



Calibrator 8003

Calibrator 8003 is designed for **verification and calibration** of systems and devices, measuring parameters of vibration, voltage and direct and alternating current forces, as well as temperature by means of a THK(L) type thermocouple.

Since the calibrator can operate in off-line mode (due to built-in rechargeable batteries), it provides calibration tests of multi-channel measuring systems directly on the site **without dismantling**.

Calibrator 8003 allows to reproduce mechanical oscillations, voltage and direct and alternating current forces within frequency and amplitude ranges, a thermopower in a THK(L) type thermocouple, as well as an active resistance.

The calibrator can be supported by the COMPACS® software providing the system measuring channels calibration. On the basis of calibrator 8003 and the COMPACS® vibration monitoring system, there have been developed methods allowing to reduce considerably duration and costs for system measuring channels calibration.



Calibrator 8003 advantages

- power supply both from alternating current mains and built-in rechargeable batteries;
- manual and automatic operation modes, allowing the system functioning in one of the programs, set by the user.

Calibrator 8003 structure

- setting device for electric signals generation;
- vibration table, performing a sine electric signal conversion into mechanical oscillations of a vibration table.

The calibrator is registered in the State Register of Measuring Equipment under No 25732-03 (Certificate of instrumentation type approval RU.C.28.004.A No 16074).

Warranty for supplied equipment - 12 months.

Basic characteristics

RMS values range for:	
vibration acceleration, m/s^2	1...100*
velocity, mm/s	1...100
vibration displacement, μm	1...1000
Frequency range for**:	
vibration acceleration, Hz	10...3000
velocity, Hz	10...1000
vibration displacement, Hz	10...200
Voltage range for:	
direct current, mV	0,5...2000
alternating current (RMS), mV	1...1000
Frequency range for:	
voltage, Hz	3...9999
current force, Hz	3...1000
Range for direct current force, mA	0,5...100
RMS range for alternating current, mA	1...50
Active resistance range, Ohm	10...511
Range for a unique sensor curve of a THK(L) thermocouple, °C	-50...+800
Measuring range of a conversion ratio on the calibrated VMT (vibration measuring transducer) charge, pC/m^{-2}	2...100
Maximal load on vibration table, g	200
Acceleration harmonics factor, %, not exceeding	
within frequency range from 10 to 20 Hz	10
within frequency range from 20 to 3000 Hz	5
Relative ratio of transverse components in mechanical oscillations, %, not exceeding	20
Operation temperature range, °C	-10...+40
Time of continuous operation in a mode of vibration acceleration	

10 m/sec ² at F=159,2 Hz at ml=200g, hours, not less Calibrator weight, kg	4 18,2
Technical characteristics	
Relative basic error, %: vibration acceleration within range (10...20) Hz vibration acceleration within range (20...3000) Hz velocity within range (10...20) Hz velocity within range (20...1000) Hz vibration displacement within range (10...20) Hz vibration displacement within range (20...200) Hz	±3,0% ±2,0% ±3,0% ±2,0% ±4,0% ±2,5%
direct current voltage within ranges, %: ±(0,5...4,99) mB ±(5,0...99,9) mB ±(100...2000) mB alternating current voltage: within frequency range of (3,0...10) Hz within RMS range (1,0...4,99) mV within RMS ranges (5,0...99,9) mV and (100...1000) mV within frequency range (10...9999) Hz within RMS range (1,0...4,99) mV within RMS ranges (5,0...99,9) mV and (100...1000) mV	accuracy class: 0,4/0,25 0,1/0,01 0,1 accuracy class: 6,0/2,5 0,6/0,15 3,0/2,5 0,6/0,15
direct current force: ±(0,5...4,99) mA ±(5,0...100) mA alternating current force: within frequency range (3,0...10) Hz within RMS range (1,0...4,99) mA within RMS range (5,0...50) mA within frequency range (10...1000) Hz within RMS range (1,0...4,99) mA within RMS range (5,0...50) mA	accuracy class: 1,6/0,15 1,6 accuracy class: 6,0/2,5 4,0/0,3 2,5/2,0 1,6/0,2
Absolute basic error of a unique sensor curve of a THK(L) type thermocouple, °C -40...+100 (-50...-40) and (+100...+800)	±0,3 ±1,0
Absolute basic error of resistance, Ohm	±2,0
Relative basic error of a conversion ratio measuring on the calibrated VMT (vibration measuring transducer) charge, %	±2,0

* with load mass ml= 40 g

** with a normalizable error. With an external vibration-measuring transducer
the frequency range of vibration acceleration is from 10 to 9999 Hz

Specifications can be changed without prior notification