

ATTENTION:

THIS BLADE-ENABLED UNIT REQUIRES RS232 PORT UNLOCKING TO WORK WITH NON-BLADE MODULES!

If you are NOT using a Blade cartridge, follow the steps below to unlock your port:

- Connect the remote starter unit to your PC using the Weblink Updater or OP500 cable (sold separately).
- Go to www.bladeupdate.com, click on 'Unlock Now' button in the top right hand corner to detect your module and unlock your RS232 port.
- You will now be able to connect your module to your remote starter or security unit using a RS232 data port connection.

Early released CM5000s and CM5200s have unlocked RS232 Ports. To see if you have a current version you can use the Version Diagnostics procedure. To do this, hold Buttons 1 and 4 (2 Way Remotes) or the Lock and Key Buttons (1 Way Remotes) for 2.5 seconds. The parking lights will flash 5 or 6 times showing you have the most current CM5000 (MM720) or CM5200 (MM721).



Installation Manual

By Firstech LLC, Version: 1.0

Applicable to the following control modules:

- CM5200 Version Simplified Firmware (DT remote start with Blade)
- CM5000 Version Simplified Firmware (DT alarm and remote start with Blade)

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

(1) This device may not cause harmful interference.

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

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

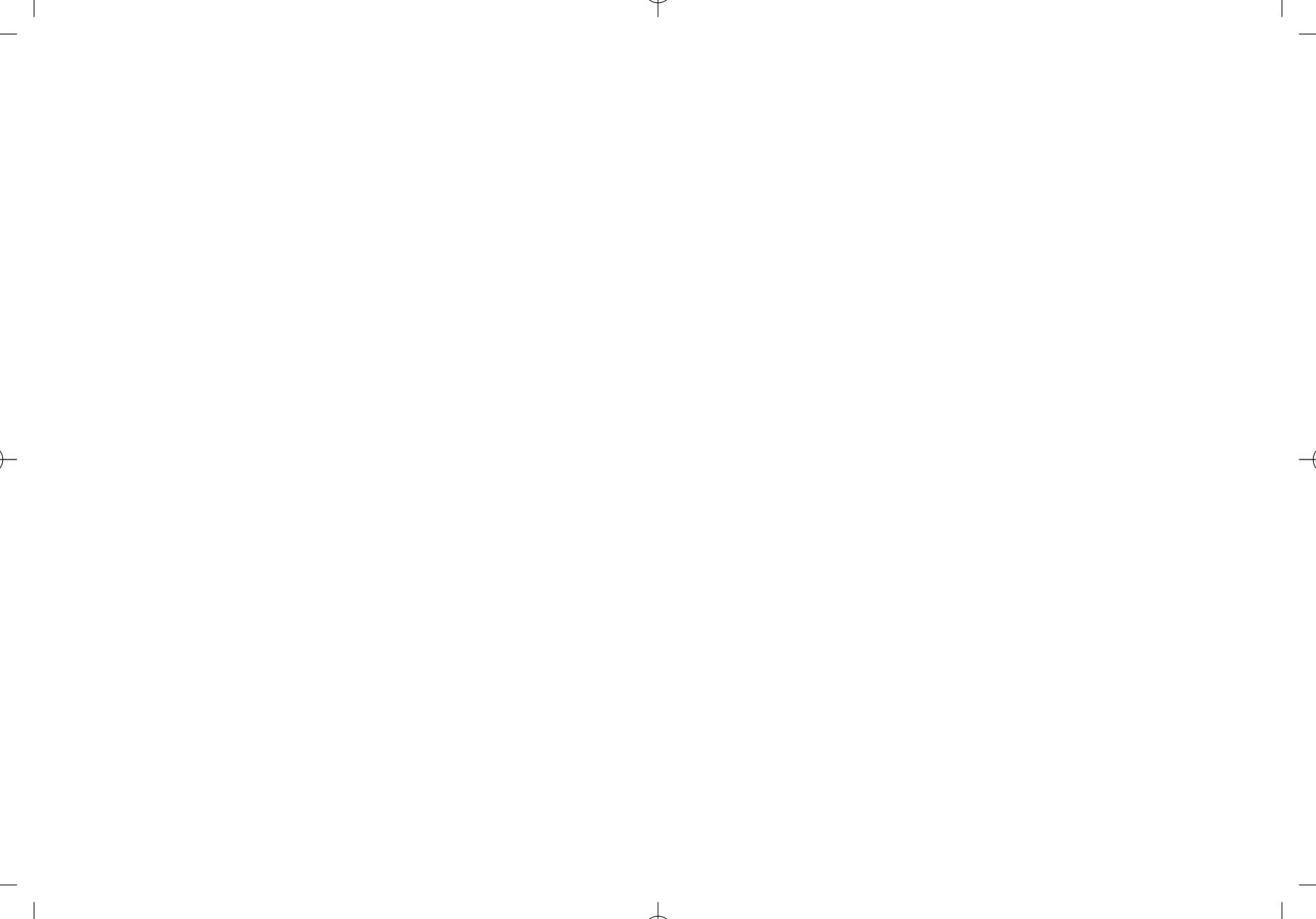


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Introduction

Thank you for purchasing this Firstech system for your vehicle. The following installation manual is intended for experienced and authorized Firstech technicians. We highly recommend that you contact your local Firstech dealer and seek professional installation. Call 888-820-3690 or visit our websites at www.compustar.com or www.firstechllc.com to locate your nearest dealer.

This installation manual is for Version Simplified Firmware (V.SF) of the CM5200 and CM5000 control modules.

Some functions and features are not described in this install manual. Please see the remote's user manual(s) for detailed descriptions on those features.



Caution: The Manufacturer's warranty will be void if this product is installed by anyone other than an authorized Firstech dealer. Firstech reserves installation support services to authorized dealers only.

