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USER HANDBOOK

BELIZE Combination Tester

CONTENTS

1	OVERVIEW	Pg.1
2	GROUP OF DIAMONDS	Pg.2
3	FEATURES	Pg.3
4	SAFETY INFORMATION	Pg.4
5	ABOUT GEMLOGIS BELIZE	Pg.5-6
6	BEFORE PERFORMING A TEST	Pg.7-9
7	TO PERFORM A TEST	Pg.10-14
8	READING THE TEST RESULT	Pg.15-17
9	SWITCHING BETWEEN LEFT-HAND OR RIGHT-HAND	Pg.18
10	ACTIVATING THE IR TO EXPAND THE READINGS OF SIMULANT ON BLEU	Pg.17
11	ACTIVATING THE MUSIC FOR TEST RESULTS INDICATION	Pg.20
12	BATTERY & POWER	Pg.21
13	SPECIFICATIONS OF GEMLOGIS BELIZE COMBINATION TESTER	Pg.22
14	SPECIFICATIONS OF BATTERY	Pg.23
15	SPECIFICATIONS OF ADAPTOR	Pg.24
16	CHARGER CONNECTION ILLUSTRATION	Pg.25
17	IMPORTANT NOTES & MAINTENANCE	Pg.26-27
18	INTERNATIONAL WARRANTY	Pg.28
19	DISCLAIMERS	Pg.29
20	SAFETY CERTIFICATIONS	Pg.30
21	CUSTOMER SUPPORT CENTRE	Pg.31

Battery Use and care

Due to the self-discharge of the battery, please perform a full charge immediately before the first use. To maintain the normal operating capacity of the battery, recharge the tester every 3-4 months although not using it. Please do not store it with the low battery indication

OVERVIEW

The diamond industry has now entered a criticality whereby synthetic and treated diamonds are near indistinguishable from earth mined diamonds. These diamonds might be mixed amongst earth mined diamonds and are bought unknowingly.

Although the diamonds can be sent for lab verification, such action is expensive and excessive in comparison to the value of the stone. To overcome this, the industry introduces diamond screeners to verify the diamonds.

However, most of the screeners in the market require separate verifications to ensure that the gemstone is a diamond and not a diamond simulant or Moissanite.

In view of such, Gemlogis introduces Gemlogis BELIZE, an instrument combining a Thermal Probe and Optical Probe in a single tester to test whether the gemstone is a simulant, Moissanite or earth-mined diamond and synthetic diamond. Moreover, it is able to check the diamonds that have been set onto any jewelries both closed and open-back setting.

The Gemlogis BELIZE is designed to screen colorless and near colorless faceted gemstones.

GROUPS OF DIAMONDS

Several techniques can be used to differentiate earth mined and HPHT/CVD diamonds including the use of Short Wave Ultraviolet. Gemlogis BELIZE utilizes this method for the segregation of colorless diamonds above 0.02ct into their different group type.

Group	Diamond Type	Color	HPHT Enhanced?	Synthetic?
A	IaA, IaAB, Ib	Colorless (D-J)	No	No
B	IaB, IIa, IIb	Colorless (D-J)	Potentially	Potentially

Group A – Earth Mined:

Type IaA and IaAB diamonds absorbs SWUV light.

Group B – HPHT / CVD:

Type IIa and IIb diamonds transmits SWUV light. Suggest to send for further lab testing.

FEATURES

Combining Thermal and Optical Probe Tips into single tester to facilitate the testing procedure and convenience.

Quick identify between Earth-Mined Diamond, Type IIa/HPHT/CVD Diamond, Simulant and Moissanite (including F1 Moissanite).

Capable to test loose stones and all types of mounted jewelry, such as ring, pendant or earrings. Closed and open back.

Testing Range >0.02ct, colorless to near colorless gemstones (D-J). Clarity: VVS1 – SI2.

UV light only turns on when Probe tip touches the stone to reduce UV hazard.

Caters to left or right handers.

Music tone for test results indication can be switched on or off.

Automatic power-off after 10 minutes of inactivity to maximize battery life span.

