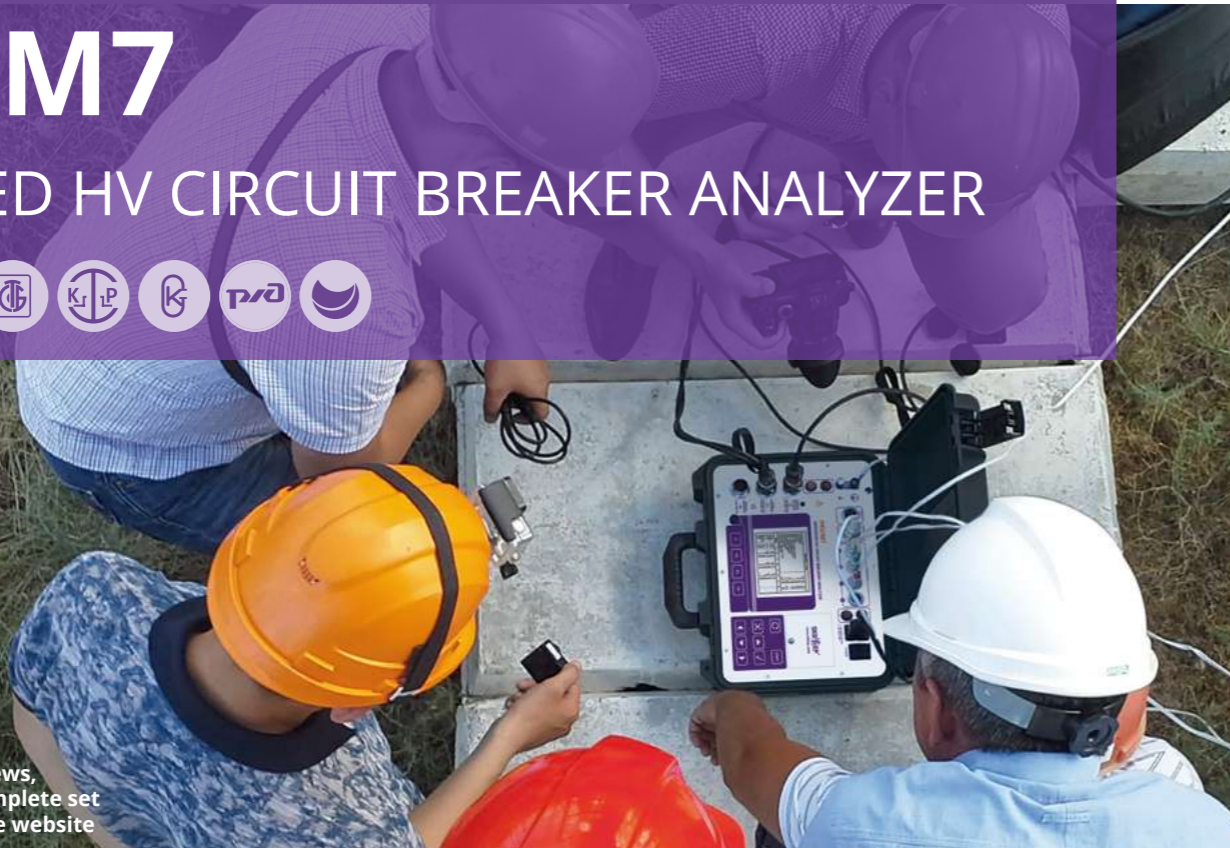


PKV/M7

ADVANCED HV CIRCUIT BREAKER ANALYZER



See full description, reviews, insights and optional complete set for the instrument on the website



PKV/M7 is designed for measuring characteristics of SF6, oil-blast, electromagnetic and vacuum high-voltage circuit breaker of all types and manufactures (such as ABB, AREVA, ALSTOM, SIEMENS etc.), and of isolators and short-circuiting switches.



