

- ◆ generates the **periodic electric charge** or **voltage** of the given frequency, shape and adjustable size and this way **simulates the signal from accelerometer** or other **vibration sensor**
- ◆ is utilized for the **calibration** of measuring chains for vibration measurement, for the **control of function** of sets for permanent vibration monitoring and also of pocket vibration meters
- ◆ angular frequency of output quantity **100 rad s⁻¹**, **1000 rad s⁻¹**
- ◆ vibration shape – sine, oblong
- ◆ adjustable amplitude **0-10,00 pC** (-Q version) or **0-1,000 V** (-U version)
- ◆ low energy consumption, **battery power supply** from 9V accumulator of dry cell, simple charging



Purpose

The pocket calibrating apparatus PSK-4.2 is the simple source of electric signal of stabile frequency, shape and adjustable amplitude. It is an effective assistant at verification of characteristics of sets for vibration measurement, namely both of monitors for permanent measurement and of portable vibration meters. It is determined especially for these workers, which do the service activity or establishing machines into operation. The pocket calibrating apparatus is also determined as the selectable part of the set for vibration measurement MV-4, where it serves for the fast verification of characteristics of pocket apparatus MV-4 and by this way also to an independent control of measurement accuracy.

Versions

The version PSK-4.2-Q calibrating apparatus generates on the output connector the electric charge, which is utilized for the simulation of piezoelectric accelerometer's signal and output from the PSK-4.2-Q is usually connected on the input of measuring vibration channel instead of the accelerometer.

The version PSK-4.2-U with the voltage output is determined especially for a simulation of signal from the vibration sensor, which has already the voltage output commensurable to vibrations. The voltage output PSK-4.2-U is usually connected to the voltage input of measuring channel for the vibration sensor.

Description

The pocket calibrating apparatus PSK-4.2 is lightweight hand apparatus of the pocket format.

On the front side is ten-speed element with the scale for setting of output quantity amplitude, apparatus switch, control key for switching of shape and frequency of the output signal and LED diodes for the indication of apparatus setting.

On the upper panel is the connector of output signal type 10-32UNF, connector for mains power supplied source and green indicating LED diode of power supply.

On the back side of the apparatus is the detachable cover. Under this cover is placed the power supply battery – accumulator 9V, 120mAh, type IEC 6F22.

To the apparatus PSK-4.2 is usually delivered mains power supply source, which serves for the accumulator power supply, placed inside of the apparatus.

If the pocket calibrating apparatus is the part of the MV-4 set, serves for the power supply the mains power supply source from this set.

Possibilities of utilization

After the connection of the pocket calibrating apparatus PSK-4.2 on the input of measuring vibration chain is possible to:

- ◆ set and control the input sensitivity of measuring channel at setting of calibrated value of amplitude on the PSK-4.2 calibrating apparatus
- ◆ control the input sensitivity of measuring channel at angular 100 rad s⁻¹ or 1000 rad s⁻¹. At these angular frequencies and sine course are numerically identical values for the acceleration, velocity and amplitude and then is possible to control or to calibrate the output range of vibration channel for any output quantity.
- ◆ control the linearity of measuring channel by means of the setting of various values of the signal amplitude
- ◆ control characteristics of signal detectors (e.g. of the detector of RMS or detector peak-to-peak) using the possibility of switching from the harmonic to rectangular signal shape

Calibration of the PSK-4.2 pocket calibrating apparatus

The PSK-4.2 apparatus is set by the producer so as the information on the scale of set element corresponds with the value of output quantity according to the technical specification.

The producer recommends to achieve once a year the verification of setting of apparatus electrical parameters. This verification does the producer or service authorized by the producer.

Parameters		
Output signal		
angular frequency	rad s ⁻¹	100, 1000
shape of vibration	-	sine, square rotates 1:1
output amplitude	pC mV	0-10,00 for version PSK-4.2-Q 0-1000 for version PSK-4.2-U
Accuracy of output signal parameters		
angular frequency		1% from set value
output amplitude		1% from max. value
Power supply		9V NiCd accumulator or laminated battery 9V
range of power supply voltage	V	7,5 ... 12
input power	mW	typ. 90
operating time	h	c. 8
mains power supply source		TRONIC 97 46 06 (Optional)
time of power supply	h	10 ... 12
Dimensions	mm	110 x 65 x 50
Mass	kg	0,2
Operating conditions		
Environment		normal, without aggressive steams
Referential temperature	°C	22
Operating temperature	°C	+5 to +40
Referential humidity	%	10 to 80
Pressure of air	kPa	86 to 106
Operating position		arbitrary