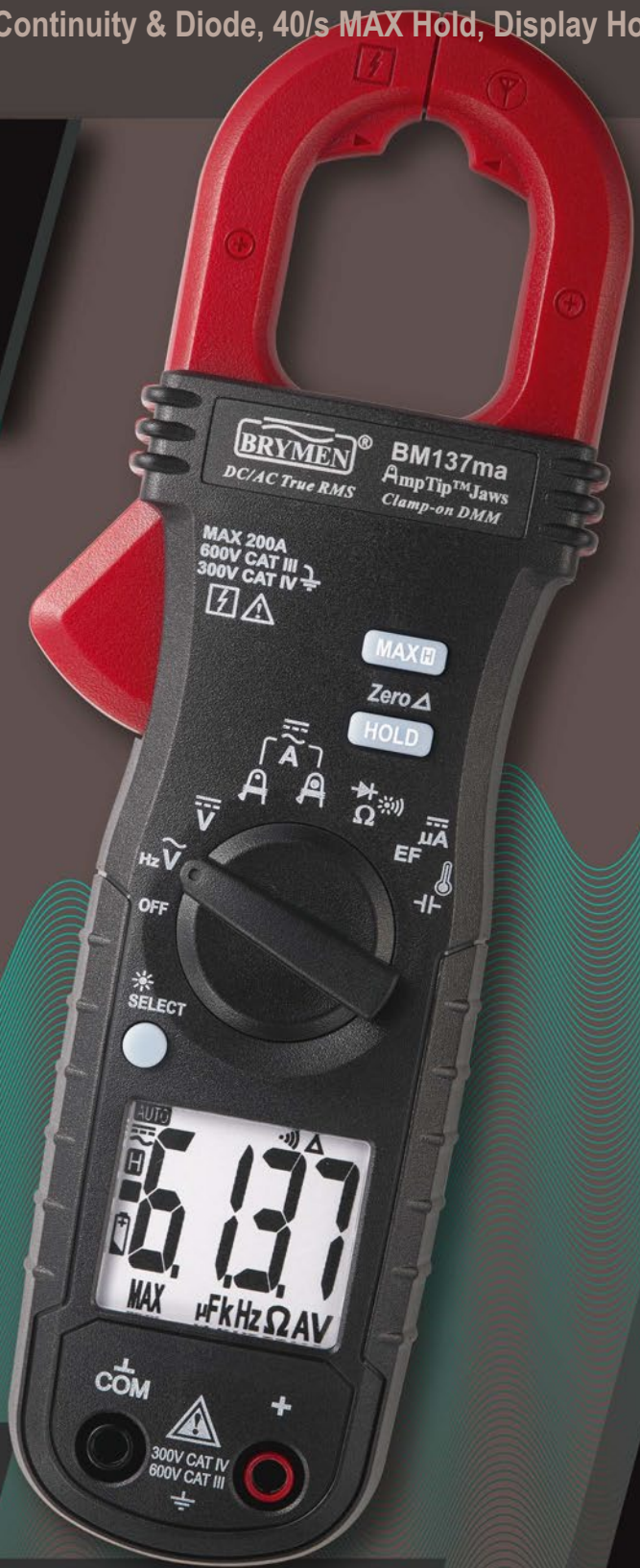
3.000A/30.00A/200.0A for Automotive, Electronic Devices, & CAT-III!

AmpTip™ 0.001A Hi-res, LPF ACV, LPF Hz, DCV, MΩ, Cx, °C, °F, µA, Hi-Lo EF NCV
BeepLit™ Continuity & Diode, 40/s MAX Hold, Display Hold, Relative, Backlight

BM130ma SERIES

Patented AmpTip™ Jaws
Clamp-on DMMs



WW Patented:
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Nr 20 2011 052 429.9
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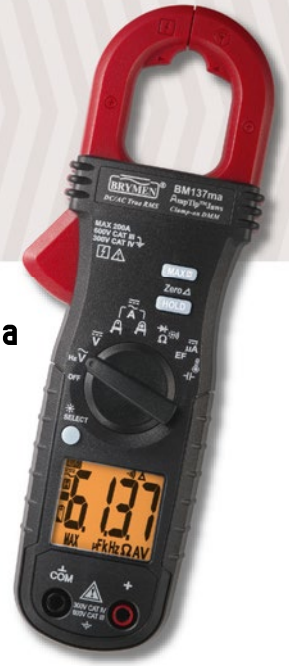
US 8,432,172 B2
& Patents Pending

