




718-202-G21

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# **GAS-MATE<sup>®</sup>**

# **LEAK DETECTOR**

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 Safety Instructions & Operation Manual

# Table of Contents

<b>1</b>	<b>EU Declaration of Conformity</b> .....	<b>3</b>
<b>2</b>	<b>UKCA Declaration of Conformity</b> .....	<b>4</b>
<b>3</b>	<b>Probe Description</b> .....	<b>5</b>
<b>4</b>	<b>Introduction</b> .....	<b>6</b>
<b>5</b>	<b>Specifications</b> .....	<b>7</b>
<b>6</b>	<b>Product Warnings</b> .....	<b>8</b>
<b>7</b>	<b>How to Install the Alkaline Batteries</b> .....	<b>9</b>
<b>8</b>	<b>Using GAS-Mate</b> .....	<b>10</b>
	8.1 How to Change the Sensor .....	11
	8.2 Cleaning and Storage .....	11
<b>9</b>	<b>Troubleshooting</b> .....	<b>12</b>
<b>10</b>	<b>Replacement Parts and Accessories</b> .....	<b>13</b>
<b>11</b>	<b>Return Authorization Procedure</b> .....	<b>13</b>
<b>12</b>	<b>Warranty and Liability-Limitation</b> .....	<b>14</b>

# 1 EU Declaration of Conformity



EU DECLARATION  
OF  
CONFORMITY



This declaration is issued under the sole responsibility of the manufacturer INFICON. The object of the declaration is to certify that this equipment, designed and manufactured by:

**INFICON Inc.**  
**Two Technology Place**  
**East Syracuse, NY 13057**  
**USA**

is in conformity with the relevant Community harmonization legislation. It has been constructed in accordance with good engineering practice in safety matters in force in the Community and does not endanger the safety of persons, domestic animals or property when properly installed and maintained and used in applications for which it was made.

<b>Equipment Description:</b>	GAS-Mate® Combustible Gas Leak Detector	
<b>Model Number:</b>	718-202-Gxx	(Applicable to all Group numbers)
<b>Applicable Directives:</b>	2014/30/EU 2011/65/EU	General EMC as amended by 2015/863/EU RoHS
<b>Applicable Standards:</b>		
Safety:	IEC 61010-1:2010	Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements
Emissions:	EN 61326-1:2013	Edition 2.0 (Radiated, Conducted & Harmonic Emissions) (EMC- Measurement, Control & Laboratory Equipment)
Immunity:	EN 61326-1:2013	Edition 2.0 (EMC – Measurement, Control & Laboratory Equipment) Immunity per Table A. Portable Test and Measurement Equipment
RoHS	Compliant	
<b>CE Implementation Date:</b>	August 31, 2021	

**Authorized Representative:**  
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ANY QUESTIONS RELATIVE TO THIS DECLARATION OR TO THE SAFETY OF INFICON'S PRODUCTS SHOULD BE DIRECTED, IN WRITING, TO THE AUTHORIZED REPRESENTATIVE AT THE ABOVE ADDRESS.

## 2 UKCA Declaration of Conformity



UK DECLARATION  
OF  
CONFORMITY



This declaration is issued under the sole responsibility of the manufacturer INFICON. The object of the declaration is to certify that this equipment, designed and manufactured by:

**INFICON Inc.**  
**Two Technology Place**  
**East Syracuse, NY 13057**  
**USA**

is in conformity with the requirements regarding safety, health and relevant provisions of the relevant legislation by design, type and the versions, which are brought into circulation by us. It has been constructed in accordance with good engineering practice in safety matters in force in the community and does not endanger the safety of persons, domestic animals or property when properly installed and maintained and used in applications for which it was made.

<b>Equipment Description:</b>	GAS-Mate® Combustible Gas Leak Detector	
<b>Model Number:</b>	718-202-Gxx	(Applicable to all Group numbers)
<b>Applicable Directives:</b>	S.I. 2016 No. 1091 S.I. 2012 No. 3032	General EMC as amended by 2015/863/EU RoHS
<b>Applicable Standards:</b>		
Safety:	IEC 61010-1:2010	Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements
Emissions:	EN 61326-1:2013	Edition 2.0 (Radiated, Conducted & Harmonic Emissions) (EMC - Measurement, Control & Laboratory Equipment)
Immunity:	EN 61326-1:2013	Edition 2.0 (EMC - Measurement, Control & Laboratory Equipment) Immunity per Table A.1 - Portable Test and Measurement Equipment
RoHS	Compliant	

**UKCA Implementation Date:** August 31, 2021

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## 3 Probe Description

To get the best performance from your GAS-Mate, please read this manual carefully before you start using the instrument. If you have any questions or need additional assistance, please call 01642-232880 or email [sales@javac.co.uk](mailto:sales@javac.co.uk). We'll be happy to help you.



