

GPT-9513 / GPT-9503

Multi-Channel Hipot Tester

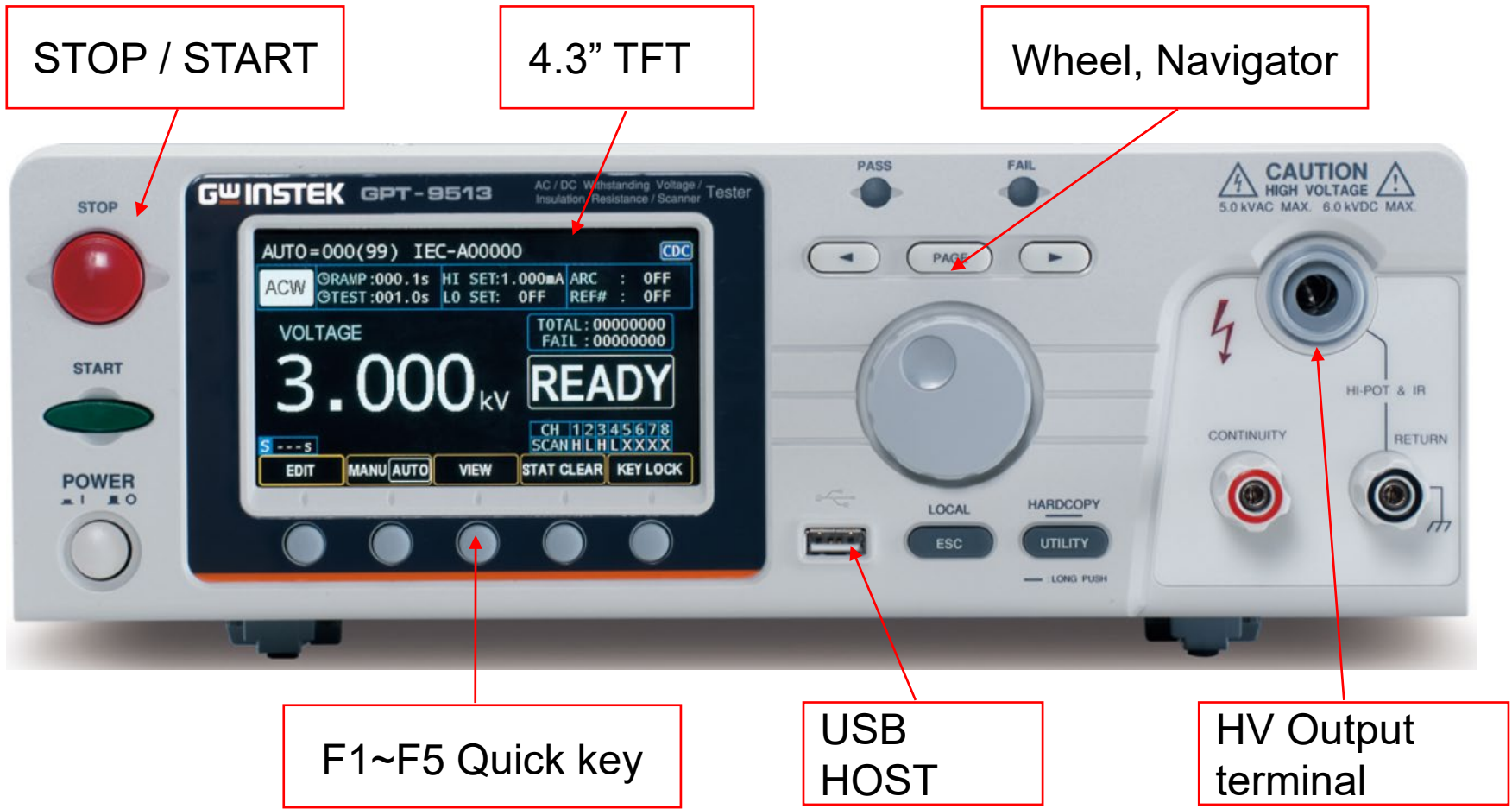
Product Overview

GW INSTEK

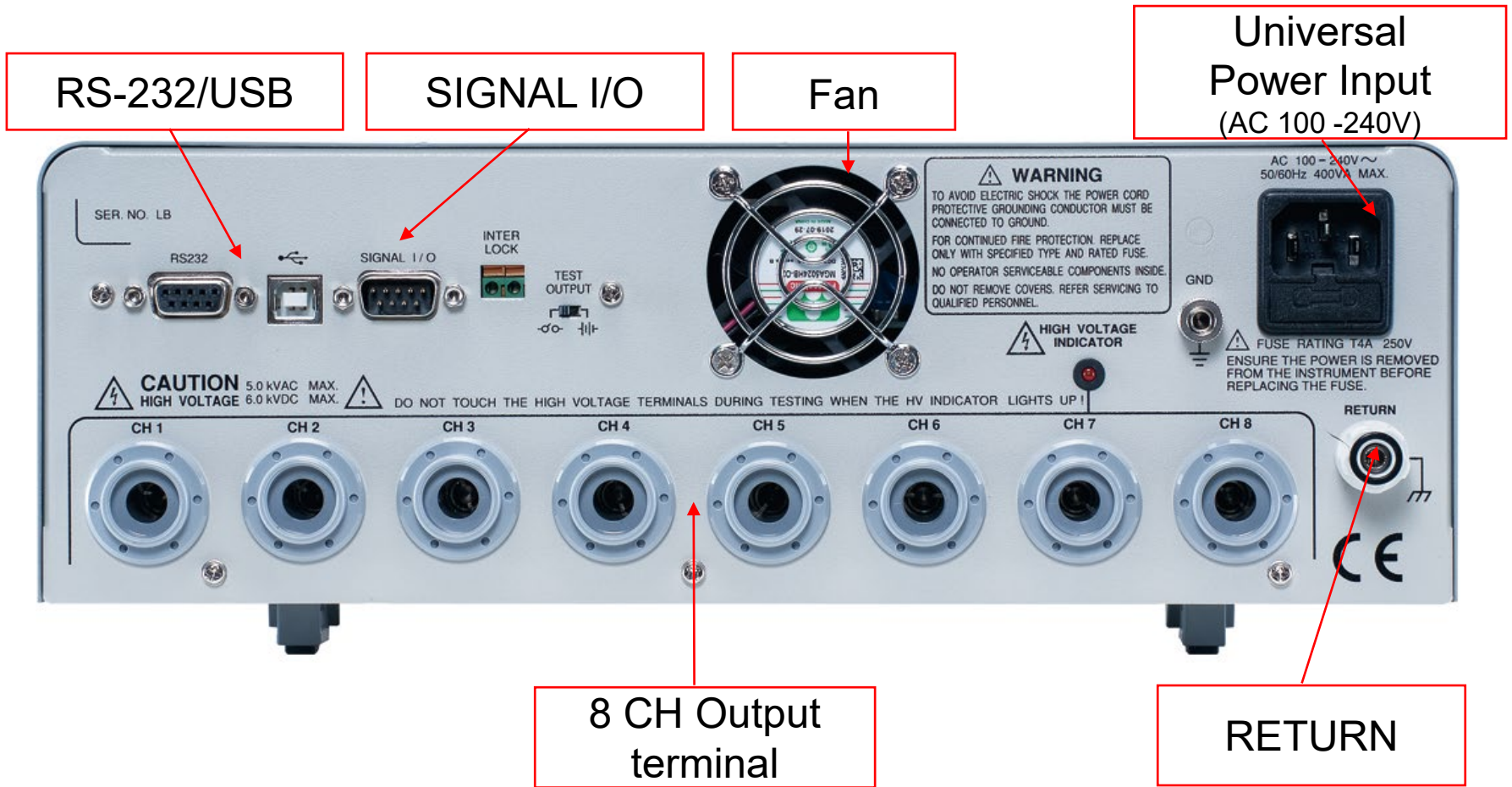
Made to Measure

固緯電子實業股份有限公司





GPT-95x3 Outlook – Front



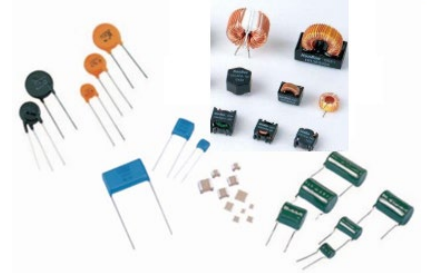
GPT-95x3 Outlook – Rear



Product Comparison (GW)

