FAG



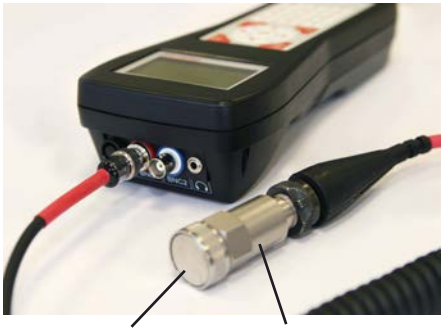
Quick Start Manual

FAG Detector III

SCHAEFFLER GROUP
INDUSTRIAL

1. Setup the device

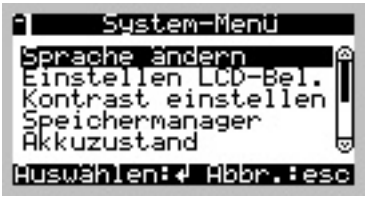
Screw the magnet onto the sensor. Then fit the coiled cable to the sensor and rotate the union nut until it is tight. Now connect the red end of the helix cable to the red BNC jack on the device. Fit the rechargeable battery to the device.



Switch on the FAG Detector III (press “ On/Off “ for 2 seconds). Using the cursor keys will always bring you to the required menu item. If the language is set to German, change this to English as follows:



- Select “System-Menü”
- Press “ ↵ “



- Select “Sprache ändern“
- Press “ ↵ “



- Select “English“
- Press “ ↵ “
- Then press “ ESC “ in order to move up to the next menu

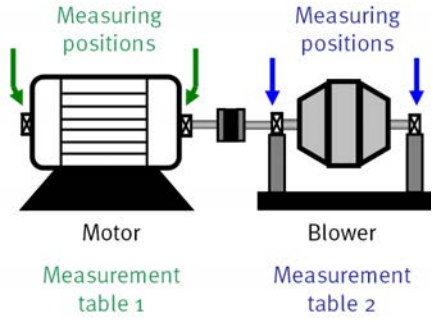
2. Select the machine

Ensure that this is a new machine or a machine suitable for continuous operation.



3. Select the measurement position

Irrespective of the machine type, the measuring position should be in the load zone wherever possible. If this is not known, a measuring point should be measured in a horizontal, vertical and axial direction.



The measurement position must:
- be made of ferrous material in order to ensure adhesion of the sensor/magnet
- be marked such that the sensor can **always be fitted at the same position** for all measurements in the follow-on period
- have good metallic contact with the bearing and shaft (no loose plates, covers etc.)
- be clean and free of grease
- be flat
- be larger than the diameter of the sensor
- be entered in the measurement table using an unambiguous name

Ensure that vibration measurement is carried out in a safe manner in each case!

First make the required number of copies of the measurement table template (see page 7).
Use one measurement table for each machine component.

4. Define the machine class (ISO 10816)

The standard ISO 10816 defines various machine classes since the vibration behaviour of large machines is different from that of small machines.

Class	Rough power classification	Exact description according to ISO 10816
I	‹ 15 kW	Individual parts of engines and machines, integrally connected to the complete machine in its normal operating condition. (Electric drive motors of up to 15 kW are typical examples of machines in this category.)
II	15-75 kW resp. 15-300 kW	Medium-sized machines (typically electrical motors with 15 kW to 75 kW output) without special foundations, ridgly mounted engines or machines (up to 300 kW) on special foundations.
III	300 kW-10 MW	Large prime-movers and other large machines with roating masses mounted on rigid and heavy foundations which are relatively stiff in the direction of vibration measurements.
IV	‹ 10 MW	Large prime-movers and other large machines with rotating masses mounted on foundations which are relatively soft in the direction of vibration measurements (for example, turbogenerator sets and gas turbines with outputs greater than 10 MW).

Each machine class is allocated different alarm thresholds for vibration. Assign your machine to an ISO class (see Figure 2) and enter the corresponding prealarm and main alarm thresholds in the measurement table.

ISO Class I	Prealarm limit: 1,8 mm/s		Main alarm Limit: 4,5 mm/s			
Machine name:		Blower motor				
Location:		Plant 2				
Addition:						
Measurement point:	axial	horizontal	vertical			
Date:	ISO 10816 mm/s	ISO 10816 mm/s	ISO 10816 mm/s	ISO 10816 mm/s	ISO 10816 mm/s	ISO 10816 mm/s
01.10.07	0,580	0,870	0,587			
02.11.07	0,890	0,588	0,897			
05.12.07	0,587	0,588	0,687			
03.01.08	0,889	0,759	0,512			
03.02.08	0,785	0,712	0,789			
01.03.08	0,478	0,689	0,687			

