

Digital Multi-Meter (Dual Channel)(S)**Features**

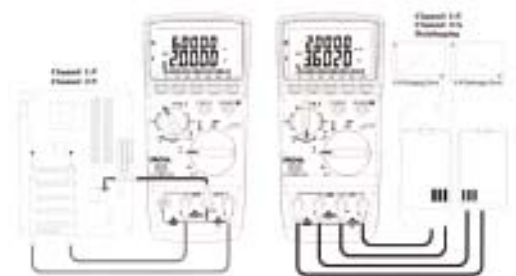
The DMM to replace your bench-top one

- 0.02% DC and 0.1% AC basic accuracy (901/903)
- 0.04% DC and 0.2% AC basic accuracy (801/803)
- 60,000 counts resolution (4 $\frac{5}{6}$ digits)
- 200KHz (max.) bandwidth (901/903), 10KHz (max.) bandwidth (801/803)
- True RMS with fast ACV/ACA response (901/903)
- Dual channels measurement similar to a dual channels DSO (V+V, V+A)
- Overload protection AC 1000V
- Hz + duty cycle dual display
- Data logging (model 903/803 with 10,708 records for both channels)
- RS-232C ASCII interface
- Capacitance measurement
- Free software (901,903)

Technical Specifications

Voltage (AC/DC)	: 60/600mV/6/60/600/1000V
Current	: 600/6000 μ A/60/600mA/1/10A
Resistance	: 40M Ω
Capacitance	: 600 μ F
Frequency	: 1Hz to 2 MHz
Duty Cycle	: 0.001% - 100.00%

Ref. No	Model
TS04 B001	TES 901
TS04 B002	TES 903
TS04 B003	TES 801
TS04 B004	TES 803

**TES-2804 - 50,000 Counts TRMS Multimeter (RS-232)****Features**

- 50,000 Count True RMS Reading
- 15,000 Data logging Capacity
- Capacitance Check (500nF ~ 500 μ F)
- RS-232 Interface (Software Included)
- Back Light Illumination

Technical Specifications

Current (AC/DC)	: 5000 μ A/500mA/20A
Voltage ($\pm 0.09\%$ rdg ± 5dgts)	: 500mV/5/50/500/600V (DC), 5/50/500/600V (AC)
Resistance	: 500 Ω /5/50/500K Ω /5/50M Ω
Frequency	: 500Hz/5/50/500KHz/5MHz
Capacitance	: 500nF/5 μ F/50 μ F/500 μ F

Ref. No : TS04 B005
Model : TES 2804

TES-2732 / TES-2730 - Datalogger Multimeter (RS-232)**Features**

- RS-232 interface
- Memory (4,808) readings (TES 2730)
- Direct Input of V, A, Ohm, Hz, Cx & °C/ °F without any further signal modification

Technical Specifications

Current (AC/DC)	: 200 μ A/2m/20m/200m/20A (AC/DC)
Voltage ($\pm 0.5\%$ rdg ± 1dgt)	: 200mV/2/20/200/600V(AC)/600V(DC)
Resistance	: 200/2K/20K/200K/2M/20M
Frequency	: 10Hz ~ 20 MHz
Capacitance	: 2000p/200n/2 μ /20 μ F
Temperature	: -50°C ~1300°C

Ref. No	Model
TS04 B006	TES 2732
TS04 B007	TES 2730

LCR Multimeter - TES- 2712



Features

- 3 1/2 LCD
- Data-hold & Peak-hold function available
- Inductance, capacitance & ohm measurement

Technical Specifications

Current :

200μ/2m/20m/200m/20A

Voltage (AC/DC)(±0.5% rdg ±1dgt) :

200m/2/20/200/600 V (DC)/600V (AC)

Capacitance :

2000P/200n/2μF/20μF

Inductance :

20m/200m/2/20H

Resistance :

2K/20K/200K/2M/20MΩ

Ref. No : TS04 B008

Model : TES 2712

Digital Multimeter - TES-2700



Features

- Auto ranging and Auto-power-off
- 3200 count LCD analog bar-graph
- Data-hold mode available at ohms
- Overload protection up to 600Vrms

Technical Specifications

Voltage (AC/DC)(±0.5% rdg ±2dgt) :

320m/3.2/32/600V (DC),

3.2/32/320/600V(AC)

Current :

320μ/3.2m/32m/320m/20A

Resistance :

320/3.2K/32K/320K/3.2M/30MΩ

Ref. No : TS04 B009

Model : TES 2700

Auto-Ranging Multimeter (3 3/4 Digits) - TES-2600/ TES-2610



Features

- 3 3/4 Digital LCD with Bar-graph
- Water-Proof ABS housing
- Auto-Ranging
- MAX/MIN recording; MEM and READ; RE Land data; HOLD mode

Technical Specifications

Voltage (AC/DC)(±0.5% rdg ±1dgt):

400m/4/40/400/750 V(DC)/ 1000V (AC)

Current : 4m/40m/400m/20A

Resistance : 400/4K/40K/400K/4M/40MΩ

Capacitance: 4n/40n/400n/4μ/40μF

Frequency : 100/1K/10K/100K/500KHz

Ref. No

Model

TS04 B010 TES 2600

TS04 B011 TES 2610

3 3/4 Digits - LCR Multimeter TES-2360



Features

- Peak Hold / Auto-power-off
- Frequency Count (Auto-Ranging)
- Inductance, Capacitance and Temperature (diode type) checks

Technical Specifications

Current (AC/DC) : 400μ/4m/40m/400m/10A

Voltage (AC/DC)(±0.5% rdg ±1dgt) :

400m/4/40/400/750V(AC)/1000V(DC)

Capacitance :

4nF/40nF/400nF/4μF/40μF/400μF

Resistance : 400/4K/40K/400K/4M/40MΩ

Frequency : 4K/40K/400K/4000KHz

Inductance : 4m/40m/400m/4H/40H

Ref. No : TS04 B012

Model : TES 2360

TES-2620 - True RMS Multimeter



Features

- 3 3/4 Digital LCD with bar-graph
- Water-Proof ABS housing
- Auto-power-off, Auto-Ranging
- ADP range to accommodate Current, Temp, Humidity... adaptor

Technical Specifications

Current (AC/DC) :

4m/40m/400m/20A

Voltage (AC/DC) (0.5% rdg ±1dgt) :

400m/4/40/400/750V(AC)/1000V(DC)

Resistance :

400Ω/4KΩ/40KΩ/400KΩ/4MΩ/40MΩ

Frequency :

100Hz/1KHz/10KHz/100KHz/500KHz

Ref. No : TS04 B013

Model : TES 2620

Slim Pocket Digital Multimeter GDM-395



Features

- Super Slim & Light Design
- Auto Range
- Auto Power Off Selection
- DCV, ACV, Ohm, Diode, Buzzer, Capacitance, Relative Measurement, Hz and Duty Measurement
- Data Hold
- Low Battery Indication
- 3 3/4 Digits 4000 Counts LCD Display
- Leather Case Holder
- Interlocking Test Leads

Ref. No : GW04 B020

Model : GDM 395

Dual Display Digital Multimeter

GDM-8246

Features

- 50000 Counts Display
- Multi-Function ACV, DCV, ACA, DCA, R, C, Hz, Continuity Beeper, Diode Test, Max/Min, REL, Auto Hold, dBm, Compare
- Dual Display Indicate ACV and Hz, DCV (ACV) and dBm or DCV and ACV Ripple
- Manual or Auto Ranging,
- 0.02% DCV Accuracy
- ACV Measuring Frequency Up to 100kHz
- 20A Current Range With High Energy Fuse Protection
- Auto-Recall the Setting Upon Power ON
- AC True RMS or AC + DC True RMS
- RS-232C Interface,
- Option: GPIB Interface

Ref. No : GW04 B025

Model : GDM 8246

GDM-8245

Features

- 50000 Counts DMM
- Multi-Function ACV, DCV, ACA, DCA, R, C, Hz, Continuity Beeper, Diode Test, Max/Min, REL, Hold, dBm
- Dual Display indicate ACV and Hz or DCV(ACV) and dBm
- Manual or Auto-Ranging
- 0.03% DCV Accuracy
- 20A High Current Range
- 1200V High Voltage Range
- AC True R.M.S. or AC + DC True R.M.S

Ref. No : GW04 B026

Model : GDM 8245

Bench Type Digital Multimeter

GDM-8145 (4 ½ Digits)

Features

- 6 Functions AC/DC Voltage, AC/DC Current, Resistance and Diode Test
- Large 0.5" Red LED Display
- High Resolution 10μV, 10nA and 10mΩ
- All Range with Protection Circuit
- 0.03% DCV Accuracy
- Auto Zero Circuit
- 20A High Current Range
- 1200V High Voltage Range
- AC or AC+DC True R.M.S.

Ref. No : GW04 B027

Model : GDM 8145

GDM-8135 (3 ½ Digits)

Features

- 7 Functions AC/DC Voltage, AC/DC Current, Resistance and Diode Test and Continuity Beeper
- Large 0.5" Red LED Display
- High Voltage 1200V & 20A Current Range
- All Range with Protection Circuit
- 0.1% DCV Accuracy
- Auto Zero Circuit

Ref. No : GW04 B028

Model : GDM 8135

GDM-8034 (3 ½ Digits)

Features

- 8 Functions AC/DC Voltage, AC/DC Current, Resistance Capacitance, Diode Test and Audible Continuity Beeper
- High Voltage 1000V and 20A Current Range
- 0.5% Basic DCV Accuracy
- LCD Display

Ref. No : GW04 B029

Model : GDM 8034

AC Millivolt Meter

GVT-427B(2CH)/GVT-417B(1CH)



Ref. No : GW04 B030
Model : GVT 427B



Ref. No : GW04 B031
Model : GVT 417B

Features

- 300 μ V Full Scale Sensitivity
- Measures Frequency from 10Hz ~ 1 MHz
- Measures from -70dB ~ +40dB in 12 Ranges
- Dual Channel (GVT-427B)

TES-30 Graphic Recorder/Printer/Datalogger

**Features**

- Accepts 0-200 mV AC/DC, 0-2V AC/DC & 0-20 mA DC Input
- Datalogging for Data Recording, Storing and Analysis (RS-232)
- Ideal for Laboratory & Process Engineering
- Instant Graphic/ Data Print Out
- Programmable Unit, Hi-Lo Alarm & Data/ Time stamp

Working with

- Hand held instrument (Temperature, Humidity, Sound, Light, Current & Vibration)
- Any input modules
- Ph Controller
- Flowmeter
- Process Transducer (4-20mA)
- Temperature Controller
- Pressure Transmitter
- AC/DC Current Transducer

Range ($\pm 1\%$ rdg ± 3 dgts) :DCV/ACV: 2V, 200mV, DCA: 20mA

Ref. No : TS04 B032

Model : TES 30

TES-30A Graphic Recorder/Printer (TRMS)

**Technical Specifications**

Measurement range	: 0 ~ 999.9mV DC/AC, 0 ~ 9.999mA AC/DC 0 ~ 9.999V DC/AC, 0 ~ 99.99mA AC/DC 0 ~ 99.99V DC/AC, 0 ~ 999.9V DC/AC
Accuracy	: DC: $\pm(0.25\% \text{ rdg} + 3 \text{ dgts})$ AC: $\pm(1\% \text{ rdg} + 20 \text{ dgts})$ at 50 ~ 450Hz
Resolution	: 100 μ V, 1 μ A
Input protection	: 600V DC/AC, 250V/0. 5A Fuse
A/D Sampling rate	: 10 times/sec
Operating/Storage temp. & humidity	: 0 ~ 50°C (32 ~ 122°F) and 10 ~ 80% RH -10 ~ 60°C (14 ~ 140°F) and 10 ~ 70% RH
Memory	: 255 records
Continuous Memory	: 43,000 records (expandable to 86,000 records)

Ref. No : TS04 B033

Model : TES 30Av

Handheld Calibrators

Prova 100 4-20 mA Loop Calibrator

**Features**

- 4-20 mA (1k Ω load, 24V Loop Supply)
- 0-24V output
- Easy Key-pad Operation
- Auto Step and Auto Ramp Functions
- 0-20mA, 0-24mA selectable
- 0-100% Input, step up and down
- Beeper Warning when Output is Open

Technical Specifications

Range	Resolution	Accuracy
0-4mA	1 μ A	$\pm 0.025\% + 10 \mu A$
4-24mA	1 μ A	$\pm 0.025\% + 5 \mu A$
Beeper warning when output is open and specified output > 1mA		
Range	Resolution	Accuracy
0-4V	1 mV	$\pm 0.05\% + 10mV$
4-24V	1 mV	$\pm 0.05\% + 5mV$
Beeper warning when output is short and specified output > 100mV		

Ref. No : TS04 B034

Model : Prova 100

Prova 123 Multifunction Calibrator



Ref. No : TS04 B035

Model : Prova 123

Features

- 4-20 mA (1k Ω load, 24V Loop Supply)
- 0 - 100.00mV, 0-1.0000V, 0-12.00V
- K,J,E,T. Thermocouples ($^{\circ}$ C & $^{\circ}$ F)
- Frequency 1-62500 Hz
- 0.025% Basic Accuracy
- Easy Key-pad Operation
- Easy Step & Auto Ramp Functions
- 0-20mA, 0-24mA selectable
- 0-100% Input (mA, mV, V)
- Beeper Warning when output is open (mA) or short (mV,V)

Technical SpecificationsmA DC Current (1k Ω load, 24V Loop Supply)

Range	Resolution	Accuracy
0-24mA	1 μ A	$\pm 0.025\% \pm 3 \mu A$
Beeper warning when output is open and specified output > 1mA		

mV, V DC Voltage (1mA Supply Current)

Range	Resolution	Accuracy
0-100.00mV	10 μ V	$\pm 0.05\% \pm 30 \mu V$
0-10.000V	1mV	$\pm 0.05\% \pm 3mV$
0-1.0000V	100 μ V	$\pm 0.05\% \pm 300 \mu V$
Beeper warning when output is short and specified output > 10mV		

K,J,E,T Type (1 $^{\circ}$ C, 1 $^{\circ}$ F Resolution, 1K Ω load Min.)

