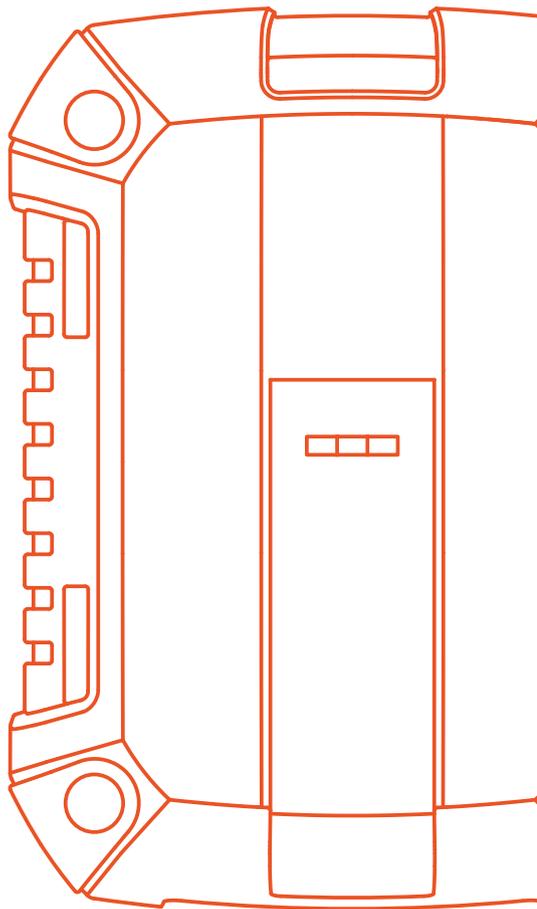




## **Gaia 300**

Wireless Transmitter for Maturix®  
Temperature and Strength Monitoring

Quick Start Guide



Manufactured by **Maturix**®

CVR-nr 36424540

Thomas B. Thriges Gade 42, st.

5000 Odense C

Denmark

# About this guide

This Quick Start Guide covers the most fundamental product information and instructions for using the Maturix® solution. For additional documentation and information, please visit [maturix.com/help](https://maturix.com/help).

## About Maturix®

Maturix is a smart system for monitoring the concrete curing process. It is one of the most advanced solutions for wireless concrete monitoring, trusted by leading companies within the construction industry worldwide. Read more at [maturix.com](https://maturix.com).

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### Disclaimer

Information in this guide is based on specifications believed correct at the time of publication. The right is reserved to make changes as design and general improvements are introduced. Find the latest version in the Help Center at [maturix.com/help](https://maturix.com/help).

# Introduction

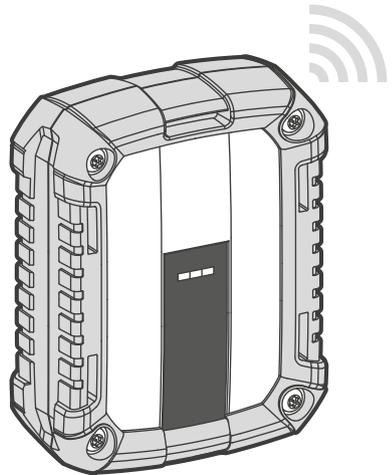
Gaia 300 is a wireless transmitter for Maturix® Temperature and Strength Monitoring using type K thermocouples.

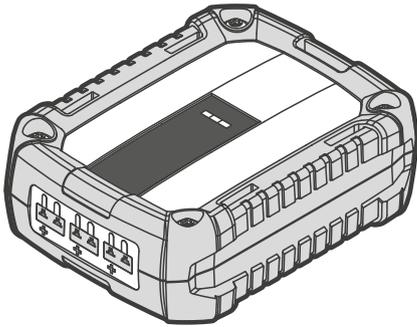
The device transmits the temperature readings wirelessly to the cloud using the Sigfox network or via Bluetooth®.

Sigfox is a global wireless network dedicated to the Internet of Things (IoT). It has low power consumption and a longer range than WiFi and Bluetooth. Learn more at [maturix.com/sigfox](https://maturix.com/sigfox).

The transmitter is designed to withstand harsh environments and outdoor use. It is IP64 rated, meaning it ensures dust-tight protection and can withstand water spray from any direction. The rubber frame offers increased shock absorption and better handling.

Gaia 300 has innovative features, including integrated **Bluetooth®** capability, **internal memory** backup, and **three type K thermocouple channels**. These features help to ensure that no data is lost in case of limited coverage.





