INSTALL GUIDE

Covers All 22xx and 23xx Series
Advanced Remote Starter/Alarms

REMOTE STARTERS

CAR ALARMS

ULTRA START

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Note: Some features may not be available on certain models.

Warning!!

! CARBON MONOXIDE MAY CAUSE SERIOUS INJURY, EVEN DEATH!

It is the sole responsibility of the user to place the system in Service Mode when parking in an enclosed area *ex: garage*, partially enclosed area *ex: carport,* or when the vehicle is being serviced.

Table of Contents

Components

- Control module
- Antenna with built in
  Program Button and LEDs
- 3 pin keyless entry harness
- Hood pin switch
- Installation & Owner Guides

- 4 button remote transmitter's
- 6 pin Main harness
- 14 pin auxiliary harness
- 2 pin auxiliary harness*
- 3 pin auxiliary harness*
- Multi Tone Siren

*23xx series and LT models only

Feature List

- Auto Tach (Tachless, TL series only) learning with Quick Learn
- Run Time: 4/15/45 minutes
- Door locks: .125s/.75s/3s/double unlock/ignition lock/unlock
- Siren output 5ms/10ms/50ms
- Timer or Cold Start (LT series) with 4 different start intervals
- Programmable Wait to Start or (+/-) diesel Glow plug input
- Ground While Running/ Anti-grind protection/ Starter kill
- System Override Protection/Service Mode (Valet)
- Park light/ LED diagnostics
- PadLoc/ Dual car operation
- up to 4 different remote transmitter codes
- Panic mode   - Car Finder mode
- Engine Idle mode   - Turbo Timer mode

Please read manual thoroughly.

If the vehicle is a MANUAL TRANSMISSION, a "M" series remote starter must be installed. Any model number followed by the letter "M" is specially designed for MANUAL TRANSMISSION vehicles. The "M" series remote starter will not work in an AUTOMATIC TRANSMISSION vehicle.

Recommended Installation Procedures

Remote car starters and alarms should be professionally installed. Review the installation and owner manuals and acquire a vehicle wiring diagram for the vehicle to be worked on. Take a few moments to walk around the vehicle looking for any damages and make note if any are found. Also check other functions such as the lighting system, warning or check engine lights. Check if the vehicle has a factory security or anti-theft system (Transponder or PASS-LOCK). These systems will require additional parts and labor to complete the installation. Use of the proper tools and testing equipment is also very important. **Never** use a grounding style test light. Use only a **circuit safe** test light or digital **Volt/Ohm meter** to test for wires in the vehicle. It is the sole responsibility of the installer to test and verify all connections.

Proper Connections - Remote Starters can handle loads of up to 30 amps for extended periods of time. It is critical to insure that all high current connections are properly soldered and insulated with quality electrical tape. Failing to insure proper connections will result in warranty being VOID and can result in damage to the vehicle and remote starter module. The manufacture is not responsible for any such damages. It only takes a few more minutes to do the job right.

Under Hood Connections - Route the hood pin and tach wire through the firewall into the engine compartment. If possible route the wires through a factory rubber grommet. If drilling a hole through the firewall, **BE CAREFUL**. Always check for obstructions on both sides of the firewall. After drilling, use a snap in grommet to protect the wires from sharp edges. Use split loom to insulate the wires, route the wires clear of moving parts and extreme heat. The hood pin switch must always be installed and the tach wire should always be soldered and taped properly.
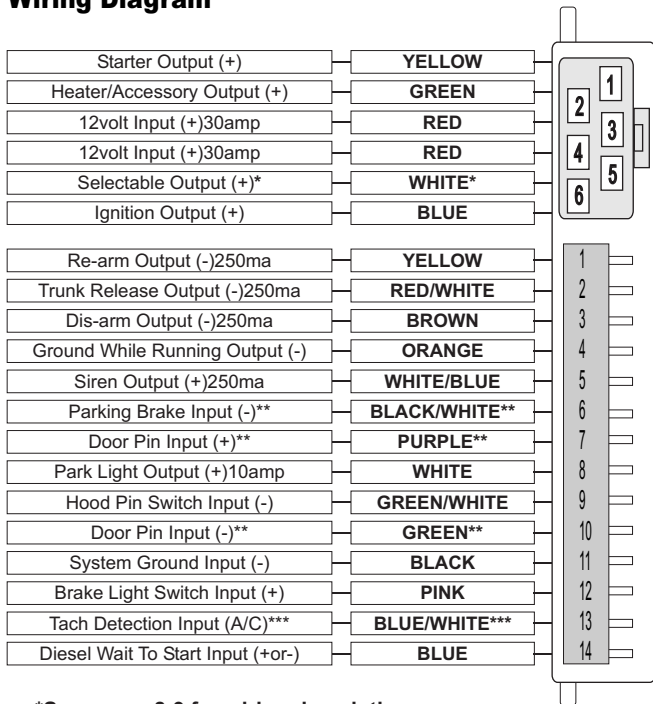
Recommended Installation Procedures

Mounting The Control Module - Never mount the module in the engine compartment. Select a location under the dash to install the main module. Be certain that the module is securely attached and does not obstruct any serviceable areas. Do not force or jam the module into tight places instead of mounting. The module must be free from all moving parts such as brake, clutch and gas pedal linkages. Do not place the module directly in front of a heater vent.