Kit Contents

All Firstech CM5200 control modules include the following:

- CM5200 main control module
- Main ignition wiring harness with two relays
- Wiring harnesses
- Hood pin
- Thermistor temperature sensor (2 Way remote LCD systems only)

All Firstech CM5000 control modules include the following:

- CM5000 main control module
- Main ignition wiring harness with two relays
- Wiring harnesses
- Hood pin
- Mountable bright blue LED
- Thermistor temperature sensor (2 Way remote LCD systems only)
- Firstech dual stage shock sensor

The following sensor is available but not included with every system:

- Remote pager sensor (RPS-II) (Optional on 2 Way remote LCD systems only)

The remote(s) and antenna are modular and are not specific to the control modules. You have the ability to pair almost any Firstech remote(s) and antenna receiver to the CM5200 or CM5000.

Technical Support Contacts

Firstech technical support is reserved for authorized dealers only.

Monday - Friday

888-820-3690
(7:00 am – 5:00 pm Pacific Coast Time)

Email

support@compustar.com

Web

<http://www.compustar.com> click on "dealer support"



Click on the "Installog Access Client" link found on your desktop. If you are a qualified dealer and unable to access this site, call your sales representative or the number above.

Installation Basics

If you are new to installing Firstech Series Remote Starts and / or Alarms, we highly recommended that you thoroughly review this manual to installing your first unit.

Key Points to Consider Before Installation:

- You must code remotes to this system before anything will function**
Program remotes by cycling the ignition ON / OFF five times within seven seconds and tap button 1 (0.5 seconds) on the first remote, and then tap button 1 (0.5 seconds) on the second remote.
- RPS-II (Remote Paging Sensor)**
All 2 Way units include an optional RPS that has three main functions; **1.** Status LED, **2.** Remote notification when triggered, and **3.** Auto unlock/alarm disarm when a user specific 4 digit *knock* code is entered via tapping sensor through the windshield.
- Internal green loop must be cut for AUTOMATIC transmission vehicles**
By default, CM5 series units come in MANUAL transmission mode. You will need to cut the green loop inside the control module if you are installing the unit in a AUTOMATIC transmission.
- Different tach learning procedure**
Learn tach by: **1.** Starting the vehicle with the key, **2.** Pressing and holding the foot brake, and **3.** Holding the remote start button on the remote for 2.5 seconds - one chirp and parking light flash indicates that the vehicle tach signal has been successfully learned. Three chirps indicate that the CM4 or CM5 control module failed to see a proper tachometer signal. *(These units have the option for Voltage / Tachless and 1.5 second assume cranking).*
- New Option Menus**
The option menu is larger than the previous CM3 series control modules. It is important to familiarize yourself with the new options as it will save time in most applications. For instance, *Option 1-04* controls the double pulse unlock feature on all CM5 series control modules.
- Option Programmer (OP500)**
Most options on these units can be programmed with the remote(s), however setting auxiliaries and Special Option Groups 1 and 2 require the use of the OP500. Please note, the system must be unlocked / disarmed to sync the OP500 with the control module. Otherwise, an "ER 01" message will show on the display of your OP500.
- Internet updatable processors** Visit "Dealer Support" at www.compustar.com
All CM4 and CM5 series units are equipped with some of the most powerful processors available today. This flexibility allows for on-demand internet updating capabilities in the event of a version update or change.

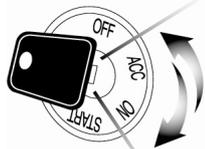
Remote Programming Routine

IMPORTANT: Any and all remotes must be coded to the control module prior to performing any and all operations.

Remotes excluding P2WSSR

STEP 1: Activate programming mode by manually turning the vehicle's key between the Ign On and Off (or the Acc & On positions) five times within 7 seconds. The vehicle's parking lights will flash once with the successful completion of this step. (**Note:** *this step also places the control module into Valet Mode*)

STEP 2: Within a 2 second period after the 5th ignition cycle tap **Button 1 on two way remotes** or the **Lock button on one-way remotes** for 0.5 seconds. The parking lights will flash once to confirm the transmitter has been coded. Repeat for additional remotes, up to three.



Exiting Programming: Programming is a timed sequence. After 2 seconds the parking lights will flash twice signaling the end of programming mode.

Programming Multiple Remotes: After the confirmation flash given in **STEP 2**, code additional remotes by tapping **Button 1 on two way remotes** or the **Lock button on one way remotes**. The parking lights will flash once confirming each additional remote. All systems (except the P2WSSR), can recognize up to three remotes.

Note: If you program only 1 Way remotes to a 2 Way antenna you will receive 3 parking light flashes and/or siren chirps when you turn the ignition on. This will be alleviated by programming a 2 Way remote.

Pro P2WSSR

STEP 1: Remove the AA battery from the remote.

STEP 2: Activate programming mode by manually turning the vehicle's key between the Ign On and Off (or the Acc & On positions) five times within 7 seconds. The vehicle's parking lights will flash once with the successful completion of this step. (**Note:** *this step also places the control module into Valet Mode*)

STEP 3: Within a 2 second period after the 5th ignition cycle, insert the AA battery into the remote. The parking lights will flash once to confirm this step. If you have an additional 1 Way remote tap the Lock button after inserting the AA battery into the 2 Way remote.

STEP 4: Wait several seconds for the parking lights to flash twice and the remote LCD to receive a page back. The transmitter has now been coded.

Programming Multiple Remotes: After the confirmation flash given in step 3, program the optional **1 Way remote** by tapping the Lock button for 0.5 seconds. The parking lights will flash once confirming that the 1 Way this remote has been learned. The P2WSSR can recognize (1) **2 Way remote** and (1) **1 Way remote**.

A: This usually means that the engine sensing mode is not working correctly. If you are using a coil, change to an injector or try alternator mode.

The vehicle will lock and unlock, but will not remote start or flash the parking lights.

A: The system is in valet mode. Tap buttons (I) + (III) for 0.5 seconds while the key is in the on position.

Whenever I try to arm the vehicle, it chirps the siren 3 times and will not arm.

A: Check the hood and trunk trigger inputs.

When I turn the ignition on the parking lights flash 3 times and/or siren chirps 3 times. What is the problem?

A: When you program only 1 Way remotes to a 2 Way antenna and no 2 Way remotes the control module reminds you of this situation each time you turn the ignition on. It does not affect the operation of the system but will continue to do so until you program both 2 and 1 Way remotes to the 2 Way antenna.

Do the door locks flip flop in polarity?

