feelbat

DELTA R
Monitoring of inclination movements

The DELTA R is a connected dual-axis inclinometers sensor designed to monitor the inclination movements of walls and/or structures with high precision and complete autonomy.

It allows you to track inclination movements on two axes, as well as the outdoor temperature, directly from your smartphone.

**Compact & Durable**
IP66

High Precision
0,01° angle / 1° T°

Plug & Play
Easy to use and install

Autonomous
3.6 V / 17 Ah battery

Connected
LPWAN or Bluetooth network
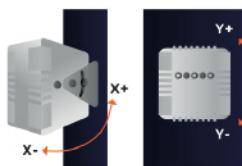
Dual-axis sensor

Features

Battery 3,6 V - 17 Ah Battery life 1 to 7 years*	Weight 350 g	Dimensions 8x8 cm / Thickness 5 cm
Resolution 0,01° (angles) - 1° (T°)	Connectivity Bluetooth & LPWAN radio	Protection IP66
Accuracy 0,005° (angles) - 0,5° (T°)	Measurement interval from 10 min to 24 h	Mounting modes 2
Internal memory 250 000 measurements	Operating temperature -25 °C to +70 °C	Measurement range ±15°

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

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01 Packing List

1. 4 cover screws
2. Housing cover
3. 1 Type D battery / 3,6 V (with connector)
4. Sensor body
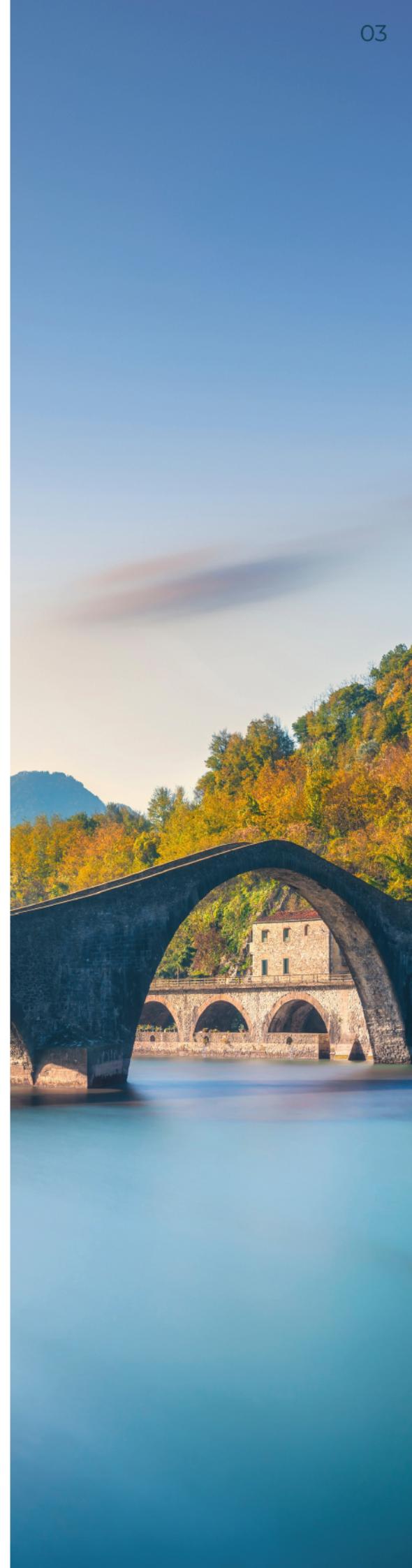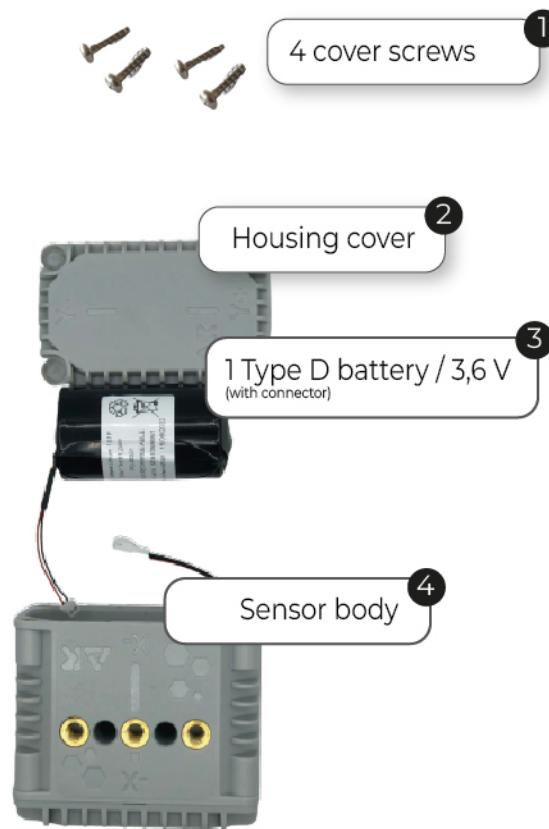
Mounting Hardware
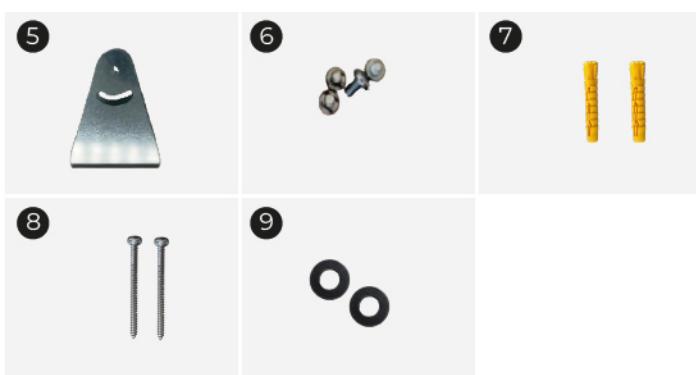
5. 1 Galvanized wall mounting bracket
6. 4 M6 screws
7. 2 multi-material nylon wall plugs
8. 2 stainless steel A2 screws 5.5 × 70 mm
9. 2 stainless steel A2 washers Ø6 mm

