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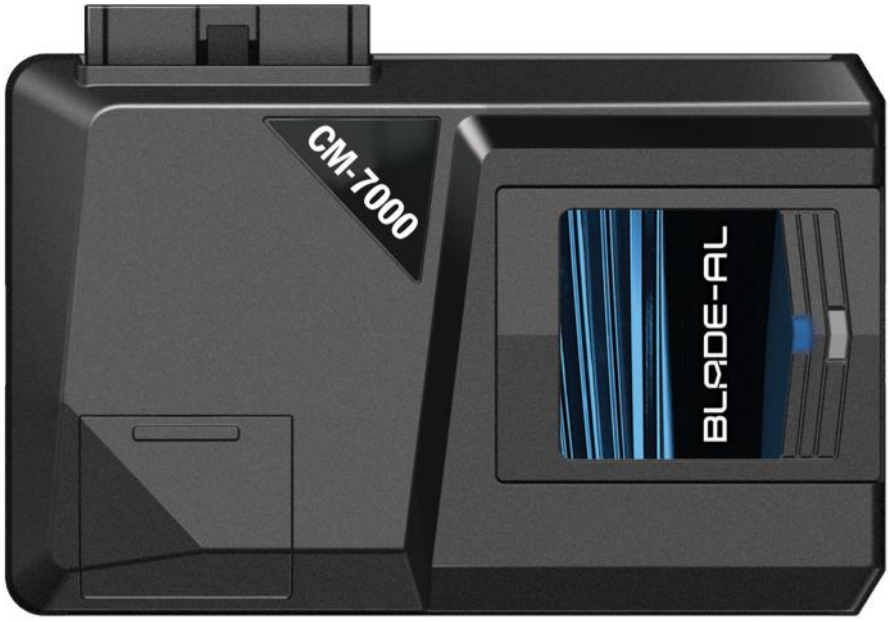

MASTER GUIDE

2019 CM7 v4.0

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Please visit www.firstechdata.com for additional installation resources

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By Firstech LLC Version 1.3

8101MAUSC001600

CM7000 Wiring Schematic

The CM7000 is an alarm and remote starter control module. It is universal and requires a compatible RF Kit or DroneMobile unit.

Visit computech3.com for the full installation guide.

CN5 (GRAY)

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

IMPORTANT:Odd Pin numbers 1 through 15 are programmable for up to 28 different output types.
Please see the installation manual Special Option Group 2 for complete details

CN4 (Black) ADS Blade Connector

Please see the installation manual for the Blade module for details.
This harness is not included with the CM7000.

Pins: 20, 19, ~, 2, 1

CN3 (Black) Low Current Ignition Harness

Function	Wire	Pin
GND	Black	6
(+) 12V Ignition (Output/Input)	Green	5
No Connection	NC	4
(+) 12V Starter Output	Yellow	3
(+) 12V Constant	Red	2
(+) 12V Accessory Output	White	1

CN2 (Black) Back−Up Battery Port

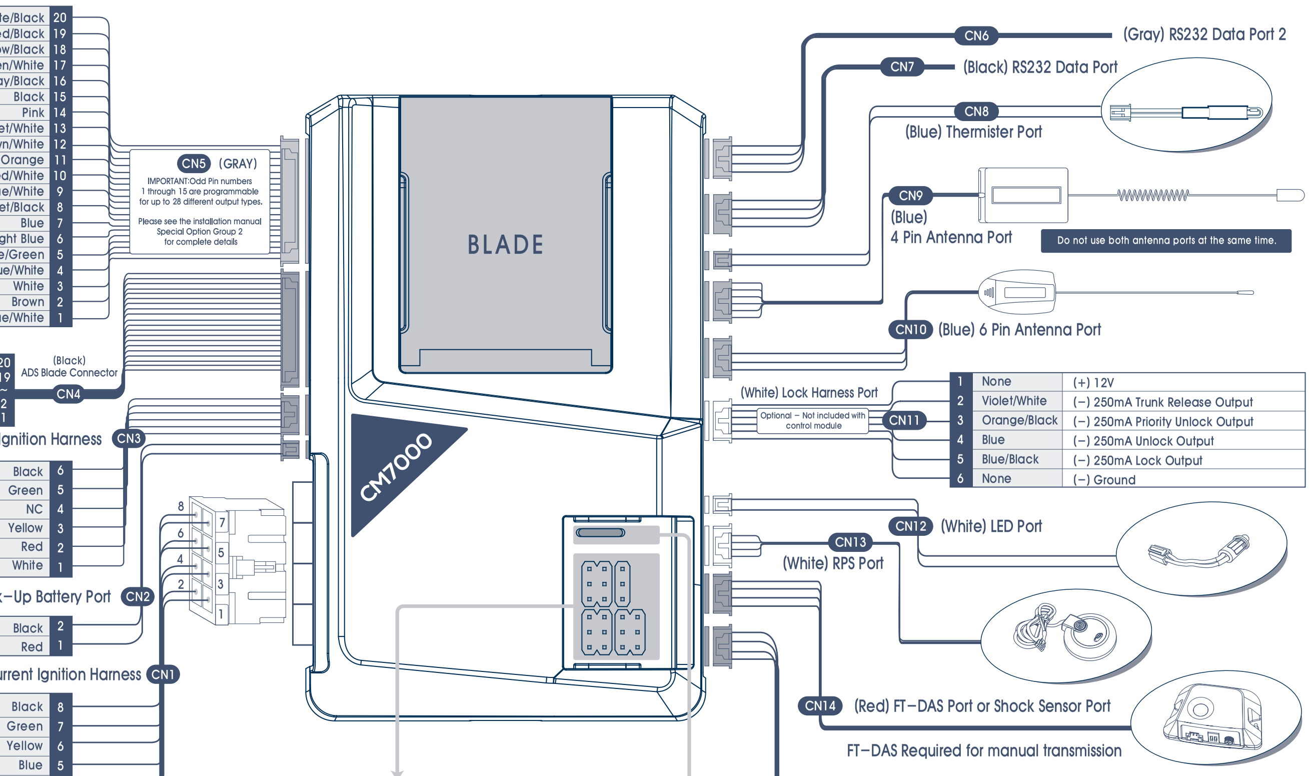
Function	Wire	Pin
GND	Black	2
(+) 12V	Red	1

CN1 (Black) High Current Ignition Harness

Function	Wire	Pin
GND	Black	8
(+) 12V Ignition (Output/Input)	Green	7
(+) 12V Starter	Yellow	6
(+) 12V Selectable by jumper (Default Ignition2)	Blue	5
(+) 12V Selectable by jumper (Default Accessory)	White	4
(+) 12V Constant	Red/White	3
(+) 12V Selectable by jumper (Default Parking Light)	Green/White	2
12V Constant	Red	1

Blade Cartridge Slot – Please visit www.idatalink.com/compustar for compatibility and more information. This slot has a plastic cover that slides off. Turn screw to eject Blade module.

IMPORTANT: Manufacturer or seller assumes no responsibility for any injuries and/or damages caused by improper care of the product such as exposure to the elements or unauthorized modifications.



CN11 (White) Lock Harness Port

Pin	Wire	Function
1	None	(+) 12V
2	Violet/White	(−) 250mA Trunk Release Output
3	Orange/Black	(−) 250mA Priority Unlock Output
4	Blue	(−) 250mA Unlock Output
5	Blue/Black	(−) 250mA Lock Output
6	None	(−) Ground

CN15 (Green) Auxiliary Sensor Port

Pin	Wire	Function
1	Black	GND
2	Black/White	(−)Instant Trigger(2nd Stage)
3	Red	(+) 12V
4	Gray/White	(−)Pre−warn Trigger(1st Stage)

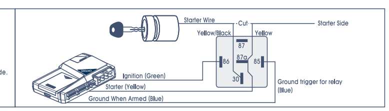
Jumper Setting

Parking Light / Accessory / Ignition (Default)	(+)Door Trigger Input / (−)Door Trigger Input (Default)	
Trunk / Starter / Parking Light (Default)		Starter / Ignition / Accessory (Default)

Green / White Loop

Cut → Auto
Normal → Manual

External Starter Kill/Anti−Grind Relay (CN1, Pin 6) If using optional relay, connect the yellow starter wire from the brain to yellow on relay AND ALSO to vehicle's starter wire.
Connect the blue wire (CN5, Pin 1) to the blue wire on relay.
Connect the green wire from relay to (+) ignition wire from brain AND ALSO to vehicle's ignition wire.
IMPORTANT: Cut vehicle's starter wire in half. Yellow pigtail wire from pin 30 connects to vehicle's starter side. Yellow/black from pin 87a connects to key side. Yellow/white not used.



Introduction

Thank you!

For selecting a Firstech remote start security system as your product of choice. The following manual is a complete Master guide to the CM7 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 www.firstechdata.com

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

This manual may change frequently. Please check www.firstechdata.com for updates.

Kit Contents

All Firstech CM7 controller kits include the following:

- CM7000 or CM7200 main control module
- Wiring diagram sheet
- High Current ignition harness with one external relay
- Low current ignition harness
- Wiring harnesses
- Hood pin
- Mountable bright blue LED (**CM7000 only**)
- FT-DAS or FT-DAS II Firstech Digital Adjustable Sensor (Required for Manual Transmissions) (**CM7000 only**)

RF Kits with remote(s), Antenna, and Antenna Cable are not included with the CM7 controller kit.

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

- Auto lock and unlock system (FT-EZGO)
- Remote pager sensor (FT-RPS TOUCH) or (FT-RPS-2)
- Temperature sensor (FT-TEMP SENSOR) (Drone and 2 Way remote LCD systems)
- Shock sensor (FT-SHOCK)

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 CM7 control module. This includes all 4 and 6 pin antennas.

Any questions on contents please contact your distributor or us directly at 1.888.820.3690, Monday through Friday, 7AM to 5PM 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 five times within 10 seconds and press and release button 1 (half second) on the first remote, and then press and release button 1 (half second) on the second remote.

- [ ] **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 and three parking light flashes indicate that the control module failed to see a proper tach signal. (These units have the option for Tachless and 3 second assume cranking).

- [ ] **DAS Sensor (Required for Manual Transmission Installs):**
The DAS sensor monitors forward movement for remote starting manual transmissions, dual stage impact, and auto adjusting tilt sensor. See the DAS Sensor 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 to allow proper manual transmission function.** You will need to cut the green/white loop inside the control module if you are 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.**

- [ ] **High Current 2nd Ignition Output (CN1 Blue Wire) (Jumper Programmable)**

- [ ] **High Current Parking Light Output (CN1 Green/White Wire) (Jumper Programmable) High**

- [ ] **Current Accessory Output (CN1 White Wire) (Jumper Programmable)**

- [ ] **Optional Low Current Outputs Available (CN3 Pin 1 - 3 Amp (+) In) Harness Included. When Using Connector, CN1 (High Current Connector) Not Required.**

- [ ] **2nd RS232 Data Port (Grey CN6) Default DroneMobile Protocol w/Fortin Protocol Optional.**

- [ ] **Lock connector functions added to Connector 5 - 20 Pin Grey Harness**
Lock connector functions are now available via POC 3, 4 and 7. There is also a lock connector for FT-DM600/FT-DM700 on rear of Control Module. (CN11)

☐ **Built-In Troubleshooting diagnostics**
Notice! In order 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.

