True RMS AC/DC Clamp-on Multimeters

LH40 Series

- **Three models: 200A, 1,000A and 2,000A**
- **AC and DC Amps, Volts, Ohms, Diode and Continuity Test**
- **Large jaw capacity takes 50mm ∅ or 2 x 30mm ∅ cables**
- **True RMS measurement of complex waveforms and analysis of AC and DC current components**
- **Auto-ranging and Auto-zeroing**
- **Excellent accuracy, even for distorted or non-sinusoidal A and V**
- **Display-Hold and Max-Hold (surge) modes for convenience in use**
- **Analogue outputs for recorder, logger or oscilloscope**
- **Conformance to IEC1010 and EMC standards**



High Accuracy

Advanced jaw design means that 40-series accuracy is little affected by external magnetic fields or off-centre conductor positioning. Utilisation of Hall effect technology ensures a broad flat frequency response resulting in optimum accuracy even when harmonics are present.

True RMS measurement

By using True RMS measurement techniques the 40-series instruments avoid errors (up to 50%) which can occur when non-sinusoidal waveforms created by today's complex loads are measured using traditional average-reading techniques. True RMS measurements are available for AC, DC (A, V) and AC+DC (A).

IEC 1010 and EMC Conformance

IEC 1010 safety features including a tactile barrier and special jaw design provide the user with confidence when making measurements in hazardous voltage areas.
Conformance to EMC standards ensures high reliability through reduced susceptibility to electromagnetic interference.

SPECIFICATION			
Model	**LH240**	**LH1040**	**LH2040**
NON-INVASIVE CURRENT MEASUREMENT			
Ranges (auto-ranging)	40A, 200A	400A, 1,000A	400A, 2,000A
Measurement methods	DC or AC True RMS, or DC only		
Resolution	10mA (40A range) 100mA (200A range)	100mA (400A range) 1A (1,000A range)	100mA (400A range) 1A (2,000A range)
Accuracy	± 1.3 % of reading ± 3 digits (1)		
Crest Factor	6 maximum for True RMS measurements		
Maximum measurable load	200A DC or AC peak	1,000A DC or AC peak	2000A DC or AC peak
Maximum overload	10,000 Amps		
ANALOGUE OUTPUT (2)			
Switchable Instantaneous or RMS (100 ms) output	5mV/A	1mV/A	0.5mV/A
Analogue output accuracy	± 1.3% of reading ± 1mV (1)		

Voltage Measurement

Methods of measurement	AC True RMS or DC (4)
Ranges (auto-ranging)	400V, 600V
Maximum overload	1,000V
Accuracy	±1% of reading ± 3 digits (1)
Resolution	100mV (400V range)
	1V (600V range)
Crest Factor	6 for V < 1,000 V peak
Input impedance	1 MΩ

Resistance, Continuity and Diode Testing

Ω ranges (auto-ranging)	400 Ω, 4 kΩ
Ω resolution	0.1 Ω (400 Ω range)
	1 Ω (4 kΩ range)
Ω accuracy	± 1% of reading ± 3 digits (1)
Continuity sounder	Toggled on & off by))) button;
(Ω range only)	Sounds when resistance < 50Ω
Input protection, Ω & diode test	To 600 V, DC or sine wave RMS
Diode-test 3.2V max. open	Reads forward-biased diode
Circuit, 0.3mA short-circuit	Voltage to 2,000 mV
Diode-test accuracy	± 1 % of reading ± 2 digits (1)

Frequency Response

(Measurements and Analogue Output)

AC only True RMS V & A	15Hz to 1kHz (3,4)
DC True RMS A	DC + 15Hz to 1KHz (3,4)
DC V and A	DC only

Display

Size and type	4000-count LCD
	12mm / 0.5-inch characters
Status indication	Low Battery, Data Hold,Pk (MAX Hold), AC, DC,
	Diode Test, Ω,))) (Continuity)
Refresh rate	3 times per second

Power Supply

Battery type	9 V Alkaline: MN1604, PP3
	IEC 6LR61 or equivalent
Battery life	Typically 40 hours

Mechanical Data:

Dimensions (H x W x D):	251 x 98 x 52 mm 9.88 x 3.86 x 2.05 inches
Weight:	500gm / 1.1 lbs
Jaw Capacity:	1 x 50 mm/ 2.0-inch ∅ cables or
	2 x 30mm/ 1.2-inch ∅ cables
Jaw Opening	55mm/ 2.2 inches

Environmental Data:

Operating Temperature:	0 °C to 50 °C (32 °F to 122 °F)
Temperature Coefficient	± 0.1% of reading per °C
(Current)	± 0.06% of reading per °F
Storage Temperature:	-20° to 60° (-4 °F to 140 °F)

Safety:

All models comply with IEC1010-1, 600V working, Installation category III, Pollution degree 2.

Maximum Safe Voltages:

Current measurement	600V AC RMS or DC between
(bare conductors)	uninsulated conductor & ground
Voltage measurement	600V AC RMS or DC between input terminals or between live terminal & local ground.

LEM

LEM offers a comprehensive range of electrical test products to ensure the safe and efficient operation of electrical equipment and installations. Other products from the LEM group includes systems and analysers for power quality and power quality monitoring and transducers for current and voltage measurement. LEM provides complete measurement solutions in current, voltage and power quality.

Notes:

1. All accuracies stated at 23°C ± 1°C (73.4 ± 1.8°F)
2. Analogue output is form plug-in adaptor with standard BNC output socket
3. At stated accuracy, extend to 5kHz for 3dB point
4. True RMS measurements taken over 100ms

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