



SEER Push-To-Start System

INSTALLATION AND OPERATION MANUAL



CONTENTS

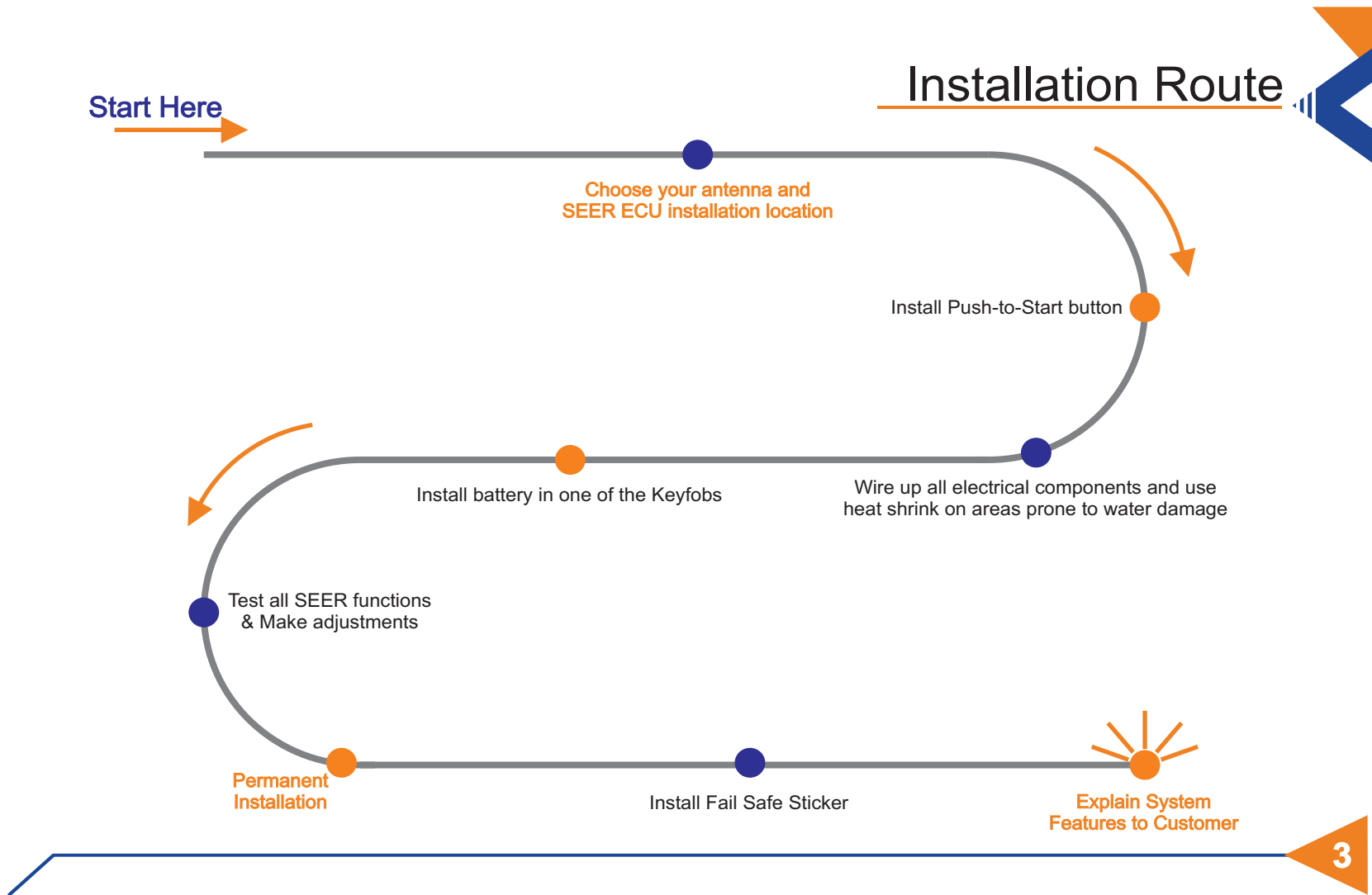


Installation Route.....	3
Included Parts.....	4
Safety.....	5
Installation Section	
SEER System Wiring Diagram.....	6
Antennas Installation.....	8
Push-to-Start Installation.....	10
System Test.....	11
Permanent Installation.....	12
Installation Checklist.....	13
Troubleshooting.....	14
Operation Section	
Key Fob Operation.....	16
System Features.....	17
Setup Section	
Key Fob Pairing.....	20
Key Fob Erasing.....	22
Contact Information.....	24



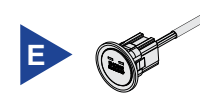
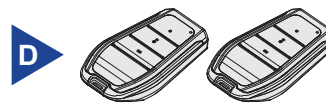
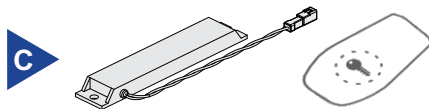
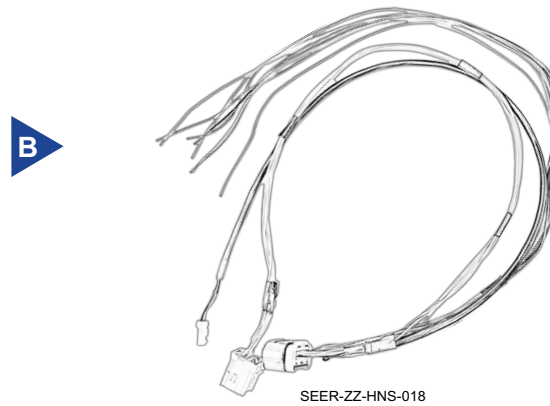
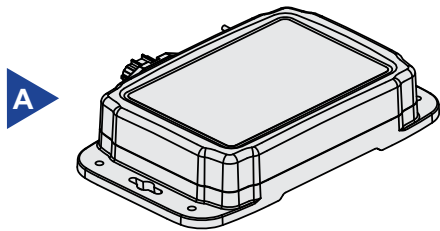
Skip to Page 16 if you just received this manual after your SEER System professional installation.







Included Parts



A. SEER ECU

B. Main Harness

C. Antenna & Sticker

D. Key Fob

E. Plastic Push Button

Read and follow this installation manual in its entirety. You should read and familiarize yourself thoroughly with the following information prior to installing and using this unit. In addition, make sure to read and follow all installation schematics and installation manuals for the product and the vehicle in which it is being installed.

Have the electrical installation performed by a certified installer. The installation of the wiring for this product requires technical skills and experience of a 12V professional installer.

Throughout this manual you will encounter Warning and Caution signs. Warning signs will be color-coded in black. A Warning sign indicates a hazardous situation that, if not avoided, could result in severe injury. Caution signs will be color-coded in gray. A Caution sign indicates a hazardous situation that, if not avoided, could result in equipment damage and/or minor injury.

FCC WARNING

Contains FCC ID: 2BK5KSEERECUA
ISED: 33061-SEERECUA

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. Any changes or modifications not expressly approved by VAIS Technology could void the user's authority to operate the equipment.

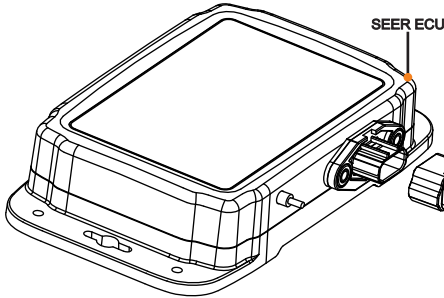
WARNING
Do not disassemble or alter any provided part.

WARNING
Do not let the product or any added equipment distract you while driving.

CAUTION
Use only the specified accessories, tools and parts.