Remote Programming Routine

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

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

STEP 2: Within a 2 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 using one of the FMX frequency remotes you will need to tap the programming button on the antenna after the key cycles. The LED on the antenna will come on solid red Tap (a quick 0.5 second press and release) the lock button on the remote. The LED flash green for each remote that is successfully programmed)

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 depress 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 using one of the FMX frequency remotes you will need to tap the programming button on the antenna after the foot brake presses. The LED on the antenna will come on solid red Tap (a quick 0.5 second press and release) the lock button on the remote. The LED will flash green for each remote that is successfully programmed)
Note: If no valid remotes are programmed the CM will enter valet 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 indication 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 3 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.

3. The user may enter valet mode by performing the PTS vehicle remote programming procedure and make sure there are no remotes transmitting.

   Step 1: Set the vehicle to the ignition or "ON" position.

   Step 2: Within 5 seconds turn ignition off

   Step 3: Within 5 seconds set the vehicle to the ignition or "ON" position. (do not start)

   Step 4: Press and release the foot brake 3 times within 5 seconds *parking lights will flash 1 time to indicate programming is enabled.

   Step 5: After 10 seconds, the parking light will flash 2 times, indicating the system has entered valet mode

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

1. **No Remote:** If there are no remotes 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.

Placement and Use of Components

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

Antenna and Cable

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

LED (external)

There will be an external mountable Blue LED for theft deterrent included. 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:

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 RPS (Remote Paging Sensor)

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: www.firstechdata.com **NOTE: If you enter the wrong code more than 5 times within 30 minutes the RPS touch function will be disabled for 1 HOUR**

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

Alarm disarm and 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 www.firstechdata.com) 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 taping 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.

RPS (Remote Paging Sensor) Unlock/Disarm

RPS 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) using the instructions below:

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

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

STEP 3: Knock on the windshield in front of the RPS a total of 5 times (each time you knock the LED on the RPS will flash RED). The LED will begin to flash rapidly in BLUE with successful completion of this step.

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

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

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

STEP 7: Turn the ignition OFF - the RPS disarm/unlock passcode is now programmed. Follow steps 3 – 5 to enter you disarm/unlock code.

Alarm rearm and lock

To rearm, knock on your sensor 5 times.

Alarm disarm and unlock

To disarm, knock on your sensor 5 times. Wait for the Blue LEDs to flash rapidly. Follow STEP 4 and 5 above to enter your 4-digit passcode.

2 Way LCD remote paging

To page a 2 Way LCD remote just knock on the RPS twice.

Knock Panel Sensitivity
To change knock sensitivity, disarm the system and adjust the switch on the rear of the RPS. The larger the circle, the more sensitive the knock sensor is.

FT-DAS (Digital Adjustable Sensor) (Not Programmable with OEM Remotes)
The DAS has a built in accelerometer that monitors sudden movement forward or backward during the remote start process when starting a manual transmission vehicle. DAS ACCCELERAMETOR 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.**
It also includes a dual stage impact sensor, and auto adjusting tilt sensor. Follow the steps below to properly setup your DAS sensor. You can view our programming/ demonstration video located in our video library at www.firstechdata.com.

Installing Your DAS
STEP 1: Make sure Option 4-12 is set to the DAS option. (Default is DAS option 1)
STEP 2: Set switch 1 and 2 on the side of the DAS. *See below for explanation of switches.
STEP 3: Connect cable to the red 4 pin port on the CM7 Series module.
STEP 4: Mount DAS securely using zip ties or included hardware. Can be mounted in any orientation. Tilt will set 30 seconds after arming.

Switch 1:	ON - 3 Degree Tilt	Switch 2:	ON - 4 Inch Movement
	OFF - 1.5 Degree Tilt		OFF - 3 Inch Movement

Adjusting DAS Shock Sensitivity (CM7000, *CM7200, CM6300)
STEP 1: Turn the ignition to the 'on' position. ***(CM7200: Feature 3-06, FO2 must be selected)**

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:**
a. To set Instant Trigger Zone 2, tap button 2. (1 Way: Unlock) 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 DAS.

Optional DAS Shock Sensitivity setting Procedure (CM7000, *CM7200)

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 CM7 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 we should receive 1 chirp or 1 horn honk after 1 second of no incoming commands
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
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

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 DAS

FT-DASII (Digital Adjustable Sensor gen II)

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 ACCCELERAMETOR 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 www.firstechdata.com.

DAS-II (compatible w/ CM7 v3.5+) Programming Procedure

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

STEP 2: Send Unlock command 2 times (unlock => unlock) using any Firstech remote or OEM remote **(capable of Controlling the CM7 through data module)** 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

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

FT-EZGO Setup

The FT-EZGO from Firstech will unlock/disarm the vehicle when in range. It is capable of proximity lock/arm and unlock/disarm when in or out of range off the vehicle. There is a manual override button located on the back of the EZ-GO remote. It will lock/arm, unlock/disarm by press and releasing the button for ½ of a second (0.5 seconds). It will also trigger the trunk release output by press and releasing the button for ½ second (0.5 seconds) then holding for 2.5 seconds.

Installing The FT-EZGO

STEP 1: Set Option 1-14 to Setting 2, 3 or 4

STEP 2: Connect included Blue 6 Pin (With Ground Wire) to Black 6 Pin to control module. If connecting to a 4 Pin to 4 Pin antenna cable, use the included 6 Pin to 4 Pin adapter.

STEP 3: Connect the ground wire from the included 6 Pin to 6 Pin cable to vehicle's ground. ***Warning: Failure to connect this wire WILL result in damage to your FT-EZGO antenna (ANT- RFID).***

STEP 4: If you are using an additional RF kit the antenna cable will connect to the blue 6 pin connector on the EZ-GO antenna either directly or using the 6 to 4 pin adapter harness included with the EZ-GO kit.

STEP 5: Find a spot to mount your ANT-RFID on the windshield. This is recommended for optimum range. For more specific mounting location information visit us at www.firstechdata.com under the Authorized Tech section document titled: “FT-EZGO Recommended Mounting Locations.”

STEP 6: Program your EZ100-R using the standard remote programming procedure along with any additional RF Kit remotes to the control module (Maximum 4 Remotes including EZ100-R). You are now ready to test your FT-EZGO system.

Testing The FT-EZGO

STEP 1: Turn the proximity lock/unlock feature on by holding the button on the EZ100-R for 8-10 seconds. You will get one parking light flash and/or siren chirp. To deactivate the proximity feature simply hold the button again for 8-10 seconds and you will get two parking light flashes and/or chirps to indicate your feature is off.

STEP 2: Proximity locking/unlocking-The main control module will monitor all of the zone inputs that are connected analog or data. In order for the proximity Lock/arm function to work all zones must be closed and ignition off. Once the EZGO remote leaves the proximity of the antenna it will lock/arm within 15 seconds.

a. the proximity unlock feature will unlock the doors as soon as its within proximity of the EZGO antenna once the system has proximity locked.

STEP 3: Proximity unlock- Once the system is locked/armed using a remote, Drone, arm/lock input, RPS, or passive locking feature, allow 15 seconds for the EZGO remote to unlock/disarm the system once its within proximity of the EZGO antenna. I.e. Arm the system wait 15 seconds walk up to the vehicle and it will automatically unlock/disarm.

Siren

We include the standard 6 tone mini siren with every remote start security (AS) kit. We also offer 2 additional siren options 1. Mini Piezo (pain generator) 2. Battery backup siren with key. 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)
Every 2 Way LCD Firstech RF kit includes an optional thermistor, which must be plugged into the blue 2 pin port of the CM7 in order to use properly. 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. (only when premium service is active). The thermistor will also allow for the vehicle to start with timed hot or Cold starting; see features 2-05, 2-07 and 2-08 for the different options. **IMPORTANT:** The 2-pin connector on the end of the thermistor may be white or blue.

Hood Pin
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

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

Jumper 1 (Door Trigger Polarity)
Determines the polarity of the door trigger input wire (red/white). In the default position, the door trigger registers negative (-) triggers. To change to a positive (+) trigger, move the jumper.

Jumper 2 (2nd Ignition / 2nd Starter / 2nd Parking light)
Jumper 2 sets the behavior of the large blue wire on Connector 1. This wire is powered by an internal relay in the control module. In the default position the jumper is set to 2nd Ignition. 2nd Ignition is common on GM and Toyota vehicles and will need to be powered. You can change the behavior of the wire to act as a 2nd Starter or 2nd Parking light to power up those wires common on newer Toyotas and Nissans.

Jumper 3 (Parking Light, 2nd Starter, or (+) Trunk Release)
Determines the output (not polarity) of the green/white wire on connector one (CN1). In the default position it provides a positive (+) parking light output. Additional jumper settings (including Positive (+) 2nd Starter, or positive (+) trunk output) can be selected by moving the jumper positions.

Jumper 4 (Accessory, 2nd Ignition, 2nd Starter)
This Jumper offers additional high current output options using the default Accessory wire on connector one (CN1 white wire). When selected, this wire provides additional positive (+) Ignition or Starter output instead of Accessory.

Setting Auxiliary Outputs on Connector 2

You Must Have the OP500 Option Programmer

Setting auxiliary outputs on the control module involves the Programmable Output Connector wires (POCs). Choose two odd pin wires that you are not using on the grey 20 pin connector. For example, we will use POC 7 and 8.

STEP 1: Plug in OP500 and use the Right or Left Arrow Button to scroll through the menu to POC 7 and POC 8 on LCD Line 1.

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

STEP 3: Scroll up the menu to Option 4-01 and 4-02 and set the options. Please see the Option Table for details.

STEP 4: 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 an 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 (www. firstechdata.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 CM7 will flash parking lights to indicate the tach learn error.

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

NEW "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 can be enabled with a main control module power cycle)***

Alternator Sensing

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

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

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

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

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

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.

Timed Crank Setting – Automatic Transmissions Only
Option 2-10 setting 4 provides a timed 3 second crank for the remote start sequence. This option just cranks the vehicle for 3 seconds and assumes remote start has completed. This option can be used for GM and other vehicles with built in anti-grind systems.

Advanced Tachless
Advanced Tachless is a no connection 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 "voltage sense" feature (2-10 option 3) must be selected and no tach signal input on the main control module should be present. ***With Software update CM7v3.4+ 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 the last feature of Option 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. ***With Software update CM7v3.4+ 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. **WITH FIRMWARE CMv3.5+ ONCE THE ENTER RESERVATION MODE OPTION IS SELECTED THE CM WILL ONLY OPERATE IN MANUAL MODE EVEN IF THE LOOP IS CUT**

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

Installation Requirements

1. FT-DAS or FTDAS II (Digital Adjustable Sensor) must be connected.

2. 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.

3. 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.

4. 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 www.firstechdata.com 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 2-15 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 and remove pressure from the foot brake. At this point you will have 5 minutes to complete reservation mode **("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)***

STEP 2: Remove the key from the vehicle's ignition. The vehicles engine should remain running even after the key has been removed. If the vehicle does not remain running, check the emergency / parking brake connection and your tach connection. **Once user has entered reservation mode there is a 5 minute window to "set" reservation mode before the CM cancels reservation mode.** ***(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 Firstech 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

CM7000, CM7200, and CM7300 dock gives you the ability to use the Blade-AL and Blade-TB modules from Firstech and ADS. With these modules you can virtually eliminate all wire connections between your control module and bypass module. You only need to connect the main ignition harness and 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 compustar.idatalink.com for the specific wiring diagram for that vehicle. **Note: the CM7 has a "Blade Eject" dial on the bottom of the control module that may be turned using a coin or flat tip tool to assist with Blade removal.**

The CM7 Series Blade connector has a locking tab. **Non-locking tab blade harnesses will work but you MUST TAKE CARE TO NOT PLUG THE HARNESS IN UPSIDE DOWN.** Make sure the two notches on the top of the harness face the top (CM and barcode sticker side) of the brain. When looking at the wire side of the harness the two notches must be at the top of the plug.

