



S-1 PROPANE FUME DETECTOR

Installation and Operation Manual

Made in U.S.A.



WARNING

There are no user or field serviceable parts in this product. The S-1 must be returned to the manufacturer for any repair or performance checks. Installation shall be done by qualified personnel authorized to do so by the authorities having jurisdiction for the particular application in which the product is being used. Electrical wiring shall be in accordance with applicable codes. Improper wiring may render the unit inoperable, damage components, or cause a fire, and will void all warranties.

The S-1 is a propane/LPG fume detector only. To function as intended, the S-1 must be connected to a correct power source, and for maximum effectiveness, be powered at all times. Do not install outdoors. Before installing in applications which may appear different than those outlined in this manual, consult the engineering department of Fireboy-Xintex. Not for use in aircraft.

This propane fume detection device is meant to serve as a supplemental warning system. IT IS NOT meant to replace standard safety practices which should be carried out around explosive gases (i.e., inspect compartment, check for loose fuel fittings, smell for propane fumes, etc.)

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S-1 Propane Fume Detector

Introduction

Your S-1 propane fume detector is a state of the art fume monitoring and alarm system. It is a simple yet highly effective detector of propane fumes.

Installation

The S-1 is packaged with one (1) 2" diameter display module, one (1) mounting bracket with nuts, and one (1) propane sensor with (MS-2) precalibrated cable length. Please check to be sure that you have everything needed for your installation.

Display Module

The S-1 display module should be mounted on the instrument panel so that visual and audible indicators may be easily observed. If a 2" instrument blank is not available, drill a 2- 1/16" diameter hole into the panel. Slip the instrument through the hole and secure with the bracket and nuts supplied. Do not make electrical connections at this time.

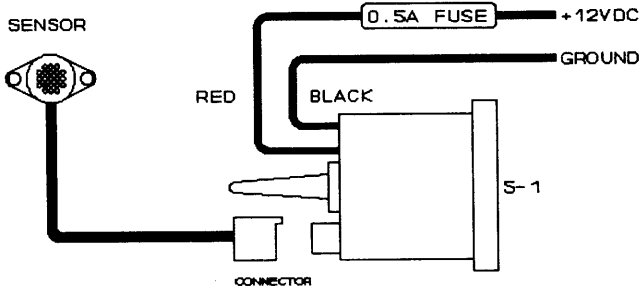
Sensor

Mount the sensor near the floor of propane powered appliances. Locate the sensor in such a way as to avoid damage from cleaning, mopping, kicking, or other physical damage. Water, cleaning fluids, and other liquids coming in contact with the sensor may cause permanent damage.

Route the sensor wire with the plug connector to the back of the display module. Plug the sensor wire into the Mate-N-Lock connector located in the back of the display module. Coil excess wire in an out-of-the-way location. The sensor has been calibrated with the length of wire supplied, so **DO NOT CUT EXCESS WIRE**. If longer wire is needed, contact the manufacturer.

An adhesive gasket on the sensor permits the sensor to be adhered in place before securing with mounting screws.

Electrical Connections



All wiring connections shall be made using #16 Gauge stranded copper wire conforming to ABYC standards for marine use.

The black wire (see figure) on the display module shall be connected to a suitable ground connection on the instrument buss. The red wire (see figure) on the display module must be connected to +12 VDC through a suitable fuse or circuit breaker.

For operation from +24 to +32 VDC, a converter is available from Fireboy-Xintex. Part #CNV-12. For operation from other voltages, contact the engineering department of Fireboy-Xintex.

Operation

The display module on the S-1 contains three windows. The left window is a green "power on" indicator. The right window is an opening for the Var-a-Brite sensor. The center window is a red warning indicator.

Upon power up, the green "power on" indicator will come on and the red warning indicator may light momentarily to indicate a warm up period for the sensor. After the warm up period, the red warning indicator will go out. Should the horn sound, press the mute button.

