TEKZITEL

TEKZIPARK

FULL-FLUSH / SEMI-FLUSH DEVICE PREPARATION & INSTALLATION

Abstract

This document details the manual step-by-step installation of both the semi and full flush variations of the TEKZIPARK Devices.

TEKZIPARK Terms of Usage

The device is designed to be used for detecting parking space occupancy states. This product is not intended for incorporation into finished appliances that are made commercially available as single functional units to end users.

This product uses the WISOL Sigfox module which is SIGFOX verified.

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Contents

1. APPLICABILITY

This installation guide is applicable only for TEKZIPARK model # **TEKZ-SIG-X[1]-PKFLS**

[(1)]X is the operating zone

X=1-> RCZ1 868Mhz

X=2-> RCZ2 902Mhz

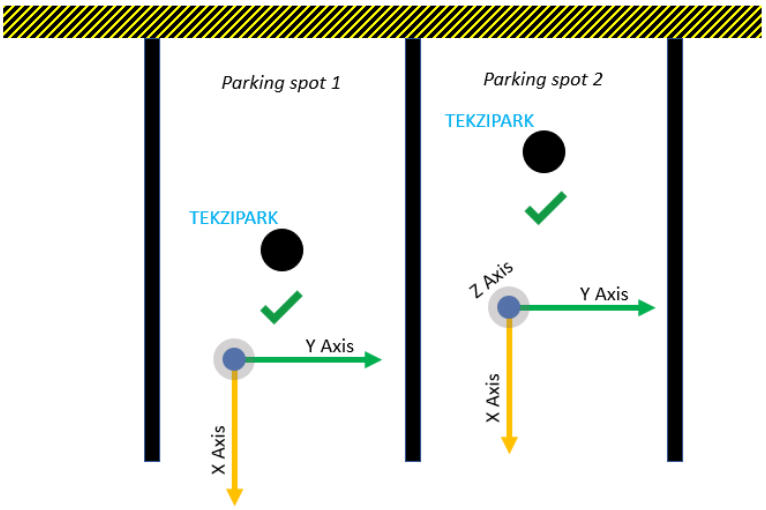
X=3-> RCZ3 923Mhz

X=4-> RCZ4 920Mhz

2. FIELD REQUIREMENTS

The installation of the TEKZIPARK Node will need the area of construction to be cleared, this is an important step as objects insight might deflect and decrease from signal strength and accuracy. Multiple tests domestically and internationally have shown that placing the device roughly in alignment with the below image will ensure optimal performance and a better outcome.

Correct location of mounting the TEKZIPARK sensor for optimum performance.



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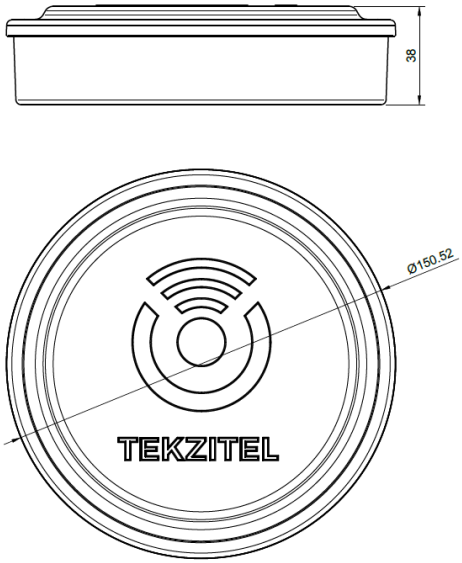
3. DEVICE INSTALLATION

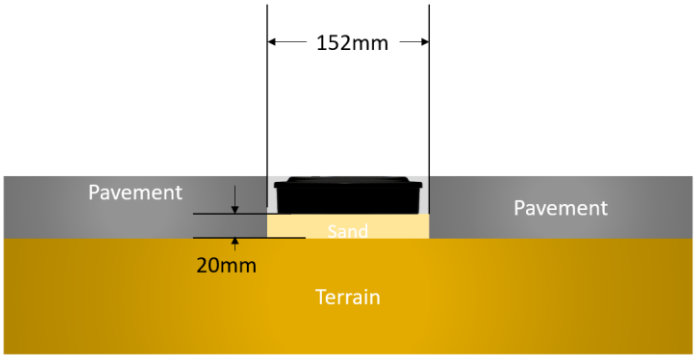


1. The installation will require a tool that will drill a hole big enough for the device enclosure, the hole saw tool is commonly used in this scenario.
2. 152 mm diameter at minimum will need to be drilled.
3. **Note:** Drill deep enough in order to bury the device completely without rising over the asphalt surface

PLACING IN HOLE

1. Prior to placing the device into the pavement, it is recommended to place sand as the bottom layer, this will essentially elevate and align the device horizontally.
2. As advised, 152 mm at minimum will need to be drilled (Device diameter 150 mm).
3. Placing the TEKZIPARK Node upright (Logo on top), the below image depicts what the cross section view would look like:

SEMI-Flush Diagram:



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4. COMPLETING THE FINAL STEP

Once sand has been placed elevating the device to the desired level, an epoxy resin commonly used for filling road fissures will need to be used to fill the hole. Below are the steps needed in order to complete both orientations:

FULL FLUSH

1. The top of the outer casing (Logo facing) will need to be aligned horizontal and placed under the pavement surface by 10 mm, making sure this is secure and in place.
2. You will need to then completely fill the hole with epoxy resin, the casing will then need to be completely submerged within this filling and left to dry.

