SI-3 Industrial Alarm

Installation & Operation

CE

About this manual

When you see this symbol, the associated text in **bold type** refers to something which may cause danger or damage.

The SI-3 Alarm is a reliable, low cost alarm panel for use with piped gases etc. It consists of up to 3 services, with Normal & Fault conditions for each service indicated by 10 x 20 mm long-life LED's housed in a glass reinforced polycarbonate enclosure protected to IP65 (weather-proof). An audible alarm with mute is provided, as are volt-free contacts for each alarm condition. The Alarm can be supplied as latching or non-latching. This can be identified by the code below the Power On lamp as follows: SI-3 non latching SI-3L latching.

When using the SI3 alarm with explosive gases:-

The Alarm panel must be fitted in a safe area.
All signal cables passing through the hazardous area must be protected by zenner barriers.
A sound earth, connected to the consumer's main earth point by cable of a least 4mm cross sectional area, must be connected to the earth stud marked SAFETY EARTH FOR ZENNER BARRIERS.
See BS 5345 part 4 for further details.

Opening and closing the enclosure

To open the enclosure, ensure that the cover lock screws are set horizontal (turn quarter turn anti-clockwise if locked) then press the cover releases after which the cover will be free to open. To close the enclosure, press the cover closed until the cover releases click into place. If the cover is to locked, turn the cover lock screws quarter turn clockwise. NOTE. when operating the cover lock screws, use a screwdriver with a blade 5mm wide.

