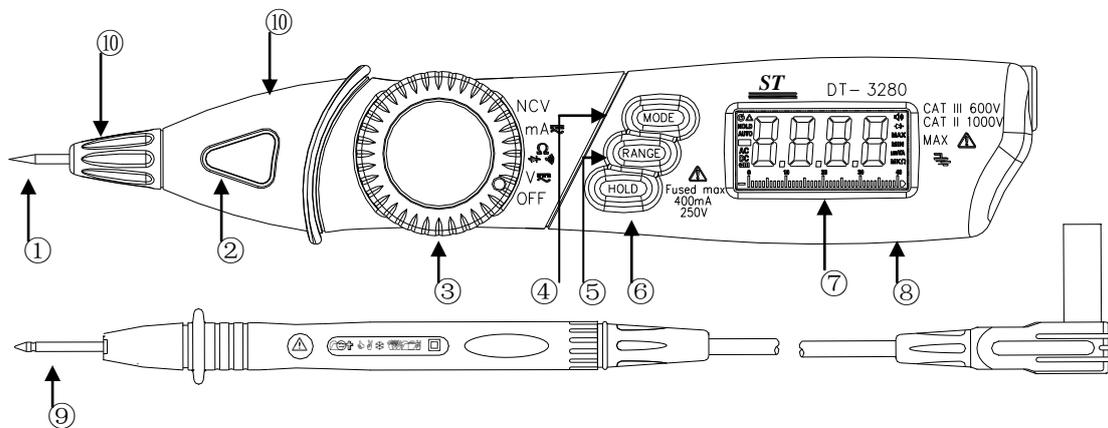


# Pen-Type Digital Multimeter

## User's Guide

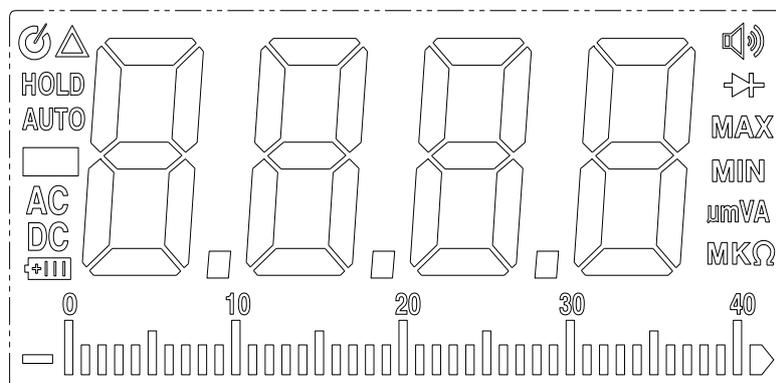
DT-3280 is a smart pen-type digital multimeter, which can check DC/AC voltage, resistance, diode test, continuity, DC/AC current, and non-contact voltage test.



- |   |                  |                   |
|---|------------------|-------------------|
| ① V/mA/ $\Omega$ input                    | ② NCV indication | ③ Function Switch |
| ④ Mode button                             | ⑤ Range button   | ⑥ Hold button     |
| ⑦ Large digital LCD display with bargraph | ⑧ Battery cover  | ⑨ COM input       |
| ⑩ Nut                                     |                  |                   |

**Note:** Battery compartment are on rear of unit.

### Symbols and Annunciators



	: Continuity	m :milli ( $10^{-3}$ ) (volts, amps)	k: kilo ( $10^3$ ) (ohms)
	: Diode test	M: mega ( $10^6$ ) (ohms)	$\Omega$ : Ohms
	:Battery status	AC: Alternating current	DC: Direct current
	: Auto Power OFF	A: Amps	V: Voltage

## Safety

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This symbol adjacent to another symbol, terminal or operating device indicates that the operator must refer to an explanation in the Operating Instructions to avoid personal injury or damage to the instrument.



This symbol advises the user that the terminal(s) so marked must not be connected to a circuit point at which the voltage with respect to earth ground exceeds (in this case) 600 VAC or VDC.

This instrument has been designed for safe use, but must be operated with caution. The rules listed below must be carefully followed for safe operation.

1. **NEVER** apply voltage or current to the meter that exceeds the specified maximum:
2. **USE EXTREME CAUTION** when working with high voltages.
3. **DO NOT** measure voltage if the voltage on the "COM" input jack exceeds 1000V above earth ground.
4. **ALWAYS** turn off the power and disconnect the test leads before opening the covers to replace the fuse or batter
5. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

DC Voltage (Auto-ranging):

Range	Resolution	Accuracy
400.0mV	0.1mV	+1.0% of rdg + 2 digits
4.000V	1mV	
40.00V	10mV	
600.0V	100mV	+1.2% of rdg + 4 digits

Input Impedance: 10M $\Omega$ .

Maximum Input: 600V dc or 600V ac rms.

AC Voltage (Auto-ranging and Manual-ranging):

Range	Resolution	Accuracy
400.0mV	0.1mV	+1.5% of rdg + 10 digits
4.00V	1mV	+1.0% of rdg + 4 digits
40.0V	10mV	
600V	100mV	+1.2% of rdg + 4 digits

All AC voltage ranges are specified from 5% of range to 100% of range

Input Impedance: 10M $\Omega$ .

AC Response: 50 Hz to 400Hz

Maximum Input: 600V dc or 600V ac rms.

