



# Installation Manual

By Firstech LLC, Version: 1.0

Applicable to the following control modules:

CM4300 (alarm)

**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](http://www.compustar.com) or [www.firstechllc.com](http://www.firstechllc.com) to locate your nearest dealer.

This manual supports CM4 series – version 37 or greater firmware and CM5 series – version 4 or greater firmware.



**Caution:** The Manufacture'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 CM4300 control modules include the following:

- CM4300 main control module
- Main ignition wiring harness with one relay
- Wiring harnesses
- Hood pin
- Mountable bright blue LED
- Firstech dual stage shock sensor

**The following sensors are available but not included with every system:**

- Remote pager sensor (RPS-II) (Optional on 2 Way remote LCD systems only)
- Firstech secure valet switch (Optional)
- Thermistor temperature sensor (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 CM4300.

## 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.
- New Secure Valet***  
All units include an optional secure valet switch. This switch breaks the internal ignition connection to prevent the system from being put into valet when cycling the ignition ON / OFF five times.
- 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 CM4 and 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.
- Programmable Output Connectors (POC)***      Review wiring diagrams & programming sections  
All control modules come with 9 programmable outputs that can be configured 19 different ways. It is important to familiarize yourself with the POCs as it will save time in most applications.
- Internet updatable processors***      Visit "Dealer Support" at [www.compustar.com](http://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.

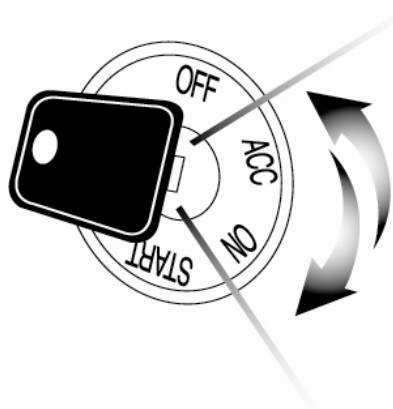
## Remote Programming Routine

**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 5<sup>th</sup> ignition cycle tap **Button I 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 I 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 5<sup>th</sup> 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.

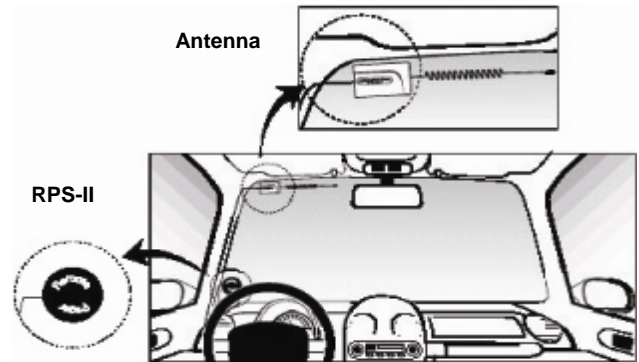
**Programming Multiple Remotes:** After the confirmation flash given in step 3, program the optional **1 Way remote** by tapping the Lock button for 0.5 seconds. The parking lights will flash once confirming that the 1 Way this remote has been learned. The P2WSSR can recognize (1) **2 Way remote** and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

## 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)

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).**

### Secure Valet Switch

The optional Secure Valet Switch prevents the alarm from being put into valet mode through cycling the ignition on/off five times. The Secure Valet Switch is more secure than traditional toggle / valet switches because it requires a two digit code. To program this feature you must perform the following procedures:

**STEP 1:** Turn on *Option 3-10-III*.

**STEP 2:** Turn ignition key to the "on" position.

**STEP 3:** Hold down the valet switch for 1.5 seconds. The LED on the valet switch will begin to flash rapidly with successful completion of this step.

**STEP 4:** Enter the first digit of the desired two-digit pass code by depressing the switch the number of times that coordinates with the desired first number. For example, to enter 3, depress the switch 3 times, then wait.

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

**STEP 6:** Turn the ignition off - the Secure Valet Switch is now programmed. Follow steps 3 – 5 to enter your Secure Valet 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

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 1<sup>st</sup> and 2<sup>nd</sup> stages. Recommended dial settings for most vehicles is somewhere between 2 & 4.

