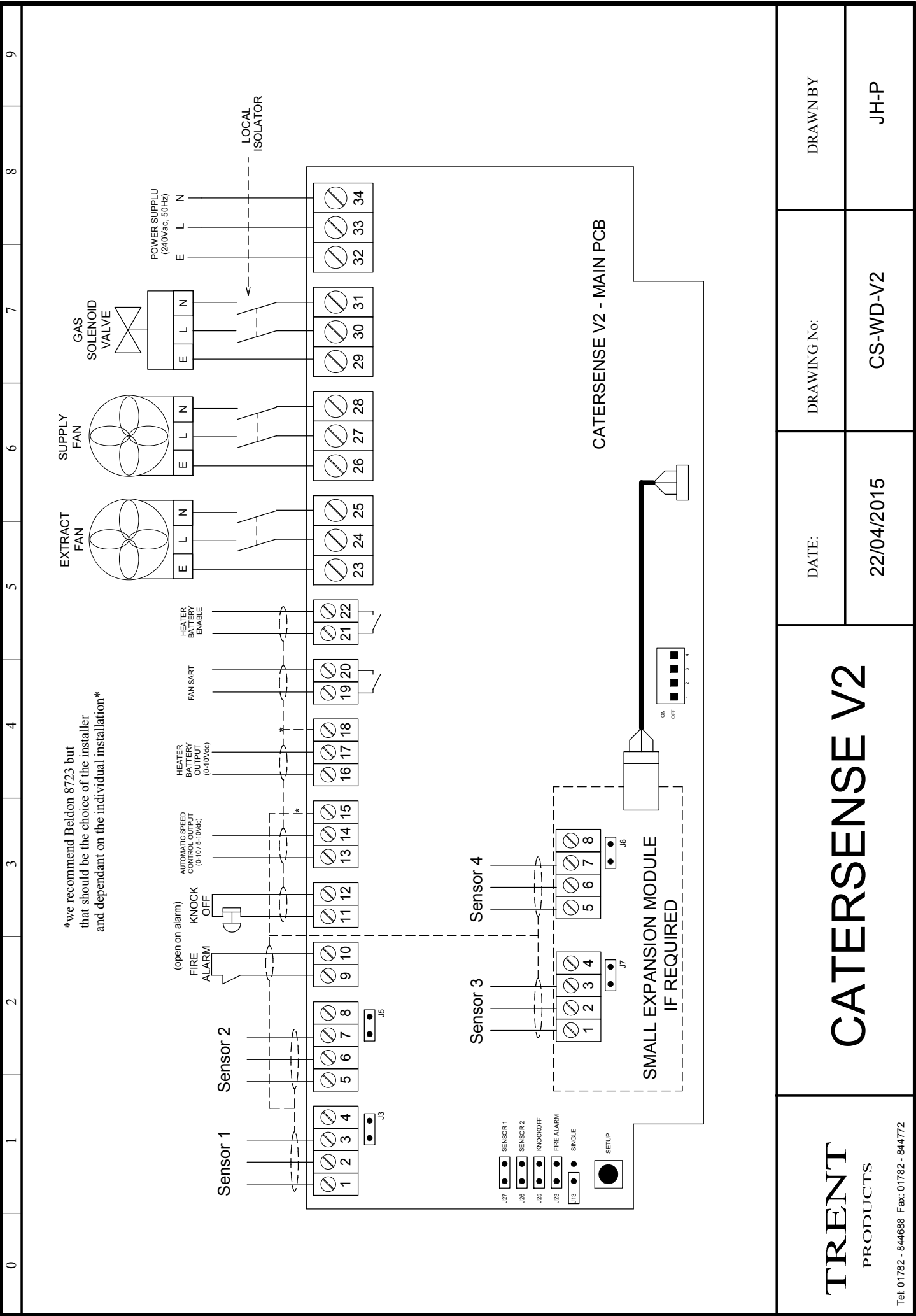
Diagram 3: PCB locations

2.0 Set-up and Commissioning

The set-up and commissioning of your CaterSense system is in two parts, **Initial** and **System**.

2.01 Initial Set-up

Once all of the wiring has been completed and tested and the system is ready to be set-up and commissioned, the following sequence **MUST** be followed to ensure the CaterSense and system operate correctly.



we recommend Beldon 8723 but that should be the choice of the installer and dependant on the individual installation

TRENT
PRODUCTS

Tel: 01782 - 844688 Fax: 01782 - 844772

CATERSENSE V2

DATE:

22/04/2015

DRAWING No:

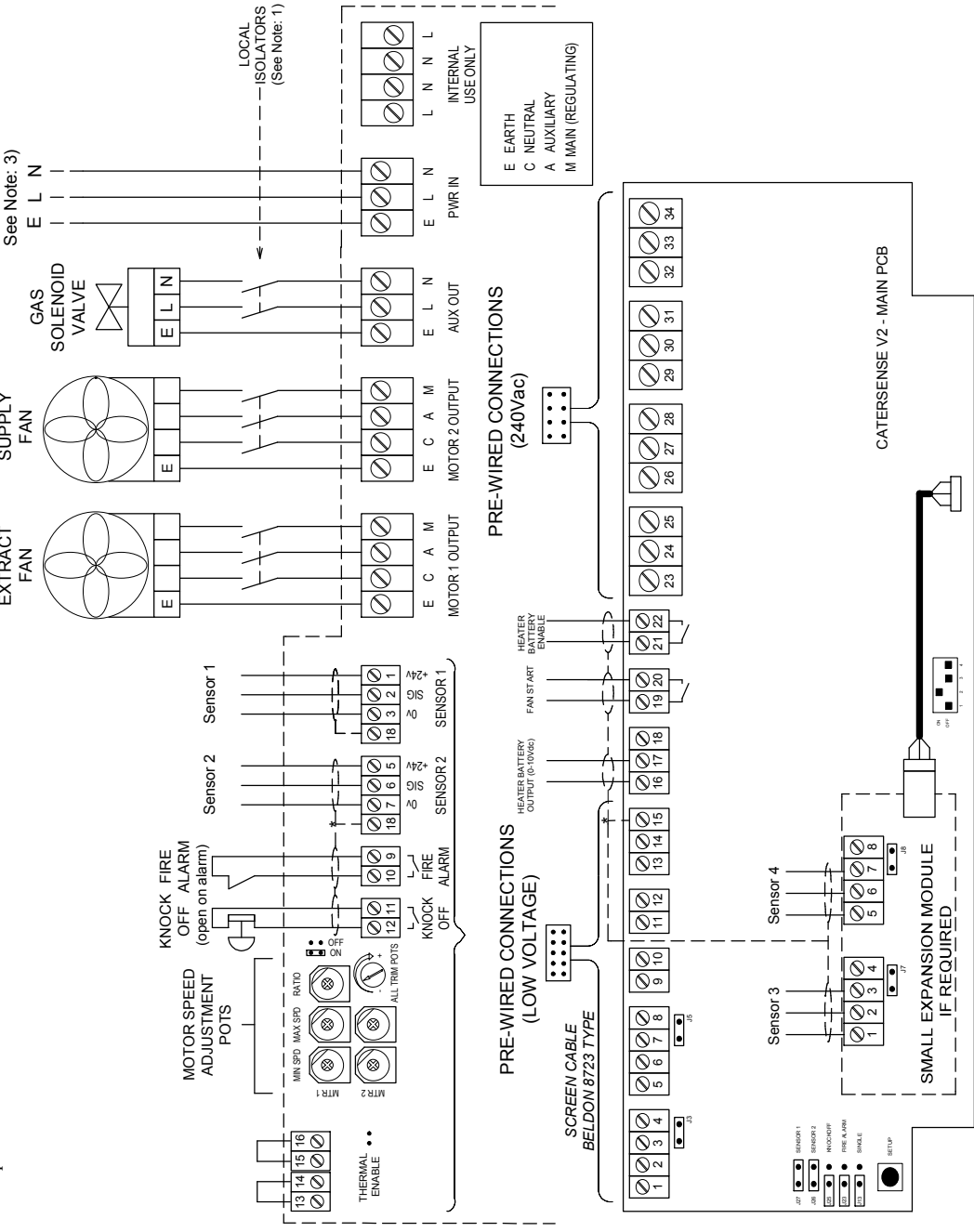
CS-WD-V2

DRAWN BY

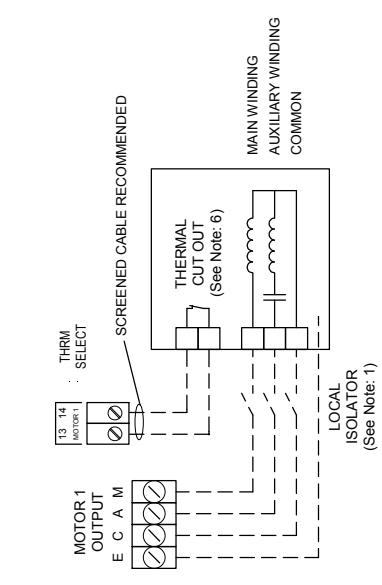
JH-P

CONNECTION DETAILS - ATSC PCB

we recommend Beldon 8723 but that should be the choice of the installer and dependant on the individual installation



TYPICAL WIRING ARRANGEMENT FOR A SINGLE PHASE MOTOR (3 WIRE - See Note: 5)



NOTES:

- 1) LOCAL ISOLATION MUST BE PROVIDED IN ACCORDANCE WITH THE CURRENT EDITION OF THE IEE REGULATIONS.
- 2) CHECK MANUFACTURER'S WIRING DETAILS FOR CORRECT CONNECTIONS AND SET-UP REQUIREMENTS.
- 3) ENSURE THAT THE POWER SUPPLY IS CORRECTLY RATED TO THE SIZE OF BOTH FAN MOTORS AND GAS VALVE
- 4) ENSURE THAT THE SWITCHED POWER IS CORRECTLY FUSED TO THE LOADING OF THE POWER MONITOR AND / OR GAS VALVE.
- 5) FOR MAXIMUM OPERATING EFFICIENCY, MINIMUM NOISE AND REDUCED RUNNING CURRENTS, THREE WIRE CONTROL OF SINGLE PHASE MOTORS IS STRONGLY RECOMMENDED BY TRENT PRODUCTS AND MOST MOTOR MANUFACTURERS
- 6) MOTOR THERMAL CUT-OUTS (IF PRESENT) SHOULD BE EITHER CONNECTED IN SERIES WITH POWER WIRING, OR CONNECTED TO T1 OR T2 TERMINALS ON SPEED CONTROL PCB

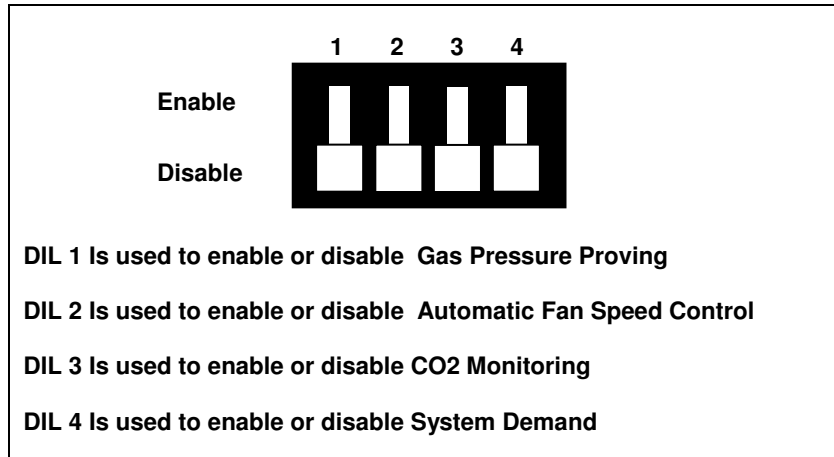
TRENT PRODUCTS		CATERSENSE V2 TWIN SPEED CONTROLLER WIRING & CONNECTION DIAGRAM	
DATE:		DRAWING No:	
22/04/2015		CS-WD-V2S	
DRAWN BY		JH-P	

a) DIL (DIP) switch set-up

Ensure the correct system code has been selected on the DIL switch.

IMPORTANT: Ensure power supply is switched OFF before adjusting DIL mode switch

***Please note** – If using manual or step transformer speed controllers, ensure that DIL (DIP) switch 2 is in the disabled position.

