

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

4³/₄-Digit Programmable Multimeter HM8012

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

DC voltage

Measurement ranges:	500 mV, 5V, 50V, 500V, 600V
Resolution:	10 µV, 100 µV, 1 mV, 10 mV, 100 mV
Accuracy:	
5V, 500V, 600V	±(0.05% of reading + 0.002% of full scale)
500 mV, 50V	±(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:	
50V, 500V, 600V	10 MΩ 90 pF
500 mV, 5V	>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, 5V, 50V, 500V, 600V
Resolution:	10 µV, 100 µV, 1 mV, 10 mV, 100 mV
Accuracy 0.5...50V:	
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 500V and 600V:	
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
CMRR:	≥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...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)
Overload Protection:	max. 300 V _{rms}
Measurement current:	
500 Ω...5kΩ 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...+200 °C ±(0.5 °C + 0.0005 x T) from +200...+500 °C (T in °C, sensor tolerance not included)

Temperature coefficient: (reference 23 °C)

V = 500 mV, 50V	30 ppm/°C
600V range	80 ppm/°C
other ranges	20 ppm/°C
V ~ 600V 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):	
+5V	300 mA
-26V	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: Operating manual, Interface cable (HZ14), PVC test leads (HZ15), CD, Software

Recommended 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