

KVM - SF

Short form engineers wiring diagram and functional explanation



I am the installation instructions for a gas *safety system*, please read me before you have a go.
The product I support is virtually indestructible but I have no doubt someone will try!!

Intelligas takes every care in ensuring these products reach you in perfect working order.
Each system is tested on dispatch and site induced damage *is* easily detectable.

Ensure the operation of this unit is explained fully to the kitchen staff.

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INTELLIGAS

Gas Safety & Control Systems

Siting the panel

Firstly choose a suitable mounting position for the control unit, mount the unit away from sources of extreme heat, ensure the panel is placed in a position where mechanical damage is unlikely and where it can be easily accessed for use and maintenance.

Fix the panel using the marked enclosure holes only, take care not to damage the internal wiring or PCB of the unit when drilling. The PCB can be carefully removed if required.

Field wiring

Output terminals to the gas valve and fans carry mains voltage (230v ac nominal). APS, fire & Estop and control wiring is 24v DC.

The current edition of the IEE Wiring Regulations should be strictly adhered to, wiring and connections should be made by a suitably qualified electrician or competent person.

Intelligas recommends the use of FP200 or similar type of wiring for the fixed wiring installation. Please follow the first fix wiring schedule set out below:

- 1) Gas valve 2 core + E 1.5mm
- 2) Fans 2 or 3 core + earth (dependant on fan type)
- 3) Emergency stops 2 core + E 1.5mm
- 4) Pressure switches 2 core + E 1.5mm
- 5) Fire alarm interlock (if req) 2 core + E 1.5mm
- 6) Main supply 2 core + E 1.5mm
- 7) all other control wiring (invertors etc) as required

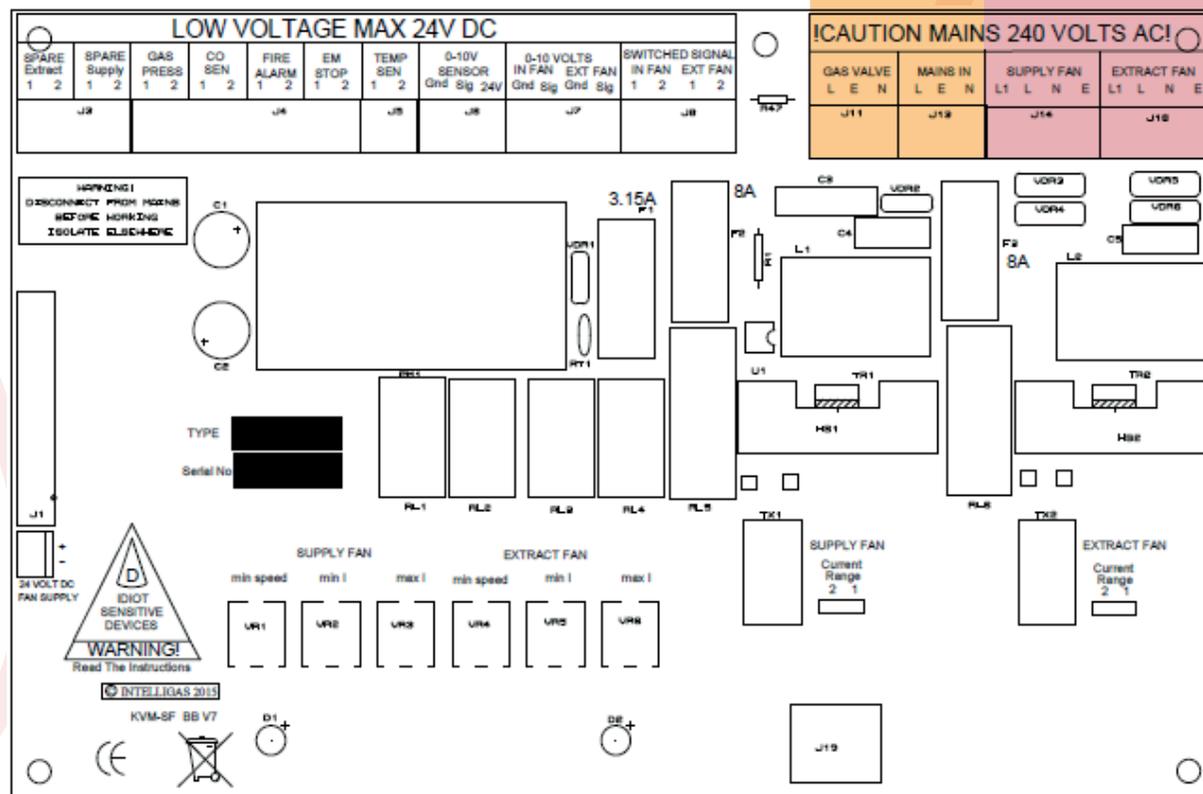
The mains supply should be 230v 1 phase, fed via a fused DP connection switch fused at 5 amp max.

