

Model 235

Digital Multimeter



- Only DMM with RS232C computer output
- 11 functions/45 ranges, including temperature
- Exclusive, best "Digi-Glo" backlight
- Min/Max, Rel, Data Hold, Range Lock modes
- 4000-count display with bargraph
- Holster included
- CAT II 1000 V, CAT III 600 V rated

235 Specifications (at 23 °C ± 5 °C, < 80 % R.H. non-condensing)

DC Voltage	
Ranges	400 mV, 4 V, 40 V, 400 V, 1000 V
Accuracy	± (0.25 % rdg + 2 dgts)
Resolution	100 μV in 400 mV range
Input Impedance	400 mV: > 100 MΩ 4 V: 10 MΩ 40-1000 V: > 9.1 MΩ
CMRR	> 120 db to 1000 V (≤ 1 k unbalanced)
NMRR	> 60 db at 50/60 Hz
AC Voltage	
Ranges	400 mV, 4 V, 40 V, 400 V, 750 V
Accuracy	400 mV (45 Hz-100 Hz): ± (1.5 % rdg + 15 dgts) 4-400 V (45 Hz-500 Hz): ± (1.0 % rdg + 8 dgts) 4, 40 V (500 Hz-5 kHz): ± (2.0 % rdg + 5 dgts) 400 V (500 Hz-2 kHz): ± (2.0 % rdg + 5 dgts) 750 V (45 Hz-60 Hz): ± (1.0 % rdg + 4 dgts) 750 V (60 Hz-500 Hz): ± (2.0 % rdg + 5 dgts)
Resolution	100 μV in 400 mV range
Conversion Type	True-rms (AC Coupled)
Input Impedance	See DC Voltage
<i>Note: Backlight usage is not recommended when measuring in the 400 mV AC or 4 V AC ranges as it reduces reading accuracy</i>	
DC Current	
Ranges	400 μA, 4 mA, 40 mA, 400 mA, 10 A
Accuracy	400 μA- 400 mA: ± (0.8 % rdg + 2 dgts) 10 A: ± (2 % rdg + 3 dgts)
Resolution	100 nA in 400 μA range
Voltage Burden	400 μA range: 0.5 mV/μA 4 ma-400 ma range: 7 mV/mA 10 A range: 3 mV/A
AC Current	
Ranges	400 μA, 4, 40, 400 mA, 10 A
Accuracy	400 μA- 400 mA (45 Hz-500 Hz): ± (1.2 % rdg + 5 dgts); (500 Hz-1 kHz): ± (1.2 % rdg + 7 dgts) 10 A (45 Hz-1 kHz): ± (2.5 % rdg + 7 dgts)
Resolution	100 nA in 400 μA range
Voltage Burden	See DC Current
Resistance	
Ranges	400 Ω, 4 kΩ, 40 kΩ, 400 kΩ, 4 MΩ, 40 MΩ
Accuracy	400 Ω: ± (0.8 % rdg + 4 dgts) 4 kΩ-400 kΩ: ± (0.7 % rdg + 2 dgts) 4 MΩ: ± (1.0 % rdg + 4 dgts) 40 MΩ: ± (2.0 % rdg + 4 dgts)
Resolution	100 mΩ in 400 Ω range
Open Circuit Voltage	400 Ω range: - 1.2 V DC Other ranges: - 0.45 V DC
Diode Test	
Test Current	1 mA DC
Test Voltage	3.2 V
Accuracy	± (1.5 % rdg + 2 dgts)
Display	Forward junction voltage
Continuity Test	
Test Range	400 Ω range
Audible Threshold	< 40 Ω
Response Time	< 100 ms
Open Circuit Voltage	- 1.2 V DC

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235 Specifications (at 23 °C ± 5 °C, < 80 % R.H. non-condensing) *cont.*

