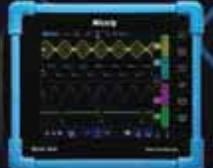
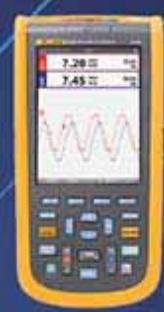


IC 博士  
MASTER SHOP

# Equipment Source

Vol.6



FLUKE

RIGOL

TECHGEAR®

GRAPHTEC

Lutron

HAKKO

AEG  
Power supply systems

SUMMIT

MW

Schneider  
Electric

ZBOT.CC 立体易

Manson®

OSRAM

LASCAR  
electronics

C

ADVANTECH

CK

Tektronix

Micsig

Megger.

tesco

HIOKI

KYORITSU

YUASA

ROBERSOLD  
SUPPLY INDUSTRIES

P

COTEK

APC

## Fluke 279FC TRMS Thermal Multimeter

- Full-featured multimeter with built-in thermal imager
- 15 measurement functions including: AC voltage with low-pass filter, DC voltage, Resistance, Continuity, Capacitance, Diode test, Min/Max/Avg, AC current (with iFlex), Frequency
- Thermal imaging reveals many electrical issues quickly and safely, eliminating the need for time-consuming testing and validation
- Two-in-one tool is designed to increase productivity
- iFlex expands your measurement capabilities – get into tight, hard to reach spaces for current measurement (up to 2500 A AC)
- Save measurements and images while communicating wirelessly with a smart phone
- 3.5 inch color LCD screen
- CAT III 1000 V, CAT IV 600 V measurement category



## Fluke 1736 Three-Phase Power Logger

- Automatically capture and log voltage, current, power, harmonics and associated power quality values
- View data locally on the instrument or via Fluke Connect mobile app and desktop software
- 600 V CAT IV/1000 V CAT III rated for use at the service entrance and downstream
- More than 20 separate logging sessions can be stored on the instruments
- Capture the right data every time with quick, guided, graphical setup and reduce uncertainty about your connections with the intelligent function

## Fluke 1664 FC Multifunction Installation Tester

- Autotest to test line/loop impedance, RCD trip current / trip time, insulation tests with a single connection and the press of a single button
- Additional high current loop mode
- Measure RCD trip current & trip time in parallel (RCD type AC and A)
- Two measurements at once and a dual display
- Automatic test start for Loop & RCD tests
- PASS/FAIL indication for RCD test results
- Earth Volt Touchpad detects raised earth voltages → 50 V



## Fluke 125B INT Industrial ScopeMeter

- Dual-input digital oscilloscope and multimeter
- 40 MHz or 20 MHz oscilloscope bandwidth
- Two 5,000-count true-rms digital multimeters
- Power measurements (W, VA, VAR, PF, DPF, Hz)
- Shielded test leads for oscilloscope, resistance and continuity measurements
- Voltage, current and power harmonics
- Save or recall data and instrument setups

**MSO1000Z Series****Mixed Signal Oscilloscope**

- Up to 100MHz Bandwidth, 4 analog channels
- 16 digital channels for Mixed Signal analysis
- 1G Sa/s Real-time Sample Rate
- 12Mpts (Std.) and 24Mpts (Opt.) Memory Depth
- Innovative "UltraVision" technology
- Up to 30,000wfms/s Waveform Capture Rate
- 7 Inch WVGA (800x480), multiple intensity levels waveform display
- Built in 2 channels 25MHz waveform Generator (MSO1000Z-S)

**DS4000 Series****Digital Oscilloscopes**

- Up to 500 MHz bandwidth
- 4 GSa/s sample rate
- 2 or 4 Analog channels available
- 140 million memory points, standard
- 110,000 Waveforms per second
- Original Ultravision technology
- Hardware allows for real-time, continuous waveform recording and waveform analysis

**DSA800 Series****Spectrum Analyzers**

- 9 kHz to 1.5, 3.2, or 7.5 GHz Frequency Range
- Displayed Average Noise Level (DANL) normalized to 1 Hz ranging from -135 dBm to -161 dBm typical
- -80 to -98 dBc/Hz @10 kHz offset Phase Noise
- Total Amplitude Uncertainty from < 1.5 dB to < 0.8 dB nominal
- 100 or 10 Hz Minimum Resolution Bandwidth (RBW) available

**DG4000 Series****Arbitrary Waveform Generators**

- Generators up to 200 MHz
- 2 output channel
- 500 MSa/s sample rate
- 130 built-in waveforms
- 7-inch color LCD display
- 14 bit vertical resolution
- Standard Interfaces including LXI-C (Ethernet), USB device and USB host

**DP832****Power Supply**

- 3 Outputs; total power up to 195W
- Low Ripple Noise <350 uVrms/2mVpp
- Fast transient response time: <50 us
- Channel isolation: CH1 || CH2,CH3
- OVP/OCP/OTP protection functions
- Built in V, A, W measurements and waveform display
- Support for output Delay, Analysis, Monitor, and Preset functions
- 3.5 inch TFT Display
- Connectivity including USB Host & Device, LAN, and Digital IO

# UP mini 2

Make on the move



Touch Screen



Wireless



Air filter



## Print Material

Parts/models are made from high quality, durable and low cost ABS filament, available in a wide range of colors



ABS Filament

## UP PLUS 2

PROFESSIONAL SIMPLICITY

Build : 138mm (w), 138mm (d), 135mm (h)

Volume : 5.5"(w), 5.5"(d), 5.3"(h)



## UP BOX

SMART • FAST • PURE

A world leading 3D printer for your desk



## Rack Mount UPS

### <PROTECT D.>

SINGLE PHASE IN/OUT UPS SYSTEM

(2.8" Graphical LCD Display)

#### **REAL TIME** measurements

- UPS state
- Event log
- UPS input/ output voltage [V]
- UPS input/ output frequency [Hz]
- Backup time balance [min]
- Bar graph for battery capacity
- Current UPS load [%] {W}
- UPS load as bar graph



Free programmable relay & EPO



Flip-over front cover



2 load segments  
separately controlled  
(1000VA-3000VA)



UPS in bypass mode



Settings menu



SNMP card optional



Plug locks



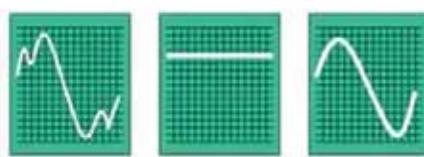
1000VA/ 900W  
1500VA/ 1350W  
2000VA/ 1800W  
3000VA/ 2700W  
6000VA/ 5400W  
10000VA/ 9000W

#### **2 SEPARATE** segments of outlets

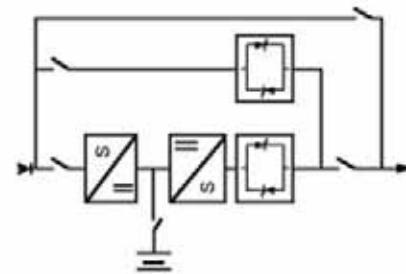
- Remote control (ON/OFF)

#### Double-Conversion On-Line UPS

- Load is totally decoupled from mains
- Complete protection against mains distortions
- Output voltage and frequency regulation



VAC → VDC → VAC



D. 3000 rear



UPS in converter mode

## Fluke 289

645-690

- \* Large 50,000 counts, 1/4 VGA display
- \* Temperature measurements
- \* Low impedance voltage function for eliminating ghost voltages.
- \* Logging function with TrendCapture for over 200 hours
- \* Compatible with Fluke Connect mobile app and all Fluke FC with Ir3000 FC Infrared connector(optional)



## Fluke 87V

647-183

- \* 6000 counts (20,000 counts in precise measurements)
- \* Selectable filter for accurate voltage and frequency measurements on motor drives
- \* 0.05 % DC accuracy
- \* Captures intermittents as fast as 250µS.
- \* Built in thermometer
- \* Analog bargraph and backlight



## Industrial Multimeter

### Fluke 179/1AC2

653-021

- \* 179 True-RMS Multimeter
- \* 1AC2 Non-Contact Voltage Tester
- \* Silicone Test Leads
- \* Industrial Test Probes
- \* Heavy Duty Alligator Clips
- \* Integrated Temperature Probe
- \* lightweight soft carrying case
- \* magnetic hanger



## Rugged Multimeter Combo Kit

### Fluke 117

649-146

- \* Measure up to 600V AC/DC voltage
- \* Measure up 10A AC/DC current (20A for 30 seconds)
- \* Non-contact voltage detection
- \* Automatic ac/dc voltage selection
- \* Min/Max/Average recording
- \* Low input impedance to help prevent false readings due to ghost voltage



## Automatic AC/DC voltage selection

### Fluke 355

651-419

- \* 2000A AC+DC True-RMS, 1400A AC and 2000A DC current
- \* 1000V AC+DC True-RMS, 600V AC, and 1000V DC voltage
- \* Frequency measurement up to 1 kHz for optimum troubleshooting
- \* In-rush current measurement to filter out noise and capture motor starting current accurately
- \* Large 58 mm (2.3 inch) jaw capacity



### Fluke 107

653-618

- \* Measure up to 600V AC/DC voltage
- \* Measure to 10A AC/DC current
- \* Input terminal for AC and DC current
- \* Voltage, resistance, continuity, capacitance measurement
- \* Backlit display and data hold
- \* CAT III 600V
- \* Fit in the palm



## Palm Sized Multimeter

### Fluke 374 FC

654-821

- \* 600A AC/DC current
- \* 600V AC/DC voltage
- \* Resistance and capacitance measurement
- \* iFlex™ flexible current probe (sold Separately)
- \* expands the AC current range to 2500A
- \* In-rush current Measurement to filter out noise and capture motor starting current accurately
- \* Fluke Connect™ app support



## AC/DC Clamp Meter

### Fluke 381

653-074

- \* 999.9A AC/DC current
- \* 1000V AC/DC voltage
- \* Removable magnetic display
- \* 18-inch iFlex™ flexible current probe measure up to 2500A AC
- \* In-rush current measurement to filter out noise and capture motor starting current accurately



## AC/DC Clamp Meter

### Fluke 325

640-552

- \* 400A AC/DC current
- \* 600V AC /DC voltage
- \* Resistance measurement up to 40 kΩ
- \* Continuity detection
- \* Frequency, temperature and capacitance measurement



## Detachable Jaw AC/DC Clamp Meter

## AC/DC Clamp Meter with iFlex

### Fluke FLK-T3000FC

654-686

- \* Measure from -200°C to 1372°C
- \* ±0.5% + 0.5°Caccuracy
- \* Cat III 600V IP42
- \* Fluke Connect™ app support



## Remote Display AC/DC Clamp Meter

### Fluke 279 FC

654-857

- \* Full-featured multimeter with built-in thermal imager
- \* 15 measurement functions including: AC voltage with low-pass filter, DC voltage, Resistance, Continuity, Capacitance, Diode test, Min/Max/Avg, AC current (with iFlex), Frequency
- \* Thermal imaging reveals
- \* Fluke Connect™ app support



