

## MD10KVR



- Microprocessor-controlled
- Insulation resistances up to 10 TΩ
- Auto-range
- Automated tests: Absorption index, Polarization index, Capacitance, Leakage current and AC/DC voltmeter
- Chronometer up to 90 minutes
- Step voltage test
- Real time clock and calendar
- Built-in printer, internal memory for up to 16,000 measured values
- Powered by LFP (LiFePO4) rechargeable battery, a safer, more reliable and longer-lasting battery technology

## Description

The MD10KVR is a state-of-the-art high voltage digital insulation tester and analyzer for insulation resistance measurements of up to 10 TΩ. The equipment can be remote-controlled from a powerful Android application, allowing the user to perform measurements from a tablet or smartphone at a distance from high-voltage points, for more comfortable and safer tests.

Additional features include automated tests for Polarization Index, Dielectric Absorption Ratio, Step Voltage, dielectric discharge, ramp test, leakage current, and capacitance. All measurements are stored both in the equipment's internal memory as well as in the remote control device.

A built-in printer allows for in situ documentation of measurement results, while the Android application lets users take photos of the site, store geolocation information (GPS coordinates) and record voice comments, all of which can then be incorporated into high quality reports generated using this application.

This highly accurate, easy to operate, portable, rugged equipment is powered by rechargeable LiFePO4 battery of outstanding<sup>2</sup> characteristics, with estimated durability of up to 10 years (2000 cycles).

(1) Android device not included.

(2) This is an estimation based on data provided by battery manufacturers and cannot be guaranteed. Warranty period for LFP batteries is the same as the warranty period of the equipment itself.

## MD10KV<sup>R</sup>

### Technical specifications

#### TEST VOLTAGE

500 V, 1000 V, 5000 V, 10000 V directly, one button selectable.  
500 V to 10 kV in 25 V, 100 V or 500 V steps. DC, negative.

#### MAXIMUM RESISTANCE READING

10 TΩ @ 5 kV up to 10 kV.  
5 TΩ @ 1 kV up to 4,99 kV.  
1 TΩ @ 525 V up to 999 V.  
500 GΩ @ 500 V.

#### DC VOLTMETER

15 V up to 1000 Vdc. Accuracy: ±(5% of reading + 3 digits).

#### AC VOLTMETER

15 V up to 1000 V r.m.s. Accuracy: ±(5% of reading + 3 digits).

#### OVERVOLTAGE CATEGORY

CAT III - 600 V.

#### LEAKAGE CURRENT MEASUREMENT

1 nA up to 1500 μA ±(10% of reading + 3 digits).

#### CAPACITANCE MEASUREMENT

50 nF up to 10 μF @ 500 V.  
50 nF up to 5 μF @ 1,000 V.  
30 nF up to 2 μF @ 2,500 V.  
30 nF up to 1 μF @ 5,000 V.  
30 nF up to 680 nF @ 10,000 V.  
Accuracy: ±10% of reading ± 3 digits.

#### SHORT CIRCUIT

Max. 2 mA.

#### DISPLAY

Digital and bargraph reading.

#### TEST VOLTAGES ACCURACY

± 3% of nominal test voltages on 10 GΩ.

#### INSULATION TESTER BASIC ACCURACY

± 5% of reading from 1 MΩ to 1 TΩ @ 10 kV.  
± 20% of reading from 1 TΩ to 10 TΩ @ 10 kV.  
(for lower test voltages, the upper limit will be reduced proportionally)  
± 20% of reading ± 5 digits from 10 kΩ to 100 kΩ.  
± 10% of reading ± 5 digits from 100 kΩ to 1 MΩ.

#### ADVANCED FEATURES

Dielectric discharge.  
Ramp test.  
Automated Polarization Index calculation.  
Automated Dielectric Absorption Ratio calculation.  
Programmable Pass-Fail test.  
Step Voltage Test.  
16,000 measured values.  
Switchable filter to remove external noise interference.

#### BUILT-IN PRINTER

Prints elapsed time, actual voltage and resistance measured each 15 seconds.

#### BUILT-IN CHRONOMETER

Shows elapsed time in mm:ss format. Count starts automatically for each measurement.

#### INTERFACE

USB and remote interface.

#### ENVIRONMENTAL PROTECTION

IP65 (with closed lid).

#### SAFETY CLASS

In accordance with IEC 61010-1.

#### E.M.C.

In accordance with IEC 61326-1.

#### ELECTROMAGNETIC IRRADIATION IMMUNITY

In accordance with IEC 61000-4-3.

#### ELECTROSTATIC IMMUNITY

In accordance with IEC 61000-4-2.

#### POWER SUPPLY

Internal rechargeable battery 12.8 V - 6 Ah.

#### BATTERY CHARGER

AC adapter 18 V - 2 A. (Input 90 - 260 V~ 45-65 Hz).

#### OPERATING TEMPERATURE RANGE

23°F to 122°F (-5°C to 50°C).

#### STORAGE TEMPERATURE RANGE

-13°F to 149°F (-25°C to 65°C).

#### HUMIDITY RANGE

95% HRA (non condensing).

#### EQUIPMENT WEIGHT

Approx. 13.88 lb (6.3 kg).

#### DIMENSIONS

15.98" x 12.99" x 6.85" (406 x 330 x 174 mm).

#### INCLUDED ACCESSORIES

2 Measuring test leads.  
1 GUARD test lead.  
1 AC adapter.  
1 USB Cable.  
1 Protective bag.  
1 User guide.  
1 T-Logger software.



### Rechargeable battery (LiFePO4)

**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.