

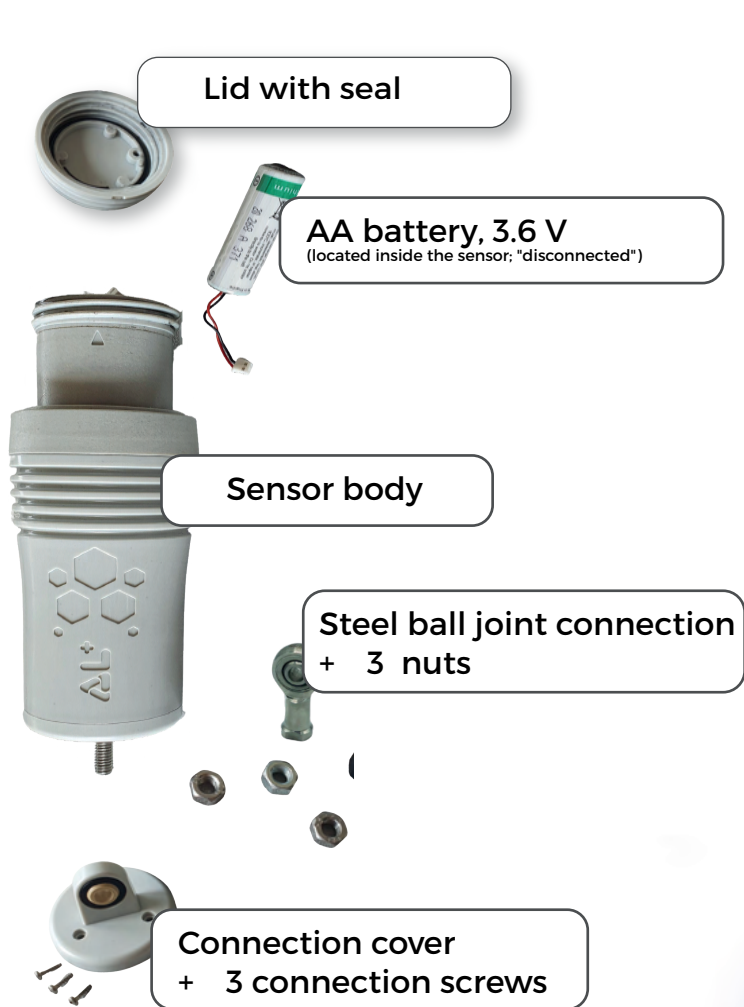


PACK EXTENSO MANUAL

Convergence Measure



Packing List



01
Extensofeel cage

07
Ring nut M6

02
INVAR wire

08
Nylock nut M6
INOX A4/A2

03
Turnbuckle

09
3 springs

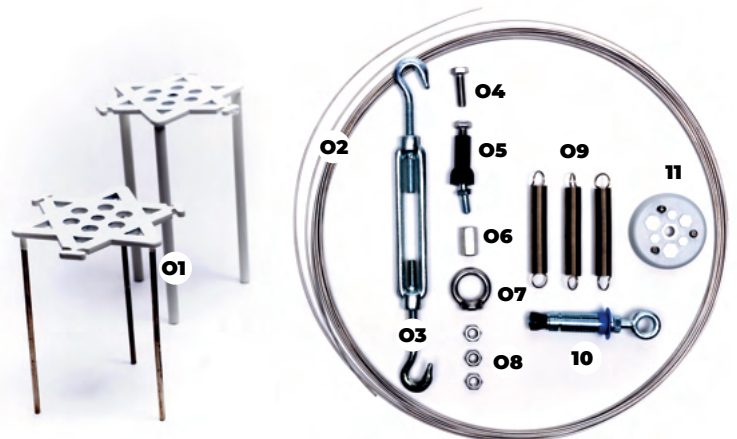
04
Bolts A4/A2 M6 x20 mm

10
Ring fixation

05
Ball joint socket 3
(AGRM-LC-ES)ø6

11
Fixation cap

06
Extension nut
HEXA M6



With the Extenso DELTA L+ Pack, transform your sensor into a convergence meter.

