



MANUAL



DELTA L +
Crack monitoring





The DELTA L+ is a connected electronic sensor that enables high-precision, autonomous crack monitoring.

It tracks crack movements both locally and remotely, as well as outdoor temperature, directly accessible from your smartphone.



Compact & Resistant

Polycarbonate / IP66



High Precision

0,01 mm / 1 °C
Measurement range
25 mm



Plug & Play

Easy to use and install



Autonomous

Battery 3,6 V - 2,6 Ah



Connected

LPWAN network or
Bluetooth



Opening



Shear



Angular measurement



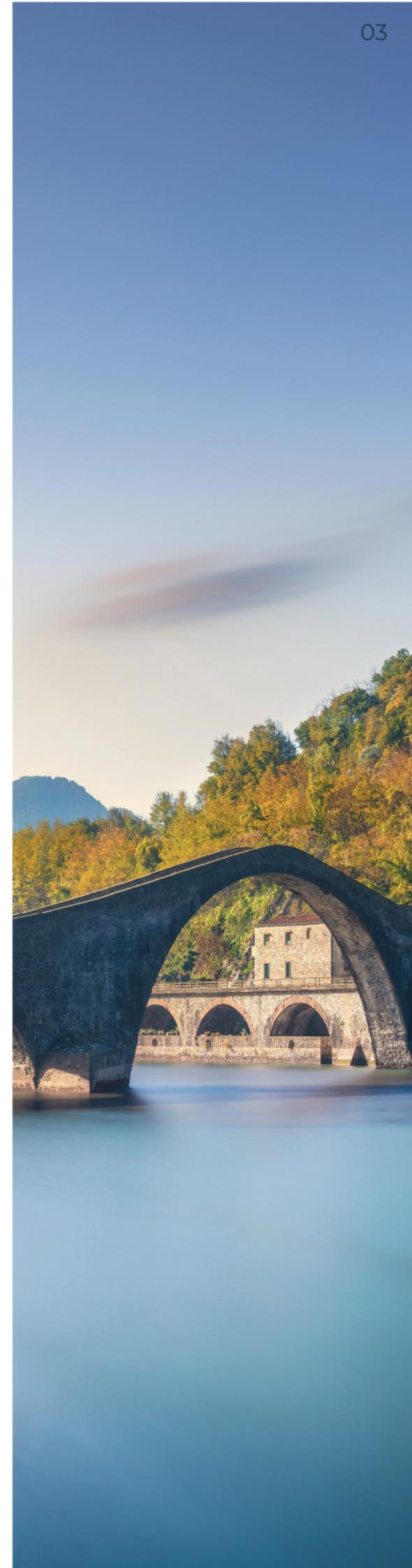
Misalignment

Fonctionnalités

Battery 3,6 V - 2,6 Ah - Battery life up to 4 years*	Weight 250 g	Dimensions 13 cm x 5,5 cm
Resolution 0.01 mm - 1 °C	Connection Bluetooth & LPWAN network	Protection IP66
Accuracy 5 µm - 0,5 °C (+/-)	Measurement interval 10 min to 24 h	2 Mounting modes
Internal memory 250,000 measurements	Operating temperature -25 °C to +70 °C	Measurement range 0 to 25 mm (± 1 mm)

*Depending on the selected measurement interval, sensor exposure, and data transmission mode (Bluetooth, LPWAN, etc.).

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Use Case

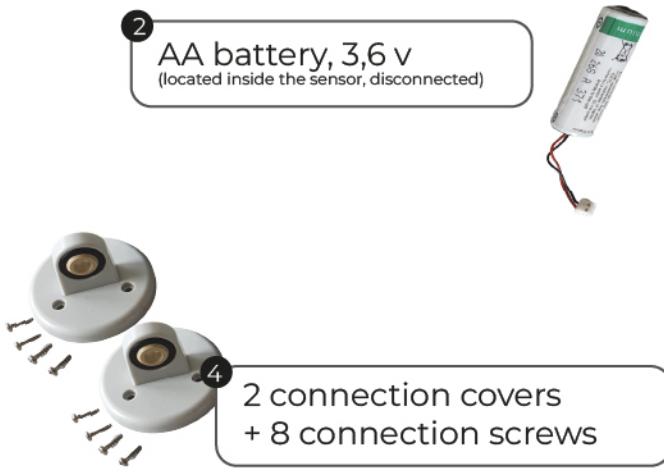
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01 Packing List



Mounting kits are optional

Solid surface - flat or angled surface (concrete, solid brick, stone, etc.)



