

Ziegler

Redefine Innovative Metering

Technical Datasheet

ZIT 56

5kV Digital Insulation Tester

ZIT 56

ZIT 56 is designed to perform at power utilities where induction field is very high. Its high noise immunity and user selectable digital filters makes it most robust and reliable instrument with user selectable test voltages. Also it is used for testing the electrical insulation of cables, motors, generators, transformers, etc. at power generation plants, utilities, distribution. Its advance features like Bluetooth connectivity, audio read out, touch screen TFT color display makes it never before user friendly. It can store the data on its inbuilt memory with real time stamp. Data can be transferred to computer for future analysis purpose.

Product Features

- Selectable Test Voltage up to 5000 V : Test voltages can be set to any desired value from 100V to 5000V
- High Insulation resistance measurement : Insulation resistance measurement from 50 K Ω to 10T Ω for 5kV test voltage
- Noise rejection - 8mA : High Noise immunity allows accurate measurement under HT lines
- Polarization index (PI) testing is an extension of the insulation resistance test and is designed to check specific issues such as moisture and insulation deterioration
- Dielectric Absorption Ratio : DAR measurement is a diagnostic test similar to the Polarization Index (PI), but DAR takes the ratio of the Insulation Resistance usually measured at 30 sec and 1 min (other time settings are possible)
- Dielectric Discharge (DD) Test is a diagnostic insulation test that allows aging and deterioration of insulation to be assessed
- Step Voltage Test is designed as a controlled over-voltage or proof test to provide an additional evaluation of the insulation system integrity
- The Ramp Test is performed with a slowly rising voltage
- User selectable software filter can be used depending on noise levels. This help in accurate reading in noisy environment
- Capacitance can be measured from 1nF to 50uF
- Depending on insulation resistance limit the user can be alarmed about the quality of insulation
- Insulation Resistance can be displayed over the time in graphical form
- Bluetooth 2.0 & 4.0 Class II and electrically isolated USB 2.0 communication
- It has data logging and monitoring software for window system and an interactive mobile application for android
- Burn Mode for uninterrupted insulation testing to find the breakdown region and Breakdown mode will stop generation of voltage on detection of high current



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- It has internal datalogging feature. It can log upto 2000 reading with customer information and time stamp
- It has file explorer to view the datalog file on TFT display
- Audible test result on completion of test for awkward locations
- Li-Ion 3 Cell Battery with charging current of 1A
- We can set the test time to any desired test time from 45sec to 99 min 59 sec

| Specification | | |
|-----------------|--------------------|-----------------|
| Nominal Voltage | Maximum Resistance | Intrinsic Error |
| 100V | 2GΩ | 5% ± 1D |
| | 10GΩ | 20% ± 1D |
| 250V | 50GΩ | 5% ± 1D |
| | 500GΩ | 20% ± 1D |
| 500V | 100GΩ | 5% ± 1D |
| | 1TΩ | 20% ± 1D |
| 1000V | 200GΩ | 5% ± 1D |
| | 2TΩ | 20% ± 1D |
| 2500V | 500GΩ | 5% ± 1D |
| | 5TΩ | 20% ± 1D |
| 5000V | 1TΩ | 5% ± 1D |
| | 10TΩ | 20% ± 1D |

- Test voltage accuracy - +7% ± 10V
- Direct and Alternating Voltage Measurement

| Measuring range | Frequency | Intrinsic error |
|-----------------|-------------|-----------------|
| 20V-600V AC DC | 45 Hz-500Hz | 3%+10D |

- Capacitance Measurement - 1nF to 50uF; Accuracy ± 10% ± 5 nF
- Insulation Leakage Current Measurement - 0.01nA to 6mA; Accuracy ± 5% +0.2 nA
- Guard terminal - 2% error guarding 500 kΩ leakage, 100 MΩ load
- Timer Range for IR test - Time: 45s ~ 99 min 59 sec with three programmable timers
Tests: IR(t), DAR, DD, PI, Step Voltage, Ramp voltage

- Ambient Conditions :
 - Operating Temperature -20 °C ... +50 °C
 - Storage Temperature -20 °C ... +70 °C
 - Relative Humidity max. 90%
(condensation must be avoided)
 - Elevation up to 2000m
 - Protection IP 67 with closed case
IP 52 with open case

| Applicable Standards | |
|----------------------|--|
| Standard | Norms |
| IEC 61010-1 | Safety regulations for electrical measurement, control, regulation and lab devices |
| IEC 61557 | Measuring and monitoring facilities for testing the electrical safety in lines with nominal voltages up to AC1000V and DC1500V |
| PART-1 | General |
| PART-2 | Insulation resistance measuring devices |

- Reference Conditions :
 - Ambient Temperature + 23 °C + 2K
 - Relative Humidity 45 ... 55%
 - Measured Quantity 50Hz ± 10Hz
 - Frequency (for voltage measurements)
 - Line Voltage Waveform Sine wave
 - Battery Voltage 11.1V ± 1%
 - Operating position Horizontal
 - Power Supply Voltage 230V ± 15%, 50/60 Hz
(Mains)
- Power Supply (Battery) :
 - Battery 11.1V ,7.8Ah Li-ion Battery
 - Battery service life 6 Hrs continuous testing at 5kV 100MΩ
 - Battery charging time 7 Hrs
- Power Supply (Mains) :
 - Nominal Power (Mains) 230V AC ±15%, 50/60 Hz
- Electromagnetic Compatibility (EMC) : IEC61326 - 1

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- Electrical Safety :

| | |
|----------------------|-------------|
| Overvoltage Category | 600V CAT IV |
| Test Voltage | 7.4kV~ |
| Pollution degree | 2 |

- Mechanical Design :

| | |
|------------------------|-----------------------|
| Dimensions (L x W x H) | 360mm x 310mm x 195mm |
| Weight | approx 5kg |

- Standard Scope of Supply :

- 1 In built Li-ion rechargeable battery
- 1 Operating instructions
- 1 Power cord
- 1 USB cable for communication and software CD
(with USB and bluetooth communication interface)

- Test lead options (one to be selected) :

- Test lead set with 3m test leads with crocodile clips (+ve, -ve & Guard lead)
- Test lead set with 3m test leads (+ve, -ve & Guard lead) with 3 clamps with Large jaw opening
- Test lead set with 10m test leads (+ve, -ve & Guard lead) with 3 clamps with Large jaw opening
- Test lead set with 15m test leads (+ve, -ve & Guard lead) with 3 clamps with Large jaw opening

Ordering Information

DT08-1N130000000ZG : ZIT 56

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