# TOZ AND TZZ VOLTAGE LIMITING DEVICE TESTERS


Testers TOZ and TZZ are designed for testing the basic functionality of voltage limiting devices:

- leakage current,
- non-triggering voltage,
- triggering voltage,
- reaction time as a function of the applied voltage.

All tests are carried out in accordance with the guidelines of the relevant standards

Additionally, TZZ device allow overcurrent relays testing and complex earth fault protection devices including tripping and holding current, resistance (mΩ range), timing characteristics of various current-time dependent functions.

## APPLICATION

### TOZ

Testing VLD limiting devices in the field. Battery powered, Maximum probing voltage for VLD testing: 200 V.

### TZZ

Testing VLD limiting devices, overcurrent relays, earth fault protection devices. Dedicated for full set of tests of EZZ earth fault protection devices. 230 VAC powered. Maximum probing voltage for VLD testing: 250 V, Injected DC current up to 800 A.

## BENEFITS

- Easy to use legible interface
- Portable devices battery powered for field testing (TOZ)
- Testing without powering of the traction (TOZ), still maintaining uninterrupted earth fault protection
- Automated testing of VLD parameters
- Current injector feature with capacity of up to 800 A (TZZ)

## PARAMETERS TZZ/TOZ

- VLD probing voltage up to 250 V / 200 V
- Maximum injected current up to 800 A (only TZZ)
- Reaction time measuring range 1 - 200 ms
- Leakage current measuring range up to 40 mA
- Power supply: 230 VAC 300W / internal battery
- Dimensions 460/360/190 (TZZ)
  350/310/150 mm (TOZ)
- Weight 12.3 kg / 4.5 kg


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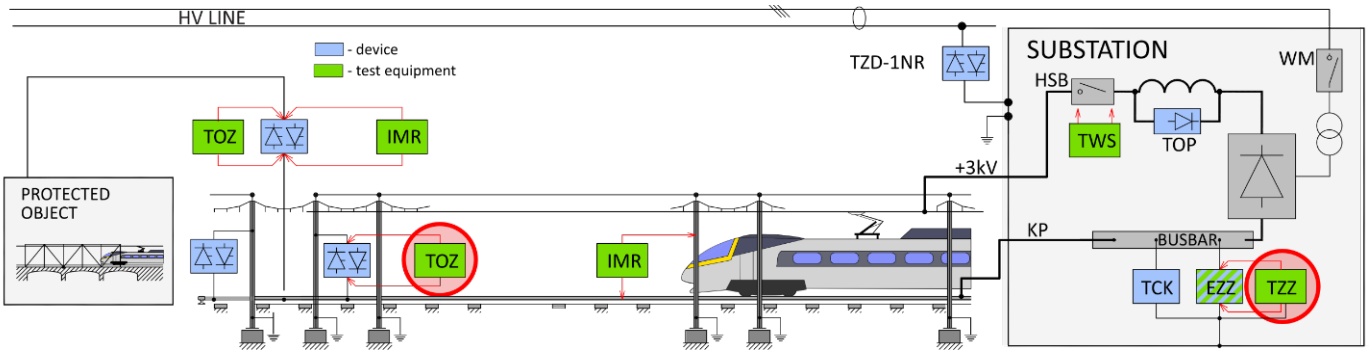


Tester TOZ is battery powered and is primarily intended for testing voltage limiting devices installed on the masts, objects and traction. All functional tests of the tested object can be performed without powering og the traction power, due to the built-in protection circuitry and connections with the running rails and earth electrode of the protected object. Before the tests of the voltage limiting device and also during them, the TOZ tester verifies the correctness of the connections and informs the user accordingly.

The TZZ tester is powered from 230 V AC and has been designed for stationary testing of earth-fault protection devices at traction substations, disconnected from the traction voltage for the duration of the test. In addition to the basic functional parameters, i.e. leakage current, non triggering voltage, triggering voltage and reaction time as a function of the applied voltage, it can be used for testing the thresholds of overcurrent relays and their time functions (delays and dependencies).

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