The Extenso pack for the DELTA L+ allows you to take precise displacement measurements over long distances.

The distance can be adjusted based on the installation system. Over long distances, the weight of the extensometer does not affect the measurements.

See the DELTA L+ specifications

Download the Application



Download the Feelbat app from your smart-phone's store.



Accept all access requests to enjoy the app.



Register, and a confirmation email will be sent to you.

If you encounter any issues, contact us at:
(may appear in your spam folder)
SAV@feelbat.fr



Sensor Startup

Part of the setup can be done before the day of system installation.
Make sure you have a DELTA L+ sensor for each Extenso system to be deployed.

Download and read the DELTA L+ user manual before use.

01

Equip yourself with a DELTA L+ sensor and connect its battery.



01

Remove the locking screw
You will notice a sealing collar—make sure not to lose it and replace it on the screw.



02

Position the sensor
Place it in the closed position or as close as possible to the contact point. Unscrew the cap by turning it counterclockwise.



03

Connect the battery
Once you access the battery, remove it, retrieve the connection plug, and connect it to the battery. Pay attention to the correct orientation of the plug.

 (Ignore the color of the red and black wires.)




04

Activate Bluetooth Signal
Your sensor now emits a Bluetooth signal. You must connect it to your account to make it inaccessible to other accounts. Place the battery deep inside and secure the connector in the slot.



05

Check the O-ring
Ensure the O-ring is properly seated in the groove of the cap. If not, reposition it into the cap.

 Make sure the battery connection wires are not caught in the screw threads when closing the cap.



06

Screw the cap back on.

Note: When the closure cap is sealed, and the two arrows are aligned, the holes will also align for securing the locking screw.

 Ensure the plug is correctly oriented.



07

Check the back of the sensor to ensure the holes align.



08

Place the screw with its sealing collar into the rear hole of the cap and tighten gently without forcing the threads.



09

Replace the connection plate, ensuring the correct orientation using the guide notch. Secure the system with the three screws without forcing the threads. Ensure good contact between the plate and the cap, tightening the screws incrementally (1/3 turn at a time).



If you are within 30 meters of the sensor with no obstacles between you and the sensor, but the connection is not working:



Go back and click on the sensor again to restart the connection.



Completely close the app, restart it, and try again.*



Assurez-vous de la bonne connexion et du niveau de batterie de la pile.



If the issue persists, contact us at:

SAV@feelbat.fr

*Disconnect from the app entirely, turn off Bluetooth for 10 seconds, reconnect Bluetooth, and relaunch the app to restart the connection process with the sensor.

On-Site Installation



Plan for the necessary access tools

The setup presented below is an example. The system can adapt to numerous configurations, and each installation may differ.

The following installation demonstrates distance monitoring between two walls:



01

Use a 14 mm diameter drill bit suitable for your support structure.



02

Insert the anchor and tighten the bolt head located under the ring (circled in red) using a 13 mm wrench to secure the system to the support.



03

Pass the wire through the ring and secure it by forming a tightening loop.




04

Stretch the wire straight on each side of a wall, ensuring it is perfectly horizontal. When the wire reaches the other side of the wall, mark this point as a reference for your measurements.



05

Attach the pulley to this reference point and guide the INVAR wire back through the pulley.

 **Note:** The example uses a pulley and fixation (not included in the current pack).



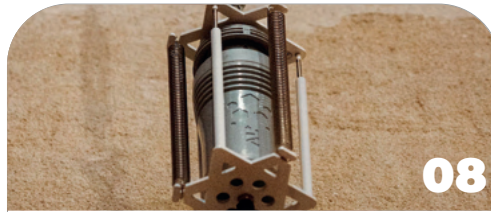
06

Lower the INVAR wire to the desired position and secure the bracket to the wall.




07

Preassemble the Extenso system on the bracket using the washer and self-locking nut. Align the double hook tensioners through the pulley.



08

 During installation, make sure the sensor logo is facing you and not the wall.

