

Monitoring Machine Condition

Machine Condition Monitor VibroGard-M



Advantages

- Modular design
- Customising for specific applications
- Excellent cost performance ratio
- Standard sensor interfaces
- Compact design

Applications

- Condition monitoring of machines and machine lines
- Monitoring
 - Overall vibration
 - Roller bearing condition
 - Vibration displacement
 - Position
- Monitoring machines using roller sleeve bearings
- Evaluation of relative shaft vibration according to ISO and/or API standard

Description

VibroGard-M is a modular machine condition monitoring system. It is configured as a cost effective monitoring solution for specific tasks. Examples of typical applications are at fans, pumps, compressors or machine tools.

A basic module set consists of a supply module and a monitoring electronics. The monitoring electronics feature voltage and constant current outputs that are evaluated by the VibroGard-M limit contact module or a machine controller.

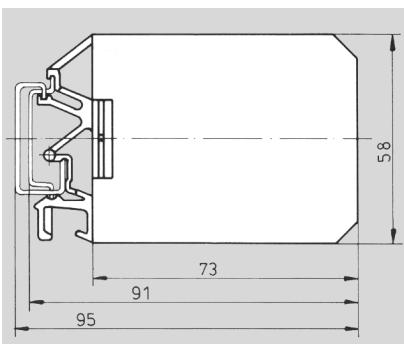
Monitoring electronics are available to measure absolute bearing vibration and shaft vibration. There is a special type which measures the absolute bearing vibration and at the same time the bearing condition at machines with rolling element bearings.



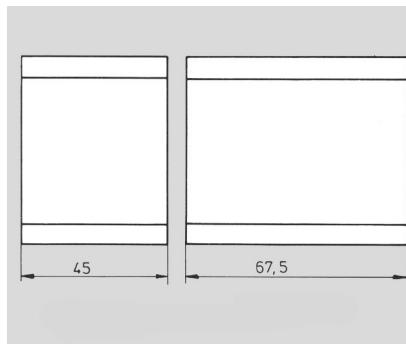
Module set for capturing vibrations and the condition of roller bearings



Sensors for monitoring tasks



Module dimensions



The VibroGard-M modules are customised to form module sets. They always contain a power supply module.

To perfectly fulfil their monitoring tasks, specifically selected sensors are used for each measuring value (see technical data). These are permanently mounted to the measuring location and connected to the monitoring unit.

Scope of supply

- Module set
- Operating instructions

Options

- 19" rack mount version
- Cabinet mount version

Technical data - 1

Monitor control unit	LS	WS
	abs. bearing vibrations	rel. shaft vibrations
Measuring values	Vibration displacement	Vibration displacement
	Vibration velocity	
	Vibration acceleration	
Measuring ranges		
● Vibration displacement s	0-10/31.6/100/316 µm	
● Vibration velocity v _{RMS}	0-1/3.16/10/31.6 mm/sec.	
● Vibration acceleration g	0-1/3.16/10/31.6 m/sec. ²	
● Roller bearing condition gSp		
Operating frequency range		
● Vibration displacement	2.5-250 Hz / 10-1,000 Hz	1.5-250 Hz / 5-1,500 Hz
● Vibration velocity	2.5-250 Hz / 10-1,000 Hz	
● Vibration acceleration	10-1,000 Hz	
● Roller bearing condition		
Outputs	0-20 (4-20) mA DC, burden \leq 500 Ohms, 0 to 5 VDC, burden \geq 2 kOhms	
Operating temperature	-10 to +65 °C	
Storage Temperature	-30 to +80 °C	
Relative humidity	max. 95 %, non-condensing	
Voltage supply	via supply module	
Power demand	approx. 2 VA	
Dimensions	appr. 135 mm x 60 mm x 90 mm	appr. 135/158 mm x 60 mm x 90 mm
Weight	0.4 kg	
Protective rating	IP30	
Transducer	PMG 81 / PMG 85	WSG 69
	HMA 1140 / HMA 1830	WSG 71
Supply module		
● Power requirements	115/230 V, 50/60 Hz	
● Supply voltage	24 V, 50/60 Hz	
	24 VDC	
Limit contact module	G2	
● Limit contacts	1 Pre and 1 main alarm, quiescent current and load current circuit	
● Adjustment range	0 - 100 %	
● Switching capacity	220 V / 1 A / 30 W / 60 VA	
● Alarm delay	0 - 10 sec. separately adjustable	

Technical data - 2

Monitor control unit	COMO
	Condition monitoring
Measuring values	Vibration velocity
	Roller bearing condition
Measuring ranges	
● Vibration displacement s	
● Vibration velocity v_{RMS}	0-1/3.16/10/31.6 mm/sec.
● Vibration acceleration g	
● Roller bearing condition gSp	0-1/3.16/10/31.6 gSP
Operating frequency range	
● Vibration displacement	
● Vibration velocity	10-1,000 Hz
● Vibration acceleration	
● Roller bearing condition	5 kHz - 50 kHz
Outputs	0 - 20 (4 - 20) mA DC, burden \leq 500 Ohm, 0 to 5 VDC, burden \geq 2 kOhms
Operating temperature	-10 to +65 °C
Storage Temperature	-30 to +80 °C
Relative humidity	max. 95 %, non-condensing
Voltage supply	via supply module
Power demand	approx. 2 VA
Dimensions	appr. 181 mm x 60 mm x 90 mm
Weight	0.4 kg
Protective rating	IP30
Transducer	
	HMA 1140
	HMA 1830
Supply module	
● Mains supply	115/230 V, 50/60 Hz
● Supply voltage	24 V, 50/60 Hz
	24 VDC
Limit contact module	G4
● Limit contacts	2 Pre and 2 main alarms, quiescent current and load current circuit
● Adjustment range	0 - 100 %
● Switching capacity	220 V / 1 A / 30 W / 60 VA
● Alarm delay	0 - 10 sec. separately adjustable

All information without obligation, subject to change without notice!