SAFETY INFORMATION

Risk Group 2

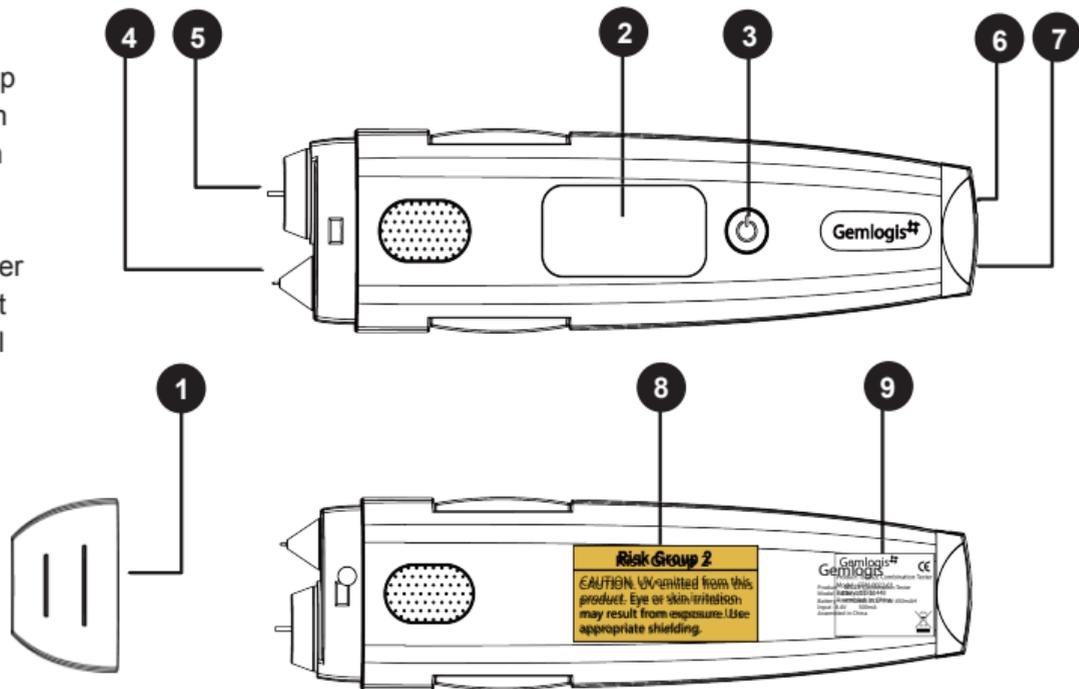
CAUTION. UV emitted from this product. Eye or skin irritation may result from exposure. Use appropriate shielding.

Please note that UV light will be emitted for 1.5 seconds by BELIZE during each test, according to IEC/62471 standard its optical radiation is classified as Risk Group 2(Moderate risk), that means there will be no photo biological safety hazard issue if using BELIZE continuously in case no protective measure for eye or skin but not more than 40 minutes. However, for safety reasons, anytime when using BELIZE to perform a test, be sure to wear UV protective glasses and gloves (as supplied) to protect eyes and skin.

GEMLOGIS BELIZE

DESCRIPTION:

- 1 – Protective Cap
- 2 – Result Screen
- 3 – On/Off Button
- 4 – Test Probe 1
- 5 – Test Probe 2
- 6 – Lanyard Holder
- 7 – Charging Inlet
- 8 – Caution Label
- 9 – Safety Label



ACCESSORIES:

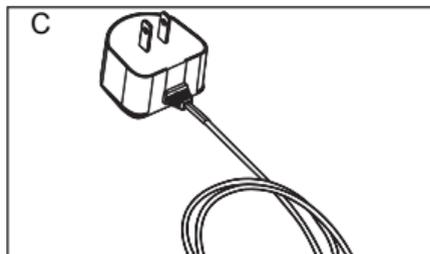
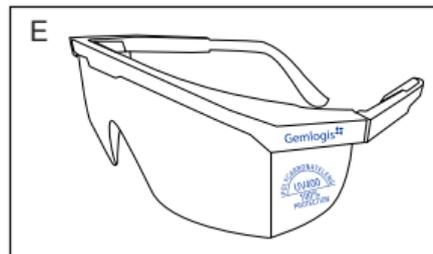
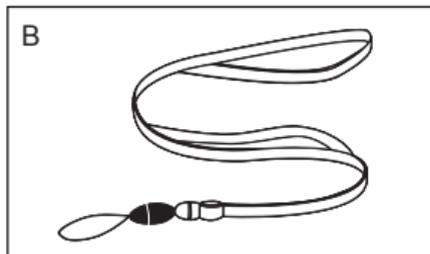
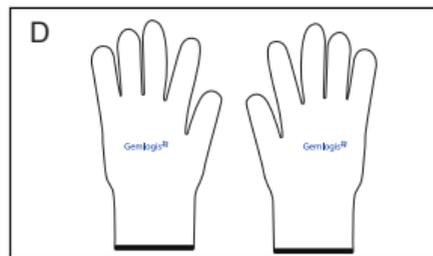
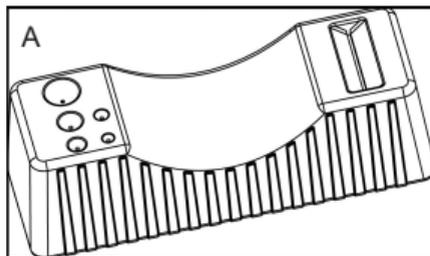
A – Metal Stone Rest