	Company	GW	GW
	Model	GPT-9513	GPT-9503
	Front		
	Rear		
	Output Capacity	150VA	150VA
	Functions	AC/DC/IR	AC/DC/IR
	Scan Channel	8	8
	Channel Status	H / X / L	H / X
Feature	Display	Color TFT (480*272)	Color TFT (480*272)
	Configuration export/import	Available	Available
	Statistics	Available	Available
	OSC check	Available	Available
	ARC Detection	Available	Available
	Continuity	Available	Available
Interface	USB Host	Standard	Standard
	USB Device	Standard	Standard
	RS-232C	Standard	Standard
	Digital I/O	Standard	Standard
	Interlock	Standard	Standard
	GPIB	None	None
	Printer	None	None

GPT-9503 / GPT-9513 Intro



Economy:

CH	1	2	3	4	5	6	7	8
SCAN	H	H	H	H	X	X	X	X

- **GPT-9503**: Ch1~8 is selectable for either HV output or non-used, share the same RETURN terminals

Applications in general electronic components, such as capacitors, inductors, wires ...

Conduct component hi-pot test at both ends to provide a basic test requirements for single time / mass-quantity.

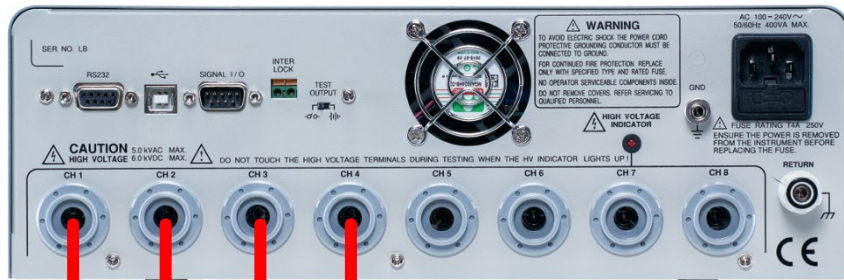
Advanced:

CH	1	2	3	4	5	6	7	8
SCAN	X	H	L	X	X	X	X	X

- **GPT-9513**: Ch1~8 is selectable for HV output, non-used or L- RETURN

Providing product a multi-step safety testing requirement such as modules, transformers, and motors which reduce the testing risk of customer operation line change.

Connection/Test 1(GPT-9513)



Point to Point · Output in order

Wiring planning

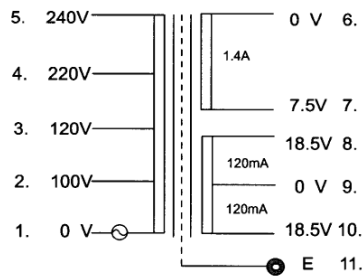
CH 1: primary winding

CH 2: secondary winding _1

CH 3: secondary winding _2

CH 4: transformer Case

Electrical Characteristics:



				Primary	Sec-1	Sec-2	Case
STEP	VOLTAGE	Limit	TEST	CH1	CH2	CH3	CH4
1	AC 1kV	1mA	1s	H	L	x	x
2	AC 1kV	1mA	1s	H	x	L	x
3	AC 500V	1mA	1s	H	x	x	L
4	AC 500V	1mA	1s	x	H	x	L
5	AC 500V	1mA	1s	x	x	H	L
6	IR 500V	50Mohm	1s	H	x	x	L
7	IR 500V	50Mohm	1s	x	H	x	L
8	IR 500V	50Mohm	1s	x	x	H	L
9	IR 500V	50Mohm	1s	x	H	L	x