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

IMPORTANT: Install diagrams are not included and must be downloaded from compustar.idatalink.com when flashing the Blade, you can use the Y-Cable OP500 (gold tag) end and not CM4 Series (silver tag) end. ADS and Firstech recommends using the 4 pin RS232 cable to avoid confusion. Cartridge must be removed to if the CM7 is being updated with a Firstech updater program from www.firstechdata.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.

Wiring Descriptions

Connector 1 (CN1), 8-Pin (NOTE: Please see FT-LC1 for a low current version of CN1)

Pin 1 **Red** - Constant 12V positive (+) power input. *(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.

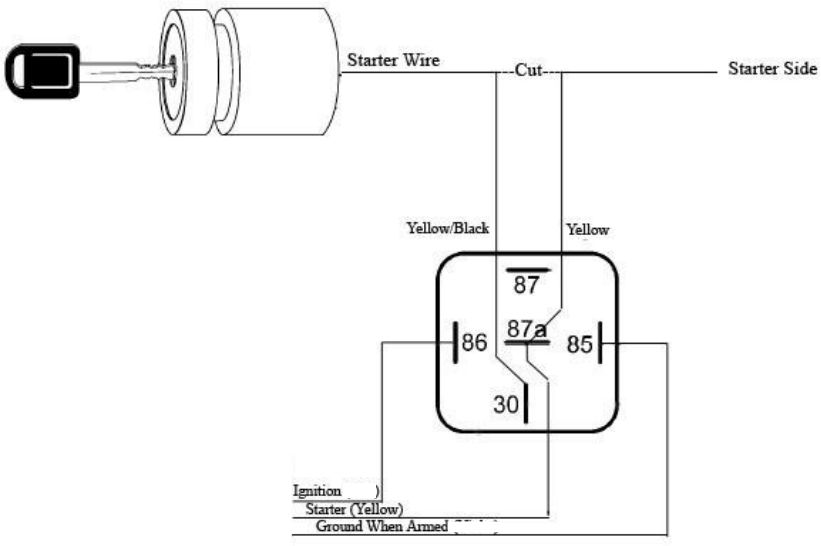
Pin 2 **Green/White - Programmable Output:** This positive (+) parking light wire triggers when you lock, unlock, remote start, or during troubleshooting diagnostics. **Note: This output is programmable and can provide a 2nd starter or (+) trunk release output. This is achieved using Jumpers located under the access door on top of the control module.**

Pin 3 **Red/White** - Constant 12V positive (+) power input. 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 - Programmable Output:** Accessory 12V positive (+) output **(default)**. This wire must be connected to the vehicle accessory / HVAC blower motor wire. The proper wire will test 0V with the key in the off position, (+) 12V while key is in the on position, 0V while cranking and back to (+) 12V when the key is returned to the on position. **Note: This output is programmable and provides a (+) 2nd ignition or (+) 2nd Starter using the jumpers located under the access door on top of the control module.**

Pin 5 **Blue - Programmable Output:** Positive 12V (+) output that powers up during remote start. This output is programmable to provide a (+) 2nd ignition (**default jumper setting**), (+) 2nd Accessory, or (+) parking light output using the jumpers located under the access door on top of the control module.

Pin 6 **Yellow** - Starter 12V positive (+) output. This wire must be connected for remote start. The proper wire will test 0V with the key in the off position, 0V while the key is in the on position and (+) 12V during crank. **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 -** Ignition 12V positive (+)
output and input. This wire must be connected to the vehicle's
ignition for remote start and valet / remote programming. The proper wire will test 0V with the key in the off position, 12 V (+) while the key is in the on position and 12V (+) during crank.

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're having trouble locating a good ground source you can use PIN # 4 at the Standard OBD II connection

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

Pin 1 Red - Constant 12 V positive (+) input and (+) charging output.

Pin 2 Black - Ground (-) negative input.

Connector 3 (CN3), 6-Pin: Low Current power harness
NOTE: This is a low current power harness and is NOT to be used in addition to CN1 (the high current power harness) (NOTE: Please see FT-LC1 for a low current version of CN1) this is ONLY to be used in LOW current applications where High current is not needed for any reason.

Pin 1 **White:** Accessory 12V positive (+) output. This wire must be connected to the vehicle accessory.
The proper wire will test 0V with the key in the off position, (+) 12V while key is in the on position, 0V while cranking and back to (+) 12V when the key is returned to the on position. Note: this is a low current accessory output will not support more than 1A (+)

Pin 2 **Red:** Constant 12V positive (+) power input. This wire must be connected. The proper vehicle wire will test (+) 12V at all times while the key is in the off position, the on position, and during crank. Note: this is a LOW current 12v input and can only support up to 3A. (+)

Pin 3 **Yellow:** Starter 12V positive (+) output. This wire must be connected for remote start. The proper wire will test 0V with the key in the off position, 0V while the key is in the on position and (+) 12V during crank. Note: this is a LOW current (+) starter output and will not support more than 1A (+).

Pin 4 Not Used

Pin 5 **Green:** Ignition 12V positive (+) output and input. This wire must be connected to the vehicles' ignition for remote start and valet / remote programming. The proper wire will test 0V with the key in the off position, 12 V (+) while the key is in the on position and 12V (+) during crank. Note: this is a low current ignition output and will not support more than 1A (+)

Pin 6 **Black:** Ground negative (-) input. This wire **MUST** be connected to the vehicles ground (preferably before any other connection). Note: this is a LOW current ground input and can only support up to 3A. IF you're having trouble locating a good ground source you can use PIN # 4 at the Standard OBD II connection

Connector 4 (CN4), 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://compustar.idatalink.com.

Connector 5 (CN5), Grey 20-Pin: Programmable Output Channel (POC)
IMPORTANT: Odd Pin numbers 1-15 are programmable for up to 30 different output types. Refer to Special Option Group 2 for complete details. Even numbers pins 2-20 do offer 5 PIC (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 compustar.idatalink.com or www.firstechdata.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 30 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 30 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.

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 30 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 30 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 when the vehicle's trunk has been opened. 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 30 additional POC setting options for this POC.**

Pin 10 **Red/White** – [**PIC 4**] Door zone input (-/+) Jumper programmable polarity: **When using (-) jumper setting this wire can be used as a programmable input channel (PIC).** This wire monitors negative (-) or positive (+) trigger door-pins. 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 wire for proper polarity and set the jumper on the control module for the corresponding polarity. **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 timing can be configured using feature 1-05. **Note: There are 30 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 EZGO 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 CM7 to complete reservation mode until the (-) input to the CM7 is removed.

-In case of EZGO the CM7 will monitor all of the Input zones including the (-) keysense input to make sure the (-) input is removed before it will allow it to proximity lock.

-In case of passive arming the CM7 will monitor the keysense input and not allow the CM7 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 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 (this procedure is programmable with feature 1-07 and the output time can be changed using feature 1-15). **Note: There are 30 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 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 most commonly used to trigger bypass / transponder modules. **Note: There are 30 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 6 (CN6), Grey 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 (RS 232 Data Port) ADS/Drone data to data
This connector is used for updating control modules via www.firstechdata.com. You must also use this port to flash Blade bypass modules. This port provides simple connectivity of DroneMobile and iDatalink bypass modules. This port can also be used to communicate with DroneMobile controllers.

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), 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. To use Timer, Start features review Option Group 2. ***(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

Connector 9 (CN9), 4-Pin to 4-Pin or 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. Do not use both Connector 9 and Connector 10 at the same time.

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 to 6-Pin (Pre-wired Antenna Cable)
Connect your antenna cable to this port. You can only use 6 to 6 pin antenna cables. 4 to 4 or 4 to 6 Pin antenna cables do not work. **Do not use both Connector 9 and Connector 10 at the same time.**

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

Pin 2 **White -** TX output. This wire transmits the signal to remote.

Pin 3 **Orange** - Constant 5V output

Pin 4 **Yellow** - RX input. This wire receives the signal from remote.

Pin 5 **Black –** Negative (-) ground.

Pin 6 **Blue -** RX/TX control

Connector 11 (CN11), 6-Pin
Note: This harness is not included with CM7 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 12 (CN12), 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 13 (CN13), 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 14 (CN14), 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 15 (CN14), 4-Pin (Optional Sensor Input)

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

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

Pin 2 **Black/White** [PIC 7] – AUX input (INSTANT TRIGGER): This wire default setting will trigger to full alarm, the CM7000 security system 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 the CM7000 security system 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**

Feature Programming Tables

#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
Feature Removed					
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	
1-9	Ignition controlled door locks	Off	On	RPM Locks (Tach Sensing Mode Only)	
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	EZ-GO RFID Function	Off	FTX/Always Unlock	Unlock	Proximity Lock/Unlock
1-15	Trunk Output Timing	1sec	2 sec	3 sec	4 sec
1-16	Siren/Horn Mute Control on Remote	Disabled	Enabled	Silent Alarm	

#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)	Reservation (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	

#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 CM7000 ONLY **	ON	OFF		
3-6	Security features CM7200 ONLY**	OFF	ON		
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	Key 5 times with Foot Brake Trigger or Remote (Lock + Trunk) while Ignition is on	Key 5 times with Foot Brake Trigger or Remote (Lock + Trunk)		
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	FT-RPS 2	FT-RPS Touch (No LED flash while arm)	

#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	
Feature has been Removed Please see PIC 6 for options					
Feature has been Removed Please see PIC 7 for options					
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	
Feature has been Removed Please see PIC 3 for options					
4-10	Trigger Start System Input	(+) Trigger Start input	(+) Ignition input	(+) keysense input	(+) Glow Plug Input
4-11	DroneMobile or Fortin RS232 Port (Grey Plug)	DR-2000 (Grey 4Pin)	Fortin (Grey 4Pin)		
4-12	Impact Sensor	DAS Sensor	Shock Sensor	1st Stage Disarm Input | 2nd Stage Double Arm Input	1st Stage Disarm Input | 2nd Stage Arm Input
4-13	Antenna Power Save	OFF	1 Day Later	2 Days Later	3 Days Later
4-14	Low Battery Warning	OFF	ON (at 11.7 Volts)	Low Battery Start (11.7 V)	
Feature has been Removed Please see PIC 4 for options					
4-16	Auto Re-Start	OFF	ON w/ 1 Re-Start	ON w/ 2 Re-Start	

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 .30+)
3	AUX2 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes](with OP500 update .30+)
4	AUX3 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes](with OP500 update .30+)
5	AUX4 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes](with OP500 update .30+)
6	AUX5 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes](with OP500 update .30+)
7	AUX6 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes](with OP500 update .30+)
8	AUX7 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes](with OP500 update .30+)
9	Remote Start Runtime	3 ~ 45 [minutes]
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]

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

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

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 CM7 has confirmed remote start success.

FO3 - Lock after start only: Sends a lock command after the CM7 has confirmed remote start success.

FO4 - Lock after shutdown only: will send a lock command only after the CM7 has successfully shut down. ***Note: It will not provide an output if the CM7 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 CM7 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 CM7 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 CM7 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 CM7 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 CM7 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 Reservation Mode: **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 options 2 or 3 are selected the user has the choice to 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 CM7 30 seconds after the last zone is closed. The CM7 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 CM7 has passively armed itself. The CM7 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.