Figure 1: Example measurement table

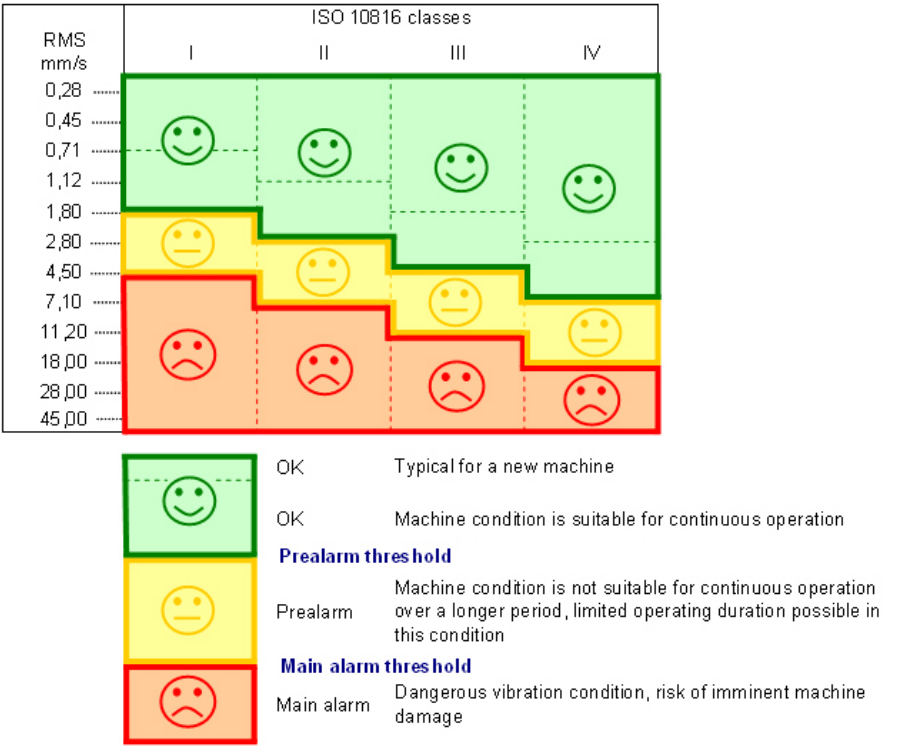
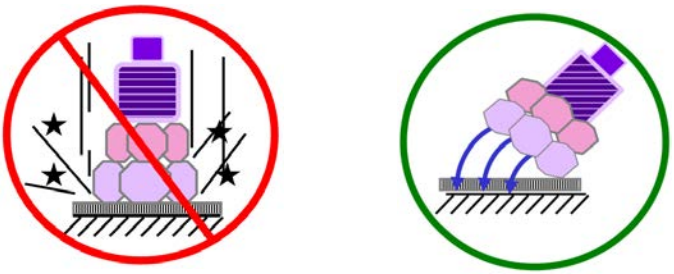


Figure 2: Alarm thresholds according to ISO 10816

5. Carry out measurements

Place the sensor/magnet carefully on the measurement position (with one side first, then the other).

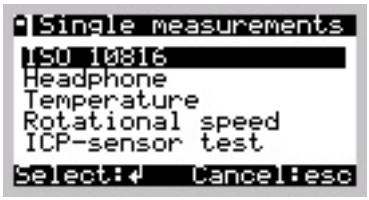


1. Switch on the FAG Detector III (press “ On/Off ” for 2 seconds)



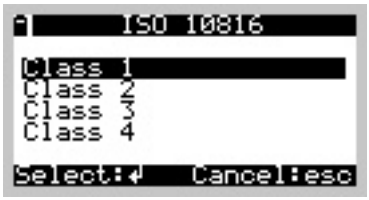
2. Select “Single measurements”

3. Press “ ↵ ”



4. Select “ISO 10816” and press “ ↵ ”

5. Select the machine class required for measurement (Class 1-4) and press “ ↵ ”



Measurement will start. Ensure that neither the machine nor the measurement system are subjected to any disruptions during measurement. The measurement result will be shown in the display.

6. Enter the value displayed in the correct column in the measurement table

7. Move the sensor to the next measurement position

8. Press “ ↵ ” again to start a new measurement on the same machine class



After the final measurement, switch the device off.

6. Evaluate the measurement values

The first 10 measurement values in a column in the measurement table (measured over a period of 2-5 months) must be taken as the normal variance of machine vibration. If significantly increasing deviations from this “normal condition” occur in the follow-on period, this indicates a change in the machine.

If you require further information or have any queries, please contact us as follows:

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Measurement table

ISO Class	Prealarm limit:		Main alarm limit:			
Machine name:						
Location:						
Addition:						
Measurement point:						
Date	ISO 10816 mm/s	ISO 10816 mm/s	ISO 10816 mm/s	ISO 10816 mm/s	ISO 10816 mm/s	ISO 10816 mm/s

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