## **Siren**

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 white on the CM4300. 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**

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).

## **Setting Auxiliary Outputs on Connector 3**

### **You Must Have the OP500 Option Programmer**

To set auxiliary outputs on the control module involves the new Programmable Output Connector wires (POCs). You must choose two odd pin wires on the black 18 pin connector that you are not using. For example we will use POC 8 and 9.

**STEP 1:** Plug in OP500 and use the Right or Left Arrow Button to scroll through the menu to POC 8 and POC 9 on LCD Line 1.  
**STEP 2:** Use the Up or Down Arrow Button to change the lower number on LCD Line 2 to 10 – Auxiliary 1 or 11- Auxiliary 2.  
**STEP 3:** Scroll up the menu to Option 4-01 and 4-02 and set the options. Please see the Option Table for details.  
**STEP 4:** The Pro control modules have a secure auxiliary option 4-05. This requires you to tap button 4 before you tap button 2 for Aux 1 or button 3 for Aux 2. On 1-Way remotes you must hold the Trunk and Key/Start buttons for 2.5 seconds then tap the Trunk button for Aux 1 or the Key/Start button for Aux 2.  
**STEP 5:** If you need to change the time settings of the outputs go to AU1 or AU2 on the OP500. LCD Line 2 is the timed output.  
**STEP 6:** Hold the “W” Write button for 3 seconds to set all the options.

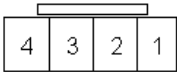
## **Version Diagnostics**

All the new control modules come with the ability to check which firmware is on the module. This is accomplished by turning the ignition on. Then with 2 Way remotes you must hold buttons 1 and 4 together for 2.5 seconds. With the 1 Way remotes you must hold the Lock and Key/Start buttons together for 2.5 seconds. Current versions of CM4 Series V.37 and CM5 Series V.4 will flash 5 times when attempting Version Diagnostics.





## Connector 1 (CN1), 4-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 **Brown** - Siren 12V positive (+) output. Connect this wire to the (+) wire located on the siren. To change siren output settings, review *Option 3-7*.
- Pin 4 **Black** - Ground negative (-) input. This wire must be connected to the vehicles ground.

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

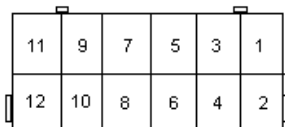
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- Pin 1 **Red** - Constant 12 V positive (+) input and charging output for a back-up battery.
- Pin 2 **Black** - Ground (-) negative input for back-up battery.

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

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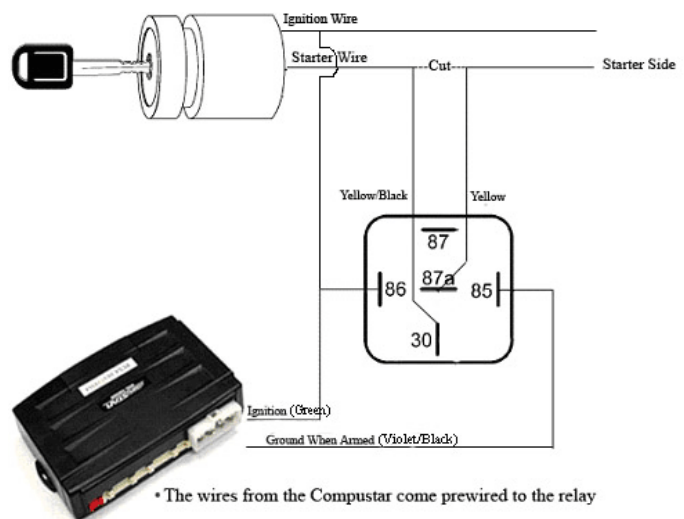
**IMPORTANT:** Odd Pin numbers 1 through 11 are programmable for up to 12 different output types. Refer to Special Option Group 2 for complete details (pages 32 & 36).

- Pin 1 **Green/White [POC 1]** - Parking light 250mA negative (-) output. The proper wire will test (-) when the parking light switch is in the on position.