## Clamp Meter

## Wireless General Maintenance System

## Wireless Temperature Module

## Fluke 43II

654-155

- Simultaneously measure AC output power and DC input power
- Capture fast RMS data, show half-cycle and waveforms to characterize electrical system dynamics
- Display ten power quality parameters at the same time
- Support 32GB SD, Configure for any test condition for up to 600 parameters at user defined intervals



## Power Quality & Energy Analyzer

### Fluke 190-102

654-016

- 2-electrically isolated channel oscilloscope with DMM
- 100MHz bandwidth, fast sampling rate up to 1.25GS/s
- 10,000 samples per channel waveform capture
- Dedicated 5000 counts DMM
- TrendPlot, 22 days trend measurement readings
- ScopeRecord 48 hrs capture waveform data
- USB ports for memory devices and PC connectivity
- CAT III 1000V / CAT IV 600V



## ScopeMeter

### Fluke 62 MAX

654-271

- 30°C to 500°C
- Precise laser technology provides more accurate and repeatable measurements
- Displays the minimum, maximum or average temperature or the difference between two measurements
- Hi/Lo alarms for rapid display of measurements outside the limits.
- Large backlight display, IP54, withstand a 3m drop



## Infrared Thermometer

### Fluke VT04A

653-702

- 10 °C to +250 °C
- Visual image and infrared heat map blending
- Identify the exact location of the potential issue
- Hot and cold markers automatically identify hottest and coldest spots
- Save full visual and heat map for each image, and store up to 9,999 images on included micro-SD card



## Visual IR Thermometer

### Fluke 1507

647-881

- Insulation test range from 0.01 MΩ to 10 GΩ
- Insulation test voltages: 50 V, 100 V, 250 V, 500 V, 1000 V
- Make repetitive tests with compare (Pass/Fail) function
- Repetitive or hard-to-reach testing with the remote test probe
- Live circuit detection



## Insulation Resistance Tester

### Fluke 810

654-024

- Identification and location of the most common mechanical faults (bearings, misalignment, unbalance, looseness)
- Fault severity scale with four severity levels helps you prioritize maintenance work
- Laser tachometer for accurate machine running speed
- Tri-axial accelerometer
- 2 GB expandable on-board memory



## Vibration Tester

## Non-Contact Voltage Detector

## Temperature Humidity Meter

### Fluke 1AC-II-A2

647-826

- Voltage range from 90V AC to 1000V AC
- Voltbeat™ technology and continuous self-test
- Upon detection, tip glows and beeper sounds
- CAT IV 1000V protection



## Laser Distance Meter

### Fluke LVD2

650-906

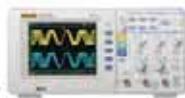
- Non-contact voltage detector with flashlight
- Detect from 90 to 600 V AC
- Dual levels of detection and sensitivity
- Blue indicates proximity to AC voltage source
- Red indicates you're at the source
- CAT IV 600 V



## DS1052E

640-825

- \* 1GSa/s real-time sample rate
- \* 1Mpts memory depth
- \* Waveform record and replay function
- \* Trigger modes : edge, pulse width, slope, video, alternate, pattern and duration trigger
- \* Pass/Fail test
- \* Connectivity: USB Host & Device, RS-232, PictBridge
- \* 5.6" TFT LCD display



### Oscilloscope – 50MHz, 2 Channels

## DS1104Z-S

640-980

- \* 1GSa/s real-time sample rate
- \* 12Mpts memory depth
- \* Built in 2 channels, 25MHz waveform generator
- \* Up to 30,000wfms/s waveform capture rate
- \* Up to 60,000 frames waveform record (opt.)
- \* Low noise floor, dynamic range: 1mV/div ~ 10V/div
- \* Connectivity: LAN (LXI), USB Host & Device, AUX
- \* 7" WVGA (800x480) display



### Oscilloscope – 100MHz, 4 Channels

## DS4024

654-351

- \* 4GSa/s real-time sample rate
- \* 140Mpts memory depth
- \* Up to 110,000wfis/s waveform capture rate
- \* Up to 200,000 frames waveform record
- \* Low noise floor, 1mV/div Min. vertical sensitivity
- \* Connectivity: LAN (LXI-C), USB Host & Device, VGA, AUX
- \* 9" WVGA (800x480) display



### Oscilloscope – 200MHz, 4 Channels

## MSO1104Z

653-722

- \* 4 analog channels, 16 digital channels
- \* Sample rate: 1GSa/s (analog), 1GSa/s (digital)
- \* Memory depth: 12Mpts (analog), 12Mpts (digital)
- \* Waveshape capture rate: 30,000wfms/s (analog), 30,000wfms/s (digital)
- \* Up to 60,000 frames waveform record (opt.)
- \* 7" WVGA (800x480) display



### Mixed Signal Oscilloscope – 100MHz, 4 Channels

## DG1022

640-842

- \* 100MSa/s sample rate
- \* 14bits vertical resolution
- \* 8 digits/s, 200MHz counter
- \* 4kpts max. arb memory depth
- \* Built-in 48 arbitrary waveforms
- \* Waveform editing PC software
- \* Connectivity: USB host & device



### Waveform Generator – 20MHz, 2 Channels

## DG4162

654-354

- \* 500MSa/s sample rate
- \* 14bits vertical resolution
- \* 7 digits/s, 200MHz counter
- \* 16kpts max. arb memory depth
- \* Built-in 150 waveforms
- \* 16th harmonic generation function
- \* Waveform editing PC software
- \* Connectivity: LAN, USB host & device, GPIB
- \* 7" LCD display (800x480)



### Waveform Generator – 160MHz, 2 Channels

## DS1102E

640-828

- \* 1GSa/s real-time sample rate
- \* 1Mpts memory depth
- \* Waveform record and replay function
- \* Trigger modes : edge, pulse width, slope, video, alternate, pattern and duration trigger
- \* Pass/Fail Test
- \* Connectivity: USB Host & Device, RS-232, PictBridge
- \* 5.6" TFT LCD display



### Oscilloscope – 100MHz, 2 Channels

## DS2202A

653-716

- \* 2GSa/s real-time sample rate
- \* 14Mpts memory depth
- \* Up to 50,000wfis/s waveform capture rate
- \* Up to 65,000 frames waveform record
- \* Low noise floor, dynamic range: 500uV/div ~ 10V/div
- \* Connectivity: LAN (LXI), USB Host & Device, AUX
- \* 8" TFT WVGA (800x480) display



### Oscilloscope – 200MHz, 2 Channels

## DS4052

653-701

- \* 4GSa/s real-time sample rate
- \* 140Mpts memory depth
- \* Up to 110,000wfis/s waveform capture rate
- \* Up to 200,000 frames waveform record
- \* Low noise floor, 1mV/div Min. vertical sensitivity
- \* Connectivity: LAN (LXI-C), USB Host & Device, VGA, AUX
- \* 9" WVGA (800x480) display



### Oscilloscope – 500MHz, 2 Channels

## MSO2202A

653-723

- \* 2 analog channels, 16 digital channels
- \* Sample rate: 2GSa/s (analog), 1GSa/s (digital)
- \* Memory depth: 14Mpts (analog), 14Mpts (digital)
- \* Waveshape capture rate: 50,000wfms/s (analog), 50,000wfms/s (digital)
- \* Up to 65,000 frames waveform record
- \* 8" TFT WVGA (800x480) display



### Mixed Signal Oscilloscope – 200MHz, 2 Channels

## DG1032Z

653-719

- \* 200MSa/s sample rate
- \* 14bits vertical resolution
- \* 7 digits/s, 200MHz counter
- \* 8Mpts max. arb memory depth
- \* Built-in 160 waveforms
- \* Waveform editing PC software
- \* Connectivity: LAN, USB host & device



### Waveform Generator – 30MHz, 2 Channels

## DG5101

654-424

- \* 1GSa/s sample rate
- \* 14 bits vertical resolution
- \* 128Mpts max. arb memory depth
- \* 1GBytes flash memory
- \* Waveform editing PC software
- \* Connectivity: LAN, double USB host, USB device, GPIB
- \* Remote control through 10/100M Ethernet Web
- \* 4.3", 16M true color TFT LCD display



### Waveform Generator – 100MHz, 1 Channel

## DS1104Z

640-983

- \* 1GSa/s real-time sample rate
- \* 12Mpts memory depth
- \* Up to 30,000wfms/s waveform capture rate
- \* Up to 60,000 frames waveform record (opt.)
- \* Low noise floor, dynamic range: 1mV/div ~ 10V/div
- \* Connectivity: LAN (LXI), USB Host & Device, AUX
- \* 7" WVGA (800x480) display



### Oscilloscope – 100MHz, 4 Channels

## DS4022

653-718

- \* 4GSa/s real-time sample rate
- \* 140Mpts memory depth
- \* Up to 110,000wfis/s waveform capture rate
- \* Up to 200,000 frames waveform record
- \* Low noise floor, 1mV/div Min. vertical sensitivity
- \* Connectivity: LAN (LXI-C), USB Host & Device, VGA, AUX
- \* 9" WVGA (800x480) display



### Oscilloscope – 200MHz, 2 Channels

## DS6102

653-717

- \* 5GSa/s real-time sample rate
- \* 140Mpts memory depth
- \* Up to 180,000wfis/s waveform capture rate
- \* Up to 200,000 frames waveform record
- \* Connectivity: LAN (LXI-C), USB, VGA, AUX
- \* Built-in 1 GBytes flash memory
- \* Battery option (China only)
- \* 10.1" WVGA (800x480) display



### Oscilloscope – 1GHz, 2 Channels

## MSO4054

653-724

- \* 4 analog channels, 16 digital channels
- \* Sample rate: 4GSa/s (analog), 1GSa/s (digital)
- \* Memory depth: 140Mpts (analog), 28Mpts (digital)
- \* Waveshape capture rate: 110,000wfms/s (analog), 85,000wfms/s (digital)
- \* Up to 200,000frames waveform record
- \* 9" WVGA (800x480) display



### Mixed Signal Oscilloscope – 500MHz, 4 Channels

## DG4062

654-284

- \* 500MSa/s sample rate
- \* 14bits vertical resolution
- \* 7 digits/s, 200MHz counter
- \* 16kpts max. arb memory depth
- \* Built-in 150 waveforms
- \* 16th harmonic generation function
- \* Waveform editing PC software
- \* Connectivity: LAN, USB host & device
- \* 7" LCD (800x480) display



### Waveform Generator – 60MHz, 2 Channels

## DG5352

654-353

- \* 1GSa/s sample rate
- \* 14 bits vertical resolution
- \* 128Mpts max. arb memory depth
- \* 1GBytes flash memory
- \* Waveform editing PC software
- \* Connectivity: LAN, double USB host, USB device, GPIB
- \* Remote control through 10/100M Ethernet Web
- \* 4.3", 16M true color TFT LCD display



### Waveform Generator – 350MHz, 2 Channels

## DP1308A

653-632

- \* 80W total power, triple outputs: +6V/5A, +25V/1A, -25V/1A
- \* Low ripple noise: < 350µVRMS / 2mVpp
- \* Transient response time: <50µs
- \* Output tracking functions
- \* Up to 5 timing settings groups
- \* Web control
- \* Connectivity: USB device & host, LAN, GPIB, USB
- \* 4.3" true color LCD (480x272) display



