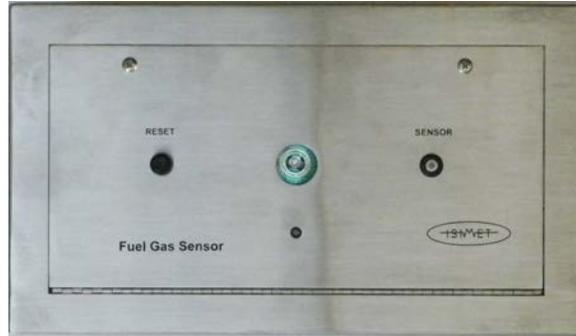


ISIMET

Gas Sensor Independent Unit

Installation, Operations, Start-up and Maintenance Instructions



Meets all Standards for Canadian Industrial Control Panels

The *ISIMET* Fuel Gas Sensor features a raw gas sensor, a clear lamp, a red/green LED and a Reset Switch mounted onto a Stainless Steel Wall Panel. The wall box with mounting brackets and skirt is provided.

The unit is intended for use as a sensor to detect raw fuel gas. The remote monitoring pcb features two time delay “ON” circuits that are field settable from 0 to 5 minutes. The unit can be used to prevent incidental or unintentional alarm notification.

Typical detection range for the sensor is 1 – 25% LEL (Lower Explosion Limit) or 50 – 10,000 ppm.

Table of Contents:	
	<u>Page</u>
Warranty.....	2
Enclosure Dimensions and Model Number Description.....	3
Mounting Instructions (Flush).....	4
Mounting Instructions (Surface Mount).....	4
Mounting the Wall Panel.....	4
Circuit Output Configurations.....	5
Adjusting the Output Timing.....	6
Output Wiring Configurations.....	6
Installing the Electrical Conduit.....	6
Wiring the Unit.....	6
Connecting the Wall Panel.....	6
Connection of the Wall Panel Plugs.....	7
Operation of Unit.....	7

ISIMET Fuel Gas Sensor

Installation, Maintenance, Operations, and Startup Instructions

Copyright © 2015 **ISIMET/MAPA, LLC**.

ISIMET is a trademark of **ISIMET/MAPA, LLC** an affiliate of **WCM Industries Inc.**

All rights reserved.

This document is copyrighted. This document may not, in whole or part, be copied, duplicated, reproduced, translated, electronically stored, or reduced to machine readable form without prior written consent from **ISIMET**.

Although the material contained herein has been carefully reviewed, **ISIMET** does not warrant it to be free of errors or omissions. **ISIMET** reserves the right to make corrections, updates, revisions, or changes to the information contained herein.

Warranty:

ISIMET will repair or replace any defective parts or workmanship of this product for a period of one year from date of installation. The P.C. Board has a two year limited warranty. Damage caused by incorrect installation or improper usage is not warranted. Failure to follow recommended installation, operation, and/or maintenance procedures listed in this manual may void product warranty. Recovery rights shall be limited to the total sum of the amounts paid for the product by the purchaser.

Limits of Liability:

ISIMET's liability shall be limited to costs of repair or replacement parts. The Gas Sensor Panel is not intended for usage other than those expressly described in this manual. **ISIMET** shall not be liable for damage or injury caused by the improper use of the product.

ISIMET does not warrant against or assume liability for failure of operation or lack of notification to secondary integrated monitoring systems. The system should be thoroughly tested and adjustments made at time of initial operation. Periodic testing should be conducted by the user to assure that all components function and operate according to specifications.

Care should be taken in the installation of this product. **ISIMET** shall not be liable for damage or injury caused from the improper installation of the product.

