CaterSense *the Intelligent answer*

CaterSense - 04

GAS SUPPLY CONTROL with MULTI FUNCTION SOLUTIONS

INSTALLATION and COMMISSIONING INSTRUCTIONS

Product Overview

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

The system comes in four basic modes, you have selected

CaterSense -04 intelligent controller
with Multi function solutions

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

Contents

1.01 Opening the unit

The CaterSense unit is made up of six (6) component parts, two (2) are PCB circuit boards and four (4) make up the enclosure.

The enclosure has a facia plate, two (2) side covers and a back box. The back box houses the main PCB circuit board and the facia plate has the touch pad PCB circuit board attached to it. These two sections are inter-connected via a ribbon cable.

To open the enclosure, first remove the snap-in clips at the bottom of the two side panels; press the release pad on each side at the bottom of the enclosure and lift off each side panel in turn. This will reveal the four facia plate fixing screws, located at the four corners of the facia plate.

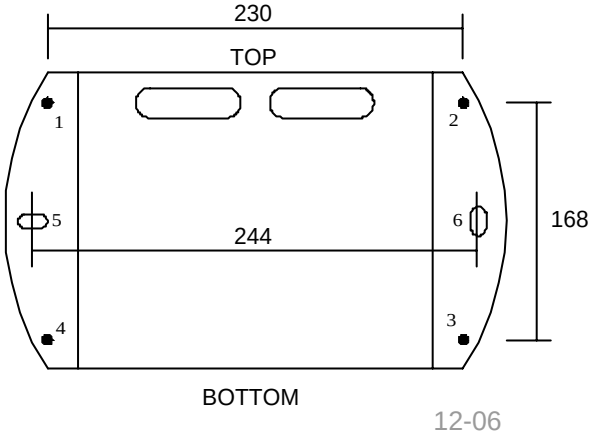
Unscrew these four screws and lift the facia plate from the back box, ensuring that the ribbon cable between the two PCBs has been unplugged at the main PCB end.

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

1.02 Fixing details

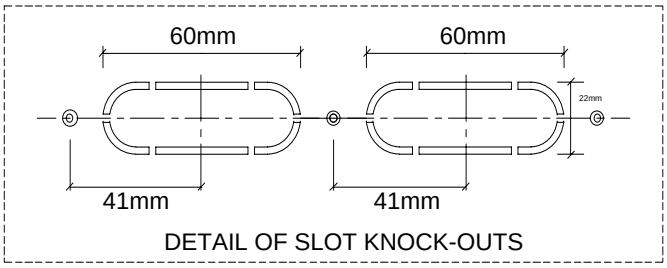
The CaterSense unit has six (6) mounting holes which can be used *(as shown below)*

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



1.03 Cable entry

The CaterSense unit has two knock-out slots in the back of the enclosure *(located at the top)* to enable back entry. The enclosure has an area 190 x 25 mm which can be drilled for conduit entry on the top edge of the enclosure.



DETAIL OF SLOT KNOCK-OUTS

1.04 Electrical connections

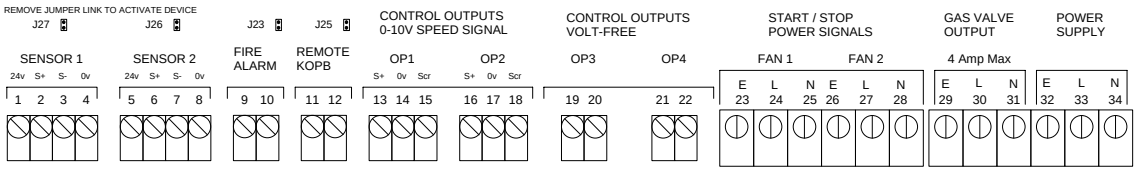
The CaterSense system has two sets of terminals all mounted along the top edge of the main PCB circuit board.

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.

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.

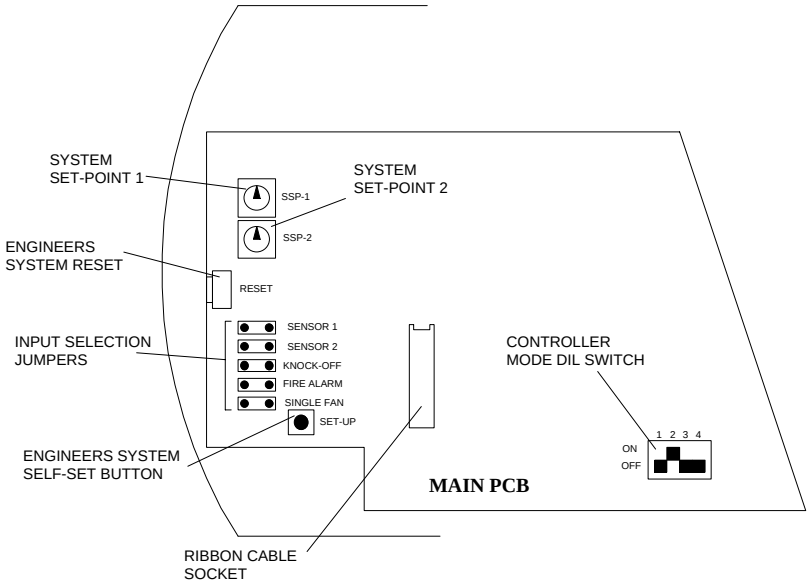
All cabling should be kept to the top of the unit within the designated area. No cables should be placed or laid across the PCBs as they may cause damage.