Installing the External Long Range Antenna - To insure the best possible reception, place the antenna in the center of the windshield below the tint screen and behind the rear view mirror. Before attaching to the glass ensure that the surface is clean and dry. Run the cable under the head liner and behind the A-pillar panel. Be careful not to pinch the antenna cable. Plug the antenna into the **BLUE** connector on the Control Module.

Testing The System - When the installation is complete, it will be necessary to test that the system is working correctly. The system's default programming will work on the majority of vehicles, but might need to be adjusted for some applications. If the installation requires special timing or additional features, proceed to Program Mode. The system must be Tach Learned (Tachless learned on TL models) before the remote starter will make a start attempt. If the remote starter does not make a start attempt check if the park lights are flashing a diagnostic code, if so look the code up in the Diagnostic Chart to find the shutdown input that is preventing the system from starting. If the vehicle does make a start attempt but fails to start. Check all connections and insure that all wiring is connected correctly. The vehicle may be equipped with a factory anti-theft system. Vehicles equipped with factory anti-theft systems will usually have some sort of *Security* or *Anti-Theft* light located in the instrument cluster.

Wiring Diagram

Starter Output (+)	**YELLOW**
Heater/Accessory Output (+)	**GREEN**
12volt Input (+)30amp	**RED**
12volt Input (+)30amp	**RED**
Selectable Output (+)*	**WHITE***
Ignition Output (+)	**BLUE**

Re-arm Output (-)250ma	**YELLOW**	1
Trunk Release Output (-)250ma	**RED/WHITE**	2
Dis-arm Output (-)250ma	**BROWN**	3
Ground While Running Output (-)	**ORANGE**	4
Siren Output (+)250ma	**WHITE/BLUE**	5
Parking Brake Input (-)**	**BLACK/WHITE***	6
Door Pin Input (+)**	**PURPLE***	7
Park Light Output (+)10amp	**WHITE**	8
Hood Pin Switch Input (-)	**GREEN/WHITE**	9
Door Pin Input (-)**	**GREEN***	10
System Ground Input (-)	**BLACK**	11
Brake Light Switch Input (+)	**PINK**	12
Tach Detection Input (A/C)***	**BLUE/WHITE****	13
Diesel Wait To Start Input (+or-)	**BLUE**	14

*See pages 8-9 for wiring descriptions.
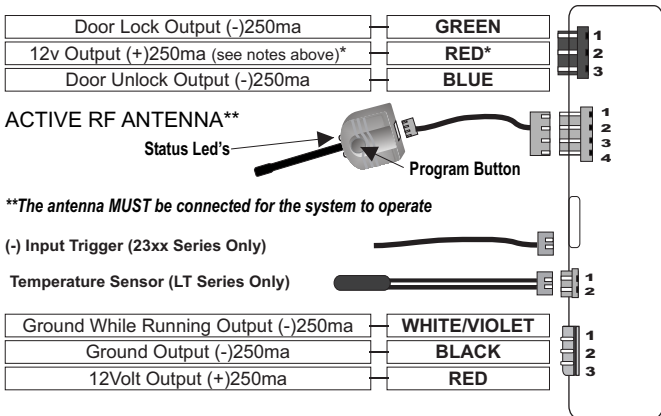****Connect for the MANUAL TRANSMISSION vehicles only!!!**
***Optional on "TL" models
NOTE: 250ma outputs are low current and may require additional
parts (relays) to active optional features.

Wiring Diagram

*The centre pin of the keyless entry harness is ONLY available with plug-in devices such as the VP-1, DL-3, DL-7 and Data Bus Modules.
Overloading this output will damage the remote starter.

Door Lock Output (-)250ma	**GREEN**
12v Output (+)250ma (see notes above)*	**RED***
Door Unlock Output (-)250ma	**BLUE**

ACTIVE RF ANTENNA**

Status Led's

Program Button

**The antenna MUST be connected for the system to operate

(-) Input Trigger (23xx Series Only)

Temperature Sensor (LT Series Only)

Ground While Running Output (-)250ma	**WHITE/VIOLET**
Ground Output (-)250ma	**BLACK**
12Volt Output (+)250ma	**RED**

NOTE: The 2 pin white and 3 pin white auxiliary connectors are not available on the 22xx series.

Output on White wire	Jumper position
Second Starter	Position 1
Second Accessory	Position 2
Second Ignition	**Position 3**

Jumpers

1 2 3
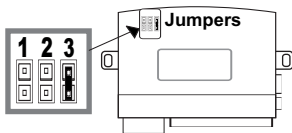
NOTE: The jumpers control the output from the **WHITE** wire on the main 6- pin harness. This is an **30amp relayed output**.

*The factory default setting of the Selectable Output jumper is position #3.

Wiring Descriptions

MAIN CONNECTOR (6pin)

Pin	Function	Description
1-YELLOW	**Starter Output**	*This wire will test 0V in OFF, ACCESSORY and in the ON key positions. 12v during START ONLY.*
2-GREEN	**Heater/Acc Output**	*This wire will test 0V in the OFF and START key positions. 12-14V in the ACCESSORY key position.*
3-RED	**12volt Input(30amp)**	*Supplies 12votls for the IGNITION, PARK LIGHT and SELECTABLE outputs.*
4-RED	**12volt Input(30amp)**	*Supplies 12 volts for ACC and STARTER outputs.*
5-BLUE	**Ignition Output**	*This wire will test 0V in the OFF and ACCESSORY key positions.12V in the IGNITION and START.*
6-WHITE	**Selectable Output**	O*utput for 2nd IGNITION, 2nd ACCESSORY or 2nd STARTER.*

