medem SafeAir CM (GP)

UPON COMMENCMENT OF INSTALLATION IT IS OF PARAMOUNT IMPORTANCE THAT THE STEP BY STEP GUIDE (INCLUDED) IS FOLLOWED COMPLETELY

medem SafeAir CM (GP) System description

Gas Pressure Proving and Ventilation Interlock System

The **SafeAir CM (GP)** is a Ventilation Interlock and Gas Pressure Proving system with inbuilt two channel current monitor. The system will ensure that any mechanical ventilation connected (supply or extract) is running before the gas can be used, when installed with gas sensors it will also monitor the atmosphere for CO and/or CO_2.

The system will also ensure there are no gas leaks downstream of the control valve at switch on by way of a downstream integrity check, It continually checks that the incoming gas pressure is sufficient.

The system comprises of a mains powered panel capable of operating up to four sensors and internal two channel current monitor for interlocking the ventilation. The sensors are pre-calibrated by Medem (UK) Ltd such that they only require to be addressed when connected to the panel and functionally tested. The ventilation can also be interlocked by mechanical air flow switches (DP) if required.

Detector Alarm levels

Type	Pre-Alarm	High Alarm
CO:	80ppm	100ppm
CO2:	2300ppm	5000ppm

Pre-alarm will display a warning message and tone (3beeps) every 10mins.
High-alarm will display a warning message, tone every one second and isolate the gas valve after 60seconds.

**Incoming gas pressure:** Min = 12 mbar, Max = 70mb.
Fan failure: Will cause the gas to isolate after 10 seconds.

Other points to note
The maximum cable length between a detector and the control panel should not exceed 100 metres, If the distance between the main panel and the detectors is greater than 20metres 1mm cable should be used on the +VE, 0v terminals.

Pressure Sender Unit Mounting. This has an inlet and an outlet port (1/4 inch NPT). The inlet must be connected to the inlet test point on the solenoid valve (see fitting kit page) and the outlet port after the solenoid valve typically using 8mm OD copper pipe. Use the appropriate Medem fitting kit to fit the control valve size. The pressure sender is connected to the control panel with low voltage two core cable using the terminal marked A & B. **NOTE: This is low voltage and should be segregated from mains wiring.**
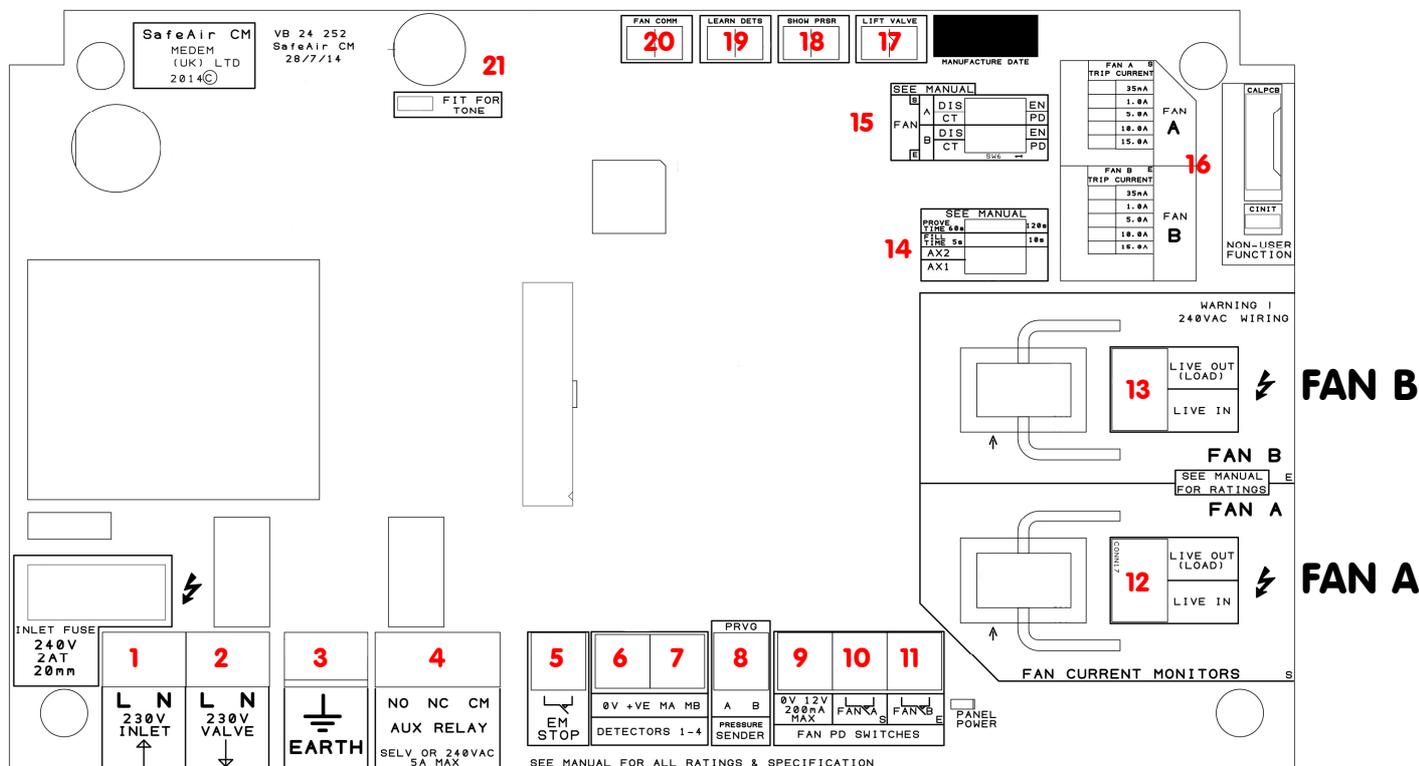
Connections to panel: marked on board.