- Pin 2 **Violet/Black** - Trunk 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 3 **Orange [POC 6]** - Factory Arm 250mA negative (-) output. This is an optional output that will provide a (-) pulse during lock.
- Pin 4 **Red/White** - Door trigger input. This wire monitors negative (-) or positive (+) 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 the door dip switch on the control module for the corresponding polarity.
- Pin 5 **Orange/White [POC 7]** - Factory Disarm 250mA negative (-) output. This is an optional output that will provide a (-) pulse during unlock.
- Pin 6 **Brown/White** – Key sense positive (+) or negative (-) input. The proper wire will show a (+) or (-) trigger only when the key is in the ignition. Select the polarity through the *Key Sense* jumper on the control module. The purpose of the key sense is to prevent the system from passively arming while the key is in the ignition.
- Pin 7 **White [POC 8]** - Horn honk 250mA negative (-) output. This is an optional output that will pulse the factory horn. The proper wire will show ground (-) while the horn is sounding. To change horn output settings, review *Option 3-9*.
- Pin 8 **Gray/Black** – Hood Pin negative (-) input. This input is for alarm trigger. It 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 9 **Violet [POC 9]** - Dome light 250mA negative (-) output. This is an optional output that will provide a 30 second (-) negative output after the system is unlocked for dome-light supervision. To change dome light output settings, review *Option 3-2*.
- Pin 10 **Green** – Ignition 12V positive (+) output and input. This wire must be connected to the vehicles ignition for valet/programming. The proper wire will test 0V with the key in the off position, 12 V (+) while the key is in the on position and 12V (+) during crank.

The green ignition wire goes to Pin 86 on a pre-wired relay used for starter-kill. To utilize the starter-kill features, the vehicles starter wire must be cut in half. 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.

**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 11 **Violet/Black** - 250mA negative (-) output when armed. This wire is pre-wired to the starter-kill relay.

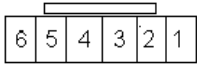


**Caution:** When this wire is being used to trigger aftermarket accessories it must be diode isolated.

Pin 12 **Not used**

## **Connector 4 (CN4), 6-Pin**

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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** - 2<sup>nd</sup> 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 (page 31).**

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 (page 31).**

Pin 6 **Not used**

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

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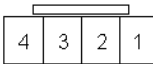
**Note:** Do not mistake for Thermistor port.

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)

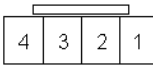
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- Pin 1 **Black** - Negative (-) ground.
- Pin 2 **White** - 2<sup>nd</sup> stage negative (-) input. (Instant trigger)
- Pin 3 **Red** - 12V positive (+) output.
- Pin 4 **Yellow** - 1<sup>st</sup> stage negative (-) input. (Warn away)

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

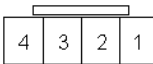
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- Pin 1 **Black** - Negative (-) ground.
- Pin 2 **White** - Negative (-) paging input.
- Pin 3 **Red** - 12V positive (+) output.
- Pin 4 **Yellow** - 9V positive (+) L.E.D. output.

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

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- 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 9 (CN9), 3-Pin (Pre-wired Valet/Programming Switch)

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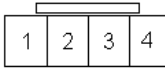
- Pin 1 **Gray/Black** - Negative (-) ground.

Pin 2 **Gray** – 3V positive (+) L.E.D. output.

Pin 3 **Gray** – Negative (-) output.

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

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

Pin 1 **Black** – Negative (-) ground.

Pin 2 **Black/White** - 2<sup>nd</sup> stage negative (-) input. (Instant trigger)

Pin 3 **Red** – 12V positive (+) output.

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

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

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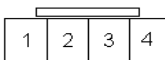
Plug optional thermistor into this connector to monitor the vehicles temperature. It used in conjunction with *Timer Start* features along with displaying temperature on two way LCD's.

Pin 1 **Black** - Thermistor

Pin 2 **Black/White** - Thermistor

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

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This connector is used for updating control modules via [www.compustar.com](http://www.compustar.com). This port provides simple connectivity of Fortin and iDataLink bypass modules. Do not mistake for LED port.