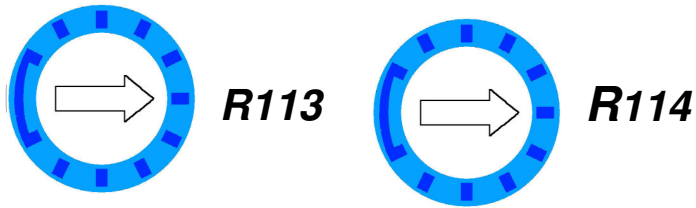


MODE	DIL (DIP) position	Fan Start / Stop	Gas pressure proving	Automatic fan speed control	CO2 Monitoring	System Demand	Heater battery control	
							LPHW only	Electric / Gas fired
1		✓	✗	✗	✗	N/A	✓	Enable with jumper J21
2		✓	✓	✗	✗	N/A	✓	Enable with jumper J21
3		✓	✗	✓	✗	✗	✓	Enable with jumper J21
4		✓	✗	✗	✓	N/A	✓	Enable with jumper J21
5		✓	✓	✓	✗	✗	✓	Enable with jumper J21
6		✓	✗	✓	✓	✗	✓	Enable with jumper J21
7		✓	✓	✗	✓	N/A	✓	Enable with jumper J21
8		✓	✓	✓	✓	✗	✓	Enable with jumper J21
9		✓	✗	✓	✗	✓	✓	Enable with jumper J21
10		✓	✓	✓	✗	✓	✓	Enable with jumper J21
11		✓	✗	✓	✓	✓	✓	Enable with jumper J21
12		✓	✓	✓	✓	✓	✓	Enable with jumper J21

See Page 13

b) Setpoint allocation and set-up

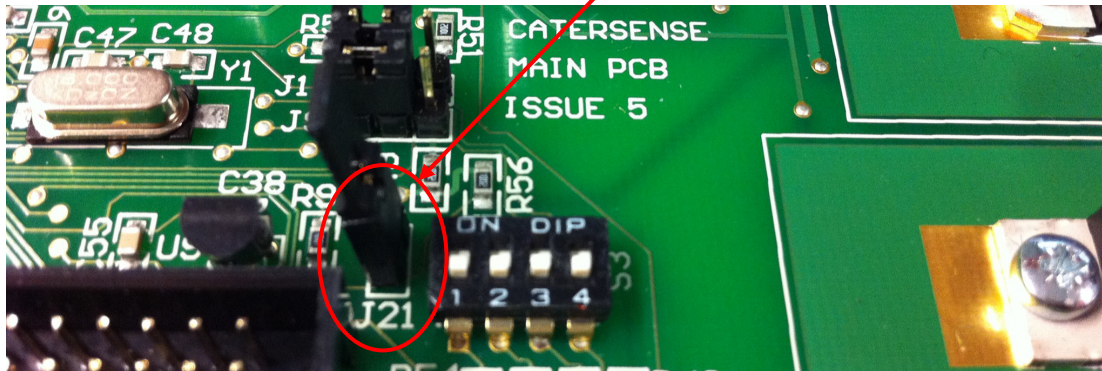
The CaterSense V2 has two 270° turn pots called R113 and R114 (as shown below). These pots are used to allocate different setpoints dependent on the DIL (DIP) switch.



MODE	DIL (DIP) position	POTS		Sensor Inputs			
		R113 setpoint	R114 Setpoint	Sensor 1	Sensor 2	Sensor 3	Sensor 4
1		N/A	Supply Temperature	N/A	Supply Temp sensor	N/A	N/A
2		N/A	Supply Temperature	Gas pressure sensor	Supply Temp sensor	N/A	N/A
3		N/A	Supply Temperature	N/A	Supply Temp sensor	N/A	N/A
4		N/A	Supply Temperature	Supply Temp sensor	CO2 sensor	N/A	N/A
5		N/A	Supply Temperature	Gas pressure sensor	Supply Temp sensor	N/A	N/A
6		N/A	Supply Temperature	Supply Temp sensor	CO2 sensor	N/A	N/A
7		N/A	Supply Temperature	Gas pressure sensor	CO2 sensor	Supply Temp sensor	N/A
8		N/A	Supply Temperature	Gas pressure sensor	CO2 sensor	Supply Temp sensor	N/A
9		Demand Temperature	Supply Temperature	Supply Temp sensor	Demand Temp sensor	N/A	N/A
10		Demand Temperature	Supply Temperature	Gas pressure sensor	Supply Temp sensor	Demand Temp sensor	N/A
11		Demand Temperature	Supply Temperature	Supply Temp sensor	CO2 sensor	Demand Temp sensor	N/A
12		Demand Temperature	Supply Temperature	Gas pressure sensor	CO2 sensor	Supply Temp sensor	Demand Temp sensor

* To enable the Electric or Gas Fired Heater Battery Control you must ensure the jumper J21 is fitted as per image below.

(Jumper J21)



c) Input Jumpers / Sensor Links

ON = OFF =

IMPORTANT: Ensure power supply is switched OFF before adjusting input jumpers or sensor links.

J25 (KNOCKOFF) - If using a remote knockoff circuit in terminals 11 and 12, ensure that J25 is OFF. Otherwise, ensure J25 is ON.

J23 (FIRE ALARM) - If using a fire alarm circuit in terminals 9 and 10 OR a fan hold-off thermostat OR thermal cut outs are connected ensure that J23 is OFF. Otherwise, ensure J23 is ON.

J13 (SINGLE) - If only using one fan, ensure J13 is ON. Otherwise, ensure J13 is OFF.

d) Inter-lock circuits

Ensure that the fire alarm and knock-off switches (if fitted) are all in the operational position.

e) Gas pressure range

Whenever the system is initialised with the "start" pad, a pipework integrity test is carried out. This opens the gas solenoid valve for 10 seconds, and then closes the valve for 30 seconds and monitors the pressure. If this pressure drops by 10% or more during this 30 seconds stage, the system will alarm and not start.

When all of the above stages have been completed, re-assemble the CaterSense unit by reversing the sequence described above in section 1.01.

NOTE: Ensure the ribbon cable is plugged in correctly with the key pin (red stripe) at the **top** on the main PCB, and at the **bottom** on the facia (see Diagram 5). Otherwise this may cause damage to the PCB and the unit will not function correctly.

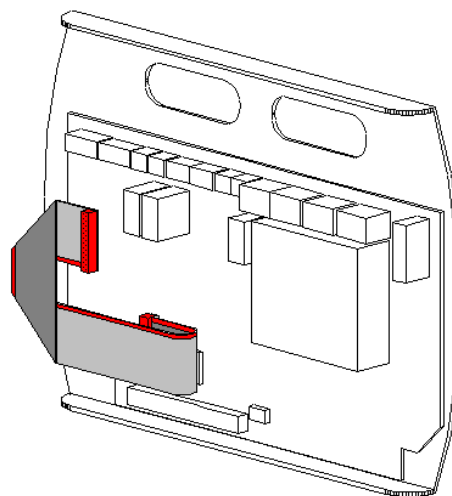


Diagram 5: Ribbon cable

2.02 System Set-up – CaterSense V2

Once the above has been carried out, the system is ready to be powered up.

