



# **MODEL 650**

**230V ac 50Hz PROPANE GAS DETECTOR**



## **INSTRUCTION MANUAL**

**Read these instructions carefully before installation**

## **CAUTION**

**Detectors Must Be Installed By Competent Persons.**

**Isolate Electrical Power Before Starting Installation.**

**Electrical Wiring Must Be Carried Out Properly In**

**Accordance With Current Electrical Regulations.**

**Note that the detector will detect both gas escapes caused by human misuse and leaks from equipment or supply failure.**

**All occurrences of alarm should be assessed by a competent person and the appropriate authorities (such as Transco) called if a human error is not definitely identified as the cause.**

### **1.0 Introduction**

- 1.1 The Model 650 detector is designed to provide, within the scale of 10% to 20% of the Lower Explosion Limit ( LEL ) a visual and audible alarm when Propane gas is present.

### **2.0 Description Of Gas Alarm**

- 2.1 Propane gas is detected by a highly sensitive semi – conductor device which is operated and monitored by the electrical circuit.

- 2.3 Visual and audible indicators show the system status.

### **3.0 Detector Sitting**

- 3.1 Detector: Propane gas is heavier than air, therefore the sensor should be located at low level and not more than 5 metres in the horizontal plane.
- 3.2 Detector: Site in the optimum detection position and where it can be seen and heard.
- 3.3 The system is designed to operate within a building in a location with free access to air in the room. It is not designed or certified for use in defined areas of hazard.

### **4.0 Where not to site detectors**

- Outside the building.
- In a cupboard or confined space.
- Next to a door or window.
- Next to an extractor fan.
- In areas where the temperatures are likely to drop below - 10° C or rise above + 40° C.
- Damp or humid areas ( steam from kettles or domestic cookers )
- Protect the detector from dusty or dirty site conditions.

## 5.0 Installation

- 5.1 The detector is supplied complete with a surface mount electrical box to house the connector block and fitted with a bracket to secure the detector. To gain access to the block to make the connections, hold the electrical box with one hand and the detector in the other hand, move the detector upwards while holding the box. The detector will unclip from its bracket.

Please refer to the drawing below for the correct connections.

- 5.2 To refit the detector on to the bracket, locate the 4 lugs and slide down the detector down till it clips into place.  
Note: Take care to ensure the cables are placed within the mounting box and are not damaged

- 5.3 230V ac mains operated detector should be connected via an un-switched 3A fused outlet to comply with the latest electrical installation standards. No earth connection is required.

## 6.0 Remote Sensor (If applicable)

- 6.1 Remote sensor is provided with patresse mounting box. Choose the optimum location for the sensor, fix the box to the wall, connect the wiring cable to the terminals as shown on the wiring connection drawing.
- 6.2 The maximum cable run from the sensor to the detector should not exceed 5 metres using 1.0mm sq three core cable. Ensure the colour codes at the detector terminal block match. (Refer above) Failure to comply with these instructions will cause the sensor to be inoperative.

## 7.0 Relay Outputs: Detector in quiescent mode.

Relay RL / 1 (Yellow Cables) these contacts are volt free, **will close** in alarm conditions.

Relay RL / 2 (Violet Cables) these contacts are volt free, **will open** in alarm conditions.

