



## MD5060B

### Features

- Insulation resistances up to 5 TΩ
- Automated tests: absorption index, polarization index
- Continuity test
- Low resistance measurement
- Programmable pass-fail
- Programmable timer
- Real time clock
- Guard terminal
- Built-in printer
- USB interface
- Internal memory for 4,000 measured values
- Software for data management

### Description

The **TENTECH MD5060B** is a smart, 5 kV insulation tester and analyzer. Besides the conventional measurement of insulation resistances up to 5 TΩ, its advanced features allow to automatically measure both the Polarization Index and Dielectric Absorption Index, thus significantly simplifying testing of transformers. This insulation tester is a portable, rechargeable battery-powered equipment. Test voltage may be chosen from 250 V to 5 kV in 100 V increments. Due to its measurement principle (actual voltage and current readings) the accuracy of resistance measurement is not affected by any test voltage error. Nevertheless, the high-voltage generator is electronically stabilized with a better than 3% accuracy in open-circuit condition and for any normal operation battery condition.

The built-in chronometer automatically counts the elapsed time since the start of measurement. Measured values are transmitted through the USB interface and are printed in the built-in printer as a registration of the performed test. Furthermore, the measured values are stored in a non-volatile internal memory. Up to 4000 measured values may be stored, to be transferred afterward to a computer running the TLogger program. This advanced software allows a further analysis of the test results, including a graphical representation and automatic report generation.

Some other advanced features are useful to run the most sophisticated insulation analysis. Step voltage test, 200 mA continuity range, low resistance measurement, configurable pass-fail and timed measurements are automatically performed. The measurement parameters are stored in the non-volatile memory for an easy configuration.

In order to guarantee the operator safety, the cabinet is made of a high breakdown strength plastic. High security output terminals are placed in the furthest and most protected area of the equipment. A light indicator shows high-voltage presence and is switched-off when the capacitances (both internal and external) are discharged up to reaching a safe value. This instrument provides excellent performance both in laboratory and field works, under hard environment conditions.

### **LFP** LiFePO<sub>4</sub> rechargeable battery

**Expected lifetime** : 2000 charge / discharge cycles (average).

**Low self-discharge** : When the equipment is not in use, battery charge decreases with time at a much lower rate than other battery technologies.

**Safety** : In contrast to other lithium battery technologies commonly used, LFP batteries are thermally and chemically stable, significantly improving battery safety.

## Technical specifications

ELECTRICAL	
<b>Test voltages</b>	500, 1000, 2500, 5000 V directly, one button selectable. 250 V to 5 kV in 100 V or 500 V increments. DC, negative.
<b>Test voltages accuracy</b>	± 3% of nominal test voltages on $R \geq 10 \text{ G}\Omega$ .
<b>Maximum resistance reading</b>	5 T $\Omega$ @ 5 kV.
<b>Megohmmeter basic accuracy</b>	± 5% of reading from 1 M $\Omega$ up to 1 T $\Omega$ . ± 20% of reading from 1 T $\Omega$ up to 5 T $\Omega$ .
<b>Short circuit current</b>	1.5 ± 0.5 mA.
<b>Low resistance measurement and Continuity tester</b>	Range: 0.1 $\Omega$ to 20 k $\Omega$ Accuracy: 3% of reading ± 2 digits Test current: up to 200 mA Continuity sound indicator: activates at $R < 5 \Omega$ ± 0.5 $\Omega$
FEATURES	
<b>Measurement modes</b>	Manual, Timed, "Pass / Fail", Step voltage test, Polarization index, Dielectric absorption index, Low resistance and Continuity tester
<b>Filter function</b>	Minimizes interference in resistance measurements
<b>Chronometer</b>	Shows elapsed time in mm:ss format. Count starts automatically for each measurement.
<b>Display</b>	Alphanumeric LCD display, 4 lines / 20 characters (Big Number)
<b>Printer</b>	Built-in thermal printer
<b>Internal memory</b>	For up to 4000 measured values
<b>Communication</b>	USB
SOFTWARE	
<b>Desktop (PC/Notebook)</b>	TLogger software: to download the data stored in the equipment's memory, analyze them and generate test reports

STANDARDS	
<b>Safety class</b>	IEC 61010-1
<b>Overvoltage protection</b>	CAT III - 600 V
<b>EMC</b>	IEC 61326-1
<b>Electromagnetic irradiation immunity</b>	IEC 61000-4-3
<b>Electrostatic immunity</b>	IEC 61000-4-2
ENVIRONMENTAL	
<b>Protection grade</b>	IP65 (with closed lid)
<b>Operating temperature range</b>	10 °F to 120 °F (-12 °C to 49 °C)
<b>Storage temperature range</b>	-10 °F to 160 °F (-23 °C to 71 °C)
<b>Humidity range</b>	98% RH (non condensing).
POWER SUPPLY	
<b>Rechargeable battery</b>	LFP (LiFePO4), 12 V - 3000 mAh
<b>Battery charger</b>	AC adapter, input 100 - 255 V 50/60 Hz, output 12 V - 1 A
MECHANICAL (OF THE INSTRUMENT)	
<b>Equipment weight</b>	Approx. 8 lbs (3.6 kg)
<b>Dimensions</b>	11" x 10" x 5" (approx. 280 x 254 x 127 mm)

## Accessories

- 3 x 12' (3.7 m) measurement cables
- 2 x 5' (1.5 m) cables (for low resistance/continuity measurement)
- AC adapter
- USB cable
- Instruction manual in English
- TLogger software (download)
- Carrying bag

**TENTECH instruments are made in the USA and used in over 40 countries worldwide.**



### **Test & Measurement equipment**

Earth ground testers  
Hipots  
Insulating glove tester  
Insulation testers  
Kilovoltmeters  
Micro-ohmmeters



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