02 Recommendations

> **This installation guide is also available as a video**
>
> **Watch the DELTA R installation video**

Mounting recommendations

- T20 screwdriver
- Ø10 mm drilling for nylon wall plug
- T30 screwdriver for fastening screws
- T25 screwdriver
- Air blower

Nylon wall plugs ×2
Mounting screws ×4

DELTA R

FEELBAT application
installed on your smartphone

T20 screwdriver

T25 screwdriver

T30 screwdriver

Drill with a 10 mm bit
suitable for the material

Air blower

Spirit level

Hammer

Mason's pencil

Magnetic mounting without drilling using 2 magnets on a metal support.

Kit specially designed for the DELTA R, allowing easy installation on metal surfaces without weakening the structure by drilling.

For more information, please consult our downloadable catalogue on our website.

03 Sensor Start-up

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

Step 1

Before installing your sensor, you must connect the battery.
Please follow the green numbers, which correspond to the items in the packing list.

01

To begin, **remove the DELTA R cover** *(2)* by unscrewing the 4 screws *(1)* with a T20 TORX screwdriver.

⚠️ Warning: do not remove the cover marked "Radio Wave" – do not open it.

02

Remove the battery and **then connect it** *(3)*

⚠️ Use the keying slot (connector guide) when plugging it in, regardless of wire colors.

03

Carefully write down the **serial number** (located behind the battery); it will be required to connect the sensor to the application.

04

Reinstall the cover *(2)* making sure the O-ring seal is correctly positioned before closing.

⚠️ Pay attention to the sensor positioning; an alignment guide is provided (orange arrow).

05

Press on the cover *(2)* and then reinstall the screws *(1)*.

06

Tighten without forcing.

⚠️ Use silicone grease (not supplied) to lubricate the seal when closing. Do not overtighten the screws: they only hold the cover in place.

07

Your sensor is now almost ready to be installed on site.