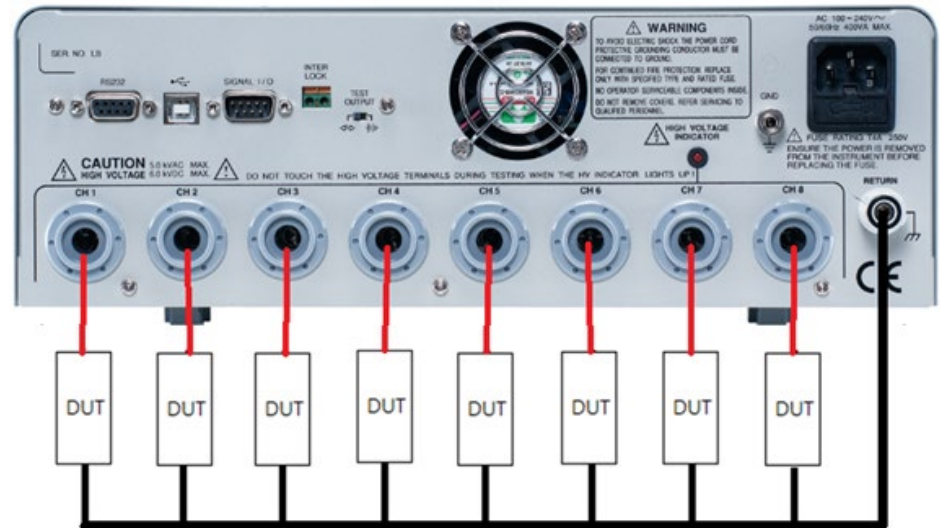
Connection/Test 2(GPT-95X3)

8 steps · Output in order

SN	STEP	MODE	VOLT	CURR/OHM	STATUS	SCAN
01	011	DCW	1.998kV	403.3µA	PASS	HXXXXXXXX
02	012	DCW	1.998kV	404.0µA	PASS	XHXXXXXXXX
03	013	DCW	1.998kV	404.0µA	PASS	XXHXXXXXX
04	014	DCW	1.998kV	404.0µA	PASS	XXXHXXXXX
05	015	DCW	1.998kV	403.5µA	PASS	XXXXHXXXX
06	016	DCW	1.998kV	404.3µA	PASS	XXXXXHXXX
07	017	DCW	1.998kV	403.9µA	PASS	XXXXXXHXX
08	018	DCW	1.998kV	403.6µA	PASS	XXXXXXXHX

AUTO=003(8) IEC-A00003 CDC

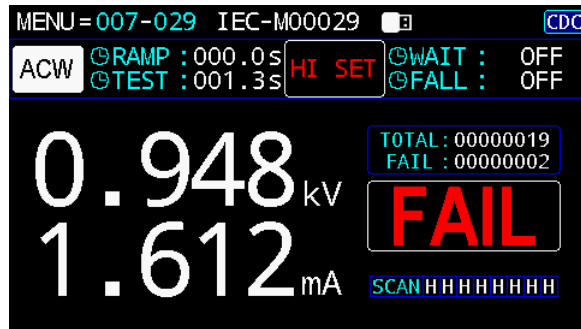
READY D: ---s S: ---s



STEP	VOLTAGE	HI limit	Lo limit	TIME	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
1	DC 2kV	500uA	300uA	1s	H	X	X	X	X	X	X	X
2	DC 2kV	500uA	300uA	1s	X	H	X	X	X	X	X	X
3	DC 2kV	500uA	300uA	1s	X	X	H	X	X	X	X	X
4	DC 2kV	500uA	300uA	1s	X	X	X	H	X	X	X	X
5	DC 2kV	500uA	300uA	1s	X	X	X	X	H	X	X	X
6	DC 2kV	500uA	300uA	1s	X	X	X	X	X	H	X	X
7	DC 2kV	500uA	300uA	1s	X	X	X	X	X	X	H	X
8	DC 2kV	500uA	300uA	1s	X	X	X	X	X	X	X	H

Connection/Test 3(GPT-95X3)

