



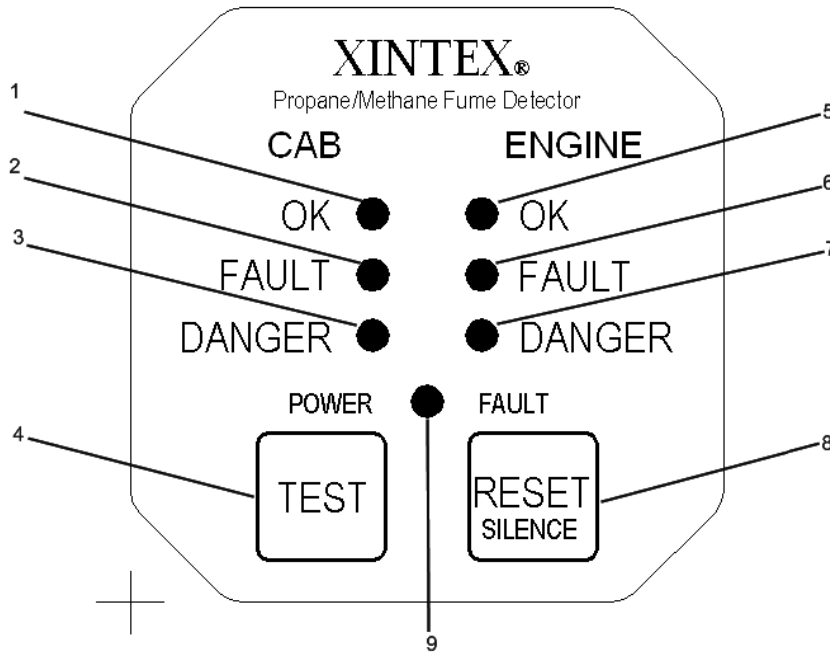
Methane Fume Detector  
Installation and Operation Manual  
MADE IN THE USA.

S2B-M-X2-DISPLAY  
S2B-M-X3-DISPLAY

READ THIS MANUAL CAREFULLY AND SAVE FOR FUTURE REFERENCE. KEEP THIS MANUAL WITH THE S2B-M-X2.

**Introduction**

The S2B-M-X2 and S2B-M-X3 vapor-monitoring systems utilize advanced technology for detection of methane fumes. The S2B-M-X2 allows the connection of two (2) sensors and has both visual and audible alarms that trigger at 20% and 50% LEL of methane respectively. The S2B-M-X3 allows the connection of three (3) sensors and has both visual and audible alarms that trigger at 20% and 50% LEL of methane respectively. Test switches are provided for full checking of all operations. System operation and correct sensor operation are continually monitored and indicators are provided for fault detection. Both systems have an internal output for automatic control of an external device up to 50 mA. Read this owner’s manual completely before installation. Failure to read and follow these instructions can result in damage to the unit voiding the warranty.



**CAUTION:** NO POWER ON/OFF SWITCH IS PROVIDED FOR THIS UNIT. TO FUNCTION AS INTENDED, THE S2B-M-X2 MUST BE CONNECTED TO A CORRECT POWER SOURCE, AND FOR MAXIMUM EFFECTIVENESS, BE POWERED AT ALL TIMES A DANGER MAY BE PRESENT. IF POWER IS ON AND LEFT UNATTENDED FOR AN EXTENDED PERIOD OF TIME, BATTERY POWER MAY BE DIMINISHED.

**Manual Display Controls / Indicator**

- 1 – Sensor 1/CAB OK LED (Green when sensor is detected and sending OK signal)
- 2 – Sensor 1/CAB Fault LED (Yellow when sensor is not detected or sending fault signal)
- 3 – Sensor 1/CAB Danger LED (Red when sensor detects greater than 20% LEL)
- 4 – Test Button (Pressing cycles the LEDs and triggers the output temporarily)
- 5 – Sensor 2/ENGINE OK LED (Green when sensor is detected and sending OK signal)
- 6 – Sensor 2/ENGINE Fault LED (Yellow when sensor is not detected or sending fault signal)
- 7 – Sensor 2/ENGINE Danger LED (Red when sensor detects greater than 20% LEL)
- 8 – Reset/Silence Button (Pressing will cause the output to turn off when in alarm)
- 9 – Power/Fault N/A

### **Display Installation**

The S2B-M-X2-DISPLAY and S2B-M-X3-DISPLAY should be mounted in a convenient location, preferably at the source of methane usage where the visual indicators may be readily seen. To install the display, you must first remove the screw on bezel.