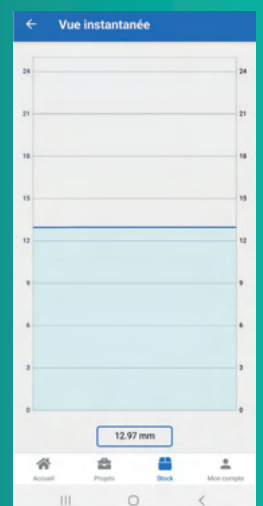


09

Attach the INVAR wire to the double hook and apply slight tension to the wire.

To adjust the positioning, open the mobile app, connect via Bluetooth, and select "Live View." This view will allow you to adjust the opening of the sensor using the tensioner (circled in red) by tightening or loosening it as needed to achieve the desired position.

If you experience difficulties accessing the "Live View," refer to the next chapter titled "Configuration and Settings."



Installation Examples

Below are 4 examples of use cases. Many other configurations are possible.
If needed, contact your regional sales representative or customer support at:
sav@feelbat.fr



Arch



Vertical



At an angle

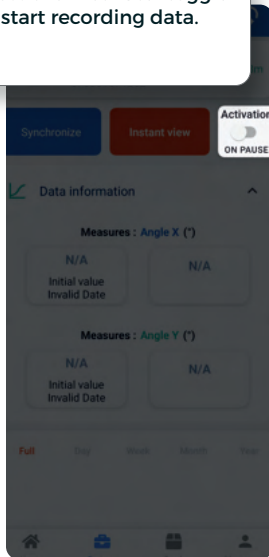


Horizontal

Registration

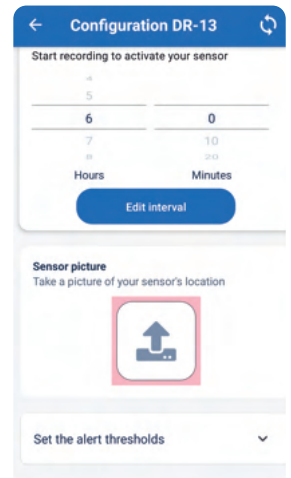
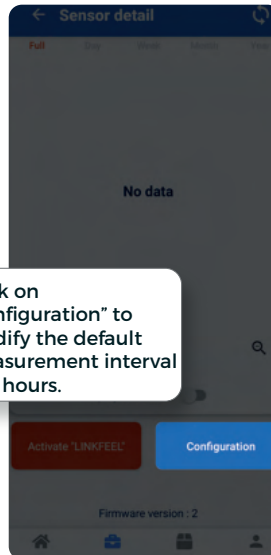
01

Press the "Activate" toggle to start recording data.



02

Click on "Configuration" to modify the default measurement interval of 6 hours.



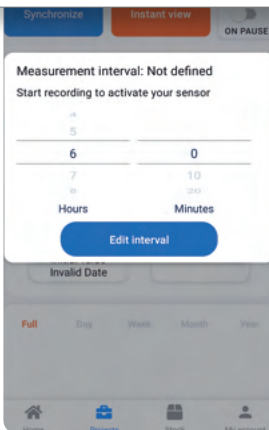
03

Go to the sensor's "Configuration" menu.

04

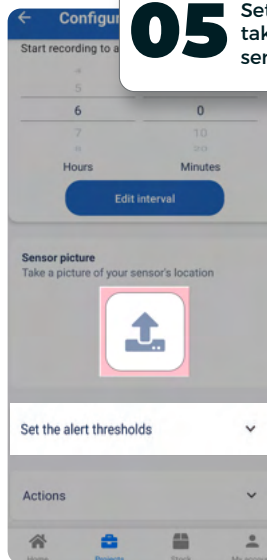
To adjust the measurement interval, select your desired interval and click on "Edit Interval."

⚠ A shorter interval may drain the battery faster. Available intervals depend on your subscription.