A: No. You can use the CompuPack (relay pack) for high current positive (+) locks, or the DM600 harness used for low current 600mA positive (+) locks.

What is this cartridge slot on the rear of the CM5000 and CM5200?

A: This is the slot for the Blade cartridge system by ADS. This slot is for the Idatalink Blade remote start bypass modules. For more information on the compatibility and install information please visit www.idatalink.com/fitguide. Using this system eliminates many connections between your standard control module and bypass module. **IMPORTANT:** If you are not using the Blade then you will not have or use the 20 pin connector next to the back up battery port.

A: The remotes need to be programmed. Review the "Common Procedure" section of this manual.

I have these control modules that say MM720 and MM721. What are they?

A: These control modules are the new CM5 series. MM720 = CM5000 and MM721 = CM5200.

I am trying to program the control module with the OP500 Option Programmer and it flashes "ER 01" when I plug it in to the antenna cable. What should I do?

A: Make sure that the system is not locked/armed. The last thing to check is the antenna cable or antenna extension cable – make sure this is not damaged. If you need to, try another cable. When the OP500 is working properly, it will read "success good." You no longer need to program the remotes before the OP500 will sync.

What is the green loop wire inside the brain module?

A: This wire determines the transmission mode. With the loop intact, the system is set for manual transmissions. With the loop cut, the system is set for automatic transmission.

Where do the blue and purple wires off the extra relay go on the CM5000/CM5200?

A: This is a pre-wired positive output, negative trigger relay. Use the secondary ignition, starter, and accessory outputs from CN3 to give a negative trigger to the purple wire. This will determine the 12V positive (+) output of the blue wire, which you can then connect to your secondary ignition, starter, or accessory wire.

I need a ground when armed wire, does the control module have one?

A: You can use the starter output on CN1 that goes to the starter kill relay. You must cut this wire and place a diode in line so that when the ignition on the other side of the relay goes to ground, it won't back feed to your accessory. Install the stripe side of the diode facing the control module.

Are the CM5 series control modules voltage sensing?

A: Yes. The CM5000 and CM5200 all have voltage sensing. Review the "Common Procedures" section of this manual.

On the brain, how do I set the auxiliaries?

A: Aux 1 and 2 are default on this control module. Aux 1 is the small white wire on Connector 3. Aux 2 is the small violet wire in Connector 4.

All my connections are made and remotes programmed, how do I program the tach?

A: Review the "Common Procedures" section of this manual.

The vehicle remote starts when disarmed, but not when armed.

A: The starter kill relay was installed backwards. Check to make sure the yellow/black wire is going to the ignition side of the wire, and that the yellow wire is going to the engine side.

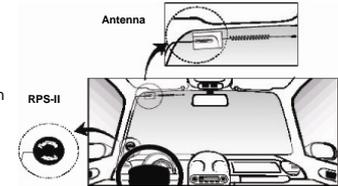
The vehicle starts and shuts down 3 times in a row.

Placement and Use of Components

IMPORTANT: The placement and use of components are critical to the performance of this system.

Antenna and Cable

Firstech antennas are calibrated for horizontal installation at the top of the windshield. The cable that connects the antenna to the control module must be free from any pinches or kinks. Installing the antenna in areas other than the windshield may adversely affect the effective transmitting distance of the remotes.



RPS-II (Remote Paging Sensor)

(CM5000 Only) The RPS-II sensor is designed to be mounted on the inside of the windshield. Basic RPS functions do not require programming. There is a three position switch on the rear of the RPS-II. This adjusts the sensitivity of the RPS-II. The larger the circle the more sensitive the knock is. To activate the RPS unlock / disarm feature you must perform the following procedures:

STEP 1: Disarm/unlock the alarm. (Remotes must be programmed first.)

STEP 2: Turn ignition key to the "on" position and leave the driver's door open.

STEP 3: Knock on the windshield in front of the RPS a total of 10 times (**each time you knock the LED on the RPS will flash RED**). The LED will begin to flash rapidly in BLUE with successful completion of this step.

STEP 4: Enter the first digit of the desired four-digit pass code by knocking on the windshield in front of the RPS the desired number of times. For example, to enter 3, knock on the sensor 3 times (each time you knock the LED will flash RED) then wait.

STEP 5: The LED on the RPS will confirm your first number by flashing BLUE slowly. Once the LED begins to flash rapidly in BLUE, enter your second number by repeating step 4.

STEP 6: Repeat steps 4 & 5 to enter all four numbers.

STEP 7: Turn the ignition OFF. The RPS disarm/unlock feature is now programmed. Repeat steps 3 – 5 to enter your disarm/unlock code.

****The first two digits of the RPS unlock/disarm pass code will be the default pass code for the Secure Valet (you do not need to program them independently).**

Firstech Shock Sensor

(CM5000 Only) For best results mount the shock sensor by zip tying it to the vehicle's main ignition harness. There is a small dial on the sensor that ranges from Off to 10. The higher the number on the dial the greater sensitivity of impact. A small adjustment to the dial can make a significant difference in sensitivity for both 1st and 2nd stages. Recommended dial settings for most vehicles is somewhere between 2 & 4.

Siren

(CM5000 Only) The volume output of the siren can be increased 3 dB by cutting black wire loop located near the base of the siren. To adjust duration time when the alarm has been triggered, change *Option 3-07* – the system default is 30 seconds.

Thermistor (Temperature Sensor)

Every 2 Way remote - Firstech system includes an optional thermistor, which must be plugged into the 2 pin port of the control module for use. This plug is blue on the CM5000. The use of the thermistor allows

the 2 Way remote to display the vehicle's interior temperature on the remote LCD (liquid crystal display).
IMPORTANT: New thermistor plugs are blue 2 pin connectors on the CM5 series but old white plug thermistors will still work.

Hood Pin

The hood pin switch triggers the alarm in the event the hood is opened while the alarm is armed. The hood pin also doubles as an important safety feature that prevents the remote start from engaging while the hood is open.

Backup Battery

(CM5000 Only) The backup battery input on the control module / brain is for any optional battery backup unit (sold separately). The red positive lead (+) acts both as an input and charging output for a 12 Volt battery backup. A backup battery maintains basic alarm functionality when main vehicle power is lost. See the "Wiring Schematics" section(s) for complete details.