1-09 Ignition Controlled Locks **(DRIVE LOCK):** When FO 2-4 are selected, the user can 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 CM7. The CM7 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 CM7 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 CM7 to automatically relock/rearm 30 seconds after CM7 has been disarmed/unlocked. This will only happen if no zones have not been opened.

FO3 - 60 seconds: This option allows the CM7 to automatically relock/rearm 60 seconds after CM7 has been disarmed/unlocked. This will only happen if no zones have not been opened.

FO4 - 5 minutes: This option allows the CM7 to automatically relock/rearm 5 minutes after it has been disarmed/unlocked. This will only happen 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 CM7.

FO2 - On:

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. (orange/white by default)

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

FO1 - Off (default): No EZGO functions are enabled by default.

FO2 - FTX EZGO "always unlock": This option will enable the EZGO proximity unlock feature after activating with the EZ100-R remote. (Refer to the EZGO section of this manual for specific operating instructions) The CM7 will always send the unlock/disarm output when the EZ100-R enters the proximity field regardless of the current state of the CM7. (i.e. armed/locked-disarmed/unlocked). Once the EZ100-R leaves the proximity field, it will be set to send the unlock/disarm output as soon as it re-enters. ***Note: because the EZGO antenna is always searching for the EZ100-R, it will produce more current draw than the standard EZGO unlock option 3.***

FO3 - EZGO "unlock only": (The CM7 must be in an armed state for this option) This option will enable the EZGO proximity unlock/disarm feature after activating with the EZ100-R remote. (Refer to the EZGO section of this manual for specific operating instructions). The CM7 will be ready to send the disarm/unlock command 12-15 seconds after the system has been armed using a Firstech remote or accessory (RPS, Drone, OEM remote input). Once the EZGO system is ready and the remote enters the proximity field, it will unlock/disarm.

FO4 - EZGO lock and unlock: This option will enable the EZGO proximity lock/arm and unlock/disarm features once it's activated using the remote. (Refer to the EZGO section of this manual for specific operation instructions.) The EZGO will arm/lock approx. 12-15 seconds after the RFID remote leaves proximity of the EZ-GO antenna and all zones being monitored (including any key sense or ignition inputs) are closed or off. As soon as the CM7 is armed/locked the proximity unlock is active and will unlock/disarm as the EZGO remote enters the proximity field. ***Note: because the EZGO antenna is always searching for the EZ100-R, it will produce more current draw than the standard EZGO unlock option 3.***

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 Firstech remote.
FO1 - Disabled: (default) will not allow for the Firstech **remote or DroneMobile t**o 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 Firstech 4/5 button remote or DroneMobile.
FO3 – Silent ALARM: This option will allow the user to activate or deactivate the arm/disarm chirps using a Firstech 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 DroneMobile 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 CM7 releases the starter based on the sampled tach signal.
FO1 - Optimal Tach reading: This option will allow the CM7 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 CM7 to record the idle voltage which it is being programmed. The CM7 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 Firstech 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 activate 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 Firstech remote or accessory. ***Note: when using Turbo Mode with a manual transmission, the CM7 will not lock the doors automatically. Before the turbo timer expires, the system must be locked using the Firstech 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 Firstech remote or accessory. ***Note: when using Turbo Mode with a manual transmission, the CM7 will not lock the doors automatically. Before the turbo timer expires, the system must be locked using the Firstech 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 Firstech remote or accessory. ***Note: when using Turbo Mode with a manual transmission, the CM7 will not lock the doors automatically. Before the turbo timer expires, the system must be locked using the Firstech 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 CM7 to wait to start.
FO1 - Wire: (default) This option will allow the CM7 to read input on brown/white wire. (PIC3) It may be connected to a wait to start indicator on a diesel vehicle. When the CM7 sees (-) negative input, it will delay the crank output for 99 seconds or until negative 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 CM7 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 CM7.
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: 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 CM7 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 CM7 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 CM7 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 CM7 will wait 3 hours, remote start and run for 4 minutes unless the cold start feature is enabled. If this is the case, the CM7 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 CM7 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 - Reserve runtime: (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 CM7 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 CM7 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) PROGRAMABLE: 1-45 Minutes (using the OP500 programmer with software v.30 or newer that can be found at www.firstechdata.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.firstechdata.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.firstechdata.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 CM7 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 mat 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 update)** (default to 3 seconds), then leave the rest of the CM7 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).* **NEW* 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 CM7 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 for it to work properly. If there is tach signal input to the CM7 either analog or data interface module, this option will not operate consistently. **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 active 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, to leave the vehicle running and enter manual transmission reservation mode.

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)

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.

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 milliseconds 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 CM7 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 CM7 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 CM7 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 features of the CM7000, or CM7200. Security features include sensor inputs, zone inputs (unless using with manual transmission), horn, and siren output. Basic features will function normally (lock, unlock, trunk release, remote start, parking lights.) *Please note the control module model when determining the correct feature option.*

FO1 - On: (default CM7000)/ FO1- OFF: (default CM7200) Depending on the Control Module this option will enable or disable the security features.

FO2 - Off: (CM7000 default)/ FO2- ON: (CM7200) Depending on the Control Module this option will enable or disable the security features.

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.***

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 form 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 CM7 will provide an output on any POC programmed with setting 22(VAC: Ventilation-Air Conditioning) which can be used to vent widows, 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 CM7 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 DroneMobile. **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 CM7 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**:** (Remote Paging Sensor) this feature sets the RPS hardware being used with the CM7.

FO1 - RPS Touch: (default) this option enables the RPS touch functions when using the RPS touch hardware with the CM7. RPS can be used to arm/lock and disarm/unlock a CM7 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 - RPS II: (knock sensor) This option enables the RPS II functions when using the RPS II hardware with the CM7. RPS can be used to arm/lock and disarm/unlock a CM7 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 II hardware.

FO3 - RPS Touch NO LED FLASH WHILE ARMED: This option enables the RPS touch functions when using the RPS touch hardware with the CM7 but the LED WILL NOT FLASH WHILE ARMED. RPS can be used to arm/lock and disarm/unlock a CM7 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.

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 an 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 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 CM7 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 CM7 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 CM7 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 CM7 is **ARMED**. While the system is disarmed or unlocked this step is not required.

4-06 AUX **input 1 (-): This feature has been removed. Please see Special options group 3 AUX sensor Input PIC 6 settings for more options**

4-07 AUX **input 2 (-): This feature has been removed. Please see Special options group 3 AUX sensor Input PIC 7 settings for more options**

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 **3 (-): This feature has been removed. Please see Special options group 3 PIC settings for more options**

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 an 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 EZGO 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 CM7. ***Note: This option is required when using with a manual transmission vehicle.***

FO2 - Standard Shock: This option allows the CM7 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 CM7 arm/lock and disarm/unlock input. ***Note: the arm input requires 2 pulses to trigger arm/ lock and 1 pulse to disarm/unlock.***

FO4 - Arm/Disarm input: this option allows the impact sensor port (red) to be used as a CM7 arm/lock and disarm/unlock input. ***Note: the arm input requires 1 pulse to trigger arm/ lock and 1 pulse to disarm/unlock.***

4-13 Antenna **power save:** this will allow the CM7 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:** This feature offers low battery options to help alert the user of a low battery in the vehicle.

FO1 - Off: (default) This option does not provide a low battery indication.

FO2 - On: This option will provide an alert to any Firstech 2 Way LCD remote or Drone when the vehicle's battery voltage (at the CM7 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.***

FO3 - On + Start: This option will provide an alert to any Firstech 2 Way LCD remote or Drone when the vehicles battery voltage (at the CM7 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 CM7 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.

4-15 **Door Status Input: This Feature has been removed please see Special Options group 3 PIC settings for more options**

Special Option Groups 1, 2, and 3

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

Special Option Group 2

This special option group allows you to determine the output type of the 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 CM7 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 CM7 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 CM7 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 CM7 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.

NEW* 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 EZGO:** provides a 250mA (-) negative output on any POC programmed with this setting, (based on timing set for AUX 3) ***only when the CM7 is unlocked using the EZGO proximity unlock feature.***

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 5 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**.

NEW* 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.

Special Options Group 3: This special option group allows you to determine the input type of the PIC **(Programmable Input Channel)** 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 CM7000 ONLY pin 4): (-) Prewarn Input (default setting) (function also PIC setting 13.)

PIC 7 - AUX INPUT 2 (Green Connector CM7000 ONLY 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 remote starting manual transmission vehicle.

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.

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 remote starting manual transmission vehicle.

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.**

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 CM7 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.

****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 doesn't 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

Option Programming

How to Program Options
There are two ways to set options on the CM7 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 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 **(in case of CM2305/CM7300 use door input in place of foot brake input)**

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've 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)**

How to Program Options with 5 Button 2-Way Remotes							
	Wait for chirp between each tap	**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 on 2 Way Remotes with Separate Lock and Unlock Buttons							
	Wait for chirp between each tap	**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 2 Way Remotes with Roman Numerals							
	Wait for chirp between each button 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	(1 + 2) for 3 seconds then (1 + 2) for 3 seconds	Tap Button 4		Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4
Option Menu 2	(1 + 2) for 3 seconds then (1 + 4) for 3 seconds	Tap Button 4		Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4
Option Menu 3	(1 + 4) for 3 seconds then (1 + 2) for 3 seconds	Tap Button 4		Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4
Option Menu 4	(1 + 4) for 3 seconds then (1 + 4) for 3 seconds	Tap Button 4		Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4

How to Program Options With 1 Way Remotes							
	Wait for chirp between each button 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

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.

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.

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 off (manual transmission only)
8	Tach or tachless sensing failure
9	DAS sensor 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 amount 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 CM7000 and CM7200.

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 doesn't 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 6 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 CM7 series have tachless mode?
A: Yes. The CM7000 and CM7200 are tachless. For details, review the "Common Procedures" section of this manual.

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 'and press 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 locks 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 CM7 series showing V.1.

What is this cartridge slot on the CM7000, CM7200, CM7300, CM900S, and CM900AS?
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 and tap 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 CM4000, CM4200-DX, CM4300, CM5000, CM5200, CM6000, CM6200, CM6300, CM7000 and CM7200. 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 CM7 Series control modules, Auxiliary 1 is preprogrammed on CN5, Pin 3, White Wire.

"Knibb High School Football RULES!!"

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.

Monday - Friday: 888-820-3690
(7:00 am – 5:00 pm Pacific Standard Time) Email:

techfeed@compustar.com

Web: www.firstechdata.com

Wiring Diagrams

Go to www.firstechdata.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.

