



# THERMO-KING Temperature and Humidity Sensor Kit Instruction Manual

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**THERMO KING**

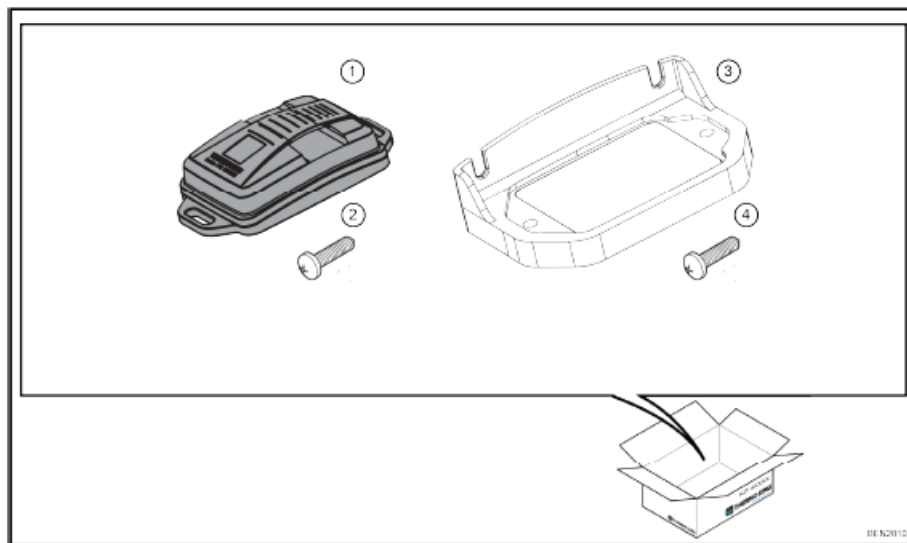
**THERMO-KING Temperature and Humidity Sensor Kit**



## Installation Instructions Wireless Sensors

### Kit Contents

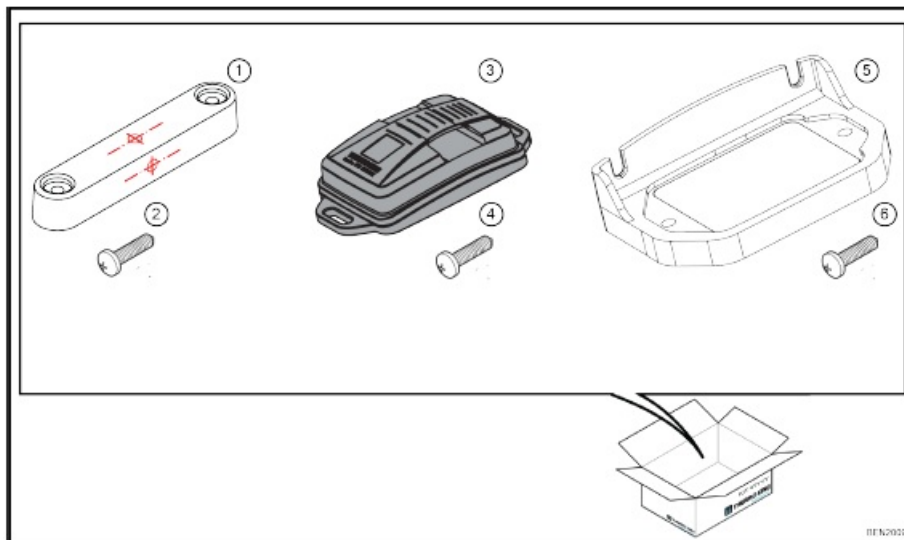
#### Temperature and Humidity Sensor Kit (401672)



Sl.No	Description	Qty
1	Temperature & humidity sensor	1
2	Screw, sensor	2
3	Bracket, sensor	1
4	Screw, bracket	2

**Note:** For return air or discharge air installation, sensor 425484 is available on its own

#### Door Sensor Kit with Magnet (401674)



Sl.No	Description	Qty
1	Magnet, door sensor	1
2	Screw, magnet	2
3	Door sensor	1
4	Screw, sensor	2
5	Bracket, sensor	1
6	Screw, bracket	2

## Important Information

Before starting the installation, be aware of the following requirements:

1. The Thermo King wireless sensors advertise information via Bluetooth low energy. It is required to have a Thermo King telematics device (i.e TK BlueBox) which will receive the information.
2. Make sure that the vehicle is active in Tracking before installing the sensor.
3. Make sure that the application version is TK Technician Alpha Release V13.apk or above.
4. Make sure that the TK BlueBox firmware version is M-F205 or above. There is no limitation on unit software version.
5. The installer needs to have the TK Technician application and credentials to add tractor ID sensor to the customer account.  
Note:: Make sure that the TK Activate application is removed from the phone before using the TK Technician application.
6. To activate the tractor ID sensor, the installer does not have to be beside the vehicle (The tractor id sensor is not linked to a particular BlueBox).
7. Installer must be near to the BlueBox to activate the temperature and door sensor (communication happens via Bluetooth).  
Note: Make sure that the BlueBox is powered (LEDs on).