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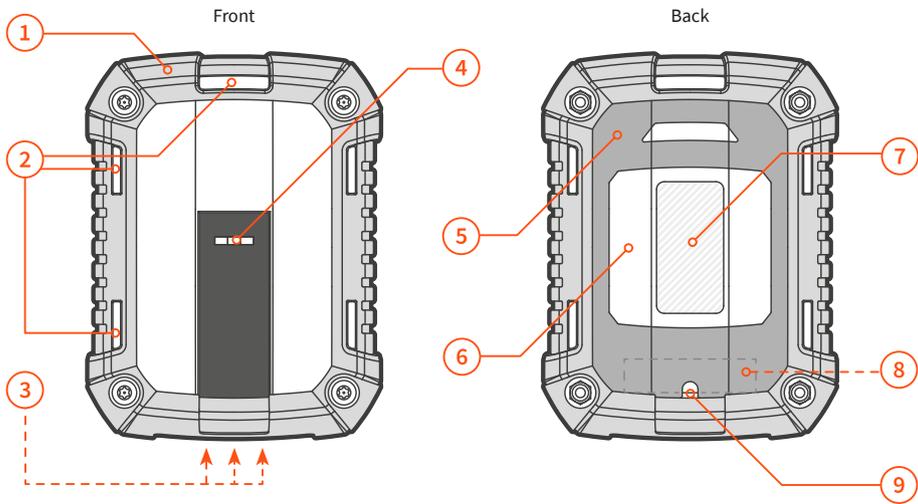


**Attention:** Gaia 300 stores data for up to one year and overwrites older data to maintain access to recent information while optimizing memory usage. This data overwrite applies solely to the device and does not affect data stored within the Maturix platform.

## Activation and data access

The temperature data can be monitored in real-time online in our web portal. Visit [maturix.com/getstarted](https://maturix.com/getstarted) to learn how to get started.

# Product Diagram



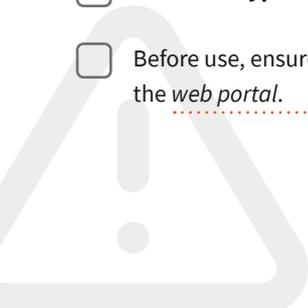
- ① Rubber frame
- ② Mounting slots
- ③ Type K channels
- ④ LED indicators

- ⑤ Back cover
- ⑥ Battery cover
- ⑦ Label with Device ID
- ⑧ Device ID (under the back cover)
- ⑨ Opening slot

# Before you start

 **Attention:** The following steps are strictly required for the Gaia 300 device to operate correctly!

- For live insight, ensure **good Sigfox coverage** at the monitoring location (page 5).
- Download and install the **Maturix® Insitu app** (page 6).
- Install the **batteries** (page 7).
- Configure Gaia 300** using the Maturix® Insitu app (page 12).
- Connect a **type K thermocouple** (page 16).
- Before use, ensure that Gaia 300 has an **active subscription** and has been added to the *web portal*.



Read the software-specific guide or visit [maturix.com/getstarted](https://maturix.com/getstarted) for more information.

# Getting started

## Connectivity

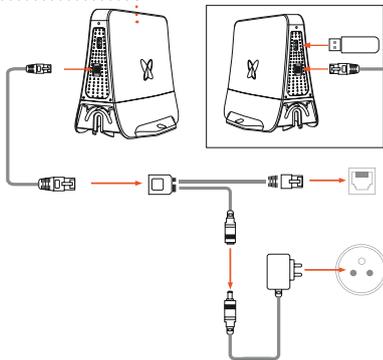
**⚠ Attention:** To ensure live data for Gaia 300, good Sigfox coverage is required. In situations of poor or no coverage, all data can be retrieved using Bluetooth®.

The transmitter provides an extra layer of data security through **encrypted internal memory backup** and **integrated Bluetooth® capability**. It means your critical monitoring data remains accessible even in locations with limited Sigfox coverage.

### ■ If you have a Sigfox Gateway:

Install it following the steps in the *Quick Start Guide* provided with the gateway.

The gateway may have to be configured before use. For installation guides visit [maturix.com/gateway](https://maturix.com/gateway).



## ■ If you *don't* have a Sigfox Gateway:

Check that you have good/excellent coverage at your location before use.  
Learn how at [maturix.com/sigfox](https://maturix.com/sigfox).

To purchase a gateway, contact your reseller or see [maturix.com](https://maturix.com).

If you are in doubt about the coverage, we strongly recommend using the **Sigfox Gateway** to create network coverage in areas with poor reception and ensure better connectivity.

## Download and install Maturix® Insitu app on your smartphone



**Attention:** To log in and configure Gaia 300, ensure that you have user access to Maturix.

Before proceeding with battery installation and configuration, installing the Maturix Insitu app on your smartphone is essential. This step will facilitate the Gaia 300 configuration later in the process.

### Step 1

Open your device's app store (Apple App Store for iOS devices or Google Play Store for Android devices).

## Step 2

Search for *Maturix Insitu* in your app store and install it on your smartphone.



## Step 3

*Log in to the app* using your Maturix account credentials.



**i** We recommend using the latest version of Chrome, Firefox, Microsoft Edge, or Safari for the best experience. [Read more ...](#)

Email address

Password

→] Login

[Forgot password?](#)

## Install batteries

Gaia 300 device works with 4 x AA batteries.

We recommend using high-quality 1.5 V alkaline batteries (included) for general use.

