Brüel & Kjær Vibro

VIBROCONTROL 6000
Compact monitor

Individual solutions for your monitoring tasks

Brüel & Kjaer Vibro is a leading manufacturer of vibration monitoring devices and –systems. Our extensive product portfolio is completed by the VIBROCONTROL 6000 Compact monitor.

The VIBROCONTROL 6000 Compact monitor initiates a new period of vibration measuring and machine condition monitoring. It is exactly adapted to the specific requirements of the machine to be monitored.
Standard monitoring, if necessary, but also diagnostic monitoring, if needed.

Our huge application library offers you a great number of already practised solutions. Should this be insufficient to fulfil your requirements, our application engineers will work out the optimum machine protection for your precious manufacturing facilities.

One monitor for every requirement

Most machines used in production processes are very complex and therefore require a very reliable monitoring system. In the past, many different devices were needed to fulfil this task. Nowadays, you need only one:

VIBROCONTROL 6000 Compact monitor

Due to its unique modular principle, it is able to fulfil all known monitoring tasks. No matter if it is the monitoring of bearing- or shaft vibrations acc. to standards or the axial shaft position, temperatures and rotational speed – the VIBROCONTROL 6000 Compact monitor is prepared for it all.

Combination with offline-monitoring

The combination of our data collector, analyser and balancing device VIBROTEST 60 and the VIBROCONTROL 6000 Compact monitor is the perfect solution for a comprehensive maintenance for your machines. Both appliances are dovetailed and complement each other in their fields of application.

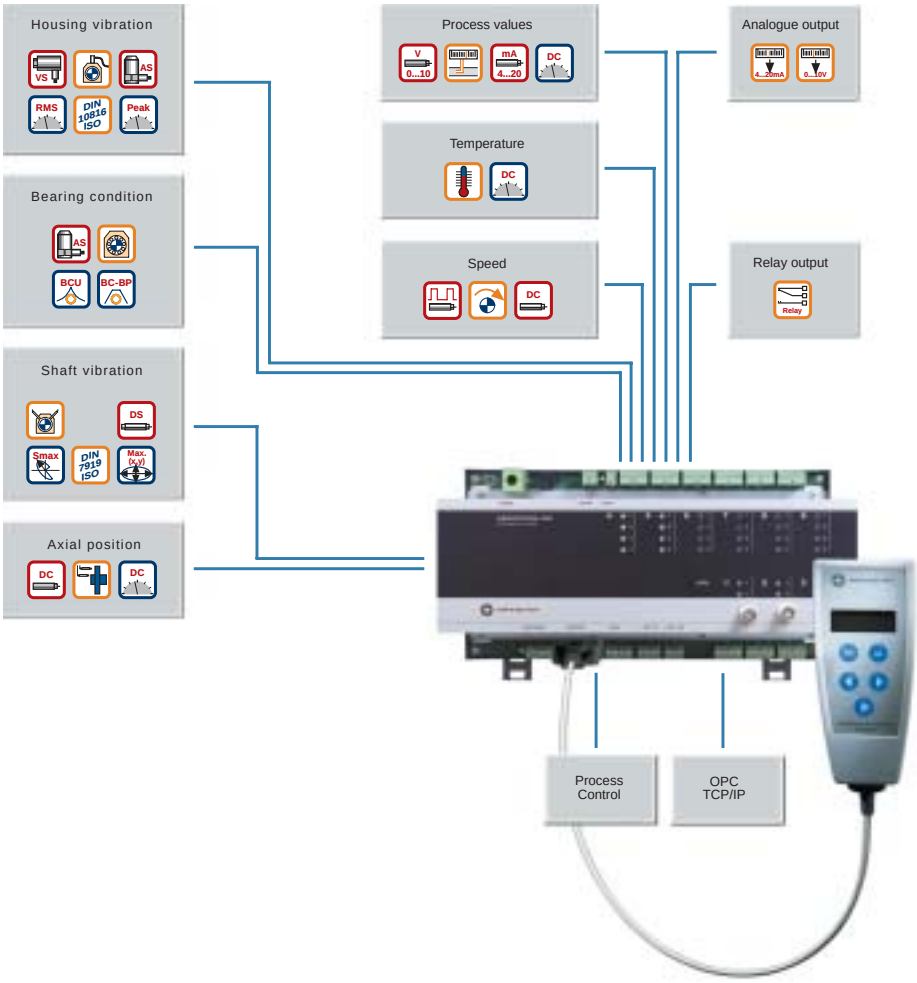
Reliability for highest requirements

The VIBROCONTROL 6000 Compact monitor meets all the severe requirements put in industrial measuring- and monitoring electronics. The innovative OK-monitoring system guarantees the reliability of all sensor signals, and with the "hot-swap" mode, hardware components can be exchanged during operation. Even more safety is provided by the comprehensive self-regulation of all system functions and an optional, redundant power supply. Selectable specifications like selective measuring procedures, the involvement of guide- and process variables as well as selection logic provide for a precise significance of the measured data.

