

FEATURES

The EFL 10T is a small-size hand-held instrument intended for maintenance and troubleshooting, and also for acceptance tests of telecommunication cables.

The EFL 10T provides numerous tools: Measurement of cable parameters such as

- Loop resistance
- Resistance difference
- Insulation resistance
- Cable capacitance
- Disturbing AC and DC voltages
- Cable temperature

DC AC fault location methods for the location of insulation and conductor faults:

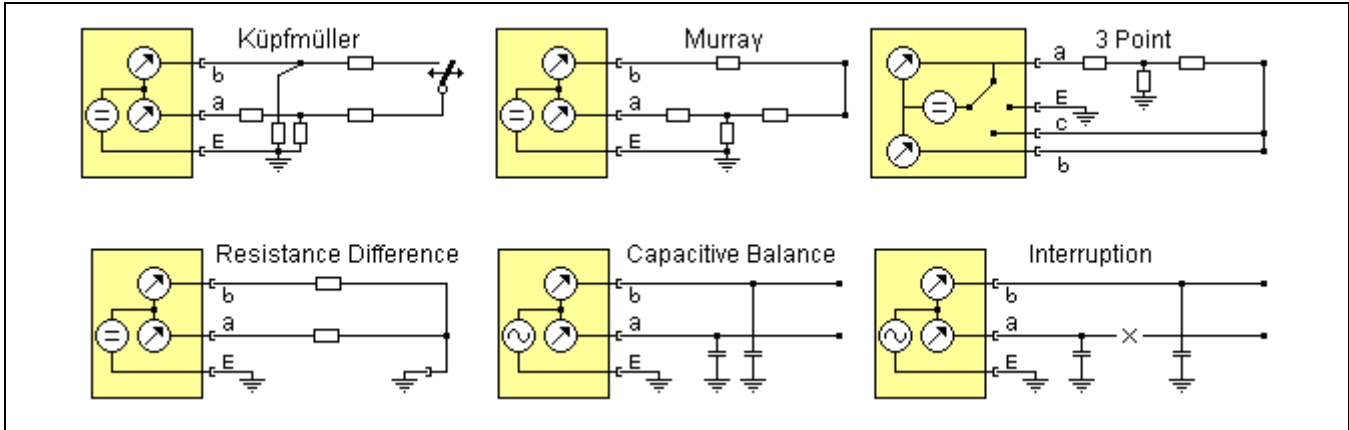
- Murray,
- 3 Pont,
- Küpfmüller
- Repeated Küpfmüller
- Interruption

Automatic test sequences making the work quicker and more effective

- Automatic Quick Test
- Automatic Quality Test
- Automatic Survey of Pair Condition

USB port and WIFI for data transfer

DC, AC FAULT LOCATION METHODS



SPECIFICATIONS OF CABLE PARAMETER MEASUREMENTS

Table with two columns detailing specifications for Loop Resistance, Resistance Difference, Insulation Resistance, Disturbing Voltage, and Capacitance. Each section includes measuring ranges, accuracies, and test results.

SPECIFICATIONS OF FAULT LOCATION

Table with two columns detailing specifications for Murray, 3 Point, Küpfmüller Methods and DC-AC Repeated Küpfmüller Method. Includes accuracy for fault resistance and test results.

SPECIFICATIONS OF SINGLE DMM MEASUREMENTS

Table with two columns detailing specifications for AC-DC Disturbing Voltages and Loop Resistance. Includes measuring modes, accuracies, and test results.

SPECIFICATION OF AUTOMATIC QUICK TEST SEQUENCE

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| <p>Disturbing voltage Measuring range..... up to 400 V DC, 250 V AC Accuracy..... $\pm 3\% \pm 1 \text{ V}$ Test results AC, DC voltages</p> <p>Insulation resistance Measuring range..... 10kΩ to 300 MΩ Measuring voltage..... 100 V Measuring time ~70 sec DC disturbing voltage compensation Enabled Accuracy 20 % Test results Resistance between: wire a and wire b (Rab) wire a and GND (RAE) wire a and GND (RBE)</p> | <p>Capacitance Measuring range 10 nF to 2 μF Measuring voltage 11 Hz, 100 V Test results..... Capacitance between: wire a and wire b (Cab) wire a and GND, wire b joined to GND (CaE) wire b and GND, wire a joined to GND (CbE) Accuracy $\pm 3\% \pm 0.3 \text{ nF}$</p> <p>Capacitive Balance Measuring voltage 11 Hz, 100 V Test results Ca>Cb or Cb>Ca, CaE/CbE, unbalance % Resolution..... 1/1000</p> |
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SPECIFICATION OF AUTOMATIC QUALITY TEST SEQUENCE

