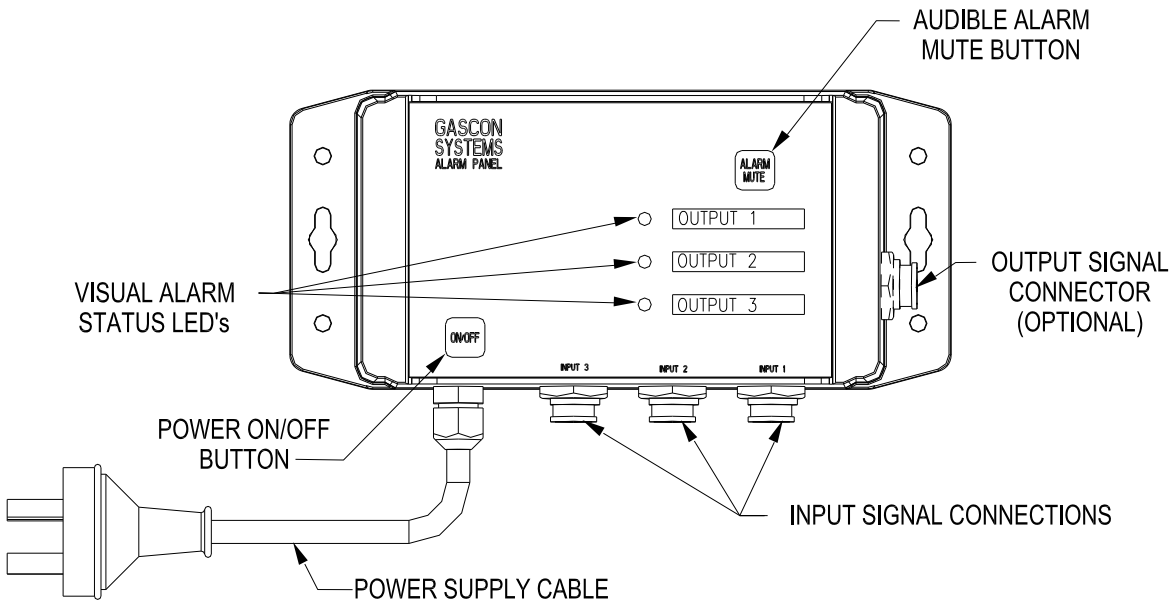
Alarm Panel Operating Instructions

1.0 Introduction

The Gascon Systems G8850 alarm panel is designed to be used with gas reticulation systems. It is available in single, twin and triple input channel models. It has a built-in power supply and ON/OFF switch. It also has both visual and audible output signals. It is IP66 rated and thus suitable for outdoor use. The input signals are user configurable to suit either normally opened or normally closed pressure switches. There are several other user configurable settings, details of which are explained in these instructions.



Warnings

Follow basic electrical safety precautions when installing and operating the alarm panel. Always turn the power OFF and disconnect the mains supply before opening the alarm panel case to adjust the configuration settings.

If the product appears damaged in any way, do not use. Seek further advice from manufacturer.

The alarm panel was not designed to be an AS2896 compliant medical alarm system. An AS2896 compliant alarm system is more complex system requiring active monitoring of the wiring.

The alarm is not intended for use in hazardous or explosive environments.

