

Installation Manual

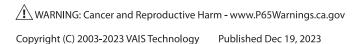


SEER-PS1-K01 / SEER-PS2-K01



www.vaistech.com









DO NOT DISASSEMBLE OR ALTER THE MODULE

Doing so may result in an accident, fire, or electric shock.

DO NOT BLOCK THE AIRBAG

Do not mount product or any added equipment where it can obstruct the operation of any safety devices such as the airbag.

DISTRACTION WARNING

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

BEFORE WIRING, DISCONNECT THE CABLE FROM THE NEGATIVE BATTERY TERMINAL

Before starting any installation work, you must wait 90 seconds after turning the ignition switch to the LOCK position and disconnecting the negative (-) terminal from the battery. The supplemental restraint system (airbag) is equipped with a backup power source. If installation work is started less than 90 seconds after disconnection of the negative (-) battery terminal, the SRS may deploy. When the negative (-) terminal cable is disconnected from the battery, the clock and audio system's memory will be erased. Before starting installation work make a record of the clock and audio system's memory settings. When installation is complete, reset the clock and audio systems to their previous settings. Check that power tilt, power telescopic steering column, front power seats, power mirrors, and power shoulder belt anchorage are equipped with a memory function. When installation is complete, it is necessary to readjust the features to their previous settings. Never use a backup power supply (such as another battery) during installation work to avoid losing these memory settings.



∕!\ CAUTION

DO NOT SPLICE INTO ELECTRICAL CABLES

Never cut away cable insulation to supply power to other equipment. Doing so will exceed the current carrying capacity of the wire and result in fire or electric shock.

DO NOT ALLOW CABLES TO BECOME ENTANGLED IN SURROUNDING OBJECTS

Cables or wiring that obstruct or get caught on places such as the steering wheel, shift lever, brake pedals, etc. can be extremely hazardous.

DO NOT INSTALL IN LOCATIONS WITH HIGH MOISTURE OR DUST

Moisture or dust may result in product failure.

HAVE THE WIRING AND INSTALLATION DONE BY EXPERTS

The wiring and installation of this product requires special technical skills and experience.

USE ONLY SPECIFIED ACCESSORY PARTS

Use of other than specified parts may damage product internally.

FOLLOW THE OPERATIONAL AND INSTALLATION MANUALS

YOU SHOULD READ AND FAMILIARIZE YOURSELF THOROUGHLY WITH THE FOLLOWING INFORMATION PRIOR TO INSTALLING AND USING THIS UNIT. IN ADDITION, YOU MUST CAREFULLY READ AND FOLLOW THE INSTALLATION SCHEMATICS/INSTRUCTIONS FOR THE PRODUCT AND THE VEHICLE IN WHICH IT IS BEING INSTALLED. FAILURE TO FOLLOW INSTALLATION INSTRUCTIONS MAY DAMAGE THE PRODUCT AND THE VEHICLE, WILL VOID THE PRODUCT WARRANTY, AND MAY VOID THE VEHICLE WARRANTY.

FCC WARNING

Contains FCC ID:2APD9-RSL10SIP

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 On Semiconductor could void the user's authority to operate the equipment.