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| <p>Insulation resistance Measuring range..... 10kΩ to 1000 MΩ Measuring voltage..... 100 V Measuring time ~120 sec DC disturbing voltage compensation Enabled Accuracy 10 kΩ to 300 MΩ..... 10 % $\pm 1\text{k}\Omega$ Over 300 MΩ..... 20 % $\pm 1\text{M}\Omega$ Test results Resistance between: wires a and wire b (Rab) wire a and GND (RAE) wire a and GND (RBE)</p> <p>Resistance difference Loop resistance range 10 Ω to 5 kΩ Resolution 1/1000 Accuracy $\pm 0.2\%$ of loop resistance $\pm 0.2 \Omega$ Test results Ra, Rb, $\Delta\text{R}\Omega$, $\Delta\text{R}\%$</p> | <p>Loop resistance Measuring range 1Ω to 10kΩ Accuracy $\pm 0.3\% \pm 0.1 \Omega$</p> <p>Capacitance Measuring range..... 10 nF to 2 μF Measuring voltage..... 11 Hz, 100 V Accuracy $\pm 2\% \pm 0.2 \text{ nF}$ Test results Capacitance between: wire a and wire b (Cab) wire a and GND, wire b joined to GND (CaE) wire a and GND, wire b joined to GND (CbE)</p> <p>Capacitive Balance Measuring range 1nF to 2 μF Measuring voltage 11 Hz, 100 V Accuracy of Lx/L value $\pm 0.2\% \pm 200\text{pF}$ Test results Ca>Cb or Cb>Ca, CaE/CbE, unbalance %</p> |
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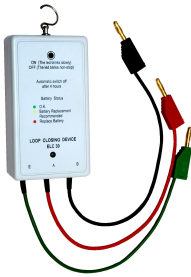
SPECIFICATION OF CABLE QUALITY SURVAY TEST SEQUENCE

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| <p>Insulation Measuring range..... 10 kΩ to 300 MΩ Measuring voltage 100 V DC disturbing voltage compensation Enabled Accuracy 10 kΩ to 50MΩ 5 % $\pm 1\text{k}\Omega$ 50 MΩ to 100 MΩ 10 % Test results .. Resistance between wire a and b (Riso) wire a and GND (FaE) wire b and GND (FbE)</p> <p>DC voltage source Measuring range. up to 100 V DC Test results voltage source: cascade with FaE (Va-E) cascade with FbE (Vb-E)</p> | <p>Capacitance Measuring range 10 nF to 2 μF Measuring voltage 11 Hz, 100 V Accuracy $\pm 2\% \pm 200 \text{ pF}$ Test results Capacitance between: wire a and wire b (Cab) wire a and GND (Ca-E) wire b and GND (Cb-E)</p> <p>Loop and wire resistance Measuring range..... 1Ω to 10 kΩ Accuracy ca.1% Test results Loop resistance (RI) Resistance of wire a (Ra) Resistance of wire b (Rb)</p> |
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DATA TRANSFER

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| <p>Data transfer via USB port</p> <p>The USB port provides:</p> <ul style="list-style-type: none"> • transfer of test results to USB stick • bidirectional transfer of setups • transfer of print screen images to USB stick • transfer of upgrade files to EFL 10T | <p>Data transfer via WiFi</p> <p>EFL 10T acts as a HTTP server when transfers test results to Local Area Network.</p> |
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LOOP CLOSING DEVICE ELC 30 (Option)

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| <p>Functions</p> <p>Opening or closing the far end of tested pair when just one person wants to perform a measurement during which the far endings should be opened or closed (e.g. Kűpfműller method). The device is remote controlled over the tested pair by EFL 10T</p> |  | <p>Specifications</p> <p>Power supply AA size alkaline battery cells 3 pieces Operation time ca. 1000 hours Auto power off 4 hours</p> <p>Connectors 4 mm banana plugs</p> <p>Mechanical Data Dimensions 110 x 60 x 25 mm Weight (Including battery pack) ca. 0,2 kg</p> |
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GENERAL SPECIFICATIONS

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| <p>Power supply Internal rechargeable lithium-ion battery pack Operation time ca. 8 hours Charging From 230 V mains with mains adapter From 12 V car battery with car adapter (option) Charging time approx. 3 hours</p> <p>Display 320x240 dot color TFT LCD</p> <p>Connectors For mains or 12V car adapter 2.1/5.5 mm socket For measuring cables 4 pcs of 4 mm safety banana sockets Micro-USB to connect PC or memory stick</p> | <p>Ambient temperature ranges Reference +23°C ± 5°C, RH 45% to 75% * Normal operation 0°C to +40°C, RH 30% to 75% * (< 25 g/m³) Limits of operation -5°C to +45°C, RH 5% to 95% * (< 29g/m³) Storage and transport -20°C to +70°C, RH 95% at +45°C * (< 35 g/m³)</p> <p>Protection IP 54 Shockproof EN 60068-2-27 Shock</p> <p>Dimensions 200 x 100 x 40 mm</p> <p>Weight 0.8 kg</p> <p>* without condensation</p> |
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ORDERING INFORMATION

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| <p>FAULT LOCATOR BRIDGE EFL 10T 470-000-000</p> <p>Including: Operating Manual Calibration Certificate Ground cable (green) Test lead (yellow) 2 wire test lead (black/red) OTG cable USB cable for PC connection Mains adapter Battery pack (built-in) Carrying case</p> <p>HW Options: Loop closing device ELC 30 Y-421-000 Temperature probe Y-146-014 Car Lighter power adapter EAA 20 462-000-000</p> |
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ELEKTRONIKA reserves the right to change specifications without prior notice !

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