

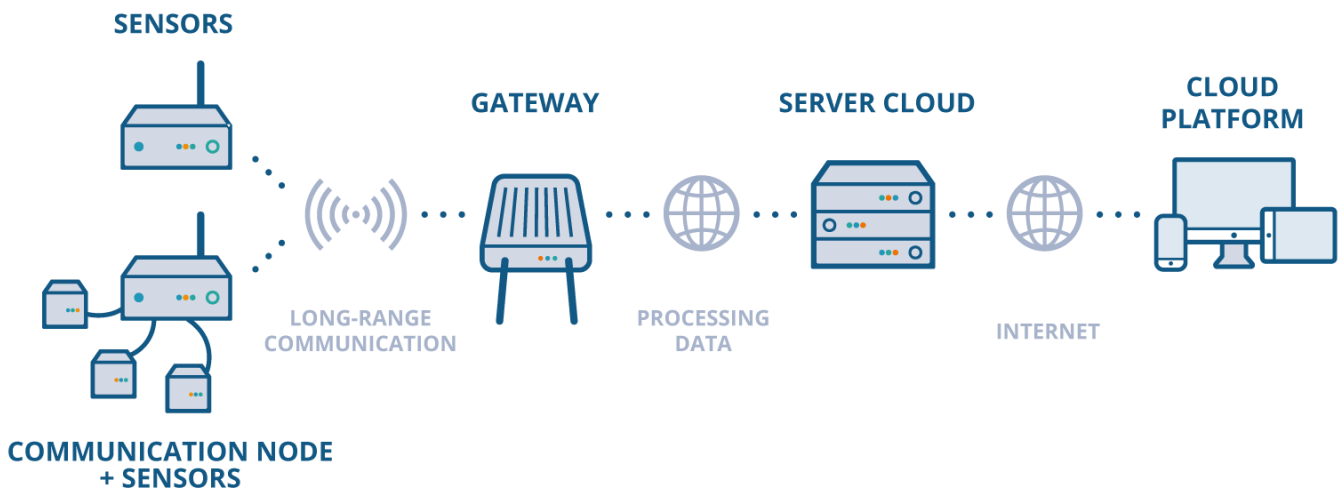
DIGITAL NODE DATASHEET

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 an **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 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: DIGITAL NODE



The digital communication node is compatible with digital sensors made by **Sisgeo**. Once the sensors are connected to this wireless device and the system gateways are properly installed on site, they are ready to acquire, store and send data.

TECHNICAL SPECIFICATIONS

OPERATION

N° of sensors supported	1 BUS, up to 30 sensors
Sample rate	2 min - 10 min - 30 min - 1 hour - 6 hours - 12 hours (can be set remotely)
Power supply for external instruments	12VDC (250mA max)

MEASUREMENT

Readings supported	All Sisgeo Modbus sensors
Supply	2 Lithium battery 3.6V (19Ah)
Type of sensors supported	<ul style="list-style-type: none"> ▪ In-place inclinometer ▪ Inclinometer chains ▪ Crackmeters ▪ Load cells ▪ Humidity sensors ▪ Tiltmeters ▪ Settlement gauges ▪ Extensometers ▪ Piezometers

RADIO

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

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GENERAL DATA	
Ingress protection	IP67
Processor	ARM Cortex M4
Clock	RTC On-Board (Real Time Clock) and high precision
Absolute synchronization	±2 sec
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 v2.

Version	Changelog
v1	First revision
V2	Document template update

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