Common Procedures



Jumper Settings

Caution: Jumper settings affect the polarity and use of certain outputs. If these jumpers are used incorrectly, damage to the vehicle and /or control module may occur.

Jumper 1 (Door Trigger Polarity)

Determines the polarity of the door trigger input wire (red/white). In the default position the door trigger registers negative (-) triggers. To change to a positive (+) trigger, move the jumper.

Jumper 2 (Glow Plug or Key Sense Polarity)

Determines the polarity of the glow plug or key sense input wire (brown/white). In the default position it monitors a positive (+) glow plug input. To change to a negative (-) input move the jumper. To change from the glow plug to the key sense setting, you must change *Option 4-09*.

Jumper 3 (Parking Light to Trunk Output)

Determines the output type (not polarity) of the green/white wire on connector one (CN1). In the default position it provides a positive (+) parking light output. To change to a positive (+) trunk output move the jumper. A negative (-) parking light output is found on connector three (CN3) and a negative (-) trunk output is found on connector four (CN4).

Auxiliary Outputs on Connector 3

This version of the CM5 series comes with default auxiliary wires on pins 15 and 17. The small white wire is Aux 1 and small violet wire is Aux 2. They can be changed with options 4-13 and 4-14.

Tach Sensing

The default engine sensing mode is tach. In cold weather climates we recommend using an injector wire versus a coil wire for tachometer sense. There are new features that adjust tach reading methods on option 2-01. **IMPORTANT:** The remotes must be coded prior to setting up tach sensing. Firstech recommends using a digital multimeter to test for tach.

STEP 1: Start the vehicle with the key. Allow time for the engine to idle down.

STEP 2: Test wire and make connection. At idle the tach wire should test between 1 to 4 Volts AC. As the vehicle RPM's increase the voltage on the meter will also increase. Always solder tach connections.

STEP 2: Scroll through menu allowing for 1 parking light flash and/or siren chirp per step.

STEP 3: Once finished scrolling through the menu wait for the parking lights and/or siren chirp to confirm the option number. i.e. option 2-04 will flash 4 times. Then use one of the table selections to select the option corresponding to your desired setting.

Resetting to Factory Defaults: To reset the options in a particular menu group, enter the menu shown in the above tables. To reset options with a 2 Way remote tap button 3 three times. To reset options with a 1 Way remote tap the Key/Start button 3 times. Wait for the siren to chirp and parking lights to flash between each tap. After the third tap, the option menu will reset and the siren will chirp three times. This must be done for each option group that needs to be reset.

Troubleshooting

Remote Start Error Codes

If the remote start fails to start the vehicle, the parking lights will flash three times immediately. Following those three flashes the parking lights will flash again corresponding to the error table below:

Number of Parking Light Flashes	Remote Start Error
1	Motor running or must program tach before 1 st remote start
2	Key in ignition on position
3	Door open (manual transmission only)
4	Trunk open
5	Foot brake on
6	Hood open
7	Reservation off (manual transmission only)
8	Tach or voltage sensing failure

*Pro 2 Way remotes will display the error number "Strt Er##" on the LCD.

Alarm LED Diagnostics (CM5000 Only)

When the alarm is triggered the LED on the RPS (if installed), Secure Valet (if installed) and the LED (if installed) will flash a certain amount of times as shown in the table below. This is intended for users with 1 Way remotes.

Priority	Trigger	LED Flash Diagnostic
1	Door/Hood/Trunk/Ign Triggered	2 flashes, rest, then repeat
2	2 nd Shock Triggered	3 flashes, rest, then repeat
3	2 nd Auxiliary Input Triggered	4 flashes, rest, then repeat
4	Panic with remote	5 flashes, rest, then repeat

Frequently Asked Questions

I have everything hooked up and the system will not respond.

STEP 2: To change the option number you wish to program, use the left and right arrow keys on the OP500. It will scroll through the options available in menu 1 and then move to menu 2, then 3 and 4. Use the up and down arrow buttons on the OP500 to adjust the option settings; "1" is the default setting, and "2", "3", and "4" are the optional settings.

At the end of menu 4, if diesel mode or channel expander functions were enabled – or if any of the auxiliary outputs were set to "Program", the duration of these settings can now be adjusted.

STEP 3: When finished with the adjustment of the various option settings, press and hold the "W" (write) button until the OP500 chirps, which is approximately 2.5 seconds. This will write the settings to the control module. Wait until the module displays "Success" before disconnecting it from the antenna cable.

To reset the options, hold the "R" (reset) button and the "W" (write) button for 2.5 seconds. Release then write the reset, hold the "W" button until the OP500 chirps, which is approximately 2.5 seconds.

Option Programming Using a Remote

Using a remote is a timed process so read this section in its entirety before beginning. **IMPORTANT:** Special Option Groups cannot be programmed with a remote – the OP500 must be used.

STEP 1: Select the option menu that contains the desired programming option.

To program options use the following button combinations:

How To Program Options With 2 Way Remotes						
	With 2 Way Remotes	Scroll Through Menu	Select Option 1	Select Option 2	Select Option 3	Select Option 4
Option Menu 1	(1 + 2) for 2.5 seconds then (1 + 2) for 2.5 seconds	Tap Button 4	Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4
Option Menu 2	(1 + 2) for 2.5 seconds then (1 + 4) for 2.5 seconds	Tap Button 4	Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4
Option Menu 3	(1 + 4) for 2.5 seconds then (1 + 2) for 2.5 seconds	Tap Button 4	Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4
Option Menu 4	(1 + 4) for 2.5 seconds then (1 + 4) for 2.5 seconds	Tap Button 4	Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4

