

DMM Comparison Chart Hand-Held DMMs		DC Voltage		AC Voltage				DC Current	
		Full Scale (V to V)	Accuracy (% + Counts) Resolution ( $\mu$ V)	Full Scale (V to V)	Accuracy (% + Counts) Resolution ( $\mu$ V)	Frequency Range (Hz)	True rms	Full Scale (mA to A)	Accuracy (% + Counts) Resolution ( $\mu$ A)
Company	Model (Counts)								
Amprobe/ATP www.rsleads.com/302ee-197	AM-33 (4,000)	40 to 600	0.8 + 1  (1,000) <sup>f</sup>	40 to 600	1.2 + 3  (1,000) <sup>f</sup>	40 to 400	No	N/A	N/A
	AM-59 (4,000)	1 to 600	0.15 + 3  (100) <sup>f</sup>	1 to 600	1.1 + 3  (100) <sup>f</sup>	50 to 2k	Yes	0.04 to 10	0.25 + 3  (0.01) <sup>f</sup>
	AM-91RS (4,000 / 40,000)	0.04 to 1,000	0.08 + 1  (10) <sup>f</sup>	0.4 to 750	0.8 + 4  (100) <sup>f</sup>	50 to 20k	Yes	0.4 to 10	0.4 + 2  (0.1) <sup>f</sup>
Extech www.rsleads.com/302ee-198	EX 411 (2,000)	0.2 to 600	0.3 + 2  (100) <sup>f</sup>	2 to 600	0.5 + 10  (10) <sup>f</sup>	50 to 1k	Yes	0.2 to 20	1.5 + 3  (0.1) <sup>f</sup>
	EX 470 (4,000)	0.4 to 600	0.3 + 2  (100) <sup>f</sup>	0.4 to 600	0.5 + 70  (100) <sup>f</sup>	50 to 1k	Yes	0.4 to 20	1.5 + 3  (0.1) <sup>f</sup>
	MM 570 (50,000/ 500,000)	0.5 to 1,000	0.02 + 2  (1) <sup>f</sup>	0.5 to 1,000	0.3 + 20  (10) <sup>f</sup>	50 to 100k	Yes	0.5 to 10	0.1 + 2  (0.01) <sup>f</sup>
Fluke www.rsleads.com/302ee-199	179 (6,000)	0.6 to 1,000	0.09 + 2 <sup>a</sup>  (10 mV on 60-V range)  (1) <sup>f</sup>	0.6 to 1,000	1 + 3  (100) <sup>f</sup>	45 to 1k	Yes	60 to 10	1 + 3 <sup>c</sup>  (1 mA on 6-A range)
	189 (50,000)	0.05 to 1,000	0.025 + 5  (1) <sup>f</sup>	0.05 to 1,000	0.4 + 40  (1) <sup>f</sup>	20 to 100k	Yes	0.5 to 10	0.15 + 2  (0.01) <sup>f</sup>
	112 (6,000)	6 to 600	0.7 + 2  (1,000) <sup>f</sup>	6 to 600	1 + 3  (1,000) <sup>f</sup>	50 to 500	Yes	6,000 to 10	1 + 3  (1,000) <sup>f</sup>
Meterman Test Tools www.rsleads.com/302ee-200	37XR (9,999)	1 to 1,000	0.1 + 5  (100) <sup>f</sup>	1 to 750	1.2 + 10  (100) <sup>f</sup>	45 to 2k	Yes	0.1 to 10	0.5 + 5  (0.01) <sup>f</sup>
Omega Instruments www.rsleads.com/302ee-201	HMMZ (2,000)	0.4 to 1,000	0.25 + 2  (100) <sup>f</sup>	0.4 to 750	0.25 + 2  (100) <sup>f</sup>	50 to 5k	Yes	400 to 4	0.5 + 2  (100) <sup>f</sup>
	HHM290 (43,000)	0.43 to 1,000	0.25 + 1  (10) <sup>f</sup>	0.43 to 750	1 + 2  (10) <sup>f</sup>	50 to 60	Yes	0.43 to 10	0.5 + 1  (0.01) <sup>f</sup>
Yokogawa Corp. of America www.rsleads.com/302ee-202	73402 (50,000)	0.5 to 1,000	0.02 + 2  (10) <sup>f</sup>	0.5 to 1,000	0.4 + 30  (10) <sup>f</sup>	10 to 100k	Yes	0.5 to 10	0.2 + 2  (0.1) <sup>f</sup>

Key: <sup>a</sup> = 10-V range, 1-year period, 23°C ±5°C; <sup>b</sup> = 10-V range, 10 Hz to 20 kHz, 1-year period, 23°C ±5°C; <sup>c</sup> = 1-A range, 1-year period, 23°C ±5°C; <sup>d</sup> = 1,000-Ω range, 1-year period, 23°C ±5°C; <sup>e</sup> = 90-day period, best resolution; <sup>f</sup> = 1-year period, best resolution

