Mini Gas Alarm

Operation and Maintenance Manual

Envin
SCIENTIFIC LIMITED

Contents

Introduction

This user manual will cover the 12 and 24v version of the Pilot Mini Gas Alarm.

The Pilot range of gas monitoring alarms are important and cost effective items of safety equipment wherever LPG or other dangerous vapours may be present.

However good a gas or engine installation may be, there is always a chance that a potentially lethal leak may occur. Many of the vapours present on boats and in caravans such as butane, propane and petrol vapour are heavier than air. Even a small leak can soon build up to dangerous proportions in the bilges of a boat or in an inadequately ventilated caravan.

The Mini Gas Monitor is ideal for smaller vessels as it is a single channel device. The Gas Monitoring System and Twin Channel Gas Alarm are also available which allow two sensors to be connected.

User manuals for the full range of Pilot products are available in PDF format on the Envin Scientific website – www.envinsci.co.uk

Technical Specifications

12v Mini Gas Alarm – 2011149/716/12v

Spec.	Value	Description
Supply Voltage	12v DC	
Current	90mA	Standby
	100mA	Alarm Mode
Max. Sensors	1	
Dimensions	35x35x100mm	

24v Mini Gas Alarm – 2011149/716/24v

Spec.	Value	Description
Supply Voltage	24v DC	
Current	35mA	Standby
	45mA	Alarm Mode
Max. Sensors	1	
Dimensions	35x35x100mm	

Installation

Warning: Disconnect the power supply before proceeding with the installation.

Power Supply

- The power supply will be either 12v or 24v depending on the version of gas alarm that you have (See Technical Specifications on page 2 to check supply voltage).
- The power supply must come from the vessel's Master Switch in order to activate the Gas Monitoring System whenever the power is on.

Suitable Installation Locations

- The main unit should be in a location where the alarm is audible and the LEDs can be seen. It must be in a location that is protected from the elements and the ventilation holes should not be covered up.
- The gas detectors should be mounted in the lowest possible position where they will remain dry. The most suitable location for the detector is near any gas appliance at floor level or just under the floorboards.
- There are four holes in the bottom of the case for routing the supply, detector, and valve cables. There is also a larger hole in the back of the system if needed.

Procedure

1. Open the Mini Gas Alarm by removing the side screws and separating the two halves of the case.
2. Mount the back half of the case to a vertical surface using the mounting holes.
3. Pass the detector head cable and a suitable two-core power supply cable through the routing holes. Draw sufficient cable through the holes to enable connections to the PCB in the front half of the case.
4. Connections to Circuit Board:
    - All of the connections for the PCB terminals are shown at the bottom of this section (Diagram one). The terminals are also labelled on the PCB.
    - Terminal 11 is used to chain together two or more Pilot Gas Alarms. It can also be used for use with an external alarm or if a relay is supplied for the operation of blower fans.
5. Double check the wiring and fit the two halves of the casing back together.
6. Switch on the power at the Master Switch.

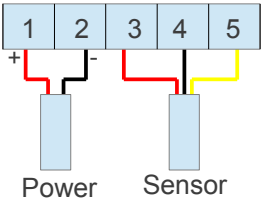

Diagram one: Power and sensor wiring

Operation

Initialisation Process

- When the Mini is switched on it will begin the stabilisation process. The green LED will be on and the red will flash along with a beeping sound.
- The stabilisation process may take up to 8 minutes. However, after the 30 seconds the intermittent beep will stop.
- When the sensor is stable, the green LED will flicker and the red LED will be off.
- If the sensor has not yet stabilised, the LEDs will continue to flash.
- During the stabilisation process, the sounder will do a long beep once which indicates the the sensor is functioning.
- If the audible alarm continues to sound after the initialisation process (and the red LED remains lit) immediate action must be taken:

    1. Ensure that nothing is used which could ignite gas e.g. matches, engine ignition etc.
    2. Ventilate the area by opening doors and hatches
    3. Investigate and remove any source of dangerous vapour.
    4. The Pilot Gas Alarm will stop alarming once the vapour has been safely removed.

Testing

- The alarm may be tested at any time by pressing the “test” button. This simulates the presence of gas which should immediately sound the alarm.

Sensor Replacement

The gas sensors will lose sensitivity over time. Therefore, it is recommended to replace the gas sensors every two years. Replacement sensors available on the Envin Scientific online shop and part numbers are listed in the Spares section.

To replace the sensor:

1. Switch the power off
2. Remove the top of the sensor housing
3. Remove the old sensor from the socket
4. Install the new sensor and push the top of the sensor housing back on until it clicks shut.
5. Switch the power on

Troubleshooting

Symptom	Possible Cause	Action
Intermittent alarm	A sensor may have become disconnected	Switch off, check connections, restart. Otherwise, replace the sensor
Frequent false alarms	Contaminated sensor / other gas vapours.	Replace sensor

- **Should the boat/caravan undergo any maintenance work, it is recommended that the the sensors are removed from the sockets and placed into a clean sealable bag.**

Spares

Replacement sensors and valves are available from the Envin Scientific online shop. See Contact on page 9 for website and online shop info.

Sensors

Part No.	Description
201115	Sensor only
201115-3.5	Sensor with housing and 3.5 meter cable
201115-C	Sensor with housing, 150mm cable and connector block. This can be used to replace just the sensor and housing so that any routed cables can remain in place.

Warnings

DO NOT:

- Expose sensors to silicone vapours, alkaline metals or a highly corrosive environment.
- Use cleaning products around the sensors.
- Submerge the sensors in water.
- Expose the sensors to extreme temperatures. (Between -10°C and 60°C is the recommended operating temperature)

DO:

- Replace the sensors every 2 years.
- Test the alarm regularly.
- Place the sensors into a clean, sealable bag if the boat is to undergo any maintenance work.

Contact

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