



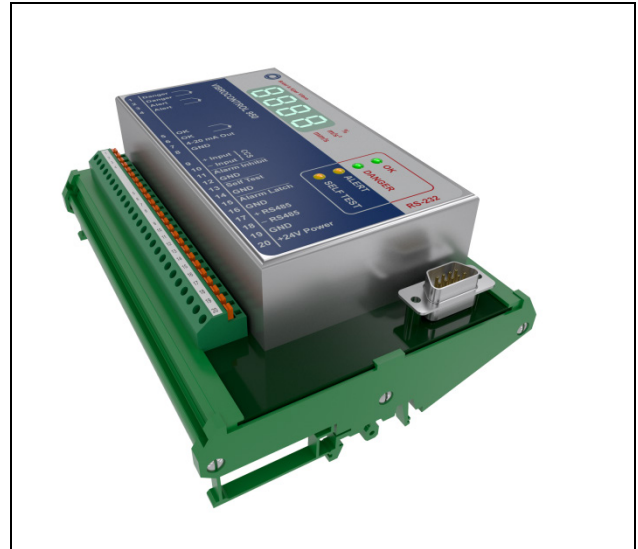
Product Specification VIBROCONTROL 950/960

Features

VIBROCONTROL 950/960 enables cost effective machine protection for all critical rotating equipment with roller element bearings. The vibration monitors can be used on many different machine applications. It is very suitable for monitoring ventilators, fans, pumps, decaners, separators and mills.

Dedicated solutions via 2 types of single channel monitoring units:

- **VIBROCONTROL 950**
Acceleration Sensors (CCS)
- **VIBROCONTROL 960**
Vibration Velocity Sensors



Applications

VIBROCONTROL 950/960

Monitor the machine condition based on the vibrations in a machine and give an alarm, if the vibration level is too high. Dedicated machine protection can be realized having easy and flexible set up possibilities for frequency range, alarm delay times etc. by using the user software Compact Setup.

Price attractive alternative

For users who want to prevent their machines from damaging vibrations, e.g. vibrations coming from unbalance and misalignment.

Bearing Damages

A bearing damage often occurs due to undetected unbalance or misalignment of a machine. Hence the machine runs for a very long time period with a much too high vibration level. This is the most common reason for serious machine crashes and down time.

Avoid unscheduled production stops

Deciding not to buy a vibration monitor due to price can be a very unwise decision. Often this leads to extra unexpected expenses to machine repairs, not to mentioned the further economic loss due to the production stop.

VIBROCONTROL 950/960 principles

The vibration monitors constantly keep track of the machine vibration level. The vibration monitors have two adjustable alarms, which can be used to ensure that the machine vibration does not exceed the acceptable or allowed limit. Hence the user obtains an active protection of the machine resulting in a considerable reduction of machine damages and accidents and thereby decreasing the maintenance expenses.

Functionality

The vibration monitors are conditioning-, alarm- and output units with an aluminium housing. The VIBROCONTROL 950 is equipped with a CCS input for accelerometers. The machine protection is based on monitoring the mechanical vibrations according to DIN/ISO 10816-3. VIBROCONTROL 960 is working with the proven velocity sensors from Brüel & Kjær Vibro. By using the Compact Setup software all units can be easily configured in the factory or at site. Measurement range and alarm limits can be adjusted directly to the machine type and size, it has to monitor. The present vibration level is constantly compared with the two alarm limits and if the limits are exceeded the two alarm relays Alert/Danger will trigger and thereby inform the user, e.g. via a connected rotor light, beeper, controller or by directly shutting down the machine. Both Alert and Danger have user defined delay time, which prevents false alarms due to momentary transients. The integrated test function can be activated from PLC or by a switch. Also offering the option of a latch function, ensuring the alarm relay stays triggered until it has been manually/remotely reset, even though the vibration level has decreased again. Beside the relay functionality VIBROCONTROL 950/960 are providing a 4-20 mA signal which expresses the vibration level.

Technical Data

Sensor Input:

- VIBROCONTROL 950**
Accelerometer sensor (CCS) 100/500mV/g
 Maximum input ± 5.4 Vp
 Input overload ± 5.4 Vp
 Sensor Bias Current 5 mA
- VIBROCONTROL 960**
Velocity sensor 75/100 mV/mm/s
 max. input $\pm 6.0/8.0$ Vpk

Measuring Parameter:

- VIBROCONTROL 950
Velocity (mm/s), Acceleration (m/s^2)
- VIBROCONTROL 960
Velocity (mm/s), Displacement ($\mu\text{m/mm}$)

Measuring Ranges (Selectable):

- Velocity 0 ... 10-20-50-100 mm/s
other ranges in m/s^2 , g or $\mu\text{m/mm}$

Frequency ranges:

- Factory setting: 10-1,000 Hz, -1 dB
Selectable: e.g. 1 - 300 Hz

Detector:

- True RMS Detector, Peak

DC Output:

- 4 - 20 mA, rel. 0-100 % of max. range
Load: max. 400 Ohm

Measurement accuracy:

- Vibration Measurement**
 $\pm 3.5\%$ of reading $\pm 0.5\%$ of Full Scale setup,
 typical, @calibration ref: 100 Hz, velocity, 25 °C,
 with current LP and HP filter setup.
- Analogue output** $\pm 1.5\%$ of reading
 $\pm 1\%$ of Full Scale

Alarm Detector:

- Alert Alarm, adjustable alarm limit
- Danger Alarm, adjustable alarm limit

Alarm Relays (Relay Driver):

- Alert relay, Break
Danger relay, Break
OK relay, Break
- Delay time alert (adjustable) 3 sec.
Delay time danger (adjustable) 1 sec.

Manual Reset Function:

- via switch separately ; via controller / PLC
- Test function activated remotely

Communication:

- RS232 and RS485
Service and interface to Compact Setup

Power Supply:

- +24 V DC, $\pm 7\%$,
- Power consumption 2,6 W

Temperature:

- Operating -10°C to $+50^\circ\text{C}$
- Storage -40°C to $+85^\circ\text{C}$

Housing / Dimensions:

- DIN rail enclosure IP20
Optional field installation: Aluminium IP68
- Dimensions DIN rail: 163x127x66 mm
Field housing IP68 (optional): 275x153x88 mm
- Weight (instrument) 400 g

Compliance:

- CE mark compliance with EMC directive and EN 61508-6

Ordering Information – Technical data: see Product Specifications**VIBROCONTROL 950**

Vibration monitoring unit for accelerometer input

Order Code: VC-950

Standard Accelerometer AS-062 (CCS)

Order Code: AS-062

VIBROCONTROL 960

Vibration monitoring unit for velocity sensor input

Order Code: VC-960

Standard velocity sensor VS-068 (horiz.) or VS-069 (vert.)

Order Code: VS-068
VS-069**Please find alternative sensors out of B&K Vibro's large portfolio.****Compact Commander Software for Configuration & Diagnostics****Compact Setup** - Configuration Software for VC-950/960 units

included in delivery

Compact Analyzer - for analysing of stored data

on request

Optional: Accessories**Power Supply 24 VDC**

Type: DSP 10-24; 230VAC / 24 VDC, 10 W

Order Code: AC-4111

Field Housing for VIBROCONTROL 950 / 960 components
IP68, Aluminium AC-2130

on request