Machine protection and analysis with the VIBROCONTROL 6000 Compact monitor

Control via PC

Each single system as well as the whole VIBROCONTROL 6000 Compact monitor network can be connected with the software xms. The advantage:
All measurements and alarms can be observed from a PC-monitor. Various measuring variables are displayed simultaneously, so that the analysis of conditions and data can be continuously observed on the monitor.



Integration into existing guide systems

Due to the standard OPC-interface, the VIBROCONTROL 6000 Compact monitor can be integrated into your process guidance systems resp. into existing maintenance systems without any problem.

Modular, versatile, extensible

The VIBROCONTROL 6000 Compact monitor is designed in a way that it offers the highest possible flexibility and reliability. This means that the monitoring device can be adapted to each application due to its configuration.

The VIBROCONTROL 6000 Compact monitor is not only available in various ready-made, task-specific standard solutions. We offer individual configurations, so that you will get exactly the combination of measuring- and monitoring tasks you need.

With its technology, the VIBROCONTROL 6000 Compact monitor sets new standards in the field of continuous machine monitoring. It uses simple, intelligent parameters to identify and consider the operating mode of a machine. This reduces expensive false alarms and increases safety.

A selection of complete solutions

The VIBROCONTROL 6000 Compact monitor is available in a great variety of preconfigured versions in order to meet your individual process monitoring requirements. Therefore, you can solve typical machine protection and –maintenance tasks immediately.

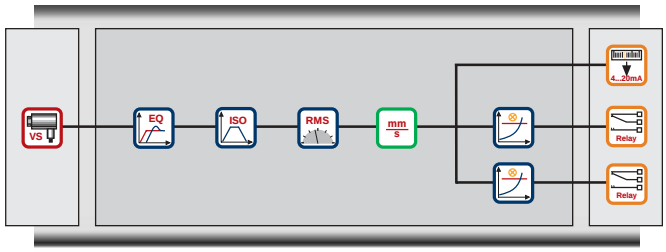
However, the VIBROCONTROL 6000 Compact monitor is also able to fulfil many other requirements which we have not listed here. There is an almost unlimited number of possible combinations of measuring- and monitoring tasks, so that you can use the device in almost every sector.

Please refer to our brochure "Technical specification – VIBROCONTROL 6000 Compact monitor" for a detailed description of all configuration possibilities. For your "special" applications, the application engineers of Brüel & Kjaer Vibro are always at your disposal.

1

Classical monitoring with a vibration velocity sensor

CV-114

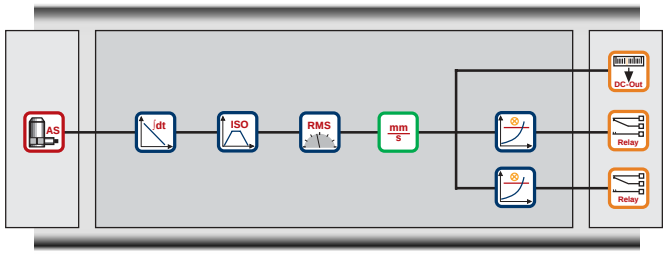


For a classical monitoring task, the signal of a vibration velocity sensor is controlled with regard to its root mean square value. Two potential-free contacts and an analogue output signalise the current condition.

2

Vibration monitoring with an acceleration sensor

CV-112

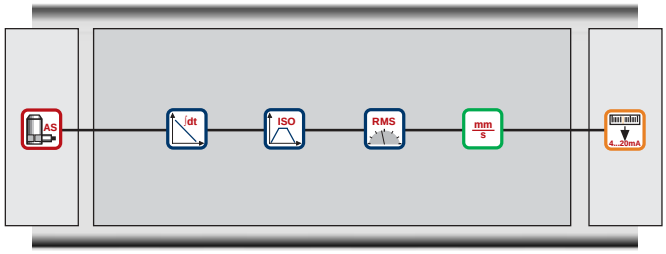


For standard machine monitoring according to DIN ISO 10816, every desired acceleration sensor may be used. This model is also equipped with two potential-free contacts and an analogue output.

