

# High-Performing, Full-Function DMMs

- ◆ *Capacitance (DM25XT, DM27XT, DM28XT)*
- ◆ *Inductance (DM27XT)*
- ◆ *Frequency (DM25XT, DM27XT, DM28XT)*
- ◆ *Temperature (DM23XT, DM28XT)*
- ◆ *Logic Test (DM23XT, DM25XT, DM27XT)*
- ◆ *Transistor Gain (DM23XT, DM25XT)*
- ◆ *10A Fused AC/DC Current*
- ◆ *Safety Tester (DM23XT)*
- ◆ *Max Reading Hold (DM27XT, DM28XT)*
- ◆ *Optional Protective Holster in Yellow or Black*

The new XT Series high-performing DMMs from Wavetek offer you a choice of four different meters tailored to your needs. Each of these full-function DMMs measures not only voltage, current, and resistance, but also offers additional functions important to troubleshooting the electronics you work with.

**Inductance.** The DM27XT measures inductance from 1 $\mu$ H to 20H. The DM27XT eliminates the need for a separate LCR meter to verify the value of a poorly marked choke, to confirm the value of a coil or transformer you have wound, to find the inductance associated with a wire wound resistor, or to test for strict tolerance requirements for an inductor. With the DM27XT, you can accurately measure and confirm the inductance for these applications, plus for circuits that need inductors for notch filters, switching power supplies, RFI filters, audio and video decoupling circuits.

**Frequency.** Use the DM27XT to measure signal frequency up to 20MHz or the DM25XT or DM28XT for signals up to 2kHz. The DM27XT is autoranging when measuring frequency, automatically adjusting to display the appropriate frequency unit. Measure frequencies of crystal oscillators, analog timer IC outputs such as the 555, or check the single phase line frequency, with your new XT Series DMM.

**Capacitance.** The DM25XT and DM27XT have capacitance measurement capability from 1pF up to 2000 $\mu$ F, and the DM28XT can measure all the way up to 20mF. Measure capacitors that are suspect in performance, find the value of capacitors that are illegibly marked, or find a capacitor that fits within your tolerance requirements. These two DMMs allow you to test all capacitors using the DMM's test leads and the attachable alligator clips that are supplied with the meters.

**Temperature.** The DM23XT and DM28XT measure and display temperature in either Centigrade or Fahrenheit degrees. Measure the ambient temperature of a computer room, find the internal temperature of a chassis housing electronic circuitry, or locate a hot component. A type K thermocouple beaded wire, 4-feet long, is included with both these meters.

**Safety Tester™.** The DM23XT has the ability to detect live AC voltages without using the DMM battery. A bank of four LEDs indicates an AC voltage presence up to 440V, perfect for those dim room measurements.

**Input Warning Beeper.** All XT meters have an input warning beeper that indicates a test lead is plugged into a current jack but the Function/Range switch is not set to make a current measurement. This is a safety feature to warn the user of possible misuse of the meter.

**Carrying Cases and Holsters.** H30-black holster with Flex-Strap; H30Y-yellow holster with Flex-Strap; VC30-soft case; VC231-soft case (meter with holster).



