

MASTER GUIDE

CMX-2022 v1.30

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Please visit www.install.myfirstech.com for additional installation resources

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8pin Power

1	2	1. Red	(+) 12V Constant
3	4	2. Green/White	(+) 12V Parking Light (HCP# 1)
5	6	3. Red/White	(+) 12V Constant
7	8	4. White	(+) 12V Accessory (HCP# 2)
		5. Blue	(+) 12V Ignition-2 (HCP# 3)
		6. Yellow	(+) 12V Starter
		7. Green	(+) 12V Ignition (Output/Input)
		8. Black	GND

8pin small power

1	2	1. Red	(+) 12V Constant
3	4	2. Green/White	(+) 12V Parking Light (HCP# 1)
5	6	3. Red/White	(+) 12V Constant
7	8	4. White	(+) 12V Accessory (HCP# 2)
		5. Blue	(+) 12V Ignition-2 (HCP# 3)
		6. Yellow	(+) 12V Starter
		7. Green	(+) 12V Ignition (Output/Input)
		8. Black	GND

Blade Cartridge Connector

1	2	1. Blue/White	(-250mA) GWA (POC# 1)
3	4	2. Brown	(+2A) SIREN OUT
5	6	3. White	(-250mA) HORN OUT (POC# 2)
7	8	4. Light Blue/White	(+) FOOT BRAKE IN
9	10	5. Blue/Green	(-250mA) LOCK OUT (POC# 3)
11	12	6. Light Blue	(-) E BRAKE IN (PIC# 1)
13	14	7. Blue	(-250mA) UNLOCK OUT (POC# 4)
15	16	8. Violet/Black	(-) TRUNK TRIGGER IN (PIC# 2)
17	18	9. Orange/White	(-250mA) DISARM OUT (POC# 5)
19	20	10. Red/White	(-/+) DOOR TRIGGER IN (Option Select) (PIC# 4)
		11. Orange	(-250mA) REARM OUT (POC# 6)
		12. Brown/White	(-) KEYSENSE IN (PIC# 3)
		13. Violet/White	(-250mA) TRUNK OUT (POC# 7)
		14. Pink	(+) TRIGGER START IN
		15. Black	(-250mA) STATUS OUT (POC# 8)
		16. Gray/Black	(-) HOOD IN (PIC# 5)
		17. Green/White	(-250mA) LIGHT OUT (Fixed Output)
		18. Yellow/Black	(AC) TACH IN
		19. Red/Black	(-250mA) START OUT (Fixed Output)
		20. White/Black	(-250mA) ACCESSORY OUT (Fixed Output)

SIREN (BROWN 2P)

(+2A) SIREN OUT	Brown	2
GND	Black	1

AUX IN (GREEN 4P)

(-) Pre Warning Input (PIC# 6)	Gray/White	4
(+) 12V	Red	3
(-) Warning Input (PIC# 7)	Black/White	2
GND	Black	1

SHOCK (RED 4P)

RPS (WHITE 4P)

LED (WHITE 2P)

GND	None	6
(-250mA) LOCK OUT	Blue/Black	5
(-250mA) UNLOCK OUT	Blue	4
(-250mA) PRIORITY UL	Orange/Black	3
(-250mA) TRUNK OUT	Violet/White	2
(+) 12V	None	1

Antenna 4P Module (BLUE 4P)

Teperature (BLUE 2P)

UART1 (BLACK 4P)

UART2 (GRAY 4P)

UART3 (BROWN 4P)

CM-X



S/N: MTK300A00001

Made In Vietnam

JUMPER WIRE

Cutting → Auto
Normal → Manual



Warning
Manufacturer or seller assumes no responsibility for any injuries or damages caused by improper care of the product as decomposition, conversion and transform done by a user voluntarily.



Warning
Do not run wires around or near clutch, brake, or gas pedals. Doing so may cause driving hazards.

Introduction

Thank you!

For selecting a Firstech solution as your product of choice. The following manual is a complete Master guide to the CMX universal Control Module and is intended for experienced and authorized Firstech technicians only. If you need any further technical support, please call us at 888-820-3690 ext. 203 or visit our website at <https://install.myfirsttech.com>

“With great power comes great responsibility”: Stan “The Man” Lee



Caution: The Manufacturer’s warranty will be void if this product is installed by, tampered with, or modified by anyone other than an authorized Firstech dealer. Firstech provides installation support services to authorized dealers only.

This manual may change frequently, please check <https://install.myfirsttech.com> for updates.

Kit Contents

All Firstech CMX controller kits include the following:

- Control Module w/simple wiring diagram
- High Current Ignition harness **CN1**
- 20 PIN I/O Wiring harness (gray connector) **CN4**
- 2 PIN SIREN output harness (brown connector) **CN15**
- Hood pin

NOTE: This kit does NOT include Firstech remotes, antennas, antenna cables, accessories, or feature options table. Please visit <https://install.myfirsttech.com> for more information.

NOTE: Alarm features are disabled by default (please see feature 3-06 for options)

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

- FT-LOCK including DM600/DM700 door lock modules
- Keyless entry pad (FT-KP2)
- Temperature sensor (FT-TEMP SENSOR) (Drone and 2 Way remote LCD systems)
- FT-SHOCK (2 stage impact sensor)
- DAS-II 4 in one sensor (2 stage impact, tilt, glass break, accelerometer) (required for manual transmission applications)

The remote(s) and antenna are modular and are not specific to the control modules. You can pair almost any Firstech remote(s) and antenna receiver to the CMX control module.

Any questions on contents please contact your distributor or us directly at 1.888.820.3690, Monday through Friday, 7AM to 6PM Pacific Time.

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.

- Remote Programming:**
You must code remotes to this system before anything will function. Begin by cycling the ignition ON and OFF 5 times within 10 seconds then press and release Lock button (half second) on the first remote, and then press and release lock button (half second) on the second remote. Note: we recommend transmitting lock command from each remote 2 times if there are only 2 remotes.
- Tach learning procedure: When using tach mode this must be done before the first remote start attempt.**
Learn tach by: (1.) Starting the vehicle with the key, (2.) Press and hold the foot brake, then (3.) Activate the remote start sequence - one chirp and parking light flash indicates that the vehicle tach signal has been successfully learned. Two chirps then three parking light flashes indicate that the control module failed to see a proper tach signal. (These units have the option for Tachless and Assumed Running).
- DAS/DAS II (Required for Manual Transmission Installs):**
The DAS/DAS II monitors sudden movement during crank process when remote starting manual transmissions, dual stage impact, and auto adjusting tilt sensor. See the DAS/DAS II section of this manual for details.
- Internal green/white loop must be cut for AUTOMATIC transmission vehicles.**
By default, the units come MANUAL transmission ready, **you MUST select a reservation set up procedure using feature 2-14 to allow proper manual transmission function.** You will need to cut the green/white loop found under the Blade port cover when installing the unit in an AUTOMATIC transmission. **Warning: DO NOT CUT THE LOOP FOR MANUAL TRANSMISSION VEHICLE Manufacturer or seller assumes no responsibility for any injuries and/or damages caused by this improper conversion and transform of the product done by a user voluntarily.**
- Programmable Ignition Output (HC/LC Programmable using OP500 feature programmer or at <https://myfirsttech.idatalink.com>)**
- Programmable Parking Light Output (HC/LC Programmable using OP500 feature programmer or at <https://myfirsttech.idatalink.com>)**
- Programmable Accessory Output (HC/LC Programmable using OP500 feature programmer or at <https://myfirsttech.idatalink.com>)**
- When used for a Remote start + Alarm, or Alarm only application, the security features MUST be enabled using feature 3-06 option 2 or 3**
- Built-In Troubleshooting diagnostics**
Notice! To properly diagnose remote start/stop failure the parking light output must be connected to either (+) Positive or (-) Negative parking light circuit on the vehicle.

Control Module stats

- 5mA idle current draw (CM only, no accessories)
- 7-10mA additional current draw when adding a Firstech antenna
- 5-7mA additional current draw when adding a Firstech DAS/DASII
- 5-7mA additional current draw when adding an Idatalink interface module (Blade, ALCA)
- **POC 2, POC 3**, provide 500mA output
- All other (-) negative outputs provide 250mA, and each one is diode isolated from the other. They can be doubled up to increase output.
- LC outputs are 3A max current handling.
- Siren outputs provide 2A MAX (+) positive outputs (2 pin brown CN, 20 pin I/O CN pin 2)
- CMX offers 3 High Current programmable outputs (HPC)
- CMX offers 11 programmable output channels (POC)
- CMX support 33 programmable output functions
- CMX offers 7 programmable Input channels (PIC)
- CMX supports 22 programmable input functions
- CMX supports up to 4 remote banks. (program new remotes in order to remove old remote ID's)
- CMX supports multiple interface modules data to data at one time. (Blade + ALCA, 2-ALCA, Blade + Fortin module, ALCA + Fortin module)
- CMX supports remote start on manual transmission vehicles
- CMX control modules are updateable
- CMX is default to remote start only mode, security features must be enabled using feature 3-06 option 2 or 3

Remote Programming Routine

Your remote can be programmed at any time using either method.

CMX will support up to 4 remotes at a time. **NOTE: Once all 4 remote banks are programmed each new remote that is programmed will delete a previously programmed remote**

IMPORTANT: All remotes must be coded to the control module prior to performing all operations.

NOTE: ALL CMX Control Modules have 4 remote banks available

STEP 1: Activate programming mode by manually turning the vehicle's key between the Ignition on and off (or the Acc & On positions) five times within 10 seconds. The vehicle's parking lights will flash once with the successful completion of this step.

STEP 2: Within a 10 second period after the 5th ignition cycle tap (a quick 0.5 second press and release) the Lock button on the Firstech remote. The parking lights will flash once to confirm the transmitter has been coded. Repeat step 2 for each additional remote, up to 4. *Note: if you only have 2 remotes, please program each remote twice.*

*****parking lights will flash twice signaling the end of programming mode.***

Remote programming procedure: PTS (Push to Start vehicles) application

STEP 1: Set the vehicle to the ignition or “ON” position

STEP 2: Within 5 seconds push to the “OFF” position

STEP 3: Within 5 seconds set the vehicle to the ignition or “ON” position (do not start)

STEP 4: Within 5 seconds press and release the foot brake 3 times *parking lights will flash 1 time to indicate remote programming is enabled

STEP 5: Tap (a quick 0.5 second press and release) the lock button on the remote * the parking lights will flash 1 time indicating the remote code has been accepted (Repeat step 5 for each additional remote, up to 4)

STEP 6: After 10 seconds of no valid remote codes being transmitted the CM will automatically exit programming mode

NOTE: *If no valid remotes are programmed the CM will enter valet mode.*

****parking lights will flash twice signaling the end of programming mode.**

Valet Mode

Valet Mode disables all system features except for the keyless entry. Use Valet when servicing or loaning your vehicle to others to avoid any inconvenience or mishap when operating the vehicle. There are no visual indicators when the security system is in Valet Mode. There is a parking light diagnostic flash when remote starting in Valet Mode. (3 flashes followed by 10 flashes). Also, when in Valet Mode, the keyless entry feature will still operate.

The system can be put INTO valet mode one of 5 ways:

- 1. While holding the foot brake** (12V+ brake input), cycle the key to the Ignition or ‘On’ position and then back to the ‘Off’ position **5 times within 10 seconds**. The parking lights will flash once indicating that the system has entered Valet Mode.
- 2. Turn the key to the Ignition or ‘On’ position** then using a 4-button remote press and release the lock and trunk buttons together simultaneously for a half second. The vehicle parking lights will flash 1 time to indicate the system has successfully entered valet mode. When using 3 or 5-button remote there will be remote specific steps to enter valet, please see remote user’s manual for further instructions.
- 3. The user may enter valet mode by performing the PTS vehicle remote programming procedure** and make sure there are no remotes transmitting.

4. Drone Mobile app will allow a user to enable/disable VALET mode within the vehicle settings section.

1. Open the Drone Mobile app
2. Open settings
3. Open “Vehicles”
4. Select Vehicle
5. Open “System”
6. Toggle Valet on or off
7. Tap “Save” top right corner of the app.

****NEW**

5. The CMX supports a (-)NEG. Trigger Valet mode input that can be connected to a latching or momentary toggle switch (NOT INCLUDED). ENTER and EXIT valet mode will use the same procedure. **NOTE: When the system has been set to NEG Trigger Valet mode input, procedure 1 WILL NO LONGER FUNCTION!**

1. Hold the (-) Valet input to ground for minimum of 5 seconds
2. After 5 seconds to ground, tap the (-) Valet Input to ground 5 times
3. The park lights will flash
 - 1 time for enter Valet mode
 - 2 times for exit Valet mode

NOTE: When using this feature with security features please make sure the switch is mounted discretely and the user knows where to find the switch in case of emergency.

The System can be taken out of Valet mode by one of the following procedures:

1. **No Remote:** If there are no remotes programmed or there are no remotes available you can exit Valet Mode by turning the key to the ignition on or ‘Run’ position then press and release the foot brake pedal 10 times within 10 seconds. This procedure will only deactivate Valet Mode it will not activate Valet Mode. The vehicles parking lights should flash 2 times to indicate the system has exited valet mode
2. **With Remote:** While within remote range of the vehicle, using a 4-button remote, press and release the lock and trunk button together simultaneously for a half second. The vehicle’s parking lights will flash 2 times to indicate the system has exited Valet Mode. When using 3 or 5-button remote there will be remote specific steps to exit valet, please see remote user’s manual for further instructions.
3. **Using Drone mobile app** as stated above.

4. Using the (-)NEG. Trigger Valet Input as stated above.

Placement and Use of Components

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

Antenna and Cable (Included with RF kits that are sold separately)

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.

LED (external) (Included with FT-ALARM IT upgrade kits)

There will be an external mountable Blue LED, or an LED in the antenna (FMX antenna only) for theft deterrent. (NOT INCLUDED WITH CMX KIT) It is important to discuss mounting locations with the end user, trying to make it visible and bright when recommending locations. The LED will light up solid blue when armed for approx. 25 seconds allowing the impact sensor to set up. Once the LED is flashing the sensors are ready. The LED will also provide security diagnostics which will flash the LED according to the zone that triggered the alarm alert. The LED will continue to flash the last zone triggered until ignition is cycled on.

2 Flash	Door Input
3 Flash	Shock stage 1
4 Flash	Shock stage 2
5 Flash	Tilt
6 Flash	Ignition on
7 Flash	Hood Input
8 Flash	Trunk Input
9 Flash	AUX sensor stage 1
10 Flash	AUX sensor stage 2

RPS Touch and KP2(Keyless Entry window sensor sold separately)

The RPS is an optional feature. The car call/RPS feature uses a small sensor that is mounted on the inside of your windshield.

1. RPS Touch (Remote Paging Sensor)

The new RPS touch has multiple features including remote paging, 4-digit pin unlock/disarm, and arm/lock. All features are operated with a simple touch of the sensor. **Note: check feature 3-16 to make sure it is set to RPS touch setting. (Default to RPS touch)**

RPS Touch and car call functions do not require programming, however to unlock/disarm your vehicle you must program a 4-digit passcode (numbers 1 through 10 only) you can view our video library for programming instructions at: <https://www.youtube.com/c/myFirstech> **NOTE: If you enter the wrong code more than 5 times within 30 minutes the RPS touch function will be disabled for 1 HOUR or until ignition has been cycled.**

Programming Your Code:

STEP 1: Choose your RPS Touch 4-digit code. '0' is not available.

STEP 2: Turn ignition to the 'ON' position and leave driver's door open. (**Door Input must be connected**)

STEP 3: Hold your finger over the 'Red Circle' icon for 3 seconds.

STEP 4: When the siren chirps and LEDs flash in a circular pattern, tap on your first number. (Hold the number for 2.5 seconds to choose 6 through 10.) After choosing your first number you will get 1 siren chirp and LEDs will flash in a circular pattern.

STEP 5: Repeat Step 4 until all four digits are set. You will get 1 siren chirp and 1 parking light flash. Repeat Steps 2 - 5 if you get 3 chirps and light flashes. Your RPS Touch is now programmed.

Alarm Arm/Lock

To rearm hold your finger on the 'Red Circle' for 3 seconds.

Alarm Disarm/Unlock

To disarm hold your finger over the 'Red Circle' for 3 seconds. Once the LEDs start their circular pattern, enter your 4-digit code by touching the window with the flat part of the tip of any finger over the number for each digit of your code. (Refer to Step 4 above or training video at <https://www.youtube.com/c/myFirstech>) Two seconds after entering the 4th digit, your system will first re-arm/lock. In two seconds, it will disarm/unlock.

2 Way LCD remote paging

To page a 2 Way LCD remote, hold your finger over the 'Red Circle' twice.

Touch Panel Sensitivity

To change touch sensitivity, open the driver's door, hold the button on the back of the RPS Touch until the LEDs go out. Release button and tap again. The number of solid LEDs represent sensitivity of touch, 1 being the lowest, 5 the highest.

RPS Touch on or Off

You can turn the RPS Touch off from your remote. Just follow the instructions below:

STEP 1: Enter remote programming mode by holding down buttons 2+3 (Trunk and Key/Start buttons on 2W901R-SS) simultaneously for 2.5 seconds. The remote will beep once and the LCD or read "REMOTE MENU" indicating that you have entered programming mode.

STEP 2: Scroll through the remote options by tapping button 3 or 4 (Function button 2W901R-SS). Once the LCD RPS icon flashes reads "RPS-ON" tap button 1 or (Lock button 2W901R-SS) to turn this feature on. The LCD will read "RPS-OFF"

STEP 3: Exit remote programming by holding down buttons 2+3 (Trunk and Key/Start 2W901R-SS) buttons simultaneously for 2.5 seconds. The remote will beep indicating that you have successfully exited programming.

2. KP2 Keyless Entry window sensor: Unlock/Disarm (KP2 option must be selected on feature 3-16)

Arm/Lock functions do not require programming, however, to unlock/disarm your vehicle you must program a 4, 5 or 6 digit PIN (numbers 1 through 6 only) using the instructions below (you can view our video library for programming instructions at: <https://www.youtube.com/c/myFirstech>):

STEP 1: Disarm/unlock the alarm (remote must be programmed first) and choose a 4 – 6 digit PIN.
You cannot have zeros.

STEP 2: Turn ignition to the ‘ON’ position and leave driver’s door open. (**Door Input must be connected**)

STEP 3: Hold your finger over the “Lock” icon for 3 seconds.

STEP 4: When the siren chirps and LED flash, momentarily place your finger over the first number of your 4-6 digit code. The siren should chirp quickly indicating the number has been accepted.

STEP 5: Repeat Step 4 until all four to six digits are set. You will get 1 siren chirp and 1 parking light flash. Repeat Steps 2 - 5 if you get 3 chirps and light flashes. Your KP2 is now programmed.

Alarm Arm/Lock

Hold your finger over the Lock Icon for 2.5 seconds to lock/arm the system.

Alarm Disarm/Unlock

To disarm, enter the 4-6 digit code by placing your finger over the correct digits in sequence. If entered correctly the system will disarm, if the code entered is incorrect the LED’s will flash 3 times (the siren will chirp 3 times if installed) and an alert will be sent to any Firstech 2way LCD remote or Drone that may be connected to the CM. **NOTE: If you enter the wrong code more than 5 times within 30 minutes the KP2 disarm function will be disabled for 1 HOUR or until ignition has been cycled.**

FT-DASII (Digital Adjustable Sensor gen II) (Included with FT-ALARM IT upgrade kits, or sold separately)

The DAS II has a built-in accelerometer that monitors sudden movement forward or backward during the remote start process when starting a manual transmission vehicle. **DAS II ACCELERAMETOR DOES NOT WORK IN AUTOMATIC TRANSMISSION MODE.** **Warning: DO NOT CUT THE LOOP FOR MANUAL TRANSMISSION VEHICLE Manufacturer or seller assumes no responsibility for any injuries and/or damages caused by this improper conversion and transform of the product done by a user voluntarily.**

The DAS II also includes a dual stage impact sensor, and auto adjusting tilt sensor, and glass break sensor all in one. Follow the steps below to properly setup your DAS II sensor levels. You can view our programming/ demonstration video located in our video library at <https://www.youtube.com/c/myFirstech>

DAS-II Programming Procedure

STEP 1: Turn the ignition to the 'on' position

STEP 2: Send Unlock command 2 times (unlock => unlock) using any Firstech remote, Drone, or OEM remote **with "OEM remote control" supported over data.** At this time the DAS-II display will initialize and stay powered up for at least 5 minutes or until ignition is off.

