Doc. No. **392621001** · Rev. 01 · 10/2026

PÖLWAX®

Technical Datasheet

Wireless Industrial Vibration Sensor

VibeSENSE LW100

Part code **3921 0201** (LW100-EU868-S)

Battery-powered 3-axis vibration and temperature sensor with LoRaWAN® radio – condition monitoring of motors, pumps, fans and gearboxes without cables.





LoRaWAN® EU868 · US915 · AS923 · AU915

LoRaWAN® | 3-axis X · Y · Z | 0.1 – 199.9 mm/s | < 16 g · < 400 Hz

-40 … +125 °C | 8,500 mAh | IP67 | Stud / magnetic

VIBESENSE LW100 OVERVIEW

Wireless vibration and temperature sensor for predictive maintenance

CONTENTS

03	Product overview
04	Technical data
05	Measured parameters
06	Vibration severity
07	Working principle
08	Fault detection
09	LoRaWAN® communication
10	Network architecture
11	Battery & power
12	Construction
13	Mounting & installation
14	Commissioning
15	Product architecture
16	System architecture
17	Live schematic – pump station
18	Live schematic – plant-wide monitoring
19	Working architecture – remote sites
20	Applications overview
21	Motors, pumps & fans
22	Oil, gas, chemicals & power
23	Mining & cement
24	Application selection
25	Ordering information
26	Important notice

The Polwax **VibeSENSE LW100** is a wireless, battery-powered industrial vibration sensor for continuous condition monitoring of rotating machines.

It measures vibration on three axes (X, Y, Z) – peak acceleration, effective (RMS) velocity and peak-to-peak displacement – together with the surface temperature of the machine, and transmits the values over LoRaWAN® to a gateway kilometres away. No signal or power cables are needed: the replaceable 8,500 mAh battery powers the sensor for years, and the IP67 housing with stud or magnetic mounting installs in minutes. Bearing wear, unbalance, misalignment, looseness and overheating become visible long before a breakdown.

3-axis X · Y · Z vibration	**0.1 – 199.9 mm/s** velocity range (RMS)
-40 … +125 °C temperature range	**8,500 mAh** replaceable battery

+ Features

- Wireless LoRaWAN® – long range, no cabling
- Three-axis vibration: acceleration, velocity, displacement
- Integrated temperature measurement ±1 °C
- Large replaceable battery, internal on / off slide switch
- Rugged IP67 housing for harsh plants
- Stud or magnetic mounting – installed in minutes
- Regional bands EU868, US915, AS923, AU915

+ From vibration to maintenance decision



VibeSENSE LW100
on the bearing housing

→ **LoRaWAN®**
gateway · network server

→ **Polwax software**
trends · limits · alarms

→ **Maintenance**
planned repair · work order

PRODUCT OVERVIEW

VibeSENSE LW100 – wireless 3-axis vibration sensor





Stud mounting (S)



Magnetic mounting (M)

The **VibeSENSE LW100** combines a three-axis vibration sensor, a temperature sensor, signal processing and a LoRaWAN® radio in one compact, battery-powered unit. The aluminium base couples the machine vibration into the sensor; the dark-grey cap houses the electronics, antenna and battery.

+ Key data

Wireless protocol	**LoRaWAN®**
Frequency bands	**EU868 · US915 · AS923 · AU915**
Max. transmit power	**19 dBm**
Vibration axes	**X · Y · Z**
Velocity range	**0.1 – 199.9 mm/s**
Acceleration range	**< 16 g**
Displacement range	**0 – 30,000 µm**
Frequency range	**< 400 Hz**
Temperature	**-40 … +125 °C, ±1 °C**
Battery	**8,500 mAh, replaceable**
Protection	**IP67**

+ Why choose the LW100

- No cables – install on running machines in minutes
- Three axes and temperature in one sensor
- Kilometres of radio range with LoRaWAN®
- Years of operation on one replaceable battery

+ Detects

- Bearing wear and damage
- Unbalance and misalignment
- Mechanical looseness
- Overheating of bearings and housings

Typical applications: electric motors, pumps, fans and blowers, compressors, gearboxes, conveyors, crushers and mills – in power generation, manufacturing, oil, gas and chemicals, water, mining and cement.

TECHNICAL DATA

VibeSENSE LW100 specifications

Parameter	Value
General	
Product	Wireless industrial vibration and temperature sensor
Model	VibeSENSE LW100
Power on / off	Internal slide switch
Wireless	
Wireless protocol	LoRaWAN®
Supported frequency bands	EU868, US915, AS923, AU915 (regional version, see ordering code)
Maximum transmit power	19 dBm
Vibration	
Measurement axes	Three-axis (X, Y, Z)
Parameters	Peak acceleration, effective (RMS) velocity, peak-to-peak displacement
Frequency range	< 400 Hz
Acceleration range	< 16 g
Velocity range	0.1 – 199.9 mm/s
Displacement range	0 – 30,000 µm
Velocity and displacement accuracy	±10 % at 100 Hz
Temperature	
Measuring range	-40 … +125 °C (-40 … +257 °F)
Accuracy	±1 °C (±1.8 °F)
Resolution	0.1 °C (0.2 °F)
Power	
Battery	8,500 mAh, replaceable
Environment	
Operating temperature	-10 … +80 °C
Operating humidity	10 – 95 % RH, non-condensing
Ingress protection	IP67
Mechanical	
Mounting options	Stud mounting / magnetic mounting
Housing	Aluminium base, dark-grey cap

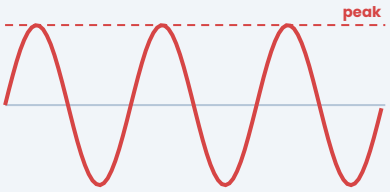
The temperature measuring range refers to the sensing point at the base; the electronics operate at -10 … +80 °C. Battery life depends on the reporting interval and radio conditions (page 11). Dimensions, weight and payload format – see instruction manual. Specifications subject to change.

MEASURED PARAMETERS

Acceleration, velocity, displacement and temperature

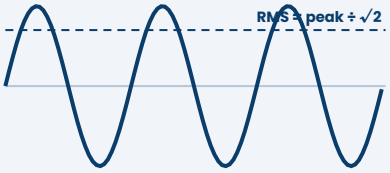
For every axis the LW100 reports three complementary values. Each one emphasises a different frequency range and therefore a different group of faults; together with the temperature they give a complete picture of the machine condition.

Acceleration
peak · g



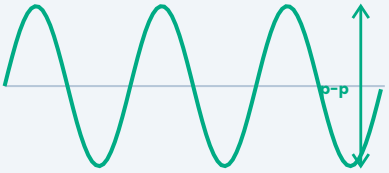
impacts, bearings, gears

Velocity
RMS · mm/s



overall severity (ISO 10816)

Displacement
peak-to-peak · µm



slow machines, looseness

+ Parameters at a glance

Value	Unit	Range	Most sensitive to	Typical use
Peak acceleration	g	< 16 g	high frequencies	bearing defects, impacts, gear damage
RMS velocity	mm/s	0.1 – 199.9	mid frequencies	overall machine condition, ISO severity zones
P-p displacement	µm	0 – 30,000	low frequencies	slow machines, foundations, looseness
Temperature	°C	-40 … +125	–	overheating, lubrication problems

+ Relationship for a sine wave

$v = a \div (2\pi f)$ · $d = v \div (2\pi f)$
RMS = peak ÷ √2 · p-p = 2 × peak · 1 g = 9.81 m/s²

At the same velocity, acceleration rises and displacement falls with frequency.

