

INTELLIGAS

Gas safety & control systems

GSS Boiler Room Gas Safety System

INSTALLATION GUIDE

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.

24 hour technical support line - 02381 290444

intelligas.co.uk

Introduction

Thank you for choosing an Intelligas product. Please follow these instructions to ensure a safe, functional and long-lasting installation.

This information is important and should be read and understood before attempting installation.

If you are unsure of the terminations and their design voltages or function then refer to this guide or our technical support line, you can call 02381 290444 or you can text 07952269791 and we'll get back to you as soon as we're available.

Siting the panel

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.

Under no circumstances should wiring be routed behind the PCB of the control panel.

Control panel supply

All our control panels (except the KVM-SF) should be supplied via a fused spur connection unit. The fuse should be changed to one that's rated at 5amps.

KVM-SF ONLY if the panel is supplying the fans directly from the PCB then it should be supplied via a 16amp single phase isolator. If the panel is controlling Inverters and only the output signals are being used then, as above, the panel should be supplied by a 5amp fused spur.

Field wiring

All wiring from the supply and to the gas valve carries mains voltage (230v ac nominal). 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.

The field wiring voltage to the interlock inputs is reduced to 24 volts, do not connect mains to the air pressure switch terminals, e-stop, analogue input/output 0-10v control, gas detector or fire alarm terminals.

Please follow the first fix wiring schedule set out below:

- 1) Main supply 2 core + E 1.5mm (as per regulatory requirements)
- 2) Gas valve 2 core + E 1.5mm (as per regulatory requirements)
- 3) Pressure switches 2 core + E 1.5mm (YY type cable)
- 4) Fire alarm interlock (if req) 2 core + E 1.5mm (FP type cable)
- 5) Emergency stops 2 core + E 1.5mm (YY type cable)
- 6) Gas detection equipment, If fitted, 3 core screened (CY type cable)
- 7) Gas pressure switch, if fitted, 2 core + E 1.0mm (YY type cable)
- 8) 0-10v signal wiring, if fitted, 2 core 1.0mm (CY type cable)

Where multiple supplies enter a control panel, perhaps in a current sensing interlock. It is preferable that each supply is on the same phase. If this can't be achieved, then additional warning labels should be fixed in a suitable location on the control panel.

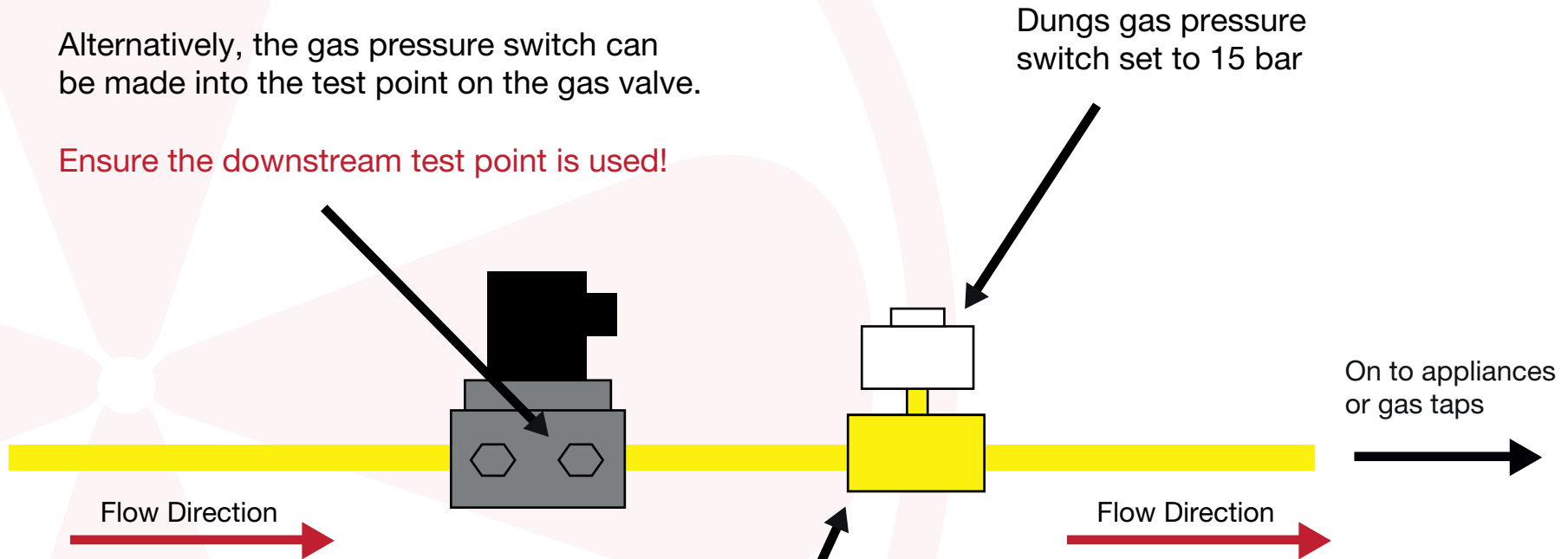
The advice given on these instruction pages, specifically to cable types and ratings may change depending on cable lengths and installation conditions. If you are not sure about any of the cable types or ratings then contact our technical support team.

