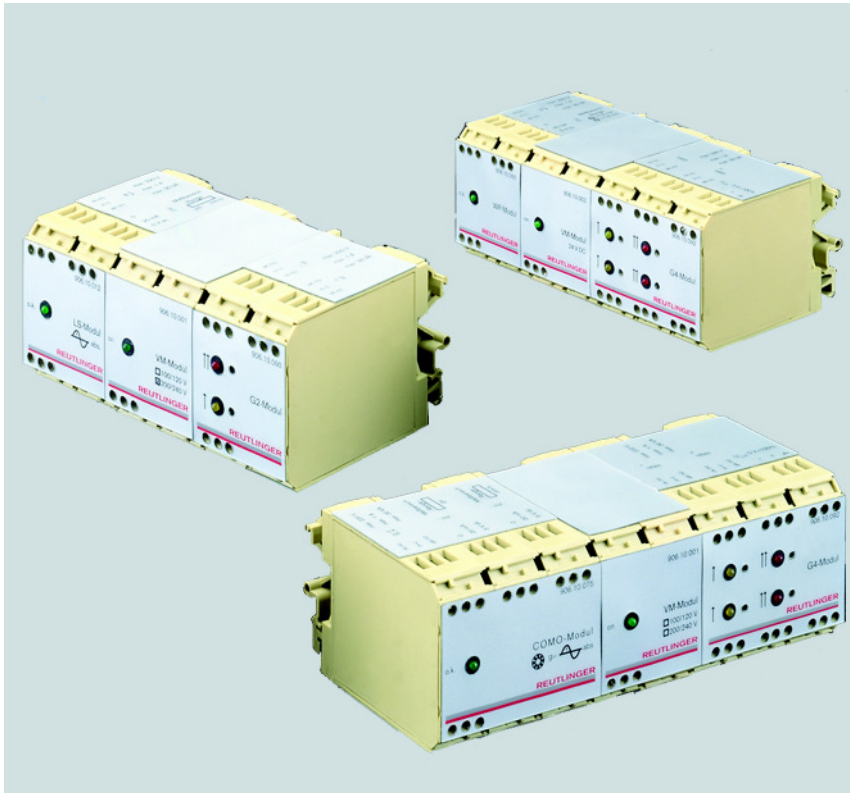


## Monitoring Machine Condition

# 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
  - rotational speed
  - Overall vibration
  - Roller bearing condition
  - Vibration displacement
  - Two dimensional vibration
  - Position
  - Elongation
  - Process values
- 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.

Modules are available for measuring overall vibration and bearing condition on machines with roller bearings. In addition, absolute and two dimensional, relative shaft vibrations can be measured on machines with sleeve bearings. Modules are available for capturing the axial shaft position and shaft elongation as well as the housing elongation of thermal machines. Additionally the rotational speed as well as other process values (pressure, temperature) can be measured.

The modules feature voltage and constant current outputs that are evaluated by the VibroGard-M limit contact module or a machine controller. Analogue or digital instruments may be used to display the measurement values.