1.05 System mode and set-up

The CaterSense unit is a number of intelligent control solutions in one controller. Each of the solution types has a “Mode Code” which is set via a DIL 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 left hand side of the main PCB, under the side cover, as detailed below.

Follow the instructions in the next section for your model of CaterSense.



2.0 Set-up and Commissioning

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

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.

a) **DIL Mode switch,** Ensure the correct system code has been selected on the DIL switch. This code is detailed on the System Mode page for your installation.

b) **Input Jumpers,** Ensure that the correct input jumpers have been removed as detailed on the System Mode page for your installation and jumper J13 is fitted if a single fan is being used.

c) **Sensor Links,** If you are using four wire sensors in place of three wire type, remove Link **J3 & J5** as detailed on the System Mode page for your installation.

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

e) Refit the CaterSense facia plate by plugging in the ribbon cable and fixing the four screws. **NOTE:** Ensure the ribbon cable is plugged in correctly with the key pin at the top *(see: ribbon diagram for further information).*

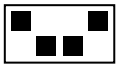
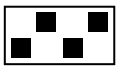
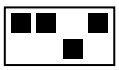
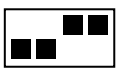
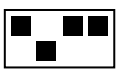
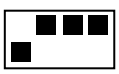
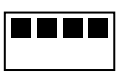
2.02 Mode Set-up – CaterSense 4

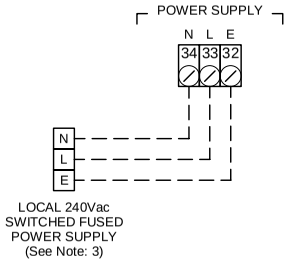
Once the above has been carried out, the system is now ready to be powered up.

The CaterSense unit is an intelligent unit with a self-set system and multi function LED indication. Within the next sequence of set-up instructions the CaterSense unit will give you feedback on the system and set-up via audible “beeps” and colour change / constant and flashing LEDs in a step by step sequence.

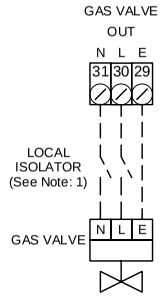
2.02.1 CaterSense 4

CaterSense 4 is a multi function controller with seven (7) pre-programmed controller models in one unit. These seven controllers are selected via the **DIL Mode** switch via a dedicated **Mode Code**.

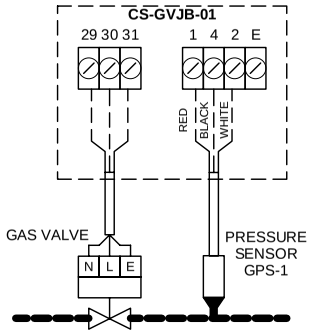
Mode Code	DIL mode	Description
04-01		SINGLE EXTRACT CANOPY with FAN START / STOP - FPM (Optional SUPPLY FAN)
04-02		SINGLE EXTRACT CANOPY with FAN START / STOP - FPM (Optional SUPPLY FAN) and GAS PRESSURE PROVING
04-03		FOR FUTURE USE
04-04		GAS PRESSURE PROVING with PILOT VALVE (stand alone)
04-05		SINGLE EXTRACT CANOPY with FAN START / STOP - FPM (Optional SUPPLY FAN) and GAS PRESSURE PROVING with PILOT VALVE
04-06		REMOTE FAN CONTROL / AIR FLOW MONITORING STATION with GAS VALVE INTERLOCK
04-07		SINGLE EXTRACT FAN CANOPY - GAS PRESSURE PROVING with TEMPERED SUPPLY AIR CONTROL & FPM (Optional SUPPLY FAN)