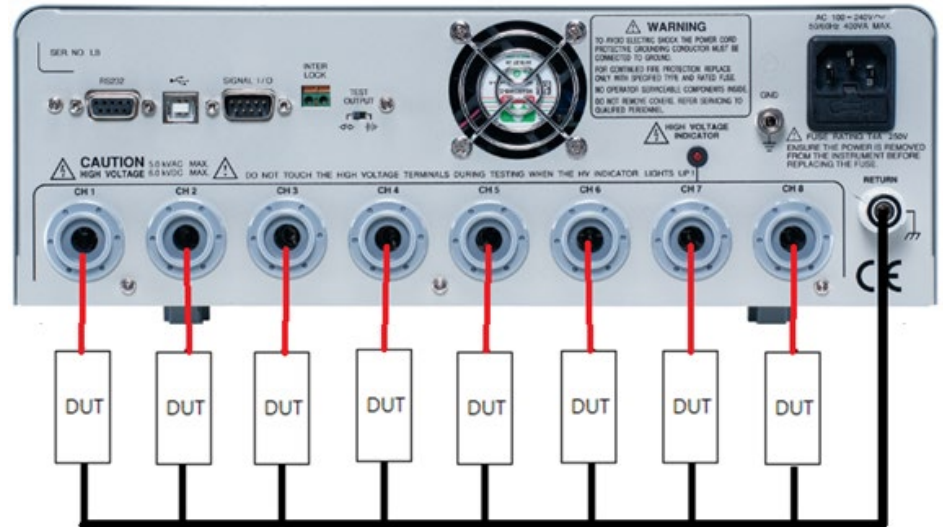
One testing condition for more than one channel output (8 channels max.) simultaneously



Assume component spec. leakage 3mA.
A good component has avg. leakage 1mA
8CH test same time, total leak 1mA * 8 = 8mA
Hi Set setup is 8mA * K (K=multiplication factor)

*** If tests is fail > Hi SET.**

scan DUT one by one, meantime Hi SET is equal to setup divided by 8






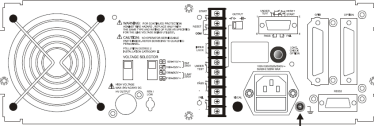
Prerequisite: Test object has the characteristics of low defect rate.

Advantages: time saving and fast

Disadvantages:

1. Prone to test blind spots
2. The result is the sum of all channels, and the exact point of failure cannot be immediately known when the fault occurs

Coparison(Competitor)

	Company	GW	Chroma
	Model	GPT-9513	19053
	Front		
	Rear		
	Output Capacity	150VA	150VA
	Functions	AC/DC/IR	AC/DC/IR
	Scan Channel	8	8
	Channel Status	H / X / L	H / X / L
Feature	Display	Color TFT (480*272)	Mono LCD (240*64)
	Configuration export/inport	Available	None
	Statistics	Available	None
	OSC check	Available	Available
	ARC Detection	Available	Available
	Continuity	Available	Available
	Interface	USB Host	Standard
	USB Device	Standard	Standard
	RS-232C	Standard	Standard
	Digital I/O	Standard	Standard
	Interlock	Standard	Standard
	GPIB	None	Option
	Printer	None	Option

Features

■ 8CH for ACW/DCW/IR

150VA output capacity with 8 channels for ACW/DCW/IR (3-in-1) tests. A single unit performs multi-points tests or Auto Step tests without conducting with external scanner box

Performance :

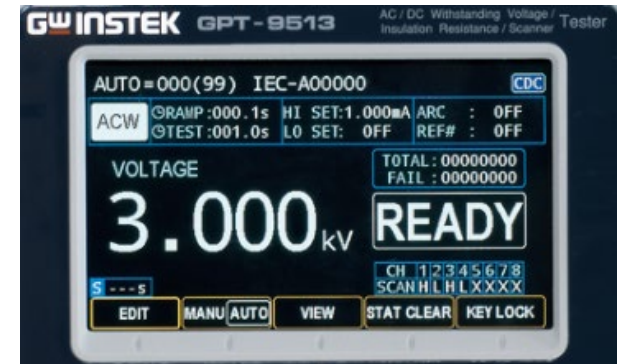
- ACW: 5kVAC
- DCW: 6kVDC
- IR: 50V~1000V (1V steps)
- SCANNER : 8 CH
- CONT: 100mA



■ Graphic TFT LCD

4.3" color TFT LCD, resolution 480*272.

