

4³/₄-Digit Programmable Multimeter HM8012

HM8012



HZ15 (included)



WDM8012 Software
(included)



- 4³/₄-digit display with 50,000 counts
- Basic accuracy 0.05%
- Max. Resolution: 10 μ V, 0.01dBm, 10nA, 10m Ω , 0.1 $^{\circ}$ C
- Offset function/relative value measurement
- RS-232 interface and software included

Mainframe HM8001-2
required for operation


4½-Digit Programmable Multimeter HM8012

All data valid at 23 °C after 30 minute warm-up

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 pA

Common mode rejection ratio: ≥ 100 dB (50/60 Hz ± 0.5 %)

Serial mode rejection ratio: ≥ 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...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 digit

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...500 kΩ:	±(0.05 % of reading + 0.004 % of f.s.+50 mΩ)
5...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: 10V 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...+500 °C

Resolution: 0.1 °C

Measurement current: approx. 1 mA

Display: in °C, °F

Accuracy: ± (0.4 °C + 0.0005 x T) from -200 °C...+200 °C
± (0.5 °C + 0.0005 x T) from +200 °C...+500 °C
(T in °C, sensor tolerance not included)

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: +5...+40 °C

Storage temperature: -20...+70 °C

Rel. humidity: 5...80% (non condensing)

Dimensions (W x H x D) (without 22-pole flat plug):

135 x 68 x 228 mm

Weight: approx. 0.5 kg

Accessories supplied: Operator's Manual, Interface cable (HZ14), PVC test leads (HZ15), RS-232 Interface, Software CD

Optional accessories:

HZ10S	5 x silicone test lead (measurement connection in black)
HZ10R	5 x silicone test lead (measurement connection in red)
HZ10B	5 x silicone test lead (measurement connection in blue)
HZ812	PT100 Temperature probe

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