

VPE-078-N

Vibration transducer with integrated electronics

1. Purpose

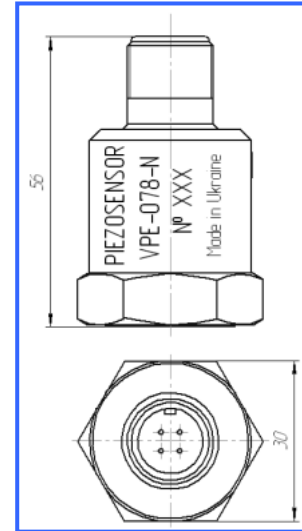
Converting corps vibration machine parts and mechanisms in the electrical AC signal proportional vibration acceleration

2. Application

Automated control systems and regulation HPP, TPP, NPP, gas pumping stations. Stationary vibration measurement equipment for industrial facilities: steam turbines, generators, motors, pumps, fans. Systems of protection against vibration fracture.

3. Operating principle

Sensor element with a fixed type bending seismic mass body perceives vibration and generates an electrical signal proportional to the acceleration. The electrical signal is amplified by an electronic circuit embedded. The sensing element is made by diffusion welding. Includes piezoceramic element, electrical characteristics which are thermostable. Included in the State Register of measuring instruments permitted for use in Ukraine, at U1955-15 number.4.



4. Technical characteristics:

Parameter	Unit	Size
Sensitivity	$\text{mV} \cdot \text{m}^{-1} \cdot \text{c}^2$	10
Deviation of sensitivity	%	$\leq \pm 5$
Measurement range	m/c^2	0,1 .. 300
Frequency response	Hz	10 .. 1000
Mounted base resonance	Hz	≥ 6000
Amplitude linearity	%	$\leq \pm 2$
Unevenness frequency response	%	$\leq \pm 6$
Coefficient of cross sensitivity	%	≤ 5
Operating temperature range	$^{\circ}\text{C}$	0 .. 120
Error caused by the temperature range	$\% / ^{\circ}\text{C}$	$\leq \pm 0,05$
Bias voltage	B	24 ± 6
Current range	mA	2 ... 20
Electrical noise	mкA	$\leq 0,08$
Case isolation	OM	$\geq 10^8$
Sealing		IP 67
Weight	gms	≤ 200
Dimensions	mm	26x35x53
Case material		Stainless Steel
Mating connector	type	2PMГ14
Sensing element/construction		PZT/bending
Attachment		M6
Mounting torque	Hm	1,9 .. 2,1