## DP1116A

654-355

- \* 160W max. power, single output: 16V/10A or 32V/5A
- \* Low ripple noise: < 350µVRMS / 3mVpp
- \* Transient response time: <50µs
- \* Up to 100 timing setting groups
- \* Dial plates with pointer and A/V/W values
- \* Connectivity: USB device & host, LAN, GPIB, USB
- \* 4.3" true color LCD (480x272) display



## DP831A

654-356

- \* 160W total power, triple outputs: 8V/5A, +30V/2A, -30V/2A
- \* Low ripple noise: < 350µVRMS / 2mVpp
- \* Transient response time: <50µs
- \* Standard OVP/OCP/OPT protection functions
- \* Built-in V, A, W measurements and waveform display
- \* Connectivity: USB host & device, LAN, RS232, Digital IO
- \* 3.5" TFT display



## Programmable Power Supply – 3 Outputs

### DP832

654-303

- \* 195W total power, triple outputs: 30V/3A, 30V/3A, 5V/3A
- \* Low ripple noise: < 350µVRMS / 2mVpp
- \* Transient response time: < 50µs
- \* Standard OVP/OCP/OPT protection functions
- \* Built-in V, A, W measurements and waveform display
- \* Connectivity: USB host & device, LAN, RS232, Digital IO
- \* 3.5" TFT display



## Programmable Power Supply – 1 Output

### DP811A

653-685

- \* 200W max. power, single output: 40V/5A or 20V/10A
- \* Low ripple noise: < 350µVRMS / 2mVpp
- \* Transient response time: < 50µs
- \* Standard OVP/OCP/OPT protection function
- \* Built-in V, A, W measurements and waveform display
- \* Connectivity: USB Host & Device, LAN, RS232, Digital IO
- \* 3.5" TFT display



## Programmable Power Supply – 3 Outputs

### DP821A

653-714

- \* 140W total power, double outputs: 60V/1A, 8V/10A
- \* Low ripple noise: < 350µVRMS / 2mVpp
- \* Transient response time: < 50µs
- \* Standard OVP/OCP/OPT protection function
- \* Built-in V, A, W measurements and waveform display
- \* Connectivity: USB Host & Device, LAN, RS232, Digital IO
- \* 3.5" TFT display



## Programmable Power Supply – 3 Outputs

### DSA815-TG

654-304

- \* Frequency range: 9kHz ~ 1.5GHz
- \* Up to 1.5GHz tracking generator
- \* -135dBm displayed average noise level
- \* -80dBc/Hz @ 10Hz offset phase noise
- \* Total amplitude uncertainty < 1.5dB
- \* Connectivity: LAN, USB host & device
- \* 8" WVGA (800x480) display
- \* Compact size, light weight design



## Programmable Power Supply – 1 Output

### DSA815

640-832

- \* Frequency range: 9kHz ~ 1.5GHz
- \* -135dBm displayed average noise level
- \* -80dBc/Hz @ 10Hz offset phase noise
- \* Total amplitude uncertainty < 1.5dB
- \* Connectivity: LAN, USB host & device
- \* 8" WVGA (800x480) display
- \* Compact size, light weight design



## Programmable Power Supply – 2 Outputs

### DSA832

653-721

- \* Frequency range: 9kHz ~ 3.2GHz
- \* -157dBm displayed average noise level
- \* -98dBc/Hz @ 10Hz offset phase noise
- \* Total amplitude uncertainty < 0.8dB
- \* Connectivity: LAN, USB host & device
- \* 8" WVGA (800x480) display
- \* Compact size, light weight design



## Spectrum Analyzer – 1.5GHz

### DSA875

653-720

- \* Frequency range: 9kHz ~ 7.5GHz
- \* 10Hz min. resolution bandwidth
- \* -161dBm displayed average noise level
- \* -98dBc/Hz @ 10Hz offset phase noise
- \* Total amplitude uncertainty < 0.8dB
- \* Connectivity: LAN, USB host & device
- \* 8" WVGA (800x480) display
- \* Compact size, light weight design



## Spectrum Analyzer – 1.5GHz

### DSA705

654-852

- \* Band Wide : 100kHz~500MHz
- \* All-Digital IF Technology
- \* Frequency Range from 100 kHz up to 1 GHz
- \* 100 Hz Minimum Resolution Bandwidth
- \* 8 Inch WVGA (800x480) Display



## Spectrum Analyzer – 3.2GHz

### DSA832E-TG

654-851

- \* The highest frequency: 3.2 GHz
- \* Displayed Average Noise Level (DANL) <-148 dBm (Typical)
- \* Phase Noise: <90 dBc/Hz @ 10 kHz offset (Typical)
- \* AM/FM Demodulation Function
- \* 8 inch (800x480 pixels) display
- \* Up to 3.2GHz Tracking Generator



## Spectrum Analyzer – 7.5GHz

### DSG3060

653-641

- \* Frequency range: 9kHz ~ 8GHz
- \* Amplitude accuracy: < 0.5dB
- \* Output amplitude range: -130dBm to 13dBm
- \* High signal purity, phase noise: < -110dBc/Hz@20kHz
- \* 0.5ppm internal clock
- \* Connectivity: USB, LAN, GPIB
- \* Support SCPI command set



## Spectrum Analyzer – 500MHz

### DSG3030

653-640

- \* Frequency range: 9kHz ~ 3GHz
- \* Amplitude accuracy: < 0.5dB
- \* Output amplitude range: -130dBm to 13dBm
- \* High signal purity, phase noise: < -110dBc/Hz@20kHz
- \* 0.5ppm internal clock
- \* Connectivity: USB, LAN, GPIB
- \* Support SCPI command set



## Spectrum Analyzer - 3.2GHz

### DS1054Z

654-732

- \* 50MHz Bandwidth, 4 channels
- \* 1G Sa/s Real-time Sample Rate
- \* 12Mpts (Std.) and 24Mpts (Opt.) Memory Depth
- \* Innovative "UltraVision" technology
- \* 7 Inch WVGA (800x480), multiple intensity levels waveform display
- \* Up to 30,000wfms/s Waveform Capture Rate



## RF Signal Generator – 6GHz

### DM3068

654-357

- \* 2,200,000 counts resolution
- \* 0.0035% DC voltage accuracy
- \* Up to 10k rdgs/s measurement speed
- \* 1000V, 10A measurement range
- \* True-rms AC voltage, current measurement
- \* Built-in 10 groups data storage, 10 group setup storage
- \* Real time trend and histogram display function
- \* Connectivity: USB host & device, LAN, RS232, GPIB



## RF Signal Generator – 3GHz

### DM3058

653-648

- \* 240,000 counts resolution
- \* 0.015% DC voltage accuracy
- \* Up to 123rdg/s measurement speed
- \* 1000V, 10A measurement range
- \* True-rms AC voltage, current measurement
- \* Save or recall 10 groups of preset configuration
- \* Preset 10 groups of standard sensor configuration
- \* Connectivity: USB host & device, LAN, RS232, GPIB



## 50 MHz Digital Oscilloscope

### DM3058E

654-358

- \* 240,000 counts resolution
- \* 0.015% DC voltage accuracy
- \* Up to 123rdg/s measurement speed
- \* 1000V, 10A measurement range
- \* True-rms AC voltage, current measurement
- \* Save or recall 10 groups of preset configuration
- \* Preset 10 groups of standard sensor configuration
- \* Connectivity: USB host & device, RS232
- \* Support remote control via commands



## Digital Multimeter – 6½ Digits

**TG372CD**
**654-200**

- \* True AC/DC RMS clamp meter w/multimeter function
- \* Large 55mm jaw conductor size
- \* AC/DC voltage, capacitance, ohm, Hz measurement
- \* Dual display - AC Voltage/Amp with Frequency Hz
- \* Non-contact Voltage EF detection
- \* Auto check - ACV, DCV, Ohm
- \* Relative Zero Mode, Back light LCD display
- \* K type temperature measurement (optional probe)


**Clamp Meter**
**TG312C**
**654-077**

- \* True RMS 400A clamp meter
- \* 25mm jaw open diameter
- \* AC / DC voltage, ohm, Hz measurement
- \* Continuity check
- \* Data hold function
- \* Auto Ranging
- \* Auto Power Off


**Clamp Meter**
**TG451DL**
**640-784**

- \* AC / DC 1000V 10A multimeter
- \* "Insertion Error Check" warning
- \* Non-contact voltage EF detection
- \* Full Auto Range, Data Hold, Relative Zero Mode
- \* Conductivity, capacitance & temperature (option)
- \* Hand free magnetic hanger


**Digital Multimeter**
**TG511AM**
**654-115**

- \* DCV, ACV, DCmA, Resistance, Diode's leakage current measurement
- \* Japan made moving pointer provides high speed respond & accuracy reading
- \* Direct reading of dB scale
- \* Direct reading of transistor's hFE
- \* CAT II 1000V safety standard


**Analog Multimeter**
**TG155VD**
**654-058**

- \* Voltage range 50 – 1000V AC
- \* Frequency range 50 – 500Hz
- \* LED & alarm sound indication
- \* Flash light function
- \* 2 x AAA battery power
- \* On / Off switch for longer battery life


**Non-Contact Voltage Detector**
**TG720AV**
**653-630**

- \* Air Probe, 45mm Vane Type
- \* Velocity Range : 0.4 ~ 45 m/s
- \* Air Flow Calculation
- \* Range : 0~9999 CMM/CFM
- \* Data Logging : 99 Records
- \* Unit : m/s , mph, kph, fpm, kts, Beaufort


**Light Meter**
**TG371CD**
**654-199**

- \* AC/DC 2000A clamp meter w/multimeter function
- \* Large 55mm jaw conductor size
- \* AC/DC voltage, capacitance, ohm, Hz measurement
- \* Dual display - AC Voltage/Amp with Frequency Hz
- \* Non-contact Voltage EF detection
- \* Auto check - ACV, DCV, Ohm
- \* Crest (Hold) capture inrush current peak hold
- \* Relative Zero Mode


**Clamp Meter**
**TG311CD**
**654-078**

- \* AC /DC 400A clamp meter
- \* 25mm jaw open diameter
- \* AC/DC voltage, ohm measurement
- \* Continuity check
- \* Touch ZERO function
- \* Data hold function
- \* Auto Ranging
- \* Auto Power Off


**Clamp Meter**
**TG412DP**
**640-117**

- \* DCV, ACV, Resistance auto measurement
- \* Contact & non-contact (EF) voltage detection
- \* Frequency & capacitance measurement
- \* Continuity & diode test
- \* DC / AC  $\mu$ A micro amp function
- \* Auto power off
- \* Transient protection up to 4KV


**Digital Multimeter**
**TG611DN**
**654-201**

- \* Continuous MQ checking
- \* MD insulation resistance test under 250V, 500V, 1000V
- \* Auto range reading 0~1,999, 0~19.99, 0~199.9, 0~1999MD
- \* Continuity resistance test 0~200
- \* Voltage measurement 0~600V AC
- \* Data hold & auto power off
- \* 3 1/2 large LCD display
- \* IP54 water proof, CAT III 600V