Intelligas gas proving system mechanical layout

Installation option 1

Alternatively, the gas pressure switch can be made into the test point on the gas valve.

Ensure the downstream test point is used!



Installation option 2

Unequal tee joint or centre reduced down to 1/4" male nipple to make directly into Dungs gas pressure switch

To comply with gas regulations manual isolation points, purge points and test nipples may be required. This drawing is for information only and the necessity of the above items should be checked to ensure compliance with the current regulations.

Connecting gas detectors to the IGSS & Using the switched input module (SIM)

The gas detection terminals of the IHSIGSS have been designed to accept inputs from industry standard detectors having a 0-10 volt output.

This can be changed to a switched input using a SIM

0-10v operation setup

Using the dip switches on the right hand side of the PCB set up the system and let it know if gas detection is being used, how many channels and if the input type is switched or 0-10v

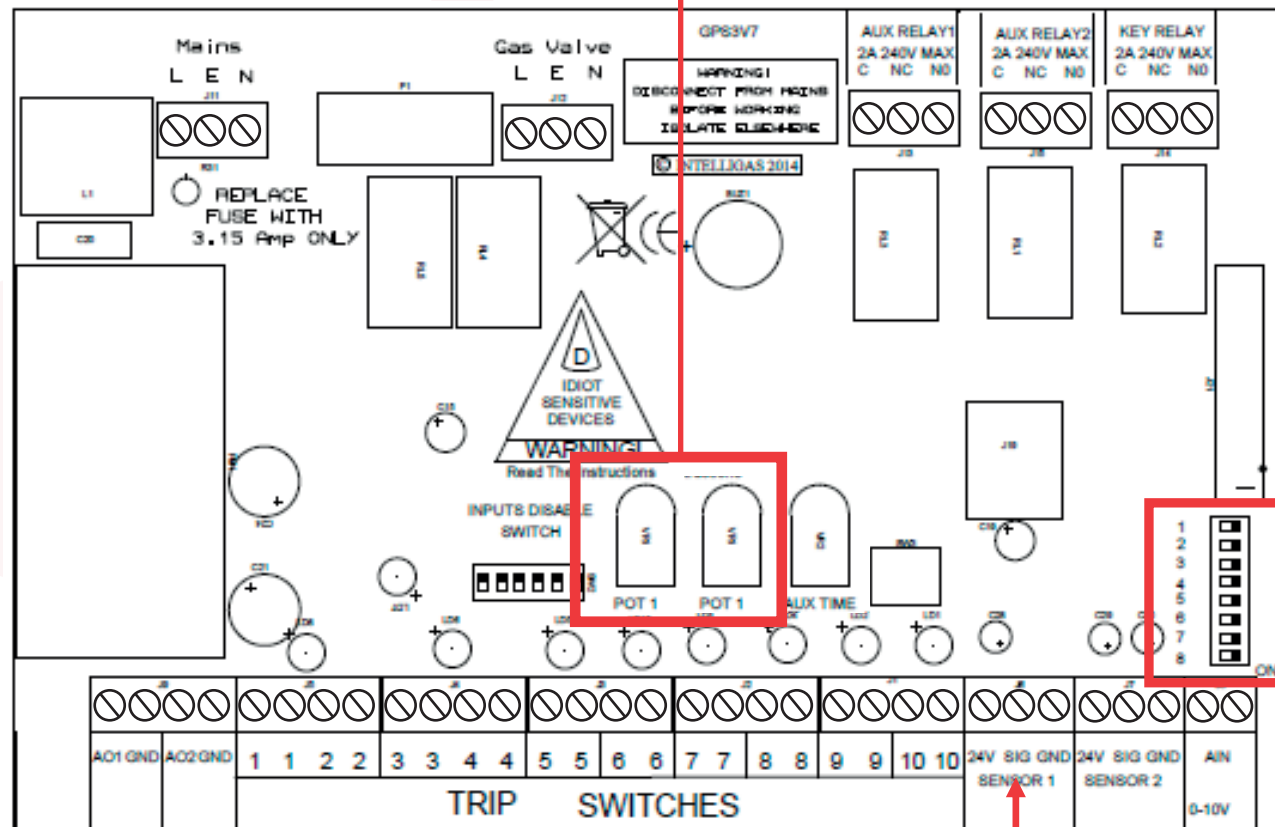
- Switch 4 on gas detection in use
- Switch 4 off Gas detection not in use
- Switch 5 on inputs 1 & 2 being used
- Switch 5 off input 1 being used
- Switch 6 on SIM in use
- Switch 6 off 0-10v input in use