1 min

FIRSTECH

MASTER GUIDE

2019 CM900S/AS v1.15

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Please visit www.firstechdata.com for additional installation resources

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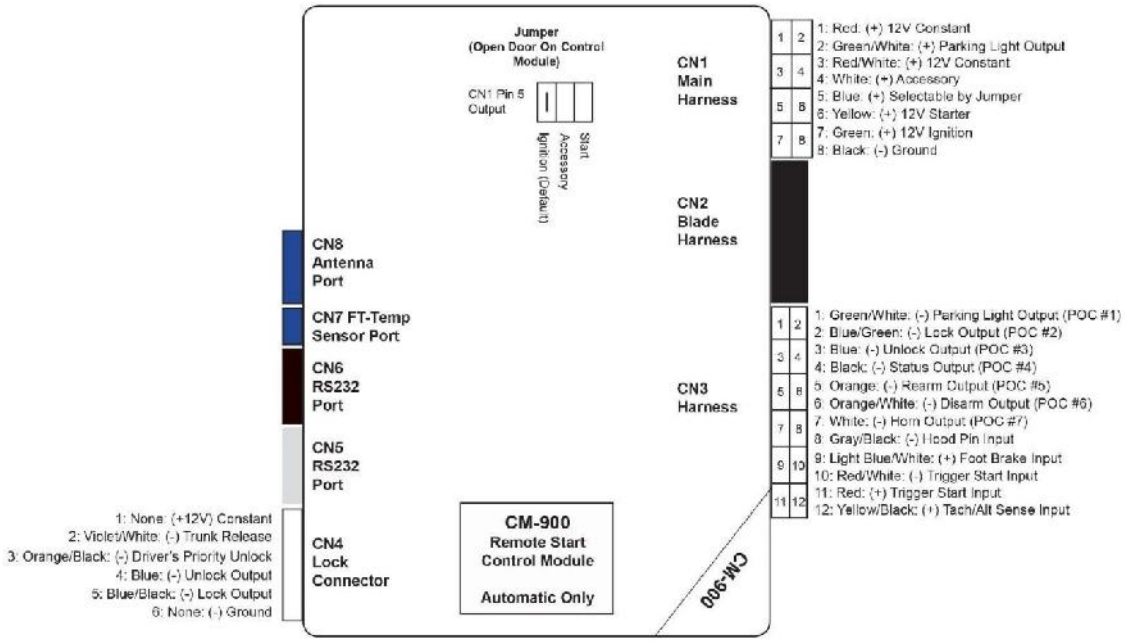
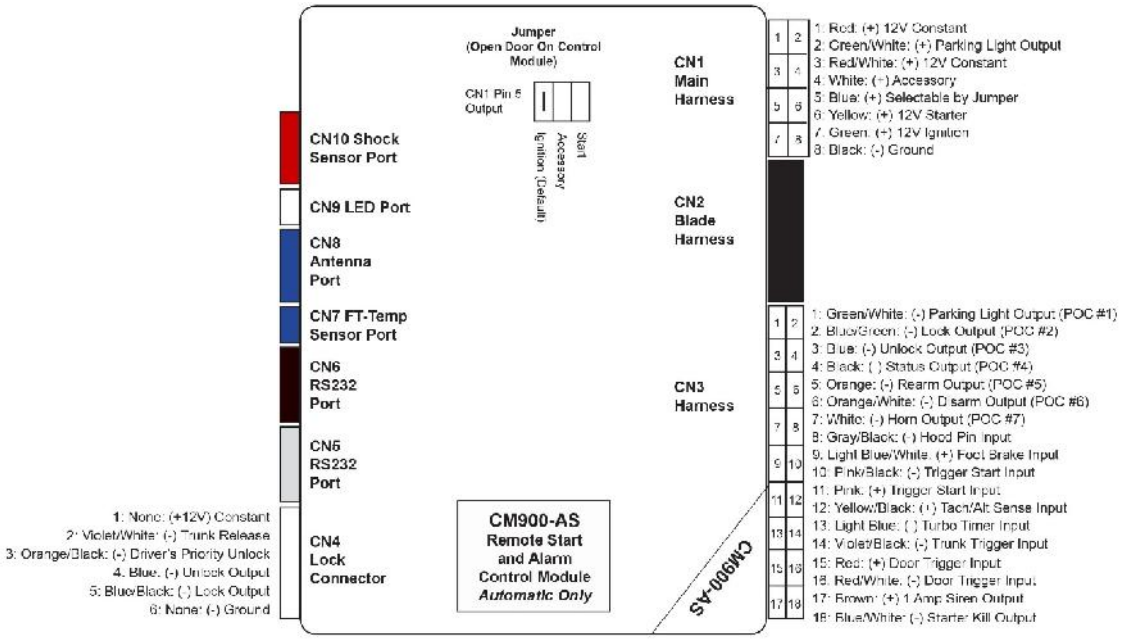
CM-900S Wiring Schematic (Remote Start)



CM-900AS Wiring Schematic (Alarm-Remote Start)



Introduction

Thank you!

For selecting a Firstech remote start security system as your product of choice. The following manual is a complete Master guide to the CM900 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 dial 9 then ext. 203 or visit our website at www.firstechdata.com

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

This manual may change frequently. Please check www.firstechdata.com for updates.

Kit Contents

All Firstech CM900 bundles include the following:

- CM900S or CM900AS main control module
- Wiring diagram sheet
- High Current ignition harness with one external relay (CM900AS only)
- Additional I/O Wiring harnesses
- Hood pin
- Mountable bright blue LED (**CM900AS only**)
- FT-SHOCK dual stage impact sensor (**CM900AS only**)
- RF Kits with remote(s), Antenna, and Antenna Cable

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

- Drone
- Temperature sensor (FT-TEMP SENSOR)
- DAS II (2 stage impact, Tilt, Glass break all in one sensor)

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 CM900 control module.

Any questions on contents please contact your distributor or us directly at 1.888.820.3690, Monday through Friday, 7A to 5PM 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 five times within 10 seconds and press and release the Lock button (half second) on the first remote, and then press and release Lock button (half second) on the second remote. Make sure to program a remote in each of the 4 remote banks. You may program single remote into multiple banks if necessary

☐ **The CM900 will be set to Tachless mode out of the box. If you wish to use Tach mode, complete the Tach programming procedure as described below and the CM will automatically switch to Tach mode.**

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 and three parking light flashes indicate that the control module failed to see a proper tach signal. (These units have the option for Tachless and 3 second assume cranking).

☐ **High Current 2nd Ignition Output (CN1 Blue Wire) (Jumper Programmable)**

☐ **High Current Parking Light Output (CN1 Green/White Wire) (Programable Feature 1-06) High**

☐ **Current Accessory Output (CN1 White Wire)**

☐ **Optional Low Current Harness (FT-LC1) Available**

☐ **2nd RS232 Data Port (Grey CN6) Default DroneMobile Protocol w/Fortin Protocol Optional.**

☐ **Lock connector functions added to I/O Connector**
Lock connector functions are now available via POC's There is also a lock connector for FT- DM600/FT-DM700 on rear of Control Module.

☐ **Built-In Troubleshooting diagnostics**
Notice! In order 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.

Remote Programming Routine

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

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

STEP 2: Within a 2 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 depress 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

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 indication 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 3 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.

3. The user may enter valet mode by performing the PTS vehicle remote programming procedure and make sure there are no remotes transmitting.

Step 1: Set the vehicle to the ignition or "ON" position.

Step 2: Within 5 seconds turn ignition off

Step 3: Within 5 seconds set the vehicle to the ignition or "ON" position. (do not start)

Step 4: Press and release the foot brake 3 times within 5 seconds *parking lights will flash 1 time to indicate programming is enabled.

Step 5: After 10 seconds, the parking light will flash 2 times, indicating the system has entered valet mode

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

1. **No Remote:** If there are no remotes 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.

Placement and Use of Components

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

Antenna and Cable

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

FT-Shock

This is an analog dual stage impact sensor included with the CM900AS kit. The CM900As is default to accept the FT-shock and provides warn away and full trigger outputs. There is a dial located at the end of the egg shaped FT-shock with settings from "off" then 1-10 sensitivity level, 1 being the least sensitive and 10 being the most sensitive (10 will pick up the wind blowing 😊). We recommend mounting the sensor with the plastic mounting strap included preferably as centered to the vehicle as possible. Due to its extreme sensitivity the vehicle plastic heater ducting makes for a good mounting surface.

LED (external)

There will be an external mountable Blue LED for theft deterrent included. 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:

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**

FT-DASII (Digital Adjustable Sensor gen II) (**CM900AS only**)

The DASII 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 www.firstechdata.com.

DAS-II Programming Procedure

Installing Your DAS

NOTE 1: Make sure Option 4-12 is set to the DAS option.
NOTE 2: Connect cable to the red 4 pin port on the CM900AS.
NOTE 3: Mount DAS securely using zip ties or included hardware
Sensor can be mounted in any orientation, tilt will set 30 seconds after arming.

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

STEP 2: Send Unlock command 2 times (unlock => unlock) using any Firstech remote or OEM remote **(capable of Controlling the CM7 through data module)** 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

STEP 8: You are now ready to test the DAS

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

Optional DAS Shock Sensitivity setting Procedure (CM7000, *CM7200)

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 CM900AS 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 we should receive 1 chirp or 1 horn honk after 1 second of no incoming commands
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
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

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 DAS

Siren
We include the standard 6 tone mini siren with every remote start security (**CM900AS**) kit. We also offer 2 additional siren options 1. Mini Piezo (pain generator) 2. Battery backup siren with key. 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 **(CM900AS only)** to desired options.

Thermistor (Temperature Sensor)
Every 2 Way LCD Firstech RF kit includes an optional thermistor, which must be plugged into the blue 2 pin port of the CM900 in order to use properly. 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 and 2-08 for the different options. We also offer temperature based Defrost options to activate the output automatically Feature 3-13 and 3-14

Hood Pin
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

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

Blue IGN 2 output wire: Jumper 2 (2nd Ignition / 2nd Starter / 2nd ACC)
Jumper 2 sets the behavior of the large blue wire on Connector 1. This wire is powered by an internal relay in the control module. In the default position the jumper is set to 2nd Ignition. 2nd Ignition is common on GM and Toyota vehicles and will need to be powered. You can change the behavior of the wire to act as a 2nd Starter or 2nd Parking light to power up those wires common on newer Toyotas and Nissans.

Green/White PRK Light output wire: Feature 1-06 (Parking Light, 2nd Starter, or (+) Trunk Release)
Determines the output (not polarity) of the green/white wire on connector one (CN1). In the default position it provides a positive (+) parking light output. Additional settings (including Positive (+) 2nd Starter, or positive (+) trunk output) can be selected by changing feature 1-06 options.

Setting Auxiliary Outputs on Connector 2
You Must Have the OP500 Option Programmer
Setting auxiliary outputs on the control module involves the Programmable Output Connector wires (POCs). Choose two POC wires that you are not using on I/O connector. For example, we will use POC 6 and POC 7.

STEP 1: Plug in OP500 and use the Right or Left Arrow Button to scroll through the menu to POC 6 or POC 7 on LCD Line 1.

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

STEP 3: Scroll up the menu to Option 4-01 and 4-02 and set the options. Please see the Option Table for details.

STEP 4: 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 an 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. ***There are 2 other options for this security override feature, please see feature table and descriptions for each option***

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 (www. firstechdata.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 changes.

Tach Sensing

The default engine sensing mode is tachless (voltage sense). In cold weather climates we recommend using Tach sense for more reliable and consistent starting. The CM900 can be switched to tach mode automatically by performing the following steps. ***Firstech recommends using a digital multimeter when testing for tach.***

STEP 1: 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 when hardwiring.

STEP 2: 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 3: Learn tach: Activate the remote start sequence 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 would indicate the tach did not learn. A few seconds after the 2 flashes, the CM900 will flash parking lights to indicate the tach learn error.

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

"EZ TACH" programming procedure ***(only available when set to tach mode feature 2-10 option 12)***

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 can be enabled with a main control module power cycle)***

Alternator Sensing

Alternator sensing is another method the remote start can utilize to determine if the engine is running. This is different than the tachless mode and a wire to wire connection must be made.

STEP 1: Change Option 2-10 to setting 3 - 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 default setting for CM900S/AS)
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: Set Option 2-10 to setting 1 – 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.

Timed Crank Setting – Automatic Transmissions Only
Option 2-10 setting 4 provides a timed 3 second crank for the remote start sequence. This option just cranks the vehicle for 3 seconds and assumes remote start has completed. This option can be used for GM and other vehicles with built in anti-grind systems.