Next, drill a 2-1/8" diameter hole into the panel. Slip the instrument through the hole and secure with the threaded bezel.

### **Sensor Installation**

Install sensor in a location that will be high enough to detect the methane fumes but also out of the path of any kind of constant external air flow or sources of contamination.

Methane is lighter than air and will rise. Therefore, it is important that a location be selected with this in mind

### **Wiring the S2B-M-X2 and S2B-M-X3 Systems**

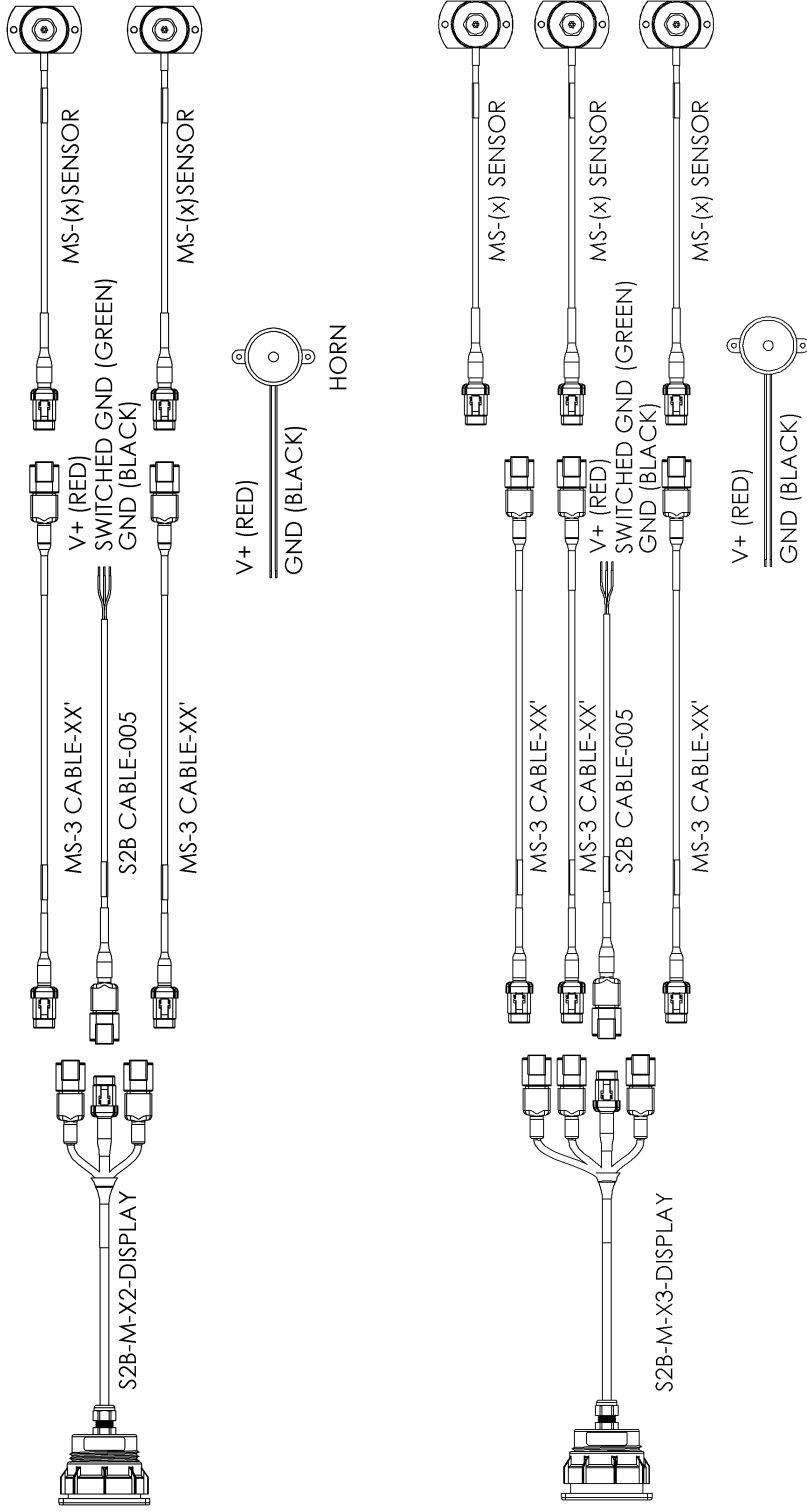
Wire the power connector to a suitable DC source. 9-30Vdc. Connect Gnd and any of the V+ wires to the source. All three of the V+ wires are tied together internally.

Wire any remote devices to the power connector. Note that it is ground that is switched out for the remote devices. Connect the device ground to the switching ground output.