+ Example at 50 Hz

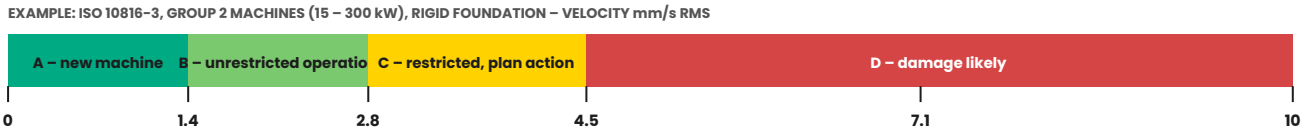
Velocity (RMS)	Acceleration (peak)	Displacement (p-p)
2.8 mm/s	0.13 g	25 µm
7.1 mm/s	0.32 g	64 µm
18 mm/s	0.82 g	162 µm

Calculated for a pure sine wave.

VIBRATION SEVERITY

Evaluation zones and alarm limits

Vibration velocity (mm/s RMS) is the standard measure of the overall vibration severity of rotating machines. The evaluation zones of ISO 10816-3 / ISO 20816 are a practical starting point for the warning and alarm limits of the LW100 in the Polwax software.



LW100 velocity range 0.1 – 199.9 mm/s covers all zones with ample reserve

+ Zone boundaries – vibration velocity [mm/s RMS]

Machine group / foundation	A / B	B / C	C / D
Group 2 (15 – 300 kW) – rigid	1.4	2.8	4.5
Group 2 (15 – 300 kW) – flexible	2.3	4.5	7.1
Group 1 (300 kW – 50 MW) – rigid	2.3	4.5	7.1
Group 1 (300 kW – 50 MW) – flexible	3.5	7.1	11.0

Guide values from ISO 10816-3 for industrial machines; see the current standard and the machine manufacturer's data for binding limits.

+ Which axis?

Axis	Best for
Radial horizontal	unbalance, looseness, soft foot
Radial vertical	looseness, foundation problems
Axial	misalignment, bent shaft, thrust

+ Typical alarm settings

Warning	**B / C boundary**
Alarm	**C / D boundary**
Temperature	**e.g. 80 °C warning, 95 °C alarm**
Baseline	**record at commissioning**

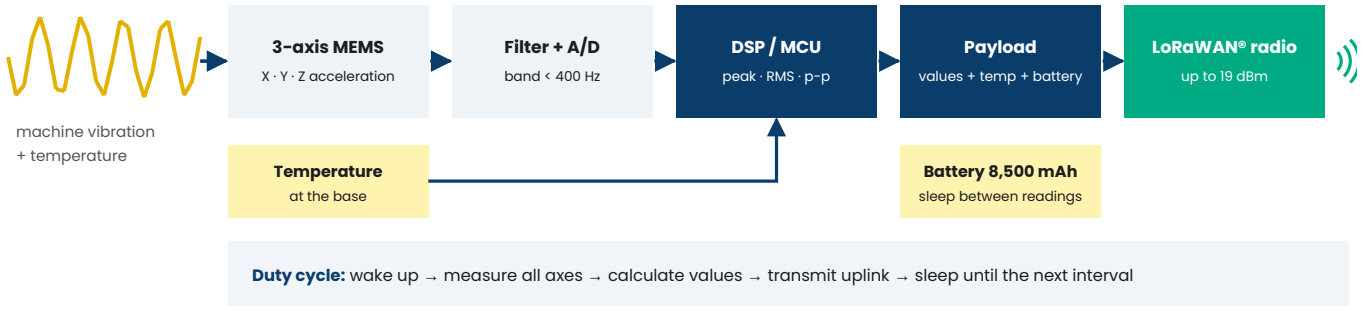
Because all three axes are measured at the same time, one LW100 per bearing replaces up to three single-axis sensors. Evaluate the axis with the highest value, and watch the trend of each axis separately.

WORKING PRINCIPLE

How the LW100 measures and transmits

The LW100 works in short measuring cycles. Between two cycles it sleeps with minimal current; at each interval it wakes up, records the vibration of all three axes, calculates the characteristic values and sends them in one compact LoRaWAN® uplink.

+ Signal chain



Duty cycle: wake up → measure all axes → calculate values → transmit uplink → sleep until the next interval

+ Processing

The MEMS accelerometer samples the three axes simultaneously. The digital signal processing filters the signal to the useful frequency range (< 400 Hz), forms the peak acceleration, integrates once to velocity (RMS) and twice to displacement (peak-to-peak). The temperature of the base is measured in the same cycle.

+ Why edge processing?

Only a few characteristic values per axis are sent instead of raw waveforms. This keeps each radio message short, which is what makes LoRaWAN® range of several kilometres and battery operation over years possible.

+ Measuring cycle

1 Wake up
Timer wakes the sensor at the configured reporting interval.

2 Measure
Three-axis vibration and temperature are recorded together.

3 Calculate
Peak acceleration, RMS velocity and p-p displacement per axis.

4 Transmit
Values, temperature and battery status in one uplink; then sleep.

FAULT DETECTION

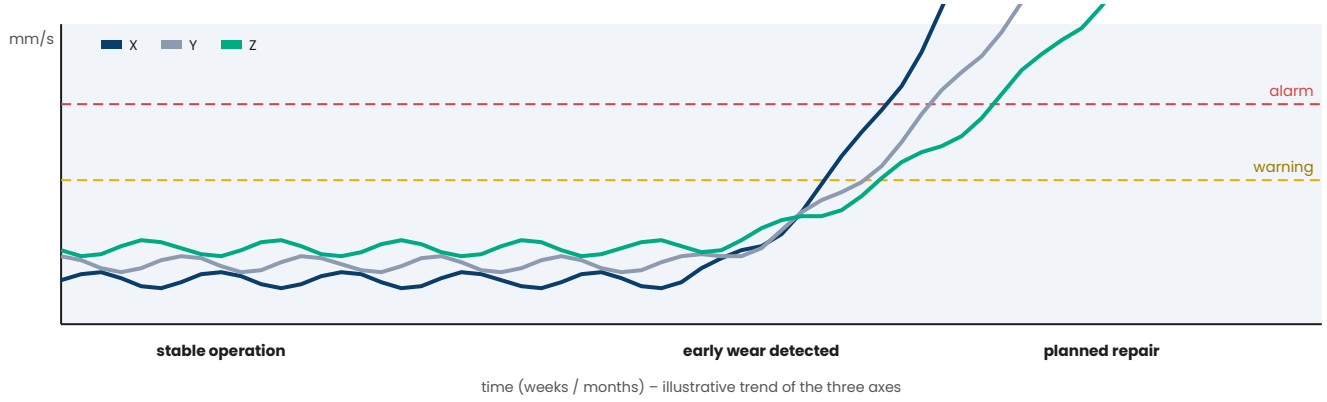
Predictive maintenance with vibration and temperature trends

Most machine faults show up as a change in vibration or temperature long before a breakdown. The LW100 reports these changes automatically at every interval – maintenance can be planned instead of reacting to failures.