Range	Typical Accuracy
K: -200 ~ 1370 $^{\circ}$ C / -328 ~ 2400 $^{\circ}$ F	$\pm 0.8^{\circ}$ C / $\pm 1.5^{\circ}$ F
J: -100 ~ 760 $^{\circ}$ C / -148 ~ 1400 $^{\circ}$ F	$\pm 0.7^{\circ}$ C / $\pm 1.2^{\circ}$ F
E: -100 ~ 700 $^{\circ}$ C / -148 ~ 1292 $^{\circ}$ F	$\pm 0.7^{\circ}$ C / $\pm 1.2^{\circ}$ F
T: -200 ~ 400 $^{\circ}$ C / -328 ~ 752 $^{\circ}$ F	$\pm 0.8^{\circ}$ C / $\pm 1.2^{\circ}$ F

Prova 125 Temperature Calibrator

**Features**

- 11 Types of Thermocouples (K, J, E, T, R, S, N, L, U, B, C) and mV
- $^{\circ}$ C, $^{\circ}$ F, High Accuracy
- 0.1 $^{\circ}$ C, 0.1 $^{\circ}$ F Resolution
- Δ T function, Easy INCREMENT & DECREMENT
- Ideal for: R&D Laboratory, Production Line and Service & Calibration
- Display: 4+5 Digits

Technical Specifications

Range	Typical Accuracy
K: -200 ~ 1370 $^{\circ}$ C / -328 ~ 2498 $^{\circ}$ F	$\pm 0.4^{\circ}$ C / $\pm 0.7^{\circ}$ F
J: -200 ~ 1050 $^{\circ}$ C / -328 ~ 1922 $^{\circ}$ F	$\pm 0.4^{\circ}$ C / $\pm 0.7^{\circ}$ F
E: -150 ~ 800 $^{\circ}$ C / -238 ~ 1472 $^{\circ}$ F	$\pm 0.4^{\circ}$ C / $\pm 0.7^{\circ}$ F
T: -200 ~ 400 $^{\circ}$ C / -328 ~ 752 $^{\circ}$ F	$\pm 0.4^{\circ}$ C / $\pm 0.7^{\circ}$ F
R: 0 ~ 1760 $^{\circ}$ C / 32 ~ 3200 $^{\circ}$ F	$\pm 0.5^{\circ}$ C / $\pm 0.9^{\circ}$ F
S: 0 ~ 1760 $^{\circ}$ C / 32 ~ 3200 $^{\circ}$ F	$\pm 0.5^{\circ}$ C / $\pm 1.0^{\circ}$ F
N: -200 ~ 1300 $^{\circ}$ C / -328 ~ 2372 $^{\circ}$ F	$\pm 0.4^{\circ}$ C / $\pm 0.7^{\circ}$ F
L: -200 ~ 900 $^{\circ}$ C / -328 ~ 1652 $^{\circ}$ F	$\pm 0.4^{\circ}$ C / $\pm 0.7^{\circ}$ F
U: -200 ~ 600 $^{\circ}$ C / -328 ~ 1112 $^{\circ}$ F	$\pm 0.4^{\circ}$ C / $\pm 0.7^{\circ}$ F
B: 600 ~ 1820 $^{\circ}$ C / 1112 ~ 3308 $^{\circ}$ F	$\pm 0.5^{\circ}$ C / $\pm 1.0^{\circ}$ F
C: 0 ~ 2310 $^{\circ}$ C / 32 ~ 4190 $^{\circ}$ F	$\pm 0.5^{\circ}$ C / $\pm 0.9^{\circ}$ F

Ref. No : TS04 B036

Model : Prova 125

Process Calibrator



Ref. No : TS04 B037
Model : X219

Measures and sources electrical and physical parameters, and provides 19 kinds of basic functions.

Features

- Measure/source volts, mA, 14 types RTDs, 14 types thermocouples, frequency, and ohms to test sensors, transmitters and other instruments
- Execute remote tests with auto step and auto ramp
- Isolated measure and source channel
- Store 10 kinds of working mode
- Power transmitter during test using loop supply with simultaneous 4-20mA measurement
- Direct measure/source temperature
- Auto-calibration on zero and measuring range
- 2-, 3- and 4- wire RTDs measurement
- High accuracy, high stability

Technical Specifications

Source	Measurement	Accuracy
0-100mV DC	0-100mV DC	0.02%±2LSD
0-10V DC	0-30V DC	0.02%±2LSD
0-24mA DC	0-24mA DC	0.02%±2LSD
Resistance 2- and 3-wire measurement		
-	0-400Ω	±0.15Ω
-	400-1.5KΩ	±1.0Ω
-	1.5K-3.2KΩ	±1.5Ω
Resistance 4-wire measurement		
15-400Ω	0-400Ω	±0.1Ω
400-1.5KΩ	400-1.5KΩ	±0.5Ω
1.5-3.2KΩ	1.5-3.2KΩ	±1.0Ω
Frequency (Square-wave)		
1-1100Hz	1-1100Hz	±(0.05%+1LSD)
1.0-5.0KHz	1.0-10.0KHz	±(0.05%+1LSD)
RTDs		
-80°C~260°C	Cu50	-50°C~150°C ±1.0°C
-200°C~800°C	Pt100	-200°C~800°C ±0.5°C
-200°C~630°C	Pt3916	-200°C~630°C ±0.5°C
-200°C~250°C	Pt200	-200°C~250°C ±0.3°C
250°C~630°C		250°C~630°C ±1.6°C
-200°C~500°C	Pt500	-200°C~500°C ±0.6°C
500°C~630°C		500°C~630°C ±0.9°C
-200°C~100°C	Pt1000	-200°C~100°C ±0.4°C
100°C~630°C		100°C~630°C ±0.5°C

Source	Thermocouples	Accuracy
J	-200°C~0°C	±0.8°C
	0°C~1200°C	±0.5°C
K	-200°C~0°C	±1.0°C
	0°C~1370°C	±0.6°C
T	-200°C~0°C	±1.0°C
	0°C~400°C	±0.6°C
E	-200°C~0°C	±0.7°C
	0°C~950°C	±0.5°C
R	-20°C~0°C	±2.3°C
	0°C~500°C	±1.6°C
	500°C~1750°C	±1.2°C
S	-20°C~0°C	±2.3°C
	0°C~500°C	±1.6°C
	500°C~1750°C	±1.3°C
B	600°C~800°C	±2.0°C
	800°C~1000°C	±1.6°C
	1000°C~1800°C	±1.2°C
N	-200°C~0°C	±1.3°C
	0°C~1300°C	±0.7°C

Clamp Meter

TES-3080/TES-3082 -TRMS AC/DC Clamp Meter



Ref. No Model
TS04 C001 TES 3082
TS04 C002 TES 3080

Features

- True RMS Reading (TES 3082)
- 4000 count Reading
- Data/Peak Hold
- DCA One-Touch-Zero

Technical Specifications

Current (DC/AC) (± 1.9% rdg ± 5dgt) :

400A/600A

Voltage (DC/AC) :

DC-600V;

AC-400V / 600V

Resistance (ohms) :

4K Ω

Frequency (Auto range) :

4KHz / 20KHz

TES-3050 -TRMS AC/DC Clamp Meter
TES-3040 - Clamp Meter
Prova 2000/2003 - AC/DC Clamp Meter

Features

- 3-3/4 Digital LCD with bar-graph
- Auto-power off with Data Hold & MAX/MIN mode
- TRMS AC/DC (TES 3050)
- AC (TES 3040)
- Zero Adjustment/Relative Reading

Technical Specifications
Current (AC/DC) ($\pm 2\%$ rdg ± 5 dgts) :

400/1000A (TES 3050)

Current (AC) ($\pm 2\%$ rdg ± 5 dgts) :

400/1000A

Voltage (AC/DC) :

DC-400mV/4V/40V/400V/600V

AC-4V/40V/400V/600V

Resistance (ohm) :

 400 $\bar{\Omega}$ /4K $\bar{\Omega}$ /40K $\bar{\Omega}$ /400K $\bar{\Omega}$ /4M $\bar{\Omega}$ /40M $\bar{\Omega}$
Frequency (Hz) :

100Hz/ 1KHz/ 10KHz/ 100KHz/ 800KHz

Ref. No **Model**

TS04 C003 TES 3050

TS04 C004 TES 3040


Features

- DC 2500A, AC 2100A
- Ø55mm, Bus Bar 65mm x 24mm
- True RMS (Prova 2000)
- Auto Range A, V, $\bar{\Omega}$, Hz

Technical Specifications
Current (AC/DC) ($\pm 1.5\%$ rdg ± 5 dgts) :

DC-400A/2500A, AC-400A/2100A

Current Analog Output :

400A/2500A(1mV/A)

Voltage (AC/DC) :

DC-400mV/4V/40V/400V/600V

AC-4V/40V/400V/600V

Frequency (Hz) :

100-1000KHz

Ref. No **Model**

TS04 C005 Prova 2000

TS04 C006 Prova 2003

TES-3079 - TRMS Clamp Meter (HVAC)

Features

- AC Volt & DC Volt Auto-Switching
- True RMS Reading & Dual LCD Display
- MAX/MIN Reading