How To Program Options With 1 Way Remotes						
	With 1 Way Remotes	Scroll Through Menu	Select Option 1	Select Option 2	Select Option 3	Select Option 4
Option Menu 1	Lock + Unlock for 2.5 seconds then Lock + Unlock for 2.5 seconds	Hold Trunk + Key/Start for 2.5 seconds	Tap Lock Button	Tap Unlock Button	Tap Key/Start Button	Hold Trunk + Key/Start for 2.5 seconds
Option Menu 2	Lock + Unlock for 2.5 seconds then Lock + Key/Start for 2.5 seconds	Hold Trunk + Key/Start for 2.5 seconds	Tap Lock Button	Tap Unlock Button	Tap Key/Start Button	Hold Trunk + Key/Start for 2.5 seconds
Option Menu 3	Lock + Key/Start for 2.5 seconds then Lock + Unlock for 2.5 seconds	Hold Trunk + Key/Start for 2.5 seconds	Tap Lock Button	Tap Unlock Button	Tap Key/Start Button	Hold Trunk + Key/Start for 2.5 seconds
Option Menu 4	Lock + Key/Start for 2.5 seconds then Lock + Key/Start for 2.5 seconds	Hold Trunk + Key/Start for 2.5 seconds	Tap Lock Button	Tap Unlock Button	Tap Key/Start Button	Hold Trunk + Key/Start for 2.5 seconds

STEP 3: Learn tach. While the vehicle is at idle, hold the foot brake and press and hold the remote start button on the remote control for 2.5 seconds.

The parking lights will flash once and the siren will chirp once to confirm a good tach signal. The parking lights will flash three times and the siren will chirp three times to indicate the tach did not learn. Two seconds following the three flashes, the number of parking light flashes will indicate the cause of the error:

Number of Parking Light Flashes	Tach Error
1	Option 2-10 is not in default setting 1
2	Key is in the off position
3	Bad tach signal. Find a different wire.

Alternator Sensing

Alternator sensing is an alternative method the remote start can utilize to determine if the engine is running. This is different than the voltage sensing mode so a connection must be made. **IMPORTANT:** The remotes must be coded prior to setting up alternator sensing.

STEP 1: Change *Option 2-10 to setting 2* - Alternator sensing.

STEP 2: Test wire and make connection. The stator wire is found at the vehicle's alternator. Change your multimeter to DC voltage before testing for this wire.

- A. At rest, with the ignition off, the stator wire should test 0V DC.
- B. Turn the ignition to the run position. The stator wire should now test between 4 – 6V DC.
- C. Start the vehicle with the key. The stator wire should now test between 12 – 14V DC at idle.

STEP 3: Process complete – no further programming is required.

Voltage Sensing – (Automatic Transmission Only)

Voltage sensing is an alternative engine sensing mode or tachless mode. It monitors variations in voltage to determine if the vehicle started successfully. Voltage sensing does not require a connection to the vehicle other than the main ignition harness and other inputs/outputs. **IMPORTANT:** The system remotes must be coded prior to setting up voltage sensing.

STEP 1: Change *Option 2-10 to setting 3* - Voltage sensing.

STEP 2: Process complete – there is no further programming required other than adjusting crank time when necessary (see below).

Adjusting Crank Time: To adjust minimum crank times, refer to *Option 2-12*. To help ensure successful starting, the system will automatically add additional crank time to the 2nd and 3rd start attempts. In addition, there is a built in "Smart Resting Voltage Mode". The lower the resting voltage, the longer the crank time becomes (up to 0.4 seconds). This innovative feature helps compensate for severe temperature variations. Traditional tach sensing is still highly recommended for colder climates.

Timed Crank Setting – (Automatic Transmission Only)

Option 2-10 setting 4 provides a timed 1.5 second crank for the remote start sequence. This option just cranks the vehicle for 1.5 seconds and assumes remote start has completed. This option can be used for GM and other vehicles with built in anti-grind systems.

Green/White Loop

This loop wire determines the transmission setting. The default position (uncut loop) is for manual transmissions. When the loop is cut, the system will be ready for automatic transmissions. In the default

(manual transmission) mode, the system must be set up in Reservation mode prior to the vehicle being able to remote start. **IMPORTANT:** All warranties or claims are void if a controller with a cut loop is installed on a vehicle with a manual transmission.

Reservation Mode for Manual Transmissions

To remote start a manual transmission vehicle, the system must first be set up in reservation mode. Reservation mode is designed to prevent the vehicle from remote starting while the transmission is in gear.

Installation Requirements

1. The vehicle's door triggers must be connected to the control module. Prior to making final connections, test the factory door triggers to ensure that they are functioning properly.
2. The vehicle's emergency/parking brake wire must be connected to the control module. The proper vehicle wire usually provides a negative (-) trigger while the emergency / parking brake is set.
3. The vehicle's clutch must be momentarily bypassed while the remote start cranks the engine. This momentary bypass simulates the clutch being depressed. For complete details on how to wire a momentary clutch bypass consult your CompuTech program or contact our technical support department by calling 888-820-3690.

IMPORTANT: Do not install a remote start in manual transmission vehicles with convertible / removable tops and in user's vehicles that leave their windows down. Firstech nor their authorized dealers will assume responsibility for improper use or install.

Activating Reservation Mode

STEP 1: Start the vehicle with the key. Place the transmission in neutral, remove pressure from the pedal brake, and set the emergency/parking brake.

STEP 2: Remove the key from the vehicle's ignition. The vehicles engine should remain running even after the key has been removed. If the vehicle does not remain running, check the emergency / parking brake connection.

STEP 3: Exit the vehicle and close the door. The vehicle's engine should shut off upon closing the door. If the vehicle's engine does not shut off, check the door trigger connection or wait for the factory dome-light to go out. The Firstech system is in reservation mode and the vehicle is ready to safely remote start.

Additional Notes

Reservation mode will be cancelled if the control module recognizes the vehicles door, hood or trunk opening – or if the alarm is triggered. Each time the end user wants to remote start their manual transmission vehicle, they must set the control module in reservation mode. Reservation mode settings can be programmed with *Option 1-06*.