Within the step-by-step sequence of set-up instructions the CaterSense unit will give you feedback on the system via audible “beeps” and coloured LEDs.

Set-up sequence:

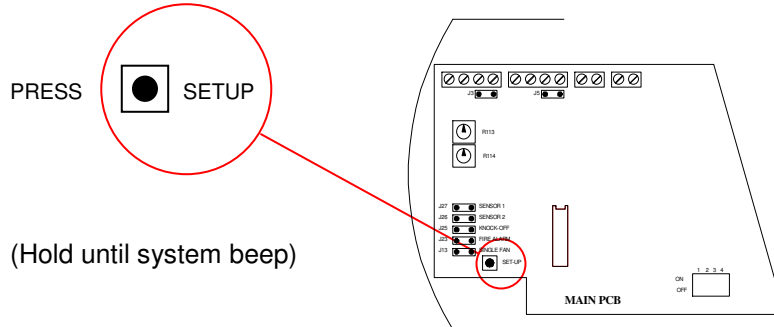
- 1) Activate "SETUP" mode on controller**
- 2A) Manual speed control fan power monitoring set-up**
OR
- 2B) Automatic speed control fan power monitoring set-up**
OR
- 2C) Electronic speed control fan power monitoring set-up**
- 3) CO2 monitoring alarm stages (if required)**
- 4) Heater battery set-up (if required)**
- 5) Demand extract air control set-up (if required)**

The sequence detailed above **MUST** be followed to enable the CaterSense unit to program its parameters. Ensure that the system is allowed to settle and become stable before moving on to the next stage. **DO NOT RUSH.**

1) Activate "SETUP" mode on controller

- | | | | |
|-------------------------------------|----------------------|-------------------------------------|--------------|
| <input checked="" type="checkbox"/> | POWER ON | <input checked="" type="checkbox"/> | GAS VALVE |
| <input checked="" type="checkbox"/> | SYSTEM CONDITION | <input type="checkbox"/> | GAS PRESSURE |
| <input checked="" type="checkbox"/> | REMOTE KNOCK OFF | <input type="checkbox"/> | FAN 1 |
| <input checked="" type="checkbox"/> | FIRE ALARM / THERMAL | <input type="checkbox"/> | FAN 2 |
| <input type="checkbox"/> | CO2 MONITORING | | |

Ensure LED's status is as above then:-



Then go to:

2A) Manual speed control fan power monitoring set-up

OR

2B) Automatic speed control fan power monitoring set-up






OR

2C) Electronic speed control fan power monitoring set-up






2A) Manual speed control fan power monitoring set-up

In this set-up the set-up button can be pressed numerous amount of times to eliminate accidental or double presses.

Once the air balancing procedure has been carried out, ensure the fans are running. Set each fan to the lowest speed and allow them to run and settle.

- 1) PRESS   SYSTEM CONDITION
 GAS VALVE
 FAN 1, FAN 2
 All other LEDs

The system will produce a short beep. Change the speed of the fans to the next speed up. Allow system to run and settle. (If using an analogue speed controller, split the space between min and max speed into approx 10 equal parts).

- 2) PRESS   SYSTEM CONDITION
 GAS VALVE
 FAN 1, FAN 2
 All other LEDs

Repeat this process until all fan speeds have been saved.










Once this has been successfully completed.

- 3) PRESS 
- | | |
|--|--|
|  POWER ON |  GAS VALVE |
|  SYSTEM CONDITION |  GAS PRESSURE |
|  REMOTE KNOCK OFF |  FAN 1 |
|  FIRE ALARM / THERMAL |  FAN 2 |
|  CO2 MONITORING | |



The set-up is now complete and the system is ready to run. However we recommend that the system is run through the systems checking procedure (2.03) to ensure the unit is successfully commissioned.

2B) Automatic speed control fan power monitoring set-up

The CaterSense will then display the following.

- | | | | |
|---|------------------|---|--------------|
|  | POWER ON |  | GAS VALVE |
|  | SYSTEM CONDITION |  | GAS PRESSURE |
|  | REMOTE KNOCK OFF |  | FAN 1 |
|  | FIRE ALARM |  | FAN 2 |
|  | CO2 MONITORING | | |



The fans will start at full speed. Using the  and  pads in conjunction with the min and max pots on the ATSC-02-xx PCB ensure that the system has been correctly balanced, and you have correctly set the minimum and maximum speeds for each fan.

The ratio pot adjusts the speed of fan 2 relative to fan 1, to allow you to balance the make-up air with the amount of air extracted.

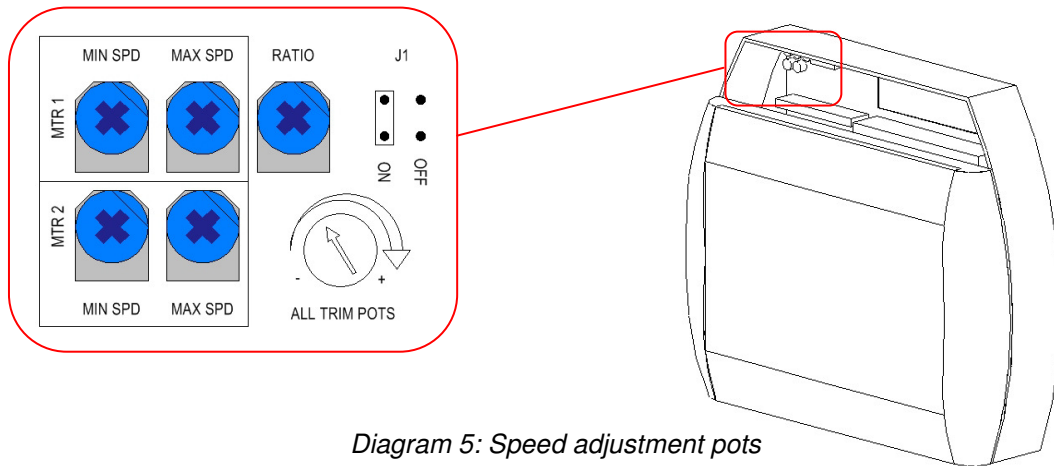
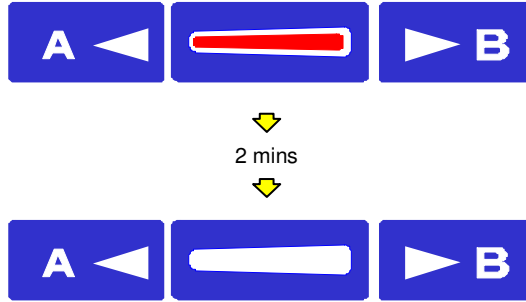


Diagram 5: Speed adjustment pots

IMPORTANT: Ensure that you do not set the minimum speed to a level that will cause the fan to overheat. Trent Products recommend a minimum voltage output to the fans of no less than 140Vac between the "M" and "C" terminals on the speed control PCB. Consult the fan manufacturer for more details. Once you have setup the fan speeds, return the fan speed to maximum by using the 'B' button before continuing.