## Installation Best Practices

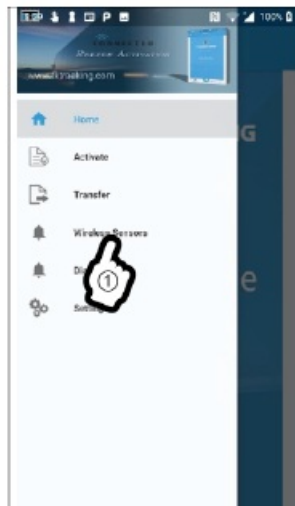
- Familiarize yourself with the components to be installed.
- Plan the layout and wire routing prior to permanently mounting any components.
- Make sure wire routes are free from abrasive materials and have adequate clearance from hot surfaces.
- Holes used for routing harnesses through metal frames, skins or structures should be smooth and non-marring and lined with a grommet.
- Remove fuse (located on the harness) prior to installation.
- Follow installation instructions specific to your installation kit and model refrigeration unit.
- Electrical harnesses routed inside the refrigeration unit must be secured to other harnesses or to a solid frame structure with insulated clamps or band wraps to prevent making contact with rotating or hot components.
- DO NOT attach electrical harnesses to copper tubing, exhaust components or fuel lines.
- Test Procedures must be performed to complete the installation.
- Fill out the Warrant Registration Form after completing the installation.

## Wireless Sensor Activation using TK Technician Application

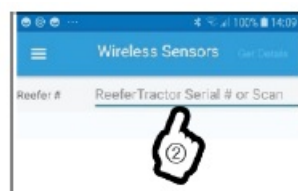
### Activation of Temperature and Humidity Sensor, and Door Sensor in SLXi/A-Series

1. Open the TK Technician Application & click on the “WIRELESS SENSORS”

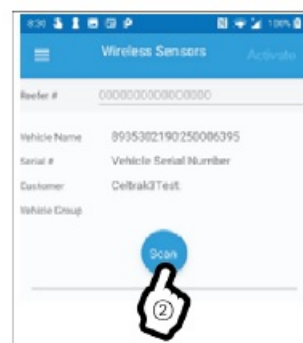
**Note:** Make sure that the BlueBox is powered (LEDs on).



2. Enter or scan the reefer serial number or enter the TK BlueBox phone number using the TK technician application.

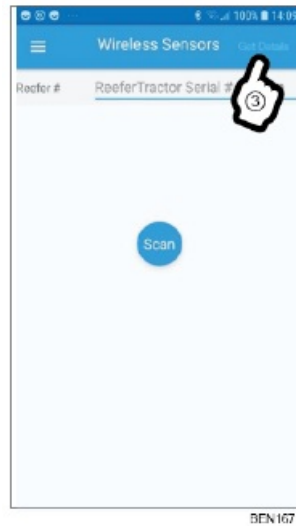


OR



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3. Click on the “GET DETAILS” option.



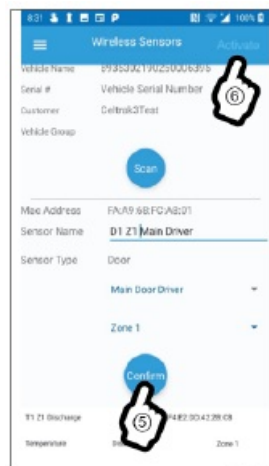
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4. Scan the QR code on the rear side of the sensor to capture the Mac address.



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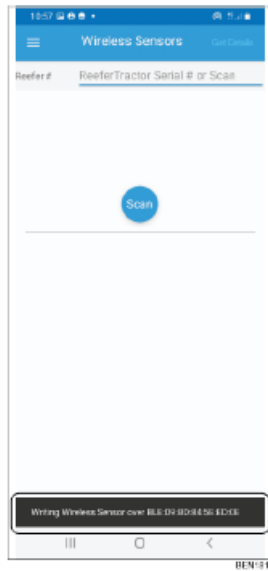
5. Once application retrieves the data from the sensor, enter the sensor name, zone and position of the sensor, and then click on the "CONFIRM" to add the sensor to the bottom.



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6. When all temperature and door sensors are confirmed, then click on "ACTIVATE".

Note: Make sure that the installer is near to the BlueBox at this moment.



