# MultiSafe DSP 3TT1

Telescope voltage tester for light rail systems





The MultiSafe DSP 3TT1 is a safe equipment for fast voltage testing at overhead lines of light rail systems.

- Precise indication of voltage up to 1000 V
- Test height up to 6,2 meter variable height adjustment
- Highest degree of safety provided by protective resistors within test prod, maximum current < 3,2 mA</li>
- Easy operation with one single push-button, self-test for testing function, protective resistors and proper ground connection



## Application

The MultiSafe DSP 3TT1 is a two-pole telescope voltage tester for voltages up to 1000 V AC / 1500 V DC.

It is particularly suitable to detect quickly and securely voltage at catenary lines of light rail systems.

The voltage tester consists of a telescopic tube with test electrode to be connected to the overhead line, a display part and a contact magnet for the grounded rail.

The display part was designed on the basis of the two-pole voltage tester MultiSafe DSP 3, which is certified by VDE in accordance with EN/IEC 61243-3. A high level of safety is provided by resistor decades that are moulded within the test probe. The current is securely limited to 3,2 mA.

#### Three readout systems

Spannung Voltage

voltage test.

MultiSafe DSP 3TT1M

quickly with the self-test.

MultiSafe DSP3TT1K

Protective resistors, function of the voltage tester and the connection between

magnet and rail are checked easily and

Unambiguous and rapid recognition of function and result:

- round red flares for voltage, green square symbol for standby and abscence of voltage
- illuminated display shows precise values in V or kΩ as well as voltage type and polarity

The MultiSafe switches on at 50 V or

more, or over from test function to

acoustic signal > 50 V AC / 120 V DC.

3TT1

### **Easy operation**

- Simple test sequence in three steps:
- 1. Place the contact magnet / contact clip onto the grounded rail.
- 2. Perform self-test before voltage tests
- Pull out the telescopic tube, mount the electrode to overhead line, voltage testing

#### **Robust design**

High-quality elements guarantee function and safety:

- 4-part GRP-telescopic tube with variable height fixing
- Display part made of impact-proof plastic with break-proof display cover
- Dust and water proof, approved for operation in outdoor areas
- solid PUR control cable with contact magnet for grounded rail
- unscrewable display part and test electrode

#### Accessories

- Bag with ring bolt and shoulder belt 176 x 24 cm
- Wall holder



Variable locking



Contact terminal for rail foot (as an alternative to contact magnet).

Wall holder

## Technical data

MultiSafe DSP 3TT1 Telescope voltage tester for light railway overhead lines

Nominal voltage range

50 ... 1000 V AC / 1500 V DC

Frequency

0 ... 500 Hz

Input resistance

311 k\Omega, therefrom 186 k\Omega in the moulded resistance cartridge beneath the test electrode

Measurement current

3,2 mA at 1000 V AC/ DC

Display

two redundant systems 1. LC-display at > 50 V auto-on 2. LEDs at > 50 V

Detection of operating mode +/ -/ ~ On-time

15 minutes

Self-test

#### Sen-test

function, protective resistors and ground contact Surge voltage strength

saige foliage caloligat

 > 12 kV case insulation to user
> 12 kV switching mechanism between test prods tested with 14,8 kV 1,2/50 µs surge

Overvoltage category

CAT IV in accordance with IEC 60664-1 (VDE 0110)

Operating temperature -10°C ... + 55°C

Power supply

9 V alkali-manganese-cell in accordance with IEC 6 LR61 Protection category

IP 65, device can be used in moist environments Design

Two-pole voltage tester

Basic device DSP 3: impact-proof, dust proof plastic casing with unbreakable display cover, protection category IP 65 Extension DSP 3TT1:

4-part telescopic tube made of GRP with integrated PUR spiral line moulded resistor decade, approx. 186 k $\Omega$  PUR control line with contact magnet/contact clamp

## Standards

Basic device DSP 3: in accordance with EN/IEC 61243-3 Extension DSP 3TT1 Surge voltage strength > 20 kV in accordance with EN/IEC 60071, further applied standards: EN/IEC 61010-031

Dimensions/weight

1740 x 120 x 110 mm run-out length up to 5,2 m device incl. line and magnet approx. 2,3 kg device with clamp approx. 2,6 kg

Article number	Type / Label
89306	MultiSafe DSP 3TT1M
89336	MultiSafe DSP 3TT1K
84332	Bag TT-KLT 176 x 24 cm
63042	Wall holder

further designs up to 3 kV are available on request