Frequency	
Ranges	4, 40, 400 kHz, 4, 40 MHz
Accuracy	± (0.1 % rdg + 2 dgts)
Resolution	1 Hz in 4 kHz range
Sensitivity	4 Hz-4 MHz: > 1 V rms 4 MHz-40 MHz: > 1.5 V rms < 3 V rms
Duty Cycle Limits	> 30 % to < 70 %
Capacitance	
Ranges	F2 blade jacks: 4, 40, 400 nF; 4, 40 µF mA/F1- COM jacks: 400, 4000 µF, 40 mF
Accuracy	4 n-4 µF: ± (2.0 % rdg + 4 dgts) 40 µ-4000 µF: ± (3.0 % rdg + 4 dgts) 40 mF: ± (3.0 % rdg + 15 dgts)
Resolution	1 pF in 4 nF range
Test Frequency/Response Times	4 n-4 µF: 1.3 Hz/2 s 40 µ-4000 µF: 7.8 Hz/10 s 40 mF: 7.8 Hz/30 s
Temperature	
Ranges	°C mode: - 20 °C to 1300 °C °F mode: - 4 °F to 2372 °F
Accuracy, °C mode	- 20° to 400 °C: ± (2.0 % rdg + 2 °C) 400° to 1300 °C: ± (3.0 % rdg + 2 °C)
Accuracy, °F mode	- 4° to 400°F: ± (2.0%rdg + 4°F) 400° to 2372°F: ± (3.0%rdg + 4°F)
Resolution	1°C/1°F
Transistor Beta	
Transistor Type	NPN, PNP
hFE Range	0-1000
hFE Base Current	10 µA DC
hFE Voltage C-E	3.0 V DC
Overload Protection	
Voltage	1000 V DC / 750 V rms
Capacitance	400 µ-40 mF: (mA/F1- com jacks) F0.1 A/250 V fuse Size 5 x 20 mm 4 n-40 µF: (F2 blade jack) N/A
Temperature	Input protection: 60 V DC or 24 V AC
Frequency	500 V DC or AC rms
Current	mA input-0.5 A/500 V: 1.5 kA IR fast blow ceramic fuse 10 A input-15 A/600 V: 100 kA IR fast blow melmine fuse
Resistance	500 V DC or AC rms
Diode/Continuity	500 V DC or AC rms



Meterman.
The right tool for the job.™

Meterman Test Tools
website: www.metermantesttools.com
email: info@metermantesttools.com

6920 Seaway Blvd.
Everett, WA 98203
fax: 425-446-4882
tel: 877-596-2680

Meterman Test Tools Europe
P.O. Box 1186
5602 BD Eindhoven
The Netherlands

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General Specifications

Display: 3¾ digit LCD, 4000 counts with bargraph; **Display Update:** 2/second; **Bargraph:** 20/second;
Battery: 9 V DC, NEDA type 1604; **Battery Life:** 300 hours (alkaline); **Operating Temperature:** 0 to 50 °C, 0 to 80 % R.H.; **Storage Temperature:** - 20 to 60 °C, 0 to 80 % R.H. battery removed; **Dimensions (HxWxD):** (with holster) 197 x 92 x 55 mm (7.8" x 3.6" x 2.1"); **Weight:** 505 g (17.8 oz); **Included Accessories:** Test leads, operators and software manual, holster, K type bead thermocouple, RS232 cable, PC software disks

Features

Max/Min; Rel; Range Lock; Low Battery Indication; Probe Hold™ - Automatically captures and displays last stable reading; **Auto-Power Off** (30 min); **Serial Port** (RS232 LED Infrared); **Digi-Glo™ Backlight** with Auto-Off (60 sec); **Serial Port Data Collection Program; Warranty:** One-year

Optional Accessories

VC221A Vinyl Case; **DL243C** Basic Test Lead Kit; **DL248C** Deluxe Test Lead Kit; **TL35A** Test Lead set with Alligator Clips

For additional accessories, see the Accessories Compatibility Guide at www.metermantesttools.com