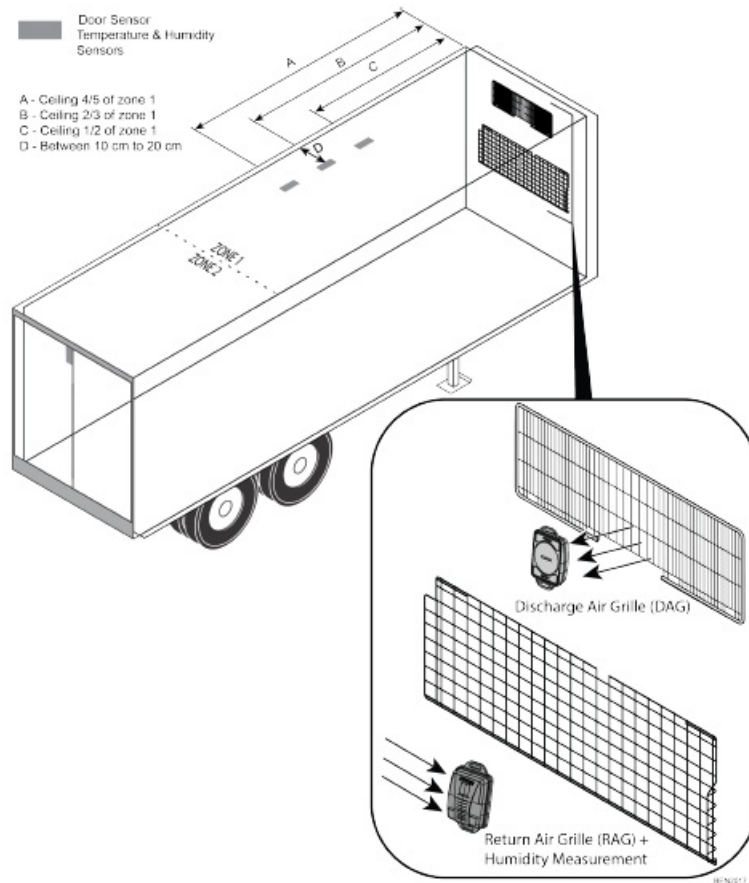
7. If the Bluetooth activation is correct, you will receive a message at the bottom of the phone.



8. The temperature and humidity sensor, and door sensor are well installed and activated now.

## Mounting Locations for Temperature/Humidity Sensor

The temperature and humidity sensor shall be mounted under the roof, at the Return Air Grille (RAG) or Discharge Air Grille (DAG) positions inside the refrigerated compartment.



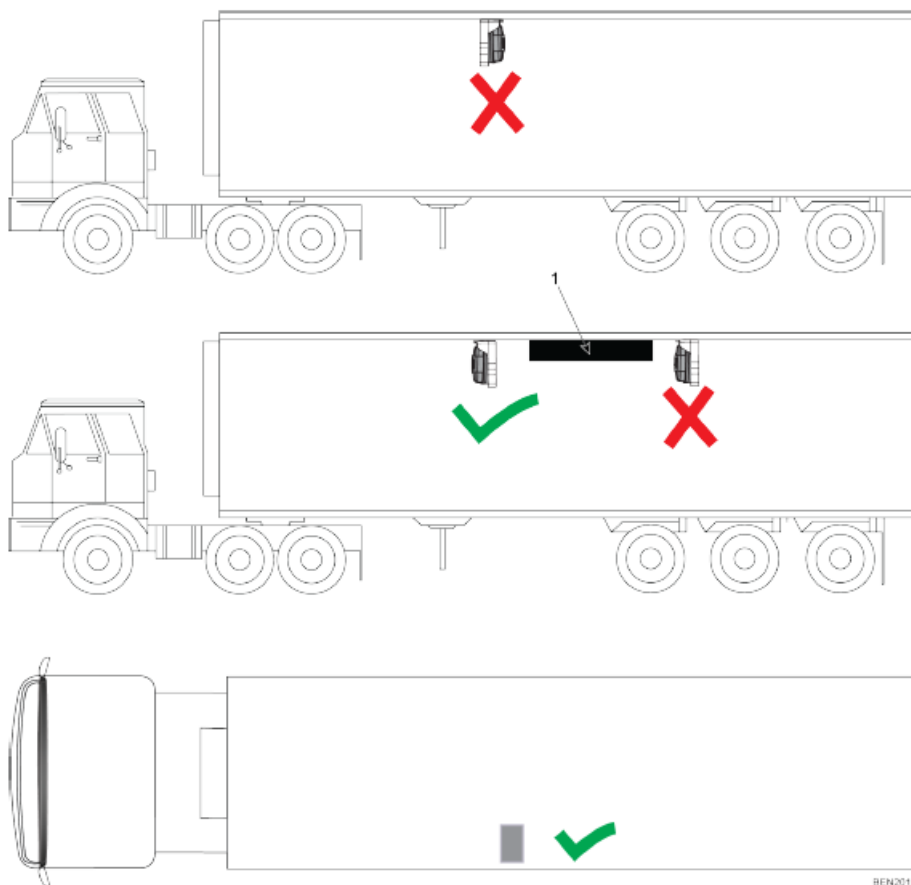
## Temperature and Humidity Sensor Installation

