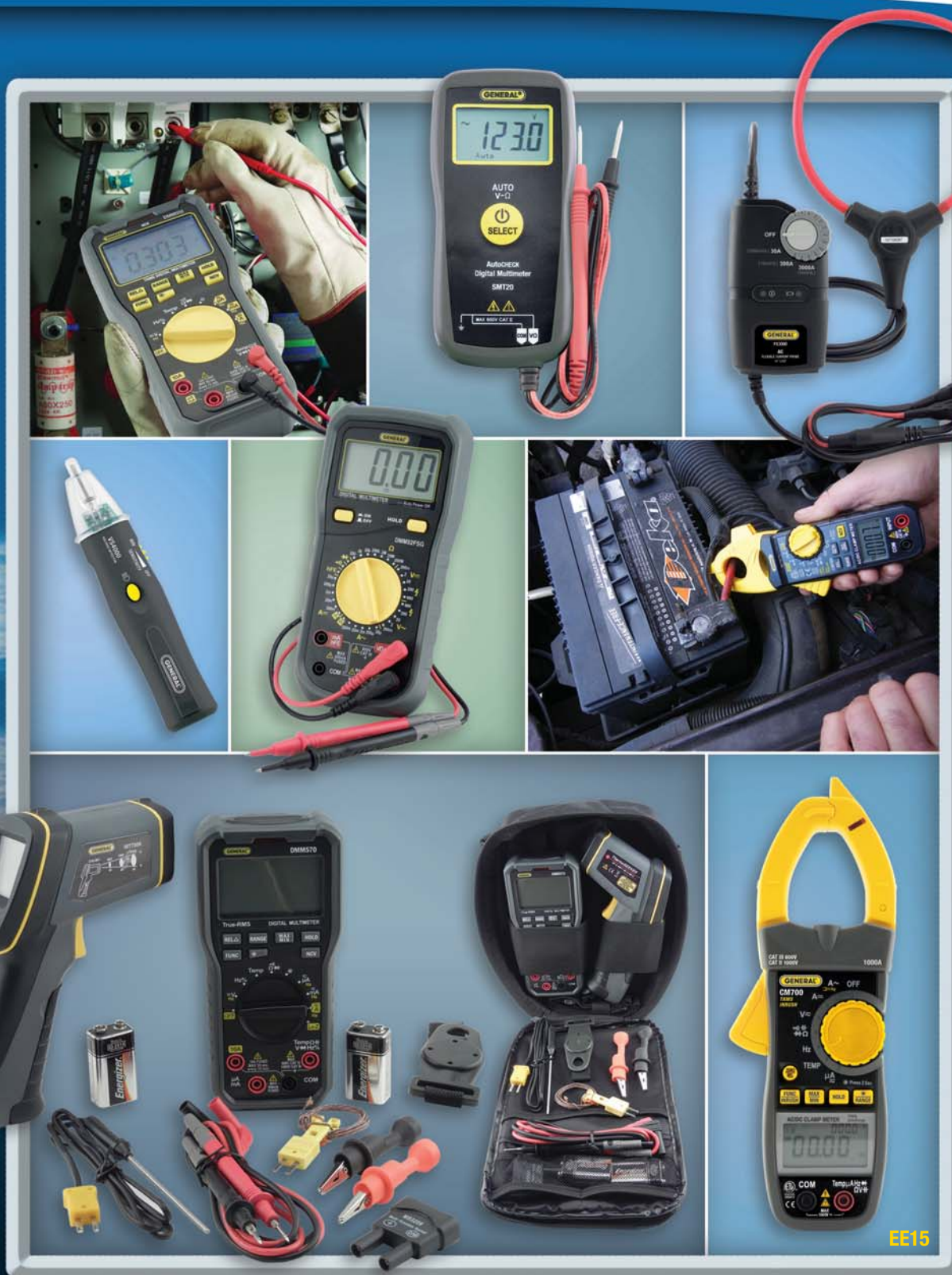




# ELECTRICAL INSTRUMENTS 2015



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# Clamp Meter Comparison Chart

Modern clamp meters combine a voltmeter and an ammeter. Because the ammeter responds to voltages induced by flows in the conductor within its jaws, clamp meters can measure larger currents than a multimeter – and in a safer way.



CM700/CM660  
(see page 4)

CMR35A  
CMR35T  
CMR35R  
(see page 5)

CM380  
(see page 7)

DAMP68  
(see page 6)

DAMP60  
(see page 6)

## KEY FEATURES & SPECIFICATIONS COMPARISON

| Model No.                                     | CM700/CM660                                                                                                            | CMR35A<br>CMR35T + CMR35R                                                         | CM380                                                                                                                  | DAMP68                                                                                                     | DAMP60                                                                        |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Figure of Merit                               | 16 Functions, 50 Ranges (CM700)<br>16 Functions, 49 Ranges (CM660)                                                     | 8 Functions,<br>27 Ranges                                                         | 11 Functions,<br>38 Ranges                                                                                             | 11 Functions,<br>31 Ranges                                                                                 | 7 Functions,<br>19 Ranges                                                     |
| Safety Rating                                 | CAT III 600V, CAT II 1000V                                                                                             | CAT III 600V                                                                      | CAT III 600V                                                                                                           | CAT III 600V                                                                                               | CAT III 600V                                                                  |
| Safety Listing (ETL, UL, CE)                  | ETL, CE                                                                                                                | CE                                                                                | ETL, CE                                                                                                                | CE                                                                                                         | CE                                                                            |
| Parameters Measured                           | AC/DC current, AC/DC voltage, resistance, frequency, continuity, diode integrity, capacitance, temperature, duty cycle | AC/DC current, AC/DC voltage, resistance, frequency, continuity, diode integrity  | AC/DC current, AC/DC voltage, resistance, frequency, capacitance, temperature, continuity, diode integrity, duty cycle | AC/DC current, AC/DC voltage, resistance, frequency, continuity, diode integrity, capacitance, temperature | AC current, AC/DC voltage, resistance, frequency, continuity, diode integrity |
| True RMS Measurements?                        | Yes                                                                                                                    | Yes                                                                               | No                                                                                                                     | Yes                                                                                                        | No                                                                            |
| Wireless?                                     | No                                                                                                                     | Yes                                                                               | No                                                                                                                     | No                                                                                                         | No                                                                            |
| AC Current Range                              | 0 to 1000A (CM700)<br>0 to 600A (CM660)                                                                                | 0 to 600A                                                                         | 0 to 80A                                                                                                               | 0 to 400A                                                                                                  | 0 to 600A                                                                     |
| DC Current Range                              | 0 to 1000A (CM700)<br>0 to 600A (CM660)                                                                                | 0 to 600A                                                                         | 0 to 80A                                                                                                               | 0 to 400A                                                                                                  | N/A                                                                           |
| AC/DC Voltage Range                           | 0 to 1000V                                                                                                             | 0 to 600V                                                                         | 0 to 600V                                                                                                              | 0 to 600V                                                                                                  | 0 to 600V                                                                     |
| Max Count/Max Current & Voltage Resolutions   | 6000/0.1A (CM700), 0.1mV<br>6000/0.01A (CM660), 0.1mV                                                                  | 4000/0.1A, 0.1mV                                                                  | 4000/1mA, 0.1mV                                                                                                        | 4000/0.1A, 0.1mV                                                                                           | 2000/0.1A, 0.1mV                                                              |
| Resistance Range                              | 0 to 60MΩ                                                                                                              | 0 to 40MΩ                                                                         | 0 to 40MΩ                                                                                                              | 0 to 40MΩ                                                                                                  | 0 to 20MΩ                                                                     |
| Frequency Range                               | 10 to 1000Hz using clamp jaw; 10Hz to 60MHz using test leads                                                           | 0 to 10kHz                                                                        | 10Hz to 10MHz through test leads; 40Hz to 10kHz through clamp jaw                                                      | 0 to 9.999MHz                                                                                              | 10 to 1999Hz                                                                  |
| Capacitance Range                             | 0 to 60,000μF                                                                                                          | N/A                                                                               | 0 to 40,000μF                                                                                                          | 0 to 4000μF                                                                                                | N/A                                                                           |
| Temperature Range (via "K" type thermocouple) | -58° to 1112°F<br>(-50° to 600°C)                                                                                      | N/A                                                                               | -4° to 1832°F<br>(-20° to 1000°C)                                                                                      | -40° to 752°F<br>(-40° to 400°C)                                                                           | N/A                                                                           |
| NCV Detection Ranges                          | 12 to 25VAC, 70 to 125VAC, 150 to 240VAC, 250 to 600VAC                                                                | N/A                                                                               | 70 to 125VAC                                                                                                           | N/A                                                                                                        | N/A                                                                           |
| Clamp Jaw Type, Opening                       | Coil type + Hall effect, 1.65 in. (42mm)                                                                               | Coil Type + Hall effect, 1.18 in. (30mm)                                          | Coil-type, 0.95 in. (24mm)                                                                                             | Coil Type + Hall effect, 1.48 in. (37.5mm)                                                                 | Coil-type, 1.48 in. (37.5mm)                                                  |
| Analog Bar Graph?                             | Yes                                                                                                                    | No                                                                                | No                                                                                                                     | Yes                                                                                                        | N/A                                                                           |
| Ranging Options                               | Auto or manual                                                                                                         | Auto or manual                                                                    | Auto or manual                                                                                                         | Auto or manual                                                                                             | Autorange only                                                                |
| Zero Offset?                                  | Yes                                                                                                                    | Yes                                                                               | Yes                                                                                                                    | Yes                                                                                                        | N/A                                                                           |
| Data Hold?                                    | Yes                                                                                                                    | Yes                                                                               | Yes                                                                                                                    | Yes                                                                                                        | Yes                                                                           |
| Memory                                        | Min, Max session values                                                                                                | Min, Max session values                                                           | No                                                                                                                     | No                                                                                                         | Max session value                                                             |
| Duty Cycle Range                              | 1 to 99%                                                                                                               | N/A                                                                               | 0.5 to 99.5%                                                                                                           | N/A                                                                                                        | N/A                                                                           |
| Weight                                        | 12.4 oz. (350g)                                                                                                        | Transmitter: 8.85 oz. (251g);<br>Receiver: 6.24 oz. (177g)                        | 7.6 oz. (215g)                                                                                                         | 19 oz. (539g)                                                                                              | 17 oz. (482g)                                                                 |
| Power Source                                  | 3 "AAA" batteries (included)                                                                                           | 2 "AA" batteries each (or external 3VDC/10mA supply) for transmitter and receiver | 3 "AAA" batteries (included)                                                                                           | 3 "AAA" batteries (included)                                                                               | 2 "AAA" batteries (included)                                                  |



# AC/DC True RMS Clamp Meters with NCV



CE

600A  
AC/DC  
True RMS

CM660



CE

1000A  
AC/DC  
True RMS

CM700



## RUGGED AUTO RANGING AC/DC TRUE RMS CLAMP METERS WITH NCV DETECTION

- **CM660: 0 TO 600A RANGE, 0.01A MAX RESOLUTION**
- **CM700: 0 TO 1000A RANGE, 0.1A MAX RESOLUTION**

Ideal for electricians, HVAC/R contractors, building maintenance professionals and maintenance/repair/operations (MRO) technicians

