## **Electrical Testers**



9230 /9231/9232/9233 Series new two-pole voltage and continuity testers are now more rugged and easier to use than ever before.

- Fast test results the way you need them, with large, easy-to-use buttons, bright backlights, and clear audible and visible indicators designed for any work situation.
- Rugged, high-quality construction design includes a heavy duty molded case, a thicker cord with wear indicator, sturdy battery case, and well-fitting and durable probe protector.
- Enhanced ergonomic design feels good in your hand, is easy to use (even with gloves) and quick, secure probe docking.
- A complete family of testers with the features, functions, and price/performance to fit your applications and preferences.

## AC-8M/AC-9M Magnet Space Testers

## **GENERAL APPLICATIONS**

- Testing operating solenoid valves in pneumatic and hydraulic control equipment
- Testing relays with coils and electrically controlled solenoid valves in all types of vehicles and machineries
- Testing solenoid valves when servicing oil burners, the test lamp lights immediately and without metallic contact where there is a magnetic field, e.g. an activated coil in a solenoid valve. The test lamp responds to all kind of magnetic fields -from alternating current to direct current and to permanent magnets.

**Size(HxWxD):** 158mm x 21mm x 25mm (AC-8M)

Weight: 34g Accessories:

Two "AAA" batteries and clamshell



## Features 9230 9231 9232 9233 Complies with EN 61243-3:2014 LED Indication Range: 12 V to 690 V dc and ac LED Indication Range: 12 V to 1000 V dc and ac Independent ELV indicator LED, indicates if >50 V ac/120 V dc is present even in the event of no battery power or main circuit failure LCD Indication Range: 6 V to 1000 V dc and ac Resistance Measurement: LCD $3\frac{1}{2}$ digit (0 to $1999 \Omega/1\Omega$ resolution) LCD BacklightDisplay HOLD: Freeze/unfreeze display with voltage or resistance Fixed Impedance ~350 kΩ (≤3.5 mA @ 1000 V) Switchable Load by 2 pushbuttons (30 mA @ 230 V) Vibration During Load (when 2 switchable load pushbuttons are pushed) \* \* Single-Pole Phase Test (also operates with gloves) Rotary Field Direction (also operates with gloves) Continuity Test / Diode Test Flashlight Beeper for Continuity Beeper for Phase/ACV 19 mm Probe Tip distance when docked CAT III 1000 V / CAT IV 600 V

Specifications		9230	9231	9232	923
LEDs		7230	7231	7232	723
LLD	12 V to 690 V ac/dc	*			
Voltage range	12 V to 1000 V ac/dc		*	*	*
	±12 V, 24 V, 36V, 50 V, 120 V,230 V, 400 V, 690 V	*			
Resolution	±12 V, 24 V, 50 V, 120 V,230 V, 400 V, 690 V, 1000 V		*	*	*
Frequency range	0 / 50 Hz to 60 Hz	*			
	0 / 40 Hz to 400 Hz		*	*	*
Response time	<0.5 second	*	*	*	*
Auto power on	>12 V ac/dc	*	*	*	*
LCD	_12 v do/do				
Voltage range	6V to 1000V ac/dc			*	*
Resolution	+1V			*	*
Tolerance	$\pm (3 \% \text{ rdg} + 5 \text{ digits})$			*	*
Frequency range	0 / 40 Hz to 400 Hz			*	*
Response time	<1 second			*	*
Auto power on	>6 V ac/dc			*	*
Voltage detection	Automatic	*	*	*	*
Polarity detection	Full range	*	*	*	*
Range detection	Automatic	*	*	*	*
Kange detection	Maximum 3.5 mA at 690 V 250 k $\Omega$ / Is <3.5 mA	*			
Internal basic load	Maximum 3.5 mA at 1000 V 350 kΩ / Is <3.5 mA				
impedance Peak current	(no RCD tripping)		*	*	*
Operation time	Duration Time =30 seconds	*	*	*	*
Recovery time	Recovery Time =240 seconds	*	*	*	*
Switchable Load	$\sim$ 7 k $\Omega$		*		*
Peak current	Is $(load) = 150 \text{ mA}$		*		*
RCD tripping	I=30 mA @ 230 V		*		*
Continuity Test	0 to 200 kΩ	*			
	$0$ to $400~k\Omega$		*	*	*
Accuracy	nominal resistance +50 %	*	*	*	*
Test current	≤5 μA	*	*	*	*
Single-pole Phase Test	100 V ac to 1000 V ac		*	*	*
Frequency range	40 Hz to 60 Hz		*	*	*
Rotary Field Indication			*	*	*
Voltage range (LEDs)	100 V to 1000 V (phase to earth)		*	*	*
Frequency range	50 Hz to 60 Hz		*	*	*
Resistance Measurement	0 Ω to 1999 Ω				*
Resolution	1 Ω				*
Tolerance	±(5 % rdg +10 digits) @ 20 °C				*
Temperature coefficient	±5 digits / 10 K				*
Test current	≤30 µA				*

Size(HxWxD): 240mm x 78mm x 30mm Accessories:

Weight: 237g Two "AAA" batteries, gift box with carrying case











Model 9232