# Option Programming Tables

OPTION GROUP 1					
	Feature	Default Setting - I	Optional Setting - II	Optional Setting - III	Optional Setting - IV
1-02	Lock / Unlock pulse duration	0.8 sec	2.5 sec	0.125 sec	3.5 sec
1-03	Driver's priority unlock	Off	On		
1-04	Double pulse unlock	Off	On		
1-07	Unlock / Disarm With Trunk Release	Unlock, Factory Disarm, and Trunk Release	Factory Disarm, Trunk Release Only	Trunk Release Only	
1-08	Locking while in Passive Arming	Passive locking with Passive Arming	No Passive Locking with Passive Arming		
1-09	Ignition controlled door locks	Off	On	N/A on CM4300	
1-10	Auto Relock (If a door is not opened within this amount of time)	Off	30 sec	60 sec	5 min
1-13	Double Pulse Disarm Input	Single Pulse	Double Pulse		
1-14	Auto Lock Mode (2 Way International Remotes)	Off	On		

## OPTION GROUP 2 Not Available on CM4300

OPTION GROUP 3					
	Feature	Default Setting - I	Optional Setting - II	Optional Setting - III	Optional Setting - IV
3-02	Dome Light output	Off	Factory Rearm	45 sec	Factory Rearm + 45 Sec
3-03	Dome Light Delay	Off	5 sec	45 sec	Auto
3-04	Starter-Kill Relay	Anti-Grind + Starter Kill	Anti-Grind	Anti-Grind + Passive Starter Kill	
3-05	Anti-Jacking	Starter-kill	Ignition-Kill (no Anti-Grind)	Auto kill (Auto-door locks Off) International Remotes w/ AUTO Function Only	Auto kill (Auto-door locks On) International Remotes w/ AUTO Function Only
3-07	Siren Duration (Upon Alarm Trigger)	30 sec	60 sec	120 Sec	Chirps for 20 seconds
3-09	Horn Output When Alarm Is Triggered	Pulsed Output (Horn)	Constant Output (Secondary Siren)		
3-10	Valet	Key 5 times, or Remote (+II) while Ignition is On	Key 5 times or Remote (+III)	Secure Valet (Default code 3,3)	
3-11	Auxiliary Setting Mode	Disabled	Enabled		
3-12	Auxiliary Setting With Passive Arming	No Passive Arming	Passive Arming		

OPTION GROUP 4					
	Feature	Default Setting - I	Optional Setting - II	Optional Setting - III	Optional Setting - IV
4-01	Aux 1 output	0.5sec	Latch	20 sec	Program
4-02	Aux 2 output	0.5sec	Latch	60 sec	Program
4-03	Aux 1 output Control	By Remote	Arm	Disarm	Panic
4-04	Aux 2 output Control	By Remote	Arm	Disarm	Panic
4-05	Secure Aux Output (1 and 2 Only)	On	Off		
4-06	Auxiliary Input 1 – Green CN	Prewarn	Trigger	(-)Disarm	
4-07	Auxiliary Input 2 – Green CN	Trigger	Prewarn	(-)Arm	
4-08	Extended Accessory After Ign Shutoff	Off	10 sec	30 sec	Until Door Open (1 min max)
4-09	Key Sense or Glow Plug input	Glow Plug Input	Key Sense Input		

SPECIAL OPTION GROUP 1			Applicable To CM4300
	Feature	Setting Value [seconds]	
1	Diesel Timer - DISL	3 ~ 99	
2	AUX1 output time	1 ~ 100	X
3	AUX2 output time	1 ~ 100	X
4	AUX3 output time	1 ~ 100	X
5	AUX4 output time	1 ~ 100	X
6	AUX5 output time	1 ~ 100	X
7	AUX6 output time	1 ~ 100	X
8	AUX7 output time	1 ~ 100	X