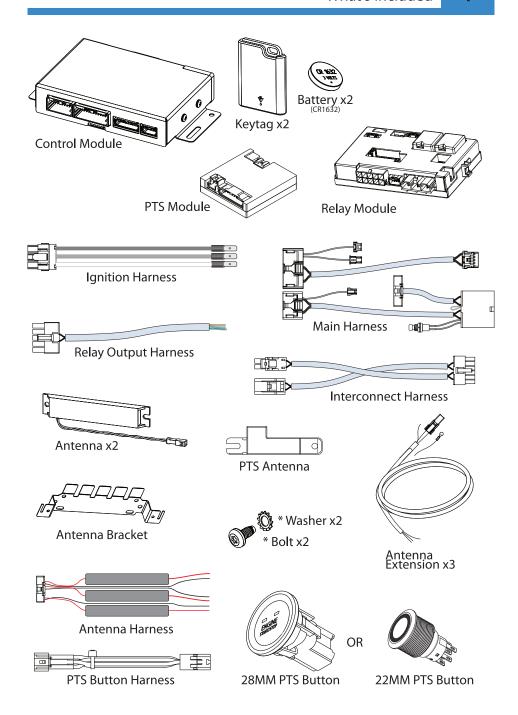
LIABILITY DISCLAIMER

This application guide is based on the testing results at the time of publishing. VAIS Technology can not be held liable for damages or injuries caused by, or resulting from use of this guide. Strictly adhere to all car manufacturer warnings that pertain to the disassembly, maintenance, or servicing of the vehicle and any of its associated part systems. VAIS Technology can not be responsible for discrepancies, or inconsistencies that may occur due to automobile manufacturing changes.

TROUBLESHOOTING

Should this product fail to operate properly, please contact your Dealer or our Customer Service Department at sales@vaistech.com

Some visual assets were provided by Vecteezy.com and Grabcad.com



^{*} Replacement Bolt (92750A716) and Washer (95060A330) are available at McMaster Carr.



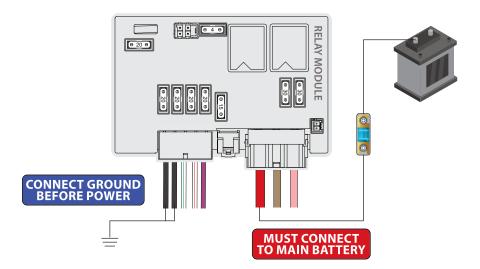
RELAY MODULE POWER

MAIN POWER INPUT MUST BE CONNECTED DIRECTLY TO THE BATTERY FAILURE TO DO SO MAY CAUSE SYSTEM MALFUNCTION!

Relay Module can pull up to 175A. <u>DO NOT</u> connect Relay Module main power input to the ignition switch or column. 12-AWG Red wire must be connected directly to main battery with an in-line fuse.

FUSE MAIN POWER WIRE

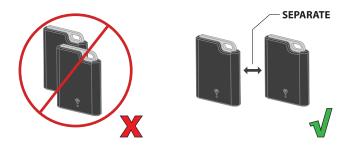
Before installing the Relay Module, calculate the appropriate fuse size based on power consumption for all circuits being used. (I.E. ACC, IGN, Starter, Lights, Locks)



USING THE KEYTAGS

Approach or Depart from vehicle with only one Keytag at a time.

MULTIPLE KEYTAGS IN THE ZONE CAN CAUSE ERRATIC BEHAVIOR



REPLACING THE BATTERY

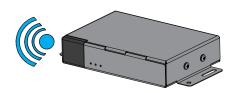
Use a paperclip or small tool to open Keytags as shown below.

THIS IS NOT A CLAM-SHELL STYLE CASE!



DEFAULT CONFIGURATION

SEER ships with default settings. See Pg. 24 for details. NO PROGRAMMING REQUIRED



INSTALLATION

ATTENTION: PUSH START WILL NOT OPERATE UNLESS YOU PERFORM THE FOLLOWING!

PARKING POSITION

Park (-) signal is required for PTS button operation.

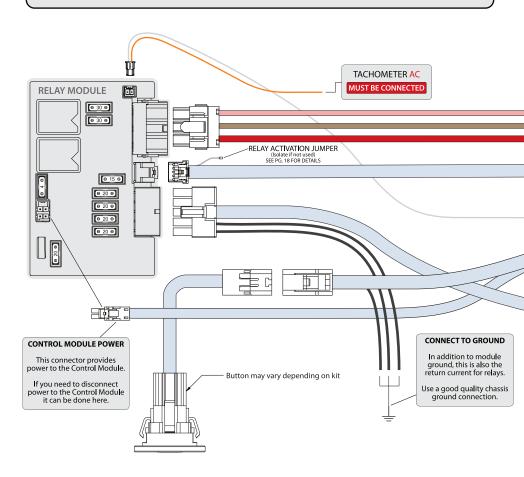
IF THERE IS NO PARK SIGNAL PRESENT, BUTTON WILL NOT FUNCTION!

