

ADLv **LVDT Fissurometer**



DESCRIPTION

Autonomous sensor with probes; they are linear potentiometers measuring extremely small displacements.

They measure the cracks evolution or the contraction or joints extension.
Combined, several sensors can be used to monitor cracks in 3D.
This sensor is very robust and works in harsh environments.

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

APPLICATIONS

Monitoring in buildings, bridges, pipelines, dams.

SENSOR CHARACTERISTICS

DATA RECORDING

Local measurement interval	1 second (via Bluetooth application)
Data reporting interval	30 minutes (configurable)
Reported data	Probe distance (1 to 3) Case temperature Battery voltage

MOTION PROBE

Measurement principle	LVDT
Measuring range	0 ... 25mm
Resolution	< $\pm 5\mu\text{m}$
Repeatability	< $10\mu\text{m}$
Linearity	$\pm 0,2\%$

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)
	10 minutes	5 years
	20 minutes	10 years
	30 minutes	15 years
	1 hour	15 years

* Indicative duration, for use in the conditions of use and depending on the number of connected sensors and their characteristics

SENSOR

Operating temperature	-25 ... +85°C
Dimension	135 x 135 x 60 mm
Weight	350g
Internal memory	1024 measurements
Case	Polycarbonate (weather, UV and impact resistant)
	Decompressor against condensation
	IP65, IK07
	Fixing brackets

ORDER REFERENCES

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ADLv-01-25	fissurometer with 1 LVDT sensor (stroke 25mm, cable length 1m)
ADLv-02-25	fissurometer with 2 LVDT sensors (stroke 25mm, cable length 1m)
ADLv-03-25	fissurometer with 3 LVDT sensors (stroke 25mm, cable length 1m)

Other options: contact us

WARNINGS

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

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