

AiL

3 axes inclinometer



DESCRIPTION

Autonomous sensor equipped with MEMS probes measuring inclination changes with very high accuracy. They are useful, for example, to check the plumb of a tunnel, the slippage of an embankment, the heave or settlement of a railroad, or the movements of the piles and abutments of a bridge.

They can also be used to monitor railroad track movements or bending of catenary poles.

No installation constraints; flexible use with its 3 measuring axes.

Each sensor is autonomous; it does not need another box or a sending station

APPLICATIONS

Monitoring in the fields of railroads, building, bridges, structures, monuments, natural risks or geology.

Measurement axes are clearly identified to ease installation.



OPTIONS

Sensor can be delivered with mounting plates.



Magnetic holder also available.

SENSOR CHARACTERISTICS

DATA RECORDING

Local measurement interval	1 second (via Bluetooth application)
Data reporting interval	20 minutes (configurable)
Reported data	Angles (X, Y, Z) Case temperature Battery voltage

MOTION PROBE

Measurement principle	Mems
Measuring range	360°
Resolution	0,005° over ±10°
Repeatability	0,02°

TEMPERATURE SENSOR INSIDE THE HOUSING

Measuring principle	NTC
Measuring range	-55 ... +125°C
Resolution	0,6°C (-5 ... +50°C)

LONG DISTANCE RADIO

Radio technology	LoRaWAN
Security	AES-128 data encryption
Supported features	LoRa private or operated, OTAA
Radio range	Up to 15 km
Transmitted power	Up to 20 dBm (adaptive)
Receiver sensitivity	-142 dBm
Frequency band	868 MHz (EU), 915MHz (US, AS, AU)
Antenna	Internal or external to the housing

LOCAL RADIO

Radio technology	Bluetooth Low Energy
Radio range	Up to 40m
Transmitted power	Up to 4 dBm
Receiver sensitivity	-96 dBm
Frequency band	2.4 GHz ISM
Antenna	Internal to the box

POWER SUPPLY

Battery type	Lithium-Ion	
Power consumption	< 1mW	
Battery life *	Measurement period	Duration (up to)
	20 minutes	5 years
	30 minutes	10 years
	1 hour	15 years

* Indicative duration, for use in the conditions of use

SENSOR

Operating temperature	-30 ... +85°C
Dimension	105 x 105 x 60 mm
Weight	280g
Internal memory	1024 measurements
Case	Polycarbonate (weather, UV and impact resistant)
	Decompressor against condensation
	IP65, IK07
	Fixing brackets

ORDER REFERENCES

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AiL	3-axis inclinometer
AiL-p25	3-axis inclinometer with 25mm probe
AiL-p50	3-axis inclinometer with 50mm probe
AiL-p25-ctn	3-axis inclinometer with 25mm probe and remote NTC
AiL-p50	3-axis inclinometer with 50mm probe and remote NTC
AiL-r25	3-axis inclinometer with 25mm ball-joints probe
AiL-r50	3-axis inclinometer with 50mm ball-joints probe
AiL-r25-ctn	3-axis inclinometer with 25mm ball-joints probe and remote NTC
AiL-r50	3-axis inclinometer with 50mm ball-joints probe and remote NTC
xxx-2pl	with double mounting plate
xxx-mag	with magnetic fixing plate

Other options : contact us

WARNINGS

Specifications and information in this document are subject to change without notice.

A3IP products are not warranted or licensed for use as a critical component for medical or other life-saving or life-sustaining applications, or other applications where failure could reasonably be expected to cause serious injury, death, or damage to any structure, work or building.

In addition, devices are indications and decision aids and cannot be used in alarm or critical applications.

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