STEP 3: Push the programming button repeatedly until the desired sensor has been selected 1-5 shown in the table below. *(The programming button will be used to navigate the sensor adjustments and sensitivity once a sensor has been selected.)*

STEP 4: Once the sensor has been selected hold the programming button for 2 seconds to confirm selection and enter sensitivity adjustment. The adjustment options will now be accessible with default setting displayed. (sensitivity options will be shown in table below.)

STEP 5: push the programming button repeatedly until desired sensitivity level is reached **(setting 0 will indicate sensor is OFF => except option 2 window break sensor conditions)**

STEP 6: Hold programming button for 2 seconds to save sensitivity setting. After the setting is saved the sensor will start over at sensor 1 again. *(if the programming button is not pressed within 5 seconds after setting the LED will flash 2 times save the setting and exit that sensor programming)*

STEP 7: Turn ignition off to exit programming

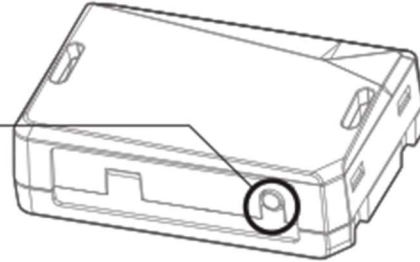
DAS II Manual

FIRSTECH, LLC.

DAS II Programming Button Menu

Programming button

- 1. Shock
- 2. Window Break Sensing Condition
- 3. Window Break Sound Sensitivity
- 4. Tilt
- 5. Movement



	Feature	Press Button	Mode Display	Sensitivity Adjust			
1	Shock Level (Prewarn) 10 Levels	1 time	 Red LED ON	 OFF	 High sensitivity	 Default	 Low sensitivity
2	Window Break Sensing Condition 2 Levels	2 times	 Red & Green LED ON	-	 Sound Only	 Default	 Sound and Vibration
3	Window Break Sound Sensitivity 6 Levels	3 times	 Green LED ON	 OFF	 Low sensitivity	 Default	 High sensitivity
4	Tilt 4 Levels	4 times	 Red LED Flash	 OFF	 3.0°	 Default	 High sensitivity
5	Movement 3 Levels	5 times	 Green LED Flash	-	 5 inch	 Default	 3 inch

CMX will support 2 alternative Shock sensor level adjustment procedures.

Adjusting DASII Shock Sensitivity alternative procedure option 1

STEP 1: Turn the ignition to the ‘on’ position.

STEP 2: 2 Way remotes-hold buttons 1 and 2 (Lock and Unlock) for 2.5 seconds. You will get two parking light flashes. 1 Way remotes-hold Lock and Unlock for 2.5 seconds. You will get two parking light flashes.

STEP 3: To set the Warn Away Zone 1, (2way LCD) tap lock or button I. (1 Way) tap Lock. After you get one parking light flash, proceed with impact testing on the vehicle. **Note: please be careful as not to damage the vehicle during the sensitivity adjustments.** You will get siren chirps 1-most sensitive (lightest impact to the vehicle requiring the least amount of force to trigger warn away) through 10-least sensitive (heaviest impact to the vehicle requiring more force to trigger warn away). This sets the impact sensitivity of Warn Away Zone 1. **Setting Zone 1 will automatically set Zone 2. If you would like to manually set Zone 2 proceed:**

To set Instant Trigger Zone 2

- a. Repeat Steps 1 and 2
- b. Tap the Unlock button on your Firstech remote, the parking lights will flash 2 times.
- c. After you get two parking light flashes, tap the vehicle. You will get siren chirps 1-most sensitive through 10-least sensitive. This sets the impact sensitivity of Instant Trigger Zone 2.

STEP 4: Once you get two parking light flashes, you are ready to test your DASII.

Adjusting DASII Shock Sensitivity alternative procedure option 2

STEP 1: Turn the ignition to the ‘on’ position

STEP 2: Hold Foot Brake (make sure the CM sees a valid foot brake input)

STEP 3: Tap Lock 3 times from any Firstech remote (including 1Button remotes)

STEP 4: Release Foot Brake *Parking lights will flash 2 times confirming DAS is in programming mode

STEP 5: The CM will chirp/honk/flash (1-10 times) indicating the current sensitivity level

STEP 6: Using any Firstech remote, OEM remote (**capable of Controlling the CMX through data module**), or the Arm/Disarm analog **inputs**, tap lock, or unlock 1 time to increase or decrease 1 level of sensitivity (up to 10 (least sensitive) or down to 1 (most sensitive)) which should be confirmed by chirps/horn honks/ flashes

**repeat this process until desired sensitivity level has been reached*

- a. Example 1. Current sensitivity level is 4, we send 1 lock command after 1 second of no incoming commands we should receive 1 chirp or 1 horn honk indicating we have moved up 1 level.
- b. Example 2. Current level is set at 4, we send lock + lock + lock, after 1 second of no incoming commands we should receive 3 chirps or horn honks honk indicating we have moved up 3 levels.
- c. Example 3. Current level is now set at 7, we send unlock + unlock, after 1 second of no incoming commands we should receive 2 chirps/horn honks/park light flashes indicating we have moved down 2 levels.

STEP 7: 5 seconds after the last setting change confirmation the CM will chirp/horn honk/flash the sensitivity level *you will have an additional 5 seconds to make any adjustments

STEP 8: Programming completed.

STEP 9: You are now ready to test the DASII.

FT-RFID (sold separately as an RF-kit)

The FT-RFID function, now included with 2 of the latest 2-way remotes from Firstech, will unlock/disarm the vehicle when in range of the antenna (ANT-2WSF).

Install prep for FT-RFID

STEP 1: Set Option 1-14 to Setting 1 or 2 (**option 4 is no longer available please see passive arming feature 1-08 for additional options**)

STEP 2: Connect ANT-2WSF using supplied 4 pin to 6 pin antenna cable.

STEP 3: ANT-2WSF mounting requirements will vary with the vehicle type. The proximity unlocking range is approximately 3-6 ft from the antenna based on its mounting location. **The proximity feature will perform much better out of direct sunlight and above freezing temperatures so consider mounting the ANT-2WSHF behind an “A” or “B” pillar or under the dash.**

Testing The FT-RFID

STEP 1: Make sure your FT remotes are programmed

STEP 2: Enable the proximity unlock feature on one of your FT remote using the remote menu. **NOTE: once the feature is enabled for 1 remote it is enabled for both remotes**

STEP 3: Proximity unlock/disarm - Once the CM has been locked/armed allow 15 seconds for the RFID remote to unlock/disarm the system once its within proximity (approximately 3ft-7ft) of the ANT-2WSF antenna. *i.e. Arm the system wait 15 seconds walk up to the vehicle and it will automatically unlock/disarm.*

Siren: 6 Tone (Included with FT-ALARM IT upgrade kits)

We offer a standard 6 tone mini siren with every ALARM IT UPGRADE KIT. We have a variety of siren feature options including length of output time, chirp output timing (i.e. when locking, unlocking, or starting) so please make sure to set features 3-02 and 3-09 to desired options.

Thermistor (Temperature Sensor)(Included with 2 way LCD RF kit or Done)

Every 2 Way LCD Firstech RF kit includes an optional thermistor, which must be plugged into the **blue 2 pin port** of the CMX to use properly. (we also offer optional temp sensor extensions for more accurate temperature. FT-TEMPSENSOR-XL, includes 10 pack of thermistors and extensions)

The use of the thermistor allows the 2 Way LCD remote to display the vehicle's interior temperature on screen or the status page of your Drone mobile phone App. The thermistor will also allow for the vehicle to start with timed hot or Cold starting; see features 2-05, 2-07, 2-08, and 2-09 for the different options.

Hood Pin (Included)

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

Common Procedures



Programmable Settings

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

Setting 1: Door input Feature 4-09 (Door Trigger Polarity)

Determines the polarity of the door trigger input wire (red/white). With the default setting, the CM door trigger input registers negative (-) triggers. To change to a positive (+) trigger, set feature 4-09 to option 2.

Setting 2: HCP 1 (High Current/Low Current Programmable Output) Green/White:

Determines the output (not polarity) of PIN 2 Green/White wire on (CN1/CN2) connectors. The default setting it provides a positive (+) parking light output. **Please refer to feature table for additional HCP setting options.**

Setting 3: HCP 2 (High Current/Low Current Programmable Output) Blue:

Determines the output (not polarity) of PIN 5 Blue wire on (CN1/CN2) connectors. The default setting it provides a positive (+) 2nd Ignition output. **Please refer to feature table for additional HCP setting options.**

Setting 3: HCP 3 (High Current/Low Current Programmable Output) White:

Determines the output (not polarity) of PIN 4 White wire on (CN1/CN2) connectors. The default setting it provides a positive (+) Accessory output. **Please refer to feature table for additional HCP setting options.**

Changing Special Feature Options: You Must Have the OP500 Option Programmer

Changing Special options or setting special timings for Run time, Diesel wait to Start, defrost output, AUX timers, assumed running crank time, or timer start temperatures you must use an OP500 dealer handheld programmer. This programmer can also be used to change HCP's, POC's, PICs, and any other feature option available with the CMX.

Example changing AUX timed outputs:

STEP 1: Plug in OP500 and use the Right or Left Arrow Button to scroll the top line of LCD text and select a POC to set as AUX 1 and another POC to set as AUX 2.

STEP 2: Use the Up or Down Arrow Button to change the lower number on LCD Line 2 to 10 for AUX 1 or 11 for AUX 2.

STEP 3: Scroll to feature 4-01 or 4-02 and set option 4 for "prog".

STEP 4: Our control modules have a secure auxiliary option 4-05. This requires you to tap the Start Button before you tap the Trunk Button for Aux 1 or Hold Trunk + Start for 2.5 and then tap Trunk for Aux 2. On 1-Way remotes you must hold the Trunk and Start Buttons for 2.5 seconds then tap the Trunk Button for Aux 1 or the Start Button for Aux 2.

STEP 5: If you need to change the time settings of the outputs, scroll down to AU1 or AU2 on the OP500. LCD Line 2 is the timed output. **Note: with an OP500 update v.31 (<https://install.myfirsttech.com>) you will now be able to allow for timed AUX outputs of up to 15 minutes.**

STEP 6: Hold the “W” Write button for 3 seconds to save all the options.

Tach Sensing

The default engine sensing mode is tach. In cold weather climates we recommend using an injector wire or tach signal provided by a compatible interface module for tachometer sense. **IMPORTANT:** The remotes must be coded prior to programming tach. Firstech recommends using a digital multimeter when testing for tach.

STEP 1: Start the vehicle with the key. Allow time for the engine to idle down. (If you do not want to wait for the vehicle to idle down, you can shift the vehicle into reverse while holding your foot on the brake.)

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 make a wire-to-wire connection for tach.

STEP 3: Learn tach: Start the vehicle, hold the foot brake, and activate the remote start by holding the Start Button for 3 seconds. The parking lights will flash once, and the siren will chirp once to confirm a good tach signal. If the parking lights flash 2 times and the sirens chirps twice, this indicates the tach did not learn. A few seconds after the 2 flashes, the CMX will flash parking lights to indicate the tach learn error.

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

“EZ TACH” programming procedure

This feature does not require a Firstech remote or Drone to program tach

STEP 1: Hold the foot brake (must be held down before vehicle is on)

STEP 2: Start the vehicle (with foot brake still held down)

STEP 3: Wait 30 seconds (with foot brake still held down) for the CM to capture the engine running tach signal. The CM will flash the parking lights 1 time after 30 seconds to indicate it has captured a good tach or engine running signal. If there is no or poor signal the CM will flash the standard tach programming diagnostics as shown above.

STEP 4: Programming complete **(This procedure will be disabled after the first time but will available if the CM is power cycled)**

Alternator Sensing

Alternator sensing is another method the remote start can utilize to determine if the engine is running. This is option requires a wire (yellow/black) connection to the alternator stator wire. **NOTE: there is no programming procedure needed for this option**

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.

Tachless Mode – (Automatic Transmission Vehicles Only)

Tachless sensing is an alternative engine sensing mode. It does not require a connection to the vehicle other than the main ignition harness. **Note: due to the delayed peak charging found with most late model computer-controlled alternators, this feature may not be reliable.**

STEP 1: Change Option 2-10 to setting 3 – Tachless Mode.

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 Mode”. Traditional tach sensing is still highly recommended for colder climates.*

Advanced Tachless

Advanced Tachless is an enhancement feature (2-11 option 2) that can be used as a more reliable “Tachless” or no wire connection option. In order for this feature work the no connection “Tachless mode” feature (2-10 option 3) must be selected and no tach signal input on the main control module should be present. *Advanced Tachless will enable a voltage check for the Assumed running engine sense option (2-10 option 4)*

Assumed Timed Crank

Assumed Time Crank is option 4 on feature 2-10 for remote starting. This is intended for vehicles with built-in anti-grind feature or vehicles that do not have a 12V Positive starter wire at the ignition harness. This option will send a 3.0 second crank signal to the vehicle. This option can be used on vehicles with built in anti-grind systems or Push To Start (PTS) systems. *Advanced Tachless will enable a voltage check for the Assumed running engine sense option (2-10 option 4)*

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. ONCE THE "ENTER" RESERVATION MODE OPTION IS SELECTED THE CM WILL OPERATE IN MANUAL MODE EVEN IF THE LOOP IS CUT**

Manual Transmission

Reservation Mode: This refers to the process that is performed in preparation for remote starting a manual transmission vehicle. This mode will allow the manual transmission vehicle to safely remote start and must be performed every time the user wants to remote start the vehicle. The system will monitor all doors, hood, and trunk so if any zones are opened after reservation mode has been set up, the vehicle will not start. You can find our Manual transmission guide here at <https://install.myfirsttech.com>

Installation Requirements

- FTDAS II (Digital Adjustable Sensor) must be connected.**
- 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.
- 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.
- The vehicle's clutch **must** be temporarily bypassed **ONLY when the remote start cranks the engine**. This bypass simulates the clutch being depressed. For complete details on how to wire a momentary clutch bypass visit <https://install.myfirsttech.com> and review the Manual Transmission guide 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 or their authorized dealers will not assume any responsibility for improper use or install.

Requirements Activating Reservation Mode (please see feature 2-14 and 2-15 for more activation options)

STEP 1: YOU MUST SELECT AN "ENTER RESERVATION MODE" OPTION IN ORDER TO CONTINUE MANUL TRANSMISSION OPERATION (Actual Procedure based on feature 2-14 option setting OFF BY DEFAULT) While the vehicle is running place the transmission in neutral, set the emergency/parking brake, remove pressure from the foot brake (if applied). **Once user has entered reservation mode there is a 5-minute window to "set" or complete reservation mode before the CM cancels reservation mode.**

STEP 2: Remove the key from the vehicle's ignition. The engine should remain running even after the key has been removed. If the vehicle does not remain running, check the emergency / parking brake connection and your tach connection. (**"set" procedure based on feature 2-15 options**) *(If keysense input is detected the CM will remain in this state until keysense input has been removed)* *(For PTS vehicles please exit vehicle after entering reservation mode WITHOUT pushing the PTS button)*

STEP 3: Exit the vehicle and close the door. (**Additional procedures may be required based on feature 2-15 option settings**) The vehicle's doors should **lock** then the **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 Firsttech system is in reservation mode and the vehicle is ready to safely remote start. *(For PTS vehicles please exit vehicle after entering reservation mode WITHOUT pushing the PTS button)*

Additional Notes

Reservation mode will be cancelled if the control module recognizes the vehicle's 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 features 2-14 and 2-15

Blade Cartridge dock and Connector (SOLD SEPERATELY)

CMX Blade dock gives you the ability to use the Blade-AL and Blade-TB interface modules from Firsttech 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 needed from the Black 20 pin Blade connector that may be required according to the vehicle specific Blade installation guide. For more information on how to program and wire the Blade, please visit <https://myfirsttech.idatalink.com> (**must use internet explorer when flashing modules, or the latest Weblink desktop program**) 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. Black 20 Pin locking wiring harness

IMPORTANT: Vehicle specific install diagrams are not included and must be downloaded from the iDatalink site when flashing the Blade. The CMX can be updated and allow feature options to be changed using the same flashing website <https://myfirsttech.idatalink.com>



WARNING: Manufacturer or seller assumes 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.

"I can do this all day"

Wiring Descriptions

Connector 1 (CN1): 8-Pin High current power harness included **(NOTE: Please see FT-LC1 for a low current version of CN1)**

- Pin 1 Red - Constant 12V positive (+) power input (25A MAX):** *(This input provides power to the CM processor, Ignition 1, and accessory ports)* This wire **MUST** be connected. The proper vehicle wire will test (+) 12V at all times, even when the key is in the off position, on position, and during crank.
- Pin 2 Green/White – High Current (HC) Programmable Output (10A MAX):** This positive (+) parking light (default setting) wire activates with lock, unlock, remote start, or during troubleshooting diagnostics. **Note: This output is programmable and can provide several (+) outputs based on HCP1 setting.**
- Pin 3 Red/White - Constant 12V positive (+) power input (25A MAX):** This wire must be connected *(This input provides power for the accessory, starter, and parking light output)*. 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 4 White – High Current (HC) Programmable Output (20A MAX):** Accessory 12V positive (+) output (default setting). This wire can 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-14V** when the key is returned to the on position. **Note: This output is programmable and can provide several (+) outputs based on HCP2 setting.**
- Pin 5 Blue – High Current (HC) Programmable Output (20A MAX):** Positive 12V (+) 2nd ignition (default setting) This wire can be connected to the vehicle 2nd Ignition wire. The proper wire will test **0V** with the key in the off position, **(+) 12V** while key is in the on position, **(+)9V-12V** while cranking and back to **(+) 12V-14V** when the key is returned to the on position. **Note: This output is programmable and can provide several (+) outputs based on HCP3 setting.**
- Pin 6 Yellow - Starter 12V positive (+) output (20A MAX):** 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 **(+) 9V-12V** during crank. **Note: You can use the FT-ELOCK for starter kill and anti-grind features. It can be used to configure the starter interrupt in various ways. We provide a GWA (Ground When Armed) output for standard starter interrupt (Blue/White Pin 1 Grey 20 pin accessory harness)**
- Pin 7 Green - Positive 12V (+) Ignition (Input/Output) (20A MAX):** This connection is required for every remote start install and should be connected to the vehicle Ignition wire. The proper wire will test **0V** with the key in the off position, **(+) 12V** while key is in the on position, **(+)9V-12V** while cranking and back to **(+) 12V-14V** when the key is returned to the on position.
- Pin 8 Black - Ground negative (-) input:** This wire **MUST** be connected to the vehicle's chassis ground. Make sure no paint or rust is on the mounting surface. **We recommend connecting this wire first.** IF you are having trouble locating a good ground source you can use PIN # 4 at the Standard OBD II connection

Connector 2 (CN2), 8-Pin (NOT INCLUDED): Low Current power harness (10A MAX)

NOTE: This is a low current power harness and is NOT designed to be used in High current applications or in combination with CN1 (the high current power harness).

