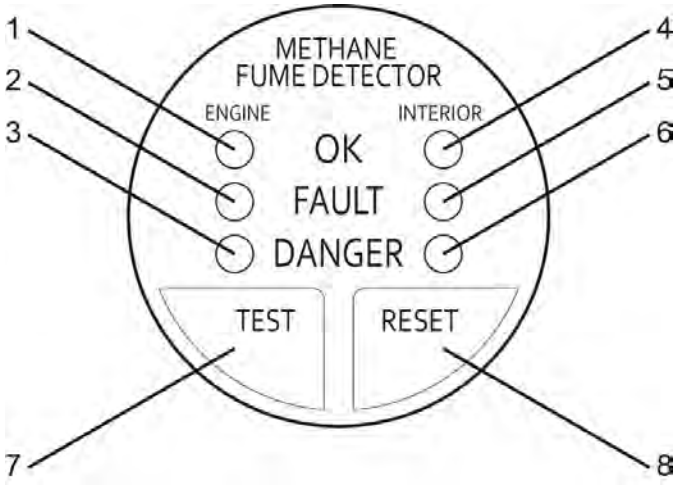
Methane Fume Detector
Installation and Operation Manual
MADE IN THE USA.

# S2BR-M-ECU-X
# S2CR-M-ECU-X

READ THIS MANUAL CAREFULLY AND SAVE FOR FUTURE REFERENCE. KEEP THIS MANUAL WITH THE S2(x)R-M-ECU-X SYSYTEM.

**Introduction**
The S2(x)R-M-ECU-X vapor-monitoring system utilizes advanced technology for the detection of methane fumes. The S2(x)R-M-ECU-X allows the connection of two (2) sensors and has both visual and audible alarms that trigger at 20% and 50% LEL of methane respectively. A "TEST" button is provided for the full testing of all operations. System operation and correct sensor operation are continually monitored and indicators are provided for fault detection. The system has 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**: AN ON/OFF SWITCH IS NOT PROVIDED FOR THIS UNIT. TO FUNCTION AS INTENDED, THE S2B-M-X2 MUST BE CONNECTED TO A POWER SOURCE AT ALL TIMES. IF POWER IS ON AND LEFT UNATTENDED FOR AN EXTENDED PERIOD OF TIME, BATTERY POWER MAY BE DIMINISHED.




**Manual Display Controls / Indicator**

| | |
|---|---|
| 1 – Engine OK LED | (Green when sensor is detected and sending OK signal) |
| 2 – Engine Fault LED | (Yellow when sensor is not detected or sending fault signal) |
| 3 – Engine Danger LED | (Red when sensor detects greater than 20% LEL) |
| 4 – Interior OK LED | (Green when sensor is detected and sending OK signal) |
| 5 – Interior Fault LED | (Yellow when sensor is not detected or sending fault signal) |
| 6 – Interior Danger LED | (Red when sensor detects greater than 20% LEL) |
| 7 – TEST Button | (Pressing cycles the LEDs and triggers the output temporarily) |
| 8 – RESET Button | (Pressing will cause the output to turn off when in alarm) |

**Display Installation**
The S2(x)R-M-ECU-X 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 /16” diameter hole into the panel. Slip the instrument through the hole and secure with the threaded bezel from the backside of the panel.

**Sensor Installation**
Install each 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.

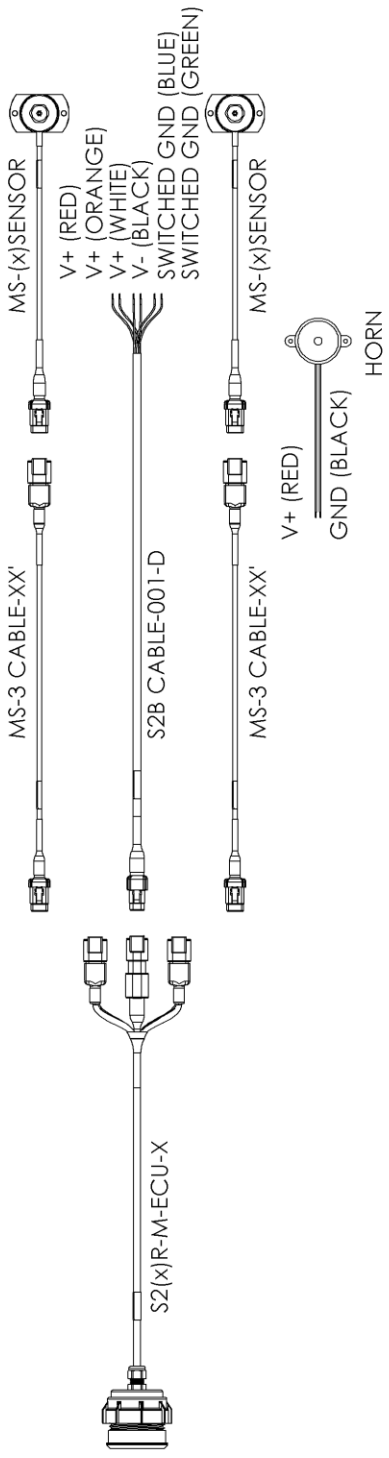
**Wiring the S2(x)R-M-ECU-X**
Wire the power connector to a suitable 9-30V DC source using the Gnd and any of the V+ wires. All three of the V+ wires are tied together internally.

