



Important information

BearingChecker is a portable instrument for fast and easy measurement of bearing condition in preventive maintenance. The instrument is powered by a lithium-ion battery, which is charged via the mini-B USB communication output.

- The instrument is intended for professional, industrial process, and educational use only while taking into consideration the technical specifications.
- Charge the battery within the charging temperature range (0° to +45 °C) in a dry office environment, otherwise it can become damaged.
- Charge the battery before storing the BearingChecker for a longer period of time (>6 months). The reason for this is that the cells can not withstand being fully discharged.
- The instrument must be sent to a certified SPM Instrument service and calibration partner for replacement of a discharged battery.
- When measuring, ensure that no cables etc. can be caught in rotating parts which can cause injury.
- For safety reasons, the measurement device must only be operated and maintained by properly trained personnel.
- Service and repairs of the measurement device may only be performed by SPM Instrument authorized service technicians.
- Never use alcohol or ammonia-based cleaning fluid to clean the instrument screen.

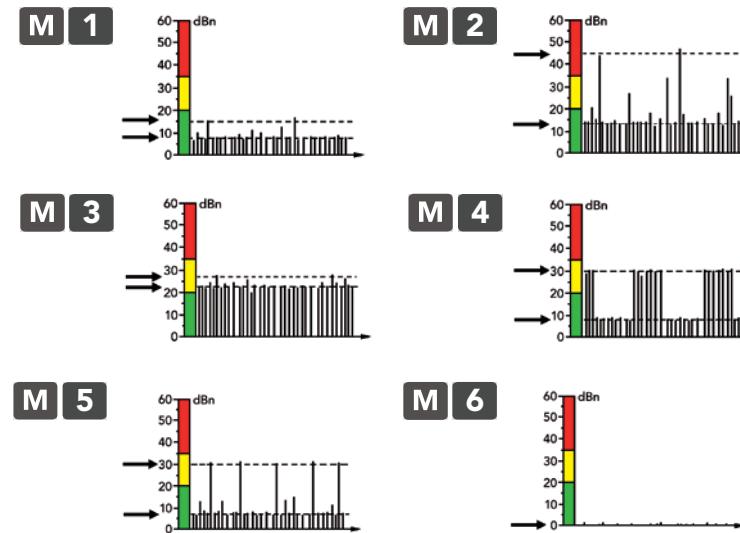


Technical specifications

Dimensions, BC200:	207x74x41 mm, 335 g (8.1x2.9x1.6 in, 11.8 ounces)
Dimensions, BC250:	184x74x41 mm, 300 g (7.2x2.9x1.6 in, 10.6 ounces)
Protection class:	IP65
Power supply:	3.63 V Lithium Ion, Mini-B USB rechargeable
Battery life:	> 25 hours of normal use
Charger, 90647:	100-240 V, 50-60 Hz, 6 W
Charging temperature:	0° to +45 °C (32° to 113 °F)
Operating temperature:	-10° to +50 °C (14° to 122 °F)
Input connector:	mini coax, for external shock pulse sensors
Measurement technique:	dBm/dBc, measuring range -9 to 90 dBsv, ± 3 dBsv
Sensor type:	built-in probe sensor or external sensor type 40000 or 42000, TRA73 or TRA74



Measurement evaluation



The headphones are used to verify and trace shock pulse sources. The signal from a bearing should be highest on the bearing housing. If you get a higher signal outside of the bearing housing (across an interface in the material), you are most likely measuring shock pulses from another bearing or some other source. Typical for bearing signals is that the stronger shock pulses, best heard a few dB below the peak level, appear at random intervals.

1. For a good bearing, the dBm is within the green zone. dBm and dBc are close together.
2. The shock pulse pattern from a damaged bearing contains strong pulses in the red zone, a random sequence, and a large difference between dBm and dBc. When you lubricate the bearing, the values should drop but rise again.
3. A dry running bearing has a high carpet value very close to the dBm. When you lubricate the bearing, the values should drop and stay low. A similar pattern is caused by pump cavitation, in which case readings on the pump housing are stronger than those taken on the bearing housing, and are not influenced by lubricating the bearing.
4. A regular pattern, containing bursts of strong pulses in a rhythmic sequence, is caused by e.g. scraping parts.
5. Individual pulses in a regular sequence are caused by clicking valves, loose parts, or regular load shocks.
6. A sudden drop in the shock pulse level is suspicious. Check your measuring equipment. If the reading is correct, you may have a slipping bearing ring.

Read the measurement evaluations directly in the instrument by doing a measurement to obtain a reading, then scroll down using the DOWN key. The explanation for the evaluation is then displayed on the screen.