Your sensor is now:

✔️ **Connected**
✔️ **Prepared**

04 Download the application

To connect your sensor, install the FEELBAT mobile application:

GET IT ON Google Play

Download on the App Store

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

04 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.

<u>You must be connected to the sensor via Bluetooth in order to activate the token.</u>

⚠ **Do not forget to enable Bluetooth on your phone.**

Click on "Add a new sensor"
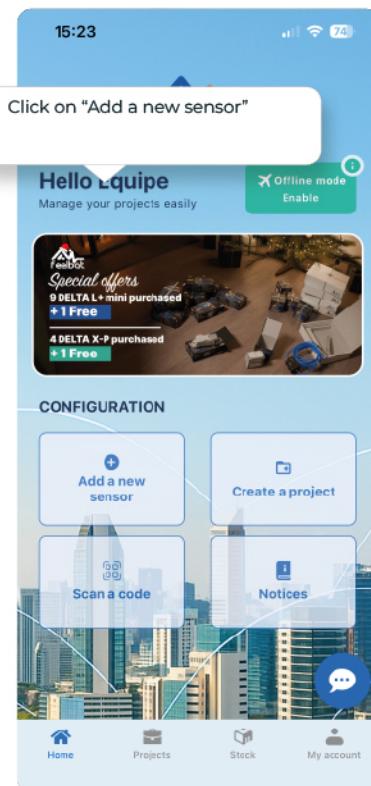
05 Install your sensor
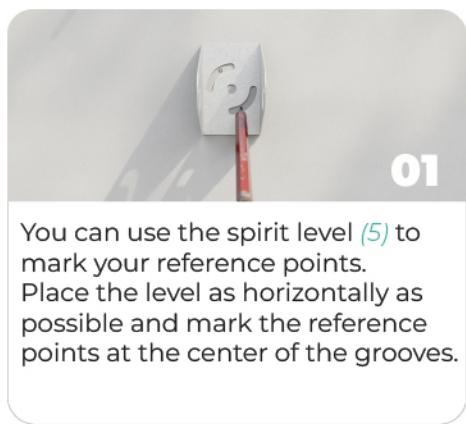
01

You can use the spirit level *(5)* to mark your reference points. Place the level as horizontally as possible and mark the reference points at the center of the grooves.
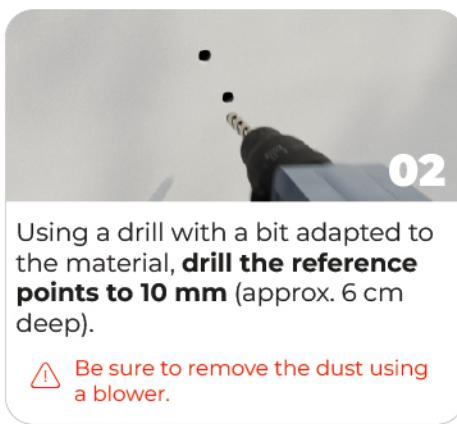
02

Using a drill with a bit adapted to the material, **drill the reference points to 10 mm** (approx. 6 cm deep).

⚠ Be sure to remove the dust using a blower.
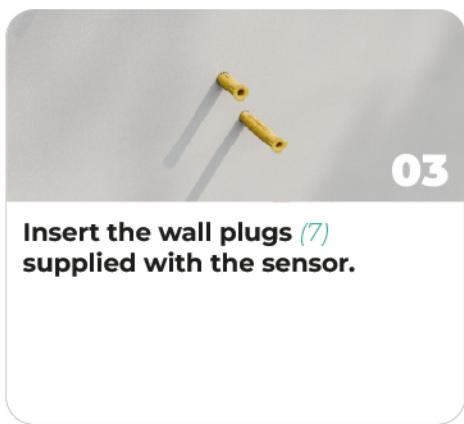
03

