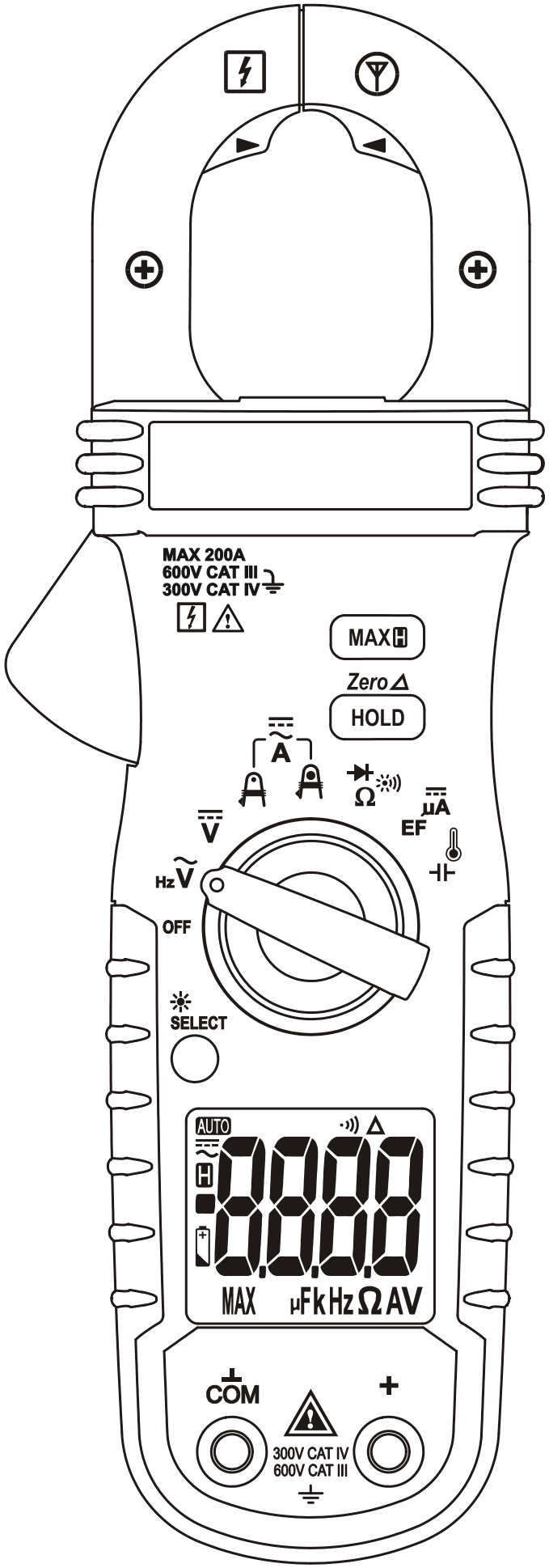


USER'S MANUAL

BM137ma
BM135ma

Clamp-on Multimeter Series

BRYMEN®

1) SAFETY

This manual contains information and warnings that must be followed for operating the meter safely and maintaining the meter in a safe operating condition. If the meter is used in a manner not specified by the manufacturer, the protection provided by the meter may be impaired.

Observe proper safety precautions when working with voltages above 30 Vrms, 42.4 Vpeak or 60 VDC. These voltage levels pose a potential shock hazard to the user. Do not expose this product to rain or moisture. The meter is intended only for indoor use.

Keep your hands/fingers behind the hand/finger barriers (of the meter and the test probe assembly, where applicable) that indicate the limits of safe access of the hand-held parts during measurements. Inspect lead wires, connectors, and probes for damaged insulation or exposed metal periodically. If any defects are found, replace them immediately. Only use the test probe assembly provided with the meter or a UL Listed test probe assembly to the same meter ratings or better.

Optional offer premium test probe assembly using silicone lead wire insulation, at agent's discretion, is equipped with white inner insulation layers as wear indicators. Replace them immediately if any of the white layers has become visible.

Disconnect the test leads from the test points before changing functions.

The meter meets IEC/EN/BSEN/CSA_C22.2_No./UL standards of 61010-1 Ed. 3.1 and 61010-2-032 Ed. 4.0 to Measurement Categories CAT III 600V and CAT IV 300V AC & DC

The accompanying test probe assembly meets IEC/EN/BSEN/CSA_C22.2_No./UL standards of 61010-031 Ed. 2.0 to the same meter ratings or better. The 61010-031 requires exposed conductive test probe tips to be ≤ 4mm for CAT III & CAT IV ratings. Refer to the category markings on your probe assemblies and on the add-ons (such as detachable Caps or Alligator Clips) for applicable rating changes. Always consider the applicable rating to be the lowest among that of the meter and the accessories.

INTERNATIONAL SYMBOLS


Marking of Electrical and Electronic Equipment (EEE). Do not dispose of this product as unsorted municipal waste. Contact a qualified recycler


Refer to the explanation in this Manual

⚠	Possibility of electric shock
⏚	Earth (Ground)
⧈	Meter protected throughout by Double Insulation or Reinforced Insulation
⎓	Fuse
⎓	Direct Current (DC)
~	Alternating Current (AC)
3~	Three-phase Alternating Current
⚡	Application around and removal from hazardous live conductors is permitted

Brief Information about Measurement Categories

Measurement Category IV is applicable to testing and measuring circuits connected at the source of the building's low-voltage MAINS installation. Examples are measurements on devices installed before the main fuse or circuit breaker in the building installation.

Measurement Category III is applicable to testing and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation. Examples are measurements on distribution boards (including secondary meters), circuit-breakers, wiring, including cables, bus-bars, junction boxes, switches, socket-outlets in the fixed installation, and equipment for industrial use and some other equipment such as stationary motors with permanent connection to the fixed installation.