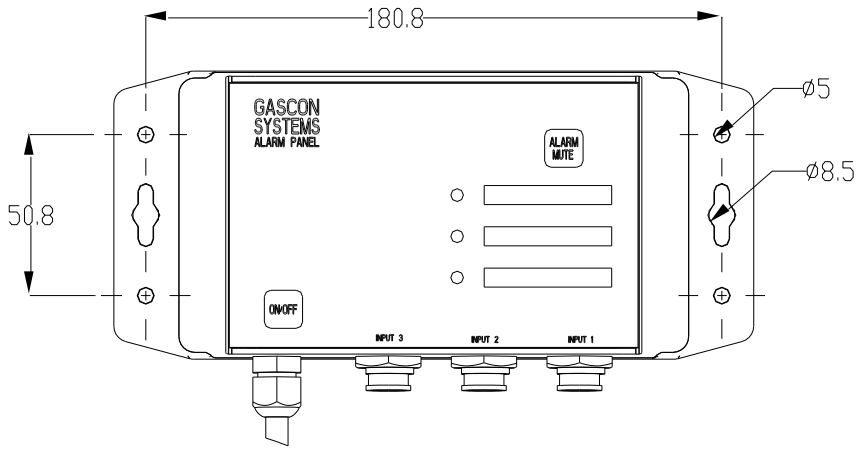
If the alarm panel is to be used with flammable gases it must be located outside the hazardous zone created by the gas cylinder storage area. The signal to and from the pressure switch(s) must be run through an intrinsically safe barrier such as a transformer isolation barrier (TIB) or a zener barrier. These barriers also need to be located outside the hazardous zone, contact Gascon Systems for more details.

2.0 Specifications

Supply voltage:	100 – 240v AC, 50/60 Hz
Power consumption:	7 watts
Voltage to pressure switches:	12v DC
Output relay:	maximum 1 amp @ 24v DC
Audible alarm:	78 dB @ 1 metre
Environment rating:	IP66

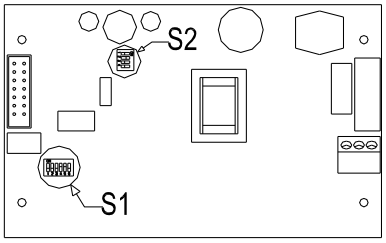
3.0 Mounting the Alarm Panel

The alarm panel can be mounted using the four 5mm diameter holes or the two 8.5mm diameter holes on the enclosure backing plate. The alarm panel has an electrical IP66 rating and thus can be mounted in outdoor locations, (note: if located outdoors the use of the standard 3 pin plug may need to be reviewed to ensure it is appropriate).

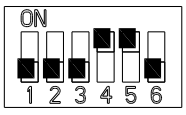


4.0 Configuring the Alarm Panel

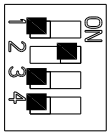
The Gascon alarm panel has several user configurable settings. These settings are determined by the position of the micro-switches on two DIP switches. To access the DIP switches first turn OFF the alarm panel using the switch on the front panel, and then disconnect the alarm panel from AC power supply. Separate the two halves of the enclosure by removing the four screws located on the rear of the enclosure, (warning, for safety reasons always disconnect the power supply before opening the enclosure).



circuit board



6 way DIP switch S1



4 way DIP switch S2

4.1 Operating Mode

The alarm panel has two operating modes, independent and dependent. These modes are selected using switch 1 on the 4 way DIP switch (S2).

Switch 1 ON = independent mode
Switch 1 OFF = dependent mode

The factory default setting is dependent mode, switch 1 ON.

Independent mode, the input channels are isolated from each other.
A non-activated input signal will create a solid green LED output. An activated input signal will create a flashing orange LED output and audible alarm. In the independent mode, two or three separate single alarm gas system can be connected to a single alarm panel (two systems on a twin channel panel and three systems on a triple panel).

Dependent mode, the LED outputs are pre-programmed depending on the combination of the input signals. This programming of the output LED's is set up for the more commonly used arrangements of pressure switches in a gas reticulation system.

Single input channel model

Input 1 non-activated = output 1 LED solid green.
Input 1 activated = output 1 LED flashing orange.

Twin input channel model

Input 1 non-activated = output 1 LED solid green.
Input 1 activated = output 1 LED flashing orange.
Input 2 non-activated = output 2 LED solid green.
Input 2 activated = output 2 LED flashing red.

An example for using this configuration would be an auto change-over manifold system where input 1 is the cylinder change-over pressure switch and input 2 is a line failure pressure switch, or a manual change-over manifold system/high pressure point valve system where input 1 is a pressure switch on the inlet side of the supply regulator and input 2 is a line failure pressure switch.