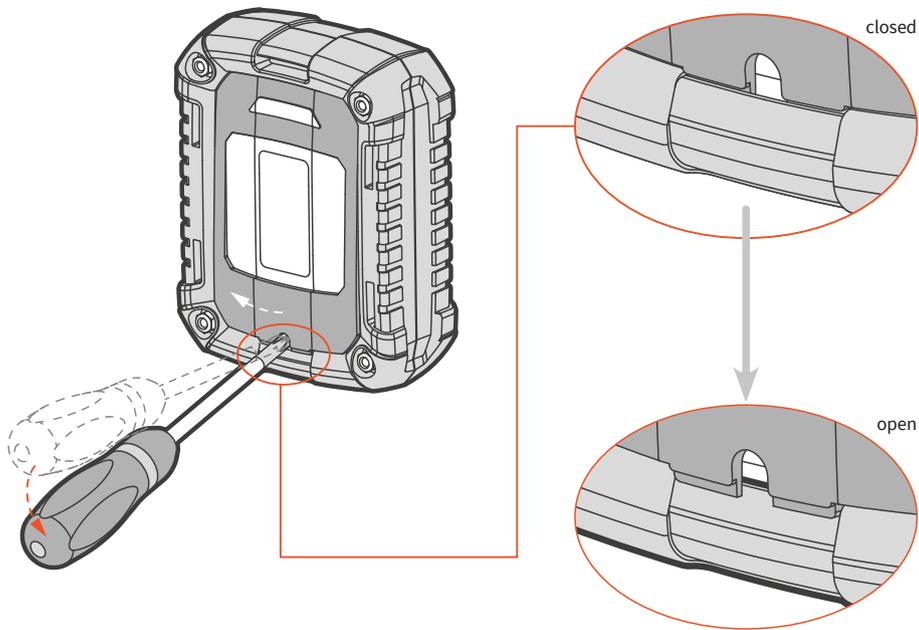
For use at temperatures below 0 °C (32 oF), we recommend lithium batteries\*.



**Info:** \* Lithium batteries have a different (and less linear) discharge curve than alkaline. Please visit [maturix.com/batteries](https://maturix.com/batteries) for more information.

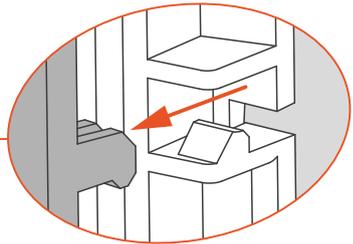
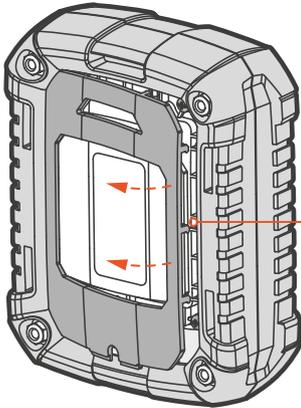
## Step 1

Use a screwdriver to open the bottom flap of the **back cover**.

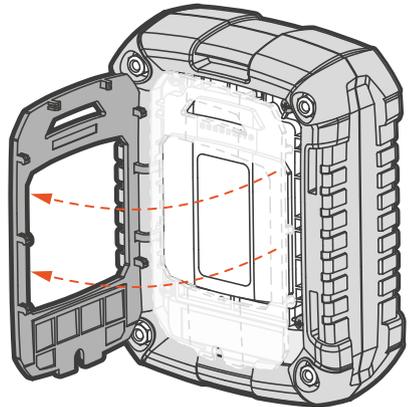


## Step 2

Detach the snap-fits of the back cover and rotate it to the left .



**Attention:** The cover is attached to the left side. Be careful not to tear it!



### Step 3

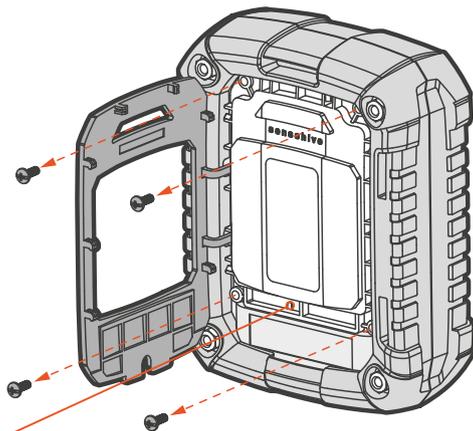
Unscrew the four screws from the battery cover (the hard plastic).

Be careful not to lose the screws.<sup>1</sup>



#### Caution:

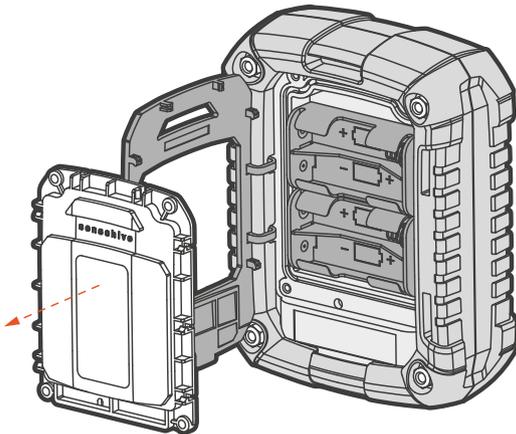
Do not insert any tool in the pressure vent opening.