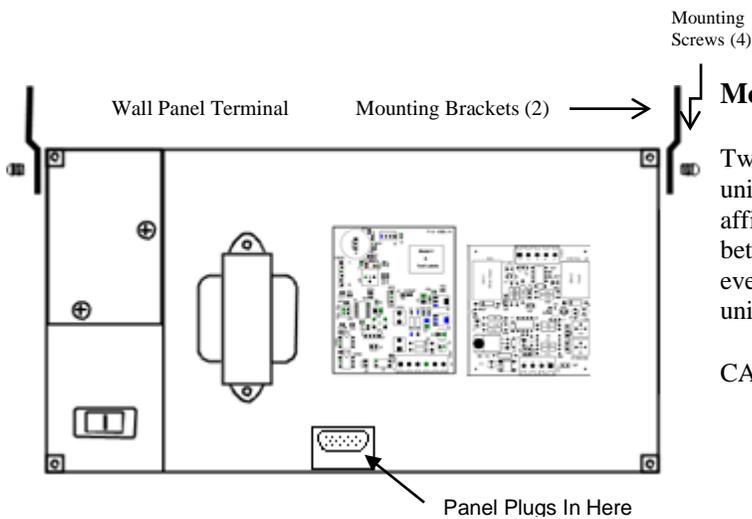
Warranty is Subject to Compliance with Specific Installation Requirements.

DISCLAIMER OF IMPLIED WARRANTY:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION HEREIN. SELLER DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OF THE GOODS OR OF THE FITNESS OF THE GOODS FOR ANY PURPOSE, AND BUYER AGREES THAT THE GOODS ARE SOLD "AS IS."

.

Printed in the United States of America



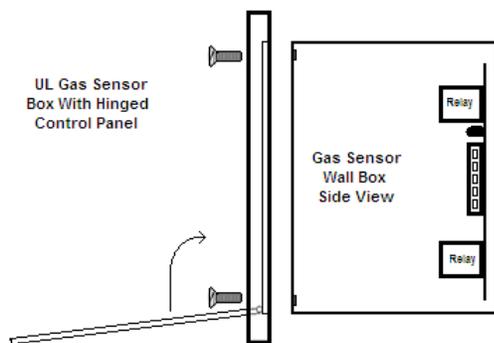
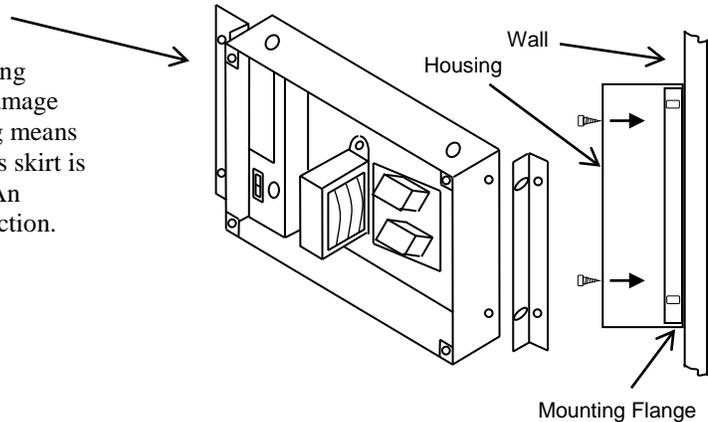
Mounting Instructions: Flush Wall Mount

Two mounting flanges with screws are provided with the unit. Attach flanges as shown above. Flanges can be affixed to any two corners of the unit. Then, fasten unit between two (2) wall studs. The face of the box should be even with the face of finished wall surface. After mounting unit, protect interior of box from construction debris.

CAUTION: Provided mounting hardware must be used.

Mounting Instructions: Surface Mount

In order to surface mount the unit, the provided mounting hardware must be used. Care should be taken to not damage the unit when mounting and to verify that the mounting means securely fastens the unit to the wall surface. A stainless skirt is provided in order to conceal the wall box from view. An arrow on the inside of the skirt indicates mounting direction.



Mounting the Wall Panel:

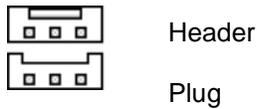
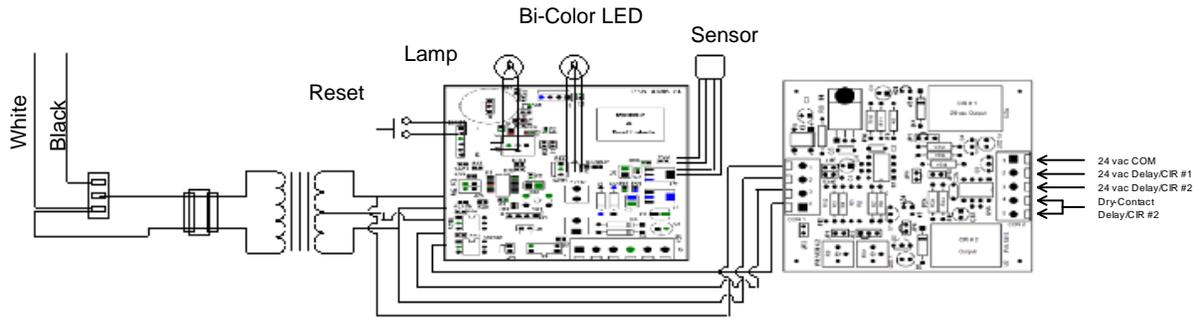
- Verify that Unit is wired with junction box cover in place.
- With the Door open, position the Wall Panel over the Wall Box as shown.
- Holding panel in front of box, affix panel to box using four (4) 8-32 stainless screws
- Close the panel and lock.

CAUTION! Do not install the panel until all wall finishes are complete.

**ISIMET – FGS – Gas Sensor
3000 Series
Short Circuit Rating 1 kA**

Fuse Schedule:
Fuse 1 = 1 amp
Breaker/Switch = 5 amp

120 VAC



Caution: Header and Plug are Polarized. Improper installation may cause Sensor Malfunction!

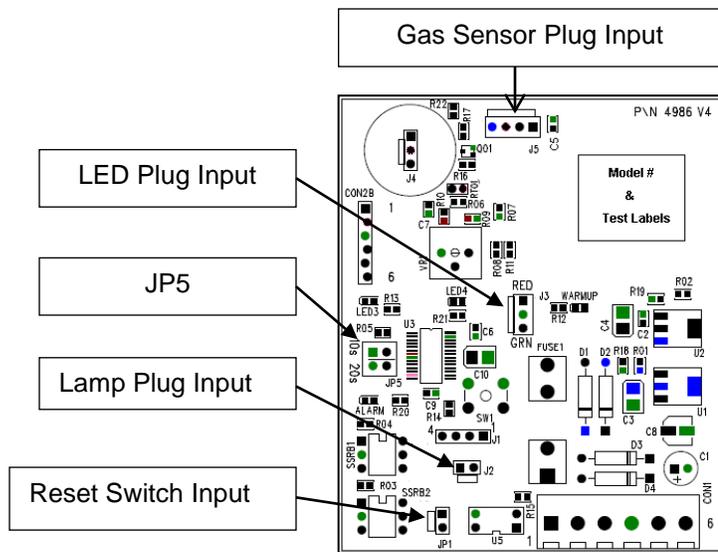


Figure 1

Wiring the Fuel Gas Sensor circuit board: Refer to Figure 1

Wiring connects between the Fuel Gas Sensor control Panel and the Printed Circuit Board should conform precisely to these specifications.

Time Delay Settings @ JP 5:

- NO Jumper = 0 sec.
- Jumper @ top = 10 sec.
- Jumper @ bottom = 20 sec.
- 2 Jumpers = 30 sec. Delay.

Care should be taken to not change the delay setting to a non-desired period.

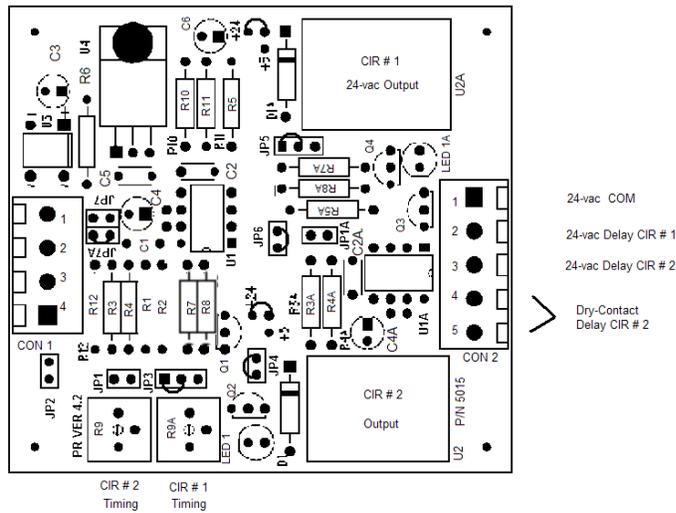


Figure 2

Adjusting the Output Timing: Refer to Figure 2

The Output Circuit Timing is adjustable from 0 to 5 minutes. Turning either circuit timing adjustment pot in a clockwise manner will result in an increase of output time delay.