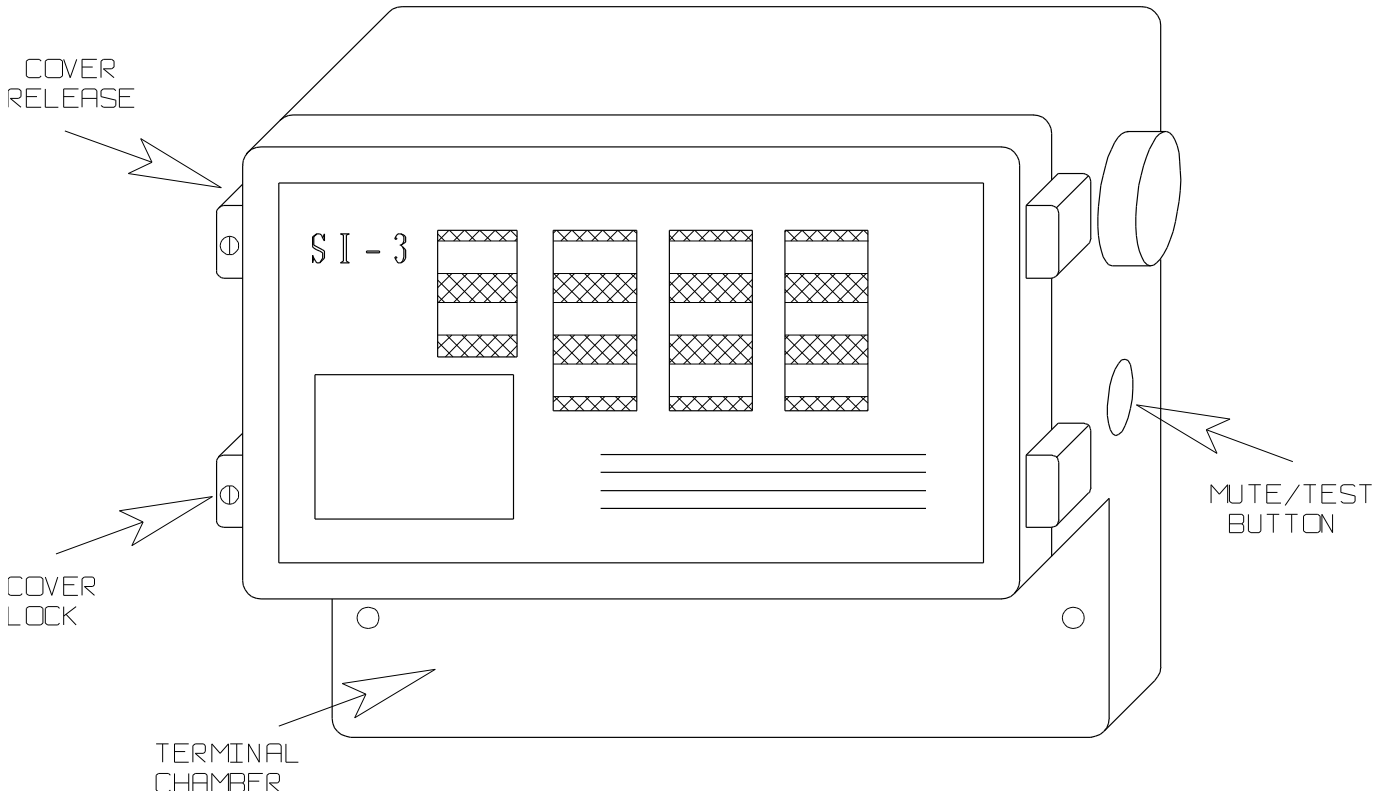
INSTALLATION

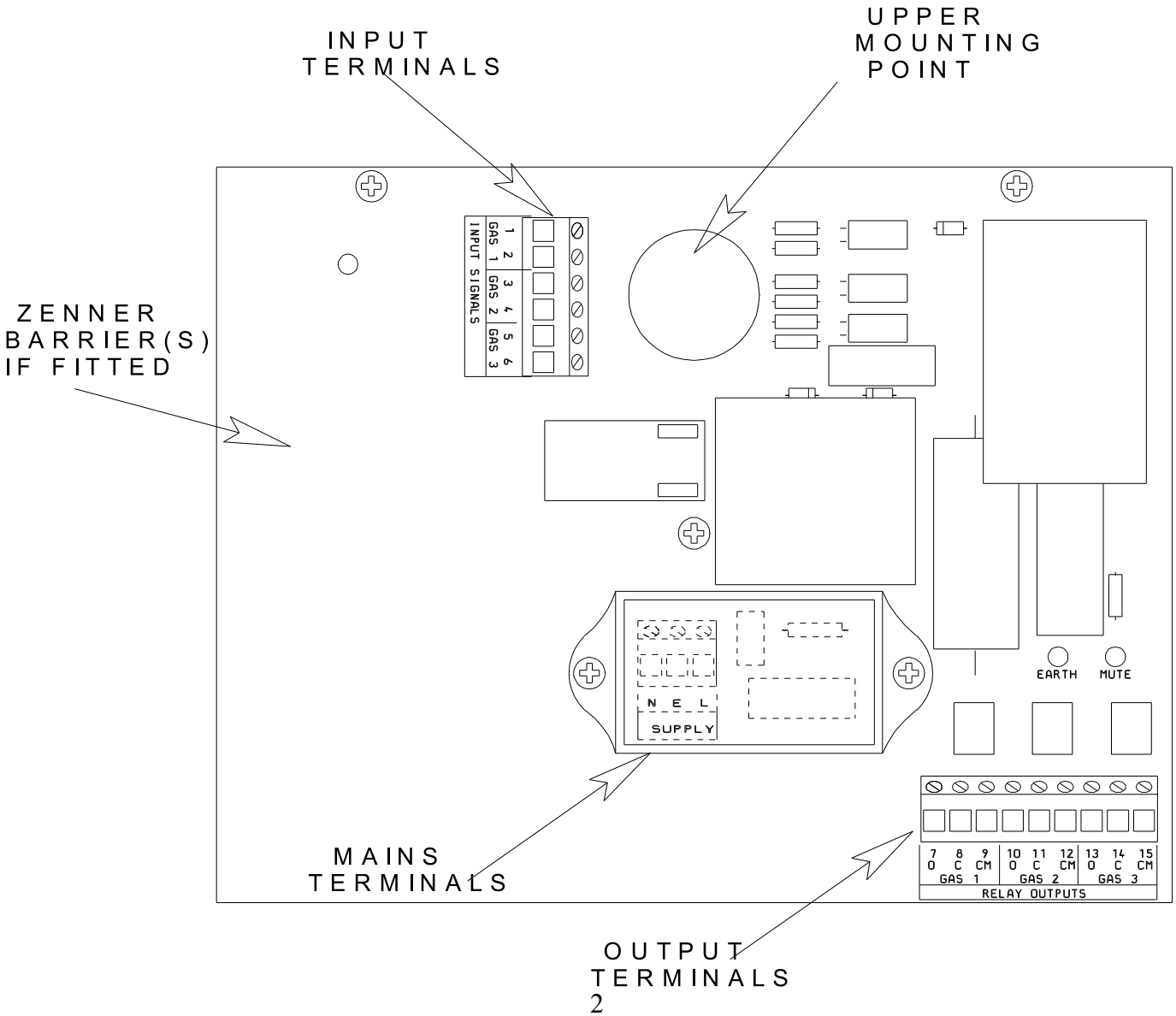
Mounting

Open the cover and remove the Terminal Chamber cover. Remove the plug from the upper mounting point. Fix the alarm panel to the wall using the upper & lower (on either side of the terminal chamber) mounting points. Replace the plug over the upper mounting point and press home firmly to ensure that the IP65 seal is maintained.

Wiring

This equipment is not suitable for connection to an IT power system. A readily accessible means of disconnecting the supply must be provided. The maximum prospective fault current must not exceed 1500 amps.


COVER
RELEASE
SI-3
MUTE/TEST
BUTTON
COVER
LOCK
TERMINAL
CHAMBER


INPUT
TERMINALS
UPPER
MOUNTING
POINT
ZENNER
BARRIER(S)
IF FITTED
INPUT SIGNALS
GAS 1
GAS 2
GAS 3
EARTH
MUTE
N E L
SUPPLY
MAINS
TERMINALS
7 8 9
O C CM
GAS 1
10 11 12
O C CM
GAS 2
13 14 15
O C CM
GAS 3
RELAY OUTPUTS
OUTPUT
TERMINALS

Cable entries should be made on the lower edge of the Terminal Chamber. Remove the Mains Terminals cover. Connect a 240 v ac supply, fused at 3 amps, to the L, E & N terminals. Make a cutout in the side of the Mains Terminals cover to clear the cables and replace the cover. Connect the input devices and output relays (if used)as shown on the drawing accompanying the alarm panel.

NOTE. **If Zenner Barriers are used, the SAFETY EARTH FOR ZENNER BARRIERS stud must be connected to the main power system earth with cable of at least 4sq.mm cross sectional area. The impedance of the earth connection to the main power system must be less than 1 ohm.**

COMMISSIONING