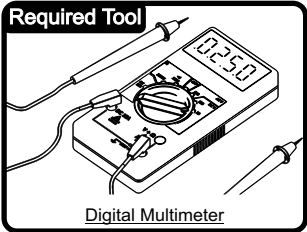
ECU Wiring



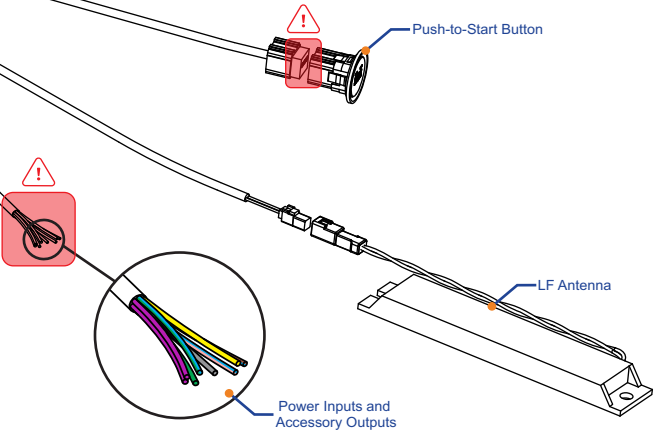
WARNING
THE SEER SYSTEM REQUIRES A 12V POWER SOURCE.
IF YOUR GOLF CART OPERATES AT A DIFFERENT VOLTAGE,
A VOLTAGE CONVERTER WILL BE REQUIRED.

WARNING
USE OF TEST LIGHTS AND/OR POWER PROBES
COULD DAMAGE SEER COMPONENTS AND VOID WARRANTY.

CAUTION
NEVER KEEP TWO KEY FOBBS TOGETHER WITHIN
THE SEER SYSTEM RANGE.



Water Resistance
Your new SEER system features IP67 Water Resistance. The parts highlighted in this drawing by the symbol below must be secured as these are not rated for Water Resistance.



ECU Installation



Required Connections

Connect Power Wires. Connect the Yellow and Black wires to your power source. The SEER system requires a 12V input. If your cart has a higher voltage power source a converter will be required.

Inputs / Outputs		Pin	Wire Color	Input/Output	Function	Amperage	Pin	Wire Color	Input/Output	Function	Amperage
	1	Purple	Input or Output	Ignition I	10A	8	Purple	Input or Output	Ignition I	10A	
	2	Green	Input	~	~	9	Pink	Output (-)	[PTS Button]	250mA	
	3	Grey	Output (-)	[PTS Button]	250mA	10	Blue	Output (-)	Key Fob Button 3*	250mA	
	4	Light Blue	Output (-)	Key Fob Button 2*	250mA	11	Cyan	Output (-)	Key Fob Button 1*	250mA	
	5	Light Green	Output (-)	[PTS Button]	250mA	12	Orange	Output (-)	[PTS Button]	250mA	
	6	Black	Input	Ground I	~	13	Black	~	[LF Antenna -20V]	~	
	7	Yellow	Input	12V Power I	~	14	Red	~	[LF Antenna +20V]	~	

Critical Connections!
*Optional Connections**
 [Wired within Harness]

Optional Connections

Key Fob Custom Outputs. Wire the three optional Custom Key Fob outputs 1, 2 and 3 as desired (Pin 11, 4 and 10 respectively). These connections are triggered by the Key Fob buttons. All buttons trigger a negative pulse limited to a 250mA power output. Output 3 is triggered by a push-and-hold button press. Contact VAISTechnologies to inquire about custom output specifications.

Buzzer Output Upgrade. Follow these instructions only if you opted in for the software update that enables this feature. This update enables Pin 10 (Key Fob Button #3) to be used to trigger a buzzer. The buzzer must meet the requirements listed in the gray table.