### Step 4

Remove the battery cover and insert the batteries in place.

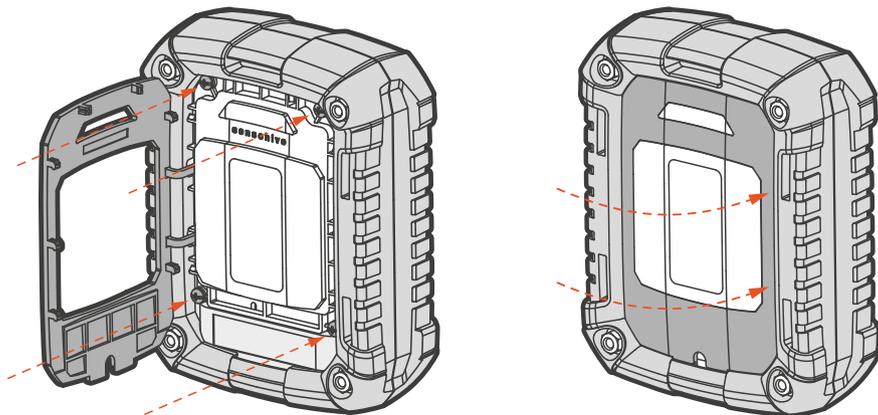
Observe the indications in the holders for the correct polarity.



<sup>1</sup> In case you lose a screw, here's the size: M3 x 8

## Step 5

Screw the battery cover on again and flip the back cover in place, pressing the snap-fits back. Once the batteries have been installed, the device must be configured. Please follow the configuration instructions provided on page 12.



**Info:** To extend the battery life, disconnect the thermocouples when not in use. Gaia 300 will mainly consume energy when a thermocouple is connected.

The low battery threshold is set at 20%. When transitioning from standby to monitoring mode, the Gaia 300 LED indicators will blink red for 10 seconds to indicate low batteries. The battery status can be viewed directly inside the app or web portal under 'Devices'.

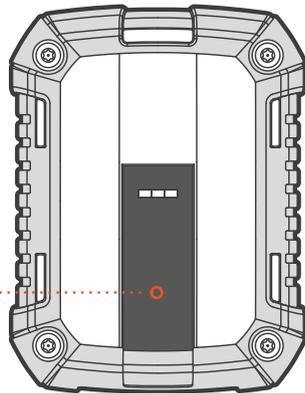
## Configure Gaia 300

 **Caution:** The device cannot perform monitoring if it is not configured.

After inserting the batteries, Gaia 300's LED indicators will alternate between yellow and blue, signalling the need for configuration. Refer to page 22 for LED behaviour.

 **Attention:** In case Bluetooth® on the Gaia 300 is disabled, you can activate it through an NFC tap or by connecting/disconnecting a thermocouple.

The *NFC antenna* for Gaia 300 is located slightly lower than the LED indicators.



### Step 1

Ensure Bluetooth® is enabled on your smartphone.

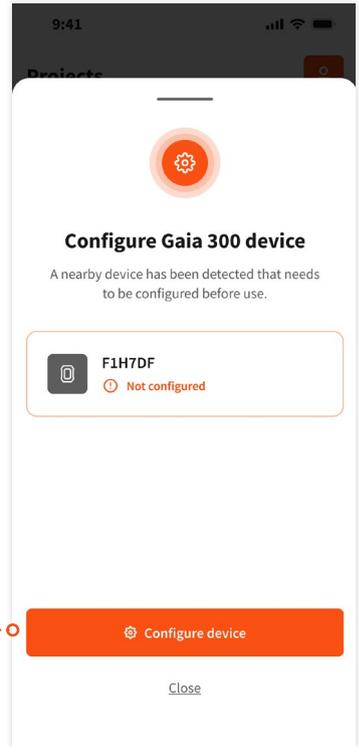
### Step 2

Open the Maturix® Insitu app on your smartphone.



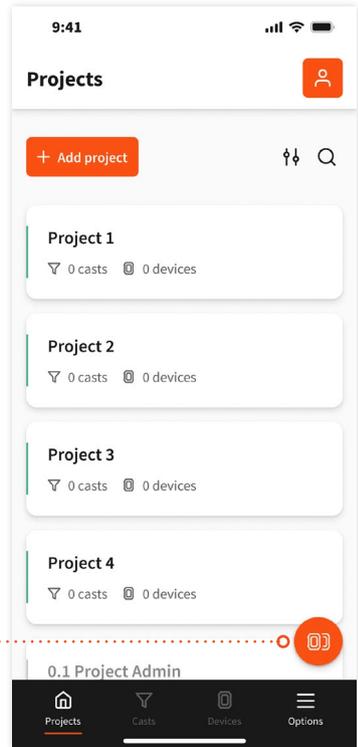
### Step 3

When Gaia 300 is detected by Bluetooth®, a pop-up overlay will automatically appear within the app. The overlay will display the detected Gaia 300 device and provide a *configure device button*. Tap the button to initiate the configuration process.





