



## 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, decanters, separators and mills.

Dedicated solutions via 2 types of single channel monitoring units:

- **VIBROCONTROL 950**  
Acceleration Sensors (CCS)
- **VIBROCONTROL 960**  
Vibration Velocity Sensors
- **VIBROCONTROL 950/01 & 960/01**  
installed in field housing



### Applications

#### VIBROCONTROL 950/960

The machine protection units are monitoring 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 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.

#### Installation alternatives / unit types

- for individual installation in cabinet or control room on standard DIN rails (VC-950 & VC-960)
- pre-installed for field installation in protection housing (VC-950/01 & VC-960/01)

## 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** 100 mV/mm/s  
 max. input ± 6.0/8.0 Vpk  
 Linearization for VS-068 / 069

### Measuring Parameter:

- VIBROCONTROL 950  
Velocity (mm/s), Acceleration (m/s<sup>2</sup>)
- VIBROCONTROL 960  
Velocity (mm/s)

### Measuring Ranges (Selectable):

- Velocity 0 ... 10-20-50-100 mm/s  
other ranges in m/s<sup>2</sup>

### 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**  
 ±3.5% of reading ± 0,5% of Full Scale setup,  
 typical, @calibration ref: 100 Hz, velocity, 25 °C,  
 with current LP and HP filter setup.
- Analogue output** ±1.5% of reading  
 ±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, ±7%,
- Power consumption 2,6 W

### Temperature:

- Operating -10° C to +50° C
- Storage -40 °C to +85 °C

### Housing / Dimensions VC-950 / VC-960:

- DIN rail enclosure IP20
- Dimensions DIN rail: 163 x 127 x 66 mm
- Weight (instrument) 400 g

### VC-950/01 / VC-960/01

- Protection class field housing IP 65
- Dimensions 430 x 200 x 170 mm
- Weight approx.. 4500 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 acceleromter input

Order Code: VC-950

**VIBROCONTROL 950/01**

Vibration monitoring unit for acceleromter input completely installed in field housing AC-2112 and AC-4111 24 V DC power supply

Order Code: VC-950/01

Standard Accelerometer AS-062 (CCS)

Order Code: AS-062

**VIBROCONTROL 960**

Vibration monitoring unit for velocity sensor input

Order Code: VC-960

**VIBROCONTROL 960/01**

Vibration monitoring unit for acceleromter input completely installed in field housing AC-2112 and AC-4111 24 V DC power supply

Order Code: VC-960/01

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 Setup Software for Configuration**

**Compact Setup** - Configuration Software for VC-950/960 units

included in delivery

**Optional: Accessories**

**Power Supply 24 VDC**

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

Order Code: AC-4111

**VIBROCONTROL 950/01 and VIBROCONTROL 960/01 pre-installed in the field housing with 24 V DC power supply**