- Pin 1 **Red – Low Current (LC) Constant 12V positive (+) power input (5A MAX).** *(This input provides power to the CM processor, Ignition 1, and accessory ports)* This wire **MUST** be connected. The proper vehicle wire will test (+) 12V at all times, even when the key is in the off position, on position, and during crank.
- Pin 2 **Green/White – Low Current (LC) Programmable Output (2A MAX):** This positive (+) parking light **(default setting)** wire activates with lock, unlock, remote start, or during troubleshooting diagnostics. **Note: This output is programmable and can provide several (+) outputs based on HCP1 setting.**
- Pin 3 **Red/White – Low Current (LC) Constant 12V positive (+) power input (5A MAX).** This wire **must** be connected *(this input provides power for the accessory, starter, and parking light output)*. 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 4 **White – Low Current (LC) Programmable Output (3A MAX):** Accessory 12V positive (+) output **(default setting)**. This wire can 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-14V** when the key is returned to the on position. **Note: This output is programmable and can provide several (+) outputs based on HCP2 setting.**
- Pin 5 **Blue – Low Current (LC) Programmable Output (3A MAX):** Positive 12V (+) Ignition output (only) **(default setting)** This wire can be connected to the vehicle 2nd Ignition wire. The proper wire will test **0V** with the key in the off position, **(+) 12V** while key is in the on position, **(+)9V-12V** while cranking and back to **(+) 12V-14V** when the key is returned to the on position. **Note: This output is programmable and can provide several (+) outputs based on HCP3 setting.**
- Pin 6 **Yellow – Low Current (LC) Starter 12V positive (+) output (3A MAX).** 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 (+) 9V-12V during crank.
- Pin 7 **Green – Low Current (LC) Positive 12V (+) Ignition (Input/Output) (3A MAX):** This connection is required for every remote start install (when using CN2) and should be connected to the vehicle Ignition wire. The proper wire will test **0V** with the key in the off position, **(+) 12V** while key is in the on position, **(+)9V-12V** while cranking and back to **(+) 12V-14V** when the key is returned to the on position.
- Pin 8 **Black - Ground negative (-) input (10A MAX).** This wire **MUST** be connected to the vehicle's chassis ground. Make sure no paint or rust is on the mounting surface. **We recommend connecting this wire first. IF you are having trouble locating a good ground source you can use PIN # 4 at the Standard OBD II connector**

Connector 3 (CN3), Black 20-Pin: Blade Connector

This connector is used only if you are installing a Blade-AL or Blade-TB. The wiring harness for this connector only comes with the Blade cartridge. Please refer to the Blade install guide for wire description <http://myfirsttech.idatalink.com>.

Connector 4 (CN4), Grey 20-Pin: Input / Output (I/O) connector

IMPORTANT: Odd Pin numbers 1-15 are programmable for up to 33 different output types. Refer to Special Option Group 2 for complete details. Even numbered pins 2-20 do offer 7 PIC's (programmable input channels) features that are selectable using the OP500 updater. **Note: These inputs/outputs are subject to change, for the latest software update and feature table please visit**

<https://myfirsttech.idatalink.com> or <https://install.myfirsttech.com>

Pin 1 **Blue/white** - [POC 1] Starter Kill: 250mA latched negative (-) output when armed and during remote start, (while running) that can be used with an FT E-LOCK to interrupt a starter wire protecting from theft or grinding the starter during take over. Caution: If this wire is being used to trigger multiple aftermarket accessories it must be diode isolated for each one. **Note: There are 33 additional POC setting options for this POC.**

Pin 2 **Brown** - Siren: 600mA (+) output can be connected to the positive lead of an aftermarket siren. This will produce output with arm/disarm, full alarm, and panic as a default setting. This can be changed based on feature 3-09 option settings. The length of output for the arm/disarm chirps can be changed using feature 3-02 settings

Pin 3 **White** - [POC 2] Horn:250mA negative (-) output. This is an optional output that will provide a fixed 30mS negative output when triggered by the remote(s). The output control is based on feature 3-08 option setting. **Note: There are 33 additional POC setting options for this POC.**

Pin 4 **Light Blue/White** - Brake 12V positive (+) input: This wire must be connected as it provides a shut down for the remote start. It is also required to enter and exit Valet Mode. The proper wire will test (+) 12V while the foot brake is pressed. **NOTE: Vehicle Ignition may need to be on when testing.**

Pin 5 **Blue/Lt. Green** - [POC 3] Lock 250mA, 800mS (-) negative output: This is an optional output that will provide only negative (-) output pulse for locking doors. System will lock doors and arm alarm. **IMPORTANT:** You must reverse polarity for (+) trigger door lock systems using the FT-DM700, FT- DM600 or relays. For additional lock settings review Option Group 1. **Note: There are 33 additional POC settings for this POC.**

Pin 6 **Light Blue** - [PIC 1] Parking / Emergency brake (default setting) negative (-) programmable input: This input is required for manual transmission/reservation and Turbo Timer mode. The proper e-brake wire will provide a (-) trigger when parking / emergency brake is set, and the key is in the ignition or "on" position. This wire or input is required for manual transmission and turbo timer mode. **There are additional options for this PIC. Please see Special Options Group 3.**

- Pin 7 **Blue** - [POC 4] Unlock 250mA, 800mS (-) negative output: This is an optional output that will provide only a negative (-) output pulse for unlocking doors. System will unlock doors and disarm alarm.
IMPORTANT: You must reverse polarity for (+) trigger door lock systems using the FT-DM700, FT-DM600 or relays. For additional lock settings review Option Group 1. **Note: There are 33 additional POC setting options for this POC.**
- Pin 8 **Violet/Black** - [PIC 2] Trunk zone input (default setting) (-) programmable input: This is an optional input that will monitor the vehicle's trunk status. The proper wire will provide a (-) trigger while the trunk is open. **There are additional options for this PIC. Please see Special Options Group 3.**
- Pin 9 **Orange/White** - [POC 5] Factory Alarm Disarm (FAD) 250mA, 800mS negative (-) output: This output will provide a (-) pulse during unlock and every time prior to the GWR (ground when running: aka. Status output) turning on during the remote start sequence. It is typically used to disarm factory security systems. **Note: There are 33 additional POC setting options for this POC.**
- Pin 10 **Red/White** – [PIC 4] Door zone input: This wire monitors negative (-) or positive (+) trigger doorpins. The proper wire in the vehicle, will provide a (-) trigger or a (+) trigger only when the doors are opened. You will need to test the vehicle wire for proper polarity and set feature 4-09 to the correct option. **NOTE: When feature 4-09 is set to option 1 this wire can be used as a programmable input channel (PIC). There are additional options for this PIC. Please see Special Options Group 3.**
- Pin 11 **Orange** - [POC 6] Factory Alarm Arm (FAA) 250mA, 800mS negative (-) output: This is an optional output that will provide a (-) pulse during lock, after crank and again after the remote start shuts down. The FAA output can be configured using feature 1-05. **Note: There are 33 additional POC setting options for this POC.**
- Pin 12 **Brown/White** - [PIC 3] Key Sense **INPUT** (-) programmable input: This input can monitor the keysense provided by the vehicle for manual transmission reservation mode, use of RFID and/or Passive arming. **There are additional options for this PIC. Please see Special Options Group 3.**
-In case of reservation mode for manual transmission the keysense input will not allow the CMX to complete reservation mode until the (-) input to the CMX is removed.
-In case of passive arming the CMX will monitor the keysense input and not allow the CMX to arm/lock passively until (-) input is removed.
- Pin 13 **Violet/White** - [POC 7] Trunk release 250mA, 1 sec. negative (-) output: This is an optional output that can be used to activate the trunk or rear hatch release. Use CN1/CN2, HCP if the vehicle is equipped with a (+) trunk release. System will unlock doors and disarm alarm prior to trunk release (this procedure is programmable with feature 1-07 and the output time can be changed using feature 1-15). **Note: There are 33 additional POC setting options for this POC.**
- Pin 14 **Pink** - Trigger Start (+) programmable input. This is an input (+) that can be used to activate the start sequence when triggered 1, 2, or 3 times based on option selected on feature 2-04. This can be done with a door lock motor output being operated by a factory keyless entry or another external source. **There are 3 additional options for this Input please check feature 4-10.**

Pin 15 **Black** - [POC 8] Status/Ground while running (GWR) 250mA latched negative (-) output: This is an optional output that will provide a latched negative (-) output 250mS before the ignition turns on, stays on throughout the remote start duration and will be the last to shut off. This wire is commonly used to trigger bypass / transponder modules. **Note: There are 33 additional POC setting options for this POC.**

Pin 16 **Gray/Black** - [PIC 5] Hood Pin negative (-) (default setting) 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. **There are additional options for this PIC, please see Special Options Group 3.**

Pin 17 **Green/White** - (fixed output) Parking light 250mA negative (-) output. This will provide output whenever the parking lights are activated for lock, unlock, remote start, diagnostics, and programming the proper wire in the vehicle will test (-) when the parking light switch is in the on position.

Pin 18 **Yellow/Black** - Engine sensing input (A/C): This wire is connected to the vehicle's Tach or Alternator wire and is required when using the tach and alternator sense setting. (You can also connect this wire to the battery (+) post when using voltage sense to make it more accurate) **IMPORTANT:** To change engine-sensing modes, you must change Option 2-10; Default option is set for tach input.

Pin 19 **Red/Black** - (fixed output) 2nd Starter output 250mA negative (-) output. This output provides a (-) negative start output during the crank period of the remote start process.

Pin 20 **White/Black** - (fixed output) 2nd Accessory 250mA negative (-) output. This output provides a (-) negative accessory output that will drop out during the crank period of the remote start process.

Connector Description

Connector 5 (CN5) Brown 4 Pin (UART data port) data to data only

This connector is available for use with Firstech accessories that support data to data communication. This data port will support with the ANT-1WAF RFID antenna.

Pin 1 (**B+**) - Constant 12V positive (+) output

Pin 2 (**B-**) - Ground (-) output

Pin 3 (**RX**) - Input, this wire receives data

Pin 4 (**TX**) - Output, this wire transmits data

Connector 6 (CN6), Gray 4 Pin (UART data port) Drone/Fortin data to data only

Pin 1 (B+) - Constant 12V positive (+) output

Pin 2 (B-) - Ground (-) output

Pin 3 (RX) - Input, this wire receives data

Pin 4 (TX) - Output, this wire transmits data

Connector 7 (CN7), Black 4-Pin (UART data Port) ADS/Drone data to data

This connector is used for updating control modules via <https://myfirsttech.idatalink.com> You must also use **this port to flash Blade bypass modules**. This port provides simple connectivity of outboard iDatalink bypass modules.

Pin 1 (B+) - Constant 12V positive (+) output

Pin 2 (B-) - Ground (-) output

Pin 3 (RX) - Input, this wire receives data

Pin 4 (TX) - Output, this wire transmits data

Connector 8 (CN8), Blue 2-Pin (Pre-wired Thermistor) Plug optional thermistor into this connector to monitor the vehicle's temperature. It used in conjunction with Timer Start features along with displaying temperature on two-way LCD's. *(NOTE: we also offer temp sensor extensions allowing for the thermistor to be moved up into the vehicle cab or "A" pillar for more accurate internal temperature FT TEMP SENSOR XL)*

Pin 1 Black – Thermistor (-)

Pin 2 Black/White – Thermistor – Temp input

Connector 9 (CN9), 4-Pin to 4-Pin or 4-pin 6-Pin (Pre-wired Antenna Cable)

Connect your antenna cable to this port. You can only use 4 to 4 pins or 4 to 6 pin antenna cables. 6 to 6 Pin antenna cables do not work.

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 – Ground

Connector 10 (CN10), 6-Pin Lock Accessory port

Note: This harness is NOT included with CMX wire harness kits. The Lock (POC 3), Unlock (POC 4), Trunk (POC 7) release outputs have been moved to CN5 (Grey 20 pin accessory harness) and are programmable outputs. This connector will still be available for any Firstech lock harness. (FT-DM600 or FT-DM700)

Pin 1 None - 12v B+ constant output: available when using a Firstech door lock Module DM600, DM700

Pin 2 **Violet/White** - Trunk release 250mA, 800mS 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, 800mS 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 set feature 1-03 to option 2 (on).

Pin 4 **Blue** - Unlock 250mA, 800mS 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, 800mS (-) 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.

Pin 6 None - B- ground output: available when using a Firstech door lock Module FT-DM600, FT-DM700

Connector 11 (CN11), 2-Pin (Pre-wired LED) **WHITE connector Note: Do not mistake for Thermistor port. Note: The LED will stay solid blue when armed for the duration of the sensor set up time. (Approx. 25 seconds)

Pin 1 **Black** - L.E.D negative (-) ground.

Pin 2 **Black/White**- L.E.D. 2.5V positive (+) output.

Connector 12 (CN12), 4-Pin (Pre-wired RPS Touch or RPS 2)

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 13 (CN13), 4-Pin (Pre-wired DAS Sensor)

Pin 1 **Black** - Negative (-) ground when armed (GWA).

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 14 (CN14), 4-Pin (Optional Sensor Input) (4 PIN Green port)

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

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

Pin 2 **Black/White** [PIC 7] – AUX input (INSTANT TRIGGER): This wire default setting will trigger to full alarm, if ground (-) is applied momentarily. **This wire can be programmed to offer other input functions based on the PIC setting value in special options group 3, using the OP500**

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

Pin 4 **Grey/White** [PIC 6]– AUX Input (PREWARN): This wire default setting will trigger prewarning chirps/horn honks if ground (-) is applied momentarily. **This wire can be programmed to offer other input functions based on the PIC setting value in special options group 3, using the OP500**

Connector 15 (CN15), 2-Pin Siren output BROWN connector: This connector will provide a 600mA output on the brown wire, and ground on the black wire. This will allow for additional sirens to be added to the CMX.

Pin 1 **Black** – Siren negative (-) ground.

Pin 2 **Brown** – Siren 600mA positive (+) output.

Feature Option Tables

Option group #1

#1	Feature	Option Setting			
		Default(I)	Option (II)	Option (III)	Option (IV)
1-1	Unlock before, Lock after, starting.	Off	On	Lock After Start Only	Lock After Shutdown Only
1-2	Lock / Unlock pulse duration.	0.8 sec	2.5 sec	0.125 sec	3.5 sec
1-3	Driver's priority unlock	Off	On		
1-4	Double pulse unlock.	Off	Unlock	Lock	Both Lock and Unlock
1-5	Rearm Output	1st Lock, After Start, and After Shutdown	1st Lock, After Shutdown	After Start Only	After Shutdown Only
1-06	N/A				
1-7	Unlock / Disarm with Trunk Release	Unlock, Factory Disarm, and Trunk Release	Factory Disarm, Trunk Release Only	Trunk Release Only	
1-8	Locking while in Passive Arming	Off	Passive locking w/ Passive Arming	No Passive Locking w/ Passive Arming	Passive Locking/Arming with RFID
1-9	Ignition controlled door locks	Off	On	RPM Locks (MUST USE TACH)	
1-10	Auto Relock (If a door is not opened within this amount of time.)	Off	30 sec	60 sec	5 min
1-11	Ignition / Accessory Out Upon Unlock	Off	Ignition Pulse-same timing as disarm pulse	Acc Pulse-same timing as disarm pulse	Ig and Acc Pulse-same timing as disarm pulse
1-12	OEM remote status update from ADS module	Off	On		
1-13	Double pulse disarm	Standard	Double Pulse		
1-14	FT-RFID Function	Unlock once armed	FTX/Always Unlock	Off	N/A
1-15	Trunk Output Timing	1sec	2 sec	3 sec	4 sec
1-16	Siren/Horn Mute Control on Remote	Disabled	Enabled	Silent Alarm	

Option group #2

#2	Feature	Option Setting			
		Default(I)	Option (II)	Option (III)	Option (IV)
2-1	Tach Threshold	Optimal Tach Threshold	Previous Tach Method		
2-2	Turbo Timer mode.	Off	2 Min	1Min	4 Min
2-3	Diesel wait to start	Wait to start input Wire	3~99 sec (12sec Default)	7 sec	GM Ignition Delay
2-4	Trigger Start	Off	Single Pulse	Double Pulse	Triple Pulse
2-5	Cold or Hot Start with Thermistor Assembly	Off	Cold start only	Hot start only	Cold and Hot start
2-6	Timer Start, or, Minimum Interval Between Cold Starts	3 Hour (4-minute runtime, double for Diesel)	2 Hour Repeat with Cold Starting of 2-8 (Runtime 2-7)	Reserved (Runtime 2-7)	24 Hour Repeat with Cold Starting of 2-8 (Runtime 2-7)
2-7	Remote Start Runtime	15 Min	25 Min	45 Min	PROG. 3 ~ 45 mins 3 min (default)
2-8	Temperature of Cold Starting	-10°C / 14°F	-20°C / -4°F	-5°C / 23°F	PROG. -30°C ~ 0°C / -22°F ~ 32°F (-15°C / 5°F default)
2-9	Temperature of Hot Starting	25°C / 77°F	30°C / 86°F	35°C / 95°F	PROG. 20°C ~ 66°C / 68°F ~ 150°F (40°C / 104°F default)
2-10	Engine Sensing	Tach	Alternator	No Connection (Voltage sensing, Automatic Transmission only)	Assumed Running PROG. 1~6 second output (3 second default)
2-11	Advanced Tachless	Off	On		
2-12	Min. Crank Time	Standard	+0.2 Seconds to Crank Time	+0.6 Sec to Crank Time	Standard – MIN(0.2sec)
2-13	Timer Mode	Off	On	On w/ Alert	Alert Only
2-14	Reservation "Enter with": (Manual transmission)	Off	Parking brake is set	Parking brake set + Hold start button for 2.5 sec	Parking brake: set → Release → (within 7 seconds) set
2-15	Reservation "set with": (Manual transmission)	last door closed (locks before shut down)	Last door closed + Lock command	10 Seconds After the Last Door is Closed or Lock Command	Last door is closed (Locks after shut down)
2-16	Force Shutdown after Remote Start	Off	W/ Door Open	W/ Unlock Command	

Option group #3

#3	Feature	Setting			
		Default(I)	Option (II)	Option (III)	Option (IV)
3-1	Parking lights Control	Constant Output While Remote Started	Flashing Output While Remote Started	Off While Remote Started	Off While Lock and Unlock Only
3-2	Siren/horn output timing	Medium (30mS)	Short (15mS)	Normal (60mS)	
3-3	Dome Light Delay	Off	5 sec	45 sec	Auto
3-4	Starter-Kill relay.	Anti-Grind + Starter Kill	Anti-Grind	Anti-Grind + Passive Starter Kill	
3-5	Anti-Jacking	Starter-kill	Ignition-Kill (no Anti-Grind)		
3-6	Security features	OFF	ON	Alarm Only	
3-7	Siren Duration (Upon Alarm Trigger)	30 sec	60 sec	120 Sec	Chirps for 20 seconds
3-8	Horn Output	On Double Lock Only	On Lock and Unlock	On Lock, Unlock, and Start	On Double Lock and Start
3-9	SIREN Confirmation configuration	On Lock, Unlock, and Start	On Double Lock Only	On Lock and Unlock	On Double Lock and Start
3-10	Valet procedure	Foot Brake + Ignition 5 times or Remote w/ Ignition is on	Foot Brake + Ignition 5 times or Remote	Wired Valet Input	
3-11	Auxiliary 3-7	Disabled	Enabled		
3-12	VAC (Ventilation, Air Conditioning)	Above 100 Degrees F	Above 90 Degrees F	Above 80 Degrees F	Above 90 Degrees Latched for Runtime
3-13	Defroster Temperature Control	Standard	Only below 32 degrees F	PROG 0°C/32°F ~ 13°C/55°F below 6°C/42°F default	AUX 1
3-14	Defroster Output Timing	0.5 sec pulse	3 min latch	7 min latch	Constant Output Until Remote Start Shuts Down
3-15	Soft Disarm	Off	On	Disarm 1 Press	
3-16	RPS	FT-RPS Touch (4-digit code)	FT-KP2 (4-6-digit code)	FT-RPS Touch (No LED flash while armed)	FT-KP2 (no LED flash while armed)
3-17	Secure Start N/O Timer	Off	2 min	4 min	Prog. 1-10 min (10 min default)
3-18	Secure Start N/C Timer	Off	1 min	2 min	4 min

Option group #4

#4	Feature	Setting			
		Default(I)	Option (II)	Option (III)	Option (IV)
4-1	Aux 1 output	0.5sec	Latch	0.5 sec Pulse + Program	Program
4-2	Aux 2 output	0.5sec	Latch	0.5 sec Pulse + Program	Program
4-3	Aux 1 output Control	By Remote	Disarm	RS shut down	Input Trigger from PIC
4-4	Aux 2 output Control	By Remote	Arm	Remote Start command	Input Trigger from PIC
4-5	Secure Aux Output (1 and 2 Only)	On	Off	On While Armed	
4-6	Hazard output Timing [30]	400mS	600mS	800mS	1000mS
4-7	Parking light flash interval during RS	10sec	20sec	40sec	60sec
4-8	Aux 1 and Aux 2 Control iDataLink Modules (Sliding Doors)	Off	Unlock, Factory Disarm, and Sliding Door Control	Factory Disarm and Sliding Door Control Only	
4-09	Door Input Polarity	(-) Door Input	(+) Door Input		
4-10	Trigger Start System Input	(+) Trigger Start input	(+) Ignition input	(+) keysense input	(+) Glow Plug Input
4-11	Drone or Fortin Data Port (gray Plug)	Drone (gray 4Pin)	Fortin (gray 4Pin)		
4-12	Impact Sensor	DAS Sensor	FT Shock	1st Stage Disarm Input 2nd Stage Double Arm Input	FT Shock II
4-13	Antenna Power Save	OFF	1 Day Later	2 Days Later	3 Days Later
4-14	Low Battery Warning	ON (at 11.7 Volts)	Low Batt Start (11.7 V)	OFF	
4-15	KP2 Sensitivity	Normal	High	Low	Lowest
4-16	Auto Re-Start	Off	ON w/1 re-start	ON w/2 re-start	

