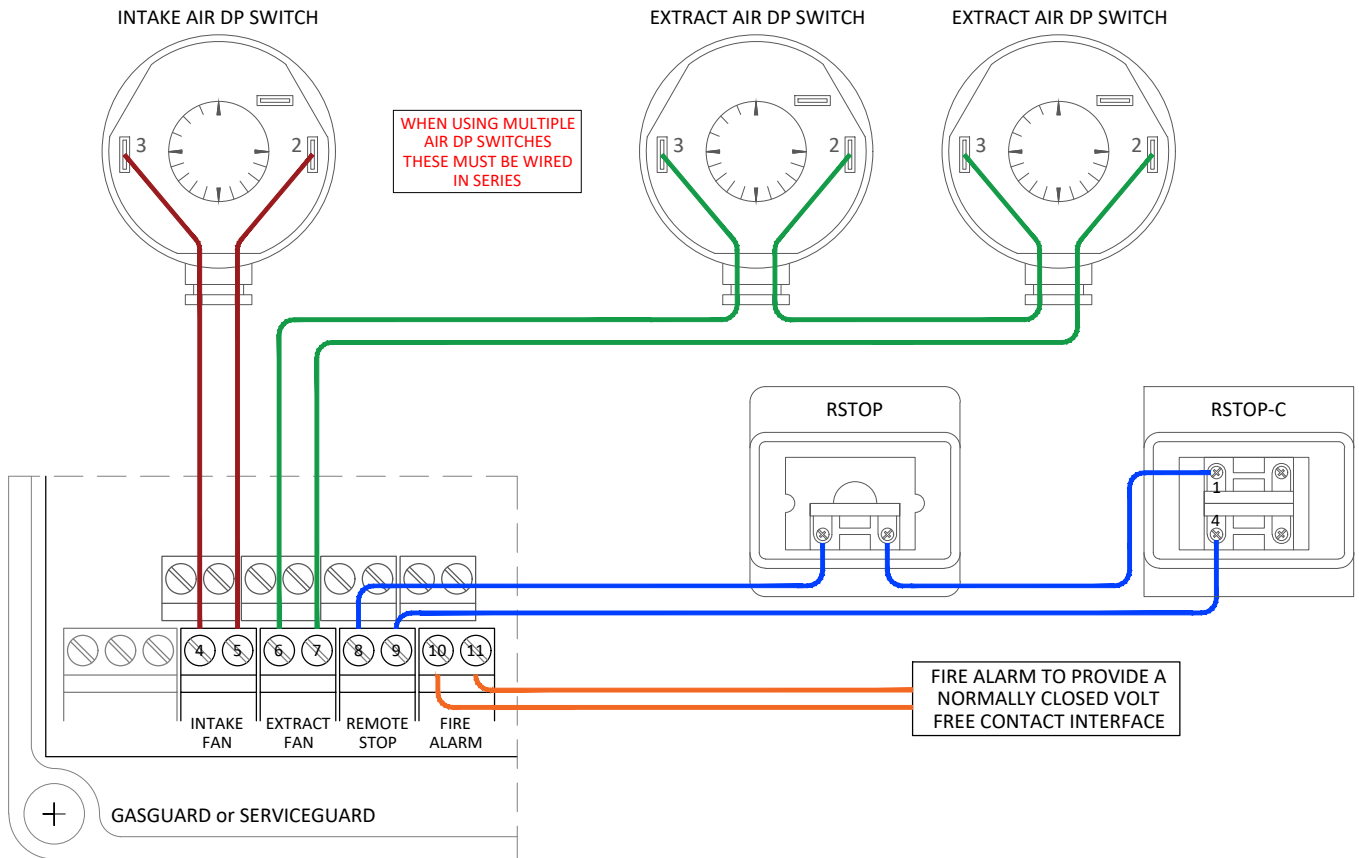
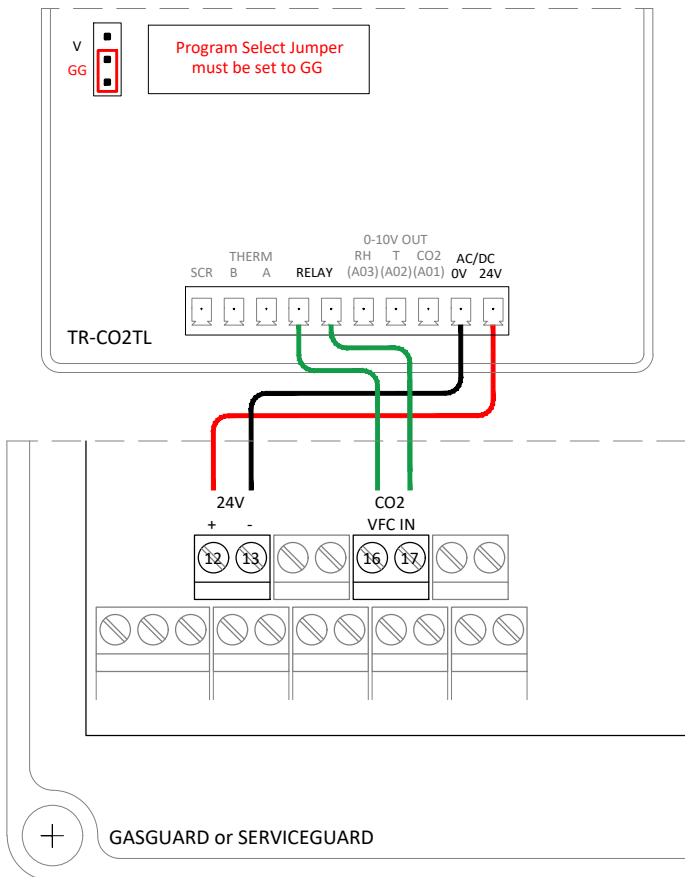


