

G.I.S. - Gas Interlock System



OPERATOR INSTRUCTIONS

G02 & G02R Models

1 or 2 fan operation

GIS's can be linked for multi-fan operation

1000W Max solenoid capability

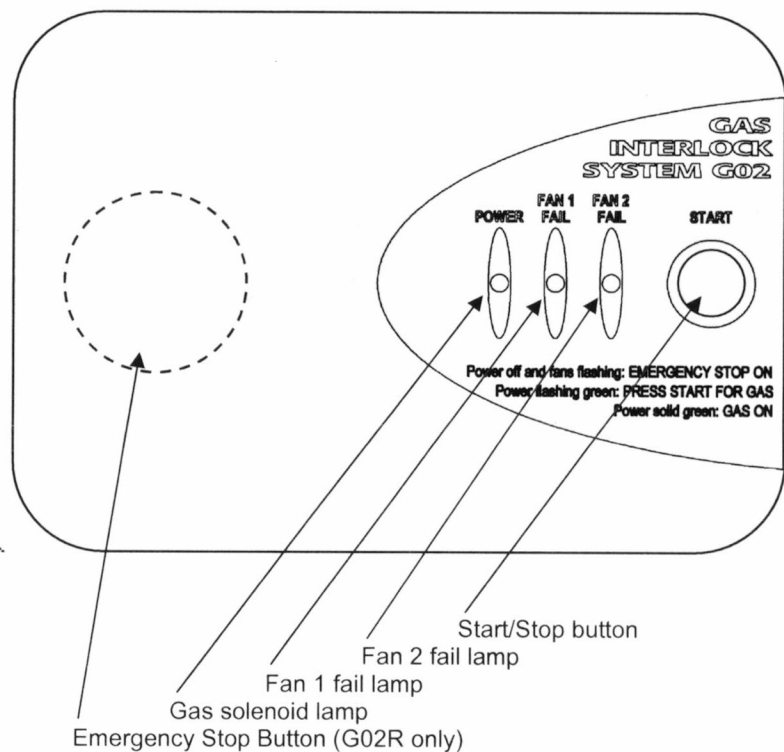
Optional Emergency Stops (Internal & External)

Visual indications of correct operation and fan faults

PRODUCT PURPOSE

The GIS (Gas Interlock System) prevents combustion by-products or gas flooding the kitchen if one or more fans fail or the mains electricity supply goes off.

DESCRIPTION OF PARTS



FUNCTIONS

• One fan operation

After installation is complete the system will automatically detect that it is set for only one fan and will check the status of that fan. If the fan sensor confirms correct fan operation, then the power lamp will flash green to confirm correct operation. (Should the fan sensor detect a fault, then the fan1 red lamp (Fan 1) will light. You should then check the actual fan operation which when corrected will be signalled by the fan1 lamp extinguishing). **To start gas flow, press the Start/Stop button.**

• Two fan operation

This is as above, except that both fan sensors must confirm correct fan operation before the gas may be activated by pressing the Start button. If either fan sensor detects a fault, the corresponding lamp (Fan 1 or 2) will indicate the fault and the gas valve will not open.

• Operation with Emergency Stop

If either an internal and/or external emergency stop button is fitted and is activated, the two red lamps (Fan 1 and Fan 2) will flash on and off alternately. This function will override the status of the fan sensors and gas flow can only be restored when the emergency stop(s) is/are deactivated.

OPERATION INSTRUCTIONS

It is recommended that the GIS should always be left on.

Should either fan fail and be detected by its sensor, the gas valve will close, the green power lamp will go out and a red fan fail lamp (Fan 1 or 2) will indicate where the fault is located.

To turn off the gas supply, press the Start button and the green power lamp will change from continuously on to short flashing. These short flashes indicate that the system is OK but not allowing gas flow.

To restart the system with no fan faults, press the Start button and the gas supply will resume and the previously flashing green power lamp will be continuously lit.

BACK PRESSURE

The GIS has been configured to ignore back pressure on the fan unless there has been steady pressure for a minimum of 10 seconds. Back pressure can be caused by external wind gusts in the duct.

INSTALLATION, MAINTENANCE AND CARE

This unit is for indoor use only.

The GIS must be installed by a qualified engineer following the instructions supplied with the unit. It must be connected to:-

- One or more air pressure switches with sensors located in the ducting
- or one or more fan power/current sensors
- 230V mains electricity supply via a 5A fused spur outlet
- 230V gas solenoid valve plumbed to the main kitchen gas supply
- optionally connected to one/two Emergency Stops

Any subsequent resetting or changes must be carried out by a qualified engineer following the GIS instructions. Continued correct operation of the GIS is reliant on proper maintenance particularly of the sensors, air pressure differential switch and the gas solenoid valve. It is recommended that the whole system is inspected annually by a qualified engineer.

