

# GEMORO® UltraTester 3+

SIMULTANEOUS DIAMOND,  
MOISSANITE & WHITE  
SAPPHIRE TESTER

WITH NEW ADVANCED  
PATENTED UV-F1  
IDENTIFICATION  
TECHNOLOGY™



## **READ BEFORE USING**

A high percentage of the new generation, super-low electrically conductive Forever One or "F1" moissanite that was introduced in late 2015 will incorrectly be identified as diamond when tested on a traditional combination electrical and thermal conductivity tester. However, your UltraTester 3+ uses the new patented UV-F1 TECHNOLOGY™, and it is exclusively calibrated to identify this faint electrical conductivity property. Please note that the new Forever One moissanite can no longer be easily visually identified, as it is now D-E-F "colorless", with few inclusions.

Be aware that body oil is also electrically conductive. Due to the tester's enhanced sensitivity for electrical conductivity, dirty diamonds may potentially test as moissanite. To avoid false/positive readings on dirty diamonds, ALWAYS CLEAN THE STONE by simply wiping the body oil off on the provided STONE TESTING CLOTH prior to performing a test. Periodically, also clean any accumulated body oil off of the probe tip by gently rubbing it on a piece of uncoated paper - SEE MANUAL.

NEED HELP? Call GemOro at **800.527.0719** for immediate assistance.

The GemOro **UltraTester 3+** is the ultimate tester for diamond fraud protection! The UltraTester 3+ features exclusive **UV-F1 TECHNOLOGY™** and is capable of identifying the widest range of the electrically conductive moissanite material available, including the new super-low electrically conductive Forever One moissanite.

## **OPERATING PROCEDURE & OWNERS MANUAL**

Congratulations on your purchase of the UltraTester 3+ from GemOro Superior Instruments, the most trusted name in gemological instrumentation for the jewelry industry. You've made a great choice. Built upon the foundation of the second generation and most popular tester to date, the UltraTester 3+ offers even more. Separate true diamonds from moissanite, white sapphire, CZ, and other known diamond simulants with confidence.

## **IMPORTANT: PLEASE BE CERTAIN TO READ THE FOLLOWING COMPLETELY BEFORE USING.**

### **THERMAL CONDUCTIVITY & ELECTRICAL CONDUCTIVITY TESTING METHODS**

The recognized method for separating diamond from all known diamond simulants (except moissanite and synthetic diamond) is the thermal conductivity test. The thermal conductivity test works consistently well since the thermal (or heat) conductivity property of a diamond is significantly greater

than all other gemstones (except moissanite and synthetic diamond). White sapphire is also thermally conductive, yet not as conductive as a diamond or moissanite.

The recognized, most practical way for separating the vast majority of moissanite gemstones from diamond is the electrical conductivity test; since most moissanite conducts electricity, while diamonds, as well as other known diamond simulants do not. It should be noted that while the vast majority of moissanite may be electrically conductive, in some moissanite gemstones there might only be electrical conductivity in a small varying degree. But have no fear. With the new PATENTED UV-F1 TECHNOLOGY™ built into the UltraTester 3+, you can identify the widest range of electrically conductive moissanite material available, including the new super-low electrically conductive Forever One moissanite.

Other than some rare and natural colored diamonds, as well as some lab grown synthetic diamonds, natural white diamonds do not conduct electricity. If a stone does not conduct heat or electricity, it will be determined to be more than likely a common CZ or other diamond simulant. **Because hand-oil is electrically conductive and the stone being tested may not be clean, any test result that indicates moissanite, especially on smaller size stones that haven't been cleaned, should be suspect, cleaned,**

**and retested.** Due to the electrical conductivity properties of some of the chemicals commonly used in the production of lab-grown synthetic diamonds, when the UltraTester 3+'s probe tip touches these stones the metal alert feature or moissanite indication may be set off.

The GemOro Superior Instruments UltraTester 3+ utilizes both the thermal conductivity and electrical conductivity testing methods in one seemingly simultaneous test, and it will quickly help in identifying and separating the stone in question. The UltraTester 3+ is an advanced, technologically based tool and it should be used as a helpful device only. The UltraTester 3+ is not meant to replace the trained gemologist.

### **NATURAL COLORED DIAMONDS & TREATED COLORED DIAMONDS**

Because some fancy natural colored diamonds and some fancy treated colored diamonds are electrically conductive, the GemOro UltraTester 3+ should ideally be used on colorless stones only. This limitation applies to all testers that utilize thermal and electrical conductivity methods for testing the authenticity of the stone.