AUXILIARY CONNECTOR (14pin)

Pin	Function	Description
1-YELLOW	**Re-arm(-)**	*0.75 second pulse output when ⊕ is pressed and after remote start shutdown. Used for factory alarm re-arm.(menu 3)*
2-RED/ WHITE	**Trunk Release(-)**	*Programmable output. Hold ❸ or ❹ button for 3 seconds, output will stay active (max 5 seconds) or (-)park light.*
3-BROWN	**Dis-arm(-)**	*0.75 second pulse when ⊖ is pressed and before remote starter activation. Used for factory alarm dis-arm.*
4-ORANGE	**Ground When Running(-)**	*Output active during remote start. Programmable Starter Kill (menu 3)*
5-WHITE/ BLUE	**Siren(+)**	*Output to activate siren. Menu 1&2*
6-BLACK/ WHITE	**Parking Brake(-)**	*Input to detect (-) when parking brake switch is applied.*

Wiring Descriptions

Pin	Function	Description
7-PURPLE	**Door Pin(+)** - *Input to detect 12v when door is open.*	
8-WHITE	**Park Light(+)** - *10amp positive output to activate park lights. Programmable output (menu 2)*	
9-GREEN/ WHITE	**Hood Pin(-)** - *Input to detect ground when hood is open.* MUST BE CONNECTED.	
10-GREEN	**Door Pin(-)** - *Input to detect (-) when door is open.*	
11-BLACK	**Ground(-)** - *System chassis ground input.*	
12-PINK	**Brake Light (+)** - *Positive brake light switch input. Used to detect the brake switch being applied.*	
13-BLUE/ WHITE	**Tach(A/C)** - *A/C Tach signal input. Used to detect engine speed to indicate vehicle is running.* (Coil, Injector, cam/crank position sensors)	
14-BLUE	**Diesel(+/-)** - *Programmable Wait to Start Input. Detects 12v or negative signals.(menu 3)*	

LOCK/ UNLOCK CONNECTOR (3pin red)

Pin	Function	Description
1-GREEN	**Lock(-)** - *Programmable LOCK output. (Menu 1)*	
2-RED	**12volts** - *250ma 12volt output for relays.*	
3-BLUE	**Unlock(-)** - *Programmable UNLOCK output*	

ANTENNA CONNECTOR (4pin Blue)

RF Antenna with Program Button and LEDs

TEMP SENSOR or INSTANT START CONNECTOR (2pin white)*

Connector for Instant Start or Temperature Sensor inputs.

AUXILIARY CONNECTOR (3pin white)*

Pin	Function	Description
1-WHITE/ VIOLET	**Ground While Running(-)** - *250ma ground output while remote starter is active.*	
2-BLACK	**Ground(-)** - *250ma ground output.*	
3-RED	**12volts(+)** - *250ma 12volt output.*	

*23xx Series Only

Step 1 - Connect All Of the Following Wires

Main Connector (6pin)

YELLOW   **Starter Output** - *12volts during start position only.*
GREEN   **Heater/Acc Output** - *12volts in the accessory position off during start and 14volts during run.*
RED   **12volt 30amp Input** - *12volts from ignition harness or battery.*
RED   **12volt 30amp Input** - *12volts from ignition harness or battery.*
BLUE   **Ignition Output** - *12volts in the ignition, start and run positions.*
WHITE*   **Selectable Output** - *Selectable Output for vehicles that may require a 2nd Ignition, Accessory or Start.*

*(See jumper diagram page 7)

Auxiliary Connector (14pin)

BLACK   **System Ground Input** - *Connect to Chassis Ground.*
WHITE   **Park Light Output** - *Connect to Park Light system.*
GRN/WHT   **Hood Pin Input** - *Connect to the Hood Pin Safety Switch.*
BLUE/WHT*   **Tach Input** - *Connect to A/C Tach source. (Above 2 volts AC)*
PINK   **Brake Switch Input** - *Connect to 12volts when the brake pedal is applied.*

*Not necessary on TL models and must be connected on all "M" series.

"M" Series (yellow cases)

BLK/WHT   **Park Brake Input** - *Connect to Park Brake wire.*
GREEN** or   **Door pin Input** - *Connect to (-) wire when door open*
PURPLE**   **Door pin Input** - *Connect to (+) wire when door open*

**Connect only ONE of the door input wires.

**Important!
Never install an AUTOMATIC TRANSMISSION module into a MANUAL TRANSMISSION vehicle!**

Manual Transmission "M" Models

Never install an automatic transmission remote starter into a manual transmission vehicle!!! Doing so may result in serious injury or death. Do not install remote starters in convertible vehicles! The following wires must be connected In addition to the basic remote starter installation.

Park Brake Input- This wire is located at the park brake switch. The wire will switch to (-) when the park brake is applied.
Never connect the Black/White wire straight to a ground!!!
(-) Door Pin Input- A negative door pin wire will be (+) or neutral when the door is closed then switch to (-) when the door is opened.
Always ensure that **all** the vehicles doors are sensed.
(+) Door Pin Input- A positive door pin wire will be (-) or neutral when the door is closed then switch to (+) when the door is opened.
Always ensure that **all** the vehicles doors are sensed.
NOTE: Blue/White must be connected on "M" series.