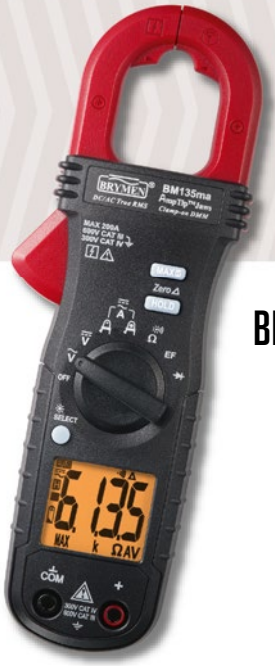
BRYMEN®
Bright People's Choice

www.brymen.com

BM137ma



BM135ma



137ma	135ma	FUNCTIONS & FEATURES
●		Type-K temperature -40.0°C to 400°C or -40.0°F to 752°F selectable
●		Cx ranges 200.0µF to 2500µF for start & run motor capacitors
●		Line-level ACV Frequency (LPF Added) 5.00Hz up to 999.9Hz
●		DCµA ranges 200.0µA to 2000µA (via probes) for HVAC flame sensors
●	~6kΩ	Ohm ranges 600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ, ~6000kΩ
●	●	3,000 to 6,000 counts 3-5/6 digits LCD display; Updates 5/sec nominal
●	●	3A/30A/200A DC/AC Hall-effect Jaws, Max 26mm conductor size
●	●	AmpTip™ Hi-resolution ranges calibrated at Jaw-tip for thin-conductors
●	●	600V AC/DC input protection on general functions
●	●	True RMS AC Voltage and Current functions
●	●	LPF added on ACV for fundamentals of VFDs and noisy signals
●	●	Back-lighted easy-to-read LCD Display
●	●	Intelligent Auto Power Off
●	●	Data HOLD
●	●	MAX Hold updates 40/s to capture surges in the V & A functions
●	●	Relative mode (Auto-ranging) with DC-Zero mode on DCA ranges
●	●	Non-Contact EF-Detection (NCV) with Hi/Lo selectable sensitivities
●	●	Probe-Contact EF-Detection for a more precise indication of live
●	●	ACV (LPF Added) range 600.0V; DCV ranges 60.00V, 600.0V
●	●	BeepLit™ Continuity features Audible Beep & Visible Backlight effects
●	●	BeepLit™ Diode features 0.85V Beep-Alert, and <0.1V BeepLit™ effects
●	●	Regular ACA 30.00A/200.0A + AmpTip™ ACA 3.000A/30.00A ranges
●	●	Regular DCA 30.00A/200.0A + AmpTip™ DCA 3.000A/30.00A ranges
●	●	Soft carrying pouch
●	●	Rugged fire retarded housing
●	●	Transient protection 6kV 1.2/50µs lightning surge
●	●	LVD EN61010-1/61010-2-032 to CAT-III 600V & CAT-IV 300V
●	●	EMC EN61326-1

0.001A High-res Accurately Measures Down to Sub-ampere Level for Automotive and Appliances!

Ideal For Electronic Devices with Zero Burden Voltage, Zero Compromise!

PATENTED AmpTip™ CLAMP JAWS
Easy Access & Excellent Repeatability
For Measuring Thin Conductors In Tight Areas

LVD CAT III 600V & CAT IV 300V
Certified EN61010-2-032, EN61010-1 &
Relevant Standards On CAT III 600V &
CAT IV 300V

REGULAR CURRENT
Measures At Jaw Center For
Regular Conductors Up To 200 Amps

0.001A Hi-res AmpTip™ JAWS
Accurate to Milliamp Levels for
Electronic Devices

1.0% DCV BASIC ACCURACY
Measures Up To 600V DC;
60V DC Range Added

DIRECT LPF ACV & Hz FOR VFD
Measures Voltage & Frequency
Of Most Variable Frequency Drives
And Noisy Electrical Signals
Up To 600V AC