Special Option group #1

S-#1	Special feature group 1	Setting Value
1	Diesel timer	3 ~ 99 [seconds]
2	AUX1 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes] (with OP500 update .31+)
3	AUX2 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes] (with OP500 update .31+)
4	AUX3 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes] (with OP500 update .31+)
5	AUX4 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes] (with OP500 update .31+)
6	AUX5 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes] (with OP500 update .31+)
7	AUX6 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes] (with OP500 update .31+)
8	AUX7 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes] (with OP500 update .31+)
9	Remote Start Runtime	3 ~ 45 [minutes] (with OP500 update .31+)
10	Cold Start Temperature	-30 ~ 0 [°C] / -22 ~ 32 [°F]
11	Hot Start Temperature	20 ~ 66 [°C] / 68 ~ 150 [°F]
12	Defroster Temperature	0 ~ 13 [°C] / 32 ~ 55 [°F]
13	Assumed Running Crank Time	1 ~ 6 [seconds] (with OP500 update .31+)
14	Secure Start Timer Prog.	1-10 minutes (with OP500 update .36)

Special Option group #2

S-#2	Special Feature group 2	Setting Value			
	Programmable (-) Output Channel	Options			
1	POC #1 (Default: Starter-kill)	2nd LIGHT [1]	Aux1 [10]	Status-2 [19]	Trunk Release [28]
2	POC #2 (Default: Horn)	2nd START [2]	Aux2 [11]	Siren-2 [20]	Starter Kill [29]
3	POC #3 (Default: Lock)	2nd IG1 [3]	Aux3 [12]	Defrost-2 [21]	Hazard light [30]
4	POC #4 (Default: Unlock)	2nd ACC [4]	Aux4 [13]	VAC [22]	RAP [31]
5	POC #5 (Default: Disarm)	STATUS [5]	Aux5 [14]	Hazard light 2 [23]	Secure Start N/O [32]
6	POC #6 (Default: Rearm)	REARM [6]	Aux6 [15]	Aux3 w/RFID Unlock [24]	Secure Start N/C [33]
7	POC #7 (Default: Trunk Release)	DISARM [7]	Aux7 [16]	Lock [25]	
8	POC #8 (Default: Status)	HORN [8]	Defrost [17]	Unlock [26]	
		DOME LIGHT [9]	GWA [18]	Priority Unlock [27]	

Special Option group #3

S-#3	Special Feature group 3	Setting Value		
	Programmable (-) Input Connector	Optional		
1	PIC #1 (Default: (-) E-Brake Input)	(-) E- Brake Input [1]	(N/C) Trunk Input [9]	(-) IGN & Sensor Bypass Input [17]
2	PIC #2 (Default: (-) Trunk Input)	(-) Trunk Input [2]	(N/C) Key Sense Input [10]	(-) AUX 1 trigger input [18]
3	PIC #3 (Default: (-) Keysense input)	(-) Key Sense Input [3]	(N/C) Hood Input [11]	(-) AUX 2 trigger input [19]
4	PIC #4 (Default: (-) door input)	(-) Hood Input [4]	(N/C) Door Input [12]	(-)Closed Loop Input [20]
5	PIC #5 (Default: (-) Hood)	(-) Door Input [5]	(-) Pre-warn Input [13]	(-)Closed Loop Input [21]
6	PIC #6 (Default: (-) Pre-warn)	(-) Trigger Start Input [6]	(-) Instant Trigger Input [14]	(-) Valet Input [22]
7	PIC #7 (Default: (-) Instant Trigger)	(-) Glow Plug Input [7]	(-) Arm Input [15]	
		(-) Disable Arm/Disarm/Trigger Start input [8]	(-) Disarm Input [16]	

Special Option group #4

S-#4	Special Feature group 2	Setting Value			
	High Current Programable (+) Output Channel	Options			
1	HCP #1 (Default: Parking light) 10A MAX OUPUT	2nd LIGHT [1]	DOME LIGHT [9]	N/A	Lock [25]
2	HCP #2 (Default: ACC) 20A MAX OUTPUT	2nd START [2]	AUX 1 [10]	N/A	Unlock [26]
3	HCP #3 (Default: Ignition) 20A MAX OUTPUT	2nd IG1 [3]	AUX 2 [11]	N/A	N/A
4		2nd ACC [4]	N/A	Siren-2 [20]	Trunk Release [28]
5		STATUS [5]	N/A	N/A	N/A
6		REARM [6]	N/A	N/A	N/A
7		DISARM [7]	N/A	N/A	N/A
8		HORN [8]	N/A	Aux3 (RFID Unlock) [24]	

Feature Option Descriptions

FO = Feature Option

1-01 Unlock before, Lock after:

FO1 - Off

FO2 - On: Sends an unlock command as soon as the remote start sequence is triggered then send a relock command as soon as the CMX has confirmed remote start success.

FO3 - Lock after start only: Sends a lock command after the CMX has confirmed remote start success.

FO4 - Lock after shutdown only: will send a lock command only after the CMX has successfully shut down. *Note: It will not provide an output if the CMX is shut down with an emergency override input. (i.e. hood pin, or foot brake input)*

1-02 Door Lock/Unlock output Pulse Duration: This does not affect the behavior of the factory arm output (orange wire) or factory alarm disarm output (orange/white wire).

FO1 - 0.8 seconds: (-) Negative lock and unlock output time.

FO2 - 2.5 seconds: (-) Negative lock and unlock output time.

FO3 - 0.125 seconds: (-) Negative lock and unlock output time. This option may be helpful when using lock/unlock to arm/disarm vehicles that may roll windows down with factory Arm/Disarm wires when the standard output is too long.

FO4- 3.5 seconds: (-) Negative lock and unlock output time.

1-03 Driver's Priority Unlock:

FO1 - Off: (default)

FO2 - On: This feature will allow the user to unlock the driver's door first. If the unlock button is pressed again within 4 seconds, the other doors will unlock. The driver's door unlock must be isolated from the other doors and use the blue (-) unlock. The Orange/Black (-) 2nd unlock (POC setting) is used to provide unlock output to unlock all other doors.

1-04 Double Pulse Unlock:

FO1 - Off: (default)

FO2 - Unlock: This option will provide a double pulse output **only** for unlock each time the CMX executes the unlock command. (Length of output time will be based on feature 1-02 option settings.)

FO3 - Lock: This option will provide a double pulse lock output **only** for lock each time the CMX executes the lock command. (Length of output time will be based on feature 1-02 option settings.)

FO4 - Lock and unlock: This option will provide a double pulse lock output for both lock and unlock each time the CMX executes lock or unlock commands. (Length of output time will be based on feature 1-02 option settings.)

1-05 Rearm Output: Factory Alarm Arm (FAA) output function options

FO1 - After start, after shutdown, after first lock: This option triggers the FAA after every successful remote start, every successful remote start shut down, and with every first lock command. (First lock command is the first arm/lock command sent after the CMX has been disarmed or unlocked.)

FO2 - After shut down only and first lock: This option triggers the FAA after every successful remote start shut down, and with every first lock command. (First lock command is the first arm/lock command sent after the CMX has been disarmed or unlocked.)

FO3 - After Start only: This option triggers FAA after every successful remote start.

FO4 - After shutdown only: This option triggers the FAA after every successful remote start shut down.

1-06 N/A: **This feature has been removed please see features 2-14 and 2-15 for reservation mode options**

1-07 Unlock / Disarm with Trunk Release:

FO1 - Unlock, Factory Alarm Disarm (FAD) trunk release: This option will send unlock and FAD outputs prior to sending the Trunk release output. This applies to analog and data to data situations.

FO2 - Factory Alarm Disarm (FAD) with trunk release: This option will send the FAD output prior to sending the trunk release output. This applies to analog and data to data situations.

FO3 - Trunk release only: This option will only send the trunk release output when triggered. This applies to analog and data to data situations.

1-08 Passive Arming: When using any passive arming option, **the user must also activate “Passive” feature using a Firstech remote or Drone (please check specific remote user ’s manual for steps to activate passive)**

FO1 - OFF: (default)

FO2 - Passive locking with passive arming: This option when passive is activated, will send lock/arm outputs to lock/arm the CMX 30 seconds after the last zone is closed. The CMX will flash the parking lights and chirp the siren 1 time every 10 seconds 3 times total as a warning that it is going to Arm/lock itself.

FO3 - No lock output with Passive arm: This option, when passive arm feature is activated, will **NOT** send the lock command one the CMX has passively armed itself. The CMX will flash the parking lights and chirp the siren 1 time every 10 seconds 3 times total as a warning that it is going to arm itself.

FO4 - “Passive Locking/Arming with RFID”: This option will allow the Passive locking with Passive arming to LOCK/ARM the system 15 seconds after an RFID capable remote has left proximity of the antenna. **IF THE REMOTE IS WITHIN RANGE OF THE ANTENNA FOR 5 MINUTES OR MORE, CMX WILL STOP THE PASSIVE ARMING SEQUENCE.**

ANY ACTION FROM A FIRSTECH REMOTE, DRONE, KP SENSOR, IGNITION ON, OR ZONE OPEN WILL AUTOMATICALLY RE-START THE PASSIVE ARMING SEQUENCE.

1-09 Ignition Controlled Locks (**DRIVE LOCK**): When FO 2-4 are selected, **the user must also activate the “drive lock” or ignition-controlled door locking feature using a Firstech remote or Drone. (Please check specific remote user ’s manual for steps to activate Drive lock.)**

FO1 - Off: (default)

FO2 - On: This option (when activated with the Firstech remote or Drone) will provide a door lock output when the foot brake is applied, or 12 Volts is applied to the foot brake input on the CMX. The CMX will also provide a door unlock output as soon as the key is turned off or **the parking brake is set (must have parking brake input connected or provide parking brake input from data module)**

FO3 - RPM locking: (*Tach input is required for this option to operate properly.*) This option will provide a door lock output at approximately 20% RPM over the programmed idle tach output. (i.e. program tach at 1000 rpm and doors will lock at a sustained 1200 rpm when moving.) The CMX will also provide a door unlock output as soon as the key is turned off or **the parking brake is set (must have parking brake input connected or provide parking brake input from data module)**

1-10 Auto Relock:

FO1 - Off: (default)

FO2 - 30 seconds: This option allows the CMX to automatically relock/rearm 30 seconds after CMX has been disarmed/unlocked **only if no zones have not been opened.**

FO3 - 60 seconds: This option allows the CMX to automatically relock/rearm 60 seconds after CMX has been disarmed/unlocked **only if no zones have not been opened.**

FO4 - 5 minutes: This option allows the CMX to automatically relock/rearm 5 minutes after it has been disarmed/unlocked **only if no zones have not been opened.**

1-11 Ignition / Accessory Upon Unlock: This feature will provide an Ignition/Accessory output with unlock/disarm command. (**NOTE: will not provide pulse output with disarm before remote starting**)

FO1 - Off: (default)

FO2 - Ignition (+) and (-) pulse output with disarm: This option will pulse both (+) and (-) ignition wires upon unlock/disarm. *Most new Ford vehicles require ignition pulsed + immobilizer with unlock to disarm the factory alarm.*

FO3 - Accessory (+) and (-) pulse output with disarm: This option will pulse both (+) and (-) accessory wires upon unlock/disarm.

FO4 - Ignition (+) and (-) pulse and Accessory (+) and (-) pulse output with disarm: This option will pulse both (+) and (-) ignition and accessory wires upon unlock/disarm. *Some new Ford vehicles require ignition and accessory pulsed + immobilizer with unlock to disarm the factory alarm.*

Important: Also used in cases where the vehicle's radio may turn on and stay on until the door is opened when accessory is pulsed.

1-12 OEM Remote status update: This feature disables the arming, disarming, and remote start confirmation updates to any Firstech 2 Way LCD when using an OEM remote.

FO1 - Off: (default) This feature disables the page back update to the 2 Way Firstech remote when your interface module provides OEM remote status updates to the CMX.

FO2 - On: This option will enable the remote page back to update the CM status when using an OEM remote. This feature is only available when CM is used with a compatible interface module (Blade AL, ALCA)

1-13 Double pulse disarm: This feature enables the FAD output. It will pulse 2 times with a single disarm command.

FO1 - Off (default): Standard single pulse output on the FAD wire. (orange/white by default)

FO2 - On: This feature will generate a double pulse output on the FAD wire.

1-14 FT- RFID Function: This feature covers the RFID unlock options. (Please refer to the FT-RFID section of this manual for specific operation instructions and antenna mounting locations)

FO1 - Unlock “unlock once armed” (default): (The CMX must be in an armed state for this option to function) This option will enable the FT-RFID proximity unlock/disarm feature after activating with a Firsttech RFID enhanced remote. (Refer to the FT-RFID section of this manual for specific operating instructions). The CMX will be ready to send the disarm/unlock command 12-15 seconds after the system has been armed using a Firsttech remote or accessory (RPS, Drone, OEM remote input). Approximately 12 seconds after armed, the system will look for the RFID enhanced remote and disarm/unlock once the remote enters the proximity field.

FO2 - FTX Unlock “always unlock”: This option will enable the FT-RFID proximity unlock feature after activating with a Firsttech RFID enhanced remote. The CMX will always send the unlock/disarm output when the remote enters/re-enters the proximity field regardless of the current state of the CMX. (i.e. armed/locked-disarmed/unlocked). Once the remote leaves the proximity field, it will be set to send the unlock/disarm output as soon as it enters/re-enters. *Note: because the ANT-2WSF antenna is always searching for the remote, it will produce more current draw than the standard RFID unlock option 3.*

FO3 – Off: No RFID functions are available by default.

1-15 Trunk Output Timing: This feature determines the length of output time for the (+) or (-) analog trunk release wire.

FO1 - 1 Second: (default) Will provide a 250mA (-) negative output for 1 second on any POC that is programmed for trunk release or setting 28.

FO2 - 2 Seconds: FO1- 1 Second: (default) will provide a 250mA (-) negative output for 2 seconds on any POC that is programmed for trunk release or setting 28.

FO3 - 3 Seconds: FO1- 1 Second: (default) will provide a 250mA (-) negative output for 3 seconds on any POC that is programmed for trunk release or setting 28.

FO4 - 4 Seconds: FO1- 1 Second: (default) will provide a 250mA (-) negative output for 4 seconds on any POC that is programmed for trunk release or setting 28.

1-16 Siren/Horn mute control: this feature allows the installer to enable or disable the siren/horn mute control. The mute feature will silence the siren or horn during arm, disarm, and start from the Firsttech remote.

FO1 - Disabled: (default) will **not allow** for the Firsttech remote or Drone Mobile to mute the siren or horn output.

FO2 - Enabled: this option will **allow** the end user to activate or deactivate the arm/disarm chirps using a Firsttech 4/5 button remote or Drone Mobile. **NOTE: once “Mute” feature is enabled the “Pre-Warn” output triggered from any additional alarm sensors will be muted/silenced as well.**

FO3 – Silent ALARM: This option will allow the user to activate or deactivate the arm/disarm/pre-warn chirps using a Firsttech 4/5 button remote or Drone Mobile. In this mode the alarm once sounded will be “silent” with no visible or audible notifications from the vehicle. There will be notifications sent to the Drone Mobile or 2Way LCD remotes that may be in range. This will allow the user to be notified of the alarm sounding without alerting anyone around the vehicle.

2-01 Tach Threshold: This feature will determine the threshold used to determine the point at which the CMX releases the starter based on the sampled tach signal.

FO1 - Optimal Tach reading: This option will allow the CMX to sample the tach signal several times during tach programming and select the optimal tach voltage at which to release the starter.

FO2 - Previous tach reading: This option will set the CMX to record the idle voltage which it is being programmed. The CMX will release the starter once the idle tach voltage is met.

2-02 Turbo Timer Mode: **(This feature requires door and e-brake input)** This feature allows the user to activate Turbo Timer Mode with their Firsttech remote or accessory. This will keep the engine running after removing the key for the specified time selected below. *(Please check specific remote or accessory user 's manual for steps to enable Turbo Timer Mode)*

FO1 - Off: (default)

FO2 - 2 Minutes: This option allows for a 2-minute run time after Turbo Mode has been engaged. To engage, set the e-brake, remove key, exit vehicle, and lock with the Firsttech remote or accessory. *Note: when using Turbo Mode with a manual transmission, the CMX will NOT lock the doors automatically. The system must be locked using the Firsttech remote or accessory.*

FO3 - 1 minute: This option allows for a 1-minute run time after Turbo Mode has been engaged. To engage, set the e-brake, remove key, exit vehicle, and lock with the Firsttech remote or accessory. *Note: when using Turbo Mode with a manual transmission, the CMX will NOT lock the doors automatically. The system must be locked using the Firsttech remote or accessory.*

FO4 - 4 minutes: This option allows for a 4-minute run time after Turbo Mode has been engaged. To engage, set the e-brake, remove key, exit vehicle, and lock with the Firsttech remote or accessory. *Note: when using Turbo Mode with a manual transmission, the CMX will NOT lock the doors automatically. The system must be locked using the Firsttech remote or accessory.*

2-03 Diesel wait to start: *Note: OP500 required to adjust time from any of the default settings, will show up as DISL on the top line of text when option 2 or 3 are enabled.* This feature provides a timed alternative solution to a hard-wired glow plug input to enable the CMX to wait to start.

FO1 - Wire: (default) This option will allow the CMX to read input on brown/white wire (PIC3), or PINK wire pin 14, CN5. Either input must be programmed to “glow plug input” It may be connected to a wait to start indicator on the vehicle. When the CMX sees input, it will delay the crank output for up to 99 seconds or until signal has been removed.

FO2 - Program (3-99 seconds): default setting is 12 seconds. This option allows the installer to adjust the time in 1 second increments that the CMX waits before cranking the starter.

FO3 - 7 seconds: This option offers a fixed 7 second delay before providing starter output.

FO4 - GM Ignition delay: This option is designed to delay the ignition output 250mS during the remote start procedure. This allows for the accessory to output first, then ignition, to simulate normal key starting. There are some vehicle models that may require this additional delay in order for it to remote start properly.

2-04 Trigger **Start:** This feature changes the number of pulsed inputs (min of 60mS per pulse) required to activate the remote start sequence using the trigger start input wire. (Pink wire, pin 14, CN5). **Note: If option 4 is selected and OEM remote control feature is available through data, the Control Module will accept 3 OEM lock commands to activate the start sequence.**

FO1 - Off: (default)

FO2 - Single pulse: This option will trigger the remote start sequence with a single pulsed input to the trigger start wire. This is ideal when adding accessories that can trigger the CMX.

FO3 - Double pulse: This option will trigger the remote start sequence with 2 pulses to the trigger start input wire. This can be used when integrating with an OEM keyless entry remote.

FO4 - Triple pulse: (MUST BE USED WHEN 3X's LOCK IS DESIRED) This option will trigger the start sequence with 3 pulses to the trigger start input wire. This is ideal when trying to integrate the OEM keyless entry remote. Note: this option will also allow the CMX to accept a 3-pulse input from OEM remote commands through data.

2-05 Cold or Hot Start: **Note: the Firstech thermistor temp sensor must be connected to the CMX in order to use these options.** This feature turns on the cold/hot Timer start features.

FO1 - Off: (default)

FO2 - Cold start: This option enables the thermistor when using Timer Start Mode. It will start the car at the preset cold temperature (see feature 2-08) according to the selected timer start option (see feature 2-06)

FO3 - Hot Start: This option enables the thermistor when using Timer Start Mode. It will start the car at the preset hot temperature (see feature 2-09) according to the selected timer start option. (see feature 2-06)

FO4 - Cold and Hot start: This option enables the thermistor when using Timer Start Mode. It will start the car at the preset Cold and Hot temperature (see features 2-08 and 2-09) according to the selected timer start option (see feature 2-06)

2-06 Timer Start: This feature is designed to allow the user to have the CMX automatically remote start at the end of a selected timed cycle. It also be controlled by the thermistor, or a selected time by 2 way remote, so it will start at a specified temperature at the end of the timed cycle or a specific time.