The instrument enables simultaneous measurement of the parameters of time, travel, and speed of movable parts, measurement of the time until closing/opening of controlled contacts and registration of instantaneous values currents and voltages of control electromagnets.



High accuracy of measurements of time characteristics (± 0.1 ms), travel and speed characteristics are ensured by digital angular and linear movement transducers with a resolution of $0,09^\circ$ and 0.5 mm.



Equipped with a power switch to control drives of switching devices, both DC and AC, allows the instrument to perform both simple operations and complex cycles, including life tests.



PKV/M7 is a self-contained instrument for diagnostics and data analysis that requires no any additional equipment. Optionally, it can operate under PC control as a measuring unit or as a carrier of data that can be copied directly to PC or USB Flash drive.



GENERAL FEATURES

Number of control channels of circuit breaker contacts	4
Measuring and recording range of time intervals	0.001 - 5.2 s
Accuracy	$\pm 10^{-4}[1 + t_x]$ s
Measuring range of linear movement	1 - 900 mm
Accuracy	$\pm [1 + 0,0005 * S_x]$ mm
Measuring range of angular movement	$0,09^\circ - 360^\circ$
Accuracy	$\pm [0,2 + 0,001 * a_x]^\circ$
Measuring range of speed	0,002 - 20 m/s
Accuracy in the range 0,02 ÷ 10 m/s	$\pm 2\%$
Power switch cycles	O, C, O-P-C, C-Tdo-O, O-P-C-Tdo-O
Maximum switching current	14 A
Input voltage measurement range "Switch voltage"	± 350 V
Voltage measurement range by "Analogue input" channel	0 - 12 (unipolar mode) V ± 6 (bipolar mode) V
"Analogue input" channel resistance measurement range	0 - 160 Ω (output current 60 mA) 0 - 2500 Ω (output current 4 mA)
PC connection	USB host, LAN, RS-232 и RS-485
Display	LCD monochrome graphic 320 x 240 pix
Power consumption	< 60 W
Power supply (mains voltage)	$\sim 100-242$ V, 49,5-60,5 Hz $= 100-340$ V
Note: To supply power to high-voltage circuit breaker drive that operates on direct current, a power supply cable adapter is used - by request.	
Dimensions	360 x 290 x 165 mm
Instrument weight	7 kg
Environmental protection	IP 64 (instrument cover closed) IP 40 (instrument cover open)
Operating temperature	from -20°C to $+40^\circ\text{C}$
Warranty period	13 months
Recommended calibration interval	1 year
Interface and user manual language	English/Russian

P - optional pause

t_x - measured time interval, s

S_x - measured distance, mm

Tdo - time delay of open

a_x - measured angle, deg.



The diagnostic results are displayed in a table with measured and calculated parameters for each operation in the cycle (when processing measurement results for complex cycles, the device automatically breaks down the cycle into simple operations). The tables provide such data as total break time and closing time of circuit breaker, full travel, snatch gap, bouncing in travel, retract, rebound, closing speed, bouncing in time, and many others.



In addition to tables with measured parameters, more detailed information on the status of the circuit breaker can be extracted from the recorded graphs that are navigated using cursors and scaling.

The instrument registers:

- dependence of speed on time and travel;
- dependence of currents and voltages of electromagnets on time and travel;
- diagrams of closing/opening processes of the contacts.

STANDARD COMPLETE SET:

- Accompanying documentation
- Main instrument PKV/M7
- Linear movement transducer DP12
- Angular movement transducer DP21
- Measuring stick to DP12 transducer
- Transducer cable
- A, B, C, D poles cable
- Remote start cable
- Local start cable
- Switch input voltage cable
- Resistance measuring cable
- Attachment devices set to install transducers on high-voltage circuit breakers
- Attachment devices set kit
- Mains cable
- Ground cable
- LAN cable
- Cable end caps for M5 screws (8 pcs)
- Fuses VP2B-1V-2A (2 pcs) and VP2B-1V-10A (2 pcs)
- Bag for transportation of the instrument and accessories

* **Optional accessories on request**