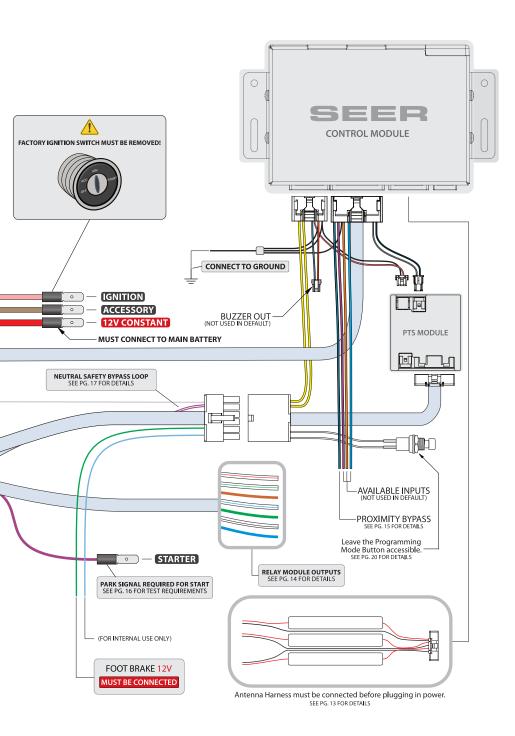
FOOT BRAKE

Foot Brake (+) signal input wire must be connected for engine start.

TACHOMETER

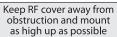
Tach (AC) signal is required for proper engine shutdown and anti-crank when running. IF THERE IS NO TACH PRESENT, ENGINE CAN SHUT OFF WHILE DRIVING!





ATTENTION

DO NOT INSTALL PUSH TO START IF YOUR VEHICLE IS EQUIPPED WITH A STEERING WHEEL LOCKING MECHANISM.







Allow at least 1 inch of space between small metal structures and 'Control Module'.

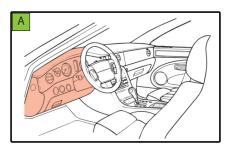
Completely avoid large metal pipes or other large metal structures such as yehicle frame.

ATTENTION

AVOID BLOCKING RF TRANSMITTER COVER KEEP IT AWAY FROM METAL OBSTRUCTION

CARS WITH PLASTIC DASHBOARD

Install the Control Module behind the dash with RF cover facing driver. See Below.



CLASSIC CARS WITH METAL DASH

Install the Control Module under the driver seat or in center console. Keep away from metal.



CLASSIC CARS WITH SEAT OBSTRUCTION

Install the Control Module behind the rear seat cavity mounted to the back wall



SIGNAL TOOL



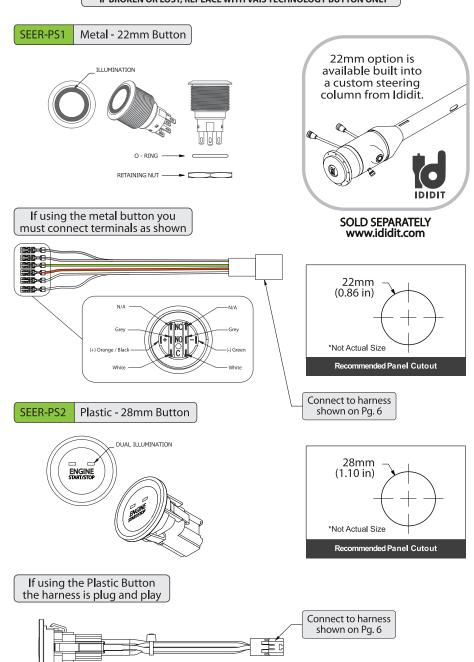
Scan the QR Code below for additional information on how to use the signal tool.



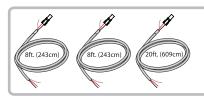
Use the 'Signal Tool' to confirm reception quality before finalizing an install location.

Depending on the kit purchased, the PTS Button will come as a 22mm metal button or a 28mm factory style.

IF BROKEN OR LOST, REPLACE WITH VAIS TECHNOLOGY BUTTON ONLY



Prior to reassembly, it is recommended to position all components in the planned install location and utilize the SEER Assistant app to confirm reception quality. (See Pg. 22)



Use the appropriate 'Antenna Extension' based on where the 'Control Module' will be located.

PTS Antenna Extension connector is a different size from standard. Verify before routing.

ATTENTION

DO NOT PLACE ANTENNAS UNDER OR BEHIND METAL





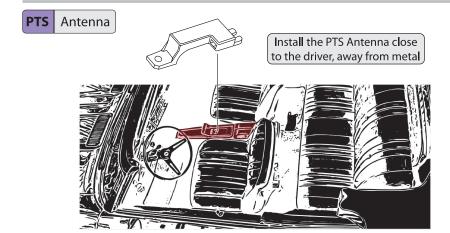


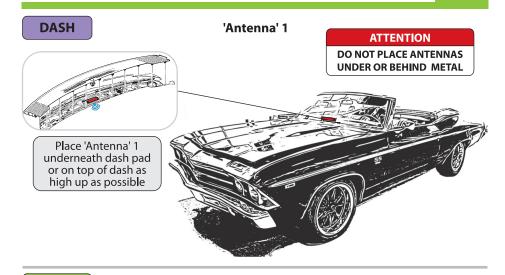


Control Module





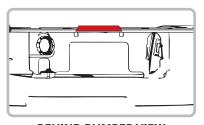




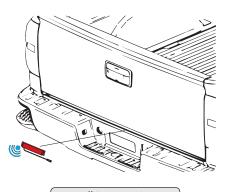
TRUCK

'Antenna' 2

Avoid metal insert panels and metal surfaces on the back of the bumpers.



BEHIND BUMPER VIEW



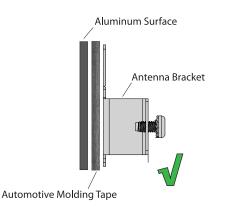
Install 'Antenna' 2 on top of the rear bumper

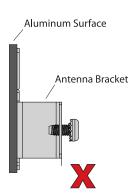
SEDAN

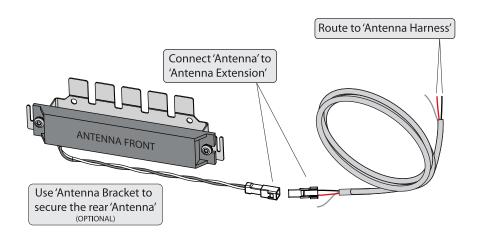


ATTENTION

Avoid electrical contact when mounting to Aluminum







Route each 'Antenna Extension' to the planned mounting location of the 'Control Module'.

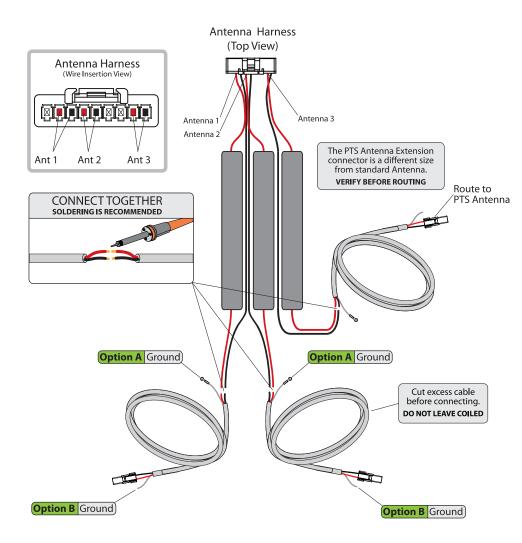
- Mount in dry and safe location
- Secure the 'Control Module' in place
- DO NOT block RF Cover (See Pg. 8)



Connect all 'Antenna Extension(s)' to each pair of leads as shown.

Do NOT coil antenna wires, shorten as needed.

(PAIRS ARE SEPARATED BY TAPE. DO NOT MIX PAIRS.)



