Brüel & Kjær Vibro

Product Specification
VIBROCONTROL 850

Features

VIBROCONTROL 850 provides a broad range of applications. It ensures reliable machine protection on many different machines, e.g. blowers, ventilators, pumps, decanters, separators, compressors and mills. The VIBROCONTROL 850 continuously monitors the machine vibration level. Two adjustable alarms can be used to ensure that the machine vibrations do not exceed the acceptable level. The operator will gain an active protection of the machine, which limits the damages to the machine and consequently will reduce the maintenance.

VIBROCONTROL 850
includes an internal acceleration sensor and provides

- a 4–20 mA analogue output proportional to the vibration velocity in mm/s rms
  and
- relay outputs for alert and danger

Applications

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 invest in vibration monitoring simply due to price can be a very unwise decision. Often will this leads to unexpected expenses to machine repairs, not to mentioned the further economic loss due to the production stop.

Price attractive alternative
For users who want a simple machine protection VIBROCONTROL 850 is a very price attractive solution and can easily be connected to a PLC or DCS system.

Functionality
VIBROCONTROL 850 consists of a vibration sensor as well as conditioning-, alarm and output circuitry, all embedded in stainless steel housing. It monitors seismic mechanical vibrations according to DIN/ISO 10816-3 and can be configured to measure velocity (mm/s). Measurement range, alarm limits and delay times can be adjusted directly in the monitor according to the machine type and size, it has to monitor.
The present vibration level is continuously compared with the two alarm limits and if the alarm limits are exceeded the two alarm relays A1/D1 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 (A1) and danger (D1) have build in delay time, which prevents false alarms due to momentary transients. All monitors have a built in latch function, ensuring the alarm relay stays triggered until it has been manually/remotely reset, even though the vibration level has decreased again. Also a 4-20 mA signal is provided, which always expresses the relative vibration level.
The 4-20 mA output can also be used to verify the alarm limits.

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Technical Data

Sensor integrated:
- Capacitive accelerometer
  Sensitivity 100 mV/g

Measuring Ranges (Selectable):
- Velocity 0…10-20-50-100 mm/s rms
  Factory settings: 20 mm/s rms

Frequency ranges:
- Standard: 10 Hz – 1,000 Hz, -1 dB, -18 dB/oct

Detector:
- True RMS Detector, avg. time 3 s

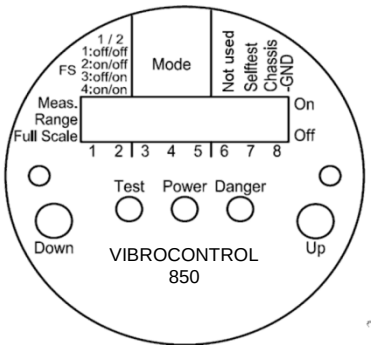
DC Output:
- 4-20 mA, relative to 0-100 % of max. range
  Load: max. 400 Ohm

Measuring:
- Accuracy: ±5% of reading ±2% Full Scale
- max. range: ±18 g or ±6 g
- Shock: 1,000 g

Alarm detectors:
- Alert alarm with adjustable alarm limit
- Danger alarm with adjustable alarm limit
  0…100% of Full scale
  Factory settings: Alert 35%, Danger 55% of FS

Monitor set up

VIBROCONTROL 850 can be configured or changed directly at the monitoring unit by using 8 DIP-switches that are combined in three groups.



Alarm Relays (Relay drivers):
- A1: Alert relay, Break
  D1: Danger relay, Break
  Selectable latch or non-latch
- max. voltage 30 V
- max current 100 mA
- A1: Delay time alert (adjustable) 10 sec
  D1: Delay time danger (adjustable) 5 sec
  Adjustable delay times 0-100 sec

Manual Reset Function:
- via switch separately
  via controller / PLC
- Test function activated remotely

Power Supply:
- +24 V DC, ±10%, max. 62 mA DC
- Power consumption 1,34 W

Temperature:
- Operating -20° C to +65° C
- Storage -40 °C to +85 °C

Housing IP-68 / Dimensions:
- Stainless steel type 1.4305
- Dimensions
  Height: 102 mm
  Diameter: 47 mm
  Weight incl. 5 m cable 890 g
- Mounting stud: M8

Integrated connection cable
- Cable: 12 x 0.25 mm^2, type PUR, length 5 m

Compliance:
- CE
- PL-d according to EN 13849

Ordering information

- **VIBROCONTROL 850** incl. 5 m cable
  factory configuration

Order Code: VC-850

Optional: Accessories
- Power Supply 24 VDC
  Type: DSP 10-24; 230VAC / 24 VDC, 10 W

Order Code: AC-4111

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