5 4 M6 nuts, stainless steel A4

6 2 hex head screws M6 x 60, stainless steel A4

7 2 concrete anchors female sleeve M6 x 35

8 1 straight IGUS ball joint for angled mounting

9 1 medium flat washer M6, stainless steel A2

Hollow surface - flat or angled surface



10 6 M6 nuts, stainless steel A4

11 2 polycarbonate spacers DELTA FIX

12 2 hex head screws M6 x 60, stainless steel A4

13 8 hammer-in wall plugs, PZ head M5

14 1 straight IGUS ball joint for angled mounting

15 1 medium flat washer M6, stainless steel A2

02 Recommendations

Solid surface



This installation manual is also available in video format

[Watch the installation video for solid surface](#)

Simple mounting

[Watch the installation video for solid surface](#)

Angled mounting

💡 Mounting recommendations

- Blower bulb
- 10 mm open-end wrench and socket wrench for screws and nuts
- 13 mm open-end wrench (or socket wrench) for concrete anchors
- Hammer (for installing the angled mounting ball joint)
- PH1 Phillips screwdriver
- 6 mm drill bit suitable for the mounting surface



Different mounting kits are available depending on your support

- Solid surface mounting kit
- Hollow surface mounting kit
- Magnetic mounting kit
- Bi-axial mounting kit



To learn more, consult the catalogue available for download on our website.

02 Recommendations

Hollow support



This installation manual is available as a video

[Watch the installation video for hollow support](#)

Fixation simple

[Watch the installation video for hollow support](#)

Fixation en angle

Conseil pour fixation

- Blower bulb
- 10 mm open-end wrench and socket wrench for screws and nuts
- 13 mm open-end wrench (or socket wrench) for concrete anchors
- Hammer (for installing the angled mounting ball joint and wall plugs)
- PH1 Phillips screwdriver
- 5 mm drill bit suitable for the mounting surface



Different mounting kits are available depending on your support

- Solid surface mounting kit
- Hollow surface mounting kit
- Magnetic mounting kit
- Bi-axial mounting kit



To learn more, consult the catalogue available for download on our website.

03 Starting the sensor



We strongly recommend connecting and configuring your sensor via Bluetooth before going to the job site. It is essential to prepare your equipment 48 to 72 hours in advance and to test the Bluetooth connectivity.

Before installing your sensor, you must connect the battery.

Please follow the numbers shown in green, which correspond to the items in the packing list.



01

Carefully write down the serial number: it will be required to connect the sensor to the application.



02

Using a PH1 Phillips screwdriver, **unscrew the cover screw** (1)

Fully compress the sensor travel to unscrew the cover without damaging it, by turning counter-clockwise.



03

Remove the battery, **then connect it** (2)

⚠️ Use the keyed connector to make the connection, regardless of wire colors.



04

Place the battery at the bottom of the housing (3) and **push the connector** into its designated slot to prevent the wires from being pinched when closing



05

Close the cover by tightening clockwise **until the two alignment arrows are aligned**.



06

Reinsert the screw and tighten without forcing.

04 Prepare Your Sensor

Prepare your sensor according to the type of installation you need.

Simple Mounting



Attach the supplied connection cap (4), and screw it in.

⚠️ Pay attention to the sensor alignment; a keyed guide is provided to help you (orange arrow).



Turn the sensor over and remove the rear part by unscrewing the three small screws.



Perform the same operation on the rear of the sensor, i.e. **install the second connection cap (4)** et vissez.



Your sensor is almost ready to be installed on site.

Go now to the FEELBAT application.

Your sensor is now

- ✓ Connected
- ✓ Configured
- ✓ Prepared

Fixation en angle



Attach the supplied connection cap (4), and screw it in.

⚠️ Pay attention to the sensor alignment; a keyed guide is provided to help you (orange arrow).



Assemble the ball joint for angled mounting (8) as shown in the image.



Strike the ball joint with a hammer to push the ball inside.



Turn the sensor over and attach the ball joint (8), then tighten it using a 10 mm open-ended wrench.



Your sensor is almost ready to be installed on site.

Go now to the FEELBAT application.