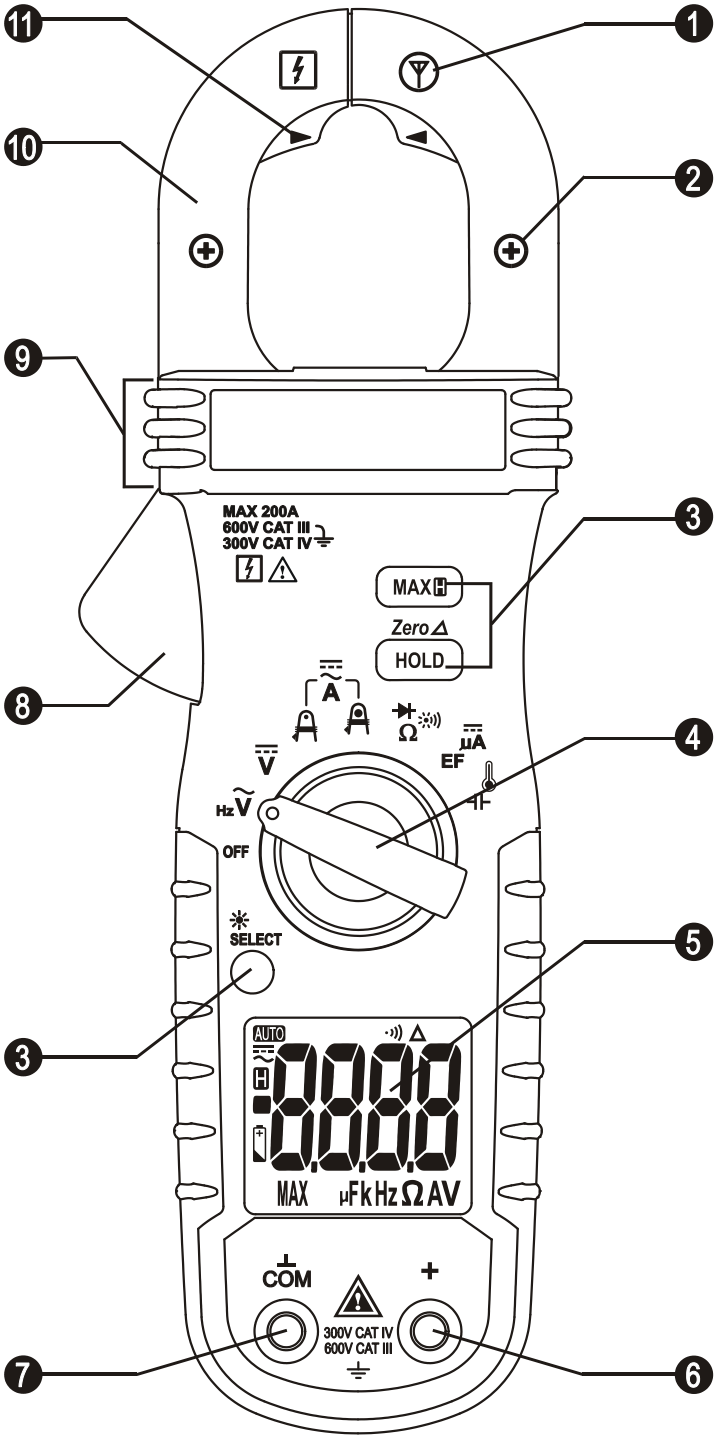
Measurement Category II is applicable to testing and measuring circuits connected directly to utilization points (socket outlets and similar points) of the low-voltage MAINS installation. Examples are measurements on MAINS CIRCUITS of household appliances, portable tools, and similar equipment.

2) EUROPEAN DIRECTIVES AND UK STATUTORY REQUIREMENTS

The instruments conform to EUROPEAN (CE) Low-Voltage Directive 2014/35/EU, Electromagnetic Compatibility Directive 2014/30/EU, and RoHS 2 Directive 2011/65/EU plus amendment Directive (EU) 2015/863. The instruments also conform to the UK (UKCA) Electrical Equipment (Safety) Regulations 2016, Electromagnetic Compatibility Regulations 2016, and The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.

3) PRODUCT DESCRIPTION

This user's manual uses only representative model(s) for illustrations. Please refer detailed specifications for function availability to each model.



1) Antenna location symbol for Non-Contact EF-Detection

2) Jaw center indicator, at where best current accuracy is specified

3) Push-buttons for special functions & features.

4) Rotary Selector to turn the power ON/OFF and select a function

5) 3-5/6 digits 6000 counts numeric LCD display

6) Input Jack for all functions EXCEPT non-invasive Current functions

7) Common (Ground reference) Input Jack for all functions EXCEPT the Clamp-on Current and Non-Contact EF-Detection functions

8) Jaw trigger for opening the clamp jaw

9) Hand/Finger Barrier to indicate the limits of safe access of the meter during Clamp-on Current measurements

10) Clamp Jaw for Clamp-on Current magnetic field pick up

11) Additional center indicator for AmpTip™ Low-current functions, at where best AmpTip™ current accuracy is specified

4) OPERATION

NOTE

Before and after hazardous voltage measurements, test the voltage function on a known source such as line voltage to determine proper meter functioning

ACV (LPF added), & Line-level Hz (LPF added; Model 137ma only)

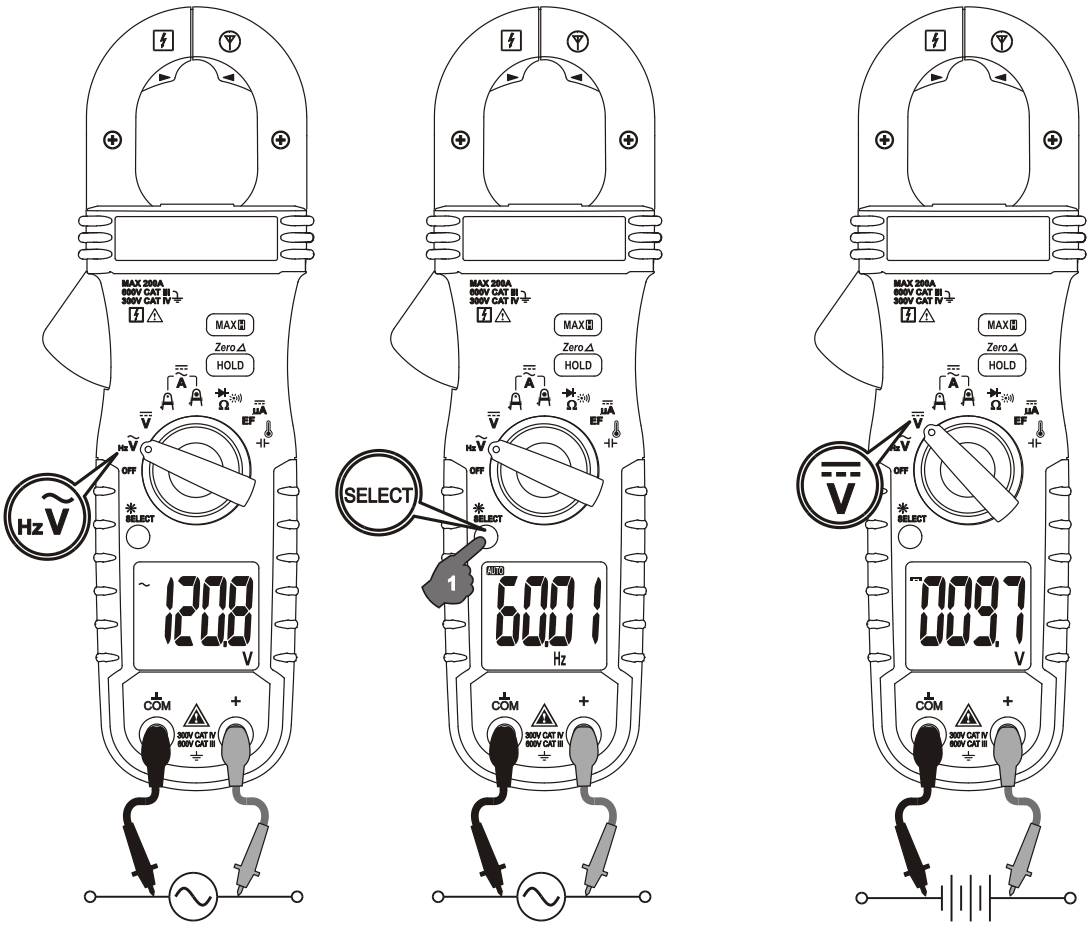
Inputs are made via the test lead terminals **COM/+**. Defaults at **ACV** Function. Press the **SELECT** button momentarily to select **Line-level Hz** function.