IT IS PREFERABLE FOR ALL SUPPLIES ENTERING THE ENCLOSURE TO BE DERIVED FROM THE SAME PHASE. IF THIS IS NOT POSSIBLE THE UNIT SHOULD BE MARKED WITH APPROPRIATE WARNINGS.

Electrical supply set up when using internal single phase speed controllers.

Gas valve output & Mains supply to the panel. 1 x 16 amp single phase for 230v fan output or 3 amp if controlling invertors remotely.

Single phase fan speed control for fans up to 8 amps.



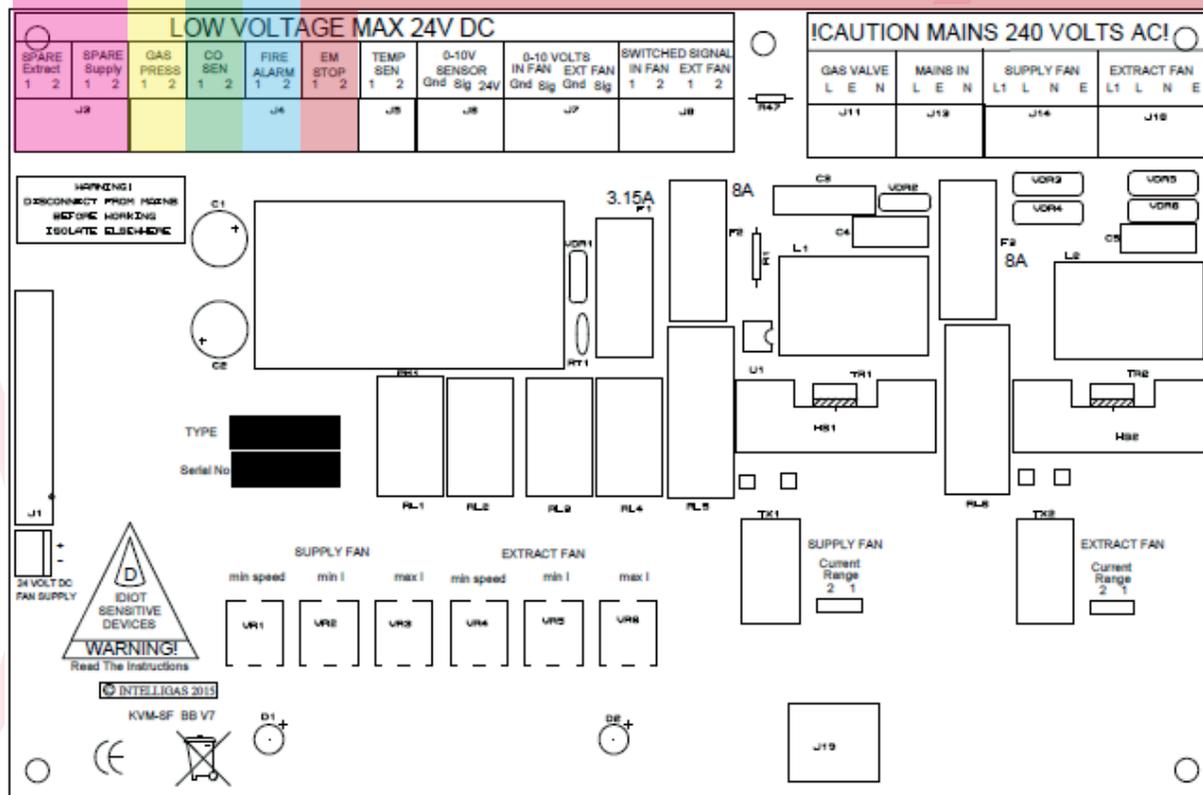
Connect Air differential pressure switches here (supply and extract fans) when their use has been selected on the dip switches on the fascia control board. (Dip switch 4).