**Digital Insulation Tester**
**TG261CT**
**640-833**

- \* 3.5" TFT color LCD screen
- \* Surveillance camera video signal checking
- \* Color bar video pattern signal generator
- \* PTZ control & command capture by RS485 / RS232
- \* LAN cable testing
- \* Microphone audio checking
- \* DC12V 1A power output for camera
- \* 1050mAh Li-Polymer rechargeable battery


**Portable CCTV Tester**
**TG220**
**654-054**

- \* 20~200x magnification
- \* 2M pixel resolution
- \* USB image & video capture
- \* Snapshot 640x480, 1280x960, 1600x1200
- \* Video capture 10fps@1600x1200, 15fps@1280x960, 30fps@640x480
- \* Precision size measurement of object image


**USB Digital Microscope**
**TG353C**
**654-078**

- \* 600A AC clamp meter
- \* 25 mm jaw open diameter
- \* AC current / voltage, ohm measurement
- \* Continuity check
- \* 4 digits LCD display
- \* Data hold function
- \* Auto Ranging


**Clamp Meter**
**TG452DL**
**640-785**

- \* True RMS multimeter
- \* "Insertion Error Check" warning
- \* Non-contact voltage EF detection
- \* Full Auto Range, Data Hold, Relative Zero Mode
- \* Auto Check - DCV, ACV, Ohm
- \* Max / Min record, crest peak hold
- \* Back light LCD display
- \* Hand free magnetic hanger


**Digital Multimeter**
**TG411DP**
**640-116**

- \* DCV, ACV, Resistance measure
- \* Data Hold and High Speed Max Hold (30ms)
- \* Frequency & capacitance measurement
- \* Continuity & diode test
- \* Auto power off
- \* Transient protection up to 4KV


**Digital Multimeter**
**TG732TK**
**640-892**

- \* Dual channels K-type thermometer
- \* T1 + T2 dual display
- \* Auto range
- \* REL function
- \* HOLD function
- \* Max / Min function
- \* Resolution 0.1°C / 0.1°F
- \* Auto power off


**Thermometer**
**TG710LD**
**653-619**

- \* Measure LED White Light
- \* Range : up to 200,000 Lux
- \* Max Hold & Data Hold
- \* Photoelectric Sensor
- \* Manual Ranging & Zeroing


**Light Meter**
**TG213WF**
**653-713**

- \* IEEE 802.11 b/g/n
- \* Apps support Windows / Mac / iOS / Android / iPhone / iPad Snapshot , Video Record , Measurement


**WiFi Digital Microscope**

**MS-36**
**654-046**

- \* Tough Metal material
- \* Assemble and Detachable
- \* 245mm horizontal extension
- \* 290mm Trunk

**Microscope Stand**

**TG730IR**
**654-830**

- \* Pocket size for easy carry
- \* D:S = 9:1
- \* Measurement Range: -33 ~ 500 °C / -27 ~ 932 °F Circle laser pointer
- \* One button for easy operation
- \* VHOLD / MIN / MAX readings with back light LCD display

**Infrared Thermometer**

**TL-51**
**653-695**

- \* Wire : PVC UL 1803 / 18AWG.
- \* Temperature tolerance range : -40°C~105°C
- \* CAT III 1000V 10A / CAT IV 600V 10A


**Multi-Meter Test Lead**

# Chroma

**62100-10H**
**654-891**

- \* Power range: 5kW / 10kW / 15kW
- \* Voltage range: 0 ~ 1000V
- \* Current range: 0 ~ 375A
- \* Easy master / slave parallel & series operation up to 150kW
- \* I-V curve programming: 10 program / 100 I-V files


**DC Power Supply**
**66202**
**654-696**

- \* 10mA minimum current range & 1mW power resolution
- \* Meets ENERGY STAR / IEC 62301 measurement requirements
- \* Dual current shunt design provides high accuracy over a wide current range
- \* Accumulated energy methods for unstable power measurements
- \* Interface options: USB or GPIB


**Digital Power Meter**
**19052**
**654-662**

- \* AC/DC/IR 3 in 1 hipot tester
- \* AC 5kV and DC 6kV output
- \* 1kV insulation resistance test
- \* Insulation resistance measurement from 1M to 50
- \* Programmable ramp/fall and test time
- \* Programmable high/low limit


**Hipot Tester**
**61501**
**653-826**

- \* 4000VA
- \* Voltage range: 0-150V/0-300V/Auto
- \* Compact size and weight attributable to advance PWM technology
- \* AC+DC output mode for voltage DC offset simulation
- \* Programmable slew rate setting for changing voltage and frequency
- \* High output current crest factor, ideal for inrush current testing


**AC Power Source**
**6312A**
**653-831**

- \* Modular DC Electronic Load
- \* Max Power: 200W, 100W×2(Dual), 30W & 250W, 300W, 600W, 1200W
- \* Wide range 0-500V operating voltage
- \* Compatibility between 6310 and 6310A


**DC Loads Power Supply**
**63802**
**653-828**

- \* Power Rating : 1800W, 3600W, 4500W
- \* Voltage Range : 50V ~ 350Vrms
- \* Parallel / 3-Phase Function
- \* Frequency Range : 45 ~ 440Hz, DC
- \* Measurement : V, I, PF, CF, P, Q, S, F, R, Ip+/- and THDV


**DC Electric Load**
**Testo 103**
**654-933**

- \* Ideal for use with food: HACCP compliant / certified according to EN 13485
- \* Splash water protected / IP55 rated
- \* Practical folding mechanism for quick'n easy measuring / fits in any shirt or trouser pocket
- \* Easy-to-use / high-precision technology


**Food Thermometer**
**Testo 175 T2**
**653-831**

- \* Dual NTC thermistor (1 internal, 1 external) provides reliable ambient and product temperature monitoring
- \* Large easy-to-read backlit display
- \* Capable of storing up to 1,000,000 temperature readings
- \* Rugged and waterproof according to IP65


**Two Channel Temperature Logger**
**Testo NTC Air Probe**
**654-596**

- \* Short response time thanks to the exposed sensor
- \* High level of accuracy of up to ±0.2 °C
- \* Measuring range: -50 to +125 °C
- \* NTC temperature sensor


**NCT Air Probe**
**Testo 110**
**654-595**

- \* Extremely accurate in very low temperature ranges, i.e. cold storage rooms
- \* Optional connectable temperature sensor and wireless sensor for different applications in the field
- \* Audible alarm, user-defined thresholds
- \* HACCP compliant, certified according to EN 13485 for use in the food sector


**Temperature Meter**
**Testo 545**
**652-624**

- \* Precise light intensity readings in lux
- \* Large memory for up to 3,000 readings
- \* Selective / time-based averaging
- \* Measuring site management with optional software: up to 99 measuring sites available


**Light Meter**
**Testo NTC Surface probe**
**652-866**

- \* NTC temperature sensor
- \* Measuring accuracy of up to ±0.2 °C
- \* Ideal for measurements on refrigeration systems, in cold storage warehouses/rooms or outdoors
- \* Measuring range: -50 to +150 °C


**NTC Surface Probe**
**Testo 316-4**
**653-849**

- \* Optical and audible alarm
- \* Permanent sensor check
- \* Easy sensor change by the user
- \* Earplug socket for secure localization of leakages in loud surroundings


**Leak Detector**
**Testo 810**
**652-865**

- \* Infrared measurement with 1-point laser sighting and 6:1 optics ratio
- \* Display of differential temperature, e.g. between window and air
- \* Hold function and min./max. values
- \* Display illumination


**Infrared Thermometer**
**Testo 1000mm Pitot tube**
**652-627**

- \* Pitot tube, 1000 mm long
- \* Stainless steel, measures velocity in connection with pressure probes 0638 1345/..1445/..1545


**Pitot Tube**

**LUTRON TM-969**

651-232

- \* Non contact infrared temperature measurement up to 1,000 measurement.
- \* Type K thermocouple thermometer, up to 1400 measurement.
- \* Min., Max., Differential, Average, Lock mode.
- \* Adjustable emissivity value from 0.1 to 1.00.



Infrared Thermometer

**LUTRON HT-3007SD**

654-222

- \* Humidity/Temp., Dew point (Humidity)
- \* Type K, Type J thermocouple thermometer
- \* Fast humidity measuring response time
- \* Real time SD memory card Datalogger
- \* Innovation and easy operation



Humidity Meter

**LUTRON PHB-318**

650-833

- \* Barometer 10 to 1,100 hPa, mmHg, inHg.
- \* Humidity with Dew point measurement
- \* Temperature measurement with °C, °F unit.
- \* Two display can select the four mode (function) : Humidity/Temp., Humidity/Dew point, Barometer/Temp., Barometer/Humidity.
- \* Records Maximum and Minimum readings with recall.



Humidity / Barometer/ Temp. Meter

**LUTRON AM-4202**

645-770

- \* 0.4 to 25.0 m/s, ft/min, km/h, knots.
- \* Temperature, Data hold, 18mm LCD.
- \* Low-friction ball-bearing vane.



Anemometer – w/Temperature

**LUTRON LM-8000**

646-510

- \* Humidity: 10 to 95 %RH, °C/ °F.
- \* Anemometer range: 0.4 to 30.0 m/s.
- \* Anemometer units: m/s, km/h, MPH, knots, ft/min, °C/ °F.
- \* Light: 0 to 20,000 Lux, 0 to 2,000 Ft-cd, auto range.
- \* Type K Thermometer range: -100 to 130°C, °C/ °F.



Anemometer - 4 in 1

**LUTRON UV-340A**

652-259

- \* Spectrum: 290 nm - 390 nm.
- \* Application: UVA & UVB measurement.
- \* Range: 1999, 19990  $\mu$ W/cm<sup>2</sup>.
- \* Separate probe.
- \* Size: 131 x 70 x 25 mm.



UV Light Meter – Pocket

**LUTRON SL-4023SD**

654-220

- \* Recorder : SD card real time data
- \* Auto Range : 30 ~ 130 dB
- \* A/C Frequency Weighting
- \* Fast/Slow Time Weighting
- \* Comply to IEC61672 class 2



Sound Level Meter

**LUTRON HT-3006HA**

647-246

- \* RH : 10% - 95% RH
- \* Temp.: 0-50.0°C, °C/ °F.
- \* Type K Thermometer Range : -50°C to 1200°C.
- \* Max., Min., Data hold.



Humidity / Thermometer

**LUTRON MS-7003**

654-056

- \* Wood and concrete moisture measurement
- \* Wood material : 6 % to 40 % moisture content
- \* Concrete material : 0 % to 100 % moisture content
- \* Build in 2 moisture electrode test pins
- \* Data hold, max./ min record



Moisture Meter

**LUTRON AM-4204**

646-310

- \* 0.2 to 20.0 m/s, high precision for low air velocity measurement.
- \* Units: m/s, ft/min, km/h, miles/h, °C/ °F.
- \* Max., Min., Data hold, RS-232.
- \* Size: 180 x 72 x 32 mm, Telescope probe.