Should a fume build up reach 10 to 20 percent of LEL (Lower Explosion Limit), the red warning indicator will come on. If this condition lasts for longer than 10 to 15 seconds, the alarm horn will sound. The alarm horn

S-1 Propane Fume Detector

can be turned off by pressing the mute button. The red warning indicator will remain on until the fume problem has been corrected. **NOTE: THE PROBLEM SHOULD NOT BE CONSIDERED CORRECTED UNTIL THE RED WARNING INDICATOR GOES OUT.**

Testing the System

The S-1 can be tested for electrical continuity by pressing the test switch. The red warning indicator will come on and within 10 to 15 seconds the alarm horn will sound. Release of the test switch will allow the red warning indicator to go out. The alarm horn can be turned off by pressing the mute button.

Unplug the sensor wire from display module while it is powered up. The red warning indicator will come on and within 10 to 15 seconds the alarm horn will sound. Plug the sensor wire back into the display module and the red warning indicator will turn off. The horn can be turned off by pressing the mute button.

To test the sensor, use a butane lighter with the striker wheel removed. Hold the lighter to the sensor and press down on the lever to release the butane. In three to four seconds, the red warning indicator will come on and in 10 to 15 seconds, the alarm horn will sound. Remove lighter from the sensor and the red warning indicator will go out in about five seconds. The alarm horn can be turned off by pressing the mute button.

In the Event of an Alarm

Immediately have all passengers and crew exit the passenger compartment. If an explosion or fire should occur, the probability of injury will be reduced if no one is in a confined area of the vessel.

Turn off the fuel supply and ventilate the area. Do NOT turn the fuel source on until all fittings, gas lines, and appliances have been checked by qualified personnel.

Troubleshooting

The most likely problem that will be encountered is a nuisance alarm. If this should occur and you are positive that there are no propane fumes present, check for recent use of solvent, paint, paint thinner, polish, etc. If none of these fumes are present, thoroughly check the sensor for loose connections, broken wires, or other damage.

Options

- MS-2 Replacement Propane/LPG Sensor
- CNV-12 Voltage Reducer

Specifications

- Voltage: +12VDC nominal (7VDC to 15VDC)
- Alarm Point: 10% to 20% LEL at 70° F
- Sensor stability: 0° F to 130° F (-18° C to 54° C)
- Current draw monitoring mode: 200 mA max.
- Current draw alarm mode: 210 mA max.
- Alarm horn: 85 dB
- Var-a-Brite light intensity control
- Sensor fail alarm

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- **Portable Fire Extinguishers**
- **Automatic Fire Extinguishers**
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- **M-1/M-2A Gasoline Fume Detectors**
- **MB-1/MB-2 Gasoline Fume Detectors with Blower Control**
- **S-1 Propane/LPG Detector**
- **S-2A Two channel Propane/LPG Detector with Solenoid Control**
- **CMD-2/CMD2-A/CMD-2M Carbon Monoxide Detectors**
- **LLM-4/WTG-1 Liquid Level Monitors**

ONE (1) YEAR LIMITED WARRANTY

This Warranty is in lieu of all other express or implied Warranties.

Seller warrants title, materials, and workmanship on Fireboy equipment, and assigns the original manufacturer's warranty on those components manufactured by others, as permitted. Seller's warranty shall be for a period of one (1) year from the date of sale to the ORIGINAL CONSUMER. Fireboy-Xintex, Inc. does not assume the costs of removal and/or installation of the product or any other incidental costs which may arise as a result of any defect in materials or workmanship. Any non-conforming equipment returned to the Seller at Buyer's expense and risk shall be repaired or replaced at Seller's option, provided that: (a) the product has not been subjected to abuse, contamination, neglect, accident, incorrect wiring not our own, improper installation or servicing, or used in violation of instructions furnished by Fireboy-Xintex, Inc.; (b) the product has not been repaired or altered by anyone other than Fireboy-Xintex, Inc.; (c) the serial number has not been removed, defaced, or otherwise changed; (d) the product is determined to contain defective materials or workmanship; and (e) use of the product is discontinued upon discovery of defective materials or workmanship and Fireboy-Xintex, Inc. is notified immediately.

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