

VECTECH 499ZC Surface /ground Resistance METER

Operation Manual

Thank you for purchasing the tester. Please read this manual before operating the unit. Store this manual in a safe, easily accessible place for future reference.

I 、 Summary

This test can test Surface Resistance and ground Resistance, can test anti-static material and insulation. It adopt ASTM standard D-257 parallel pole sense method, use high-density OP-AMP integrated amplifier, auto test.

II 、 Specifications

Test range: $10^2 \sim 10^{13} \Omega$

Test pattern: ①IEC test mode

②ground resistance test mode

(Ohm, Resistivity to Ground)

③surface resistance test mode

(Ohm Per Square, Surface Resistivity)

Test time: 15S 30S 60S

Setting range: setting up and down range (from 1.0E2 to 1.0E14, every step one order of magnitudes)

Testing voltage: auto-voltage select, when testing resistance low than 10^6 , testing voltage is 10V. when test resistance more than 10^6 , test voltage is 100V.

Power: 3.7V battery charging

Precision: 0.01 order of magnitudes

Precision: $\pm 10\%$

Test area: 50mm(length) \times 50mm (interval)

Electrode texture: electric conductive rubber

Operating environment: $15^\circ\text{C} \sim 35^\circ\text{C}$, RH: 0% \sim 60%

Size: 120(L) \times 78(W) \times 70(H)mm

Material : stainless steel

Weight : 0.63KG(main unit)

5.46KG (not contain packing-case)

Other component:①test shelf

②one ground resistance test line

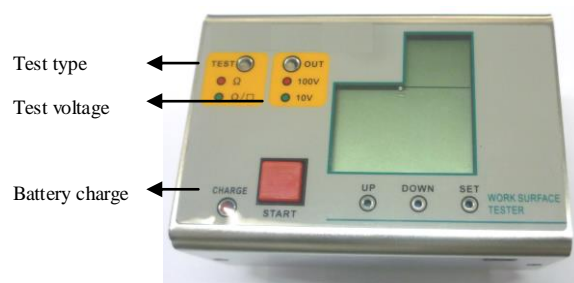
③two IEC mode test line

④100~240VAC/5V charger +USB connect line

⑤two $\Phi 63.5\text{mm} \pm 1\text{mm}$ electric conduction rubber

⑥ $2.5\text{kg} \pm 0.25\text{kg}$, $\Phi 63.5\text{mm} \pm 1\text{mm}$ standard electrode

III 、 show explain



Test type LED: green is surface resistance test, unit: ohm/m^2

Red is ground resistance test, unit: ohm, connect test line to socket.

Test voltage LED: green is 10V, maximum current less than 1mA

Red is 100V, maximum current less than 1mA

Voltage auto-adjustment. resistance less than 10^6 test voltage is 10V, more than 10^6 test voltage is 100V.

Battery charge LED: connect to USB port or charger, LED shine.

VII、 Announcements

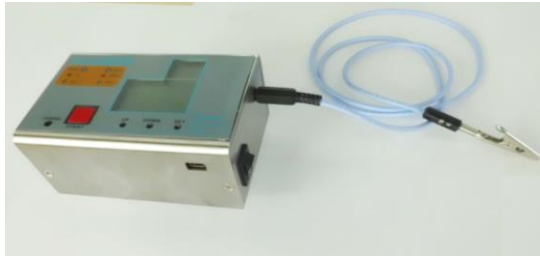
When arise "EL", representative system is not correct state, calibration data wrong or lose, need calibration again. Not calibration state will save in acquiesce data, test accuracy reduce.

Electrode of tester is specific electric rubber, if have be pollute, clean it with alcohol wipes, Do not rub it with hard matter, Otherwise result in electrode damage.

When test high resistance material, use alcohol wipes clean dust of electrode, Test resistance until alcohol volatilize, guarantee test result accuracy, If test IEC mode, need clean test shelf.

Tester power supply is charging lithium battery, charging time not more than 15 hours, if use day by day, Suggest charging each three month.

Have auto-standby function, have no button operation in five minutes, tester auto enter standby state. If need use, close power switch five seconds and open again. not use long time, please close power.



3. Connect ground line to ground.
4. Place equipment on test point.
5. Press START, start testing.
6. Tester auto-complete testing.

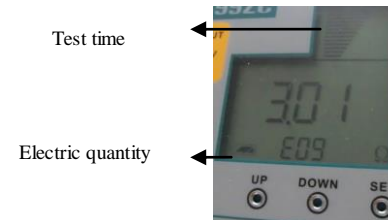
5.3 Surface-resistance test mode

1. Turn on power switch.
2. Place tester on surface.
3. Press START button, start testing.
4. Tester auto-complete testing.

VI、 Check

Suggest check period is 12 months.

LCD display:



1. Test time status bar, total 15 item.
2. electric quantity status bar.
3. "---", flicker, express testing..
4. testing, test time status increase gradually , when reach to 15, express test have accomplish ,the middle of LCD express X.XX. below express EXX Ω .

IV、 parameter setting

1. open power switch.
2. press SET, screw display SE1 about 1S, display value(15,30 or 60), representative test time, unit is second. Test time more long, test value more accurate.
3. Press UP or DOWN adjust this value, press SET, display SE2, enter into next resistance high-end setting.
4. Press UP or DOWN adjust this value, Every step is one order of magnitudes. After setting press set, Display SE3, enter into next resistance low-end setting.
5. Press UP or DOWN adjust this value, Every step is one order of magnitudes. After setting press set, return to testing state.

V、Operational

5.1 IEC test mode

1. Place conductive sheet rubber on measure surface, space between not less than 250mm.



2. Electrode press on the conductive sheet rubber.



3. Connect them using silica wire.



4. Place tester on it.



5. Open the power switch.
6. Press START, starting test.
7. Tester auto setting range, LCD display "---" and flicker. Time and resistance direct ratio, the most setting time is 15S.
8. Start testing, when state item reach to 15, express test have finish, tester show resistance by science counting, in the middle display X.XX. below display EXX Ω . If in the front of value display "+" and flicker, mean test value more than high-end value, display value is setting high-end value. If in the front of value display "-" and flicker, mean test value less than low-end value, display value is setting low-end value.

5.2 Ground resistance test mode

1. Open the tester power switch.
2. Connect ground line to right jack of tester, LED indicate light of tester left turn green to red, display ground resistance test mode.