- 4-03 **Aux 1 Output Control** – This option changes the behavior of the default auxiliary wire on Connector 3. This is a small white wire that is marked Horn output. The SF version makes this wire an auxiliary output. With this option you can change the output to Horn or Status output.
- 4-04 **Aux 2 Output Control** – This option changes the behavior of the default auxiliary wire on Connector 3. This is a small violet wire that is marked Dome Light output. The SF version makes this wire an auxiliary output. With this option you can change the output to Dome Light or Defrost output.
- 4-05 **Secure Aux Output** – On the default setting, button 4 on the remote must be pressed first before Aux 1 or Aux 2 can be triggered. This prevents accidental triggering of the outputs. Option setting II turns this feature off.
- 4-06 **Auxiliary Input 1** – This option changes the input of the grey/white wire on the green plug. Please see the option table for settings.
- 4-07 **Auxiliary Input 2** – This option changes the input of the black/white wire on the green plug. Please see the option table for settings.
- 4-09 **Glow Plug or Key Sense** – Default setting sets the wire as a glow plug input. Option setting 2 changes the wire to a key sense input. Key sense can be used to prevent reservation mode from setting and the system from passive arming while the key is still in the ignition. Key sense also turns off dome-light supervision when the key is inserted into the ignition.
- 4-11 **Bypass Brand Through RS232 Port** – Default setting allows for compatibility with ADS Idatalink modules. Setting 2 changes compatibility to Fortin bypass modules. This is only available on the CM5000 and CM5200.
- 4-12 **2nd Ignition Option** – This option changes the behavior of previous POC3 or the green wire on Connector 3. From negative 2nd ignition output you can change to negative 2nd accessory, starter or a ground when armed (GWA).
- 4-13 **2nd Accessory Option** – This option changes the behavior of previous POC4 or the white/black wire on Connector 3. From negative 2nd accessory output you can change to negative 2nd accessory, starter or a horn honk output.
- 4-14 **2nd Starter Option** – This option changes the behavior of previous POC2 or the red/black wire on Connector 3. From negative 2nd starter output you can change to negative 2nd ignition, accessory, or a dome light output.

Option Programming

Option Programming Using the OP500

The OP500 can be used to program any available option.

STEP 1: Using the blue connector on the top of the OP500, connect it to the control module via the antenna wire. (Use the included extension cable if necessary.) Once connected, the OP500 will power up as long as the main ignition harness to the controller has been connected properly.

- 2-01 **Tach Sensing Method** – This option will adjust the method at which tach is read by the module. At default the current setting will minimize overcrank.
- 2-02 **Turbo Mode** – This option will adjust the run time after Turbo mode has been engaged. The e-brake and door trigger input must be connected and the option must be turned on through the remote for this feature to work.
- 2-03 **Diesel Timer** – Use this option if you can't find the glow plug wire. You can use setting 2 for a default wait to start of 10 seconds, otherwise, you can adjust the time to 5 or 15 seconds by changing the option.
- 2-04 **Trigger Start** – This option changes the number of times required for a negative (-) start input on Pin 12 of CN3.
- 2-06 **Timer Start or Interval Between Cold Start** - This option dictates the time interval when the control module will either remote start, either 1.5 or 3 hours.
- Default 1:** Will start every 3 hours until the vehicle is remote started or started by key and run for 4 minutes.
Option 2: Will start every 1.5 hours until the vehicle is remote started or started by key and run for 4 minutes.
- 2-10 **Engine Sensing** – The available options are tach, alternator, voltage sensing, and assume crank. Review the "Common Procedures" section for complete explanations on the three engine sensing modes.
- 2-12 **Minimum Crank Time** – This option changes the crank time during the remote start sequence.
- 3-03 **Dome Light Delay** – This option is used when connecting the door trigger input to the vehicles dome light circuit. It delays the door trigger input to prevent the *door open icon* displaying on 2 Way remotes upon lock/arm.
- 3-04 **Starter-Kill** – This option determines the mode of the anti-grind/starter-kill relay.
- Default 1:** Anti-grind + starter-kill
Option 2: Anti-grind only (no starter-kill)
Option 3: Anti-grind + passive starter-kill: starter-kill activates in 45 seconds after ignition is turned off.
- 3-06 **Factory Style Alarm** – With this option on the control module will monitor the door triggers. If the door is opened while locked/armed then the horn will honk if connected. Only available on the CM5200.
- 3-07 **Siren Duration (Upon Alarm Trigger)** – With this option you can change the siren duration from 30 seconds to 60 seconds.
- 3-08 **Horn Output** – This option will change the behavior of the horn output during lock, unlock, and remote start. Please see the option table for available options. Only available on the CM5200.
- 3-09 **Horn Output When Alarm is Triggered** – This option changes the behavior of the small white wire on connector 3. This output must first be set to Horn output on option 4-03 before you can set this option.
- 4-01 **Aux 1 Output** - This option determines the duration of the Aux 1 output. Setting 3 allows the output duration to be set for a specific length of time.
- 4-02 **Aux 2 Output** - This option determines the duration of the Aux 2 output. Setting 3 allows the output duration to be set for a specific length of time.

ADS Blade Cartridge Slot and Connector

This is the main feature of the CM5000 and CM5200. The slot gives you the ability to use the Blade-AL and Blade-TB modules from Firstech and ADS. With these modules you can virtually eliminate all wire connections between your control module and bypass module. You only need to connect the main ignition harness and your needed wires on the 20 pin Blade connector. For more information on how to program and wire the Blade please visit www.idatalink.com/compustar for the specific wiring diagram for that vehicle.

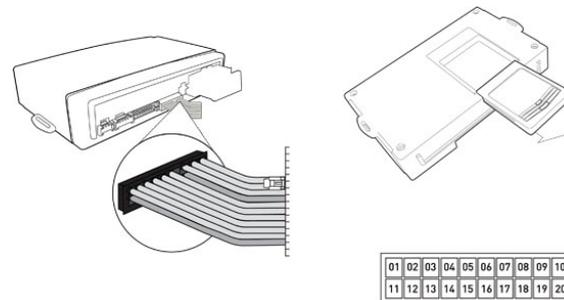
Blade system includes:

1. Blade-AL or Blade-TB (**NOTE:** These modules are blank and must be flashed on your computer.)
2. 20 Pin wiring harness
3. 3 Pin harness used in some installs

IMPORTANT: Install diagrams are not included and must be downloaded from www.idatalink.com/compustar. When flashing the Blade you **can** use the Y-Cable OP500 end and **not** CM4 Series end. ADS and Firstech recommends using the 4 pin RS232 cable to avoid confusion. Cartridge must be removed to flash the control module firmware.

