

SPECIAL FEATURES :

- AmpTip™ low-current range.
- Backlighted LCD display.
- Duo-Core to simultaneously measure clamp-on Amps + A DMM functions.
- VFD-V & Hz for fundamental V/Hz of most Variable-Frequency-Drives
- Display Hold & Non-Contact EF-Detection (NCV)
- AC True RMS Voltage & Current functions.
- Fast 80ms Peak-RMS mode to capture in-rush currents
- Probe contact EF-Detection for more precise indication of live.
- Line level ACV frequency 10.00Hz to 999.9Hz.
- Cx ranges 200.0μF to 2500μF for start & Run Motor Capacitors.

GENERAL SPECIFICATIONS :

- * **Sensing :** True RMS
- * **Jaws Opening size & conductor diameter :** 30mm Max.
- * **Display :** 3-5/6 digits 6000 counts; dual display
- * **Update Rate :** 5 per second nominal
- * **Polarity :** Automatic
- * **Operating Temperature :** 0°C to 40°C
- * **Relative Humidity :** Maximum 80%R.H. for temperature upto 31°C
decreasing linearly to 50% R.H. at 40°C.
- * **Altitude :** Operating below 2000m
- * **Storage Temperature :** -20°C ~ 60°C, < 80% R.H. (with battery removed)
- * **Temperature Coefficient :** Nominal 0.15 x (specified accuracy) / °C @ (0°C — 18°C or 28°C — 40°C),
or otherwise specified.
- * **Power Supply :** Standard 1.5V AAA Battery x 2
- * **Power Consumption :** typical 6.2mA
- * **Low Battery :** Below approx. 2.85V for Capacitance & Hz
Below approx. 2.5V for other functions
- * **APO timing :** Idle for 32 minutes approx.
- * **APO Consumption :** typical 5μA.
- * **Dimension :** 217(L) x 76(W) x 37(H)mm
- * **Weight :** approx. 189 gms.

SAFETY :

- **Safety :** Double insulation per UL/IEC/EN61010-1 Ed. 3.0, CAN/CSA C22.2
No. 61010-1 Ed. 3.0, UL/IEC/EN61010-2-032 Ed. 3.0 & UL/IEC/EN61010-2-033 Ed. 1.0
CAT III 600V & CAT IV 300V AC & DC.
- **E.M.C. :** Meets EN61326-1 : 2013
Temperature function at 80MHz ~ 150MHz :
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
- **Overload Protection :**
Clamp-on jaws : 600A rms continuous
“+” & COM Terminals (all other functions): 600VDC/VAC rms
- **Pollution Degree :** 2
- **Transient Protection :** 6.0kV (1.2/50μs surge)
- **Rugged Fire retarded casing.**
- **LVD EN61010-2-032 / EN61010-1 to CAT III 600V & CAT IV 300V**

ACCESSORIES : Test leads set, Users Manual, Carrying Case, Bkp60 banana plug K-type thermocouple.

OPTIONAL ACCESSORIES : BKB32 banana plug to type-K socket plug adaptor.

17 FUNCTIONS 22 RANGES

Preliminary Data

ELECTRICAL SPECIFICATIONS : KM 175D

Accuracy is $\pm$ (% of reading digits + number of digits) or otherwise specified, at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Maximum Crest Factor $<2.5:1$ at full scale & $<5:1$ at half scale or otherwise specified, and with frequency components within the specified frequency components within the specified frequency bandwidth for non-sinusoidal waveforms.

AMPTIP™ CLAMP-ON AC CURRENT

Range	Resolution	Accuracy ^{1) 2) 3) 4)}
50Hz ~ 60Hz		
60.00 A	0.1 A	$\pm(1.5\%\text{rdg} + 5\text{dgts})$

¹⁾ Induced error from adjacent current-carrying conductor : $< 0.06\text{A/A}$

²⁾ Induced error from ACV measurement $<0.60\text{A/kV}$ @ 50 / 60Hz

³⁾ Add 10d to the specified accuracy @ $< 6\text{A}$

⁴⁾ Induced non-zero residual while beeper turns on : $<20\text{d}$

REGULAR CLAMP-ON AC CURRENT

Range	Resolution	Accuracy ^{1) 2) 3) 4)}
50Hz ~ 100Hz		
60.00 A ⁵⁾	0.01 A	±(1.8%rdg + 5dgts)
600.0 A	0.1 A	
100Hz ~ 400Hz		
60.00 A ⁵⁾	0.01 A	±(2.0%rdg + 5dgts)
600.0 A	0.1 A	

¹⁾ Induced error from adjacent current-carrying conductor : $< 0.06\text{A/A}$

²⁾ Induced error from ACV measurement $<0.60\text{A/kV}$ @ 50 / 60Hz.