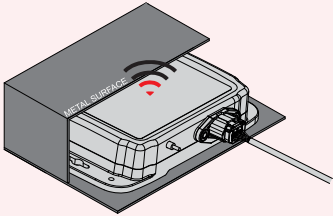
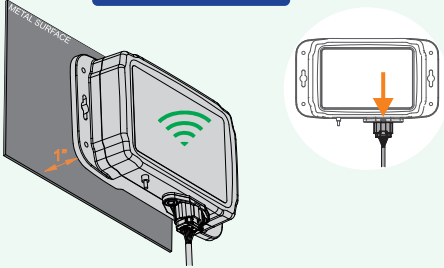
Buzzer Requirements		
12V	2.8 kHz Rated Frequency	430-470 Ohm
35mA	IP67 Rating	1/2 Watt Resistor

Provide +12V to the buzzer and connect (-) side to Output 3. Do not connect high power devices to this output. Output 3 is triggered by a push-and-hold button press.



SEER Installation

ECU Placement

Poor ECU Installation	Proper ECU Installation
 <p data-bbox="520 824 1012 857">Reduced Antenna Reception due to the ECU installation of less than 2 inches from multiple metal surfaces with the connector pointing sideways.</p>	 <p data-bbox="1171 824 1562 857">Good Antenna Reception. ECU is installed as far as possible from metal surfaces. Connector points down.</p>

STEP 1

Determine the best location for your antenna. The installation location for your SEER system antenna will be specific to your cart model, size and shape.

In most scenarios, both the SEER ECU and LF1 Antenna will be installed inside the cart's dashboard within the driver's reach. Ideally, mount both items behind a thin panel.

Make sure the LF Antenna is installed behind a panel that is less than 10mm thick.

WARNING
DO NOT BLOCK THE AIRBAGS.

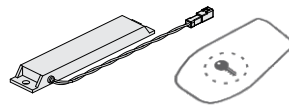
CAUTION
ANTENNA MUST ALWAYS BE CONNECTED TO THE SEER ECU BEFORE POWERING THE ECU.
DO NOT PLACE ANY ANTENNA UNDER OR BEHIND METAL.
DO NOT COIL ANTENNA WIRES.

Antenna Placement

STEP 2

Lay out and connect your SEER System. Set all system components where you intend to permanently install them by following the diagrams on this page. This will allow you to visualize your wiring installation and to test your system functionality as well.

Part drawings



LF & Sticker

STEP 3

Adjust Antenna. Make sure that the Antenna or Main Harness do not coil during the installation. Make sure the LF Antenna is installed behind a panel that is less than 10mm thick.

WARNING

COILED ANTENNA WIRES WILL CAUSE SEER SYSTEM MALFUNCTION OR INTERFERENCE WITH CART'S FACTORY WIRING



VAIS Tips:

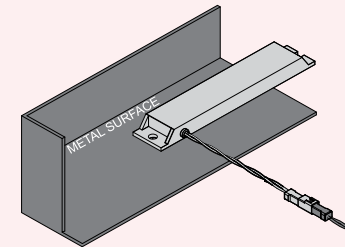
- Make sure to install the LF Antenna with its sticker installation in mind. See Page 12 for more details.



STEP 4

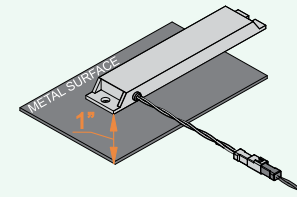
Double check metal clearances. The antenna must be kept away from metal surfaces. Make sure that the distance between the antenna and any metal surface is **at least greater than 1 inch**. Avoid positioning antennas in corners where metal frames are present on two or three sides, as this will interfere with their performance.

Poor Antenna Installation



LF Antenna installed very close to multiple metal surfaces.

Proper Antenna Installation



LF Antenna installed as far as possible from metal surfaces.