### Installing the sensor under the roof:

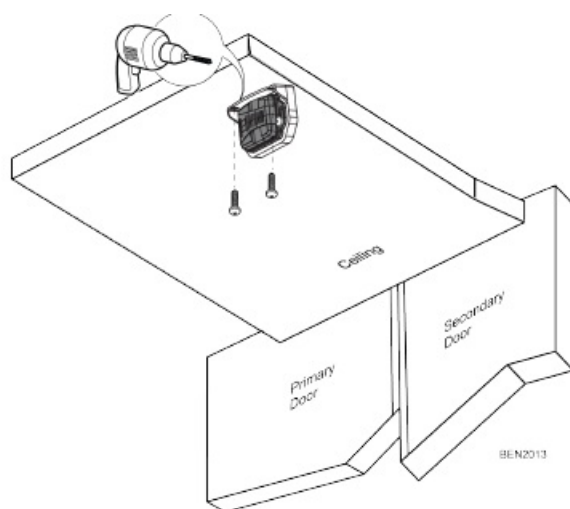
1. Install the sensor on the bracket using screws
2. Locate the sensor mounting position on the roof. Refer the below illustration for the recommended position and direction from the host.

**Note::** Always Install the sensor on the left side of roof to avoid the interference with forklifts.

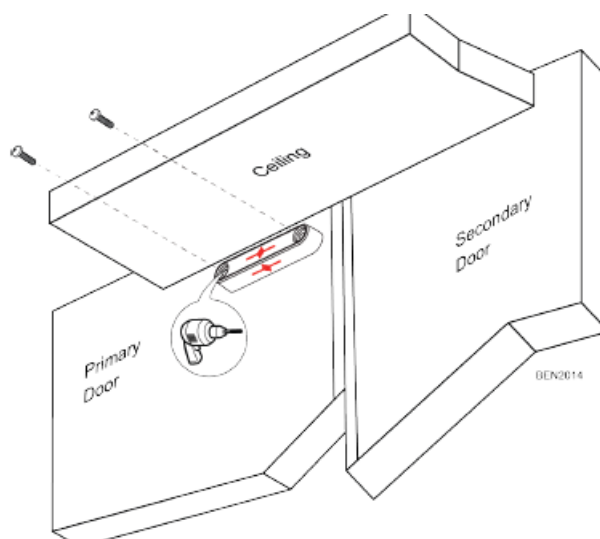
**Note::** Make sure that the sensor is facing towards the reefer. This is important to ensure the signal reaches the TK BlueBox when the trailer is loaded.



3. Mark the mounting holes position of the sensor bracket.



4. Drill the pilot holes on the roof.





5. Install the bracket assembly to the roof using screws.

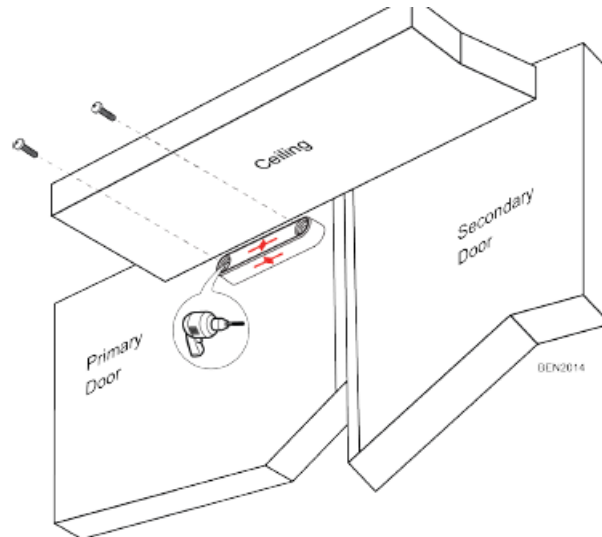
## Door Sensor Installation

**Note:** For proper operation, there must be no metal item(s) between the sensor and magnet.

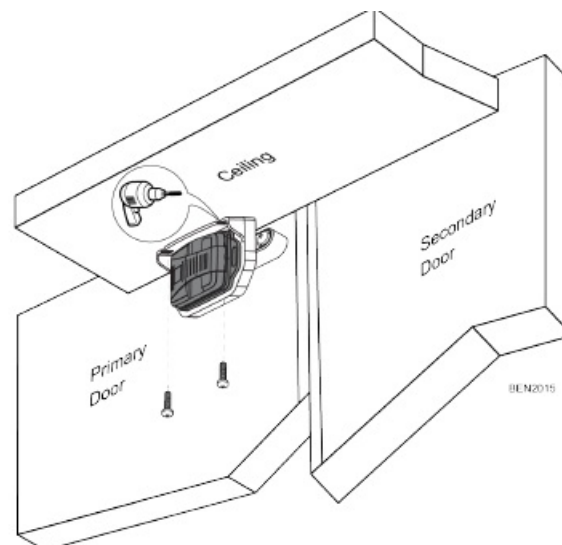
1. Locate the magnet mounting position on the
2. Mark the holes position of the sensor magnet on the