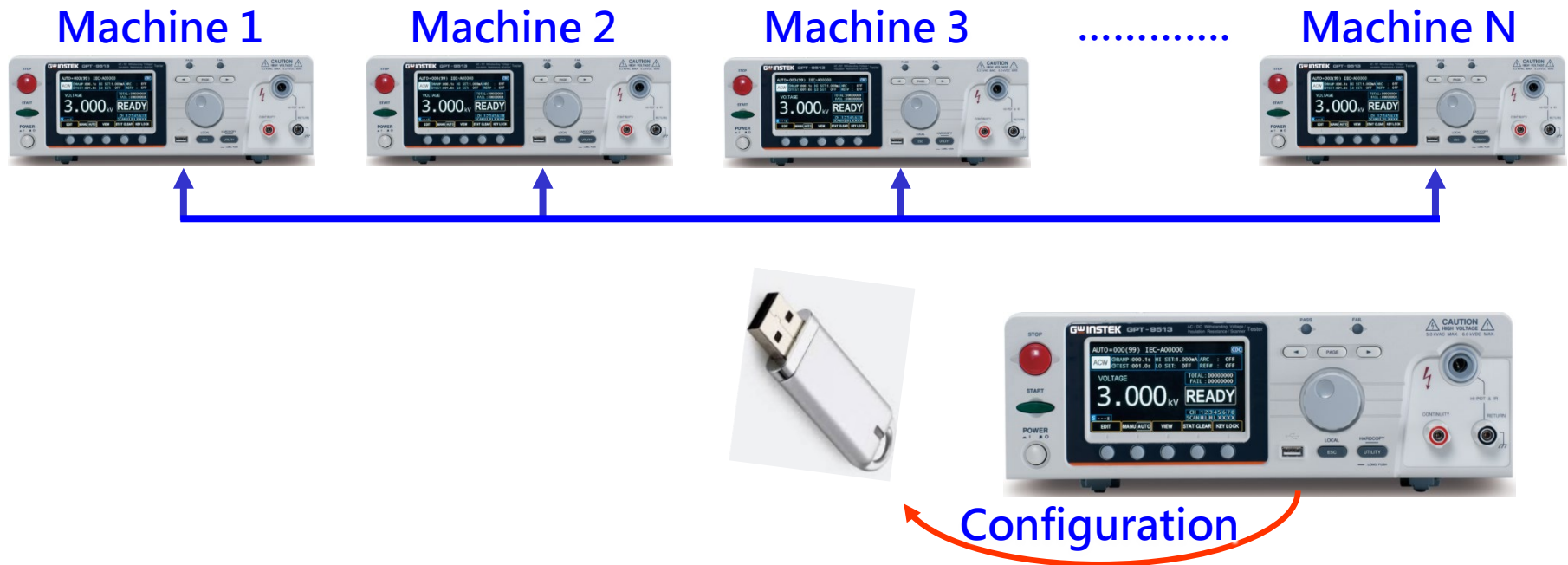
Large graphic screen provides user-friendly operation interface during operating or setting test parameters and provides more complete measurement information either.





■ Configuration import/export function

The front panel USB host can access configuration file of machine, and then export / import to other machine which can quick replication and expansion of production line equipment