PRESS  SETUP

- | | | | |
|-------------------------------------|----------------------|-------------------------------------|--------------|
| <input checked="" type="checkbox"/> | POWER ON | <input checked="" type="checkbox"/> | GAS VALVE |
| <input checked="" type="checkbox"/> | SYSTEM CONDITION | <input type="checkbox"/> | GAS PRESSURE |
| <input checked="" type="checkbox"/> | REMOTE KNOCK OFF | <input checked="" type="checkbox"/> | FAN 1 |
| <input checked="" type="checkbox"/> | FIRE ALARM / THERMAL | <input checked="" type="checkbox"/> | FAN 2 |
| <input type="checkbox"/> | CO2 MONITORING | | |

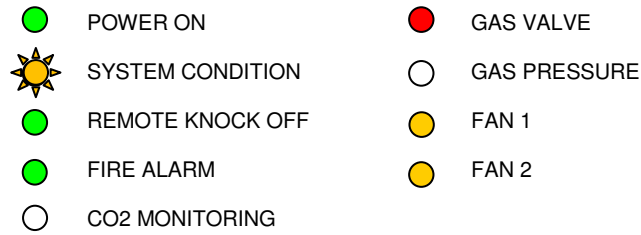



The system will produce a short beep. The CaterSense will slowly reduce the speed of the fans to establish the characteristics of your system. **DO NOT INTERRUPT THIS PROCESS.** After approximately two minutes, the system will have fully recorded the running currents of your fans. If you have an electric or gas fired heater battery connected, the fans will run on for a further 5 minutes. Otherwise, the fans will stop straight away.

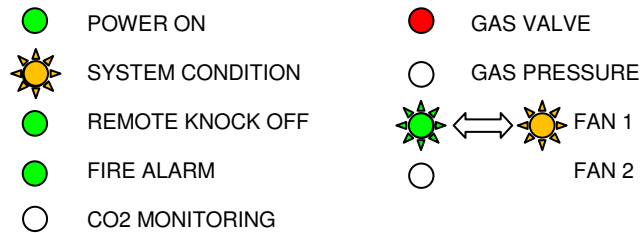
- | | | | |
|-------------------------------------|------------------|-------------------------------------|--------------|
| <input checked="" type="checkbox"/> | POWER ON | <input checked="" type="checkbox"/> | GAS VALVE |
| <input checked="" type="checkbox"/> | SYSTEM CONDITION | <input type="checkbox"/> | GAS PRESSURE |
| <input checked="" type="checkbox"/> | REMOTE KNOCK OFF | <input type="checkbox"/> | FAN 1 |
| <input checked="" type="checkbox"/> | FIRE ALARM | <input type="checkbox"/> | FAN 2 |
| <input type="checkbox"/> | CO2 MONITORING | | |



2C) Electronic speed control fan power monitoring set-up

The CaterSense will then display the following.



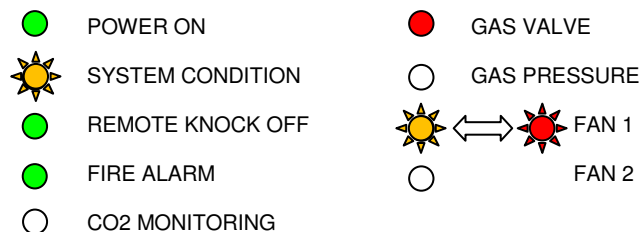
The fans will start at full speed. Press and hold the  For 5 seconds until the LED display is as follows:





Using the  and  pads and a multi-meter between terminals 13 and 14 you can now set the minimum speed for fan 1 to 0 VDC.

PRESS  SETUP



The CaterSense will then display the following.












Using the  and  pads and a multi-meter between terminals 13 and 14 you can now set the maximum speed for fan 1 to 10 VDC.

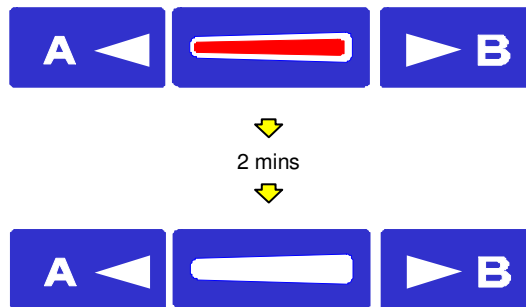
PRESS  SETUP

If you are using two fans you will need to repeat the above procedure for the second fan.










Using the  and  pads in conjunction with the min and max pots in the electronic speed controller ensure that the system has been correctly balanced, and you have correctly set the minimum and maximum speeds for each fan.

PRESS  SETUP

- | | | | |
|---|----------------------|---|--------------|
|  | POWER ON |  | GAS VALVE |
|  | SYSTEM CONDITION |  | GAS PRESSURE |
|  | REMOTE KNOCK OFF |  | FAN 1 |
|  | FIRE ALARM / THERMAL |  | FAN 2 |
|  | CO2 MONITORING | | |



The system will produce a short beep. The CaterSense will slowly reduce the speed of the fans to establish the characteristics of your system. **DO NOT INTERRUPT THIS PROCESS.** After approximately two minutes, the system will have fully recorded the running currents of your fans. If you have an electric or gas fired heater battery connected, the fans will run on for a further 5 minutes. Otherwise, the fans will stop straight away.

- | | | | |
|---|------------------|---|--------------|
|  | POWER ON |  | GAS VALVE |
|  | SYSTEM CONDITION |  | GAS PRESSURE |
|  | REMOTE KNOCK OFF |  | FAN 1 |
|  | FIRE ALARM |  | FAN 2 |
|  | CO2 MONITORING | | |

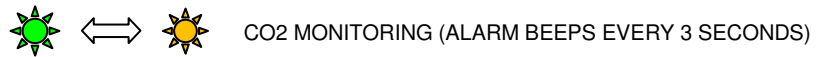
3) CO₂ monitoring (if required)

The high limit for CO₂ monitoring is preset to a maximum of 4950PPM.