B – Lanyard

C – Universal Charger

D – UV Protective Gloves

E – UV Protective Glasses



BEFORE PERFORMING A TEST

- a. Allow the gemstone or jewelry piece to adjust to room temperature prior to testing.
(Note: The recommended testing temperature is between 18°C – 26°C (64°F – 79°F) with relative humidity below 80%. Operating the tester outside the recommended testing temperature will affect the accuracy and consistency of the test result).
- b. Clean the gemstone with a dry tissue or jewelry cloth to remove any moisture and dust before testing (Fig. 1). Extensive cleaning procedures are not necessary.
For loose gemstone (Fig. 2). Place the gemstone on the supplied Metal Stone Rest.

Fig. 1

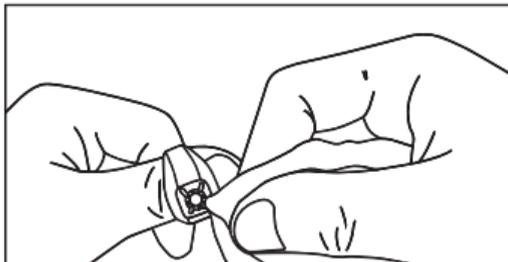
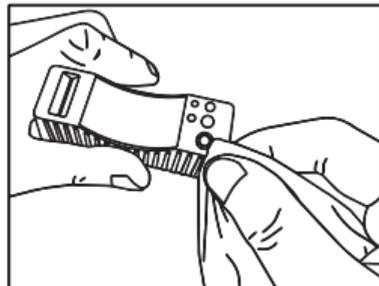


Fig. 2



c. Wear the UV protective gloves and UV protective glasses before testing (Fig. 3).
(Note: When performing test 2, the tester will give off the UV light for 1.5 seconds, direct contact use harm. Be sure to wear UV protective equipment to protect your skin and eyes from the UV light radiation).

Fig. 3



d. Remove the protective cap (1) from the probe tip prior to performing the test as shown in (Fig. 4).

It is recommended to clean the probe tip if the tester is being used for the first time or after long periods of storage.

Gently rub the tip with a piece of paper in back and forth motion or along the edge of the metal stone rest to remove oxidation layer on tip (Fig. 5).

Fig. 4

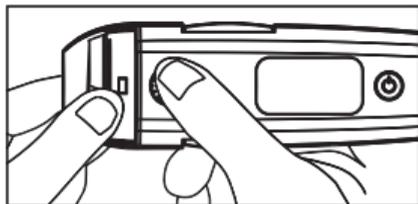


Fig. 5

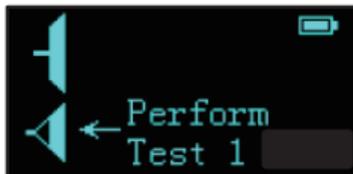


Be sure that the stone is well mounted and it is in contact with its metal setting or mounting. A stone that is very loose may result in inaccurate reading.

TO PERFORM A TEST

- 1) Press and hold the POWER/TEST button for more than 2 seconds to power ON the device. Allow approximately 20 seconds for the initial warmup process during which dots will appear continuously in the Result Screen. Once the dot stops moving and displays “Perform Test 1” device is ready for use.
- 2) Follow the instruction on the Result Screen to perform the “Perform Test 1” (Fig. 6).

