

## **AcL-AiL** shock and tilt meter



### **DESCRIPTION**

Autonomous sensor equipped with MEMS probes measuring accelerations and movements with very high accuracy. The threshold triggering allows an early warning of abnormal behavior.

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.



## MOUNTING PLATES

Sensor is delivered with magnetic plate



Il peut également être livré avec des plaques de fixation.



## SENSOR CHARACTERISTICS

### DATA RECORDING

---

Local measurement interval	1 second (via Bluetooth application)
Data reporting interval	30 minutes (configurable)
Reported data	Accelerations (X, Y, Z) Angles (X, Y, Z) Case temperature Battery voltage

### SHOCK PROBE

---

Measurement principle	Mems
Measuring range	±16g
Resolution	<0.5mg

### 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)
	30 minutes	5 years
	1 hour	10 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

### ORDER REFERENCES

---

AcL-AiL-mag	16g shock sensor with adjustable threshold, 3-axis inclinometer and magnetic fixing plate
AcL xxx-2pl	16g shock sensor with adjustable threshold with double mounting 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.

## **CONTACT**

<https://www.a3ip.com>

[contact@a3ip.com](mailto:contact@a3ip.com)

+33 (0)2 40 94 78 41

A3IP  
Bâtiment Placel  
Route de Vannes  
44880 SAUTRON  
France