***If any Door Pin Switches or the Park Brake Switch is not working correctly...
"DO NOT INSTALL UNTIL THE VEHICLE IS REPAIRED!!!"***

Clutch Bypass - In most cases the clutch switch will need to bypassed during remote starting. This is a temporary bypass, **t**he clutch switch should never be disconnected or altered to not work as it is indented to"As a Safety Switch**"**. The clutch switch is usually a 2 wire switch mounted directly to the clutch pedal. There are several types of clutch switches that operate in one of the following ways:

Type 1 - Starter Wire Bypass - The starter wire travels form the key switch through the clutch switch to the starter motor. Connect the remote starters Starter Output wire directly to the starter motor side of the clutch switch.
Type 2 - Negative (High Current) - This switch grounds the factory starter relay and allows the vehicle to start. Connect a relay to ground the clutch switch wire when the remote starter is activated. The starter wire is connected at the ignition switch.
Type 3 - Connect Switch - Install a relay to connect the two wires at the switch when the remote starter is activated. The starter wire is connected at the ignition switch.
Type 4 - Disconnect Switch Install a relay to disconnect one of the wires at the clutch switch. The starter wire is connected at the ignition switch.
Testing for the correct wire is critical! Never connect to a circuit if you are not sure of it's operation. Contact your dealer or technical support for more information.

Auto Tach Learn

IMPORTANT! The system must be Tach Learned before remote starting. The Auto Tach Learn is the same for the TL (tachless) series.

1) Turn the ignition key to the "ON" position. The park lights* will turn "ON"
2) Start the vehicle with the key. The LEDs on the antenna will turn on if a proper tach signal is detected**, after 30-35 seconds the park lights will flash and the siren will chirp twice to confirm Tach Learn.

* If the park lights do not turn on check for proper connection on the BLUE ignition wire at the 6-pin connector. This wire should be connected to the vehicle main ignition wire and must not turn off during the start position. If the ignition connection is correct, reset the system (see System Reset page 15) and repeat step #1.
** If LEDs do not come "ON" during tach learn, a proper tach signal was not detected.

NOTE: The LEDs will not turn "ON" for Auto Tach Learn on the TL series.

If the park lights do not flash in auto tach learn mode it may be necessary to connect to a different tach source. It is important the ignition output from the remote starter is connected to a wire that does not turn off in the crank position. The remote starter will not tach learn if connected to the wrong wire. *For best results connect the tach wire to the coil pack or to a fuel injector wire.*

New - If the original Tach source is changed a system reset must be preformed before a new tach signal can be learned to the system. This does not apply if the Quick Learn feature is being used. (See page 15 for System Reset).

Your Basic Install Is Complete!

NOTES:
1) If the vehicle does not start when the remote starter is activated, the park lights will flash a diagnostic code. (See Diagnostic Chart page 24).
2) If the vehicle still does not start, check all connections and check for factory Anti-Theft system.

Important Tach Notes

Tach Learning the remote starter is one of the most important steps in the installation process. Do not tach learn vehicle while the engine is in high idle. To ensure the best possible tach setting, ensure that the vehicle is at low idle/ normal operating RPM. Vehicles such as Toyota and Honda may idle much higher when the engine is warm compared to starting the vehicle when the engine is cold. The Quick Learn feature may be used to tach learn the vehicle again but at a normal engine RPM.

Quick Learn Tach

Quick Learn Tach is designed to re-learn the remote starters tach setting while the vehicle is at normal idle RPM. Vehicles such as Toyota and Honda will run at a very high idle for a number of minutes when first started. If tach learned when the vehicle is at high Idle, then remote started when the vehicle is cold. The engine does not increase to the RPM that is was learned at. The following steps can be used to learn tach at a more suitable idle:

1) Start the vehicle and leave it running with the ignition key until the engine idles down.

2) Press and hold the brake pedal. [BRAKE]

3) Press and release, then press and hold the Program Button.

4) The park lights will flash to confirm Quick Learn Tach*.

NOTE: The System MUST be "Tach Learn" before the "Quick Learn" feature will function.

*TIP***:** "Manual Low Idle Learn". While in "Auto Tach Learn" mode, firmly apply the park brake and press the brake pedal. Place the transmission into reverse gear this will lower the Engine Idle.

Entering Program Mode

Ignition 3x On/Off On/Off On	Press and Release the Program Button	For Menu 1, press the ⊕ button	For Menu 2, press the 🔒 button	For Menu 3, press the ✳ button	For Menu 4, press the ⊕ button

1) With the ignition in the OFF position, turn the ignition key from "Off" to "On" 3 times, ON-OFF-ON-OFF-ON within three seconds.

NOTE: Leave the key in the ON position

2) Press and release the Program Button. The park lights will flash and the siren will chirp to confirm entering program mode.

3) Select desired Program Menu (See below). The park lights will flash and siren will chirp to confirm the selected menu.

4) Select Programmable Setting:

   a) Press and release the Program Button the correct number of times to select the desired Program Setting. The park lights and LEDs will flash and the siren will chirp to indicate the Program Setting that has been selected. *For example*: 1 flash/chirp= Program Setting 1;
   2 flashes/chirps= Program Setting 2; etc…

   b) Press and Hold the Program Button until the park lights flash and the siren chirps to confirm the desired setting. *For example*: 1 flash/chirp= Setting 1; 2 flashes/chirps= Setting 2; 3 flashes/chirps= Setting 3.

   c) Turning the ignition key to the "Off" position or 30 seconds of no activity will exit Program Mode. This will be confirmed with a light flash and a long siren chirp. The Program Menu may be changed at any time by pressing the transmitter button (below), this will allow the installer to jump from one menu, then quickly jump to another menu and change another setting without re-entering Program Mode.