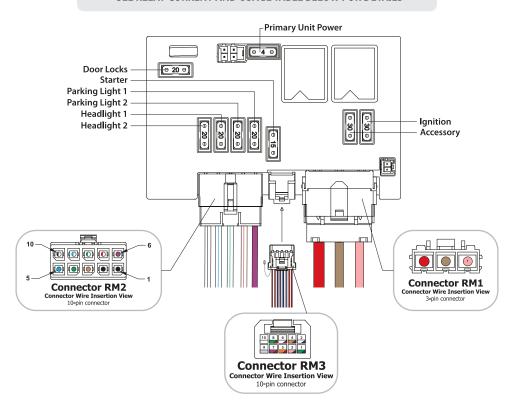
ATTENTION

Connect only Option A Ground or Option B Ground **DO NOT CONNECT BOTH**

RELAY MODULE

The outputs will need to be directly wired to what you are activating.

SEE RELAY CURRENT AND USAGE TABLE BELOW FOR DETAILS



Conne	ector RM1	- Main	Connector RM3 - Inputs			
PIN	Wire Color	Function	Current	PIN	Wire Color	Function
1	Pink	Ignition	30A (+)	1	Green/Blue	Ignition
2	Brown	Accessory	30A (+)	2	White/Blue	Accessory
3	Red	12V Constant Source		3	Pink/B l ue	Starter
Conne	ector RM2	Outputs	4	Brown/Blue	Lock	
PIN	Wire Color	Function	Current	5	Orange/Red	Unlock
1	Black	Ground	Ground	6	White/Red	Horn/Siren
2	B l ack	Ground	Ground	7	Purple/Red	Parking Light
3	Brown	Horn/Siren	5A (-)	8	Green/Red	Headlights
	Green	Lock*	20A (+)	9	Grey	Relay Jumper
5	Blue	Unlock*	20A (+)	10	Open	Jumper Slot
	Purple	Starter	15A (+)			
7	White/Red	Parking Lt 1*	20A (+)	*Relay outputs for Lock//Unlock are		
8	White/Green	Parking Lt 2	20A (+)			
9	White/Blue	Headlight 1*	20A (+)	alternating polarity and rest at Ground! USE 2-WIRE DOOR LOCK ACTUATORS ONLY.		
10	White/Black	Headlight 2	20A (+)			
LIGHT OUTPUTS *Headlight 1+2 Parking Light 1+2 are linked. See Pg18.						

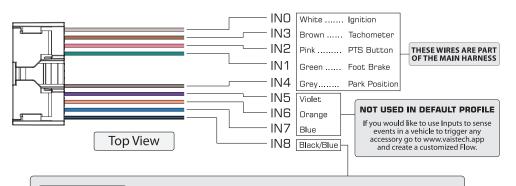
CONTROL MODULE

SEER comes with a factory default configuration shown below.

For customization, visit www.vaistech.app

INPUTS

Inputs 0-4 are used for default features (Shown below)
Inputs 5-8 are available and can be used to sense events occurring in the vehicle.

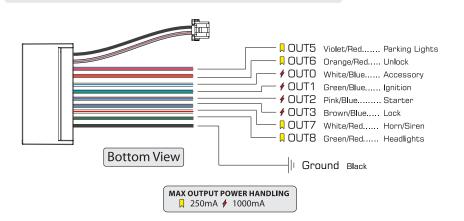


PROXIMITY BYPASS - Active by default. With 12V+, SEER will stop all proximity recognition IN8 (Black/Blue) Positive Input can be connected to Door Trigger or a toggle switch. CAN BE TURNED OFF IN FLOW EDITOR. https://vaistech.com/tech-bay

OUTPUTS TO RELAY

Wires shown in this section are part of the Main Harness going from the Control Module outputs to the Relay Module inputs.

YOU MUST CONNECT ALL GROUND WIRES FOR SEER TO OPERATE PROPERLY

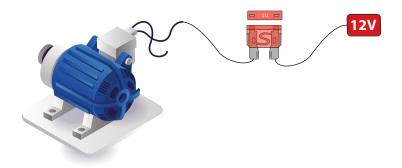




BEFORE CONNECTING THE RELAY MODULE, TEST CURRENT DRAW. RELAY MODULE STARTER (PURPLE) OUTPUT IS RATED FOR 15A

USE A 10A FUSE TO ACTIVATE THE STARTER

Before installing the Relay Module, activate the starter through a 10A fuse as shown below. Start the car multiple times. Check to make sure the fuse does not break or overheat quickly.