SPECIAL OPTION GROUP 2				Applicable To CM4300
	Feature	Setting Value		
	Programmable Output Connector	0 - Default Setting	1~19 - Optional Settings	
1	POC #1	(-) 2nd Parking Light (Green/White)	2nd Light - [1] 2nd Start - [2] 2nd IG1 - [3] 2nd Acc - [4] Status Out - [5] Rearm Out - [6] Disarm Out - [7] Horn Out - [8] Dome Light - [9] Aux1 Out - [10] Aux2 Out - [11] Defrost - [17] GWA - [18] Status 2 For Manual Trans. - [19]	X
2	POC #2	(-) 2nd Start (Red/Black)		
3	POC #3	(-) 2nd Ignition (Green)		
4	POC #4	(-) 2nd Accessory (White/Black)		
5	POC #5	(-) Status/GWR (Black)		
6	POC #6	(-) Rearm Wire (Orange)		
7	POC #7	(-) Disarm Wire (Orange/White)		
8	POC #8	(-) Horn (White)		
9	POC #9	(-) Dome Light (Violet)		



## Option Menu Descriptions

Only uncommon options are described in this section.

- 1-03 **Driver's Priority Unlock** - The driver's door must be isolated from the other doors. Use the Orange/Black CN4 as your 2<sup>nd</sup> Unlock output.
- 1-04 **Double Pulse Unlock** – This feature cannot be used with *Option 1-03*. This feature provides a double pulse on the blue unlock wire.
- 1-09 **Ignition Controlled Locks** – Setting 2 will lock the doors 30 seconds after the ignition is turned on and doors closed. Setting 3 is unavailable on the CM4300. You must also turn this feature on through the remote by tapping I+IV (2 Way remotes) or Lock+Key (1 Way remotes)
- 1-10 **Auto Relock** – This option will automatically relock/rearm after the system has been disarmed and the doors have not been opened.
- 1-14 **Auto Lock Mode** – This option must be set for the Auto Mode on 2 Way international remotes to function.
- 3-02 **Dome Light Output** – This option sets the timing output of the Dome Light wire on CN3.  
**Default 1:** Off  
**Option 2:** Factory Rearm – This system will pulse the dome light output during lock/arm.  
**Option 3:** 45 second Dome Light Output – activates the dome light for 45 seconds upon unlock/disarm.  
**Option 4:** This is a combination of 2 and 3.
- 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.
- 3-05 **Anti-Jacking** – This option requires the starter-kill relay to be wired to the ignition vs. the starter wire.  
**Default 1:** Acts like starter-kill: removes power from the ignition, which allows the car to crank but not start.  
**Option 2:** Turns on anti-jacking: when the remote panics the system, power from the ignition will be removed at the end of the 30 second siren duration, thereby disabling the vehicle.  
**Option 3 & 4:** Only available with Canadian remotes.  
**IMPORTANT:** When using ignition-kill on manual transmission vehicles Option 2 will need to be utilized. Option 2 disables the anti-grind circuit while the vehicle is remote-started; if the anti-grind circuit is active and the start-kill relay is installed in the ignition, the relay will “buzz” while remote-started.
- 3-10 **Valet** – This option changes valet modes.  
**Default 1:** Key on/off five times or remote valet (I + III for 0.5 seconds) with key in the on position.  
**Option 2:** Key on/off five times or remote valet (I+III for 0.5 seconds) – key does not need to be in the on position.  
**Option 3:** Secure valet: RPS Valet or remote valet (I+III for 0.5 seconds) – this option prevents the system from being put into valet via key on/off five times. To set up the RPS Valet feature, review the “Placement and Use of Components” section.

