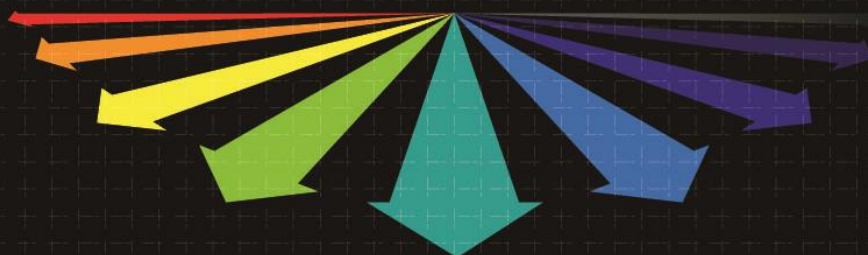# Extend Your Tests

GW Instek GPT-9500

Multi-Channel Hipot Tester

New Product Announcement

This document allows GW Instek's partners to quickly grasp product's main features, FAB and ordering information.

GPT-9500 Series Multi-Channel Hipot Tester
New Product Announcement

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.

Extend Your Tests

Meets IEC 61010-2-034 design requirements
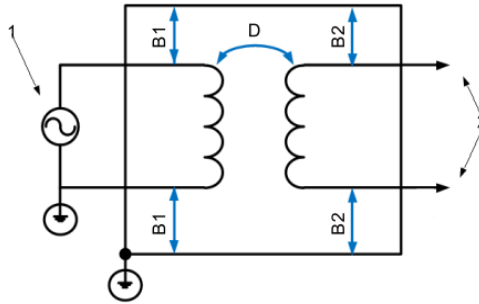
Providing the markets with safe electronic products is the responsibility of every manufacturer! Similarly, safety analyzer that tests whether electronic products meet safety regulations must attach the importance to the safety it provides! GPT-9500 is the world's first safety analyzer to comply with 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.
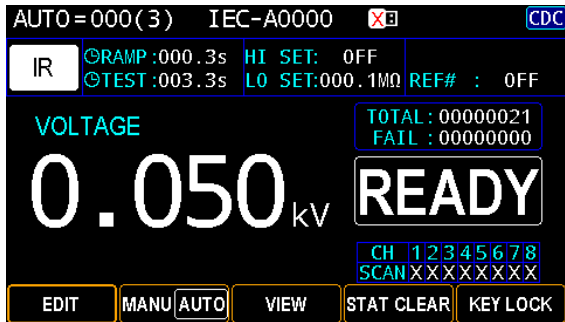
Friendly user interface

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.

Complete information presentation

AUTO=000(3) IEC-A0000
IR   RAMP:000.3s HI SET: 0FF   TEST:003.3s L0 SET:000.1MΩ REF# : 0FF
VOLTAGE   TOTAL:00000021 FAIL:00000000
0.050kV READY
CH 12345678 SCANXXXXXXXX
EDIT MANU AUTO VIEW STAT CLEAR KEY LOCK

Rich information

SN	STEP	MODE	VOLT	CURR/OHM	STATUS	SCAN
01	002	DCW	3.001kV	0.0μA	PASS	XXXXXXX
02	004	IR	0.503kV	>50GΩ	PASS	XXXXXXX
03	005	IR	0.051kV	>10GΩ	PASS	XXXXXXX

READY

AUTO mode Listed Result

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 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.

Convenient parameter duplication
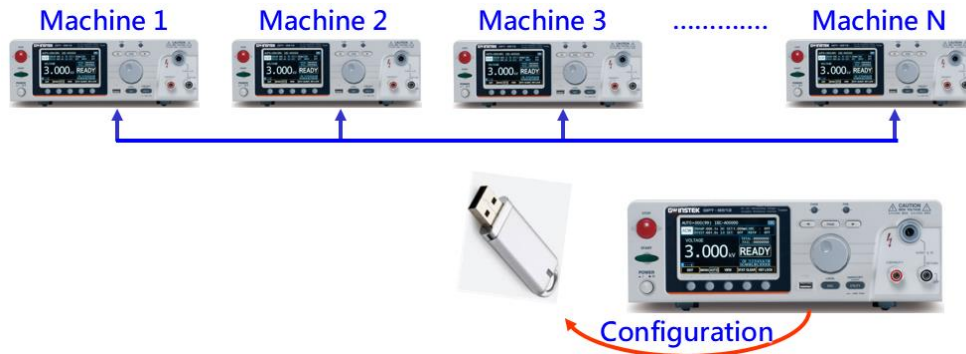
Export/import of setting parameters

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.

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.

Key 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 and USB host/device

480 x 272 color LCD display screen supports the observation of the best setting parameters, test voltage and measurement results

High-brightness LED indicators show the status of the tester

High voltage output AC 5kV or DC 6kV IR 1kV max.

*High voltage output RETURN terminal*

Function selection keys directly correspond to the functions indicated on the display

USB host terminal can be used to import/export setting parameters, firmware upgrade, and screen capture.