Technical Specifications

	Range	Resolution	Accuracy
AC Current Trms (Trms) (50Hz ~ 400Hz)	99.99A	10mA	$\pm 2\% \pm 20$ dgts (50, 60Hz)
	999.9A	100mA	$\pm 4\% \pm 20$ dgts (40 ~ 400Hz)
High Resistance (M $\bar{\Omega}$)	9.999 M $\bar{\Omega}$	1K $\bar{\Omega}$	5% ± 10 dgts
	99.99M $\bar{\Omega}$	10K $\bar{\Omega}$	5% ± 10 dgts
Frequency (Hz)	40Hz/1KHz	0.1Hz	$\pm 0.5\%$ rdg ± 2 dgts
Capacitance	10.000 μ F	1nF	1.5% ± 5 dgts
	100.00 μ F	10nF	1.5% ± 5 dgts
	1000.0 μ F	100nF	1.5% ± 5 dgts
	7,000 μ F	1 μ F	2.5% ± 15 dgts
	2.000V	1mV	$\pm 2\% \pm 1$ dgt
Diode: (Continuity Value <40mV)			
Temperature ($^{\circ}$C,$^{\circ}$F)(Type K Thermometer)	-50 $^{\circ}$ C ~ 900 $^{\circ}$ C	0.1 $^{\circ}$ C	1% $\pm 1^{\circ}$ C
	-58 $^{\circ}$ F ~ 1,000 $^{\circ}$ F	0.1 $^{\circ}$ F	1% $\pm 2^{\circ}$ F
Watt (KW): (PF>0.7 or $\bar{E}$ <45°)	60.00KW(<100A)	10W	$\pm 5\%$ rdg ± 20 dgts (50,60Hz)
	600.0KW(>100A)	100W	$\pm 5\%$ rdg ± 20 dgts (50,60Hz)
Phase angle ($\bar{E}$)	50Hz/60Hz	0.1 $^{\circ}$	$\pm 3.0^{\circ}$
Current Power	60.00KVA (<100A)	10VA	$\pm 2.5\%$ rdg ± 20 dgts
	600.0KVA (>100A)	100VA	$\pm 2.5\%$ rdg ± 20 dgts
AC voltage Input resistance: 3M $\bar{\Omega}$	999.9mV	0.1mV	$\pm 1.0\% \pm 20$ dgts
	9.999V	1mV	$\pm 1.0\% \pm 20$ dgts
	99.99V	10mV	$\pm 1.0\% \pm 20$ dgts
	600.0V	100mV	$\pm 1.0\% \pm 20$ dgts
Resistance ($\bar{\Omega}$) : (continuity value < 40 $\bar{\Omega}$)	999.9 $\bar{\Omega}$	100m $\bar{\Omega}$	1% ± 10 dgts
	9.999K $\bar{\Omega}$	1 $\bar{\Omega}$	1% ± 10 dgts
	99.99K $\bar{\Omega}$	10 $\bar{\Omega}$	1% ± 10 dgts
	999.9K $\bar{\Omega}$	100 $\bar{\Omega}$	1% ± 10 dgts
mA Trms (Trms): (AC + DC) (Load voltage drop: 5mV/ μ A)	99.99mA	10nA	$\pm 1\% \pm 20$ dgts
	999.9mA	100nA	$\pm 1\% \pm 20$ dgts
AC Voltage Trms (Trms) (50Hz ~ 400Hz) Input resistance: 3M $\bar{\Omega}$	999.9mV	0.1mV	$\pm 1\% \pm 20$ dgts (50, 60Hz)
			$\pm 2\% \pm 20$ dgts (40 ~ 100Hz)
	9.999V	1mV	$\pm 1\% \pm 20$ dgts (50, 60Hz)
			$\pm 2\% \pm 20$ dgts (40 ~ 400Hz)
	99.99V	10mV	$\pm 1\% \pm 20$ dgts (50, 60Hz)
			$\pm 2\% \pm 20$ dgts (40 ~ 400Hz)
	600.0V	100mV	$\pm 1\% \pm 20$ dgts (50, 60Hz)
			$\pm 2\% \pm 20$ dgts (40 ~ 400Hz)

 Ref. No : TS04 C007
 Model : TES 3079

TES-3074 - Phase Sequence Clamp Meter

Ref. No : TS04 C008
Model : TES 3074

Features

- Phase Rotation Indicator
- 1000AAC & 600V AC,
- MAX / MIN / Data Hold
- Pos Peak Hold & Neg Peak Hold
- 4000 Count Reading with Bar graph
- Capacitance Check (400μF)
- Frequency Check (4KHz)

Technical Specifications

AC Current : $\pm (2\% \text{rdg} + 5 \text{dgt})$

40A/400A/1000A

AC Voltage:

400V - $\pm (1.2\% \text{rdg} \pm 5 \text{dgt})$

600V - $\pm (3\% \text{rdg} \pm 5 \text{dgt})$

Phase:

80V ~ 480V

Frequency:

4KHz

Peak Hold Measurement:

Range : 40A/400A/1000A

Resolution : 0.01A/0.1A/1A

TES-3092 - AC/DC Clamp Meter**Features**

- Compact & Pocket Size
- Continuity Beeper.
- One Touch DAC Zero

Technical Specifications

DC/AC Current:

200A / 800A (DCA)

200A / 700A (ACA)

DC/AC Voltage:

200V (DCV),

600V (ACV)

Ohms:

2K $\bar{\Omega}$

Resolution:

0.1A/ 1A, 0.1V/ 1V

Ref. No : TS04 C009

Model : TES 3092

CM-03 - Leakage Current Tester**Features**

- 10μA Ultra High Resolution
- 30mm Large Conductor Diameter
- ACA 5 Ranges (40mA, 400mA, 4A, 40A, 60A)

Technical Specifications

AC Current ($\pm 1.5\% \text{rdg} \pm 2 \text{dgt}$) :

40m/400m/4/40/60 A

AC Voltage :

400V

Resistance :

400 $\bar{\Omega}$

Ref. No : TS04 C010

Model : CM 03

CM-05 - AC/DC Current Probe**Features**

- Accurate DC/AC current probe
- 10mADC, 1mAAC high resolution
- 23mm Jaw Diameter
- One Touch Zero for DCA adjustment
- Easy single rotary switch for any function selection

Technical Specifications

AC/DC Current :

4A/40A/150A/200A

Sensitivity :

0.1mV/ 1mA

0.1mV/ 10mA

0.1mV/ 100mA

Ref. No : TS04 C011

Model : CM 05

Prova 15 -**AC/DC mA Current Probe****Features**

- High resolution DC 1mA, AC 0.1mA
- Connect to an Oscilloscopes to observe Current waveform
- Connect to Chart Recorder/ Data logger/ DMM to Record Current Data
- One touch Zero for DCA

Technical Specifications

AC/DC Current :

400mA/4A/30A

Sensitivity :

0.1mV/ 0.1mA

0.1mV/ 1mA

0.1mV/ 10mA

Ref. No : TS04 C012

Model : Prova 15

CM-01 - DC/AC Clamp Meter**Features**

- High resolution DC/AC 10mA
- 23mm Large Jaw Diameter
- One Touch Zero for DCA adjustment
- Large 3 3/4 Digits LCD (4000 Counts)
- Fast Analog Bar graph Display
- Max/Min, Data Hold
- 600Vrms Overload Protection for Ohm Measurement

Technical Specifications

AC/DC Current :

40A / 150A / 200A

AC/DC Voltage :

400V

Resistance :

400 $\bar{\Omega}$ (beep if < 38 $\bar{\Omega}$)

Frequency :

100 ~ 100KHz

Ref. No : TS04 C013

Model : CM 01

CM-02/04 - AC/DC Clamp Meter Automotive



Features

- DC/AC 0.01A Resolution
- Temperature and Capacitance
- Auto Range V $\bar{U}$ Hz ° c
- | | - RPM
- AC/DC 0.01 ~ 200A
- One Touch Zero

Technical Specifications

AC/DC Current ($\pm 1.5\% \text{rdg} \pm 2 \text{dpts}$) : 40/200A
AC/DC voltage : 400m/4/40/400/600V
Resistance : 400/4K/40K/400K/4M/40M $\bar{U}$
Frequency : 100-100K (CM-02)
RPM : 0-9999 (CM-04)

Ref. No **Model**
TS04 C014 **CM 02**
TS04 C015 **CM 04**

CM-07 - TRMS DC/AC Clamp Meter



Features

- High resolution DC 10mA AC 1mA
- True RMS reading
- Non-Contact Current frequency Measurement
- 23mm Large Jaw Diameter
- One touch Zero for DCA adjustment
- Large 3 3/4 Digits LCD (4000 counts)
- Fast Analog Bar graph Display
- Max/Min, Data Hold

Technical Specifications

AC/DC Current ($\pm 1\% \text{rdg} \pm 2 \text{dpts}$) :
 40A/150A/200A/400A (DC)
 4A/40A/100A/200A/400A (AC)
Frequency : 1000KHz
Ref. No : TS04 C016
Model : CM 03

TES-3600 - 3 Phase Power Analyzer



Features

- Connects for 4 Current Sensing Clamps
- 1P2W, 1P3W, 3P3W2M & 3P4W Power Measurement
- True RMS Sensing,
- Display 10 Parameters at the same time
- Power KW, KVAR, KVA, PF, $\bar{E}$, HZ & Energy KWh, KVARh & KVAh Measurement
- Phase sequence indicator function
- Backlight display function
- Manual Data Memory and Read (99sets)
- Data Logging (512KB Memory, 20,000 sets)
- Programmable Trigger – Points and Start / Stop Time
- RS-232 Optical Interface with three phase voltage / current Waveform display and Harmonic analysis
- Easy-to-use Push-Button Operation
- Light Weight, Portable Design

Technical Specifications

Voltage ($\pm 0.5\% \text{rdg} \pm 10 \text{dpts}$) :
 600.0V
Current ($\pm 0.5\% \text{rdg} \pm 10 \text{dpts}$) :
 250/500/1000A
Power ($\pm 0.5\% \text{rdg} \pm 10 \text{dpts}$) :
 600.0 KW/600.0 KVAR/600.0 KVA
Power Integration ($\pm 0.5\% \text{rdg} \pm 10 \text{dpts}$) :
 0.0KWh - 9999 MWh
 0.0Kvarh - 9999 Mvarh
 0.0KVAh - 9999 MVAh
Frequency ($\pm 0.5\% \text{rdg} \pm 1 \text{dgt}$) :
 40Hz to 100Hz
Ref. No : TS04 E001
Model : TES 3600

TES-3063 - Datalogging Power AC/DC Clamp Meter



Features

- 1 $\bar{O}$ 2W, 1 $\bar{O}$ 3W, 3 $\bar{O}$ 3W, 3 $\bar{O}$ 4W
- RS-232 Interface (3064)
- Data Logging Capacity (4,000 continuous reading, 25 single reading)
- PEAK Hold mode/Diode continuity measurement
- Dual display: KW + PF, KVA + PF, V+A
- Dual display: A + Hz, V + Hz
- Peak / MAX / MIN function
- True power (KW)/Apparent Power (KVA)/Power Factor (PF)
- Designed to meet EN-61010-1, IEC 1010-2-32 safety standard

Technical Specifications

	Range	Resolution	Accuracy
DC voltage (DCA) :	1.000A	0.1A	$\pm (1.5\% + 5)$
DC voltage (DCV) :	600V	0.1V	$\pm (1.5\% + 5)$
Frequency test(Hz):	1KHz	0.1KHz	$\pm (0.5\% + 5)$
	5KHz	1KHz	$\pm (0.5\% + 5)$
AC current (ACA):	1.000A	0.1A	$\pm (1.5\% + 5)$
AC voltage (ACV) :	600V	0.1V	$\pm (1.5\% + 5)$
Resistance ($\bar{U}$) :	10K $\bar{U}$	1 $\bar{U}$	$\pm (1\% + 5)$

True Power (KW) / Apparent Power (KVA)

Range	Resolution	Accuracy
V<130V, A<150A	0.01	$\pm (2\% + 5)$
V>130V, A<150A	0.01	$\pm (2\% + 5)$
V<130V, A>150A	0.01	$\pm (2\% + 5)$
V>130V, A>150A	0.1	$\pm (2\% + 1)$

Ref. No : TS04 E002
Model : TES 3063

Prova 6600- 3 Phase/ 1 Phase Power Clamp**Features**

- 3Ø4W, 3Ø3W, 1Ø2W, 1Ø3W
- AC+DC 2000KW (3Ø), 1200KW(1Ø)
- Dual Display KW + PF, KVA+KVAR, A+Hz
- Phase Angle, Phase Sequence Indication
- AC+DC 600V, 2000A, Power Factor
- AC/DC Auto Detection

Technical Specifications

AC+DC True Power ($\pm 2\%$ rdg ± 0.05 KW) :

0 ~ 99.9/100 ~ 999.9/1000 ~ 1200KW

AC+DC Voltage :

0 ~ 200/200 ~ 500/500 ~ 600VAC,
500 ~ 800VDC

AC+DC Current ($\pm 1.5\%$ rdg ± 5 dgt) :

0 ~ 200/200 ~ 500/500 ~ 2000A

Ref. No : TS04 E003

Model : Prova 6600

Prova 6601 - 3 Phase PF Power Clamp**Features**

- PF (3Ø4W, 3Ø3W, 1Ø2W)
- AC+DC 2000KW (3Ø), AC+DC 1200KW(1Ø)
- Dual Display KW+PF, KVA+KVAR, A+V, V+Hz
- AC+DC 600V, 2000A, Power Factor
- AC/DC Auto Detection

Technical Specifications

AC+DC True Power ($\pm 2\%$ rdg ± 0.05 KW) :

0 ~ 99.9/100 ~ 999.9/1000 ~ 1200KW

AC+DC Voltage :

