WIRELESS DOOR-SWITCH SERVICE

SensorLINK 200x Replacement

Door Switch and Module Replacement · Carrier and Thermo King



SAFETY

Work Safely Before You Begin

WARNING — Unexpected Starting and Hazardous Voltage
Refrigeration units can start automatically or remotely. Some units can be started remotely even when switched off. Moving parts and electrical power can cause serious injury or death. High voltage can be present while a unit is running in diesel mode or connected to electric standby.

- **Turn the unit off and disconnect the battery.** Follow the unit manufacturer's service instructions before opening equipment, unplugging connectors, or working on wiring.
- **Disconnect electric standby power if equipped.** Turn off the external power source before handling the standby cord, then disconnect the cord.
- **Isolate and verify all hazardous energy.** Follow the facility's energy-control and lockout/tagout procedures, including stored energy. A qualified person must verify isolation before work begins.
- **Protect yourself.** Wear safety glasses and the appropriate protective equipment. Keep hands, clothing and tools clear of fans, belts and hot surfaces.

When Power Is Needed for Testing or Setup: Follow the unit and facility procedures for safely restoring power. Keep people clear of moving parts. Only qualified personnel should perform live electrical checks with appropriately rated equipment and protective gear. Isolate power again before further work on wiring or connections.

BEFORE YOU START

Choose the Part You Are Replacing

Use these instructions when a SensorLINK 200x wireless door-switch system is already installed. The replacement paths apply to Carrier and Thermo King installations, including single- and multi-temperature units. If the existing TWT wireless system uses a different receiver model, confirm its sensors and harness are compatible with the replacement 200x before proceeding.

Replace a Door Switch
Failed wireless transmitter at a door →

Replace the 200x Module
Failed receiver module in an existing system →

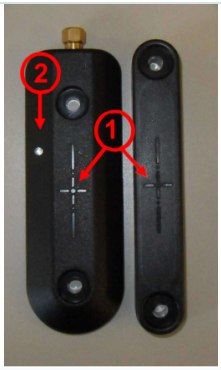
Retrain Every Door After a Replacement
After replacing a door switch or the 200x module, train every installed door sensor in its existing door-number order. Start with all doors closed, and verify every door after training.

Confirm the failed part before replacing it. For a new installation or a damaged harness that needs rewiring, use the applicable installation and diagnostic guides listed in **Related resources**.

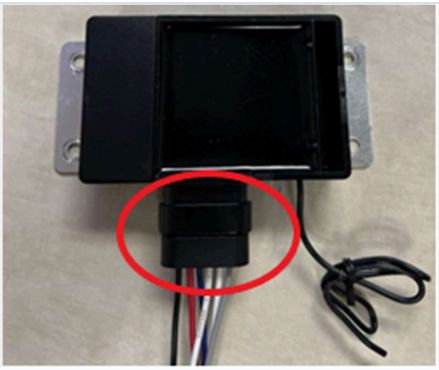
IDENTIFY THE PARTS

Know the Switch and the Module

The **door switch** is the wireless transmitter mounted to a stationary surface inside the trailer; its magnet is mounted on the door. The **200x module** is the receiver connected to the existing harness. Each has its own indicator or connection to inspect.



1 Alignment marks on both pieces. 2 Transmitter LED.



The 200x module and its harness connector.

Identify the affected door, every installed sensor, the unit manufacturer and model, and whether the unit has one or multiple compartments. Record the existing door-number order and any relay or telematics connection before disconnecting a module.

PREPARATION

Prepare the Unit and Work Area

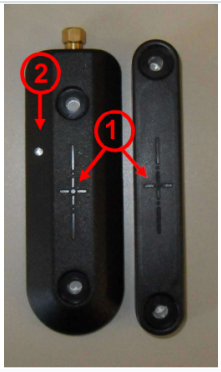
1. Confirm the symptom using the **diagnostic guide**. A damaged magnet, poor alignment, weak battery, power or ground fault, fuse, harness, or relay can resemble a failed part.
2. Confirm the replacement part and connector are compatible with the installed system. If the existing system is a different model, verify compatibility before replacing it with a 200x.
3. Keep the existing harness, relay, and controller settings in place unless a separate fault or the approved procedure requires a change. Note the current configuration before removing anything.
4. Plan for access to **every installed door**. Keep other wireless door sensors from being operated or trained within range while the module is in training mode.