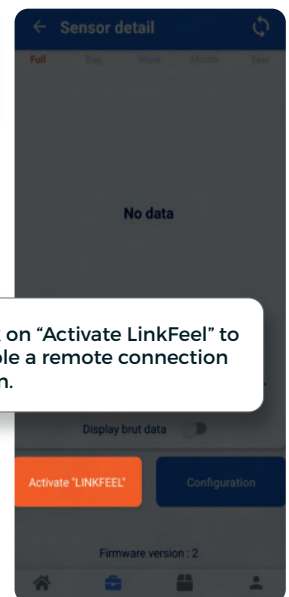
05

Set thresholds and/or take a photo of the sensor in place.



06

Click on "Activate LinkFeel" to enable a remote connection token.



Subscribing to a Linkfeel token activates the sensor for one year, enabling data to be sent to the cloud.

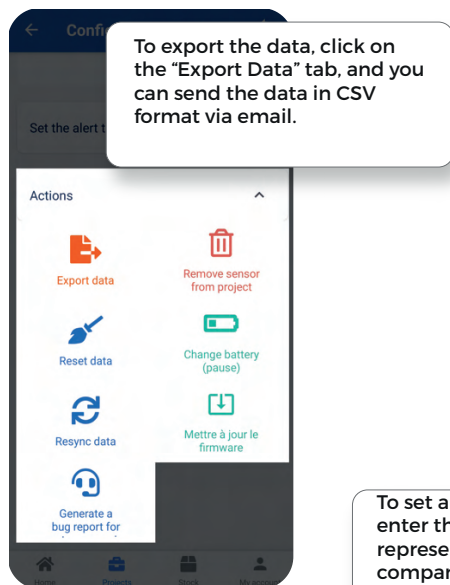
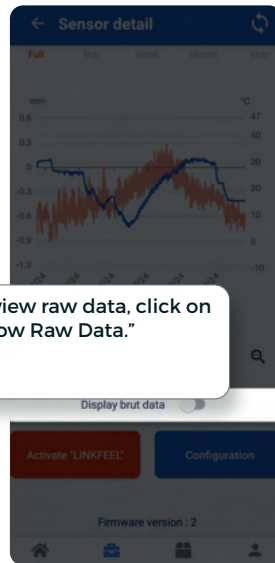
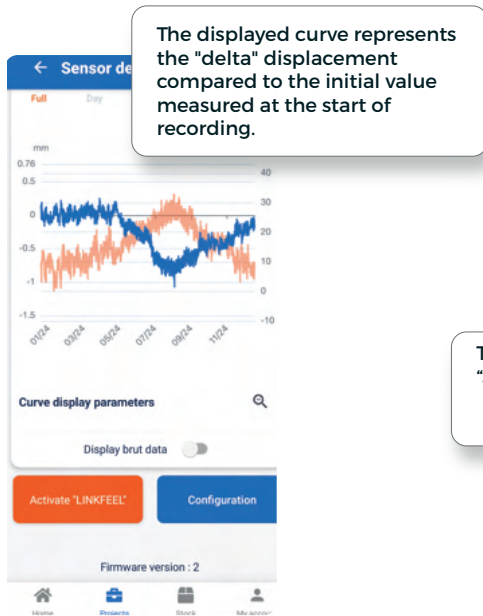
A sensor activated with a Linkfeel token can only send data if it is in a SIGFOX LPWAN-covered zone.

To check coverage, scan the QR code.

For optimal network quality, it is recommended to use a dedicated network test button available in our range.



Good to Know



To receive alert notifications for threshold exceedance, simply assign the sensor to a project and enable the corresponding email notifications. Alerts are sent during sensor synchronization via Bluetooth or through activation of the LinkFeel token for real-time alerts. This depends on your subscription linked to the application.



The minimum measurement interval is 12 hours for the FEELGOOD subscription, 1 hour for the PREMIUM subscription, and 10 minutes for the EXPERT subscription.

Battery life is estimated based on a sensor in a 20°C environment, considering the measurement interval and the data retrieval system (Bluetooth or Sigfox).

If you have any questions, contact us at
SAV@feelbat.fr

Good to Know



If you want to remove a sensor from a project, you must first save its data to your personal database or export it as a CSV file.

Important: You must stop data recording before proceeding with the removal steps.