In 0-10v operation the detector can be powered from the 24v and ground connections provided for each detection channel. The 0-10v signal should be connected into the terminal marked "sig". The trip point can be set using the pots marked 1 & 2 on the PCB 0-10v is 0 - 100% of the scale of the pot.

If using the SIM, connect the 3 prongs into the terminals for that channel, then connect the detectors relay input into the 2 terminal on the SIM remembering that the circuit needs to be normally closed and open in alarm.

See diagram to the right for connections and dip switches.

When 0-10v mode is selected, pots 1 & 2 are used to set the alarm point of the gas detector. Each 10% is = to 1 volt from the detector. Warning level is calculated in the software, automatically.



Dip switches referred to in the description



Relay output functions, auto restart and mains wiring.

One function of the GHSISS is when gas proving is used the system can automatically restore the gas supply to a plant room after a mains failure.

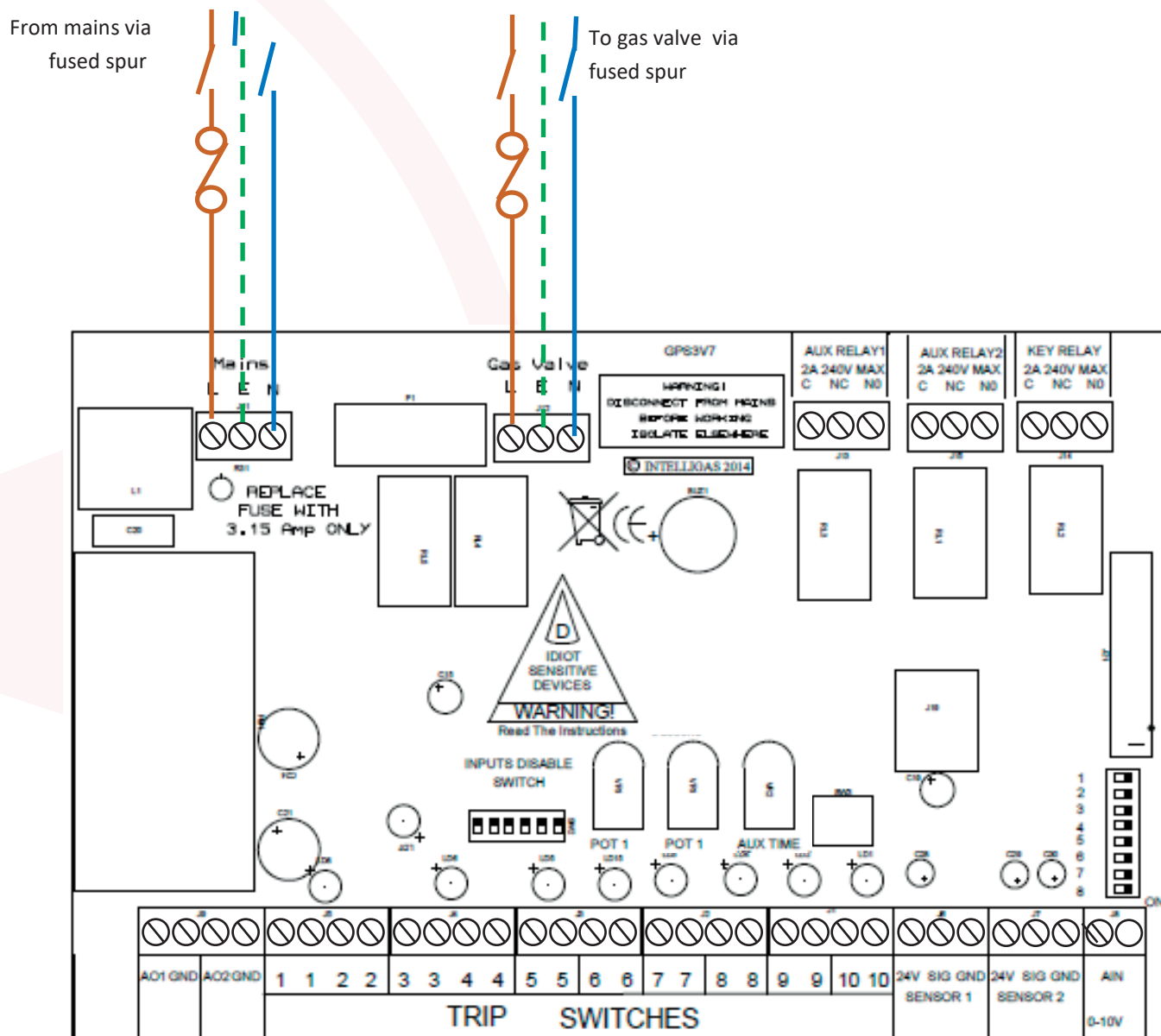
Aux relay 1 should be used to interrupt the boiler fire signal or signal the a BMS system to withhold the boilers. Relay 1 will change state once the GSS has successfully and automatically restored the gas supply to the plant room.

There is a delay of 5 minutes from the power being restored before the system will attempt to re-instate the gas supply. This is in order to allow gas detectors to warm up and any boiler controls to reset. During this time many of the inputs to the system will be ignored.

Switch this feature on by selecting dip switch 8 while the poser is off.

NB when you turn the panel on it will automatically attempt to connect the gas supply.

Aux relay 2 is a common fault output. It will change state on any trip condition. It can be used to signal sounders or strobes etc.



Connection of external devices and using the inputs disable switches.

Terminal numbers

Function

1,1
2,2

Emergency stop
Emergency stop

bypass the above terminals using the input disable switch “1”. Note: this does not isolate the emergency stop on the front of the panel.

3,3
4,4

Fire alarm
Fire alarm

Bypass the above terminals using the input disable switch “2”.

5,5

Auxiliary interlock

Bypass the above terminals using the input disable switch “3”. A delay can be set on the auxiliary interlock by using the poet marked “aux time” from 0–100 seconds.

6,6

Thermal link

Bypass the above terminals using the input disable switch “4”.

