Single-channel vibration monitor JPK 2.2

The JPK 2.2 monitor is a **complete set** for **permanent and continuous single channel measurement** and evaluation **of vibration including measured value display**:

- measured value is **optional - acceleration, velocity or amplitude of vibration within the frequency range from 10 Hz to 1 kHz, eventually from 3 Hz to 1 kHz**
- **digital display of the measured value, both** optical **and relay indication of overexcitation**
- conversion of measured value to unified **voltage or current signals with** a galvanic separation (/A version) or output of measured value through galvanically separated **data line RS 485 (/K version)**
- **internal diagnostics** with relay output for the indication of electronics or sensor failure
- the possibility of measuring set placement **in outdoor environment in hard industrial conditions**
- power supply from mains **230V/50Hz.**

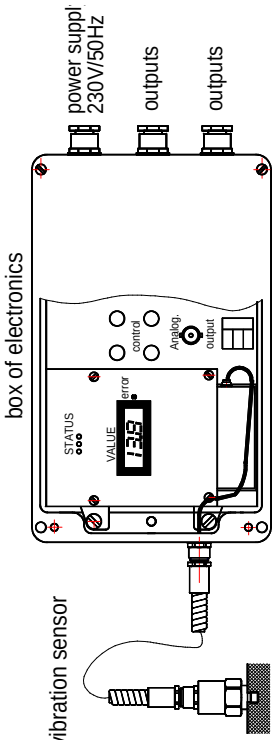
Set

Standard JPK 2.2 set

- consists of vibration sensor with cable and protective hose
- electronic box.

Vibration sensor

Vibration sensor, delta-shear type accelerometer, is attached to the machine. The SV 156 type accelerometer is used as a standard. It is fixed to the machine by screwing to the threaded hole M8x10mm, drilled in the centre of a flat surface diameter min. 16 mm. The vibration sensor measures vibration parallel to vibration sensor axis.



Vibration sensor cable

From the vibration sensor the measured signal is lead by means of a special low-noise cable to the electronic box. The cable from the sensor is protected by an armoured hose that is produced in a standard length 4 m, customized max. 10 m. The length of manufactured cable can´t be adapted.

Electronic box

The electronic part of the converter is placed in a standard plastic box designed for industrial environment. The upper cover of the box is equipped with an inspection looking trough hole, making visual readout of measured values on the display even in case in condition with closed box cover. After lifting the upper cover off there are accessible terminals for cable installation, control push buttons, digital display and output terminal clamp of analogue signal for signal analysis. Working position of the box is arbitrary, but with respect to readability of data on the display it is recommended to install the box on the wall with longer side in horizontal direction and the leading-in cable from the sensor on the left hand side. Besides the cable from the vibration sensor there is a feeding voltage 230V/50Hz connected to the electronic box, conductors of output analogue signals or communication line and conductors leading to the contacts of the relays of comparators. The monitor JPK 2.2 is equipped with two numerically adjustable comparators of the measured value with relay outputs. The output analog signals - 4 up to 20 mA or 0 up to 10 V are galvanically separated from the measuring circuit (/A version). Optionally there is a possibility to apply communication module with the interface RS 485 instead of analogue outputs transmitting the measured values to superior computer (/K version). Optionally an output connector is installed for an alternating current signal output for the purpose of potential analysis (/OUT version).

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Measured quantities and measuring ranges

Optionally it is possible to measure the effective acceleration, velocity or peak-to-peak amplitude of vibration within given frequency range, measuring ranges of the JPK 2.2 converter are selected by user according to his application and picks out from standard built-in ranges.

Outputs

Analog outputs both voltage and current designed in /A version, are proportional to measuring range and they are available as a standard in unified ranges. RS485 communication channel ,/K version, is installed instead of the module of analogue outputs. For data transmission the standard communication protocols are offered eventually customized. There is the BNC connector installed in version /OUT. It is accesible after box openning and there is the alternating voltage proportional to the instantaneous constant of measured quantity (AC output) at disposal there.

Condition output signals

Condition signals Increase, Accidents are indicated by relay contacts and making contacts implies that signal has exceeded appropriate set comparative level. "Failure" signal indicates by relay contact state either the failure of electronic or sensor within the measuring chain.

Calibration

The delivered set sensor – JPK 2.2 electronics is calibrated in the manufacture together with supplied vibration sensor and it is ready for immediate application without any requirement for calibration. Sensitivity correction reflecting another sensor is conducted numerically by entering appropriate constant mentioned in the calibration list of the sensor.

Ordering

An order of the JPK 2.2 converter shall contain the following:

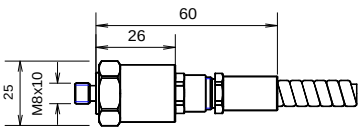
1) Specification of the converter output:
- Analog outputs: JPK 2.2 **/A**
- Communication line RS485: JPK 2.2 **/K**, +requirement for communication protocol

2) Presence of AC current output for signal analysis:
- AC output: JPK 2.2 /x **/OUT**

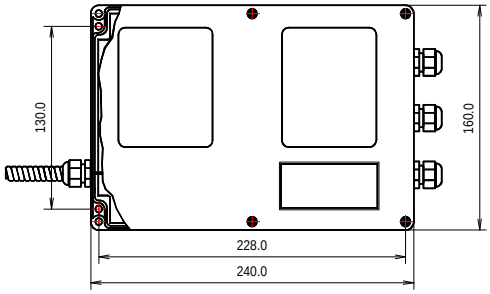
3) Differences from standard version:
- Cable length to the sensor: standard 4m, customized from 0,5 to 10 m.

4) Number of ordered pieces of the same version.

Parameters			
Set JPK 2.2			
Power supply	230V/50 Hz, max. 13VA	Engineering design	for outdoor environment
Measured quantity	effective vibration velocity effective acceleration of vibration peak-to-peak amplitude in the range from 3,10 Hz to 1 kHz	Measuring ranges	velocity 0-25 mm/s peak-to-peak amplitude 0-500 μm acceleration 0-250 m/s^2
Analog outputs (/A version)	DC voltage 0-10V, load min. 10 kOhm, galvanic. separated DC current 0-20mA or 4-20 mA, load max. 400 Ohm, galvanically separated	Communication outputs (/K version)	RS485, outputs A, B, GND, galvanically separated protocol MODBUS RTU
Condition outputs	condition Failure – switching contact, closed – without failure, open circuited – sensor or electronics failure, condition Increase, Accident – make-contacts, break-contacts relay, currnet-carrying capability of co ntacts AC 230V/2A		
Vibration sensor with cable		**Electronics box**	
Type	SV 156	Box	plastic ABS
Sealing	IP 65	Sealing	IP 65
Operating machine temperature	-25 to +240°C	Operating ambient temperature	-25 to +55°C
Fixing	threaded hole M8x10mm	Mass	2,5 kg
Cable to sensor	special with connector MICRODOT	Dimensions (h x w x d)	160 x 240 x 90 mm
Cable protective shield	metal flexible hose, diameter 14 mm max.		
Cable length with protective shield	4 m standard, max. 10 m.		



SV 156



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