The installers contact details or a HELPLINE telephone number (or both) should be attached via a self-adhesive label to the GIS.

For installation: see full separate instructions.

Clean the housing regularly using a lightly dampened cloth and mild detergent such as washing-up liquid. Never use a harsh cleaning agent or solvent.

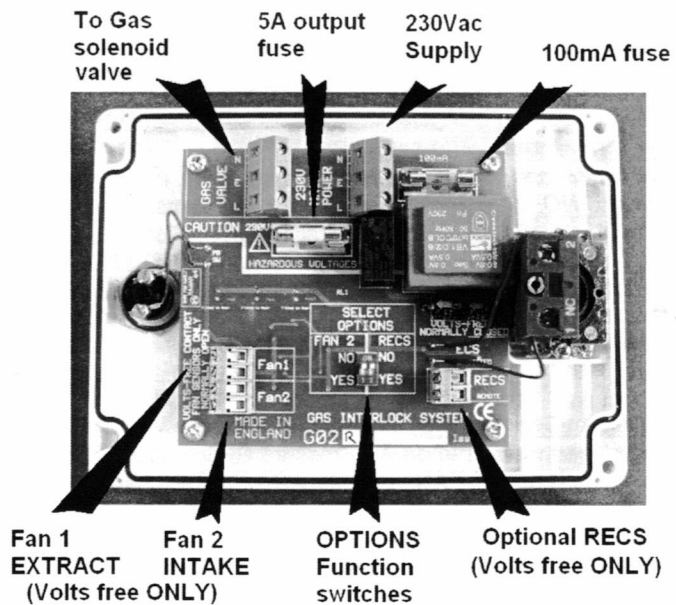
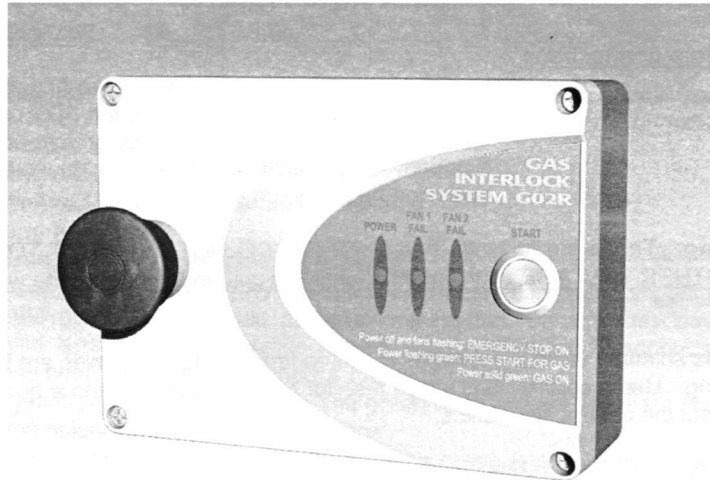
The GIS is guaranteed for parts only against manufacturing defects for a period of two years.

SPECIFICATION

AC supply voltage	210 - 240 Vac 50Hz
AC Power consumption	1W
Max solenoid switching capability	1000W
Fan 1 input	No-volts contact, closed when active
Fan 2 input	No-volts contact, closed when active
Emergency stop input	No-volts contact, opened to activate
Normal operating temperature	0 - 35°C

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INSTALLATION INSTRUCTIONS



Contents

- Inside Detailed description of connections, functions, testing and fault finding
- Back Quick installation guide

Mains connections

MAINS SUPPLY	Use these terminals to connect a fused single phase mains supply. The supply must be earthed
GAS VALVE	Connect the L E and N of the gas solenoid valve. Max current 5A approx 1150W

Volts free connections

Fan1	Use to connect to either the Extract fan ADS or FPS
Fan2	Use to connect to either the Intake fan ADS or FPS
RECS	Used when a remote Emergency cut-off switch is required. Connection should be closed in normal operation and open on activation

Warning: These are for volts free switches. DO NOT CONNECT TO MAINS OR ANY OTHER VOLTAGE as this will damage the unit and invalidate the warranty.

Fuses

The gas solenoid valve is fused, as is the control circuit. The fuses are both marked for rating. Use a ceramic anti surge fuse for the mains output and a quick blow fuse to protect the control electronics.

Function setting switches

Between the FAN1 & 2 inputs and the RECS input is a package with 2 small switches. These control the use of optional functions.

Switch 1	Allows/disallows the use of the second (intake) fan. When set to NO you cannot run a second fan. The gas may be switched on with only 1 fan - the extract fan – running.
Switch 2	Allows/disallows the use of a RECS. When set to NO the input is not used and no connection is required.