Triple input channel model

Input 1 non-activated = output 1 LED solid green.
Input 1 activated = output 1 LED flashing orange.
Input 2 non-activated = output 2 LED solid green.
Input 2 activated = output 2 LED flashing orange.
Input 3 non-activated = output 3 LED solid green.
Input 3 activated = output 3 LED flashing red.

An example for using this configuration would be a change-over manifold system (auto or manual) where inputs 1 and 2 are from each cylinder supply bank pressure switches and input 3 is from a line failure pressure switch.

4.2 Number of Input Channels

Switches 1 and 2 on the 6 way DIP switch (S1) determine the number of input channel that are in use on the alarm. These are intended for factory setting and end user should not normally need to use these two switches.

Switch 1 ON = Input channel 2 ON
Switch 1 OFF = Input channel 2 OFF
Switch 2 ON = Input channel 3 ON (position of switch 2 overridden)
Switch 2 OFF = Input channel 3 OFF

4.3 Audible Alarm Settings

The audible alarm can be enabled or disabled using switch 4 on the 4 way DIP switch (S2).

Switch 4 ON = Enabled (ON)
Switch 4 OFF = Disabled (OFF)

When enabled the audible alarm mute button has an alarm reset configuration setting using switch 3 on the 4 way DIP switch (S2).

Switch 3 ON = Reset/resound alarm after 4 hours from initial muting
Switch 3 OFF = Never reset/resound alarm after initial muting

The default factory setting is audible alarm enabled, switch 4 ON, and alarm reset after 4 hours switch 3 ON.

4.5 Input Signal Polarity

Each of the alarm panel input channels can be independently configured to accept either normally opened (N/O) or normally closed (N/C) signals using the 6 way DIP switch (S1).

Switch 3 ON = Input channel 1, normally closed input signal
Switch 3 OFF = Input channel 1, normally opened input signal
Switch 4 ON = Input channel 2, normally closed input signal
Switch 4 OFF = Input channel 2, normally opened input signal
Switch 5 ON = Input channel 3, normally closed input signal
Switch 5 OFF = Input channel 3, normally opened input signal

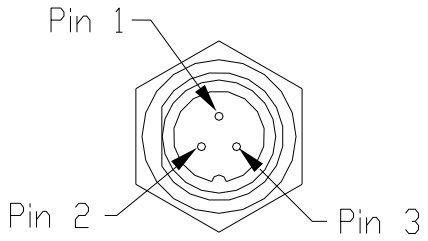
The factory default setting for input signal polarity is normally opened, (switch 3, 4 and 5 OFF).

Note: Normally opened and normally closed refers to the condition of the input pressure switches in their un-energized state, (ie. not the normal operating state of the gas system).

4.6 Output Signal Polarity

The alarm panel can be ordered with an optional three pin outlet signal connection, (not on standard model). The polarity of this outlet signal will change when any alarm condition is generated. The way the output signal relay operates if alarm panel is turned off, or there is a power failure, is configured using switch 2 on the 4 way DIP switch (S2). The maximum rating of the output relay is 1 amp @ 24v DC.

Switch 2 ON			**Switch 2 OFF**		
Condition	**Pins**	**Contact**	**Condition**	**Pin**	**Contact**
No alarm	1 – 2	closed	No alarm	1 – 2	opened
	1 – 3	opened		1 – 3	closed
Alarm	1 – 2	opened	Alarm	1 – 2	closed
	1 – 3	closed		1 – 3	opened
No power	1 – 2	closed	No power	1 – 2	opened
	1 – 3	opened		1 – 3	closed



ALARM OUTPUT CONNECTOR

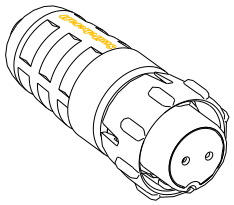
5.0 Connectors and Cabling

The recommended cable for connecting the pressure switches to the alarm panel is 22 AWG 2 core stranded wire (Alpha 1172C or equivalent). The length of cables should be limited to a maximum of 300 metres.