Fig. 6



For testing mounted gemstones, hold a mounted jewelry in one hand and the tester in the other (Fig. 7).

For testing loose gemstones, place the stone on the supplied Metal Stone Rest (A) and select a proper groove according to the size of the stone. Secure the Metal Stone Rest with one hand while holding the tester in the other as shown in Fig. 8.

Place the Thermal tip against a facet of the stone. Press quickly and firmly and avoid touching the setting to establish a reading.

Fig. 7

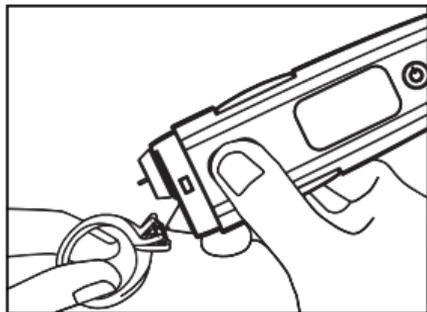
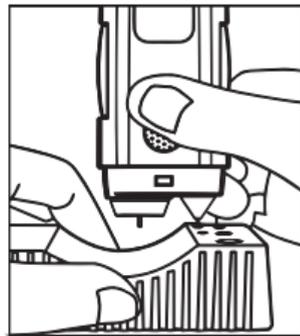


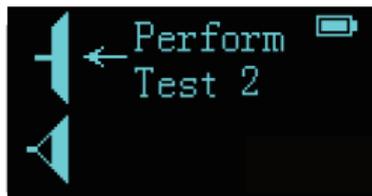
Fig. 8



For Simulant, it will indicate Simulant directly after the Test 1.

If the stone is a Moissanite or Diamond, it will display “Moissanite and Diamond” then prompt for the second test “Perform Test 2” on the Result Screen (Fig. 9).

Fig. 9



Follow the instruction on the Result Screen to perform the “Perform Test 2”. Place the probe tip against a facet of the stone, mounted gemstone (Fig. 10); loose gemstone (Fig. 11).

Fig. 10

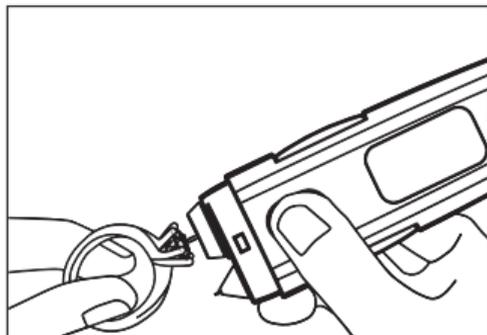
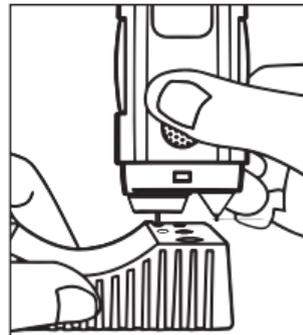


Fig. 11



TESTING REQUIREMENTS

The Probe Tips should always be placed at the center of the table facet of the gemstone (Fig. 12) perpendicular to the stone for an accurate reading (Fig. 13).