0 ~ 200/200 ~ 500/500 ~ 600VAC,
500 ~ 800VDC

AC+DC Current ($\pm 1.5\%$ rdg ± 5 dgt) :

0 ~ 200/200 ~ 500/500 ~ 2000A

AC+DC KVAR (3Ø3W, 3Ø4W) :

0 ~ 99.9/ 100 ~ 999.9/ 1000 ~ 1200KVAR

Ref. No : TS04 E004

Model : Prova 6601

Prova 2009 - AC/DC RMS WATT Clamp**Features**

- AC/DC 1200KW
- DC/AC 2000A & Analog Output
- True RMS
- Temperature (-50°C ~ 1000°C)

Technical Specifications

AC/DC 250V / 600V Power

($\pm 2.5\%$ rdg ± 5 dgt) :

Range : 40KW / 400KW (250V)
400KW / 1200KW (600V)

Current (AC/DC) ($\pm 1.5\%$ rdg ± 3 dgt) :

Range : 400 / 2500A (DC)
400 / 0-1000 / 1000 ~ 2100A (AC)

Analog Output (AC/DC) :

Range : 400 / 2500A (DC)
400 / 2100A (AC), (1mV/A)

Ref. No : TS04 E005

Model : Prova 2009

GWM 039 - Watt Meter**Features**

- AC/DC Current up to 1000Amp
- Active Power(VAcos Ø), Apparent Power (VA), Reactive Power (VA sin Ø) and Power factor (cos Ø)
- Surge Mode for Inrush Current Measurement
- Power, Current, Voltage, Frequency, and Resistance Measurement
- Data Hold, Max/Min, and Crest Factor Reading

Ref. No : GW04 E006

Model : GWM 039

Prova 400 - AC/DC True RMS Watt Clamp Meter**Features**

- True Power, AC 240KW, DC 240KW
- True RMS ACA 400A, ACV 600V
- DCA 400A, DCV 400V
- Large 3 ¾ digits LCD (4000 counts)
- Fast Bargraph Display (20 times/sec.)
- Data and Max/Min/Hold
- Relative Measurement

Technical Specifications

AC/DC Power ($\pm 1.5\%$ rdg ± 3 dgt) : 40/240KW

AC/DC Current ($\pm 1.5\%$ rdg ± 3 dgt) : 400A

AC/DC Voltage : 400V/DC 600V/AC

Frequency : 1000KHz

Ref. No : TS04 E007

Model : Prova 400

WM-01/WM-02 Power Analyzer (Watt, PF, V/Hz, A)

**Features**

- Solution for better PF
- 4 LCD Displays with W, PF, V, A
- Easy Plug-in and Test
- RS-232 Computer Interface
- Data Logging 1012 set data (WM-02)

Software functions:

- Phase Angle,
- Estimated Kilo-Watt per day/month/year
- Energy cost/KWh
- Reactive Power
- Serial Number/record print out
- Apparent Power
- Kilo-Watt Hour

Technical Specifications

Watt (Auto Range, AC+DC) (0.9%rdg+4dgts) : 200/2000
 Voltage (True RMS, Auto Range, AC+DC) : 200/750 (0.5%rdg+3dgts)
 Current : 20A
 Frequency : 2K/20K/200K/2M/20MHz

Ref. No	Model
TS04 E008	WM 01
TS04 E009	WM 02

GPM-8212 - AC Power Meter

**Features**

- Simultaneous Display of W, A, V (PF or Hz)
- True RMS V, A, W
- Auto calibration Via Computer
- Max. / Min. / Hold Function
- High Immunity to External Noise
- CT Ratio (1 ~ 9999)
- PT Ratio (1 ~ 9999)
- Option : RS-232C or RS-485 Interface

Ref. No : TS04 E010
 Model : GPM 8212

Tester

TES-1600 - Insulation Tester

**Features**

- 2000M Ω /1000V, 200M Ω /500V, 200M Ω /250V
- Power Lock for 3 minutes (Auto Power off)
- Auto-Zero Adjustment
- 1mA Test Current
- Data-Hold-Function/Continuity Beeper

Technical Specifications

AC Voltage	: 600V
OHMS	: 200 Ω
MEG OHMS	: 200M Ω /250V,
($\pm 3\%$ rdg ± 3 dgts)	200M Ω /500V,
	2000M Ω /1000V

Ref. No : TS04 F001
 Model : TES 1600

TES-3660 - Auto Ranging Insulation Tester

**Features**

- Overload protection
- Lo Ω function for testing connections
- Auto discharge of capacitive voltage charges
- Last reading HOLD display
- AC/DC voltage measurement up to 1000V
- Manual data memory and read function (9 sets)

Technical Specifications

AC/DC Voltage	: 1000V
Continuity	: 40 Ohm (Ish>200mA)
MEG OHM ($\pm 3\%$ rdg ± 5 Ct)	: 4000M Ω /250V w/auto range
	4000M Ω /500V w/auto range
	4000M Ω /1000V w/auto range
Auto range	: 4000M/400M/40M/4M

Ref. No : TS04 F002
 Model : TES 3660

TES-1601/1602/1604**Auto Ranging Insulation Tester****Features**

- "Test Hold" function
- Backlight illumination
- 1 mA Test Current
- 200mA short Circuit continuity current
- 4,000 M Ω / V Reading/ 10,000M Ω analog indication

Technical Specifications

AC Voltage	: 600 V ACV
Continuity	: 40 Ohm (Ish>200mA)
MEG OHM ($\pm 3\%$rdg $\pm 5Ct$)	: 4000M Ω /250V w/auto range 4000M Ω /500V w/auto range 4000M Ω /1000V w/auto range
Auto range	: 4000M/400m/40M/4M
RS-232 Interface	
(TES-1602 / TES-1604)	: 7,000 record memory (TES-1604)

Ref. No	Model
TS04 F003	TES 1601
TS04 F004	TES 1602
TS04 F005	TES 1604

TES-1605 - Digital Earth Tester**Features**

- Earth Resistance (20 Ω / 200 Ω / 2000 Ω)
- Zero ohm adjustment
- Capable of measuring earth voltage
- Data hold function
- Auto power off function
- 2mA measuring current permits earth resistance tests without tripping earth leakage current breakage in the circuit under test

Technical Specifications

Earth Voltage	: 0.1V, $\pm (1\% + 4)$
Earth Resistance	: 20 Ω / $\pm (2\% + 0.1 \Omega)$ 200 Ω / 2000 Ω / $\pm (2\% + 3)$
Current Consumption	: Earth V : 22mA 20 Ω / 200 Ω / 2000 Ω : 42mA
Overload Protection	: Earth Voltage : 300Vrms/ 1 min Earth Resistance : 200Vrms/ 10 sec.

Ref. No : TS04 F006
Model : TES 1605

TES-1700 -Digital Earth Tester**Features**

- Auto power off function
- 2mA measuring current permits earth resistance tests with tripping earth leakage current breakers in the circuit under test

Technical Specifications

Measuring range	: 0 ~ 399.9V (50Hz, 60Hz) $\pm (1\%$ rdg + 4dgts)
Resistance	: 0 ~ 39.99 Ω / 0 ~ 399.9 Ω / 0 ~ 3999 Ω $\pm (2\%$ rdg + 3dgts)
Overload protection	: Earth Voltage : 400Vrms/1minute Earth Resistance: 250Vrms/10 seconds
Current Consumption :	Range ON 40 Ω / 400 Ω / 4000 Ω 42mA Earth V 22mA

Ref. No : TS04 F007
Model : TES 1700

Prova 5600 - Ground Clamp-on Tester**Features**

- Non-Contact Ground Resistance Measurement
- No Auxiliary Electrode Needed
- 0.025 ~ 1500 Ω ($\pm 1.5\%$ rdg $\pm 0.10\Omega$)
- Ground wire $\varnothing 23$ mm.0.9"
- Leakage Current (0.200mA ~ 10.00A)

Technical Specifications

Ground resistance	: 0.025 ~ 500 Ω
Ground/Leakage Current	: 0.200mA ~ 15mA (Auto range, 50/60Hz, True RMS, Crest Factor < 3.0)
Resolution	: 0.002 Ohm

Ref. No : TS04 F008
Model : Prova 5600

TES-1800 - Loop/PSC Tester**Features**

- Auto lock out if test resistor overheats
- Measure low loop with 0.01Ω resolution
- High loop range permit measurement of ground spikes

Technical Specifications

Range	: 20 / 200 / 2000Ω
Accuracy	: ±(2%+2 digits) at 1 Ω on 20 Ω Range
Lowest Resolution	: 0.01Ω
Voltage Display	: ± 2% + 1 digit
AC Test Current	: 25A nominal at 20 Range
AC Test Period	: 20 ms
PSC Range	: 200A / 2000A / 20KA
Operation Voltage	: 230V ± 10%, 50Hz ± 1%
Fuse Protection	: HRC ceramic fuse

Ref. No : TS04 F009

Model : TES 1800

TES-1900 - Digital RCD Tester**Features**

- 3 LED's for checking correct wiring status
- 0 and 180 degree phase angle switch permits quick tests and consistent readings
- Digital read out of tripping time
- Visual indication of reversed phase and neutral wiring at socket
- Resilient case made from modern plastics to take everyday knock and brings

Technical Specifications

Fault condition setting	: X1/2, X1, X5
Fault Trip Time	: 2000ms, 40ms (X5)
Rated Tripping Current	: 10/20/30/100/300/500mA
Low Set Resolution	: 1ms (X1/2, X1), 0.1ms (X5)
Trip Time Accuracy	: ± (1%rdg + 2 digits)
Operation Voltage	: 230V ± 10%, 50/60Hz

Ref. No : TS04 F010

Model : TES 1900

Surface/GND Resistivity Meter**Features**

- Measure surface and gnd resistivity.
- In conformity with the D-257 of ASTM.

Technical Specifications

Range	: $10^3 - 10^{12}$ ohms
Accuracy	: ± 10%
Display	: LED
Analog Accuracy	: ± 1/2 decade
In conformity with the standard of EOS/ESD, ANSI, ASTM, EIAAND CECC	

Ref. No : CT04 F011

Model : CT500

Wrist Strap Tester CT501**Features**

- Precise, quick and convenient to test the grounding system.
- Insure workers' safety, eliminate the damage to product because of static.

Ref. No : CT04 F012

Model : CT501

Digital Electrostatic Fieldmeter**Features**

- Bar graph and digital display.
- Easy attachment for ion balance measurement.
- Digital zero function.
- Hold function.
- LED assisted distance indication.
- Multi function alarm.

Technical Specifications

Measuring Range : Static electricity measurement 0 - $\pm 1.49\text{kV}$,
 $\pm 1.0\text{kV}$ - $\pm 20.0\text{kV(Hi)}$
 (Range Hysteresis to $\pm 1.0\text{kV}$ - $\pm 1.5\text{kV}$)
 Ion balance measurement 0 - $\pm 200\text{V}$

Measuring distance : $25\text{mm} \pm 1\text{mm}$
 (between charged object and fieldmeter)

Accuracy : $\pm 10\%$

Ref. No : SC04 F013

Model : FMX002

IC Tester

GUT - 6000A

**Features**

- Loop Test,
- Auto-Search
- Self-Diagnosis
- Over-Load Protection
- Measures 1800 Kinds Device
- 54/74 Series TTL and High Speed CMOS
- 4000 and 4500 Series CMOS
- Test Socket: 28-Pin

Ref. No : GW04 F015

Model : GUT 6000A

Electrostatic Fieldmeter

Locate static charge before it can damage sensitive devices. This hand-held non-contact field meter finds static charge by measuring the field on materials, machines and people.

Standards

Useful for audit testing required by ANSI/ESD S-20.20, EIA 625, MIL-STD-1686.