## XT Series Specifications (at 23°C ± 5°C; <70% R.H. ±% reading + digits)

MODEL	DM23XT	DM25XT	DM27XT	DM28XT		
<b>AC &amp; DC Voltage</b> Ranges	200mV, 2V, 20V, 200V, 1000V	200mV, 2V, 20V, 200V, 1000V	200mV, 2V, 20V, 200V, 1000V	200mV, 2V, 20V, 200V, 1000V		
DC Accuracy/Max Resolution	±0.5% +1/100µV	±0.5% +1/100µV	±0.5% +1/100µV	±0.5% +1/100µV		
AC Volts Ranges	200mV, 2V, 20V, 200V, 750V	200mV, 2V, 20V, 200V, 750V	200mV, 2V, 20V, 200V, 750V	200mV, 2V, 20V, 200V, 750V		
AC Accuracy	±1% +4 (50–500Hz); ±1.5% +4 (500–1kHz)	±1% +4 (50–500Hz); ±1.5% +4 (500–1kHz)	±1% +4 (50–500Hz); ±1.5% +4 (500–1kHz)	±1% +4 (50–500Hz); ±1.5% +4 (500–1kHz)		
Input Impedance	10MΩ	10MΩ	10MΩ	10MΩ		
<b>DC &amp; AC Current</b> Ranges	200µ, 2m, 20m, 200m, 10A	200µ, 2m, 20m, 200m, 10A (20A for 60s)	200µ, 2m, 20m, 200m, 10A (20A for 60s)	200µ, 2m, 20m, 200m, 10A (20A for 60s)		
DC Accuracy	±1% +1/±2% +3 (10A)	±1% +1/±2% +3 (10A)	±1% +1/±2% +3 (10A)	±1% +1/±2% +3 (10A)		
AC Accuracy	±1.5% +4/±2.5% +4 (10A)	±1.5% +4/±2.5% +4 (10A)	±1.5% +4/±2.5% +4 (10A)	±1.5% +4/±2.5% +4 (10A)		
Resolution	0.1µA in the 200µA range	0.1µA in the 200µA range	0.1µA in the 200µA range	0.1µA in the 200µA range		
Input Protection	mA Input: 10A Input:	mA Input: 10A Input:	mA Input: 10A Input:	mA Input: 10A Input:		
	500mA/250V fast-acting ceramic fuse 10A/600V fast-acting ceramic fuse	500mA/250V fast-acting ceramic fuse 20A/600V fast-acting ceramic fuse	500mA/250V fast-acting ceramic fuse 20A/600V fast-acting ceramic fuse	500mA/250V fast-acting ceramic fuse 20A/600V fast-acting ceramic fuse		
<b>Resistance</b> Ranges	200, 2k, 20k, 200k, 2M, 20M, 2000MΩ	200, 2k, 20k, 200k, 2M, 20M, 2000MΩ	200, 2k, 20k, 200k, 2M, 20M, 2000MΩ	200, 2k, 20k, 200k, 2M, 20M, 2000MΩ		
Accuracy	±1% +4 (200Ω to 2MΩ), ±2% +5 (20MΩ), ±[(5%–10) +10] 2000MΩ range	±1% +4 (200Ω to 2MΩ), ±2% +5 (20MΩ), ±[(5%–10) +10] 2000MΩ range	±1% +4 (200Ω to 2MΩ), ±2% +5 (20MΩ), ±[(5%–10) +10] 2000MΩ range	±1% +4 (200Ω to 2MΩ), ±2% +5 (20MΩ), ±[(5%–10) +10] 2000MΩ range		
<b>Continuity Test</b>	Beeper < 75Ω	Beeper < 75Ω	Beeper < 75Ω	Beeper < 75Ω		
<b>Diode Test</b>						
Test Current	1.0mA	1.0mA	1.0mA	1.0mA		
Test Voltage	3.0VDC	3.0VDC	3.0VDC	3.0VDC		
<b>Logic Thresholds</b>						
Logic 1 (Hi)	TTL 2.8V ± 0.8V, CMOS 4.0V ± 1.0	TTL 2.8V ± 0.8V, CMOS 4.0V ± 1.0	TTL 2.8V ± 0.8V, CMOS 4.0V ± 1.0	TTL 2.8V ± 0.8V, CMOS 4.0V ± 1.0		