### FEATURES:

- 16 functions, 49 ranges
- Measures temperature from -58° to 1112°F (-50° to 600°C) using included "K" type stem thermocouple
- Uses beeper to verify integrity of diodes and check circuits for continuity
- 0 to 200μA and 2000μA AC/DC ranges for measuring flame rod current with 0.1μA and 1μA resolution using included test leads
- Built-in Non-Contact Voltage (NCV) detector with four sensitivity settings & audible and visual alerts
- Large backlit digital LCD with two 6000-count readouts for simultaneous display of real-time current or voltage on primary readout and line frequency on secondary readout
- Fast-response analog bar graph
- Bright LED work light
- Auto and Manual ranging and MIN/MAX options
- Data HOLD and REL (zero) buttons
- **INRUSH** mode for measuring surge current during motor startup
- 1.65 in. (42mm) jaw opening (largest in its class) for conductors up to 550 MCM resists side torque
- Rugged housing can withstand multiple drops onto concrete from height of 5 ft. (1.6m)
- ETL certified CAT III 600V, CAT II 1000V

### SPECIFICATIONS:

- ♦ AC Voltage Ranges / Accuracy: 0 to 600mV/6V/60V/600V/1000V /  $\pm(0.8\% + 3 \text{ digits})$
- ♦ DC Voltage Ranges / Accuracy: 0 to 600mV/6V/60V/600V/1000V /  $\pm(0.5\% + 3 \text{ digits})$
- ♦ AC Current Ranges / Accuracy: 0 to 60A/600A (CM660), 0 to 60A/600A/1000A (CM700) /  $\pm(1.8\% + 5 \text{ counts})$
- ♦ DC Current Ranges (via clamp) / Accuracy: 0 to 60A/600A (CM660), 0 to 60A/600A/1000A (CM700) /  $\pm(3\% + 5 \text{ digits})$
- ♦ AC/DC Current Ranges (True RMS, in microamp mode) / Accuracy: 0 to 200μA/2000μA /  $\pm(1\% \text{ of reading} + 5 \text{ digits})$
- ♦ Resistance Ranges / Accuracy: 0 to 600Ω/6kΩ/60kΩ/600kΩ/6MΩ/60MΩ /  $\pm(0.8\% + 3 \text{ digits}) < 1\text{M}\Omega$ ;  $\pm(1.2\% \text{ of reading} + 3 \text{ digits}) \geq 1\text{M}\Omega$
- ♦ Frequency Ranges / Accuracy: 10Hz to 60Hz/600Hz/6kHz (clamp jaw); 10Hz to 60Hz/600Hz/6kHz/60kHz/600kHz/6MHz/60MHz (test leads) /  $\pm(1.5\% + 5 \text{ digits})$  (clamp jaw);  $\pm(0.3\% + 5 \text{ digits})$  (test leads in Hz mode)
- ♦ Capacitance Ranges / Accuracy: 0 to 6nF/60nF/600nF/6μF/60μF/600μF/6000μF/60,000μF /  $\pm(4\% + 5 \text{ digits}) > 10\text{nF}$
- ♦ Temperature Range (via "K" type thermocouple) / Accuracy: -58° to 1112°F (-50° to 600°C) /  $\pm(2\% + 2 \text{ digits})$
- ♦ Duty Cycle Range / Accuracy: 1 to 99% /  $\pm 3\%$
- ♦ Maximum Resolutions: 0.01A (CM660), 0.1A (CM700), 0.1μA (in microamp mode), 0.1mV, 0.1Ω, 0.01Hz, 0.001nF, 2°F/1°C, 0.1%
- ♦ Clamp Jaw Opening: 1.65 in. (42mm)
- ♦ Dimensions: 8.86 x 3.31 x 1.30 in. / (225 x 84 x 33mm)
- ♦ Weight (including batteries): 14.8 oz. (420g)
- ♦ Power Source (included): Three "AAA" batteries

### INCLUDES:

- Double-Insulated Test Leads with Screw-On Alligator Clips
- "K" Type Stem Thermocouple Probe and Plug Adaptor
- Batteries
- Soft Pouch
- User's Manual
- 3-Year Limited Warranty

| UPC     | NO.                                                            |
|---------|----------------------------------------------------------------|
| 01629 9 | <b>CM660</b>                                                   |
| 01633 6 | <b>CM700</b>                                                   |
| 01521 6 | <b>ACL10</b> 15A Line Splitter (optional)                      |
| 01639 8 | <b>FX3000</b> 3000 Amp Flex Clamp Adaptor (optional, see p. 7) |



# Data Logging AC/DC Clamp Meter System

## WIRELESS TRUE RMS CAT III 600V CLAMP METER/DATA LOGGING SYSTEM – CMR35A, CMR35T, CMR35R

Ideal for process/power plant operators, HVAC/R contractors, building maintenance technicians.

### FEATURES:

- 8 Functions, 27 Ranges
- Measures AC/DC current, AC/DC voltage, resistance and frequency
- Also checks for continuity and diode integrity
- True RMS measurements
- Designed to meet CAT III 600 safety standard
- Collects data from up to six clamp meters/transmitters (available as options) operating on different channels
- Software displays four windows: A main monitor (dashboard), separate tabular and graphic displays of up to six logs, and a running estimate of monitored equipment's power cost
- Excel-formatted software facilitates USB data transfers to PC for storage and display
- Wireless range of up to 333 ft. (100m) with no obstructions
- Min/Max memory + data hold
- Hi and Lo audible alarms for voltage and current level
- Adjustable transmission span (extends battery life)
- Clamp meter also operates in standalone mode
- Standard USB computer interface

### SPECIFICATIONS:

**CMR35A 912.4MHz Wireless System with One Clamp Meter-Transmitter and One Data Logging Receiver-Controller**

**CMR35T 910MHz Wireless Clamp Meter-Transmitter**

**CMR35R 910MHz Wireless Controller Data Logging Receiver-Controller:**

- ♦ Wireless Range: Up to 333 ft. (100m) with no obstructions
- ♦ Sampling Rate: 3x/sec (not transmitting); 1x/sec (transmitting)
- ♦ Operating Temperature/Humidity: 14° to 122°F (-10° to 50°C)/80% R.H. max
- ♦ LCD Size (Transmitter): 1.77(H) x 1.04(W) in. (45 x 26.5mm)
- ♦ LCD Size (Receiver): 2.05(H) x 1.14(W) in. (52 x 29mm)
- ♦ Jaw Opening: 30mm (1.18 in.)

- ♦ Voltage Measurement Range/Accuracy: 0 to 600V (AC or DC)  $\pm(0.75\%$  of reading + 3 digits)
- ♦ Voltage Measurement Resolution: 0.001V
- ♦ Current Measurement Range/Accuracy: 0 to 600A (AC or DC)  $\pm(1\%$  of reading + 5 digits)
- ♦ Resistance Measurement Range: 0 to 40M $\Omega$
- ♦ Frequency Measurement Range: 0 to 100kHz
- ♦ Transmission Span: 2, 10, 30, 60 or 120 seconds (user-selectable)
- ♦ Input Impedance: 10M $\Omega$
- ♦ Dimensions (Transmitter): 8.66(L) x 2.52(W) x 1.38(H) in. (220 x 64 x 35mm)
- ♦ Dimensions (Receiver): 7.05(L) x 2.83(W) x 1.26(H) in. (179 x 72 x 32mm)
- ♦ Weight (Transmitter): 8.85 oz. (251g)
- ♦ Weight (Receiver): 6.24 oz. (177g)
- ♦ Power Source (Transmitter & Receiver): 2 "AA" batteries or external 3VDC supply @ 10 mA

### INCLUDES:

- Custom hard plastic carrying case (CMR35A only)
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.                                                     |
|---------|---------------------------------------------------------|
| 01448 6 | CMR35A (912.4MHz)                                       |
| 01487 5 | CMR35T (910MHz)                                         |
| 01488 2 | CMR35R (910MHz)                                         |
| 01521 6 | ACL10 15A Line Splitter (optional)                      |
| 01639 8 | FX3000 3000 Amp Flex Clamp Adaptor (optional, see p. 7) |



**CMR35 SYSTEM**  
U.S. Patent No. 7,075,289 B2



**RECEIVER  
CMR35R**

**TRANSMITTER  
CMR35T**





# AC/DC and AC True RMS Clamp Meters

CE

400A  
AC/DC  
TRMS

DAMP68



## AUTO RANGING AC/DC TRUE RMS 400 AMP CLAMP METER – DAMP68

Ideal for HVAC/R technicians. Also measures capacitance, frequency and temperature.

### FEATURES:

- 11 functions, 34 ranges
- Measures temperature from -40° to 752°F (-40° to 400°C) using included "K" type thermocouple
- Computes and displays True RMS values
- Verifies integrity of diodes and checks circuits for continuity
- Jumbo 3-3/4 digit (4000 count) backlit LCD + analog bar graph
- Ergonomic design with rugged rubber housing
- Hall effect clamp jaw
- Auto and Manual ranging and MIN/MAX display options
- Data HOLD and REL (zero) buttons
- Safe for CAT III 600V use
- CE approved

### SPECIFICATIONS:

- ♦ AC Current Measurement Range / Accuracy: 0 to 400A /  $\pm(3\% + 10 \text{ digits})$
- ♦ DC Current Range (via clamp) / Accuracy: 0 to 400A /  $\pm(3\% + 5 \text{ digits})$
- ♦ AC Voltage Ranges / Accuracy: 0 to 400mV/4V/40V/400V/600V /  $\pm(2\% + 10 \text{ digits})$  or better
- ♦ DC Voltage Ranges / Accuracy: 0 to 400mV/4V/40V/400V/600V /  $\pm(0.8\% + 5 \text{ digits})$
- ♦ Resistance Ranges / Accuracy: 0 to 400 $\Omega$ /4k $\Omega$ /40k $\Omega$ /400k $\Omega$ /4M $\Omega$ /40M $\Omega$  /  $\pm(2\% + 5 \text{ digits})$  or better

- ♦ Frequency Ranges / Accuracy: 0 to 100Hz/1kHz/10kHz/100kHz/1MHz/10MHz /  $\pm 2\%$
- ♦ Capacitance Ranges / Accuracy: 0 to 40nF/400nF/4 $\mu$ F/40 $\mu$ F/400 $\mu$ F/4000 $\mu$ F /  $\pm(4\% + 5 \text{ digits})$
- ♦ Temperature Range (via "K" type thermocouple) / Accuracy: 40° to 752°F (-40° to 400°C)  $\pm(1.2\% + 6 \text{ digits})$  from 32° to 212°F
- ♦ Maximum Resolutions: 0.1A, 0.1mV, 0.1 $\Omega$ , 0.01Hz, 0.01nF, 1°
- ♦ Clamp Jaw Type / Opening: Coil-Type + Hall effect / 1.48 in. (37.5mm)
- ♦ Dimensions: 11.38 x 6.25 x 2.75 in. / (289 x 159 x 70mm)
- ♦ Weight: 19 oz. (539g)
- ♦ Power Source: 3 "AAA" batteries (included)

### INCLUDES:

- "K" Type Stem Thermocouple Probe
- Test Leads
- Soft Carrying Case
- Batteries
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.                                                            |
|---------|----------------------------------------------------------------|
| 01369 4 | <b>DAMP68</b>                                                  |
| 01521 6 | <b>ACL10</b> 15A Line Splitter (optional)                      |
| 01639 8 | <b>FX3000</b> 3000 Amp Flex Clamp Adaptor (optional, see p. 7) |

CE

600A  
AC

DAMP60



## AUTO RANGING 600 AMP CLAMP METER – DAMP60

Ideal for general-purpose work.