### **⚠ WARNING**

**This symbol is used to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the instrument.**

GAS-Mate® and INFICON® are trademarks of INFICON Holding AG.

GAS-Mate is Intrinsically Safe for Class I, Division 1, Groups A-D, T4 and rated II 3G Ex nA nL IIC T4 X as per Listing Number E112145 by MET Laboratories, Inc.

## 4 Introduction

GAS-Mate is an intrinsically safe instrument designed to detect leaks of a variety of combustible gases and flammable refrigerants. It can be used for many leak testing applications including, but not limited to:

- Combustion appliances
- Gas-fired furnaces
- Gas stoves
- Hydrocarbon-based (flammable) refrigerants
- Gas pipelines, valves and meters
- Heat exchanger testing with combustible gases

GAS-Mate is sensitive to a variety of hydrocarbons and other gases including, but not limited to:

- Natural gas
- Cyclopentane
- Isobutane (R600a)
- Methane
- Propane (R290)
- Ethane
- Butane
- Ammonia
- Ethanol
- Hydrogen forming gas (95/5)



GAS-Mate does not detect carbon monoxide (CO).

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## 5 Specifications

Sensitivity	5 PPM Methane (main component of natural gas)
Power supply	Two "D" cell alkaline batteries (3.2 V at 125 mA)
Battery life	Approximately 25 hours
Operating temperature range	-4 to +122°F (-20 to +50°C)
Storage temperature range	-4 to +140°F (-20 to +60°C)
Humidity	85% RH NC maximum
Pollution degree	2
Overvoltage category	2
Weight (with batteries)	1.18 lbs (0.53 kg)

## 6 Product Warnings



### **WARNING**

To prevent ignition of a hazardous atmosphere, batteries must only be changed in an area known to be nonhazardous (that is, be completely free of combustible gas).



### **WARNING**

Use only Duracell® MN1300 batteries to maintain intrinsically safe approval.



### **WARNING**

Always check the instrument operation with a known combustible leak source before use.



### **WARNING**

**GAS-Mate detects leaks as described below, but may not indicate when a hazardous atmosphere is present due to its Auto Zeroing function.**

Lack of a reading by GAS-Mate should not be taken as an indication that the atmosphere is totally safe.



### **WARNING**

**There are no user serviceable parts inside.**

Do not disassemble the instrument.



## 7 How to Install the Alkaline Batteries

- 1 Remove the battery cover by releasing the latch and sliding the cover down and off the handle. You may need a screwdriver or similar tool.
- 2 Install two Duracell® MN1300 D-size alkaline batteries.



- 3 Reinstall the battery cover by aligning it with the handle and sliding it up until the latch engages.
- A low battery is indicated when the **Battery** indicator flashes.
  - If the **Battery** and highest signal indicator both flash, the batteries are critically low and should be replaced immediately.



Dispose of the depleted alkaline batteries according to the applicable state and local regulations. In the absence of such regulations, recycle and/or dispose of the batteries through a voluntary waste recycling program.

## 8 Using GAS-Mate

- 1 Long press the Power button to turn GAS-Mate **ON** or **OFF**.



GAS-Mate should be turned on in clean air, free of combustible gas.

- 2 GAS-Mate will take 30 seconds to two minutes to warm up.
  - ⇒ GAS-Mate will alarm during warm-up and the highest leak indicator will illuminate. When warm-up is complete, GAS-Mate will beep steadily.
- 3 If needed, adjust sensitivity by swiping up or down on the touch pad. The leak indicators will illuminate to indicate the sensitivity level.
  - ⇒ GAS-Mate defaults to maximum sensitivity on start-up. It is recommended to use this setting for most applications.
- 4 Carry GAS-Mate into the area of the suspected leak. An alarm at this time indicates a build-up of combustible gas in the general area.
  - ⇒ When GAS-Mate detects combustible gas, it will alarm and the leak indicators will illuminate. Faster beeping or a solid alarm indicate a larger concentration of combustible gas.
  - ⇒ GAS-Mate will automatically zero to the background concentration, indicated by the alarm slowly returning to a steady beep. Once zeroed, only a higher concentration will cause an alarm.
- 5 Move the probe tip slowly (approximately 1 to 2 in. (2.5 to 5 cm) per second) around suspected leak sites. Position the probe tip as close as possible to the suspected leak site for optimum performance.
- 6 To confirm a leak, pull the probe away from the suspected leak site and allow the instrument to return to a steady state. Repeat step 5.
  - ⇒ After exposure to very high concentrations of some gases, the sensor may require several minutes to stabilize and return to normal operation.

