TILTMETER

MOVE SOLUTIONS TILTMETER

The sensor can acquire the inclination on the three axes, using a high-end MEMS accelerometer.

Scheduled acquisition operation
The sensor activates at regular time intervals (range from 2 minutes to 30 minutes) and acquires the inclination value.
The sampling interval can be selected by the user through the web interface provided.

APPLICATIONS

Static monitoring of civil structures:

- Bridges
- Dams
- Buildings
- Metal structures
- Skyscreapers
- Historical architectures
- Working sites
- Underground works
- Tunnels

Pairing with LoRaWAN Gateway

DATASHEET

Technology	MEMS technology – triaxial
Resolution	0.000015°
Repeatability	±0.0005°
Range	±90°
Cross Axis Sensitivity	1%
Default operation	Scheduled acquisition operation
Radio channel	LoRaWAN communication protocol
Radio frequency	ISM 868Mhz
Radio coverage	1km (line of sight device-gateway)
Working temperature	-30°C/+85°C
Battery	1 Lithium Battery type"D" 19Ah 3.6V
Battery life	Estimated battery life of 8 years (scheduled acquisition operation every 30 minutes)
Waterproof class	IP67
Size	75 x 80 x 57 mm
Weight	500 g
Installation	Two-point fixing with M6 * 25mm dowels
Case material	GD-AlSi12 alloy
Corrosion resistance	> 1000 hours in salt spray

NETWORK SYSTEM

The data transmitted by the sensors is collected first by the Gateway through the LoRaWAN protocol and after sent to a server and database system via Cellular connection.

Each monitoring site is equipped with at least one gateway, which transmits the data through an internet connection (LTE, 3G, GSM or Ethernet) to a set of servers that manage the LoRaWAN protocol and the data received from the sensors. The data is then written into a DB system for storage, and it can be viewed and analyzed through the Cloud platform provided. If the customer uses his own platform for data analysis, these can be extrapolated from the servers through a REST API service.
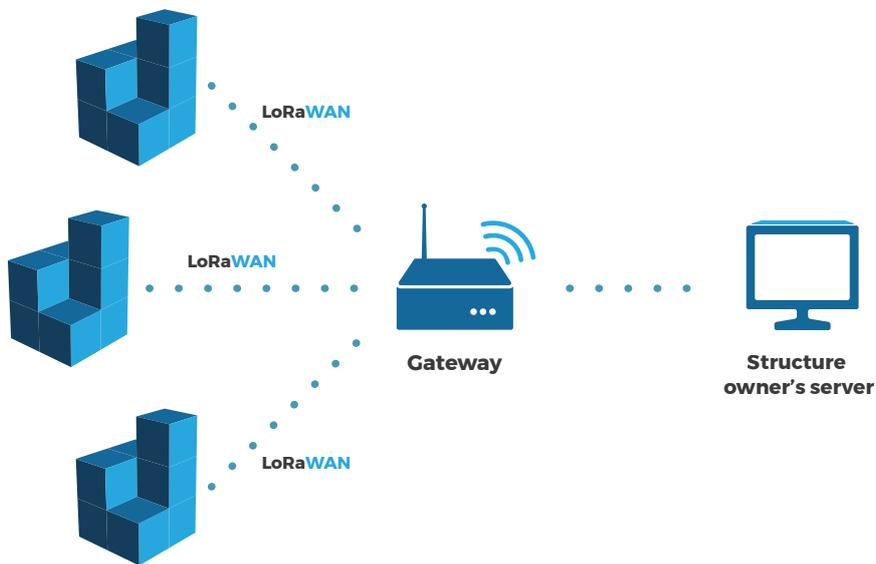
The Cloud platform displays data anywhere and on any device, to constantly monitor the status of the structure.

Through various graphs, it is possible to view the oscillation trends and mathematically relate them to each other. Moreover, the software verifies any change in the structure over time by monitoring its degradation over the months and years.