PM UNIT POWER SUPPLY

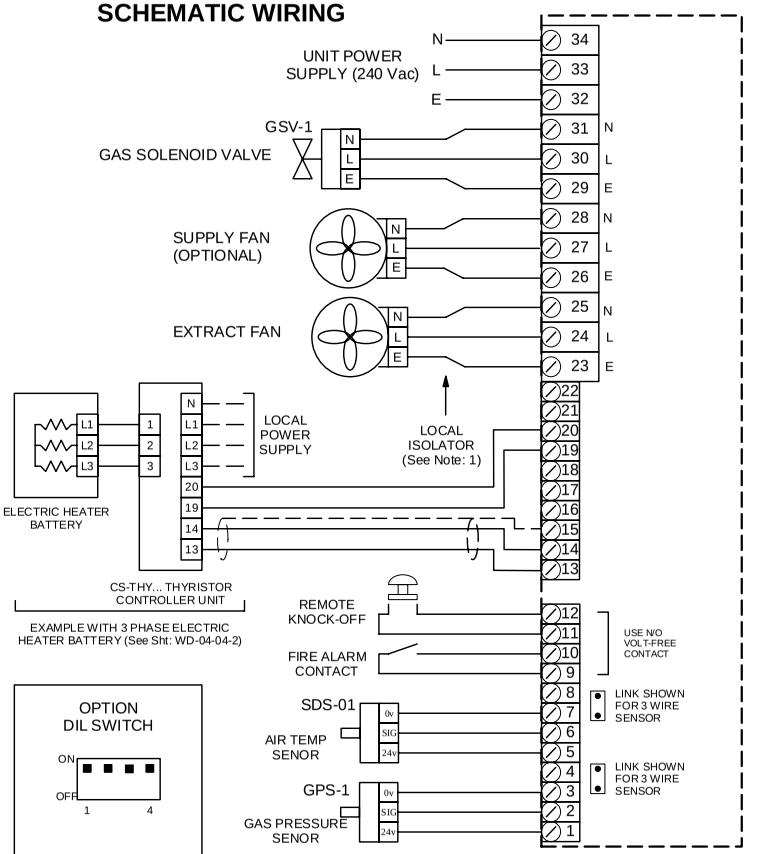


GAS VALVE OUTPUT
WITH POWER SUPPLY FROM CATERSENSE



GAS VALVE OUTPUT WITH POWER SUPPLY
FROM CATERSENSE VIA CS-GVJB-01

SCHEMATIC WIRING



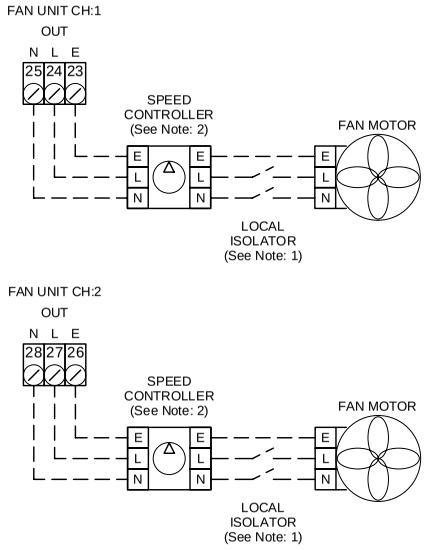
CIRCUIT BOARD LAYOUT

NOTES:

1) LOCAL ISOLATION MUST BE PROVIDED IN ACCORDANCE WITH THE CURRENT EDITION OF THE IEE REGULATIONS.

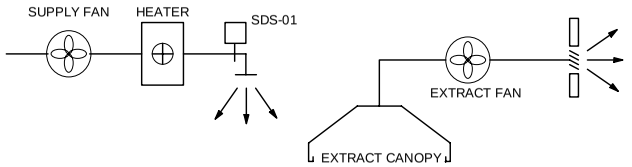
2) CHECK MANUFACTURER'S WIRING DETAILS FOR CORRECT CONNECTIONS AND SET-UP REQUIREMENTS.

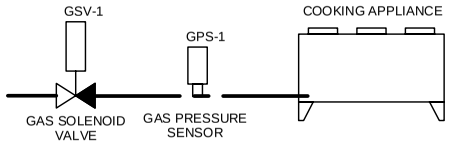
3) ENSURE THAT THE SWITCHED POWER IS CORRECTLY FUSED TO THE LOADING OF THE CATERSENSE AND PLANT ITEMS.