### FEATURES:

- 7 functions, 19 ranges
- Verifies integrity of diodes and checks circuits for continuity
- Jumbo 3-1/2 digit (2000 count) backlit LCD
- Ergonomic design with rugged rubber housing
- Coil-type clamp jaw
- Autoranging and MAX display options
- Data HOLD and REL (zero) buttons
- Safe for CAT III 600V use
- CE approved

### SPECIFICATIONS:

- ♦ AC Current Measurement Ranges/Accuracy: 0 to 200A/600A /  $\pm(3\% + 5 \text{ digits})$
- ♦ AC Voltage Ranges / Accuracy: 0 to 2V/20V/200V/600V /  $\pm(1\% + 5 \text{ digits})$
- ♦ DC Voltage Ranges / Accuracy: 0 to 200mV/2V/20V/200V/600V /  $\pm(0.8\% + 5 \text{ digits})$
- ♦ Resistance Ranges / Accuracy: 0 to 200 $\Omega$ /2k $\Omega$ /20k $\Omega$ /200k $\Omega$ /2M $\Omega$ /20M $\Omega$  /  $\pm(2\% + 5 \text{ digits})$  or better
- ♦ Frequency Range / Accuracy: 10 to 1999Hz /  $\pm(3\% + 10 \text{ digits})$

- ♦ Max Resolutions: 0.1A, 0.1mV, 0.1 $\Omega$ , 1Hz
- ♦ Clamp Jaw Type / Opening: Coil type / 1.48 in. (37.5mm)
- ♦ Dimensions: 11.25 x 6.13 x 2.75 in. / (286 x 156 x 70mm)
- ♦ Weight: 17 oz. (482g)
- ♦ Power Source: 2 "AAA" batteries (included)

### INCLUDES:

- Test Leads
- Soft Carrying Case
- Batteries
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.                                                            |
|---------|----------------------------------------------------------------|
| 01356 4 | <b>DAMP60</b>                                                  |
| 01521 6 | <b>ACL10</b> 15A Line Splitter (optional)                      |
| 01639 8 | <b>FX3000</b> 3000 Amp Flex Clamp Adaptor (optional, see p. 7) |

# 80 Amp AC/DC Clamp Meter & Accessories

## 80 AMP AC/DC CLAMP METER WITH NCV DETECTION – CM380

Ideal for troubleshooting automotive and process control systems.

### FEATURES:

- 11 functions, 38 ranges
- Measures AC/DC current, AC/DC voltage, resistance, frequency (through the clamp or test leads), capacitance and duty cycle
- Also measures temperature via included “K” type bead thermocouple probe
- Also checks for continuity and diode integrity
- 0.1mV and 1mA maximum resolutions
- Clamp jaw sized for automotive electrical cables
- Auto or manual ranging
- ETL approved for CAT III 600V use
- Backlit 4000-count LCD with 0.5 in. (13mm) high digits
- Built-in non-contact voltage (NCV) detector
- Built-in LED work light

### SPECIFICATIONS:

- ♦ Range / Accuracy / Max. Resolution
  - AC/DC Current: 0 to 80A /  $\pm 2.5\%$  / 1mA
  - AC/DC Voltage: 0 to 600V /  $\pm 1\%$  / 0.1mV
  - Resistance: 0 to 40M $\Omega$  /  $\pm 0.8\%$  / 0.1 $\Omega$
  - Frequency: 10Hz to 10MHz /  $\pm 0.5\%$  typical / 0.001Hz
  - Capacitance: 0 to 40mF /  $\pm 4\%$  / 0.001nF
  - Temperature: -4° to 1832°F (-20° to 1000°C) /  $\pm 3\%$  / 1°

- ♦ Clamp Jaw Opening: 0.95 in. (24mm)
- ♦ Operating Temperature: 14° to 122°F (-10° to 50°C)
- ♦ Dimensions: 8.19 x 3.07 x 1.38 in. (208x78x35mm)
- ♦ Weight (including batteries): 7.6 oz. (215g)
- ♦ Power Source: 3 “AAA” batteries (included)

### INCLUDES:

- Meter
- Double-insulated test leads with screw-on alligator clips
- “K” type bead thermocouple probe and plug adaptor
- Batteries
- Soft pouch
- User’s manual
- 3 year limited warranty

| UPC     | NO.                                                            |
|---------|----------------------------------------------------------------|
| 01684 8 | <b>CM380</b>                                                   |
|         | <b>NISTCM380</b>                                               |
| 01521 6 | <b>ACL10</b> 15A Line Splitter (optional)                      |
| 01639 8 | <b>FX3000</b> 3000 Amp Flex Clamp Adaptor (optional, see p. 7) |



**CM380**  
**N**



## 3000 AMP FLEX CLAMP ADAPTOR – FX3000

FX3000 enables any clamp meter or multimeter to enclose thick or hard-to-reach conductors while increasing its AC current measurement range to up to 3000A.

### FEATURES & SPECIFICATIONS:

- Three Ranges: 0 to 3000A (full-scale), 0 to 300A, 0 to 30A
- Output: 1mVAC/A in 3000A range; 10mVAC/A in 300A range; 100mVAC/A in 30A range
- Accuracy:  $\pm 1\%$  of full-scale value
- Position Error:  $\pm 1\%$  @ 1 in. from conductor;  $\pm 2\%$  @ 2 in.;  $\pm 3\%$  @ 3 in.

- Safety Rating: CAT III 1000V, CAT IV 600V (probe); CAT II 1000V, CAT III 600V (converter)
- Probe Length: 18 in. 458mm); creates 6 in. diameter loop
- Cable Length (probe to converter): 6 ft. (1.8m)
- Input Impedance: 10k $\Omega$ , minimum
- Power Source: (2) “AAA” batteries (included)
- 1-Year Limited Warranty

| UPC     | NO.           |
|---------|---------------|
| 01639 8 | <b>FX3000</b> |



**FX3000**

## 15A AC LINE SPLITTER – ACL10

Makes it possible to attach a clamp meter to a line carrying up to 15 AC Amps without separating its conductors.

### FEATURES:

- Two clamp positions/sensitivities: x1 for direct readings; x10 for low-current measurements
- Includes voltage check outlet

### SPECIFICATIONS:

- ♦ Maximum Line Voltage/Current: 120 VAC/15 Amps
- ♦ Clamp Jaw Opening: 1.0 x 1.0 in.

| UPC     | NO.          |
|---------|--------------|
| 01521 6 | <b>ACL10</b> |



**ACL10**

Indicates optional NIST calibration is available

# Multimeter Comparison Chart

General puts the “Multi” in “Multimeter” with advanced features such as true RMS measurement, microamp ranges and non-contact voltage (NCV) detection



(see page 10)



(see page 10)



(see page 11)



(see page 11)



(see page 13)



(see page 12)

| Model #                                   | DMM570                                                                                                                                                                                                                         | DMM550                                                                                                                                                                                        | DMM45                                                                            | DMM40                                                  | DMM52FSG<br>DMM53FSG                                                                                                                                                                  | DMM30                                                                               |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Name                                      | Rugged True RMS Multimeter with NCV Detection & Lo-Z Mode                                                                                                                                                                      | Rugged True RMS Multimeter with NCV Detection                                                                                                                                                 | Auto Ranging CAT III 600V Digital Multimeter                                     | Manual Ranging CAT III 600V Digital Multimeter         | Rugged Service Multimeters                                                                                                                                                            | 8-Function Digital Multimeter with NCV Detection                                    |
| Figure of Merit                           | 19 functions, 48 ranges                                                                                                                                                                                                        | 18 functions, 48 ranges                                                                                                                                                                       | 8 functions, 25 ranges                                                           | 6 functions, 19 ranges                                 | 8 functions, 31 ranges (DMM52FSG);<br>11 functions, 32 ranges (DMM53FSG)                                                                                                              | 8 functions, 21 ranges                                                              |
| Parameters Measured                       | AC/DC voltage, AC/DC current, resistance, capacitance, frequency, duty cycle, continuity, diode integrity                                                                                                                      | AC/DC voltage, AC/DC current, resistance, capacitance, frequency, duty cycle, continuity, diode integrity                                                                                     | AC/DC voltage, AC/DC current, resistance, diode integrity                        | AC/DC voltage, DC current, resistance, diode integrity | AC/DC voltage, AC/DC current, resistance, continuity, diode integrity, bipolar transistor forward current gain (hFE). DMM53FSG also measures capacitance, frequency, and temperature. | AC/DC voltage, DC current, resistance, continuity, diode integrity, battery voltage |
| Ranging Options                           | Auto/Manual                                                                                                                                                                                                                    | Auto/Manual                                                                                                                                                                                   | Auto                                                                             | Manual                                                 | Manual                                                                                                                                                                                | Manual                                                                              |
| Voltage Range                             | 0 to 1000VDC/750VAC (True RMS)                                                                                                                                                                                                 | 0 to 1000VDC/750VAC (True RMS)                                                                                                                                                                | 0 to 500VAC/VDC                                                                  | 0 to 500VAC/VDC                                        | 0 to 500VAC/VDC                                                                                                                                                                       | 0 to 600VAC/VDC                                                                     |
| Maximum Voltage Resolution                | 10 $\mu$ V                                                                                                                                                                                                                     | 10 $\mu$ V                                                                                                                                                                                    | 0.5mV                                                                            | 0.5mV                                                  | 100 $\mu$ V (DMM52FSG);<br>1mV (DMM53FSG)                                                                                                                                             | 100 $\mu$ V                                                                         |
| DC Voltage Accuracy                       | $\pm 0.8\%$ or better                                                                                                                                                                                                          | $\pm 0.8\%$ or better                                                                                                                                                                         | $\pm 0.5\%$                                                                      | $\pm 1.2\%$                                            | $\pm 0.5\%$                                                                                                                                                                           | $\pm 1\%$                                                                           |
| Overvoltage Protection Level              | 1000V                                                                                                                                                                                                                          | 1000V                                                                                                                                                                                         | 600V                                                                             | 600V                                                   | 1000V                                                                                                                                                                                 | 250VAC/DC                                                                           |
| Safety Rating                             | CAT III 1000V<br>CAT IV 600V                                                                                                                                                                                                   | CAT III 1000V<br>CAT IV 600V                                                                                                                                                                  | CAT III 600V                                                                     | CAT III 600V                                           | CAT III 600V                                                                                                                                                                          | CAT II 600V                                                                         |
| Safety Listing (ETL,UL,CE)                | CE & ETL                                                                                                                                                                                                                       | CE & ETL                                                                                                                                                                                      | CE                                                                               | CE                                                     | CE & ETL                                                                                                                                                                              | CE                                                                                  |
| Current Measurement Range                 | 0 to 10A AC/DC                                                                                                                                                                                                                 | 0 to 10A AC/DC                                                                                                                                                                                | 0 to 200mA AC/DC                                                                 | 0 to 200mA AC/DC                                       | 0 to 10A AC/DC                                                                                                                                                                        | 0 to 10ADC                                                                          |
| Micro Amp Range(s)                        | 0 to 660 $\mu$ A AC/DC                                                                                                                                                                                                         | 0 to 400 $\mu$ A AC/DC                                                                                                                                                                        | 0 to 200 $\mu$ A and<br>0 to 2000 $\mu$ A AC/DC                                  | 0 to 200 $\mu$ A and<br>0 to 2000 $\mu$ A DC           | 0 to 20 $\mu$ A and 0 to 200 $\mu$ A DC (DMM52FSG);<br>0 to 20 $\mu$ A DC (DMM53FSG)                                                                                                  | N/A                                                                                 |
| Non-contact Voltage (NCV) Detection Range | >110VAC                                                                                                                                                                                                                        | >110VAC                                                                                                                                                                                       | N/A                                                                              | N/A                                                    | N/A                                                                                                                                                                                   | >110VAC                                                                             |
| Resistance Range                          | 0 to 66M $\Omega$                                                                                                                                                                                                              | 0 to 40M $\Omega$                                                                                                                                                                             | 0 to 20M $\Omega$                                                                | 0 to 2M $\Omega$                                       | 0 to 200M $\Omega$                                                                                                                                                                    | 0 to 2M $\Omega$                                                                    |
| Capacitance Range                         | 0.001 $\mu$ F to 60,000 $\mu$ F                                                                                                                                                                                                | 0.001 $\mu$ F to 40,000 $\mu$ F                                                                                                                                                               | N/A                                                                              | N/A                                                    | 0 to 100 $\mu$ F (DMM53FSG only)                                                                                                                                                      | N/A                                                                                 |
| Display                                   | Backlit 3-3/4 digit (6,600 count) dual readout LCD                                                                                                                                                                             | Backlit 3-1/2 digit (4,000 count) dual readout LCD                                                                                                                                            | Backlit 3-1/2 digit (2,000 count) LCD                                            | Backlit 3-1/2 digit (2,000 count) LCD                  | Backlit 3-1/2 digit (2,000 count) LCD                                                                                                                                                 | 3-1/2 digit (2000 count) LCD                                                        |
| Display Options                           | Hold, Max, Min, Rel (Zero)                                                                                                                                                                                                     | Hold, Max, Min, Rel (Zero)                                                                                                                                                                    | Hold                                                                             | Hold                                                   | Hold                                                                                                                                                                                  | Hold                                                                                |
| Auto Power Off                            | Yes (30 minutes)                                                                                                                                                                                                               | Yes (30 minutes)                                                                                                                                                                              | No                                                                               | No                                                     | Yes (25 minutes)                                                                                                                                                                      | No                                                                                  |
| Limited Warranty Term                     | 3 years                                                                                                                                                                                                                        | 3 years                                                                                                                                                                                       | 1 year                                                                           | 1 year                                                 | 1 year                                                                                                                                                                                | 3 years                                                                             |
| Other Features                            | Also measures temperature from 32° to 1832°F (0° to 1000°C) with included "K" type probe, 66-segment analog bar graph, IP54 water/dust/oil protection, 6 ft. drop-resistant, Lo-Z mode avoids detection of "ghost" AC voltages | Also measures temperature from 32° to 1832°F (0° to 1000°C) with included "K" type stem thermocouple probe, 40-segment analog bar graph, IP54 water/dust/oil protection, 6 ft. drop-resistant | Also measures temperature from -40° to 752°F with included "K" type thermocouple |                                                        | DMM53FSG also measures frequency, and temperature from -4° to 1832°F (-20° to 1000°C). DMM53FSG includes "K" type probe with -40° to 500°F (-40° to 260°C) range                      | Protected by 250V/10A and 250V/250mA ceramic fuses                                  |