Note:

ACV and **Line-level Hz** functions are bundled with a LPF low-pass filter, and are capable of dealing with most **VFD** (Variable Frequency Drives) signals. It also improves reading stability in noisy electrical environments.

DCV

Inputs are made via the test lead terminals **COM/+**.



Clamp-on Current Measurements: Application & Removal Of The Jaws

Press the jaw trigger and clamp the jaws around the conductor(s) of only one single pole of a circuit for load current measurements. Make sure the jaws are completely closed, or else it will introduce measurement errors. Enclosing conductor(s) of more than one pole of a circuit may result in differential current (like identifying leakage current) measurements. Align the conductor(s) to the Jaws center indicators (Regular

or AmpTip™ indicators where applicable) as much as possible to get the best measuring accuracy. For removal, press the jaw trigger and remove the jaws from the conductor(s).

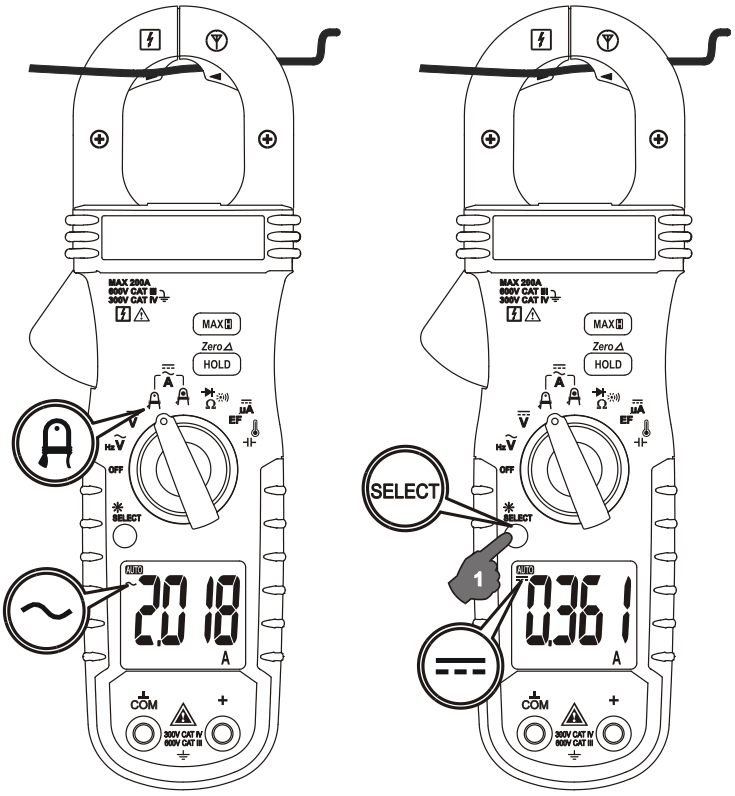
Adjacent current-carrying devices such as transformers, motors, and conductor wires may affect measurement accuracy. Keep the jaws away from them as much as possible to minimize influence.

NOTE

This Clamp-on meter series is designed to directly apply around or remove from uninsulated hazardous live conductors. But still, individual protective equipment must be used if hazardous live parts in the installation where measurement is to be carried out could be accessible. Do not use the meter to measure currents above the rated frequency (400Hz). Circulating currents may cause the magnetic circuits of the Jaws reach a hazardous temperature.

<u>Clamp-on AmpTip™ ACA, & AmpTip™ DCA</u>

Input is made via the clamp jaws where the best accuracy is specified near the jaw TIP-CENTER area for low-current measurements of thin conductors. Defaults at **ACA**. Press the **SELECT** button momentarily to select **DCA**.

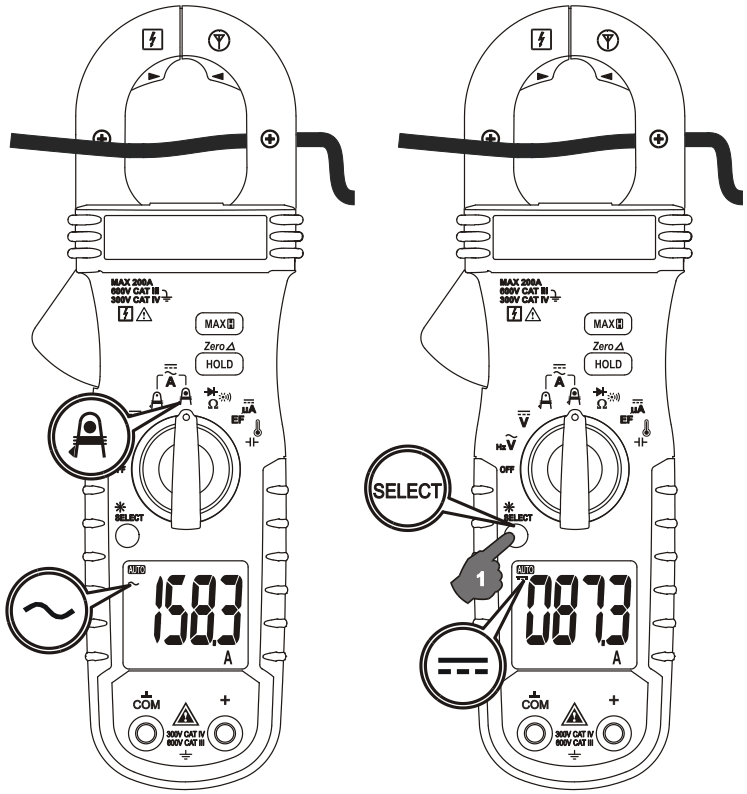


NOTE

Earth's geomagnetic field and the jaws' remanence can affect low-current DC measurements. Press the Zero (HOLD) button for at least 1 second to clear residual DCA readings. Once zeroed, keep the meter in the same orientation for consecutive measurements; changing the measuring direction will compromise accuracy.

Clamp-on Regular ACA, & Regular DCA

Input is made via the clamp jaws where best accuracy is specified at the jaw CENTER area. Defaults at **ACA**. Press the **SELECT** button momentarily to select **DCA**.



Ω Resistance, BeepLit™ Continuity, & BeepLit™ Diode

Inputs are made through the test lead terminals **COM/+**. Defaults at **Ω Resistance**. Press the **SELECT** button momentarily to select the subject functions in sequence. For Model 135ma, **BeepLit™ Diode** function is located in an independent rotary switch position

◎ BeepLit™ Continuity

This function has improved convenience for checking wiring connections and the operation of switches. Resistance threshold is being used. A continuous beep sound together with display backlight flashing indicates a complete wire. Such audible and visible indications improve continuity readabilities in noisy working environments.