Fig. 12

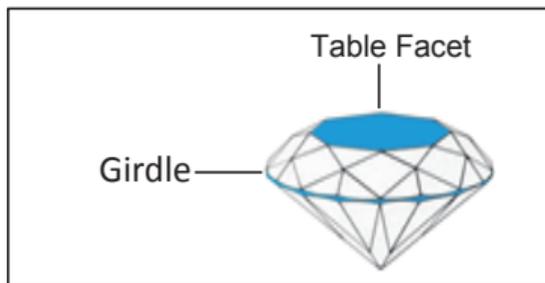
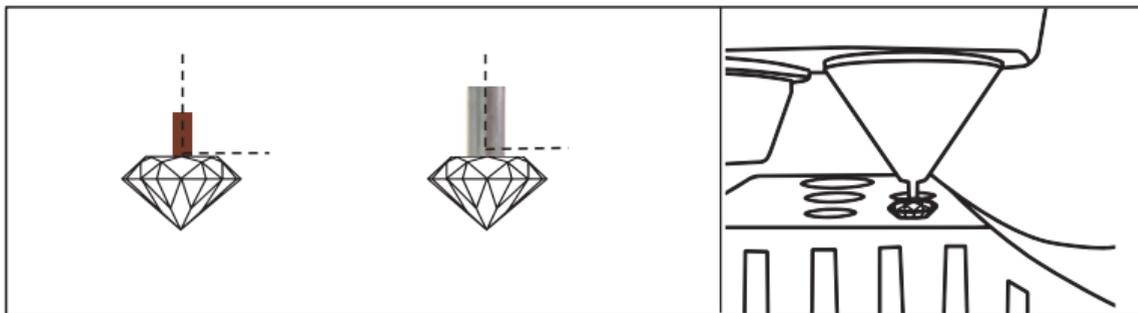
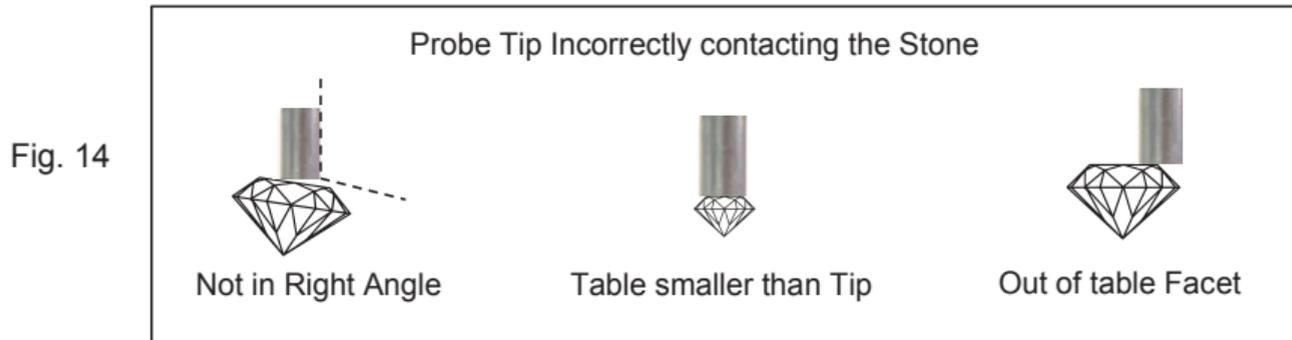


Fig. 13



Inaccurate test results will occur if the Probe Tip is incorrectly placed in contact with the stone (Fig. 14).



For testing loose gemstones, place the stone on the supplied Metal Stone Rest (A) and select a proper groove according to the size of the stone (Fig. 15).



READING THE TEST RESULT

Simulant - It depends on the thermal inertia of the color stones. For low thermal-conductive simulants such as glass and cubic zirconia will indicate a lower level on the indicator bar (Fig. 16). For the higher thermal-conductive than other simulants such as corundum and topaz will indicate a higher level on indicator bar (Fig. 17).

Fig. 16



Fig. 17



Metal-Metal is detected (Fig.18)

Fig. 18



Moissanite - Moissanite is detected (Including Forever One Moissanite) (Fig. 19).

Fig. 19



Earth-Mined - IaA, IaAB, Ib, the diamond has not been colored enhanced by HPHT treatment. Can be considered as a Natural Diamond (Fig. 20).

Fig. 20



Type IIa, HPHT / CVD - IaB, IIa, IIb, the diamond may be synthetic or color enhanced by HPHT treatment. Recommend to send the stone to a gem laboratory for further examination (Fig. 21).

Fig. 21



Note:

- The Gemlogis Belize does not specifically confirm whether a natural diamond has been enhanced by HPHT treatment.
- The Gemlogis Belize works accurately with known colorless diamonds (Color:D to J).
Clarity:VVS1-S12

SWITCHING BETWEEN LEFT-HAND or RIGHT-HAND

- 1) Press and hold the POWER button (3) for more than 3 seconds to open the menu option.
- 2) Press the POWER button again to display cursor for option selection (Fig. 22).

Fig. 22



```
→ Left_hand  
Right_hand  
Music_On/Off  
IR_On/Off
```

- 3) Press the POWER button to move cursor (Fig. 23).

Fig. 23



```
Left_hand  
→ Right_hand  
Music_On/Off  
IR_On/Off
```

- 4) Press and hold the POWER button for more than 2 seconds to select either Left hand or Right hand usage.