7,7

Not used, do not connect

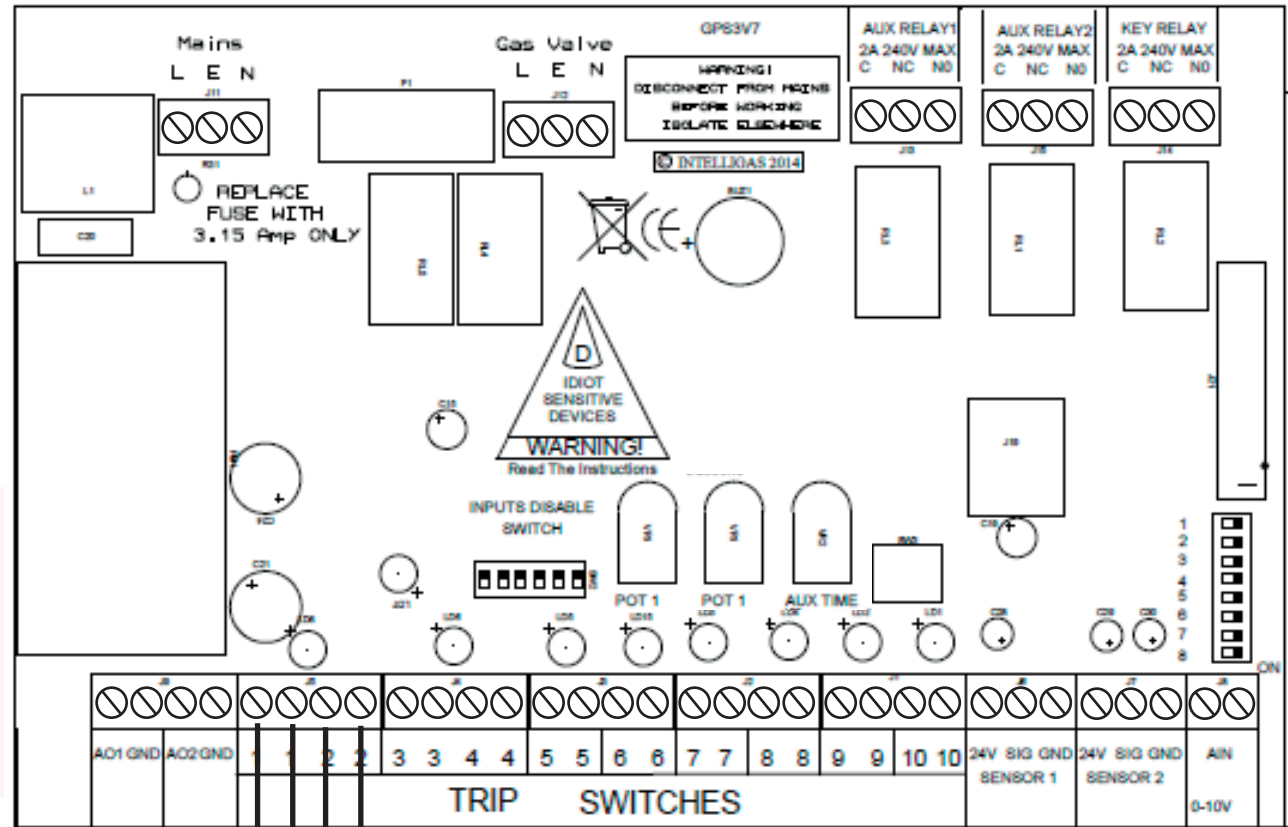
8,8 spare function interlock (second LED on fascia)

Bypass the above terminals using the inputs disable switch “5” use terminals 9,9 to indicate a fault on this interlock. 8,8 closed will indicate a healthy interlock (green). 8,8 closed will indicate a trip (red) and isolate the gas and 9,9 closed will indicate a fault (amber)

10,10

Gas pressure switch

Bypass the above terminals using the input disable switch “6”



**E Stop
Switch**

If an interlock is to be used then first, ensure the interlock disable switch is in the correct position. Up means the interlock is disabled, down means the interlock is active.

Both the estops and fire alarm are 2 channel interlocks. If only 1 channel is being used then connect as shown above