## Chart 2.

AC Current		Resistance		Frequency	Capacitance	Special Features	Price
Full Scale (mA to A)	Accuracy (% + Counts) Resolution (µA)	Full Scale (Ω to MΩ)	Accuracy (% + Counts) Resolution (Ω)	Full Scale (Hz to MHz)	Full Scale (nF to µF)		
N/A	N/A	400 Ω	1 + 2 (0.1) <sup>f</sup>	N/A	N/A	IEC 1010-1/UL safety specs, installation CAT III/600 V; automatic V/A/Ω selection; easy to use	\$70
0.4 to 10	1.5 + 4 (0.1) <sup>f</sup>	1k to 40	0.5 + 2 (0.1) <sup>f</sup>	10 to 0.05	1,000 to 10,000	IEC 1010-1/CE/UL safety specs, installation CAT III/600 V; min/max/max-min/avg, diode and continuity, temperature, harmonics measurements; splash-proof	\$147
0.4 to 10	0.8 + 4 (0.1) <sup>f</sup>	40 to 40	0.15 + 2 (0.01) <sup>f</sup>	1k to 4	4 to 4,000	IEC 1010-1/CE/UL safety specs, installation CAT III (750 VAC, 1,000 VDC); dBm, crest factor, conductance, continuity measurements; dual backlit display; datalogs to PC	\$300
200 to 20	1.8 + 5 (100) <sup>f</sup>	200 to 20	0.8 + 4 (0.1) <sup>f</sup>	N/A	N/A	IEC 1010-1/CE/UL safety specs; temperature, diode, continuity functions; backlight, battery check	\$59
0.4 to 20	1.8 + 5 (0.1) <sup>f</sup>	400 to 40	0.8 + 4 (0.1) <sup>f</sup>	10 to 10	40 to 100	IEC 1010-1/CE/UL safety specs; thermocouple and noncontact infrared temperature measurement; duty cycle; relative mode; input warning; backlight	\$129
0.5 to 10	0.5 + 50 (0.01) <sup>f</sup>	500 to 50	0.07 + 2 (0.01) <sup>f</sup>	5 to 0.2	50 to 10,000	IEC 1010-1/CE/UL safety specs, installation CAT IV; AC+DC, temperature, duty cycle, dBm measurements; relative mode; peak capture; backlight	\$299
60 to 10	1.5 + 3 <sup>c</sup> (1 mA on 6-A range)	600 to 50	0.9 + 1 <sup>d</sup> (1 Ω on 6-kΩ range)	100 to 0.1	1,000 to 10,000	IEC 1010-1/CE/UL/CSA/TUV safety specs; CAT III 1,000 V; max/min/avg, temperature, continuity, diode measurements; auto-hold; fused-current input; ruggedized for 3' drop	\$214
0.5 to 10	0.75 + 5 (0.01) <sup>f</sup>	500 to 500	0.05 + 2 (0.01)	500 to 1	1 to 50,000	IEC 1010-1/CE/UL/CSA/TUV safety specs; dB, conductance, duty cycle, pulse width, temperature measurements; internal logging, serial comm to PC	\$399
10 A	1.5 + 3 (10,000) <sup>f</sup>	600 to 40	0.9 + 1 (0.1) <sup>f</sup>	100 to 50k	1 to 10,000	IEC 1010-1/CE/UL/CSA/TUV safety specs, installation CAT III 600 V; diode and continuity test; max/min/avg; withstands 3' drop; backlit display	\$149
0.1 to 10	1.5 + 10 (0.01) <sup>f</sup>	1k to 40	0.5 + 8 (0.1) <sup>d</sup>	100 to 10	40 to 400	IEC 1010-1/CE/UL/CSA safety specs, installation CAT II 1,000 V; inductance, duty cycle, continuity, diode test functions; min/max/avg, data hold, relative, peak modes; autoranging or manual; backlight	Contact company
400 to 4	2 + 2 (100) <sup>f</sup>	400 to 40	0.25 + 2 (0.1) <sup>f</sup>	N/A	N/A	DMM + dual thermocouple meter; speaks measurement value in one of five languages; displays two temperature readings or their difference	\$245
0.43 to 10	1 + 2 (0.01) <sup>f</sup>	430 to 43	0.3 + 3 (0.01) <sup>f</sup>	100 to 1.8	4.3 to 430	DMM including IR noncontact temperature meter from -20°C to 550°C with laser dot sighting; auto-ranging; measures inductance, dual temperature inputs, and their difference	\$245
0.5 to 10	0.75 + 20 (10) <sup>f</sup>	500 to 50	0.05 + 2 (0.01) <sup>f</sup>	10 to 0.1	5 to 50	IEC 1010-1/CE/UL safety specs, installation CAT II 1,000 V; duty cycle, continuity buzzer, diode test, peak hold; data memory, IR comm port, backlight, optional printer	\$379