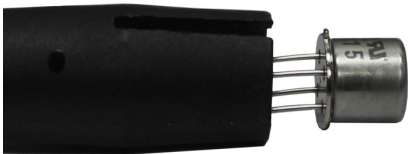
## 8.1 How to Change the Sensor

The sensor comes installed in the GAS-Mate probe tip. You only need to insert or remove the sensor when it is time to replace it.



If all leak indicators flash and a steady alarm occurs, the sensor is bad or not installed properly. If this occurs, ensure the sensor is installed properly or install a new sensor.

- 1 Insert a paper clip or a small screwdriver under the sensor through the slot in the probe tip and carefully slide the sensor out of the end of the probe tip as seen in the figure below.
  - 2 Remove the new sensor from its packaging.
  - 3 Align the tab on the sensor can with the slot in the probe tip.
  - 4 Carefully slide the sensor into the probe tip. Ensure the wire leads fit into the matching holes in the sensor socket in the probe tip.
- ⇒ When properly installed, the top of the sensor should be approximately flush with the tip of the probe. It is acceptable if the probe protrudes slightly from the probe tip as long as the sensor is fully seated.



## 8.2 Cleaning and Storage

The GAS-Mate plastic housing can be cleaned with standard household detergent or isopropyl alcohol. Care should be taken to prevent the cleaner from entering the instrument. Since gasoline and other solvents may damage the plastic, protect the instrument from contact with these substances.



Do not allow cleaners or isopropyl alcohol to enter the sensor as it may become contaminated. Replace the sensor if contamination occurs.

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## 9 Troubleshooting

Except for the batteries and the sensor, the internal parts of GAS-Mate are not user serviceable. If you experience a problem with GAS-Mate, see the Troubleshooting Table below to determine how to remedy the problem. If you cannot remedy the problem, take GAS-Mate to your wholesaler for evaluation.

Problem	Cause	Remedy
GAS-Mate will not power up.	The batteries are worn out.	Replace the batteries.
	The batteries have been improperly installed.	Check the battery installation. Refer to How to Install the Alkaline Batteries [ 10]
The instrument has poor sensitivity. GAS-Mate powers up, but does not detect combustible gas.	The instrument's sensitivity is set to low.	Increase the sensitivity by swiping up on the touch pad.
	The sensor is worn out and needs to be replaced.	Replace the sensor. Refer to How to Change the Sensor [ 12]
An alarm sounds continuously, even after a couple minutes of warm-up.	The sensor is not installed properly or is missing.	Ensure the sensor leads are straight and inserted in the holes at the base of the sensor socket and the orientation tab is properly aligned in the probe tip.
	The sensor is worn out and needs to be replaced.	Replace the sensor.

## 10 Replacement Parts and Accessories

Replacement parts and accessories for GAS-Mate are available through the same dealer you bought the instrument from.

Plastic storage case	718-701-G1
Replacement sensor	706-700-G1

Specification Table in Accordance with EN 14624:2020	R290
Static detection limit	1 g/yr
Dynamic detection limit	2 g/yr
Response time	2.5 seconds
Recovery time for 50 g/yr exposure*	75 seconds
Dynamic detection limit in contaminated environment	30 g/yr
Calibration frequency	Check annually with calibrated leak standard
*As no 50g/yr leak standard was available during testing, a 35 g/yr leak was substituted.	

## 11 Return Authorization Procedure

All defective instruments should be returned to your wholesaler for warranty evaluation. If you have any questions, please contact JAVAC.



Do not return your defective unit directly to JAVAC without first contacting your wholesaler.

## 12 Warranty and Liability-Limitation

JAVAC warrants your GAS-Mate to be free from defects of materials or workmanship for one or two years (depending on region) from the date of purchase. JAVAC does not warrant items that deteriorate under normal use, including batteries, sensors, and filters. In addition, JAVAC does not warrant any instrument that has been subjected to misuse, negligence, or accident, or has been repaired or altered by anyone other than JAVAC. JAVAC liability is limited to instruments returned to JAVAC, transportation prepaid, not later than thirty (30) days after the warranty period expires, and which JAVAC judges to have malfunctioned because of defective materials or workmanship. JAVAC liability is limited to, at its option, repairing or replacing the defective instrument or part. This warranty is in lieu of all other warranties, express or implied, whether of merchantability or of fitness for a particular purpose or otherwise. All such other warranties are expressly disclaimed. JAVAC shall have no liability in excess of the price paid to JAVAC for the instrument plus return transportation charges prepaid. JAVAC shall have no liability for any incidental or consequential damages. All such liabilities are excluded.



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