DOOR-SWITCH REPLACEMENT

Remove and Replace the Transmitter

1. Identify the failed switch and its door number. Record the existing door order before removal; you will retrain all doors in that order.
2. Inspect the magnet on the door and its bracket. Retain a magnet and bracket that are secure and undamaged; replace a missing or damaged part. Inspect the transmitter mount and any antenna.
3. Remove the failed transmitter from its stationary mounting surface inside the trailer. Keep reusable hardware and the existing bracket only if they are suitable and undamaged.
4. Install the compatible replacement transmitter on the stationary trailer or truck-body surface. Keep the magnet mounted on the door. Use mounting hardware appropriate to the bracket and installation; do not use a zip tie as the magnet's mounting method.

5. If an antenna is fitted, connect and secure it inside the trailer as applicable. Protect it from door travel, cargo, and damage; do not overtighten the antenna connection.
6. Close the door and align the crosshair marks on the transmitter and magnet. Set a **1/4-inch gap**, with no metal between them. Where possible, keep the transmitter LED visible.
7. Open and close the door to check clearance and secure mounting. Repeat the alignment check with the door closed.
8. Continue to **train every door sensor**, then verify the module and the applicable unit or connected-device response.



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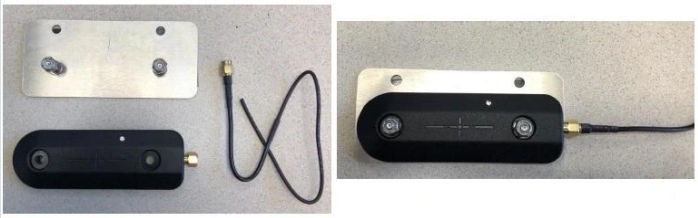
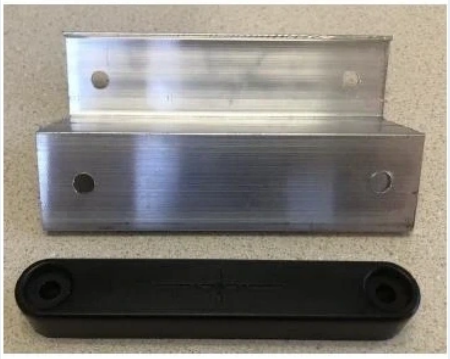


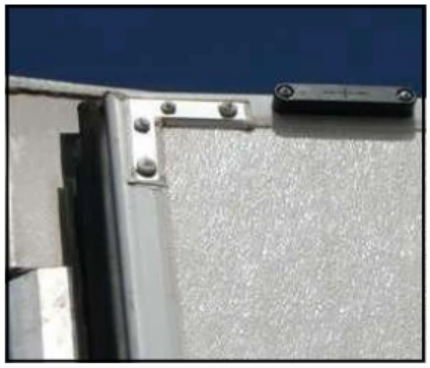
Transmitter and mounting-plate preparation.



Magnet and Z-bracket before assembly.



Swing-door mounting example.



Swing-door magnet mounting example.

MODULE REPLACEMENT

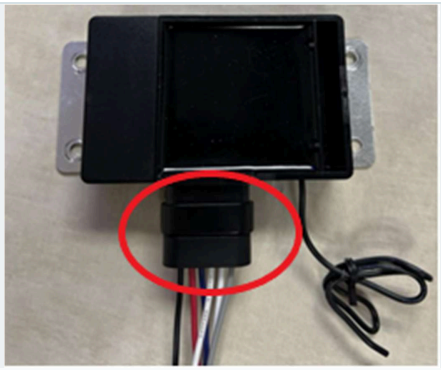
Replace the Existing 200x Module

This path is for replacing the receiver in a system that is already installed. A replacement receiver must be compatible with the existing sensors, harness, and unit configuration; do not assume a different model is interchangeable.

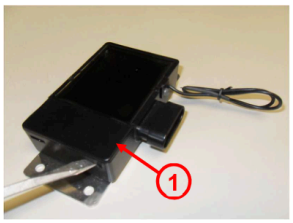
1. Before disconnecting anything, identify and record the unit model, existing module, harness or relay, installed doors and their order, and the current output configuration. Photograph the module connections and trainer jumper if

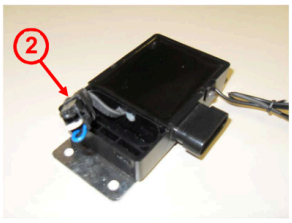
useful.