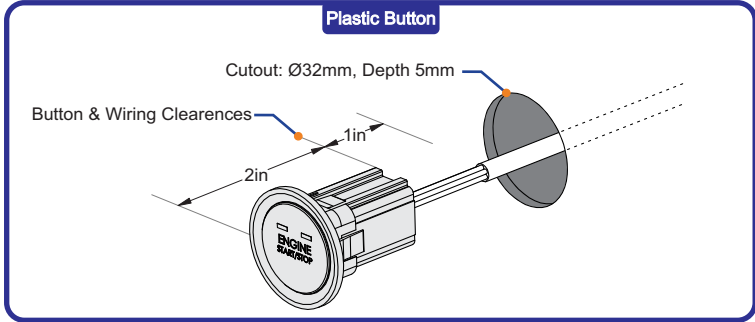
Push-to-Start Button

STEP 5

Install your Push-to-Start button. Keep the length of all harnesses and the SEER ECU location in mind when choosing your Push-to-Start button's location. Install button by simply pushing it through the dashboard, as shown in the diagram.

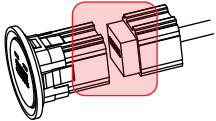
WARNING
DO NOT INSTALL THIS SYSTEM IF YOUR GOLF CART HAS A STEERING WHEEL LOCK.

CAUTION
VAIS Technology is not responsible for any vehicle damage or injuries caused by removing a cars steering wheel lock mechanism.



VAIS Tips:

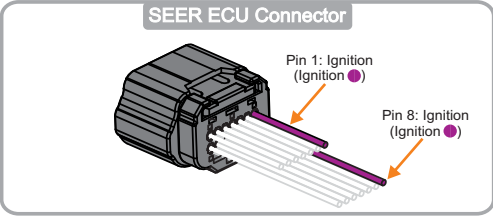
- Install heat shrink where the plug and the PTS button meet for added water and weather protection.



STEP 6

Connect Cart's Ignition Wiring to ECU. The original cart's Key Switch should have two ignition wires connected to it.

Connect these wires to SEER connector Pin 1 and Pin 8, as shown in the diagram. The cart's wires may be connected interchangeably to either pin.



STEP 7

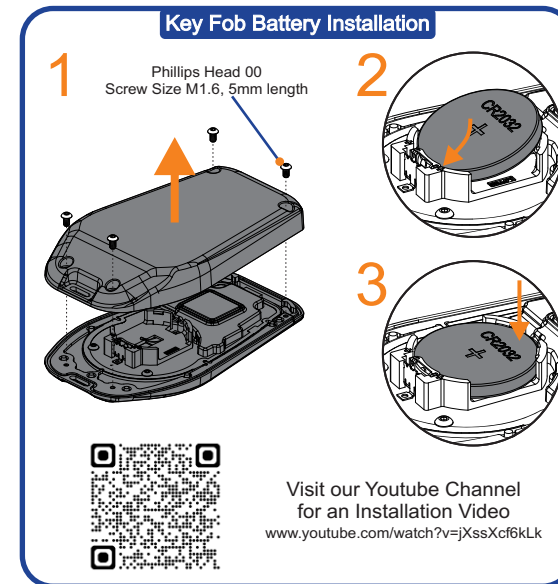
Confirm that your antenna layout, wiring routing and connections work as intended. Perform the following procedure to test your SEER system:

1. Confirm all SEER components and harnesses have been connected.
2. Make sure your ground and power wiring coming from your cart battery are the last two connections.
3. Install a battery in one of the Key Fobs. **Do not install a battery in both Key Fobs.**
4. Test all applicable SEER system features, such as:
 - All Key Fob's buttons
 - Shutdown
 - Ignition
 - Start
5. Install the second Key Fob's battery and test all features again with it. **Make sure to keep the first Key Fob at least 50ft away from the cart while performing this test.**
6. Perform any wiring or antenna adjustments as needed.



VAITips:

- Try a few different spots for your antennas. **Moving antennas slightly can greatly improve its signal due to the antennas being highly affected by metal surfaces.**



WARNING

DO NOT ALLOW CABLES TO BECOME ENTANGLED IN SURROUNDING OBJECTS.

CAUTION

Never cut away cable insulation to supply power to other equipment.