TYPICAL WIRING ARRANGEMENT FOR A FAN MOTOR
WITH A MANUAL SPEED CONTROLLER

EQUIPMENT SCHEMATIC

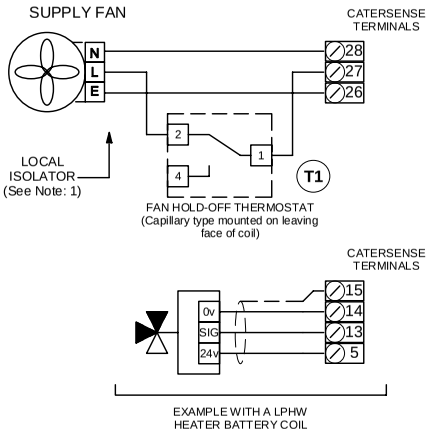


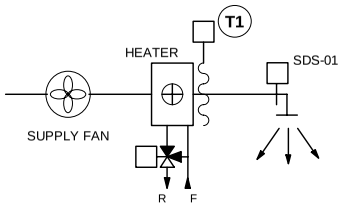


TRENT
PRODUCTS
Tel: 01782 - 844688 Fax: 01782 - 844772

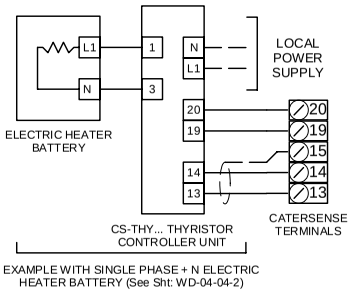
IF IN DOUBT, ASK	**DATE:**	**DRAWING No:**	**DRAWN BY**
CATERSENSE -4 (04-07) WIRING & CONNECTION DIAGRAM	05/01/06	CATERSENSE - 4 WD-04-07	MAE

3 PORT LPHW HEATER BATTERY MIXING VALVE

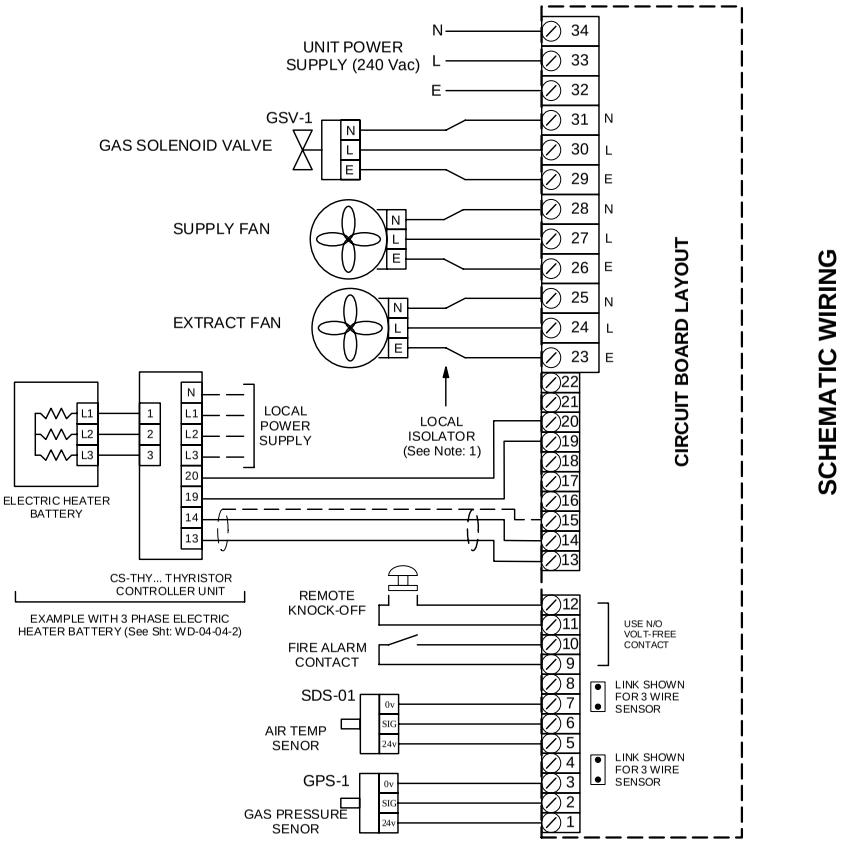




ELECTRIC HEATER BATTERY SINGLE PHASE + N



ELECTRIC HEATER BATTERY THREE PHASE



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IF IN DOUBT, ASK	**DATE:**	**DRAWING No:**	**DRAWN BY**
CATERSENSE -4 (04-07) WIRING & CONNECTION DIAGRAM	05/01/06	CATERSENSE - 4 WD-04-07-2	MAE

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,

PRESS		GAS VALVE
		SYSTEM CONDITION
		All other LEDs

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.

FAN 1 or FAN 2 LED:		LOW current fault
		LOW current warning
		NORMAL
		HIGH current warning
		HIGH current fault

If the current is at a "fault" level for longer than 30s, 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.

PRESS	**START** RESET / GPT		GAS VALVE	*GAS VALVE OPENS*
		5 mins		
			GAS VALVE	*GAS VALVE CLOSES*

To leave diagnostic mode, press **SYSTEM STOP** GAS SHUT OFF .

Notes:

FOR FURTHER TECHNICAL ASSISTANCE, PLEASE CONTACT US BY

Phone: 01782 844688

Fax: 01782 844772

e-mail: info@trentcontrols.com

Web site: www.bs6173.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 CORGI 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 users guide.

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