acceleration, velocity, displacement and frequency converters
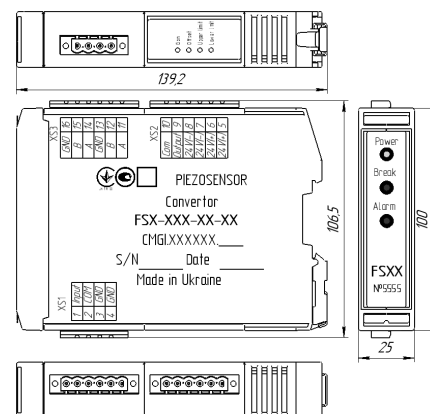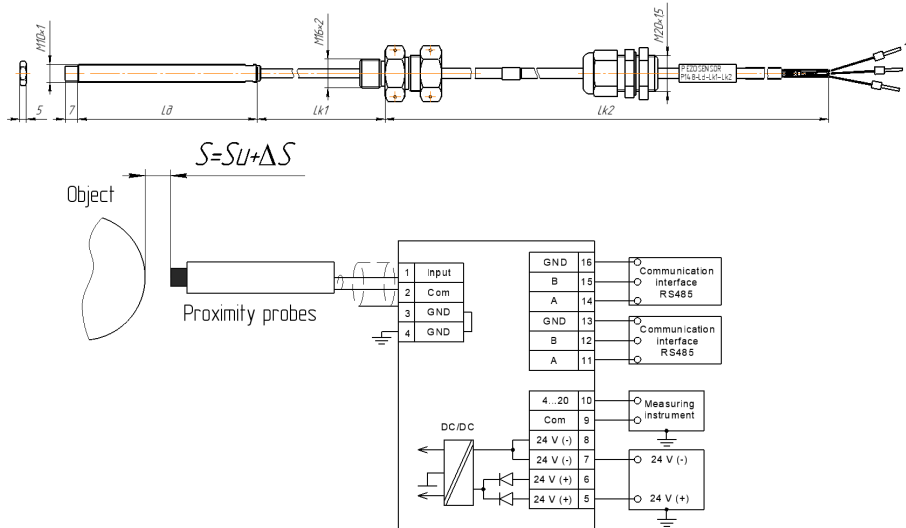
PIEZOSENSOR®

DISPLACEMENT AND VIBRATION CONVERTERS

P/FSP

UA.TR.001

P/FSP converters (Proximeters) are designed to convert vibration displacement into a proportional electrical signal.

$$S = Su + \Delta S$$

Proximeters P. Converters FSP. Connection diagram

(Output 1 "displacement")

Options	P148/FSPA149 P148/FSPA164	P150 / FSPA165	P150 / FSPA166	P151 / FSPA173
Output signal, mA (V)	from 4 to 20			
Case Thread	M10 × 1	M16 × 1	M16 × 1	M20 × 1
Nominal measuring sensitivity K, mA/mm, Output 4-20 mA (V/mm, Output 4-20 V)	8	4	3.2	3.2
Installation gap (Su), mm	1.4	3.0	3.5	3.5
Measuring displacement, mm	0.4 to 2.4	1 to 5	1 to 6	1 to 6
Measuring displacement extended, mm * (K, mA/mm)	1.0 to 6.0 (K = 3.2)	1.0 to 9.0 (K = 2)	1.0 to 11.0 (K = 1.6)	1.0 to 11.0 (K = 1.6)
Case length, mm	30; 40; 50; 80; 100; 160; 175	30; 40; 50; 80; 85		50; 80; 100
Base frequency, Hz	80 ± 1 (45 ± 1)			
Output resistance, Ohm	100 to 500 (up to 1000)			
Working temperature range, °C: - proximeters - converters	0 to 180 (- 40 to 180) 0 to 70			
Supply voltage, V	24 ± 6			
Current consumption, mA	150			
Length of signal cable, m	250			
Size FSP, mm	150 × 118 × 45			
Total length cable, m	1.0 to 14 with a multiplicity of 0.5			
Cable length from proximeters to cable gland, m	0.5 to 5 with a multiplicity of 0.5			
Weight, proximeters 100 mm long with 8 m cable in metal hose, kg,	2.2			
Weight, converters, kg	0.3			
Limits of permissible relative deviation of the actual value of the displacement conversion factor from the nominal, %	± 2.5			
Limits of the basic reduced error of displacement conversion, %:	± 2.5			
Limits of permissible additional error of displacement transformation caused by a change in the ambient temperature from normal to the final values of the operating temperature range, % - proximeters - converter	± 4 ± 2			

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(Output 2 "Vibration displacement ")

Options	P148/FSPA149
Conversion range of relative vibration displacement (p-p), μm:	
- AC output (AC voltage)	25 to 500
- DC output	25 to 500
Working frequency range, Hz:	
- AC output (AC voltage)	5 to 500
- DC output	5 to 500
Output signal, mA (V):	
- AC output (AC voltage)	0.2 to 4
- DC output	4 to 20
Output current in the absence of vibration displacement, mA	
- DC output	4.0 ± 0.1
Nominal value of vibration displacement conversion factor, mA/mm (V/mm):	
- on the output of alternating current (p-p) (alternating voltage)	8
- DC output (p-p)	3.2
Amplitude non-linearity in the base frequency, with displacement up to 0.5 (S_{max} + S_o), mm, %	± 5
Basic reduced conversion error at base frequency, %	± 6
Amplitude-frequency characteristic irregularity of the, %	
- AC output	± 5;
- DC output	+5; -20