SEMI FLUSH

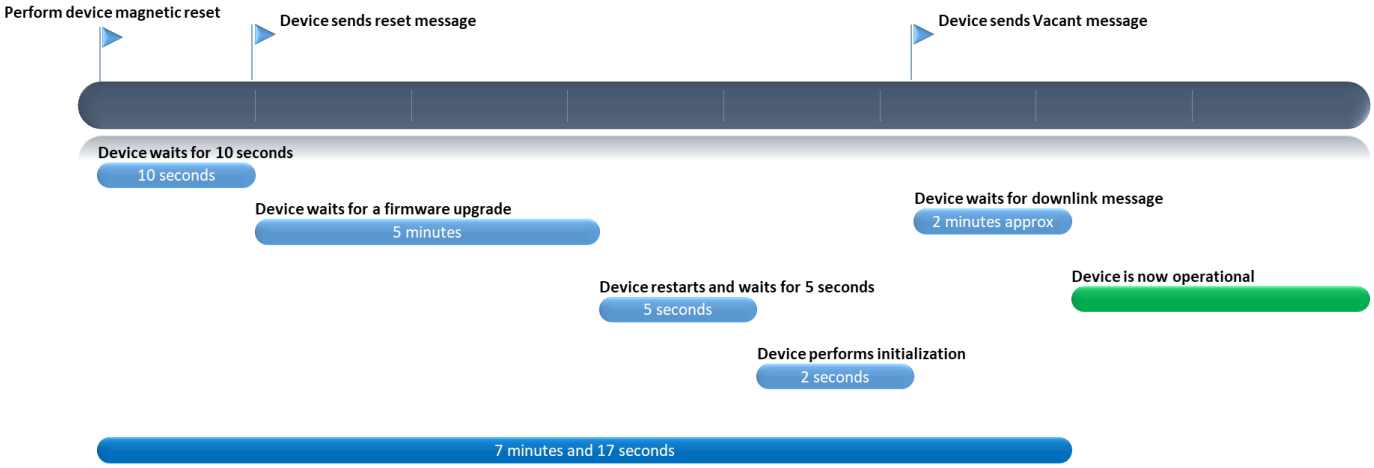
1. The top of the outer casing (Logo facing) will need to be aligned horizontal and directly aligned at pavement level, making sure this is secure and in place.
2. You will need to then completely fill the outer perimeter of the hole with epoxy resin, essentially creating a 5 mm ring around the groove/shape of the device's top-lid. This will then be left to dry. Ensure that you leave the curing time to around 7-11 hours at 22 ºC and RH 50%. Further progress in completing the installing must not be used prior to this.

MAGNETIC RESET

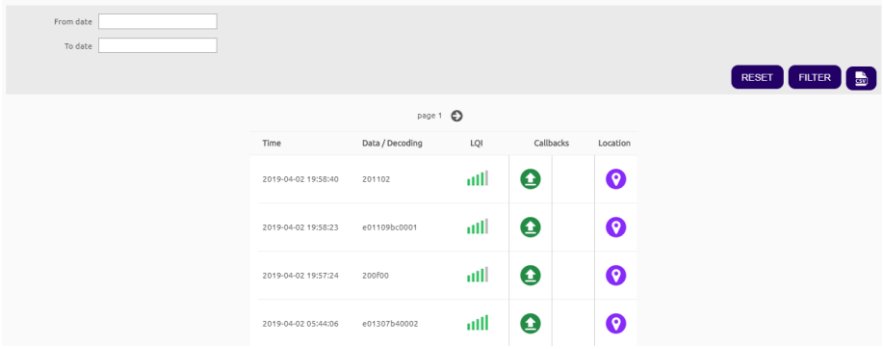
Once the TEKZIPARK Node has been correctly installed, you will then need to complete a magnet reset, this information is provided below:

1. Place a strong magnet on top of the location where the node is buried and pin point to the location where it matches the yellow spot and keep it there for 5 seconds. This step will reset the device and initialize it to its current location and orientation.
    - A magnetic reset can be done at any time.

2. After completing a successful reset, the device will send a reset frame to the Sigfox backend and go into BLE advertising mode for 5 minutes to allow for any new firmware upgrade.
    - Refer to the 'TEKZIPARK – OTA Firmware Upgrade' document for further details on how to upload a new firmware.
3. After the BLE advertising finishes, the device will then initialize and adjust to the new environment.
4. The below timeline of events happen after a magnetic reset is done.



5. Once the device is done initialization, it will send a message frame denoting vacant status of the parking slot to the cloud, an example is shown below. The device will wait for downlink configuration, if any, and then start normal operation.



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