



HI-POT TESTER

7620

User's Manual

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1. Before

WARNING!

This equipment is intended for use by suitably trained and competent person.

This product is capable of having hazardous voltages of 6000V DC for testing, appropriate precautions should be taken for safety.

This product can cause hazards if it is not used in accordance with these instructions. Read them carefully and follow them in all respects. Double-check connections to the unit before use.

DO NOT USE THIS EQUIPMENT IF IT IS DAMAGED.

1.1 Electric Shock Avoidance

Please wear a pair of insulating gloves when using the equipment to avoid electric shock.

1.2 Grounding

Disconnection of the protective ground terminal is likely to make the equipment dangerous. Check connections to the ground terminal on the back panel carefully.

1.3 AC Power Supply

This equipment is provided with power cable capable of carrying the input current for both 115V and 230V operation. The Supply voltage can be checked by looking on the rear panel next to the power inlet connector. The supply voltage setting can be changed by first disconnecting the unit from the power supply and adjusting the switch to read required voltage. Before applying power to the instrument, ensure that the voltage selector located at rear panel is set to the voltage of the local power supply.

1.4 Connecting Test Leads to High Voltage output terminal

Turn off the equipment before connecting the test leads to the high voltage output terminal. Ensure the wires and leads are in a safe condition.

1.5 Warm-up

This equipment can begin work immediately after turned on, for more accurate results, please wait 15 minutes for the tester to warm-up.

1.6 External control

The tester can be controlled by external signals. Be sure that the operator can not reach the high-tension output terminal and the object during the external control.

1.7 Malfunction

If find there are malfunctions with the tester (For Example: There is a great difference on value between the voltage displayed by the voltmeter and the voltage you set, or the signal lamp for high-tension output terminal steadily on while there is not high voltage outputting), please stop using it immediately, contact us for repairing.

1.8 Switching the unit off

When the tester is not in use, please switch it off.

1.9 Preservation

The unit can work efficiently at temperature of 5°C ~ 40°C, humidity of 80% RH, and can be stored in a place of -20°C ~ 70°C, 80% RH. Please do not put the tester at a dusty place or a place of high-temperature, high-humidity. Shaking frequently and insolation is also forbidden.

1.10 In Case of Emergency

If receiving an electric shock or the tester is causing fire, please turn off the tester and disconnect the power source.