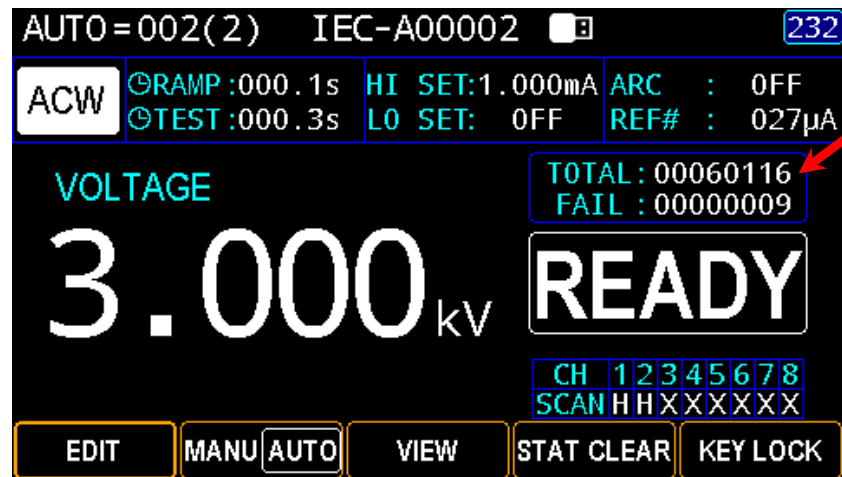




■ Simple Statistics

For production line, counting the daily capacity and defect rate

On site, directly reads the numbers of total test (TOTAL) and fail (FAIL) on screen without extra counter is needed.



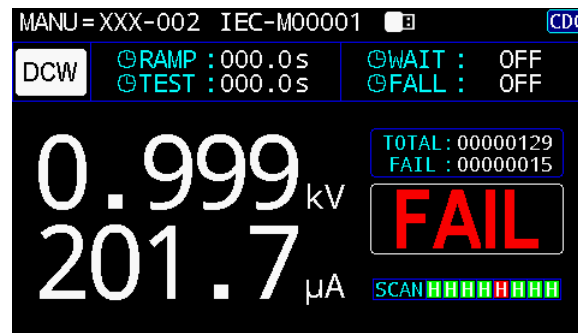
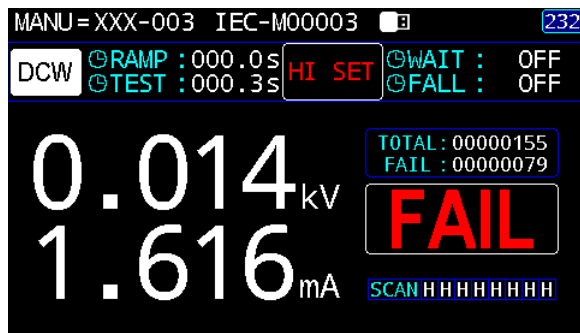
Counter for
Total test & Fail



Step By Step Scan (Configurable)

One testing condition for more than one channel output simultaneously; suitable for test object has the characteristics of low defect rate.

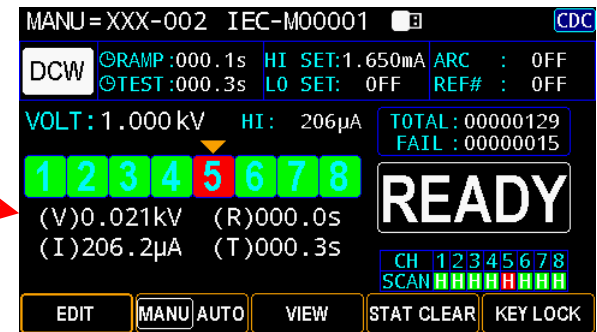
GPT-9500 will figure out, step by step, which channel(s) is in charge of Fail judgment after test results in FAIL.



Step By Step Scan
(while set ON)

Buzzer OFF

Failure CH & Result



■ Channel output for testing

1. One output voltage for multi-channel
2. Sequential scan test for single-point to single-point

■ Safe / Reliable

- Channels are configured at the rear panel of the machine to avoid touched with the operator
- Disconnection detection function is available to prevent the wiring disconnection or losing



■ Multi-language simplified/traditional Chinese, English

AUTO = 000 (4) IEC-A0000 232

ACW 上升 : 000.1s 上限 : 3.000mA 电弧 : 关
测试 : 001.3s 下限 : 关 补偿 : 关

电压
3.000 kV VIEW

CH 12345678
SCAN XHXLXXXX

编辑 MANU AUTO 名称 自动参数 更多..