(see page 12)



(see page 11)



(see page 12)



(see page 13)



(see page 13)

| Model #                                      | DMM20                                                                                     | SMT20                                                               | DMM333                                                                      | DMM830HS                                                                                                                   | AM35UL                                   |
|----------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Name                                         | Digital Multimeter                                                                        | Smart Multimeter                                                    | Digital Credit Card Style Multimeter                                        | Economy Digital Multimeter                                                                                                 | Analog Multimeter                        |
| Figure of Merit                              | 7 functions,<br>20 ranges                                                                 | 7 functions,<br>24 ranges                                           | 7 functions,<br>25 ranges                                                   | 7 functions,<br>20 ranges                                                                                                  | 4 functions,<br>13 ranges                |
| Parameters Measured                          | AC/DC voltage, DC current,<br>resistance, continuity, diode<br>integrity, battery voltage | AC/DC voltage, resistance,<br>frequency,<br>capacitance, continuity | AC/DC voltage,<br>AC/DC current, resistance, continuity,<br>diode integrity | AC/DC voltage,<br>DC current, resistance, continuity,<br>diode integrity, bipolar transistor<br>forward current gain (hFE) | AC/DC voltage,<br>DC current, resistance |
| Ranging Options                              | Manual                                                                                    | Auto                                                                | Auto                                                                        | Manual                                                                                                                     | Manual                                   |
| Voltage Range                                | 0 to 600VAC/VDC                                                                           | 0 to 600VAC/VDC                                                     | 0 to 500VAC/VDC                                                             | 0 to 750VAC/1000VDC                                                                                                        | 0 to 500VAC/VDC                          |
| Maximum Voltage Resolution                   | 100 $\mu$ V                                                                               | 1mV                                                                 | 0.5mV                                                                       | 0.5mV                                                                                                                      | 100mV                                    |
| DC Voltage Accuracy                          | $\pm 1\%$ or better                                                                       | $\pm 0.8\%$                                                         | $\pm 0.5\%$                                                                 | $\pm 1.2\%$                                                                                                                | $\pm 2.5\%$                              |
| Overvoltage Protection Level                 | 250VAC/VDC                                                                                | 250VAC/VDC                                                          | 1000VDC, 750VAC                                                             | 1000VAC/DC                                                                                                                 | 500VAC/VDC                               |
| Safety Rating                                | CAT II 600V                                                                               | CAT II 600V                                                         | CAT II 500V<br>CAT III 300V                                                 | CAT II 500V                                                                                                                | CAT II 500V                              |
| Safety Listing (ETL,UL,CE)                   | CE & ETL                                                                                  | CE & ETL                                                            | CE                                                                          | CE                                                                                                                         | UL                                       |
| Current<br>Measurement Range                 | 0 to 10A DC                                                                               | N/A                                                                 | 0 to 200mA AC/DC                                                            | 0 to 10A DC                                                                                                                | 0 to 250mA DC                            |
| Micro Amp Range(s)                           | N/A                                                                                       | N/A                                                                 | 0 to 200 $\mu$ A/2000 $\mu$ A AC/DC                                         | 0 to 200 $\mu$ A DC                                                                                                        | 0 to 500 $\mu$ A DC                      |
| Non-contact Voltage (NCV)<br>Detection Range | N/A                                                                                       | 50 to 600VAC                                                        | N/A                                                                         | N/A                                                                                                                        | N/A                                      |
| Resistance Range                             | 0 to 2M $\Omega$                                                                          | 0 to 20M $\Omega$                                                   | 0 to 20M $\Omega$                                                           | 0 to 2M $\Omega$                                                                                                           | 0 to 1M $\Omega$                         |
| Capacitance Range                            | N/A                                                                                       | 0 to 100 $\mu$ F                                                    | N/A                                                                         | N/A                                                                                                                        | N/A                                      |
| Display                                      | 3-1/2 digit<br>(2,000 count) LCD                                                          | 3-5/6 digit (6,000 count)                                           | 3-1/2 digit<br>(2,000 count) LCD                                            | 3-1/2 digit<br>(2,000 count) LCD                                                                                           | Analog readout                           |
| Display Options                              | N/A                                                                                       | N/A                                                                 | Hold, Max                                                                   | N/A                                                                                                                        | N/A                                      |
| Auto Power Off                               | No                                                                                        | Yes (15 minutes)                                                    | Yes (15 minutes)                                                            | No                                                                                                                         | No                                       |
| Limited Warranty Term                        | 1 year                                                                                    | 1 year                                                              | 1 year                                                                      | 1 year                                                                                                                     | 1 year                                   |
| Other Features                               | Protected by 250V/10A and<br>250V/250mA ceramic fuses                                     |                                                                     |                                                                             | Single-pole ACV test                                                                                                       |                                          |

# Rugged True RMS Multimeters



DMM570



DMM550



## RUGGED TRUE RMS MULTIMETERS WITH NCV DETECTION

### DMM570: w/3-3/4 DIGIT (6,600 COUNT) BACKLIT LCD AND LO-Z MODE

### DMM550: w/ 3-1/2 DIGIT (4,000 COUNT) BACKLIT LCD

Ideal for electrical contractors, HVAC/R technicians and MRO professionals.

#### FEATURES:

- 19 functions, 48 ranges (DMM570); 18 functions, 48 ranges (DMM550)
- Measures AC/DC voltage, AC/DC current, resistance, capacitance, frequency, duty cycle
- Also measures temperature from 32° to 1832°F (0° to 1000°C) with included "K" type stem thermocouple
- Checks continuity and diode integrity
- True RMS measurements
- IP54 water/dust/oil protection
- 6 ft. (1.8m) drop-resistant
- Designed to meet CAT III 1000V, CAT IV 600V safety standard
- Auto or manual ranging
- Non-contact voltage (NCV) detection
- Lo-Z (low-impedance) mode; avoids "ghost" AC voltage readings due to capacitive coupling of voltage from power supply conductors onto adjacent unused conductors (DMM570 only)
- Fast-response analog bar graph at bottom of LCD: 66 segments (DMM570), 40 segments (DMM550)
- Hold, Max, Min, Rel (Zero) display options
- Auto Power Off (can be disabled)
- Magnetic hanging strap (DMM570 only)
- CE approved
- ETL certified
- 3-year limited warranty

#### SPECIFICATIONS:

- ♦ DC Voltage Range / Accuracy: 0 to 1000V /  $\pm 0.5\%$  typical
- ♦ AC Voltage Range / Accuracy: 0 to 750V (True RMS) /  $\pm 1.5\%$  typical
- ♦ DC Current Range / Accuracy: 0 to 10A /  $\pm 1\%$  typical
- ♦ AC Current Range / Accuracy: 0 to 10A /  $\pm 1.5\%$  typical
- ♦ Resistance Range / Accuracy: 0 to 66M $\Omega$  (DMM570), 0 to 40M $\Omega$  (DMM550) /  $\pm 0.8\%$
- ♦ Frequency Range / Accuracy: 0 to 66MHz (DMM570), 0 to 40MHz (DMM550) /  $\pm 1.5\%$
- ♦ Capacitance Range / Accuracy: 0 to 66mF (DMM570), 0 to 40mF (DMM550) /  $\pm 3\%$
- ♦ Temperature Range / Accuracy: 32° to 1832°F (0° to 1000°C) /  $\pm 1\%$
- ♦ Duty Cycle Range / Accuracy: 10 to 95% /  $\pm 2\%$
- ♦ NCV Detection Range: >110VAC
- ♦ Overload Protection Level in Voltage and Current Modes: 1000V
- ♦ Overload Protection Level in Resistance, Frequency, Continuity, Diode Integrity and Capacitance Modes: 250VAC/DC<sub>RMS</sub>
- ♦ Input Impedance: 10M $\Omega$  in all modes (except 400k $\Omega$  in DMM570 Lo-Z mode)
- ♦ Auto Power Off Trigger: 15 minutes of front-panel inactivity
- ♦ Operating Temperature: 32° to 104°F (0° to 40°C)
- ♦ Dimensions: 6.9 x 3.3 x 2.1 in. (176 x 84 x 54mm)
- ♦ Weight: 13.4 oz. (380g)
- ♦ Power Source: 1 "9V" battery (included)

#### INCLUDES:

- "K" Type Stem Thermocouple Probe
- Adaptor for thermocouples with spade lugs
- CAT III 1000V/10A Rated Test Leads with Alligator Clips
- Magnetic Meter Hanging Strap (DMM570 only)
- Cloth Pouch with Belt Loop
- Battery
- User's Manual
- 3-Year Limited Warranty

| UPC     | NO.                                                        |
|---------|------------------------------------------------------------|
| 01683 1 | DMM550<br>NISTDMM550                                       |
| 01642 8 | DMM570<br>NISTDMM570                                       |
| 01639 8 | FX3000 3000 Amp Flex Clamp Adaptor<br>(optional, see p. 7) |



# CAT III 600V & Smart Multimeters

## AUTO RANGING CAT III 600V DIGITAL MULTIMETER – DMM45

Ideal for measuring AC/DC voltage, AC/DC current, resistance and temperature.