Technical Specifications**Electrical Range :**

LO at 1/2"	0-500 volts
LO at 4"	0-3000 volts
HI at 1/2"	0-5000 volts
HI at 4"	0-30000 volts

Repeatability : $\pm 1\%$

Accuracy : $\pm 10\%$

Ref. No : ST04 F014

Model : F300B

GUT - 6600 (Handy Digital IC Tester)**Features**

- Easy-operating tester, particularly be designed for the digital IC
- Supported Device: 74/40/45/41/44 Serial
- Small, portable, light and power-saving, usable with batteries
- Average search time : 0.8 second
- Display : 16 characters in 1 line LCD
- Test Pins : 14 ~ 24 Pins

Ref. No : GW04 F016

Model : GUT 6600

Eprom Writer

GUT-6001 (Eprom Writer)



Features

- Windows and DOS Driver
- LCD Display: 16 x 2 Characters
- Small, portable, light and usable with batteries
- Two types of high efficient work mode: Stand Alone mode, PC based mode
- Can set programming flow chart, voltages, pulse width & other parameters
- Powerful HEX/ASCII Memory and Fusemap, test library and full screen edit
- Support file format binary code, Intel HEX & 80/86 HEX

Ref. No : GW04 F017

Model : GUT 6001

Logic Probe & Pulser

GLP-1A (Logic Probe & Pulser)



Features

- Pulse width : 10μ sec
- Minimum detectable Pulse width 10nsec
- Pulser : Sync input impedance 1MΩ
- Pulse rate: Switchable 0.5pps or 400pps
- Operating voltage: 4VDC ~ 18VDC
- Maximum input signal frequency 50MHz
- Combining a logic probe and pulser in one probe for troubleshooting digital circuits
- TTL: Logic : "1">3.0V±0.25V, Logic "0"<0.75V±0.25V
- CMOS: Logic : "1">60% VCC±5%, Logic "0" <15% VCC±5%
- Dimensions & Weight: 18(W) x 210(H) x 18(D) mm Approx. 50g

Ref. No : GW04 F018

Model : GLP 1A

GPG-2A (Logic Pulser)



Features

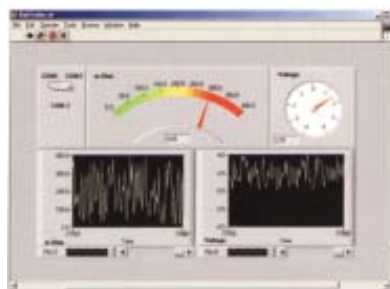
- Operating voltage range: 5~15VDC
- Maximum input probe voltage : ±35VDC
- Maximum sync input Voltage : ±120V/30sec
- Sync Input Impedance: 1MΩ
- Square Wave, 5mA Sink/Source
- A very effective Tool for Troubleshooting or Testing Logic Circuits
- Directly inject a signal into logic circuits without removing components
- Has a sync input for producing externally synced signals
- Pulse repetition rate: 0.5 peak to peak/400 peak to peak
- Output current: Pulser mode, 100mA sink/source
- Dimensions & Weight: 18(W)x210(H)x18(D)mm; Approx.40g

Ref. No : GW04 F019

Model : GPG 2A

Battery Capacity Tester

TES-32



Features

- Comparator function
- Test condition without shutting down battery
- Simultaneously measure battery resistance, voltage
- Rates conditions as pass, warning or fail
- Memory and read function (6000 data)
- Compact and lightweight
- RS232 PC interface

Technical Specifications

Battery types tested : Compact storage batteries, alkali and lead-acid batteries

Battery capacity : 0 to 500AH
Resistance : 40mΩ, 400mΩ, 4Ω, 40Ω
Current : 50mA, 5mA, 500μA, 50μA
Voltage : 4V, 40V

Ref. No : TS04 F020

Model : TES 32

Lan Cable Tester

TES-45A

**Features**

- Check Open, Short, Reversed, Crossed & Split wires of wiring faults
- 8 different cables-remote-identifiers available (#1, #2, #3, #4, #5, #6, #7, #8)
- Double digits LED display and plus 4 pairs LED to show wiring fault status/pairing test

Technical Specifications

Connector	: RJ45, BNC
Cable pairs tested	: 1/2, 3/6, 4/5, 7/8
Faults status	: Open, Short, Reversed, Crossed, Split and Low battery
Test cable length	: Maximum 150M (492 ft)

Accessories

One patch cable (RJ45 to RJ45, 30cm long) & one remote identifier #1
Optional for A #2, #3, #4, for B #5, #6, #7, #8

Ref. No : TS04 F021

Model : TES 45A

TES-46 Lan Cable Meter

**Features**

- Measures cable length (2-1000 ft / 1-350M)
- Detects wiring problem: open, short, reversed, crossed & split wires
- Locates wiring/connection errors (distance to the open or short)
- Can identify up to 8 different cables at one end by provided remote identifiers

Technical Specifications

Display	: 2 lines characters LCD display
Connector	: RJ45, BNC
Category	: CAT3, CAT4, CAT5, User-Calibration
Resolution	: 0.5 M / 0.5ft < 100 M / 100 ft 1 M / 1ft > 100M / 100ft
Accuracy	: $\pm (5\% + 1M)$ / $\pm (5\% + 3ft)$

Ref. No : TS04 F022

Model : TES 46

Oscilloscope

Digital Storage Oscilloscope
GDS-820/820C/820S - 150MHz
GDS-840S/840C - 250MHz

**Features**

- 150MHz/250MHz Bandwidth With Either Color or Monochrome LCD Display
- 125k Long Memory and 12 Division Horizontal Display
- 25GS/s Sampling Rate for Repetitive Waveforms
- Advanced Trigger : Pulse Width, TV Line, Event Delay and Time Delay
- Go-No Go and Auto Setup Sequence
- FFT Function
- Built-in Help Menu, Multi-Language and PC Software
- Standard Interface: USB, RS-232C, Printer Port
- Option: GPIB Interface

Ref. No

GW04 G001

GW04 G002

GW04 G003

GW04 G004

GW04 G005

Model

GDS 820

GDS 820C

GDS 820S

GDS 840C

GDS 840S

Digital Storage Oscilloscope
GDS-830 - 100MHz

**Features**

- 100MHz Bandwidth and 100MSa/s Sampling Rate for Each Channel
- 125k Words Per Channel Long Record Length
- 15 Auto Measurement Functions to get Quick & Accurate Results
- A Wide Range of Triggers, Include TV Trigger, Event Delay Trigger and Time Delay Trigger
- Auto-Setting for Quick Setup and Waveform Acquisition
- Four Acquisition Mode: Sample, Peak Detect, Average, Accumulate
- 15 sets Memory for Front Panel Setting Save & Recall
- 2 sets Memory for Waveform Trace Save & Recall
- RS-232C, Parallel Printer Port and VGA Output are included as Standard
- Option : GPIB Interface
- RS-232C Remote Control Program is Available

Ref. No : GW04 G006

Model : GDS 830

Digital Storage Oscilloscope**GRS-6052A/6032A (50MHz, 30MHz)****Features**

- GRS-6052A : DC ~ 50MHz, 100MSa/s, 2kW/CH x 2
- GRS-6032A : DC ~ 30MHz, 100MSa/s, 2kW/CH x 2
- Equivalent Time Sampling of 500MSa/s max
- Acquire Mode : Peak Detect, Envelop, Persistence
- Waveform SAVE/RECALL 10 sets (REF0 ~ REF9)
- Pre-Trigger Function 0 ~ 10 div
- ROLL Mode to 100s/div
- ALT-MAG Function (x5, x10, x20)
- Smoothing Function ON/OFF
- Max. Sweep Rate 10ns/div
- Cursor Readout Function : ΔV , ΔT , $1/\Delta T$
- Panel Setting SAVE/RECALL 10 sets (M0 ~ M9)
- Averaging Function (2 ~ 256)
- VERT Mode Triggering
- TV Synchronization
- CH1 Signal Output & Z-Axis Input
- RS-232C Interface

<u>Ref. No</u>	<u>Model</u>
GW04 G007	GRS 6052A
GW04 G008	GRS 6032A

Cursor Readout Analog Oscilloscope**GOS-6200 (200MHz)****GOS-6112/6103/6103C (100MHz)****Features**

- Dual Channel, Delayed Sweep
- Built-In 6 Digit Universal Counter (GOS 6200/6103C)
- Auto Set
- TV-Line Selection (NTSC,PAL,SECAM) GOS 6200
- 10 Sets Memory for SAVE & RECALL of Front Panel Setting (GOS 6200 / 6103 / 6103C)
- Cursor Readout with 7 Measurements
- Panel Setup Lock of Digital-Control Functions
- Buzzer Alarm
- LED Indicators
- TV Synchronization
- Trigger Signal Output
- Z-axis Modulation Input
- SMD Technology, High Stability and Reliability

<u>Ref. No</u>	<u>Model</u>
GW04 G009	GOS 6200
GW04 G010	GOS 6112
GW04 G011	GOS 6103
GW04 G012	GOS 6103C

Cursor Readout Analog Oscilloscope**GOS-6051/6050 (50MHz)/GOS-6031/6030 (30MHz)****Features**

- 2 Channels, 4 Traces : DC ~ 50 MHz (GOS-6051/6050)
DC ~ 30MHz (GOS-6031/6030)
- 1mV/div ~ 20V/div
- CRT Readout,
- Buzzer Alarm & LED Indicators
- Cursor Measurement, 6 Digit Frequency Counter, 10sets Memory for Front Panel Setting Save & Recall (GOS-6051/6031)
- ALT MAG Function (x5, x10, x20)
- Vertical Mode Triggering
- TV Synchronization
- CH1 Signal Output, Z-axis Input
- Compact size (275W x 130H x 370Dmm) and Front Panel Layout Group for easy to use

<u>Ref. No</u>	<u>Model</u>
GW04 G013	GOS 6051
GW04 G014	GOS 6050
GW04 G015	GOS 6031
GW04 G016	GOS 6030

GOS-658G/653G/652G (50MHz)**Features**

- 50MHz, Dual Channel
- Delayed Sweep (GOS 658G/653G)
- Built-in Delay Line (GOS 658G/653G)
- Z Axis Input
- TV Synchronization
- Cursor Readout With 7 Measurement (GOS 658G)
- ALT Triggering Function
- Hold Off Function
- Trigger Level Lock Function
- CH1 Output

<u>Ref. No</u>	<u>Model</u>
GW04 G017	GOS 658G
GW04 G018	GOS 653G
GW04 G019	GOS 652G

GOS-635G (35MHz)
GOS-622G/620 (20MHz)



Features

- TV Synchronization
- CH1 Output
- ALT Triggering Function
- High Sensitivity 1mV/div
- GOS 635G : 35 MHz Bandwidth
- GOS 622G / 620 : 20 MHz Bandwidth
- Hold Off Function (GOS-635G / GOS-622G)

<u>Ref. No</u>	<u>Model</u>
GW04 G020	GOS 635G
GW04 G021	GOS 622G
GW04 G022	GOS 620

GOS-620FG (20MHz)



Features

- Built-In 1 MHz Function Generator
- 20MHz, Dual Channel
- High Sensitivity 1mV/div
- TV Synchronization
- Z Axis Input
- ALT Triggering Function
- CH1 Output
- Economic Choice for High Quality

Ref. No : GW04 G023
Model : GOS 620FG

Triggering Oscilloscope
GOS-310 (10MHz)



Features

- Easy to Operate
- 10MHz Single Channel
- With TV Sync. Mode
- High Sensitivity 5mV/div
- Low Cost, High Performance
- Designed for Education, Student, Hobbyist and Maintenance use

Ref. No : GW04 G024
Model : GOS 310

GOS-305 (5MHz)



Features

- 5 MHz Single Channel
- 10mV Sensitivity
- Low Cost, High Performance
- Easy to Operate

Ref. No : GW04 G025
Model : GOS 305

GSP-827 (9kHz - 2.7GHz)



Features

Superior Performance

- Frequency Range : 9kHz ~ 2.7GHz
- Input Range : -100dBm ~ +20dBm
- Average Noise Floor : -130dBm/Hz
- Power Measurements : ACPR/OCBW/CH Power
- Split Window: Simultaneous Measurements in Two Separate Frequency Spans
- RBW : 3kHz, 30kHz, 300kHz, 4MHz,

Portable

- Light Weight at 4.5kg and Compact Size
- AC/DC/Battery Operation
- 100 Trace/State Memories with Date/ Time Stamp and File Name

Easy-To-Use

- 10 Markers: Delta Mode, Peak Search, Peak Track
- Trace Function: Dual-Trace Display, Peak Hold, Freeze, Average, Trace Math
- Limit Line : Upper/Lower Limit with Pass/Fail Test
- Trigger Function : Video/External
- Clock/Calendar : Time/Date Stamp in Saved Data
- Wide Range of External Reference Clock: 64k, 1M ... 19.2M

Ref. No : GW04 H001

Model : GSP 827

GSP-810 (150kHz - 1GHz)



