



Brüel & Kjær Vibro



Short Instruction

VIBROCONTROL 950/960

Single channel vibration monitoring units



Keep it accessible for future reference.



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NOTE!

This symbol provides general and useful information for using the product.

1 Applications

The VIBROCONTROL 950/960 Vibration Monitor is a maintenance free device situated mounted in a DIN rail enclosure. It can be used to monitor vibration parameters in applications with machines like pumps, blowers, ventilators, decanters, separators, centrifuges, mills and milling equipment. The VIBROCONTROL 950/960 Vibration Monitor continuously keeps track of the vibration level of a machine at the point where the external acceleration sensor is fixed to that machine.



VIBROCONTROL 950/960 vibration monitors have different hardware depending on the type of sensor connected to the unit. It is NOT possible to connect a proximity or velocity sensor to a VIBROCONTROL 950/960 designed for use with an acceleration sensor, and vice-versa.

The VIBROCONTROL 950/960 Vibration Monitors have a RS232/RS485 serial interface which can be used to read-out the vibration level and status information. The PC-program used for this is called Compact Commander Software.

2 VIBROCONTROL 900 Series Types

2.1 VIBROCONTROL 950 Accelerometers (CCS)



Connecting with acceleration sensors (CCS)

2.2 VIBROCONTROL 960 Velocity Sensors



Connecting with velocity sensors



3 Hints for safe operation of VIBROCONTROL 950/960

General:

Please carefully read the operating instructions prior to set-up of the device. Make sure that your VIBROCONTROL 950/960 device is suitable for your application without any restrictions.

Improper use:

Any improper or non-intended use may lead to malfunctions of the VIBROCONTROL 950/960 device or to unwanted effects in your application. If the VIBROCONTROL 9x0 is used in a way not described in the relevant user manuals, function and protection may be impaired and serious personal damage, death or serious, irreversible injuries may result.

EU-directives:

All versions of the VIBROCONTROL 950/960 device conform to the relevant regulations and EC directives.

Installation and operation:

Installation, electrical connection, set-up, operation and maintenance of your VIBROCONTROL 950/960 device(s) must only be carried out by qualified/trained personnel (electrician) authorised by the machine operator in accordance with local- and national regulations for the installation of electrical equipment.

Changing the setup parameters:

Before applying a new set of setup parameters to the VIBROCONTROL 950/960 device, please make sure that doing so cannot cause any damage to persons and/or machinery.

Connecting the sensor(s):

Please make sure to meet the safe extra-low voltage (SELV) criteria when any sensors are connected to the VIBROCONTROL 950/960 device so that no dangerous contact voltages are applied to the sensor and/or transferred to the device. The sensor and the power supply of the VIBROCONTROL 950/960 device are not galvanic isolated.

Sensor cable mounting:

To prevent negative effects on the functioning of the VIBROCONTROL 950/960 device caused by noise voltages, please lay shielded sensor cables and load cables separately.

Ingress protection (IP):

The VIBROCONTROL 950/960 is ranked as IP20. The VIBROCONTROL 950/960 device must be mounted in a control cabinet with an ingress protection of at least IP54. The control cabinet should be installed in accordance with local- and national rules and regulations.

Mounting:

Mount the VIBROCONTROL 950/960 device on a 35 mm DIN rail inside the control cabinet. Mount the device vertically but make sure to leave enough space between the unit and the top and/or bottom of the control cabinet. Only this way the air circulation will be sufficient to avoid excessive heating of the device.

Connecting to a power supply:

The VIBROCONTROL 950/960 device has a voltage tolerance of +24 VDC $\pm 5\%$

Before connecting the VIBROCONTROL 950/960 device to a +24 VDC supply voltage, please make sure that all terminal blocks are completely inserted.

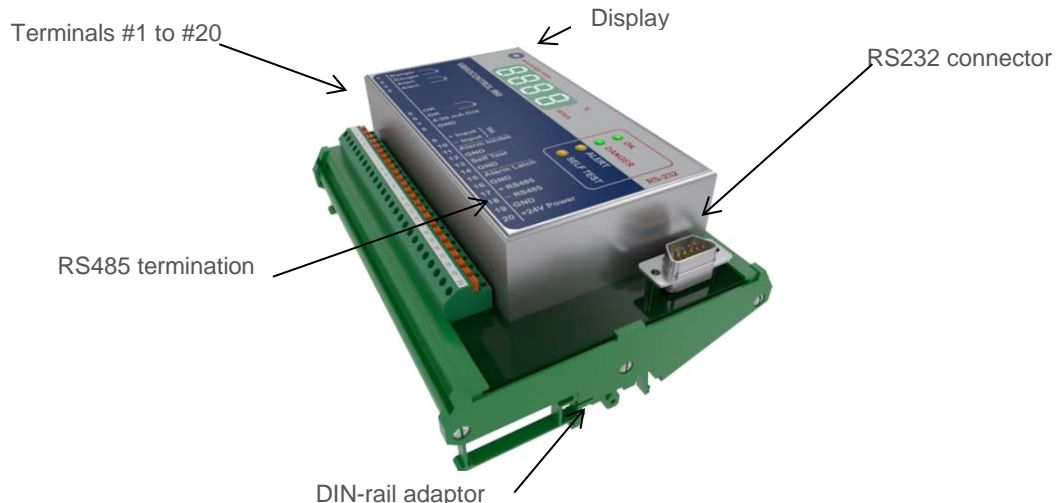
The external +24 VDC supply voltage must be generated and supplied according to the SELV requirements.

Protect the +24 VDC supply voltage externally with max. 2A. The ground (GND) of the DC supply is directly connected with the ground (GND) of the sensor supply, if any. The SELV criteria must therefore be met for the DC supply (safety extra-low voltage, circuit electrically isolated from other circuits, not grounded). If the DC circuit is to be grounded (e.g. due to national regulations), the

protective-extra-low-voltage (PELV) criteria must be adhered to (SELV with circuit galvanic isolated from other circuits).

Maintenance:

If used correctly no maintenance and repair measures are necessary. Only the manufacturer is allowed to repair the unit.



4 Setup the VIBROCONTROL 950/960

The VIBROCONTROL 950/960 Vibration Monitor is provided with a RS232 and a RS485 interface, which allows the user to change many of the setup parameters. The RS232/RS485 interface can also be used to read out a number of registers inside the vibration monitor with status information or the actual vibration level.

The PC program used for this purpose is called Compact Setup Software.

The VIBROCONTROL 950/960 Vibration Monitor is delivered with a pre-configured setup. The Compact Setup Software will overwrite this setup when it is used to change the changeable parameters in the device, thus declaring the official factory setup void.

4.1 RS232 interface

To use the RS232 interface, connect a null-modem cable between the VIBROCONTROL 950/960 Vibration Monitor and the COM-port on the computer. The male 9-pin D-sub socket marked "RS232" is placed at the right side of the VIBROCONTROL 950/960 Vibration Monitor.

Using the RS232 interface overrules the RS485 interface, which will automatically be disabled. To connect with USB port please use RS232/USB adapter.

4.2 RS485 interface

The VIBROCONTROL 950/960 Vibration Monitor allows "multi-drop", i.e. up to 255 devices can be addressed individually in a RS485 chain of devices.

To use the RS485 interface, connect terminal #17 (marked: "+RS485") and terminal #18 (marked: "-RS485") of the VIBROCONTROL 950/960 Vibration Monitor to the RS485 chain of devices using a **shielded** cable.



The cable must be terminated with a 120 Ω resistor in both ends, i.e. on the PC side and at the **last** device on the RS485 chain of devices. The VIBROCONTROL 950/960 Vibration Monitor has a built-in 120 Ω resistor, which can be used for this purpose. To switch the resistor ON, use the small sliding switch on the right side of the enclosure. A LED behind terminals #17 and #18 will show green light to indicate that the 120 Ω termination resistor is in place.



The RS485 interface will be disabled as soon as the device senses that the RS232 interface is used.