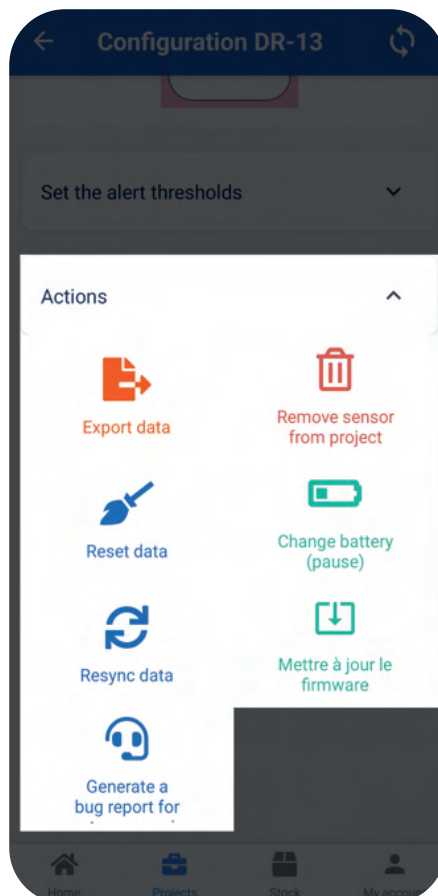


Reset button: This button allows you to reset the sensor for use in a new project. It is recommended when starting a new project.



Signal an issue: This button lets you report an issue with your sensor. A report is generated to help the technical support team analyze and resolve the problem quickly.

Configuration Tab



Changer de pile (mise en pause)

Battery replacement: This button lets you pause the sensor and ensure proper calculation of battery life when replacing with a new one.



Stock

Storage: Once the sensor is removed from the project, it is placed in the "stock" section. To delete it from the app and free up space, click on "Delete the sensor."



Update firmware: This button allows you to install the latest firmware version on your sensor. Ensure the sensor is connected via Bluetooth before performing the update. Offline firmware updates are also possible.

Solutions to Extend Your Network and Retrieve Sensor Data



Test Button

The test button is an ideal tool to determine the exact coverage or location at the construction site before selecting the placement of your sensors. By activating this button, you can test Sigfox coverage to ensure your monitoring device operates properly.



Repeater

The repeater strengthens sensor signals in areas where Sigfox network coverage is weak. It supports up to 15 sensors and 140 messages/day.

Battery life: Up to 1 year without replacement.
Subscription: Annual, renewable.
Use: Designed for outdoor use, operating between -20°C and +60°C. (-20°C à +60°C.)



Microstation SIGFOX

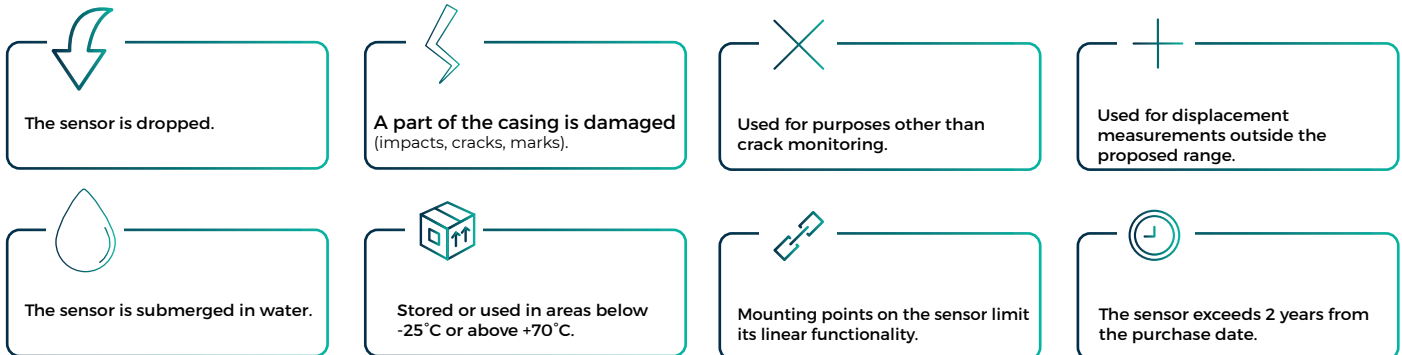
Extends Sigfox coverage in indoor areas or poorly covered sites. Operates on 220V and requires an internet connection via Ethernet or optional 3G/4G.