There are three stages of CO₂ monitoring:

1) Warning Stage:

If a CO₂ level of 2800-3799 PPM is detected during normal operation, the system condition light will flash from green to amber.



2) Alarm Stage:

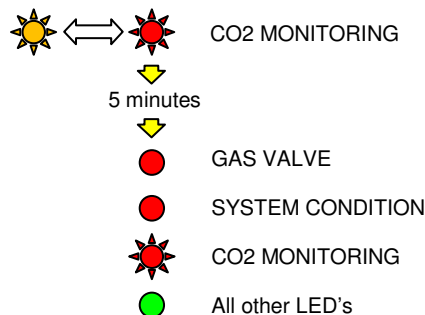
If a CO₂ level of 3800-4799 PPM is detected during normal operation, the system condition light will flash from green to red. Once this occurs the fan speed will automatically increase to maximum.



3) Shutdown Stage:

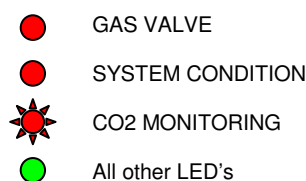
If a CO₂ level of 4800-4949 PPM is detected during normal operation, the system condition light will flash from amber to red. After 10 seconds, the control will alarm (this alarm can be muted, however it will resound 1 minute before the gas valve will close) and the fan speed will automatically increase to maximum.

If after 5 minutes the CO₂ level is still too high during normal operation or start-up, the gas will be shut off and the fans will continue to run until CO₂ reaches an acceptable level.



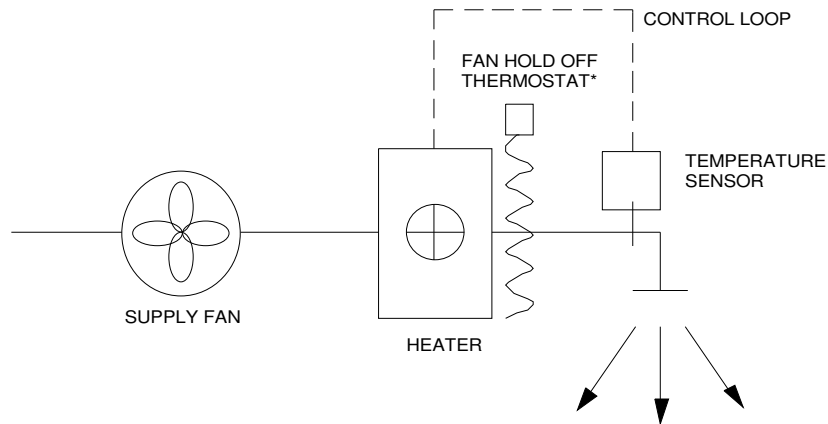
4) Instant Shutdown Stage:

If a CO₂ level of 4950+ PPM is detected during normal operation, the system will instantly close the gas solenoid valve and alarm.

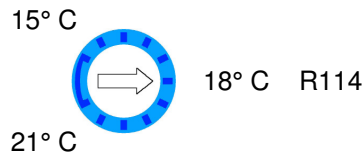


4) Tempered supply air control set-up (if required)

A fully-modulating signal will be sent to the heater battery to maintain the temperature of the supply air at the setpoint selected during set-up.

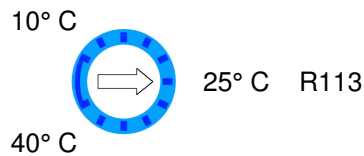
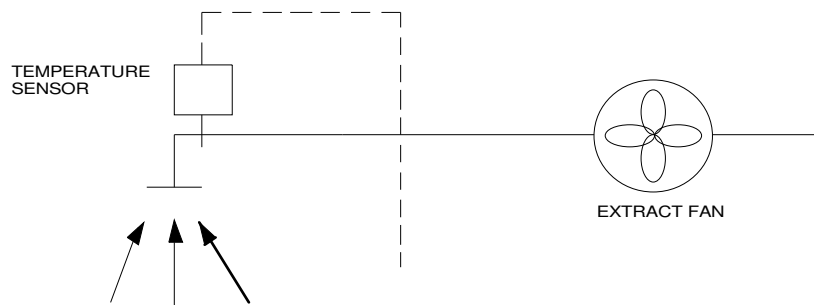


* Normally only fitted to LPHW heater batteries



5) Demand extract air control set-up (if required)

A fully-modulating signal will be sent to the fans to control the speed according to the temperature within the canopy / cooking load.

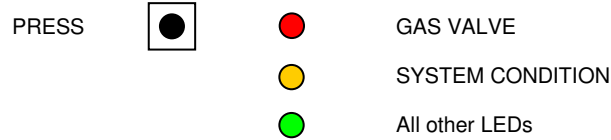


Note: Please refer to section 2.03 (System Checking) before starting the CaterSense unit to ensure that it has been successfully commissioned.

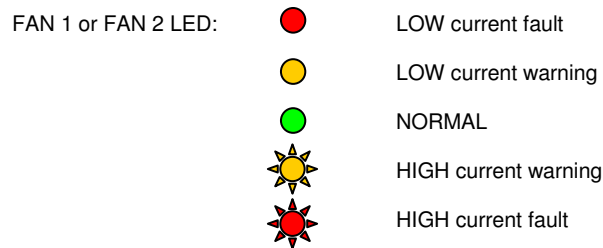
2.03 System Checking

As an aid to system commissioning, CaterSense has a diagnostic tool which can be used to quickly check that the stored settings are suitable for correct operation.

To access this tool,

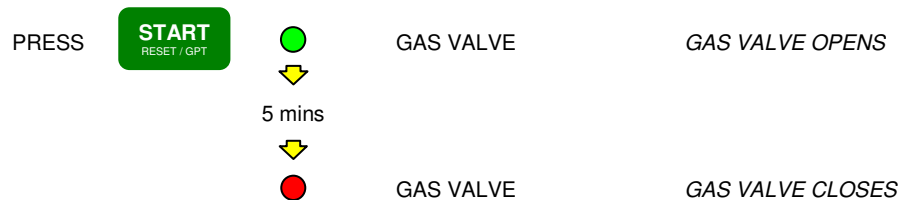


In this mode, the FAN 1 and FAN 2 LEDs will instantly react to the current being drawn by the attached motors. By slowly adjusting the speed control for the motors and observing the LEDs, the parameters can be quickly checked and problems identified.



If the current is at a "fault" level for longer than 30 seconds, a system fault would occur during normal operation. It is normal for current draw to fall outside normal levels for a few seconds whilst changing speeds. Allow fan to settle at each speed. IF IN DOUBT, ASK.