FO1 - 3-hour cycle: (4-minute runtime, 8-minute runtime for diesel) Once Timer Mode is enabled (see feature 2-13) the CMX will wait 3 hours, remote start and run for 4 minutes unless the cold start feature is enabled. If this is the case, the CMX will check the temperature once every 3 hours. If it is at or below the selected temperature, (see feature 2-08) it will start and run for 4 minutes. The same procedure will apply to the hot start feature. If there is any interaction with the CMX after timer mode has been activated using the Firstech remote or accessory, timer mode will be cancelled and must be re-started to start a new timed cycle.

FO2 - 2 hour repeat with cold starting: (runtime based on feature 2-07 option setting and cold start setting based on feature 2-08) Note: 2-way LCD remote required. This option is designed to monitor the temperature 2 hrs. After timer mode is set and start if it is at or below the preset cold start temperature (see feature 2-08). This process will continue until the user manually starts or remote starts the vehicle.

FO3 - Reserved Timer: (runtime based on feature 2-07 option setting) Note: 2-way LCD remote required. This option will allow the user to set a predetermined time to remote start on the 2 ways LCD remote. Once the timer mode is activated it will start the countdown timer on the CMX based on the difference of time between what the remote clock is set to and the timer mode time is set to. **(NOTE: Must be a minimum of 20 minutes from current time displayed on the remote.)**

I.e. remote time reads 7:00pm and timer mode time is set to 7:00 am the CMX will activate the timer mode to go for 12hours before it starts. Note: it is important that the remote time is as accurate as possible when activating the timer mode to ensure that it will start at the desired time. If there is any interaction with the vehicle or system after timer mode has been activated, it will cancel the timer.

FO4 - 24 hour repeat with cold starting: (runtime based on feature 2-07 option setting and cold start setting based on feature 2-08) Note: 2-way LCD remote required. This option is designed to monitor the temperature 24 hrs. After timer mode is set and start if it is at or below the preset cold start temperature (see feature 2-08). This process will continue until the user manually starts or remote starts the vehicle.

2-07 Remote Start Runtime: This feature consists of four different settings for the remote start run time.

FO1 - 15 minutes (default)

FO2 - 25 minutes

FO3 - 45 minutes

FO4 – 3-minute (default) PROGRAMMABLE: 1-45 Minutes at 1-minute increments (using the OP500 programmer with software v.30 or newer that can be found at www.install.myfirsttech.com)

2-08 Cold start Temperature: This feature allows the user 4 different temperature settings for cold start operation

FO1 - 14°F/-10°C: will activate the start sequence at the end of the time cycle (set by feature 2-06 option setting) if temperature is at or below this temperature.

FO2 - -4°F/-20°C: will activate the start sequence at the end of the time cycle (set by feature 2-06 option setting) if temperature is at or below this temperature.

FO3 - 23° F/-5° C: will activate the start sequence at the end of the time cycle (set by feature 2-06 option setting) if temperature is at or below this temperature.

FO4 - 5° F/-15° C (default) PROGRAMMABLE -30 ~ 0 [°C] / -22 ~ 32 [°F]: (using the OP500 programmer with software v.30 or newer that can be found at www.install.myfirsttech.com) will activate the start sequence at the end of the time cycle (set by feature 2-06 option setting) if temperature is at or below this temperature.

2-09 Hot Start Temperature: This feature allows the user 4 different settings for hot start operation

FO1 - 77° F/25° C: will activate the start sequence at the end of the time cycle (set by feature 2-06 option setting) if temperature is at or above this temperature.

FO2 - 86° F/30° C: will activate the start sequence at the end of the time cycle (set by feature 2-06 option setting) if temperature is at or above this temperature.

FO3 - 95° F/35° C: will activate the start sequence at the end of the time cycle (set by feature 2-06 option setting) if temperature is at or above this temperature.

FO4 - 104° F/40° C (default) PROGRAMMABLE 20 ~ 65 [°C] / 68 ~ 150 [°F]: (using the OP500 programmer with software v.30 or newer that can be found at www.install.myfirsttech.com) will activate the start sequence at the end of the time cycle (set by feature 2-06 option setting) if temperature is at or above this temperature.

2-10 Engine Sensing: This feature determines how the CM will monitor the state of the engine (running or not running), release the starter output, and consider the vehicle running. Every CMX is shipped in manual transmission mode. Tach sensing is our default engine sense option.

FO1 - Tach: This option uses a hard-wired input (yellow/black CN3 connector) or data signal from a compatible interface module to read the vehicles RPM's to release the starter during the remote start process and determine that the engine is running

FO2 - Alternator: This option uses the hardwired tach input (yellow/black CN4 gray connector) to read the voltage output from the vehicles stator wire to release the starter during the remote start process and determine that the engine is running. *Note: with late model computer-controlled alternators, the peak charging voltage may not be reached for several seconds after the vehicle is running. This may make this option inconsistent when the battery is low or very cold.*

FO3 - Tachless Mode – (Automatic Transmission Vehicles Only)

Tachless sensing is an alternative engine sensing mode. It does not require a connection to the vehicle other than the main ignition harness. **Note: due to the delayed peak charging found with most late model computer-controlled alternators, this feature may not be reliable.**

FO4 - No Connection Assumed running: Note: can only be used with automatic transmission. **This option provides a programmable timed starter output (1-6 seconds) (programmability only available with OP500 v.31+ update)** (default to 3 seconds), then leave the rest of the CMX ignition and accessory outputs on and assuming the vehicle is running. *Note: This is a good option for (PTS) Push to Start applications and Hybrid vehicles (except manual transmission).* **NOTE: This option will have a “system check” when enabled when feature 2-11 is set to option 2. This will check the system 2 minutes after remote start confirmation. If the system is above 12.5 VDC the CM will stay running. If the system is 12.5 VDC or lower the CM will shut down.**

2-11 Advanced Tachless: This feature when used in conjunction with feature 2-10 option 3 will provide an enhanced Tachless engine sensing mode.

FO1 - Off: (default)

FO2 - On: this option will enable the advanced algorithm to allow the CMX to release the starter and consider the vehicle running. This option is better suited for late model computer-controlled vehicles or older vehicles with poor starting conditions. **Note: feature 2-10 must be set to option 3 or 4 for it to work properly. NOTE: Option 2 will enable the system check for feature 2-10 option 4. please see 2-10 FO4 for details***

2-12 Crank Time: This feature allows the user to add or remove crank time to the selected option for feature 2-10 (engine sense).

FO1 - Standard: (default crank time no change).

FO2 - +200mS: To standard crank time of option selected on feature 2-10.

FO3 - +600mS: Adds 600 milliseconds to standard crank time of option selected on feature 2-10.

FO4 - (-)200mS: releases the starter output 200 Milliseconds earlier than standard crank time of option selected on feature 2-10.

2-13 Timer Mode: (Note: Must be set to on to operate timer mode). This feature enables the user to activate and deactivate Timer Mode (see option 2-06) using the Firstech remote or accessory (see the user manual for that remote for instructions).

FO1 - Off: (default)

FO2 - On: user must still activate timer mode using their Firstech remote or accessory.

FO3 – START with Alert: This option when enabled will allow for the remote start to activate and will also send an extreme temp alert (**based on features 2-05, 2-06, 2-08, 2-09 option setting**) to a programmed Firstech 2-way LCD remote or Drone in the form of “**CAR CALL**” (*user must still activate timer mode using their Firstech remote or accessory*)

FO4 – Alert ONLY: This option when enabled will ONLY send an extreme temp alert (**based on features 2-05, 2-06, 2-08, 2-09 option setting**) to a programmed Firstech 2-way LCD remote or Drone in the form of “**CAR CALL**” (*user must still activate timer mode using their Firstech remote or accessory*)

2-14 **Reservation Mode “Enter with”: ATTENTION: YOU MUST select a reservation “enter with” option in order to enable manual transmission capabilities.

This feature will allow the user to customize the process used to enter reservation mode (manual transmission set up mode) Once user has entered reservation mode there is a **5-minute** window to “set” or complete reservation mode before the CM cancels reservation mode. **Warning: DO NOT CUT THE LOOP FOR MANUAL TRANSMISSION VEHICLE Manufacturer or seller assumes no responsibility for any injuries and/or damages caused by this improper conversion and transform of the product done by a user voluntarily.**

FO1 – OFF (Automatic transmission) (default): This will disable reservation mode and should be used for Automatic transmission vehicles.

FO2 – Parking/E-Brake set: When set to this option, when the CM sees the parking/E-Brake input (analog or through data) it will activate the necessary ignition, accessory outputs and interface module, to leave the vehicle running and enter manual transmission reservation mode.

FO3 – Parking/E-Brake set + Hold Start button for 2.5 seconds: When set to this option, the CM will need Parking/E-Brake input (analog or through data) AND a start command from a remote (hold start button for 2.5 seconds) to activate the necessary ignition, accessory outputs and interface module, to leave the vehicle running and enter manual transmission reservation mode.

FO4 – 2x’s Parking/E-Brake: (requires action) Set => Release => Set (within 7 seconds): When set to this option, the CM will need Parking/E-Brake input (analog or through data) set then release then set again within 7 seconds to activate the necessary ignition, accessory outputs and interface module, (if foot brake input is applied during this process the CM will enter reservation mode as soon as it is released) to leave the vehicle running and enter manual transmission reservation mode.

NOTE: When using this option “IDLE MODE” is available. To activate Idle Mode, set E-Brake 1 time, then hold the remote start button on the remote for 2.5 seconds. The system should flash the parking lights 1 time to indicate Idle mode has been engaged. The driver may now exit the vehicle leaving it running for as long as needed.

2-15 Reservation Mode “Sets With”: This feature will allow the user to customize the process used to complete reservation mode (manual transmission set up mode) see below for options.

FO1 – Last Door Closed (doors lock before shutting down): (default) *(actions required within 5 minutes)* This option will shut the vehicle off once the last door/zone has closed and lock the doors a few seconds **BEFORE** the engine shuts off. This will complete the reservation mode and allow the manual transmission vehicle to start. **NOTE: If one of the connected zones are opened the reservation state will be cancelled and must be set up again.**

FO2 – Last Door Closed AND LOCK command: *(actions required within 5 minutes)* This option will shut the vehicle off once the last door/zone has close **AND** a **LOCK** command has been sent. This will complete the reservation mode and allow the manual transmission vehicle to start. **NOTE: If one of the connected zones are opened the reservation state will be cancelled and must be set up again.**

FO3 – 10 seconds after the Last Door Closed OR LOCK command: *(actions required within 2 minutes)* This option will shut the vehicle off 10 seconds after the last door/zone has close *(allowing the user to access other parts of the vehicle in case there are belongings that need to be removed before reservation mode is set)* **OR** after the last door is closed and a lock command is sent. This will complete the reservation mode and allow the manual transmission vehicle to start. **NOTE: If one of the connected zones are opened the reservation state will be cancelled and must be set up again.**

FO4 – Last Door Closed (doors lock after shutting down): (default) *(actions required within 5 minutes)* This option will shut the vehicle off once the last door/zone has closed and lock the doors a few seconds **AFTER** the engine shuts off. *(this can be used when the vehicles door will not lock properly while the remote start is shutting down)* This will complete the reservation mode and allow the manual transmission vehicle to start. **NOTE: If one of the connected zones are opened the reservation state will be cancelled and must be set up again.**

2-16 Force Remote Start shutdown: This feature will allow the user to have the remote start automatically shut down as soon as there is a door zone opened.

FO1 – OFF (default)

FO2 – DOOR OPEN: This option will shut down the remote start when door zone is opened.

FO3 – With UNLOCK Command: This option will shut down the remote start when receiving an unlock command. *NOTE: If there is no unlock command or it fails the remote start will shut down with door open.*

3-01 Parking Lights while Remote Started: This feature changes the parking light behavior during remote start.

FO1 - Constant output: This option will keep the parking light output (+ and -) on steady throughout the entire runtime (runtime based on feature 2-07 selection)

FO2 - Flashing output: This option will flash the parking light output (+ and -) throughout the entire runtime (runtime based on feature 2-07 selection)

FO3 - Off: This option turns the parking lights off while the vehicle is remote started.

FO4 - Off with lock and unlock only: This feature is designed to eliminate redundant parking light flash with lock/unlock when interface module flashes the parking lights controlling the Factory security. This will provide parking light output with remote start and troubleshooting diagnostics.

3-02 Confirmation chirps: This feature will allow the user to select a shorter **siren or horn** output time to simulate a quieter arm/disarm/start output.

FO1 - 30mS: This is a 30 millisecond siren output with arm, disarm, and start confirmation chirps. It will produce a “medium” volume sound. (Softer than the standard 60mS output)

FO2 - 15mS: This is a 15-millisecond siren output with arm, disarm, and start confirmation chirps. It will produce a “short” or quiet volume of sound. (Significantly softer than the standard 60mS output)

FO3 - 60mS: This is a standard 60 millisecond siren output with arm, disarm, and start confirmation chirps.

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.

FO1- Off: (default)

FO2 - 5 seconds: This option will delay the door trigger input for 5 seconds when arming the system to account for any vehicle dome light output delay.

FO3 - 45 seconds: This option will delay the door trigger input for 45 seconds when arming the system to account for any vehicle dome light output delay.

FO4 - Auto: This option will allow the CMX to wait for a change in polarity on the door input circuit, after the system has been armed, to monitor for security.

3-04 Starter-Kill: This option determines the operation of the GWA wire (POC 1 CN4 Pin 1 Blue/white)

FO1 - Anti grind + Starter interrupt: this option will allow for the Starter Kill wire to provide a negative output when the system is armed or remote started. This will enable a starter interrupt to prevent the vehicle from being started with the key when in an armed state or grinding the starter during a secure remote start take over.

FO2 - Anti Grind only: This option will allow the Starter Kill wire to provide a negative output when the system is remote started which can be used to enable starter interrupt and prevent the user from grinding the starter during secure remote start take over.

FO3 - Anti Grind and passive starter interrupt: This option will allow for Starter Kill wire to provide a negative output when the system is remote started, or the passive starter interrupt is engaged. This will prevent the user from grinding the starter during secure remote start take over, and enable starter interrupt 45 seconds after the ignition has been turned off.

3-05 Anti-Jacking: Note: this feature requires the starter-kill relay to be wired to the ignition vs. the starter wire. This feature will allow the CMX to interrupt the ignition wire if panic mode is activated while the vehicle is running with the key.

FO1 - Off: (default) anti-carjacking feature is not enabled, and the starter interrupt will operate based on feature 3-04 option setting.

FO2 - On: this option will enable the anti-carjacking feature. Make sure the starter interrupt relay is wired to interrupt the vehicle's ignition wire, so the feature will operate as described. While the vehicle is running with the key and the panic mode is activated using any Firstech 4 button or 2-way LCD remote, the CMX will enable the ignition interrupt relay so the vehicle cannot be re-started. Note: When using ignition-kill on manual transmission vehicles feature 3-04 must be set to option2 will need to be utilized. this 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.

3-06 Security Features: This feature will enable or disable the security or remote start features of the CMX. Security features include sensor inputs, monitoring zone inputs while armed, horn, and siren output. Basic features will function normally (lock, unlock, trunk release, remote start, parking lights.)

FO1 – Off (default): This option disables the security features of the CMX allowing it to operate as a remote start only control module.

FO2 - On: This option enables the security features of the CMX allowing it to operate as a remote start and security control module.

FO3 – Alarm Only: This option will disable the remote start function of the CMX allowing it to operate as security only control module.

3-07 Siren Duration: this feature changes the duration of the siren during full alarm.

FO1 - 30 seconds: this option will provide 30 seconds of output (+) on the siren wire (brown CN5) during full alarm.

FO2 - 60 seconds: this option will provide 60 seconds of output (+) on the siren wire (brown CN5) during full alarm.

FO3 - 120 seconds: this option will provide 120 seconds of output (+) on the siren wire (brown CN5) during full alarm.

FO4 - Chirps for 20 seconds: this option will provide 20 seconds of pulsed output (+) on the siren wire (brown CN5) during full alarm.

3-08 Horn output: This feature controls the horn output behavior during Arm, Disarm, and Remote Start. (POC 2 White wire or POC setting #8)

FO1 - On double lock only: (default) this option is designed to simulate a factory keyless entry system by providing a horn output pulse (based on the option selection of feature 3-02) each time the lock command is sent a second time within 8 seconds of the first lock command.

FO2 - On lock and Unlock only: this option will provide a horn output pulse (based on the option selection of feature 3-02) with each lock or unlock confirmation.

FO3 - On lock, Unlock, and Start: this option will provide a horn output pulse (based on the option selection of feature 3-02) with each lock, unlock, remote start command and remote started confirmation.

FO4 - On double lock and Start: this option is designed to simulate a factory keyless entry system by providing a horn output pulse (based on the option selection of feature 3-02) each time the lock command is sent a second time within 8 seconds of the first. In addition, it will provide a horn output pulse with remote start command and remote started confirmation.

3-09 Siren output: This feature controls the siren (+) output behavior during Arm, Disarm, and Remote Start.

FO1 - On lock, Unlock, and Start: (default) this option will provide a (+) siren output pulse (based on the option selection of feature 3-02) with each lock, unlock, remote start command and remote started confirmation.

FO2 - On double lock only: This option is designed to simulate a factory keyless entry system by providing a (+) siren output pulse (based on the option selection of feature 3-02) each time the lock command is sent a second time within 8 seconds of the first lock command.

FO3 - On lock and Unlock only: this option will provide a (+) siren output pulse (based on the option selection of feature 3-02) with each lock or unlock confirmation.

FO4 - On double lock and Start: this option is designed to simulate a factory keyless entry system by providing a (+) siren output pulse (based on the option selection of feature 3-02) each time the lock command is sent a second time within 8 seconds of the first. In addition, it will provide a (+) siren output pulse with remote start command and remote started confirmation.

3-10 Valet Mode: This feature will change the enter/exit valet mode procedure based on the option selected.

FO1 - Key 5 times with Foot Brake Trigger or Remote (Lock + Trunk) while Ignition is on: This option allows the user to enter valet mode using either method described. *Note: the user may exit valet mode with their Firstech remote (please check users guide for each remote for valet mode exit procedure), or with the key to ignition or “on” position and press the foot brake 10 times within 10 seconds.*

FO2 - Key 5 times with Foot Brake Trigger or Remote (Lock + Trunk): This option allows the user to enter valet mode using either method described. *Note: the user may exit valet mode with their Firstech remote (please check users guide for each remote for valet mode exit procedure), or with the key to ignition or “on” position and press the foot brake 10 times within 10 seconds.*

FO3 – (-)NEG Valet Input: This option will allow a (-)PIC set to 22 “Valet Input” to be used as a wired Valet mode enter/exit option. When this option is selected the previous Valet enter/exit options will no longer work, except when using Drone Mobile.

This input will require (-)NEG input for 5 seconds minimum, followed by 5 (-)NEG input pulses to enter/exit Valet mode.

Any PIC set to Valet Input can be connected to a momentary or latching toggle switch mounted somewhere in the vehicle. **NOTE: When using this option for security purposes, make sure the switch is mounted in a discreet location, but it also must be accessible to the user.**

3-11 Auxiliary 3-7 Enable: (2 Way LCD remote required) this feature enables access to AUX 3 through 7 via any Firstech 2-way LCD remote.

FO1 - Off: (Default) This option will prevent the user from activating AUX 3-7 with the Firstech 2way LCD remote.

FO2 - On: This feature will allow the user to enable AUX 3-7 which can be activated using a Firstech 2-way LCD remote. (Please refer to the remote users guide for specific AUX 3-7 activation process)

3-12 VAC: (thermistor required) this determines the temperature at which the CMX will provide an output on any POC programmed with setting 22(VAC: Ventilation-Air Conditioning) which can be used to vent windows, activate AC controls, or cooling seats.

FO1 - 100°F: This option will provide a pulsed output on any POC programmed with setting 22 (VAC) if the temp sensor reads at or above 100°F with remote start confirmation.

FO2 - 90°F: This option will provide a pulsed output on any POC programmed with setting 22 (VAC) if the temp sensor reads at or above 90°F with remote start confirmation.