Permanent Installation

STEP 8

Permanently install all SEER components. Clean up any loose wiring, secure harness to the cart and make sure SEER ECU is installed securely.

Double check all electrical connections are secure.



VAITips:

- Keep in mind panel thickness when selecting your installation location. The maximum distance between the antenna and the Key Fob is 10mm.

STEP 9

Install Failsafe Sticker. Locate the panel where Antenna LF3 will be installed permanently.

With the use of magnetic hardware, like a telescoping magnet and a common disk magnet, mark the position where the antenna will be located **on both sides of the panel.**



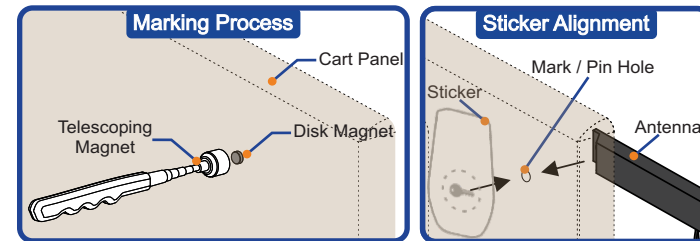
VAITips:

- If possible, drill into the car panel to mark the exact location of where the antenna and sticker will meet.

Install the provided sticker using your mark as a guide. **The Sticker's Key Symbol and the square area on Antenna LF3 must be as closely aligned as possible, as shown in the diagrams.**

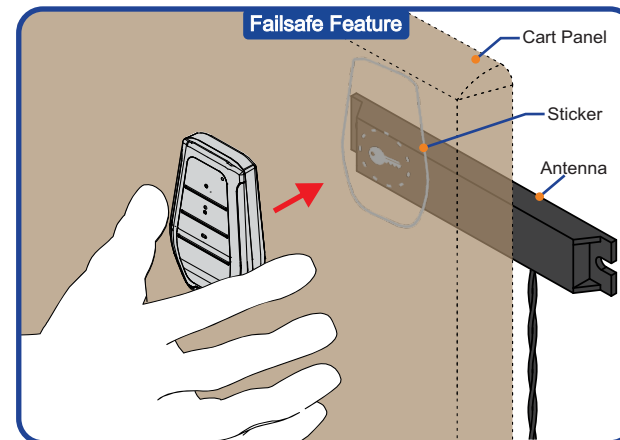
WARNING

DO NOT INSTALL THE ANTENNA IN A LOCATION WHERE THE KEY FOB CAN BE STORED ON TOP OF IT



CAUTION

DOUBLE CHECK ALIGNMENT BETWEEN ANTENNA AND STICKER



Finish the Installation

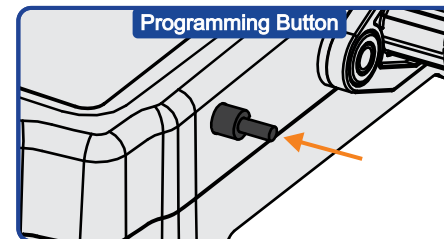


STEP10

Programming button location. Make sure you let your client know the location of the programming button.

STEP11

Perform a last test. Once all cart panels have been installed back and you have finished installing all SEER system parts, perform a last test to confirm all system features work as intended.



STEP12

Complete the following checklist.

- All SEER components have been installed.
- All SEER system features have been tested for proper functionality.
- All SEER features have been explained to the customer.
- Operation Manual has been handed to the customer.