Your sensor is now

- ✓ Connected
- ✓ Configured
- ✓ Prepared

05 Download the application

To connect your sensor, install the FEELBAT mobile application:



Download the FEELBAT application from your smartphone's app store.



Accept all access requests to fully use the application.



Sign up, then a confirmation email will be sent to you.

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



05 Connect your sensor

After signing up, **open the FEELBAT application.**

You will be guided step by step to add and configure your first sensor.



Stay close!

When connecting your sensor, it must be close to you in order to capture the Bluetooth signal.

Stay within a maximum distance of 30 meters from the sensor, in open field conditions (no obstacles between you and the device).

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

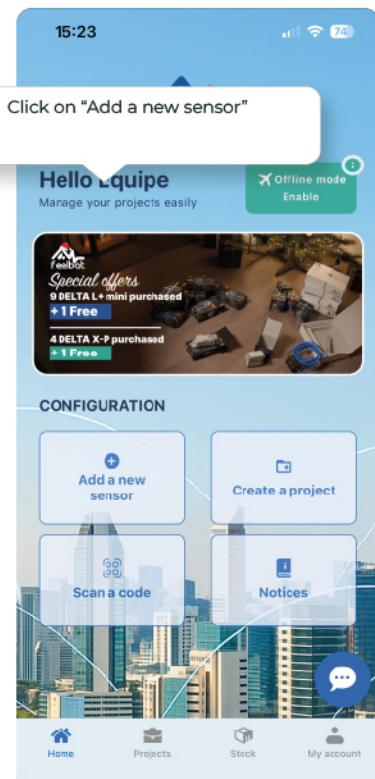
If you wish to activate the remote connection, you must have at least 10 credits.

To do so, please contact your sales representative or write to us.

You must be connected to the sensor via Bluetooth in order to activate the token.



Do not forget to enable Bluetooth on your phone.



06 Install your sensor

Solid surface Simple mounting



Place the reference marks 8 cm on each side of the crack.

NB: La distance dépend de vos besoins : installation au centre ou à une extrémité du capteur.



Using a drill with a bit adapted to the material, **drill at the reference marks with a 6 mm bit** to a depth of approx. 4-5 cm.**

⚠ Remember to remove the dust using a blower bulb.



Insert the concrete anchors with sleeves (7), then tighten them along the drilling axis using a 13 mm wrench.



Insert the screws (6) and nuts (5) **into the sensor ball joints**.

⚠ Install the sensor on the anchor points, making sure the DELTA L+ logo is facing outward.



Then insert the screws with nuts (6+7) **into the anchor sleeves**. (7)



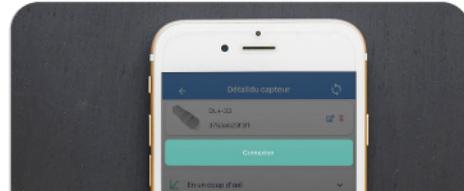
First tighten the nut (5) closest to the wall using a 10 mm wrench. The first nut sets the height, the second locks the sensor. **The nut must be fully tightened, leaving 0.5 to 1 cm between the sensor and the wall.**



Then **tighten the nut closest to the sensor** with the same 10 mm wrench.



Your sensor is now installed on a **solid surface**.



Remember to reset your data before leaving the site by clicking: Connection → Configuration → Action → Reset data.

**** Hard materials:** make a slight circular motion to slightly enlarge the hole, or drill directly with a 7 mm bit.

Soft materials: drill a perfectly perpendicular hole, keeping the bit completely stable.

Our sensor is now:

- ✓ **connected,**
- ✓ **configured,**
- ✓ **prepared,**
- ✓ **installed.**



If you have not yet activated your LinkFeel token, it's not too late!
Click on "connection", select "LinkFeel activation", then run a network test.

You must be connected via Bluetooth to activate the token. Once activated, the sensor will communicate within a few seconds to 4 hours depending on site exposure. It is recommended to activate the token 24 hours before the mission.

[Watch the video](#)

06 Install your sensor

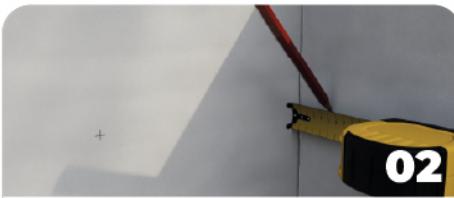
Solid surface Angled mounting



01

Place the reference marks approximately **21 cm apart**.