**IMPORTANT DISCLAIMER:** The UltraTester 3+ is a helpful screening tool that by design is to be used as a quick method for helping to identify diamond, moissanite, and white sapphire. The UltraTester 3+ should not be used as the final method for determining the authenticity

or identity of the gemstone being tested. The final determination of the identity of any gemstone, whether genuine or not, should only be made by a trained gemologist. Neither GemOro nor any of its affiliates, dealers, or distributors shall be held liable for any loss and/or damages associated with the use of the UltraTester 3+. No warranties exist with respect to the UltraTester 3+ or its use other than those expressly contained herein. All other warranties of any kind or character whatsoever, whether expressed or implied, including warranties of merchantability or fitness for a particular purpose, are hereby disclaimed and are excluded from the warranties hereunder. In the event that a claim is made with respect to the UltraTester 3+ or its use, the maximum liability of GemOro, and its affiliates, dealers, and distributors shall be the amount paid for the UltraTester 3+.

**PLEASE READ BEFORE USING THE PROVIDED NiMH RECHARGEABLE BATTERIES:**

Before using the NiMH rechargeable batteries that have been provided with your tester, the batteries should be fully charged as indicated by the small round LED indicator next to the power button glowing green when the UltraTester 3+ is plugged in. While the batteries are being charged, the tester may be used as desired while powered by the AC current.

**CONDITIONS FOR IDEAL OPERATION**

1. The UltraTester 3+ should be used

in the following environmental conditions. Both the tester and the stone being tested must be the same temperature. By not following these instructions you risk compromising the accuracy of the test.

- a. Temperature: 65°F-80°F (18°C-27°C)
- b. Air Relative Humidity: 45%-75%

- 2. The stone being tested must be dry. If the surface of the stone is wet or has any type of surface moisture it may not test correctly.
- 3. The stone being tested must be clean. Aside from obvious visible dirt that may be present on the stone, there may also be hand, body oil or other contaminants on the stones surface that may not be visible and which could impact the accuracy of the test. Always be certain to clean the stone being tested with an ultrasonic or steamer or other appropriate means, and thoroughly dry it and/or remove any cleaning chemicals remaining on the stone prior to testing. A GemOro STONE TESTING CLOTH (shown below) has been provided with each UltraTester 3+ and for convenience it should be used to wipe any hand or body oil from the stones surface prior to testing.



4. It is imperative that the probe tip be cleaned regularly or ideally prior to performing a test. Please be aware that there may be hand oil or other contaminants that may not be visible on the probe tip, which could impact the accuracy of the test. To clean the tip, take a piece of uncoated white printer or copy paper and place the probe tip of the tester at a 90 degree angle against the paper while gently rubbing it in a forward motion a few times. Repeat this process routinely or prior to testing each time to ensure the cleanliness of the probe tip.
5. Always allow the stone being tested to cool off for 5-10 seconds prior to retesting. Blowing on the stone is recommended and will speed up this process. Please be aware that if while testing a stone the UltraTester 3+ light pipe turns pink, unless it is a white sapphire or sapphire watch crystal, odds are that the stone has been overheated from prolonged exposure to the probe tip and, therefore, you must wait for the stone to cool off prior to retesting.
2. Quickly assists with testing most any size diamond, moissanite and white sapphire, whether mounted or loose.
3. The sleek and ergonomic shape comfortably rests in and on your hand when held, and the tester has PATENTED intuitive finger grip pads for increased user-friendliness and ease of use.
4. The LED illuminator and UV fluorescence detector are positioned under the probe tip. The LED Illuminator is a super bright LED that illuminates the stone being tested and, since it is a UV LED, it also helps to identify fluorescence in diamonds.
5. The tester is equipped with a retractable probe tip designed to protect the probe tip if excessive force is used while testing or if it is accidentally dropped.
6. The tester housing is made from durable ABS and is covered with GemOro's exclusive rubberized paint that provides an even greater grip.

### **ULTRATESTER 3+ FEATURES**

1. Helps to identify diamond, moissanite and white sapphire, including genuine sapphire watch crystals. The test results are shown via its PATENTED color-coded light pipe and unique sounding beep tones.
7. Powered by (3) supplied 1.5V AAA NiMH rechargeable batteries and conveniently charged by a micro-USB adapter. The rechargeable batteries may be substituted with AAA alkaline batteries if a suitable power outlet is unavailable to recharge the NiMH batteries.