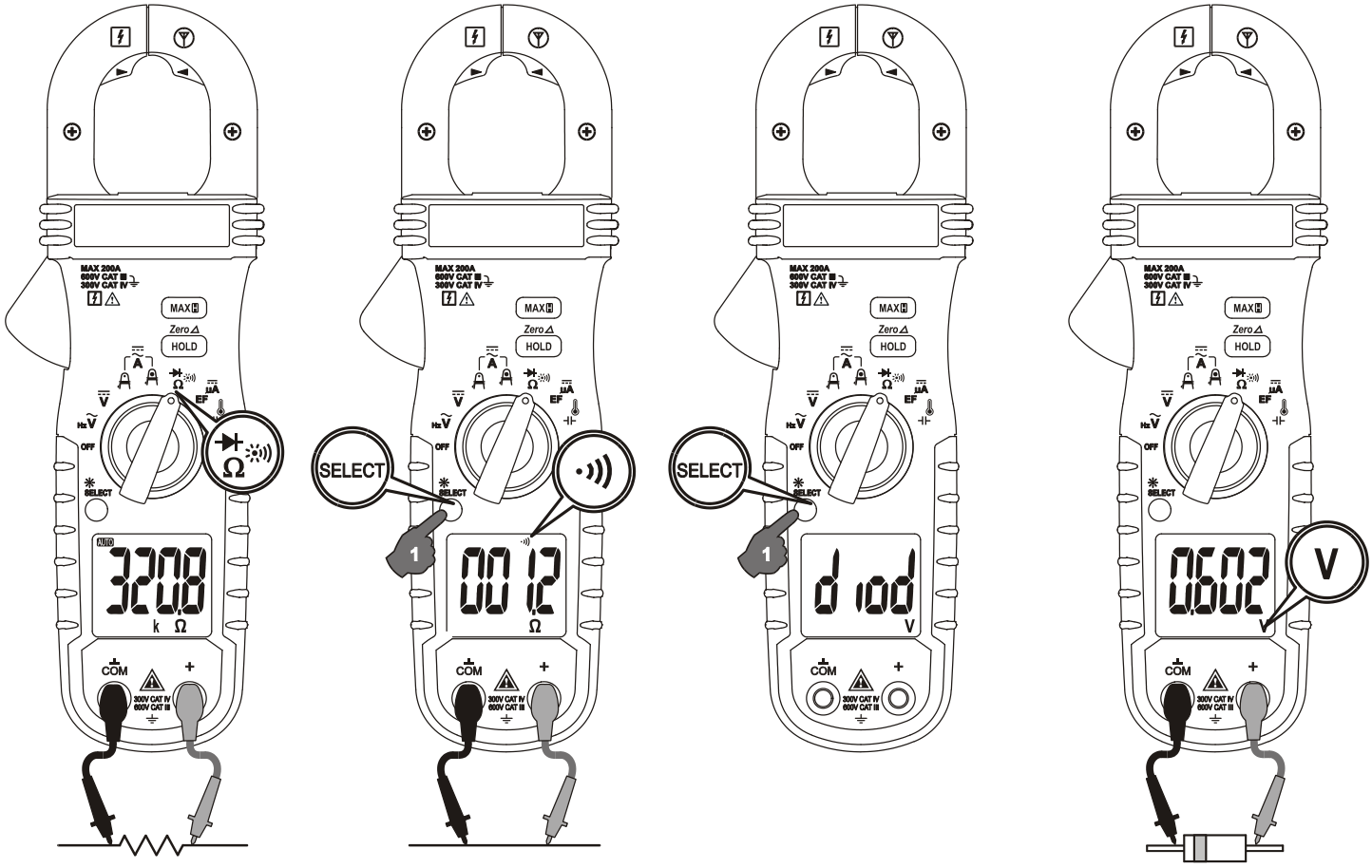
◎ ⊣ *BeepLit™ Diode*

●***Reading indication:*** *Forward voltage drop (forward biased) for a good silicon diode is between 0.400V and 0.900V. A higher reading indicates a leaky diode (defective). A zero reading indicates a shorted diode (defective). An over-range display indicates an open diode (defective). Reverse the test leads connections (reverse biased) across the diode. The digital display shows over-range if the diode is good. Any other readings indicate the diode is resistive or shorted (defective).*

●***Beep-Alert & BeepLit™ indication:*** *When the display reading drops across 0.850V, the meter alerts with a short beep sound to signal a reasonable forward voltage drop of common diodes. However, if the reading further drops below 0.100V, the meter gives a continuous beep sound together with the display backlight flashing to indicate a shorted diode or a complete wire. It is similar to that of* ***BeepLit™ Continuity*** *function, but* ***BeepLit™ Diode****, instead, is based on voltage threshold to indicate complete wires.*