NB: The distance depends on your needs: installation at the center or at one end of the sensor.



02

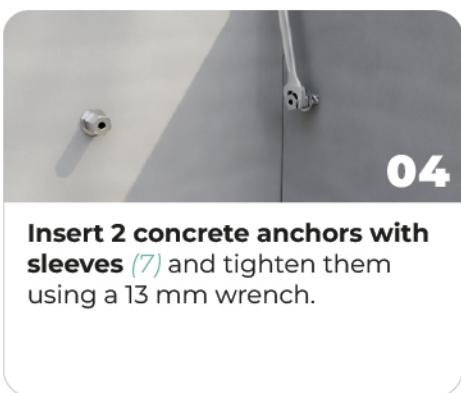
Then mark the angled side, at approximately **5.5 cm**.



03

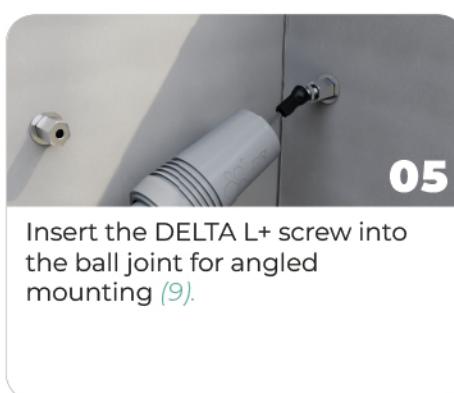
Using a drill with a bit adapted to the material, **drill at the reference marks** with a 6 mm bit to a depth of approx. 4 cm.

Remember to remove the dust using a blower bulb.



04

Insert 2 concrete anchors with sleeves (7) and tighten them using a 13 mm wrench.



05

Insert the DELTA L+ screw into the ball joint for angled mounting (9).



06

Tighten the ball joint to the sensor screw located on the sensor cap using a 10 mm wrench.



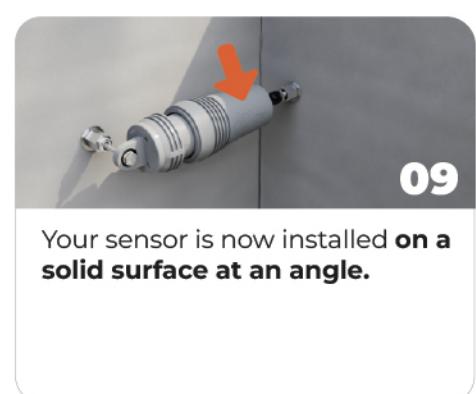
07

Then insert the **2 nuts into the anchor sleeves (7)**. First tighten the nut (5) closest to the wall using a 10 mm wrench.



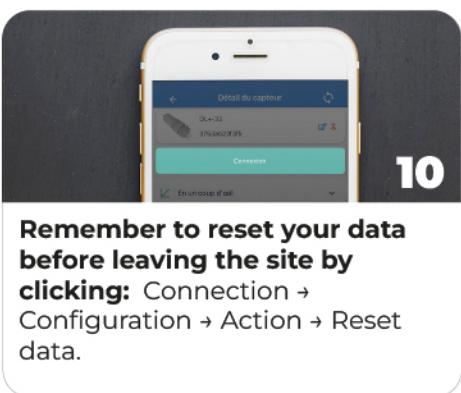
08

Then tighten the nut closest to the sensor with the same 10 mm wrench.



09

Your sensor is now installed **on a solid surface at an angle**.



10

Remember to reset your data before leaving the site by clicking: Connection → Configuration → Action → Reset data.

Our sensor is now:

- ✓ **connected**,
- ✓ **configured**,
- ✓ **prepared**,
- ✓ **installed**.



If you have not yet activated your LinkFeel token, it's not too late!

Click on "connection", select "LinkFeel activation", then run a network test.

You must be connected via Bluetooth to activate the token. Once activated, the sensor will communicate within a few seconds to 4 hours depending on site exposure. It is recommended to activate the token 24 hours before the mission.

[Watch the video](#)

06 Install your sensor

Hollow surface Simple mounting



Place the reference marks **8 cm** on each side of the crack.

NB: The distance depends on your needs: installation at the center or at one end of the sensor.

02

Center the spacer plate (71) then **mark the three drilling points** using a pencil.

