



## DT-989

### TRUE RMS INDUSTRIAL DIGITAL MULTIMETER WITH BLUETOOTH SMARTPHONE INTERFACE

Professional True RMS Industrial Digital Multimeter with TFT color LCD display providing fast A/D converting sampling time, high accuracy, built-in datalogging and Trend Capture features. It can trace any interrupted problems of the equipments and watch on without person. Easily detects and helps solve production problems using bluetooth technology that helps capture and store data for futue use. It is more safe for measurements.

This meter measures AC/DC Voltage, AC/DC Current, Resistance, Capacitance, Frequency (electrical & electronic) Duty Cycle, Diode Test and Continuity plus Thermocouple Temperature. It can store and recall data. It features a waterproof, rugged design for heavy duty use.

#### Maximum Input Limits

Input Protection Limits	
Function	Maximum Input
V DC or V AC	1000VDC/AC rms
mA AC/DC	500mA 1000V fast acting fuse
A AC/DC	10A 1000V fast acting fuse (20A for 30 seconds max every 15 minutes)
Frequency, Resistance, Capacitance, Duty Cycle, Diode Test, Continuity	1000VDC/AC rms
Temperature	1000VDC/AC rms
Surge Protection: 8kV peak per IEC 61010	

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### Safety Confirmation

This meter is intended for origin of installation use and protected, against the users, by double insulation per EN61010-1 and IEC61010-1 2nd Edition (2001) to Category IV 600V and Category III 1000V; Pollution Degree 2. The meter also meets UL 61010-1, 2nd Edition (2004), CAN/CSA C22.2 No. 61010-1 2nd Edition (2004), and UL 61010B-2-031, 1st Edition (2003).

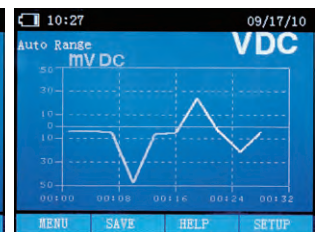


### FEATURES

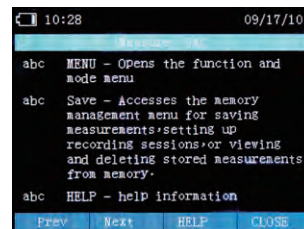
- 5000 Counts colored TFT LCD Display, where multi-parameters can be displayed.
- It can measure AC+DC Voltage and Current. On the display the AC and DC Components of the signals are displayed.
- While measuring AC Voltage and AC Current, Frequency and Duty Cycle are also displayed.
- Has Maximum data record function.
- Data Logging up to 100 Data and screen shots are possible.
- Bandwidth up to 20KHz.
- 4-20mA process loop measurement with % reading.
- Min/Max/Avg reading with time stamp.
- Peak Capture (records transients as fast as 250uS)
- Trend Capture facility where the change in Voltage / Current with respect to time can be seen in the meter itself.
- Blue Tooth Interface for Smartphone communication.
- Online Help menu available in the instrument.
- Auto Power Off function with disable facility also.
- Battery Status indicator on the LCD Display.
- Li-ion Rechargeable battery and battery charger provided with the meter.
- 10A/1000V & 0.8A/1000V Fast Blow Fuse Protection.
- Measured data can be stored in cloud service.



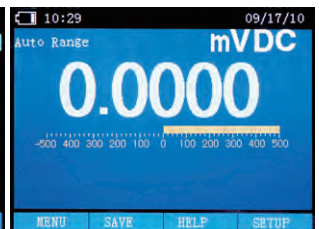
High Resolution Display



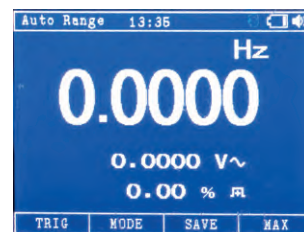
Trend Capture



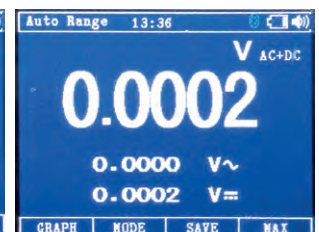
Online Help



Display with Analog Bargraph



Frequency Display with Voltage & Duty Cycle




Measurement with Display for AC & DC Component Separately



Frequency Measurement with Pulse Width and Duty Cycle

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## True RMS Industrial Digital Multimeter with Bluetooth Smartphone Interface