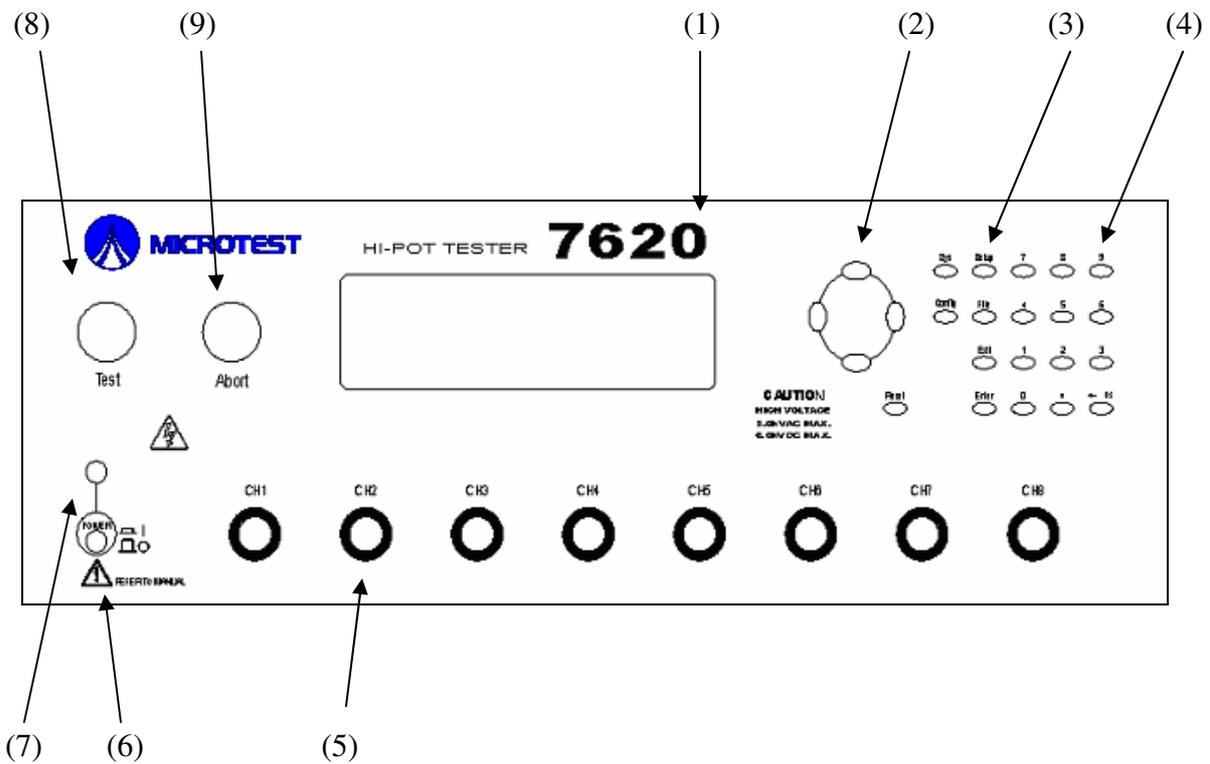
2. General

2.1 Contents & Accessories

There should have the following items in the package:

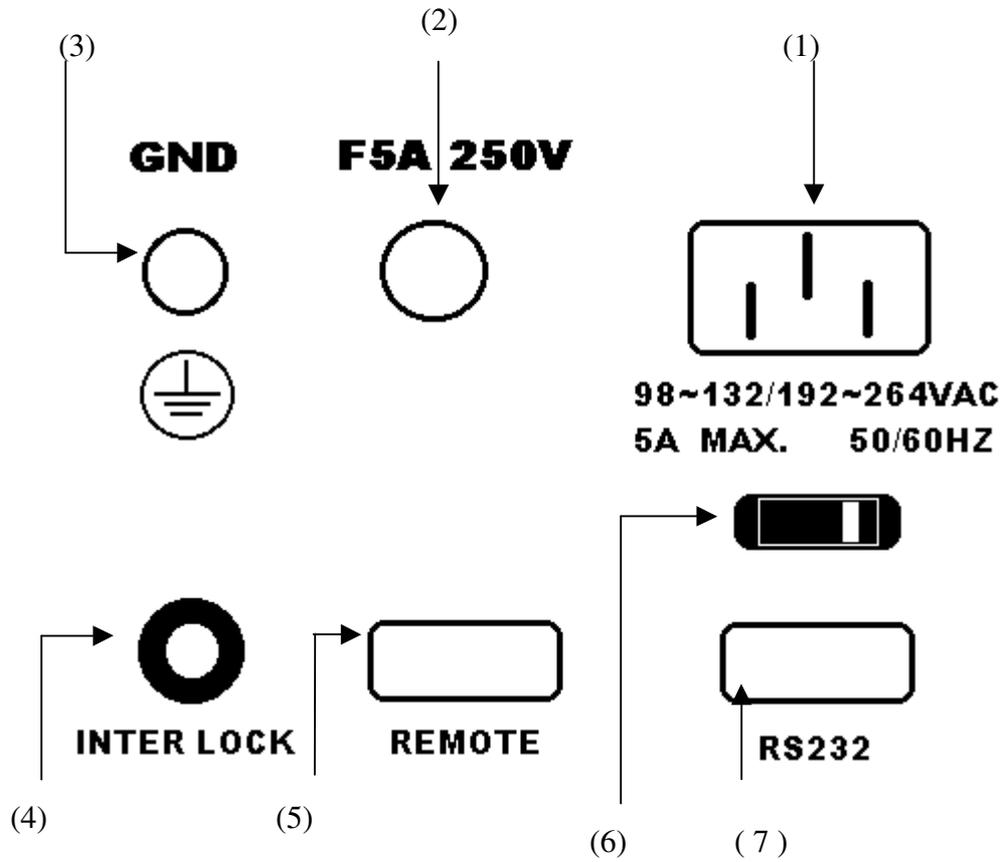
1. HT-7620 HI-POT Tester *1
2. High voltage test leads (Red) *2
3. AC power cable *1
4. 3 to 2 AC Line Adaptor *1
5. User's manual *1
6. Safety pin for high-tension current output *1