A) FUSE BREAKS WHEN ACTIVATING THE STARTER



B) CAR STARTS MULTIPLE TIMES WITHOUT ISSUE





Option A

Classic Cars with Carbureted Engines

When the gear shift is put into the park position the starter wire will switch to a negative (-) signal.



USE A TESTER TO VERIFY IF THE FACTORY STARTER WIRE BEHAVES THIS WAY, IF SO, NO CHANGES NEED TO BE MADE.

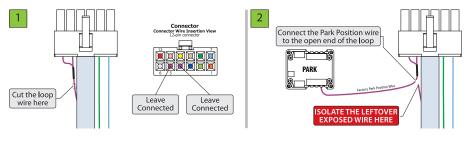
Option B

Classic Cars with Fuel Injected Engines

YOU MUST PERFORM THE ACTIONS BELOW FOR ENGINE START/STOP TO WORK PROPERLY!

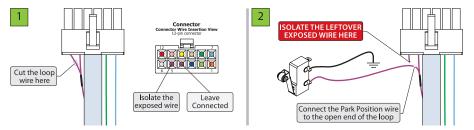
In most modern car engines, the parking position signal is dedicated, and separate from the starter wire.

- Locate the 12-Pin connector at the mid-point in the main harness.
- Cut the purple wire closest to Pin #5 and Isolate the unused section of wire coming out of Pin #5.
- You can also remove the terminal if you don't want to cut the wire.
- · Leave the Purple wire going into Pin #4 connected and introduce your parking position signal.



Classic Cars with Broken Safety Switch

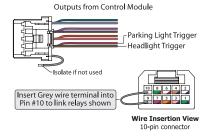
- Locate the 12-Pin connector at the mid-point in the main harness.
- Cut the purple wire closest to Pin #5 and Isolate the unused section of wire coming out of Pin #5.
- You can also remove the terminal if you don't want to cut the wire.
- · Leave the Purple wire going into Pin #4 connected and introduce your parking position signal.

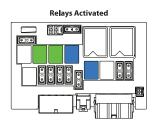


PARKING LIGHTS

The Relay Module harness comes with a Grey jumper wire inserted into Pin #9. When the Jumper is also inserted into Pin #10 both pairs of relays (Green & Blue) will be activated with the either output from the Control Module (Parking Light or Headlight).

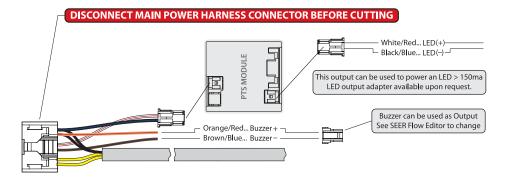
Deactivate one of the outputs via the Flow Editor if the jumper is used.





BUZZER & LED

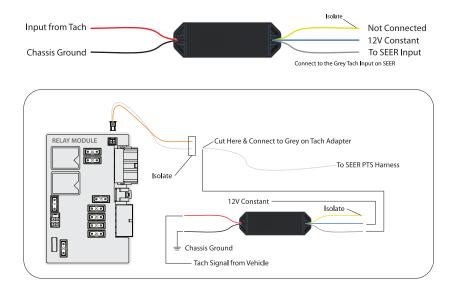
Buzzer and LED are not included. If your application calls for either option, you may order the mating connectors or cut off the existing connectors and use the diagram below to make your connections.





TACHOMETER ADAPTER FOR SEER-PS1-K01 & SEER-PS2-K01

SEER with Push-to-Start is designed to analyze tachometer signal for engine status. If engine Tach signal is less than 7V, use the adapter as shown below to establish proper status.



When the Input (Red Wire) is activated, the adapter will display a Red LED indicating the signal is active.

Use this LED as a tool to determine if you have signal at the time when needed.