8. The tester is also designed to have its batteries charged with the optional GemOro UltraDock 3 charging station accessory (Item #0772).

9. Includes a GemOro protective ballistic nylon carrying case, aluminum loose stone holder, GemOro Test Stone Cloth, as well as (3) user-replaceable AAA NiMH rechargeable batteries, a universal multi-voltage 100V-240V AC adapter / charger cube with premium micro-USB cord.

10. The tester is also designed to be used with the optional handy PATENTED GemOro Test Stone Magnifier attachment, which when clipped onto the tester's tip area allows the user to more easily see and test small diamonds without accidentally touching the setting or prongs (Item #0780).

11. The tester has an auto-off function to preserve the battery life and it will automatically turn itself off after a period of 5 minutes of non-use. After powering down, if you wish to resume using the UltraTester 3+, simply touch the tester's power button and within seconds the tester will turn itself back on again.

12. Glowing LED Light Pipe and Probe Tip Indicator. Innovative PATENTED colored LEDs visually indicate:

- GREEN** = Diamond **A**
- BLUE** = Moissanite **B**
- PINK** = Sapphire **C**
- RED** = Metal Alert **D**



13. LED Indicator. The round LED indicator is located next to the oval shaped power button. Colored LEDs visually indicate **E**:
- GREEN** = Fully Charged Batteries
  - YELLOW** = Charging Batteries
  - RED** = Low Batteries



BATTERY LED INDICATOR

14. Bright green LED illuminated power button.
15. Pocket-sized and portable.
16. Simple to operate.

## SPECIFICATIONS

- Working Voltage: DC 1.2V (3) x AAA NiMH, DC 1.5V, (3) x AAA alkaline batteries or its universal voltage 100V-240V AC adapter cube.
- Probe Tip Warm-Up Time: Approximately 25 seconds.
- NiMH and Alkaline Battery Working Time: Approximately two hours of continuous use.
- Working Temperature: 65°F-80°F (18°C-27°C).
- Air Relative Humidity: 45%-75%.
- Net Weight: Approximately 100g (including batteries).

## CAUTION

DO NOT disassemble the UltraTester 3+ other than to replace the batteries or the warranty will become void.

- UV EYE HAZARD - Avoid looking directly into the UV LED.

## OPERATION

1. NiMH Battery Usage and Alkaline Battery Installation: To activate the (3) NiMH rechargeable batteries, **REMOVE THE BATTERY DISCHARGE INSULATOR TAB** **F** that is extending out of the battery compartment by simply pulling it out. To increase the life of the NiMH rechargeable batteries, after removing the discharge insulator tab in the battery compartment, fully charge the batteries prior to use.



BATTERY DISCHARGE INSULATOR TAB

If you wish to replace the NiMH batteries with alkaline batteries, remove the battery compartment door located on the end of the UltraTester 3+ by using your thumb to slide the textured area down and in the direction of the arrow **G**. Remove the NiMH rechargeable batteries while making note of the polarity positioning on batteries. Then insert (3) high-quality AAA 1.5V

alkaline batteries into the battery compartment. The proper polarity positioning is indicated on the side of the battery compartment wall showing the direction of positive (+) and negative (-) polarity **H**. Always be certain that the batteries are correctly positioned in the battery holder. Then carefully replace the battery compartment door.



TESTER BATTERY COMPARTMENT



BATTERY POLARITY

2. The UltraTester 3+ batteries may be charged by placing it in the optional UltraDock 3 battery charging station with the micro-USB power cord plugged into the rear of the charging station or by plugging its supplied micro-USB power cord into the rear of the tester and the USB adapter cube directly into a wall outlet. Once

the tester is connected to the AC adapter or the charging station, the tester will switch to its DC power mode. The tester's built-in Intelligent Charging Circuit "ICC" will automatically identify the type of batteries installed (NiMH rechargeable batteries or alkaline batteries). If alkaline batteries are installed, the circuit will automatically cut off the power supply to the batteries so that the alkaline batteries will not be recharged. If NiMH rechargeable batteries are installed, the batteries will be recharged and at the same time the tester may be used with the AC adapter.

3. To turn the UltraTester 3+ ON press the oval shaped power button, located on the top center edge of the tester **I** and hold it down for approximately one second, then release the button. The power button's green LED indicator will begin flashing. The warm-up time is approximately 25 seconds. When it has fully warmed up, the flashing green LED light will become solid and a beep tone will be sounded. You may now begin using the tester.



POWER BUTTON

4. To turn the UltraTester 3+ OFF, press the oval shaped power button once again **I** and hold it down for approximately one second, then release the button. The power button's blue LED indicator will no longer be illuminated indicating it has been turned OFF. If the UltraTester 3+ has been left on for a period of approximately 5 minutes without being used, it will automatically turn itself OFF.

5. The UltraTester 3+ is also equipped with a PATENTED color-coded light pipe and probe tip cone indicator. This line of sight colored indicator allows the user to easily see the test results while keeping their eyes on the stone being tested.

**GREEN** = Diamond

**BLUE** = Moissanite

**PINK** = Sapphire

**RED** = Metal Alert

6. **Prior to using the UltraTester 3+, be certain to REMOVE THE WHITE CAP at the front end of the tester that serves to protect the probe tip from accidentally being bent or broken **J**.** The cap may be easily removed by simply applying a minimal amount of pressure to the sides of the cap, as you hold it between your thumb and forefinger. Then gently pull it out and off. Always replace the cap when the UltraTester 3+ is not in use.



PROBE TIP CAP

7. To properly hold the UltraTester 3+, it is important to grasp the tester with your thumb and forefinger while touching them to the PATENTED finger pads located on either side of the tester **K**. This will allow you to easily manipulate the tester and make the best contact with the stone being tested. While holding the tester, its ergonomic shape allows it to comfortably rest on the top of your hand. If you hold the tester without touching the finger pads, the metal alert feature will not function.



HOW TO PROPERLY HOLD THE TESTER

8. The LED Illuminator allows the user to easily see the stone being tested to confirm that only the

stone is being tested and that the setting or prongs are not accidentally being touched. This LED is a special UV type **L** that may also be used to identify the fluorescence characteristic found in approximately 30% of all diamonds. You may also attach the optional GemOro Test Stone Magnifier (Item# 0780) to the UltraTester 3+ by clipping it onto the end of the tester's probe tip cone. This will allow you to see a magnified view of the stone being tested and help ensure proper contact with the stone while not accidentally touching the setting or prongs.



FLUORESCING STONE

9. Testing Mounted Stones: **With one hand, ALWAYS hold the ring (or setting) that contains the stone you wish to test and in your other hand hold the UltraTester 3+ **M**. NEVER TEST A RING WHILE PLACED IN A RING BOX OR IT MAY NOT TEST CORRECTLY.** Quickly, yet firmly touch the testers probe tip to the stone's table, while being certain not to allow the probe tip to make contact with the metal setting or prongs. While firmly

depressing the spring-loaded probe tip all of the way in until you hear a click sound, touch the stone just long enough to allow the tester to indicate a reading (1 or 2 seconds) and then take the probe tip away from the stone. **Be aware that a stone that has been overheated by prolonged exposure to the probe, or from body heat due to wearing or the environment, may not test accurately.** Always allow the stone and setting a few seconds to cool off to room temperature before testing. Blowing on the stone will speed up this process.



TESTING A MOUNTED STONE

10. Testing Loose Stones: Place the loose stone in the supplied aluminum loose stone testing plate positioned with the culet facing down into the recessed hole part of the testing plate. **Then hold the testing plate steady with one hand, as this will also allow the electrical current to pass through your body, permitting the tester to function as designed and test properly.** While holding the UltraTester 3+ in your other hand, firmly touch the probe tip to the

loose stone's table until the test result it indicated **N**. **YOU MUST FOLLOW THIS PROCEDURE WHEN TESTING LOOSE STONES OR THE TESTER MAY NOT TEST CORRECTLY. DO NOT ATTEMPT TO TEST LOOSE STONES WHILE HOLDING THEM IN YOUR FINGERS OR THE TESTER MAY NOT TEST CORRECTLY.**



TESTING LOOSE STONES WITH TESTING PLATE

11. The probe tip must be cleaned routinely to ensure proper contact with the stone being tested. To clean the probe tip, take a piece of uncoated white copy or printing paper and lay it on a table or counter or other flat surface. Place the tester in a 90-degree angle to the paper with the probe tip lightly touching the paper. Apply enough pressure to gently depress the retractable probe tip slightly inside the housing. Then carefully rub the probe tip in one direction on the paper to clean it.
12. Using the Optional UltraDock 3: Place the charging station in a convenient location near where

it will be used such as on a desk, showcase or repair area. Take the testers micro-USB power cord and plug it into the rear of the UltraDock 3, while plugging the USB into its AC power cube adapter. Plug the adapter into a convenient wall outlet. You may now simply place the UltraTester 3+ in the charging stations cradle with its on bottom edge facing down, and the rear of the UltraTester 3+ facing the back end of the cradle. The UltraTester 3+ will automatically have its NiMH batteries charged while in the UltraDock 3. **O**



TESTER IN OPTIONAL ULTRADOCK 3+

13. Using the Optional Test Stone Magnifier: Insert the UltraTester 3+'s probe tip cone through the wider opening of the magnifiers oval shaped bracket and clip it into place. Depending on whether you are right or left handed, you may conveniently position it on either side of the tester. Pivot the hinged magnifier so that it is positioned in front of the testers probe tip. You may now view the stones you are testing under magnification. **P**



HOW TO USE THE MAGNIFIER



HOW TO REMOVE THE MAGNIFIER

## MAINTENANCE:

1. The UltraTester 3+ is not user serviceable other than battery replacement, probe tip cleaning, and recalibration. If service is required, please contact your supplier or the factory. **Any other attempt to repair the tester by a user will void the warranty.**
2. Always replace the protective probe tip cap to keep the probe tip from becoming damaged.
3. If using alkaline batteries, always replace the batteries after long periods of time to prevent premature corrosion or battery leakage, which is common with old or spent alkaline batteries after a period of time. Be aware that damage to the UltraTester 3+ may occur if there is battery leakage and it will void the warranty.
4. In the event the UltraTester 3+ is not used for an extended period of time, the batteries should be removed.
5. Routinely clean the probe tip.
6. The UltraTester 3+ is not user serviceable other than battery replacement, probe tip cleaning, and recalibration. If service is required, please contact your supplier or the factory. **Any other attempt to repair the tester by a user will void the warranty.**

## HELPFUL SUGGESTIONS

1. If substituting alkaline batteries for the NiMH rechargeable batteries, only use high-quality AAA alkaline batteries.
2. The UltraTester 3+ is designed to be able to easily test faceted or rough stones of virtually all sizes. However, please keep in mind that small stones will naturally heat up much faster after being touched by the probe tip. After each test be certain to cool off the stone by blowing on it or waiting a few seconds until it cools if a retest is required. If testing diamonds in a pave setting, please note it is easy to accidentally overheat the stones next to the one being tested. Therefore, it is very important that you test the stones while alternating testing one area of the ring and then another, while regularly blowing on the stones to cool them off.
3. The UltraTester 3+ has been calibrated at the factory and should not require further calibration. If after using the UltraTester 3+ it is determined that recalibration is required, please contact the factory for calibration instructions, which can be easily accomplished by any user.



## WARRANTY

Congratulations on your purchase of the GemOro® UltraTester 3+! Your UltraTester 3+ features a 2-YEAR PROBE TIP and BATTERY WARRANTY, plus a LIFETIME LIMITED WARRANTY on the electronics within the tester. **Damage caused by abuse will void the warranty.** These warranties become effective from the date of the original purchase assuming the purchaser fills out the WARRANTY REGISTRATION FORM at [www.gemoroproducts.com/warrantyregistration](http://www.gemoroproducts.com/warrantyregistration) or the purchaser provides a copy of their invoice (bill of sale) when making a warranty claim. In the event the tester's owner has not registered their tester or provided a copy of their invoice for when they purchased the UltraTester 3+, warranty service will be determined by the serial number tracking system as interpreted by the factory. In the event the UltraTester 3+ is no longer available or has been discontinued and warranty coverage is applicable, at the factory's sole discretion, an equivalent tester may be substituted for the defective UltraTester 3+. The purchaser shall incur the cost for postage, insurance, and handling for all warranty and non-warranty repairs. Warranty repairs and/or replacements will be shipped back to the customer FOB Destination to the location of the customer's choosing if within the continental United States. Non-warranty repairs will be shipped back to the customer FOB Factory. Should the customer require the

repair and/or replacement unit(s) to be shipped outside the continental United States, the customer will be required to pay any related shipping charges and any related taxes / duties for the respective destination country, regardless of whether it is a warranty or non-warranty claim.



GemOro Superior Instruments  
10455 Olympic Drive  
Dallas, Texas 75220 USA  
214.351.0380 or 800.527.0719  
214.351.1903 or 800.832.9871 FAX  
gemoroservice@sykessler.com  
[www.gemoroproducts.com/  
warrantyregistration](http://www.gemoroproducts.com/warrantyregistration)  
[www.gemoroproducts.com](http://www.gemoroproducts.com)