2.2 The Front



- (1) LCD Display
- (2) Navigation Keys
- (3) Control Keys
- (4) Data Entry Keys
- (5) High Voltage output terminal
- (6) High Voltage output terminal Signal
- (7) Power Switch
- (8) Test Key (With PASS LED)
- (9) Abort Key (With FAIL LED)

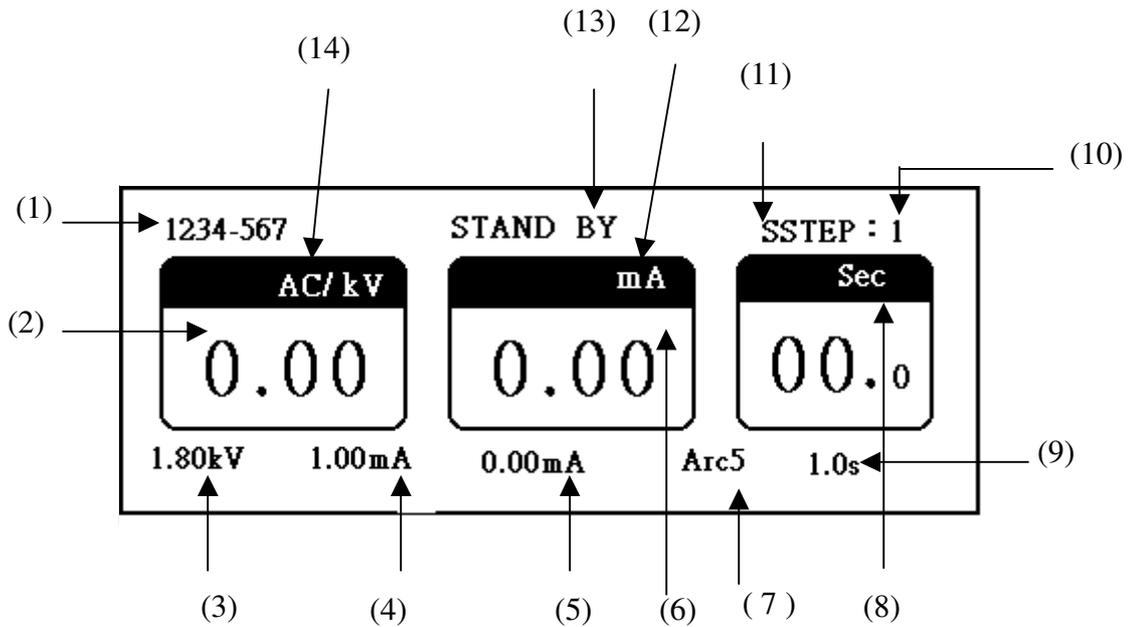
2.3 The Back Panel



- (1) AC mains power input
- (2) Fuse holder
- (3) Ground terminal
- (4) Safety Inter Lock
- (5) Remote port
- (6) 115/230 voltage selector
- (7) RS-232 Port

3 OPERATION ISTRUCTION

3.1



- (1) High voltage output channel: HV channel-RT channel.
- (2) Output voltage .
- (3) Voltage setting.
- (4) Hi-limit setting.
- (5) Low-limit setting.
- (6) Current value detected (In IR mode, it is the resistance value).
- (7) Arc acuity setting, the value is 0 when arc detect is off.
- (8) Test duration.
- (9) Test duration setting.
- (10)Number of current step.
- (11)“S” stands for Single-test step while “M” stands for Multi-test step.
- (12)Units. Display Ω in IR mode
- (13)Messages of tester status.
- (14)Current test mode: AC, DC or IR.