**Attention:** If the pop-up overlay does not appear, manually open it by tapping the *nearby devices* button in the bottom right corner of the app.



Upon successful configuration, the yellow-blue LED sequence will turn off, confirming that the device is ready for use.

# Operation

## Monitoring / Standby mode

### Monitoring mode

Gaia 300 actively monitors and collects data from the connected thermocouples in monitoring mode.

To initiate the monitoring mode, connect a type K thermocouple. This opens a 15-second window for connecting the remaining thermocouples before the first measurement.



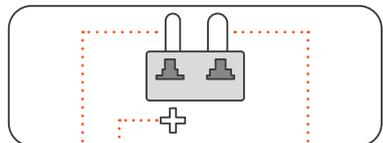
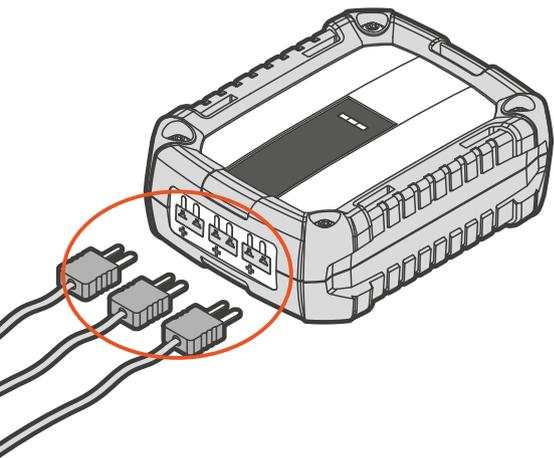
**Attention:** If you cannot insert all thermocouples within the 15-second window, the device will measure and send the data for the ones connected during the window but will monitor all channels upon the subsequent measurement.

### Standby mode

Standby mode is the default state when no thermocouples are connected to Gaia 300. To enter standby mode, disconnect all thermocouples.

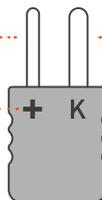
## Connecting the thermocouple

Follow the indications next to the channels to correctly insert the type K thermocouple. When a cable is connected, data will be transmitted every 15 minutes.



LEFT:  
Slim pin

RIGHT:  
Wide pin



# Connecting to Gaia 300

## Step 1

Ensure Bluetooth® is enabled on your smartphone.

## Step 2

Ensure Bluetooth® is enabled on your Gaia 300. If Bluetooth is enabled, the LED indicators on the device will blink blue every 20 seconds.

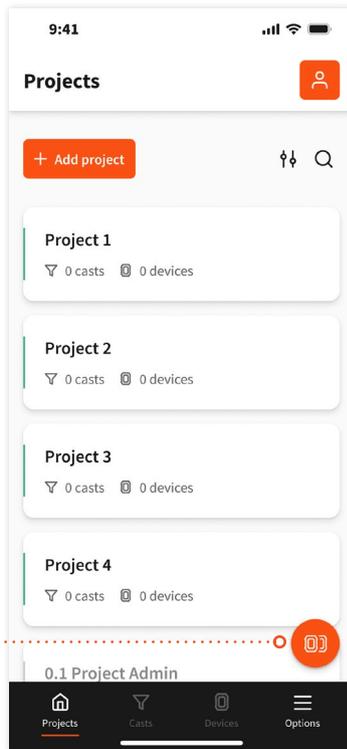
If Bluetooth® is disabled, activate it through NFC tap or connecting/disconnecting a thermocouple. (Refer to page 12)

## Step 3

Open the Maturix Insitu app on your smartphone.

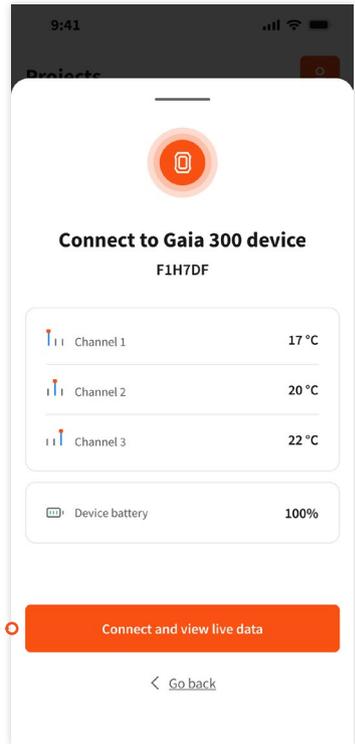
## Step 4

Locate and tap the *nearby devices button* in the bottom right corner of the app. It will open the overlay displaying nearby Gaia 300 devices.