- 3-11 **Auxiliary Settings** – This option requires the installation of the optional auxiliary settings module. The module adds five additional independent auxiliary outputs for a total of seven. With this option turned on, auxiliary 2 becomes non functional and Aux 1 becomes the data wire for the module. Special Option Group 1 allows for independent timing of these outputs.
- 3-12 **Passive Arming w/Auxiliary Settings** – The ability to activate/deactivate Passive Arming through the remote is lost once Option 3-11 is turned on. This option allows the use of Passive Arming when using the optional Auxiliary Settings.
- 4-01 **Aux 1 Output** - This option determines the duration of the Aux 1 output. Setting IV 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 IV allows the output duration to be set for a specific length of time.
- 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 **Aux 1 Input** – This option changes the input behavior of the pre-warn wire on the Aux Input Sensor green connector.
- Default 1:** Will pre-warn with a negative (-) ground input.  
**Option 2:** Will instant trigger with a negative (-) ground input.  
**Option 3:** Will disarm the alarm with a negative (-) ground input. Used when adding an alarm to a factory keyless entry system.
- 4-07 **Aux 2 Input** – This option changes the input behavior of the instant trigger wire on the Aux Input Sensor green connector.
- Default 1:** Will instant trigger with a negative (-) ground input.  
**Option 2:** Will pre-warn with a negative (-) ground input.  
**Option 3:** Will arm the alarm with a negative (-) ground input. Used when adding an alarm to a factory keyless entry system.

## Special Option Groups 1 & 2

**IMPORTANT:** The OP500 is required to change settings in Special Option Groups 1 and 2.

### **Special Option Group 1**

- 2 **Aux 1 Output Timing** – Option 4-01 must first be set to setting 4. This special option allows a specific output duration for Aux 1 to be programmed.
- 3 **Aux 2 Output Timing** – Option 4-02 must first be set to setting 4. This special option allows a specific output duration for Aux 2 to be programmed.
- 4-8 **Aux 3 – 7 Output Timing** – Option 3-11 must first be set to setting 2 and the optional auxiliary settings must be used. These special options allow specific output durations to be set for Aux 3 – 7. Only available with 2 Way LCD remotes.

## Special Option Group 2

This special option group allows you to determine the output type of the POC wires on CN3. For example, if you want to set POC #5 (default setting status out) to Aux 1, you will need change special option 5 to number 10. This must be done with the OP500.

# Option Programming

## Option Programming Using the OP500 (programmer)

The OP500 can be used to program any available option. It is **required** to program options in Special Option Groups 1 and 2.

**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.

**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 auxiliary setting functions were enabled – or if any of the auxiliary outputs were set to “Program”, the duration of these settings can now be adjusted.

Following the auxiliary and diesel settings (if selected), the POC options will be displayed on the OP500. The POCs can be set between 0 (default) and 19. All are only available on the CM5000.

**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

<b>Option Menu 2</b>	(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
<b>Option Menu 3</b>	(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
<b>Option Menu 4</b>	(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

<b>How To Program Options With 1 Way Remotes</b>						
	<b>With 1 Way Remotes</b>	<b>Scroll Through Menu</b>	<b>Select Option 1</b>	<b>Select Option 2</b>	<b>Select Option 3</b>	<b>Select Option 4</b>
<b>Option Menu 1</b>	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
<b>Option Menu 2</b>	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
<b>Option Menu 3</b>	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
<b>Option Menu 4</b>	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 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

### Alarm LED Diagnostics

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.

<b>Priority</b>	<b>Trigger</b>	<b>LED Flash Diagnostic</b>
1	Door/Hood/Trunk/Ign Triggered	2 flashes, rest, then repeat
2	2 <sup>nd</sup> Shock Triggered	3 flashes, rest, then repeat
3	2 <sup>nd</sup> 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.**

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. This is new with the CM4 and CM5 series V.37 and V.4 respectively updates.

**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.

**On the brain, how do I set the auxiliaries?**

A: You must have an Option Programmer (OP500) to set the auxiliaries on the CM4000, CM4200-DX, CM4300, CM5000, and CM5200. First you must choose two POC wires on CN3 that you are not using. With the OP500 go into the Special Option Group 2 and set those POC's to Aux 1 and Aux 2. Review the “Special Option Group” programming section of this manual.

**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 are Firmware Version Diagnostics?

A: When you turn the Ignition on and hold buttons 1 and 4 or Lock and Key/Start for 2.5 seconds then the parking lights will flash 1 time on the CM5 series showing V.1. The lights will flash 2 times on the CM4 series showing V.33. Current versions of CM4 Series V.37 and CM5 Series V.4 will flash 5 times when attempting Version Diagnostics.

## Technical Support Contacts

Firstech technical support is reserved for authorized dealers only.

### **Monday - Friday**

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