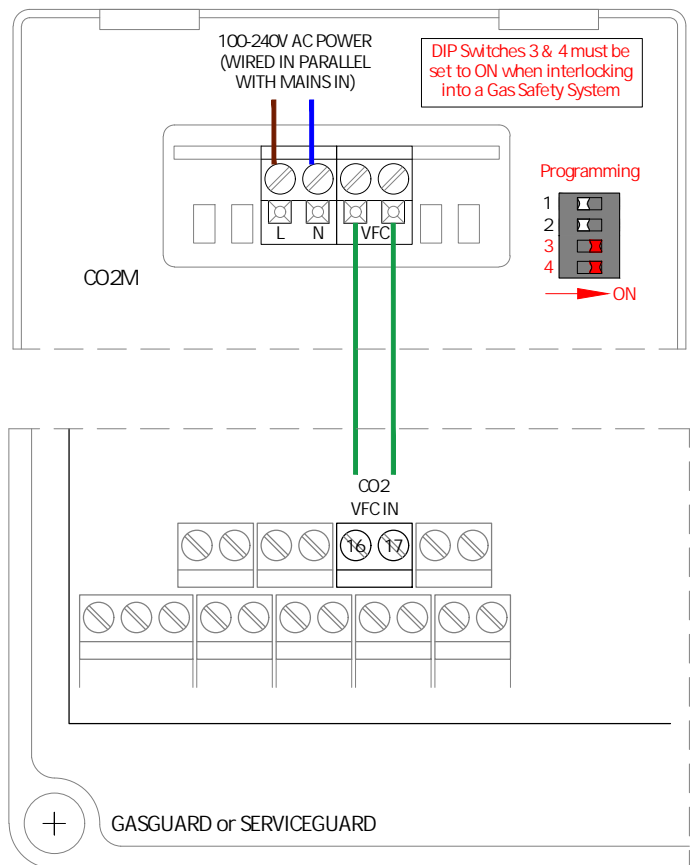
AIRDPS/RSTOP/FIRE



TR-CO2TL



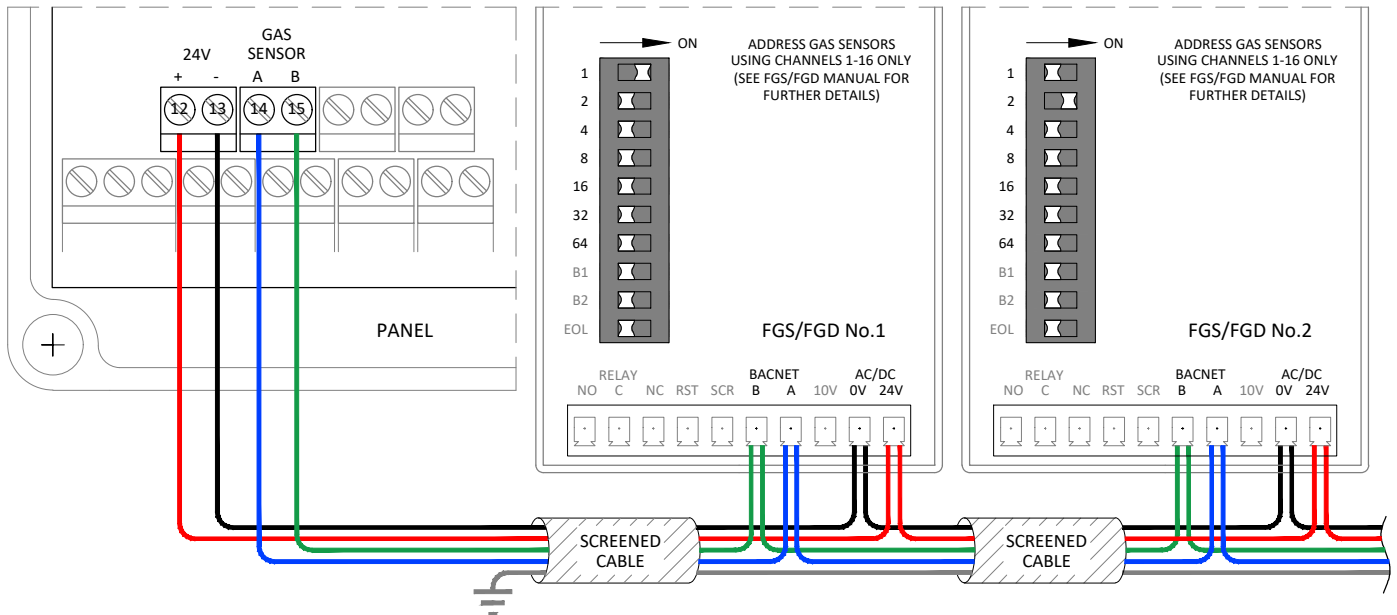
CO2M



GAS DETECTORS/SENSORS

PLEASE SEE BELOW CONNECTIONS WHEN CONNECTING TO THE PANEL

SENSORS MUST BE WIRED IN ONE CONTINUOUS DAISY CHAIN. STAR WIRING CONFIGURATIONS MAY CAUSE THE PANEL TO 'LOSE' SENSORS
ALL SENSORS MUST BE SET TO DIFFERENT ADDRESSES, AND WE RECOMMEND NUMBERING STARTING AT 1, 2.. IN THE ORDER THEY ARE WIRED FROM THE PANEL



OPERATION & COMMISSIONING GASGUARD

OPERATION

The basic operation of the system is advised by the LCD readout:

- Turn the Key to ON to requested gas, which will initiate the pressure test.
 - The valve will open for 5 seconds to pressurise the pipework.
 - A pressure measurement will be taken.
 - The pressure will be monitored for a drop over 30 seconds.
 - If a pressure drop of more than 10% of the initial test pressure is detected, the panel will alarm and advise.
 - If no pressure drop is detected, the panel will open the gas valve.
- Turn the key to OFF to switch off the gas supply.

**THE KEY SWITCH SHOULD BE TURNED TO THE OFF POSITION
AND THE KEY REMOVED WHEN THE ROOM IS UNOCCUPIED**

COMMISSIONING

Once the installation is complete a functionality test must be carried out to verify the correct installation & operation of the system – the gas must be live.

- Turn the key switch to the ON position to ensure the gas valve output and pressure transmitter are functioning correctly.
- Press the panel mounted emergency stop button ensuring that all outputs are isolated and the panel alarms accordingly.
- Once all outputs have been proved, the gas proving function must be tested by opening an outlet during the system test and ensure that the pressure drop registers and the panel alarms accordingly.