RS-232C / USB device are used for computer connection control

Signal I/O interface provides external control "start" and "stop", and can also monitor the status of the tester
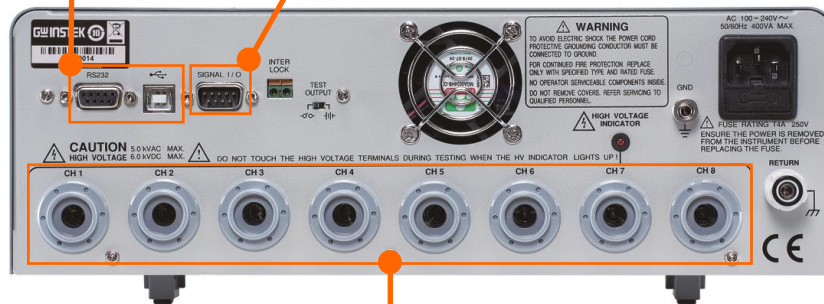
8-channel outputs provide H or L or X status settings according to different models

Specifications comparison ~ GPT-9513 vs GPT-9503

(NOTE) "Yellow" mark, shows the difference between two models.

		GPT-9513	GPT-9503
Output Capacity		150VA	150VA
Scan Channels		8	8
Scan Channel Configuration		H or L or X	H or X
AC Withstanding (ACW)			
Output-Voltage Range		0.050kV~5.000kV	0.050kV~5.000kV
Maximum Rated Load		150 VA (5kV/30mA)	150 VA (5kV/30mA)
DC Withstanding (DCW)			
Output-Voltage Range		0.050kV~6.000kV	0.050kV~6.000kV
Maximum Rated Load		50W (5kV/10mA)	50W (5kV/10mA)
Insulation Resistance (IR)			
Output Voltage		50V~1000V dc	50V~1000V dc
Resistance Measurement		0.1MΩ~10GΩ	0.1MΩ~10GΩ
Ground Continuity (GC)			
Output-Current		100mA dc	100mA dc
Ohmmeter Meas. Range		1Ω±0.2Ω, ON/OFF	1Ω±0.2Ω, ON/OFF
Memory			
AUTO/MANU		500 memory blocks total	500 memory blocks total
Special Features			
Statistics (counter)		Standard	Standard
Parameter Export/Import		Available	Available
Step by Step Scan		Available	Available
Multi-language		Simplified/Traditional Chinese, English	Simplified/Traditional Chinese, English
Interface			
Front	USB host	Standard	Standard
Rear	RS-232C	Standard	Standard
	USB device	Standard	Standard
	Signal I/O	Standard	Standard
General			
Display		4.3" color LCD	4.3" color LCD
Power Source & Consumption		AC 100V~240V ± 10%, 50Hz/60Hz; Max. 400VA	AC 100V~240V ± 10%, 50Hz/60Hz; Max. 400VA
Dimension & Weight		320(W) x 120(H) x 435(D) mm; Approx. 11kg	320(W) x 120(H) x 435(D) mm; Approx. 11kg

Key Dates for Product Announcement

1. Distributor Announcement & Demo Unit Order and Shipping (17th of September)
2. Global Market Announcement (30th of September)

Service Policy

1. **2 year warranty**

2. **Service Support**

   The service instructions in the Service Manual will help distributors repair defective units promptly. Should a board replacement be necessary to fix a defective unit, a board swapping service is provided by Good Will Instrument to facilitate the repairs done at a distribution site.

3. GW Instek continues to provide the after sales support through its website. The most updated version of the service manual and Marcom material for GPT-9500 will be posted on the distributor zone of GW Instek Website at https://www.gwinstek.com

Product Outlook

GPT-9500 (Front)

GPT-9500 (Rear)

Application and Target Markets

■ Production and Compliance Testing of electrical products

- ➢ General electrical components (capacitor/resistor⋯.)
- ➢ Consumer electronics manufacturers
- ➢ Home appliance manufacturers
- ➢ Automotive electronics manufacturers
- ➢ Switching Power Supply / Charger / UPS
- ➢ Finished / semi-finished components

● 480 x 272 color LCD display screen, high-brightness status indicator to provide clear and simple observation

● AUTO mode supports tabular tests and obtains the results and judgments of each test at the same time

● Export/import test parameter function to quickly expand the test stations and avoid setting errors

● Various safety mechanisms such as channels configured on the rear panel/zero start/interlock, etc. to ensure safe operation

● Provides a variety of control methods such as Signal I/O or RS232/USB device to meet the needs of the actual operating environment

● Universal power supply to avoid incorrect power supply voltage input causing damage to the tester