³⁾ Specified accuracy is for measurements made at the jaw center. When the conductor is not positioned at the jaw center, add 2% to specified accuracy for position errors.

⁴⁾ Induced non-zero residual while beeper turns on : $< 20\text{d}$

⁵⁾ Add 10d to specified accuracy @ $< 6\text{A}$.

DC μA

Range	Resolution	Accuracy
200.0 μA	0.1 μA	$\pm(1.0\%\text{rdg} + 5\text{dgts})$
2000 μA	0.1 μA	

Burden Voltage : $3.5\text{mV}/\mu\text{A}$

TEMPERATURE

Range	Accuracy ^{1) 2)}
$-40.0^{\circ}\text{C} \sim 99.9^{\circ}\text{C}$	$1.0\% \sim 0.8^{\circ}\text{C}$
$100.0^{\circ}\text{C} \sim 400^{\circ}\text{C}$	$1.0\% \sim 1^{\circ}\text{C}$
$-40.0^{\circ}\text{F} \sim 99.9^{\circ}\text{F}$	$1.0\% \sim 1.5^{\circ}\text{F}$
$100^{\circ}\text{F} \sim 752^{\circ}\text{F}$	$1.0\% \sim 2^{\circ}\text{F}$

¹⁾ K-type thermocouple range & accuracy not included

²⁾ Accuracies assume meter interior has the same temperature of the ambient (isothermal stage) for a correct junction voltage compensation. Allow enough time to reach the isothermal stage for a significant change of ambient temperature. It can take up to an hour for changes $> 5^{\circ}\text{C}$.

DIODE TESTER

Range	Resolution	Accuracy
3.000 V	1 mV	$\pm(1.5\%\text{rdg} + 5\text{dgts})$

Test Current : 0.3mA typically Open Circuit Voltage : $< 3.5\text{VDC}$ typical.

80ms PEAK-RMS for Clamp-on ACA

Response	80ms to $> 90\%$ of specifications, & is specified from 2% of range.
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AUDIBLE CONTINUITY TESTER

Audible Threshold	Between 10Ω and 250Ω
Response Time	32ms approx.

AC VOLTAGE (with Digital Low-Pass Filter)

Range	Resolution	Accuracy
50Hz ~ 60Hz		
600.0 V	0.1 V	$\pm(1.0\%\text{rdg} + 5\text{dgts})$

Input Impedance : $10\text{M}\Omega$, 100pF nominal

DC VOLTAGE

Range	Resolution	Accuracy
600.0 V	0.1 V	$\pm(1.0\%\text{rdg} + 5\text{dgts})$

Input Impedance : $10\text{M}\Omega$, 100pF nominal

RESISTANCE

Range	Resolution	Accuracy
600.0 Ω	0.1 Ω	$\pm(1.0\%\text{rdg} + 5\text{dgts})$
6.000K Ω	0.001k Ω	
60.00K Ω	0.01 k Ω	$\pm(1.2\%\text{rdg} + 5\text{dgts})$
600.0K Ω ¹⁾	0.1 k Ω	
6000K Ω ²⁾	1 k Ω	

Open Circuit Voltage : 1.7VDC typical

¹⁾ Test Current : $2\mu\text{A}$ typical

²⁾ Test Current : $0.2\mu\text{A}$ typical

CAPACITANCE

Range	Resolution	Accuracy ¹⁾
200.0 μF	0.1 μF	$\pm(2.0\%\text{rdg} + 4\text{dgts})$
2500 μF	1 μF	

¹⁾ Accuracies with film capacitor or better

HZ LINE LEVEL FREQUENCY

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

Accuracy : $1\% + 5\text{d}$

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

NON-CONTACT EF-DETECTION

Bar-Graph Indication	EF-H (High Sensitivity)	EF-L (Low Sensitivity)
	Typical Voltage (Tolerance)	
-	10V (5V ~ 25V)	40V (32V ~ 70V)
--	25V (20V ~ 66V)	110V (55V ~ 165V)
---	55V (50V ~ 125V)	220V (130V ~ 265V)
----	110V (90V ~ 200V)	400V (250V ~ 500V)
-----	220V ($>180\text{V}$)	550V ($>430\text{V}$)

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

Detection Frequency : $50/60\text{Hz}$

Detection Antenna : Inside the top side of the stationary jaw

Probe-Contact EF-Detection : For more precise indication of live wires, such as distinguishing between live and ground connections, use direct contact testing with one single test-probe via an input terminal. The COM terminal (Black) has the test sensitivity.

All Specifications are subject to change without prior notice