

## GPT-9900 Series



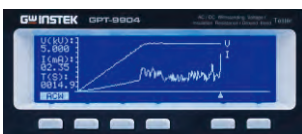
The GPT-9900 Series is built upon a platform of maximum power output AC 500VA which supports the major test items complying with safety standards, such as IEC, EN, UL, CSA, GB, JIS as well as other safety regulations.

The GPT-9900 Series safety tester inherits every feature and advantages from the GPT-9800 Series. The high-efficiency PWM amplifier, which is designed to impede the influence caused by voltage fluctuation of input AC source, is the core of GPT-9900 platform. The output voltage is automatically cut off (within 150  $\mu$ s) upon the detection of an abnormal output voltage or a trip of current limits during the measurement to protect the operators from hazardous injury. The safety tester will automatically discharge the DUT after each test to eliminate excessive voltage remained inside DUT.

Other significant functions and features of the GPT-9900 Series include the "Sweep" function, which is used to display the test results represented by the trace graph; The output terminal at the rear panel is used for system applications; The open-circuit detection is used to ensure proper connections of apparatus for ground bond test; 100 sets of memory can save and recall the panel settings for individual or sequential tests; A remote output on-off terminal at the front panel and a signal I/O port at the rear panel provide an external control for remote start/stop of the safety tester; Thus, RS-232C, USB and GPIB (optional) interfaces are available for PC remote control and the storage of test results.

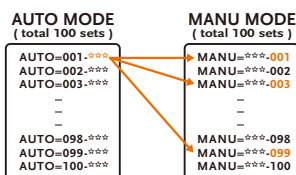
### Unique Sweep Function

The Sweep Function is used to demonstrate the test results of DUT, which are represented by trace graph. This helps users verify the changes of measured parameter (current or resistance) during the whole measurement process instead of one final value at the end.



### Convenient MANU and AUTO Test

Any test conditions that have been previously stored can be used for a single test or combined together for automatic testing.



### Friendly User Interface

The 240 x 64 LCD displays the necessary information such as test conditions, measurement results within single screen. Besides, the function keys arranged below the LCD display provide users with easy execution of test setup.



### Variety of Control Methods

Except using the START/STOP buttons to control, the GPT-9900 series provides a remote terminal and a signal I/O port. Furthermore, the interfaces including RS-232C, USB and GPIB (option) within all the models allow users to retrieve test results via a PC connection.



### FEATURES

- 500VA AC Test Capacity
- 240x64 Ice Blue Dot Matrix LCD
- Sweep Function for DUT Characteristic Analysis
- Insulation Resistance Measurement up to 50G $\Omega$
- Manual/Auto Mode
- Function Key for Quick Selecting
- High Intensity Flash for Caution & Status Indication
- Safety Interlock Function
- Zero Crossing Turn-on Operation
- Controllable Ramp-up Time
- True RMS Current Measurement
- High Resolution : 1  $\mu$ A for Measuring Current, 2V for Setting Voltage
- PWM Switching Amplifier to Enhance the Power Efficiency and Reliable Testing
- Max. 100 Memory Block for Test Condition(Step) Setting. And Each Step can be Named Individually
- Remote Terminal on the Front Panel for "Start"and"Stop" Control by External
- Rear Panel Output available
- Interface : RS-232C, USB Device, Signal I/O and GPIB (Optional)



Rear Panel

### APPLICATIONS

- Quality Assurance Verification
- Safety Standard Compliance Pre-qualification in R&D
- Safety Testing of Electrical Product in Manufacturing
  - Household and Similar Electrical Appliances
  - Luminaires
  - Audio, Video and Similar Electronic Apparatus