Anemometer - Hot Wire

**LUTRON LX-101A**

650-531

- \* 3 ranges : 2,000 Lux, 20,000 Lux, 50,000 Lux
- \* Spectrum meets C.I.E. photopic curve
- \* Separate light sensor with 2 filters
- \* Main unit size : 108 x 730 x 23 mm



Light Meter - Pocket

**LUTRON EMF-827**

645-772

- \* Electromagnetic field tester.
- \* Range: 20/200/2,000 micro Tesla, 200/2000/20,000 milli-Gauss.
- \* Separate probe
- \* Size: 163 x 70 x 30 mm.



EMF Tester

**LUTRON TM-947SD**

654-223

- \* Type K/J/T/E/R/S, Pt 100 ohm, measurement
- \* Show 4 channels display on the LCD at the same time.
- \* Measuring unit can select to or °C/ °F.
- \* Real time SD memory card Data logger
- \* RS232/USB PC COMPUTER interface.



Thermometer - 4 channels

**LUTRON YK-31SA**

647-297

- \* Range : 0~10.0% salt (% weight)
- \* Automatic temperature compensation
- \* Data hold with Large LCD display
- \* Application : Water Laboratory, Aquariums



Salt Meter

**LUTRON VC-9200**

646-304

- \* Heavy Duty Vacuum Sensor used for Air, Oil, Gas.
- \* Range : 1500 mbar x 1 mbar (1125 torr x 1 torr)
- \* Units : torr, mmHg, micron, Kpa, Pa, inchHg, psi
- \* Application : Medical Hospital, Ventilation, Heating, Automobile



Vacuum Meter

**LUTRON AM-4206**

646-302

- \* CMM (m<sup>3</sup>/min.), CFM (ft<sup>3</sup>/min.) measurement.
- \* Units: m/s, ft/min, km/h, mile/h, knots, Temp. (°C/ °F).
- \* Range: 0.4 to 25.0 m/s.
- \* Max., Min., Memory recall button.
- \* Size: 180 x 72 x 32 mm. RS-232.



Anemometer – w/Air Flow

**LUTRON LX-107HA**

647-830

- \* 2,000/20,000/100,000 Lux, Data hold.
- \* 4 light type select (Tungsten, Fluorescent, Sodium or Mercury)
- \* Zero adjustment button.



Light Meter

**LUTRON SL-4012**

646-514

- \* Range: 30 - 130 dB, Auto range, Manual range.
- \* Frequency & time weighting meet IEC 61672 class 2
- \* A & C frequency weighting.
- \* Peak hold, Memory (max., min.).
- \* AC output & RS-232.
- \* Size: 268 x 68 x 29 mm.



Sound Level Meter

**LUTRON SL-4013**
**646-306**

- Auto Range: 30 to 130 dB
- A & C Frequency Weighting
- Separate Sound Probe for Remote Measurement
- Fast & Slow Time Weighting
- RS232 / USB Computer Interface


**Sound Level Meter**
**LUTRON DT-2239A-2**
**652-021**

- Range: 100 - 10,000 RPM/flash per min.
- Accuracy:  $\pm (0.05\% + 1 \text{ digit})$
- Xenon flash tube, 8 mm red LED.
- Size: 210 x 120 x 120 mm.


**Digital Stroboscope**
**LUTRON FG-5000A**
**641-894**

- 5000 g, g/oz/Newton.
- Tension & Compression, Peak hold, Zero, Positive / Reverse display, 5 digits LCD.
- Size: 227 x 83 x 39 mm.


**Force Gauge - 5000g**
**LUTRON VB-8202**
**646-422**

- Separate professional vibration probe.
- Velocity: 200 mm/s.
- Acceleration: 200 m/s<sup>2</sup>.
- RMS, Peak, RS232, Hold, Record (Max., Min.).
- Size: 180 x 72 x 32 mm.


**Vibration Meter**
**LUTRON CD-4301**
**647-751**

- 4 ranges: 200µS, 2mS, 20mS, 200mS.
- Automatic temperature compensation.
- DATA HOLD function for stored the desired value on display
- Large LCD display


**Conductivity Meter**
**LUTRON DM-9023**
**641-905**

- 9 ranges, 200pF, 2nF, 20nF, 200nF, 2µF, 20µF, 200µF, 2000µF, 20000µF.
- Rotary switch, 18 mm LCD, Max. 1999.
- Size: 185 x 87 x 39 mm.


**Capacitance Meter**
**LUTRON DO-5510HA**
**652-913**

- Dissolved Oxygen (DO) : 0 ~ 20.0 mg/l
- Oxygen in Air : 0 ~ 100.0 %
- Temperature: 0 ~ 50°C
- Auto Temp. Compensation
- Max. / Min. / Avg record with recall function


**Oxygen Meter**
**LUTRON VT-8204**
**651-194**

- Separate professional vibration sensor.
- Vibration meter Acceleration : 200 m/s<sup>2</sup>, RMS, PEAK, Max. Hold, g, in/s<sup>2</sup>.
- Velocity : 200 mm/s, RMS, PEAK, Max. Hold, cm/s, inch/s.
- Displacement ( p-p ) : 2 mm, Max. Hold.
- Tachometer ( photo ) : 5 to 100,000 RPM.
- Tachometer ( contact ) : 5 to 19,000 RPM.
- Data logger.
- RS-232 computer interface.


**Vibration Tachometer**
**LUTRON DT-2236**
**644-349**

- Photo Tach.: 5 to 100,000 RPM.
- Contact Tach.: 0.5 to 19,999 RPM.
- Surface speed: mm/min, ft/min.
- Size: 215 x 65 x 38 mm.


**Photo / Contact Tachometer**
**LUTRON FG-20KG**
**644-286**

- 20kg, kg/LB/Newton.
- Tension & Compression, Peak hold, Zero, Positive / Reverse display, 5 digits LCD.
- Size: 227 x 83 x 39 mm.


**Force Gauge - 20Kg**
**LUTRON VB-8201HA**
**649-265**

- Separate vibration probe, easy operation.
- Velocity: 200 mm/s.
- Acceleration: 200 m/s<sup>2</sup>.
- RMS, Peak measurement, peak function to hold the peak value.


**Vibration Meter**
**LUTRON PH-201**
**650-962**

- Range: 0 to 14 pH x 0.01 pH.
- Accuracy:  $\pm 0.1 \text{ pH}$  (pH 4 to pH 10).
- Size: 131 x 70 x 25 mm, 13 mm LCD.
- PH electrodes (optional) : PE-01, PE-03, PE-04HD, PE-11.


**PH Meter - Pocket**
**LUTRON LCR-9063**
**646-530**

- Pocket size, 13 mm LCD, Max. 1999.
- L- 5 ranges, 2 mH to 20 H.
- C- 6 ranges, 2 nF to 200 µF.
- R- 6 ranges, 200 ohm to 20 M ohm.
- Size: 120 x 72 x 37 mm.


**LCR Meter - Pocket**
**LUTRON DO-5509**
**647-892**

- Range: 0 to 20 mg/l.
- ATC, Resolution : 0.1 mg/l.
- Pocket size, 13 mm LCD.
- Size: 131 x 70 x 25 mm.


**Dissolved Oxygen Meter**
**LUTRON DM-6046**
**648-351**

- Measure max 1000A DCA/ACA
- ACA, DCA, ACV, DCV, ohms, Diode
- Built-in Data Hold function
- LCD display, easy & clear readout
- Overload protection circuit for all range
- 78.5 mm (3.1 inch) conductor Jaw (outside)


**Clamp Meter - ACA/DCA**
**LUTRON DR-99DCA**
**651-888**

- 3 1/2 digits
- 199.9 DCA - 10 DCA, 6 ranges
- Range can be adjusted by jumper wire
- 14 mm red LED
- Dimension 96x48x104mm


**Panel Meter - DCA**

**HAKKO FX-888D**
**654-215**

- \* Temperature range: 50-400 °C
- \* Maintains idle temperature within 1°C when 200-400 °C
- \* Adjustable temperature control
- \* Up to 5 preset temperatures
- \* Wide selection of tips for SMD and through-hole soldering iron
- \* Digital display and password lock function
- \* With soldering iron FX-8801


**HAKKO FX-838**
**613-791**

- \* High powered 150W soldering iron
- \* Temperature range: 200-500 °C
- \* Up to 3 preset temperatures
- \* Low temperature alarm
- \* Digital display and key lock function
- \* With soldering iron FX-8301, optional tip


**HAKKO FX-951**
**640-238**

- \* Temperature range: 200-450 °C
- \* Superior heat transfer and thermal recovery
- \* Low temperature alarm
- \* Wide selection of tips for SMD and through-hole soldering iron
- \* Digital display and card lock function
- \* With soldering iron FX-9501, optional tip


**Digital Soldering Station**
**HAKKO FM-203**
**640-220**

- \* Temperature range: 200-450 °C
- \* Dual ports for soldering, desoldering, and SMD rework
- \* A wide range of handpiece selection
- \* Superior heat transfer and thermal recovery
- \* Digital display and key lock function
- \* With soldering iron FM-2027, optional tip


**Digital Soldering Station**
**HAKKO FX-301B**
**613-650**

- \* Four different heating programme for Sn-Pb, Sn-Ag-Cu, Sn-Cu and Sn.
- \* Special coating stainless solder pot
- \* Temperature control with offset function
- \* Timer function to show how long soldering pot has been in use


**Digital Soldering Station**
**HAKKO 96DE**
**642-138**

- \* Temperature range: 100-450 °C
- \* Temperature control by turning a knob during the operation
- \* Large-capacity solder bath
- \* The raised rim around the bath
- \* Analog-type and low-cost


**Digital Soldering Station (Dual Ports)**
**HAKKO FM-206**
**653-540**

- \* Triple ports for soldering, desoldering and SMD rework
- \* Built-in pump for vacuum and air flow
- \* Capable of hot air rework of 0201, 01005 and up to 10x10mm QFNs
- \* Graphic LCD display and password lock function
- \* With desoldering gun FM-2024, soldering iron FM-2027 and rework tool FM-2029, optional tip


**Digital Soldering Pot**
**HAKKO 701**
**642-431**

- \* Dual ports for soldering, desoldering
- \* Built-in vacuum pump
- \* Temperature control via tuning knob
- \* Two separated tuning knob
- \* With soldering iron 907-ESD and desoldering gun 809


**Analog Soldering Pot**
**HAKKO FR400**
**613-661**

- \* Power Consumption 300W
- \* Heavy-duty Desoldering Tool with built-in vacuum pump
- \* Quick and secure desoldering even on high heat capacity and high heat dissipation PWB with super power
- \* Secure desoldering with valve function
- \* Solder clogging was reduced featuring Anti Clogging Function


**Repair System (Triple Ports)**
**HAKKO FA430**
**640-127**

- \* HEPA filter (High Efficiency Particulate Air Filter)
- \* Filters out 99.97% of particles greater than 0.3μm
- \* Recommended for quiet laboratory and office


**Repair System (Dual Ports)**
**HAKKO FR-803B**
**613-534**

- \* Temperature range: 100-500 °C
- \* Built-in vacuum pick-up
- \* Unique nozzle outlet for consistent temperature
- \* Available 3-step temperature setting (preheating - heating - cooling down)
- \* Digital display and key lock function