Troubleshooting

Symptoms

- 1 **SEER system not responding. ECU double-beeps when PTS button is pressed and PTS button red LED light does not light up.**
- 2 **Key Fob buttons are not working.**

Check

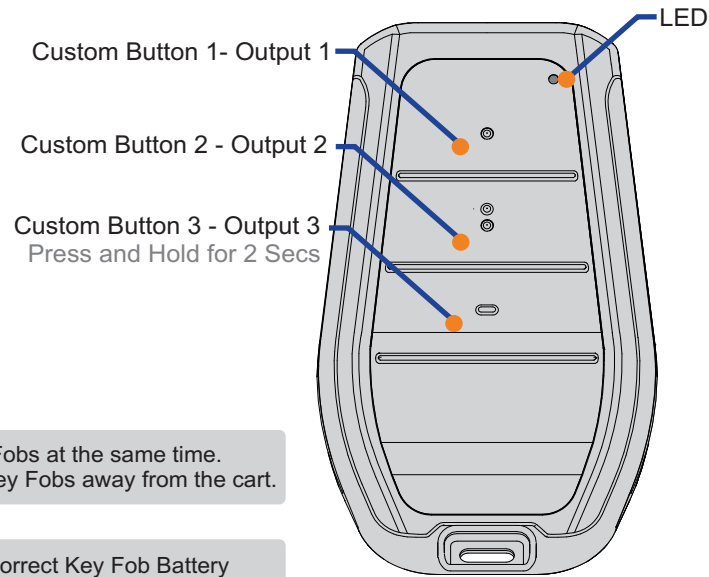
1. Key Fob is not detected. Key Fob may be out of the antenna's range and/or it's signal may be blocked.
 2. Check Key Fob batteries. Replace batteries if necessary.
 3. Both Key Fobs may be present within the antenna's range.
-
1. Faulty Harness or wire connections. Double check all connections.
 2. Refer to Key Fob's manual or contact installation dealer.



OPERATION SECTION

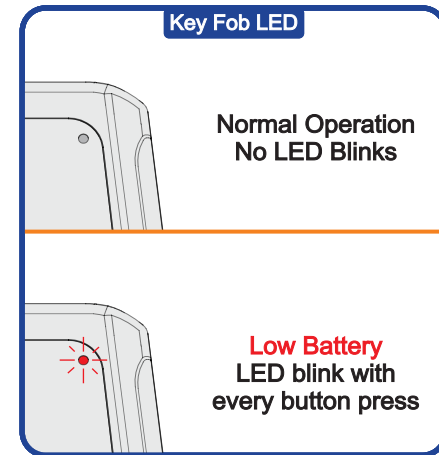


Key Fob



Never use two Key Fobs at the same time.
Always keep one of the Key Fobs away from the cart.

Failure to follow the correct Key Fob Battery Replacement procedure will result in damage.



Key Fob Battery Replacement

- 1 Phillips Head 00
- 2 Battery Removal Tool
- 3
- 4

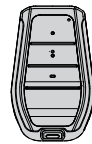
Visit our Youtube Channel for an Installation Video

www.youtube.com/watch?v=jXssXcf6kLk

System Operation

To turn on

Approach Cart
with Key Fob



Red LED
turns on

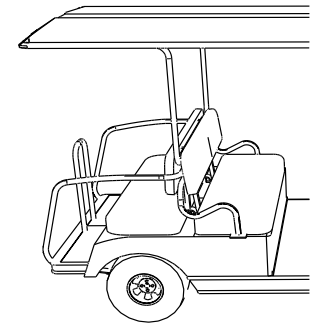


Press
Push-to-Start
Button

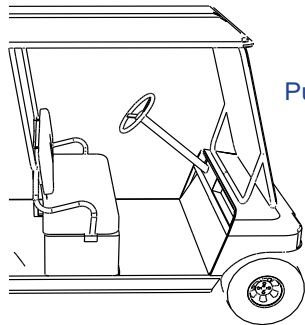


LED turns
Green

Drive Away



To turn off



Press
Push-to-Start
Button

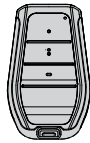


LED turns
off

Features

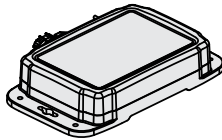
SleepMode

This mode is designed to save your cart's and Key Fob's batteries. It's designed to activate itself whenever the system is not being used. Your Key Fob will go into Sleep Mode first, followed by your whole SEER system as outlined below:



After
90
seconds

Of Key Fob movement inactivity, Key Fob Sleep Mode will be triggered. If your Key Fob is outside the car, the car's doors will lock. Move your Key Fob or press any button to wake it up.







