PIEZOSENSOR®

VIBRATION VELOCITY CONVERTERS

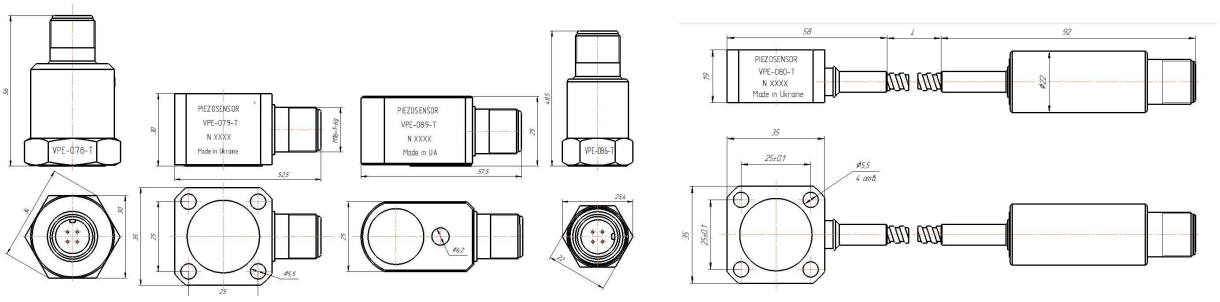
VPE/FSA

078,079,086,089,080/ 088

UA.TR.001

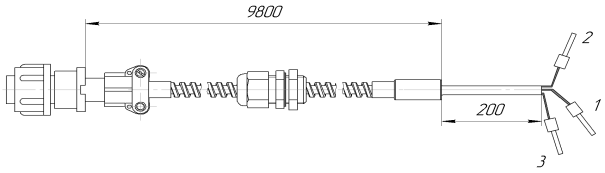
The vibration velocity converters VPE/FSA convert the vibration velocity of machines into a proportional electrical signal.

Together with secondary devices, they can be used as part of vibration monitoring and vibration diagnostic systems of the power plants state, elements of rotating power equipment, oil pumping and gas compression stations, and other industrial facilities.

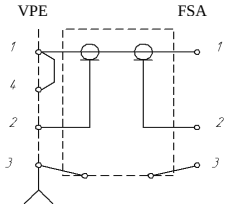


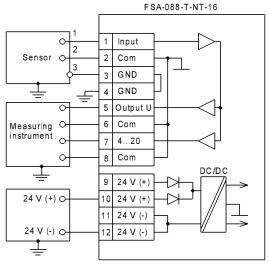
VPE-078 VPE-079 VPE-089 VPE-086 VPE-080

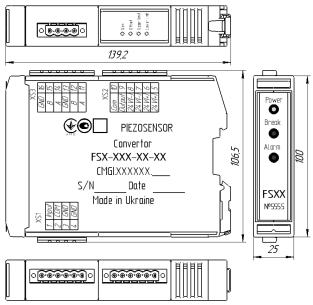
ACCELERATION CONVERTERS type



Cable diagram 079-088-125-10.







Dimensions and wiring diagram of the FSA driver - with analog outputs.

Main characteristics of the vibration converters VPE-078-T, VPE-079-T, VPE-086-T, VPE-089-T, VPE-080-T

Parameters	Specifications
Sensitivity, μA/(m/s²) (± 4 %)	10
Vibration acceleration conversion range, m/s²	0.1 - 150
Amplitude characteristic nonlinearity, %	± 2
Frequency range, Hz for VPE-079, VPE-078, VPE-080 for VPE-089	 10 to 1000 10 to 5000
Passband flatness, %,	±5
Transverse Sensitivity, %	±5
Temperature range, °C for the VPE-079, VPE-078 for the VPE-080	 0 to 120 0 to 250
Temperature coefficient , %/ °C	± 0.05
Insulation resistance, Ohm	10^{8}
Supply voltage, V	7.5 ±0.5
Consumption current of the vibration converter, mA	3 to 4
Dimensions, mm,	26x35x53
Weight without cable, gm	200
The protection degree of the vibration converter housing from the penetration of water, dust and foreign particles by the GOST 14254	IP 67

Main characteristics of the signal conditioner FSA-088-T-NT-16

Nominal conversion factors:	
- alternating voltage proportional to the vibration velocity, mV/(μA /s) (± 3%; (± 1% *))	4.25
- direct current proportional to the RMS of vibration velocity, mA /μA/s) (± 3%; (± 1% *))	0.1
Input signals range, (RMS) μA	0 to 1000
Output signals range:	
- alternating voltage proportional to the instantaneous value of vibration velocity, mV	0 to 1000
- direct current proportional to the RMS value of vibration velocity, mA	4 to 20
Amplitude nonlinearity:	
- alternating voltage proportional to the instantaneous value of vibration velocity, %	± 2
- direct current proportional to the RMS value of vibration velocity, %	± 5
Passband fletness:	
- alternating voltage proportional to the instantaneous value of vibration velocity, %	± 5
- direct current proportional to the RMS value of vibration velocity, %	± 5
Temperature coefficient , %/ °C	0.1
Intrinsic noise level, mV	5
Supply voltage, V	24 ± 6
Dimensions, mm	150 x118 x 45
Weight, gm	250
The protection degree of the signal conditioner housing from the penetration of water, dust and foreign particles by the GOST 14254.	IP 20

* - for a batch of products.

Main characteristics of the VPE-/FSA-088-T-NT-16 **velocity** converters

Parameters	Specifications
Vibration velocity measurement range, mm/s	0.5 - 16
Frequency range, Hz	10 .. 1000
Base frequencies, Hz	40 (45), 80
Output signals range:	
- alternating voltage proportional to the instantaneous value of vibration velocity relative to the setpoint 1.5 V, mV	1000
- direct current proportional to the RMS value of vibration velocity, mA	4 to 20
Nominal conversion gain at 80 Hz:	
- for the instantaneous value of vibration velocity, mV/(mm/s),	42.5
- for the RMS value of vibration velocity, mA/(mm/s)	1.0
Deviation of the conversion gain from the nominal value	
- for the instantaneous value of vibration velocity, %	± 2;
- for the RMS value of vibration velocity, %	± 2;
Passband fletness, %:	± 5
Limits of fundamental reduced measurement error at the base frequency, %	± 5
Temperature range:	
- for the vibration converter VPE, °C	+ 0 to +120
- for the signal conditioner FSA, °C	+ 0 to +70
- for the connection cable 079-088-125-10, °C	+ 0 to +125
Supply voltage, V	20 to 30