3

Vibration measuring for transfer to downstream systems

CV-101

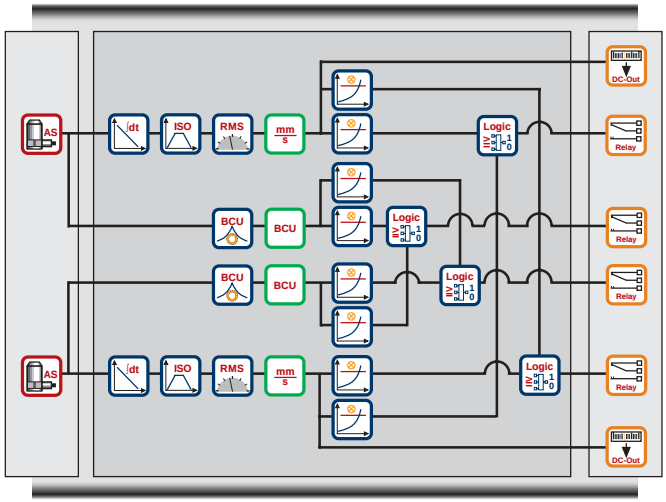


In case that only the vibration parameters such as the rms value of the housing vibrations is needed for a control device or process control system, the values determined acc. to DIN ISO 10816 are displayed as an analogue quantity.

4

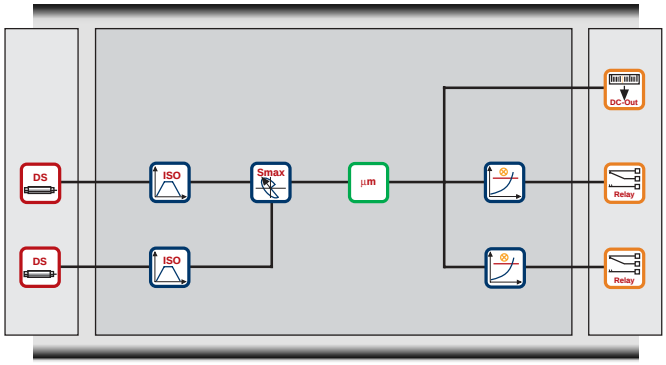
Monitoring of antifriction bearing condition and housing vibrations

BC-112



If the antifriction bearing condition is to be monitored, we cannot only determine the root mean square value of housing vibrations, but also the antifriction bearing condition parameter BCU. The integrated logical unit will safely identify the change. For the simultaneous supervision of two bearings with both parameters, two potential-free contacts provide for the alarm and two analogue outputs indicate the measured variables.

In order to monitor machines with sleeve bearings acc. to DIN ISO 7919, the maximum excursion is determined as a Smax-parameter, using the shaft vibration signals of the two eddy-current displacement sensors. Signalling and transfer of alarm and shut-off as well as Smax-parameter is made possible by a relay and an analogue output.