Program Menus

Menu 1: User Settings (⊕ Button)
This program menu is for the adjustments for the user and door lock options.

Menu 2: Additional Settings (🔒 Button)
This program menu is for additional settings.

Menu 3: Starter Settings (✳ Button)
This program menu is for various remote car starter applications.

Menu 4: Tach Settings (⊕ Button)
This program menu is for tach signal adjustments.

Quick View Programming

Menu 1 - Press ⊙	1 Flash	2 Flashes	3 Flashes
1 Ignition Lock	Enabled	Lock Only	**Disabled**
2 Siren Output	Type 1	Type 2	**All chirps**
3 Lock&Unlock Options	Double Unlock	3 second	3/4 **second**
4 Unlock/Disarm	125ms	**750ms**	
5 Passive Locks	Disable	**Enable**	
6 Shock Sensor	Disable	**Enable**	
7 Passive Arming	Type 1	Type 2	**Disable**
Menu 2 - Press ▣	1 Flash	2 Flashes	3 Flashes
1 Secure Service Mode	15 seconds	**5 seconds**	
2 Park Light Output	30 seconds	(-) Park Light	(+)**Park Light**
3 Siren Timing	5ms	50ms	**10ms**
4 Button #4 (⊙ Button)	Trunk Release	Garage Door	**Car Finder**
5 Siren/ Horn Output	Horn	**Siren**	*Automatic Starters ONLY
5 Reservation Mode	Manual	**Auto**	**Manual Starters ONLY
Menu 3 - Press ⚹	1 Flash	2 Flashes	3 Flashes
1 Lock/ Unlock Type	Type 1	Type 2	**Normal**
2 Gas/ Diesel	Negative	15 second	**Gas/Positive**
3 Rearm Output	Type 1	Type 2	**Rearm**
4 Run Time	4 Min	45 Min	**15 Min**
5 Crank Time	10 seconds	3 seconds	**5 seconds**
6 Starter Disable/GWR	Active	Passive	**GWR**
7 Safety Start Mode	Press twice	**Press once**	
Menu 4 - Press ⊙	1 Flash	2 Flashes	3 Flashes
1 Low Idle Learn		**Low Idle Learn**	
2 Adjust For Over Crank		**Reduced by 10%**	
3 Adjust For under Crank		**Increased by 10%**	

**Bold type indicates settings that are Factory Default.

System Reset

The system reset will clear any changes made to the Program Menu's as well as the Tach setting. When the system reset is complete the system must be Tach learned before the remote starter will operate.

1) Turn the ignition key from "Off" to "On" 3 times, **ON-OFF-ON-OFF-ON** within three seconds**.** (Leave the key in the **ON** position)

2) Press and release the **Program Button** located on the antenna. The park lights will turn on and the siren will chirp one time.

3) Then press and hold the **Program Button** until the park lights flash and the siren will chirp 3 times slowly to confirm system reset.

System is now reset to factory defaults.

NOTE: System Reset **does not** delete the transmitter codes from memory.

* See the following pages for more detailed programming instructions.

Menu 1- User Settings

Ignition 3x
On/Off
On/Off On

Press and
Release the
Program
Button

Press and
Release the
🔓 button for
Menu 1

Press and Release
the Program Button
# of Times for
Setting Chosen

Press and Hold
the Program Button
to Change Option

Setting 1 Ignition Auto Lock
1) Enable   1 Flash/Chirp   Doors Lock/Unlock with Ignition key.
2) Ignition Lock **Only**   2 Flashes/Chirps   Doors Lock when ignition is turned "ON" only.
*3) Disable   **3 Flashes/Chirps**   **Lock/Unlock with remote transmitter ONLY**
Press & Release the Program Button 1 Time (Setting 1) Confirmed with 1 LED flash.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release
Press & Release the Program Button to proceed to the next step.

Setting 2 Siren Chirp Settings (Auxiliary Connector Pin 5)
1) Lock/Unlock chirps Disable   1 Flash/Chirp   Chirps for Panic/Car Finder Only.
2) Lock/Unlock chirps Enable   2 Flashes/Chirps   No Chirps for Start ONLY
*3) All Chirps Enable   **3 Flashes/Chirps**   **Chirps for all features.**
Press & Release the Program Button 2 Times (Setting 2) Confirmed with 2 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 3 Door Lock Options
1) Double Unlock Pulse   1 Flash/Chirp   .75 Second lock & 2 unlock pulses
2) 3 Second Lock & Unlock   2 Flashes/Chirps   3 Second Lock & Unlock Pulses
*3) .75 Sec Lock & Unlock   **3 Flashes/Chirps**   **.75 Second Lock & Unlock Pulses**
Press & Release the Program Button 3 Times (Setting 3) Confirmed with 3 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 4 Door Unlock & Disarm Pulse Duration
1) Short Pulses   125ms pulses on Unlock & Disarm outputs
*2) Normal Pulses 2 Flashes/Chirps   750ms pulses on Lock/Unlock & Disarm outputs
Press & Release the Program Button 4 Times (Setting 4) Confirmed with 4 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 5 Active/Passive Locks
1) No Auto-Lock with Passive Arm   1 Flash/Chirp   Doors do not auto-lock with passive arming
*2) Doors Auto-Lock with Passive Arm 2 Flashes/Chirps   Doors Lock when passive arming
Press & Release the Program Button 4 Times (Setting 5) Confirmed with 5 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

