

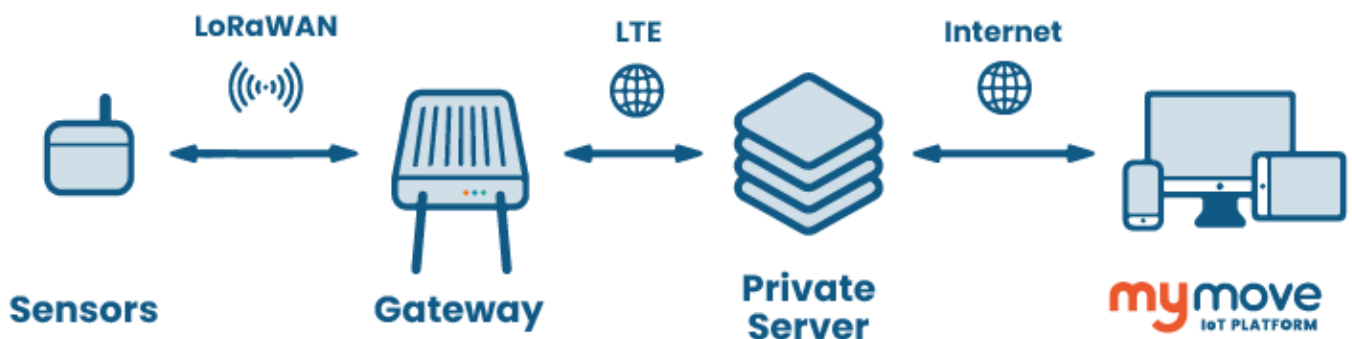
ANALOG NODE DATASHEET

THE SYSTEM: SMART SHM

Move Solutions is a trusted leader in **Smart Structural Health Monitoring (Smart SHM)**. Our wireless system offers a remote, continuous and comprehensive analysis of the health of the structures. By integrating cutting-edge **Internet of Things (IoT)** technology with Structural Health Monitoring practices we promote more sustainable and resilient infrastructure.

KEY PARAMETERS

- Easy installation on the structure
- Minimum maintenance required
- Long-range communication
- Fully remote management and customization
- Data analysis with advanced algorithms
- Modular system
- High precision
- Waterproof rating IP67
- Long-life battery
- Integrated temperature sensor



HOW IT WORKS

Move Solutions offers a wireless monitoring system for *static, dynamic, geotechnical and environmental analysis* of all civil infrastructures: bridges, construction sites, rails, and more. Small **battery-powered sensors** combined with **MyMove IoT Platform** and highly **advanced algorithms** provide a comprehensive monitoring solution aimed at simplifying asset management. The data recorded by the sensors can be viewed on Move Solutions MyMove IoT Platform, which allows users to remotely monitor and manage structures in real time. They can set different operating parameters of each sensor, such as sampling rates, resolution and full scale, alarm and activation thresholds, and much more. That allows users to detect structural damage in time to implement preventive maintenance and reduce costs. Move Solutions system empowers infrastructure owners with insights to promote a proactive monitoring approach for safer, more sustainable, and resilient infrastructures.

ADVANTAGES

- Reduction of manual and on-site measurements
- Reduced downtime and disruptions to regular operations
- Real-time, remote and continuous data visualization
- Short-term and long-term data analysis
- Easy addition of sensors to extend the monitored area
- Cost reduction thanks to easy installation and maintenance
- Risk reduction and high reliability
- Preventive maintenance

THE DEVICE: ANALOG NODE



The Analog Node is designed to make geotechnical probes suited for LoRaWAN wireless communication, making it perfect for any geotechnical monitoring need. It is wireless, battery-powered, and plug-and-play.

TECHNICAL SPECIFICATIONS

OPERATION

N° of sensors supported	4 channels
Sample rate	2 min - 10 min - 30 min - 1 hour (can be set remotely)
Power supply for external instruments	5VDC, 12VDC, 24VDC -upon request- (250mA max)

MEASUREMENT

Readings supported	<ul style="list-style-type: none"> ▪ Current Loop Reading (4-20mA) (2, 3, 4 wires -external power supply needed) ▪ Full Bridge Reading (mV / V) ▪ pt100 reading (3, 4 wires)
Supply	2 Lithium battery 3.6V (19Ah)
Voltage reading accuracy	±0.05% FS (±10Vdc)
Current loop reading accuracy	±0.05% FS
Reading accuracy mV/V	±0.1% FS
PT-100 reading accuracy	±0.2°C

RADIO

Wireless communication system	LoRaWAN communication protocol
Wireless coverage	15 km (line of sight), 1 km (urban environment)

GENERAL DATA	
Ingress protection	IP67
Processor	ARM Cortex M4
Clock	RTC On-Board (Real Time Clock) and high precision
Absolute synchronization	±1 sec
ADC	24bit Delta-Sigma with self-calibration
Case size	180x119x61 mm
Material	Polycarbonate
Operating temperature	-40°C / +85°C
Weight	0.75 Kg
INSTALLATION	
Input cable section	24 - 20 AWG (Ø 0,5mm - Ø 0,8mm)
Method	Pole or wall mounting using special plates and screws
Configuration	<ul style="list-style-type: none"> ▪ Pole fixing ▪ Mesh fixing ▪ Wall fixing ▪ Ceiling fixing ▪ Floor fixing

REVISION HISTORY

Version v3.

Version	Changelog
v1	First revision
v2	Document template update
v3	MyMove update (June 24)

Note: Specifications are subject to review and change without notice.