

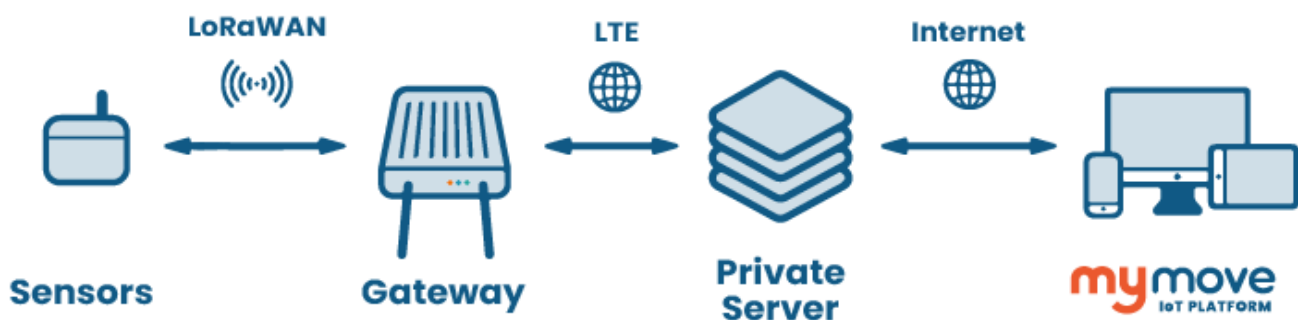
## DIGITAL NODE DATASHEET

### 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 **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: 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

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

#### MEASUREMENT

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

#### RADIO

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

GENERAL DATA	
<b>Ingress protection</b>	IP67
<b>Processor</b>	ARM Cortex M4
<b>Clock</b>	RTC On-Board (Real Time Clock) and high precision
<b>Absolute synchronization</b>	±2 sec
<b>Case size</b>	180x119x61 mm
<b>Material</b>	Polycarbonate
<b>Operating temperature</b>	-40°C / + 85°C
<b>Weight</b>	0.75 Kg
INSTALLATION	
<b>Input cable section</b>	24 - 20 AWG (Ø 0,5mm - Ø 0,8mm)
<b>Method</b>	Pole or wall mounting using special plates and screws
<b>Configuration</b>	<ul style="list-style-type: none"> <li>▪ Pole fixing</li> <li>▪ Mesh fixing</li> <li>▪ Wall fixing</li> <li>▪ Ceiling fixing</li> <li>▪ Floor fixing</li> </ul>

## 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.