+ Typical fault signatures

Fault	Typical pattern	Best seen in
Unbalance	high 1 × running speed, radial	velocity, radial axes
Misalignment	1 × and 2 × running speed, high axial	velocity, axial axis
Mechanical looseness	many harmonics, often vertical	velocity, displacement
Bearing wear	rising peaks and noise level	peak acceleration
Overheating	rising housing temperature	temperature
Soft foot / foundation	high displacement at low speed	displacement

+ From trend to planned maintenance



time (weeks / months) – illustrative trend of the three axes

Detect

Rising trends on one or more axes show developing faults weeks in advance.

Plan

Order parts and schedule the repair in a planned stop.

Avoid

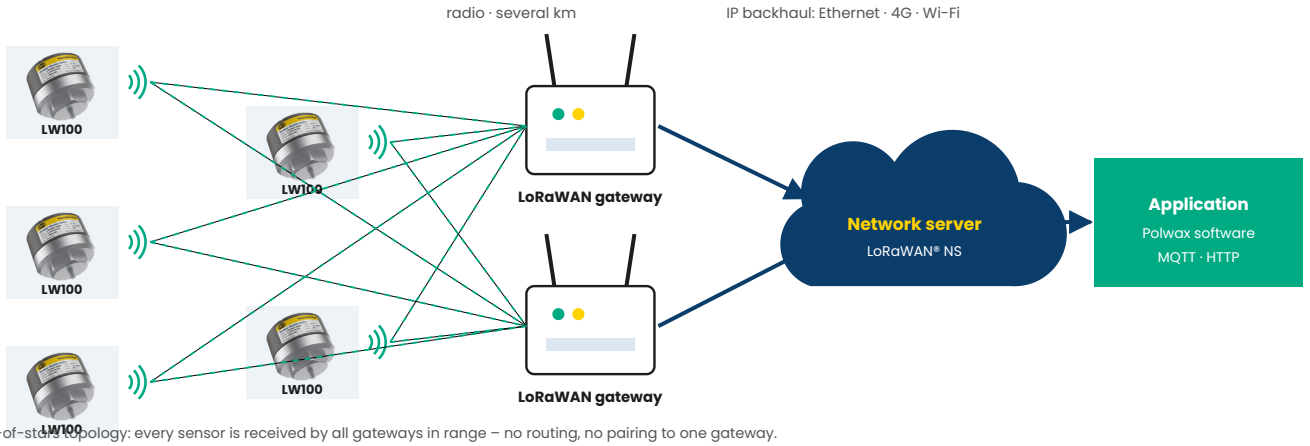
No unplanned downtime, no secondary damage.

LORAWAN® COMMUNICATION

Long range, low power wireless

LoRaWAN® is a low-power wide-area network (LPWAN) standard for battery-powered sensors. Its long radio range and low energy use make it ideal for monitoring many machines spread across large plants, pumping stations or remote sites.

+ Network topology



Star-of-stars topology: every sensor is received by all gateways in range – no routing, no pairing to one gateway.

+ Regional versions

Band	Frequency	Typical regions	Ordering code
EU868	863 – 870 MHz	Europe, India*, Middle East, Africa	LW100-EU868
US915	902 – 928 MHz	USA, Canada, Latin America	LW100-US915
AS923	915 – 928 MHz	parts of Asia-Pacific	LW100-AS923
AU915	915 – 928 MHz	Australia, New Zealand	LW100-AU915

* India uses the IN865 plan (865 – 867 MHz) – please contact Polwax for the regional version. Always use the band that is allowed in the country of installation.

+ Radio

Protocol	**LoRaWAN®**
Max. transmit power	**19 dBm**
Modulation	**LoRa® chirp spread spectrum**
Range	**several km, site dependent**

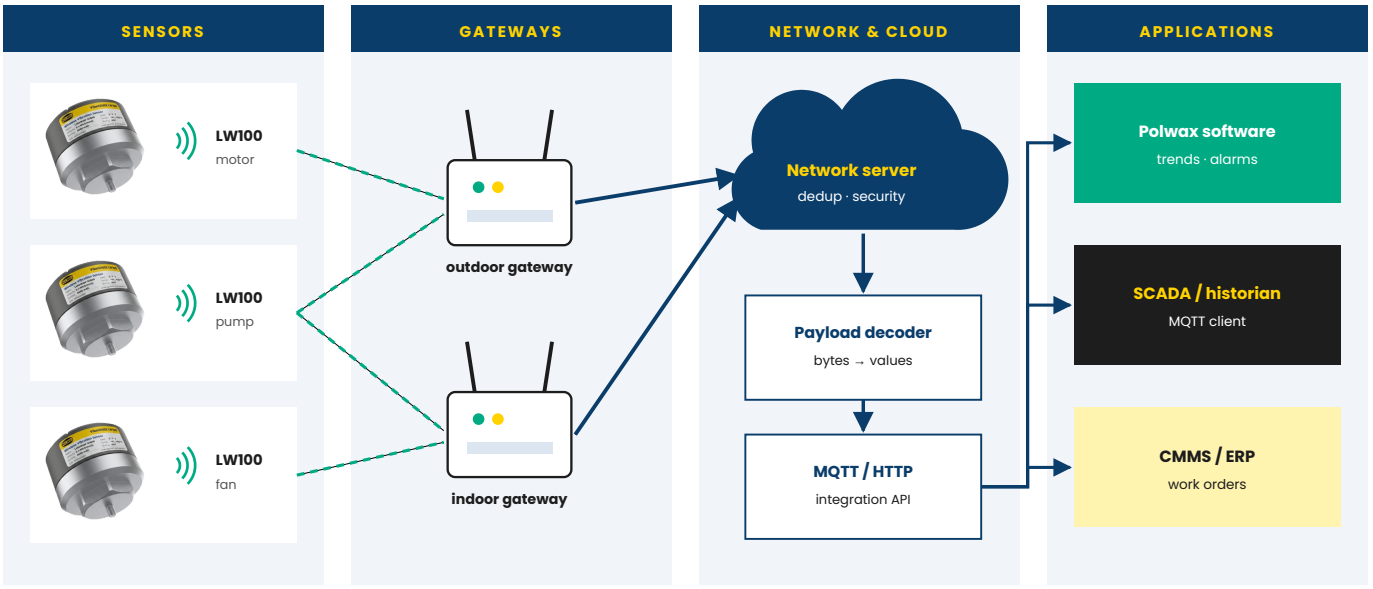
+ Range tips

- Mount gateways high, with free line of sight
- Metal enclosures and walls reduce range
- Use more than one gateway for redundancy

NETWORK ARCHITECTURE

From the sensor to the application

A complete LW100 installation consists of four levels: the sensors on the machines, one or more LoRaWAN® gateways, a network server in the cloud or on premises, and the applications that use the data.



