

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. 3.0, 61010-2-032 Ed. 3.0, 61010-2-033 Ed. 1.0, & 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 Fork-clamp: 200Aac rms at <400Hz
 Voltage via terminals: 660Vdc / 920Vac rms
 Other functions via terminals: 600Vdc/Vac rms
E.M.C.: Meets EN61326-1:2013
 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 4mA
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): 193 x 57 x 32mm
Weight: 158g
Fork-clamp opening & Conductor diameter: 12.5mm max
Fork-clamp probe width: 12mm approx
Accessories: Test lead set, User's manual, Soft carrying pouch, Bkp60 banana-plug type-K thermocouple (Model 039F only)
Optional purchase accessories: BKB32 banana-plug to type-K socket plug adaptor (Model 039F only)
Special Features: Fork-clamp Current Measurement; MAX/MIN Recording mode; MAX/MIN Crest (Peak-Hold) mode; Relative-Zero mode; Display Hold; EF-Detection (NCV & Single pole); BeepLit™ Feature

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
600.0V	1.0% + 5d

Input Impedance: 10MΩ, 100 pF nominal

AC Voltage (LPF added)

RANGE	Accuracy
600.0V	1.5% + 5d

Input Impedance: 10MΩ, 100 pF nominal

Ohm

RANGE	Accuracy
600.0Ω, 6.000kΩ (All models)	1.0% + 5d
60.00kΩ, 600.0kΩ, 6000kΩ (Model 039F only)	

Open Circuit Voltage: 1.0VDC typical

BeepLit™ Continuity Tester:

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

Capacitance (Model 039F 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 039F only)

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

Temperature (Model 039F 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

Fork-clamp ACA

RANGE	Accuracy ¹⁾
60.00A ²⁾ , 200.0A	2.0% + 5d
60.00A ²⁾ , 200.0A	3.0% + 5d

¹⁾Induced error from adjacent current-carrying conductor: <0.08A/A
²⁾60.00A range measurement available from 0.10A

Hz (LPF added) Line-Level Frequency (Model 039F 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-left end of the Fork-clamp.

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.

CREST (Peak-Hold):

Applicability: Voltage and Non-invasion Current functions
 Accuracy: Add +/- 250 digits to specified accuracy for changes > 5ms in duration

Compact Fork-clamp! AC-TRMS 200A! Cat-III 600V! Full Functions! Precise Rotary Switch!

BeepLit™ Continuity & Diode, CREST MaxMin, REC MaxMin, Relative, Hold, Backlight
 Fork-clamp ACA, LPF ACV, LPF Line Hz, DCV, MΩ, Cx, °C, °F, µA, Hi-Lo EF (NCV)

BM030F SERIES

Fork-clamp DMMs



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Bright People's Choice



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BM039F



BM038F

039F	038F	FUNCTIONS & FEATURES
•	~6kΩ	Ohms ranges 600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ, ~6000kΩ
•		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 Hz (LPF added) for VFD Hz-fundamentals and noisy signals; 5.00Hz up to 999.9Hz
•		DCμA ranges 200.0μA to 2000μA (via probes) for HVAC flame sensors
•	•	6,000 counts 3-5/6 digits LCD display; Updates 5/sec
•	•	200A AC Fork-clamp; Conductor size 12.5mm max
•	•	12mm Slim-Probe Open Jaws for easy slide into tight wirings
•	•	600V AC/DC input protection on Ohms and General functions
•	•	True RMS on AC Voltage and Current functions
•	•	ACV (LPF added) for VFD V-fundamentals and noisy signals
•	•	Back-lighted easy-to-read LCD display; 10 mins Auto-Off; Disable option
•	•	Intelligent Auto-Power-Off; Disable option
•	•	Data HOLD freezes the display for later view
•	•	RECORD mode MAX/MIN readings; Auto-ranging for full dynamic ranges
•	•	5ms CREST mode captures instantaneous +/- Peaks of Volts or Amps
•	•	Relative mode; Auto-ranging for full dynamic ranges
•	•	Non-Contact EF-Detection (NCV) with Hi/Lo Selectable Sensitivities
•	•	Probe-Contact EF-Detection (Single-pole) for precise indication of live
•	•	BeepLit™ Continuity; Features Audible Beep & Visible Backlight effects
•	•	BeepLit™ Diode; Features 0.85V Beep-Alert, and <0.1V BeepLit™ effects
•	•	ACV (LPF Added) range 600.0V; DCV range 600.0V
•	•	Fork-clamp ACA ranges 60.00A, 200.0A
•	•	Soft carrying pouch
•	•	Rugged fire retarded housing
•	•	Transient protection 6kV 1.2/50μs lightning surge
•	•	LVD EN61010-1/61010-2-032/61010-2-033 to CAT-III 600V & CAT-IV 300V
•	•	EMC EN61326-1

Quick & Easy Access to Electrical Box Wirings with Innovative 12mm Slim-Probe Open Jaws

Slide-in to Measure, Accurate to Read, Compact to Carry, Safe to Trust, Reliable to Last
 Body width <50mm for Handy Gripping, Overall Length <200mm for Easy Carrying

DUAL SENSITIVITIES EF-DETECTION

Features Non-Contact (NCV) & Single-Probe Voltage Detections for Identifying Live Lines; Added User Selectable Hi/Lo Sensitivities

12.5mm ACA FORK-CLAMP

Measures AC 200Amps for Conductor size Up To 12.5mm

LVD CAT III 600V & CAT IV 300V

Certified EN61010-2-032, EN61010-2-033, EN61010-1 & Relevant Standards on CAT III 600V & CAT IV 300V

1.0% DCV BASIC ACCURACY

Measures Up To 600V DC

DIRECT LPF ACV & LPF Hz FOR VFDs

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; 10 mins Auto-Off; Disable Option

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; Disable Option

ERGONOMIC & STREAMLINE BODY

Body width <50mm Fits Nicely in One Hand; Overall Length <200mm 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 Interferences; Reliable Operations and Readings; Meets EN61326-1

12mm SLIM-PROBE OPEN JAWS

Slide-in to Measure; Easy Access to Tight Electrical Box Wirings

CREST MaxMin IN-RUSH CURRENTS

Fast Captures In-rush +/- Peak Signals at Durations as Short as 5ms; Automatic APO Disable Feature

INNOVATIVE BeepLit™ DIODE TEST

Short-Beep Alerts on Forward Voltages <0.85V; Continuous Beep & Backlight Effects for Shorted Diodes

REC MaxMin DISPLAY READINGS

Records Max & Min Readings Over Time; Automatic APO Disable Feature

RELATIVE ZERO

REL for Convenient Readings Comparison

DATA HOLD

Freezes the Displaying Reading for Later View

DCμA (BM039F only)

For HVAC Flame Sensors Testing Via Test Probes

TYPE-K TEMPERATURE (BM039F)

Selectable °C and °F Readings; Comes with a Bkp60 Bead Probe

CAPACITANCE (BM039F)

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 (BM038F); 5 Auto-ranges Up To 6000kΩ (BM039F)

TRANSIENT PROTECTION

Up To 6kV 1.2/50μs Lightning Surge; Fully Certified by Independent Test Lab; Years of Credibility for Serious Users

