THREE AXIS TILT-METER

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THREE AXIS TILT-METER MOVE SOLUTIONS

The sensor is capable of acquiring inclinations on three axes in the manner described below. These features can be set by the user through the web interface provided in the service.

Scheduled acquisition
The sensor wakes up at regular time intervals (settable by the user in an interval from 2 minutes to 24 hours) and acquires the inclination.

APPLICATIONS

1. Static monitoring of structures:

- Bridges
- Dams
- Metal structures
- Vertical structures
- Historical buildings
- Construction sites
- Any structure subject to stress or consumption by time

2. Buildings safety

3. Safety of bridges and overpasses

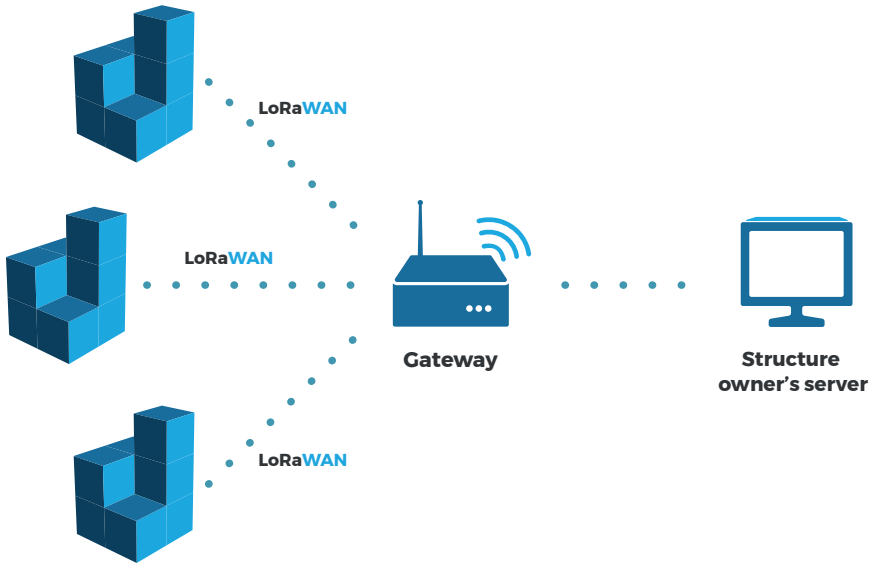
4.Sensing of displacement and temperature

TECHNICAL SPECIFICATIONS

Technology	MEMS technology - Triaxial
Resolution	0.000015°
Repeatability	±0.0005°
Range	±90°
Cross Axis Sensitivity	1%
Classic operation	Operation with programmed acquisitions
Radio channel	LoraWan communication protocol
Radio channel frequency	ISM 868Mhz
Radio coverage	1km (line of sight con il Gateway)
Operating temperatures	-30°C/+85°C
Battery	1 lithium battery type “D” 19Ah 3.6V
Autonomy	Estimated battery life of 1.5 years (operation with programmed acquisitions every 30 minutes)
Waterproof Rating	IP68
Dimensions	75 x 80 x 57 mm
Weight	Weight 500g
Fixing	Two-point mounting using M8 * 30mm plugs
Case material	Alloy GD-AlSi12
Corrosion resistance	> 1000 hours in salt spray

NETWORK SYSTEM

The information transmitted by the **multiple three axis tilt-meter sensors** is collected first by a **Gateway** through the **LoRaWAN protocol** and subsequently sent to **a server and database system**.
Each structure is equipped with at least one gateway. The Gateway has an internet connection (LTE, 3G or GSM) with which it transmits the data to a set of servers that manage the LoRaWAN protocol and the data received from the sensors. Data is entered into a DB system to allow storage. The data can be analyzed through a Cloud platform provided by Move. If the customer uses a private platform for data analysis, the servers can be queried and extrapolated through a REST API service.



The Cloud platform allows to view data anywhere and on any device, to constantly monitor the status of the structure.

Through various graphs, it is possible to view the oscillation trends and put them mathematically in relation to each other. Furthermore, the software verifies every change of the structure over time, monitoring its degra-dation in months and years.