

# VT-300

Technical Datasheet

## Innovative Wireless Measurement

With its unique metrological performances and patented design, the VT-300 will help you make sure your machines can keep spinning without risk. Its wireless capabilities are going to change your relation to the vibration of your machines:




- Comfort during data collection
- Safety with cable free measurement, making it possible to step back of several meters from the machine
- High Measurement reliability without risk of cable damage
- Fast data collection (typical 8s per bearing)
- New capabilities on machines in enclosed room or behind protective casing



All of this, without compromise on the diagnostic capabilities offered via Acoem solutions. The VT-300 is compatible with all Acoem portable predictive maintenance tools:

- Bearing Defender App
- Machine Defender App
- FALCON Analyzer

## Main Features Compatibility

|                                                     | <br>Bearing Defender | <br>Machine Defender | <br>FALCON |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| RMS Vibration readings (ISO10816-3, Acceleration)   | ✓                                                                                                       | ✓                                                                                                        | ✓                                                                                               |
| Acoem Bearing Defect Factor™                        | ✓                                                                                                       | ✓                                                                                                        | ✓                                                                                               |
| Acoem Accurex™ Automatic Diagnostic                 |                                                                                                         | ✓                                                                                                        | ✓                                                                                               |
| Custom measurements for advanced Vibration Analysis |                                                                                                         |                                                                                                          | ✓                                                                                               |

*\*Smart license required*

## Sensor Specifications

|                                                       |                                                                                           |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Hardware Type Reference                               | CAC1008000                                                                                |
| <b>Metrology</b>                                      |                                                                                           |
| Three axial measurements                              | Synchronous acquisition in X, Y and Z directions                                          |
| Sampling frequency                                    | 51.2 kHz on all axes ( Fmax 20 kHz ) Sensing element - Piezoelectric / Annular shear mode |
| Sensing element internal sensitivity, 24 °C           | 100 mV/g (numerically converted)                                                          |
| Sensitivity adjustment                                | Factory-calibrated and adjusted                                                           |
| Full scale                                            | 80 g                                                                                      |
| Signal-to-Noise ratio                                 | > 80 dB Amplitude non-linearity - 1% max                                                  |
| Frequency response after triaxial mechanical assembly | ± 3 dB (Z) - 0.4 Hz – 15 kHz                                                              |
| Full bandwidth                                        | 20 kHz on all axes Accuracy- +/- 5% @ 120 Hz, 1 g                                         |
| Transverse response sensitivity (120 Hz, 1 g)         | < 5% ( < -26 dB )                                                                         |
| Electrical noise, nominal                             |                                                                                           |
| • Broadband 0 Hz–5 kHz                                | • < 5 mg                                                                                  |
| • > 1 Hz                                              | • < 20 µg/vHz                                                                             |
| • Peak velocity (after 1 integration)                 | • < 0.13 mm/s                                                                             |
| <b>Physical</b>                                       |                                                                                           |
| Dimensions                                            | Ø42 x H116 mm Weight - 373 g                                                              |
| Mounting                                              | M6 threaded hole Housing material - Stainless steel                                       |
| <b>Environmental</b>                                  |                                                                                           |
| Operating temperature range                           | -20°C to 60°C Resistance to shocks - 5,000 g peak                                         |
| Resistance to continuous Vibration                    | 500 g peak Protection - IP65                                                              |
| <b>Battery</b>                                        |                                                                                           |
| Type                                                  | Li-Ion                                                                                    |
| Operating lifetime                                    | 8 hours                                                                                   |
| Rechargeable                                          | By USB ( power supply adapter in standard delivery )                                      |
| Charging time                                         | ~8 hours with the standard 500 mA charge current                                          |
| Automatic stand-by                                    | After 10 min if no connection has been established                                        |
| <b>Communication</b>                                  |                                                                                           |
| Wireless protocol                                     | Wi-Fi Point to point                                                                      |
| Typical wireless range                                | Up to 25 meters line of sight depending on the environment                                |
| Wi-Fi communication channel                           | User setting: 1, 6, 11 Sync protocol - Proprietary                                        |
| Standard mobile systems compatibility                 | iOS ( 12.1 or sup. ) , Android ( 6 or sup. )                                              |
| <b>Patented Technology</b>                            |                                                                                           |
| Patent Number                                         | US 9,921,136                                                                              |
| <b>Certifications</b>                                 |                                                                                           |
| Radio certifications                                  | EC, FCC, IC, MIC ( Japan )                                                                |

## Packaging & Deliverables

Each VT-300 is delivered with the following package:

- 1 VT-300 Tri-axial wireless sensor
- 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 surfaces
- 1 Printed safety instructions manual
- 1 Printed calibration certificate



*Freely Download the Bearing Defender and Machine Defender apps!*



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