### FEATURES:

- 8 functions, 25 ranges
- Measures 1) AC voltage, 2) DC voltage, 3) DC current, 4) AC current, 5) resistance, 6) temperature using included "K" type stem thermocouple probe
- Uses beeper to 7) verify integrity of diodes and 8) check circuits for continuity
- Large 3-1/2 digit (2,000 count) LCD
- 15 minute Auto Power Off and 15 second backlight
- Designed to meet CAT III 600V safety standard
- CE approved
- 1-year limited warranty

### SPECIFICATIONS:

#### ◆ Measurement Ranges/Accuracies:

- AC Voltage: 0 to 500V/±0.8%
- DC Voltage: 0 to 500V/±0.5%
- AC Current: 0 to 200mA/±1.8%
- DC Current: 0 to 200mA/±1.8%
- Resistance: 0 to 20MΩ/±1.5%

- Temperature: -40° to 752°F (-40° to 400°C) / ±(1.2% of reading + 7 digits) from 32° to 212°F (0° to 100°C)

- ◆ Overload Protection Level: 600VAC/DC with internal fuse
- ◆ Operating Temperature: 32° to 122°F (0° to 50°C) @ <75%RH
- ◆ Power Source: (2) "AAA" batteries (included)

### INCLUDES:

- "K" type stem thermocouple probe
- 1 Pair Double-Insulated 20 AWG Test Leads
- Batteries
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.                                                            |
|---------|----------------------------------------------------------------|
| 50123 8 | <b>DMM45</b>                                                   |
| 01639 8 | <b>FX3000</b> 3000 Amp Flex Clamp Adaptor (optional, see p. 7) |



DMM45

## MANUAL RANGING CAT III 600V DIGITAL MULTIMETER – DMM40

### FEATURES:

- 6 functions, 19 ranges
- Measures 1) AC voltage, 2) DC voltage, 3) DC current, 4) resistance
- Uses beeper to 5) verify integrity of diodes and 6) check circuits for continuity
- Large backlit 3-1/2 digit (2,000 count) LCD
- Designed to meet CAT III 600V safety standard
- CE approved

### SPECIFICATIONS:

#### ◆ Measurement Ranges/Accuracies:

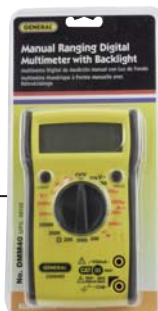
- AC Voltage: 0 to 500V/±2.5%
- DC Voltage: 0 to 500V/±1.2%
- DC Current: 0 to 200mA/±1.8%
- Resistance: 0 to 2MΩ/±1.5%

- ◆ Overload Protection Level: 600VAC/DC with internal fuse
- ◆ Operating Temperature: 32° to 122°F (0° to 50°C) @ <75%RH
- ◆ Power Source: 1 "9V" battery (included)

### INCLUDES:

- Battery
- 1 pair double-insulated 20 AWG test leads with 1A (max) rating
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.                                                            |
|---------|----------------------------------------------------------------|
| 50122 1 | <b>DMM40</b>                                                   |
| 01639 8 | <b>FX3000</b> 3000 Amp Flex Clamp Adaptor (optional, see p. 7) |



DMM40

## SMART MULTIMETER – SMT20

Automatically measures voltage or resistance based on input.  
Ideal for basic troubleshooting.

### FEATURES:

- 7 functions, 24 ranges
- Measures AC/DC voltage, resistance, frequency and capacitance
- Also checks circuits for continuity
- Non-contact voltage (NCV) detector
- ETL certified safe for CAT II 600V use
- Auto ranging
- 3-5/6 digit (6000 count) LCD
- Auto Power Off • Low battery indication

### SPECIFICATIONS:

- ◆ AC Voltage Range / Accuracy: 0 to 600V / ±1%
- ◆ DC Voltage Range / Accuracy: 0 to 600V / ±0.8%
- ◆ Resistance Range / Accuracy: 0 to 10MΩ / ±2% typical

- ◆ Frequency Range / Accuracy: 1Hz to 100kHz / ±1%
- ◆ Capacitance Range / Accuracy: 1nF to 100μF / ±5% typical
- ◆ NCV Detection Range: 50 to 600VAC
- ◆ Operating Temperature: 32° to 104°F (0° to 40°C) @ <75%RH
- ◆ Power Source: (2) LR44 or equivalent button batteries (included)

### INCLUDES:

- Meter
- Fixed (non-detachable) test leads
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.          |
|---------|--------------|
| 01724 1 | <b>SMT20</b> |



SMT20



# Digital Multimeters



DMM30

## 8-FUNCTION DIGITAL MULTIMETER WITH NCV DETECTION – DMM30

Ideal for making basic electrical measurements safely.

### FEATURES:

- 8 functions, 21 ranges
- Measures AC/DC voltage, DC current and resistance
- Also checks continuity, diode integrity and battery voltage
- Non-contact voltage (NCV) detection
- ETL certified safe for CAT II 600V use
- Jumbo 3-1/2 digit (2000 count) LCD with 7/8 in. (22mm) high digits
- Powered by “9V” battery (included)
- Low battery indication

### SPECIFICATIONS:

- ♦ AC/DC Voltage Range / Accuracy: 0 to 600V /  $\pm 1.0\%$
- ♦ DC Current Range / Accuracy: 0 to 10A /  $\pm 0.8\%$  typical

- ♦ Resistance Range / Accuracy: 0 to  $2M\Omega$  /  $\pm 0.8\%$
- ♦ Max Resolutions: 0.1mV, 1 $\mu$ A, 0.1 $\Omega$
- ♦ Display: 3-1/2 digit (1999 count) LCD
- ♦ Dimensions: 7.40 x 3.66 x 1.97 in. (188 x 93 x 50mm)
- ♦ Weight (including battery): 13.4 oz. (380g)
- ♦ Power Source: “9V” battery (included)

### INCLUDES:

- Meter
- Double-insulated test leads
- Battery
- User's Manual
- 3 Year Limited Warranty

| UPC     | NO.   |
|---------|-------|
| 01731 9 | DMM30 |



DMM20

## DIGITAL MULTIMETER – DMM20

Ideal for making basic measurements safely.

### FEATURES:

- 7 functions, 20 ranges
- Measures AC/DC voltage, DC current, resistance
- Also checks for continuity and diode integrity
- Includes 1.5V & 9V battery test positions
- Large LCD
- Safety-recessed test lead sockets
- High-impact thermoplastic case
- ETL approved

### RANGES / ACCURACIES:

- ♦ AC Voltage Measurement Range / Accuracy: 0 to 600V /  $\pm 1.2\%$
- ♦ DC Voltage Measurement Range / Accuracy: 0 to 600V /  $\pm 1\%$
- ♦ DC Current Measurement Range / Accuracy: 0 to 10A /  $\pm 2\%$
- ♦ Resistance Measurement Range / Accuracy: 0 to  $2M\Omega$  /  $\pm 1.2\%$

- Max Resolutions: 0.1mV, 100 $\mu$ V, 0.1 $\Omega$
- Display: 3-1/2 digit (1999 count) LCD
- Dimensions: 5.0 x 2.8 x 1.0 in. (126 x 70 x 26mm)
- Weight: 4.4 oz. (125g)
- Power Source: 1 “9V” battery (included)

### INCLUDES:

- Meter
- Test Leads
- Battery
- Soft Pouch
- User's Manual
- 1 Year Limited Warranty

| UPC     | NO.   |
|---------|-------|
| 01701 2 | DMM20 |



DMM333



## DIGITAL CREDIT CARD STYLE MULTIMETER – DMM333

Ideal for technicians on the go. Fits in shirt pocket.

### FEATURES:

- 7 functions, 25 ranges
- Measures AC/DC voltage, AC/DC current, resistance
- Also checks for continuity and diode integrity
- Auto ranging
- Large 2000-count LCD
- Data hold + max hold
- Low battery indicator
- Auto power off

### SPECIFICATIONS:

- ♦ AC Voltage Range/Accuracy: 0 to 500V/ $\pm(0.8\% + 1 \text{ digit})$
- ♦ DC Voltage Range/Accuracy: 0 to 500V/ $\pm(0.5\% + 5 \text{ digits})$
- ♦ AC/DC Current Range/Accuracy: 0 to 200mA/ $\pm(1.8\% + 5 \text{ digits})$

- ♦ Resistance Range/Accuracy: 0 to  $20M\Omega$ / $\pm(0.8\% + 5 \text{ digits})$  <  $1M\Omega$ ,  $\pm(2\% + 5 \text{ digits})$  >  $1M\Omega$
- ♦ Input Impedance (in DCV mode):  $10M\Omega$
- ♦ Operating Temperature: 32° to 140°F (0° to 60°C) @ <75%RH
- ♦ Dimensions: 4.5 x 2.3 x 0.5 in. (115 x 58 x 12mm)
- ♦ Weight: 3 oz. (84g)
- ♦ Power Source: 2 “LR44” batteries (included)

### INCLUDES:

- Test Leads
- Batteries
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.    |
|---------|--------|
| 50105 4 | DMM333 |

# Digital & Analog Multimeters

## RUGGED SERVICE MULTIMETERS – DMM52FSG & DMM53FSG

Ideal for heavy-duty and general-purpose use. A microamp range is essential for measuring flame rod current.

### FEATURES:

- 8 functions, 31 ranges (DMM52FSG); 11 functions, 32 ranges (DMM53FSG)
- Measures AC/DC voltage, AC/DC current, resistance, bipolar transistor forward current gain (hFE)
- Also measures capacitance, frequency, temperature using included "K" type bead thermocouple probe (DMM53FSG only)
- 0 to 20 $\mu$ ADC and 0 to 200 $\mu$ ADC ranges (DMM52FSG) / 0 to 20 $\mu$ ADC range (DMM53FSG) for measuring flame rod current
- Checks continuity and diode integrity
- IP54 water/oil/dust protection
- 6.6 ft. (2m) drop-resistant
- ETL approved CAT III 600V safety rating
- Jumbo 3-1/2 digit (2000 count) LCD with 0.95 in. (24mm) high digits
- 25-minute Auto Power Off
- Powered by "9V" battery (not included)
- Low battery indication

### RANGES / ACCURACIES:

- ♦ Range / Accuracy / Max. Resolution
- AC/DC Current: 0 to 80A /  $\pm 2.5\%$  typical / 1mA
- AC/DC Voltage: 0 to 600V /  $\pm 1\%$  typical / 0.1mV
- Resistance: 0 to 40M $\Omega$  /  $\pm 0.8\%$  typical / 0.1 $\Omega$
- Frequency (DMM53FSG only): 10Hz to 10MHz /  $\pm 0.5\%$  typical / 0.001Hz
- Capacitance (DMM53FSG only): 0 to 40mF /  $\pm 4\%$  typical / 0.001nF
- Temperature (DMM53FSG only): -4° to 1832°F (-20° to 1000°C) /  $\pm 2\%$  / 1°

### INCLUDES:

- Meter
- "K" type probe with -40° to 500°F range (DMM53FSG only)
- 1000V/10A-rated double-insulated test leads
- Multi-function plug adaptor for bipolar transistors
- User's Manual • 1 Year Limited Warranty

| UPC     | NO.                      |
|---------|--------------------------|
| 01703 6 | DMM52FSG<br>NISTDMM52FSG |
| 01720 3 | DMM53FSG<br>NISTDMM53FSG |



DMM52FSG  
DMM53FSG

## ECONOMY DIGITAL MULTIMETER – DMM830HS

Ideal for bench work.