**All information without obligation, subject to change without notice!**



## Technical data - 1

Monitor control unit	LS	WS	COMO
	abs. bearing vibrations	rel. shaft vibrations	Condition monitoring
<b>Measuring values</b>	Vibration displacement	Vibration displacement	Vibration velocity
	Vibration velocity	<ul style="list-style-type: none"> <li>Single channel operation X</li> </ul>	Roller bearing condition
	Vibration acceleration	<ul style="list-style-type: none"> <li>Dual channel operation XY</li> </ul>	
<b>Measuring ranges</b>			
<ul style="list-style-type: none"> <li>Vibration displacement s</li> </ul>	0-10/31.6/100/316 μm	0-10/31.6/100/316 μm	
<ul style="list-style-type: none"> <li>Vibration velocity <math>v_{RMS}</math></li> </ul>	0-1/3.16/10/31.6 mm/sec.		0-1/3.16/10/31.6 mm/sec.
<ul style="list-style-type: none"> <li>Vibration acceleration g</li> </ul>	0-1/3.16/10/31.6 m/sec. <sup>2</sup>		
<ul style="list-style-type: none"> <li>Roller bearing condition gSp</li> </ul>			0-1/3.16/10/31.6 gSP
<b>Operating frequency range</b>			
<ul style="list-style-type: none"> <li>Vibration displacement</li> </ul>	2.5-250 Hz / 10-1,000 Hz	1.5-250 Hz / 5-1,500 Hz	
<ul style="list-style-type: none"> <li>Vibration velocity</li> </ul>	2.5-250 Hz / 10-1,000 Hz		10-1,000 Hz
<ul style="list-style-type: none"> <li>Vibration acceleration</li> </ul>	10-1,000 Hz		
<ul style="list-style-type: none"> <li>Roller bearing condition</li> </ul>			5 kHz - 50 kHz
<b>Outputs</b>	0-20 (4-20) mA DC, burden $\leq$ 500 Ohms, 0 to 5 VDC, burden $\geq$ 2 kOhms		
<b>Operating temperature</b>	-10 to +65 °C		
<b>Storage Temperature</b>	-30 to +80 °C		
<b>Relative humidity</b>	max. 95 %, non-condensing		
<b>Voltage supply</b>	via supply module		
<b>Power demand</b>	approx. 2 VA		
<b>Dimensions</b>	appr. 135 mm x 60 mm x 90 mm	appr. 135/158 mm x 60 mm x 90 mm	appr. 181 mm x 60 mm x 90 mm
<b>Weight</b>	0.4 kg		
<b>Protective rating</b>	IP30		
<b>Transducer</b>	PMG 81 / PMG 85	WSG 69	HMA 1140
	HMA 1140 / HMA 1830	WSG 71	HMA 1830
<b>Supply module</b>			
<ul style="list-style-type: none"> <li>Power requirements</li> </ul>	115/230 V, 50/60 Hz		
<ul style="list-style-type: none"> <li>Supply voltage</li> </ul>	24 V, 50/60 Hz		
	24 VDC		
<b>Limit contact module</b>	G2	G2	G4
<ul style="list-style-type: none"> <li>Limit contacts</li> </ul>	1 Pre and 1 main alarm, quiescent current and load current circuit	1 Pre and 1 main alarm, quiescent current and load current circuit	2 Pre and 2 main alarms, quiescent current and load current circuit
<ul style="list-style-type: none"> <li>Adjustment range</li> </ul>	0 - 100 %		
<ul style="list-style-type: none"> <li>Switching capacity</li> </ul>	220 V / 1 A / 30 W / 60 VA		
<ul style="list-style-type: none"> <li>Alarm delay</li> </ul>	0 - 10 sec. separately adjustable		

## Technical data - 2

Monitoring control unit	WP	RD	GD
	Axial shaft position	Relative shaft elongation	Absolute housing elongation
<b>Measuring values</b>	Displacement	Displacement	Displacement
<b>Measuring ranges</b>			
• Displacement	+/- 1 mm +/- 2 mm	0 - 10 mm	0 - 50 mm
<b>Outputs</b>	0 - 20 (4 - 20) mA DC, burden $\leq$ 500 Ohm, 0 to 5 VDC, burden $\geq$ 2 kOhms		
<b>Operating temperature</b>	-10 to +65 °C		
<b>Storage Temperature</b>	-30 to +80 °C		
<b>Relative humidity</b>	max. 95 %, non-condensing		
<b>Voltage supply</b>	via supply module		
<b>Power demand</b>	approx. 2 VA		
<b>Dimensions</b>	appr. 158 mm x 60 mm x 90 mm	appr. 158 mm x 60 mm x 90 mm	appr. 135 mm x 60 mm x 90 mm
<b>Weight</b>	0.4 kg		
<b>Protective rating</b>	IP30		
<b>Transducer</b>	WSG 69 WSG 71	RDG 87	GDG 87
<b>Supply module</b>			
• Mains supply	115/230 V, 50/60 Hz		
• Supply voltage	24 V, 50/60 Hz 24 VDC		
<b>Limit contact module</b>	G4	G4	G2
• Limit contacts	2 Pre and 2 main alarms, quiescent current and load current circuit	2 Pre and 2 main alarms, quiescent current and load current circuit	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		