Preliminary

SMS1000, Swine Monitoring System
Cloud Based System for Monitoring Swine Activity & Body Temperature

Movella
Bringing meaning to movement

- World's first Cloud based swine health monitoring system
- Ultra light weight tracker with highest retention rate in the industry
- Easy monitoring and operation using smartphone (iOS, Android) app or Cloud
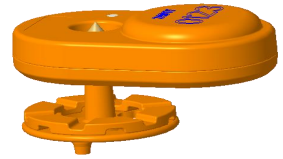
Care for Swine:

- SMS can detect serious illnesses by monitoring and tracking changes in activity level and body temperature of the animal.
- Fully automated health monitoring around the clock (24/7/365).
- Easy setup and installation in any barn environment.
- Easy to read charts on animal behavior and temperature.
- Alert mechanism to alarm any abnormal behavior or temperature
- Early disease detection to reduce feed, labor, medication, and Veterinarian costs

System Features & Topology

- System components:
  - Tracker, gateway, dashboard software (mobile/desktop), SaaS license
- AI-based embedded algorithms to detect animal behavior：
  - Resting (lying, min movement)
  - Active (walking, standing)
  - Feeding (eating, drinking)
- Animal reference temperature
- Onboard LED to identify a specific animal(s) among others
- Each gateway can support up to 100 trackers
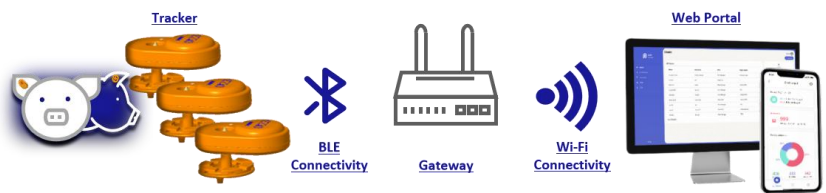
Tracker Technical Specifications

Dimensions	48 x 30 x 12.7 mm (LxWxH)
Weight	15 ± 1g
Battery	1 pre-installed CR2032 coin battery (min. 1 year service life)
Connectivity	BLE 5.0
Temperature sensor accuracy	±0.5°C
Offline data storage capacity	14 days (Basic activity & body temperature data)
Data transmission frequency	Once every 30 minutes
Waterproof level	IP67
Operating temperature	-10 °C to +55 °C

Gateway, Applicator, and Cloud Specifications

Gateway	
Dimensions	60 x 60 x 22 mm (LxWxH)
Weight	58g (with antenna)
Power Supply	5.0V, USB connection (USB cable is provided)
Connectivity	BLE 5.0 to Tracker & WiFi to cloud or local server
Waterproof level	Not supported (under consideration for next model)
Operating temperature	-40 °C to +85 °C
Applicator	
Dimensions	250 x 65 x 25 mm (LxWxH)
Weight	327g
Cloud Service	
Monthly Cloud Service	Requires minimum of 1-year subscription

Swine Monitoring System, SMS
Cloud Based System for Monitoring Swine Activity & Body Temperature

Ordering information

Device	Marketing Part #	Orderable Part #
Tracker (electronics, male post, silicon washer)	MM31100	Contact Movella for orderable part #
Gateway	MA3112F0	Contact Movella for orderable part #
Tracker applicator	MA3110C0	Contact Movella for orderable part #
Magnet (for enabling the tag for the first time)	MA3111S0	MA3111S0
SaaS model license	Contact Movella for more info.	NA

Ordering information for other related products & spare parts (optional)

Device	Marketing Part #	Orderable Part #
Male post with silicon washer	MA3113P0	MA3113P0
SMS Evaluation Kit	EV31100 Kit content: 30 trackers, 1 gateway, 1 magnet, 1-yr cloud service and software license	Please refer to EV31100 for more info.

Supporting Documents

Document Type	Subject	Document #
EV31100 (Evaluation Kit)	Application note	ANM-020-0019
MM31100 (Animal Tracker)	User manual	UGM-020-0015
BWG840XE (Gateway)	Application note	ANM-020-0013
IAM Web Portal & Mobile App	User manual	UGM-020-0016

- Example of what needed for a 1200 swine farm:

  - Tracker: 1200

  - Gateway: 12 (each gateway supports 100 trackers)

  - Tracker applicator: 5 units (recommended)

  - Magnet (for enabling the tracker for the first time): 40 units (recommended)

  - SaaS licensee fee: charged semi annually or annually

  - System installation (gateway) and setup (gateway to Cloud)

For more info visit us at: https://www.xsens.com/intelligent-animal-monitoring

About Movella

Movella™ is a full-stack hardware, software and data analysis company. Capture motion data and turn it into meaningful and actionable insights. Monitor, capture and analyze all aspects of sports. Cooperate with global leading brands such as EA, NBC Universal, Daimler, Siemens and more than 500 sports teams.
Our mission is to make people realize the meaning of movement and make positive changes by digitizing movement. Products accelerate the innovation of entertainment, sports, health and industrial and agricultural markets. We have a wide range of customers, but all products and services are focusing on capturing and analyzing movement.