**Heavy-duty Desoldering Tool**
**HAKKO FM-2022**
**613-400**

- \* Temperature range: 200-400 °C
- \* Unique parallel movement of tips enable easy removal of SMD chips
- \* Flat packages of up to 25mm in width
- \* Direct heating prevent damage to neighboring components
- \* Wide combination with station and optional tips


**Fume Extraction**
**HAKKO FA-400**
**640-126**

- \* Made of non-sloughing static dissipative material
- \* Adsorbs up to 80 percent of the odors from the air
- \* Available third mounting position with an optional arm stand
- \* Significantly-reduced footprint
- \* ESD-safe


**SMD Rework System**
**HAKKO FE-510**
**640-128**

- \* Allows the selection of area intended for static neutralization
- \* Locking mechanism maintains angle of eliminator unit
- \* Useful error output signal function to incorporate the unit into line applications
- \* Superb ease of maintenance


**Parallel Remover**
**HAKKO FR-870**
**640-134**

- \* 2 independent switchables zones
- \* 248mm x 140 mm PCB capacity
- \* Auto and manual mode for step-heating method
- \* Non-contact system enables its application to double-sided boards
- \* Short heatup time


**Smoke Absorber**
**HAKKO FT-700**
**640-228**

- \* Fast and Easy way to keep tips clean and free from oxidation
- \* Two spinning polishing brushes
- \* Lead-free chemical paste for immediate tip tinning


**Static Eliminator**
**HAKKO FG-100**
**640-129**

- \* Extremely fine sensor with high temperature reactivity
- \* Compact size, easy-to-replace sensors
- \* Allows you to measure from any desired direction
- \* Easy-to-read digital display
- \* MAX hold function, Auto shut-off


**Preheater**
**HAKKO 882**
**642-643**

- \* Industrial hot air blower with adjustable temperature control ranging from room temperature to 450°C
- \* Light weight, ergonomic design for easier handling and simpler operation


**Tip Polisher**
**Thermometer**
**Engineering one stop service**
**.14.**
**www.icmaster.com.hk**

**RQ-85B**
**647-947**

- Quad output: 5V/7A, 12V/3.1A, -5V/0.5A, -12V/0.5A
- Voltage input range: 88~264VAC
- Withstand 300VAC surge input for 5 seconds
- Dimension: 159\*97\*38mm (L\*W\*H)


**NES-350-12**
**653-115**

- Single output: 12V/29A
- Voltage input range: 90~132VAC or 180~264VAC by switch
- Forced air cooling by built-in DC fan
- Withstand 300VAC surge input for 5 seconds
- Built-in constant current limiting circuit
- Dimension: 215\*115\*50mm (L\*W\*H)


**SE-600-24**
**650-355**

- Single output: 24V/25A
- Voltage input range: 90~132VAC or 180~264VAC by switch
- Forced air cooling by built-in DC fan
- High power density 4.9w/inch<sup>2</sup>
- Dimension: 247\*127\*63.5mm (L\*W\*H)


**85W Quad Output Power Supply**
**RSP-1500-24**
**651-031**

- Single output: 24V/63A
- Voltage input range: 90~264VAC
- High efficiency up to 90%
- Built-in active PFC function, PF>0.95
- Forced air cooling by built-in DC ball bearing fan
- Alarm signal output
- Dimension: 278\*127\*83.5mm (L\*W\*H)


**350W Single Output Power Supply**
**SPV-150-12**
**653-191**

- Single output: 12V/12.5A
- Voltage input range: 88~264VAC
- Built-in active PFC function, PF>0.94
- High efficiency up to 82%
- Built-in remote ON-OFF control
- Dimension: 215\*115\*50mm (L\*W\*H)


**600W Single Output Power Supply**
**QP-375-5D**
**652-052**

- Quad output: 5V/30A, 12V/9A, 12V/4A, 24V/3A
- Voltage input range: 85~264VAC
- Built-in active PFC function, PF>0.95
- Forced air cooling by built-in DC fan
- Built-in remote ON-OFF control
- Dimension: 280\*127\*63.5mm (L\*W\*H)


**1500W Single Output Power Supply**
**MDR-60-12**
**651-912**

- Single output: 12V/5A
- Voltage input range: 85~264VAC
- DC OK relay contact
- No load power consumption < 0.75W
- 100% full load burn-in test
- Dimension: 40\*90\*100mm (W\*H\*D)


**150W Single Output Power Supply**
**DR-120-24**
**647-576**

- Single output: 24V/5A
- Voltage input range: 88~132VAC or 176~264VAC by switch
- 100% full load burn-in test
- Dimension: 65.5\*125.2\*100mm (W\*H\*D)


**375W Quad Output Power Supply**
**DRT-240-24**
**649-192**

- Single output: 24V/10A
- Voltage input range: Three-Phase 340~550VAC (Dual phase operation possible)
- High efficiency 89%
- Built-in constant current limiting circuit
- Dimension: 125.5\*125.2\*100mm (W\*H\*D)


**60W Power Supply**
**PM-10-12**
**653-327**

- Single output: 12V/0.85A
- Voltage input range: 85~264VAC
- Ultra-miniature size, light weight
- No load power consumption<0.5W
- 100% full load burn-in test
- Dimension: 70\*50\*22.7mm (L\*W\*H)


**120W Power Supply**
**EPS-65-48**
**423-881**

- Single output: 48V/1.36A
- Voltage input range: 90~264VAC
- Optional L-Bracket and cover
- High efficiency up to 90%
- No load power consumption<0.3W
- Dimension: 101.6\*50.8\*29mm (L\*W\*H) without case


**240W Three Phase Power Supply**
**LPS-100-12**
**644-810**

- Single output: 12V/8.4A
- Voltage input range: 98~132VAC or 176~264VAC auto switch
- 100% full load burn-in test
- Fix switching frequency at 134KHz
- Dimension: 222\*62\*32mm (L\*W\*H)


**10W Power Supply**
**APV-12-12**
**653-519**

- DC voltage output: 12V
- Rated current output: 1A
- Voltage input range: 90~264VAC
- IP30 design
- Constant voltage mode
- Small and compact size
- Dimension: 77\*40\*29mm (L\*W\*H)


**65W Power Supply**
**LPV-100-5**
**640-923**

- DC voltage output: 5V
- Rated current output: 12A
- Voltage input range: 90~264VAC
- Fully encapsulated with IP67 level
- Constant voltage design
- Withstand 300VAC surge input for 5 seconds
- Dimension: 190\*52\*37mm (L\*W\*H)


**100W Power Supply**
**HG-320H-15**
**640-995**

- DC voltage output: 15V
- Rated current output: 19A
- Voltage input range: 90~305VAC
- Built-in active PFC function
- IP67 / IP65 design
- Three in one dimming function
- High efficient up to 93%
- OCP point adjustable
- Dimension: 252\*90\*43.8mm (L\*W\*H)


**12W Power Supply**
**SCW03B-05**
**645-318**

- DC voltage output: 5V
- Current output range: 60~600mA
- Voltage input range: 18~36VDC
- 1000VDC I/O isolation
- Built-in EMI filter
- 100% burn-in test
- Dimension: 31.8\*20.3\*12.2mm (L\*W\*H)


**60W Power Supply**
**PSD-15A-24**
**653-419**

- DC voltage output: 24V
- Rated current output: 0.6A
- Voltage input range: 9.2~18VDC
- Short circuit / overload / overvoltage / polarity protection
- 100% full load burn-in test
- Dimension: 94\*49\*26mm (L\*W\*H)


**285W Power Supply**
**SD-150D-24**
**644-872**

- DC voltage output: 24V
- Rated current output: 6.3A
- Voltage input range: 72~144VDC or 85~132VAC
- Built-in EMI filter, low ripple noise
- 100% full load burn-in test
- Dimension: 199\*110\*50mm (L\*W\*H)


**3W DC-DC Converter**
**15W DC-DC Converter**
**150W DC-DC Converter**

# • SUMMIT • VITINY • MEGGER • HIOKI • KYORITSU • KEYSIGHT •

## SUMMIT SS20

650-546



- \* Pressure -40mbar to 120mbar,
- ±0.5% of reading 5 digits
- \* Single input, 7 units
- \* Backlight & zero adjust
- \* 7 Units kPa, PSI, inHg, mmHg, inH2O, mmH2O, mbar

Digital Pressure Meter

## VITINY UM12

654-605



- \* 5M pixels, Auto-Focus
- \* Working distance 9.6mm to 140mm
- \* Video Resolution 1600x1200; 1280x800; 800x600; 640x480; 2592x1944
- \* AP Software Compatibility: Windows 8/Windows 7/Vista/XP

USB Microscope

## MEGGER DLRO10

646-173



- \* Accurate Results in < 3 sec
- \* Auto Current Reversal cancels Standard EMF's
- \* Auto detects continuity in potential and current connections
- \* Visible warning of High Voltage present at the terminals
- \* Visible warning of current flowing in the test sample

Digital Low Resistance Ohmmeter

## HIOKI 3554

649-591



- \* Lead-Acid Battery Diagnoses
- \* Resistance Testing : 0.001m to 3.1 ohm
- \* Voltage Range : ±6.000V / ±60.00V
- \* USB Interface bundled with software in PC

Battery HiTester

## KYORITSU 3005A

646-134



- \* Insulation range 20MO, 200MO, 2000MO
- \* Continuity range 20Ω, 200Ω, 2000Ω
- \* 200mA continuity measuring current
- \* Minimum 1mA current on insulation tests
- \* Bargraph to display insulation resistance
- \* Auto null function
- \* Live circuit warning beeper

Digital Insulation/ Continuity Tester

## KEYSIGHT DSO1004A

654-327



- \* 60Hz, 4 analog channels
- \* Capture long time periods with high resolution and 20 kpts memory
- \* 5.7-inch color LCD display
- \* Speed analysis with 23 auto measurements & waveform math, including FFT
- \* Simplify testing with go/no go mask testing, sequence mode (1000 trigger events) & digital filters

Oscilloscope – 60MHz, 24Channels

## SUMMIT 720B

650-550



- \* Instant response, 10 ppm sensitivity
- \* Adjustable Tic rate
- \* One hand operation
- \* 16 inch gooseneck
- \* Visual and audible indication of leak

Combustible Gas Leak Detector

## VITINY UM06

654-604



- \* 5M pixel resolution
- \* HDMI output with HD 1080p images
- \* USB 2.0 Transmission
- \* Autofocus control from the software
- \* Built-in 30 top view LED lights with adjustable brightness

DIGI Microscope

## MEGGER MIT310

648-105



- \* Insulation Test Voltage : 1000V, 500V, 250V DC
- \* Measuring Range : 10 k ~ 999 M ohm
- \* USB Interface
- \* Weatherproof to IP54
- \* Continuity Range : 0.01 ~ 99.9 ohm

Insulation & Continuity Tester

## HIOKI 3284

647-887



- \* Analog output for current, voltage, or frequency measuring level
- \* Peak hold function displays the crest value of the inrush current
- \* AC+DC mode enables measurement
- \* DC & AC current and voltage up to 200A and 600V
- \* Max/Min/Average, Data Hold, Auto Power Off, Auto Zero