Diagnostic mode also allows the manual opening of the gas valve for testing purposes, for a maximum of 5 minutes.



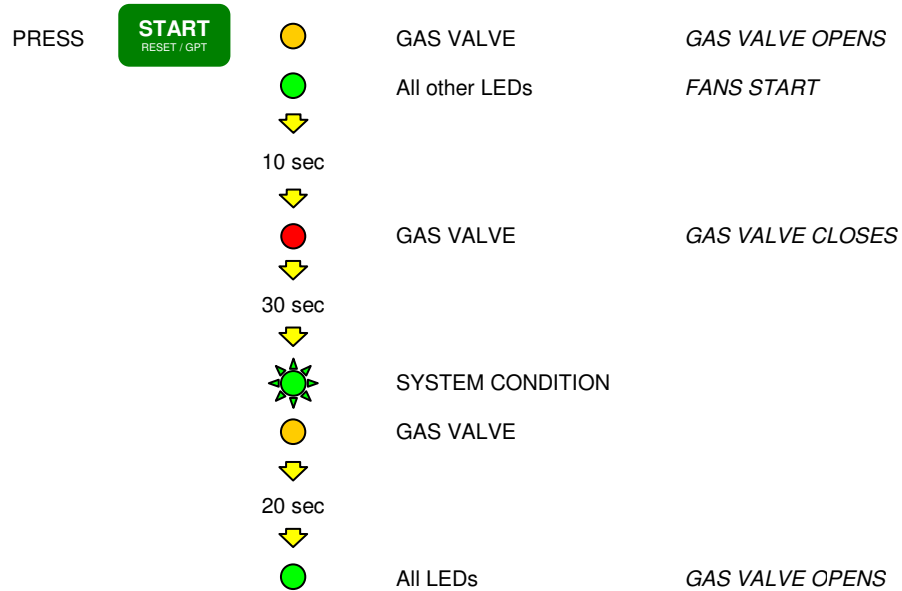
To leave diagnostic mode, press



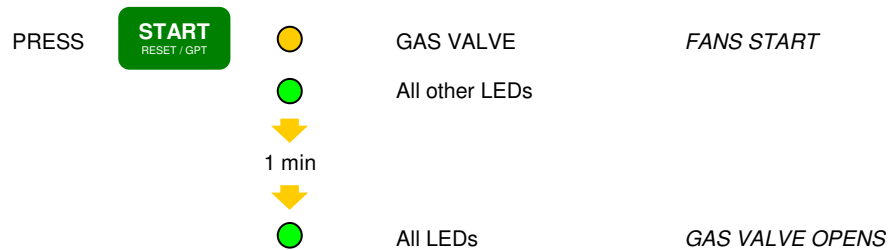
2.04 Functional Operation

The operation of the CaterSense unit and system is as follows:

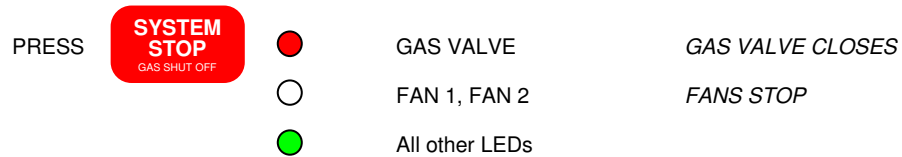
For modes WITH gas pressure proving:



For modes WITHOUT gas pressure proving:





For all DIL modes with manual speed control:



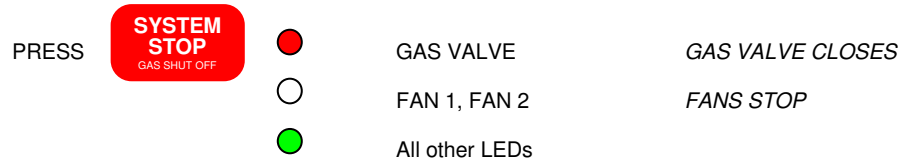
If you have an electric or gas fired heater battery connected, the fans will run on for a further 5 minutes. Otherwise, the fans will stop straight away.

CaterSense *the Intelligent answer*

For all modes with automatic speed control:

The speed of the extract fan can be changed using  and .

The supply fan will also change speed according to the signal sent from the CaterSense. This signal is a percentage of the signal to the extract fan, this may be established using the ratio adjustment pot during set-up.



If you have an electric or gas fired heater battery connected, the fans will run on for a further 5 minutes. Otherwise, the fans will stop straight away.

2.05 Troubleshooting

2.05.1 - SYSTEM STOPPED

<input checked="" type="radio"/>	POWER ON	<input checked="" type="radio"/>	GAS VALVE
<input checked="" type="radio"/>	SYSTEM CONDITION	<input type="radio"/>	GAS PRESSURE
<input checked="" type="radio"/>	REMOTE KNOCK OFF	<input type="radio"/>	FAN 1
<input checked="" type="radio"/>	FIRE ALARM / THERMAL	<input type="radio"/>	FAN 2
<input type="radio"/>	CO2 MONITORING		

Cause: - The system has been stopped
Solution: - Press "Start" key to begin startup sequence

2.05.2 - FIRE ALARM

<input checked="" type="radio"/>	POWER ON	<input checked="" type="radio"/>	GAS VALVE
<input checked="" type="radio"/>	SYSTEM CONDITION	<input type="radio"/>	GAS PRESSURE
<input checked="" type="radio"/>	REMOTE KNOCK OFF	<input type="radio"/>	FAN 1
<input checked="" type="radio"/>	FIRE ALARM / THERMAL	<input type="radio"/>	FAN 2
<input type="radio"/>	CO2 MONITORING		

Cause: - The link between terminals 9 and 10 has been broken by either the fire alarm being activated, a LPHW heater battery the capillary fan hold off stat has been activated or a fan thermal cut out has been activated. The fan and gas valve outputs will be deactivated.
Solution: - Ensure fire alarm is not activated. Check wiring to fire alarm Interface panel. Check that there is hot water available for the heater battery. Check if the thermal link has been broken. The system must be reset by pressing "STOP" before it can be restarted.

2.05.3 - KNOCK OFF BUTTON

<input checked="" type="radio"/>	POWER ON	<input checked="" type="radio"/>	GAS VALVE
<input checked="" type="radio"/>	SYSTEM CONDITION	<input type="radio"/>	GAS PRESSURE
<input checked="" type="radio"/>	REMOTE KNOCK OFF	<input checked="" type="radio"/>	FAN 1
<input checked="" type="radio"/>	FIRE ALARM / THERMAL	<input checked="" type="radio"/>	FAN 2
<input type="radio"/>	CO2 MONITORING		

Cause: - The link between terminals 11 and 12 has been broken (knock off pressed). The gas valve output will be deactivated.
Solution: - Ensure remote knock off button has been released. Check wiring to remote knock-off button. The system must be reset by pressing "STOP" before it can be restarted.