NOTE

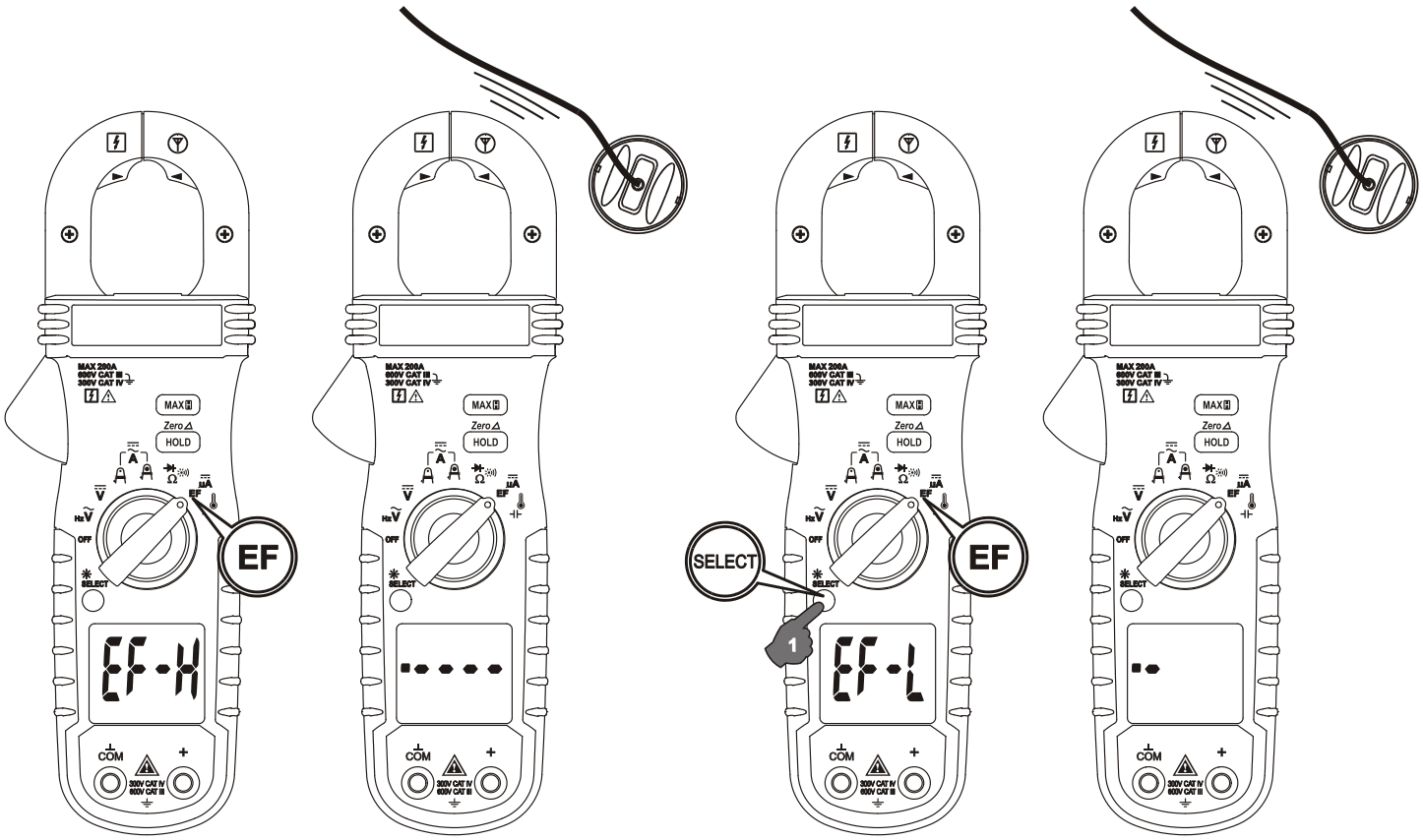
Using **Resistance**, **BeepLit™ Continuity** or **BeepLit™ Diode** function in a live circuit will produce false results and may damage the meter. In many cases, the component(s) under test must be disconnected from the circuit to obtain an accurate measurement reading.



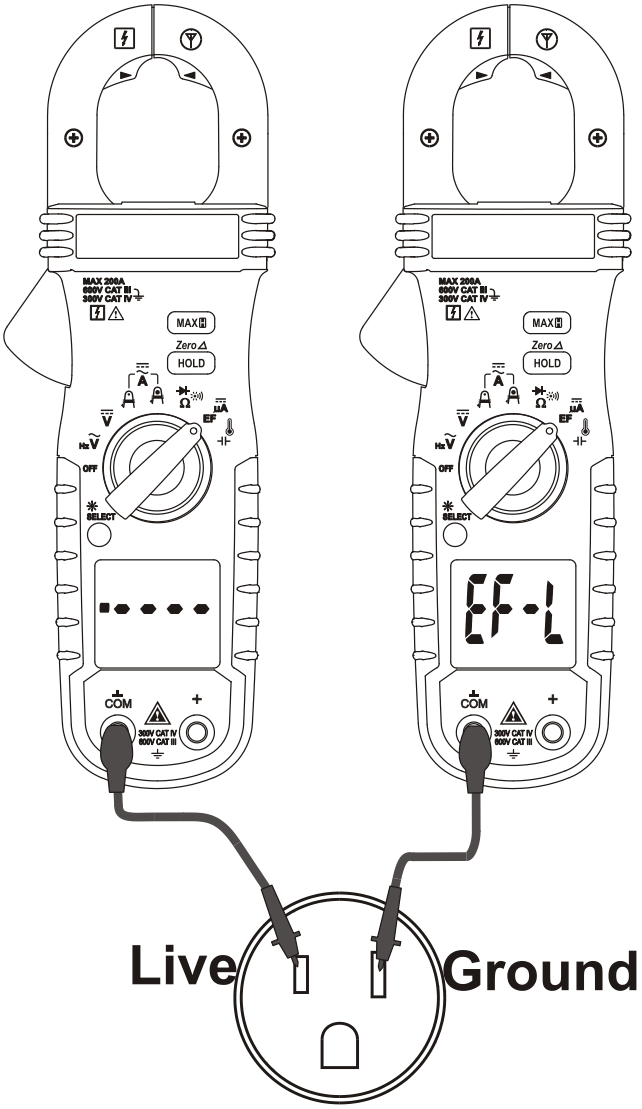
EF-Detection of Electric Field

Defaults at **EF-H**, the High sensitivity. The meter displays "**EF-H**" when it is ready. If it is too sensitive for your applications, press the **SELECT** button momentarily to select **EF-L**, the Low sensitivity. The detected Electric Field strength is indicated as a series of bar-graph segments on the display, plus variable beep sounds.

●***Non-Contact EF-Detection (NCV):*** *An antenna is located along the top-right end of the stationary clamp jaw, which detects the electric field surrounding energized conductors. It is ideal for tracing live wiring connections, locating wiring breakages, and distinguishing between live and earth connections.*

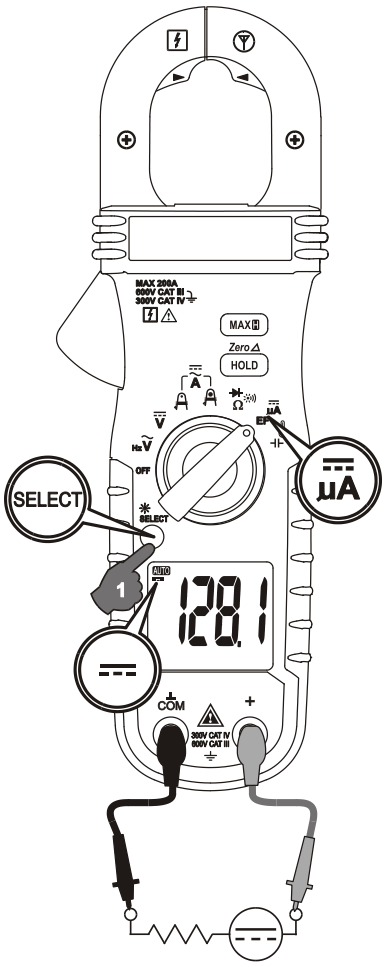


●***Probe-Contact EF-Detection (Single-pole):*** *For more precise indication of live wires, such as distinguishing between Live and Ground connections, use one single test probe to test via terminal* ***COM*** *for direct metal contact probing to achieve the most distinctive indications.*



DCμA (Model 137ma only)

Inputs are made via the test lead terminals **COM**/**+**. Defaults at **EF-Detection** function. Press the **SELECT** button momentarily two times to select **DCμA** function.