## SPECIFICATIONS

| <b>AC WITHSTANDING</b>                 | Output-Voltage Range<br>Output-Voltage Resolution<br>Output-Voltage Accuracy<br>Maximum Rated Load<br>Maximum Rated Current<br>Output-Voltage Waveform<br>Output-Voltage Frequency<br>Voltage Regulation<br>Voltmeter Accuracy<br>Current Measurement Range<br>Current Best Resolution<br>AC Current Measurement Accuracy<br>Window Comparator Method<br>ARC Detect<br>RAMP (Ramp-Up Time)<br>TIMER (Test Time)*<br>Sweep Function*<br>GND | 0.100kV– 5.000kV ac<br>2V/step<br>±(1% of setting + 5V) [no load]<br>500 VA (5kV/100mA)<br>100mA (0.5kV < V ≤ 5kV); 10mA (0.1kV ≤ V ≤ 0.5kV)<br>Sine wave<br>50Hz/60Hz selectable<br>±(1% of rdg + 5V) [full load → no load]<br>±(1% of rdg + 5V)<br>0.001mA–100.0mA<br>0.001mA/0.01mA/0.1mA<br>±(1.5% of rdg+30counts)when HI SET<1.11mA ; ±(1.5% of rdg+30counts)when HI SET≥1.11mA<br>Yes<br>Yes<br>0.1s–999.9s<br>OFF, 0.5s–999.9s<br>Yes<br>ON/OFF  |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
|--|--|--|--|------------------|----------|-----------------|-----------------|-----------------------|-----------------|-----------------|------------------------|-----------------|-----------------|------------------------|
| <b>DC WITHSTANDING</b>                 | Output-Voltage Range<br>Output-Voltage Resolution<br>Output-Voltage Accuracy<br>Maximum Rated Load<br>Maximum Rated Current<br>Voltage Regulation<br>Voltmeter Accuracy<br>Current Measurement Range<br>Current Best Resolution<br>DC Current Measurement Accuracy<br>Window Comparator Method<br>ARC Detect<br>RAMP (Ramp-Up Time)<br>TIMER (Test Time)*<br>Sweep Function*<br>GND  | 0.100kV–6.000kV dc<br>2V/step<br>±(1% of setting + 5V) [no load]<br>100W(5kV/20mA)<br>20mA(0.5kV < V ≤ 6kV); 2mA (0.1kV ≤ V ≤ 0.5kV)<br>±(1% of rdg + 5V)[full load → no load]<br>±(1% of rdg + 5V)<br>0.001mA–20.0mA<br>0.001mA/0.01mA/0.1mA<br>±(1.5% of rdg+30counts)when HI SET<1.11mA ; ±(1.5% of rdg+30counts)when HI SET≥1.11mA<br>Yes<br>Yes<br>0.1s–999.9s<br>OFF, 0.5s–999.9s<br>Yes<br>ON/OFF   |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
| <b>INSULATION RESISTANCE</b>           | Output Voltage<br>Output-Voltage Resolution<br>Output-Voltage Accuracy<br>Resistance Measurement Range<br>Test Voltage<br>50V ≤ V ≤ 450V<br>500V ≤ V ≤ 1000V<br>Window Comparator Method<br>Output Impedance<br>RAMP (Ramp-Up Time)<br>TIMER (Test Time)<br>GND<br>Sweep Function*   | 50V–1000V dc<br>50V/step<br>±(1% of setting +5V)[no load]<br>0.001GΩ– 50.00GΩ<br><table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 35%;">Measurable Range</th> <th style="width: 35%;">Accuracy</th> </tr> </thead> <tbody> <tr> <td>0.001 ~ 0.050GΩ</td> <td>0.051 ~ 2.000GΩ</td> <td>±(5% of rdg + 1count)</td> </tr> <tr> <td>0.001 ~ 0.500GΩ</td> <td>0.501 ~ 9.999GΩ</td> <td>±(10% of rdg + 1count)</td> </tr> <tr> <td>0.501 ~ 9.999GΩ</td> <td>10.00 ~ 50.00GΩ</td> <td>±(15% of rdg + 1count)</td> </tr> </tbody> </table> Yes<br>600kΩ<br>0.1s–999.9s<br>1s–999.9s<br>OFF (fix)<br>Yes |  | Measurable Range | Accuracy | 0.001 ~ 0.050GΩ | 0.051 ~ 2.000GΩ | ±(5% of rdg + 1count) | 0.001 ~ 0.500GΩ | 0.501 ~ 9.999GΩ | ±(10% of rdg + 1count) | 0.501 ~ 9.999GΩ | 10.00 ~ 50.00GΩ | ±(15% of rdg + 1count) |
|  | Measurable Range   | Accuracy   |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
| 0.001 ~ 0.050GΩ                        | 0.051 ~ 2.000GΩ  | ±(5% of rdg + 1count)  |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
| 0.001 ~ 0.500GΩ                        | 0.501 ~ 9.999GΩ  | ±(10% of rdg + 1count)   |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
| 0.501 ~ 9.999GΩ                        | 10.00 ~ 50.00GΩ  | ±(15% of rdg + 1count)   |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
| <b>GROUND BOND<br/>(GPT-9904 Only)</b> | Output-Current<br>Output-Current Resolution<br>Output-Current Accuracy<br>Test-Voltage<br>Test-Voltage Frequency<br>Resistance Measurement Range<br>Resistance Measurement Resolution<br>Resistance Measurement Accuracy<br>Window Comparator Method<br>TIMER (Test Time)<br>Sweep Function*<br>Test Method  | 03.00A–32.00A ac<br>0.01A<br>3A ≤ I ≤ 8A: (1% of rdg+0.2A), 8A < I ≤ 32A: (1% of rdg+0.05A)<br>6Vac max (open circuit)<br>50Hz/60Hz selectable<br>10mΩ–650.0mΩ<br>0.1mΩ<br>(1% of rdg + 2mΩ)<br>Yes<br>0.5s–999.9s<br>Yes<br>Four Terminal   |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
| <b>MEMORY</b>                          | Single Step Memory<br>Automatic Testing Memory   | MANU : 100 blocks<br>AUTO : 100 blocks, menu per auto : 16   |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
| <b>INTERFACE</b>                       | Rear Output<br>RS-232C<br>USB<br>GPIB<br>Remote Terminal (Front)<br>Signal I/O   | Standard<br>Standard<br>Standard<br>Option<br>Standard<br>Standard   |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
| <b>DISPLAY</b>                         | 240 x 64 Ice Blue Dot matrix LCD   |  |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
| <b>POWER SOURCE</b>                    | AC100V/120V/220V/230V±10% , 50/60Hz  |  |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |
| <b>DIMENSIONS &amp; WEIGHT</b>         | 330(W)x148(H)x587(D)mm for GPT-9903/9904; 330(W)x148(H)x482(D)mm for GPT-9901A/9902A<br>Approx. 27kg max.  |  |  |                  |          |                 |                 |                       |                 |                 |                        |                 |                 |                        |

