



# GPT-9500 Series

## Multi-Channel Hipot Tester

**2 Year WARRANTY**

### FEATURES

- 150VA AC Test Capacity
- 3 in 1 Tester : AC, DC, IR
- Built-in 8 Channel Scanner
- 480 x 272 Color TFT LCD
- Test Parameter Export/Import Through USB Host
- Statistics (Counter) Function
- Insulation Resistance Measurement up to 10GΩ
- Open/Short Check (OSC)
- ARC Detection
- Multi-language : Traditional/Simplified Chinese, English
- Interface : RS-232C, USB Host/Device and Signal I/O

**GW INSTEK**  
Simply Reliable

GW Instek introduces a new multi-channel withstanding voltage tester-the GPT-9500 series. This series has 2 models and each model has a built-in 8-channel scanner. The series meets safety regulations: IEC, EN, UL, CSA, GB, JIS and other safety regulations. The series aims at the needs of the main test items of general electronic components or winding components during routine tests.

The GPT-9500 series is a three-in-one multi-channel tester, providing AC withstanding voltage (5kV max.), DC withstanding voltage (6kV max.), and insulation resistance (1000V max.). The design of the series conforms to the latest IEC-61010-2-034 standard requirements and it is built on the output platform of AC 150VA. The status of the 8 channels of GPT-9513 can be set to H, L or X according to the test requirements, especially suitable for winding components such as transformers to perform mutual testing of multiple points of single components. The status of the 8 channels of GPT-9503 only provides the setting of H or X, which is more suitable for general components such as passive components for high-voltage testing between two points.

The GPT-9500 series adopts 4.3' color LCD (480 x 272 resolution), which provides users with complete measurement information and a user-friendly operation interface, making operation and setting parameters easier and more convenient. AUTO test supports tabular display, therefore, there is unnecessary to switch the screen to see all the test results. At the same time, the series provides the statistical counting function. Users can quickly obtain the total number of tests and the number of NO-GOs without connecting an external counter. All scanning channels are all configured on the rear panel of the tester. Other than being relatively esthetic when the tester is mounted on the rack, the design can also avoid personal injury by preventing accidental contact during the output process. The disconnection detection function is provided for the series to avoid the misjudgment of the test caused by the disconnection of the wire.

Other functions and features of the GPT-9500 series include the export/import function of setting parameters, which can copy the settings of one tester to the same model testers on the production line through a USB flash drive. By so doing, the test stations of the production lines can be quickly expanded and the risk of errors caused by repeated inputs can also be avoided; the zero start function, which avoids the impact of instantaneous voltage on the DUT; the interlock function, which is a safety protection hardware structure to allow users to connect external protection devices; display in 3 languages, which include English, Traditional Chinese and Simplified Chinese; and the Signal I/O terminal and RS-232C/USB device on the rear panel, which can be used for external control and monitoring or measurement data acquisition.

## PANEL INTRODUCTION

The image shows the front and rear panels of the GW Instek GPT-9513. The front panel (top) features a large color LCD display (1), a power button (2), a start button (3), a USB host port (5), and a USB device port (6). The rear panel (bottom) shows eight test channels (CH 1-8) (9), an RS-232C port (7), a signal I/O port (8), and various safety warnings and indicators.

CE

USB Host

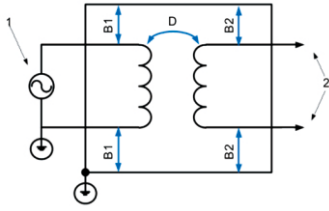
USB Device

RS-232

Signal I/O

1. 480 x 272 color LCD display screen supports the observation of the best setting parameters, test voltage and measurement results
2. High-brightness LED indicators show the status of the tester
3. High voltage output AC 5kV or DC 6kV IR 1kV max.
4. High voltage output RETURN terminal
5. USB host terminal can be used to import/export setting parameters, firmware upgrade, and screen capture.
6. Function selection keys directly correspond to the functions indicated on the display
7. RS-232C / USB device are used for computer connection control
8. Signal I/O interface provides external control "start" and "stop", and can also monitor the status of the tester
9. 8-channel outputs provide H or L or X status settings according to different models

## A. MEETS IEC 61010-2-034 DESIGN REQUIREMENTS



### Meets IEC 61010-2-034 Design Requirements

GPT-9500 is the world's first multi-channel hipot tester to comply with IEC 61010-2-034 (Safety requirement for electrical requirement for measurement, control and laboratory use – particular requirements for measurement equipment for insulation resistance and test equipment for electric strength). Apart from this, the safety considerations also include double insulation for input and output voltages, safe output/warning mechanism, post-test discharge mechanism, etc. to ensure user safety during the operation.