NOTE: The ADS-RNG C1, ADS-RNG C2, and ADS-RNG GM3 are not included and must be purchased separately. The 20 pin Blade connector comes only with the Blade cartridge and not the CM5 control modules.

WARNING: Manufacturer or seller will have no responsibility for any injuries and/or damages caused by improper care of the product such as decomposition, conversion, and transform done by a user voluntarily. **WARNING:** There should be no wiring routed around any pedals which can cause a driving hazard.



Connector 1 (CN1), 8-Pin

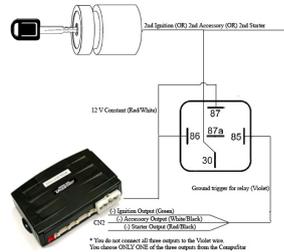


- Pin 1 **Red** - Constant 12V positive (+) power input. This wire must be connected. The proper vehicle wire will test (+) 12V at all times - while the key is in the off position, the on position and during crank.
- Pin 2 **Green/White** – This is a dual-purpose wire that features selectable functionality thru the *trunk/light* jumper on the control module. It is either a positive (+) parking light output or positive (+) trunk output.

Default - Parking light positive (+) output. The proper vehicle wire will test (+) 12V when the parking light switch is in the on position.

Optional – Trunk release positive (+) output. The proper vehicle wire will test (+) 12V when the trunk release is triggered.

- Pin 3 **Red/White** - Constant 12V positive (+) power input. This wire must be connected. The proper vehicle wire will test (+) 12V at all times - while the key is in the off position, the on position and during crank. This pin also has a red/white wire that is pre-wired to a relay. The short violet wire on Pin 85 is the trigger input wire that determines the (+) 12V output type of the long blue wire on Pin 30. For example, connecting the negative (-) Ignition output from Connector 3, to the short violet wire coming off of the relay, will provide an additional (+) 12V Ignition output from the long blue wire.



- Pin 4 **White** – Accessory 12V positive (+) output. This wire must be connected to the vehicle accessory / HVAC blower motor wire. The proper wire will test 0V with the key in the off position, (+) 12V while key is in the on position, 0V while cranking and back to (+) 12V when the key is returned to the on position.
- Pin 5 **Violet** - 250mA negative (-) output when armed and during remote start (while running). This wire is pre-wired to the anti-grind/starter-kill relay. **Caution:** When this wire is being used to trigger aftermarket accessories it must be diode isolated.
- Pin 6 **Yellow** - Starter 12V positive (+) output. This wire is pre-wired to Pin 87a of the anti-grind/starter-kill relay. This wire must be connected for remote start. The proper wire will test 0V with the key in the off position, 0V while the key is in the on position and (+) 12V during crank.

There are two wires coming off of the relay; yellow/black and yellow. To utilize the anti-grind or starter-kill features, the vehicles starter wire must be cut in half, otherwise, cut the relay out of the harness and connect the yellow (Pin 6) directly to the vehicles' starter wire.

- Pin 4 **Grey/White** - 1st stage negative (-) input. (Warn away)

Connector 11 (CN11), 2-Pin (Pre-wired Thermistor)



Plug optional thermistor into this connector to monitor the vehicles' temperature. It used display temperature on two way LCD's. **IMPORTANT:** New Thermistor plugs are blue 2 pin connectors on the CM5 series but old white plug Thermistors will still work.

- Pin 1 **Black** - Thermistor

- Pin 2 **Black/White** - Thermistor

Connector 12 (CN12), 4-Pin (RS 232 Data Port)



This connector is used for updating control modules via www.compustar.com. You must also use this port to flash ADS Blade bypass modules. This port provides simple connectivity of Fortin and iDataLink bypass modules.

- Pin 1 **Black** - Negative (-) ground.
- Pin 2 **White** - 2nd stage negative (-) input. (Instant trigger)
- Pin 3 **Red** - 12V positive (+) output.
- Pin 4 **Yellow** - 1st stage negative (-) input. (Warn away)

Connector 7 (CN7), 4-Pin (Pre-wired RPS) (CM5000 Only)



- Pin 1 **Black** - Negative (-) ground.
- Pin 2 **White** - Negative (-) paging input.
- Pin 3 **Red** - 12V positive (+) output.
- Pin 4 **Yellow** - 9V positive (+) L.E.D. output.

Connector 8 (CN8), 4-Pin (Pre-wired Antenna Cable)



- Pin 1 **Yellow** - RX input. This wire receives the signal from remote.
- Pin 2 **White** - TX output. This wire transmits the signal to remote.
- Pin 3 **Red** - Constant 12V positive (+) output.
- Pin 4 **Black** - Negative (-) ground.

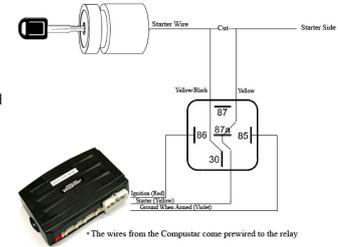
Connector 10 (CN10), 4-Pin (Optional Sensor Input)



This connector provides optional sensor inputs. Most commonly used with proximity and tilt sensors.

- Pin 1 **Black** - Negative (-) ground.
- Pin 2 **Black/White** - 2nd stage negative (-) input. (Instant trigger)
- Pin 3 **Red** - 12V positive (+) output.

IMPORTANT: For anti-grind and starter-kill applications, the **yellow wire goes to the starter side of the vehicles starter wire and the yellow/black goes to the key side.**



- Pin 7 **Green** - Ignition 12V positive (+) output and input. This wire must be connected to the vehicles ignition for remote start and valet/programming. The proper wire will test 0V with the key in the off position, 12V (+) while the key is in the on position and 12V (+) during crank.

Red - Ignition 12V positive (+) output. This wire does not need to be connected. It is pre-wired to the anti-grind/starter-kill relay to supply it with power.

- Pin 8 **Black** - Ground negative (-) input. This wire must be connected to the vehicles ground.