2.05.4 - FAN UNDERCURRENT

- | | | | |
|----------------------------------|----------------------|----------------------------------|----------------|
| <input checked="" type="radio"/> | POWER ON | <input checked="" type="radio"/> | GAS VALVE |
| <input checked="" type="radio"/> | SYSTEM CONDITION | <input type="radio"/> | GAS PRESSURE |
| <input checked="" type="radio"/> | REMOTE KNOCK OFF | <input checked="" type="radio"/> | FAN 1 or FAN 2 |
| <input checked="" type="radio"/> | FIRE ALARM / THERMAL | | |
| <input type="radio"/> | CO2 MONITORING | | |

- Cause: - The indicated fan is drawing less current than the minimum current established during commissioning.
- Solution: - Ensure fan is working correctly. Check running current matches commissioned levels with an ammeter. Use the system checking mode to establish any problems with set-up. The system must be reset by pressing "STOP" before it can be restarted.

2.05.5 - FAN OVERCURRENT

- | | | | |
|----------------------------------|----------------------|----------------------------------|----------------|
| <input checked="" type="radio"/> | POWER ON | <input checked="" type="radio"/> | GAS VALVE |
| <input checked="" type="radio"/> | SYSTEM CONDITION | <input type="radio"/> | GAS PRESSURE |
| <input checked="" type="radio"/> | REMOTE KNOCK OFF | <input checked="" type="radio"/> | FAN 1 or FAN 2 |
| <input checked="" type="radio"/> | FIRE ALARM / THERMAL | | |
| <input type="radio"/> | CO2 MONITORING | | |










- Cause: - The indicated fan is drawing more current than the maximum current established during commissioning.
- Solution: - Ensure fan is working correctly. Check running current matches commissioned levels with an ammeter. Check filters are clean. Use the system checking mode to establish any problems with set-up. The system must be reset by pressing "STOP" before it can be restarted.

2.05.6 - GAS PRESSURE FAULT 1

- | | | | |
|----------------------------------|----------------------|----------------------------------|--------------|
| <input checked="" type="radio"/> | POWER ON | <input checked="" type="radio"/> | GAS VALVE |
| <input checked="" type="radio"/> | SYSTEM CONDITION | <input checked="" type="radio"/> | GAS PRESSURE |
| <input checked="" type="radio"/> | REMOTE KNOCK OFF | <input type="radio"/> | FAN 1 |
| <input checked="" type="radio"/> | FIRE ALARM / THERMAL | <input type="radio"/> | FAN 2 |
| <input type="radio"/> | CO2 MONITORING | | |










- Cause: - The system has failed its initial gas pressure test.
- Solution: - Ensure all gas appliances are off. Contact a GAS SAFE engineer to check the pressure levels within the pipe work. Check wiring to gas pressure sensor. The system must be reset by pressing "STOP" before it can be restarted.

2.05.7 - GAS PRESSURE FAULT 2

	POWER ON		GAS VALVE
	SYSTEM CONDITION		GAS PRESSURE
	REMOTE KNOCK OFF		FAN 1
	FIRE ALARM / THERMAL		FAN 2
	CO2 MONITORING		










Cause: - The gas pressure has dropped below 12mbar during normal running.
Solution: - See solution in (2.05.6)

2.05.8 - HIGH LEVELS OF CO2

	POWER ON		GAS VALVE
	SYSTEM CONDITION		GAS PRESSURE
	REMOTE KNOCK OFF		FAN 1
	FIRE ALARM / THERMAL		FAN 2
	CO2 MONITORING		

Cause: - The system has detected that the CO2 levels within the kitchen environment are too high.
Solutions: - Please see page 21 for further information.

2.05.9 - MEMORY ERROR

	POWER ON		GAS VALVE
	SYSTEM CONDITION		GAS PRESSURE
	REMOTE KNOCK OFF		FAN 1
	FIRE ALARM / THERMAL		FAN 2
	CO2 MONITORING		

Cause: - The system has failed the test of its internal memory (tested at power on).
Solution: - The system must be recommissioned to store new values into the memory (Ref 2.02 PG14).

If the above does not solve your problem, contact Trent Products.

SITE COMMISSIONING SHEET

SITE ADDRESS				
DATE				
ENGINEER				
COMPANY				
	LOW SPEED CURRENT	L/SPEED VOLAGE OUTPUT	FREQUENCY	AIR VOL/VELOCITY
EF1				
EF2				
	LOW SPEED CURRENT	L/SPEED VOLAGE OUTPUT	FREQUENCY	AIR VOL/VELOCITY
SF1				
SF2				
	HIGH SPEED CURRENT	H/SPEED VOLAGE OUTPUT	FREQUENCY	AIR VOL/VELOCITY
EF1				
EF2				
	HIGH SPEED CURRENT	H/SPEED VOLAGE OUTPUT	FREQUENCY	AIR VOL/VELOCITY
SF1				
SF2				
RCT 1 vdc				
RCT 2 vdc				
RCT 3 vdc				
RCT 4 vdc				
	VDC			
GAS PRESSURE				
SUPPLY TEMP				
EXTRACT TEMP L/S				
EXRTACT TEMP H/S				
CO2 vdc				
24v CIRCUIT CHECK BETWEEN T1 & T3				
NOTES				

FOR FURTHER TECHNICAL ASSISTANCE, PLEASE CONTACT US BY

Phone: 01782 844688

Fax: 01782 844772

E-mail: info@trentproducts.com

Web site: www.trentproducts.com

- Note:
- i) Ensure that the electrical installation has been installed in accordance with the current edition of the IEE regulations.
 - ii) Ensure that the gas installation has been installed in accordance with the current gas regulations and GAS SAFE guide-lines.
 - iii) Ensure that the ventilation and extract system has been set to the correct air flow design levels in accordance with the current regulations.
 - iv) If in doubt, ask! (Contact us on or by any of the above).
 - v) Ensure that the client has been shown how to operate the system and that they have been handed the operator's manual.



This symbol on this product or the package indicates that disposal of this product after its lifecycle could harm the environment. DO NOT dispose of this product (or batteries if used) as unsorted municipal waste. It should be disposed by a specialised company for recycling. This product should be returned to your distributor or to a local recycling service. Respect the local environment rules.

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