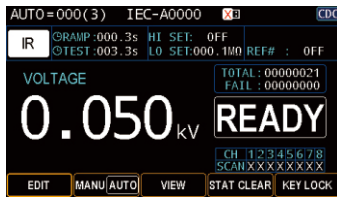
## B. FRIENDLY USER INTERFACE



### 4.3' Color LCD, High-brightness Indicator and Function Keys

Operation design in simplicity is incorporated into the tester through configuring the function keys at the bottom of the LCD screen to easily change the test function by just pressing the function keys, or by rotating the knob to change the measurement value, which greatly improves the convenience of operation; updating various status indicators on the front panel immediately according to the status on the display, which not only provides users with a more comprehensive control of the test status, but also avoids unnecessary operation risks. For example, when the output is executed, the high-voltage output indicator will keep flashing.

## C. COMPLETE INFORMATION PRESENTATION



### Rich Information

The large-sized LCD clearly and simultaneously displays the test voltage, test parameters, test status, measurement value and judgment result. The channel usage status and statistical counting results (the total number of tests and the number of FAILs) can be

| SM | STEP | MODE | VOLT    | CURR/OHM | STATUS | SCAN       |
|----|------|------|---------|----------|--------|------------|
| 01 | 002  | DCM  | 3.0011V | 0.0µA    | PASS   | XXXXXXXXXX |
| 02 | 004  | IR   | 0.5031V | >50GΩ    | PASS   | XXXXXXXXXX |
| 03 | 005  | IR   | 0.0511V | >10GΩ    | PASS   | XXXXXXXXXX |

### AUTO Mode Listed Result

displayed simultaneously, hence, users can easily obtain complete information without switching the screen or connecting an external counter. In addition, AUTO mode also supports tabular testing, which greatly improves the convenience of observation.

## D. CONVENIENT PARAMETER DUPLICATION



### Export/Import of Setting Parameters

The GPT-9500 series supports the export/import of setting parameters via a USB flash drive. Users only need to set one tester, and the settings can be quickly and massively copied to all testers on production lines that not only improves the efficiency of production testing, but also avoids errors caused by repeated inputs.

## E. SETTING DATA EXPORT / IMPORT MECHANISM



### Channels Configured on the Rear Panel

The channel outputs of the GPT-9500 series are all configured on the rear panel. Other than the aesthetics of the system configuration, it is more important to effectively reduce the possibility of accidental contact by personnel. Each channel provides disconnection detection to avoid performing an invalid test.