AC / DC Clamp Meter

## KYORITSU 6010B

649-238



- \* Continuity 20/200Ω 200mA Test Current
- \* Insulation: 500/1000V, 20/200MΩ 1mA Rated Test Current
- \* Loop Impedance 20/20000 15mA Test Current at 2000Ω (No RCD Trip)
- \* RCD: 10/30/100/300/500mA x1/2, x1, Fast Trip(40ms), DC, Auto Ramp
- \* Test of a large kind of RCD's Standard, Selective, AC and A/DC sensitive breakers)
- \* Uc(Contact Voltage): 100V

Multi-Function Tester

## KEYSIGHT DSOX3054T

639-776



- \* 500 MHz, 4 analog channels
- \* 8.5-inch WVGA display
- \* Capture more data with up to 4 Mpts memory
- \* 1,000,000 wfms/s update rate
- \* Measurement capabilities with full upgradability: Add bandwidth, memory, digital channels, 20 MHz arbitrary waveform generator, 3-digit voltmeter, serial trigger and analysis, segmented memory & mask testing

Oscilloscope – 500MHz, 4 Channels

## SUMMIT SDT8A

651-864



- \* Auto Power Off, Data Hold
- \* Range : -40 ~ 150 C
- \* Accuracy : 1% over full scale
- \* Water Resistant

Stem Type Thermometer

## VITINY S-109

654-619



- \* Stand for UM06
- \* Heavy duty table-top stand with an universal rotatable arm

Arm stand for UM06

## MEGGER LTW325

651-431



- \* Verify the Loop impedance of a Live Electrical Circuit
- \* 2Wire Non-Tripping & High Current Earth Loop Tester
- \* 50~440V application , 20KA PFC range
- \* 2 Wire + max 2 + (R1+R2)
- \* Voltage & Frequency Measurement

Loop Impedance Tester

## HIOKI 3801-50

653-602



- \* AC+DC mode/ Temperature/ Dutyratio measurement
- \* Can record to internal memory, maximum, minimum, or average value
- \* High-precision measurement at the 3801-50 Basic accuracy ±0.025 %, 1 µV minimum resolution
- \* For PC measurement corresponds to USB communication (optional)

Digital HiTester

## KYORITSU 3125

647-512



- \* Insulation Resistance Test up to 1,000G ohm
- \* Voltage Test Range from 500V to 5,000V
- \* Auto-discharge Function
- \* Polarization Index Measurement (PI)

Hi-Voltage Insulation Tester

## KEYSIGHT 34450A

639-142



- \* 5½ digit, High contrast and flexible OLED display
- \* Fast reading speed at 190 readings/sec
- \* 11 measurement functions including 4-wire resistance, capacitance and temperature
- \* Up to 50,000 memory points datalogging capability with built-in histogram and basic statistical functions. Multiple choice of connectivity – USB, Serial Interface (RS-232) and optional GPIB

Digital Multimeter

# • MANSON • YUASA • AEG • ZBOT • GRAPTEC • TIERTIME •

## MANSON NSP-6016

640-568



- \* Output range: 1~60V / 0.25A~1.6A
- \* Automatic Cross Over CV & CC model
- \* 4 Digit Meter Display : Volt & Amp
- \* Rotary Encoder Control with Fine Tuning
- \* Isolated Ground

## 100W Switching Power Supply

## YUASA RE7-12FR

633-764



- \* Long Life VRLA Batteries
- \* High Capacity, High Precision
- \* Capacity : 12VDC / 7AH
- \* Size : 151x65x97.5 mm
- \* Weight : 2.5 Kg

## MANSON SDP-2603

640-563



- \* Output range: 1~60V / 0~3A
- \* Remote Program & Data Logging
- \* Connectivity : RS232 and RS485
- \* 4 Digit LCE Display : Volt, Amp & Power
- \* 9 User Presets at the Keypad

## Lab Grade Linear Power Supply

## YUASA NP40-12

235-959



- \* 40Ah Capacity
- \* 12V
- \* 197 x 165 x 175mm
- \* 14.5Kg
- \* Flame class UL94HB, UL94V0
- \* D, H terminal

## MANSON HCS-3604

653-058



- \* Output range: 1~60V / 0~15A
- \* Memory Recalls : 3 User defined V&I presets
- \* High RFI Immunity & Excellent EMI
- \* Rotary Encoder Control with Fine Tuning
- \* Active PFC Design

## RFI Immunity Lab Grade Power Supply

## YUASA REW45-12

633-696



- \* High Rated VRLA Batteries
- \* Apply to High Rated , High Potency UPS Systems
- \* Capacity : 12VDC / 45W/cell
- \* Size : 151x65x97.5 mm
- \* Weight : 2.5 Kg

## Sealed Lead Acid Battery

## AEG A.700

782-1070



- \* 700VA / 420W rating
- \* Autonomy time 12 minutes for 300VA loading
- \* 2-6ms transfer time
- \* 8 hrs recharging time (90% capacity)
- \* Modern technology for power outages and dangerous over voltages
- \* Automatic voltage regulation against line voltage deviations
- \* Double mains filter against voltage spikes

## UPS - PC, Workstation

## TIERTIME UP PLUS2

654-436



- \* Redesigned model inside and out, engineered to provide continuous dimensionally accurate 3D printed parts
- \* Best-in-class desktop 3D Printer and easiest to use
- \* Innovative auto leveling platform calibration and automatic height sensor
- \* Improved 3D print spooling speed

## 3D Printer

## ZBOT D8

654-841



- \* Printer by SD card
- \* Printing material : PLA
- \* Printing Size 100mmX100mmX70mm

## 20KVA UPS – Modular 3 Phase

## TIERTIME UP mini 2

654-846



- \* Build Volume : 20(W) x 120(H) x 120(D) mm
- \* Printing Material : ABS/PLA
- \* Touch screen control: Provide better 3D printing user experience.
- \* WiFi support, enabling better user control of the 3D printer via mobile APPs.
- \* Built-in HEPA air filtration
- \* Aluminum handle and separate spool container with build-in toolbox

## 3D Printer

## ZBOT PLA BLUE

654-845



- \* Orange,Red,Yellow etc...

## PLA Blue 200G

## GRAPTEC GL840-M GRAPTEC GL840-WV

654-751



- \* 20 Channels,expandable up to 200 Channels
- \* All Channels are isolated,each with multifunction input
- \* Huge Built-in 4GB Flash Memory
- \* PC-friendly,supports USB memory stick,has USB and Lan Port
- \* Supported WLAN system (Option)
- \* Large easy-to-read 7-inch TFT colour LCD

## Data Logger

## 3D Printer

## GRAPTEC GL240

654-779



- \* 4.3 inch wide TFT color LCD screen
- \* Three types of power source: AC, DC, rechargeable battery pack
- \* Extended memory capacity using SD cards
- \* Max sampling interval up to 10ms
- \* All channels isolated

## 10-Channel Datalogger

## UPS – Rack Mount

## TIERTIME UP BOX PP3DP

653-841



- \* Build Volume : 255(W)x205(H)x205(D)mm
- \* Printing Material : ABS/PLA
- \* Precision: 100 microns (0.1 mm/layer)
- \* Speed : Up to 110mm/second

## 3D Printer

## P3DP ABS PLASTIC

654-642



- \* PP3DP ABS PLASTIC 1.75mm ABS
- \* FILAMENT : 1X 500 gm SPOOLS
- \* Red color

## PLASTIC 1.75mm ABS FILAMENT

## GRAPTEC B-517

654-499



- \* GRAPTEC BATTERY PACK
- \* For Use With Midi Logger
- \* 7.4V 2200 mAh (17Wh) for GL-840

## Data Logger Battery Pack

# • ACUTE • ADVANTECH • LEAP •

## ACUTE TS2212H

653-797

- \* PC-based, USB2.0 interface / powered
- \* 2 channels (stackable to 12 channels)
- \* 1 GS/s sampling, 200 MHz bandwidth
- \* Data Logger (HD storage)
- \* Input Sensitivity : 2 mV/div
- \* Embedded 2-channel FG
- \* Built-in 5 DVM and 5 digital frequency counter.



## ACUTE TS2212F

653-794

- \* 2 channels (stackable to 12 channels)
- \* 1GS/s sampling, 200 MHz bandwidth
- \* Data Logger (HD storage)
- \* Input Sensitivity : 2 mV/div
- \* Embedded 2-channel FG
- \* Built-in 5 DVM and 5 digital frequency counter.



## ACUTE TL2236B+

653-790

- \* PC-based, USB2.0 interface / powered
- \* 36 channels
- \* 4 GHz timing / 200 MHz state analysis
- \* 4-conditions (4 levels each) trigger
- \* Data Logger (HD storage)
- \* Transitional Storage (store PC for 4 hours)
- \* Two Bus Trigger



## PC-Based DSO

### ACUTE TL2136B

653-792

- \* PC-based, USB2.0 interface / powered
- \* 36 channels
- \* 4 GHz timing / 200 MHz state analysis
- \* 4-conditions (4 levels each) trigger
- \* Data Logger (HD storage)
- \* Transitional Storage (store PC for 4 hours)



## PC-Based DSO

### ACUTE TB1016E

654-780

- \* PC-based, USB 3.0 interface / powered
- \* 200 MHz timing/state analysis
- \* Digital channels : 16 (Data), 1 (Clock), 2 (I<sup>C</sup>)
- \* Memory : PC RAM
- \* Real-time data and waveform display
- \* Data logger



## Travel Logic 4GHz Logic Analyzer

### ACUTE TB1016B

654-781

- \* Module I : DALI, HID over PC, PC, I<sup>S</sup>, LIN, MDIO, PMBus, RS232, SMBus, SPI, USB1.
- \* Module II : CAN, Modbus, Profibus, RS422, RS485
- Differential channels : 2 (CAN), 4 (RS422/485)
- Stackable with Acute TravelScope DSO to form an MSO



## Travel Logic 4GHz Logic Analyzer

### ADVANTECH Labtool-48UXP 442-448

- \* USB or parallel port interface with auto-switch power
- \* Support 5V and 3.3V low voltage devices
- \* 1.8V chip support via adapter
- \* Less than 2 sec/Mbit programming speed
- \* Automatic EEPROM/Flash ID search
- \* Universal adapter for 44-pin PLCC/ QFP/ TQFP/PSOP and 40/48 TSOP



## Logic Analyzer

### ADVANTECH Labtool-848XP 442-537

- \* 8 independent fully isolated 48-pin ZIF sockets
- \* Support Flash, EEPROM, EEPROM, Microprocessor with 5 volts and 3 volts
- \* Program 8 pieces 8 MB Flash chips within 45 seconds
- \* Independent modules allow flexible configuration
- \* Universal adapters for 48TSOP/44PSOP/40TSOP Flash chips support



## Logic Analyzer

### ADVANTECH Labtool-S100 442-678

- \* Serial flash programmer support 3.3V to 1.8V Flash in VCC and I/O
- \* High programming speed, it can program at 30Mbps
- \* Support all maker's serial flash chip from 512Kb up to 2Gb
- \* Programming and verify a 64Mb serial flash in 53 second



## Intelligent Universal Programmer

### ADVANTECH Labtool T400 442-404

- \* Support 3.3V to 1.2V flash memory chip in VCC and I/O
- \* Flash chip support up to 128G bit
- \* One PC can connect up to 16 units Labtool-T400
- \* Extremely high speed, blank check 64Mbit in 1.6 sec
- \* Target quantity and max failure rate alarm