Logic 0 (Lo)	TTL 0.8V ± 0.5V, CMOS 2.0V ± 0.5V	TTL 0.8V ± 0.5V, CMOS 2.0V ± 0.5V	TTL 0.8V ± 0.5V, CMOS 2.0V ± 0.5V	TTL 0.8V ± 0.5V, CMOS 2.0V ± 0.5V		
Test Voltage	TTL 5VDC, CMOS >5VDC & <10VDC	TTL 5VDC, CMOS >5VDC & <10VDC	TTL 5VDC, CMOS >5VDC & <10VDC	TTL 5VDC, CMOS >5VDC & <10VDC		
Frequency Response	20MHz	20MHz	20MHz	20MHz		
<b>Capacitance</b> Ranges	—	2nF, 20nF, 200nF, 2µF, 20µF, 200µF, 2000µF	2nF, 20nF, 2µF, 20µF, 2000µF	2nF, 200mF, 2µF, 20µF, 200µF, 2mF, 20mF		
Accuracy	—	±2% +4	±5% +10	±3% +4		
Overload Protection	—	0.5A/250V fast-acting ceramic fuse	0.5A/250V fast-acting ceramic fuse	0.5A/250V fast-acting ceramic fuse		
<b>Frequency</b>	—	2kHz	20MHz, autoranging	2kHz		
Accuracy/Resolution	—	±0.5% +3 / 1Hz	±0.5% +3 / 1Hz	±0.5% +3 / 1Hz		
Sensitivity (Two Ranges)	—	1VRMS	LOW: 500mVRMS (10–10MHz) 1VRMS (10MHz–20MHz) TTL HIGH: 2VRMS (10–10MHz) 5VRMS (10MHz–20MHz) TTL	2VRMS		
Overload Protection	—	500VDC/RMS	500VDC/RMS	500VDC/RMS		
<b>Transistor h<sub>FE</sub></b>	√	√	—	—		
Range/Type	0 - 1000 / NPN, PNP	0 - 1000 / NPN, PNP	—	—		
<b>Inductance</b> Ranges	—	—	2m, 20m, 200m, 2H, 20H	—		
Accuracy	—	—	±5% +10	—		
Test Frequency	—	—	1000Hz, 2mH; 200Hz, 20mH to 20H	—		
<b>Safety Tester™</b>						
Signal Voltage Levels	50V, 110V, 220V, 440V AC	—	—	—		
Overload Protection	550V RMS for 30 minutes	—	—	—		
<b>Temperature</b>						
	Range	Resolution	Accuracy	Range	Resolution	Accuracy
Type K Thermocouple	200°C	0.1°C	-20°C to 0°C, ±1% +2°C	200°C	0.1°C	-30°C to 200°C, ±1% +0.7°C
	200°C	0.1°C	0°C to 200°C, ±1% +1°C	1300°C	1°C	201°C to 1300°C, ±1% +1°C
	750°C	1°C	200°C to 750°C, ±3% +2°C			
	200°F	0.1°F	-4°F to 32°F, ±1% +2°F	200°F	0.1°F	-22°F to 200°F, ±1% +1.3°F
	200°F	0.1°F	32°F to 200°F, ±1% +2°F	2000°F	1°F	201°F to 2000°F, ±1% +0.2°F
	1400°F	1°F	200°F to 1400°F, ±3% +4°F			

### GENERAL

**Display:** 3½ digit LCD, 1999 counts, 17.8mm (0.7") high numerals; **Display Update:** 2.5/second; **Operating Temperature:** 0°C to 50°C (32°F to 122°F, 0 to 70% RH); **Storage Temperature:** -20°C to 60°C (-4°F to 140°F), 0 to 80% RH, no battery; **Power/Battery Life:** Standard 9V battery, NEDA 1604, JIS 006P, IEC 6F22/300hr (alkaline); **Dimensions (H x W x D):** 183mm x 80mm x 38mm (7.2" x 3.1" x 1.5"); **Weight:** 311g (11 oz.) including battery; **Included Accessories:** Test leads, one pair alligator clips (DM25XT, DM27XT, DM28XT), spare fuse, battery, beaded Type K T/C probe (DM23XT, DM28XT), Operator's Manual; **Warranty:** One year