Enclosure	Double molded, waterproof
Shock (Drop Test)	6.5 feet (2 meters)
Diode Test	Test current of 0.9mA maximum, open circuit voltage 3.2V DC typical
Continuity Check	Audible signal will sound if the resistance is less than 25Ω (approx.), test current <0.35mA
PEAK	Captures peaks > 1ms
Temperature Sensor	Requires type K thermocouple
Input Impedance	>10MΩ VDC & >9MΩ VAC
AC Response	True rms
AC True RMS	The term stands for "Root-Mean-Square," which represents the method of calculation of the voltage or current value. Average responding multimeters are calibrated to read correctly only on sine waves and they will read inaccurately on non-sine wave or distorted signals. True rms meters read accurately on either type of signal.
ACV Bandwidth	50Hz to 20000HZ
Display	50,000 count TFT LCD
Overrange indication	"OL" is displayed
Auto Power Off	5-30 minutes (approximately) with disable feature
Polarity	Automatic (no indication for positive); Minus (-) sign for negative
Measurement Rate	20 times per second, nominal
Low Battery Indication	 is displayed if battery voltage drops below operating voltage
Battery	One 7.2 volt (NEDA 1604) battery
Fuses	mA, uA ranges; 0.8/1000V ceramic fast blow A range; 10A/1000V ceramic fast blow
Operating Temperature	5°C to 40°C (41°F to 104°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Operating Humidity	Max 80% up to 87°F (31°C) decreasing
Storage Humidity	50% at 40°C (104°F)
Operating Altitude	<80% 7000ft. (2000 meters) maximum

### Specifications

Function	Range	Resolution	50/60HZ	<1KHZ	<5KHZ	<20KHZ[1]
AC Voltage	500mV	0.01mV	±0.5% +5	±1.0% +5	±3.0% +5	±5.5% +20
	5V	0.000V				
	50V	0.0001V		±1.5% +10	±3.5% +10	unspecified
	500V	0.01V				
	1000V	0.1V				

[1] upper 10% of range.

Function	Range	Resolution	Accuracy
DC Voltage	500mV	0.01mV	(0.1% + 5 digits)
	5V	0.0001V	(0.05% + 5 digits)
	50V	0.001V	(0.05% + 5 digits)
	500V	0.01V	(0.05% + 5 digits)
	1000V	0.1V	(0.1% + 5)

Function	Range	Resolution	<1KHZ	<5KHZ
(AC+DC) Voltage	5V	0.0001V	(1.2% + 20)	(3.0 + 20)
	50V	0.001V		
	500V	0.01V		
	1000V	0.1V		

Function	Range	Resolution	Accuracy
Resistance	500Ω	0.01Ω	0.20% + 10
	5kΩ	0.0001kΩ	0.20% + 5
	50kΩ	0.001kΩ	0.20% + 5
	500Ω	0.01kΩ	0.50% + 5
	5MΩ	0.0001MΩ	0.50% + 5
	50MΩ	0.001MΩ	2.0% + 10

Function	Range	Resolution	Accuracy
Frequency (electronic)	50Hz	0.001Hz	± (0.01% + 5)
	500Hz	0.01Hz	± (0.01% + 5)
	5kHz	0.0001kHz	± (0.01% + 5)
	50kHz	0.001kHz	± (0.01% + 5)
	500kHz	0.01kHz	± (0.01% + 5)
	5MHz	0.0001MHz	± (0.01% + 5)
	10MHz	0.001MHz	unspecified
	Sensitivity: 2V rms min. @ 20% to 80% duty cycle and <100kHz; 5Vrms min @ 20% to 80% duty cycle and >100kHz.		
Frequency (electrical)	10.00Hz-10KHz	0.01Hz - 0.001KHz	± (0.5% reading)
	Sensitivity: 2Vrms		
Duty Cycle	0.1 to 99.90%	0.01%	± (1.2% reading + 2 digits)
	Pulse width: 100µs - 100ms, Frequency: 5Hz to 150kHz		

Function	Range	Resolution	Accuracy
Temp (type-K)	-200 to 1350°C	0.1°C	±(1.0% reading + 3.0°C) ±(1.0% reading + 5.4°C) (probe accuracy not included)
			1. Does not include error of the thermocouple probe. 2. Accuracy specification assumes ambient temperature stable to ± 1°C
DC Current	500µA	0.01µA	± 0.2% + 5
	5000µA	0.1µA	± 0.2% + 5
	50mA	0.001mA	± 0.2% + 5
	500mA	0.01mA	± 0.3% + 8
	10A	0.001A	± 0.5% + 8
	(20A: 30 sec max with reduced accuracy)		
AC Current			<1KHZ
	500µA	0.01µA	±(0.8% + 5)
	5000µA	0.1µA	±(3% + 5)
	50mA	0.001mA	
	500mA	0.01mA	
	10A	0.001A	
All AC current ranges are specified from 5% of range to 100% of range			
Capacitance	5nF	0.001nF	± (1.5% + 20)
	50nF	0.01nF	± (1.5% + 8)
	500nF	0.1nF	± (1.0% + 8)
	5µF	0.001µF	± (1.5% + 8)
	50µF	0.01µF	± (1.0% + 8)
	500µF	0.1µF	± (1.5% + 8)
	10mF	0.01mF	± (2.5% + 20)

### Standard Accessories

Carrying Case, Test Certificate, Testing Leads, Temperature Probe, Battery Charger, Adaptor and Instruction Manual.