## Turbo Gang Programmer

### ADVANTECH SDP-UNIV-48TS 442-208

- \* This TSOP48 adapter is a standard 48 pin universal adapter
- \* Size 48 pin TSOP (12mm x 20mm, Pitch 0.5mm) from DIP48 to TSOP48
- \* For 48 pin TSOP Type I Package Flash memory (used on Labtool-48UXP)
- \* Support device Atmel, AMD, AMIC, Fujitsu, etc



## USB Serial Flash Programmer

### ADVANTECH TM-S512-64EP 654-342

- \* 64 pin EBGA (Pogo-Pin)
- \* Size EBGA (11mm x 13mm, Pitch 1.0mm) Probe
- \* Open Top Socket
- \* Adapter modules for Spansion S29GL512P10FFCR1 (LAA064) (For T-400)



## Adaptor

### LEAP LEAPER-56

654-113

- \* Portable mini size, no additional power supply needed
- \* Provides with DUT 75MHz bandwidth and < ±2.5nS signal skew
- \* Connect multiple Leaper-56 to do gang programming via USB HUB
- \* Provides programming history and yield statistic
- \* Provides insertion test and contact check before programming
- \* Support NAND Flash, NOR Flash, SPI, EEPROM, EEPROM, MPU, MCU, CPLD, NV-RAM



### LEAP LEAPER-3C

442-397

- \* Portable light & usable with batteries
- \* Stand alone FLASH programmer
- \* Only one source is needed to copy with
- \* Two operation modes, stand-alone & PC mode
- \* Support Windows 95/98/NT/2000/ME/XP
- \* Support EPROM, EEPROM, FLASH EEPROM



### LEAP LP-456

654-181

- \* Four independent universal programming pin-driver in one unit
- \* Provide DUT 75MHz bandwidth and < ±2.5nS signal skew
- \* Pin Drivers DIP-48 ZIP, 48 pin universal pin-Drive x 4
- \* Provides programming history and yield statistic
- \* Provides insertion test and contact check before programming



## Handy Flash Writer

### LEAP LER-123A

442-012

- \* Erase Quantity 64pcs (24 PIN)
- \* Equipped with electronic starter, extend the product life
- \* The timer can be set from 0 to 60 minutes
- \* The erase time is approximately 15 minutes



## Universal Gang Programmer

### LEAP LP-2010

653-729

- \* RFID 13.56MHZ Modular Trainer
- \* To learn Radio Frequency Identification
- \* Built-In Real Time Clock
- \* Read the data of ISO 14443A
- \* RFID tag



## EPROM Eraser

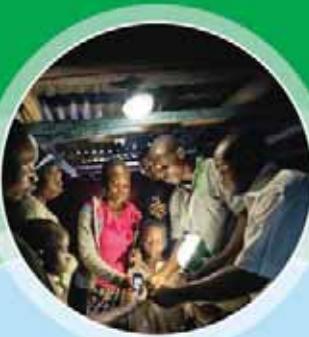


## EPROM Eraser

- \* Erase Quantity 12pcs (24 PIN)
- \* Equipped with electronic starter, extend the product life
- \* The timer can be set from 0 to 60 minutes
- \* The erase time is approximately 15 minutes



## RFID Experimental Trainer



### Smart cities

Make cities smarter. More efficient, liveable and sustainable.

As the global specialist in energy management, Schneider Electric has a 177-year legacy of innovation, international scope, corporate responsibility, and transformational impact. Today, as global energy needs escalate due to unprecedented economic, demographic, industrial, and urban growth, so too does our responsibility to the planet. More than 140,000 Schneider Electric employees in over 100 countries bring a singular mission to their work each day:

**to help people make  
the most of their energy.**



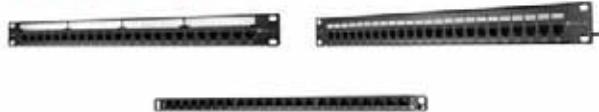
### Smart grid

Ensure network stability, integrate renewables, and manage the grid efficiently

### Efficient Enterprise

Drive financial and operational performance while conserving resources

#### Copper Patch Panel



#### Fiber Cable



#### Fiber Patch Panel



#### Copper Cable



#### Copper Modular Jack and Patch Cord



**OSRAM** is one of the two leading light manufacturers in the world. The company's portfolio covers the entire value chain from components – including lamps, opto semiconductors like light-emitting diodes (LED) – to electronic control gears as well as complete luminaires, light management systems and lighting solutions. The company had around 39,000 employees worldwide at the end of the fiscal year 2012 and generated a revenue of 5.4 billion Euros in that year. More than 70% of its revenue come from energy-efficient products. The company's business activities have been focusing on light – and hence on quality of life – for over 100 years.



Residential



Office

## OSRAM LED Lighting

- High efficiency up to 100 lm/W
- Save electricity expense and reduce CO2 footprint
- Long lifetime up to 50,000hrs
- Instant lit up, no warm up time
- Low heat generation, no UV emission
- Mercury-free, environment friendly



Restaurant



Retail



Billboard




**EL-USB-1-LCD**

 Temperature Logger, USB  
 -35°C~80°C

**EL-USB-2-LCD**

 Temperature & Humidity Logger, USB  
 -35°C ~ 80°C / 0 ~ 100% RH

**EL-USB-3**

 Voltage Logger, USB  
 - 0 ~ 30V DC

**EL-USB-4**

 Current Logger, USB  
 4~20mA

**EL-USB-5**

 Event, Count & State Logger, USB  
 Input voltage up to 24V

**EL-USB-CO**

 Carbon Monoxide Logger, USB  
 0~1000ppm

**EL-USB-TC-LCD**

 Thermocouple Logger, USB  
 -200~1300°C (J, K, T-type)


# Data Loggers

## USB • WiFi

**EL-WiFi-TH**

WiFi Cloud Data Logger



- Temp & Humidity logger, WiFi
- Wirelessly stream data to Cloud / PC
- -20°C~60°C, 10~90% RH, IP55
- High / Low alarm, Max / Min readings
- Rechargeable lithium polymer battery

**EL-GFX-1**


- Temp Logger, USB
- -30°C~80°C
- Logging rate 10 seconds~1 hour
- Stores over 250,000 readings

**EL-GFX-2**


- Temp & Humidity logger, USB
- -35°C~80°C / 0~100% RH
- Logging rate 10 seconds~1 hour
- Stores over 250,000 readings

**EL-GFX-DTC**


- 2CH Thermocouple Logger, USB
- Support K, J, T type thermocouple
- Logging rate 2 seconds~1 hour
- Stores over 250,000 readings

# GRAPHTEC

## GL240

### Compact Standalone 10-Channel Datalogger



\* WLAN capable using optional\* WLAN Unit B-568 for remote monitoring and datalogging

\* 4.3 inch wide TFT color LCD screen

\* Three types of power source: AC, DC\*, rechargeable battery pack\*

\* Extended memory capacity using SD cards (SDHC compatible up to 32GB\*)

\* Max sampling interval up to 10ms

\* All channels isolated

\* Analog signal input port

\* Logic/Pulse signal input port

\* Flexible input system for voltage, temp, humidity, pulse and logic signals

\* Smartphone, remote access monitoring

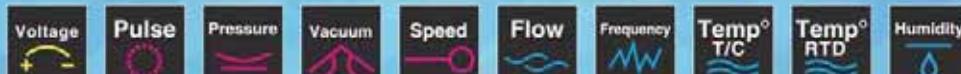
\*Optional accessories not included

#### Options and Accessories

Item	Model number	Description
Wireless LAN unit	B-568	WLAN adapter, IEEE802.11b/g/n
Battery pack	B-569	Rechargeable Lithium-ion battery (7.2 V, 2900mAh)
Input/Output cable for GL series	B-513	2 m long (no clip on end of cable)
DC drive cable	B-514	2 m long (no clip on end of cable)
Humidity sensor	B-530	With 3 m long signal cable (with power plug)
Shunt resistor	B-551-10	250 ohms 0.1% (it converts the signal to the "1-5V" from the "4-20mA")
AC power adapter	ACADP-20	Input: 100 to 240 V AC, Output: 24 V DC

## GL840

### Multi-Channel Datalogger



\* WLAN capable using optional\* WLAN Unit B-568 for remote monitoring and datalogging

\* 7 inch wide TFT color LCD screen

\* Three types of power source: AC, DC\*, rechargeable battery pack\*

\* Extended memory capacity using SD cards (SDHC compatible up to 32GB\*)

\* Max sampling interval up to 10ms

\* Expandable up to 200 channels

\* Access GL100 sensors and adapters

\* Flexible input system for applications such as RTD, T/C, humidity and more

\* Smartphone, remote access monitoring

\*Optional accessories not included



#### TG452DL Digital Multimeter

- True RMS meter
- "Insertion Error Check" warning
- Non-contact voltage EF detection
- Full Auto Range, Data Hold, Relative Zero Mode
- Auto Check – DCV, ACV, Ohm
- Max / Min record, crest peak hold
- Back light LCD display
- Hand free magnetic hanger
- Meter View PC data log software (option)

#### TG372CD Clamp Meter

- True RMS meter
- Dual display - AC Voltage/Amp with Frequency Hz
- Non-contact Voltage EF detection
- Large 55mm jaw conductor size
- Multimeter function
- Auto check – ACV, DCV, Ohm
- Relative Zero Mode
- Back light LCD display
- Temperature measurement (optional probe)



#### TG511AM Analog Multimeter

- DCV, ACV, DCmA, Resistance, Diode's leakage current measurement
- Japan made moving pointer provides high speed respond & accuracy reading
- Direct reading of dB scale
- Direct reading of transistor's hFE
- CAT II 1000V safety standard



#### TG730IR Non-Contact Infrared Thermometer

- Pocket size for easy carry
- D:S = 9:1
- Measurement Range
  - 33 ~ 500 °C
  - 27 ~ 932 °F
- Circle laser pointer
- One button for easy operation
- HOLD / MIN / MAX readings with back light LCD display



#### TG412DP Digital Multimeter

- DCV, ACV, Resistance auto measure
- Contact & non-contact (EF) voltage detection
- Frequency & capacitance measure
- Continuity & diode test
- DC / AC  $\mu$ A micro amp function
- Auto power off
- Transient protection up to 4KV



#### TG732TK Thermometer

- Dual channels K-type thermometer
- T1 + T2 dual display
- Auto range
- REL function
- HOLD function
- Max / Min function
- Resolution 0.1°C / 0.1°F
- Auto power off



#### TG155VD Non-Contact Voltage Detector

- Voltage range 50 – 1000V AC
- Frequency range 50 – 500Hz
- LED & alarm sound indication
- Flash light function
- 2 x AAA battery power
- On / Off switch for longer battery life



#### TG710LD Light Meter

- Measure LED white light & all visible light
- Photoelectric sensor
- Comply JIS C 1609:1993 Class A standard
- Comply CNS 5119 Class A standard
- Cosine angular corrected
- Max hold & data hold
- Manual ranging & zeroing
- 3 1/2 digits LCD display

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