## SPECIFICATIONS

|                                |   |  |
|--------------------------------|---|--|
| <b>AC WITHSTANDING</b>         | <b>Output-Voltage Range</b><br><b>Output-Voltage Resolution</b><br><b>Output-Voltage Accuracy</b><br><b>Maximum Rated Load</b><br><b>Maximum Rated Current</b><br><b>Output-Voltage Waveform</b><br><b>Voltage Regulation</b><br><b>Output-Voltage Frequency</b><br><b>Voltmeter Accuracy</b><br><b>Current Measurement Range</b><br><b>Current Best Resolution</b><br><b>Current Measurement Accuracy</b><br><b>Current Offset</b><br><b>ARC Detect</b><br><b>RAMP TIME (Rise Time)</b><br><b>FALL Time</b><br><b>WAIT Time</b><br><b>TIMER (Test Time)</b><br><b>TIMER Accuracy</b><br><b>GND</b> | 0.050kV ~ 5.000kV<br>1V<br>±(1% of setting + 5V) [no load]<br>150 VA (5kV/30mA)<br>30mA ; 0.001mA ~ 10mA (0.05kV ≤ V ≤ 0.5kV) ; 0.001mA ~ 30mA (0.5kV < V ≤ 5kV)<br>Sine wave<br>±(1% + 5V) [maximum rated load → no load]<br>50 Hz / 60 Hz selectable<br>±(1% of reading + 5V)<br>0.001mA ~ 30.00mA<br>1 μA (0.001mA ~ 9.999mA) ; 10 μA (10.00mA ~ 30.00mA)<br>±(1.5% of reading + 30 μA)<br>80 μA maximum<br>Yes<br>0.1s~999.9s<br>OFF~999.9s<br>OFF~999.9s<br>CONT, 0.3s~999.9s<br>±(100ppm + 20ms)<br>ON/OFF   |
| <b>DC WITHSTANDING</b>         | <b>Output-Voltage Range</b><br><b>Output-Voltage Resolution</b><br><b>Output-Voltage Accuracy</b><br><b>Maximum Rated Load</b><br><b>Maximum Rated Current</b><br><b>Voltmeter Accuracy</b><br><b>Voltage Regulation</b><br><b>Current Measurement Range</b><br><b>Current Best Resolution</b><br><b>Current Measurement Accuracy</b><br><b>Current Offset</b><br><b>ARC Detect</b><br><b>RAMP TIME (Rise Time)</b><br><b>FALL Time</b><br><b>WAIT Time</b><br><b>TIMER (Test Time)</b><br><b>TIMER Accuracy</b><br><b>GND</b>  | 0.050kV~6.000kV<br>1V<br>±(1% of setting + 5V) [no load]<br>50W (5kV/10mA)<br>10mA ; 0.001mA ~ 2mA (0.05kV ≤ V ≤ 0.5kV) ; 0.001mA ~ 10mA (0.5kV < V ≤ 6kV)<br>±(1% of reading + 5V)<br>±(1% + 5V) [maximum rated load → no load]<br>0.001mA ~ 10.00mA<br>0.1 μA (0.1 μA ~ 999.9 μA) ; 1 μA (1 μA ~ 9.999mA) ; 10 μA (10.00mA)<br>±(1% of reading + 1 μA) when I Reading < 1mA ; ±(1% of reading + 10 μA) when I Reading ≤ 1mA<br>5 μA maximum<br>Yes<br>0.1s~999.9s<br>OFF~999.9s<br>OFF~999.9s<br>CONT, 0.3s~999.9s<br>±(100ppm + 20ms)<br>ON/OFF                     |
| <b>INSULATION RESISTANCE</b>   | <b>Output Voltage</b><br><b>Output-Voltage Resolution</b><br><b>Output-Voltage Accuracy</b><br><b>Resistance Measurement</b><br><b>Test Voltage</b><br><b>50V ≤ V &lt; 500V</b><br><b>500V ≤ V ≤ 1000V</b><br><b>Voltage Regulation</b><br><b>Voltmeter Accuracy</b><br><b>Short-Circuit Current</b><br><b>Output Impedance</b><br><b>RAMP TIME (Rise Time)</b><br><b>FALL Time</b><br><b>WAIT TIME</b><br><b>TIMER (Test Time)</b><br><b>TIMER Accuracy</b><br><b>GND</b>  | 50V~1000V dc<br>1V<br>± (1% of setting + 5V) [no load]<br>0.1MΩ~10GΩ<br><b>Measurement Range / Accuracy</b><br>0.1MΩ~1MΩ : ± (5% of reading + 3 count) ; 1 MΩ~50MΩ : ± (5% of reading + 1 count) ;<br>51MΩ~2GΩ : ± (10% of reading + 1 count)<br>0.1MΩ~1MΩ : ± (5% of reading + 3 count) ; 1 MΩ~500MΩ : ± (5% of reading + 1 count) ;<br>501MΩ~10GΩ : ± (10% of reading + 1 count)<br>± (1% + 5V) [maximum rated load → no load]<br>± (1% of reading + 5V)<br>10mA max.<br>2kΩ<br>0.1s~999.9s<br>OFF~999.9s<br>OFF~999.9s<br>0.3s~999.9s<br>±(100ppm + 20ms)<br>ON/OFF |
| <b>CONTINUITY TEST</b>         | <b>Output-Current</b><br><b>Ohmmeter Measurement Accuracy</b>   | 100mA dc<br>1Ω ± 0.2Ω, ON/OFF  |
| <b>INTERFACE</b>               | <b>Signal I/O</b><br><b>RS-232C</b><br><b>USB (Device)</b><br><b>USB (Host)</b><br><b>Rear Output</b>   | Standard<br>Standard<br>Standard<br>Standard (for Parameter/LCD Hardcopy)<br>Scanner   |
| <b>DISPLAY</b>                 |   | 4.3" Color LCD   |
| <b>POWER SOURCE</b>            |   | AC 100V~240V ± 10%, 50Hz/60Hz  |
| <b>DIMENSIONS &amp; WEIGHT</b> |   | 320(W) x 120(H) x 435(D) mm; Approx. 11kg  |

\* The specifications apply when the GPT-9500 is powered on for at least 30 minutes under +15°C~+35°C.

Specifications subject to change without notice. PT-9500GD1BH

### ORDERING INFORMATION

**GPT-9513** AC 150VA Multi-Channel Hipot Tester  
**GPT-9503** AC 150VA Multi-Channel Hipot Tester

### ACCESSORIES

Quick Start Guide x 1, CD x 1 (Complete User Manual), Power Cord x 1,  
 Test Leads GHT-115 x 1, GHT-116B x 1, GHT-116R x 8

### OPTIONAL ASSESSORIES

**GTL-236** RS-232C Cable, approx. 2m  
**GTL-246** USB Cable, A-B type, approx. 1.2m

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