



Specification
MM68
Digital Multimeter



ELECTRICAL

All specified accuracies are at 23°C ± 5°C,
<75% RH for 1 year.
Temperature Coefficient: 0.1 x (specified
accuracy) per °C. (0°C to 18°C, 28°C to 50°C)

DC VOLTS

Ranges: 220mV, 2.2V, 22V, 220V, 1000V
Resolution: 0.01mV, 0.0001V, 0.001V, 0.01V,
0.1 V
Accuracy: ± (0.05% of rdg + 5 dgts)
Input impedance: 220mV: >100MΩ;
2.2V: 10 MΩ; 22V to 1000V: 9.1MΩ.
Overload protection: 1000V DC or 750 AC
rms.

TRUE RMS AC VOLTS

Ranges: 220mV, 2.2V, 22V, 220V, 750V
Resolution: 0.01mV, 0.0001V, 0.001V, 0.01V, 0.1V
Accuracy: 220mV range (50 Hz to 500 Hz) ± (1.2% of rdg + 10 dgts)
2.2V to 220V ranges (50 Hz to 500 Hz) ± (1.2% of rdg + 10 dgts)
(500 Hz to 2 kHz) ± (2.0% of rdg + 20 dgts)
750V range (50 Hz to 500 Hz) ± (2.0% of rdg + 20 dgts)
AC coupled true rms specified from 5% to 100% of range
Crest factor: ≤ 3
Input impedance: 220mV: >100MΩ; 2.2V: 10MΩ; 22V to 750V: 9.1MΩ
Overload protection: 1000V DC or 750 AC rms



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DC CURRENT

Ranges: 220µA, 2200µA, 22mA, 220mA, 10A *
Resolution: 0.01µA, 0.1µA, 0.001mA, 0.01mA, 0.001A
Accuracy: 220µA to 22mA ranges ± (0.5% of rdg + 10 dgts)
220mA range ± (1.0% of rdg + 10 dgts)
10A range ± (2.0% of rdg + 10 dgts)
* Current on 10 A range applied for 60 seconds max followed by a 10 minute
cooling period
Input protection: 0.5A/500V fast blow ceramic fuse
10A/500V fast blow ceramic fuse

TRUE RMS AC CURRENT

Ranges: 220µA, 2200µA, 22mA, 220mA, 10A *
Resolution: 0.01µA, 0.1µA, 0.001mA, 0.01mA, 0.001 A
Accuracy: 220µA to 220mA (50 Hz to 1 kHz) ± (1.5% of rdg + 5 dgts)
10A range (50 Hz to 1 kHz) ± (2.5% of rdg + 5 dgts)
* Current on 10 A range applied for 60 seconds max followed by a 10 minute
cooling period
AC coupled true rms specified from 5% to 100% of range
Crest factor: ≤ 3
Input protection: 0.5A/500V fast blow ceramic fuse
10A/500V fast blow ceramic fuse.

RESISTANCE

Ranges: 220Ω, 2.2kΩ, 22kΩ, 220kΩ, 2.2MΩ, 22MΩ, 220MΩ
Resolution: 0.01Ω, 0.0001kΩ, 0.001kΩ, 0.01kΩ, 0.0001MΩ, 0.001MΩ, 0.1MΩ
Accuracy: 220Ω to 220kΩ ranges ± (0.5% of rdg + 10 dgts)
2.2MΩ range ± (1.0% of rdg + 10 dgts)
22MΩ range ± (2.0% of rdg + 10 dgts)
220MΩ range ± (5.0% of rdg + 10 dgts)



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Open circuit voltage: -0.45 V DC (-1.2 V DC on 220 Ω range)
Overload protection: 500 V DC or AC rms

CAPACITANCE

Ranges: 22nF, 220nF, 2.2µF, 22µF, 220µF, 2.2mF, 22mF
Resolution: 0.001nF, 0.01nF, 0.0001µF, 0.001µF, 0.01µF, 0.0001mF, 0.001mF
Accuracy: 22nF range ± (3.0% of rdg + 80 dgts)
220nF to 220µF ranges ± (3.0% of rdg + 5 dgts)
2.2mF to 22mF range ± (5.0% of rdg + 20 dgts)
Overload protection: 500 V DC or AC rms

FREQUENCY

Ranges: 22Hz, 220Hz, 22kHz, 220kHz, 2.2MHz, 22MHz
Resolution: 0.01Hz, 0.1Hz, 0.001kHz, 0.01kHz, 0.0001MHz, 0.001MHz
Accuracy: ± (0.1% of rdg + 3 dgts)
Input sensitivity: 2Hz ~ 2.2MHz: >2.5Vrms. 2.2MHz ~ 22MHz: >2.5Vrms and
<5Vrms
Minimum input: 22Hz range > 2Hz. 220Hz range > 20Hz
Minimum pulse width: > 25ns
Duty cycle limits: > 30% and < 70%
Overload protection: 500VDC or AC rms

DUTY CYCLE

Range: 10% to 95%
Resolution: 0.01%
Pulse width: >10us
Frequency range: 10% to 95% (40Hz to 20kHz)
Accuracy: (5V logic) ± (2.0% rdg + 5 dgts)
Overload protection: 500V DC or AC rms



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CONTINUITY

Audible indication: < 30Ω
Response time: 500ms
Overload protection: 500V DC or AC rms

DIODE TEST

Test current: 1.2mA approx
Resolution: 0.1mV
Accuracy: ± (2.0% rdg + 5 dgts)
Audible indication: <0.25V
Open circuit voltage: 3.0V DC typical
Overload protection: 500V DC or AC rms

GENERAL

Display: 4½ digit liquid crystal display with a maximum reading of 22000.
Analog bargraph: 22 segments with measurement 20 times per second.
Polarity: Automatic, positive implied, negative polarity indication
Overrange: (OL) or (-OL) is displayed
Zero: Automatic
Low battery indication:  symbol is displayed when the battery voltage
drops below the operating level
Measurement rate: 3 times per second, nominal
Auto power off: After approx 30 minutes
Operating environment: 0°C to 50°C at < 70% RH
Storage temperature: -20°C to 60°C at < 80% RH
Altitude: Up to 2000m
Power: Single standard 9 volt battery, NEDA 1604, JIS006P, IEC 6F22.
Battery Life: 150 hours typical with carbon-zinc



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Dimensions: 165mm (H) x 78mm (W) x 42.5mm (D)

Weight: Approx. 285g

Includes: TL16 test leads, Magnetic strap, 1 x spare fuse, 9V battery (installed) and instructions

SAFETY:

Conforms to BS EN 61010-1, CAT III 600 V, CAT II 1000V

Class II Double Insulation

Pollution Degree: 2 for indoor use

TL16 test leads conform to BS EN 61010-031, CAT III 1000V, CAT IV 600V, 10A.

EMC: Conforms to BS EN 61326.

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