*(Default Settings)

Menu 1- User Settings...continued

Setting 6 Sensor Enable/Disable
1) Sensor Disabled   1 Flash/Chirp   Impact Sensor Disabled
*2) Sensor Enabled   **2 Flashes/Chirps**   **Impact Sensor Enabled**
Press & Release the Program Button 6 Times (Setting 6) Confirmed with 6 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/ siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 7 Passive/Active Arming
1) Passive Arming   1 Flash/Chirp   Auto Arms 30 seconds after last door is closed
2) Active Arming with Rearm   2 Flashes/Chirps   If unlock is pressed and no door is opened
*3) Active Arming   **3 Flashes/Chirps**   **Arms with remote transmitter only**
Press & Release the Program Button 7 Times (Setting 7) Confirmed with 7 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/ siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Menu 2- Additional Settings

Ignition 3x
On/Off
On/Off On

Press and
Release the
Program
Button

Press and
Release the
🔓 button for
Menu 2

Press and Release
the Program Button
# of Times for
Setting Chosen

Press and Hold
the Program Button
to Change Option

Setting 1 Secure Valet Mode (time required to set the system into Service Mode)
1) Secure Valet   1 Flash/Chirp   Hold the Program Button for 15 seconds
*2) Normal Valet   **2 Flashes/Chirps**   **Hold the Program Button for 5 seconds**
Press & Release the Program Button 1 Time (Setting 1) confirmed 1 LED flashes.
Press & Hold the Program Button until the appropriate # of park light/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 2 Parking Light/Trunk Output (14 pin auxiliary connector pins 2&8)
1) 30 sec. Output   1 Flash/Chirp   On for 30 seconds when 🔓 is pressed
2) Negative Park Lights   2 Flashes/Chirps   Switches the Park Lights/Trunk Outputs
*3) Park Lights   **3 Flashes/Chirps**   **2 Flashes when 🔓 is pressed**
Press & Release the Program Button 2 Times (Setting 2) confirmed 2 LED flashes.
Press & Hold the Program Button until the appropriate # of park light/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 3 Siren Chirp Timing (14 pin auxiliary connector pin 5)
1) 5 ms Pulse Output   1 Flash/Chirp   Short(Quiet) siren Output
2) 15 ms Pulse Output   2 Flashes/Chirps   Long(Loud) siren Output
*3) 10 ms Pulse Output   **3 Flashes/Chirps**   **Normal(Medium) siren Output**
Press & Release the Program Button 3 Times (Setting 3) confirmed 3 LED flashes.
Press & Hold the Program Button until the appropriate # of park light/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Menu 2- Additional Settings...continued

Setting 4 ⚙ Button Operations
1) Trunk Release   1 Flash/Chirp   ⚙ Button activates Trunk Release
2) Garage Door Interface 2 Flashes/Chirps   ⚙ Button activates Garage Door Interface
*3) Car Finder   3 Flashes/Chirps   ⚙ Button activates Car Finder Mode
Press & Release the Program Button 4 Time (Setting 4) confirmed 4 LED flashes.
Press & Hold the Program Button until the appropriate # of park light/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 5 Siren or Horn Output (Automatic units only)
1) Horn Output   1 Flash/Chirp   White/Blue pulses when alarm is triggered or panic.
2) Siren Output   2 Flashes/Chirps   White/Blue constant output when alarm triggered.
Press & Release the Program Button 5 Time (Setting 5) confirmed 5 LED flashes.
Press & Hold the Program Button until the appropriate # of park light/siren chirps, then release.
Press & Release the Program Button to proceed to the next step

Setting 5 Reservation Mode ("M" units only)
1) Manual Reservation   1 Flash/Chirp   Activate Reservation Mode by pressing ⚙ Button
*2) Auto Reservation   2 Flashes/Chirps   Activate Reservation Mode by pressing brake
Press & Release the Program Button 5 Time (Setting 5) confirmed 5 LED flashes.
Press & Hold the Program Button until the appropriate # of park light/siren chirps, then release.
Press & Release the Program Button to proceed to the next step

Menu 3- Starter Settings

Ignition 3x
On/Off
On/Off On

Press and
Release the
Program
Button

Press and
Release the
⚫ button for
Menu 3

Press and Release
the Program Button
# of Times for
Setting Chosen

Press and Hold
the Program Button
to Change Option

Setting 1 Special Door Lock/Unlock Operations (Factory Alarm Rearm).
1) Type 1   1 Flash/Chirp   Unlock before start. Lock pulse after start and shutdown.
2) Type 2   2 Flashes/Chirps   Lock pulse ONLY after remote start shutdown.
*3) Type 3   3 Flashes/Chirps   Default Lock/ Unlock Pulses.
Press & Release the Program Button 1 Time (Setting 1) Confirmed with 1 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 2 Gas/Diesel Mode
**The Gas/Diesel Mode changes from a (-) input on the 22xx board to
(+) on a 23xx board.**

Menu 3- Starter Settings - continued

Setting 2 Gas/Diesel Mode (Auxiliary Connector Pin 12, 23xx series)
1) (-) Input   1 Flash/Honk   (-) Glow Plug input. Waits maximum 30 seconds.
2) Time Delay   2 Flashes/Honks   Waits for approximately 15 seconds.
3) Gas/ (+) Input   3 Flashes/Honks   Waits 2 seconds if no diesel input is detected.
Press & Release the Program Button 2 Times (Setting 2) Confirmed with 2 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/horn (optional) honks, then release.
Press & Release the Program Button to proceed to the next step.