FO3 - 80°F: This option will provide a pulsed output on any POC programmed with setting 22 (VAC) if the temp sensor reads at or above 80°F with remote start confirmation.

FO4 - 90°F: Latched output: this option will provide a latched output for the selected runtime on any POC programmed with setting 22 (VAC) if the temp sensor reads at or above 90°F.

3-13 Defrost output Temperature Control: This feature will determine the temperature at which the CMX will provide an output on any POC programmed with setting 17 or 21 (defrost and defrost 2).

FO1 – Standard (activate with every start): (Default) this option will provide an output (length of output based on feature 3-13 option settings) on any POC programmed with setting 17 (defrost) or 21 (defrost 2) every time with remote start confirmation.

FO2 - 32°F: (thermistor required) this option will provide an output on any POC programmed with setting 17 (defrost) or 21 (defrost 2) with remote start confirmation on. This will happen if the temp reading is at or below 32°F. (Length of output based on feature 3-13 option settings)

FO3 - 42°F (default) PROGRAMMABLE 0°C/32°F ~ 13°C/55°F: (thermistor required) this option will provide an output on any POC programmed with setting 17 (defrost) or 21 (defrost 2) with remote start confirmation on. This will happen if the temp reading is at or below 42°F (**default temp**) **but can be programmed up to 55°F (using the OP500 programmer with software v.30 or newer)** (Length of output for POC setting 17, based on feature 3-13 option settings)

FO4 – AUX 1: This option will allow the user to activate/deactivate the Defrost outputs using the AUX 1 function from any Firstech remote or Drone. **NOTE: This feature does not use an AUX output**

3-14 Defrost output Timing: This feature controls the output timing of POC setting 17, defrost. **Note: POC setting 21 defrost 2 is has a fixed pulsed output and is NOT affected by this feature.**

FO1 - 500mS Pulse: This option will provide a 500 Millisecond pulsed output on any POC programmed with setting 17 (Defrost) with timing based off feature 3-12 option setting.

FO2 - 3 minute latched: This option will provide a 3-minute latched output on any POC programmed with setting 17 (Defrost) with timing based off feature 3-12 option setting. (This would be good for any rear-view mirror defrost that may need a short-latched output time.)

FO3 - 7 minute latched: This option will provide a 7-minute latched output on any POC programmed with setting 17 (Defrost) with timing based off feature 3-12 option settings. (This would be good for many front, rear, or rear-view mirror defrost functions that may need a longer latched output time.)

FO4 - Latched for entire runtime: (Remote start runtime based off feature 2-07 option setting) This feature will provide a latched output for the entire remote start runtime on any POC programmed with setting 17 (defrost) with timing based off feature 3-12 option settings. Caution: make sure not to latch rear defrost functions on for too long as it may cause damage to the heating elements in the window.

3-15 Soft Disarm: this feature will enable Factory Alarm Arm (FAA) and Factory Alarm Disarm (FAD) outputs to trigger when silencing the Compustar siren when sounding with full alarm.

FO1 - Off: (Default) this will keep the standard Compustar soft disarm operation. Soft disarm feature allows the user to silence the Compustar siren as its sounding with full alarm without fully disarming the system which may unlock the doors and leave the vehicle unsecure.

FO2 - On: this option will provide a FAD output on both data and analog connections, when the user taps the unlock/disarm once to silence the Compustar system while it's sounding, so it will disarm any factory alarm that may be sounding as well. In case the FAD function unlocks the doors the CMX will send the FAA on both data and analog connections 5 seconds later to make sure the vehicle is re-locked and secure. (This feature works well with GM, Chrysler, Dodge, Jeep, Toyota, Lexus vehicles that may have factory security.)

FO3 – Disarm with 1 press: This option will allow the user to completely disarm the system once it is sounding on the first unlock command. When set to this option the CM will unlock and send the FAD commands on the first disarm/unlock press from a Firstech remote.

3-16 RPS-KP2: (Remote Paging Sensor) this feature sets the RPS-KP2 hardware being used with the CMX.

FO1 - RPS Touch: (default) this option enables the RPS touch functions when using the RPS touch hardware with the CMX. RPS Touch will support a 4 digit code that when entered can be used to arm/lock and disarm/unlock a CMX or page a Firstech remote or accessory. Please refer the RPS section of this manual or the RPS product manual for installation and operation of the RPS touch hardware.

FO2 – KP2: This option enables the latest Keyless entry paging window sensor KP2 function on the CMX. This Sensor will support 4-6 digit code that when entered can be used to arm/lock and disarm/unlock a CMX or page a Firstech remote or accessory.

FO3 - RPS Touch NO LED FLASH WHILE ARMED: This option enables the RPS touch functions when using the RPS touch hardware with the CMX, but the LED WILL NOT FLASH WHILE ARMED.

FO4 – KP2 NO LED FLASH WHILE ARMED: This option enables the KP2 functions when using the KP2 hardware with the CMX, but the LED WILL NOT FLASH WHILE ARMED

3-17 Normally Open (N/O) Secure Start Output Timer: Secure Start feature will provide an output from any POC set to Secure Start N/O [32]. This output will send (-) 250mA for the time selected by one of the options below.

It is designed to be used with our FTI SPTS (secure Push To Start) vehicle disable T harnesses. In its rest state the vehicle disable harness will disable the PTS button until the driver is ready to use it.

NOTE: The Vehicle will not be able to go to ignition on until the system is disarmed/unlocked

Once the CMX is unlocked/disarmed the N/O output will energize the SPTS harness making the PTS button available for use for the preselected time, or until the CMX is armed/locked. **Once Ignition on is detected the output will remain latched until Ignition has been turned off and the preselected time has expired or the system has been armed/lock using a Firstech remote, Drone, KP sensor, OEM remote (supporting idatalink firmware only), or passive arming.**

-NOTE: When using the N/O option be sure to select a timed output that will be most convenient for your customer. IF the timer runs out, they MUST disarm/unlock again to re-activate the Secure Start Output.

-IF the user needs to disable the N/O secure start output for some reason, you can put the CMX into Valet Mode. While in Valet mode the Secure Start Output will activate any time a door is opened, (or when disarmed/unlocked) allowing the PTS button to function normally.

-The (-)NEG Valet Mode Input will need to be enabled to enter/exit Valet mode when using the N/O Secure Start function. The open PTS button will not allow the vehicle to go to ignition on position.

-NOTE: WE strongly recommend disabling the “OEM control of aftermarket security” function when using an Idatalink interface with CMX. This will significantly increase the security of the vehicle.

FO1 – OFF

FO2 – 2 min: once the system is disarmed/unlocked the PTS button will be fully functional for 2 minutes. **IF the timer runs out the user must disarm/unlock again.**

FO3 – 4 min: once the system is disarmed/unlocked the PTS button will be fully functional for 4 minutes. **IF the timer runs out the user must disarm/unlock again.**

FO4 – 10 min (PROG 1-10 min): once the system is disarmed/unlocked the PTS button will be fully functional for 10 minutes. **IF the timer runs out the user must disarm/unlock again. When set to option 4 you may use an OP500 updated with OP500 v .36 (available for download at Firstechdata.com) to change the timer between 1 and 10 minutes using 1-minute increments.**

3-18 Normally Closed (N/C) Secure Start output Timer: The N/C Secure Start feature will provide an output from any POC set to Secure Start N/C [33]. This output will send (-) 250mA for the period of time selected by one of the options below.

It is designed to be used with our FTI-SPTS (secure Push To Start) vehicle disable T harnesses. In its active state the N/C option used with the vehicle disable harness will disable the PTS button **ONLY WHEN THE ALARM IS TRIGGERED**, all other times there will be no output from the N/C POC, and the PTS button will function normally.

-During an alarm event the N/C will disable the PTS button for the selected time to make sure any additional attempts to “hack” or force start the vehicle will not work even after the siren output times out. Once the CMX is unlocked/disarmed the N/C output will no longer function making the PTS button operate normally.

-NOT RECOMMEDED WHEN USING N/O SECURE START FEATURE.

-IF the user needs to disable the N/C Secure Start Output completely they will need to enter valet mode.

FO1 – OFF

FO2 – 1 min: This will activate the N/C Secure Start output, disabling the PTS button the exact time of an alarm event and continue to provide output for up to 1 minute or until system is disarmed.

FO3 – 2 min: This will activate the N/C Secure Start output, disabling the PTS button the exact time of an alarm event and continue to provide output for up to 2 minutes or until system is disarmed.

FO4 – 4 min: This will activate the N/C Secure Start output, disabling the PTS button at the exact time of an alarm event and continue to provide output for up to 4 minutes or until system is disarmed.

4-01 Aux 1 Output: This feature determines the duration of the auxiliary 1 output. (Option 4 allows the output duration to be set for a specific length of time 1-99 sec. and 1-15 min (with OP500 update only) *(Specific time setting only available when using the OP500)*

FO1 - 500mS: This option will provide a (-) negative output for 500 milliseconds (Half second) output on any POC programmed with setting 10 (AUX 1)

FO2 - Latched: This option will provide a latched (-) negative output on any POC programmed with setting 10 (AUX 1). *Note: This will stay latched until AUX 1 command is sent again to shut it off.*

FO3 - 500mS pulse + programmable timed output: this option will provide a (-) negative output for 500 milliseconds (0.5 seconds) output on any POC programmed with setting 10 (AUX 1). It will pause for 250 milliseconds then provide a timed output (based off feature 4-01 option 4). *Note: to program the timed output, the user must change feature 4-01 to option 4, then adjust AU1 (AUX programmable output time) to desired time. To complete the programming steps, feature 4-01 must be changed to option 3. I.e. 0.5 second pulse...pause...10 second pulse, this option can be used to roll windows up or down on a vehicle that requires a similar action using the driver's door key cylinder.*

FO4 - Program: This option allows the AUX output time to be programmed for a duration between 1-99 seconds. *Note: with v.31+ OP500 update there will be additional time duration between 1-15 minutes available.*

4-02 Aux 2 Output: This feature determines the duration of the auxiliary 2 output. (Option 4 allows the output duration to be set for a specific length of time 1-99 sec. and 1-15 min (with OP500 v.31+ update only) only available when using the OP500)

FO1 - 500mS: This option will provide a (-) negative output for 500 milliseconds (0.5 seconds) output on any POC programmed with setting 11 (AUX 2)

FO2 - Latched: This option will provide a latched (-) negative output on any POC programmed with setting 11 (AUX 2). *Note: This latched output will reset when ignition is turned on.*

FO3 - 500mS pulse + programmable timed output: this option will provide a (-) negative output for 500 milliseconds (0.5 seconds) output on any POC programmed with setting 11 (AUX 2). It will pause for 250 milliseconds then provide a timed output (based off feature 4-02 option 4). *Note: to program the timed output, the user must change feature 4-02 to option 4, then adjust AU2 (AUX programmable output time) to desired time. To complete the programming steps, feature 4-01 must be changed to option 3. (i.e. half second pulse...pause...10 second pulse) This option can be used to roll windows up or down on a vehicle that requires a similar action using the driver's door key cylinder.*

FO4 - Program: This option allows the AUX output time to be programmed for a duration between 1-99 seconds. **Note: The OP500 must be updated for additional time duration settings. (1-15 minutes available)**

4-03 Aux 1 Output Control: This feature allows the user to configure the method of which Auxiliary 1 can be activated.

FO1 - Remote: (default) This option allows AUX 1 (output time based on feature 4-01) to be triggered by any 4 button Firstech remote or drone.

FO2 - With Disarm: this option will trigger AUX 1 (output time based on feature 4-01) any time the CMX is unlocked/disarmed. *Note: the system must be in the armed state when disarming to trigger AUX 1. (I.e. if the vehicle is already in the unlocked/ disarmed state and you send a second unlock/disarm command it will not trigger the output)*

FO3 – Upon RS shutdown: this option will trigger AUX 1 (output time based on feature 4-01/AU1 setting) any time the remote start (RS) has shut down for any reason.

FO4 - Input trigger: this option will activate the AUX 1 output (output timing based on feature 4-01) When a PIC (programmable input channel) set to AUX1 Trigger Input sees a pulsed or latched ground source.

4-04 Aux 2 Output Control: This feature allows the user to configure the method of which Auxiliary 2 can be activated.

FO1 - Remote: (default) this option allows AUX 2 (output time based on feature 4-02) to be triggered by any 4 button Firstech remote or drone.

FO2 - With Arm: this option will trigger AUX 2 (output time based on feature 4-02) any time the CMX is locked/armed the first time (I.e. if you send a second lock/arm command it will not trigger again)

FO3 - With Start: this option will trigger AUX 2 (output time based on feature 4-02) any time the CMX remote start sequence is activated. Note: this output timing will trigger at the same time as GWR (status output)

FO4 - Input trigger: this option will activate the AUX 2 output (output timing based on feature 4-02) When a PIC (programmable input channel) set to AUX2 Trigger Input sees a pulsed or latched ground source.

4-05 Secure **Aux Output:** this feature is designed to prevent accidental activation of the AUX outputs by requiring an additional step when using any 4 buttons or 2-way LCD Firstech remote.

FO1- On: (default) this option will require the user to perform an additional step before activating AUX output using any Firstech 4 button or 2-way LCD remote (2way remotes with Roman numeral buttons will require a 0.5 second tap of button IV before activating any of the AUX outputs. 2Way LCD remotes with lock/unlock/trunk/start icons on the buttons use the start button for the same. 1way remotes require the user to hold trunk + start buttons for 2.5 seconds before activating AUX outputs.) **FO2- Off:** this option will disable the additional step required by the user to activate the AUX outputs.

FO3- On while armed: this feature will only require the user to perform the additional override step to activate Aux outputs **ONLY WHEN** the CMX is **ARMED**. While the system is disarmed or unlocked this step is not required.

4-06 Hazard Light output timing: Applicable to Hazard Light POC SV30 This feature offers optional time interval between on and off pulses, to accommodate different hazard light timing.

FO1- 400mS(default): When using POC SV 30 the CMX will provide a negative output (on) to activate the hazard light circuit. 400mS after the first output the CM will produce another output (off) to deactivate the Hazard Light circuit. This should result in a single parking light flash, but if there are no flashes or too many flashes you will have to try the other options.

FO2- 600mS: When using POC SV 30 the CMX will provide a negative output (on) to activate the hazard light circuit. 600mS after the first output the CM will produce another output (off) to deactivate the Hazard Light circuit. This should result in a single parking light flash, but if there are no flashes or too many flashes you will have to try the other options.

FO3- 800mS: When using POC SV 30 the CMX will provide a negative output (on) to activate the hazard light circuit. 800mS after the first output the CM will produce another output (off) to deactivate the Hazard Light circuit. This should result in a single parking light flash, but if there are no flashes or too many flashes you will have to try the other options.

FO4- 1000mS (1 sec): When using POC SV 30 the CMX will provide a negative output (on) to activate the hazard light circuit. 1000mS after the first output the CM will produce another output (off) to deactivate the Hazard Light circuit. This should result in a single parking light flash, but if there are no flashes or too many flashes you will have to try the other options.

4-07 Parking light flash interval: Applicable to Hazard Light POC SV23 and POC SV30. This feature offers optional parking light flash intervals during remote start when using a Hazard Light output

FO1- 10 seconds (default): With this option the CM will generate one parking light flash **during remote start** every 10 seconds.

FO2- 20 seconds: With this option the CM will generate one parking light output **during remote start** every 20 seconds.

FO3- 40 seconds: With this option the CM will generate one parking light output **during remote start** every 40 seconds.

FO4- 60 seconds (1 min): With this option the CM will generate one parking light output **during remote start** every 60 seconds.

4-08 Sliding door control for datalink: (must be enabled to allow data to data sliding door control) This feature will provide an Unlock or Factory Alarm Disarm (FAD) output when triggering the AUX control using iDatalink Modules (Sliding Doors)

FO1 - Off: (default) This option does not provide an unlock or a FAD output when activating AUX output control using the iDatalink modules.

FO2 - Unlock and FAD: This option will provide unlock and a FAD output when activating AUX output control using iDatalink modules.

FO3 - FAD only: This option will only provide a FAD (factory alarm disarms) output when activating AUX output control using iDatalink modules.

4-09 PIC 4 (-) or (+) Door Input Polarity: This feature will allow the user to change the polarity input **ONLY** for the red/white Door Input wire **CN4 PIN 10. When using the default (-) Negative option Red/White is a PIC.**

FO1 – (-) Negative door input (default): This option will set the red/white wire for (-) negative input as door input. It can be used for manual transmission or security to monitor the door zone/zones.

FO2 - (+) Positive door Input: This option will set the red/white wire for (+) positive input as a door input. It can be used for manual transmission or security to monitor the door zone/zones

4-10 Positive Input Channel (+): (Positive input Channel 4 CN5 pin 14 Pink) this feature will determine the input function of the PINK positive input wire

FO1 - Trigger start input: This option will enable PIC4 to be used as a trigger for activating the remote start function using a (+) pulse input on the Pink wire CN5

FO2 – Ignition input: This option will enable PIC4 to be used as a B+ Ignition input only and be used for any application where ignition output is not required. Including remote programming or Ignition controlled door locks

FO3 - (+) keysense input: this option will operate as a key sense INPUT to the CM. When used with manual transmission, keysense input will keep the CM from completing reservation mode as long as the input is present. In addition, the keysense input will keep the system from passively arming or RFID proximity locking as long as the input is present.

FO4 - (+) Glow plug: this option will allow PIC 4 to read a positive input as a glow plug delay or wait to start input. This is recommended for diesel vehicles that may have a positive analog glow plug output available.

4-11 UART port 2 protocol selection: This feature will determine the communication protocol of the gray UART port.

FO1 - Drone: (default) This option will allow the grey UART port to communicate using the Drone data protocol.

FO2 - Fortin: This option allows the grey UART port to communicate using the Fortin data protocol. Note: there is no longer an “auto detect” feature with the Fortin protocol it must be changed manually.

4-12 Impact sensor: This feature will determine the impact sensor input port function.

FO1 – DAS/DAS II: (default) This option allows the impact sensor port to communicate with the DAS including sensitivity programming and monitor any sensor output to the CMX. *Note: This option is required when using with a manual transmission vehicle.*

FO2 - Standard Shock: This option allows the CMX to communicate with the FT-Shock analog shock sensor. This impact sensor is manually adjustable on the sensor.

FO3 - Arm/Disarm input: This option allows the impact sensor port (red) to be used as a CMX arm/lock and disarm/unlock input. *Note: the arm input requires 2 pulses to trigger arm/ lock and 1 pulse to disarm/unlock.*

FO4 – FT SHOCK II: This option will allow the CMX to support the new FT SHOCK II which is comprised of the standard analog 2 stage impact sensor combined with a digital tilt sensor. The FT SHOCK II impact sensitivity will be adjusted using the dial on the front of it, the dial can be set from OFF to 1-10, with 1 being the LEAST sensitive and 10 being MAXIMUM sensitivity. **The digital tilt will be fixed at 2.5 degrees to trigger.**

4-13 Antenna power save: this will allow the CMX to reduce overall current draw of the system when armed by powering down the antenna.

FO1 - Off: (default) antenna will operate normally when armed.

FO2 - 24hrs (1 day): this option will allow the antenna to power down 24hrs after being armed. *Note: once the antenna has powered down, 1 Way operation to the vehicle will stop. 2 Way operation will still function in case any alerts are sent to the remote. To wake up the antenna the user must unlock/disarm using a Firstech accessory, power ignition or trigger the alarm.*

FO3 - 48hrs (2 days): This option will allow the antenna to power down 48hrs after being armed. *Note: once the antenna has powered down, 1 Way operation to the vehicle will stop. 2 Way operation will still function in case any alerts are sent to the remote. To wake up the antenna the user must unlock/disarm using a Firstech accessory, power ignition or trigger the alarm.*

FO4 - 72hrs (3 days): This option will allow the antenna to power down 72hrs after being armed. *Note: once the antenna has powered down, 1 Way operation to the vehicle will stop. 2 Way operation will still function in case any alerts are sent to the remote. To wake up the antenna the user must unlock/disarm using a Firstech accessory, power ignition or trigger the alarm.*

4-14 Low battery warning: This feature offers low battery options to help alert the user of a low battery in the vehicle **while the CM is locked/armed.**

FO1 - On: This option will provide an alert to any Firstech 2 Way LCD remote or Drone when the vehicle's battery voltage (at the CMX power connector) drops to 11.7volts. *Note: the Firstech 2-way LCD remote must be within range of the vehicle to receive the low battery alert and this option must be set to receive low battery alerts to Drone.*

FO2 - On + Start: This option will provide an alert to any Firstech 2 Way LCD remote or Drone when the vehicles battery voltage (at the CMX power connector) drops to 11.7volts. In addition to the alert the user can active the Timer mode (please refer to this manual for timer mode feature description) to enable the low battery start function. Once the timer mode is active the CMX will adhere to the timer mode feature options selected but also monitor the vehicle battery voltage which will override the timer mode and start at 11.7 volts.