The input connectors on the alarm panel are Switchcraft EN3 Series, 2 pin male. The matching cable end fitting is 2 pin female (P/N EN3C2FX).

The optional outlet connector on the alarm panel is Swiftcraft EN3Series, 3 pin male. The matching cable end fitting is 3 pin female (P/N EN3C3FX).

Extension cables, 2 pin male to female, are available on request.



EN3C2FX Connector

Refer to appendix A for details of "fitting off" cable ends.

In Australia, Switchcraft connectors are available from Clarke & Severn Electronics, www.clarke.com.au)

6.0 Selection of Pressure Switches

Any pressure switches intended to be connected to the alarm panel must a minimum voltage rating of 12v DC and a minimum current capacity of mA, (minimum pressure switch wetting current of 1 mA).

The alarm panel can be used with either normally opened or normally closed pressure switches. Where ever possible, it is recommended that normally opened pressure switches are used. The reason for this is, if using normally opened pressure switches and the cable is disconnected from the alarm panel, or the wiring is cut, an alarm system with be generated. If either of these problems occurs when using normally closed pressure switches no alarm signal will be generated, even if there is a signal from the pressure switch.

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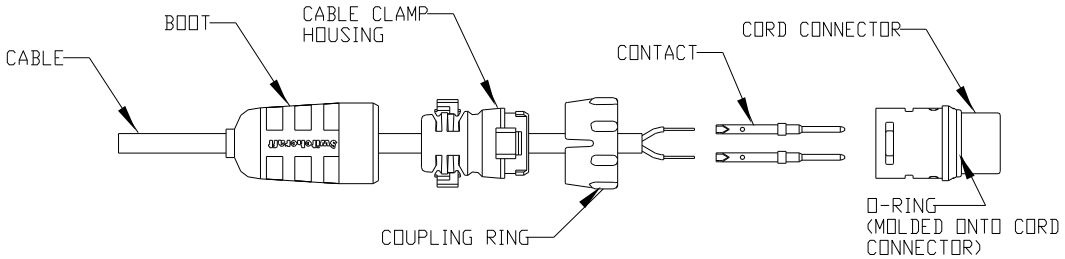
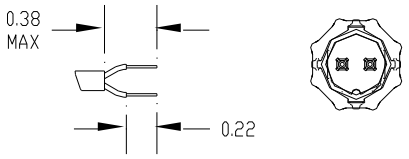
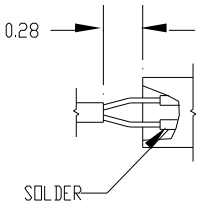
Appendix A – Wiring of EN3 Connectors

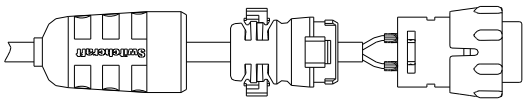


STEP 1
STRIP CABLE AS SHOWN.
FEED THE END OF THE CABLE THROUGH THE BOOT, CABLE CLAMP HOUSING, AND COUPLING RING IN THE ORDER AND POSITION SHOWN.
SOLDER CONDUCTOR TO CONTACT.

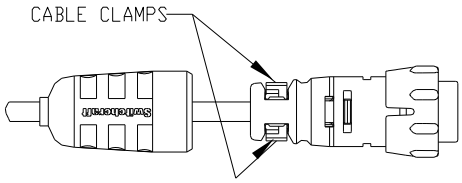




STEP 2
ALIGN COUPLING RING'S TABS WITH CORD CONNECTOR'S SIDE NOTCHES AND PUSH THE COUPLING RING ONTO CORD CONNECTOR.



STEP 3
PUSH THE CABLE CLAMP HOUSING FORWARD UNTIL IT LOCKS INTO THE CONNECTOR BODY AND SNAP THE TWO CLAMPS INTO IT'S COMPARTMENTS.



STEP 4
PUSH THE BOOT ALL THE WAY FORWARD TO SEAT TIGHTLY ONTO THE CABLE CLAMP HOUSING.