Setting 3 Rearm Output (Auxiliary Connector Pin 1)
1) Type 1   1 Flash/Chirp   Pulse after start and with lock.
2) Type 2   2 Flashes/Chirps   Pulse after start only.
3) Factory Re-arm   3 Flashes/Chirps   Pulse with lock and after starter shutdown.
Press & Release the Program Button 3 Times (Setting 3) Confirmed with 3 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 4 Run Time
1) 4 Minutes   1 Flash/Chirp   Runs for approx. 4 minutes when activated.
2) 45 Minutes   2 Flashes/Chirps   Runs for approx. 45 minutes when activated.
3) 15 Minutes   3 Flashes/Chirps   Runs for approx. 15 minutes when activated.
Press & Release the Program Button 4 Times (Setting 4) Confirmed with 4 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 5 Maximum Crank Time
1) 10 Seconds   1 Flash/Chirp   10 sec max time that the starter will stay engaged.
2) 3 Seconds   2 Flashes/Chirps   3 sec max time that the starter will stay engaged.
3) 5 Seconds   3 Flashes/Chirps   5 sec max time that the starter will stay engaged.
Press & Release the Program Button 5 Times (Setting 5) Confirmed with 5 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 6 Anti-Grind/Starter Kill (Auxiliary Connector Pin 4)
1) Active 1 Flash/Chirp   (-)When locked and during remote start (Anti-Grind).
2) Passive 2 Flashes/Chirps (-)When locked/ 30 seconds after ignition is OFF or 🅐 pressed
3) GWR   3 Flashes/Chirps (-) Output during remote start only. (Anti-grind/ Bypass)
Press & Release the Program Button 6 Times (Setting 6) Confirmed with 6 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Setting 7 Safety Start
1) Safety On 1 Flash/Chirp   Press the 🔘 button twice within 3seconds to remote start.
*2) Safety Off 2 Flashes/Chirps   Press the 🔘 button once to remote start vehicle.
Press & Release the Program Button 7 Times (Setting 7) Confirmed with 4 LED flashes.
Press & Hold the Program Button until the appropriate # of park lights/siren chirps, then release.
Press & Release the Program Button to proceed to the next step.

Menu 4- Tach Settings

Ignition 3x
On/Off
On/Off On

Press and
Release the
Program
Button

Press and
Release the
button for
Menu 4

Press and Release
the Program Button
# of Times for
Setting Chosen

Press and Hold
the Program Button
to Change Option

Setting 1 Low Idle Learn- Same function as doing the Quick Tach Learn.

This option is used for vehicles that maintain a High or Erratic idle after starting and need
more than 30 seconds to establish a stable idle.
1) Enter Program Mode.
2) Press and release the **#** button on the remote.
3) Start the vehicle.
4) Press and release the Program Button (LEDs will be flashing one time)
5) Press and hold the Program Button for 3 seconds.
6) Release the Program Button. LEDs will be on steady to indicate correct tach signal. The
   park lights will flash twice and the siren will chirp twice to confirm that the tach
   signal has been learned.
NOTE: Must Tach Learn (see page 12) before Low Idle or Quick Tach learn.

Setting 2 Over-Crank Adjustment.**
1) Enter Program Mode.
2) Press and release the **#** button on the remote.
3) Press and release the Program Button twice. (LEDs will flash 2 times consecutively)
4) Press and hold the Program Button.
NOTE: The park lights will flash and the siren will chirp one time each time the park lights
         flash and the siren chirps the setting is increased.
5) Release the Program Button. (Exit Program Mode and test remote starter)

Setting 3 Under-Crank Adjustment.**
1)Enter Program Mode.
2)Press and release the **#** button on the remote.
3)Press and release the Program Button three times. (LEDs will flash 3 times consecutively)
4) Press and hold the Program Button.
NOTE: The park lights will flash and the siren will chirp one time each time the park lights
         flash and the siren chirps the setting is increased.
5) Release the Program Button. (Exit Program Mode and test remote starter)

**Repeat steps 1-5 if necessary.

Remote Transmitter Learn

STEP 1 - Within 3 seconds turn the ignition key to the "**ON**"
position three times leaving "**ON**" the third time.

STEP 2 - **Press and hold the Program Button.** The park
lights will turn "**ON**" and the siren will
chirp once. **Continue to hold the Program
Button**, the park lights will turn "**OFF**" and the
siren will chirp 5 times quickly.

NOTE: If the parking lights do not turn "ON", release the Program Button and
turn the ignition to the "OFF" position, wait 5sec and repeat steps 1 & 2.

STEP 3a (Default) - While holding the Program Button, press and
release the ⊕ button on each of the remote
transmitters to be programmed.

STEP 3b (PadLoc/ - While holding the Program Button, press and
2nd Car)* release the ⊙ button on each of the remote
transmitters to be programmed.

Shock Sensor Programming/Adjustment

Step1 - Press and hold the ⊕ and **⊡** buttons for 3 seconds. The siren will chirp
and the park lights will flash 3 times and then the park lights will stay ON.

Step 2 - While the park lights are on strike the vehicle with the amount of force
wanted to trigger the alarm*. Strike the vehicle the same amount of force 3
times. The siren will chirp each time the system detects impact.