Advanced Tachless
Advanced Tachless is a no connection 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 feature (2-10 option 1) must be selected and no tach signal input on the main control module should be present.

Assumed Timed Crank
Assumed Time Crank is the last feature of Option 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.

Wiring Descriptions

Connector 1 (CN1), 8-Pin (NOTE: Please see FT-LC1 for a low current version of CN1)

Pin 1 **Red** - Constant 12V positive (+) power input. *(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.

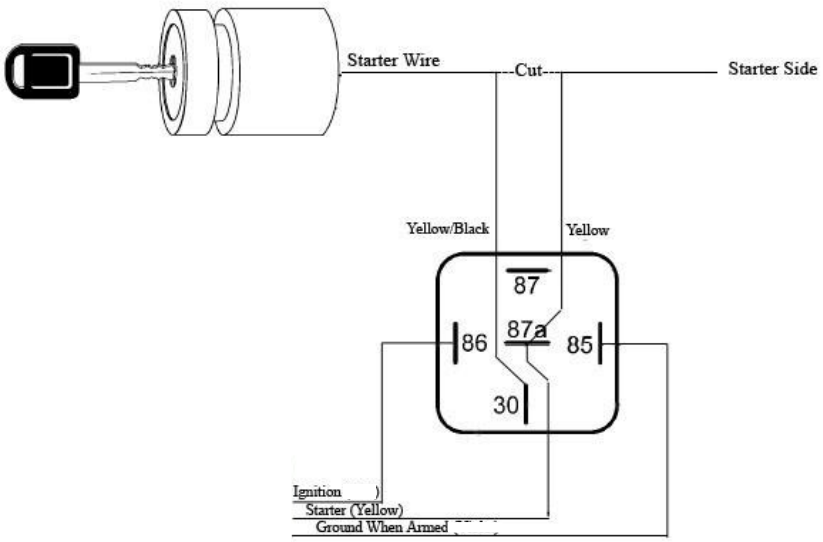
Pin 2 **Green/White - Programmable Output:** This positive (+) parking light wire triggers when you lock, unlock, remote start, or during troubleshooting diagnostics. **Note: This output is programmable and can provide a 2nd starter or (+) trunk release output. This is achieved using Jumpers located under the access door on top of the control module.**

Pin 3 **Red/White** - Constant 12V positive (+) power input. 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 Output:** Accessory 12V positive (+) output **(default)**. This wire must be connected to the vehicle accessory / HVAC blower motor wire. The proper wire will test 0V with the key in the off position, (+) 12V while key is in the on position, 0V while cranking and back to (+) 12V when the key is returned to the on position.

Pin 5 **Blue - Programmable Output:** Positive 12V (+) output that powers up during remote start. This output is programmable to provide a (+) 2nd ignition (**default jumper setting**), (+) 2nd Starter, or (+) Accessory output using the jumpers located under the access door on top of the control module.

Pin 6 **Yellow** - Starter 12V positive (+) output. This wire must be connected for remote start. The proper wire will test 0V with the key in the off position, 0V while the key is in the on position and (+) 12V during crank. **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 .**



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

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're having trouble locating a good ground source you can use PIN # 4 at the Standard OBD II connection

Connector 2 (CN2), 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://compustar.idatalink.com.

Connector 3 (CN3) CM900AS, Grey 18-Pin: Input/Output harness (I/O harness)
IMPORTANT: Pins 1-7 are programmable for up to 19 different output types. Refer to Special Option Group 2 for complete details. **Note: These inputs/outputs are subject to change, for the latest software update and feature table please visit compustar.idatalink.com or www.firstechdata.com**

Pin 1 **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.
Note: There are 18 additional POC setting options for this POC.

Pin 2 **Blue/Lt. Green** - [POC 2] 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 18 additional POC setting options for this POC

Pin 3 **Blue** - [POC 3] 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 18 additional POC setting options for this POC

Pin 4 **Black** - [POC 4] 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 most commonly used to trigger bypass / transponder modules. **Note: There are 18 additional POC setting options for this POC**

Pin 5 **Orange** - [POC 5] 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 timing can be configured using feature 1-05.
Note: There are 18 additional POC setting options for this POC

Pin 6 **Orange/White** - [POC 6] 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 18 additional POC setting options for this POC**

Pin 7 **White** - [POC 7] 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 18 additional POC setting options for this POC**

Pin 8 **Gray/Black** - 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.

Pin 9 **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.

Pin 10 **Pink/Black** - Trigger start (-) input: This wire can be used to activate/deactivate the remote start sequence when it receives a ground pulse based on feature 2-04 option setting 1, 2, or 3 pulses.

Pin 11 **Pink** - Positive (+) input: Trigger start which will activate/deactivate the remote start sequence when it receives a positive or B+ pulse based on feature 2-04 option setting 1, 2, or 3 pulses is the default setting. This can be done with a door lock motor output being operated by a factory keyless entry or another external source. **There are additional options for this Input please check feature 4-10**

Pin 12 **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. ***Tach programming procedure can be found on page 13.***

Pin 13 **Light Blue** - Turbo Timer / Parking / Emergency brake (default setting) negative This input is required for 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.

Pin 14 **Violet/Black** - Trunk zone input: This is an optional input that will monitor when the vehicle's trunk has been opened. The proper wire will provide a (-) trigger while the trunk is open.

Pin 15 **Red** - Door zone input (+): This wire monitors positive (+) trigger door-pins for security and turbo timer purposes. The proper wire in the vehicle, will provide a (+) trigger only when the doors are opened. You will need to test the wire for correct polarity.

Pin 16 **Red/White -** Door zone input (-): This wire monitors negative (-) trigger door-pins for security and turbo timer purposes the proper wire in the vehicle, will provide a negative (-) trigger only when the doors are opened. You will need to test the wire for correct polarity.

Pin 17 **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 18 **Blue/white** - 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.

Connector 3 (CN3) CM900S White 12 pin Input/Output harness (I/O harness)

Pin 1 **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.
Note: There are 18 additional POC setting options for this POC.

Pin 2 **Blue/Lt. Green** - [POC 2] 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 18 additional POC setting options for this POC

Pin 3 **Blue** - [POC 3] 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 18 additional POC setting options for this POC

Pin 4 **Black** - [POC 4] 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 most commonly used to trigger bypass / transponder modules. **Note: There are 18 additional POC setting options for this POC**

Pin 5 **Orange** - [POC 5] 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 timing can be configured using feature 1-05.
Note: There are 18 additional POC setting options for this POC

Pin 6 **Orange/White** - [POC 6] 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 18 additional POC setting options for this POC**

Pin 7 **White** - [POC 7] 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 18 additional POC setting options for this POC**

Pin 8 **Gray/Black** - 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.

Pin 9 **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.

Pin 10 **RED/White** - Trigger start (-) input: This wire can be used to activate/deactivate the remote start sequence when it receives a ground pulse based on feature 2-04 option setting 1, 2, or 3 pulses.

Pin 11 **RED** - Positive (+) input: Trigger start which will activate/deactivate the remote start sequence when it receives a positive or B+ pulse based on feature 2-04 option setting 1, 2, or 3 pulses is the default setting. This can be done with a door lock motor output being operated by a factory keyless entry or another external source. **There are additional options for this Input please check feature 4-10**

Pin 12 **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. ***Tach programming procedure can be found on page 13.***

Connector 4 (CN4), 6-Pin Note: This harness is not included with CM7 wire harness kits. The Lock (POC 2), Unlock (POC 3), Trunk release outputs have been moved to CN3 I/O 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 5 (CN5), Grey 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 6 (CN6), Black 4-Pin (RS 232 Data Port) ADS/Drone data to data
This connector is used for updating control modules via www.firstechdata.com. You must also use this port to flash Blade bypass modules. This port provides simple connectivity of DroneMobile and iDatalink bypass modules.
This port can also be used to communicate with DroneMobile controllers.
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), 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. To use Timer, Start features review feature Group 2, and defrost features in feature group 3

Pin 1 **Black -** Thermistor

Pin 2 Black/White - Thermistor

Connector 8 (CN8), 4-Pin to 4-Pin or 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. Do not use both Connector 9 and Connector 10 at the same time. 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 9 CM900AS ONLY (CN9), 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 10 CM900AS ONLY (CN10), 4-Pin (Pre-wired FT Shock 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)

Feature Programming Tables

#1	Feature	Feature Group 1			
		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
1-6	Parking light High Current Relay	(+) Parking Light Output 10A Max	(+) Starter Output 10A Max	(+) Trunk Release 10A Max	
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	
1-9	Ignition controlled door locks	Off	On	RPM Locks (Tach Sensing Mode Only)	
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	Arm/Disarm Remote Paging by Datalink Module	Off	On		
1-13	Double pulse Disarm	Standard	Double Pulse		
1-15	Trunk Output Timing	1sec	2 sec	3 sec	4 sec
1-16	Siren/Horn Mute Control on Remote	Disabled	Enabled	Silent Alarm	

#2	Feature	Feature Group 2			
		Default(I)	Option (II)	Option (III)	Option (IV)
2-1	Tach Sensing Type	Optimal Tach Threshold	Previous Tach Method		
2-2	Turbo mode. **CM900AS ONLY**	Off	2 Min	1Min	4 Min
2-3	Diesel timer.	Off	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)	Reservation (Runtime 2-7)	24 Hour Repeat with Cold Starting 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 ~ 40°C / 68°F ~ 104°F (40°C / 104°F default)
2-10	Engine Sensing	Tachless no connection	Tach	Alternator	No Connection (3.0sec Start -Assume Running, Automatic Transmission only)
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		
2-14	Turbo "set with" **CM900AS ONLY**	(Parking Brake) is set	(Parking Brake): set + Hold start button for 2.5 sec	(Parking Brake): set → Release → (within 7 seconds) set	
2-15	Turbo "Start Timer"**CM900AS ONLY**	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	Shutdown by Door Open after Remote Start **CM900AS ONLY**	Off	On		

#3	Feature	Feature Group 3			
		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	Confirmation Chirps	Medium (30mS)	Short (15mS)	Normal (60mS)	
3-3	Dome Light Delay **CM900AS ONLY**	Off	5 sec	45 sec	Auto
3-4	Starter-Kill relay.	Anti-Grind + Starter Kill	Anti-Grind	Anti-Grind + Passive Starter Kill	
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 Output **CM900AS ONLY**	On Lock, Unlock, and Start	On Double Lock Only	On Lock and Unlock	On Double Lock and Start
3-10	Valet	Key 5 times with Foot Brake Trigger or Remote (Lock + Trunk) while Ignition is On	Key 5 times with Foot Brake Trigger or Remote (Lock + Trunk)		
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	

#4	Feature	Feature Group 4			
		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	Arm	Disarm	
4-4	Aux 2 output Control	By Remote	Arm	Start	
4-5	Secure Aux Output (1 and 2 Only)	On	Off	On While Armed	
4-8	Aux 1 and Aux 2 Control for iDatalink Modules (Sliding Doors)	Off	Unlock, Factory Disarm, and Sliding Door Control	Factory Disarm and Sliding Door Control Only	
4-10	(+/-) Trigger Start Input	Trigger Start input	Ignition input	keysense input	Glow Plug Input
4-11	DroneMobile or Fortin on 2nd RS232 Port (Grey Plug)	DR-2000 (Grey 4Pin)	Fortin (Grey 4Pin)		
4-12	Impact Sensor **CM900AS ONLY**	Shock Sensor	DAS Sensor	1st Stage Disarm Input | 2nd Stage Double Arm Input	1st Stage Disarm Input | 2nd Stage Arm Input
4-14	Low Battery Warning	OFF	ON (at 11.7 Volts)	Low Battery Start (11.7 V)	

S-#1	Feature	Setting Value
1	Diesel timer	3 ~ 99 [seconds]
2	AUX1 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes]
3	AUX2 output time	1 ~ 99 [seconds], LA(Latch), 1~15 [minutes]
4	Cold Start Temperature	-30 ~ 0 [°C] / -22 ~ 32 [°F]
5	Hot Start Temperature	20 ~ 40 [°C] / 68 ~ 104 [°F]
6	Defroster Temperature	0 ~ 13 [°C] / 32 ~ 55 [°F]

S-#2	Feature	Special Option Group 2 Setting Value			
	Programmable Output Channel	Optional			
1	POC #1 (Default: Light)	2nd LIGHT [1]	HORN [8]	Hazard light 2 [23]	RAP [31]
2	POC #2 (Default: Lock)	2nd START [2]	DOME LIGHT [9]	Lock [25]	
3	POC #3 (Default: Unlock)	2nd IG1 [3]	Aux1 [10]	Unlock [26]	
4	POC #4 (Default: Status)	2nd ACC [4]	Aux2 [11]	Priority Unlock [27]	
5	POC #5 (Default: Rearm)	STATUS [5]	Defrost [17]	Trunk Release [28]	
6	POC #6 (Default: Disarm)	REARM [6]	GWA [18]	Starter Kill [29]	
7	POC #7 (Default: Horn)	DISARM [7]	Defrost-2 [21]	Hazard light [30]	

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 CM7 has confirmed remote start success.