Plug the appropriate connectors into the display.

Cables are available in various lengths to allow remote mounting of the sensors. (See Optional Components)

# Wiring Diagrams



## **Operation**

When first turned on the display will sequence through each of the LEDs to confirm operation. It will also cycle the output.

After startup the LEDs will illuminate as described in the “Manual Displays” section.

If methane is detected at 20% to 49% of the LEL (Lower Explosive Limit) then the LED indicator will come on for danger.

If methane is detected at 50% of the LEL or greater then the LED indicator will remain on in addition the output will activate. (Generally connected to an external horn)

Output can be used to drive the included buzzer in addition to other devices. Be sure not to exceed the max current limit of the output (160mA).

## **Testing Display Mode**

Internal operation of the display mode may be tested using the corresponding TEST switch. Pressing the test buttons will test the LEDs and output function.

## **Sensor Fault Detection**

Should the unit determine that either of the sensors is faulty or disconnected, the corresponding indicator will change to yellow. Check that the sensor is connected and that wiring has not been frayed or cut. Should this condition persist, the sensor has been damaged and must be replaced.

## **Unit Fault Detection**

Should an internal failure occur, the unit fault light will display yellow.

Should this occur, return the display to the manufacturer for repair.

## **Nuisance Alarms**

The sensors used for the S2B-M-X2 and S2B-M-X3 are sensitive to hydrocarbons- an alarm may be triggered by the use of other chemicals such as cleaners, paint, polish, etc... The sensors will also detect hydrogen fumes from an overcharged battery. If no gasoline fumes are present, check for recent use of cleaners, fiberglass repairs, strong adhesives, etc... If none of these are present, the sensor may have been damaged and will need replacement.

## **WARNING:**

The S2B-M-X2 and S2B-M-X3 have been designed to alarm visually at 20% of the LEL (Lower Explosive Limit) of Methane and output actuation at 50% of the LEL. Implement immediately the following procedures in the event of an alarm. Manually shut off the source of Methane if possible. Turn off all electrical circuits EXCEPT circuits, which operate blowers and/or exhaust fans. Remove all personnel from the area. Ventilate the area. Carefully check all fuel lines, tanks and fittings to locate the leak. Have the problem repaired by qualified personnel.

## **Maintenance**

The S2B-M-X2 requires very little maintenance. Periodically examine the sensors for contamination or damage. Check that sensor wires are not frayed, pinched, or cut. Test the operation of both sensors and display frequently. Do NOT expose sensors to liquids or chemicals.

When cleaning, seal off the sensor(s) with a plastic covering. Harsh chemicals may damage the sensor. Keep sensor(s) sealed until the compartment has been completely ventilated.

## Specifications

Voltage .....	+12Vdc Nominal (9Vdc min to 30Vdc max)
Alarm .....	Visual @ 20% of LEL Output @ 50% of LEL
Display Current .....	20 mA
Sensor Current .....	30 mA
Splitter01 Current.....	16 mA
Buzzer.....	10 mA
Output.....	160 mA max (Including Buzzer)

**WARNING:** The S2B-M-X2 and S2B-M-X3 are Methane detectors ONLY. These devices are meant to serve as a supplement warning only. They are NOT intended to replace standard safety practices which should be carried out around explosive gases (i.e. inspect all compartments, check all gas fittings and connections, smell for methane gas fumes, etc...) To function properly the S2B-M-X2 and S2B-M-X3 must be powered at all times. Before installing in applications which may appear different than those outlined in this manual, contact Fireboy-Xintex LLC (616) 735-9380. This device is not intended for use in aircraft.

There are no user or field serviceable parts in this product. The S2B-M-X2 and S2B-M-X3 must be returned to the manufacturer for any repair or trouble shooting beyond what is recommended in this manual. 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, including all wire connections, may render the unit inoperable, damage components, or cause a fire, and will void all warranties



### **One (1) Year Limited Warranty**

This Warranty is in lieu of all other express or implied warranties. Seller warrants title, materials, and workmanship on Xintex 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 (1) one year from the date of sale to the ORIGINAL CONSUMER. Fireboy-Xintex LLC 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 the instructions furnished by Fireboy-Xintex LLC (b) the product has not been repaired or altered by anyone other than Fireboy-Xintex LLC (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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### **Returning Xintex Equipment**

No product may be returned for credit of repair without a written "Return Material Authorization" (RMA) form. Purchaser must call or email Xintex 616-735-9380 or [fireboy@fireboy-xintex.com](mailto:fireboy@fireboy-xintex.com) for an RMA.

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