3.2 Operation

Please ensure the safety inter lock is plug in before testing, the unit will not out put high voltage and will display “HI – POT LOCK” if safety inter lock is not in its place.

When idling, press **Setup** key to enter option menu (Figure 1), use left and right arrow to shift the items, and use up and down arrow or numeric keyboard to change.

3.2.1 Test Step (Step)

Display current step, use up arrow and down arrow or numeric keyboard to edit.

3.2.2 Test Mode (Mode)

Use up arrow and down arrow to shift the modes between AC, DC & IR.

3.2.3 Voltage Setup (Volt)

Use up arrow and down arrow to edit output voltage setting or key in the voltage value by numeric keypad (If the value you keyed in beyond the upper limit or below the lower limit, it will automatically fit the limit).

3.2.4 Frequency Selection (Freq.)

Use up arrow and down arrow to shift the AC frequency between 50Hz & 60Hz.

3.2.5 Setup High Limit (HI)

There will be a message showing **HILIMIT** as the **FAIL** indicator indicates when the current detected is beyond the upper limit.

3.2.6 Setup Low Limit (LO)

There will be a message showing **LOLIMIT** as the **FAIL** indicator indicates when the current detected is beyond the lower limit. If the voltage is rising, the check for lower limit will pause until the process of rising finish.

3.2.7 Setup Offset (OFF)

There are two ways for offset calibration: Auto setting & Manual setting.

Auto setting: Put the cursor at "**OFF**" and press "**TEST**", then the tester will test the voltage and display the result, also a string of "**SAVE=ENTER**" shows up, press "**ENTER**" to save the result or press "**EXIT**" to abort. If the result saved, every time the test is running, the certain value would be taken out to make the test more accurate.

3.2.8 Setup Arcs (Arcs)

The way to set Arc Sensitivity is the same as the one for other settings. The higher the value is, the lower sensitive it will be for the tester to arcs. And it will be ignored if the value sets at 0.

3.2.9 Setup Dwel (Dwel)

The value here determines the lasting time of test. If the value equals 00.0, there will be a continuous test until a low quality item detected or "**ABORT**" is pressed.

3.2.10 Setup Ramp Time (Ramp)

The time needed for voltage to rise to preset voltage from 0.

3.2.11 High Voltage Output Setting (CH)

Put the cursor at the output terminal channel, use up arrow and down arrow to shift the modes between HV & RT. One pair of HV & RT is needed at least. (Figure 1)

Step	: 1	Mode	: AC HIPOT
Volt	: 1.80kV	Freq	: 60Hz
HI	: 1.00mA	Lo	: 0.00mA
OFFS	: 1.00mA	Arcs	: 5
Dwel	: 01.0s	Ramp	: 00.1s
CH	: 1 2 3 4 5 6 7 8		
	HV HV HV HV	RT RT RT	

Figure 1

3.3 SYSTEM SET-UP:

Press “**SYS**” to enter the system option menu (Figure 2).

<< SYSTEM >>
1 .TEST MODE : ALL STEP
2 .STEP TEST FAIL : STOP
3 .TEST NEXT STEP BY : AUTO
4 .OUTPUT STEP SIGNAL : NO
5 .ALARM : NO
6 .PASSWORD

Figure 2

3.3.1. TEST MODE

Using the numeric key “1” to shift the test mode between **SINGLE STEP** & **ALL STEP**, if choose **ALL STEP** mode, the test will perform methodically from the 1st step to the 8th step when the test started. Notice that if one of the steps is not set with output terminal, it will not be tested as the

3.3.2. STEP TEST FAIL

User can select this option to stop the instrument from further testing when a low quality item is detected in a multi-step test. User can shift between the options by pressing numeric key “2”. If choose **STOP**, the test will end as a low quality item is detected while choosing **CONTINUE** may ignore such a condition.