Set all input devices to normal. Switch on power, With the cover open, press the Mute/Test button on the right hand side of the panel. The Normal lamp(s) should show, the Fault lamp(s) should flash and the audible should sound. Adjust the volume control to a suitable level. Release the Mute/Test button. For each input device in turn, create a fault condition,. As each fault is created, the appropriate Normal lamp will go out and the appropriate Fault Lamp will flash. At the same time, the appropriate relay contacts will change over and the Audible will sound. Operation of the Mute/Test button will stop the Audible (it will also energise any relays which are de-energised) The Fault lamp will stop flashing. Return the input device to normal. The Fault lamp will go out and the Normal lamp will light.

Latching type only. After performing the preceding sequence of operations, for each input device in turn, create a fault condition. The Fault lamp will flash and the Audible will sound. Without operating the Mute/Test button, return the input device to normal. The fault lamp will continue to flash, the Normal lamp will remain off and the audible will continue to sound. Operate the Mute/Test button. The Fault lamp will go out and the Normal lamp will light.

Specification

Maximum number of gases per panel 3

Number of alarm condition per service 1

Maximum signal cable per system 250 metres

Indicator type Block LEDs

Electrical supply 240v, 50/60Hz (110v, 50/60 Hz available on request)

Protection IP65

DECLARATION OF CONFORMITY

89/336 The EMC Directive

73/23/EEC The Low Voltage Directive amended by 93/68/EEC

Manufacturer: Shire Controls Ltd, Studio 3, Channocks Farm, Gilston, Harlow Essex, CM2O 2RL, United Kingdom

Product Type: SI-3 Industrial Alarm.