### FEATURES:

- 7 functions, 20 ranges
- Measures AC/DC voltage, DC current, resistance, bipolar transistor forward current gain (hFE)
- Also checks for continuity and diode integrity
- 3-1/2-digit (1999 count) LCD

### SPECIFICATIONS:

- ♦ AC Voltage Range/Accuracy: 0 to 750V/ $\pm(1.2\% + 10 \text{ digits})$  or better
- ♦ DC Voltage Range/Accuracy: 0 to 1000V/ $\pm(1.2\% + 2 \text{ digits})$  or better
- ♦ DC Current Range/Accuracy: 0 to 10A/ $\pm(2\% + 2 \text{ digits})$  or better
- ♦ Resistance Range/Accuracy: 0 to 2M $\Omega$ / $\pm(1\% + 2 \text{ digits})$

- ♦ Input Impedance: 10M $\Omega$  for all ranges
- ♦ hFE Measurement Range: 0 to 1000
- ♦ Display Digit Height: 0.5 in. (13mm)
- ♦ Operating Temperature: 32° to 122°F (0° to 50°C) @ <80%RH
- ♦ Dimensions: 5.2 x 2.8 x 1.0 in. (132 x 70 x 25mm)
- ♦ Weight: 4.9 oz. (138.9g)
- ♦ Power Source: 1 "9V" battery (included)

### INCLUDES:

- Test leads • Battery • User's Manual
- 1-Year Limited Warranty

| UPC     | NO.                                                     |
|---------|---------------------------------------------------------|
| 50100 9 | DMM830HS                                                |
| 01639 8 | FX3000 3000 Amp Flex Clamp Adaptor (optional, see p. 7) |



DMM830HS

## ANALOG MULTIMETER – AM35UL

Old-school meter still gets the job done.

### FEATURES:

- 4 functions, 13 ranges
- Measures AC/DC voltage, DC current, resistance
- Fuse and diode protected
- UL listed

### SPECIFICATIONS:

- ♦ AC/DC Voltage Measurement Range: 0 to 500V
- ♦ DC Current Measurement Range: 0 to 250mA
- ♦ Resistance Measurement Range: 0 to 1M $\Omega$
- ♦ Dimensions: 4 x 2.5 x 0.75 in. (102 x 64 x 19mm)
- ♦ Weight: 2.75 oz. (78g)
- ♦ Power Source: 1 "AA" battery (included)

### INCLUDES:

- Test leads
- Battery
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.    |
|---------|--------|
| 50005 7 | AM35UL |



AM35UL



# ELECTRICAL

## Test Leads



TL360W

### ALL WEATHER TEST LEADS – TL360W

Ideal for cold weather.

#### FEATURES:

- Flexible soft leads
- Medium alligator clips with insulated boots
- 1-Year Warranty

#### SPECIFICATIONS:

- ♦ Maximum Current: 10A
- ♦ Maximum Voltage: 300V
- ♦ Lead Thickness: 18 Gauge
- ♦ Length: 3 ft. (914mm)
- ♦ Weight: 4.2 oz. (118g)

| UPC     | NO.    |
|---------|--------|
| 51135 0 | TL360W |



TL13

### TEST LEADS WITH HARD POINT – TL13

#### FEATURES:

- Comfort-grip probe with PVC-insulated leads
- Safety-shrouded, right-angle plugs
- CAT III 1000V, CAT IV 600V, 10A rating
- 1-Year Warranty

| UPC     | NO.  |
|---------|------|
| 01344 1 | TL13 |



TL108

### TEST LEADS – TL108

#### FEATURES:

- One pair PVC-insulated leads with right-angle plugs
- CAT III 1000V, CAT IV 600V, 10A rating
- 1-Year Warranty

| UPC     | NO.   |
|---------|-------|
| 01351 9 | TL108 |



TL20K

### TEST LEADS – TL20K

#### FEATURES:

- Includes 2 each: alligator clips, industrial test grip, right-angle silicon test leads
- CAT III 1000V, CAT IV 600V, 10A rating
- 1-Year Warranty

| UPC     | NO.   |
|---------|-------|
| 01350 2 | TL20K |



ETL111

### ALLIGATOR CLIP SET 1000V – ETL111

#### FEATURES:

- 1 pair alligator clips with boots
- CAT III 1000V, CAT IV 600V, 10A rating
- 1-Year Warranty

| UPC     | NO.    |
|---------|--------|
| 01348 9 | ETL111 |



# Test Leads/Starter Switch

## TEST CORD (MALE) – CT600M

Brings power to areas without a 110V outlet.

### FEATURES:

- Red and black heavy duty boots
- Large clips
- 2 wire
- 1-Year Warranty

### SPECIFICATIONS:

- ♦ Maximum Current: 13A
- ♦ Maximum Voltage: 125V
- ♦ ASWG: 16
- ♦ Length: 6 ft. (1.83m)
- ♦ Weight: 8 oz. (227g)

| UPC     | NO.    |
|---------|--------|
| 50601 1 | CT600M |



CT600M

## TEST CORD (FEMALE) – CT700F

Brings power to areas without a 110V outlet.

### FEATURES:

- Red and black heavy duty boots
- Large clips
- 3 wire
- Brings power to remote areas without 110V outlet
- 1-Year Warranty

### SPECIFICATIONS:

- ♦ Maximum Current: 13A
- ♦ Maximum Voltage: 125V
- ♦ ASWG: 16
- ♦ Length: 2 ft. (610mm)
- ♦ Weight: 5.7 oz. (163g)

| UPC     | NO.    |
|---------|--------|
| 51095 7 | CT700F |



CT700F

## MULTI-COLORED TEST LEADS – CT800

Handy set of jumpers.

### FEATURES:

- 10 alligator-clip leads: 2 each white, red, black, yellow and green
- 1-Year Warranty

### SPECIFICATIONS:

- ♦ Maximum Voltage: 300V
- ♦ ASWG: 22
- ♦ Length: 18 in. (457mm)
- ♦ Weight: 2.9 oz. (82g)

| UPC     | NO.   |
|---------|-------|
| 51105 3 | CT800 |



CT800

## STANDARD TEST LEADS – TL100

Ideal for use as AC jumpers.

### FEATURES:

- 3 ft. long
- 1 each Red & Black
- 1-Year Warranty

### SPECIFICATIONS:

- ♦ Maximum Current: 10A
- ♦ Maximum Voltage: 300V
- ♦ ASWG: 16
- ♦ Length: 3 ft. (914mm)
- ♦ Weight: 1.9 oz. (54g)

| UPC     | NO.   |
|---------|-------|
| 51125 1 | TL100 |



TL100

## STARTER SWITCH 16/2, 20 AMP, PUSH BUTTON (UL SWITCH) – SSC6

Quickly hooks up motors/machinery for testing.

### FEATURES:

- Red and black heavy duty boots
- Large clips
- Replaces any C-6 start switch
- 1-Year Warranty

### SPECIFICATIONS:

- ♦ Maximum Current: 15A
- ♦ ASWG: 16/2
- ♦ Length: 2 ft. (610mm)
- ♦ Weight: 8.3 oz. (240g)

| UPC     | NO.  |
|---------|------|
| 51145 9 | SSC6 |

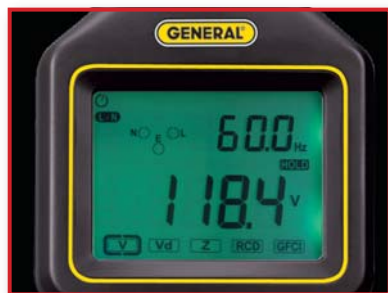


SSC6

# Circuit Analyzer



CA10



LCD is backlit for easy reading  
in dark places

## AC CIRCUIT ANALYZER – CA10

Ideal for identifying 110VAC power circuit and wiring problems that can cause overheating, short circuits, fires, equipment failures and poor equipment performance. Also checks performance of ground fault circuit interrupter (GFCI) outlets and residual current devices (RCDs).

### FEATURES:

- Measures a branch circuit's line voltage, peak voltage and neutral-to-ground voltage
- Calculates a circuit's voltage drop in response to 12A, 15A and 20A loads
- Measures the impedance of hot, neutral and ground conductors as well as available short-circuit current (ASCC)
- Identifies wiring configurations and detects wiring faults and missing ground wires
- Tests the reliability and response time of GFCI outlets and RCDs
- Displays True RMS readings of all voltages except peak voltages
- Works with 2- and 3-phase circuits
- Jumbo LCD with 30-second backlight
- Familiar menu/sub-menu operation
- Data HOLD button and 30-minute auto power off
- 3-year limited warranty

### SPECIFICATIONS:

- ♦ Line Voltage Measurement Range/Accuracy: 85 to 265VAC/± (1.0%+ 0.2V)
- ♦ Peak Voltage Measurement Range/Accuracy: 121 to 374VAC/± (1.0%+ 0.2V)
- ♦ Line Frequency Measurement Range/Accuracy: 45 to 65 Hz/± (1.0%+ 0.2Hz)
- ♦ Voltage Drop Measurement Range/Accuracy: 0.1 to 99.9%/ ±(2.5%+0.2%)

- ♦ Load Voltage Measurement Range/Accuracy: 10 to 265V/ ±(2.5%+0.2V)
- ♦ Neutral-to-Earth Voltage Measurement Range/Accuracy: 0 to 10VAC/±(2.5%+0.2V)
- ♦ Hot, Neutral and Ground Line Impedance Measurement Range/Accuracy: 0 to 3Ω/ ±(2.5%+0.02Ω)
- ♦ RCD Triggering Time Measurement Range/Accuracy: 1ms to 6.5 seconds/ ±(1.0% +2ms)
- ♦ RCD Triggering Current Measurement Range/Accuracy: 30 to 37mA/ ±(1.0% +0.2mA)
- ♦ GFCI Triggering Time Measurement Range/Accuracy: 1ms to 6.5 seconds/ ±(1.0% +2ms)
- ♦ Operating/Storage Temperature: 32° to 122°F (0° to 50°C) @ <80% RH
- ♦ Dimensions: 7.6 x 3.1 x 1.5 in. (193 x 78 x 39mm)
- ♦ Weight (without Batteries): 10.4 oz. (295g)
- ♦ Power Source: 6 "AAA" batteries (included)

### INCLUDES:

- 12 AWG, 20 in. (0.5m) Long Test Cable
- Batteries
- Soft Carrying Case
- User's Manual
- 3-Year Limited Warranty

| UPC     | NO.  |
|---------|------|
| 01566 7 | CA10 |

### Specifications:

| Parameter                              | Measurement Range                     | Measurement Accuracy | Display Resolution |
|----------------------------------------|---------------------------------------|----------------------|--------------------|
| Line Voltage                           | 85 to 265VAC                          | ± 1.0% ± 0.2V        | 0.1V               |
| Peak Voltage                           | 121 to 374VAC                         | ± 1.0% ± 0.2V        | 0.1V               |
| Line Frequency                         | 45 to 65 Hz                           | ± 1.0% ± 0.2Hz       | 0.1Hz              |
| Voltage Drop                           | 0.1 to 99.9%                          | ± 2.5% ± 0.2%        | 0.1%               |
| Load Voltage                           | 10 to 265V                            | ± 2.5% ± 0.2V        | 0.1V               |
| Neutral-to-Earth Voltage               | 0 to 10VAC                            | ± 2.5% ± 0.2V        | 0.1V               |
| Hot, Neutral and Ground Line Impedance | 0 to 3Ω<br>>3Ω                        | ± 2.5% ± 0.02Ω<br>NA | 0.01Ω              |
| GFCI Triggering Time                   | 1ms to 6.5 sec.                       | ± 1.0% ± 2ms         | 1ms                |
| RCD Triggering Time                    | 1ms to 6.5 sec.                       | ± 1.0% ± 2ms         | 1ms                |
| RCD Triggering Current                 | 30 to 37mA                            | ± 1.0% ± 0.2mA       | 0.1mA              |
| Operating/Storage Temperature          | 32° to 122°F (0° to 50°C) @ <80% RH   |                      |                    |
| Dimensions                             | 7.6 x 3.1 x 1.5 in. (193 x 78 x 39mm) |                      |                    |
| Weight (without Batteries)             | 10.4 oz. (295g)                       |                      |                    |



The short test cable improves  
voltage-drop measurement accuracy

## CABLE AND PIPE LOCATOR – CL10

Ideal for pinpointing the location of electrical cables and metal, water, or gas pipes behind walls, above ceilings or under floors. Can also trace circuits, detect open- and short-circuits, find outlets covered by plaster, identify a circuit's breaker, and locate blockages in plastic pipes.

