

INSTRUMENTS FOR DIAGNOSTICS OF OLTC POWER TRANSFORMERS PKR-2 AND PKR-2M



The instrument is represented in two modifications: PKR-2 и PKR-2M

The instruments are intended for destructive and non-destructive (DRM-test) check of condition of the types (both resistor and reactor) of the transformer OLTC

They allow taking the circular diagrams and oscillograms

SPECIFICATIONS

SPECIFICATIONS	VALUE	
	PKR-2	PKR-2M
Time interval measuring range, sec	0.01 ÷ 1200	
Maximum permissible intrinsic absolute error of time interval measurement, sec	$\pm(3+t_x)*10^{-4}$	
Time interval measurement resolution ability, ms	± 0.1	
Angular movement measuring range, degrees	2 ÷ 360	
Intrinsic absolute error of angular movement measurement, degrees	± 0.56	
Direct current intensity measuring range, A	1 ÷ 4	
Direct current electric voltage measuring range, V	1 ÷ 20	
Direct current electric voltage measurement range, Ohm	1 ÷ 20	
Resistance measurement sampling rate per channel, kHz	10 ± 0.1	
OLTC check mode	demountable	demountable and in-place (DRM method)
Inbuilt battery supply	none	available
Time of inbuilt battery operation in mixed mode (operation/standby), h	—	2 ÷ 16
Number of computer communication channels, pcs.	2 (USB, USB host)	
Maximum consumed power, W:		
- in start standby mode	15	
- in measurement mode	210	
Operation temperature range, °C	-20 ÷ +50	
Maximum measuring unit weight, kg	5.1	6.1
Dimensions, mm	360x290x165	
IP rating in operating state	IP20	
IP for transportation	IP64	
Warranty	36 months	
Interface language / User manuals language	English	
Calibration period, year	3	

x2

The instrument is represented in two modifications:

	PKR-2	PKR-2M
OLTC check mode	demountable	demountable and in-place (DRM method)
Inbuilt battery supply	none	available

DRM

OLTC in-place check enables to conduct express diagnostics of the OLTC technical condition without opening the tank or OLTC removing. This mode is based on the **DRM method** and consists in the amperage measurement via the winding with integrated OLTC device. This check enables to obtain the contactor switchover diagrams for a wide range of switching devices, except reactor type ones.

The application of in-place check mode based on the DRM method doesn't require:

- Opening of the tank or hatch of the fault-free/faulty OLTC and oil drain;
- Additional money and labor costs for the OLTC diagnostics;
- Neither connection of additional elements nor knowledge of current-limiting resistors of the checked on-load tap changer, since all fine adjustments to a certain OLTC are conducted automatically in the instrument.

Diagram

The instrument is completed with a special transducer for the radial diagram measurement. Its interface with shafts of different drives is provided with a set of axes and bushings, which are installed without any tools by simply putting on the shaft extension.

Waveform

Resistor type OLTC contactor switchover oscillography enables to detect the actuation delay, non-simultaneity of in phase actuation and bouncing during switchover.

AUTO

Oscillography and Radial diagram measurement are done simultaneously based on three phases. No additional elements (for example, resistors) or knowledge of resistances of current-limiting resistors of the checked on-load tap changer are required to measure the OLTC parameters. All adjustments to a specific OLTC are performed automatically in the instrument.

Static

OLTC check in static mode. Check is conducted during the drive shaft slow rotation using a handle simultaneous display of contact closures/openings in degrees and voltage and current values.

Memory

The measurement results are stored in the non-volatile memory of the instrument, on the external flash memory, and may be transferred to the computer. The instrument is equipped with a large color high-brightness and high-contrast display facilitating the graph processing to present information in graphical or tabular form.

Calipers

The instrument is completed with special long calipers to be conveniently connected to some OLTCs, in this case, it is not necessary to drain oil from the contactor tank.

STANDARD COMPLETE SET:

- Instrument PKR-2 / PKR-2M and accompanying documents
- Angular movement transducer DP22
- Ground clamp
- Handle for the OLTC shaft rotation
- Axis No. 10 together with a bushing
- Measuring cable completed with a connector
- A short-circuit cable (PKR-2M)
- Mains cable
- Ground wire
- VP2B-1V-2A cut-out
- Cable and ancillary equipment carrying case

