

MOVE SOLUTIONS

DATASHEET OF DIGITAL COMMUNICATION NODE



MOVE SOLUTIONS

STRUCTURAL HEALTH MONITORING

SYSTEM FOR MONITORING

Move Solutions for monitoring the stability of a structure recommends **DECK** sensors, devices capable of capturing the amplitude of dynamic oscillation. Thanks to the use of this sensor it is possible to continuously monitor the modal parameters of the structure and verify its stability over time. It is also possible to understand the amplitude of the dynamic deformation, or even any seismic vibrations and monitor the risk.

The Move monitoring system also includes **Accelerometers** for modal study, **Tiltmeters** for static monitoring and **Strain gauges** for monitoring cracks and openings. Using the **Communication Node** with multiple inputs (analog or digital) it is possible to monitor the water pressure and many other parameters of the surrounding areas.

All of our sensors use LoRaWAN: a long-range, low-power wireless communication technology used by IoT networks around the world.

FEATURES

- High precision
- Data analysis with advanced algorithms
- No wiring
- Long-range communication
- Modular system
- High autonomy
- Complete management and customization
- Minimum maintenance required
- Strong design

MEASUREMENTS

- Dynamic displacement amplitude monitoring
- Modal analysis of the structure
- Vibrational study of the structure
- Static monitoring of the inclination of the structure
- Analysis of the amplitude of the dynamic deformation
- Monitoring of cracks and openings
- Real-time water pressure monitoring
- Highlighting of seismic vibrations

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



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HOW IT WORKS

Move Solutions includes a complete package of wireless devices and a **Web Platform** for data visualization and sensor management.

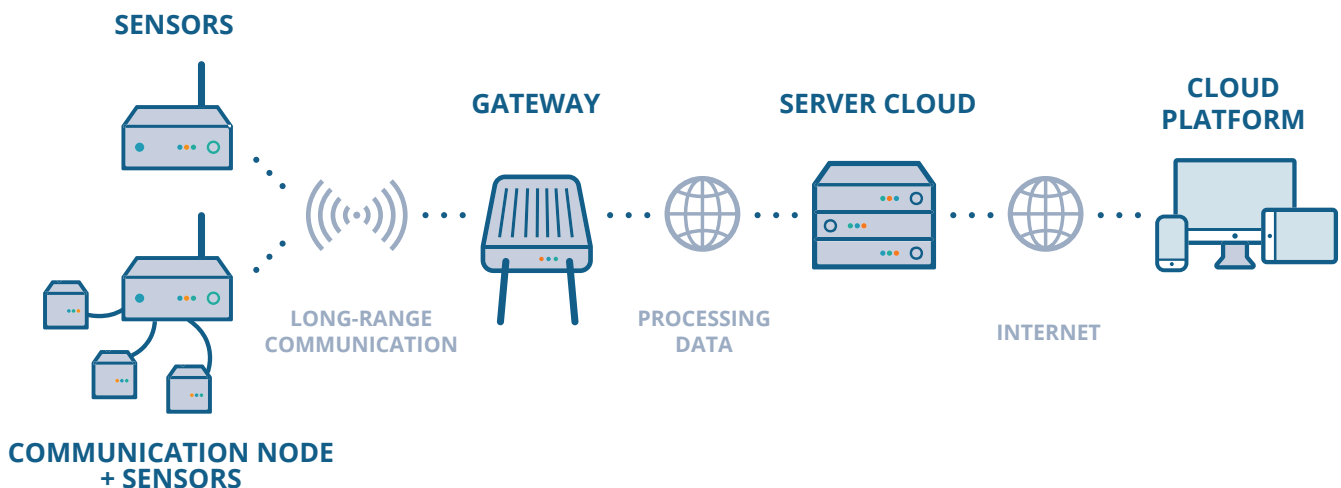
Once the sensors and system gateways are properly installed on site, they are ready to receive, store and send data.

You can view all this data in real time through a Web interface that allows users to remotely monitor the site or infrastructure. The user can set different parameters for each individual sensor, including sampling rates, resolution, alarm thresholds, activation and much more.

The Move Solutions monitoring system guarantees accuracy, safety and reliability and a significant reduction in overall monitoring costs.

LOGISTICAL - ECONOMIC ADVANTAGES

- Remote monitoring of difficult to access structures
- Ease of installation and use of the system
- Data processing to optimize operations
- Easy addition of sensors to extend the monitored area
- Cost reduction through easy maintenance
- No wiring, saving on installation materials
- Consequent labor savings
- Risk reduction and high reliability



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DIGITAL COMMUNICATION 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 receive, 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	<ul style="list-style-type: none">All Sisgeo Modbus - RS485 sensors
Supply	2 Lithium battery 3.6V (19Ah)
Type of sensors supported	<ul style="list-style-type: none">In-place InclinometerInclinometer chainsCrackmeterLoad cellsHumidity sensorsTiltmeterSettlement GaugeExtensometerPiezometers

RADIO

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

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GENERAL DATA	
Waterproof class	IP67
Processor	ARM Cortex M4
Clock	RTC On-Board (Real Time Clock) and high precision
Absolute synchronization	±1 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

* Wireless coverage of the device may vary depending on the scenario

* Battery life may shorten when operating in extreme temperatures.

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