



705-202-G21

TEK-MATE® LEAK DETECTOR

EN Safety Instructions & Operation Manual

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1 EU Declaration of Conformity



DECLARATION OF CONFORMITY

This is to certify that this equipment, designed and manufactured by INFICON meets the essential safety requirements of the European Union and is placed on the market accordingly. 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.

| | | |
|--------------------------------|--|---|
| Equipment Description: | TEK-Mate® Refrigerant Leak Detector | |
| Model Number: | 705-202-Gxx | (Applicable to all Group numbers) |
| Applicable Directives: | 2004/108/EC 2011/65/EU | General EMC as amended by 2015/863/EU RoHS |
| Applicable Standards: | | |
| Safety: | EN 61010-1:2010 | Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements. |
| Emissions: | EN 61326-1:2013 CISPR 11/EN 55011:2009 (+A1:2010) | Edition 2.0 (Radiated, Conducted & Harmonic Emissions) (EMC – Measurement, Control & Laboratory Equipment) Emission standard for industrial, scientific, and medical (ISM) radio RF 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 | |
| Other: | EN 14624:2012 | Performance of portable leak detectors and of room monitors for halogenated refrigerants |
| CE Implementation Date: | 18 August 2021 | |

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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.

| | | |
|-------------------------------|---|--|
| Equipment Description: | TekMate Refrigerant Leak Detector | |
| Model Number: | 705-202-Gxx (Applicable to all Group numbers) | |
| Applicable Directives: | S.I. 2016 No. 1091 S.I. 2012 No. 3032 | EMC RoHS |
| Applicable Standards: | | |
| 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: 18 August 2021

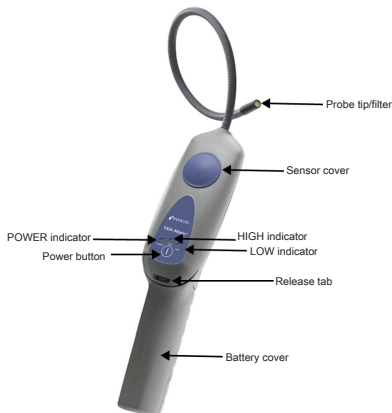
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3 Probe Description

To get the best performance from your TEK-Mate Leak Detector, please read this manual carefully before you start using it. If you have any questions or need additional assistance, please call 01642 232880 or email 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.

TEK-Mate, Laboratory Accurate, Toolbox Tough and INFICON are registered trademarks or copyrights of INFICON Holding AG.

4 Getting Started

- 1 Install the batteries. See How to Install the Alkaline Batteries.
- 2 Install the sensor. See How to Install or Change the Sensor [▶ 9].

NOTICE

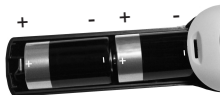
Installation of the batteries and sensor is required before use.

- 3 Long press the power button to turn TEK-Mate On or Off.
- 4 Wait for TEK-Mate to warm up. All three indicators will illuminate and TEK-Mate will alarm during warm-up. When the HIGH indicator starts flashing and TEK-Mate beeps about one beep per second, warm-up is complete.
- 5 To toggle between HIGH and LOW sensitivity modes, press the Power button. HIGH sensitivity is the default setting.

The JAVAC TEK-Mate Refrigerant Leak Detector provides a similar response to all CFCs, HCFCs, HFCs, and refrigerant blends (e.g. R-410A, R407c), as well as SF6.

5 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 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.

6 How to Install or Change the Sensor

A new TEK-Mate is shipped with its sensor packed separately. **The sensor must be installed before use.** This specialized sensor will operate for about 100 hours before it will need to be replaced.

1. Remove the rubber sensor cover by lifting at the outer edge.
2. If you are replacing a worn out sensor, remove it by pulling it straight out of the socket and discard.



WARNING

The worn out sensor may be hot.