Insert the wall plugs *(7)* supplied with the sensor.
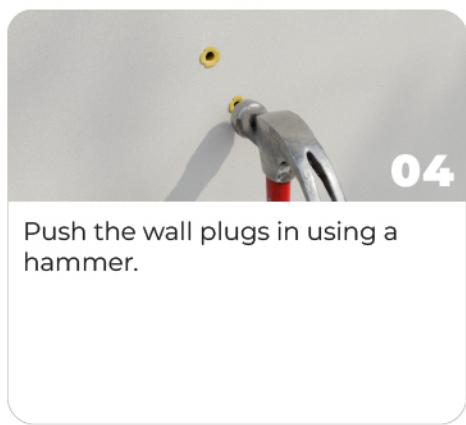
04

Push the wall plugs in using a hammer.

05

Then place the straight bracket, followed by the washers *(8)* and the screws *(9)*.
Tighten using a Phillips screwdriver until the wall plugs are correctly anchored.

06

**Place your sensor and insert the screws *(6)* into the designated slots.**

⚠ Place the Y+ side against the wall (Y- facing the wall) and orient the radio antenna without pointing it upward.
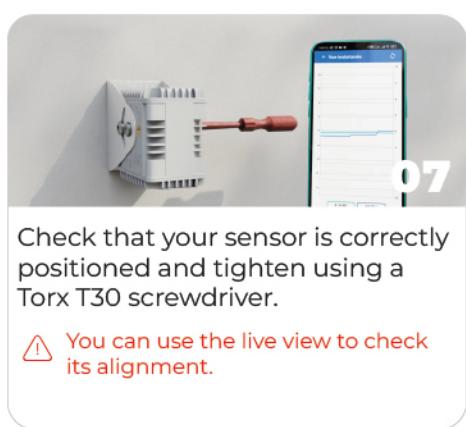

07

Check that your sensor is correctly positioned and tighten using a Torx T30 screwdriver.

⚠ You can use the live view to check its alignment.
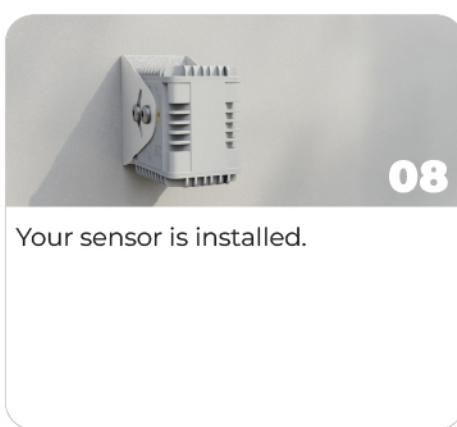
08

Your sensor is installed.
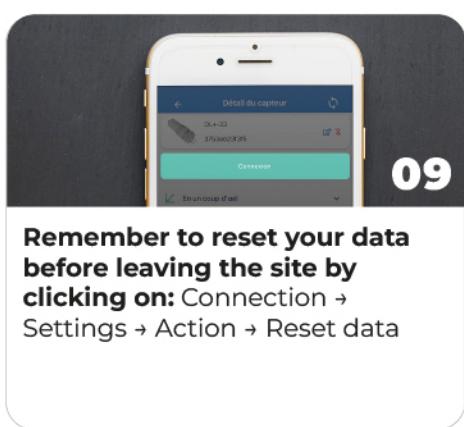
09

Remember to reset your data before leaving the site by clicking on: Connection → Settings → Action → Reset data
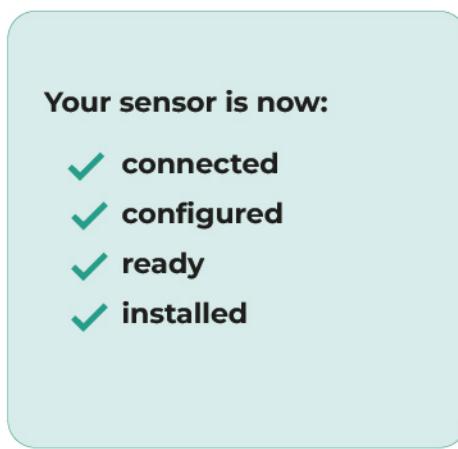
Your sensor is now:

✓ **connected**
✓ **configured**
✓ **ready**
✓ **installed**

If you have not yet activated your LINKFEEL token, it is not too late!