+ Components

Level	Component	Function
Sensors	VibeSENSE LW100	measure vibration and temperature, send uplinks
Gateways	LoRaWAN® gateway (indoor / outdoor)	receive radio messages, forward over IP
Network	LoRaWAN® network server	device management, security, de-duplication
Integration	Payload decoder, MQTT / HTTP	convert bytes to values, deliver to applications
Applications	Polwax software, SCADA, CMMS	trends, limits, alarms, reports, work orders

The LW100 can be operated on a private LoRaWAN® network (own gateways and network server) or on a public / community network where available. Polwax supplies gateways, configuration and software as a complete solution – see page 25.

BATTERY & POWER

Years of operation without cables

The LW100 is powered by an internal, replaceable 8,500 mAh battery. Because the sensor sleeps between measuring cycles and sends only compact messages, it can operate for years without service.

+ Power data

Battery capacity	**8,500 mAh**
Battery	**replaceable**
Power on / off	**internal slide switch**
Status	**battery level in every uplink**

+ Power on / off

The sensor is delivered switched off. Open the housing as described in the instruction manual, set the internal slide switch to ON and close the housing again carefully to keep the IP67 sealing intact. Switch the sensor off for storage and transport.

+ What determines battery life

Factor	Effect on battery life	Recommendation
Reporting interval	shorter interval = more cycles and uplinks	choose the longest interval that still detects faults in time
Radio conditions	weak signal = higher data rate not possible, longer airtime	enough gateways, good antenna positions
Transmit power	higher power = more energy per uplink	adaptive data rate (ADR) on the network server
Temperature	low temperatures reduce usable capacity	consider for cold-climate sites
Downlinks / retries	confirmed messages need extra radio time	use unconfirmed uplinks for routine data

+ Interval guide

Machine criticality	Suggested interval	Use
Critical (single point of failure)	short, e.g. 10 – 30 min	fast detection, higher battery use
Important	e.g. 1 – 2 h	standard condition monitoring
Auxiliary	e.g. 4 – 12 h	long battery life, slow-developing faults

Battery life up to several years, depending on the factors above. Exact values for your configuration on request. Replace the battery only with the type specified by Polwax.

CONSTRUCTION

Compact IP67 design

The LW100 consists of a dark-grey cap with the electronics, antenna and battery, and a solid aluminium base that transmits the machine vibration and temperature to the sensing elements. The base ends in a hexagon with a mounting stud or a magnetic foot.



+ Parts

Pos.	Part
1	Cap – electronics, antenna, battery
2	Specification label – model, radio band, key data, S/N
3	Aluminium base – couples vibration, temperature
4	Hexagon – for tightening on the stud
5	Mounting stud – threaded, into the machine

+ Mechanical data

Housing	**aluminium base, plastic cap**
Protection	**IP67**
Mounting	**stud / magnetic**
Axes	**X · Y · Z, marked on the housing**
Dimensions, weight	**see instruction manual**

The plastic cap lets the radio signal pass. Do not cover the cap with metal guards or paint it with metallic paint – this reduces the radio range.

MOUNTING & INSTALLATION

Rules for reliable vibration signals

The mounting method and position determine the quality of the vibration signal. Use stud mounting for permanent monitoring wherever possible; the magnetic version is ideal for fast installation without drilling.

+ Mounting methods



Stud mounting (S)

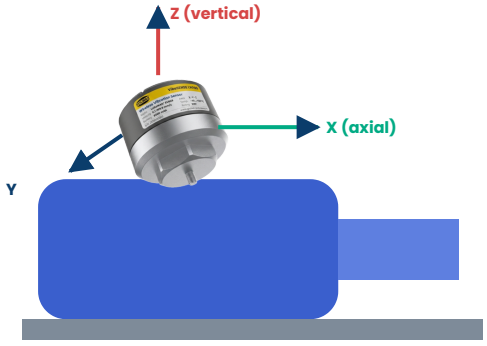
permanent · best signal transmission



Magnetic mounting (M)

fast · no drilling · ferromagnetic surface

+ Measuring axes



Example: sensor on top of the bearing housing

1 Close to the bearing
Mount on the bearing housing, as close as possible to the load zone.

2 Rigid path
Avoid thin covers, fan hoods and sheet metal – they resonate.

3 Flat, clean surface
Spot-face the surface for stud mounting; clean it for the magnet.

4 Axis orientation
Note the X / Y / Z directions for each sensor in the software.

5 Tightening
Tighten on the hexagon with the torque given in the manual.

6 Radio path
Keep the cap free; avoid mounting inside closed metal enclosures.

7 Baseline
Record the vibration level after commissioning as reference.

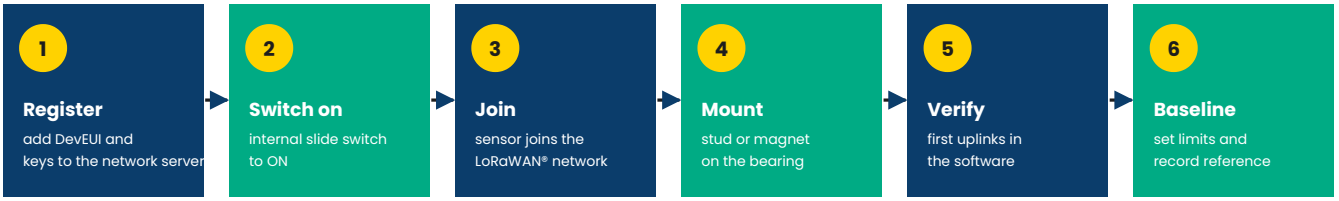
8 Same position
Keep the position for trend comparison after maintenance.

COMMISSIONING

From the box to the first measurement

Commissioning an LW100 takes only a few minutes per measuring point. Prepare the network registration in advance, then switch on, mount and verify the sensors on site.

+ Six steps to the first value



+ Before going to site

- Gateway installed and online
- Sensors registered on the network server (identifiers and keys supplied with the device)
- Payload decoder and integration to the Polwax software set up
- Machine list with sensor positions and axis orientation

+ On site

- Switch on, close the housing tightly
- Mount sensor; note serial number and position
- Check the join and first uplinks in the software
- Check signal quality (RSSI / SNR) per sensor

+ Settings to define

Setting	Where	Typical value
Reporting interval	device configuration / downlink*	per machine criticality (page 11)
Warning / alarm limits	Polwax software	ISO zones (page 06), temperature limits
Machine and position	Polwax software	machine, bearing, axis orientation
Notification	Polwax software	e-mail / mobile per user group

* Configuration methods and payload format are described in the instruction manual.

