

# DELTA XL100

High-amplitude crack monitoring sensor





**The DELTA X-L100 is a connected electronic sensor specifically designed to accurately monitor large-amplitude crack movements.**

It offers a displacement range from 0 to 100 mm. Equipped with a displacement sensor, it features dedicated ball joints at both ends for easy installation.



**Compact & Resistant**  
IP65



**Precise**  
0.01 mm - 1°C



**Plug & Play**  
Easy to use and install



**Autonomous**  
3,6 V - 17 Ah battery

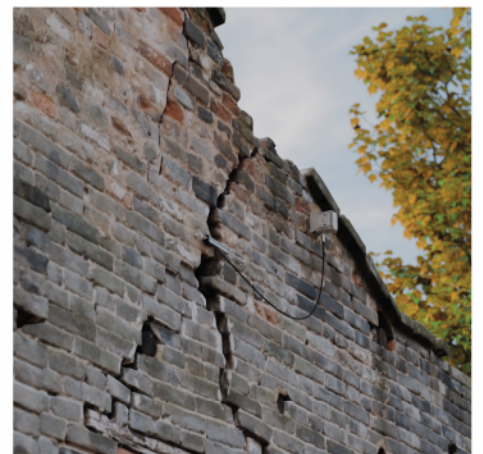


**Connected**  
LPWAN network  
or Bluetooth

## Features

<b>Battery</b> 3,6 V - 17 Ah - <b>Battery life</b> 1 to 7 years*	<b>Probe protection</b> IP65	<b>Number of movements</b> 100 millions
<b>Resolution</b> 0.01 mm - 1°C	<b>Bluetooth &amp; LPWAN radio connection</b>	<b>Crack gauge length</b> 175 mm
<b>Accuracy</b> 5 µm - 0,5°C (+/-)	<b>Cable length</b> 2 m	<b>Fixing point</b> Ball joint on both sides
<b>Internal memory</b> 250,000 measurements	<b>Operating temperature</b> -25 °C to + 70 °C	<b>Measurement range</b> 0 to 100 mm

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



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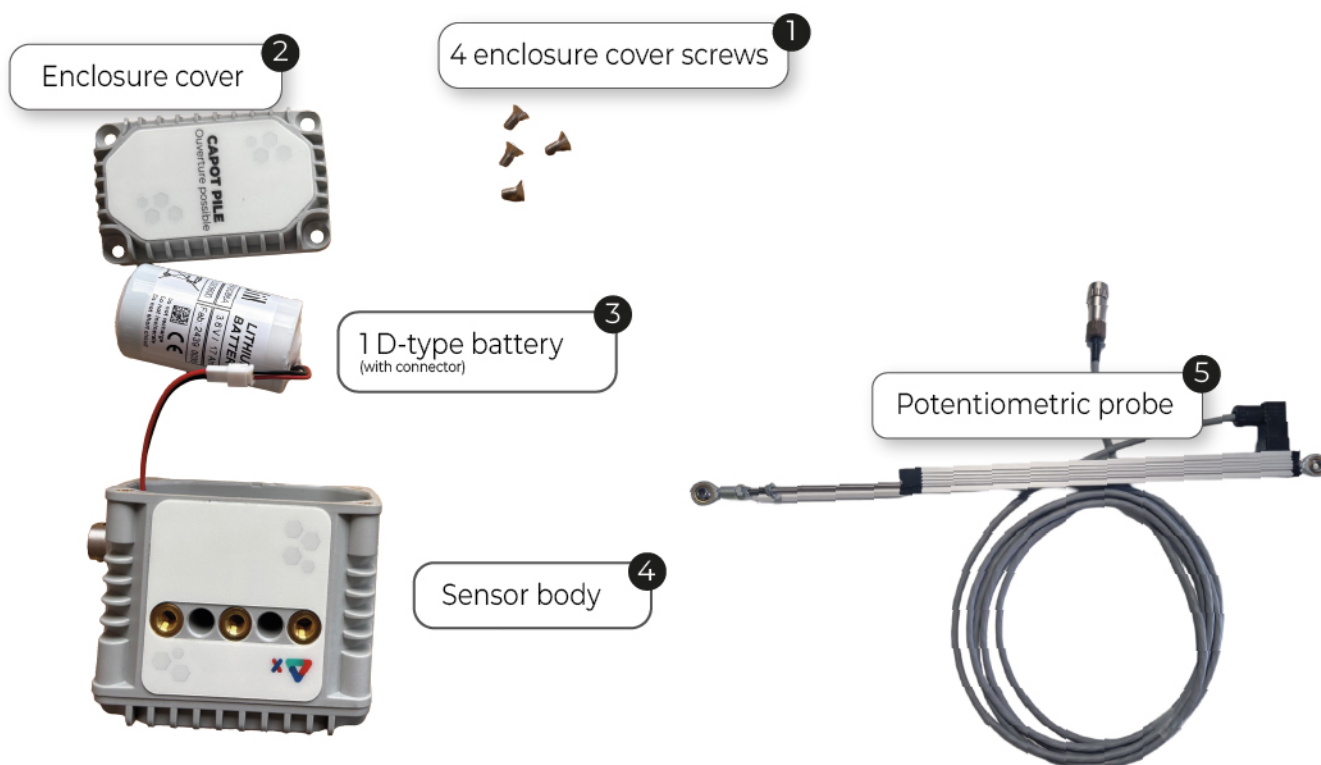
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# 01 Packing list