●Application notes:

*The **DCμA** function is designed especially for HVAC/R flame sensor applications. The 0.1μA resolution is useful for identifying the minute current changes in flame detector applications. Flame signal current check should indicate a steady flame signal of at least 2μA for a rectification type, or 1.5μA for an ultraviolet type (8μA for self-checking systems). If a flame signal current with inadequate strength or fluctuation beyond 10%, check the following to avoid the risk of unwanted flame relay dropout :*

For gas or oil flames (Minipeeper):

- ✓ *Low supply voltage*
- ✓ *Detector location*
- ✓ *Defective detector wiring*
- ✓ *Dirty viewing windows*
- ✓ *Faulty Minipeeper*

For oil flames (Photocell):

- ✓ *Detector location & wiring*
- ✓ *Smoky flame or poorly adjusted air shutter*
- ✓ *Faulty Photocell*
- ✓ *Temperature over 165 °F (74 °C) at photocell*

For gas flames (Flame Rod):

- ✓ *Ignition interference (A flame signal current difference with the ignition both on and off greater than 0.5μA indicates the presence of ignition interference)*
- ✓ *Insufficient ground (must be at least 4 times the detector area)*
- ✓ *Flame lifting off burner head (ground), or not continuously in contact with the flame rod*
- ✓ *Temperature in excess of 600 °F (316 °C) at the flame electrode insulator causing short to ground.*

⊣⊢ Capacitance & Temperature (Model 137ma only)

Inputs are made via the test lead terminals **COM**/**+**. Defaults at **⊣⊢ Capacitance**. Press the **SELECT** button momentarily to select **°C** (Celsius) and **°F** (Fahrenheit) in sequence (**°F** selection can be left out as factory calibration default for countries that only accept metric units).

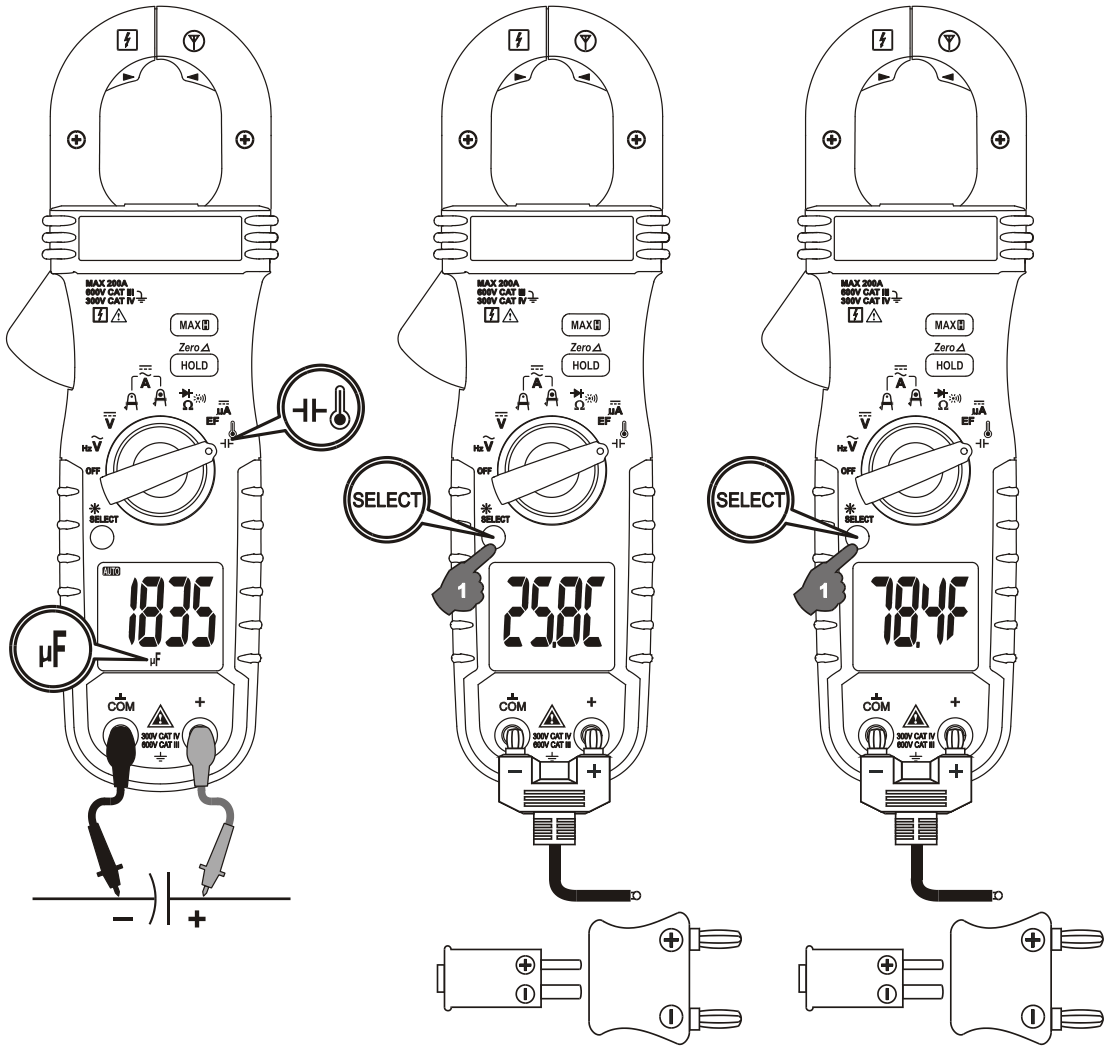
NOTE

Discharge capacitor(s) before making capacitance measurements. Large-value capacitors should be discharged through an appropriate resistance load. Using Capacitance function in a live circuit will produce false results and may damage the meter. In many cases, the suspected component(s) must be disconnected from the circuit to obtain accurate measurement readings.

Note

Be sure to insert the banana-plug type-K temperature bead-probe Bkp60 with correct **+ −** *polarities.*

Temperature accuracies assume the meter interior has the same temperature (isothermal stage) as the ambient, particularly the plug of the probe being used, for a correct junction voltage compensation. Allow the meter interior temperature to catch up with that of the plug after a sudden change of measuring environment, and hence the ambient temperature. This can take up to an hour, for changes > 5°C, within a low-ventilated sturdy meter housing. The uncompensated temperature differences, if any, will be reflected as offsets on the meter readings.


MAX 200A
600V CAT III
300V CAT IV
MAX
Zero
HOLD
OFF
SELECT
COM
300V CAT IV
600V CAT III
μF
SELECT
1
SELECT
1

HOLD

HOLD feature freezes the display for later view. LCD "H" turns on. Press the **HOLD** button momentarily to toggle the **HOLD** feature.

MAX HOLD

Press the "**MAX H**" button momentarily to activate **MAX HOLD** feature. LCD **MAX** & **H** turn on; Auto-Power-Off is disabled automatically; the meter beeps when a new **MAX** (maximum) reading is updated. When activated, the measuring speed (reading update rate) will be boosted to 40 times per second to capture RMS reading surges in the Voltage & Current functions; the speed remains unchanged in all other functions. Press the button for 1 second or more to exit.