Year of manufacture

Standards used

BS EN 50081-1

B S EN 50082-1

BS EN 61000-3-2

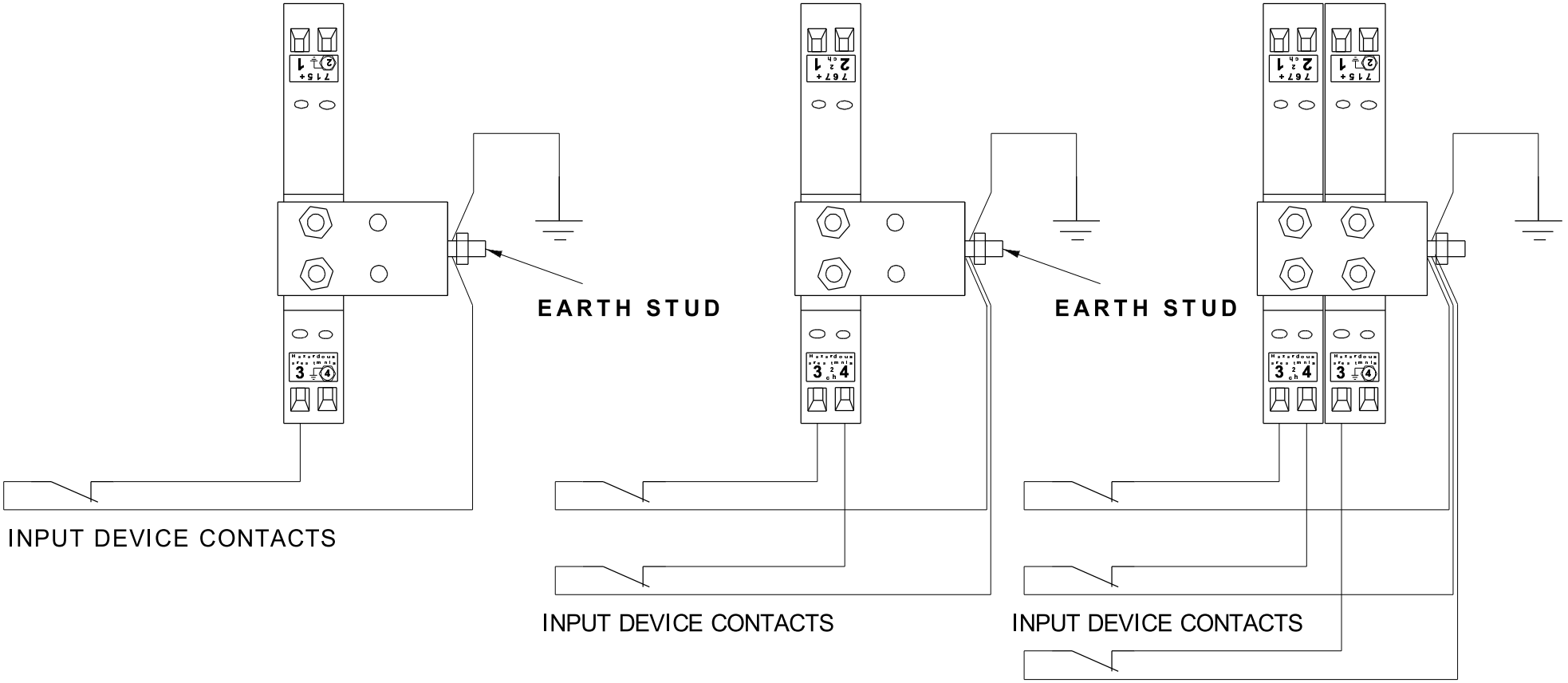
BS EN60950

Authorised representative

I.R.Couchman Technical Director

INPUT CONNECTIONS WHEN ZENNER BARRIERS ARE USED FOR EXPLOSIVE GASES

WHEN ZENNER BARRIERS ARE USED, INPUT CONNECTIONS ARE MADE DIRECTLY TO THE ZENNER BARRIERS AS SHOWN BELOW> YOU MAY HAVE A COMBINATION OF INPUTS WITH AND WITHOUT ZENNER BARRIERS.



NOTE! WHEN USING ZENNER BARRIERS:-
THE EARTH STUD MUST BE CONNECTED TO THE CONSUMER'S MAIN POWER SYSTEM EARTH WITH CABLE OF AT LEAST 4 sq.mm CROSS SECTIONAL AREA. THE IMPEDANCE OF THE EARTH CONNECTION TO THE MAIN EARTH SYSTEM MUST BE LESS THAN 1 OHM.
SEE BS EN 60079-14 FOR FURTHER DETAILS TO ENSURE COMPLIANCE WITH REGULATIONS.