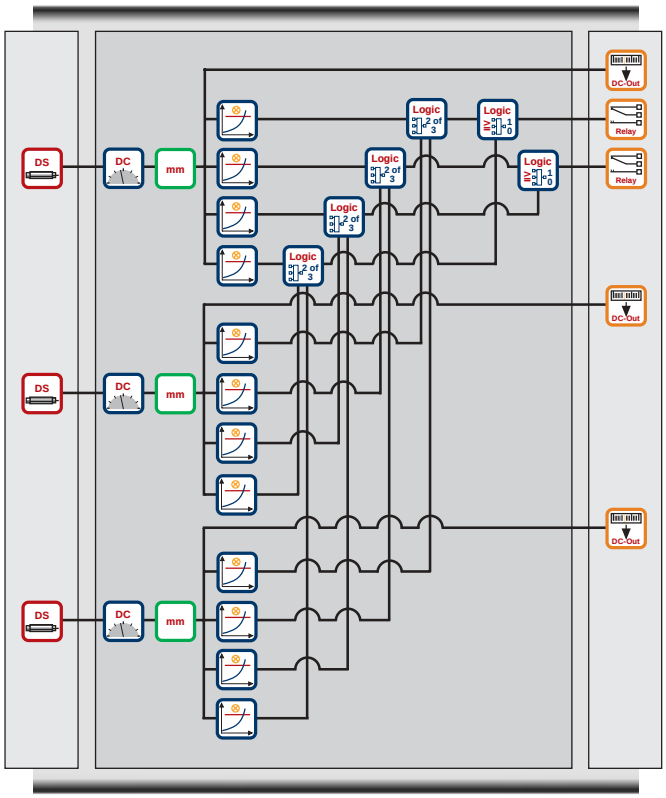


5

Monitoring of relative shaft vibrations

RV-117

This standard solution is used to supervise the axial position of the shaft. Monitoring with 3 eddy-current distance sensors is construed double redundant. The alarm and cut off limit value is checked for each measuring point and displayed by means of a "2 out of 3"-logic. This guarantees a reliable supervision of the axial shaft position.



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Monitoring of axial shaft position with „2 out of 3“ -logic

AP-327

Various settings are possible for all systems, so that you can adapt the VIBROCONTROL 6000 Compact monitor precisely to your requirements. For this purpose, a user terminal is connected, with which you can adapt the filter, holding mode, limit values etc.

The key to your success is inside the VIBROCONTROL 6000 Compact monitor. Processing of signals, described by the signal flow, makes the VIBROCONTROL 6000 Compact monitor a standard solution for your specific task.

Commentary

Inputs

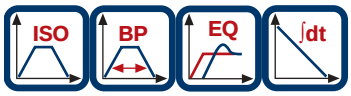
3 slots for input modules;
up to 6 measuring- and monitoring purposes;
max. 3 channels for vibration sensors

Sensor input modules for the acquisition of vibration velocity, acceleration and displacement, as well as for rotational speed, process variables or user-specific measuring variables.

Sensor supply, sensor-specific,
e.g. CCS (constant current supply) or –24V DC

OK-supervision of inputs for cable break and overload

Signal processing

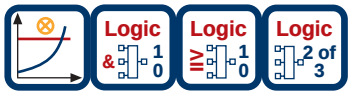


Signal conditioning, DIN ISO-filtering (10Hz-1 kHz) or variable band pass;
with linearization or signal integration, if required

Measured variables
Root mean square (RMS), peak value, DC-value (GAP, temperature, process variables etc), antifriction bearing condition (BCU, BC-BP), rotational speed and Smax

Measuring ranges are freely adjustable

Simultaneous multiple evaluation of input signals is possible, e.g. vibration severity acc. to DIN ISO 10816 and antifriction bearing condition



Supervision limit values and alarm deceleration are freely adjustable; trip-multiply-function;
optional logic (e.g. "2 out of 3"-mode);
maximum response time
5 ms (plus measuring time)

Outputs and signalling

6 slots for output modules

Analogue DC-output
Current (0/4…20mA) and voltage (0…10V), freely scalable, up to 12 DC-outputs (also with freely adjustable characteristic lines) possible

Alarm relay
Freely adjustable change-over relays; up to 12 alarm relays possible

OK-relay
Central change-over relay, normally energized for self-control

Display of operating conditions
via LED acc. to DIN 19235; alarm condition, OK-condition and power supply

Accessories

User terminal
Display with keyboard for local display and operation, also on site

Protective casing
Protective stainless steel casing, protection class IP65/67, for rough industrial surroundings

Digital interfaces
Data interchange with OPC-compatible server client (RS-232, 422, 485 and TCP/IP). SCI-system interface for configuration and service

Power supply

Either AC voltage (85…264 VAC, 50/60Hz) or DC voltage (18…75 VDC); redundant feeding