IP65-rated casing: Recommended for outdoor use or in difficult conditions.
USB key: Optional 3G/4G connectivity without an included SIM card.

Warranty

FEELBAT products are covered by the legal warranty of conformity, which covers conformity defects under the sales contract that appear within two years of delivery, as well as the hidden defect warranty, which covers non-apparent defects at the time of sale that render the product unsuitable for its intended use or significantly diminish its usability.

The warranty does not apply in the following cases:



FAQ

I can't create an account:

01

Ensure you used the correct email address.

Make sure there are no spaces before or after your email address.

02

Check your SPAM folder to validate your email.

03

Resubmit the account creation request.

I can't add my Linkfeel tokens:

01

Ensure you purchased Linkfeel tokens beforehand
(Check your invoice or account).

02

Verify you have not used all the tokens purchased.

03

Log out and log back in.

The sensor does not connect to the app via Bluetooth:

01

Ensure that Bluetooth is activated on your phone.

02

Make sure you are within 30 meters of your sensor with a clear line of sight.

03

Ensure the sensor logo is facing you.

04

Verify that the batteries are properly connected.

05

Delete the sensor and reconnect it.

06

Close the app, disconnect Bluetooth, reconnect it, reopen the app, and try connecting to the sensor again.

I can't add an electronic sensor or am missing functionalities:

01

Verify that you have the correct subscription for the task you want to perform.

02

Log out and log back in.

03

Check if the sensor is connected to another account.

04

Have you requested access from the sensor's owners?

02

Assemble the Extenso Cage Around the DELTA L+



01

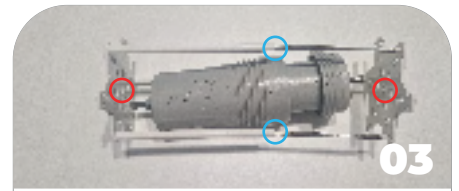
Assemble the fixation cap using the three screws, paying attention to the guide notch.



02

Before closing the fixation cap, name your sensor to identify it.

Note: This number will be used to link the sensor to the FEELBAT app. Once the system is closed, the sensor's identification number will no longer be visible.



03

Insert the DELTA L+ sensor into the Extenso cage
Insert the threaded rods on either side of the sensor into the designated slots at the ends of the Extenso cage. The three rod ends of the Extenso cage should fit into each other (red = ends, blue = overlapping points).



04

Place the springs in their designated slots. Once installed, the DELTA L+ sensor will be fully compressed.



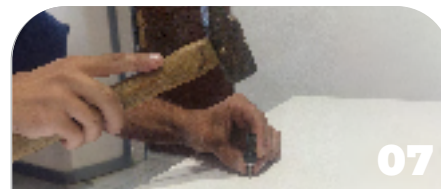
05

Screw the M6 ring near the threaded rod on the battery cap side.




06

Position the ball joint components
Align the male round part (gray) into the female part (black).



07

Assemble the ball joint
Using a hammer, tap the black part onto the gray part with a sharp blow while holding the black part above the gray.

 Be careful not to injure yourself or damage the equipment.



08

Screw the black ball joint socket onto the DELTA L+ threaded rod.



09

Reattach the connection plate, ensuring the guide notch is properly aligned. Secure the system with the three screws without forcing the threads. Ensure good contact between the plate and the cap, tightening the screws incrementally (1/3 turn at a time).



Prepare the fixations for the FEELBAT bracket if the intended system requires additional fixtures not included in this pack.

It is highly recommended to create a placement plan to define the installation range (to avoid interference with the INVAR wire, for instance) and identify all additional equipment/fixations needed before installation day.