**Note:** Use the provided template to make sure the distance between the sensor and the magnet is appropriate.

3. Drill the pilot holes on the
4. Install the magnet on the door using



5. Locate the sensor mounting position on the roof.
  6. Mark the holes position of the sensor on the roof.
- Note:: Make sure that the magnet is align with the sensor.
7. Drill the pilot holes on the roof.



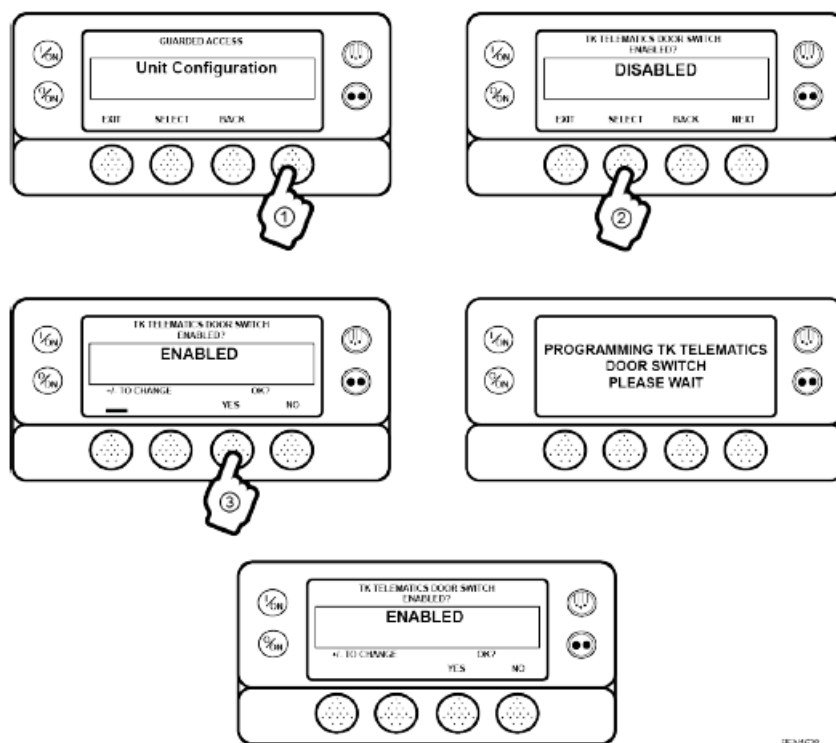
8. Install the bracket & sensor assembly on the roof using screws
9. Test the door sensor is reporting correctly door open and door closed.

## Wireless Sensors HMI Settings and Tracking

### HMI Settings

## SLXi units

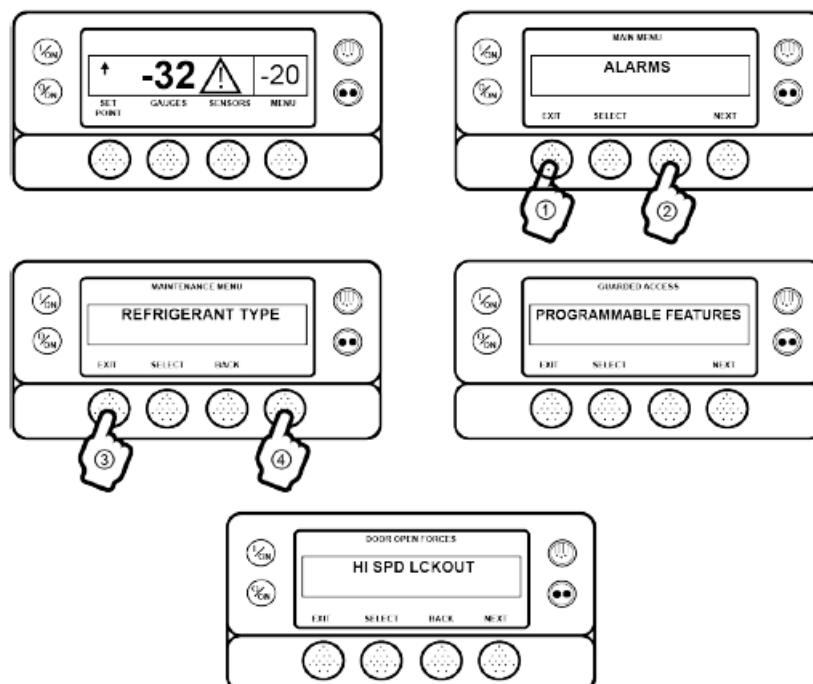
- Configuration 1 of 2 (To receive the door sensor information): a HMI Main Menu – Guarded Access – Unit Configuration – TK Telematics door switch Enabled? – Enabled