03

Using a drill with a bit adapted to the material, **drill at the reference marks** with a 5 mm bit to a depth of approx. 4 cm.

Remember to remove the dust using a blower bulb.



Insert the screws (70) and nuts (72) as shown in the image and tighten using a 10 mm wrench.

The screw is placed at the rear of the sensor cap and the nut at the front.

05

Hold the mount flat against the wall, then insert the hammer-in anchors (73) into the spacer plate holes and drive them in with a hammer.

06

Screw a first nut (70) onto the screw (72), then place the sensor and add a second nut.

Install the sensor on the anchor points, making sure the DELTA L+ logo faces outward.



Use a 10 mm wrench to hold the nut closest to the wall, then tighten the outer nut with a socket wrench.

08

Your sensor is now installed **on a hollow surface.**

09

Remember to reset your data before leaving the site by clicking: Connection → Configuration → Action → Reset data.



If you have not yet activated your LinkFeel token, it's not too late!

Click on "connection", select "LinkFeel activation", then run a network test.

You must be connected via Bluetooth to activate the token. Once activated, the sensor will communicate within a few seconds to 4 hours depending on site exposure. It is recommended to activate the token 24 hours before the mission.

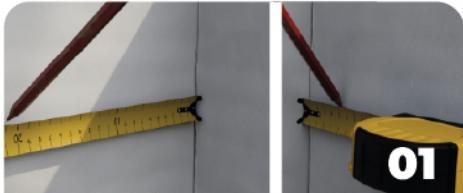
[Watch the video](#)

Our sensor is now:

- ✓ **connected,**
- ✓ **configured,**
- ✓ **prepared,**
- ✓ **installed.**

06 Install your sensor

Hollow surface Angled mounting



Place the reference marks at approximately **21 cm**, then **5.5 cm on the angled side**.

NB: The distance depends on your needs: installation at the center or at one end of the sensor.

01



Center the spacer plate (77) then **mark the three drilling points** using a pencil.

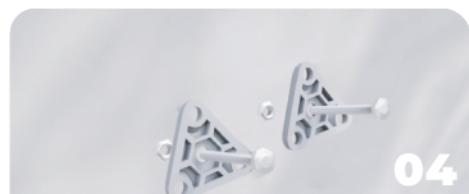
02



Using a drill with a bit adapted to the material, **drill at the reference marks** with a 5 mm bit to a depth of approx. 4 cm.

Remember to remove the dust using a blower bulb.

03



Insert the 2 hex head screws (10) and the nuts (12) as shown in the image and tighten using a 10 mm socket wrench.

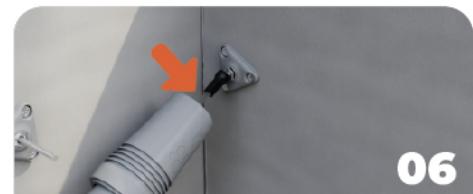
The screw is placed at the rear of the sensor cap and the nut at the front.

04



Insert the hammer-in anchors (13) into the spacer plate holes, then drive them in using a Phillips screwdriver and a hammer.

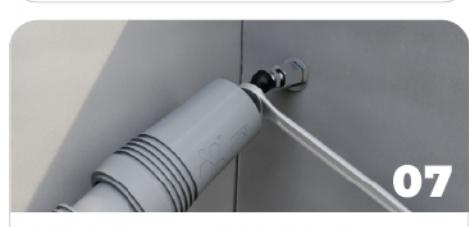
05



Place the DELTA L+ screw into the ball joint, then tighten.

Install the sensor on the anchor points, making sure the DELTA L+ logo faces outward.

06



Then tighten the ball joint securely using a 10 mm wrench.

07



Screw a first nut (10) onto the screw (12), place the sensor, then add a second nut.

08



Use a 10 mm wrench to hold the nut closest to the wall, then tighten it with a socket wrench.

09



Your sensor is now installed **on a hollow surface at an angle**.

10



Remember to reset your data before leaving the site by clicking: Connection → Configuration → Action → Reset data.

11

Our sensor is now:

- connected,**
- configured,**
- prepared,**
- installed.**



If you have not yet activated your LinkFeel token, it's not too late!

Click on "connection", select "LinkFeel activation", then run a network test.

You must be connected via Bluetooth to activate the token. Once activated, the sensor will communicate within a few seconds to 4 hours depending on site exposure. It is recommended to activate the token 24 hours before the mission.