Output Wiring Configurations:

The Unit is factory configured as a 24-vac output. One to five output terminals are provided based on specifications for the Unit. See page 5 for typical wiring schematics. Do not attempt to modify the unit to accept other than voltage outputs as specified for the unit. To replace a PC Board not configured correctly for a specific application, contact the factory or a local representative.

Installing the Electrical Conduit:

Knockout holes for connecting the electrical conduits are located at the top left and right of the Wall Box.

- Connect rigid conduit for the required 120-vac electrical service to the upper left top of the enclosure at the junction box.
- Connect conduit for the output power to the upper right top of the enclosure.

Wiring the Unit:

Important!

Verify that the electrical supply is disconnected prior to connecting wiring to the Gas Sensor.

To wire the Controller:

1. Remove the junction box cover.
2. Make final connections to the 120-vac electrical service to wiring within the junction box. Verify that line wiring (Black), neutral (White), and ground wire (Green) are correctly connected. Minimum recommended wire size is 14 AWG.
3. Replace the junction box cover before activating or testing the unit.

Connecting the Wall Panel to the Circuit Board; Mounting the Panel:

Wiring from the Control Panel Plugs into the 15 Pin Socket adjacent to the Transformer. If a Horn is provided, it plugs into J 4.

Connection of the Wall Panel Plug

The Unit is equipped with a 15 Pin High Density DIL Plug.

- Turn counter-clockwise the two retaining clips at the top of the Panel, and open.
- Insert Wall Panel Plug into the Socket. Tighten retaining screws.
- Turn Power ON.
- Close the panel and lock.

CAUTION! Do not install the panel until all wall finishes are complete. Verify that the plugs are configured correctly. Incorrect insertion will prevent operation of unit.

Verify that the Sensor is designed for the Appropriate Fuel Gas:

The Model Number of the Sensor is located on the carton and inside the wall box. FGS-3X13 is intended for use with natural gas. FGS-3X23 is intended for use with LP or Propane gas. If the Model number of this unit does not match the application, stop and contact your ISIMET representative.

Operation of the Unit:

The Panel LED is bi-color (Red – Green). During the warm-up period the LED will flash green. The LED will remain a constant green during normal operation. This LED color will change from green to red should the sensor fail. The sensitivity of the unit is settable 500 ppm to 100,000 ppm. Factory Setting is 500 ppm and may be adjusted downward (requiring more ppm to detect) by turning the integral variable resistor to the left (CCW).

Time delay feature is factory pre-set based on customer ordering stipulations. Settings other than 0 will allow a brief period between detection and notification so that the gas outlet that is the cause of the detection can be turned OFF before the unit transmits a shut-down signal. During this period the panel mounted lamp will flash notifying the user that raw fuel gas has been detected. Once the time delay elapses the signal is transmitted and the lamp remains constant. Once the notification is transmitted the unit will turn ON the Output Notification Circuits. For Time Delay Settings at JP5, the Jumpers should be positioned left to right on the pins. See the instructions provided for the monitoring device for connection to those devices.

Test the Unit: (Recommend that two persons perform this test)

Turn on the Fuel Gas Sensor. Connect a small rubber hose of sufficient length to a nearby fuel gas outlet. Extend the open end of the hose to the Fuel Gas Sensor. Slightly open the gas outlet, pointing the open end closely towards the louver. The lamp should remain ON constant. The fuel gas circuit as well as other circuits determined to be effected by the sensor should turn OFF. The flow of gas should stop.

NOTICE:

If this test does not result in the receipt of a notification signal, turn OFF the Gas Sensor and perform tests to determine the cause of this failure. If a cause cannot be determined and then rectified, contact an ISIMET or your local Service Representative.



ISIMET/MAPA, LLC

**103 W. CJ Wise Parkway
PO Box 129
Naples, TX 75568**

**(903) 897-0737
Fax (903) 897-0740**

www.ISIMET.com

**Innovative Systems
Integrating
Mechanical and Electrical
Technology**