BEN1678

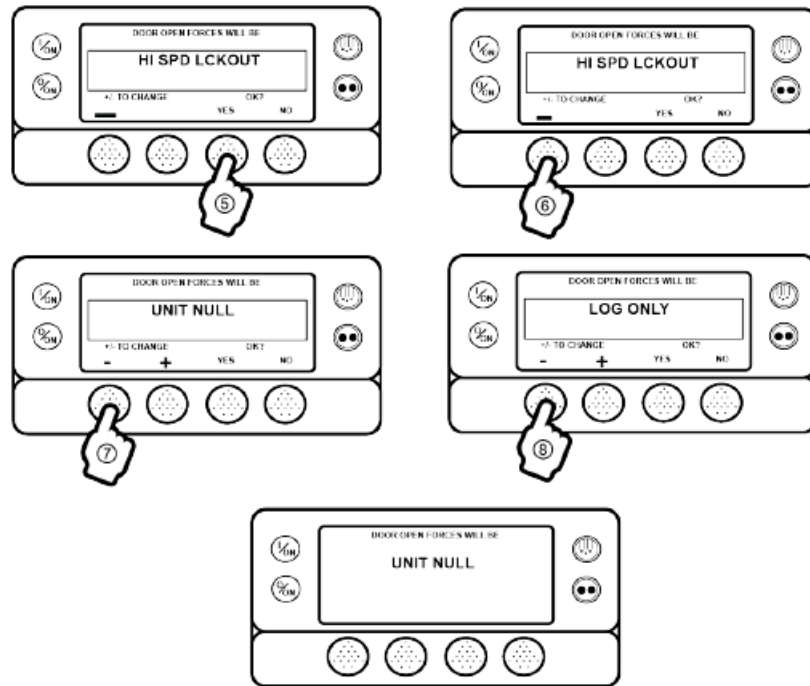
- Configuration 2 of 2 (To achieve fuel saving):

- Configure – To High Speed Lockout.



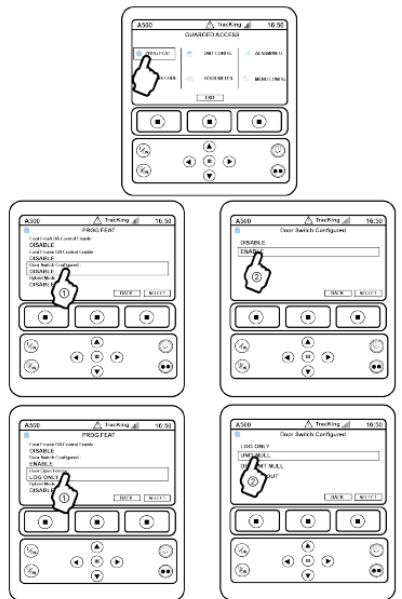
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- Configure – To Unit Null

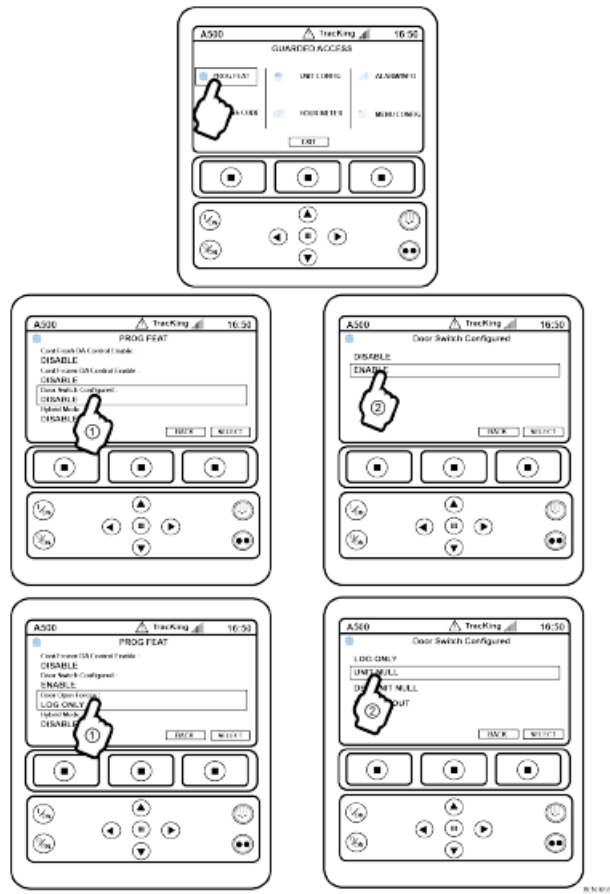


### A-Series units

1. Configuration 1 of 4: HMI Main Menu – Guarded Access – PROG FEAT – Door Switch Configured – Enable
2. Configuration 2 of 4: HMI Main Menu – Guarded Access – PROG FEAT – Door Open Forces – UNIT NULL



