



TDR-107 is a cable fault locator designed specifically to find and diagnose faults in the **power cable lines**: open, short, sleeve, cable splice, parallel drainage, wet cable, etc.

TDR-107 can be implements the following measurement methods: **TDR method** (effective for low-resistance faults), and high-voltage **ARM method** (Arc Reflection method) which allows to determine the high-resistance faults to hundreds of megohms.

TDR method - the most accurate and safe mode – effective for diagnosis of low-resistivity damages, searching opens and short-circuits.

ARM (Arc Reflection Method)

Localization of the cable faults with a high transient resistance ($R > 10 \text{ k}\Omega$) is usually difficult when using low-voltage TDR method. One of the ways for localization such defects in power cables is an Arc Reflection Method (ARM).

Implementation of ARM method is carried out with the additional equipment: high-voltage pulse generator (HVPG) and the special connecting device (as an external unit or internal HVPG unit).

The essence of the ARM method is in creating conditions (using HPVГ) for the occurrence electric arc (breakdown) for a short time (few milliseconds) in the point of the fault. Synchronously with the burning arc (sync signal obtained from HPVГ) reflectometer performs sensing. The TDR's probe pulse is reflected from a low resistance of the arc with inverted polarity (like shorted circuit). *The method does not require the prior isolation burning and particularly effective when working on polyethylene sheath.*

Specifications

Measurement Modes	- TDR; - ARM;
Monochrome LCD display	Monochrome 5.7" (320×240 pixels)
Range measuring distance (delay time)	from 0 to 50000 m (0 to 500 ms)
Sub-bands of distance	0 – 250 m, 500 m, 1000 m, 2500 m, 5000 m, 12500 m, 25000 m, 50000 m
Distance instrumental error	from 0.04% to 0.4% depending on subband measurements
The effective sampling rate	100 MHz
Range concerted resistance	from 25 ohms to 600 ohms
Probe pulse duration	from 10 ns to 100 μs
The amplitude of the probe pulse	20 V on open circuit
Sensitivity	better than 1 mV
The dynamic range	not less 80 dB
The setting range of the velocity factor	VOP = 33.3% ... 99.9% (step 0.1%)
Time delay adjustment range (ARM)	from 0 to 4 ms (step 0.2 ms)
Synchronization (ARM)	- TDR input - SYNC input
Memory	100 waveforms
Special modes	- pointwise subtraction mode to show only differences; - compare mode with a trace from the device memory; - preview mode waveforms with text notes from memory; - built-in editable table velocity factor of 200 values; - PC data exchange;
Continuous battery operating time	at least 8 hours
Time of continuous operating time through the charger	unlimited
Dimensions	70x246x124 mm
Operating temperature range	from -20 °C to +40 °C
Weight with a battery	not more than 2.5 kg

Delivery Contents

	Quantity
Cable Fault Locator TDR-107 (Tech specs 4221-108-23133821-11)	1 item
AC Adapter 12 V	1 item
Connecting cable 75 Ohm, BNC.M - «Alligator clip»	1 item
Connecting cable 75 Ohm, 1 m, BNC.M-BNC.M	1 item
User Manual (tech. spec. 4221-108-23133821-11))	1 item
CD-ROM with software	1 item
Accessories bag	1 item