Relative△ mode; DC-Zero mode

◎ **Relative△** mode allows the user to offset the meter's consecutive measurements with the main-display displaying reading as the reference value. LCD "△" turns on. Press the △ (**HOLD**) button for one second or more to toggle **Relative△** mode. When in **DCA** functions, however, **DC-Zero** mode will be activated instead.

◎ **DC-Zero** mode is a feature to temporarily offset **DCA** residue readings caused by the residual magnetic field of the jaws in **DCA** functions. Press the **Zero** (**HOLD**) button for at least 1 second to apply. The meter displays "**dc_0**" on each activation before continuing measurements. Apply this mode repeatedly to get a zero reading before making any **DCA** measurements for the best measuring accuracy. The meter will give 3 short beeps, however, to warn of null activation if the display reading is beyond a reasonable residue of -5 to 5 DCA.

LCD Backlight and Auto-Backlight-Off (ABO)

Press the **SELECT** button for 1 second or more to toggle the LCD backlight. The **ABO** mode turns the LCD backlight off automatically after 10 minutes of backlight activation to extend battery life. See **Power-on Options** section for disabling **ABO**.

Intelligent Auto-Power-Off (APO)

The **APO** mode turns the meter off automatically to extend battery life after idling 32 minutes of no specified activities, where applicable, below:

1) Rotary switch or push button operations
2) Significant measuring readings of above 8.5% of ranges
3) Non-over-range readings for Resistance, Continuity, or Diode function
4) Non-zero readings for Hz function

In other words, the meter will intelligently reset the **APO** mode when it is under normal

measurements. To wake up the meter from **APO**, press the **SELECT** button momentarily and release, or turn the rotary switch OFF and then back on. Always turn the rotary switch to the OFF position when the meter is not in use.

Power-on Options

◎ **Disabling APO and ABO**

Press and hold the **SELECT** button while powering on the meter can disable both **APO** and **ABO** features temporarily during the power-on session. The LCD will display "**dAPO**" to confirm selection before the **SELECT** button is released.

◎ **Shortening APO idling time for inspection**

Press and hold the **HOLD** button while powering on the meter can shorten the **APO** idling time to 5 seconds temporarily during the power-on session. It is designed mainly for production inspection.

◎ **Showing all LCD segments for inspection**

Press and hold the "**MAX H**" button while powering on the meter can hold and show all LCD segments before the button is released. It is designed mainly for production inspection.

5) MAINTENANCE

NOTE

To avoid electrical shock, disconnect the meter from any circuit, remove the test leads from the input jacks, and turn OFF the meter before opening the case. Do not operate with an open case.

Trouble Shooting

If the instrument fails to operate, check batteries and test leads etc., and replace as necessary. Double check operating procedure as described in this user's manual. Refer to the LIMITED WARRANTY section for obtaining calibration, repairing or warranty service.

Accuracy and Calibration

Accuracy is specified for a period of one year after calibration. Periodic calibration at intervals of one year is recommended to maintain meter accuracy.

Cleaning and Storage

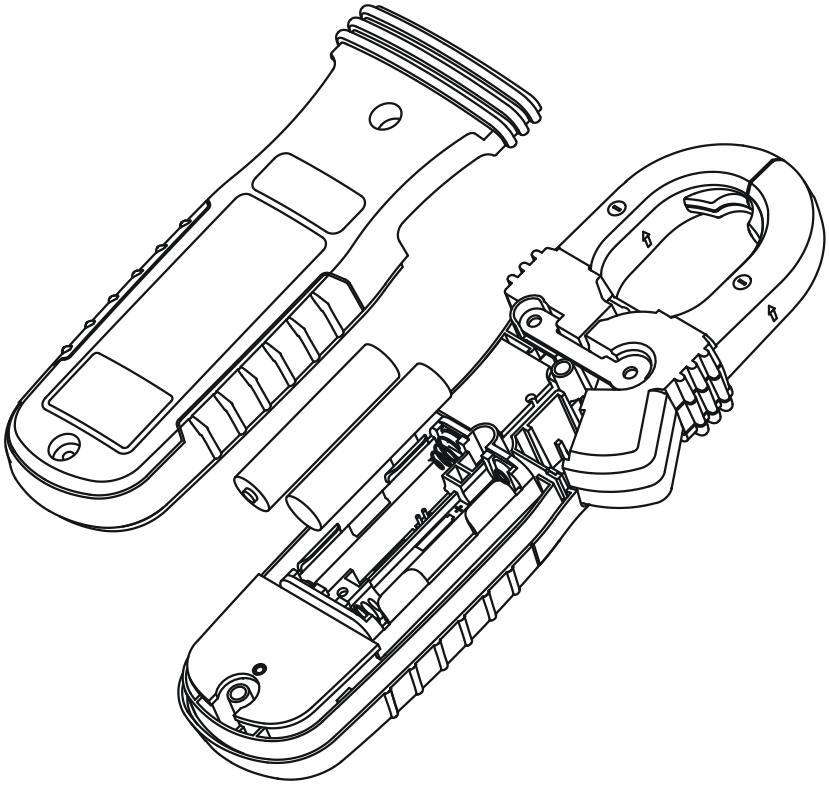
Periodically wipe the meter and the test probe assembly with a damp cloth and mild detergent. Do not use abrasives or solvents. Allow to dry completely before operating.

If the meter is not to be used for periods of longer than 60 days, remove the batteries and store them separately

Battery replacement

The meter uses standard 1.5V AAA Size (IEC R03) battery X 2

Loosen the 2 captive screws from the bottom case. Lift the bottom case. Replace the batteries. Put back the bottom case. Re-fasten the screws.



GENERAL SPECIFICATIONS

Display: 3-5/6 digits 6000 counts
Polarity: Automatic
Update Rate: 5 per second nominal
Operating Temperature: 0°C to 40°C
Relative Humidity: Maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 40°C
Pollution degree: 2
Storage Temperature: -20°C to 60°C, < 80% R.H. (with battery removed)
Altitude: Operating below 2000m
Temperature Coefficient: nominal 0.1 x (specified accuracy)/ °C @(0°C -- 18°C or 28°C -- 40°C), or otherwise specified
Sensing: True RMS
Safety: Certified per IEC/EN/CSA_C22.2_No./UL standards: 61010-1 Ed. 3.1, 61010-2-032 Ed. 4.0, & 61010-031 Ed. 2.0 to Measurement Categories CAT III 600V and CAT IV 300V ac & dc
Transient Protection: 6.0kV (1.2/50μs surge)
Overload Protections:
Current via jaws: 200Adc/Aac rms at <400Hz
Voltage via terminals: 660Vdc / 1100Vac rms
Other functions via terminals: 600Vdc/Vac rms
E.M.C.: Meets EN61326-1
DCA and ACA Functions, in an RF field of 1V/m:
Total Accuracy = Specified Accuracy + 40 digits at around 87MHz
DCμA and Ohm Functions, in an RF field of 1V/m:
Total Accuracy = Specified Accuracy + 25 digits
Other Functions, in an RF field of 3V/m:
Total Accuracy = Specified Accuracy + 20 digits
Power Supply: 1.5V AAA Size battery X 2
Power Consumption: Typical 13mA
Low Battery Indication:
Below approx. 2.85V for Capacitance & Hz
Below approx. 2.5V for other functions
APO Timing: Idle for 32 minutes
APO Consumption: 5μA typical
Dimension (LxWxH): 188 x 66 x 32mm
Weight: 202g

