

ForgePulse

Wireless Condition Monitoring Sensor

PRODUCT DATASHEET | FP-1 | August 2026 | Rev 1.0

ForgePulse is a battery-powered condition-monitoring sensor designed to collect three-axis vibration, local temperature and magnetic-field data from electric motors, pumps, fans, gearboxes and similar rotating equipment. Measurements are stored on a removable microSD card; device status can be monitored through an OLED display, RGB indicator and audible alerts.



Illustrative product view. Configuration and component placement may vary.

KEY FEATURES

- Simultaneous industrial vibration measurement on three axes
- Selectable acceleration ranges: ± 2 g, ± 4 g, ± 8 g and ± 16 g
- Digital temperature and three-axis magnetic-field measurement
- Timestamped measurement data recorded on a removable microSD card
- OLED display, addressable RGB LED and audible alerts
- 1-2 years of battery life
- Direct threaded mounting or magnetic-base option
- Programmable measurement, recording and low-power duty cycle

APPLICATION AREAS

- Electric motors and bearing housings
 - Pump, fan, gearbox and compressor systems
 - HVAC and production-line equipment
 - Rotating-machine vibration monitoring
 - Predictive maintenance and periodic data collection.
 - Proximity, position or rotation detection using a magnetic target.
- Images are illustrative. Final enclosure and mechanical details may change during development.

MEASUREMENT SPECIFICATIONS

Vibration Measurement Specifications	
Measured quantity	Acceleration / mechanical vibration
Measurement axes	X, Y and Z, measured simultaneously
Measurement range	± 2 g, ± 4 g, ± 8 g or ± 16 g, representing the maximum measurable acceleration amplitude
Recorded output	Timestamped raw X/Y/Z acceleration data

DATA STORAGE AND USER INTERFACE

Data storage	Value	User interface	Value
Storage medium	Removable microSD card	Display	OLED display
Recorded data	Timestamped raw X/Y/Z acceleration, machine-surface temperature and three-axis magnetic-field data	Visual status indicator	RGB LED
Card mechanism	Push-pull	Audible notification	Integrated buzzer
Mechanical endurance	5,000 insertion / removal cycles	Display information	Measurement status, recording status, battery level, warnings and error information
System records	Battery status, measurement information, warnings and fault conditions	Device states	Normal, measurement, recording, service, warning, alarm, low battery and fault

POWER SYSTEM AND MECHANICAL INTERFACE

POWER SYSTEM	VALUE	MECHANICAL INTERFACE	VALUE
System power source	2 x EVE ER34615 Li-SOCl ₂ primary D cells	Mounting type	Direct M2 mounting or magnetic base
Charging function	None; batteries are non-rechargeable	Sensor orientation	To be defined using the X, Y and Z axis markings
USB charging	Not supported	Recommended location	A flat, rigid surface close to the bearing housing
Battery status	Battery-voltage monitoring and low-battery warning	Enclosure, dimensions and weight	PBT GF30; 90 x 85 x 60 mm; 500 g total
Battery life	1-2 years	Ingress protection	IP65

NOTES

The component-level values in this document define the selected electronic architecture. Product-level parameters include battery life, active and sleep consumption, USB function, microSD performance, operating temperature, IP rating, measurement accuracy, acoustic level and environmental durability. There is no battery-charging function inside the device.

Product Views



ForgePulse internal electronics and battery assembly