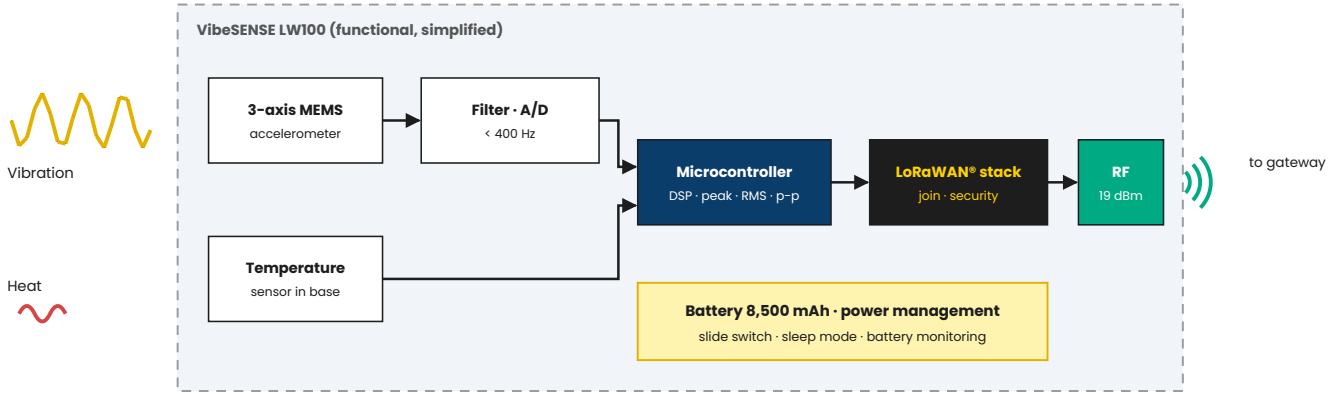
> Record a **baseline** after the machine has run under normal load for some days. Changes against this baseline are often more meaningful than absolute values.

PRODUCT ARCHITECTURE

From vibration to radio message

The LW100 is a complete measuring point in one housing: sensing elements, signal processing, the LoRaWAN® protocol stack and the radio share one microcontroller and are supplied by the internal battery.

+ Functional block diagram



Regional radio parameters are fixed by the ordered band version (EU868 · US915 · AS923 · AU915).

Sensing

MEMS accelerometer for X, Y and Z; temperature sensor coupled to the aluminium base.

Processing

Filtering, integration to velocity and displacement, peak / RMS / p-p values.

Communication

LoRaWAN® uplinks with all values, temperature and battery status.

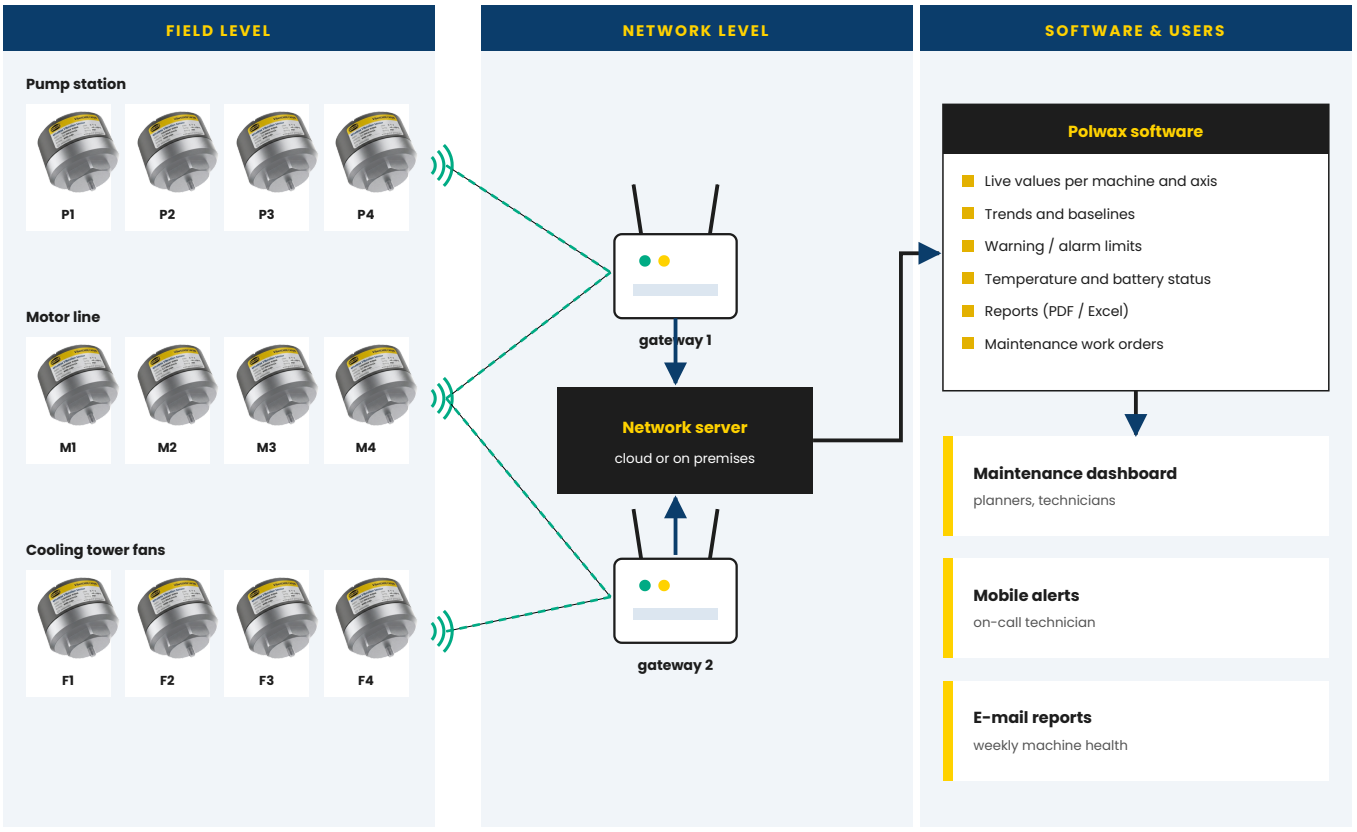
+ Design features

Feature	Implementation	Benefit
Edge computing	characteristic values in the sensor	short messages, long range, long battery life
Three axes	one tri-axial MEMS element	one sensor per bearing
Temperature	sensor in the base	detects overheating and lubrication problems
Wireless	LoRaWAN®, up to 19 dBm	no cabling, kilometres of range
Rugged housing	aluminium base, IP67	wet, dusty and outdoor locations
Flexible mounting	stud / magnetic	fits every machine

SYSTEM ARCHITECTURE

Field · network · software levels

Many LW100 sensors on different machine groups share the same gateways. The network server collects all messages and passes the decoded values to the Polwax software, which stores trends, compares them with limits and turns alarms into maintenance actions.



