

PRODUCT CATALOGUE | X HOUR SERIES

DIGITAL VIBRATION HOUR METER

Self-powered runtime monitoring for engines and machinery



MODEL XHOUR BASE

NO WIRING
SELF-POWERED

≈ 64 mg
SENSE THRESHOLD

5 SEC
VALIDATION WINDOW

-20 to +90°C
OPERATING RANGE

Track every hour. Maintain every machine.

CIRCUIT DESIGN • MANUFACTURING • CUSTOM SOLUTIONS

PRODUCT OVERVIEW

Runtime data without installation complexity

X HOUR records actual machine operating time by sensing vibration directly at the equipment - with no complex wiring or external power source.

THE PRACTICAL ADVANTAGE Install on a vibration-active surface, start the machine, and use recorded hours to plan service, track performance, or support usage-based billing.

An intelligent sensing routine activates when machine vibration is confirmed and stops recording when the machine becomes idle. This helps ensure that logged time reflects true operation rather than calendar time.

The compact ABS enclosure is designed for dust, moisture, heat, and mechanical stress. A high-contrast, low-power LCD keeps accumulated runtime easy to read in demanding operating environments.



Example installation on a vibration-active equipment panel.

Operational outcomes

- Reduce the risk of unexpected breakdowns through usage-based service planning.
- Extend equipment life by monitoring real working hours.
- Improve maintenance intervals, cost control, and fleet visibility.
- Support accurate billing for rental and shared-use equipment.

CORE CAPABILITIES

Purpose-built for reliable hour tracking

A focused feature set gives operators the information they need without unnecessary wiring, calibration, or ongoing maintenance.



FEATURE	WHAT IT DELIVERS
Vibration-based sensing	Automatically detects engine or machine operation through vibration; no wiring required.
Sealed long-life battery	Built-in power supports multi-year operation without an external supply.
Accurate hour recording	Tracks actual working hours for maintenance planning and performance monitoring.
Compact ABS enclosure	Rugged construction for harsh industrial and outdoor environments.
Flexible mounting	Installs directly with double-sided adhesive tape or screws.
High-contrast LCD	Clear, low-power display with HHHHH.MM runtime format.
Dust & moisture resistance	Designed for reliable use around equipment exposed to demanding conditions.
Maintenance-free operation	Factory calibrated; no routine calibration or external power required.

DESIGNED FOR RETROFIT A compact, self-contained format makes X HOUR suitable for both new equipment and existing fleets where rewiring is impractical.

MEASUREMENT LOGIC

How the meter starts, validates, and stops

The firmware uses short confirmation windows to distinguish real machine operation from isolated vibration events.

≈ 64 mg FIRST PULSE THRESHOLD	5 SEC CHECKING WINDOW	2 PULSES START CONFIRMATION	≈ 10 SEC NORMAL STOP DELAY
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PHASE	TRIGGER	DEVICE BEHAVIOR
1. Detect	First pulse above approximately 64 mg	Opens a 5-second checking window; activity symbol appears.
2. Confirm	At least one more pulse within the window	Firmware credits the first 5 seconds.
3. Continue	Ongoing confirmed vibration	Runtime continues to accumulate in confirmed windows.
4. Wait	First 5-second window without vibration	The meter waits; counting does not stop yet.
5. Stop	Second consecutive empty 5-second window	Measurement stops; the two empty windows are not added.
6. Resume	Vibration returns during the second window	The meter adds 10 seconds and continues counting.

NORMAL STOP BEHAVIOR Measurement typically stops about 10 seconds after the final vibration pulse, while the two empty checking windows remain excluded from accumulated time.



APPLICATION SECTORS

One meter. Many machines.

X HOUR is designed for equipment where dependable runtime data improves maintenance, billing, and operational decisions.



Compact installation near a visible, vibration-active equipment area.

SECTOR	TYPICAL EQUIPMENT	BUSINESS VALUE
Agriculture	Tractors, water pumps, harvesters, sprayers	Schedule oil changes and service from actual working hours.
Construction	Excavators, concrete mixers, loaders, generators	Support preventive maintenance and usage-based billing.
Industrial	Compressors, motors, conveyors, hydraulic machines	Optimize maintenance cycles and improve equipment availability.
Rental	Portable generators, pumps, light towers, small tools	Bill customers from measured usage instead of estimates.
Fleet	Trucks, diesel engines, auxiliary systems	Refine service intervals and reduce maintenance cost.

INSTALLATION & OWNERSHIP

A simpler alternative to traditional hour meters

The vibration-based approach reduces installation effort while retaining the runtime information needed for effective equipment management.

TRADITIONAL METER	X HOUR VIBRATION METER
Requires wiring	No wiring required
Depends on ignition signal	Works from machine vibration
Complex installation	Simple adhesive or screw mounting
Higher failure exposure	Self-contained, highly reliable design
External power required	Built-in battery

Installation guide

1. Clean the mounting surface.
2. Place the meter on a vibration-active area of the machine.
3. Secure it with double-sided adhesive tape or screws, as required.
4. Start the machine; the meter begins counting automatically after vibration is confirmed.

Maintenance & operation

- No regular maintenance is required.
- Maintain secure contact with the mounting surface for accurate vibration detection.
- Avoid mounting on surfaces that do not transmit machine vibration.
- The device is factory calibrated.

Safety & reliability

- Shock-resistant design with industrial-grade components.
- Sealed body for protection against dust and moisture.
- Stable performance in demanding operating environments.

PRODUCT DATA

Technical specifications

Core product information for selection, installation, and operating review.

PARAMETER	SPECIFICATION
Model	XHOUR Base
Dimensions (L × B × H)	80 × 38 × 22 mm
Power source	Built-in battery
Battery life	1-3 years
Detection method	Vibration sensor
Display format	HHHHH.MM
Operating temperature	-20°C to +90°C
Material	ABS plastic



Engineering behind X HOUR

SAVALIYA TECHNOLOGY Based in Surat, Gujarat, we provide circuit design and manufacturing, custom microcontroller solutions, and product-development support—delivering tested electronics for specific customer needs.



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