

LOW-VOLTAGE LIMITER TEST APPARATUS

type TOZ-1A

Application. The test apparatus type TOZ-1A is a portable device, in a suitcase form, basically designed to test low-voltage limiters TZD installed in the group bonding system. The tester is adapted to check TZD limiters without the deenergizing OCL. To this end TOZ-1A is equipped with a power diode, which replaces the checked limiter during test. During measurement the limiter must be disconnected from running rails. To save a proper performance of the protection system in the case of earth fault, after tester connection the control of connection effectiveness should be done.

The test apparatus has its own power supply – the battery, which can perform several dozens of tests without outer supply.

The limiter test apparatus TOZ-1 type diagnoses the TZD limiter by applying to its terminals following voltages: first below and then over threshold voltage U_p . The reactions to these voltages can assess the correctness of the limiter action. The tested limiter should be connected according to labels. The voltage polarization change is done by the particular switch. It is important because of the limiter type (N or R). The testing voltage is set on 100 V or 150 V level – depending on the switch position.

The tester can be used to check limiters in the earth fault protection systems: EZZ, TUZZ and UZZ. In those cases terminals UZM and SZYNY should be connected (which is forbidden in the group bonding system).



Basic technical parameters

- Voltage levels 100 V & 150 V.
- Functional temperature -10 °C ÷ +40 °C.
- Power supply battery 12 V/ 2.2 Ah.
- Number of tests without battery charging > 50.
- Overall dimensions (suitcase form) 460 * 340 * 160.
- Weight 8 kG.

Accessories

- High-current conductors with clamps (vices).
- Test conductor 2.5 mm² with a special clamp.
- Battery charger.
- Rail-earth resistance simulator.
- Low-voltage TZD limiter simulator.
- Spare fuses.

Operation features. The test apparatus is designed to field tests of TZD limiters installed in the earth fault protection systems, under normal DC traction power supply conditions. It can also check limiters installed in earth fault protection devices type EZZ and TUZZ. It guarantees uninterrupted earth fault protection and safe operation during tests. Inner battery can perform several dozens tests without charging.

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