## Step 5

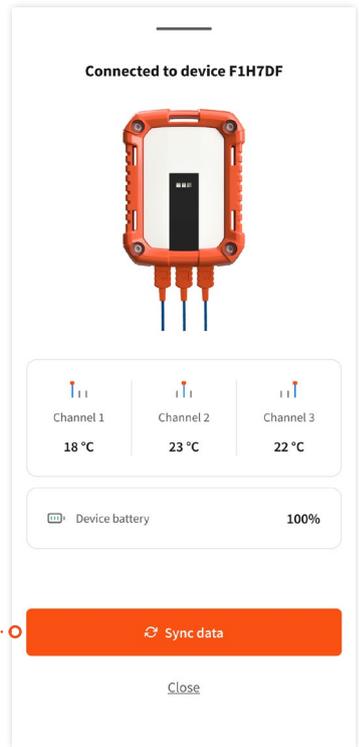
Tap on the device you want to connect to and press *'Connect and view live data'*



# Syncing data

## Step 1

After connecting to the device, initiate syncing by tapping 'Sync data'.



## Step 2

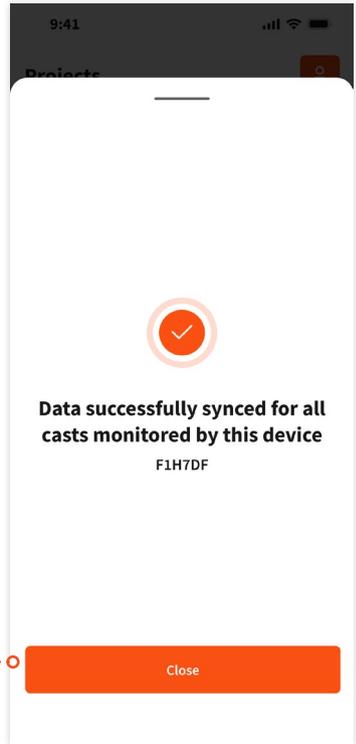
Once data syncing is complete, you will be automatically disconnected from Gaia 300. Tap 'Close' to return to the nearby devices overview.

## Step 3

When a device is assigned to a cast, you can view the synced data within Maturix Insitu.



**Attention:** It can take up to 5 minutes to decrypt the data and update all cast reports.

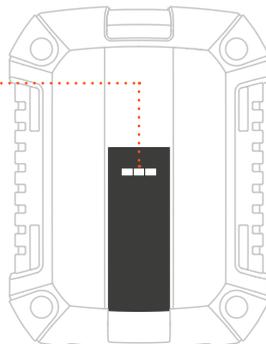


# LED indicator

Gaia 300 features *three LED indicators*, each corresponding to the type K thermocouple channels.



**Attention:** Following is a brief description of the Gaia 300's LED behavior. For a more detailed information, please visit [maturix.com/LED](https://maturix.com/LED).



Standby mode



grey

Configuration mode



yellow

Monitoring mode



green

Bluetooth® enabled



blue

Low battery / Error



red

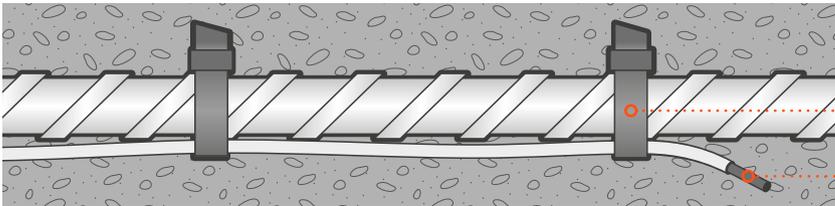
LED state	Situation	LED behaviour
Standby mode	All LED indicators are turned off	
Configuration mode	LED indicators blink yellow and blue until configured (15-minute window)	
Bluetooth enabled	LED indicators blink blue twice every 20 seconds.	
Monitoring mode	LED indicators corresponding to the connected thermocouples blink green twice every 20 seconds.	 <i>(e.g. channel 1 in use)</i>  <i>(e.g. all channels in use)</i>
Low battery	LED indicators blink red for 15 seconds.	
Error	LED indicators blink red, creating an alternating pattern between the outer and middle indicators.	

# Installation of type K thermocouple

## Example 1: Installation on rebar (wet cast concrete)

1. Determine the positions for the thermocouples in the structure before pouring.
2. Secure the thermocouples to the rebars using plastic cable ties or strong tape. Fasten them along the bottom of the reinforcement to shelter them from direct impact during pouring. *Note: The sensor is situated at the tip of the cable.*
3. Connect each thermocouple to a transmitter (see page 16).
4. Mount the transmitters at a secure location (see page 25).

 **Caution:** Do not use metal ties or alike as they may damage the thermocouples.



Consider good cable management practices: e.g., marking each thermocouple with a label will make it easier to remember where each thermocouple is positioned in the structure and assist when assigning each thermocouple to a transmitter in the web portal.