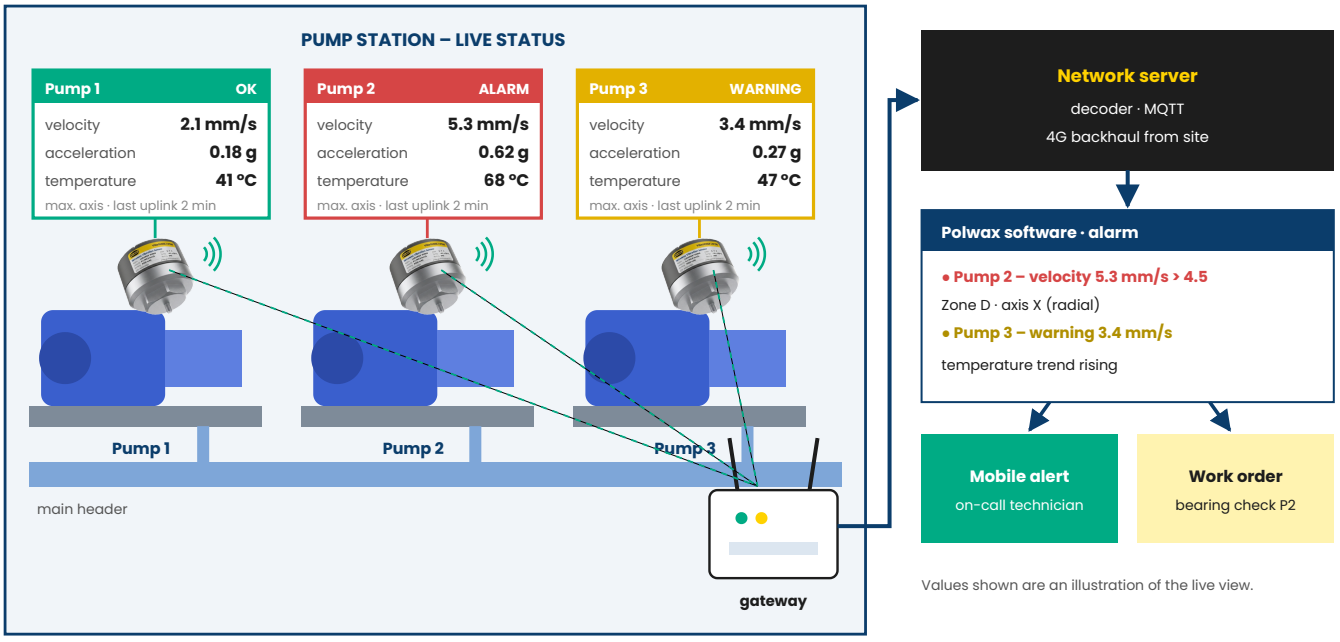
+ Integration options

Interface	Connects to	Typical use
Polwax software	web dashboard, mobile alerts	complete condition monitoring solution
MQTT / HTTP	SCADA, historian, IoT platform	integration into existing systems
Export / API	CMMS, ERP	automatic work orders and reports

LIVE SCHEMATIC

Pump station monitoring

In a pumping station each pump carries an LW100 on the drive-end bearing. The sensors report to a gateway on site; the Polwax software shows the live status of every pump and raises an alarm as soon as a value crosses a limit.



Values shown are an illustration of the live view.

+ How it works

Step	What happens
1 · Measure	LW100 on each pump bearing measures 3-axis vibration and temperature at every interval.
2 · Transmit	Uplinks reach the site gateway, which forwards them over 4G to the network server.
3 · Evaluate	The software compares each axis with warning and alarm limits (ISO zones, temperature).
4 · Act	Alarm on screen and mobile; work order created for planned inspection.

+ Recommended settings

Model	**LW100-EU868-S**
Position	**drive-end bearing, radial**
Warning / alarm	**B / C and C / D boundary**
Interval	**e.g. 30 min**

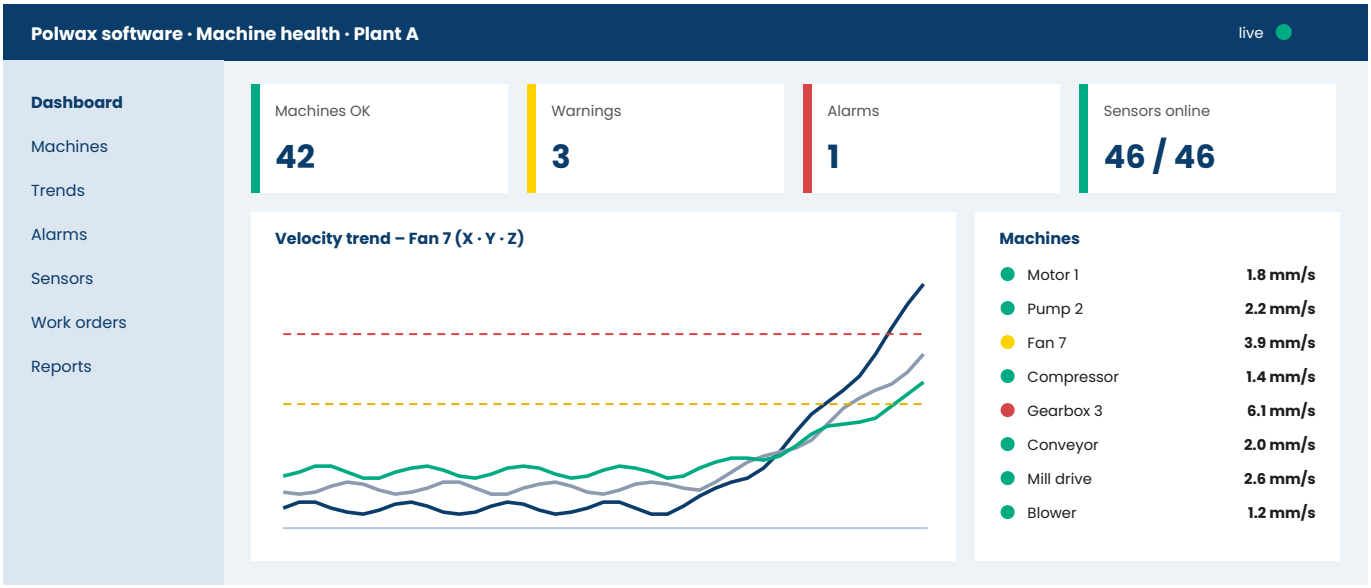
+ Result

- No cabling in the pump hall
- Bearing wear detected early
- Repairs planned, no unplanned stops

LIVE SCHEMATIC

Plant-wide monitoring in the Polwax software

For a whole plant, dozens or hundreds of LW100 sensors report to a few gateways. The Polwax software combines all machines in one live dashboard – health status, trends per axis, temperature, battery and radio quality of every sensor.



Screen layout and values for illustration.

+ Alarm logic

Status	Condition	Typical action
OK	all axes below the warning limit	normal operation
Warning	above warning limit or strong rising trend	inspect, plan maintenance
Alarm	above alarm limit or temperature alarm	act immediately, consider stop
Sensor offline	no uplink within the expected time	check battery, radio path, gateway

+ Functions

- Live values of every machine and axis
- Baseline and ISO-zone limits per machine
- Temperature, battery and RSSI / SNR per sensor
- Alerts on screen, mobile and e-mail
- Trend history and export to CMMS