3.3.3. TEST NEXT STEP BY

This mode is the trigger for the steps in a test. User can shift between the options by numeric key “3”. If choose **TEST KEY**, the test will pause until the **TEST** key is pressed for every step while choosing **AUTO** may ensure a continuous test.

3.3.4. OUTPUT STEP SIGNAL

User can use this option to set the signals for every step in a multi-step test. User can shift between the options by numeric key “4”. If choose **YES**, the tester will display the signal results for every step while choosing **NO** the tester may display the judgment at the end of the test (in this condition, the judgment will be **FAIL** even there is only one low quality item).

3.3.5. ALARM

It is the switch for **FAIL** alarm. User can shift between the options by numeric key “5”. If choose **ON**, the **FAIL** signal lamp will bright with a beep while choosing **OFF** the signal lamp will bright without a beep.

3.3.6. PASSWORD

Change password. Input the original password first, then input the new password and confirm it. (The original password for the system is 7620)

```
      << SYSTEM >>
1 .TEST MODE : ALL STEP
2 .STEP TEST FAIL : STOP
3 .TEST NEXT STEP BY : AUTO
4 .OUTPUT STEP SIGNAL : NO
5 .ALARM : NO
6 .PASSWORD
```

Figure 2

3.4 CONFIG

This key is used to enter the system option menu shown on Figure 3.

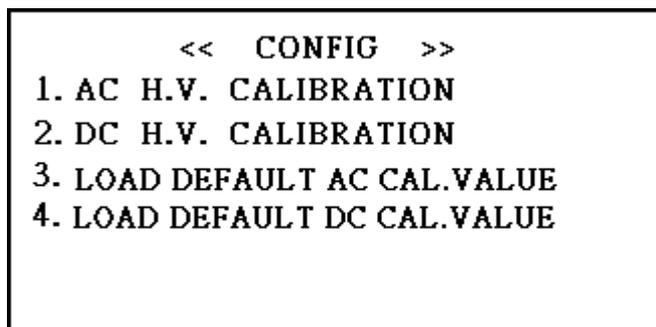


Figure 3

3.4.1 AC H.V. CALIBRATION

User can use it to correct the AC H.V. when there is something wrong with the voltage. Press numeric key "1" in system option menu followed by the password, take off the two clamps in order to avoid the influence on output voltage of terminal load. Enter the AC H.V. CALIBRATION menu (Figure 2), there will be a value of preset voltage to the left, a correcting code for voltage in the middle and the voltage detected to the right. At the beginning, the cursor will be on the line marked 500V and detect the voltage of it. Use up arrow and down arrow to adjust the detected voltage to the preset voltage by change the correcting code. The higher the correcting code is, the higher the output voltage will be. Press **ENTER** to shift to the next line, correct the AC H.V. in the same way. If you press **ENTER** while the cursor is on the line marked 2500V, the cursor will back to the line marked 500V. You can turn to the next page to continue the work by press the right button. When the work is finished, press **EXIT** to exit, the values will be saved automatically.

3.4.2 DC H.V. CALIBRATION

User can use it to correct the DC H.V. when there is something wrong with the voltage. The method is the same as the AC H.V. correcting. Notice that the maximum voltage for DC is 6000V and there will be two more line than the AC H.V. correcting.

3.4.3 LOAD DEFAULT AC CAL. VALUE&LOAD EFAULT DC CAL. VALUE

User can load Default AC/DC Cal. Values by press **S3/S4** followed by the password in the system option menu. The system will warn user with a message that "Current correcting code will be lost". Press **ENTER** to load the default values or press **EXIT** to abort.

3.5 FILE

Press it to enter the File Management menu (Figure 4).