FO3 - Lock after start only: Sends a lock command after the CM7 has confirmed remote start success.

FO4 - Lock after shutdown only: will send a lock command only after the CM7 has successfully shut down. ***Note: It will not provide an output if the CM7 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 CM900 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 CM900 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 CM900 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 CM900 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 CM7 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 Parking Light Relay Output: High Current Onboard Relay that can be programmed to provide positive (+) output based on the option selected. The default setting is Parking Light
FO1- Parking Light Output: This option will produce a positive output with remote programming, tach programming, trunk release function, Lock/Arm Unlock/disarm, during remote start, full alarm/panic, and while reporting diagnostics. ***This output will be disabled while in Valet mode.***
FO2 – Starter 2 (+) Output: This option will produce a high current (+) starter 2 output (with the same timing as starter 1) during the crank procedure.
FO3 – Trunk release (+) Output: This option will produce a high current (+) output when the trunk release command is received.

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 Mode: **CM900AS ONLY** When options 2 or 3 are selected the user has the choice to activate "Passive arming" 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 CM900AS 30 seconds after the last zone is closed. The CM900AS 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 CM900AS has passively armed itself. The CM900AS 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.

1-09 Ignition Controlled Locks **(DRIVE LOCK):** When FO 2-4 are selected, the user can 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 CM900.

The CM900AS 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 CM900AS 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: **CM900AS ONLY** This Feature allows the CM900AS to relock the doors automatically if the CM has been unlocked/disarmed but none of the input zones are opened.

FO1 - Off: (default)

FO2 - 30 seconds: This option allows the CM900AS to automatically relock/rearm 30 seconds after CM7 has been disarmed/unlocked. This will only happen if no zones have not been opened.

FO3 - 60 seconds: This option allows the CM900AS to automatically relock/rearm 60 seconds after CM7 has been disarmed/unlocked. This will only happen if no zones have not been opened.

FO4 - 5 minutes: This option allows the CM900AS to automatically relock/rearm 5 minutes after it has been disarmed/unlocked. This will only happen 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 2 Way Firstech Remote Updating with OEM Remote action: 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 CM900.

FO2 - On:

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. (orange/white 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 Firstech remote.

FO1 - Disabled: (default) will not allow for the Firstech remote 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 Firstech 4/5 button remote or DroneMobile.

2-01 Tach Sensing Method: This feature will determine the point at which the CM900 releases the starter based on the sampled tach method.

FO1 - Optimal Tach reading: This option will allow the CM900 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 CM900 to record the idle voltage which it is being programmed. The CM900 will release the starter once the idle tach voltage is met.

2-02 Turbo Mode: ***(This feature requires door and e-brake input)*** **NOTE: a door input must be connected to allow Turbo Timer to continue to run after exiting the vehicle.** This feature allows the user to activate Turbo Timer Mode with their Firstech 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 activate 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 Firstech 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 Firstech 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 Firstech remote or accessory.

2-03 Diesel Timer: ***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 CM900 to wait to start.

FO1 - Wire: (default) This option will allow the CM900 to read input on wait to start wire. It may be connected to a wait to start indicator on a diesel vehicle. When the CM900 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 CM900 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. (900AS Pink wire/CM900S RED wire, pin 11, CN3). **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 CM900.
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: 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 CM900 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 CM900 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 CM900 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 CM900 will wait 3 hours, remote start and run for 4 minutes unless the cold start feature is enabled. If this is the case, the CM900 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 CM900 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 - Reserve runtime: (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 CM900 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 CM7 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: This feature is available to comply with local idle laws prohibiting extended idle times

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.31 or newer that can be found at www.firstechdata.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.310 or newer that can be found at www.firstechdata.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. We provide 4 options for engine sensing methods

FO1 - 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.**
FO2 - 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.
FO3 - 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 mat 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.***
FO4 - No Connection Assumed running: Note: can only be used with automatic transmission. (default to 3 seconds),This option provides a fixed starter output, and will then leave the rest of the CM900 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).*

2-11 Advanced Tachless: This feature when used in conjunction with feature 2-10 option 1 will provide an enhanced Tachless engine sensing mode.
FO1 - Off: (default)
FO2 - On: this option will enable the advanced algorithm. This option is better suited for late model computer-controlled vehicles or older vehicles with poor battery conditions. **Note:** feature 2-10 must be set to option 1 for it to work properly. If there is tach signal input to the CM900 either analog or data interface module, this option will not operate consistently.

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.

2-14 Turbo Timer activation **"Activate with":** **CM900AS ONLY**

This feature will allow the user to customize the process used to activate the turbo timer feature Once user has activated turbo timer feature, there is a **5-minute** window to "Start Timer" the CM cancels Turbo Timer feature. **NOTE: a door input must be connected to allow Turbo Timer to continue to run after exiting the vehicle.**

FO1 – 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 activate Turbo Timer Mode.

FO2 – 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 activate Turbo Timer Mode.

FO3 – 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, to leave the vehicle running and activate Turbo Timer Mode.

2-15 Turbo Timer Mode **"Start Timer":** **CM900AS ONLY** This feature will allow the user to customize the process used to start the Turbo Timer.

FO1 – Last Door Closed (doors lock before shutting down): (default) *(actions required within 5 minutes)* This option will start the Turbo Timer once the last door/zone has closed and lock the doors a few seconds **BEFORE** the timer ends and the engine shuts off. **NOTE: a door input must be connected to allow Turbo Timer to continue to run after exiting the vehicle.**

FO2 – Last Door Closed AND LOCK command: *(actions required within 5 minutes)* This This option will start the Turbo Timer once the last door/zone has close **AND** a **LOCK** command has been sent. **NOTE: a door input must be connected to allow Turbo Timer to continue to run after exiting the vehicle.**

FO3 – 10 seconds after the Last Door Closed OR LOCK command: *(actions required within 5 minutes)* This option will start the Turbo Timer 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 the turbo time starts)* **OR** after the last door is closed and a lock command is sent. **NOTE: a door input must be connected to allow Turbo Timer to continue to run after exiting the vehicle.**

FO4 – Last Door Closed (doors lock after shutting down): (default) *(actions required within 5 minutes)* This option will start the Turbo Timer once the last door/zone has closed and lock the doors a few seconds **AFTER** the timer ends and engine shuts off. *(this can be used when the vehicles door will not lock properly while the remote start is shutting down)* **NOTE: a door input must be connected to allow Turbo Timer to continue to run after exiting the vehicle.**

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 start0 when door zone is opened.

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 milliseconds 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: **CM900AS ONLY** 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 **CM900AS** 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 (CM900AS CN3 Pin 18 Blue/white – CM900S must use a POC set to Starter kill option 29)

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.

3-07 Siren Duration: **CM900AS ONLY** 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 CN3) during full alarm.
FO2 - 60 seconds: this option will provide 60 seconds of output (+) on the siren wire (brown CN3) during full alarm.
FO3 - 120 seconds: this option will provide 120 seconds of output (+) on the siren wire (brown CN3) during full alarm.
FO4 - Chirps for 20 seconds: this option will provide 20 seconds of pulsed output (+) on the siren wire (brown CN3) during full alarm.

3-08 Horn output: This feature controls the horn output behavior during Arm, Disarm, and Remote Start. (POC 7 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: **CM900AS ONLY** 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.***

3-13 Defrost output Temperature Control: This feature will determine the temperature at which the CM900 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 DroneMobile. **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 CM7 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.

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. Once selected the OP500 will display **AU1** and below it will represent the time the output will provide when triggered. ***Note: with an OP500 update to v.31 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 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. Once selected the OP500 will display **AU2** and below it will represent the time the output will provide when triggered. ***Note: with an OP500 update to v.31 there will be additional time duration between 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 Arm: this option will trigger AUX 2 (output time based on feature 4-02) any time the CM900 is locked/armed the first time (I.e. if you send a second lock/arm command it will not trigger again)

FO3 - With Disarm: this option will trigger AUX 1 (output time based on feature 4-01) any time the CM900 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)***

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 CM900 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 CM900 remote start sequence is activated. Note: this output timing will trigger at the same time as GWR (status output)

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 CM900 is **ARMED**. While the system is disarmed or unlocked this step is not required.

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.

4-10 Positive Input **(+): (PINK wire CN3 Pin 11 CM900AS) (RED wire CN3 Pin 11 CM900S)** Default to Trigger Start Input, this feature will determine the input function of the positive input wire

FO1 - Trigger start input: This option will enable to be used as a trigger for activating the remote start function using a (+) pulse input on the positive input wire CN3 pin 11

FO2 – Ignition input: This option will enable the positive input wire CN3 pin 11 to be used as an (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 enable the positive input wire CN3 pin 11 to be used as a key sense INPUT to the CM. The keysense input will keep the system from passively arming.

FO4 - (+) Glow plug: this option will allow the positive input wire CN3 pin 11 to be used 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**:** 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: **CM900AS ONLY** This feature will determine the impact sensor input port function.

FO1 - Standard Shock: This option allows the CM900 to communicate with the FT-Shock analog shock sensor. This impact sensor is manually adjustable on the sensor.

FO2 – 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 **CM900AS**.

FO3 - Arm/Disarm input: This option allows the impact sensor port (red) to be used as a **CM900AS** arm/lock and disarm/unlock input. ***Note: the arm input requires 2 pulses to trigger arm/ lock and 1 pulse to disarm/unlock.***

FO4 - Arm/Disarm input: this option allows the impact sensor port (red) to be used as a **CM900AS** arm/lock and disarm/unlock input. ***Note: the arm input requires 1 pulse to trigger arm/ lock and 1 pulse to disarm/unlock.***

4-14 Low **battery:** This feature offers low battery options to help alert the user of a low battery in the vehicle.

FO1 - Off: (default) This option does not provide a low battery indication.