Installation

During installation, ensure that the sensor's logo is facing the wall and away from you.

Position yourself within a maximum of 30 to 40 meters from the sensor in a clear line of sight—meaning no obstacles between you and the sensor.



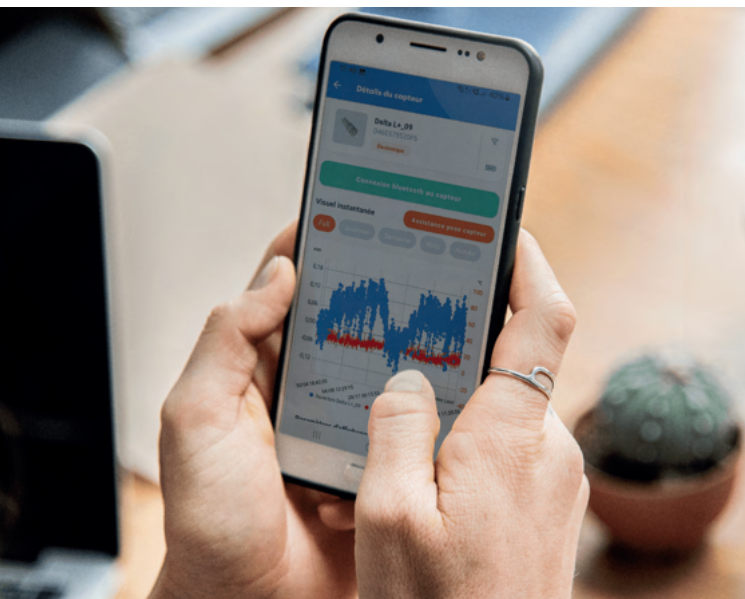
Don't forget to activate Bluetooth on your phone.



Without a LINKFEEL token, you will not be able to receive data remotely and can only synchronize via Bluetooth.

Now that your sensor is emitting a Bluetooth signal, connect it to your account through the Feelbat app so that no one else can connect with their account.

The Application



Web & Mobile Application

Feelbat offers a mobile app that allows you to easily and quickly monitor crack movements.

Before starting, you need to create your account via the app for it to work.

Access the Web Application

Configuration

01 Click on "Add a Sensor"



02 Select the DELTA L+ electronic sensor



03 Select the sensor
Note: The serial number reference is noted on the sensor cap. Unscrew it to connect the battery. This label helps identify your sensor.



04 Choose its configuration
Decide whether to assign it to a project (depending on your subscription) or register it as a standalone sensor.



05 Connect the sensor
Click on "Connect" to pair it.



06 Click on "Activate" or "Active" to start recording data. You can also choose to delete data from the sensor or select "Keep Data" to preserve previously saved data.



To activate recording, click to enable data logging. By default, a measurement interval is set (this can be changed based on your subscription settings).



Once connected via Bluetooth, you can select Assistance mode for your sensor, which allows you to monitor real-time opening and closing movements recorded by the sensor and manually operate your sensor.

- Ensure the battery is properly connected.
- Make sure Bluetooth is enabled on your phone.
- Verify you are positioned in front of your sensor.
- Refer to our FAQ at the end.

If you encounter any issues, contact us at: SAV@feelbat.fr

The sensor is stuck during data retrieval:

01

Verify that the battery is not defective, improperly inserted, or low.

02

Ensure you are in an area with mobile network coverage.

03

Make sure you are the only user connected to your Feelbat account.

04

Check if the battery is properly connected.

05

Move closer and click on "Connect to Sensor" to attempt a Bluetooth reconnection with your sensor.

The sensor is activated with a Linkfeel token but does not send data:

01

Verify that the battery is properly connected.

02

Check if the battery is not empty
(using a multimeter or testing it on another sensor).

03

Ensure the sensor is in a SIGFOX-covered area.

01

Have you tested the radio network with a tester before installation?

02

Have you tested the network coverage with the sensor installed via the app?

03

If using a repeater or microstation box, have you configured the device according to FEELBAT guidelines?




boutique en ligne

If you have a crack, you **FEELBAT**

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