Features

- Frequency Range : 150kHz ~ 1GHz
- Fully Digital Phase Locked Loop Technique Design
- High Frequency Stability : ± 10 ppm
- High Resolution of Span to Measure the More Detailed Signal : zero, 2kHz ~ 100MHz/div
- RBW : 3k, 30k, 220k, 4MHz
- High Input Protection Level : +30dBm, ± 25 VDC
- Reference Level Range : -30dBm ~ +20dBm
- Good Noise Floor Performance : -95dBm @30kHz, -100dBm Typical Over -150dBm/Hz Typical @220kHz and 4MHz RBW
- Spurious Noise : < - 60dB
- Intermodulation (3^{rd}) : < -70dBc
- Two Markers for Absolute and Relative Measurement
- Functions: Max, Hold, Average (2 ~ 32 Traces), Freeze, Peak Search, Marker to Center functions
- 9 Memories of Save/Recall
- RS-232C interface and Software to get Trace from GSP-810 to PC
- Options : Power Meter, Tracking Generator, Remote Control Software

Ref. No : GW04 H002

Model : GSP 810

Function / Signal Generator

SFG-830 (30MHz Arbitrary Function Generator)



Features

- 30 MHz Direct Digitally Synthesized Source
- 20MHz Frequency Resolution
- ± 10 ppm Frequency Accuracy
- 12 Bit, 5m Sample/S Arbitrary Waveforms
- Internally Synthesized FM, AM and Phase Modulation (PSK)
- Linear and log Sweeps
- Arbitrary Modulation
- Standard Interface : RS-232C
- Optional IEEE-488 interface

Ref. No : GW04 J001

Model : SFG 830

GFG-3015 (15MHz Programmable Function Generator)



Features

- RS-232C Interface Standard
- Variable DC Offset Control
- SYNC Output
- Frequency Range 0.01 Hz ~ 15 MHz
- Maximum Frequency Resolution 10mHz
- Frequency Accuracy 0.02% ± 5 Count
- LIN/LOG Sweep Mode
- Dual Displays Indicate Frequency and Amplitude
- Built-in 6 Digit Counter With INT/EXT Function up to 150MHz/ High Resolution
- Output Waveforms Sine, Square, Triangle, Ramp, Pulse, AM, FM, Sweep, Trigger and Gate or Burst
- VCF for 100: 1 EXT Frequency Control
- INT/EXT AM/FM Modulation
- GCV Output for Synchronization
- Output Overload Protection

Ref. No : GW04 J002

Model : GFG 3015

GFG-8210 (10MHz Function Generator)**Features**

- Sweep Output
- LIN/LOG Sweep Mode
- Variable DC Offset Control
- Frequency Range : 0.1Hz ~ 10MHz
- Waveforms : Sine, Triangle, Square, Ramp, TTL and CMOS Output
- External Voltage Controlled Frequency (VCF) Function
- Duty Cycle Control with Signal Inversion Capability
- Two-Step (-20dBx2) and Variable Attenuator
- Built-In 6 Digit Counter with INT/EXT Function Up to 150MHz / High Resolution

Ref. No : **GW04 J003**Model : **GFG 8210****GFG-8255A/8250A (5MHz)
GFG-8219A/8217A/8216A (3MHz)****Features**

- Frequency Range : 0.5Hz ~ 5MHz (GFG-8255A/8250A)
- Frequency Range : 0.3Hz ~ 3MHz (GFG 8219A / 8217A / 8216A)
- Variable DC Offset Control
- Waveforms : Sine, Triangle, Square, Ramp, TTL and CMOS Output
- Two-Step (-20dBx2) and Variable Attenuator
- Built-In 6 Digit Counter with INT/EXT Function up to 150MHz/ High Resolution
- INT/EXT AM/FM Modulation (GFG 8219A / 8255A)
- LIN/LOG Sweep Mode (GFG 8255A / 8219A / 8217A)
- External Voltage Controlled Frequency (VCF) function
- Duty Cycle control with Signal Inversion Capability

Ref. No **GW04 J004 GW04 J005 GW04 J006 GW04 J007 GW04 J008**Model **GFG 8255A GFG 8250A GFG 8219A GFG 8217A GFG 8216A****GFG-8215A (3MHz) - Function Generator****Features**

- Variable DC Offset Control
- Frequency Range: 0.3Hz ~ 3MHz
- External Voltage Controlled Frequency (VCF) Function
- Duty Cycle Control with Signal Inversion Capability
- Two-Step (-20dBx2) and Variable Attenuator
- Waveforms: Sine, Triangle, Square, Ramp, TTL & CMOS Output

Ref. No : **GW04 J009**Model : **GFG 8215****GFG-8020H - (2MHz)****Features**

- Frequency Range: 0.2Hz ~ 2MHz
- Coarse and Fine Tuning
- Sine, Triangle, Square, TTL Pulse and CMOS Output
- Built-In 4 Digit Counter (INT only)
- Large 0.5" LED Display
- Variable DC Offset Control
- Output Overload Protection

Ref. No : **GW04 J010**Model : **GFG 8020H****GFG-8015G (2MHz)****Features**

- Frequency Range: 0.2Hz ~ 2MHz
- Waveforms: Sine, Triangle, Square, Pause and Ramp
- Variable and Fixed TTL Output
- 1000:1 Tuning Range
- Variable DC Offset Control
- VCF Input Function
- Output overload protection
- Two-Step attenuator plus variable control

Ref. No : **GW04 J011**Model : **GFG 8215****FM / AM Signal Generator
GSG-120 (mono), GSG-122 (stereo)****Features**

- Frequency Range: 100kHz ~ 110MHz
- Output level -19 ~ +99dBu
- All operations are controlled by microprocessor
- Memory stored from 10 points in one block can be up to 100 continuous points in blocks and 4 output levels
- Memory data copied
- Back space key
- Remote controlled
- FM stereo modulation (GSG-122 only)

Ref. No

GW04 J012**GW04 J013**

Model

GSG 120**GSG 122**

GRG-450B (RF Generator)**Features**

- Int/Ext AM Modulation, 0 ~ 100%
- Frequency Monitor Output for EXT Frequency Counter
- Frequency Range from 100kHz~150MHz (up~450MHz on Harmonics)

Ref. No : GW04 J014

Model : GRG 450B

GAG-809/810 (Audio Generator)**Features**

- Frequency from 10Hz ~ 1MHz
- 6 Steps Output Attenuator
- EXT SYNC Function
- 0.02% Low Sine wave Distortion (GAG 810 only)

Ref. No

GW04 J015

GW04 J016

Model

GAG 809

GAG 810

Intelligent Counter**GFC-8270H (2.7GHz)/GFC-8131H (1.3GHz)**

Ref. No : GW04 K001

Model : GFC 8070H



Ref. No : GW04 K002

Model : GFC 8131H

Features

- Frequency, Period Measurement
- Display : 8 digits with Hz, kHz, MHz, GHz, S, mS, μ S, nS and overflow
- High Resolution at Both High and Low Frequency
- 10mV rms High Sensitivity
- 100nHz Resolution for 1 Hz
- Self Diagnosis Routine (GFC 8270H)
- Variable Trigger Level Control
- Display Hold Function

Digital Frequency Counter**GFC-8010H - (120MHz)****Features**

- Frequency and Period Measurement
- Display 8 Digit with Hz, kHz, MHz, GHz, S, mS, μ S, nS and overflow
- 1Hz to 120MHz range
- 8 Digit Display (0.3" LED)
- Over-Flow Indicator
- 15m Vrms High Sensitivity
- 5PPM High Stability time base
- Low Pass Filter Function

Ref. No : GW04 K003

Model : GFC 8010H

PEL-300

Ref. No : GW04 L001

Model : PEL 300

Features

- Operating Voltage DC 3 ~ 60V
- Operating Current 6mA ~ 60A
- Operating Power 1 ~ 300W
- Easy Operation, with UP/DOWN Key
- High Resolution : 20mV, 0.2mA, 0.33m $\dot{U}$
- Meet UL CSA IEC Safety Regulation
- Over Voltage, Over Current, Over Power Protection
- Memory Store and Recall 100 Points
- Max. Power: 300 W
- Operation Mode : Constant Voltage Mode ;
Constant Current Mode;
Constant Resistance Mode
- Transient Generator Frequency
- Frequency Range : 1Hz ~ 1 kHz ; Duty Range : 10% ~ 90%,
- Self-Test and Software Calibration

Frequency Counter

Electronic Load

Programmable D.C. Power Supply



PPE-1323/3323



PPT-1830G/3615G



PPS-1860G/3635G

Ref. No

GW04 M001

GW04 M002

GW04 M003

GW04 M004

GW04 M005

GW04 M006

Model

PPE 1323

PPE 3323

PPT 1830G

PPT 3615G

PPS 1860G

PPS 3635G

Features

- Easy Operation, with UP/DOWN Key
- High Resolution: 10mV (20mV, PPS-6020), 1mA (2mA, PPS-1860)
- Self Test and Software Calibration
- Meet UL CSA IEC Safety regulation
- High Stability, Low Drift
- 4 Digit Display
- Auto Step Running With Timer Setting
- Triple Output (for PPT-Series & PPE 3323)
- Auto Series and Parallel Operation (for PPT-Series)
- Auto Tracking (for PPT-Series & PPE 3323)
- IEEE-488.2 and SCPI Compatible Command Set (PPS/PPT)
- RS-232 Communication Capability (PPE)
- LabView Driver Software Available (for PPS/PPT Series)
- Over Voltage Protection, Over Current Protection (PPT & PPS Series by Hardware, PPE Series by Software)
- Memory Store and Recall 100 Points for PPS-Series & PPE-1323, 50 Points for PPT-Series & PPE-3323
- FRONT/REAR Output and Sense Switch Selectable (for PPT-Series & PPS-Series)

Technical SpecificationsOutput

Model	PPE 1323	PPE 3323	PPT 1830G	PPT 3615G	PPS 1860G	PPS 3635G
Voltage	0 ~ 32V	0~+32v, 0~-32v, 3.3v/5v FIXED	0~18Vx2, 0~6Vx1	0~36Vx2, 0~6Vx1	0 ~ 18V	0 ~ 36V
Current	0 ~ 3A	0~+3A, 0~-3A, 3A FIXED	0~3Ax2, 0~5Ax1	0~1.5Ax2, 0~3Ax1	0 ~ 6A	0 ~ 3.5A
OVP	0 ~ 33V	0~+33v, 0~-33v,OLP	0~20Vx2, 0~7Vx1	0~38.5Vx2, 0~7Vx1	0 ~ 20V	0 ~ 38.5V

PST-3202/3201

Features

- Digitized Programmable Interface, High Resolution 10mV, 1mA
- 192 x 128 LCD Display, Display Several Setting and Measuring Result Simultaneously
- Over-Voltage, Over-Current, Over Temperature Protection
- Intelligent Fan Control (change by Output Power)
- 100 Sets Memory for Setting Save, Auto Running
- Provided Auto Series and Parallel Function
- Standard Interface: RS-232C
- Jack Type Terminal for Europe (Option)
- Lab view Driver
- Option: GPIB (IEEE-488.2)

Technical Specifications

Model	PST 3202	PST3201
Voltage	0 ~ 32Vx2, 0~6Vx1	0~32Vx3
Current	0 ~ 2Ax2, 0~5Ax1	0~1Ax3
OVP	0 ~ 33Vx2, 0~7Vx1	0~33Vx3

Ref. No

GW04 M007

GW04 M008

Model

PST 3202

PST 3201

PSS-2005/3203

Features

- High Stability, Low Drift
- Built-in Buzzer Alarm
- Standard Interface: RS-232C
- Jack type Terminal for Europe (option)
- Labview Driver
- Over-Voltage, Over-Current, Over Temperature Protection
- Intelligent Fan Control (Change by Output Power)
- Digitized Programmable Interface, High resolution 10mV, 1mA
- Option: GPIB (IEEE-488.2)

Technical Specifications

Model	PSS 2005	PSS 3203
Voltage	0 ~ 20Vx1	0~32Vx1
Current	0 ~ 5Ax1	0~3Ax1
OVP	0 ~ 21Vx1	0~33Vx1

