

Absolute vibration monitor type VC12S1

Application

Dedicated for use in on-line rotating machines bearing absolute vibration monitoring such as compressors, fans, pumps, motors .

It can be used for :

- Vibration data visualization and recording using standard dc output
- Machine protection using two binary outputs in form of relay contacts for alert and alarm levels
- For diagnostic purposes using the ac vibration sensor signal accessible at the BNC socket

Description

The monitor is made in ABS rail mounted housing of dimensions 55mm -width, 75mm - height, 125mm - depth, ready to mount on TS35 rail. It is one-channel device with dc output and two binary alert/alarm outputs . The buffered raw sensor signal is accessible at the front side on BNC socket. The unit cooperates with piezoelectric vibration sensor with built-in two-wire current supply preamplifier (IEPE standard).The measured quantity is RMS value of vibration velocity, acceleration or displacement settled by measuring range choice. There are four ranges for velocity and two ranges for acceleration and displacement. In one unit execution two ranges are calibrated changed by jumper position accessible through the window in the top enclosure wall. The possible ranges pairs are : 10 and 20 mm/s or 15 and 30mm/s or 100 and 500m/s² or 100 and 200µm. When ordered one range, the second will be added automatically. The four band-pass filters with roll-of rate of 24 decibels per octave are accessible, the chosen one should be ordered. Two binary outputs have relay contacts chosen in order (D to G choices in ordering) . The limit value setting is possible in 0-100% of measuring range.

Performances

METROLOGICAL

Input: piezoelectric vibration sensor of IEPE power standard, powered from dc constant current source 2-10mA/18-30VDC.

Outputs :

- dc current 4...20mA, Rload <500Ω
- dc voltage 0...10V, Rload >10kΩ
- raw buffered sensor voltage on BNC socket
- two binary alert/alarm : relay contacts 1A,50Vac,24Vdc,50VA,30W, NO or NC
- one binary of OK channel status: CMOS

Measuring Ranges :

- for vibration velocity: 10mm/s and 20mm/s or 15mm/s and 30mm/s
- for acceleration: 100m/s² and 500m/s²
- for vibration displacement 100µm and 200µm



Measured value: RMS (root mean square)
Amplitude performance nonlinearity: ±1%

Frequency Range – for choice :

2Hz-1kHz , 10Hz-1kHz, 10Hz-5kHz, 1kHz-10kHz

ELECTRICAL

Power consumption: <1,2W

Supply voltage: 18-36 V DC, <50mA

Galvanic isolation DC output/ power source:1,5kV

ENVIRONMENTAL

Operating temperature: -30°C do +70°C

Relative humidity: 95% non-condensing

MECHANICAL

Weight: 230g

Housing : ABS, mounted on TS35 rail

Dimensions : 55x75x125mm

Protection : IP40 (IP00 the terminals)

Ordering information

VC12S1-□□-□□-□□-□□-□□-□□-□□-□□

A □□ Input sensitivity

- 0 1 100mV/g
- 0 2 500mV/g
- 0 3 4mV/mm/s
- 0 4 20mV/mm/s
- 9 9 ther sensitivity (to declare in order)

B □□ Measuring range and measured quantity

- 0 1 range 0 – 10 mm/s
- 0 2 range 0 – 15 mm/s
- 0 3 range 0 – 20 mm/s
- 0 4 range 0 – 30mm/s
- 0 5 range 0 – 100 m/s²
- 0 6 range 0 – 500 m/s²
- 0 7 range 0 – 100µm
- 0 8 range 0 – 200µm

Note: Pos.B07 and B08 only with A03 or A04 choice.

C □□ Frequency range

- 0 1 10Hz–1kHz
- 0 2 2Hz–1kHz
- 0 3 10Hz–5kHz
- 0 4 1kHz–10kHz

- D Alert relay control circuit**
0 1 normally deenergized (recommended)
0 2 normally energized
- E Alarm relay control circuit**
0 1 normally deenergized
0 2 normally energized (recommended)
- F Alert relay contacts**
0 1 NO type
0 2 NC type
- G Alarm relay contacts**
0 1 NO type
0 2 NC type
- H Time delay of the Alert relay operation**
0 1 0s
0 2 1s
0 3 2s
0 4 4s
0 5 6s
- I Time delay of the Alarm relay operation**
0 1 0s
0 2 1s
0 3 2s
0 4 4s
0 5 6s