make
MAINTENANCE
A PROFITABLE
PART OF YOUR
PRODUCTION

**BEARING
CHECKER**
bearing monitoring
made easy™



QuickStart





Instrument overview

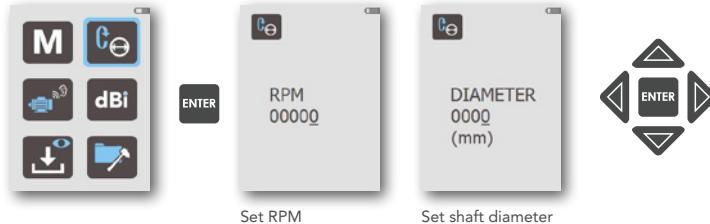
- A. Optional: built-in measuring probe
- B. Graphical display with LED backlight
- C. MEASURE key
- D. Navigation keys
- E. ENTER key
- F. BACK key and power on
- G. Mini-B USB output
- H. Sensor input for optional sensors and measuring cables



dBi dBi value



c⊖ RPM and diameter

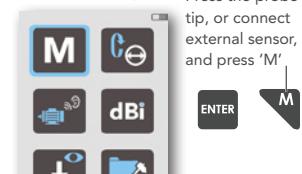


View stored readings



Measurement

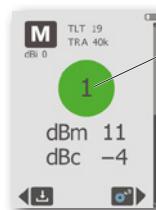
Main display



Press the probe tip, or connect external sensor, and press 'M'

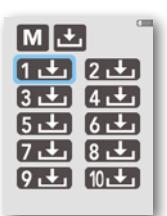
ENTER

Measurement

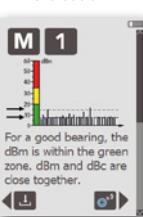


Condition status (green/yellow/red) and evaluation code (1-6)

Saving measurement



Measurement evaluation



For a good bearing, the dBm is within the green zone, dBM and dBC are close together.



Measuring:

1. Hold the BACK key to switch on the instrument.
2. Select the general settings you want and then enter the bearing's dBi value. If you do not know the dBi, enter RPM and diameter, and BearingChecker will calculate the dBi value.
3. Select measuring points in accordance with the rules stated in the user guide to get reliable condition evaluations.
4. **When measuring with built-in probe:**

Point the BearingChecker straight at the bearing and hold it steady during measurement. Press the probe tip until the rubber sleeve is in contact with the surface, and then press the MEASURE key.

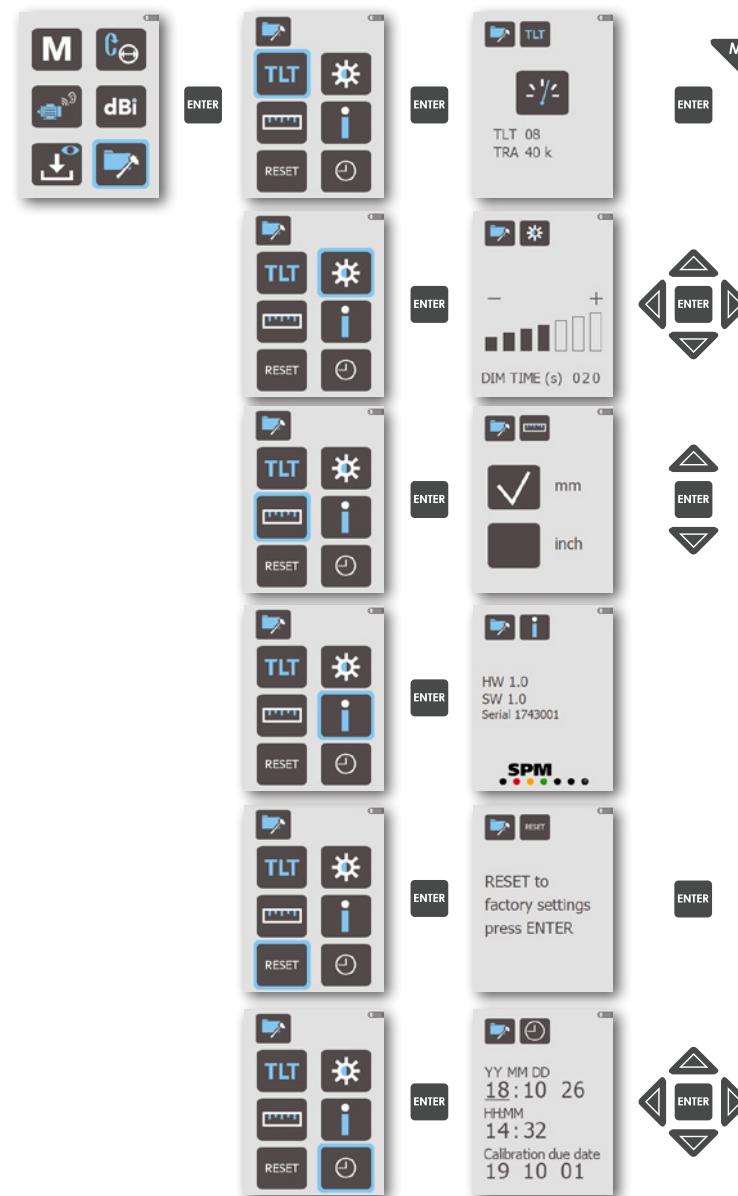
When measuring with external sensor:

Connect the external sensor to the input at the top of the BearingChecker. Place the external sensor in accordance with the user guide and then press the MEASURE key.

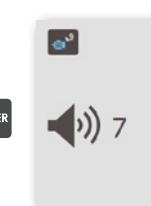
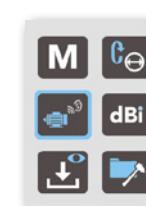
The green, yellow or red symbol and the evaluation code (1-6) indicate the bearing condition. For further explanation of the measurement value, scroll down using the DOWN key.



General settings



Stethoscope function



Option 18103: Cable adapter
Option EAR12: Headphones