AUTO = 000 (4) IEC-A0000 232

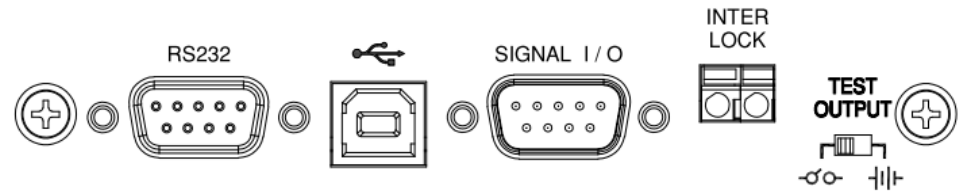
SN	步骤	模式	电压	上限	下限	扫描
01	031	OSC	0.050kV	STD# =>	000μA	XHXXXXXXXX
02	002	ACW	3.000kV	3.000mA	OFF	XHXLXXXX
03	029	DCW	1.650kV	1.000mA	OFF	XHXLXXXX
04	030	IR	1.000kV	OFF	100.0MΩ	XHXLXXXX

编辑 MANU AUTO 名称 自动参数 更多..

Interfaces

Control Port:

- USB Device
- RS-232
- SIGNAL I/O



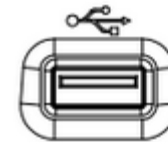
[Note1]: Command is compatible with Chroma 19053

[Note2]: Signal I/O pin assignment is same as Chroma 19053



USB HOST :

- Configuration Export/ Import
- HARDCOPY key for screen capture



Specification

AC Withstanding Voltage	
Output Voltage Range	0.050kV~ 5.000kV
Output Voltage Resolution	1V
Output Voltage Accuracy	(1% of setting +5V) with no load
Maximum Rated Load	150VA (5kV/30mA)
Maximum Rated Current	30mA
	0.001mA~10mA(0.05kV~0.5kV)
	0.001mA~30mA(0.5kV~ 5kV)
Output Voltage Waveform	Sine wave
Voltage Regulation	± (1% +5V)[Maximum rated load
Frequency	50 Hz / 60 Hz
Voltmeter Accuracy	± (1% of reading+ 5 V)
Current Measurement Range	0.001mA~30.00mA
Current Best Resolution	1uA (1uA~9.999mA)
	10uA(10.00mA~30.00mA)
Current Measurement Accuracy	± (1.5% of reading+30uA)
ARC DETECT	YES
RAMP TIME (Rise Time)	0.1~999.9S
FALL Time	OFF~999.9S
WAIT Time	OFF~999.9S
TIMER (Test Time)	CONT ² , 0.3S~999.9S
GND	ON/OFF

Specification

DC Withstanding Voltage	
Output Voltage Range	0.050kV~ 6.000kV
Output Voltage Resolution	1V
Output Voltage Accuracy	(1% of setting + 5V) with no load
Maximum Rated Load	50W(5kV/10mA)
Maximum Rated Current	10mA
Voltmeter Accuracy	± (1% of reading+ 5 V)
Current Measurement Range	0.001mA-10.00mA
Current Best Resolution	0.1uA (0.1uA~999.9uA) 1uA (1uA~9.999mA) 10uA(10.00mA)
Current Measurement Accuracy	±(1 % of reading+ 1uA) , I < 1mA ±(1 % of reading+ 10uA), I ≥ 1mA
ARC DETECT	YES
RAMP TIME (Rise Time)	0.1~999.9S
FALL Time	OFF~999.9S
WAIT Time	OFF~999.9S
TIMER (Test Time)	CONT ² , 0.3S~999.9S
GND	ON/OFF

Specification

Insulation Resistance Test		
Output Voltage	50V~ 1000V	
Output Voltage Resolution	1V	
Output Voltage Accuracy	±(1% of setting +5V) with no load	
Resistance Measurement Range	0.1MΩ~10GΩ	
Test Voltage	Measurement Range	Accuracy
50V ≤ V ≤ 500V	0.1MΩ~1MΩ	5% of reading + 3 count
	1MΩ~50MΩ	5% of reading + 1 count
	51MΩ~2GΩ	10% of reading + 1 count
500V ≤ V ≤ 1000V	0.1MΩ~1MΩ	5% of reading + 3 count
	1MΩ~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)	0.1~999.9S	
FALL Time	OFF~999.9S	
WAIT Time	OFF~999.9S	
TIMER (Test Time)	0.3~999.9S	
GND mode	ON/OFF	