DOOR POLARITY INVERTER FOR AL6-K01

This adapter can also be used for inverting polarity of the door status output of a vehicle. If you have a Negative Door Trigger and would like to convert it to Positive, see the diagram below.

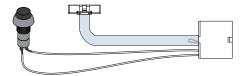


PROGRAMMING & CUSTOMIZATION

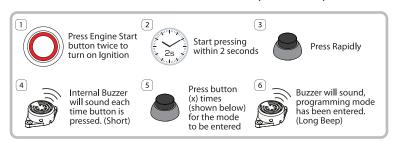
Use the 'Programming Mode Button' located on the main harness to put SEER into the various modes listed below.

IF BROKEN OR LOST REPLACE WITH NORMALLY CLOSED (NC/NO) BUTTON ONLY

Install in a place that is easily accessible.



HOW TO ENTER PROGRAMMING MODE (VEHICLE OFF)





UPLOAD NEW FLOW UPDATE FIRMWARE







REGISTER SEER TO YOUR ACCOUNT







PAIR A REPLACEMENT KEYTAG

* CONTACT US FOR MORE DETAILS





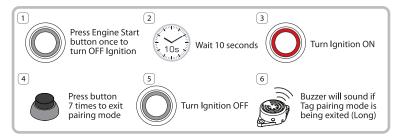


ERASE PAIRING OF ALL KEYTAGS

* IF ALL TAGS ARE ERASED YOU WILL NOT BE ABLE TO START THE ENGINE UNTIL A NEW TAG IS PAIRED! AUTO **EXIT**

Modes with "2 Minute Timeout" will autosave and exit after 2 minutes of inactivity. For modes with **ON OFF**, turn off Ignition for 10 seconds, turn Ignition back on, immediately press button (x) times to exit. To cancel programming and start over turn off Ignition for 15 seconds.

HOW TO EXIT PROGRAMMING MODE (TAG PAIRING ONLY)





Keytag is equipped with an accelerometer and will go into power saving mode if inactive for over 90 seconds.



IF TAG GOES TO SLEEP OUTSIDE THE VEHICLE





KEYTAG GOES INTO POWER SAVE MODE DOORS WILL LOCK

IF TAG GOES TO SLEEP INSIDE THE VEHICLE



KEYTAG GOES INTO

= POWER SAVE MODE

DOORS WILL NOT LOCK

If the Control Module does not see activity from the Keytag or Ignition for 36 hours it will go into a power saving mode and eventually deep sleep.



NORMAL OPERATION

Control Module will check for Keytag often for fast operation



SLEEP STAGE - 1

The interval the Control Module checks for Keytag is reduced



x2 SLEEP STAGE - 2

The interval the Control Module checks for Keytag is reduced drastically to further save power

During Sleep Stages 1-2 user experience may be delayed. Once the Control Module recognizes the Keytag, normal operation will be resumed.

OPTIONAL

System by default does not include Sleep Stage 3. To add please contact VAIS Technology.



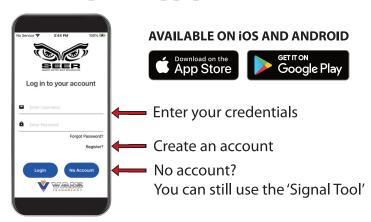
x3 SLEEP STAGE - 3 (DEEP SLEEP)

Control Module will no longer check for Keytag. Once SEER reaches Deep Sleep, the user will need to press the engine start button to wake up the system.

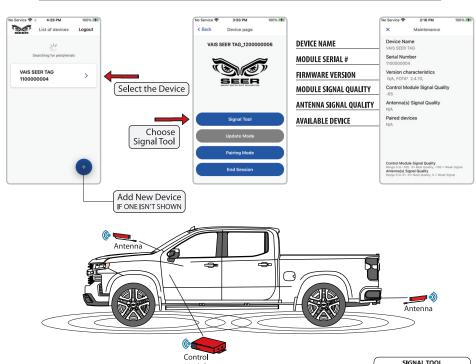




SEER ASSISTANT APP



PRIOR TO REASSEMBLY OF THE VEHICLE USE THE SEER ASSISTANT APP TO CONFIRM SIGNAL QUALITY FOR THE 'CONTROL MODULE' AND 'ANTENNAS' IS OPTIMAL



CONTROL MODULE SIGNAL QUALITY

Ranges from 0db to -100db 0 = Best Signal -100 = Weak Signal

ANTENNA SIGNAL QUALITY

Module

Ranges from 0 to 31 31 = Best Signal 1 = Weak Signal

SIGNAL TOOL

Scan the QR Code below for additional information on how to use the signal tool.