Specifications

AC Withstanding	
Output-Voltage Range	0.050kV~5.000kV
Output-Voltage Resolution	1V
Output-Voltage Accuracy	$\pm$ (1% of setting + 5V) [no load]
Maximum Rated Load	150 VA (5kV/30mA)
Maximum Rated Current	30mA 0.001mA ~ 10mA (0.05kV$\leqq$ V $\leqq$0.5kV) 0.001mA ~ 30mA (0.5kV< V $\leqq$5kV)
Output-Voltage Waveform	Sine wave
Voltage Regulation	$\pm$ (1% + 5V) [maximum rated load → no load]
Output-Voltage Frequency	50 Hz / 60 Hz selectable
Voltmeter Accuracy	$\pm$ (1% of reading + 5V)
Current Measurement Range	0.001mA ~ 30.00mA
Current Best Resolution	1µA (0.001mA ~ 9.999mA) 10µA (10.00mA ~ 30.00mA)
Current Measurement Accuracy	$\pm$(1.5% of reading + 30µA)
Current Offset	80µA maximum
ARC Detect	Yes
RAMP TIME (Rise Time)	0.1s~999.9s
FALL Time	OFF~999.9s
WAIT Time	OFF~999.9s
TIMER (Test Time)	CONT[2], 0.3s~999.9s
TIMER Accuracy	$\pm$ (100ppm + 20ms)
GND	ON/OFF
DC Withstanding	
Output-Voltage Range	0.050kV~6.000kV
Output-Voltage Resolution	1V
Output-Voltage Accuracy	$\pm$ (1% of setting + 5V) [no load]
Maximum Rated Load	50W (5kV/10mA)
Maximum Rated Current	10mA 0.001mA ~ 2mA (0.05kV$\leqq$ V $\leqq$0.5kV) 0.001mA ~ 10mA (0.5kV< V $\leqq$6kV)
Voltmeter Accuracy	$\pm$ (1% of reading + 5V)
Voltage Regulation	$\pm$ (1% + 5V) [maximum rated load → no load]
Current Measurement Range	0.001mA ~ 10.00mA
Current Best Resolution	0.1µA (0.1µA ~ 999.9µA) 1µA (1µA ~ 9.999mA) 10µA (10.00mA)
Current Measurement Accuracy	$\pm$(1% of reading + 1µA) when I Reading < 1mA $\pm$(1% of reading + 10µA) when I Reading $\geqq$1mA
Current Offset	5µA maximum
ARC Detect	Yes
RAMP TIME (Rise Time)	0.1s~999.9s
FALL Time	OFF~999.9s
WAIT Time	OFF~999.9s
TIMER (Test Time)	CONT[2], 0.3s~999.9s
TIMER Accuracy	$\pm$ (100ppm + 20ms)
GND	ON/OFF
Insulation Resistance	
Output Voltage	50V~1000V dc
Output-Voltage Resolution	1V
Output-Voltage Accuracy	$\pm$ (1% of setting + 5V) [no load]
Resistance Measurement	0.1MΩ~ 10GΩ

Test Voltage	Measurement Range / Accuracy
50V≦ V＜500V	0.1MΩ~1MΩ：±(5% of reading + 3 count) 1 MΩ~50MΩ：±(5% of reading + 1 count) 51MΩ~2GΩ：±(10% of reading + 1 count)
500V≦ V ≦1000V	0.1MΩ~1MΩ：±(5% of reading + 3 count) 1 MΩ~500MΩ：±(5% of reading + 1 count) 501MΩ~10GΩ：±(10% of reading + 1 count)
Voltage Regulation	± (1% + 5V) [maximum rated load → no load]
Voltmeter Accuracy	± (1% of reading + 5V)
Short-Circuit Current	10mA max.
Output Impedance	2kΩ
RAMP TIME (Rise Time)	0.1s~999.9s
FALL Time	OFF~999.9s
WAIT TIME	OFF~999.9s
TIMER (Test Time)*	0.3s~999.9s
TIMER Accuracy	± (100ppm + 20ms)
GND	ON/OFF
Continuity Test	
Output-Current	100mA dc
Ohmmeter Measurement Accuracy	1Ω ± 0.2Ω, ON/OFF
Interface	
Signal I/O	Standard
RS-232C	Standard
USB (device)	Standard
USB (host)	Standard (for parameter / LCD hardcopy)
Rear Output	Scanner
DISPLAY	
	4.3" color LCD
POWER SOURCE	
	AC 100V~240V ± 10%, 50Hz/60Hz
DIMENSION & WEIGHT	
	320(W) x 120(H) x 435(D) mm; Approx. 11kg

Ordering information

GPT-9513   AC 150VA Multi-Channel Hipot Tester

GPT-9503   AC 150VA Multi-Channel Hipot Tester

(*) Two years warranty, excluding accessories

Included Accessories

Quick Start Guide x 1, CD x1(completed user manual), Power cord x 1,
Test lead GHT-115 x 1, GHT-116B x 1, GHT-116R x 8

Optional Accessories

GTL-236   RS232C Cable, approx.. 2.0m
GTL-246   USB Cable, A-B type, approx. 1.2m

Should you have any questions on the GPT-9500 announcement, please don't hesitate to contact us.

Sincerely yours,

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