

4³/₄-Digit Programmable Multimeter HM8012

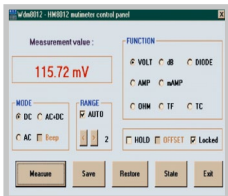
HM8012



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...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...+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 |