FO3 – OFF: This option disables the low battery alert.

4-15 **KP2 Sensitivity:** This feature will allow the sensitivity for the KP2 keyless entry window sensor to be adjusted to suit the conditions.

FO1 – Normal (default): This will be the standard sensitivity setting.

FO2 – High: This option is the most sensitive sensor setting.

FO3 – Low: This option will be lower sensitivity than the default standard setting.

FO4 – Lowest: This option will decrease the sensor sensitivity to its lowest setting.

4-16 **Auto Re-Start:** This feature will set the CM to re-start the full remote start runtime automatically 10 seconds after the initial runtime has expired, allowing for the user to have runtime extending past the maximum 45 minutes. **NOTE: Once this option is enabled it will re-start every time the runtime is allowed to time out.**

FO1 – Off (default): This option disables the auto re-start feature, providing the standard runtime.

FO2 – ON w/1 re-start: This option will enable the auto re-start function and allow the CM to automatically re-start and run the full runtime 10 seconds after the first runtime has expired ONLY 1 time. (i.e. 15 minute runtime will expire, pause 10 seconds, re-start and run 15 minutes)

FO3 – ON w/2 re-starts: This option will enable the auto re-start function and allow the CM to automatically re-start and run the full runtime 10 seconds after the first runtime has expired 2 times for a total of 3 full runtimes. (i.e. 15 minute runtime will expire, pause 10 seconds, re-start and run 15 minutes, shut down pause 10 seconds, re-start and run for a 3rd 15 minute runtime)

Special Option Groups 1, 2, 3 and 4

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

SO1- Diesel Timer: (Option 2-03 must first be set to setting 2.) This special option allows a specific wait to start time (in seconds) to be programmed. This prevents the need for a timer relay and eliminates a connection to the “wait to start” wire.

SO2 - 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 1-99 seconds. **Note with OP500 update to software v.30, latched output time 1-15 minutes are available for programming in addition to the standard 1-99 seconds.**

SO3 - 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 1-99 seconds. **Note with OP500 update to software v.30, latched output time 1-15 minutes are available for programming in addition to the standard 1-99 seconds.**

SO4 - SO8 - Aux 3-7 Output Timing: (Option 3-11 must first be set to setting 2 and the optional Auxiliary settings module must be used and AUX 3-7 function only available with 2 Way LCD remotes) These special options allow specific output durations to be set for Aux 3-7. **Note with OP500 update to software v.30, latched output time 1-15 minutes are available for programming in addition to the standard 1-99 seconds.**

SO9- Remote Start Runtime: (Feature 2-07 must first be set to option 4.) This special option allows a custom Remote start time (in minutes up to 45 minutes) to be programmed. The default runtime is 3 minutes.

SO10- Cold Start Temperature: (Feature 2-08 must first be set to option 4.) This special option allows a specific temperature (in degrees F or degrees C based on OP500 software update v.30 V1 or V2) to be set between -30 ~ 0 [°C] / -22 ~ 32 [°F] with a default temperature of -15°C / 5°F default for the Cold Start Timer mode activation

SO11- Hot Start Temperature: (Feature 2-09 must first be set to option 4.) This special option allows a specific temperature (in degrees F or degrees C based on OP500 software update v.30 V1 or V2) to be set between 20°C ~ 40°C / 68°F ~ 104°F with a default temperature of 40°C / 104°F default the Hot Start Timer Mode activation

SO12- Defrost Temperature: (Feature 3-13 must first be set to option 3.) This special option allows a specific temperature (in degrees F or degrees C based on OP500 software update v.30 V1 or V2) to be set between 0°C/32°F ~ 13°C/55°F with a default temperature of 6°C/42°F for the defrost activation

SO13 – Assumed Crank time: when feature 2-10 is set to option 4, the crank time will default to 3 seconds but is adjustable 1-6 seconds in 1 second increments. **NOTE: MUST USE AN OP500 UPDATED WITH OP500v.31 AND UP.** This firmware and updating process can be found at Firstechdata.com

SO14 – N/O Secure Start Output time: When feature 3-17 is set to option 4 the N/O output time will default to 10 minutes but is adjustable 1-10 minutes in 1-minute increments. **NOTE: MUST USE OP500 UPDATED WITH OP500v.36 AND UP** This firmware and updating process can be found at Firstechdata.com

Special Option Group 2

This special option group allows you to select the output setting of the Programmable Output Channel (POC) wire. For example, if you want to set POC #5 (default setting status out with setting value of 0) to Aux 1, you will need change special option 5 to setting value 10. This must be done with the OP500.

POC 1 - Blue/White • Starter Kill (starter interrupt/Anti-grind): (default setting value 0) This channel will provide a 250mA (-) negative output when the CMX is armed (*function also POC setting 29*)

POC 2 - White • Horn: (default setting value 0) This channel will provide a 250mA output when Horn is triggered. (*function also POC setting 8*)

POC 3 - Blue/Black • Lock: (default setting value 0) This channel will provide a 250mA output with the lock/arm command. (*function also POC setting 25*)

POC 4 - Blue • Unlock: (default setting value 0) This channel will provide a 250mA output with the unlock/disarm command. (*function also POC setting 26*)

POC 5 - Orange/White • FAD (Factory Alarm Disarm): (default setting value 0) This channel will provide a 250mA output with the unlock/disarm command. *Note: the CMX will provide this output approx. 100mS before the unlock output.* (*function also POC setting 7*)

POC 6 - Orange • FAA (Factory Alarm Arm): (default setting value 0) This channel will provide a 250mA output with the lock/arm command. Note: the CMX will provide this output approx. 100mS before the unlock output. (*function also POC setting 6*)

POC 7 - Violet/White • Trunk release: (default setting value 0) This channel will provide a 250mA output with the trunk release command. (*function also POC setting 28*)

POC 8 - Black • GWR (ground when running aka status output): (default setting value 0) This channel will provide a 250mA output with the remote start activation command and continue to provide output until 100mS after the remote start process has shut own. (*function also POC setting 5*)

POC setting value description (SV)

SV 0 – DEFAULT SETTING by wire

SV 1 - **Parking light:** provides a 250mA (-) negative parking light output on any POC programmed with this setting.

SV 2 - **Starter:** provides a 250mA (-) negative starter output on any POC programmed with this setting.

SV 3 - **Ignition:** provides a 250mA (-) negative ignition output on any POC programmed with this setting.

SV 4 - **Accessory:** provides a 250mA (-) negative accessory output on any POC programmed with this setting.

SV 5 - **GWR (status):** provides a 250mA (-) negative while remote started on any POC programmed with this setting. Can be used to activate interface modules during the remote start process.

SV 6 - **FAA (Factory Alarm Arm):** provides a 250mA, 800mS (-) negative output with the arm/lock command on any POC programmed with this setting.

SV 7 - **FAD (Factory Alarm Disarm):** provides a 250mA, 800mS (-) negative output with the disarm/unlock command on any POC programmed with this setting.

- SV 8 - **Horn:** provides a 250mA (-) negative output with output control based on feature 3-08 option setting when using any POC programmed with this setting.
- SV 9 - **Dome light supervision:** provides a 250mA (-) negative output with the disarm/unlock command, on any POC programmed with this setting, for up to 45 seconds or until ignition is on.
- SV 10 - **AUX1:** provides a 250mA (-) negative output (based on feature 4-01 setting) when AUX is triggered by Firstech 4 button remote, 2way LCD remote, or Drone, on any POC programmed with this setting.
- SV 11 - **AUX2:** provides a 250mA (-) negative output (based on feature 4-02 setting) when AUX is triggered by Firstech 4 button remote, 2way LCD remote, or Drone, on any POC programmed with this setting.
- SV 12 - **AUX3:** provides a 250mA (-) negative output (based on AU3 setting) when AUX3 is triggered, using a Firstech 2-way LCD remote (please refer to remote users guide for activation steps), on any POC programmed with this setting. *(Feature 3-11 must be set to option 2)*
- SV 13 - **AUX4:** provides a 250mA (-) negative output (based on AU4 setting) on any POC programmed with this setting, when AUX4 is triggered using a Firstech 2-way LCD remote (please refer to remote users guide for activation steps), *(Feature 3-11 must be set to option 2)*
- SV 14 - **AUX5:** provides a 250mA (-) negative output (based on AU5 setting) on any POC programmed with this setting, when AUX5 is triggered, using a Firstech 2-way LCD remote (please refer to remote users guide for activation steps), on any POC programmed with this setting. (Feature 3-11 must be set to option 2)
- SV 15 - **AUX6:** provides a 250mA (-) negative output (based on AU6 setting) on any POC programmed with this setting, when AUX6 is triggered, using a Firstech 2-way LCD remote (please refer to remote users guide for activation steps), on any POC programmed with this setting. (Feature 3-11 must be set to option 2)
- SV 16 - **AUX7:** provides a 250mA (-) negative output (based on AU7 setting) on any POC programmed with this setting, using a Firstech 2-way LCD remote (please refer to remote users guide for activation steps) *(Feature 3-11 must be set to option 2)*
- SV 17 - **Defrost:** provides a 250mA (-) negative output (based on feature 3-13/3-14 settings) on any POC programmed with this setting, when defrost function has been activated (output time based on features 3-13 and 3-14 option settings)
- SV 18 - **GWA (ground While Armed):** provides a 250mA (-) negative output on any POC programmed with this setting, while the system is armed or locked.
- SV 19 - **GWR 2 (status output 2):** provides a 250mA latched (-) negative output on any POC programmed with this setting, when the remote start sequence is activated and continue until after the remote start has shut down. *Note: With GWR 2 the output will not provide ground during reservation mode set up to avoid any possible factory immobilizer issue that may occur if the vehicle sees 2 or more immobilizer override coding.*
- SV 20 - **Siren 2:** provides a 250mA latched (-) negative output on any POC programmed with this setting, only with the full alarm or panic modes. May be used to power any additional horn or sirens while the CMX is in full alarm or panic mode.
- SV 21 - **Defrost 2:** provides a 250mA (-) negative pulsed output only on any POC programmed with this setting, when the defrost output is engaged based on the temp setting of feature 3-13.

SV 22 - **VAC (Ventilation and Air Conditioning)**: provides a 250mA (-) negative output on any POC programmed with this setting, when the VAC feature is activated based on temperature settings of feature 3-12 during the remote start sequence.

SV 23 – **Hazard Light 2 Control**: provides a 250mA (-) negative output on any POC programmed with this setting that will produce a pulsed output allowing the CM to activate and then deactivate a **latching hazard switch**. This will simulate parking light flashes in single flash pulses. **This output will also provide a pulsed parking light output during remote start flashing 1 time every 10 seconds.**

SV 24 - **AUX3 w/ RFID unlock**: provides a 250mA (-) negative output on any POC programmed with this setting, (based on timing set for AUX 3) will activate AUX 3 when RFID proximity unlock has been triggered. Active unlock from a remote or Drone will NOT trigger this AUX 3 output.

SV 25 - **Lock**: provides a 250mA, 800mS (-) negative output on any POC programmed with this setting, with the lock/arm command.

SV 26 - **Unlock**: provides a 250mA, 800mS (-) negative output on any POC programmed with this setting, with the unlock/disarm command.

SV 27 - **2nd Unlock**: provides a 250mA, 800mS (-) negative output on any POC programmed with this setting, when using the driver's door priority feature. This wire would be used to unlock the rest of the doors while unlock should be used to unlock the isolated driver's door. *Note: this output can only be activated within 7 seconds after the first unlock command is sent.*

SV 28 - **Trunk release**: provides a 250mA, 1 second (-) negative output (output timing based on feature 1-15 on any POC programmed with this setting, with the trunk release command.

SV 29 – **Starter Kill**: provides a 250mA (-) negative output on any POC programmed with this setting, while the system is armed or locked, and during remote start for Anti-Grind.

SV 30 – **Hazard Light Control**: provides a 250mA (-) negative output on any POC programmed with this setting that will produce a pulsed output allowing the CM to activate and then deactivate a **momentary hazard switch**. This will simulate parking light flashes in single flash pulses. **This output will also provide a pulsed parking light output during remote start flashing 1 time every 10 seconds.**

SV 31 – **RAP Control**: provides a 250mA-800mS (-) negative output on any POC programmed with this setting that will produce a pulsed output:

-after every remote start shut down (manual, emergency, or runtime timeout)

-after ignition pulse when using feature 1-11 options 2, 3, or 4

Note: there will be no output pulse if ignition is present after remote start take over has been completed Note: In case of manual transmission the CM will ignore door zone input (analog or data) ONLY, for the duration of the RAP output pulse.

SV 32 – **Secure Start N/O**: Provides a 250mA negative timed output that can be used to manage an FTI-SPTS vehicle PTS button disable harness. It will only output with the selected time (feature 3-17) when the system is disarmed/unlocked using a Firsttech remote, Drone, or KP sensor. It is designed to enable the vehicle PTS function while it is providing output. Once the output shuts off the vehicle PTS button will be disabled. If the system times out before the vehicle is started, the disarm/unlock command must be sent again. Once the system senses Ignition on, it will remain latched on until Ignition is off. Once ignition is off it will remain latched for the selected time based on feature 3-18 or until the system is armed/locked using a Firsttech remote, Drone, or KP sensor.

SV 33 – Secure Start N/C: Provides a 250mA timed output that can be used to manage an FTI-SPTS vehicle PTS button disable harness. It will output at the exact moment an alarm event is triggered and remain active based on the time selected using feature 3-18. While disarmed, there will be no output so the vehicle PTS button will function normally. **(PTS Starter kill)**

Special Options Group 3: This special option group allows you to select the input settings of the **Programmable Input Channel (PIC)** wire. i.e. If you want to set PIC #5 (default setting (-) hood status INPUT) to (N/C) hood pin INPUT, you will need change special option 4 from 0 to number 11 using your OP500 or flashing website.

PIC 1 - Light Blue: (-) E-Brake INPUT (Emergency/parking brake input) (default setting) (function also PIC setting 1)

PIC 2 - Violet/Black: (-) Trunk Status INPUT (Trunk input) (default setting) (function also PIC setting 2)

PIC 3 - Brown/White: (-) Key Sense INPUT (default setting) (function also PIC setting 3)

PIC 4 - Red/White: (-) Door INPUT (default setting) (function also PIC setting 5)

PIC 5 - Gray/Black: (-) Hood Status INPUT (default setting) (function also PIC setting 4)

PIC 6 - AUX INPUT 1 Green Connector pin 4: (-) Prewarn Input (default setting) (function also PIC setting 13.)

PIC 7 - AUX INPUT 2 Green Connector pin 2: (-) Instant Trigger Input (default setting) (function also PIC setting 14)

PIC setting value description (SV)

SV 1 - (-) E-Brake INPUT: This setting allows any PIC programmed with value 1 to be used as a (-) negative parking /emergency brake INPUT.

SV 2 - (-) Trunk Status INPUT: This setting allows any PIC programmed with value 2 to be used as a (-) negative Trunk status INPUT. This can be used as a single trunk or multi rear door input for security or Manual transmission remote start.

SV 3 - (-) Key-Sense INPUT: This setting allows any PIC programmed with value 3 to be used as a (-) negative Key-sense INPUT. **Keysense is recommended when using the RFID Unlock feature, remote starting manual transmission vehicle, or when using passive arming mode with security**

SV 4 - (-) Hood Status INPUT: This setting allows any PIC programmed with value 4 to be used as a (-) negative Hood Status INPUT. This can be used as a single hood pin input for security or Manual transmission remote start.

SV 5 - (-) Door Status INPUT: This setting allows any PIC programed with value 5 to be used as (-) negative Door Status. This can be used as a **single door or multi door input** for security or Manual transmission remote start. **It is also recommended when using the RFID Unlock feature, or Turbo timer mode.**

- SV 6 - (-) **Trigger Start INPUT:** This setting allows for any PIC programmed with value 6 to be used as a (-) negative Remote Start Trigger Start INPUT.
- SV 7 - (-) **Glow Plug INPUT:** This setting allows for any PIC programmed with value 7 to be used as a Glow Plug INPUT for diesel wait to start function.
- SV 8 - (-) **Disable ARM/Disarm/Start INPUT:** This setting allows any PIC programmed with value 8 to be used as a (-) negative arm/disarm/start disable INPUT when controlling the CM through analog arm/disarm/start inputs. *(will disable the analog disarm input command if ground is present on both disarm input wire and disarm disable input wire simultaneously)*
- SV 9 - (N/C) **Trunk INPUT:** This setting allows any PIC programmed with value 9 to be used as a Normally Closed-circuit Trunk pin INPUT. The CM will consider the zone open when ground is removed, or the circuit status changes from (-) ground to power. This can be used as a single trunk zone input for security or remote start
- SV 10 - (N/C) **Key Sense INPUT:** This setting allows any PIC programmed with value 10 to be used as a Normally Closed-circuit Key Sense Input. The CM will consider the key to be in the key cylinder if when ground is removed, or the circuit status changes from (-) ground to power. **Keysense is recommended when using the RFID Unlock feature, remote starting manual transmission vehicle, or when using passive arming mode with security**
- SV 11 - (N/C) **Hood Status:** This setting allows any PIC programmed with value 11 to be used as a normally closed-circuit hood pin INPUT. The CM will consider the zone open when ground is removed, or the circuit status changes from (-) ground to power. This can be used as a single hood zone input for security or remote start
- SV 12 - (N/C) **Door INPUT:** This setting allows any PIC programmed with value 12 to be used as a normally closed-circuit door pin INPUT. The CM will consider the zone open when ground is removed, or the circuit status changes from (-) ground to power. **This can be used as a SINGLE (1) door zone input for security or remote start. It is also recommended when using the RFID Unlock feature, or Turbo timer mode.**
- SV 13 - (-) **Pre-Warn INPUT:** This setting allows any PIC programmed with value 13 to be used as an auxiliary sensor prewarn Input. Once Armed the CM will activate the prewarn chirps if this input sees ground/negative input.
- SV 14 - (-) **Instant Trigger INPUT:** This setting allows any PIC programmed with value 14 to be used as an Auxiliary Sensor Instant Trigger Input. Once Armed the CM will activate the Instant trigger, sounding the alarm, if this input sees ground/negative input.
- SV 15 - (-) **CM ARM INPUT:** This setting allows any PIC programmed with value 15 to be used as a Control Module ARM input which will arm the brain, activating lock/arm outputs if necessary.
- SV 16 - (-) **CM DISARM INPUT:** This setting allows any PIC programmed with value 16 to be used as a Control Module DISARM input which will Disarm the brain, activating unlock/disarm outputs if necessary. Will also disarm the brain when its sounding or has been triggered.
- SV 17 - **IGN & Sensor Bypass INPUT:** This setting allows any PIC programmed with value 17 to be used to bypass the CMX ignition input and the alarm sensor inputs while armed if it is being used with a factory Remote Start or added to another device. This input needs to see (-) on the input to use it properly.
- SV 18 - (-) AUX 1 Trigger INPUT:** This setting allows any PIC programmed with value 18 to be used to activate AUX1 output (timing output based on feature 4-01) with a Pulsed or latched ground/negative source.

SV 19 - (-) AUX 2 Trigger INPUT: This setting allows any PIC programmed with value 19 to be used to activate AUX2 output (timing output based on feature 4-02) with a Pulsed or latched ground/negative source.