[Watch the video](#)

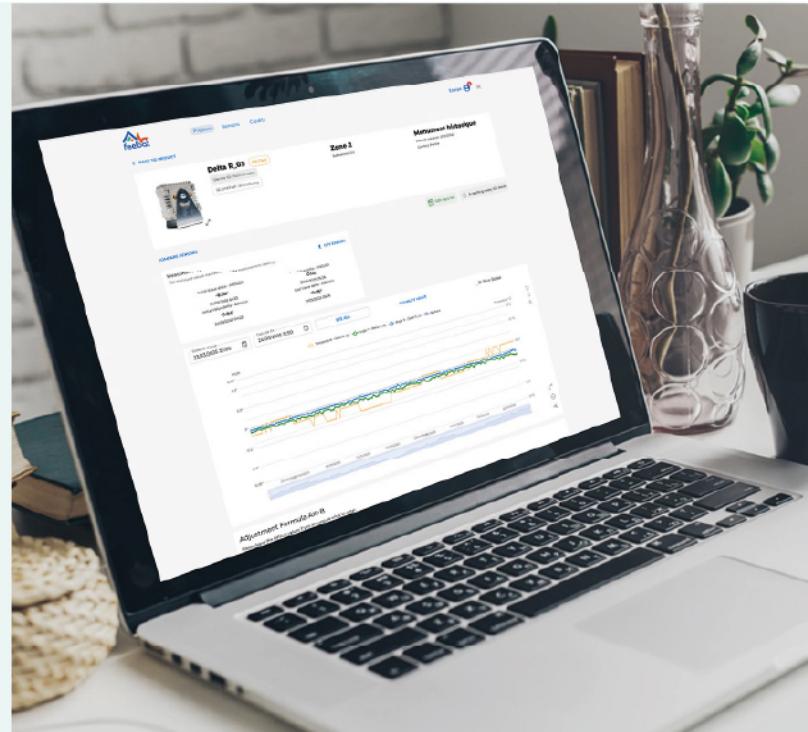
07 Web monitoring

Go further!

All the features available on the application are also accessible via the web, making it easier to analyze and compare charts.

- ✓ **SIMPLIFIED PROJECT MANAGEMENT**
- ✓ **ZONE VISUALIZATION**
- ✓ **CURVE ANALYSIS**
- ✓ **PDF REPORT GENERATION**

[ACCESS THE WEB APPLICATION](#)



Test Button

The test button allows you to **check Sigfox coverage** when the exact address or location of the sensors has not yet been defined, thus ensuring the proper functioning of the device.

Solutions to extend your network and ensure data recovery from your sensors



The FEELBOX

The FEELBOX is a 4G gateway that ensures data transmission from your FEELBAT sensors when **Sigfox coverage is insufficient**.

Wherever a 4G connection is available, your sensors can transmit their measurements.



The Repeater

The repeater extends the range of sensors in **low Sigfox coverage areas**.

It can relay up to 15 sensors (140 messages/day) and operates on battery power with a battery life of 1 to 7 years depending on use. A 1-year subscription is included, renewable with a LINKFEEL token.



Sigfox Microstation

The Sigfox microstation extends **Sigfox coverage indoors or in poorly covered areas**.

It operates on 220 V with Ethernet or 3G/4G connection (optional). An IP65 enclosure is recommended for outdoor use. 3G/4G USB dongles are available as an option (SIM card not included).

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

08 Use case



09 Useful Information

FEELBAT products are covered by the legal warranty of conformity.

This warranty covers defects of conformity with respect to the sales contract that appear within two years following delivery of the product.

They are also covered by the warranty against hidden defects, which applies to defects not apparent at the time of sale and which render the product unfit for use or significantly reduce its use.

As such, the warranty does NOT apply in the following cases:



The sensor has fallen



The housing is damaged (impacts, cracks, marks)



The sensor is used for non-compliant purposes



The sensor has been immersed in water



The sensor is stored or used outside the temperature range (-25 °C to +70 °C)



The fixings restrict the linear operation of the sensor



The sensor is used beyond its measurement range



The sensor was purchased more than 2 years ago



Have a question?

Visit our FAQ: it gathers answers to the most frequently asked questions and guides you step by step in using our solutions.

[Access the FAQ](#)



**If you have a crack
You FEELBAT**

Discover our tutorial videos

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