3. Remove the new sensor from its packaging and carefully align the three sensor leads with the three holes in the sensor socket. Insert the leads into the holes by gently pressing straight down on the sensor until the sensor leads contact the bottom of the socket. Be careful not to bend the sensor leads.



4. Reinstall the rubber sensor cover by pressing it down firmly around the edges. Be sure the edges of the cover are flat against the surface of the detector.

7 Using TEK-Mate



⚠ WARNING

Do not operate this instrument in the presence of gasoline, natural gas, propane, or in other combustible atmospheres.

7.1 How to Find Leaks

NOTICE

A sudden whipping of the leak detector probe or blowing into the probe tip will affect the air flow over the sensor and cause TEK-Mate to alarm.

- 1 Turn TEK-Mate ON and wait for warm-up to complete.
- 2 Place the tip of the probe as close as possible to the site of the suspected leak. Try to position the probe within 1/4 in. (5 mm) of the possible leak source.
- 3 Slowly (approximately 1 to 2 in./sec (25 to 50 mm/sec.)) move the probe past each possible leak point.

NOTICE

It is important to move the tip of the probe past the leak. If held on the leak, the auto zero feature will gradually zero out the leak signal.

- 4 When the instrument detects a leak, it will beep more rapidly and the indicator flash rate will increase to signal the leak.
- 5 When TEK-Mate signals a leak, pull the probe away from the leak for a moment, then bring it back to pinpoint the location. If the leak is large, set the sensitivity to LOW to make it easier to find the exact site of the leak.
- 6 Return the sensitivity to HIGH before searching for additional leaks.
- 7 When you have finished leak testing, turn TEK-Mate OFF by long pressing the power button.

7.2 How to Change the Filter

The foam filter at the probe tip should be replaced if it becomes plugged with water or oil, or appears dirty. To replace the filter, pull out the old filter with a paper clip or similar device, then push in the new filter.

8 Cleaning and Storage

TEK-Mate's 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 your JAVAC TEK-Mate from contact with these substances.

9 Troubleshooting

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

| Problem | Cause | Remedy |
|---|---|---|
| TEK-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 |
| The instrument has poor sensitivity. TEK-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 |
| 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 Return Authorization Procedure

If your TEK-Mate is defective, it should be returned to your wholesaler for warranty evaluation.



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

11 Specifications

| | |
|--|---|
| Usage | Indoor or outdoor |
| Minimum sensitivity | 0.25 oz./yr. (7 g/a) |
| Power supply | Two "D" cell alkaline batteries (3.2 V at 125 mA) |
| Battery life | Approximately 16 hours |
| Operating temperature range | -4 to +122°F (-20 to +50°C)* |
| Storage temperature range | -4 to +140°F (-20 to +60°C) |
| Humidity | 95% RH NC maximum |
| Altitude | 6500 ft. (2000 m) |
| Pollution degree | 2 |
| Overvoltage category | 2 |
| Weight (with batteries) | 1.28 lbs (0.58 kg) |
| *May be operated for a limited time in lower temperature environments. | |

| Specification Table in Accordance with EN 14624:2020 | R134a | R1234yf |
|---|------------|-------------|
| Static detection limit | 2 g/yr | 2 g/yr |
| Dynamic detection limit | 4 g/yr | 2 g/yr |
| Response time | <1 second | <1 second |
| Recovery time for 50 g/yr exposure* | 12 seconds | 8.2 seconds |
| Dynamic detection limit in contaminated environment | 8 g/yr | 33 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. | | |

12 Replacement Parts and Accessories

Replacement parts and accessories for your JAVAC TEK-Mate Refrigerant Leak Detector are available through the same dealer from whom you bought the instrument.

| | |
|----------------------------|------------|
| Plastic storage case | 705-700-G1 |
| Replacement sensor | 703-020-G1 |
| Sensor cover | 705-314-P1 |
| Tip filters, package of 20 | 705-600-G1 |

13 Warranty and Liability-Limitation

JAVAC warrants your TEK-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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