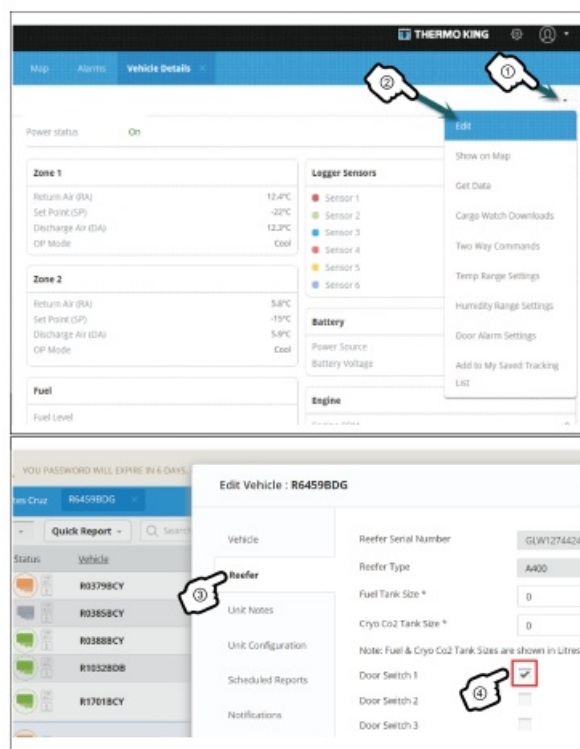
3. Configuration 3 of 4: HMI Main Menu – Guarded Access – PROG FEAT – Door Open Timeout – 30 MINS  
**Note:** Set the required time using up button.
4. Configuration 4 of 4: HMI Main Menu – Guarded Access – PROG FEAT – Door Timeout Alarms – Enable



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## TrackKing

1. Login to TrackKing Portal.
2. Select Vehicle Detail Tab.
3. Click on the drop down arrow on right hand side, select Edit.
4. Select the Reefer Tab.

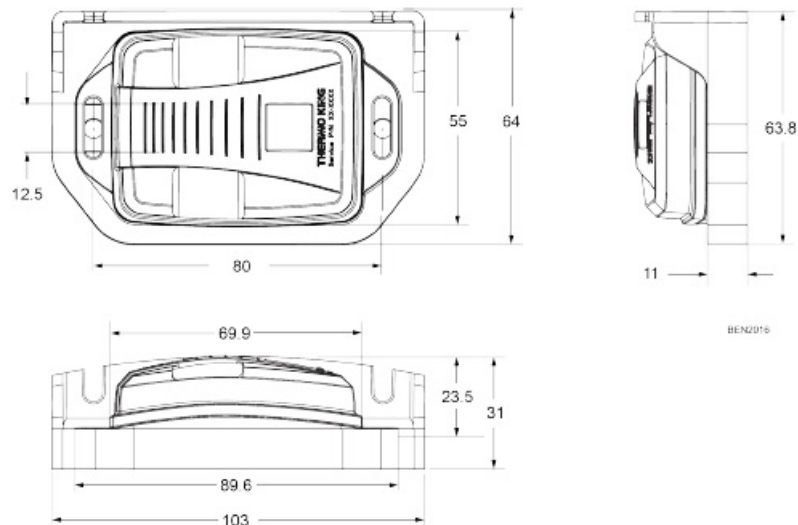


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## Annex

### Sensor Bracket Dimensions

1. Tick on the Door Switch.

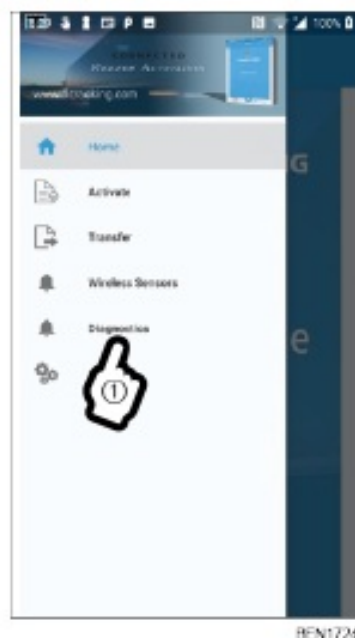


### Troubleshooting

1. Application Diagnostic Menu

**Note:** This functionality is only usable with android phones. IOS filters the MAC address of the sensor so it is recommended to use android phones.