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.

## Wiring Diagram



## 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 (normally connected to an external horn).

Output can be used to drive the included buzzer in addition to other devices. Max current limit of the output is 500mA.

## 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.

## Nuisance Alarms

The sensors used for the S2(x)R-M-ECU-X 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 methane 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 S2(x)R-M-ECU-X has been designed to alarm visually at 20% of the LEL (Lower Explosive Limit) of Methane and output actuation at 50% of the LEL. Implement the following procedures immediately 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 the sensor wires are not frayed, pinched, or cut. Test the operation of both sensors and display frequently. Do NOT expose sensors to cleaning 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 | 500 mA max (Including Buzzer) |

WARNING: The S2(x)R-M-ECU-X is a Methane detector ONLY. This device is meant to serve as a supplement warning only. It is 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 S2(x)R-M-ECU-X 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 S2(x)R-M-ECU-X 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

XINTEX®

**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.

ANY WARRANTY IMPLIED BY LAW, INCLUDING WARRANTIES OF MERCHANTABILITY OF FITNESS, IS IN EFFECT ONLY FOR THE DURATION OF THE EXPRESS WARRANTIES, OR TO ASSUME FOR FIREBOY/XINTEX, INC., ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF ITS PRODUCTS. FIREBOY/XINTEX, INC. SHALL BE NOT LIABLE FOR THE LOSS OF USE, REVENUE, PROFIT, INJURY OR ANY OTHER CONSEQUENTIAL OR INCIDENTAL DAMAGES. BUYER IS NOT RELYING ON SELLER'S JUDGEMENT REGARDING BUYERS PARTICULAR REQUIREMENTS AND HAS HAD AN OPPORTUNITY TO INSPECT THE PRODUCT TO BUYER'S SATISFACTION.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

## PRODUCTS:

### *Gaseous Suppression*


- Inert Gas (IG-01, IG-55, IG-100, IG-541)
- Novec 1230™ Fluid (FK-5-1-12)
- FM-200® / NAF S 227 (HFC-227ea.)
- Ecaro 125® / NAF S 125 (HFC-125)
- Carbon Dioxide ($CO_2$)
- Hybrid Systems ($N_2$ / Water)
- Pressure Relief Vents
- Enclosure Integrity Testing Equipment
- Pipe & Fittings

### *Water Suppression*


- Water Mist - High Pressure
- Water Mist - Intermediate Pressure
- Water Mist - Low Pressure
- Hybrid Systems (Water / $N_2$)
- Monitors & Delivery Systems
- High Speed Deluge

### *Foam Suppression*


- Foam Concentrates
- Foam Proportioning
- Foam Delivery Systems
- Foam Concentrate Testing

### *Explosion Protection*


- Explosion Suppression
- Explosion Isolation
- Explosion Vents & Pressure Relief
- Spark Suppression
- Explosibility Testing

### *Fire Detection*


- Linear Heat Detection - Digital
- Linear Heat Detection - Fibre Optic
- Linear Heat Detection - Micro Chip
- Flame Detection
- Video Imaging Detection
- Spark Detection
- Control & Indicating Equipment
- Thermal Imaging Detection
- Aspirating Smoke Detection

### *Military & Defence*


- Military Vehicles
- Naval Vessels

### *Special Applications*


- Micro Environment
- Oxygen Reduction
- Kitchen Protection Systems
- Dry Chemical
- Vehicle Systems
- Compressed Air Foam
- Marine & Offshore Vapour Mitigation
- Lithium-Ion Fire Systems

### *Support Services*


- Design / Engineering
- Technical Support
- Services & Testing

## Australia

### Head Office
Unit 1, 251 Ferntree Gully Road
Mt Waverley VIC 3149
Australia

### Brisbane Office
Unit 7, 93 Rivergate Place
Murarrie QLD 4172
Australia

### Perth Office
18 – 20 Ledgar Road
Balcatta WA 6021
Australia

### Sydney Office
Unit 5, 11 Reliance drive Tuggerah
NSW 2259
Australia

**1300 742 296**
**www.fire-protection.com.au**

## New Zealand

### Auckland Office
Unit 2, 13 Airborne Road
Albany North Shore 0632
New Zealand
**www.fire-protection.net.nz**

## South East Asia

### Regional Head Office
14 Gul Ave,
Singapore, 629657
**www.fire-protection.com.sg**

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