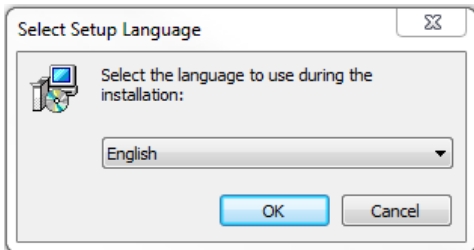
Please make sure that you do not add a new device to your FieldBus that has an address occupied by another device in the chain.

4.3 The Compact Setup Software

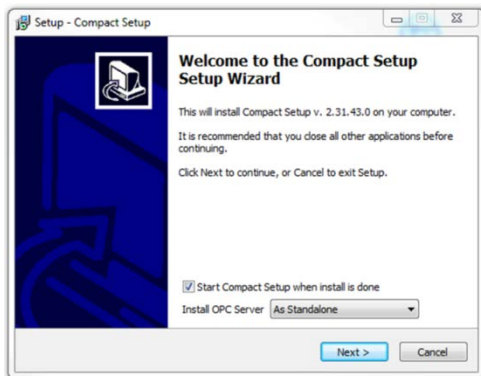
To change the set-up parameters of the VIBROCONTROL 950/960 Vibration Monitor and read the measurement results using a PC, use the Compact Commander Software. First you have to install the Software; therefore a number of installation windows will guide you through the installation process:

The Compact Setup Software is supporting Microsoft Windows 7, 8 & 10.

1. Insert the Compact Commander Setup CD in the CD drive.
2. Open the directory for the CD drive e.g. E:\ and open the Compact Commander Setup program:



- Select your language for application and click **Next**.



- Follow the instruction on the PC.



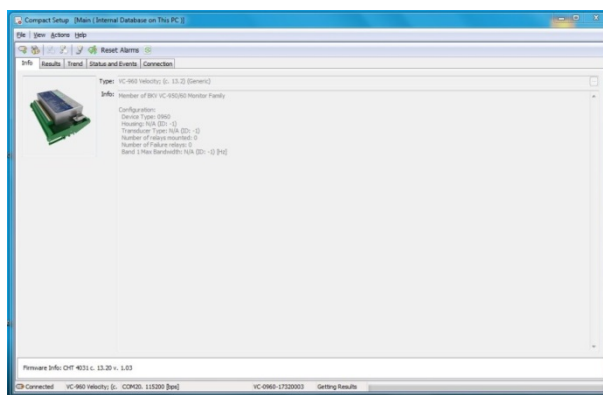
Be sure to select under "Install OPC Server" as option "As Standalone"!

Program Start Icon

To start the program click on the start icon in the menu bar and click on the Compact Setup icon (Depending on your PC setup, please start the program "Run as administrator").




Main Menu



Add a device



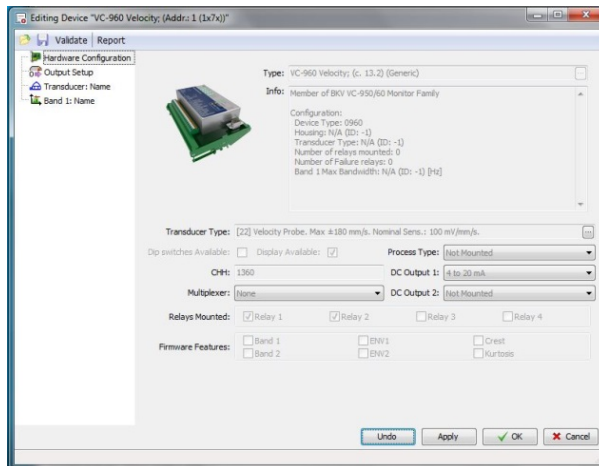
When using an USB adapter as a connection between VC-9xx series and the Computer, the interface has to be set up first. Therefore open the device manager on the computer and open the settings of used port. insert 115200 in the field for bits/s.

-  Click on the **Add device icon** and tick on the option "**Search for devices**". Then insert following information in the drop-down menu:
 - Connection Type: RS232
 - Com Port: Number of the used port
 - Baudrate: 115200
- Confirm with **Next**.

When the search was successful the main window appears and the selected device including its configuration is shown under the info register.

Editing Device

-  Click on the „ **Editing Device** “ Icon in the Tool bar:



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