- Open the TK Technician Application & click on the “DIAGNOSTIC” option.



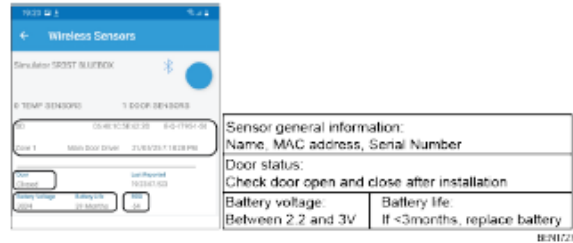
- Enter the reefer serial number or the TK BlueBox phone number and click “GET DETAILS” option.



- The application will retrieve the sensors associated to the TK BlueBox.



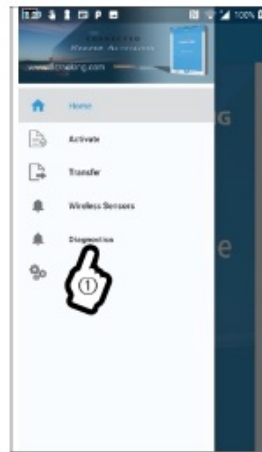
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## 2. To edit a temperature and humidity sensor or door sensor

- Open the TK Technician Application & click on the “DIAGNOSTIC” option.



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- Serial number or TK bluebox phone number and click on “GET DETAILS”.



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- Slide the sensor from RIGHT to LEFT direction to select the EDIT option.



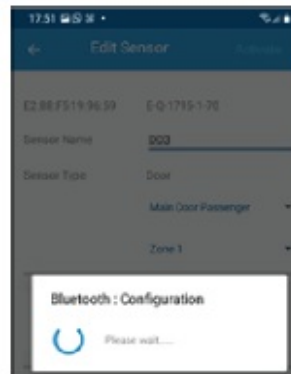
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- Update the sensor information: name, position etc. and click on the ACTIVATE.



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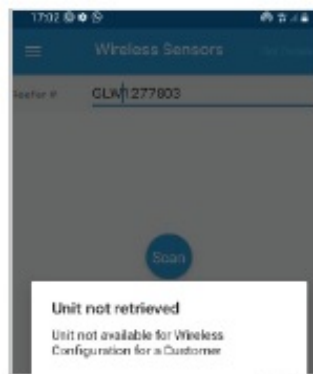
- The “Bluetooth Configuration” message will indicate the sensor is being updated.



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### 3. If the application does not recognize the serial number of the unit

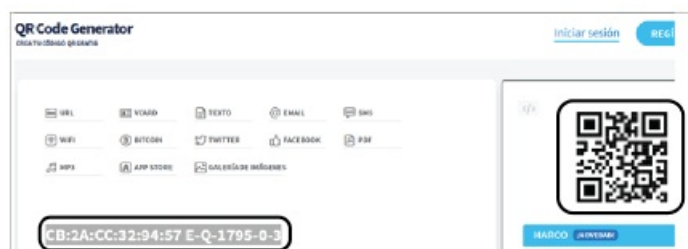
- If you get the message, “it cannot detect the serial number of the unit in Tracking”, Please enter the phone number of the BlueBox, starting +353xxxxxxx.



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### 4. If the label of sensor is damaged, to generate the QR code to scan using TK Technician Application

- Open online QR generator website in the laptop.
- Enter MAC ADDRESS + SPACE + SERIAL NUMBER to generate the QR code.
- Scan the generated QR code using TK Technician Application.

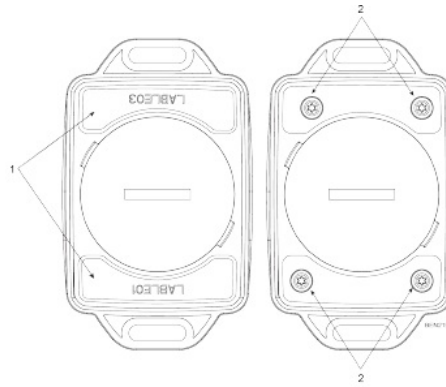


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## Battery Replacement

### 1. To replace the sensor battery

**Note:** The door and temperature sensors use battery TK PN 2030998 / CR3677X. This special battery is qualified to work at temperatures from -40°C to 85°C. See images to understand how to replace the battery.



- Remove the label (1).
- Remove the screws (2).
- Replace the battery.
- Torque the screws to xx N.m.
- Dispose the used battery in a suitable container.

## FCC Compliance

This device complies with Part 15 of the FCC Rules.  
Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.


## Equipment Hazard!

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

## Documents / Resources

	<a href="#">THERMO-KING Temperature and Humidity Sensor Kit</a> [pdf] Instruction Manual TK4E13294G0X, 2AYE3TK4E13294G0X, Humidity Sensor Kit, Temperature, Sensor, Kit
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