## 8.0 The Detector In Operation

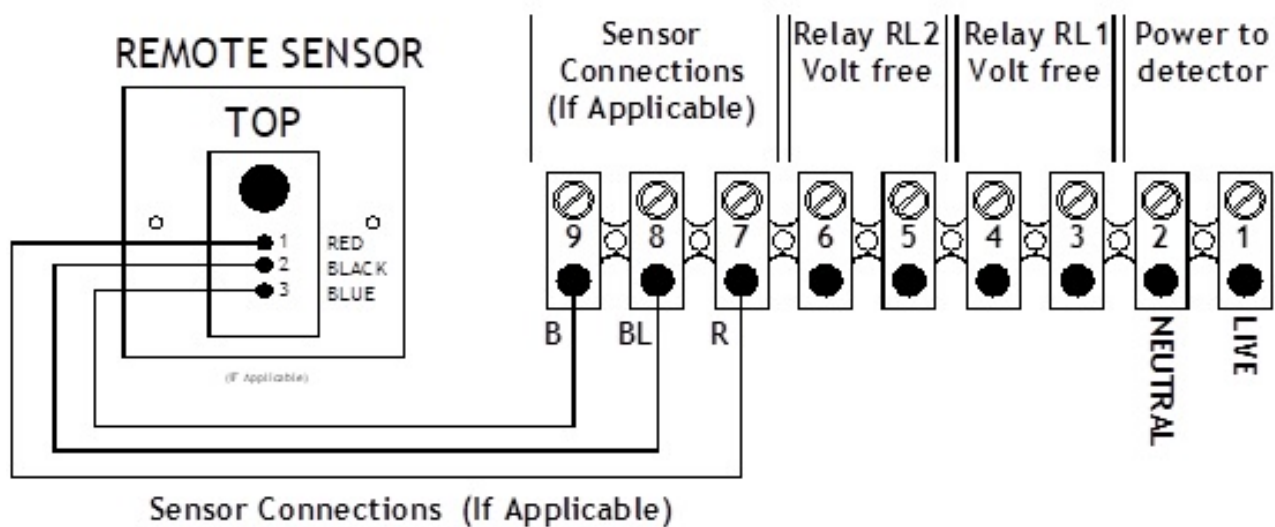
- 8.1 **Quiescent State:** When the electrical supply to the detector is connected the green indicator will remain illuminated as long as power is applied. The First three minutes after power is applied the audible alarm and relays will not operate. This allows the sensor to stabilize. Red LED may flash for a few seconds when first powered up.
- 8.2 **ALARM :** The red indicator will light, an audible signal will sound and the alarm relay will change state ( causing the gas cut off valve to close if fitted).

- 8.3 **RESET** : The audible signal and red indicator will cease once the level of Propane gas has dropped to a safe level. The relay will stay latched till the reset button is pushed (small red button located at the base of the detector). It is not possible to reset the relay while the detector is in an alarm condition.

## 9.0 Technical Specification – Model 650

Gases Detected:	Propane Gas
Alarm Level:	Within the scale 10% to 20% LEL
Alarm Sound Level:	85 Decibels (dB) at 3m
Sensor responses time:	Inhibited initially < 3 - 4 minutes, then 10 seconds.
Indicators:	Power on: Green LED Alarm: Red LED
Relay Contacts:	Rated @ 10 Amp NI
Input Supply Voltage:	220/240V ac 50 Hz
Fuse Rating:	3A un-switched outlet
Power Consumption:	< 0.75 mA
Temperature Range:	- 10° C to + 40° C
Dimensions ( mm ):	110 x 110 x 57
Weight:	Approx 420g

## AMOS SERIES CONNECTOR BLOCK



**LEGEND** ● Installer Connections ○ Factory Wired ex works

## INSTALLER TERMINAL CONNECTIONS

**RELAY RL2 CONTACTS ARE NORMALLY CLOSED – DETECTOR IN QUIESENT STATE.**

IF A POWERED OUTPUT IS REQUIRED. (say to power solenoid cut off valve)

1. DISCONNECT VIOLET ON TERMINAL 5 AND CONNECT TO TERMINAL 1
2. FIT LINK TO CONNECT TERMINAL 5 TO TERMINAL 2

**RELAY RL1 CONTACTS ARE NORMALLY OPEN – DETECTOR IN QUIESENT STATE.**

IF POWERED OUTPUT IS REQUIRED. (Say to power beacon or audible device)

3. DISCONNECT YELLOW WIRE ON TERMINAL 3 AND CONNECT TO TERMINAL 1
4. FIT LINK TO CONNECT TERMINAL 3 TO TERMINAL 2

### Detector cable tails. Colour code and terminals:

SENSOR If applicable	RELAY RL2	RELAY RL1	AC MAINS
(R) RED (7)	Violet / Stripe (5)	Yellow (3)	Brown - Live (1)
(BL) BLACK (8)	Violet (6)	Yellow / Stripe (4)	Blue - Neural (2)
(B) BLUE (9)			

## GUARANTEE

We guarantee your new gas detector for one year from the date of purchase by the purchaser, to be free from defects in materials and workmanship under normal use and service. We will, at our discretion, repair, replace or refund the price of any part of the detector which is found to be defective in either materials or workmanship under normal use and service during the guarantee period. We shall be under no obligation to repair, replace or refund the price of the units which are found to be defective in anyway due to damage, neglect, unreasonable use or have been dismantled. Defective units should be returned to Amos Detection, Unit 15, Wedgwood Gate, Wedgwood Way, Stevenage, Hertfordshire. SG1 4SU.

### MANUFACTURERS CALIBRATION CERTIFICATE

Model 600 Serial No.....Pt. No:.....Voltage: 230V ac

Calibrated with Propane in Air alarm from/or within scale .10%.../.20%.LEL

Signed for Amos Detection:

Date: