

DIA-SMART Intelligent Diamond Identification Instrument Manual

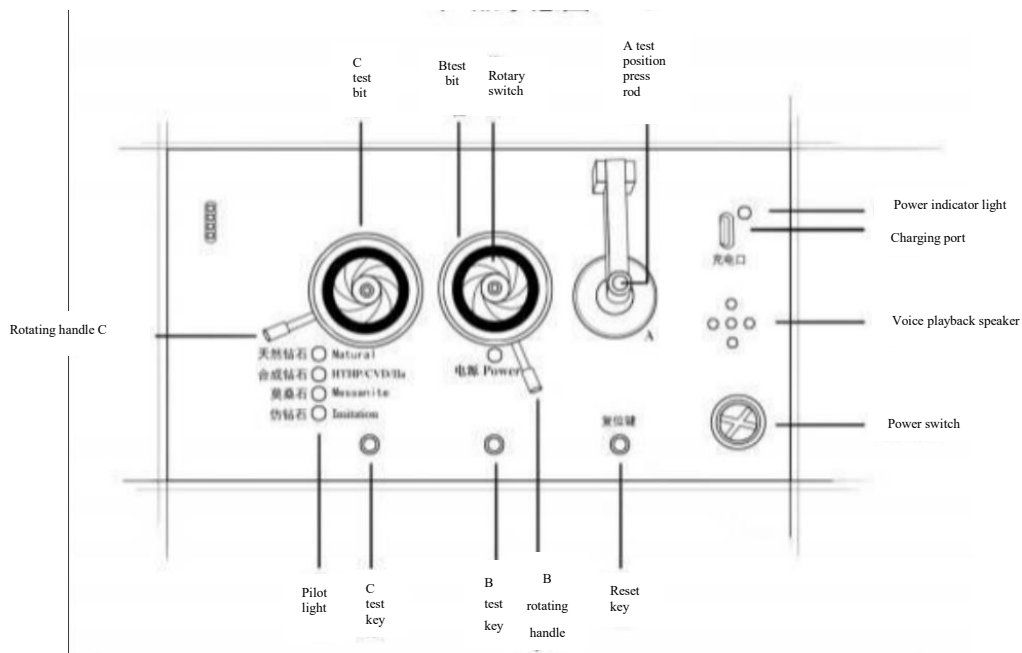


Product Introduction:

The intelligent diamond identification instrument comprehensively examines the diamonds and diamond imitations that may be encountered in the current jewelry market. It has targeted multiple functions and integration, such as thermal conductivity meter, reflectometer, monazite discriminator, synthetic diamond discriminator, etc., especially considering various styles of embedded diamond jewelry that users encounter in daily life. A reflective probe is designed, controlled by intelligent chips, which can test polished bare stones and embedded samples, including samples with a minimum of 15 points embedded in the back cover. Identify natural diamonds and various imitations, such as synthetic cubic zirconia, yttrium aluminum garnet, GGG, zircon, colorless synthetic sapphire, synthetic mosonite, and synthetic diamonds.

Instrument specifications: length 17 centimeters, width 12 centimeters, thickness 7 centimeters, weight 650 grams. It is both portable and can be used as a desktop device.

Product Diagram



Before using the machine, it is necessary to know:

1. The test sample must be embedded with finished products or bare diamond samples at least 15 points.
2. The temperature of the sample should be consistent with room temperature. The diamond jewelry that has just been removed from the body should be tested after the temperature of the sample is consistent with room temperature.
3. Due to the increase in sample temperature during the testing process, if multiple tests are conducted on the same sample, there should be a 1-minute time interval between each test.
4. The sample to be tested must be cleaned or wiped clean before testing.
5. The instrument needs to be handled with care.

One. Operation steps

After pressing the power button and waiting for the left indicator light to flash, sample testing can be carried out.

After turning on, the default mode is "sound mode".

1. Thermal conductivity measurement

Wipe the bare diamond sample or embedded sample clean, with the testing sample table facing downwards, and place it on the thermal conductivity (A testing position) first, so that the sample comes into contact with the testing table and is placed stably. If the test sample is a bare diamond, use tweezers to clamp the bare diamond and place the table facing down on the A test position. Then, press the rod of the A test position down; If the test sample is an embedded sample, there is no need to press the rod. You can hold the sample for testing, press and hold it for more than 3 seconds with slight force, and make the bare diamond sample or embedded sample contact the thermal conductivity probe until the test result is obtained. If there is a gap between the sample table and the probe, it may lead to incorrect results. The pressure must be in place and the test sample should be kept from sliding or shifting. If the thermal conductivity of the sample is low, the red indicator light is on, and the voice prompt is imitation diamond, then the test is completed. If the thermal conductivity of the sample is high and the green, blue, or orange indicator lights are on, it may be natural diamonds, synthetic diamonds, mullite, or colorless sapphires. The voice prompt indicates the need for the next step of testing.

2. Reflectivity measurement

Wipe the bare diamond sample or inlaid sample tabletop clean, place the sample tabletop facing downwards in the center of (B test bit), rotate the B handle to the right to clamp the sample tightly, so that the sample comes into contact with the detection position tabletop. Do not clamp the rotating clamp too tightly, ensuring that the sample and the detection table top are not suspended in the detection position. Press the button (B test button) below the B test bit. If the refractive index of the sample is less than 1.8, it belongs to a low refractive index diamond imitation. The red indicator light is on, and the voice prompt is a diamond imitation, then the test is completed. If the refractive index of the sample is greater than 1.8, it may also be natural diamonds, synthetic diamonds, mullite, cubic zirconia, etc. The green, blue, and orange indicator lights are on, and the voice prompt indicates the need for the next step of testing. (If the test sample is touched by hand or there are oil stains, it may affect the transmittance and reflectivity, leading to incorrect results. The test sample must be cleaned and wiped clean before testing.)

3. Diamond measurement

Wipe the bare diamond sample or inlaid sample table clean, place it in the center of the (C test bit), rotate the C handle to the right to clamp the sample tightly, do not clamp the rotating clamp too tightly, ensure that the sample and the test table are not suspended on the test position, press the test button (C test button) below the test bit, and the instrument will start automatic testing. If it is Moissanite, the orange indicator light will light up, and the voice prompt is Moissanite. If it is a synthetic diamond or Type IIa diamond, the blue indicator light is on and the voice prompt is synthetic diamond. If it is a natural diamond, the green indicator light is on, and the voice prompt is natural diamond.

Voice mode switching:

DIA-SMART intelligent diamond identification instrument has two modes of operation, namely: sound mode and no sound mode. After pressing the power button and waiting for the left indicator light to flash, sample testing can be carried out. After turning on, the default mode is "sound mode". If you want to improve detection efficiency, you can press and hold the reset button for about 3 seconds to switch to "no sound mode".

※ "No sound mode" for sample detection, without order constraints, can be used for any UV infrared measurement, reflectance measurement, or thermal conductivity measurement, and the measurement results are indicated by the indicator light.

In the "no sound mode" for sample detection, the C test bit does not detect imitation diamonds (such as wrong stones, crystals, glass, and other imitation diamonds). Natural diamonds, synthetic diamonds, and Mozambique can be indicated by placing the C test bit.

※ Press and hold the reset button again for about 3 seconds to switch back to "sound mode".

Two. Operating precautions:

1. Testing of irregular-cut diamond samples

For samples with irregular cutting, the orientation of the test holes should be aligned with the engraved surface to obtain correct results. For example, if the emerald shape is in the diagonal direction of the engraved surface, the light is not easily reflected to the opposite side, and the measured light is very small, it will be judged as opaque to ultraviolet rays. The test of irregular cutting requires rotating and placing multiple times, and the result is when a synthetic diamond is detected.

2. Battery level

After use, please shut down to avoid power consumption. If the battery is low, please do not continue to check and charge it promptly.

Connect the data cable and the power indicator light turns pale green, indicating that the battery is fully charged; The power indicator light shows a red light, indicating that it is in charging state.

Pay attention to placing the instrument in a dry and non humid environment. If it has not been used for a long time or more than a month, the instrument can be turned on and operated, then charged and stored.

Three. Warranty terms:

(1) If there is a malfunction during normal use within seven days from the date of sale, consumers can choose services such as refunds, exchanges, and repairs.

(2) Within one year from the date of sale, if there is any non-human damage to the malfunction, free warranty can be provided, and any logistics and related costs incurred due to repair will be borne by the customer. If the warranty period is exceeded or the free warranty conditions are not met, technical support can still be provided through phone, fax, network, and other forms. If repair is required, only the material cost and basic labor cost for the replacement parts will be charged;

(3) Damage caused by human factors and use in abnormal working environments; Users dismantle, repair, modify products without authorization; The original factory shall not be liable for warranty for damages caused by other force majeure events such as floods, fires, earthquakes, etc.

Four. Disclaimer

Due to the portability and ease of use of this product, which is based on terminal use and complements the large optical instruments used by jewelry testing institutions, the test results of this equipment are only used as auxiliary tools to indicate the type of sample and cannot completely replace the identification function of jewelry testing institutions, nor are they used as a basis for diagnostic conclusions.

Therefore, our company hereby declares as follows:

The test results of this device are for reference only. Our company does not assume any economic disputes or legal consequences arising from the inconsistency between the test results and the actual situation. For disputed samples, it is recommended to send them to a legitimate jewelry testing institution for comprehensive testing before obtaining legally recognized results (appraisal certificates, reports, etc.) °

Appendix: Power on voice prompts

- (1) Wait for self-inspection. After all indicator lights turn off, place the sample in A test bit and press for 3 seconds.
- (2) Place it in A test bit and hold it for 3 seconds
- (3) Place it in B test bit to continue testing.
- (4) Place it in C test bit to continue testing.
- (5) If the test results are like diamonds, press the reset button to restart.
- (6) If the test result is moissanite diamonds, press the reset button to restart.
- (7) If the test results are synthetic diamonds, press the reset button to restart.
- (8) If the test results are natural diamonds, press the reset button to restart.
- (9) Do not continue testing when the battery is low and charge it promptly.
- (10) Long press the reset button to set it to no sound mode.
- (11) Long press the reset button to set to sound mode.
- (12) Shut down after use to avoid power consumption.