Jaw opening & Conductor diameter: 26mm max
Accessories: Test lead set, User's manual, Soft carrying pouch, Bkp60 banana plug type-K thermocouple (Model 137ma only),
Special Features: AmpTip™ low-current range; MAX HOLD; Relative-Zero mode; Display Hold; EF-Detection (NCV); BeepLit™ Features

Electrical Specifications

Accuracy is ±(% reading digits + number of digits) or otherwise specified, at 23°C ± 5°C.
Maximum Crest Factor < 2 : 1 at full scale & < 4 : 1 at half scale or otherwise specified, and with frequency spectrum not exceeding the specified frequency bandwidth for non-sinusoidal waveforms.

DC Voltage

RANGE	Accuracy
60.00V, 600.0V	1.0% + 5d

Input Impedance: 10MΩ, 100 pF nominal

AC Voltage (LPF added)

RANGE	Accuracy
50Hz ~ 60Hz	
600.0V	1.5% + 5d

Input Impedance: 10MΩ, 100 pF nominal

BeepLit™ Continuity Tester

Continuity Threshold: Between 30Ω and 480Ω
Continuity ON Response Time: 15ms approx.
Audible Indication: Beep sound
Visible Indication: LCD Backlight

Ohm

RANGE	Accuracy
600.0Ω, 6.000kΩ (Both models)	1.0% + 5d
60.00kΩ, 600.0kΩ, 6000kΩ (Model 137ma only)	

Open Circuit Voltage: 1.0VDC typical

Capacitance (Model 137ma only)

RANGE	Accuracy [1)]
200.0μF, 2500μF	2.0% + 4d

[1)]Accuracies with film capacitor or better

BeepLit™ Diode Tester

RANGE	Accuracy
3.000V	1.5% + 5d

Test Current: 0.3mA typical
Open Circuit Voltage: < 3.5VDC typical
Beep-Alert Threshold: Drop across 0.850V
BeepLit™ ON Threshold: < 0.100V
Audible Indication: Beep sound
Visible Indication: LCD Backlight

DCμA (Model 137ma only)

RANGE	Accuracy	Burden Voltage
200.0μA, 2000μA	1.0% + 5d	3.5mV/μA

Temperature (Model 137ma only)

RANGE	Accuracy [1) 2)]
-40.0 °C ~ 99.9 °C	1.0% + 1°C
100 °C ~ 400 °C	
-40.0 °F ~ 211.8 °F	1.0% + 2°F
212 °F ~752 °F	

[1)]Accuracies assume the meter interior has the same temperature (isothermal stage) as the ambient for a correct junction voltage compensation. Allow the meter and the type-K probe set to reach the isothermal stage for a significant change in ambient temperature. It can take up to an hour for changes > 5°C.

[2)]Type-K thermocouple range & accuracy not included

Clamp-on AmpTip™ ACA

RANGE	Accuracy [1)]
50Hz ~ 60Hz	
3.000A, 30.00A	2.5% + 8d

[1)]Induced error from adjacent current-carrying conductor: <0.01A/A

Clamp-on AmpTip™ DCA

RANGE	Accuracy [1) 2)]
3.000A, 30.00A	2.0% + 8d

[1)]Induced error from adjacent current-carrying conductor: <0.01A/A

[2)]Specified with DC-Zero mode applied to offset the non-zero residual readings; maintain the same measuring orientation to minimize the geomagnetic field effect.

Clamp-on Regular ACA

RANGE	Accuracy [1)]
50Hz ~ 60Hz	
30.00A, 200.0A [2)]	2.5% + 8d

[1)]Induced error from adjacent current-carrying conductor: <0.01A/A

[2)]Temperature Coefficient: nominal 0.25 x (specified accuracy)/ °C @(0°C -- 18°C or 28°C -- 40°C)

Clamp-on Regular DCA

RANGE	Accuracy [1) 2)]
30.00A, 200.0A [3) 4)]	2.0% + 8d

[1)]Induced error from adjacent current-carrying conductor: <0.01A/A

[2)]Specified with DC-Zero mode applied to offset the non-zero residual readings, if any

[3)]Add 4% to specified accuracy @ -100.0A ~ -200.0A

[4)]Temperature Coefficient: nominal 0.25 x (specified accuracy)/ °C @(0°C -- 18°C or 28°C -- 40°C)

Hz (LPF added) Line-Level Frequency (Model 137ma only)

Function	Sensitivity [1)] (Sine RMS)	Range
600Vac	50V	5.00Hz ~ 999.9Hz

Accuracy: 1%+5d

[1)]DC-bias, if any, not more than 50% of Sine RMS

Non-Contact EF-Detection (NCV)

Bar-Graph Indication	EF-H (Hi Sensitivity)	EF-L (Lo Sensitivity)
	Typical AC Voltage (Tolerance)	
-	10V (2V ~ 20V)	40V (10V ~ 70V)
- -	20V (4V ~ 40V)	80V (20V ~ 140V)
- - -	40V (8V ~ 70V)	160V (40V ~ 280V)
- - - -	80V (16V ~ 140V)	320V (80V ~ 560V)
- - - - -	160V (40V ~ 600V)	500V (160V ~ 600V)

Indication: Bar-graph segments & audible beep tones proportional to the field strength

Detection Frequency: 50/60Hz

Detection Antenna: Inside the top side of the stationary jaw

Probe-Contact EF-Detection (Single-pole Measurement): For more precise indication of live wires, such as distinguishing between live and ground connections, use one single test probe to test via terminal COM for direct metal contact probing to achieve the most distinctive indications.

– NOTE –

– NOTE –

LIMITED WARRANTY

BRYMEN warrants to the original product purchaser that each product it manufactures will be free from defects in material and workmanship under normal use and service within a period of one year from the date of purchase. BRYMEN's warranty does not apply to accessories, fuses, fusible resistors, spark gaps, varistors, batteries or any product which, in BRYMEN's opinion, has been misused, altered, neglected, or damaged by accident or abnormal conditions of operation or handling.

To obtain warranty service, contact your nearest BRYMEN authorized agent or send the product, with proof of purchase and description of the difficulty, postage and insurance prepaid, to BRYMEN TECHNOLOGY CORPORATION. BRYMEN assumes no risk for damage in transit. BRYMEN will, at its option, repair or replace the defective product free of charge. However, if BRYMEN determines that the failure was caused by misused, altered, neglected, or damaged by accident or abnormal conditions of operation or handling, you will be billed for the repair.

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