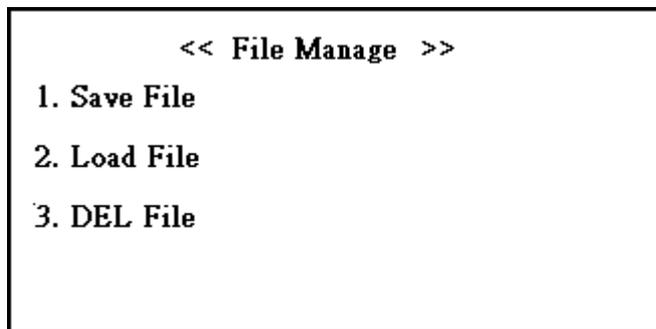


Figure 4

3.5.1 Save File

User can use it to save the file when all the data are checked. Press “1” in the File Management menu to save the file. The filename must be a number within 8 characters. You can save 30 groups of data at most. Once saved, the data will be stored in the memory and won’t be lost even if you switch off the tester.

3.5.2 Load File

Load saved file. Press “2” in the File Management menu to load file. You can either key in the filename or use the up and down arrow keys to load file.

3.5.3 DEL File

To delete file, please press the key “3” in the File Management menu.

3.6 FUNCTION KEYS

The Function Keys are located on the instrument’s upper right front panel, also displayed on Page 6 of this manual.

3.6.1 TEST Key

Press **TEST** to start all tests.

3.6.2 ABORT Key

Press this key to abort a test and return to the ready mode. It can also stop the action of signal lamp and beeper caused by an FAIL result.

3.6.3 RESET Key

Press this key to reset the system. The data will be reloaded as the last saved file.

3.6.4 EXIT Key

Press this key to exit the current menu, and return to the previous menu.

3.6.5 ENTER Key

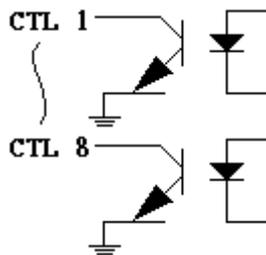
Press this key to enter into the selected menu.

3.7 Key Lock

Press **ENTER** during the displayed opening message soon after the tester is switched **ON** to enable the KEY LOCK mode. There will be a message shown on the screen as “**KEY LOCK: ON**”. In this mode, the user can only carry out the test; this prevents data from being edited. To quit this mode, please reset the tester and press **ENTER** during the opening message displaying. There will be a message as “KEY LOCK: OFF” shown on the screen as you successfully quit the mode.

3.8 REMOTE Control

REMOTE port can be found on the back panel of the tester. Once connected, it enables you to operate the tester by external signals. The high voltage output terminal is hazardous, make sure that the operator cannot make contact with the remote port.



Internal circuit diagram

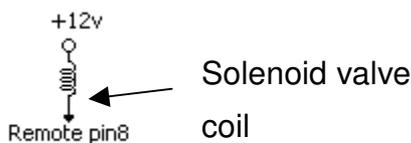
PIN#	NAME	FUNC
1	CTL1	WIND1
2	CTL2	WIND2
3	CTL3	WIND3

4	CTL4	WIND4
5	CTL5	Fixture
6	CTL6	PASS
7	CTL7	FAIL
8	CTL8	H.V. ON
9	V1	+12V
10	SW1	TEST
11	SW2	ABORT
12	RST	RESET
13	V2	+5V
14	V3	+12V
15	GND	

Explanation:

The CTL1-CTL8 contacts serve as the switch; they can not output voltage or signal. The current flowed through the contacts mustn't bigger than 100mA.

- (1) TEST: Cause a short circuit between the 13th Pin (V2) and the 10th Pin (SW1) can perform the function as **TEST** on the front panel.
- (2) ABORT: If the 13th Pin (V2) and the 11th Pin (SW2) are shorted. This can perform the same function as **ABORT** on the front panel.
- (3) RESET: If 13th Pin (V2) and the 12th Pin (RST) are shorted. This can perform the can perform the function as **RESET** on the front panel.
- (4) PASS: The 6th Pin will earth if the device under test is within tolerance (High quality).
- (5) FAIL: The 7th Pin will earth if the device under test is outside tolerance (Low quality).
- (6) H.V. ON: The 8th Pin will earth as the terminal is outputting high-tension current. This signal indicates the instrument is in "testing" mode.



1. Use H.V. ON contact to control the valve of fixture.
2. Signals for PASS, FAIL&LED