If gas proving is to be used then connect the Dungs gas pressure switch here. At the switch, use terminal numbers 2 & 3. Link these terminal if gas proving is not to be used.

A switched CO detector can be connected here. When the detectors relay breaks these terminals the system will send all fans to full speed regardless of whether its in on or in standby mode.

Fire alarm interlock is normally closed. This circuit should be broken to put the system into fire mode. This shuts off the gas and supply fans. Extract fan action is programmable depending on authority requirements. Link these terminals if not being used.

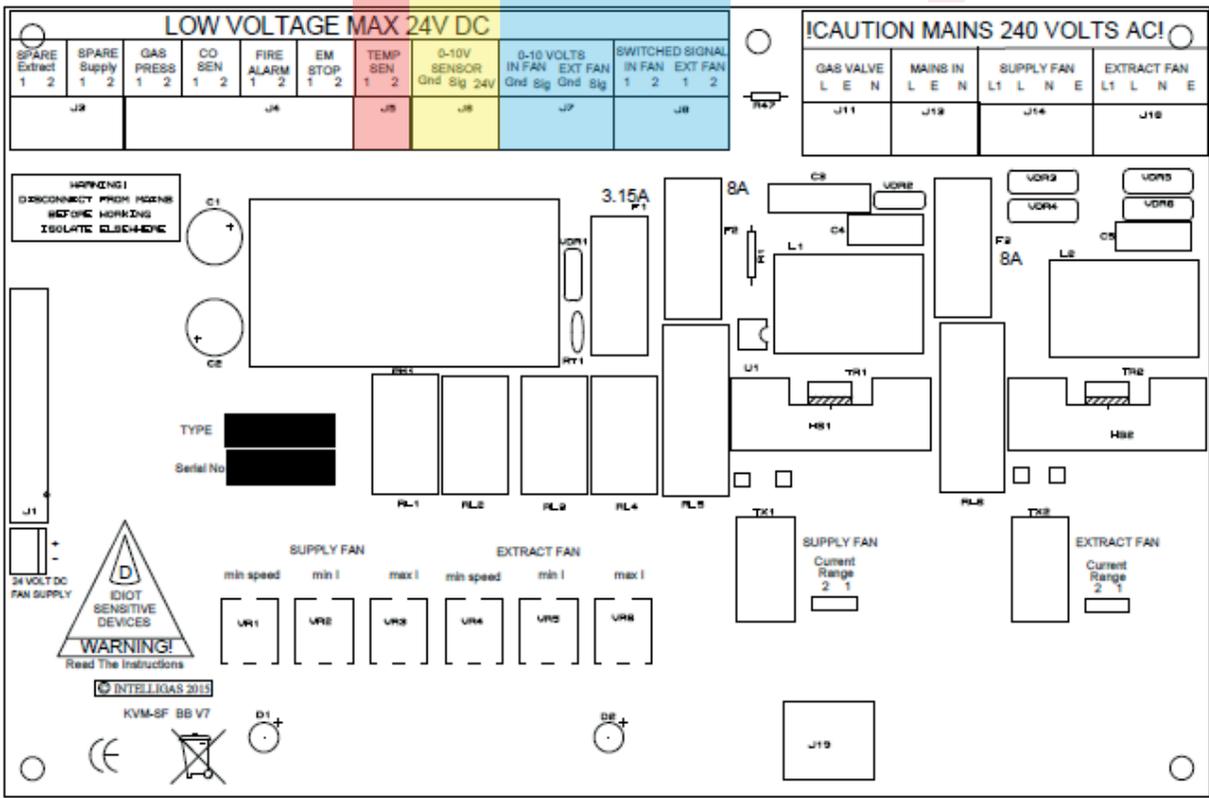
Connect an extra estop button or buttons here, create a closed loop if more than one button is installed, link if not required.



