

# Smart Condition

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# Bearing Defender

BEARING HEALTH STATUS IN SECONDS



**acoem**  
CREATING ENVIRONMENTS OF POSSIBILITY





How do you shorten the path between monitoring and informed action?

For more than 50 years we have been designing and manufacturing class-leading multi-parameter environmental monitoring and industrial reliability solutions. We offer our global customers a complete range of integrated measurement technologies and services, ensuring that your data is always accurate and your equipment operates with maximum efficiency.

We believe in helping you find the right balance between progress and preservation. Empowering industries, government authorities, scientists and communities to make knowledgeable decisions based on reliable data, our holistic solutions lead to operational excellence and better outcomes.

**At Acoem, we create environments of possibility.**



# Bearing Defender

## Maximize Bearing Life & Optimize Machine Performance

Packing in ACOEM's 50+ years of experience in the monitoring of rotating machinery, the patented wireless Bearing Defender solution gives instantaneous advice on a bearing health.

Easy to use and incredibly fast, a first level of bearing health assessment can be achieved by all level of personnel. It such provides an easy leverage of improvement of your reliability program, especially when your reliability experts are fully focused on the most critical assets.

With its unique metrological performances, the Bearing Defender makes sure that your machine can keep spinning without risk.

A first level warning indicates automatically an abnormal behavior resulting from bearing defects, unbalance or misalignment, or other faults. Combining data from three directions, even faults occurring in a single axis can be detected with one measurement.

**The Bearing Defender is suitable for early detection of rolling bearing damage on:**

Electric motors

Pumps

Fans

Gearboxes

Compressors

And more..



X	Y	Z	ISO mm/s
2.41	1.74	2.23	
0.47	0.54	0.45	g
23.69	28.57	8.04	μm
8.98	9.07	8.91	DEF
0.16	0.19	0.13	ACC HF g

# The Perfect Bearing Maintenance Service Partner

## Easy To Use

The Bearing Defender has been designed to put bearing health assessment at the grasp of every mechanics. By simple selection of the machine speed range, power range and type of mounting, the Bearing Defender tells the user if he most likely in presence of a bearing defect, unbalance or misalignment problem, or something else. Thanks to its visual icon based interfaces and color codes, any worldwide user can handle the Bearing Defender without prior training.

## Results In 10 Seconds

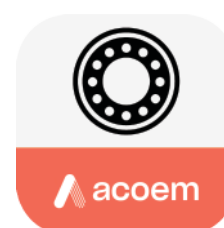
The Bearing Defender only takes 10s to capture, process and display the data resulting from the measurement in the three directions. A full vibration reading of the bearing is displayed in addition to the smart indicators:

- Vibration velocity with alarms according to the ISO standard
- Full range Acceleration
- Displacement
- Bearing Defect Factor™ value
- High Frequency acceleration value.



## Your Mechanics 4.0

The Bearing Defender is compatible with smartphones and tablets on iOS or Android. Using a standard and user friendly display device, it is now possible to integrate vibration measurements in your maintenance 4.0 program and take the best out of your people in the field.



## Innovative Wireless Measurement

- Patented Wireless vibration measurement (US 9,921,136)
- Good for bearing fault detection with up to 15kHz band-width at +/-3dB
- Good for most industrial machine with +/-80g dynamics
- Allows for the wireless measurement of inaccessible machines (enclosed room, behind doors...)
- Rechargeable battery good for 8h of measurement activity.

# Smart 3D Indicators

Bearing Defender gives you Instant Health Status of your equipment on 3 Levels:

	GOOD	CAUTION	DANGER
BEARING FAULT DETECTION			
UNBALANCE OR MISALIGNMENT			
MISCELLANEOUS DEFECT			



## Audio Listening

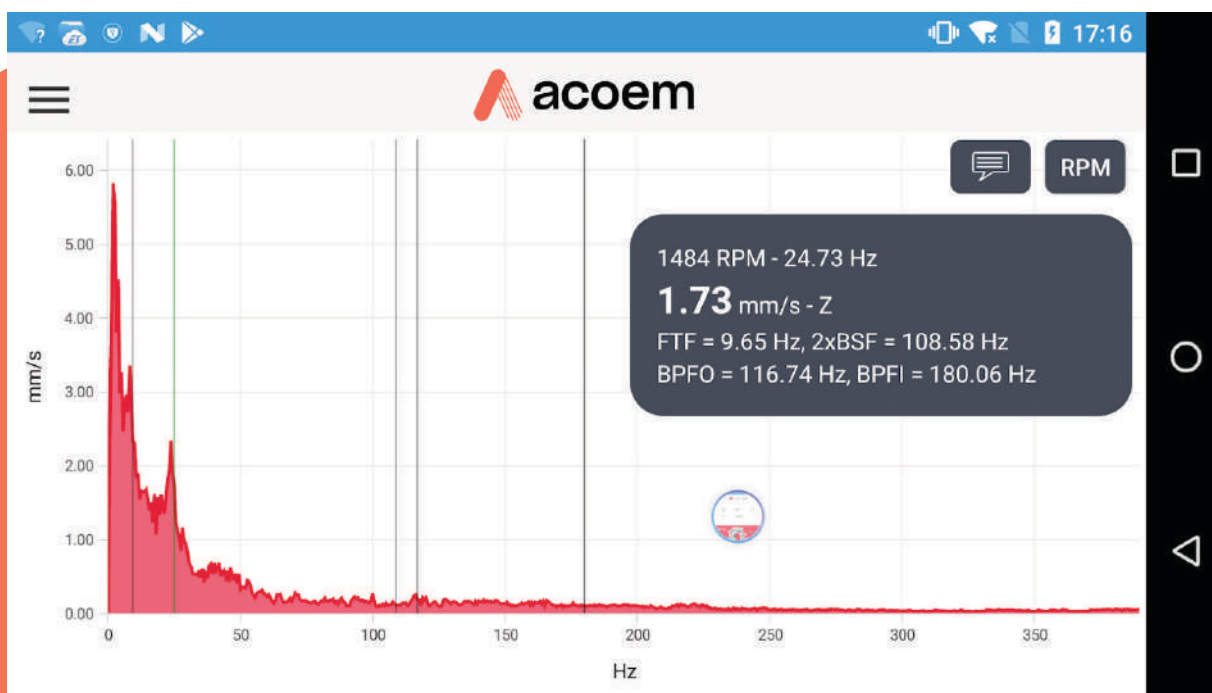
- Live high resolution data streaming through Wi-Fi protocol
- Signal listening feature available e.g. while greasing your bearing
- No specific hardware needed, any standard headset compatible with your mobile device on iOS or Android can be used.

## ZYXTRUM™ Display

In addition to the vibration reading and smart indicators, the ONEPROD ZYXtrum™ combines the vibration from three directions into a single FFT display. This display accentuates the fault frequencies that can be observed in the signals.

It can then be easy to confirm the presence of a bearing fault with the automatic positioning of frequency markers, but also ease the communication with your experts when they are required.

- Live high resolution data streaming through Wi-Fi protocol
- Signal listening feature available e.g. while greasing you bearing
- No specific hardware needed, any standard headset compatible with your mobile device on iOS or Android can be used.





## 50+ Years Of Experience Built-In

Wireless and compatible with mobile devices, the Bearing Defender also embeds the powerful Acoem Bearing Defect Factor™ algorithm. Developed in the 70's on more than 2000 rolling elements, this technology has brought proven results for the monitoring of bearing faults on common machines in various types of industries worldwide.



## Wireless Triaxial Measurements

Some of the most common faults of rotating machinery, like unbalance or structural resonance can occur in a single direction. To avoid to let a faulty machine unnoticed the Bearing Defender takes tri-axial vibration readings in a single shot, not only to make the measurement process easier but also to keep your machine in good operating condition.

Thanks to its patented wireless measurements and metrological performances, the Bearing Defender makes sure that your machines can keep spinning without risk.

# Main Screen Ergonomics

New access to other features

Sensor communication

Smart 3D indicators (Green, Yellow, Red)

Play live (overalls)

Record & process smart indicators

Takes picture of the machine

ISO 10816 of the machine

Vibration readings

Access to ZYXTRUM™

X	Y	Z	ISO mm/s
1.99	2.14	1.25	g
0.43	0.45	0.30	µm
74.88	60.19	75.88	µm
6.88	718	7.84	ACC HF g
0.31	0.33	0.20	

- Reliable
- Flexible
- Easy To Use
- Smart

## What's Included

The freely downloadable Bearing Defender app works with the VT-300 wireless accelerometer in Essential version.

The VT-300 Essential package includes:

- VT-300 tri-axial wireless sensor with Essential License
- 1 USB power supply module with international plugs and USB cable
- 1 High power bipolar magnet (suited for curved shafts) with orientation key for tri-axial positioning
- 1 Carry-on bag
- 1 Contact point to make single axis measurements on small surface
- 1 Printed safety instructions manual
- 1 Printed calibration certificate.





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## About Acoem

Creating environments of possibility

At Acoem, we create environments of possibility - helping organisations find the right balance between progress and preservation - safeguarding businesses and assets, and maximising opportunities while conserving the planet's resources. We deliver unrivalled, interoperable AI-powered sensors and ecosystems that empower our customers to make enlightened decisions based on accurate information.

Together with 150 distributors, our 800+ employees work across 27 offices, 5 manufacturing facilities and 3 R&D centres in 11 countries to provide trusted, holistic data solutions for customers worldwide.

**Acoem links possibilities with protection.**

For more information, please visit [acoem.com](https://acoem.com)