ACTIVATING THE IR TO EXPAND THE READINGS OF SIMULANT ON BLEU

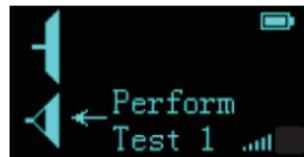
BELIZE can work independently or in-conjunction with Gemlogis BLEU a color stone meter with touch sensitive display to further identify the stone type.

- 1) Press and hold the POWER button (3) for more than 3 seconds to open the menu option.
- 2) Press the POWER button again to display cursor for option selection. (Fig. 22)
- 3) Move cursor to 'IR' position (Fig. 2)
- 4) Press and hold the POWER button for more than 2 seconds to activate the IR transmitter.
- 5) The symbol “” can be seen at bottom right hand corner on the LCD display panel upon activation. (Fig. 25)

Fig. 24



Fig. 25



ACTIVATING THE MUSIC FOR TEST RESULTS INDICATION

- 1) Press and hold the POWER button (3) for more than 3 seconds to open the menu option.
- 2) Press the POWER button again to display cursor for option selection (Fig. 26).

Fig. 26

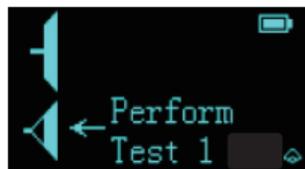


- 3) Press the POWER button to move cursor (Fig. 27).

Fig. 27



Fig. 28



- 4) Press and hold the POWER button for more than 2 seconds to switch on music tone or vice versa. The symbol can be seen at bottom right hand corner on the LCD display panel upon activation. (Fig. 28)

BATTERY & POWER

Charge device for 1 hour BEFORE using it for the first time.

Depleted battery will require approximately 1 hour to charge fully.

Only recharge the device with the adaptor provided in the package.

Battery Indicator

Low Battery image,  = Low Battery

Adaptor Light

- Green Constant = Fully Charged
- Red Constant = Charging
-

Automatic Shut down

- The device will automatically shut down after 10 minutes of inactivity.
- Insufficient battery power will cause the device to automatically shut down.

SPECIFICATIONS OF BELIZE COMBINATION TESTER

Product	Gemlogis BELIZE
Model	GEM-0022-01
Adaptor	ASC-0666-01
Size	181.5×47×24.2mm
Weight	105±10g
Operating Time (Hrs):	3hrs non-stop. 1440hrs standby
Operating Temperature	16 °C ~ 30 °C
Storage Temperature	0 °C ~ 45 °C
Rated Input Voltage and Current	8.4V, 500mA
Humidity	30 % ~ 80 %
Atmosphere	80KPa~110KPa

SPECIFICATIONS OF BATTERY

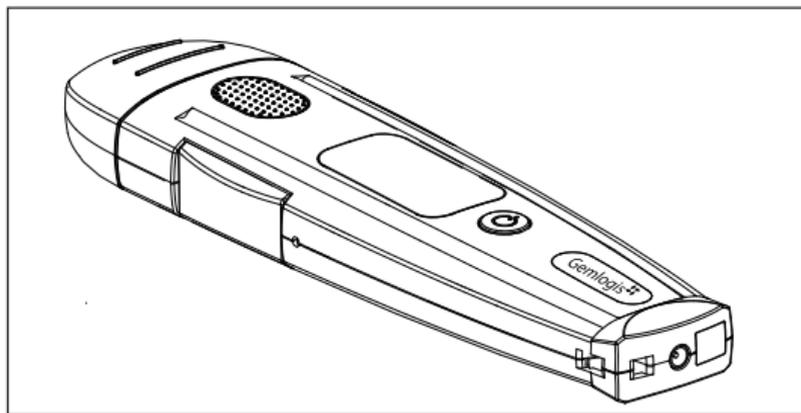
Model	YT751448
Typical Capacity	450mAh
Minimum Capacity	410mAh
Charge Voltage	8.4 V / set
Nominal Voltage	7.4 V / set
Max Discharge Current	200mA
Max Charge Current	500mA
Weight	20 ± 2 g
Operating Temperature	Charge: 20°C~45°C; Discharge: 0°C~45°C
Storage Temperature	0°C~45°C

SPECIFICATIONS OF ADAPTOR

Model	ASC-0666-01
Input Voltage	90 – 240 Vac
Input Frequency	50 / 60 Hz
Power Output	4.2 W
No Load Voltage Output	8.3 – 8.5 Vdc
Max Charge Current	500 mA
Fuse Type	T0.63AL 250V (0.63A 250V Fast Acting Fuse)
Operating Temperature	0°C~40°C
Storage Temperature	-20°C~45°C

CHARGER CONNECTION ILLUSTRATION

Symbol	Description
	Equipment Protected throughout by double insulation or reinforced insulation
	For indoor use only
	Direct Current



WARNING:

- Protection impairment if used in a manner not specified by the manufacturer.
- Please only use the charger (8.5V max) delivered with device, the battery could be damaged if use other charger.