- The correct operation of any interfaced devices such as Remote Stop Buttons, Intake/Extract Fans and Gas Sensors must also be verified.

PLEASE CONTACT FLAMEFAST FOR FURTHER DETAILS.

INTERNAL BUTTONS

ENGINEER button

The ENGINEER button on the main PCB can be used to aid with commissioning. Providing the Remote Stop interface is not in alarm, holding this button then turning the key switch will energise the Gas Valve and Status outputs to aid with commissioning. This will timeout after 60 seconds unless switched off by the key switch, after which the button will need to be released and held again for use. Whilst the button is being held in, the unit counts to 60 and displays the gas pressure.

LEARN Button

The LEARN button is for use when there are Gas Sensors connected to the unit.

Pressing this button will display the Channel, Gas Type, Reading and Days until Calibration is required and Days until EOL. The unit will display 4 channels at a time for 5 seconds each (20 seconds total display).

Following the connection/removal of any gas sensors, this button needs to be held in for 30 seconds. At the end of the above mentioned 20 second status display, the unit will countdown from 10 after which it will indicate how many sensors are connected and store the data. This will then be used as a reference point to show if any sensors go 'missing' at any point.

INTERROGATE Button

Holding the INTERROGATE button will display the status of ALL inputs along with the gas pressure. This can be easily used to identify any faults. This will remain on for 5 seconds following the release of the button, after which it will display the number of days until a service is due.