## Example 2: Installation in hollow-core slabs (dry concrete)

1. Determine the positions for the thermocouples in the structure.
2. Use a tool (e.g. a screwdriver) to penetrate the dry concrete and make a small hole. Consider the proper depth of the hole for the correct positioning of the thermocouple's tip, which is where the temperature will be measured.
3. Insert the thermocouple into the concrete.
4. Close the hole thoroughly by pushing the concrete around it to ensure the thermocouple stays in place.
5. Once the thermocouple has been installed correctly, immediately connect it to a Gaia 300 transmitter and place it at a secure and visible location (see next page).

 **Caution:** The tip of the thermocouple must not touch metal or other electrical connections; otherwise, the measurements might be incorrect.

For a more detailed guide with pictures and video, please visit [maturix.com/help](https://maturix.com/help).

When the monitoring is done, and readings are no longer needed, cut the thermocouple cable at the concrete surface.

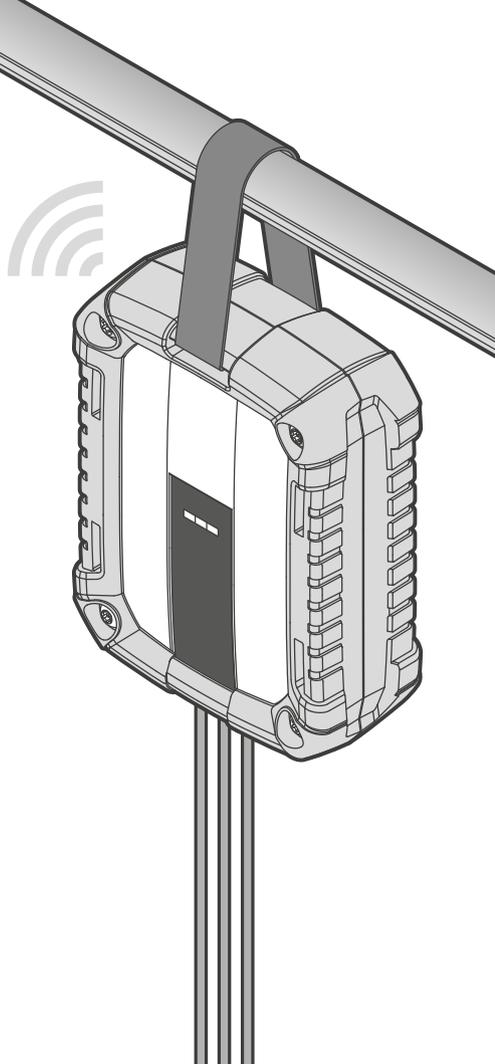
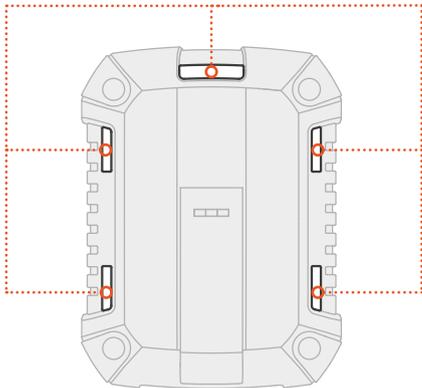
## Mounting on site

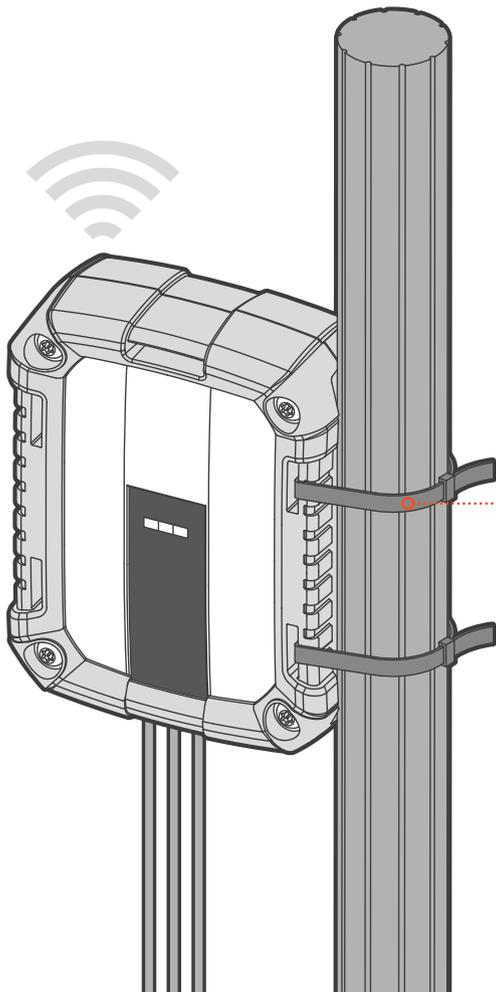
### **Attention:**

For better signal strength, we recommend placing Gaia 300:

- Positioned as high as possible
- Free from obstacles
- With the channels facing down

The device has *five mounting slots* for diverse possibilities of installation.