\* The sweep function and timer off can only be performed when the tester is in the special MANU mode.

Specifications subject to change without notice. PT-9900GD1DH

### ORDERING INFORMATION

|                  |  |
|------------------|--|
| <b>GPT-9904</b>  | AC 500VA AC/DC Withstanding Voltage/Insulation Resistance/Ground Bond Tester |
| <b>GPT-9903</b>  | AC 500VA AC/DC Withstanding Voltage/Insulation Resistance Tester             |
| <b>GPT-9902A</b> | AC 500VA AC/DC Withstanding Voltage Tester                                   |
| <b>GPT-9901A</b> | AC 500VA AC Withstanding Voltage Tester                                      |

### ACCESSORIES

Quick Start Guide x 1, Power cord x 1, CDx1 (complete user manual), Interlock Key x 1, Remote terminal male plug x 1, Test lead GHT-114 x 1 for GPT-9903  
Test lead GHT-114 x 1, GTL-115 x 1 for GPT-9904

### OPTION

Opt.1 GPIB card

### OPTIONAL ACCESSORIES

|                |   |
|----------------|---|
| <b>GHT-113</b> | High Voltage Test Pistol                                      |
| <b>GHT-205</b> | High Voltage Test Probe                                       |
| <b>GTL-232</b> | RS-232C Cable, 9-pin Female to 9-pin, null Modem for Computer |
| <b>GTL-247</b> | USB Cable, A-A type, approx. 1.8m                             |
| <b>GTL-248</b> | GPIB Cable, approx. 2m  |
| <b>GTL-251</b> | GPIB-USB-HS (High Speed)                                      |
| <b>GRA-402</b> | RACK Adapter Panel (19", 4U)                                  |

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