Ref. No

GW04 M009

GW04 M010

Model

PSS 2005

PSS 3203

PSM-2010/3004/6003

**Features**

- Labview Driver
- RS-232C (Standard)
- GPIB (Option)
- Single Output Dual Range Max. 200W
- High Resolution: 1mV/1mA
- Stable & Clear Power: 0.01% Load/Line Regulation, 350 μ Vrms Ripple
- Auto Step Running with timer Setting and 100 Sets Memory
- Safety Design: OVP, OCP & OTP ; Output ON/OFF Control
- Self-Test and Software Calibration
- High Visible Vacuum-fluorescent Display
- Front and Rear Output Terminal

Technical Specifications

Ref. No	GW04 M011	GW04 M012	GW04 M013
Model	PSM 2010	PSM 3004	PSM 6003
DC OUTPUT	0 ~ +8V/20A	0 ~ +15V/7A	0 ~ +30V/6A
	0 ~ +20V/10A	0 ~ +30V/4A	0 ~ +60V/3.3A

GPR-U Series (D.C. Power Supply) - Digital type

**Features**

- 0.01% High Regulation
- Low Ripple and Noise
- Ten-Turn Potentiometer
- 3 ½ Digits 0.5" LED Display
- Overload and Reverse Polarity Protection
- Application for Material and Products Aging
- Built-In Over voltage and Over current Tripped Crowbar
- Constant Voltage and Constant Current Operation

Technical Specifications

Ref. No	Model	Output Volts (V)	Output Amps (A)
GW04 M014	GPR 0875HD	0 ~ 8	0 ~ 75
GW04 M015	GPR 1850HD	0 ~ 18	0 ~ 50
GW04 M016	GPR 3520HD	0 ~ 35	0 ~ 20
GW04 M017	GPR 6015HD	0 ~ 60	0 ~ 15
GW04 M018	GPR 7510HD	0 ~ 75	0 ~ 10
GW04 M019	GPR 16H50D	0 ~ 160	0 ~ 5
GW04 M020	GPR 25H30D	0 ~ 250	0 ~ 3
GW04 M021	GPR 35H20D	0 ~ 350	0 ~ 2
GW04 M022	GPR 50H15D	0 ~ 500	0 ~ 1.5
GW04 M023	GPR 60H15D	0 ~ 600	0 ~ 1.5
GW04 M024	GPR 100H05D	0 ~ 1000	0 ~ 0.5

GPR-H Series - Digital type

**Features**

- 0.01% High Regulation
- Low Ripple and Noise
- 3 ½ Digits 0.5" LED Display
- Constant Voltage and Constant Current Operation
- Overload and Reverse Polarity Protection
- Internal Select for Continuous or Dynamic Load

Technical Specifications

Ref. No	Model	Output Volts (V)	Output Amps (A)
GW04 M025	GPR 0830HD	0 ~ 8	0 ~ 30
GW04 M026	GPR 1820HD	0 ~ 18	0 ~ 20
GW04 M027	GPR 1810HD	0 ~ 18	0 ~ 10
GW04 M028	GPR 3510HD	0 ~ 35	0 ~ 10
GW04 M029	GPR 3060D	0 ~ 30	0 ~ 6
GW04 M030	GPR 6060D	0 ~ 60	0 ~ 6
GW04 M031	GPR 6030D	0 ~ 60	0 ~ 3
GW04 M032	GPR 7550D	0 ~ 75	0 ~ 5
GW04 M033	GPR 11H30D	0 ~ 110	0 ~ 3
GW04 M034	GPR 30H10D	0 ~ 300	0 ~ 1

GPS-Series (Analog/Digital Type)



GPS-Series (Analog Type)



GPS-Series (Digital Type)



GPS-3030DD (Digital Type)

Features

- Light and Compact Design
- 0.01% High Regulation
- Constant Voltage and Constant Current Operation
- Series or Parallel Operation Function
- Remote Control for External Programmable
- Internal Select for Continuous or Dynamic Load
- Low Ripple and Noise
- Overload and Reverse Polarity protection

Technical Specifications

Ref. No	Model	Output Volt (V)	Output Amps (A)
Analog			
GW04 M035	GPS 1830	0 ~ 18	0 ~ 3
GW04 M036	GPS 1850	0 ~ 18	0 ~ 5
GW04 M037	GPS 3030	0 ~ 30	0 ~ 3
GW04 M038	GPS 6010	0 ~ 60	0 ~ 1
Digital			
GW04 M039	GPS 1830D	0 ~ 18	0 ~ 3
GW04 M040	GPS 1850D	0 ~ 18	0 ~ 5
GW04 M041	GPS 3030D	0 ~ 30	0 ~ 3
GW04 M042	GPS 3030DD	0 ~ 30	0 ~ 3

GPR-3030 (Analog Type)

**Features**

- 30V, 3A Output
- 0.01% High Regulation
- Light and Compact Design
- Constant Voltage and Constant Current Operation
- Internal Select for Continuous or Dynamic Load
- Low Ripple and Noise
- Overload and Reverse Polarity Protection
- Low Cost, High Value

Ref. No : GW04 M043

Model : GPR 3030

Multi-Output D.C. Power Supply

GPS-2303/3303/4251/4303

**Features**

- 2, 3 and 4 Independent Isolated Output
- Four "3 Digits" LED Displays
- 0.01% Load and Line Regulation
- Low Ripple and Noise
- Tracking Operation and Auto Series/Parallel Operation
- Output ON/OFF Switch
- Output Voltage and Current Setting When Output Disable
- Fan Speed Control Circuit to Minimize Fan Noise
- Over Load and Reverse Polarity Protection
- European Jack Type Terminal (Option)

Technical Specifications

Ref. No Model	GW04 M044 GPS 4303				GW04 M045 GPS 4251				GW04 M046 GPS 3303			GW04 M047 GPS 2303	
	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH4	CH1	CH2	CH3	CH1	CH2
Voltage	0 ~ 30V		2.2~5.2V	8~15V	0 ~ 25V		3 ~ 6V	8 ~ 15V	0 ~ 30V		5V Fixed	0 ~ 30V	
Current	0 ~ 3A		1A Max.	1A Max.	0 ~ 0.5A		2.5A Max.	1A Max.	0 ~ 3A		3A Max.	0 ~ 3A	
Tracking Series Voltage	0 ~ 60V				0 ~ 50V				0 ~ 60V			0 ~ 60V	
Tracking Parallel Current	0 ~ 6A				0 ~ 1A				0 ~ 6A			0 ~ 6A	

GPC-3030DQ (Digital Type)



Features

- Four Digital Panel Meters
- Triple Output
- Auto Tracking
- Auto Series and Parallel Operation
- Low Ripple and Noise
- 3 ½ Digits 0.39" LED Display
- 5V, 3A Fixed Output
- Overload and Reverse Polarity Protection
- Internal Select for Continuous or Dynamic Load
- Constant Voltage and Constant Current Operation
- Rotation Speed of the Fan is Controlled by Heatsink Temperature

	Ref. No	Model	Independent	Series	Parallel
Analog	GW04 M050	GPC 1850D	0 ~ 18Vx2 0 ~ 5Ax2	36V 5A	18V 10A
	GW04 M051	GPC 3020D	0 ~ 30Vx2 0 ~ 2Ax2	60V 2A	30V 4A
	GW04 M052	GPC 3030D	0 ~ 30Vx2 0 ~ 3Ax2	60V 3A	30V 6A
	GW04 M053	GPC 3030DQ	0 ~ 30Vx2 0 ~ 3Ax2	60V 3A	30V 6A
Digital	GW04 M054	GPC 6030D	0 ~ 60Vx2 0 ~ 3Ax2	120V 3A	60V 6A
	GW04 M055	GPC 3060D	0 ~ 30Vx2 0 ~ 6Ax2	60V 6A	30V 12A

GPC-1850D/3020D/3030D/6030D/3060D (Digital Type)



Features

- Triple Output
- Auto Tracking
- 5V, 3A Fixed Output
- Auto Series and Parallel Operation
- Constant Voltage and Constant Current Operation
- Low Ripple and Noise
- Internal Select for Continuous or Dynamic Load
- Overload and Reverse Polarity Protection
- 3 ½ Digits 0.5" LED Display

GPC-3020/3030 (Analog Type)



Features

- Triple Output,
- Auto Tracking
- Auto Series and Parallel Operation
- Constant Voltage and Constant Current Operation
- Low Ripple and Noise
- Internal Select for Continuous or Dynamic Load
- Four Indicator Meters
- Overload and Reverse Polarity Protection
- 5V, 3A Fixed Output

Technical Specifications

Ref. No	GW04 M048	GW04 M049
Model	GPC 3020	GPC 3030
Independent	0~30Vx2 0~2Ax2	0~30Vx2 0~3Ax2
Series	60V 2A	60V 3A
Parallel	30V 4A	30V 6A

Programmable Switching D.C. Power Supply

PSH-Series



Features

- Wide Input Voltage Range and High Power Factor (P.F)
- High efficiency and High Power Density
- Constant Voltage and Constant Current Operation
- Over Voltage, Over Current and Over Temperature Protection
- Low Ripple and Noise,
- Output ON/OFF Control
- Self-Test and Software Calibration
- LCD Display,
- Built-In Buzzer Alarm
- Standard Interface : RS-232C
- Option: GPIB (IEEE-488.2),
- Labview Driver

		Ref. No	Model		Ref. No	Model		Ref. No	Model
10V	36A	GW01 M056	PSH 1036	70A	GW01 M060	PSH 1070	100A	GW01 M064	PSH 10100
20V	18A	GW01 M057	PSH 2018	35A	GW01 M061	PSH 2035	50A	GW01 M065	PSH 2050
36V	10A	GW01 M058	PSH 3610	20A	GW01 M062	PSH 3620	30A	GW01 M066	PSH 3630
60V	6A	GW01 M059	PSH 6006	12A	GW01 M063	PSH 6012	18A	GW01 M067	PSH 6018

PSP-Series

Features

- LCD Display
- Output ON/OFF Control
- 3 Steps Fan Speed Control
- OVP, OCP, OPP, OTP Protection
- Key Lock to Avoid Error Operation
- Normal, +% & -% Output Operation Key
- Standard Interface : RS-232C
- Option: Jack Type Terminal for Europe

Technical Specifications

Ref. No	GW01 M068	GW01 M069	GW01 M070
Model	PSP 603	PSP 405	PSP 2010
Voltage	0 ~ 60V	0 ~ 40V	0 ~ 20V
Current	0 ~ 3.5A	0 ~ 5A	0 ~ 10A

SPS-Series (Digital Type)

Features

- Constant Voltage and Constant Current Operation
- Two Digital Panel Meters
- 0.01% High Regulation
- High Efficiency
- High Power Density
- Overload and Reverse Polarity Protection

Technical Specifications

Ref. No	GW01 M071	GW01 M072	GW01 M073	GW01 M074	GW01 M075
Model	SPS 1230	SPS 1820	SPS 3610	SPS 2415	SPS 606
Voltage	12V	18V	36V	24V	60V
Current	30A	20A	10A	15A	6A

A.C. Power Source
APS-9301/9501/9102

Model : APS 9102



Model : APS 9301/9501

Features

- True RMS Meter,
- Wide Range Variable Output Voltage/Frequency
- 4 set of "Save/Recall" Voltage/ Frequency Memory
- Stable and Low-Distortion Output Waveforms
- Software Calibration to Ensure Accuracy
- Panel-Lock Function to Prevent Accidental Wrong –Operation
- Over Current Protection and Over Temperature Protection
- Frequency, Volts, AMPS, Watts and Power Factor Display

Technical Specifications

Ref. No	GW01 M076	GW01 M077	GW01 M078
Model	APS 9301	APS 9501	APS9102
Output Capacity	300 VA	500 VA	1k VA
Output Voltage	0.0~300.0 VAC, 0.1 V/step. (110,220V selectable)		
Output Current	0-150V	2.6 Arms	4.2 Arms
	0-300V	1.3 Arms	2.1 Arms
			8.4 Arms
			4.2 Arms

LCR Meter

High Precision LCR Meter



Features

- Test frequency : 12Hz ~ 200kHz (LCR 821),
12Hz ~ 100kHz (LCR 819 / 829),
12Hz ~ 10kHz (LCR 817 / 827),
100Hz ~ 2kHz (LCR 816 / 826)
- 0.05% High Measurement Accuracy (LCR 819/ 817)
- 0.1% Measurement Accuracy (LCR 829/ 827/ 821/ 816/ 826)
- 100 Sets Memory for Save/Recall of Setup State
- R/Q, C/D, C/R, L/Q Test Modes,
Z/Ē, L/R Test Modes (LCR 821)
- Test Condition and Test Result Shown on the Screen Simultaneously
- Handler Interface (LCR 829/ 827/ 826),
- Continuously Variable Frequencies
- Absolute Value, Å Value, and Å % Measurement Display,
- 240 x 128 dot Matrix LCD Display
- Option: RS-232C (including LCR-Viewer Software) (LCR 819/ 817/ 816)