2. Turn the unit off and isolate battery and standby power as applicable. Confirm the system is safe to work on.
3. Unplug the existing module harness. Inspect the connector, terminals, wires, fuse, mounting, and antenna for corrosion, damaged pins, looseness, or chafing. Correct any confirmed fault rather than connecting a new module to damaged wiring.
4. Remove the existing module from its mounting. Reuse sound mounting points and compatible hardware; secure the replacement inside the trailer and protect the antenna and harness.
5. Before powering the replacement, match its **trainer-jumper and output configuration** to the installed system. Inspect the existing harness first: a harness already modified for the installation must not be cut again merely because the receiver is being replaced.
6. Reconnect the compatible module harness and secure the connector and wiring. Leave the trainer jumper connected for the initial power-up; the source instructions warn that initial power-up without it may reverse door operation.
7. Restore power using the unit's service procedure. Check the module LED and power/ground supply as applicable. With the module operating, continue to **train every door sensor** in the recorded order.
8. Verify each door and the appropriate Carrier or Thermo King response. Reinstall the jumper cover and any panels after testing.

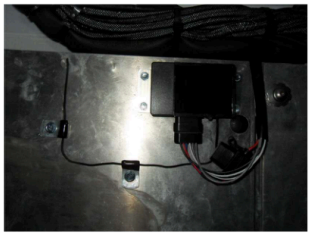


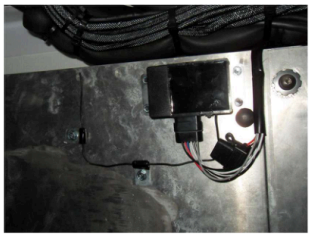
The 200x module and its harness connector.





1 Jumper cover. 2 Trainer jumper.





Examples of the module mounted inside the trailer.

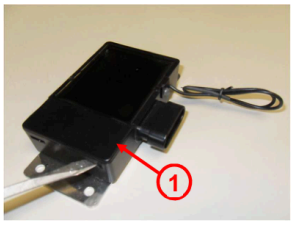
MODULE CONFIGURATION

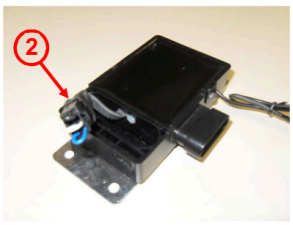
Match the Replacement Output

The receiver output must match the existing unit-side circuit. The 200x installation instructions describe a standard **+12 VDC output** and a separate negative-output setup used for documented relay applications. A Carrier or Thermo King label alone does not establish which setup is installed.

Check the Existing Installation Before Changing Wires
For the documented negative-output setup, the white wire on the trainer jumper is cut and the harness also has a configuration-specific change. The Carrier HAR-00010 example and the Thermo King negative-output example describe different harness wires. An existing harness may already have been modified. Do not repeat a cut or assume the original jumper is reusable; confirm the correct setup for the actual module and harness before applying power or training.

1. With power isolated, compare the original and replacement module/jumper configuration with the wiring information for the installed system. Inspect rather than copying damaged or undocumented wiring.
2. For the documented Carrier HAR-00010 or multi-zone relay setup, review the **Carrier receiver-output instructions**. Confirm the harness and relay match the example before using those details.
3. For a Thermo King installation that requires the documented negative output, review the **Thermo King negative-output instructions**. A direct positive-output installation does not use that negative-output procedure.
4. If the correct polarity, jumper, harness revision, or unit-side connection cannot be established, contact Transport Wireless Technologies before modifying the replacement or existing harness.





1 Jumper cover. 2 Trainer jumper.



Trainer jumper. Inspect its condition and configuration before installation.

TRAINING

Train Every Installed Door Sensor

Before Restoring Power: Follow the safety instructions above and keep people clear of moving parts. Isolate power again before working on wiring or connections.

All Doors Closed; Train Every Sensor
After a switch or module replacement, retrain all installed door sensors in their existing door-number order. Starting with a door open can reverse the reported door position. Do not operate or train other door sensors within range.

1. With the module powered and the jumper connected, verify that **all doors are closed**. Have every installed door sensor available and identify Door 1, Door 2, and any additional doors.
2. Remove the SensorLINK trainer jumper plug for **10 seconds**. The module LED continues blinking green.
3. Reconnect the jumper plug. A **solid green** module LED indicates the approximately one-minute training period.
4. Open Door 1. The module LED alternates **one red blink and one green blink** when Door 1 is trained. Close Door 1; the LED returns to solid green while training remains active.
5. While training mode remains active, repeat the open-and-close sequence for every remaining installed door, one at a time, in the existing door-number order.
6. Wait for the module LED to resume blinking green, indicating training mode has ended. If training was not completed, repeat the procedure with all doors closed and train all installed sensors in order.