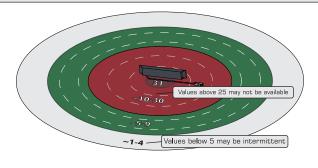


SEER FLOW EDITOR

ATTENTION

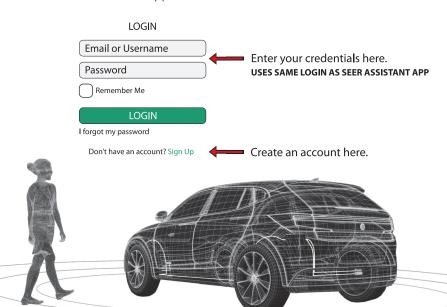
SEER Control Module ships with a standard profile template that will fit most basic vehicle applications.

SEER Flow Editor is used to customize and configure the module to fit your custom vehicle application needs. (See Example Below) Refer to the SEER Flow Editor training modules for further details.



DISTANCE IS ADJUSTABLE IN THE FLOW EDITOR

Go to www.vaistech.app to create an account.



SEER will respond to user position and activate different features depending on which direction they are moving (Inward/Outward).



APPROACH

Inward movement will trigger the following:

When the Keytag is first recognized on approach SEER will activate:

• Headlights on for 30 seconds

When the Keytag gets closer to the vehicle SEER will activate:

- Unlock
- · Hazard / Parking Lights Double Flash

DEPARTURE

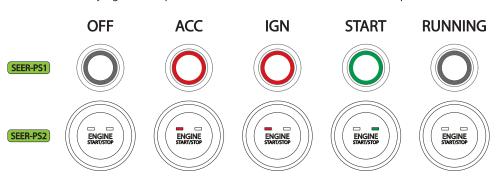
Outward movement will trigger the following:

When the Keytag is no longer recognized SEER will activate:

- Lock
- Hazard / Parking Lights Single Flash
- Horn / Siren (Not Included) Single Chirp
- Headlights will shut off 2 seconds after exiting the zone

ENGINE START BUTTON STAGES

Keytag must be present and vehicle in Park for Start Button to operate.



EMERGENCY SHUT-OFF

Press and hold Engine Start button for 3 seconds for Emergency Shut-Off

TROUBLESHOOTING GUIDE

Symptom	Check	
Engine on, PTS button lights up Green when pressing the foot brake	1. 2.	Tach signal is not connected properly. Tach is connected, but not in the correct voltage range.
Engine on, system tries to re-crank when pressing PTS button	1. 2.	Tach signal is not connected properly. Tach is connected, but not in the correct voltage range.
Engine on, cannot shut off the vehicle	1. 2.	Parking Position Signal is not connected. Facotry gear shifter is not making contact. Verify car is in Park.
Press PTS button, no activity and ECU beeps	1. 2.	Keytag is not preset. PTS Antenna is not connected.
No lock or unlock when approaching or departing from the vehicle zone	1.	Check and verify Antannas 1+2 are working See Pg. 7 for connections. Power cycle the ECU Control Module.
Erratic behavior, including lock/unlock or no engine start	1. 2. 3.	Antenna or Control Module is blocked Both Keytags are together, separeate them Check Keytag Battery



* For additional help on the symptoms above visit https://vaistech.com/tech-bay or scan the QR Code below





Warranty is available for download: https://www.vaistech.com/download/15244

To request a paper warranty copy please contact us:

VAIS Technology Warranty Department 8811 American Way Unit 125 Englewood, CO 80112 720-733-2348 sales@vaistech.com





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. See Warranty for more information.