Click on Connection, select LINKFEEL activation, and run a network test.
You must be connected via Bluetooth to the sensor in order to activate the token.
Once activated, the sensor will communicate every 4 hours according to site exposure.
It is recommended to activate the token 24 hours before
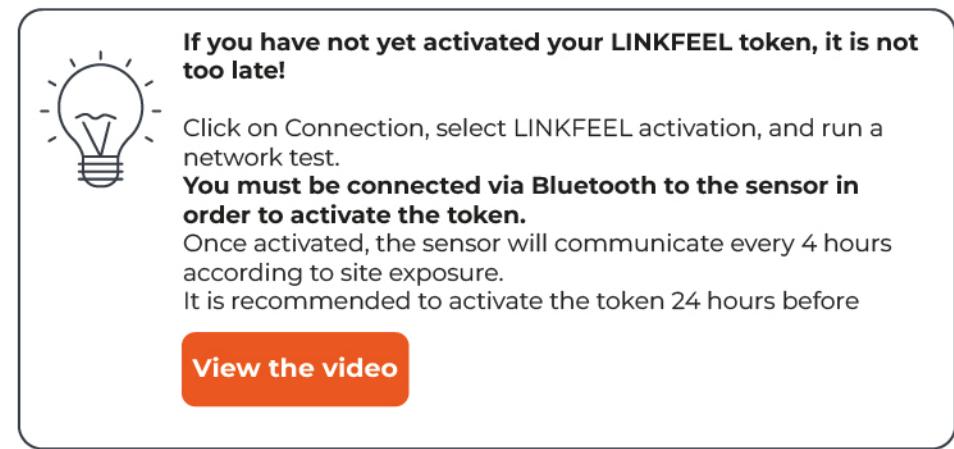
View the video

For semi-submerged use, a specific preparation can be carried out to upgrade the sensor to IP67.- Contact-us

06 Webmonitoring

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
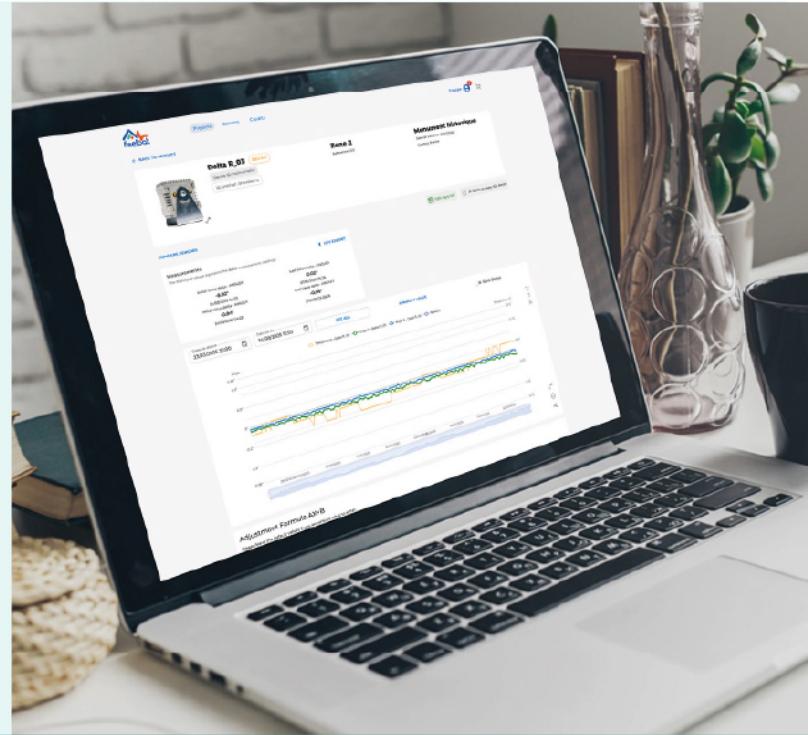
Test Button

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

07 Use case

2 angle measurements
X et Y
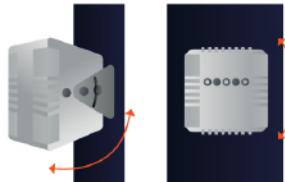
08 Inclinometer Line

Inclinometer Line

The inclinometer line makes it possible to monitor the overall deformations of the structure and millimetric displacements over long distances.