7. Open and close each door individually. Confirm the expected red-blink count for its assigned door and a return to green when all doors are closed. Reinstall the jumper cover.

Door	Module Indication When Open	Receiver Output	Wire
Door 1	1 red ●	Zone 1	White
Door 2	2 red ●●	Zone 2	White/black
Door 3	3 red ●●●	Zone 3	Gray
Door 4	4 red ●●●●	Zone 3	Gray

The 200x instructions support up to four door sensors; Doors 3 and 4 share the Zone 3 output. Confirm the unit and installed relay kit support the actual arrangement.

VERIFY THE REPAIR

Thermo King: Check the Door Response

1. With all doors closed, confirm the module indicates the closed condition. Open each trained door one at a time and check its red-blink count.
2. On the unit display or connected device, verify that the reported door state matches the physical door and module indication. The SR-4 reference describes approximately **four seconds** for a changed door-switch state to be recognized.
3. For a multi-temperature installation, verify the affected zone and its expected response. Confirm the response agrees with the existing approved settings; a correctly detected open door does not always mean the entire unit should stop.
4. If the module and display disagree, check the existing output configuration, harness and unit-side input using the **Thermo King diagnostic checks**. Do not change controller settings solely because a component was replaced.

For SR-4 door-open settings, timeout, and Alarm 108 information, see the **Thermo King installation guide**.

VERIFY THE REPAIR

Carrier: Check the Door Response

1. With all doors closed, confirm the module indicates the closed condition. Open each trained door individually and confirm its red-blink count.
2. Check that the Carrier unit display or connected telematics device reports the correct door state. The display and response depend on the unit, harness, relay and controller configuration.
3. For a multi-temperature installation, verify the applicable compartment and the response configured for that installation. Do not assume every door event shuts down the whole unit.
4. If the 200x LED responds correctly but the Carrier display or connected device does not, inspect the installed relay, connector, harness and actual unit-side input. Use the **Carrier diagnostic checks** and the wiring information for the actual unit.

Keep the existing approved controller settings unless diagnosis or the fleet's instructions call for a change. Connector locations, settings, and timing can vary by model, configuration, and year.

For the documented APX settings sequence, see the **Carrier installation guide**.



Example Carrier display. The actual display varies by unit.

TROUBLESHOOTING

If the Replacement Does Not Work

- **No module LED:** Check the supply, ground, fuse and connections. Follow the **no-light diagnostic procedure** before condemning a module.
- **Module stays green with a door open:** Check the transmitter LED, magnet alignment, antenna, and training order. Confirm every installed sensor was trained.
- **Module shows red with all doors closed:** Identify the indicated door and inspect its magnet, gap, mounting and sensor.
- **The indicated door number is wrong:** Start with every door closed, then retrain every sensor in the intended door-number order.
- **Module indication and controller disagree:** Check the correct output configuration, relay and unit-side input for that installation; use the manufacturer-specific checks above.

For step-by-step fault isolation, open the **SensorLINK 200x diagnostic guide**.

FINISH

Complete the Replacement

- The replacement component is secure; the magnet remains on the door and the transmitter on the stationary trailer body.
- The module jumper is connected, its cover is reinstalled, and the harness, antenna and unit panels are secured.
- Every door was retrained in the intended order and individually tested open and closed.
- The applicable Carrier or Thermo King indication and approved unit or zone response were verified.
- Record the failed part, repair and any settings or wiring work performed. Return failed parts with a completed claim when submitting warranty service.

RELATED RESOURCES

SensorLINK Guides and Support

Choose a guide for your equipment or the service you need.

SERVICE ↗
Diagnostics & Troubleshooting
Check symptoms, lights, wiring and controller response.

INSTALLATION ↗
Thermo King SR-4 Installation
Single- and multi-temperature installation.

INSTALLATION ↗
Carrier Installation
Single- and multi-temperature installation.

WARRANTY · PDF ↗
Warranty Claim Form
Claim form and limited warranty terms.

Need help? **Contact Transport Wireless Technologies**.

REGULATORY INFORMATION

FCC Notice

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

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