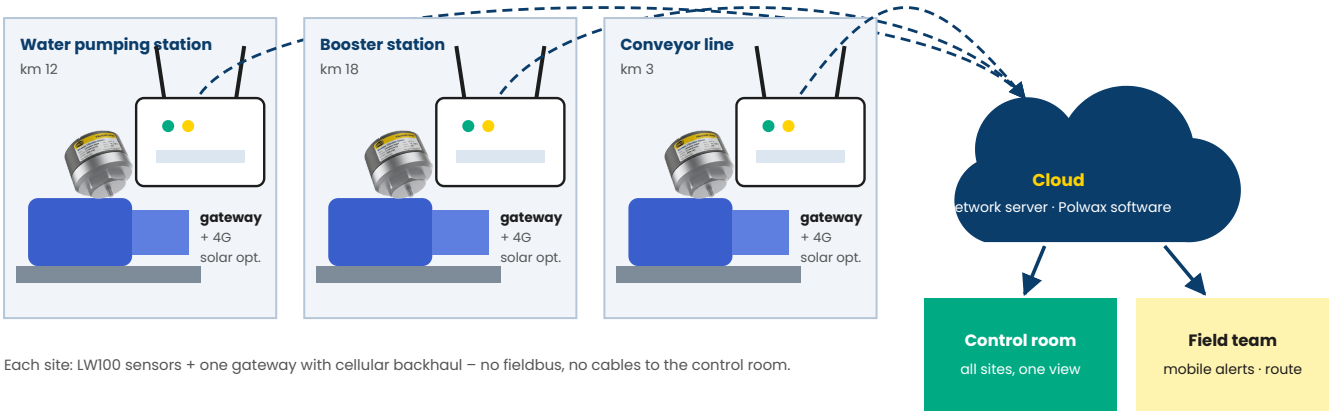
+ Reports

Weekly report	**machine health overview**
Monthly report	**trends and alarms**
Sensor report	**battery and radio quality**
Formats	**PDF · Excel**

WORKING ARCHITECTURE

Remote and distributed sites

Unmanned sites – water pumping stations, pipelines, conveyors, wind or solar plants – are expensive to visit. With LW100 sensors and a gateway with cellular backhaul, every site reports its machine condition to the control room.



Each site: LW100 sensors + one gateway with cellular backhaul – no fieldbus, no cables to the control room.

+ How it works

Step	What happens
1 · Site	LW100 sensors on pumps, motors and drives; one gateway with 4G per site.
2 · Cloud	All gateways forward to the same network server and Polwax software.
3 · Monitor	The control room sees all sites in one dashboard; limits per machine.
4 · Route	Technicians visit only the sites that need attention – planned routes.

Fewer trips

Visits only where the data shows a need.

Early warning

Bearing and alignment problems found before failure.

Fast roll-out

Battery sensors and one gateway per site.

APPLICATIONS OVERVIEW

Where the LW100 is used

The VibeSENSE LW100 is used wherever rotating machines must run reliably and cabling is difficult or expensive – in industry, utilities, mining and buildings.



Electric motors
Bearings, unbalance, alignment



Pumps
Bearing wear, cavitation, looseness



Process plants
Pumps, compressors, blowers



Fans & HVAC
Fan unbalance, bearing failure



Power & energy
Auxiliary drives, cooling pumps, fans



Oil, gas & chemicals
Critical rotating equipment



Mining & cement
Conveyors, crushers, mills, kiln drives



Manufacturing
Production lines, drives, gearboxes



Maintenance teams
Condition-based maintenance

Detailed application pages follow. For the recommended version and interval per application see the selection table on page 24.

MOTORS, PUMPS & FANS

Application



+ The task

Motors, pumps and fans are the most common rotating machines. Cabling every machine for vibration monitoring is expensive – so most machines are only checked occasionally, and bearing failures arrive unannounced.

+ How the LW100 is used

- LW100 on the drive-end bearing (and non-drive end for large machines)
- Three axes: radial and axial faults from one sensor
- Temperature alarm for overheating bearings
- Trends in the Polwax software for planned repairs

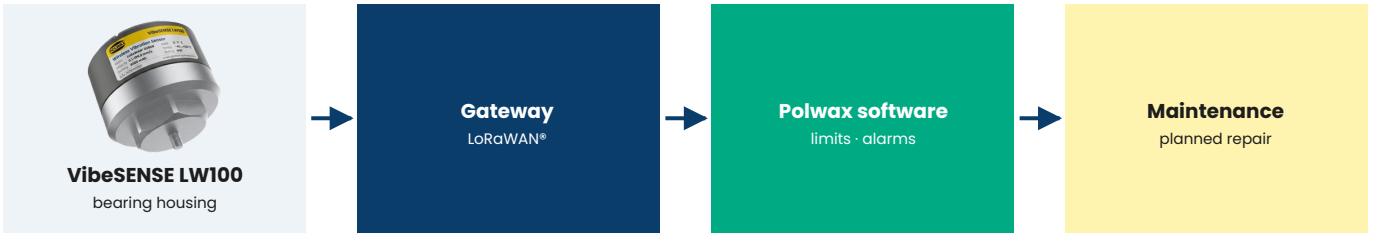
+ Recommended configuration

Order code	**LW100-EU868-S**
Mounting	**stud on bearing housing**
Quantity	**1 – 2 per machine**
Interval	**30 min – 2 h**
Limits	**ISO 10816 zones + temperature**

+ Benefits

- Monitoring of every machine, not only critical ones
- No cabling costs
- Longer machine life

+ Working architecture



OIL, GAS, CHEMICALS & POWER

Application



+ The task

In oil, gas, chemical plants and power stations, pumps, compressors and cooling-water systems run continuously. Installing cables in process areas is costly and slow.

+ How the LW100 is used

- LW100 on pump, compressor and gearbox bearings
- Gateways cover large plant areas from a few positions
- Data to SCADA / historian via MQTT and to the Polwax software
- Remote monitoring of auxiliary equipment

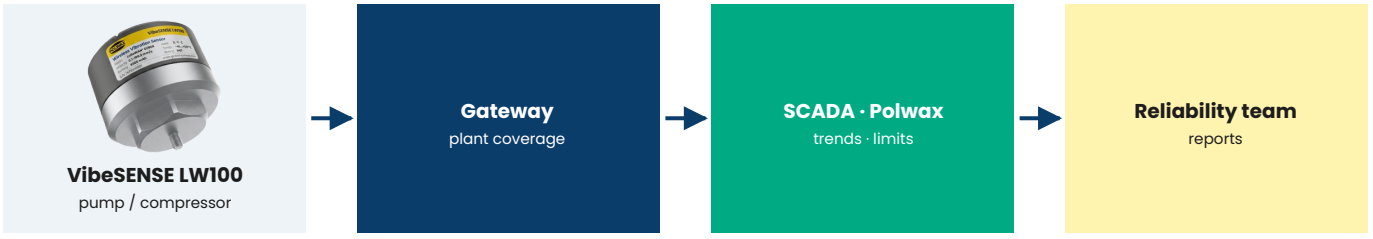
+ Recommended configuration

Order code	**LW100-EU868-S / -M**
Mounting	**stud, IP67**
Quantity	**per bearing / gearbox**
Interval	**critical: 10 – 30 min**
Integration	**MQTT to SCADA**

+ Benefits

- Higher plant availability
- Fast installation without hot work for cables
- Data for reliability engineering

+ Working architecture



MINING & CEMENT

Application



+ The task

Mines and cement plants operate conveyors, crushers, mills, kiln drives and large fans in dust, vibration and long distances – conditions where cabled sensors are often damaged.