DC Current (Auto-ranging):

Range	Resolution	Accuracy
40.00mA	10uA	+1.2% of rdg + 3digits
400.0mA	100uA	+1.2% of rdg + 3digits

Overload Protection: 500mA / 250V Fuse.

Maximum Input: 400mA dc on mA range

AC Current (Auto-ranging):

Range	Resolution	Accuracy
40.00mA	10uA	+1.5% of rdg + 3digits
400.0mA	100uA	+1.5% of rdg + 3digits

All AC Current ranges are specified from 5% of range to 100% of range

Overload Protection: 500mA/250 Fuse.

AC Response: 50 Hz – 400HZ  
 Maximum Input: 400mA ac rms on mA

Resistance [ $\Omega$ ] (Auto-ranging):

Range	Resolution	Accuracy
400.0 $\Omega$	0.1 $\Omega$	+1.0% of rdg + 4 digits
4.000k $\Omega$	1 $\Omega$	+1.0% of rdg + 2 digits
40.00k $\Omega$	10 $\Omega$	
400.0k $\Omega$	100 $\Omega$	
4.000M $\Omega$	1k $\Omega$	+3% of rdg +8digits
40.00M $\Omega$	10k $\Omega$	

Input Protection: 600V dc or 600V ac rms.

Diode Test:

Test current	Resolution	Accuracy
0.3mA typica	1 mV	+10% of rdg + 5 digits

Open circuit voltage: MAX. 2V dc

Overload protection: 600V dc or ac rms.

Audible continuity:

Audible threshold: Less than 30 $\Omega$  Test current MAX. 0.3mA

Overload protection: 600V dc or ac rms.

NON-CONTACT VOLTAGE (NCV) :

The NCV function works on any rotary switch position.

1. Test the detector on a known live circuit before use.
2. Hold the top of the meter very close to the voltage source as shown.
3. If voltage is present, the back light will flash a bright red.

Other:

Battery :	1.5V
Size(HxWxD)	220mm x 40mm x33mm
Weight:	215 g

## ***Operating Instructions***

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### **Nut Function:**

Rotate the nut, the metal probes can hide in the head of the instrument.

### **Button function:**

Mode button: Choose DC/AC when you Measure voltage or Current, Choose resistance, diode, continuity when you measure resistance, diode, continuity.

Range button: manual change range or Auto change range.

Hold button: Freeze the current test value.

### **Power OFF:**

Rotate the function switch to the character "OFF" on the instrument for Turning off the power

## **DC/AC VOLTAGE MEASUREMENTS**

CAUTION: DO not measure DC/AC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

Rotate the function switch to the character " $\sqrt{\text{AC}}$ " on the instrument, press Mode Button to choose DC or AC Voltage, Touch the black test probe tip to the negative side of the circuit. Touch the metal probe tip to the positive side of the circuit. Read the voltage in the display.

## **RESISTANCE MEASUREMENTS**

Rotate the function switch to the character " $\Omega$ " on the instrument

1. Press the **MODE** button to change " $\square$ ", " $\rightarrow+$ ", " $\rightarrow+$ ", " $\rightarrow+$ " on the display.
2. If the resistance is less than approximately 30 $\Omega$ , the audible signal will sound.
3. Touch the test probes to the diode under test. Forward voltage will typically indicate 0.400 to 0.700V. Reverse voltage will indicate "OL". Shorted devices will indicate near 0V and an open device will indicate "OL" in both polarities.

## **DC/AC CURRENT MEASUREMENTS**

**CAUTION:** Do not make more than 400mA current measurements for longer time. It will damage the instrument.

Rotate the function switch to the character " $m\overline{A}$ " on the instrument, press Mode Button to choose DC or AC Current, Touch the black test probe tip to the negative side of the circuit. Touch the metal probe tip to the positive side of the circuit. Read the voltage in the display.

## **NON- CONTACT VOLTAGE**

Rotate the function switch to the character "NCV" on the instrument, let the head of the instrument near the measured matter, if the voltage of the matter more than 50V, the NCV indication will light.

## Auto Power Off

When the function switch isn't rotated and the button of the instrument isn't pressed after 15 minutes, the instrument will turn off the power (in the sleeping). In this mode if you press any button or rotate the function switch, the instrument will work (be awaking).

When you rotate the function switch to turn on the power, the auto power off symbols "  " will show the LCD display. Before instrument will auto power off, it announce you by sound five beep

## Battery replace:

**WARNING:** To avoid electric shock, disconnect the test leads from any source of voltage before removing the battery cover.

1. Turn power off and disconnect the test leads from the meter.
2. Open the rear battery cover by removing one screw using a screwdriver.
3. Insert the battery into battery holder, observing the correct polarity.
4. Put the battery cover back in place. Secure with the screws.

**WARNING:** To avoid electric shock, do not operate the meter until the battery cover is in place and fastened securely.

NOTE: If your meter does not work properly, check the fuses and batteries to replace.

## Replacing the fuses

**WARNING:** To avoid electric shock, disconnect the test leads from any source of voltage before removing the meter cover.

make sure that they are still good and that they are properly inserted.

1. Gently remove the old fuse and install the new fuse into the holder.
2. Always use a fuse of the proper size and value (0.5A/250V fast blow for the 400mA range .
3. Replace and secure the rear cover, battery and battery cover.

**WARNING:** To avoid electric shock, do not operate your meter until the fuse cover is in place and fastened securely.