Each aluminum segment is mounted on bi-axial articulated supports, ensuring freedom of movement to track all structural variations.

Want to learn more? Call us!

PI05

DLLR

PI1

PI02

PICONECT

PIFIX

PISUPP
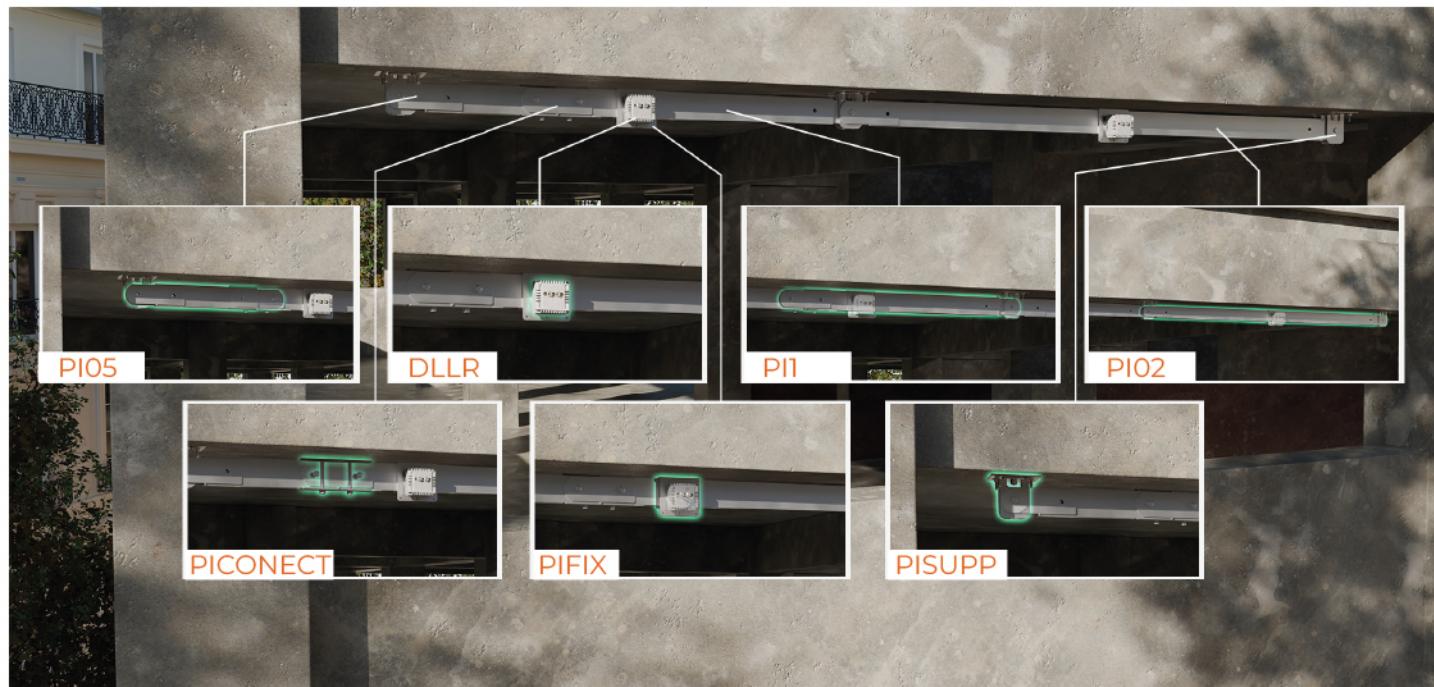
09 Useful Information

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

Watch the help videos