### FEATURES:

- Makes it safe to break through any wall by revealing and locating hidden infrastructure up to 6.6 ft. (2m) behind it
- Eliminates need to find and read construction drawings before starting a job
- Transmitter and receiver communicate on any of eight channels and display readings on a big, bright, multi-function graphic LCD. Both units also include a flashlight (for illuminating dark areas) and a buzzer that can be muted.
- Makes it easy to identify the breaker associated with an energized or de-energized AC outlet
- Transmitter can also operate as an AC/DC voltmeter with a range of 12 to 600V
- Transmitter has three power levels; receiver has variable sensitivity
- Receiver's display can be backlit
- Compatible with one- or two-pole circuits
- Second transmitter is available to make locating short-circuits and cable leaks more accurate
- Used with a metal rod, system can locate blockages and constrictions in plastic pipes
- Transmitter is powered by one 9V battery; receiver by 6 "AAA" batteries
- 3-year limited warranty

### SPECIFICATIONS:

#### Transmitter

- ♦ Output Frequency: 125 kHz
- ♦ Measurement Range/Accuracy in Voltmeter Mode: 12 to 600VDC or VAC (@60Hz)/±2.5%
- ♦ Display: LCD, with function display and column chart
- ♦ Overvoltage Rating: CAT III 300V
- ♦ Current Consumption: 31mA (min), 115mA (max)
- ♦ Operating Temperature: 32° to 104°F (0° to 40°C) @ 80%RH
- ♦ Dimensions: 7.5 x 3.5 x 1.7 in. (190 x 89 x 42.5mm)

- ♦ Weight: Without battery: 12.7 oz. (360g)  
With battery: 14.8 oz. (420g)
- ♦ Power Source: 1 "9V" battery (included)
- Receiver**
- ♦ Tracking Depth (max): In cable locating mode: 2m for one-pole circuit, 0.5m for two-pole circuit, 2.5m for single-loop line; in grid voltage identification mode: 0.4m
- ♦ Display: LCD, with function display and column chart
- ♦ Current Consumption: 32mA (min), 89mA (max)
- ♦ Operating Temperature: 32° to 104°F (0° to 40°C) @ <80%RH
- ♦ Dimensions: 9.5 x 3.1 x 1.5 in. (242 x 78 x 39mm)
- ♦ Weight: Without batteries: 9.9 oz. (280g)  
With batteries: 12.3 oz. (350g)
- ♦ Power Source: 6 "AAA" batteries (included)

### INCLUDES:

- Transmitter
- Receiver and 1 Pair of 5 ft. (1.5m) Long Red and Black Test Leads with Attachable Test Probes and Alligator Clips
- Grounding Rod
- Soft Carrying Case
- Batteries
- User's Manual
- 3-Year Limited Warranty

| UPC     | NO.  |
|---------|------|
| 01564 3 | CL10 |



DURABLE, SOFT  
CANVAS  
CARRYING CASE



TRANSMITTER

CL10



RECEIVER



Tracing a cable behind a wall



Locating a circuit breaker



Includes: A Grounding Rod and 1 set of 5 ft. (1.5m) long Red and Black Test Leads with 1 pair each attachable Test Probes and Alligator Clips



# Breaker Finder & Wood/Metal Detectors



RECEIVER

TRANSMITTER/  
SOCKET TESTER

BF20

## CIRCUIT BREAKER FINDER WITH NCV DETECTOR & GFCI OUTLET CHECKER – BF20

### FEATURES:

- Locates the breaker or fuse associated with any 110V outlet without tripping the breaker or blowing the fuse. Fully automatic operation turns two-man jobs into one-man jobs.
- Indicates five common outlet wiring faults in ground fault circuit interrupter (GFCI) and non-GFCI outlets
- Checks the functioning of GFCI circuits
- Uses audible (beeper) and visual (LED) indications to safely (in non-contact fashion) detect "hot" (energized) outlets, lines and cables
- Bright white LED work light
- Designed to safety standard IEC 61010-1

- ♦ NCV Detection Distance: 0.25 in. (6.2mm), max
- ♦ Operating Temperature: 32° to 122°F (0° to 50°C)
- ♦ Dimensions: Transmitter: 2.8 x 2.5 x 2.3 in. (71 x 64 x 58mm); Receiver: 7.4 x 1.8 x 1.5 in. (188 x 46 x 38mm)
- ♦ Weight: Transmitter: 2.1 oz. (60g); Receiver: 4.3 oz. (122g)

### INCLUDES:

- Battery
- User's Manual
- 3-Year Limited Warranty

| UPC     | NO.  |
|---------|------|
| 01606 0 | BF20 |



### SPECIFICATIONS:

- ♦ Safety Rating: CAT II 125V (transmitter)
- ♦ Outlet Wiring Indications: Correct wiring, Open ground, Open neutral, Open hot wire, Hot wire & ground reversed, Hot wire & neutral reversed, Open circuit

## 3-IN-1 STUD/VOLTAGE/METAL DETECTOR – MSV100

Locates wood studs and joists and metal cables and pipes behind walls or inside furniture. Also detects energized AC outlets and "live" wires behind walls or ceilings. Ideal for building contractors, carpenters, plumbers, HVAC/R specialists, home inspectors, electricians, realtors, home owners and interior decorators.

### FEATURES:

- Automatically compensates for wall thickness in all three detection modes
- In AC voltage mode, automatically compensates for distance to live wire
- Center arrow and beeper pinpoint edges
- Visual and audible indications
- Marking slot on top of unit
- Big, bright backlit LCD

- ♦ Operating Temperature: 40° to 104°F (5° to 40°C)
- ♦ Dimensions: 7.1 x 3.0 x 1.2 in. (180 x 75 x 30mm)
- ♦ Weight: 7.3 oz. (207g)
- ♦ Power Source: "9V" battery (included)

### INCLUDES:

- Battery
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.    |
|---------|--------|
| 01710 4 | MSV100 |



MSV100

### SPECIFICATIONS:

- ♦ Maximum Wall Thickness for Wood Detection: 3/4 in. (19mm)
- ♦ Maximum Detection Range for Iron or Copper Pipe: 1.5 in. (38mm)
- ♦ Maximum Detection Range for AC Voltage: 2 in. (50mm)



MSV350D



## DIGITAL 3-IN-1 LCD STUD/VOLTAGE/METAL DETECTOR – MSV350D

Ideal for locating studs, pipes, wires carrying voltage and hidden metal.

### FEATURES:

- Uses LCD scanning indicators and buzzer to indicate direction and position of stud, batten, metal object or wiring
- Uses variable sensitivity to distinguish between metal pipes/tubes and hot wires
- Also distinguishes between battens and studs
- Simultaneously detects studs and metal/wiring
- Needs no probe
- Battery charge indicator
- Auto power off

| UPC      | NO.     |
|----------|---------|
| 012175 8 | MSV350D |



### SPECIFICATIONS:

- ♦ Dimensions: 6.1 x 2.6 x 1.3 in. (155 x 65 x 32mm)
- ♦ Weight: 6.5 oz. (185g)
- ♦ Power Source: 1 "9V" battery (not included)
- ♦ Warranty: 1 year (limited)

### INCLUDES:

- User's Manual
- 1 Year Limited Warranty

# Non-Contact Voltage Detectors

## NON-CONTACT VOLTAGE DETECTOR WITH ADJUSTABLE SENSITIVITY – VS4000

Provides a safe (non-contact) way to check whether an electric line or cable or AC outlet is “hot” (energized).

### FEATURES:

- Beeper sounds and red LED flashes when voltage is detected
- Wide voltage range
- Adjustable sensitivity takes the guesswork out of identifying the “hot” wire of a bundle
- Safe for CAT IV 1000V use
- ETL approved
- Built-in bright white LED flashlight
- Pocket clip

- ♦ Weight (with batteries): 1.8 oz. (55g)
- ♦ Power Source: 2 “AAA” batteries (included)

### INCLUDES:

- Batteries
- User's Manuals
- 1-Year Limited Warranty

| UPC     | NO.    |
|---------|--------|
| 01723 4 | VS4000 |



VS4000

### SPECIFICATIONS:

- ♦ Detection Range: 5 to 1000VAC @ 50 to 400Hz
- ♦ Detection Distance: 2.5 in. (64mm) max
- ♦ Power Source: 2 “AAA” batteries (included)
- ♦ Operating Temperature: 32° to 104°F (0° to 40°C) @ <85% RH
- ♦ Dimensions: 6.1 x 1.3 x 1.1 in. (154 x 32 x 28mm)

## AUDIBLE/VISUAL NON-CONTACT VOLTAGE DETECTOR, ETL CERTIFIED – VS3000A

Ideal for safely detecting energized wires and the hot side of AC outlets.

### FEATURES:

- Beeper sounds and LED lights when voltage is detected
- Safe for CAT III 1000V use
- ETL certified
- Automatic battery check function

Certified to CAN/CSA C22.2  
Nos. 61010-1 and 61010-2-030

- ♦ Dimensions: 6.0 x 1.1 x 0.9 in. (152 x 27 x 23.5mm)
- ♦ Weight (with batteries): 1.4 oz. (39g)
- ♦ Power Source: 2 “AAA” batteries (included)

### INCLUDES:

- Batteries
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.     |
|---------|---------|
| 51000 1 | VS3000A |



VS3000A

### SPECIFICATIONS:

- ♦ Detection Range: 70 to 1000V @ 50 to 500Hz
- ♦ Operating Temperature: 32° to 104°F (0° to 40°C) @ <85% RH
- ♦ Regulatory Compliance: ETL certified  
Conforms to UL 61010-1 and 61010-2-030

## NON-CONTACT VOLTAGE DETECTOR WITH ADJUSTABLE SENSITIVITY AND 4:1 IR THERMOMETER – VR40

Enables anyone to check in a safe (non-contact) way whether a line, cable or AC outlet is “hot” (energized).

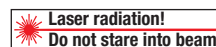
### FEATURES:

- Beeper sounds and red LED flashes when voltage is detected
- Unique adjustable sensitivity feature enables accurate non-contact detection of voltage on 12VAC to 480VAC branch circuits and makes individual live wires in bundles easier to isolate
- Safe for CAT III 600V use
- Also checks 110VAC outlets for wiring faults
- 4:1 IRT with measurement range of -4° to 626°F (-20° to 330°C)
- 4-digit (2000 count) LCD temperature readout in °F or °C
- Powerful built-in LED flashlight
- 15-second Auto Power Off (APO)
- Pocket clip on back

### SPECIFICATIONS:

- ♦ Four Detection Ranges: 12 to 25VAC, 70 to 125VAC, 150 to 240VAC, 250 to 600VAC @ 50/60Hz
- ♦ Overall Voltage Detection Range: 12 to 600VAC @ 50/60Hz
- ♦ Max Non-contact Detection Distance: 0.25 in. (6.2mm)
- ♦ IRT Measurement Accuracy: ±3.8°F (2°C) or ±1% of reading (whichever is greater) above 32°F
- ♦ IRT Emissivity: Fixed at 0.95
- ♦ IRT Laser Power: <1mW (Class 2)
- ♦ Operating Temperature: 32° to 113°F (0° to 45°C)
- ♦ Dimensions: 6.0 x 1.2 x 1.2 in. (152 x 31 x 31mm)
- ♦ Weight (with batteries): 7.8 oz. (220g)
- ♦ Power Source: 2 “AAA” (LR03) batteries (included)

| UPC     | NO.  |
|---------|------|
| 01634 3 | VR40 |



VR40

Indicates optional NIST calibration is available

# ELECTRICAL

## Circuit Testers



CT101

### LINE VOLTAGE TESTER – CT101

Ideal for checking outlet wiring.

