

CMS

ROBUST MACHINE ANALYTICS ON THE EDGE



The Modbus connected CMS sensor provides cost effective condition monitoring with embedded machine learning capabilities. The sensor can be installed in submersed environments down to 30ft (10m) while providing real-time responses every second.

Algorithms are based on a combination of Vibration Signature Analysis and Motor Current Signature Analysis (MCSA), generating strong and robust sensor parameters. Algorithm design is based on ISO 18436 CAT I-IV knowledge.

Submersible

30ft

Edge computing

100%



Realtime standalone sensor or cloud connected



IP68 for dry- or submersed equipment



Vibration and magnetic field measured in 3D



Small footprint: $\varnothing 2.1"$ / $\varnothing 56\text{mm}$

SPECIFICATIONS

Communication

- Modbus RS-485 RTU
- Optional communication with AMI IoT gateway
- Communication speed: 2.4 to 115.2 kbaud
- Transfer rate: 1 sec

Mounting & Dimensions

- Non-invasive, with use of adhesive (Loctite 3463)
- Diameter: 2.1" / 55mm - thickness: 1/2" / 14mm
- Weight: 170g
- Casing material: Stainless steel
- Cable length: 40ft / 12m

Output parameters

RPM vibration, RPM magnetic, RPM slip, Rotation direction, Operation time, No. start/ stops, Magnetic field level, Vibration Level RMS, Total runtime, Unbalance, Cavitation, Skin temperature, Bearing fault, Spur gear, False Brinelling ratio, Machine health.

Environment specifications

- Temperature, skin: -40 to+90 [°C] / -40 to+194[°F]
- Temperature, storage: -40 to+90 [°C] / -40 to+194[°F]
- Sealing: IP68
- Compliance: CE, IEC, FCC

Sensor signals

- Sensor types: Vibration, magnetic field, temperature (NTC)
- Vibration range: 0-200mm/s RMS
- Magnetic field range: 0-2000uT
- Temperature range: -40 to+90 [°C] / -40 to+194[°F]
- Dynamic freq. range: 0-16kHz
- Measurement type: 3D (x, y, z dimension, vibration and magnetic field)

Electrical specifications

- Voltage: 12-24VDC
- Power consumption: 60mA
- Transceiver unit load: 1/8 unit load
- Microcontroller: 32-bit ARM Cortex-M7 core