

Small-size microohmmeter MIKO-10

Safety Test Certificate IEC 61010-1:2001 on the MIKO-10
EMC Compatibility 61326-1:2005 on the MIKO-10

MIKO-710 is included in Russian State Register under
#64967-16

Warranty: 24 months
Service life: 10 years



Measurement of transient resistance in the range of $1 \div 100\,000\ \mu\Omega$, the error being as low as $\pm 0.2\%$. Small-size wrist microohmmeter MIKO-10 is designed for rapid measurement of DC electric resistance of:

- contacts of HV and automatic circuit breakers, interrupters, connecting devices, breakers, and relays;
- bolted, welded and brazing joints of wireways and buses;
- rail fastenings and wheel sets;
- other devices and machinery.

The instrument is designed for being applied at electric networks, power plants and substations, traction substations of electric transport, and at industrial enterprises where 10A current is sufficient for measurements.

Three modes of measurements start-up have been implemented in the device:

- Mode 1: "Single start-up" is intended for measuring the transient resistance of HV circuit-breakers without current transformers or any detachable or non-detachable connections on 1A or 10A current. The measurement is started up by user's command;
- Mode 2: "Automatic start-up" is intended for measuring the transient resistance of HV circuit-breakers without current transformers or any detachable or non-detachable connections on 1A or 10A current subject to automatic measurement start-up against the measurement circuit closing;
- Mode 3: "An In-Built CT" is intended for measuring the transient resistance of HV circuit-breakers with current transformers on 10A current. The measurement is started up by user's command.

MIKO-10 is a modern small-size microohmmeter that meets the latest requirements of users. The instrument incorporates a number of important functions: Thermal EMF balancing in the test circuit; Automatic disconnection of power supply if the instrument is not used; Check of the test loop integrity; Automatic start-up of measurements against the test loop integrity confirmation; Automatic stop of measurements; Beeping the measurements start-up and termination.

The instrument has an energy independent memory of up to 200 recordings, which is sufficient for overall and complex test of a transformer substation. USB connection to PC facilitates classification and storage of recordings on the computer and generation of measurement reports.

An in-built battery of the MIKO-10 ensures its independence, and its capacity is sufficient for performing 200 measurements at maximum current of 10A.





Free hands during operation (three methods of fastening the instrument):







The instrument is placed into an ergonomic case that is fixed on the wrist by special belts thus leaving both hands free, that facilitates measurements. The instrument can be fastened to a waist belt, hung on the neck or installed on any flat surface.

Specifications

Specifications	Value
Range of resistance measurements, $\mu\Omega$	1 ÷ 100,000
Test amperage, A	1 and 10
Limits of relative main error allowed, %	± 0.2
The number of measurements at maximum amperage and fully charged battery	1000
Time of battery charging, hrs, not more than	3
Time of operating mode setting, sec., not more than	2
Time of one measurement	2 sec. - without CT from 2 to 30 sec. - with CT
PC interface	USB
Operating temperature range, °C	-20 ÷ +55
IP rating in operating state	IP54
Weight of the test block, kg, not more than	0.4
Dimensions, mm	115x110x55
Interface language	English
User manuals language	English
Calibration period, year	2

Recommended package of the Instrument

Photo	Item, Index	Application	Recommended complete set (pcs.)
Standard complete set:			
	Test block of MIKO-10 CKE042.00.00.000	Instrument and covering documents, straps for fastening the device on the arm, test shunt Functional check.	1
	Test cable (2 pcs.) CKE042.04.00.000	Short test cable with crocodile clips with 50 mm jaws. (length - 1.7 m)	1
	Network adapter for battery charging	For battery charging via an in-built charger	1
	USB 2.0 A-B Cable	For instrument connection to PC (length - 1.8 m).	1

Additional complete set (on order):			
	Test cable with spring loaded needle-type contacts (2 pcs.) CKБ042.06.00.000 CKБ042.06.00.000-01	Test cable with spring loaded needle-type contacts (length - 1.5 m)	1
	Test cable (2 pcs.) CKБ042.05.00.000	Long test cable with a crocodile clip with 50 mm jaws. (length - 4.8 m)	1
	Test cable (2 pcs.) CKБ042.08.00.000 CKБ042.08.00.000/-01	A cable for resistance measurement following the four-clip diagram with separate current and potential wires terminated with "banana" plugs. Cable set is completed with two probes and four isolated crocodile clips A25C (length - 1.5m)	1
	Belt universal CKБ142.06.00.000	For easy mounting of the device on the belt or neck.	1
	Case protective OKW7115108	To protect against shock loads.	1
	A tool bag CKБ118.01.00.000	Bag for transportation Instrument and set cables	1
-	Manipulating rod for equipment of up to 35kV (2.2 m) CKБ010.41.00.000	The rod is designed to ensure convenient connection to contacts of a high-voltage item. The rod is completed with a clamp with current and potential contacts connected by wires with the measurement platform. Test cables are connected to the measurement platform from the ground.	-
	Manipulating rod for equipment of up to 110kV (3.7 m) CKБ010.41.00.000-01		-
	Manipulating rod for equipment of up to 220kV (5.1 m) CKБ010.41.00.000-02		-

Area of the Instrument application

Test methods	Recommended Instrument
High-voltage circuit breakers	
Measuring of transient electrical resistivity of contact connections	MIKO-10, MIKO-21, MIKO-2.3
Measuring of electrical resistance of current leads	
Disconnecting, isolating and short-circuiting switches	
Measuring of direct-current resistance	MIKO-10, MIKO-21, MIKO-2.3
Metal-clad switchgear of internal and external installation	
Measuring of direct-current resistance	MIKO-10, MIKO-21, MIKO-2.3
Collecting and connecting bus-bars	
Testing of cable and bus connections	MIKO-10, MIKO-21, MIKO-2.3
Cut-outs and fuse-disconnectors for the voltage of more than 1kV	
Measuring of direct-current resistance of conducting part of fuse-disconnector cartridge	MIKO-10, MIKO-21, MIKO-2.3
Wagons and rails	
Monitoring of rail resistance	MIKO-10, MIKO-21, MIKO-2.3
Monitoring of wagon wheel pairs resistance	
Load-break switches (electromagnetic, sulfur hexafluoride, vacuum)	
Measuring of direct-current resistance	MIKO-10, MIKO-21, MIKO-2.3
Electric installations of buildings and structures (circuit breakers)	
Testing of contacts	MIKO-10, MIKO-21, MIKO-2.3