

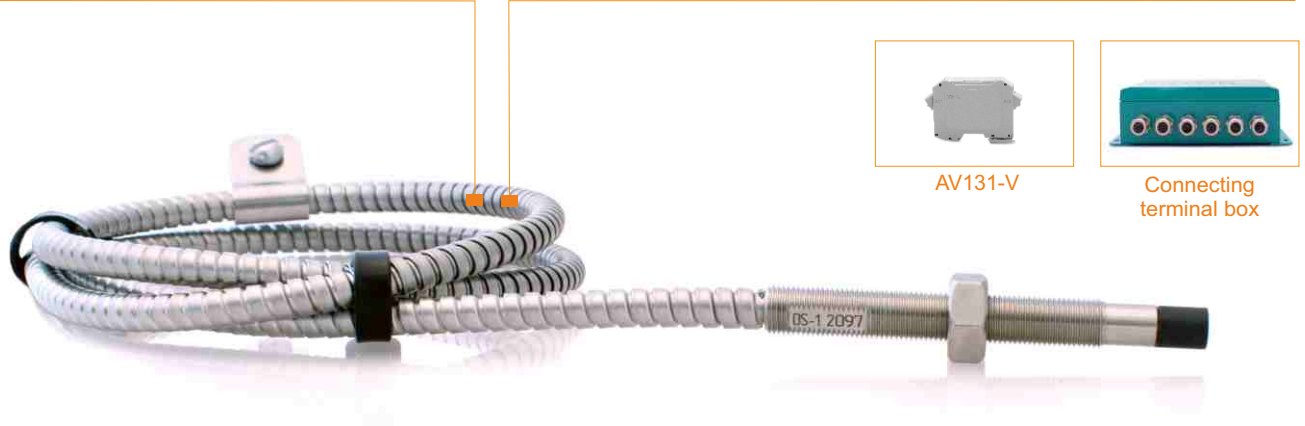


Multipurpose

Rotation speed control, phase or clearance counter, peak-to-peak vibration displacement counter

Reliability

Measuring channel consist of a DS-1 eddy-current transducer and AV131-V converter (in the connecting terminal box).



IKV-1-3-1 VIBRATION MEASURING CHANNEL CRYOGENIC VERSION

The indicator is designed to measure vibration displacement span, rotational speed, axial shift and detecting marks in vibration monitoring systems of rotary machines at low temperatures;

Output signal type – 4...20 mA, 0...10 V, digital Modbus RTU

IKV-1-3-1 is setting on certain temperature and on certain steel, according to customer request.

Example 1. To control the pump for pumping liquid nitrogen, the sensor is tuned to a temperature of -196 °C and provides the claimed accuracy of the characteristics in the temperature range -166 to -200 °C.

Example 2. To control the pump for transferring liquefied gas at a temperature of -154 °C, the sensor is set to a temperature of -154 °C and provides the claimed accuracy of the characteristics in the temperature range -124 to -184 °C.

MEASUREMENT PARAMETERS

Range of measurement of vibration displacements, μm	
› eddy-current transducer DS-1	0-250
Range of measurement of a gap, mm	
› eddy-current transducer DS-1	0,25-2,75
Range of measurement of speed, rpm	30-120000
Sampling frequency of the phase meter signal, kHz	18,75
Measurement cycle time, μs	26,6
Permissible deviation of rotation frequency, %	1
Accuracy of gap measurement, μm	
› eddy-current transducer DS-1	± 50
Permissible deviation of range, %	5
Installation clearance (default), mm	
› eddy-current transducer DS-1	$1,5 \pm 0,2$

INTERFACE

Output signal type	"current loop" 4...20 mA "by voltage" 0...10 V digital Modbus RTU (TWD protocol)
Supply voltage range, V	24 (12-30)

EXPLOSION PROTECTION

Type	intrinsically safe circuit
DS-1 marking	0ExiallCT6
Connecting box marking	0ExiallCT5

OPERATING PARAMETERS

Operating temperature range, °C	
› eddy-current transducer DS-1	-150...-200
› AV131-V converter	-40...+60

DESIGN PARAMETERS

Mounting	
› DS-1	threaded hole M10x1
Overall dimensions (without cable), mm	
› eddy-current transducer DS-1	D(8,5) L(50;70;90)
› AV131-V converter	105x22,5x70
› connecting box	277x217x84
Weight without cable, kg, not more than	
› eddy-current transducer DS-1	0,35
› connecting box	2,50
Protection class	
› eddy-current transducer DS-1	IP68
› connecting box	IP66

RELIABILITY PARAMETERS AND MANUFACTURER'S GUARANTEES

Mean time between failures, hours, not less than	10 000
Warranty service life, months	18
Service life, years, not less than	10

Rotation speed calculating and mark detecting