BACKLIGHTED LCD DISPLAY
For Easy Viewing In The Dark

FULLY AUTO-RANGING
Shortens The Time To Measure
And Increases The Ease Of Use

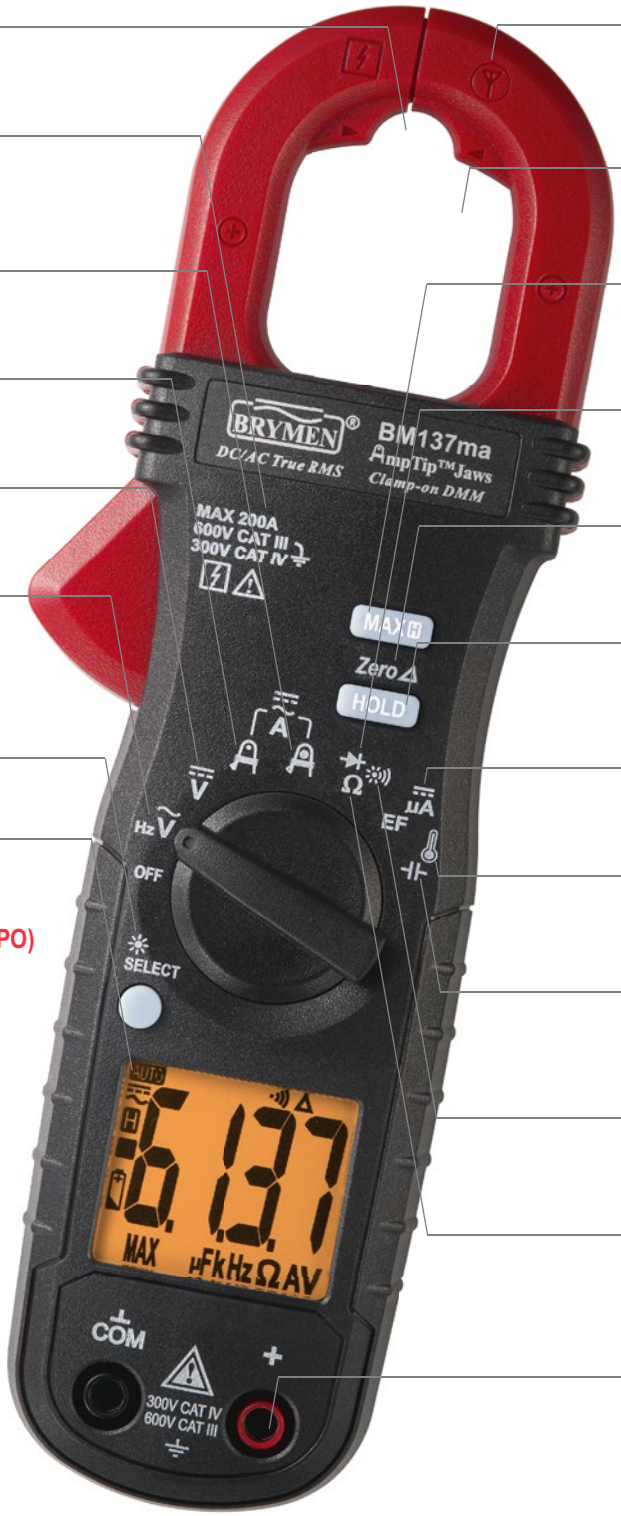
INTELLIGENT AUTO-POWER-OFF (APO)
Stays ON While In Measurements;
Intelligently Turns OFF To Extend Battery Life

ERGONOMIC & STREAMLINE BODY
Body width <50mm Fits Nicely In A Hand
Overall Length <190mm For Easy Carrying

TRUE RMS MEASUREMENTS
For Non-sinusoidal & Complex
Waveforms Of Voltages & Currents

RUGGED & DURABLE
Robust Enclosure;
Precise & Reliable Rotary Switch;
Premium Plating & Low Leakage PCB

EMC
Superior Immunity To Interference;
Reliable Operations And Readings;
Meets The Latest EN61326-1



DUAL SENSITIVITIES EF-DETECTION
Features Non-Contact (NCV) & Single-Probe
Voltage Detection For Identifying Live Lines;
Added User Selectable Hi/Lo Sensitivities

MAX CONDUCTOR SIZE 26mm, 200Amps
Features 200A AC/DC Hall-effect Jaws
with High Resolution Technology

MAX HOLD
Update rate is boosted to 40/s to capture surges in
the Voltage & Current functions

INNOVATIVE BeepLit™ DIODE TEST
Short-Beep Alert On Forward Voltages <0.85V;
Beep & Backlight Effects For Shorted Diodes

RELATIVE ZERO & DC_ZERO
REL For Convenient Readings Comparison;
DC_Zero For DCA Residue Offset

DATA HOLD
Freezes The Displaying
Reading For Later View

DCμA (BM137ma)
For HVAC Flame Sensors
Testing Via Test Probes

TYPE-K TEMPERATURE (BM137ma)
Selectable °C And °F Readings;
Comes With Bkp60 Bead Probe

CAPACITANCE (BM137ma)
2 Auto-ranges Up To 2500μF
To Measure Motor Capacitors

INNOVATIVE BeepLit™ CONTINUITY
Quick Open-short Tests On Switches And Wires;
Beep & Backlight Effects For Noisy Environments

RESISTANCE
Best Resolution 0.1Ω At 600Ω Range;
2 Auto-ranges Up To 6kΩ (BM135ma);
5 Auto-ranges Up To 6000kΩ (BM137ma)

TRANSIENT PROTECTION
Up To 6kV 1.2/50μs Lightning Surge;
Fully Certified By Independent Test Lab;
Years Of Credibility For Serious Users

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 meter interior has the same temperature (isothermal stage) of the ambient for a correct junction voltage compensation. Allow the meter and the type-K probe set to reach isothermal stage for a significant change of 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 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.

BRYMEN®
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