TROUBLESHOOTING & MAINTENANCE

GASGUARD

TROUBLESHOOTING

Any faults can be easily identified due to the clear LCD readout. The following table provides details of all faults including effects and causes:

Display Line 1	Display Line 2	Interface	Cause	Isolates Gas
Previous Power Loss			Previous interruption in mains supply	-
Transmitter Fault	Call Engineer	Pressure Transmitter	Pressure Transmitter Input less than 0.50V*	✓
No Incoming Pressure	Call Engineer	Pressure Transmitter	Pressure less than 1mB	✓
Low Gas Pressure	Call Engineer	Pressure Transmitter	Pressure less than 15mB	✓
High Gas Pressure	Call Engineer	Pressure Transmitter	Pressure above 70mB	✓
XXmB Drop in XXXsec	Check Outlets	Pressure Transmitter	If pressure test sees a drop of more than 10%*	✓
Pressure Loss	Call Engineer	Pressure Transmitter	Pressure drops by 25%* for more than 5 seconds during operation	✓
Fire Alarm Active	Please Reset	Fire Alarm	Fire Alarm interface open circuit	✓
Remote Stop Pressed	Please Reset	Remote Stop	Remote Stop interface open circuit	✓
Panel Stop Pressed		Panel Stop	Panel Stop pressed	✓
High CO2 Levels	Ventilate Room	CO2 VFC In	CO2 interface open circuit	✓
Intake Fan Fail	Check Operation	Intake Fan	Intake interface open circuit	✓
Extract Fan Fail	Check Operation	Extract Fan	Extract interface open circuit	✓
New Sensor Found	Hold Learn to Add	Gas Sensor	FGD/FGS – New sensor found on network	✓
Sensor Not Found	Call Manufacturer	Gas Sensor	FGD/FGS – Sensor lost on network	✓
Sensor Error	Call Manufacturer	Gas Sensor	FGD/FGS – Sensor Error	✓
Calibration Due	Call Manufacturer	Gas Sensor	FGD/FGS – Sensor Calibration Due within 30 days	-
Calibration Overdue	Call Manufacturer	Gas Sensor	FGD/FGS – Sensor Calibration Overdue	-
New Sensor Required	Call Manufacturer	Gas Sensor	FGD/FGS – Sensor requires replacement within 30 days	-
Replace Sensor	Call Manufacturer	Gas Sensor	FGD/FGS – Sensor requires immediate replacement	✓
Alarm Level 1	Channel XX	Gas Sensor	FGD/FGS – Sensor in Alarm 1 condition	-
Alarm Level 2	Channel XX	Gas Sensor	FGD/FGS – Sensor in Alarm 2 condition	✓

PRESSURE TRANSMITTER

The high accuracy Pressure Transmitter is used to monitor the gas pressure that provides a 0-100 mBar output, scaled over 1-5VDC.

If the panel is displaying Transmitter Fault, this is caused by the panel not receiving at least 0.5V from the transmitter. At 0kPa the transmitter gives an output of 1 VDC across terminals 2 and 3, so it can easily be verified if the transmitter is functioning. If you are seeing less than 1V, ensure that the transmitter is receiving 24V both ends, and check the cabling.

If the transmitter does not respond to any pressure changes, this is more than likely due to a blockage of the Vent Tube (see the Wiring Diagram) as this **MUST** be left open to atmosphere. You must ensure that this is not folded or kinked, and when cutting please ensure use a sharp blade.

Where the pressure transmitter does not see a pressure drop, please ensure that it is installed into a downstream port (refer to the valve manufacturer documentation for port configuration).

GAS SENSORS

Prior to connection of any gas sensors, please ensure that each core (24V, 0V, A and B) is independent as any voltage induction to the communications terminals can cause irreparable damage to the sensor.

Any damaged sensors or address conflicts may result in multiple sensors not displaying on the system, including those that are otherwise functioning.

GAS SOLENOID OUTPUT

If the panel appears to be operating correctly however there is no output to the Gas Valve, check that the PCB mounted radial fuse are still intact. These are located just above the mains in terminals (please see wiring diagram for details).

LCD

If on power-up the LCD backlight illuminates however no text can be seen, the text is too dark, or the text cells are completely dark the contrast may require adjusting. This can be done by adjusting the potentiometer located to the bottom right of the ribbon cable connector.

If the LCD is simply displaying random characters there has been a breakdown in communication between the Main PCB and the LCD. Removing power to the panel then powering back up will re-establish the connection and the panel will return to normal operation.

CO2 SENSORS

CO2 sensors should display circa 400ppm in outdoor air. However, they are susceptible to contamination from fine dusts of cleaning solvents which can distort the infra-red optics. 'Poisoning' of the sensor may cause it to display a high reading.

In such instances, power cycle the sensor momentarily, then leave continuously powered for 24 hours, after which the sensor will automatically recalibrate.

Sensor should see outside CO2 levels for at least 2 hours every 7 days.

MAINTENANCE

The system must be Serviced/Safety Checked at least annually by a **FLAMEFAST APPROVED ENGINEER** and the panel has a built-in reminder. When the internal timer reaches 30 days, 'ANNUAL SERVICE DUE' will display during operation – this will not affect the functionality. If the system is controlling a Gas Solenoid Valve, this must be by a Gas Safe Registered Engineer as check should be made to ensure the valve closing and is not passing.