Connector 2 (CN2), 2-Pin: Optional Battery Back-up (CM5000 Only)



- Pin 1 **Red** - Constant 12 V positive (+) input and (+) charging output.
- Pin 2 **Black** - Ground (-) negative input.

Connector 3 (CN3), 18-Pin: Programmable Output Connector (POC)



IMPORTANT: Odd Pin numbers 3, 5, and 7 are programmable for up to 4 different output types a piece. Refer to the option tables for complete details.

- Pin 1 **Green/White** - Parking light 250mA negative (-) output. The proper wire will test (-) when the parking light switch is in the on position.
- Pin 2 **Light Blue** - Parking / Emergency brake negative (-) input. This input is required for manual transmission/reservation and turbo-timer mode. The proper wire will provide a (-) trigger when parking / emergency brake is set. **IMPORTANT: This wire is required for manual transmission remote starts.**
- Pin 3 **Red/Black** - 2nd Starter 250mA negative (-) output. This output can be used to trigger the pre-wired relay located on the main ignition harness. This output can be changed by option 4-14.

- Pin 4 **Light Blue/White** - Brake 12V positive (+) input. This input must be connected as it provides a shut down for the remote start. The proper wire will test (+) 12V while the foot brake is pressed.
- Pin 5 **Green** - 2nd Ignition 250mA negative (-) output. This output can be used to trigger the pre-wired relay located on the main ignition harness. This output can be changed by option 4-12.
- Pin 6 **Violet/Black** - Trunk trigger negative (-) input. This is an optional input that will monitor when the vehicle's trunk has been opened. The proper wire will provide a (-) trigger while the trunk is open.
- Pin 7 **White/Black** - 2nd Accessory 250mA negative (-) output. This output can be used to trigger the pre-wired relay located on the main ignition harness. This output can be changed by option 4-13.
- Pin 8 **Red/White** - Door trigger input. This wire monitors negative (-) or positive (+) trigger door-pins. The proper wire will provide a (-) trigger or a (+) trigger only when the doors are opened. You will need to test the wire for proper polarity and set door dip switch on the control module for the corresponding polarity. **IMPORTANT: This wire is required for manual transmission remote starts.**
- Pin 9 **Black** - Status/Ground while running 250mA negative (-) output. This is an optional output that will provide a negative (-) output before the ignition cranks and stay on throughout the remote start duration. This wire is most commonly used to trigger bypass / transponder modules.
- Pin 10 **Brown/White** - This is a dual-purpose wire that is selectable through *Option 4-09* in the programming table. Select the polarity through the *glow/key* jumper on the control module. It can be set to accept either a positive (+) or negative (-) wait to start input / key sense.
- Default** – Glow plug positive (+) or negative (-) input. The proper vehicle wire will show a (+) or (-) trigger while the wait to start light is on. This wire will delay the starter output momentarily to allow the glow plugs to warm up on vehicles equipped with a diesel engine. You can adjust the delay with *Option 2-03*.
- Optional** – Key sense positive (+) or negative (-) input. The proper wire will show a (+) or (-) trigger only when the key is in the ignition. The purpose of the key sense is to prevent the system from passively arming or setting reservation mode while the key is still in the ignition.
- Pin 11 **Orange** - Factory Arm 250mA negative (-) output. This is an optional output that will provide a (-) pulse during lock, after crank and again after the ignition shuts down.
- Pin 12 **Pink** – Trigger Start negative (-) input. This wire can receive single, double, or triple pulses to activate the remote start sequence.
- Pin 13 **Orange/White** - Factory Disarm 250mA negative (-) output. This is an optional output that will provide a (-) pulse during unlock and prior to the ignition turning on.
- Pin 14 **Yellow/Black** - Engine sensing input. This wire is connected to the vehicles' Tach or Alternator wire and is required if you are not using the voltage sense setting. **IMPORTANT: To change engine-sensing modes, you must change Option 2-10; Default requires a Tach input.**
- Pin 15 **White** - Auxiliary 1 250mA negative (-) output. This is an optional output that can be changed to trigger different devices like window modules or strobe lights.
- Pin 16 **Gray/Black** - Hood Pin negative (-) input. This input is a safety shut down and alarm trigger. It prevents the vehicle from remote starting while the hood is open and triggers the alarm if the

hood is opened while the alarm is armed. You can connect this wire to the hood pin supplied with this kit, or to a wire in the vehicle that shows (-) only while the hood is open.

- Pin 17 **Violet** - Auxiliary 2 250mA negative (-) output. This is an optional output that can be changed to trigger different devices like window modules or strobe lights.

- Pin 18 **Brown** - Siren 12V positive (+) output. Connect this wire to the (+) wire located on the siren. To change siren output settings, review *Option 3-07*.

Connector 4 (CN4), 6-Pin



- Pin 1 **Not used**
- Pin 2 **Violet/White** - Trunk release 250mA negative (-) output. This is an optional output that will release the trunk. Use CN1, Pin 2 if the vehicle is equipped with a (+) trunk release. System will unlock doors and disarm alarm prior to trunk release.
- Pin 3 **Orange/Black** - 2nd Unlock 250mA negative (-) output. This is an optional output that will provide a (-) pulse for driver's priority door lock. **IMPORTANT: You must isolate the driver's door and turn on Option 1-3.**
- Pin 4 **Blue** - Unlock 250mA negative (-) output. This is an optional output that will provide a (-) pulse for unlocking doors. System will unlock doors and disarm alarm. **IMPORTANT: You must reverse polarity for (+) trigger door lock systems. For additional lock settings review Option Group 1**
- Pin 5 **Blue/Black** - Lock 250mA (-) negative output. This is an optional output that will provide a (-) pulse for locking doors. System will lock doors and arm alarm. **IMPORTANT: You must reverse polarity for (+) trigger door lock systems. For additional lock settings review Option Group 1.**
- Pin 6 **Not used**

Connector 5 (CN5), 2-Pin (Pre-wired LED)



Note: Do not mistake for Thermistor port.

- Pin 1 **Black** - L.E.D negative (-) ground.
- Pin 2 **Black/White** - L.E.D. 3V positive (+) output.

Connector 6 (CN6), 4-Pin (Pre-wired Shock Sensor) (CM5000 Only)