## Fixings



- 6 Galvanized wall mounting bracket
- 7 4 M6 screws
- 8 2 multi-material wall plugs
- 9 2 stainless steel A2 screws 6 × 70 mm
- 10 2 stainless steel A2 washers Ø6 mm
- 11 2 hex socket countersunk screws with flange, M5 × 35, stainless steel A2
- 12 2 M5 spacers, stainless steel A2
- 13 2 M5 Nylstop nuts, stainless steel A2
- 14 2 DELTA FIX
- 15 8 hammer-in anchors M5 × 47 mm



## 02 Recommendations



**This installation guide will soon be available as a video.**

Watch the DELTA X-L100 installation video

### Mounting advice

- **WARNING** - Fixing points at the ball joints are Ø5 mm
- TORX T20 key
- TORX T30 key for locking screws
- Drill with Ø10 mm bit for nylon wall plugs
- Hammer
- Phillips screwdriver PH2
- Allen key 3



## 03 Sensor start-up



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 beforehand.

### Step 1

Before installing your sensor, you must connect the battery.

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



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

**Warning:** Do not remove the cover marked "Radio wave" → do not open.



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

Use the keying notch for connection; do not rely on wire colors.



Carefully note the **serial number** (located behind the battery): you will need it to connect the sensor to the application.



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

Pay attention to the sensor orientation; a keying system is provided to help you (orange arrow).



Press on the cover (2) then reinsert the screws (1).



Tighten without forcing.

Use silicone grease (not supplied) to lubricate the seal during reassembly and ensure watertightness. Do not overtighten; the screws are only used to hold the cover in place.



Your sensor is almost ready to be installed on site.

**Your sensor is now:**

- ✓ **Connected**
- ✓ **Prepared**



## 04 Download the app

To connect your sensor, install the FEELBAT mobile app:



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



**Accept all access requests** to use the app properly.



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

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



## 04 Connect your sensor

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

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



### Stay nearby!

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

Position yourself at a maximum distance of 30 to 40 meters from the sensor, in open field (no obstacles between you and the device).

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

If you wish to activate remote connectivity, you must have at least 10 credits. To do so, please contact your sales representative or write to us.



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





## 05 Install your sensor



Place reference marks approximately **10 cm on each side of the crack**.

*Note: The distance depends on your requirements: installation at the center or at one end of the sensor.*



**Then draw your reference marks using the DELTA FIX (14)**, positioning its center on the first reference mark.



Using a drill with a bit suitable for 5 mm material, **drill at the reference points** (approx. 4–5 cm deep).

Remember to remove dust using a blower.



**Place the hex socket counter-sunk screw with flange (11) on the flat face of the DELTA FIX (14), then screw the spacer (12) on the other side.** Tighten using a 3 mm Allen key.



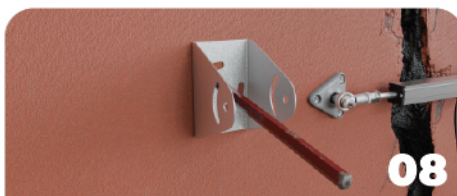
**Insert the hammer-in anchors into the 3 designated holes. (15)**



**Using a PH2 Phillips screwdriver and a hammer, drive in the hammer-in anchors.**



**Install the L100 potentiometer, then add a nut (13) and tighten** using an 8 mm wrench.



You can use the mounting bracket (5) **to mark your reference points**. Place the bracket as horizontally as possible and mark the references at the center of the visible slots.