Air Pressure Differential switches (ADS)

Determine common and normally open contacts on the switch. These may be marked COM and NO. Wire direct from common to normally open. (On a Honeywell A.D.P. Switch: 3 is common, 2 is normally open. Connect to these terminals. Discard the cover on the tube outlet marked P2 and connect one hose length which should be positioned on the canopy side of the fan. Leave P1 open.

Optionally the second hose can be connected to P1 and located on the far side of the fan. For a small kitchen set Pa at 20. The biggest kitchens need a setting of around 100 Pa).

Fan Power/Current Sensor (FPS)

An FPS can be used instead of an Air Pressure Switch (ADS). Connect the FPS to the terminals in G02R named FAN 1 or 2. An ADS and FPS can be used together.

3 Phase Fans

Connect FPS to a single active phase only.

Back pressure feature

Fans are allowed to 'fail' for up to 10 seconds before a failure is registered. This is to allow for intermittent variations and effects of strong winds causing back pressure in the vents

Emergency stop

The emergency stop is pre-wired and fitted to the front panel. If no remote emergency stop is required, select RECS option NO. If a remote emergency stop is also required connect to the RECS remote terminal and select RECS option YES.

Testing the unit

- With no fans running and the emergency stop (if fitted) in its normal (connected) state, *turn on the mains electrical supply*. Both red lamps come on for a 2 second test then
- **If using only one fan**
The first red lamp should remain illuminated.
- **If using two fans**
Both red lamps should remain illuminated.
- *Now switch on the fans*. Any red lamps previously illuminated should extinguish and the green lamp should flash to indicate that the unit has detected the relevant fans operating. {Lamps remain extinguished for 10 seconds after the fan has been switched off (anti-back pressure feature)}.
- *Now press the start/stop button*. The green lamp should illuminate continuously and the solenoid may be heard to 'clunk'.
- *Now press the start/stop button again*. The green lamp reverts to flashing and the solenoid may 'clunk off'.
- *Now activate the emergency stop(s)*. The green lamp will stay off and the two red lamps illuminate alternately.

Fault finding guide

No lights when mains applied	Check the 100mA fuse
Fan1/2 lamp is on even if fan running	Check ADS operation (short circuit)
Fan 1/2 lamp never lights	Check ADS operation (open circuit)
Fan1 & 2 lamps are flashing alternately	Check RECS for open circuit. If not used set switch 2 to NO. Check ECS is not pressed
The gas solenoid does not switch even though the LED goes green	Check the 5A fuse and wiring to solenoid
The gas solenoid stays on	Check for wiring faults, else replace unit

Installers' details and servicing

A self-adhesive installers label in a plastic bag is included. This must be completed by the installer and can be stuck to the underside/adjacent to the G02R. Alternatively affix the HELPLINE sticker or use both. It is recommended that the whole system is inspected annually by a qualified engineer

Warranty Period

The G02R is guaranteed for two years for parts only against manufacturing defects.

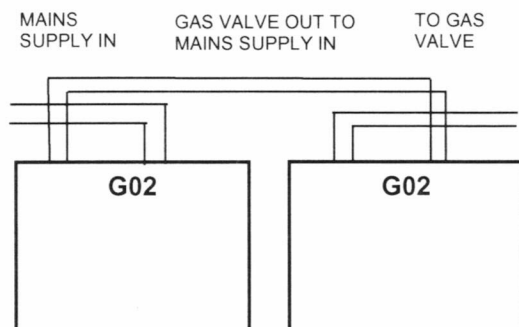
QUICK INSTALL GUIDE

Obligatory warnings:

- Ensure that the installer is a qualified service person
 - Turn off the gas supply before starting installation
 - Once connected to the mains, this unit contains live components
 - The live components are all within the broad white line on the PCB
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- Connect the unit to a **fused single phase mains supply**
 - Connect the gas solenoid valve to the terminals marked GAS VALVE L E & N
 - Connect the extract fan (Fan1) ADS or FPS to the terminals marked Fan1.
 - If a second fan is not used, ensure switch 1 is set to NO
 - If a second fan is used, set switch 1 to YES and connect the intake fan (Fan2) ADS or FPS to the terminals marked Fan2
 - If a Remote Emergency Cut-off Switch (RECS) is required, set switch 2 to YES and connect a volts free normally closed switch to the RECS terminals
 - If you do not require an RECS, then set its switch to NO and do not connect anything to those terminals
 - Switch on the mains supply and test the unit.

Using more than one G02R

G02R's can be connected together where more than two fans are being monitored and only one gas solenoid valve is used (see sketch below). For more details: contact your GIS supplier.



G02R
Feb 2009