IMPORTANT NOTES

- **Calibrating the Tester:** All instruments have been calibrated during the manufacturing process hence further adjustments are unnecessary. Please note that any damage done to the tester during self-calibration of the instrument will not fall under warranty condition imposed by Jubilee Diamond Instrument Limited.
- **DO NOT TEST A STONE THAT IS WET OR DIRTY.** Dirt, grease or other contaminants not visible to the naked eye may exist on the stone. False reading and risk of damaging the probe tip may occur if these procedures are not followed.
- The accuracy of test results will be affected if small gemstones overheat due to prolonged contact with the tip of the tester. To achieve optimum accuracy for testing very small gemstones (0.10 carat and below), it is important to allow the gemstone to cool down to room temperature in between tests.
- It is not recommended to perform any tests with the low battery indication. Therefore to prevent any inaccurate readings, it is recommended to charge battery immediately.
- Do not attempt to dismantle the unit at all times.
- Use only the charger delivered with the Gemlogis BELIZE. The battery could be damaged if it is charged with other charger.

- The Gemlogis BELIZE tester has undergone thorough and extensive laboratory trials to provide clear and reliable readings. However, it is not intended to act as equivalent to gemologists testing under lab environment. Therefore, any questionable analysis should be supported by a qualified gemologist.
- The test tip is ESD sensitive. To avoid resetting the system, DO NOT touch the test tip with your fingers.

PROPER MAINTENANCE

- Clean the probe tip if the tester is being used for the first time or after long periods of storage.
- Store the tester in a place that dry and free of direct sunlight after use.
- The probe tip should be handled with care, especially during the removal of the protective cap from the tester. When the probe is not in use, always replace the protective cap to keep the probe tip from becoming damaged.
- Please note warranty conditions imposed by Jubilee Diamond Instrument Limited for its products regarding abuse, misuse and unauthorized repairs will be voided. Only defects of manufacturing and/or part failures are covered by the warranty.

INTERNATIONAL WARRANTY

- Gemlogis BELIZE is covered by a 12-month Factory Warranty.
- Defects in material and workmanship are covered under this warranty.
- Warranty will be void by unauthorized repair, misuse, modification, alteration, tempering, accident damage, negligence or improper use.
- Warranty is effective from the date of original purchase.
- Purchaser must fill out the enclosed WARRANTY REGISTRATION FORM and mail it back to the address as stated on the back of this handbook along with a copy of the invoice (bill of sale) within 30 days of purchase.
- If the above criteria is not met, the device will be automatically covered by a 90 DAY LIMITED WARRANTY from the date of your purchase.
- In the event that this model is no longer available or has been discontinued but warranty coverage is applicable, at the sole discretion of the manufacturer, an equivalent device may be substituted in place of the defective model.
- The purchaser shall incur the cost for postage insurance and handling for all warranty covered and non-warranty covered repairs.

DISCLAIMERS:

Under no circumstances shall Jubilee Diamond Instrument Ltd, the manufacturer or any of its subsidiaries, distributors or third parties be liable for any direct or indirect damages, resulting from the use of this instrument.

Due to continuous product improvement, Jubilee reserves the right to revise all documents including the right to make changes to the user handbook without notice and without obligation to notify any person of such revisions or changes. Users are advised to check Gemlogis's website at <https://www.gemlogis.com/> from time to time.

SAFETY CERTIFICATIONS

- Compliance with EMC require of EN 61326-1, EN 61326-2-2, EN/IEC 61000-3-2 and EN 610003-3.
- Compliance with FCC Rules and Regulations Part B.
- Compliance with EN62741.

 **CUSTOMER SUPPORT CENTER**

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website

www.gemlogis.com

Gemlogis 

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