1. Live & Neutral 230 volts supply from 3amp switched fuse spur
2. 230 volts out to gas solenoid valve
3. Earth connection terminals
4. BMS to indicate, high alarm, gas on, EM stop, low alarm. (Using No14 AX1 & 2)
    00 = Gas On
    10 = Fan Fault
    01 = EM Stop & High Alarm
    11 = Unused
5. Remote emergency stop buttons SELV, connect in series multiple buttons (requires a N/C circuit)
6. Power connections for detectors, Methane, LPG, CO, CO2, Oxygen, Temperature
7. Comms connections for detectors, Methane, LPG, CO, CO2, Oxygen, Temperature
8. Pressure sender unit SELV and comm's both through "A" & "B" terminals (2 wire) MUST BE FITTED
9. 12 volt power
10. Fan A interlock for PD switches.
11. Fan B interlock for PD switches.
12. Fan A current monitor (CT) connection.
13. Fan B current monitor (CT) connection.
14. Fill & prove time for gas pressure proving & AUX relay settings (see No4).
15. Set Fan A to use either PD switch (No10) or Current Monitor (CT) (No12)
16. Set Fan B to use either PD switch (No11) or Current Monitor (CT) (No13) Or can be disabled.
17. Lift valve button, opens the gas valve only whilst the button is continuously pressed, for commissioning purposes.
18. Display gas pressures on the LCD screen
19. Learn detectors button, press once only when all detectors are connected and powered.
20. Fan comm button, enables commissioning of the gas supply without fans running.
21. Jumper link to disable audible alarm sounder.

3

Installing gas detectors

FAN COMM	LEARN DETS	SHOW PRSR	LIFT VALVE	
20	**19**	**18**	**17**	

MANUFACTURE DATE

Gas detectors are wired via a four core low voltage cable into terminals marked 6 & 7. The detectors must have **their** "address id selector switch" set to the addresses 1-4.

Once connected and addressed the system must be "taught" which detector types are on which address. This is done by pressing button marked 19. The system will beep to confirm the action.

Pressing the front panel button marked "Detectors" will display detector addresses 1-4.

Detector Fault DXX Lost Comms

If the system displays a message "Detector Fault DXX Lost Comms" the system is informing you that a detector which has been previously "learnt" to address DXX is no longer communicating. This could be because the detector has had its address changed or has been removed. In which case "re-learning" using button 19 will correct the addressing.
If the detector is present, but not being seen by the system on its address channel, then check the wiring between the main control panel and detector.
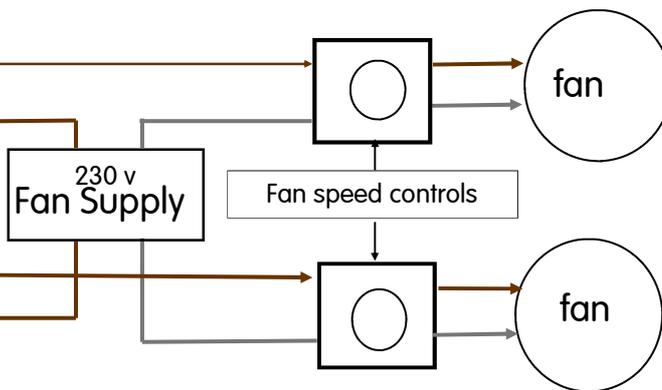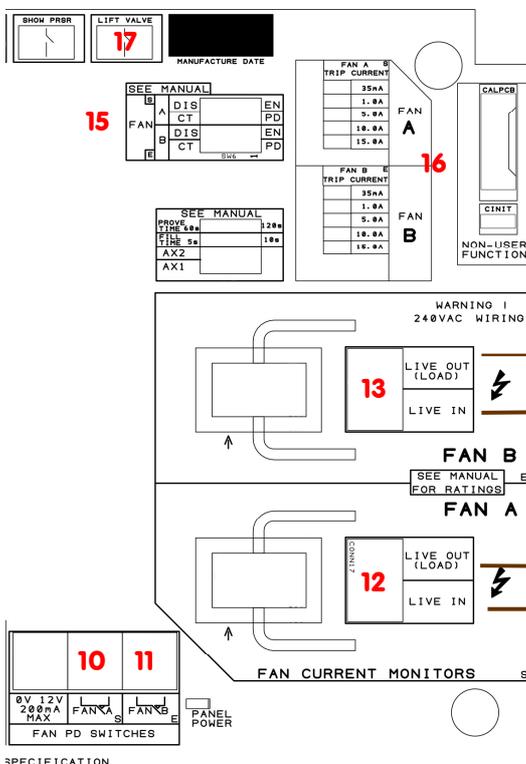
Interlocking ventilation via current monitoring

No15

Fan A CT/PD to select between using CT 12 or Terminal 10 for PD switch.
Fan B CT/PD to select between using CT 13 or Terminal 11 for PD switch.
Fan B can be disabled/enabled using the Fan B DIS/EN selector.
Note: Fan A cannot be disabled, Fan A DIS/EN has no function.

No16

Controls minimum fan current load, the default setting is the most sensitive 35mA.
If you wish to set a minimum fan running speed, adjust fans to desired setting and set the trip current selector link below the fan load as displayed on screen.

Earth Connections not shown

Where using 3 phase fans interlock on a single phase

Manufactured by:
Medem (UK) Limited, Project House, 19 Dallimore Road,
Roundthorn Industrial Estate, Manchester, M23 9NX
Tel: +44 (0)161 233 0600
Fax:+44 (0)161 233 0601
sales@medem.co.uk

4