Ref. No	Model
GW04 N001	LCR 821
GW04 N002	LCR 819
GW04 N003	LCR 829
GW04 N004	LCR 817
GW04 N005	LCR 827
GW04 N006	LCR 816
GW04 N007	LCR 826

Portable LCR Meter

LCR-814



Features

- 3 functions LCR Measurement
- 1% Basic Accuracy
- High Resolution 0.1μH, 0.1pF and 1m Ω
- Dissipation Factor Measurement
- Zero Adjustment
- Optional Accessory TL-06 for SMD Type Component

Technical Specifications

Capacitance : 200pF, 2nF, 20nF, 200nF, 2μF, 20μF, 200μF, 2mF, 20mF

Inductance : 200μH, 2mH, 20mH, 200mH, 2H, 20H, 200H

Resistance : 2Ω, 20Ω, 200Ω, 2kΩ, 20kΩ, 200kΩ, 2MΩ, 20MΩ

Ref. No : GW04 N008

Model : LCR 814

Capacitance Meter

TES-1500



Features

- 0.5% accuracy
- Overload Fuse Protection
- Test Clips/Direct Insert jack for easy measure

Technical Specifications

Range : 200pF/2nF/20nF/200nF/2μF/20μF/200μF/2000μF/20mF

Measurement voltage : 4.5V max

Test Frequency : 8/80/800 Hz

Principle : Dual Slot Integration

Zero Error Adjustment : ± 20pF Approx

Ref. No : TS04 N009

Model : TES 1500

Milli-Ohm Meter

GOM-802



Features

- 30000 Counts Display
- High Accuracy 0.05%
- Hi/Lo Comparator and Limit Percent Setting
- Measurement of REL, Actual and % Value
- Manual or Autoranging
- Continuous or Triggered Measurement Mode
- Temperature Compensation and Measurement
- Four-Terminal Measurement Technique
- Auto recall Last Setting After Power OFF and ON Again
- Alarm Setting for PASS/FAIL
- Scan, Handler Interface (Standard)
- RS-232C GPIB (Option)

Ref. No : GW04 N010

Model : GOM 802

GOM-801G



Features

- Hi/Lo Comparator Indicator
- 3 1/2 Digits 0.5" LED Display
- 1A High Test Current
- High Resolution 10μΩ
- Measures from 20mΩ ~ 20kΩ in 7 Ranges

Ref. No : GW04 N011

Model : GOM 801G

Electrical Safety / Misc Meter

GPT-705A/715A

GPI-725A/735A/745A



Technical Specifications

Hi-Pot Voltage : 0.100 ~ 5.000KV (AC), 0.100 ~ 6.000KV (DC)

Regulation (1% + 5V)

Accuracy (±1%rdg +10V [above 500V])

Insulation resistance :

50V/100V/500V/1000V

1 ~ 9990 MΩ

Ground bond resistance test :

0 ~ 620 MΩ at 8VDC (Max) / 3 ~ 42A

Ref. No	Model	AC	DC	IR	GB
GW04 P001	GPT 705A	✓			
GW04 P002	GPT 715A	✓	✓		
GW04 P003	GPI 725A	✓		✓	
GW04 P004	GPI 735A	✓	✓	✓	
GW04 P005	GPI 745A	✓	✓	✓	✓

GPT-805/815, GPI-825/826



Features

- 500VAAC Output
- Arc Detection,
- Easy operation
- True RMS Current Read back
- General input power acceptable
- 3 ranges of adjustable out off current
- Digital display for voltage, current and timer at same time
- Zero turn-on operating switch (for GPT 805,GPT 815, GPI 825)
- Automatic FAIL indicator of alarm lamp and buzzer
- 9 pin remote control for START, RESET
- Voltage output adjustable during test period

Technical Specifications

Hi-Pot voltage : 0.1 ~ 5kV

Regulation : (15% [AC], 20% [DC])

Accuracy : (±3%rdg ± 3 counts)

Insulation resistance : 500V/1000V, 1 ~ 2000MΩ

Ref. No	Model	Output	AC	DC	IR
GW04 P006	GPT 805	500VA	✓		
GW04 P007	GPT 815	500VA	✓	✓	
GW04 P008	GPI 825	500VA	✓		✓
GW04 P009	GPI 826	100VA	✓		✓

GPI-625 (Auto Test)**Features**

- AC Hi-Pot 0~5 kV
- Built-In Withstanding/Insulation Tester
- 500VA Test Capacity
- Zero turn on operating switch
- Automatic NG indicator of alarm lamp and buzzer
- Lower set for NO-Contact Judge
- Digital Cut-Off Current Set
- Test on and result output signal
- Auto W-I and I-W test procedure
- Remote control box GHT-106R (option)

Ref. No : GW04 P010

Model : GPI 625

**GCT-630
(Ground Continuity Tester)****Features**

- AC 32 Amperes high test current
- Measuring resistance from 0 ~ 0.6Ω
- Continue & Normal test mode
- Four wire measurement
- GO-NOGO function
- Test and result output signal

Ref. No : GW04 P011

Model : GCT 630

**GAD-201G
(Automatic Distortion Meter)****Features**

- Automatic level & distortion measurements
- Auto or hold function can be selectable
- 0.1% ~ 100% in 7 distortion measuring ranges
- 20Hz ~ 20kHz in 3 continuous ranges
- 400Hz, 1kHz, 10kHz 3 spot Frequency
- 1mVrms ~ 300Vrms in 12 ACV measuring ranges

Ref. No : GW04 Q001

Model : GAD 201G

Uninterruptible Power Supply

Uninterruptible Power SupplyPP1500R/
PP2000R

P1000R

P600R



PP500R

Features

Back-up for your workstations in the event of power failure.

Technical Specifications

	Model		PP-500R	P-600R	P-1000R	PP-1500R	PP-2000R
Input	Capacity		500VA	600VA	1000VA	1500VA	2000VA
	Range				165 ~ 280VAC, 82 ~ 140VAC		
	Frequency				50HZ ± 5%, 60HZ ± 5%		
Output	Voltage				220V, 110V		
	Regulator				With automatically Voltage Regulation		
	Transfer Time				<2ms		
	Spike Protection				40j/ms		
	Unit Input				Fuse Protection		
Protection	Noise				Modem/Fax Noise Filter		
	Short Circuit	Line			Fuse Protection		
	Short Circuit	INV			Electrical & active Protection		
Battery	Back-up Time (about one PC)		5~12min.	10~30min.	20~50min.		10~25min.

Ref. No

CP04 R001

CP04 R002

CP04 R003

CP04 R004

CP04 R005

Model

PP-500R

P-600R

P-1000R

PP-1500R

PP-2000R

C-600 / C-1000



C-600

C-1000

Ref. No	Model
CP04 R006	C-600
CP04 R007	C-800
CP04 R008	C-1000
CP04 R009	C-1500
CP04 R010	C-2000
CP04 R011	C-3000

Technical Specifications

	Model	C-600	C-800	C-1000	C-1500	C-2000	C-3000
	Capacity	600VA	800VA	1000VA (600W)	1500VA (900W)	2000VA (1200W)	3000VA (1800W)
Input	Range Frequency	165 ~ 280VAC, 82 ~ 140VAC 50Hz $\pm$ 5%					
Output	Voltage Regulator Transfer Time	220V or 110V With automatically Voltage Regulation <6ms					
Protection	Spike Protection Unit Input Noise Short Circuit Short Circuit	Line INV	40j/ms Fuse Protection Modem/Fax Noise Filter Fuse Protection Electrical & active Protection				
Battery	Back-up Time (about one PC)	10~30min.	10~35min.	20~50min.	30~100min.	40~120min.	50~150min.

SMILE series. High Frequency On-line UPS



Features

- Intelligent Microprocessor Controlled.
- RS232 interface and SNMP Solution.
- Brilliant touch control panel for comprehensive safety feature
- SPWM 20KHZ for Clean & Pure SINEWAVE Output.

Ref. No	Model
CP04 R012	S-700VA
CP04 R013	S-1KVA
CP04 R014	S-1.5KVA
CP04 R015	S-2KVA
CP04 R016	S-3KVA

Technical Specifications

	Model	S-700VA	S-1KVA	S-1.5KVA	S-2KVA	S-3KVA
Capacity	P.F=0.7					
Input	Voltage Frequency P.F.C	75 - 140V (110V) 150 - 280V (220V) 60Hz / 50Hz $\pm$ 5% Power Factor Correction				
Battery	Autonomy (1 PC)	50 min.	100 min.	10 - 90 Minutes. 120 min.	180 min.	200 min.
Output	Voltage Frequency Voltage Stability Overload Capacity Bypass Protection	100V/110V/115V/120V or 200V/220V/230V/240V set up 60Hz / 50Hz $\pm$ 1.5% 110% - 130% within 10 sec.				
Transfer Time	Black Out	Over Voltage will cause automatic Shut down, protect equipment Zero				

TU series. True On-line UPS

Features

- IGBT Technology
- 20KHZ SPWM High Performance
- Double Conversion Technology
- Microprocesor Controller LCD with Smart Touch Control Panel
- Intelligent Short Circuit Protection
- Warning Design with history recording of Power Status
- RS-232 Communication Interface

Ref. No	Model
CP04 R017	TU-8K
CP04 R018	TU-10K
CP04 R019	TU-12K
CP04 R020	TU-15K
CP04 R021	TU-20K
CP04 R022	TU-25K
CP04 R023	TU-30K
CP04 R024	TU-40K
CP04 R025	TU-50K

	Model	TU-8K	TU-10K	TU-12K	TU-15K	TU-20K	TU-25K	TU-30K	TU-40K	TU-50K
Capacity	P.F=0.8	6.4KW	8KW	9.6KW	12KW	16KW	20KW	24KW	32KW	40KW
Input	Voltage	100/110/115/120/220/208/380/416/460 VAC $\pm$ 20%								
	Frequency	50Hz $\pm$ 5% / 60Hz $\pm$ 5%								
	Phase	1P2W + G or 3P3W + G or 3P4W + G								
Battery	Autonomy	10 min. (additional batteries can be placed for extended autonomy time)								
Output	Voltage	100/110/115/120/220/208/380/416/460 VAC								
	Frequency	60Hz or 50 Hz								
	Phase	1P2W + G								
	Static Stability	$\pm$ 1% for combined effects of load and input voltage variation								
	Frequency Stability	$\pm$ 0.5% (AC Fault mode)								
	Power Factor	0.8 - 1 LAGGING								
	Overload Capacity	100% - 125% 10 min.								
Transfer Time	Black Out	Zero								

TX-series

Applications

- Computer and its peripherals
- Data processing system
- Local area networks
- Military telecommunication system
- Programming system
- Sophisticated measurements facilities
- Nuclear medical facilities
- Chemical engineering utilities
- Monitoring system
- Automatic testing system
- R & D system
- Laboratory facilities
- Precious production line

Ref. No	Model
CP04 R026	TX-8K
CP04 R027	TX-10K
CP04 R028	TX-12K
CP04 R029	TX-15K
CP04 R030	TX-20K
CP04 R031	TX-25K
CP04 R032	TX-30K
CP04 R033	TX-40K
CP04 R034	TX-50K

	Model	TX-8K	TX-10K	TX-12K	TX-15K	TX-20K	TX-25K	TX-30K	TX-40K	TX-50K
Input	Phase	3P3W / 3P4W								
	Voltage	415/400/380/220/208/190								
	Range	$\pm$ 15%								
Output	Capacity	8K/10K/15K/20K/25K/30K/40K/50K/60/80K/100K/120K/150K/200K/300K/400K								
	Phase	3P4W								
	Voltage	415/240V 280/220V 208/120V								
	Regulation Range	$\pm$ 5%								
	Voltage Stability	$\pm$ 1%								
	Frequency	50/60Hz								
	Power Factor	0.8 (LAGGING)								
	Wave Form	Pure Sinewave								
	Overload Capacity	100% - 125% FOR 1 HR								
Battery Unit	Backup Time	10-15 min.								
Transfer Time	Black Out	Zero								