After
72
hours

Of SEER System inactivity, the system functionality is turned off. To restore normal operation start your cart.

FailSafe

This feature allows you to start your cart even when your Key Fob battery has run out. Follow the steps bellow to use the Fail Safe feature. Make sure to use this feature when your cart is shut off.




-  Press and hold the Start Button until the LED blinks red and white.
Then let go of the button → The LED will now blink green and white.
-  Place Key Fob on the Fail Safe Sticker within 30 seconds of the LED blinking green.
Wait until the LED stops blinking to remove Key Fob away from sticker.
-  Move Key Fob away from the sticker. Start Button LED will light up red and white.
-  Start your cart within 15 seconds after moving Key Fob away from the sticker.

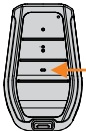

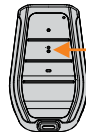
! If you miss the 15 second window, the Push-to-Start Button will blink green once indicating the Fail Safe Mode has ended. Go back to Step 1 if you miss this window.

Setup

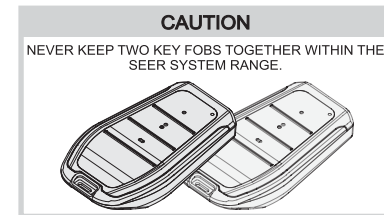
KeyFobPairing

Follow the steps below to pair a new Key Fob. You may pair up to 8 Key Fobs. Every Key Fob must be paired individually. Before you start, make sure all Key Fobs are out of the cart.


-  1 Quickly press the Programming Button **seven (7) times**. You'll hear a short beep  after each press.
 -  A long beep will indicate you've entered pairing mode. After this, you'll have 2 minutes to pair your Key Fob.



-  2 Press and hold Custom Button #3
 -  Without releasing Button #3 → Press Custom Button #2 three times then release Button #3. 

-  3 Confirm Key Fob **LED is blinking blue**. If not, go back to **Step 2**.







4  Bring Key Fob within 6" to 8" of your Fail Safe Sticker.

5  The LED will **blink green** three times and the SEER system will beep.  This indicates a successful pairing.

↳ If LED **blinks red** or you don't hear a beep, pairing has failed.
Move Key Fob 3ft away of the Fail Safe Sticker and go back to **Step 4**.

6  After pairing a Key Fobs wait until you hear a long beep  before starting using your system again.
This may take up to 2 min..

! After successfully pairing 8 Key Fobs you must erase all Key Fobs before pairing a new Key Fob.

Setup

KeyFobErasing

To erase all Key Fobs stored in your SEER system perform the following:

- 1  Quickly press the Programming Button **fifteen (15) times**. You'll hear a short beep  after each press.
 - ↳ After the 15th press, you'll hear a long beep indicating your Key Fobs have been erased.

! This is a specially useful feature if you have lost all your Key Fobs.

Installer Notes



Use this empty space to keep track of your installation notes and maintenance items.

VAIS technology is not responsible for or liable for any installation cost, property loss, damages whatsoever, including but not limited to, any consequential damages, incidental damages, loss of time, loss of earnings, commercial loss, loss of economic opportunity and the like that may or may not be resulted from the operation of the seer product(s). Manufacturer does offer a limited warranty to replace or repair the control module. Visit <https://www.vaistech.com/download/15244/> for more warranty information.



For the most recent version of this document visit <https://vaistech.com/download/49215/> or scan the QR code.

CONTACT US



vaistech.com



sales@vaistech.com



720-733-2348 | 8:30am - 5pm MST



VAIS Technology
8811 American Way, Unit 125
Englewood, CO, 80112

SEER-GCI-K01
SEER-GCE-K01
SEER-MAN-006-P15-0126