

Specifications Reference temperature: 23°C ± 1°C

DC voltages	
Measurement ranges:	500mV, 5V, 50V, 500V, 1000V
Resolution:	10µV, 100µV, 1mV, 10mV, 100mV
Accuracy:	5V - 1000V: ±(0.05%rdg ¹⁾ + 0.002%fs ²⁾ 500mV - 50V: ± (0.05%rdg ¹⁾ + 0.004%fs ²⁾
Max. input voltage:	1000Vc for 50V, 1000V ranges; 300Vrms for 500mV and 5V ranges.
Input impedance:	100MΩ/90pF for 50V, 1000V ranges >1GΩ/90pF for the 500mV, 5V ranges
Input current:	20pA max. (23°C)
CMRR:	≥100dB (50/60Hz ± 0.5%)
SMRR:	≥60dB (50/60Hz ± 0.5%)

dB Mode	
Precision:	±(0.02dB+2digits) (display>-38.7dB)
Resolution:	0.01dB above 18% of rating
Accuracy:	-23.8dB to 59.8dB; ± 0.2 dB

DC current	
Measurement ranges:	500µA, 5mA, 50mA, 500mA, 10A
Resolution:	10nA, 100nA, 1µA, 10µA, 1mA
Accuracy:	0.5-500mA: ± (0.2%rdg ¹⁾ + 0.004%fs ²⁾ 10A: ±(0.3%rdg ¹⁾ + 0.004%fs ²⁾

AC voltage	
Measurement ranges:	500mV, 5V, 50V, 500V, 750V
Resolution:	10µV, 100mV, 1mV, 10mV, 100mV
Accuracy 0.5-50V:	10Hz-40Hz: ± (0.4%rdg ¹⁾ + 0.07%fs ²⁾ 20Hz-20kHz: ± (1%rdg ¹⁾ + 0.07%fs ²⁾
500V and 750V:	40Hz-1kHz: ± (0.4%rdg ¹⁾ + 0.07%fs ²⁾ 20Hz-1kHz: ± (1%rdg ¹⁾ + 0.07%fs ²⁾
Max. input voltage:	1000Vc for 50V, 500V and 1000V ranges 300Vrms for the 500mV and 5V ranges
Input impedance AC:	1MΩ // 90pF AC + DC: 10MΩ

AC + DC mode	
Bandwidth at - 3dB:	80kHz typical
CMMR:	≥60dB (50/60Hz ± 0.5%)
Peak factor:	7 max.

AC current	
Measurement ranges:	500µA, 5mA, 50mA, 500mA, 10A
Resolution:	10nA, 100nA, 1µA, 10µA, 1mA
Accuracy:	(40Hz - 5kHz) 0.5 - 500mA: ± (0.7%rdg ¹⁾ + 0.07%fs ²⁾ 10A: ± (1%rdg ¹⁾ + 0.07%fs ²⁾

AC + DC measurements	
Same as AC Voltage/Current Measurement + 25 digits	

Resistances	
Measurement range:	500Ω, 5kΩ, 50kΩ, 500kΩ, 5MΩ, 50MΩ
Resolution:	10mΩ, 100mΩ, 1Ω, 10Ω, 100Ω, 1kΩ
Accuracy:	± (0.05%rdg ¹⁾ + 0.004%fs ²⁾ + 50mΩ) 500Ω to 500kΩ 50MΩ: ± 0.3%rdg ¹⁾ + 0.004%fs ²⁾
Input Protection:	max. 300 Vrms

Temperature	
2-wires resistance measurement with linearization as per EN60751	
Range:	- 200°C to + 500°C
Resolution:	0.1°C
Measurement current:	approximately 1 mA
Display:	in °C, °F
Accuracy:	± 0.1°C from -200°C to +200°C ± 0.2°C from 200°C to 500°C (except for sensor tolerance)