SV 20 – (-) Closed Loop Input: This setting allows any PIC programmed with value 20 to be used as a closed loop alarm trigger. While armed; when this input is grounded the system will consider it a closed loop circuit, once ground is removed it will trigger an alarm event. *A good use case example would be protecting catalytic converter.*

SV 21 – (-) Closed Loop Input: This setting allows any PIC programmed with value 21 to be used as a closed loop alarm trigger. While armed; when this input is grounded the system will consider it a closed loop circuit, once ground is removed it will trigger an alarm event. *A good use case example would be protecting catalytic converter.*

SV 22 – (-) NEG. Valet Input: This setting allows any PIC programmed with value 22 to be used as an enter/exit Valet mode input. To enter/exit Valet mode using this input, it must see ground for a minimum of 5 seconds, then ground pulse input 5 times. This PIC wire can be used with a momentary or latching toggle switch to enter/exit valet mode. When using valet mode for security purposes, make sure the switch is mounted discreetly but is still accessible by the user.

****There are several benefits to using the PIC inputs:**

Example 1: 4 N/C door inputs would be available for Manual transmission scenario without requiring a module, wire cutting, resistors, diodes, or relays

Example 2: 4 individual (-) door inputs could be connected (with no diodes) eliminating the need for diodes to isolate the door pins from each other when connecting multiple door pins to 1 door input on the CM

Example 3: Allow for a N/C hood pin or Trunk pin input that does not require a module, wire cutting, diodes, resistors, or relays

Example 4: will make the CM an install more efficient by allowing for unused inputs to be reprogrammed for other functional inputs

Special Option Group 4

This special option group allows you to program the output function of the High Current Programmable output (HCP). The settings values changes will apply to both High Current (HC) and Low Current (LC) Outputs found on CN1 and CN2. **NOTE: Using the HC and LC outputs simultaneously may result in damage to the CMX. OP500 MUST be updated with v.33 to access the HCP features on the CMX**

HCP 1 - Green/White (default) – Low Current (LC) Programmable Output (2A MAX) (HC 10A MAX): This positive (+) parking light (default setting) wire activates with lock, unlock, remote start, or during troubleshooting diagnostics.

HCP 2 - White – Low Current (LC) Programmable Output (3A MAX) High Current (HC 20A MAX): Accessory 12V positive (+) output (default setting). This wire can 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-14V when the key is returned to the on position

HCP 3 - Blue – Low Current (LC) Programmable Output (3A MAX) High Current (HC 20A MAX): Positive 12V (+) Ignition output (only) (default setting) This wire can be connected to the vehicle 2nd Ignition wire. The proper wire will test 0V with the key in the off position, (+) 12V while key is in the on position, (+)9V-12V while cranking and back to (+) 12V-14V when the key is returned to the on position.

HCP setting value description (SV)

SV 0 – DEFAULT SETTING by wire

- SV 1 - **Parking light:** provides a (+) positive parking light output on any HCP programmed with this setting.
- SV 2 - **Starter:** provides a (+) positive starter output on any HCP programmed with this setting.
- SV 3 - **Ignition:** provides a (+) positive ignition output on any HCP programmed with this setting.
- SV 4 - **Accessory:** provides a (+) positive accessory output on any HCP programmed with this setting.
- SV 5 - **GWR (status):** provides a (+) positive while remote started on any HCP programmed with this setting. Can be used to activate interface modules during the remote start process.
- SV 6 - **FAA (Factory Alarm Arm):** provides an 800mS (+) positive output with the arm/lock command on any HCP programmed with this setting.
- SV 7 - **FAD (Factory Alarm Disarm):** provides an 800mS (+) positive output with the disarm/unlock command on any HCP programmed with this setting.

- SV 8 - **Horn:** provides a (+) positive output with output control based on feature 3-08 option setting when using any HCP programmed with this setting.
- SV 9 - **Dome light supervision:** provides a (+) positive output with the disarm/unlock command, on any HCP programmed with this setting, for up to 45 seconds or until ignition is on.
- SV10 - **AUX 1:** provides a (+) positive output on any HCP programmed with this setting when AUX 1 is triggered by any Firstech remote or Drone. Timing outputs will be based on feature 4-01, 4-03, 4-05, and AU1 settings.
- SV11 - **AUX 2:** provides a (+) positive output on any HCP programmed with this setting when AUX 2 is triggered by any Firstech remote or Drone. Timing outputs will be based on feature 4-02, 4-04, 4-05, and AU2 settings.
- SV20 - **Siren 2:** provides a latched (+) positive output on any HCP programmed with this setting, only with the full alarm or panic modes. May be used to power any additional horn or sirens while the CMX is in full alarm or panic mode.
- SV24 - **AUX3 w/ RFID unlock:** provides a (+) positive output on any HCP programmed with this setting, (based on timing set for AUX 3) will activate AUX 3 when RFID proximity unlock has been triggered. Active unlock from a remote or Drone will NOT trigger this AUX 3 output.
- SV25 - **Lock:** provides an 800mS (+) positive output on any HCP programmed with this setting, with the lock/arm command.
- SV26 - **Unlock:** provides an 800mS (+) positive output on any HCP programmed with this setting, with the unlock/disarm command.
- SV28 - **Trunk release:** provides a 1 second (+) positive output (output timing based on feature 1-15 on any HCP programmed with this setting, with the trunk release command.

Option Programming procedures

How to Program Options

There are two ways to set options on the CMX control modules. You can use the FT-OP500-KIT or most Firstech remotes. The remotes include 4 or 5 buttons 1- and 2-Way remotes.

Option Programming Using the FT-OP500-KIT

The OP500 can be used to change anything in the Option Tables. It is required to change settings in Special Option Groups 1 and 2.

STEP 1: Make sure system is unlocked/disarmed. Connect the antenna cable (at the antenna end) to the 4 or 6 pin ports on the top of the OP500. Once connected, the OP500 will power up if CN1 or CN3 on the control module is connected properly.

STEP 2: Use the left or right arrow keys on the OP500 to select option. Use the up or down arrow buttons to select the option setting. “1” is the default setting, “2”, “3”, and “4” are the optional settings.

Special Option Group 1: Change the timed output of the Diesel Timer or Auxiliaries 1 through 7.

Special Option Group 2: Change the Programmable Output Connections on the grey 20 pin harness.

STEP 3: Hold the “W” (Write) button for 3 seconds. This finalize option changes to the control module. Wait until OP500 displays “Success” before disconnecting.

To reset the options, hold the “R” (Reset) button and “W” (Write) buttons for 3 seconds. Then hold the “W” button for 3 seconds.

Option Programming with FT-OP100 (valet button) *(Limited feature group access 1-4)*

STEP 1: Make sure the Control Module is in a disarmed/unlocked state

STEP 2: Connect FT Valet OP-100 button to the CM’s 4 pin blue antenna port

STEP 3: Go to Ignition on (without starting) + Foot brake input applied

STEP 4: Push the valet button 5 times holding it on the 5th time for the following time lengths to reach the desired feature group:

- 1) **2 seconds** → **Option Group #1** (w/ light flash 1 time and siren/horn 1 chirp)
- 2) **4 seconds** → **Option Group #2** (w/ light flash 2 times and siren/horn 2 chirps)
- 3) **6 seconds** → **Option Group #3** (w/ light flash 3 times and siren/horn 3 chirps)
- 4) **8 seconds** → **Option Group #4** (w/ light flash 4 times and siren/horn 4 chirps)

If you would like to reset all features to their default option setting push the valet button 10 times and hold on the 10th time. Once complete, the parking lights will flash, and siren/horn will sound 5 times to confirm reset.

STEP 5: Once the Option group has been selected release the programming button. Then push and release the programming button again to select the feature number you wish to change. Once selected, wait for the parking light flash, and siren/horn to sound confirming the feature number you have selected.

STEP 6: Once you have confirmed the feature you've selected push and release the valet button to select the desired option. Once selected wait for the parking lights to flash and the siren/horn to sound confirming the option you have selected.

STEP 7: Once finished turn ignition off, please test function to verify successful feature option change

Option Programming Using a Remote

Using a remote is a timed process so review this section before beginning. Options cannot be programmed with 1 button remotes. **IMPORTANT: Special Option Groups cannot be programmed with remotes – OP500 must be used.**

STEP 1: Select the option you wish to program. (Use the corresponding table shown on the following page)

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

STEP 3: Once finished scrolling through menu, wait for the parking lights and/or siren chirp to confirm the option number. i.e. option 2-04 will flash and/or chirp 4 times. Select your option using the Lock, Unlock, Trunk, or Start buttons.

NOTE: Resetting to Factory Defaults: To reset the options in a menu, enter the menu using your remote. To reset options with a 2 Way remote, tap the Trunk button 3 three times. To reset options with a 1 Way remote, tap the Key/Start button 3 times. Wait for parking lights to flash and/or siren chirp between each tap. After the third tap, the menu will reset back to default. This must be done for each option menu that must be reset.

How to Program Options with 5 Button 2-Way Remotes

	Wait for chirp or park light flash between each button combination hold	Scroll Through Menu (Wait for flash between each tap)	Wait for corresponding parking light flash and/or siren chirp before selecting option	Select Option 1	Select Option 2	Select Option 3	Select Option 4
Option Menu 1	(F + Trunk) for 3 seconds then (F + Trunk) for 3 seconds	Tap Key Button		Tap Lock Button	Tap Unlock Button	Tap Trunk Button	Tap Key Button
Option Menu 2	(F + Trunk) for 3 seconds then (F + Key) for 3 seconds	Tap Key Button		Tap Lock Button	Tap Unlock Button	Tap Trunk Button	Tap Key Button
Option Menu 3	(F + Key) for 3 seconds then (F + Trunk) for 3 seconds	Tap Key Button		Tap Lock Button	Tap Unlock Button	Tap Trunk Button	Tap Key Button
Option Menu 4	(F + Key) for 3 seconds then (F + Key) for 3 seconds	Tap Key Button		Tap Lock Button	Tap Unlock Button	Tap Trunk Button	Tap Key Button

How to Program Options with 3 Button 2-Way Remotes

	Wait for chirp or park light flash between each button combination hold	To select a feature Wait for flash between each tap	Wait for corresponding parking light flash and/or siren chirp before selecting option. i.e. feature 3 will respond with 3 flashes	Select Option 1	Select Option 2	Select Option 3	Select Option 4
Option Menu 1	(Lock + Unlock) for 3 sec Then (Lock + Unlock) for 3 sec	Tap Center Button		Tap Lock Button	Tap Unlock Button	HOLD Unlock for 2.5 sec	Tap Key Button
Option Menu 2	(Lock + Unlock) for 3 sec Then (Lock + Center button) for 3 sec	Tap Center Button		Tap Lock Button	Tap Unlock Button	HOLD Unlock for 2.5 sec	Tap Key Button
Option Menu 3	(Lock + Center button) for 3 sec Then (Lock + Unlock) for 3 sec	Tap Center Button		Tap Lock Button	Tap Unlock Button	HOLD Unlock for 2.5 sec	Tap Key Button
Option Menu 4	(Lock + Center button) for 3 sec Then (Lock + Center button) for 3 sec	Tap Center Button		Tap Lock Button	Tap Unlock Button	HOLD Unlock for 2.5 sec	Tap Key Button

How to Program Options with 4 button 2 Way Remotes

	Wait for chirp or park light flash between each button combination hold	Scroll Through Menu (Wait for flash between each tap)	Wait for corresponding parking light flash and/or siren chirp before selecting option	Select Option 1	Select Option 2	Select Option 3	Select Option 4
Option Menu 1	Lock + Unlock for 3 seconds then Lock + Unlock for 3 seconds	Tap Key Button		Tap Lock Button	Tap Unlock Button	Hold Trunk Button for 3 seconds	Tap Key Button
Option Menu 2	Lock + Unlock for 3 seconds then Lock + Key for 3 seconds	Tap Key Button		Tap Lock Button	Tap Unlock Button	Hold Trunk Button for 3 seconds	Tap Key Button
Option Menu 3	Lock + Key for 3 seconds then Lock + Unlock for 3 seconds	Tap Key Button		Tap Lock Button	Tap Unlock Button	Hold Trunk Button for 3 seconds	Tap Key Button
Option Menu 4	Lock + Key for 3 seconds then Lock + Key for 3 seconds	Tap Key Button		Tap Lock Button	Tap Unlock Button	Hold Trunk Button for 3 seconds	Tap Key Button

How to Program Options With 4 button 1 Way Remotes

	Wait for chirp or park light flash between each button combination hold	Scroll Through Menu (Wait for flash between each tap)	Wait for corresponding parking light flash and/or siren chirp before selecting option	Select Option 1	Select Option 2	Select Option 3	Select Option 4
Option Menu 1	Lock + Unlock for 3 seconds then Lock + Unlock for 3 seconds	Hold Trunk + Key for 3 seconds		Tap Lock Button	Tap Unlock Button	Tap Key Button	Hold Trunk + Key for 3 seconds
Option Menu 2	Lock + Unlock for 3 seconds then Lock + Key for 3 seconds	Hold Trunk + Key for 3 seconds		Tap Lock Button	Tap Unlock Button	Tap Key Button	Hold Trunk + Key for 3 seconds
Option Menu 3	Lock + Key for 3 seconds then Lock + Unlock for 3 seconds	Hold Trunk + Key for 3 seconds		Tap Lock Button	Tap Unlock Button	Tap Key Button	Hold Trunk + Key for 3 seconds
Option Menu 4	Lock + Key for 3 seconds then Lock + Key for 3 seconds	Hold Trunk + Key for 3 seconds		Tap Lock Button	Tap Unlock Button	Tap Key Button	Hold Trunk + Key for 3 seconds

Troubleshooting

Remote Start Error Codes

If the remote start fails to start the vehicle, the parking lights will flash three times immediately. Following those two 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 1st remote start
2	Key in ignition on position
3	Door open (manual transmission only)
5	Foot brake on
6	Hood open
7	Reservation has NOT been set (manual transmission only)
8	Vehicle failed to remote start after all 3 attempts
9	DASII safety shutdown
10	System is in Valet Mode
2 Way remotes will display the error number "Start Err##" on the LCD.	

Remote Start Shutdown Error Codes

If the remote start sequence has been completed and the vehicle shuts down, the vehicle's parking lights will flash 4 times, pause then flash again with the error code. Tap button 4 on 2 Way remotes to initiate the shutdown error codes. On 1 Way remotes hold the Trunk and Start buttons together for 2.5 seconds.

Number of Parking Light Flashes	Remote Start Shutdown Error
1	Lost engine sensing signal (Tach/Alternator/Tachless)
2	Lost emergency brake signal (Manual Transmission)
3	Foot brake triggered
4	Hood pin triggered

Remote Start Reservation Mode Diagnostic Codes

If the remote start sequence has been completed and the vehicle shuts down, the vehicle's parking lights will flash 4 times, pause then flash again with the error code. **After reservation mode failure, tap button 4 on 2 Way remotes to initiate the shutdown error codes. On 1 Way remotes hold the Trunk and Start buttons together for 2.5 seconds.**

Number of Parking Light Flashes	Reservation Mode Diagnostics
1	Tach has been lost or interrupted while reservation mode was setting. Tach is present after reservation mode completed.
2	E-brake signal has been lost before or after reservation mode completed
3	Foot Brake was triggered before or after reservation mode completed
4	Hood input was triggered before or after reservation mode completed
5	Door Input was triggered before or after reservation mode completed
6	Trunk input was triggered before or after reservation mode completed
7	Security has been triggered after reservation mode completed
8	Ignition input detected after reservation mode completed
9	No DAS detected
10	Keysense Input detected after reservation mode completed
2 Way remotes will display the standard start error number "Start Err##" 3-07 (reservation mode cancelled) on the LCD.	

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 number of times as shown in the table below. This is intended for users with 1 Way remotes.

2 Flash	Door Input
3 Flash	Shock stage 1
4 Flash	Shock stage 2
5 Flash	Tilt
6 Flash	Ignition on
7 Flash	Hood Input
8 Flash	Trunk Input
9 Flash	AUX sensor stage 1
10 Flash	AUX sensor stage 2

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.

When remote starting, the siren chirps 3 times and parking lights flash 3 then 1 time.

A: You must program tach before remote starting. Also, be sure to check the foot brake and ignition wires on the CMX.

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.”

What is the green/white wire loop 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. If the loop is cut for a manual and installed on a manual transmission vehicle the **Warning: DO NOT CUT THE LOOP FOR MANUAL TRANSMISSION VEHICLE Manufacturer or seller assumes no responsibility for any injuries and/or damages caused by this improper conversion and transform of the product done by a user voluntarily.**

What do I do with the thick blue wire on Connector 1?

A: It is used to power a (+) 2nd Ignition. You can also change the output via jumper within the control module. It can be changed to power a (+) 2nd Accessory or (+) Parking light wire.

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

A: You can use pin 1-blue/white wire on the Grey Connector 5. 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 and it does not back feed to your accessory. Install the stripe side of the diode facing the control module.

What do I do with the 6 Pin harness on Connector 3?

A: The 8 Pin harness on Connector 3 is used for low current ignition harnesses. DO NOT use this harness with the Connector 1 Harness (the high current power harness) this is ONLY to be used in LOW current applications where High current is not needed for any reason.

Does the CMX series have Tachless mode?

A: Yes. The CMX offers several “no connection” engine sense options. For details, review the “Common Procedures” section of this manual, or feature 2-10 & 2-11 option descriptions.

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

A: Review the “Common Procedures” section of this manual. You must have your remotes programmed, start your vehicle, then hold the remote start button. Vehicle should chirp and/or flash once if it programs, three times if it does not like the tach source.

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

A: The system is in Valet Mode. Tap the Lock and Trunk Buttons for a half second to exit Valet Mode. You can also turn the ignition ‘On ‘then press and release the foot brake 10 times within 10 seconds.

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.

Do the door lock outputs flip flop in polarity?

A: No. You can use the FT-DM700 relay pack for high current positive (+) locks, or the FT-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 Start for 2.5 seconds then the parking lights will flash 1 time on the CMX series showing V.1.

What is this cartridge slot on the CMX?

A: This is the slot for the Blade cartridge system. This slot is for the Idatalink Blade remote start bypass modules. For more information on the compatibility and install information please visit www.compustar.idatalink.com. 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 black 20 pin connector on the control module.

How do I take the system out of Valet Mode with a 1 Button Remote?

A: Turn the ignition on, fully press and release the foot brake 10 times within 10 seconds.

Why are the ignition-controlled door locks option not working?

A. Check option 1-09. It should be set on 2 or 3. **The option must also be turn on via the remote.** On 2 Way LCD remotes tap the Lock and Start Buttons for a half second, the parking lights will flash once to show the option is turned on. On 1 Way remotes tap the Lock and Start buttons for a half second.

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 key side of the starter wire and that the yellow wire is going to the engine side.

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

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 sense mode.

On the brain, how do I set the auxiliaries?

A: You must have an Option Programmer (FT-OP500-KIT) to set the auxiliaries on the CMX. First choose two POC wires on CN5 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. On the CMX Series control modules, Auxiliary 1 is preprogrammed on CN5, Pin 3, White Wire.

WARNING: Manufacturer or seller assumes 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

Technical Support Contacts

Firstech technical support is reserved for authorized dealers **ONLY consumers must contact client services for assistance.**

Monday - Friday: 888-820-3690
(7:00 am – 6:00 pm Pacific Standard Time)

AUTHORIZED FIRSTECH DEALERS ONLY

Web: <https://install.myfirsttech.com>

Wiring Diagrams

Go to www.install.myfirsttech.com to access wiring info. If you are an authorized dealer and unable to access this site, please contact your sales rep or we call 888-820-3690 Monday through Friday, 8 am to 5 pm Pacific Standard Time.

“Knibb High School Football RULES!!”

Consumer site:

- <https://www.compustar.com/>
- <http://www.dronemobile.com/>
- <https://accounts.dronemobile.com/userlogin>

Product, Support, and Vehicle info:

Product manuals, tech tips, training aids:

- <https://install.myfirsttech.com/>

Idatalink interface module flashing:

- <http://myfirsttech.idatalink.com>

Drone activation and testing:

- <http://accounts.dronemobile.com/>

Tech Support page Facebook access:

- <https://www.facebook.com/groups/firstechfeed>

Vehicle wiring database:

- <http://www.install.myfirsttech.com/>

Operation and training videos

- <https://www.youtube.com/channel/UCvLp0NC-DQnoPJVly7do5Kg>

Dealer activation/flashing sites:

Drone activation account:

- <https://accounts.dronemobile.com>

Idatalink and Firstech flashing site:

- <http://myfirsttech.idatalink.com>
- <http://arcticstart.idatalink.com>
- <http://maestro.idatalink.com/>

NOTES:

Write that shit DOWN!