Step 3 - Press and release ⊕ and **⊡** buttons to exit.

* Strike the vehicle with the palm of the hand, be careful not to impact the
vehicle in an area that may cause damage. The most common location for
testing and setting the shock sensor is the A-pillar. The A-pillar is the metal
support that runs from the roof of the vehicle to the hood area. Avoid hitting
the windshield when programming.
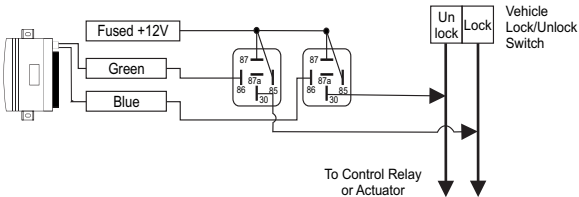
Door Lock Relay Wiring Diagrams

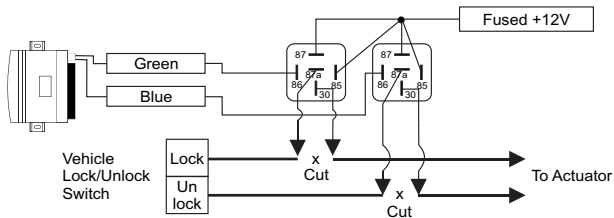**Negative Type Door Locks 250ma**
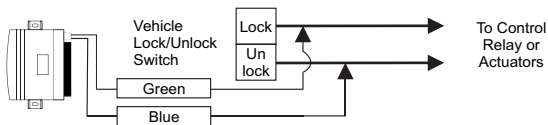
Negative Door Locks (More Than 250ma)
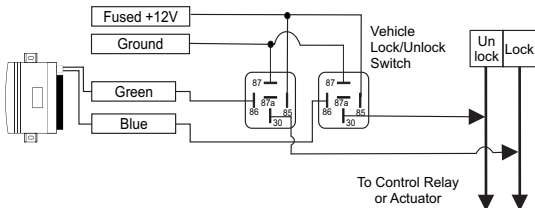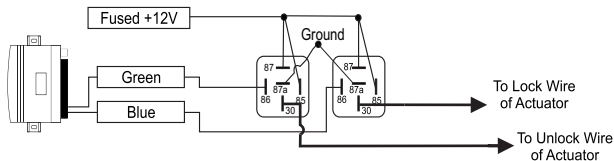

Positive Type Door Locks

NOTE: *When installing relays always use a fused power source.*

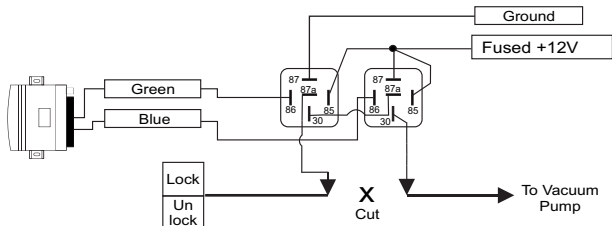# Door Lock Relay Wiring Diagrams

5 Wire / Reverse Polarity Type Door Locks

Aftermarket Doorlock Actuators

Vacuum Type Door Locks

NOTE: *When installing relays always use a fused power source.*

DIAGNOSTICS

If the remote starter does not activate when the start button is pressed the park lights will flash a diagnostic to indicate what shutdown input has been triggered. For example: *If the* 🔘 *button is pressed the park lights flash 3 times slowly.* Looking at the chart below this would indicate that the system is in Service Mode, simply follow the instructions listed in the owners manual on exiting Service Mode and the remote starter will begin to function as normal.

PARK LIGHTS	STATUS LED	DIAGNOSTIC CODE
3 Flashes	Series of 3 Flashes	Door Opened "M" Models
3 Slow Flashes	LEDs "ON" Solid	System Is In Service Mode
4 Slow Flashes	Series of 4 Flashes	Not in Reservation Mode*
5 Flashes	Series of 5 Flashes	Hood Open
5 Slow Flashes	Series of 5 Flashes	Ignition On During Start Attempt
6 Flashes	Series of 6 Flashes	Brake Pedal Shutdown
7 Flashes	Series of 7 Flashes	Tach Lock-Out

* "M" series ONLY

DIAGNOSTIC MEMORY

LED Flashes	Diagnostic
5 Flashes	The system was shutdown by the brake switch input
6 Flashes	The system was shutdown by the hood pin input
7 Flashes	The system did not detect the tach signal.
8 Flashes	The system made 3 start attempts without starting

To Enter Diagnostic Memory Mode:
Step 1- Turn the ignition ON then OFF. Press and release the Program Button.
Step 2- The system will respond with three park light flashes and the siren will
    chirp the same number of times as the events in memory.
    Maximum four events, four chirps
NOTE: If the siren does not chirp, there are no events in memory.
Step 3- Press the Program Button once to view the last shut down code. The siren
    will chirp once to confirm code one.
    If the siren does not chirp, there are no codes in memory.
Step 4- The LEDs on the antenna will flash a code corresponding to a shut down trigger.
    Press the Program Button again for the second code.
    The siren will chirp twice to confirm code two.
Step 5- To **Clear Diagnostic Memory.** While in Diagnostic Mode press and hold the
    Program Button for five seconds. The park lights will flash and the siren
    will chirp once.
NOTE: Once diagnostic memory has 4 shutdown events in memory, the system will not
    Record any further shutdown events until the system memory has been cleared.