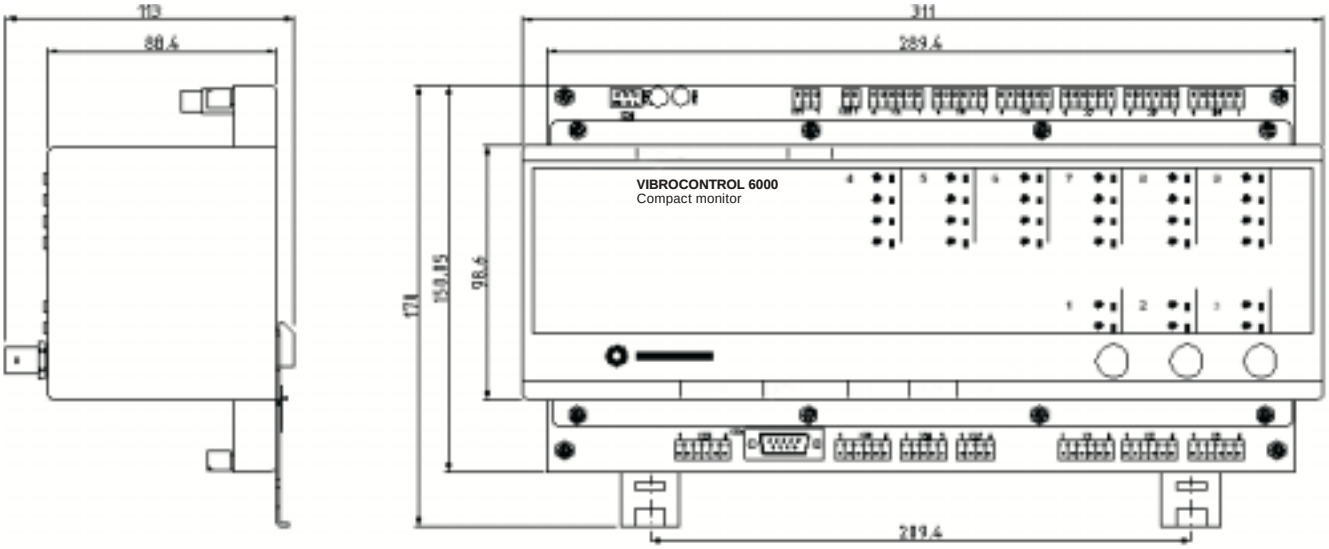
Physical data

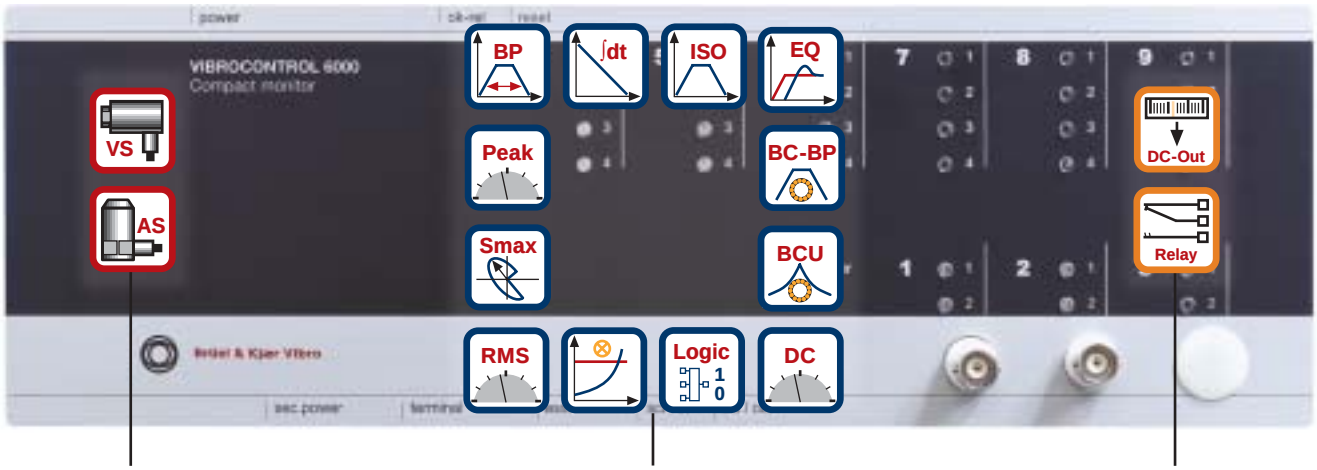
Mechanical design
Metal casing in protection class IP 20, for installation on a 35mm-top-hat rail

Operating conditions
Operating temperature: -30°C … +70°C
(ambient temperature)
Storage temperature: -40°C …+85°C
Air moisture: max. 95% non-condensing

Dimensions
311x170x113 mm (width x height x depth)

Weight
Approx. 2.3 kg





Input

Connection of signal sources (e.g. sensors)

Signal processing acc. to performance requirements

Filtering of the desired frequency range; determination of measured values; assessment of measured values via limit comparison

Output

Provision of binary and analogue signals for further processing

No matter if it is a tried and trusted standard solution or your special application -with the modular design and application-oriented signal processing, you will always be right.

30. (Status) 0307 o All data is non-binding. Changes remain reserved. Druckerei Drach • Design: LowinskyART • BBR 0014-EN-13

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