

33XR Metorman Professional Digital Multimeter

Electrical Specifications

(Accuracy at 23 °C $\pm$ 5 °C, <75 % R.H.)

DC VOLTS

Ranges: 400mV, 4V, 40V, 400V, 1000V

Resolution: 100 μ V

Accuracy: $\pm$ (0.7 % of reading + 1 digit)

Input impedance: 10 M Ω

Overload protection:

400mV Range: 1000 V dc / 750 V ac rms (15 seconds)

Other Ranges: 1000 V dc / 750 V ac rms

AC VOLTS (45 Hz - 500 Hz)

Ranges: 400mV, 4V, 40V, 400V, 750V ac

Resolution: 100 μ V

Accuracy:

$\pm$ (1.5 % of reading + 4 digits)

$\pm$ (2.0 % of reading + 4 digits) 200Hz to 500Hz on 4V range

Peak hold accuracy:

$\pm$ (3.0 % + 60 digits) on 40V to 750V ranges

400 mV, 4V ranges unspecified

Input impedance: 10 M Ω

Overload protection:

400mV Range: 1000 V dc / 750 V ac rms (15 seconds)

Other Ranges: 1000 V dc / 750 V ac rms

DC CURRENT

Ranges: 400 μ A, 4mA, 40mA, 300mA, 10A

Resolution: 0.1 μ A

Accuracy:

$\pm$ (1.0 % of reading + 1 digit) on 400 μ A to 300mA ranges

$\pm$ (2.0 % of reading + 3 digits) on 10A range

Burden voltage:

400 μ A Range: 1 mV/ 1 μ A

4 mA Range: 100 mV/ 1 mA

40 mA Range: 12 mV/ 1 mA

300 mA: 4 mV/ 1 mA

10A: 100 mV/ 1 A

Input protection:

0.315 A/1000 V fast blow ceramic fuse 6.3_32 mm on μ A/mA input

10 A/1000 V fast blow ceramic fuse 10_38 mm on 10A input

10A Input: 10 A for 4 minutes maximum followed by a 12 minute cooling period

AC CURRENT (45 Hz - 500 Hz)

Ranges: 400 μ A, 4mA, 40mA, 300mA, 10A

Resolution: 0.1 μ A

Accuracy:

$\pm$ (1.5 % of reading + 4 digits) on 400 μ A to 300mA ranges

$\pm$ (2.5 % of reading + 4 digits) on 10A range

Peak hold accuracy: $\pm$ (3.0 % + 60 digits)

Burden voltage: See DC Current

Input protection:

0.315 A/1000 V fast blow ceramic fuse 6.3_32 mm on μ A/mA input

10 A/1000 V fast blow ceramic fuse 10x38 mm on 10A input

10A Input: 10 A for 4 minutes maximum followed by a 12 minute cooling period

RESISTANCE

Ranges: 400 Ω , 40k Ω , 4M Ω

Resolution: 100 m Ω

Accuracy:

$\pm$ (1.0 % of reading + 4 digits) on 400 Ω , 40k Ω range

$\pm$ (1.2 % of reading + 4 digits) on 4M Ω range

Open circuit volts: 0.5 V dc typical (3.0 V dc on 400 Ω range)

Overload protection: 1000 V dc or 750 V ac rms

CAPACITANCE

Ranges: 4 μ F, 40 μ F, 400 μ F, 4000 μ F

Resolution: 0.1 uF

Accuracy:

$\pm$ (5.0 % of rdg +10 digits) on 4uF range

$\pm$ (5.0 % of rdg +5 digits) on 40uF to 400uF ranges

$\pm$ (5.0 % of rdg +15 digits) on 4000uF range

Test voltage: < 3.0 V

Test Frequency: 10 Hz

Input protection: 0.315 A/1000 V fast blow ceramic fuse 6.3_32 mm on μ A/mA input

FREQUENCY (autoranging)

Range: 4k, 40k, 400k, 4M, 40MHz

Resolution: 1 Hz

Accuracy: $\pm$ (0.1 % of reading + 3 digits)

Sensitivity: 10Hz to 4MHz: >1.5 V rms;

4MHz to 40MHz: >2 V rms, <5 V rms

Min pulse width: >25 ns

Duty cycle limits: >30 % and <70 %

Overload protection: 1000 V dc or 750 V ac rms