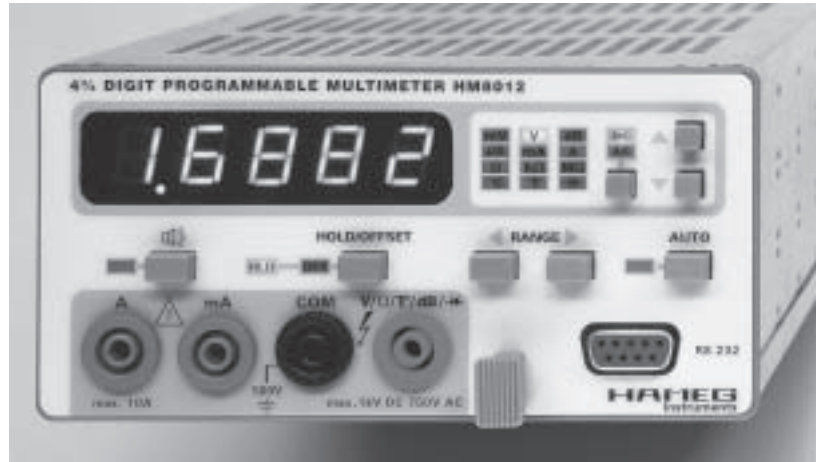
Temperature coefficient: (Reference 23°C)	
V =	500mV, 50V:30ppm/°C; 1000V:80ppm/°C other ranges: 20ppm/°C
V ~	750V range 80ppm/°C other ranges 50ppm/°C
mA	all ranges 200ppm/°C
mA-	all ranges 300ppm/°C
Ω	5 MΩ, 50 MΩ ranges 200ppm/°C other ranges 50ppm/°C

Measurement current for resistance measurement	
500Ω/5kΩ :1mA; 50kΩ: 100µA; 500kΩ:10µA; 5/50MΩ:100nA	

Measurement voltage for resistance measurement	
10V typical for open inputs; neg. pole voltage is common terminal.	

Voltage drop for current measurements	
10A :0.2V max.; 500mA:2.5V max.; Other ranges 0.7V max.	

Operating conditions:	+10°C to +40°C max. rel. humidity 80%
Power supply:	+ 5V:300mA; +16V:75mA; -16 V:20mA (P = 3 W)
Case size (without connector):	W 135, H 68, D 228mm



4³/₄ Digit Programmable Multimeter HM8012

Test Equipment Depot
 testequipmentdepot.com
 800-517-8431
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- 50.000 counts, 4³/₄ Digits
- 42 Measurement Ranges
- Automatic and Manual Range Selection
- Between 3 to 6 Measurements/sec
- True RMS Measurement of AC and AC + DC
- Basic Accuracy 0.05%
- Resolution 10µV, 10nA, 10mΩ, 0,01dBm and 0,1°
- Input Resistance >1GΩ (0.5V and 5V)
- Communication by RS-232 Link

The **HM8012** is a highly integrated digital multimeter with **42 measurement ranges**. It succeeds the HM8011 with over **20.000** units sold. Auto ranging provides optimum resolution for AC+DC, Decibel and Temperature measuring functions. The 4³/₄ digit readout will display a measured magnitude of up to 50,000 points. The maximum resolution obtained, dependent on measurement function is **10µV, 10nA, 10mΩ** or **0.1°C**.

Input resistance exceeds **1GΩ/90pF** in the lowest VDC modes. **True RMS** measurements of AC voltage/current are possible with a **Crest factor of 7**. Analysis of audio signals is easy thanks to direct reading in dB. **Resolution is 0.01dB**. Offset compensation is employed to eliminate the effects of any line resistance influencing resistor measurements. A software controlled calibration routine allows a complete instrument adjustment without any manual adjustments.

All instrument functions can be controlled via a **RS-232** standard interface. Easy Software makes **PC based set up** under Windows a simple task. All measurement functions can be controlled on a virtual instrument shown on the PC monitor. A **data logging** capability including a **time based curve tracer** runs under **Excel**.

The programming feature of the **HM8012** permits integration in an automatic test environment as a **system multimeter**.

Accessories supplied
 Operators Manual, PC Software on CD-ROM, Test Leads HZ15

¹⁾ rdg = reading; ²⁾ fs = full scale