#### FEATURES

- Visual indication of AC or DC voltage
- Easy to use
- UL approved
- Insulated housing
- Pocket clip on back



#### SPECIFICATIONS

- ♦ Voltage Detection Range: 80 to 500VAC/DC
- ♦ Maximum Current: 0.3A @ 50/60Hz
- ♦ Safety Rating: CAT III 600V
- ♦ Lead Thickness: 18 AWG
- ♦ Weight: 0.6 oz. (17g)
- ♦ Operating Temperature: 41° to 104°F (5° to 40°C) @ <80%RH (<60%RH above 88°F/31°C)

| UPC     | NO.   |
|---------|-------|
| 51025 4 | CT101 |



CT102

### LOW VOLTAGE LINE TESTER – CT102

Ideal for checking doorbell transformers and low voltage relays.

#### FEATURES

- Visual indication of AC or DC voltage
- Versatile alligator clip leads with boots
- ETL approved
- Double insulated housing and leads
- Pocket clip on back

#### SPECIFICATIONS

- ♦ Voltage Detection Range: 5 to 50V AC/DC
- ♦ Maximum Current: 5A
- ♦ Safety Rating: CAT I
- ♦ Lead Thickness: 20 AWG
- ♦ Operating Temperature: 41° to 104°F (5° to 40°C) @ <85%RH (decreasing linearly to <50%RH at 104°F/40°C)
- ♦ Weight: 0.6 oz. (17g)

| UPC     | NO.   |
|---------|-------|
| 51035 3 | CT102 |



CT103

### MULTI-VOLTAGE LINE TESTER – CT103

Checks for voltage levels and hot wires.

#### FEATURES

- Different visual indications of eight common voltages—four AC and four DC
- UL approved
- Double-insulated housing and leads
- Self-storing leads
- Pocket clip on back



#### SPECIFICATIONS

- ♦ Working Voltages: 110V, 220V, 277V and 460V (AC or DC)
- ♦ Maximum Current: 0.3A @ 50/60Hz
- ♦ Safety Rating: CAT II 600V
- ♦ Lead Thickness: 20 AWG
- ♦ Operating Temperature: 41° to 104°F (5° to 40°C) @ <80%RH
- ♦ Weight: 2.6 oz. (74g)

| UPC     | NO.   |
|---------|-------|
| 51045 2 | CT103 |



CT300



GF1302

### 3 WIRE CIRCUIT ANALYZER – CT300

### 3 WIRE RECEPTACLE TESTER WITH GFCI – GF1302

Ideal for checking wall outlets.

#### FEATURES:

- Detects faulty wiring in 3-wire receptacles (CT300)
- Detects faulty wiring in 3-wire receptacles with ground fault circuit interrupters (GF1302)

- Different combinations of three lights indicate six different fault types
- Designed for 120VAC circuits
- UL listed
- 1-Year Limited Warranty

| UPC     | NO.    |
|---------|--------|
| 01359 5 | CT300  |
| 51067 4 | GF1302 |



# Circuit and Component Testers

## BRIGHT RED LED SCREWDRIVER/CONTINUITY TESTER – ST600LED

Ideal for checking for continuity and voltage.

### FEATURES:

- Bright red LED indicates hot side and continuity
- Continuity and polarity checks
- Microwave leakage test
- Checks fuses and bulbs
- Drop-resistant to 10 ft.
- 1-Year limited warranty

### SPECIFICATIONS:

- ♦ AC Voltage Test Range: 70 to 250V (contact method); 70 to 600V (non-contact method)
- ♦ DC Voltage Test Range: 0 to 250V
- ♦ Continuity Test Range: 0 to 50MΩ
- ♦ Polarity Test Range: 1.5 to 36VDC
- ♦ Microwave Leakage Test: >5mW/cm<sup>2</sup>
- ♦ Power Source: 1 "LR44" battery (included)

| UPC     | NO.      |
|---------|----------|
| 51115 2 | ST600LED |



ST600LED



## SCREWDRIVER AC/DC VOLTAGE TESTER – ST400

Checks for hot side of outlet.

### FEATURES

- Visual indication of 80 to 250V (AC or DC)
- Easy to use; no test leads or battery needed
- UL approved
- Double-insulated housing
- Pocket clip

### SPECIFICATIONS

- ♦ Voltage Detection Range: 80 to 250VAC/DC
- ♦ Operating Temperature: 41° to 104°F (5° to 40°C) @ <80%RH
- ♦ Dimensions: 5.63 in. (143mm) long x 0.5 in. (13mm) maximum diameter
- ♦ Weight: 1 oz. (28g)

| UPC     | NO.   |
|---------|-------|
| 51005 6 | ST400 |



ST400

## AUTOMATIC DIGITAL CAPACITOR TESTER – CAP1500

### FEATURES:

- Wide measurement range
- Uses precision dual slope A/D converter
- Alligator clip leads for in-circuit testing
- Zero adjust switch and low battery indicator
- 3-1/2-digit (1999 count) LCD
- Fuse-protected from overloads

### SPECIFICATIONS:

- ♦ Measurement Range: 0 to 20mF over 9 ranges (0 to 200pF/2000pF/20nF/200nF/2μF/20μF/200μF/2000μF/20mF)
- ♦ Measurement Accuracy: ±(0.5% + 1 digit) or better below 20μF; ±(5% + 5 digits) or better above 20μF
- ♦ Sampling Time: 0.4 seconds
- ♦ Operating Temperature: 32° to 122°F (0° to 50°C) @ <75%RH

- ♦ Dimensions: 5.3 x 2.8 x 1.4 in. (135 x 71 x 36mm)
- ♦ Weight: 7.1 oz. (201g)
- ♦ Power Source: 1 "9V" battery (included)

### INCLUDES:

- Alligator Clip Test Leads
- Soft Case
- Battery
- User's Manual
- 1-Year Limited Warranty

| UPC     | NO.     |
|---------|---------|
| 50192 4 | CAP1500 |



CAP1500

# Value Electrical Kits

## HVAC METER KIT – KHV57030

Ideal for HVAC/R professionals who routinely measure surface temperature on contact or from a distance.



KHV57030

### KIT INCLUDES:

- DMM570 Rugged True RMS Multimeter with NCV Detection & Lo-Z Mode (see p. 10)
- IRT730K 30:1 Ultra Wide-Range (-58° to 1472°F/-50° to 800°C) IR Thermometer with “K” Port
- Custom padded carrying case
- Instrument accessories, batteries and user's manuals

| UPC     | NO.      |
|---------|----------|
| 01664 0 | KHV57030 |



## ELECTRICIAN'S KIT – KEL57060

Ideal for MRO professionals and electricians working residential and commercial jobs.



KEL57060

### KIT INCLUDES:

- DMM570 Rugged True RMS Multimeter with NCV Detection & Lo-Z Mode (see p. 10)
- DAMP60 Auto Ranging 600 Amp Clamp Meter (see p. 6)
- Custom padded carrying case
- Instrument accessories, batteries and user's manuals

| UPC     | NO.      |
|---------|----------|
| 01662 6 | KEL57060 |



## HVAC DMM KIT – KHVP57068

Ideal for HVAC/R professionals who routinely measure current.



KHVP57068

### KIT INCLUDES:

- DMM570 Rugged True RMS Multimeter with NCV Detection & Lo-Z Mode (see p. 10)
- DAMP68 Auto Ranging AC/DC True RMS 400 Amp AC Clamp Meter (see p. 6)
- Custom padded carrying case
- Instrument accessories, batteries and user's manuals

| UPC     | NO.       |
|---------|-----------|
| 01663 3 | KHVP57068 |



### 3000 AMP CLAMP METER KIT – CK700-FX

Ideal for MRO professionals and electricians working commercial or light industrial jobs.

#### KIT INCLUDES:

- CM700 Rugged Auto Ranging AC/DC True RMS 1000A Clamp Meter (see p. 4)
- FX3000 3000 Amp Flex Clamp Adaptor (see p. 7)
- Custom padded carrying case
- Instrument accessories, batteries and user's manuals

| UPC     | NO.      |
|---------|----------|
| 01661 9 | CK700-FX |



CK700-FX

### INDUSTRIAL TROUBLESHOOTING KIT – KT600

Ideal for contractors, electricians, HVAC/R technicians and MRO specialists who use current, voltage and temperature readings to diagnose equipment problems.

#### KIT INCLUDES:

- DAMP68 Auto Ranging AC/DC True RMS 400 Amp Clamp Meter (see p. 6)
- DMM550 Rugged True RMS Multimeter with NCV Detection (see p. 10)
- VS4000 Non-Contact Voltage Detector with Adjustable Sensitivity (see p. 19)
- IRT657 12:1 Wide Range (-40° to 1076° F/ -40° to 580°C) IR Thermometer with Star Burst Laser Targeting
- Custom padded carrying case
- Instrument accessories, batteries and user's manuals

| UPC     | NO.   |
|---------|-------|
| 01738 8 | KT600 |



KT600

### INDUSTRIAL MULTIMETER KIT – KT550

Ideal for electrical contractors and electricians who need to measure high voltages and microamp currents in a variety of environments.

#### KIT INCLUDES:

- DMM550 Rugged True RMS Multimeter with NCV Detection (see p. 10)
- VS4000 Non-Contact Voltage Detector with Adjustable Sensitivity (see p. 19)
- Custom padded carrying case
- Instrument accessories, batteries and user's manuals

| UPC     | NO.   |
|---------|-------|
| 01737 1 | KT550 |



KT550



# Value Electrical Kits

## ELECTRICAL TEST KIT – KT20

Ideal for professional and DIY electricians.



### KIT INCLUDES:

- DAMP60 Auto Ranging 600 Amp Clamp Meter (see p. 6)
- DMM30 8-Function Digital Multimeter with NCV Detection (see p. 12)
- VS3000A Audible/Visual Non-Contact Voltage Detector, ETL Certified (see p. 19)
- GF1302 3-Wire Receptacle Tester with GFCI (see p. 20)
- Custom padded carrying pouch
- Instrument accessories, batteries and user's manuals

| UPC     | NO.  |
|---------|------|
| 01726 5 | KT20 |

## HVAC/R FIELD ELECTRICAL TEST KIT – KT50

Ideal for HVAC/R technicians who routinely measure current—including very small burner flame rod currents.



### KIT INCLUDES:

- DAMP60 Auto Ranging 600 Amp Clamp Meter (see p. 6)
- DMM53FSG Rugged Service Multimeter (see p. 13)
- VS3000A Audible/Visual Non-Contact Voltage Detector, ETL Certified (see p. 19)
- Custom padded carrying pouch
- Instrument accessories, batteries and user's manuals

| UPC     | NO.  |
|---------|------|
| 01732 6 | KT50 |

## ELECTRICAL TROUBLESHOOTING KIT – KT5

Ideal for checking outlets and wiring.



### KIT INCLUDES:

- Smart Multimeter (see p. 11)
- VS4000 Non-Contact Voltage Detector with Adjustable Sensitivity (see p. 19)
- GF1302 3-Wire Receptacle Tester with GFCI (see p. 20)
- Instrument batteries and user's manuals

| UPC     | NO. |
|---------|-----|
| 01740 1 | KT5 |



# ELECTRICAL

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# Notes

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**Specialty Tools & Instruments**

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