

4³/₄ - Digit Programmable Multimeter HM8012



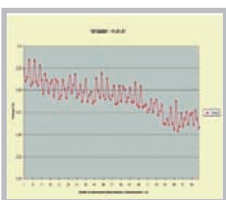
HZ15 (included)



WDM8012 Software
(included)



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(included)



4³/₄-digit display with 50,000 counts, basic accuracy 0.05 %

Automatic and manual range selection

Max. resolution 10 μV, 0.01 dBm, 10 nA, 10 mΩ, 0.1 °C/°F

Offset function / relative value measurement in basic measurement functions

Input impedance >1 GΩ (0.5V and 5V DC range)

RS-232 interface

PC software for control and data logging

Mainframe HM8001-2 or HM8003 required for operation



4 1/2 -Digit programmable Multimeter HM8012

Valid at 23 °C after a 30 minute warm-up period

DC voltage

Measurement ranges:	500 mV, 5 V, 50 V, 500 V, 600 V
Resolution:	10 µV, 100 µV, 1 mV, 10 mV, 100 mV
Accuracy:	
5 V, 500 V, 600 V:	±(0.05 % of reading + 0.002 % of full scale)
500 mV, 50 V:	±(0.05 % of reading + 0.004 % of full scale)
Overload protection:	
V/Ω/T°/dB/ ← to COM and to chassis:	850 V _p at max. 60 Hz or 600 V _{DC}
COM against chassis:	250 V _{rms} at max. 60 Hz or 250 V _{DC}
Input resistance:	
50 V, 500 V, 600 V:	10 MΩ 90 pF
500 mV, 5 V:	> 1 GΩ 90 pF
Input current:	10 A
CMRR¹⁾:	≥ 100 dB (50/60 Hz ± 0.5 %)
SMRR²⁾:	≥ 60 dB (50/60 Hz ± 0.5 %)

dB Mode

Accuracy:	±(0.02 dB + 2 digits) (display > -38.7 dBm)
Resolution:	0.01 dB above 18 % of rating

DC current

Measurement ranges:	500 µA, 5 mA, 50 mA, 500 mA, 10 A
Resolution:	10 nA, 100 nA, 1 µA, 10 µA, 1 mA
Accuracy:	
0.5-500 mA:	±(0.2 % of reading + 0.004 % of full scale)
10 A:	±(0.3 % of reading + 0.004 % of full scale)
Voltage drop:	
10 A range:	0.2 V max.
500 mA range:	2.5 V max.
other ranges:	0.7 V max.

AC voltage

Measurement ranges:	500 mV, 5 V, 50 V, 500 V, 600 V
Resolution:	10 µV, 100 µV, 1 mV, 10 mV, 100 mV
Accuracy 0.5-50 V:	
40 Hz-5 kHz:	± (0.4 % of reading + 0.07 % of full scale)
20 Hz-20 kHz:	± (1 % of reading + 0.07 % of full scale)
Accuracy 500 V and 600 V:	
40 Hz-1 kHz:	± (0.4 % of reading + 0.07 % of full scale)
20 Hz-1 kHz:	± (1 % of reading + 0.07 % of full scale)
Overload protection:	
V/Ω/T°/dB/ ← to COM and to chassis:	850 V _p at max. 60 Hz or 600 V _{DC}
COM against chassis:	250 V _{rms} at max. 60 Hz or 250 V _{DC}
Input impedance	
AC mode:	1 MΩ 90 pF
AC + DC mode:	10 MΩ 90 pF
Bandwidth at -3 dB:	80 kHz typical
dB mode:	20 Hz - 20 kHz
Accuracy	
-23.8 dBm to 59.8 dBm:	±0.2 dBm
Resolution:	0.01 dB above 9 mV
CMRR¹⁾:	≥ 60 dB (50/60 Hz ± 0.5 %)
Crest factor:	7 max.

AC current

Measurement ranges:	500 µA, 5 mA, 50 mA, 500 mA, 10 A
Resolution:	10 nA, 100 nA, 1 µA, 10 µA, 1 mA
Accuracy:	
0.5 - 500 mA:	±(0.7 % of reading + 0.07 % of f.s.) 40 Hz - 5 kHz
10 A:	±(1 % of reading + 0.07 % of full scale)

AC + DC measurements

As shown for AC + 25 digits

Resistance

Measurement ranges:	500 Ω, 5 kΩ, 50 kΩ, 500 kΩ, 5 MΩ, 50 MΩ
Resolution:	10 mΩ, 100 mΩ, 1 Ω, 10 Ω, 100 Ω, 1 kΩ
Accuracy:	
500 Ω to 500 kΩ:	±(0.05 % of reading + 0.004 % of f.s. + 50 mΩ)
5 MΩ to 50 MΩ:	±(0.3 % of reading + 0.004 % of full scale)
Input protection max. 300 V_{rms}	
Measurement current:	
500 Ω-5 kΩ range:	1 mA
50 kΩ range:	100 µA
500 kΩ range:	10 µA
5-50 MΩ range:	100 nA

Measurement voltage: 10 V typical for open inputs, depending on the value of resistance to be measured. Negative polarity of measurement voltage is across common terminal.

Temperature

2-wire resistance measurement with linearization for PT100 sensors as per standard EN60751

Range:	-200° C to +500° C
Resolution:	0.1° C
Measurement current:	approx. 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 (exception: sensor tolerance)

Temperature coefficient: (reference 23°C)

V = 500 mV, 50 V	30 ppm/°C
600 V range	80 ppm/°C
other ranges	20 ppm/°C
V ~ 600 V range	80 ppm/°C
other ranges	50 ppm/°C
mA all ranges	200 ppm/°C
mA-all ranges	300 ppm/°C
Ω 5 MΩ, 50 MΩ ranges	200 ppm/°C
other ranges	50 ppm/°C

Miscellaneous

Power supply (from mainframe):	
+ 5 V	300 mA
-26 V	140 mA
Operating temperature:	+ 10° C to + 40° C
Max. relative humidity:	80 % (without condensation)
Dimensions (W x H x D) (without 22-pole flat plug):	135 x 68 x 228 mm
Weight:	approx. 0.5 kg

¹⁾ Common mode rejection ratio ²⁾ Serial mode rejection ratio

Accessories supplied: Operator's Manual, HZ15 PVC test leads, HM8012: + Software CD and interface cable
Optional accessories: HZ10 Silicone test leads, HZ812 PT100 Temperature Sensor

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