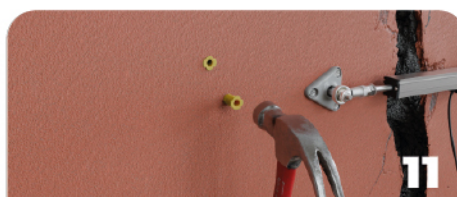


Using a drill with a bit suitable for 10 mm material, **drill at the reference points** (approx. 6 cm deep).

Remember to remove dust using a blower.



Position the anchors (7) supplied with the sensor.



**Drive in the anchors using a hammer.**



Then place the right-angle bracket, followed by the washers (8) and the screws (9).



**Tighten using a PH2 Phillips screwdriver** until the anchors are correctly secured.



**Position your sensor and insert the screws (6)** into the designated holes.



Position the sensor so that the cover bearing the inscription "Do not open" is facing upward.



Check that the sensor is correctly positioned, then tighten using a TORX T30 screwdriver.



Connect the probe.



Turn clockwise to lock the connection until you hear a "click".



Carefully coil the cable around the X sensor to avoid damaging it. Your sensor is now installed.



**Before leaving the site, remember to reset your data by clicking on:**

Connection → Configuration → Action → Reset data.

**Your sensor is now:**

- ✓ **Connected**
- ✓ **Configured**
- ✓ **Prepared**
- ✓ **Installed**

**During handling, do not drill, bend or damage the cable.**



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

Click on Connection, select LINKFEEL Activation, and perform 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 deployment.

**Watch the video**



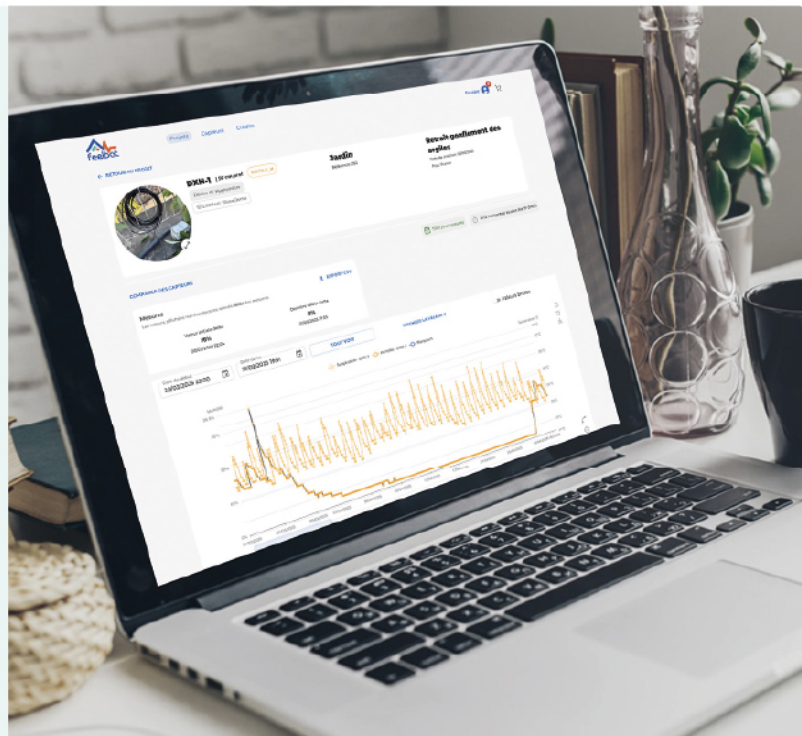
## 06 Webmonitoring

### 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

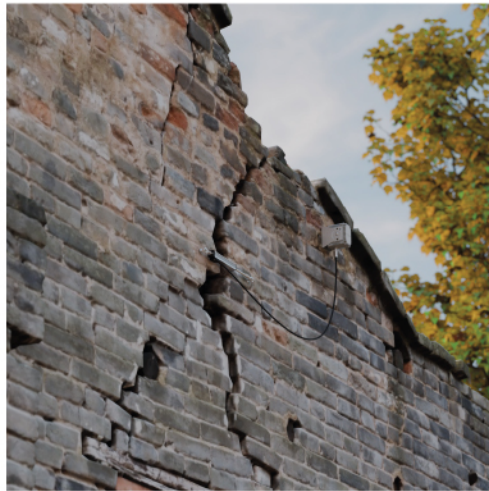
**The Sigfox microstation extends Sigfox coverage indoors or in poorly covered areas.**

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





## 08 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](#)




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