+ How the LW100 is used

- LW100 on conveyor drives, idlers, crusher and mill bearings
- Rugged IP67 housing, no cables to damage
- Gateways along conveyor routes
- Temperature for bearing overheating

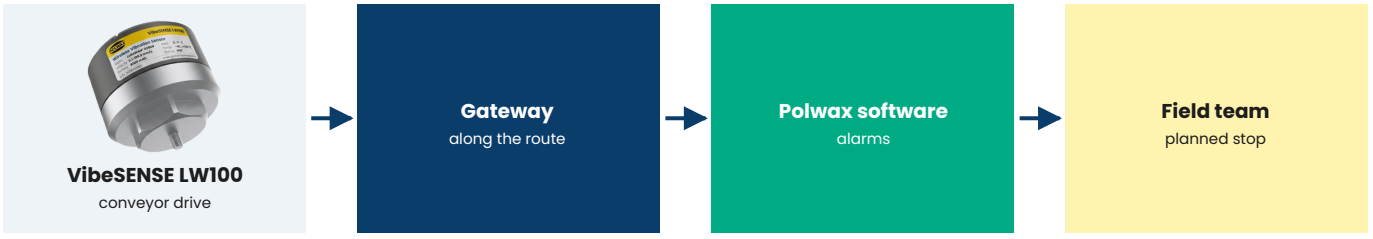
+ Recommended configuration

Order code	**LW100-EU868-S**
Mounting	**stud; magnet for temporary**
Quantity	**per drive and bearing**
Interval	**30 min – 1 h**
Coverage	**gateways every few km**

+ Benefits

- Fewer unplanned conveyor stops
- Monitoring over long distances
- Low installation effort

+ Working architecture



APPLICATION SELECTION

Version and interval by application

Recommended mounting version and reporting interval for typical applications. S = stud mounting, M = magnetic mounting; select the frequency band for the country of installation.

Application	Mounting	Interval	Remarks
 Electric motors	S	30 min – 2 h	Drive-end bearing
 Pumps	S	30 min – 1 h	Bearings, cavitation
 Compressors	S	10 – 30 min	Bearings and gearboxes
 Fans & AHUs	S / M	1 – 2 h	Fan motor and bearing
 Conveyors, crushers	S	30 min – 1 h	Drives, idlers, gearboxes
 Route checks, temporary	M	as required	Magnetic, quick relocation

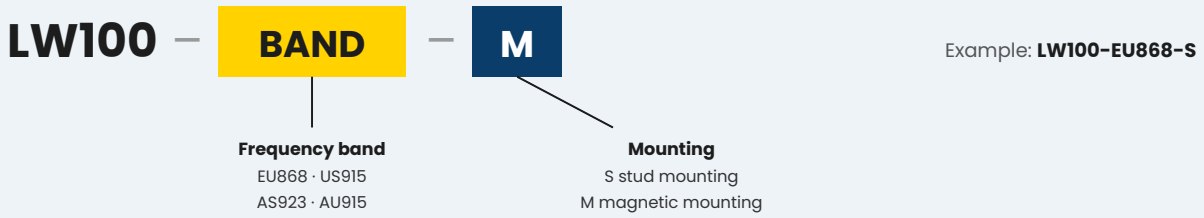
+ LW100 or P100?

	VibeSENSE LW100	VibeSENSE P100
Connection	wireless LoRaWAN®, battery	cable: 4 – 20 mA, 0 – 10 V, RS485
Axes	three (X, Y, Z) + temperature	single axis
Values	interval-based (minutes – hours)	continuous, response < 1 s
Best for	many machines, remote sites, no cabling	machine protection, interlocks in PLC

ORDERING INFORMATION

Model selection and accessories

The order code consists of the model, the frequency band and the mounting version. Each version has an 8-digit part code.



Example: **LW100-EU868-S**

+ Part and order codes

Part code	Order code	Band	Mounting
3921 0101	LW100-EU868-S	EU868	stud
3921 0201	LW100-EU868-M	EU868	magnetic
3921 0102	LW100-US915-S	US915	stud
3921 0202	LW100-US915-M	US915	magnetic
3921 0103	LW100-AS923-S	AS923	stud
3921 0203	LW100-AS923-M	AS923	magnetic
3921 0104	LW100-AU915-S	AU915	stud
3921 0204	LW100-AU915-M	AU915	magnetic

Part code: 39 (Italy, HQ) · 21 (VibeSENSE LW100) · mounting (01 stud, 02 magnetic) · band (01 EU868, 02 US915, 03 AS923, 04 AU915).

+ Accessories & services

Part code	Accessory / service	Group
3990 0104	Mounting stud	Mounting
3990 0105	Magnetic mounting base	Mounting
3990 0401	Polwax monitoring software licence	Software
3990 0501	Calibration certificate	Services
3990 0502	Recalibration service	Services

Accessory part code: 39 (Italy, HQ) · 90 (accessories) · group · item. LoRaWAN® gateways, replacement batteries and network set-up on request.

Ordering example: pump station with 6 pumps in Europe – 6 × 3921 0101 (LW100-EU868-S) + 6 × 3990 0104 mounting stud + LoRaWAN® gateway and Polwax software licence 3990 0401.

IMPORTANT NOTICE AND DISCLAIMER

POLWAX PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD-PARTY INTELLECTUAL PROPERTY RIGHTS. These resources are intended for skilled developers designing with Polwax products. You are solely responsible for (1) selecting the appropriate Polwax products for your application, (2) designing, validating, and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements. These resources are subject to change without notice. Polwax grants you permission to use these resources only for development of an application that uses the Polwax products described in the resource. Other reproduction and display of these resources is prohibited. No licence is granted to any other Polwax intellectual property right or to any third-party intellectual property right. Polwax disclaims responsibility for, and you will fully indemnify Polwax and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources. Polwax's products are provided subject to Polwax's Terms of Sale or other applicable terms available either on polwax.it or provided in conjunction with such Polwax products. Polwax's provision of these resources does not expand or otherwise alter Polwax's applicable warranties or warranty disclaimers for Polwax products. Polwax objects to and rejects any additional or different terms you may have proposed.

IMPORTANT NOTICE: Mailing address: Polwax International Co, Contrada De Angelis 953, Piano 1, Giordano Laziale, KR 11432 Italy · Copyright © 2026, Polwax International Co. Incorporated

POLWAX Group has got an experienced, highly-qualified project team conducting extensive R&D operations. Owing to that, goods holding the POLWAX brand feature customer-tailored flexibility and meet requirements of various industries.

OUR OFFICES

Polwax International Co. – HQ Italy
Contrada De Angelis 953,
Piano 1, Giordano Laziale, KR 11432 Italy
export@polwax.it
www.polwax.it

Poland
Apt. 324 al. Modzelewski 9940,
Sędziszów Małopolski, ZP 44-153
www.global-polwax.com

Philippines
40769 Wisoky Route Suite 979
www.global-polwax.com

Vietnam
Subida Marilu, 86,
Cornellá de Llobregat, Ext 27926
www.global-polwax.com

Norway
Kr Bikerlands gate 77,
Porsgrunn, 3936
www.global-polwax.com

India
Polwax India Private Limited
Aston Plaza, Office 303 & 304, 3rd Floor,
Ambegaon Budruk, Pune 411 046,
Maharashtra, India
info@polwax.in · www.polwax.in

export@polwax.it · info@polwax.in
www.global-polwax.com · www.polwax.it · www.polwax.in

Doc. No. **392621001** · Part code **3921 0201** · Rev. 01 · 10/2026 · English

Authorised distributor / stamp

en_v1_2026

Copyright Polwax International Co. 2026