



# CMM-40

## INDUSTRIAL MULTIMETER



Industrial multimeter CMM-40 was designed for the purpose of measurements of AC/DC voltage, AC/DC current, resistance, capacitance, frequency (electrical and electronic), duty cycle, temperature and also for testing diodes and continuity.

### Standard accessories of the meter CMM-40:

- test leads (2 pcs.) **WAPRZCMP1**
- battery 9V **WASONTEMK**
- K type temperature probe
- carrying case
- waterproof plugs (2 pcs.)
- operating manual

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# CMM-40

The most important features of CMM-40 are:

- Autoranging/manual range selection.
- „DATA HOLD” function, for holding measured values.
- „REL” function, which allows you to make measurements relative to a stored reference value.
- „MAX/MIN” function.
- „PEAK HOLD” function.
- Memory for 2000 measurement results.
- Continuity test with acoustic signalling (beeper).
- „AUTO-OFF” function.
- Display 4% digits (40000 max).
- Double molded, waterproof casing.

## Frequency measurement (electronic)

Range	Resolution	Accuracy
40,000 Hz	0,001 Hz	±(0,1% m.v. + 1 digit)
400,00 Hz	0,01 Hz	
4,0000 kHz	0,0001 kHz	
40,000 kHz	0,001 kHz	
400,00 kHz	0,01 kHz	
4,0000 MHz	0,0001 MHz	
40,000 MHz	0,001 MHz	
100,00 MHz	0,01 MHz	not specified

- Sensitivity: 0.8V rms min. @ 20% to 80% duty cycle and <100kHz; 5V rms min @ 20% to 80% duty cycle and > 100kHz

## Frequency measurement (electrical)

Range	Resolution	Accuracy
40,00 Hz...10,000 kHz	0,01 Hz...0,001 kHz	± 0,5% m.v.

- sensitivity: 1V rms

## Duty cycle measurement

Range	Resolution	Accuracy
0,10...99,9%	0,01%	±(1,2% m.v. + 2 digits)

- pulse width: 100µs - 100ms,
- frequency width: 5Hz...150kHz.

## Temperature measurement

Range	Resolution	Accuracy *
-50,0°C...+1200,0°C	0,1°C	±(1% m.v. + 2,5°C, 4,5°F)
-58,0°F...+2192,0°F	0,1°F	

\*) probe (K type) accuracy not included

## Other technical data:

- power supply 9V battery type 6LR61
- diode test I=0,9mA, U<sub>f</sub>=2,8V DC
- continuity test I<0,35mA, sound signal for R<35Ω
- over range indication OL displayed
- crest factor ≤ 3 at full scale up to 500V, decreasing linearly to ≤ 1,5 at 1000V captures peaks >1ms
- PEAK 2 times per second
- sampling rate 10MΩ (V DC), 9MΩ (V AC)
- input impedance 40000 counts backlit LCD with bargraph, 4% digits
- display 2000
- store capacitance 187 x 81 x 55 mm
- dimensions 342 g
- weight 342 g
- fuses mA, µA range: 0,5A/1000V ceramic fast blow
- auto power OFF A range: 10A/1000V ceramic fast blow
- accordance with following standards 15 min.
- EN 61010-1:2004
- EN 61010-2-032
- quality standard ISO 9001

## DC voltage measurement

Range	Resolution	Accuracy
400,00 mV	0,01 mV	±(0,06% m.v. + 4 digits)
4,0000 V	0,0001 V	
40,000 V	0,001 V	
400,00 V	0,01 V	
1000,0 V	0,1 V	±(0,1% m.v. + 5 digits)

## AC voltage measurement (True RMS)

Range	Resolution	Accuracy
400,00 mV	0,01 mV	±(1% m.v. + 40 digits)
4,0000 V	0,0001 V	±(1% m.v. + 30 digits)
40,000 V	0,001 V	
400,00 V	0,01 V	
1000,0 V	0,1 V	

- frequency range: 50...1000Hz.

## AC/DC current measurement (True RMS)

Range	Resolution	Accuracy
400,00 µA	0,01 µA	dla DC ±(1,0% m.v. + 3 digits)
4 000,0 µA	0,1 µA	
40,000 mA	0,001 mA	
400,00 mA	0,01 mA	
10,000 A	0,001 A	dla AC ±(1,5% m.v. + 30 digits)

- 20A: 30 sec max with reduced accuracy.

## Resistance measurement

Range	Resolution	Accuracy
400,00 Ω	0,01 Ω	±(0,3% m.v. + 9 digits)
4,0000 kΩ	0,0001 kΩ	±(0,3% m.v. + 4 digits)
40,000 kΩ	0,001 kΩ	
400,00 kΩ	0,01 kΩ	
4,0000 MΩ	0,0001 MΩ	
40,000 MΩ	0,001 MΩ	±(2,0% m.v. + 10 digits)

## Capacitance measurement

Range	Resolution	Accuracy
40,000 nF	0,001 nF	±(5,0% m.v. + 7 digits)
400,00 nF	0,01 nF	
4,0000 µF	0,0001 µF	±(3,0% m.v. + 5 digits)
40,000 µF	0,001 µF	
400,00 µF	0,01 µF	
4000,0 µF	0,1 µF	±(5,0% m.v. + 5 digits)
40,000 mF	0,001 mF	

„m.v.”- measured value

## Electric security:

- type of insulation double, according to EN 61010-1 and IEC 61557
- measurement category CAT III 1000V acc. to EN 61010-1:2004
- protection class acc. to EN 60529 IP67

## Rated operational conditions:

- operating temperature 0...+40°C
- storage temperature -20...+60°C
- operating humidity max 80% up to 87°F (31°C) decreasing linearly to 50% at 104°F (40°C)
- operating altitude max 2000m