Use *cable ties* or other preferred fastening method to securely mount Gaia 300 in place.

 **Attention:**

Carefully read the precautions on the next pages to ensure correct device mounting.



## Precautions

**Do not** place Gaia 300 in such a way that it could get permanently damaged.

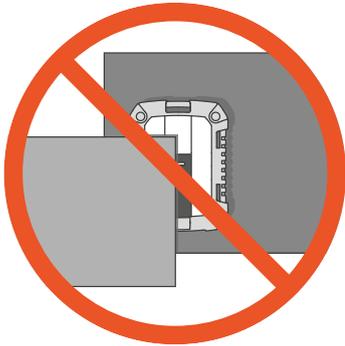


**Do not** place Gaia 300 in direct sunlight. It may result in wrong temperature readings and lower battery life.

**Do not** leave Gaia 300 submerged in water.



**Do not** place Gaia 300 against large metal surfaces. It may affect the antenna performance.



**Do not** block Gaia 300. It may affect the antenna performance.

**Do not** drop Gaia 300 from heights.  
Take care of your tools!



# Troubleshooting

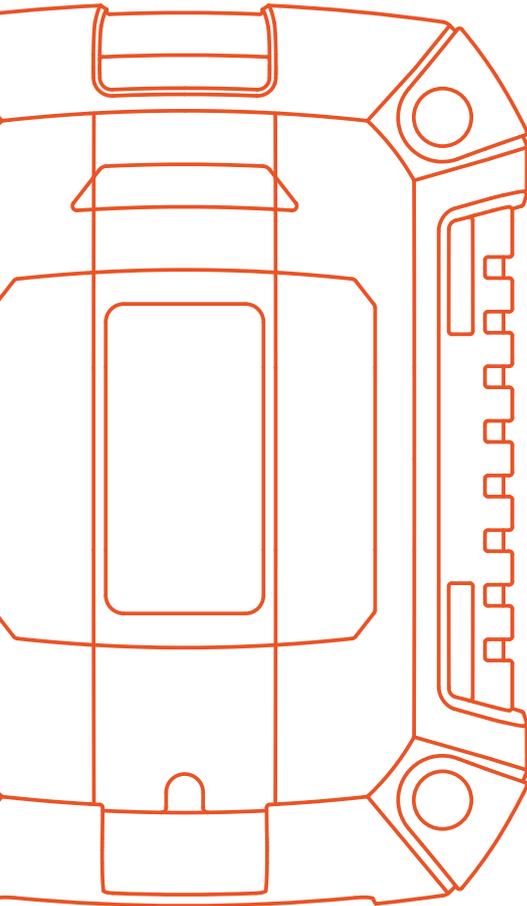
Problem	Possible cause	Solution
No data received <i>or</i> Sporadic data received	The transmitter might be outside of good Sigfox coverage	Make sure the transmitter is mounted correctly for ideal antenna performance (see page 25)
		Install a Sigfox Gateway on-site
	The thermocouple might be damaged	Replace the faulty thermocouple
	The battery might be too low	Replace with fresh batteries
Wrong readings received	The thermocouple tip might be touching a conductive material (e.g. metal)	Install the thermocouple so the tip is protected or not in contact with any conductive materials
	The thermocouple might be damaged	Replace the faulty thermocouple
	The thermocouple type might be wrong	Use type K thermocouples
	The thermocouple polarity might be swapped (self-assembled thermocouple)	Change the polarity in the Data Editor in the web portal (only Maturix® In-situ) <i>or</i> Change the polarity by reassembling the correctly
The LED is not lighting/ blinking (thermocouple connected)	The thermocouple might be damaged	Replace the faulty thermocouple
	The battery might be too low	Replace with fresh batteries

Problem	Possible cause	Solution
No Bluetooth® connection	Bluetooth on Gaia 300 might be disabled	Enable Bluetooth on Gaia 300 through an NFC tap or connecting/disconnecting a thermocouple
	Bluetooth on the smartphone might be disabled	Enable Bluetooth on your smartphone
	Gaia 300 might be out of Bluetooth range	Make sure Gaia 300 and the smartphone are in close proximity
Unstable Bluetooth® connection	Bluetooth signal might be weak due to obstacles or interference	Minimise the obstacles and interference between Gaia 300 and the smartphone
	The battery might be too low	Replace with fresh batteries
Bluetooth not turning on	The hardware might have a temporary glitch	Reboot Gaia 300 by removing and reinserting the batteries.
	The battery might be too low	Replace with fresh batteries
LED indicators freezing/looping or Device not responding	The hardware might have a temporary glitch	Reboot Gaia 300 by removing and reinserting the batteries.

For detailed troubleshooting and help, please visit [maturix.com/troubleshooting](https://maturix.com/troubleshooting).

If a problem persists, contact your reseller for support/service.





Designed in Denmark

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[www.maturix.com](http://www.maturix.com)