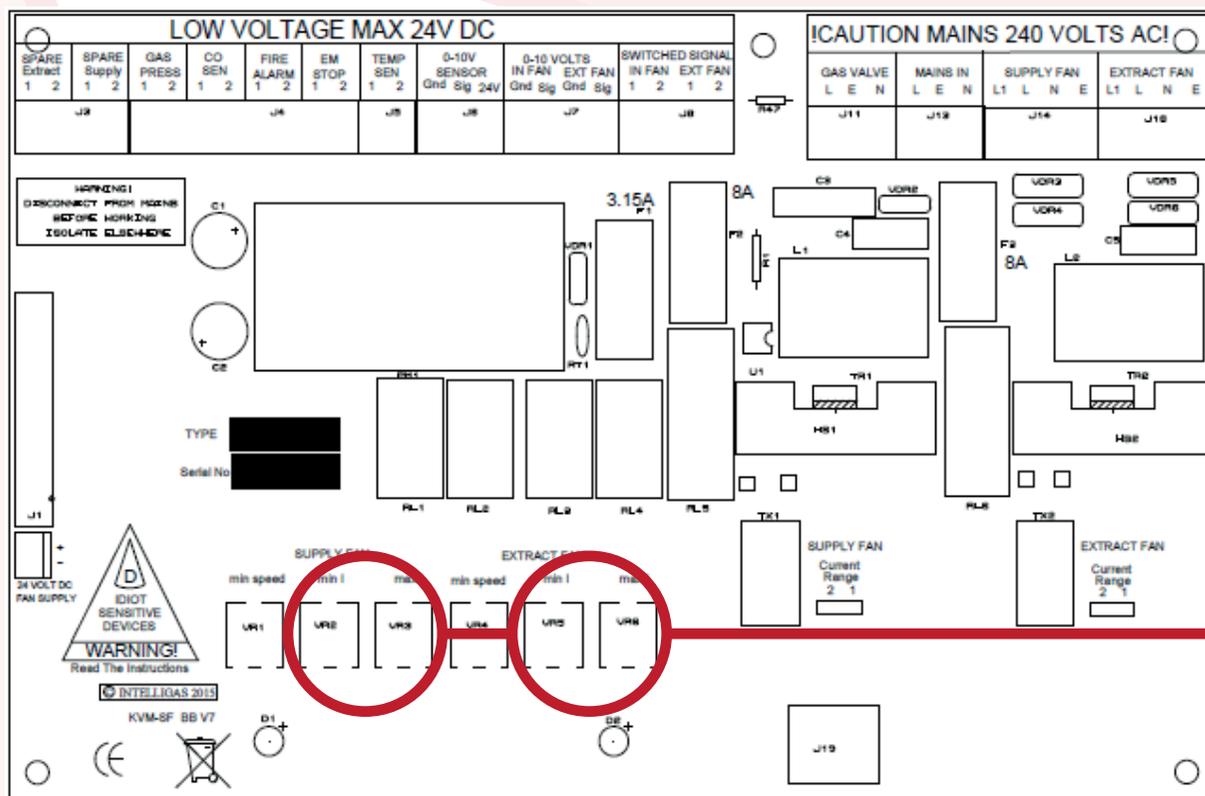
Connect a CO2 sensor here. Turn on switch 5 on the fascia control panel, this will enable automatic co2 fan speed control and gas shut off on high CO2 (4-4.5kppm) use 24v and gnd to power the sensor, connect the output of the sensor (V CO2) to the “sig” terminal.

If required, a room temperature sensor can be connected to these terminals, the system will run the fans at full speed when the set point (adjustment on the fascia control panel) has been reached.

Use these terminals to control 3 phase inverter drives. The relays will operate when the fans are selected as on on the fascia. The 0 -10v signal will rise and fall with the selected speed on the front of the panel.



Set the current sensors and minimum speed levels.



Set the fan current levels using the min and max pots on the PCB for each fan. Once the setting is in range then the green LED will illuminate.

Set the minimum speed of the fans using the pots near the min and max selectors. This allows you to determine the minimum ventilation level

Run the fans up and down stopping at each increment of speed to ensure that the current sensor light remains green. This will prevent nuisance tripping.

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