FO2 - On: This option will provide an alert to any Firstech 2 Way LCD remote or Drone when the vehicle's battery voltage (at the CM900 power connector) drops to 11.7volts for a minimum of 1 second. ***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.***

FO3 - On + Start: This option will provide an alert to any Firstech 2 Way LCD remote or Drone when the vehicles battery voltage (at the C900 power connector) drops to 11.7volts for a minimum of 1 second. 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 CM900 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.

Special Option Groups 1-2

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- 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

SO5- 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

SO6- 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

Special Option Group 2

This special option group allows you to determine the output type of the POC wire you're using. 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 - Green/White • Parking Light Output: (default setting value 0) This channel will provide a 250mA (-) negative output when the CM900 parking lights output is generated ***(function also POC setting 1)***

POC 2 - Blue/Green • Lock: (default setting value 0) This channel will provide a 250mA output with the lock/arm command. ***(function also POC setting 25)***

POC 3 - Blue • Unlock: (default setting 0) This channel will provide a 250mA output with the unlock/disarm command. ***(function also POC setting 26)***

POC 4 - 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 5 - Orange • FAA (Factory Alarm Arm): (default setting value 0) This channel will provide a 250mA output with the lock/arm command. ***Note: the CM900 will provide this output approx. 100mS before the unlock output. (function also POC setting 6)***

POC 6 - Orange/White • FAD (Factory Alarm Disarm): (default setting value 0) This channel will provide a 250mA output with the unlock/disarm command. ***Note: the CM900 will provide this output approx. 100mS before the unlock output. (function also POC setting 7)***

POC 7 - White • Horn: (default setting) This channel will provide a 250mA output when Horn is triggered. ***(function also POC setting 8)***

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 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 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.

NEW* 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 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 5 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.

NEW* 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**.

NEW* 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

Option Programming

How to Program Options
There are two ways to set options on the CM7 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 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 **(in case of CM2305/CM7300 use door input in place of foot brake input)**

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've 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)**

How to Program Options with 5 Button 2-Way Remotes							
	Wait for chirp between each tap	**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 on 2 Way Remotes with Separate Lock and Unlock Buttons							
	Wait for chirp between each tap	**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 2 Way Remotes with Roman Numerals							
	Wait for chirp between each button 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	(1 + 2) for 3 seconds then (1 + 2) for 3 seconds	Tap Button 4		Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4
Option Menu 2	(1 + 2) for 3 seconds then (1 + 4) for 3 seconds	Tap Button 4		Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4
Option Menu 3	(1 + 4) for 3 seconds then (1 + 2) for 3 seconds	Tap Button 4		Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4
Option Menu 4	(1 + 4) for 3 seconds then (1 + 4) for 3 seconds	Tap Button 4		Tap Button 1	Tap Button 2	Tap Button 3	Tap Button 4

How to Program Options With 1 Way Remotes							
	Wait for chirp between each button 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

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.

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.

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 off (manual transmission only)
8	Tach or tachless sensing failure
9	DAS sensor 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

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

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 CM900.

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."

Why doesn't my CM900 have the green/white wire loop inside the brain module?
A: The CM900S/AS are for Automatic transmission vehicles ONLY.

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 (+) 2nd Starter.

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 doesn't back feed to your accessory. Install the stripe side of the diode facing the control module.

Does the CM900 series have tachless mode?
A: Yes. The CM900S and CM900AS are default set for tachless engine sense. For details, review the "Common Procedures" section of this manual.

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 'and press 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 locks 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 CM7 series showing V.1.

What is this cartridge slot on the CM900?
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 and tap 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 CM4000, CM4200-DX, CM4300, CM5000, CM5200, CM6000, CM6200, CM6300, CM7000 and CM7200. 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.

Technical Support Contacts

Firstech technical support is reserved for authorized dealers only.

Monday - Friday:	888-820-3690 (7:00 am – 5:00 pm Pacific Standard Time)
Email:	techfeed@compustar.com
Web:	www.firstechdata.com

Wiring Diagrams

Go to www.firstechdata.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.

Consumer sites:

- 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://firstechdata.com/

Idatalink interface module flashing:

- http://compustar.idatalink.com

Drone activation and testing:

- http://accounts.dronemobile.com/

Tech Support page Facebook access:

- https://www.facebook.com/groups/Firstechtechsupportgroup/?fref=nf

Vehicle wiring database:

- http://www.firstechdata.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://compustar.idatalink.com
- http://arcticstart.idatalink.com
- http://maestro.idatalink.com/

PROGRAMMING CHEAT SHEET

Learning Remotes (Standard Key):

1. Cycle key between OFF and ON 5x within :10, should receive 1x parking light flash;
2. TAP Lock on first remote, should receive 1x parking light flash; repeat step 2 for any additional remotes;
3. Wait :7-:10 for 2x parking light flashes to verify exiting programming.

Learning Remotes (Push-to-Start):

1. Cycle ON, OFF, then ON, press the brake pedal 3x within :10, should receive 1x parking light flash;
2. TAP Lock on first remote, should receive 1x parking light flash; repeat step 2 for any additional remotes;
3. Wait :7-:10 for 2x parking light flashes to verify exiting programming.

Troubleshoot with Parking Lights:

- No parking light flash after 5th key cycle: bad ignition wire connection, bad ground, or no POWER to unit.
- Parking lights flash 2x immediately after 5th key cycle: Feedback on input or antenna, or bad ground.
  - Remove all connections to brain, only plug in Main Power Harness and Antenna, retry programming.
  - If still, immediately going to 2 Parking Flashes, unplug all connections, let brain sit for 15 seconds, re-plug Power Connector back in and try programming, if the unit does not immediately flash 2x, bad antenna or antenna cable
- Parking lights flash 2x after 10 seconds and does not flash 1x after lock press: Weak remote batteries, bad remotes, bad antenna, or bad antenna cable.
- If parking lights flash 1x and do not flash with remote Lock press, most likely a Brake input or Bypass communication issue. Remove bypass and Gray CN5 connector, try learn again.

Learning Tachometer (Traditional):

1. Start the vehicle normally with the key or PTS;
2. Hold foot brake;
3. Hold Remote Start (key or snow flake) button on remote for :03;
4. Parking lights should flash 1x.

Troubleshoot with Parking Lights:

- Parking lights flash 3x then 1x: Foot Brake not being registered, relocate or hardwire brake wire input on brain and turn off FOOT BRAKE STATUS in bypass.
- Parking lights flash 3x then 10x: System in Valet, take unit out of Valet and retry.
- Parking lights flash 2x then 1x: Engine Sense not set to Tach.
- Parking lights flash 2x then 2x: Bad ignition wire connection

PROGRAMMING CHEAT SHEET

Learning Tachometer (EZ-Tach):

1. Hold foot brake;
2. Start the vehicle normally with the key or PTS while continuing to hold foot brake;
3. Keep foot brake depressed for :30;
4. Parking lights should flash 1x.

- Parking lights flash 2x then 3x: Bad Tach signal, relocated Tach to different source.

Entering Valet (w/ 4-button Remote):

1. Hold brake pedal;
2. Turn key to On position;
3. Tap Lock and Trunk for .5 seconds;
4. Parking lights should flash 1x.

Entering Valet (w/o Remote):

1. Hold brake pedal;
2. Cycle key between Off and On position 5x within :10, parking lights should flash 1x;
3. Wait for :07-:10, parking lights should flash 2x.

Exiting Valet (w/ 4-button Remote):

1. Hold brake pedal;
2. Turn key to On position;
3. Tap Lock and Trunk for .5 seconds;
4. Parking lights should flash 2x.

Exiting Valet (w/1-button Remote):

1. Reprogram all Remotes, see above.

Exiting Valet (w/o Remote):

1. Turn key to On position;
2. Tap foot brake 10x;
3. Parking lights should flash 2x.

PROGRAMMING CHEAT SHEET

Programming DAS I (Traditional):

1. Verify Alarm features are turned On;
2. Mount the DAS I on a large bundle of wires or heater vent closer towards the center of the vehicle;
3. Select your dipswitch settings:
    a. Switch 1: ON – 3 Degree Tilt
       OFF – 1.5 Degree Tilt
    b. Switch 2: ON – 4 Inch Movement (M/T only)
       OFF – 3 Inch Movement (M/T only)
4. Turn key to On position;
5. Hold Lock + Unlock on remote for :03, parking lights flash 1x;
6. Tap Lock on remote to set Warn Away;
7. Strike vehicle to set Warn Away sensitivity, you'll receive siren chirps indicating the sensitivity level – the harder you strike the vehicle, the less sensitive it will be; the softer you strike the vehicle, the most sensitive it will be. 1 = most sensitive; 10 = least sensitive. **Warn Away setting with automatically set Full Trigger**;
8. *If you desire to manually set Full Trigger*: Tap Unlock and strike vehicle slightly harder than Warn Away setting;
9. Turn key to Off position.

Programming DAS I (Alternative):

1. Verify Alarm features are turned On;
2. Mount the DAS I on a large bundle of wires or heater vent closer towards the center of the vehicle;
3. Select your dipswitch settings:
    a. Switch 1: ON – 3 Degree Tilt
       OFF – 1.5 Degree Tilt
    b. Switch 2: ON – 4 Inch Movement (M/T only)
       OFF – 3 Inch Movement (M/T only)
4. Turn key to On position;
5. Hold foot brake;
6. Tap Lock on remote 3x;
7. Release foot brake, parking lights flash 2x;
8. Siren will chirp the siren/honk the horn/flash the parking lights 1x to 10x indicating current sensitivity level;
9. Using Remote, tap Lock to Increase sensitivity or Unlock to Decrease sensitivity by 1 level – siren will chirp, horn will honk, and/or parking lights will flash 1x for each level up or down;
10. After :05 the CM will chirp, horn honk, and/or flash the parking lights the sensitivity level – you'll have :05 to make any further adjustments.

FIRSTECH Data

PROGRAMMING CHEAT SHEET

Programming DAS II:

1. Verify Alarm features are turned On;
2. Mount the DAS II on a large bundle of wires or heater vent closer towards the center of the vehicle;
3. Turn key to On position;
4. Tap Unlock on Remote 2x – DAS II will stay powered up for at least 5:00 or until key is turned Off;
5. Push the programming button repeatedly until the desired sensor has been selected (see sensor table on right);
6. Once the sensor has been selected hold the programming button for :02 to confirm selection and enter sensitivity adjustment.
7. Push the programming button repeatedly until desired sensitivity level is reached – 0 is Off with exception to Option 2 for Window Break Sensing Condition.
8. Hold programming button for :02 to save sensitivity setting - After the setting is saved the sensor will start over at sensor 1 again.
9. Turn key to Off position to exit programming.

	Feature	Button Press	Mode Display	Sensitivity Adjust			
1	Shock Level (Prewarn)	1 time	1.	0	H	3	L
			Red LED ON	OFF	High sensitivity	Default	Low sensitivity
2	Window Break Sensing Condition	2 times	2.	-	0	0	1
			Red & Green LED ON	-	Sound Only	Default	Sound and Vibration
3	Window Break Sound Sensitivity	3 times	3.	0	L	3	H
			Green LED ON	OFF	Low sensitivity	Default	High sensitivity
4	Tilt	4 times	4.	0	L	L	H
			Red LED Flash	OFF	Low sensitivity	Default	High sensitivity
5	Movement	5 times	5.	-	L	2	H
			Green LED Flash	-	Low sensitivity	Default	High sensitivity

PROGRAMMING CHEAT SHEET

Troubleshooting DAS I or II:

NOTE: You must wait :45 – 1:00 after ARMING the CM to test impact sensor.

- Impact is not registering: move mounting location or during physical strike, flick DAS to see is impact is programmed (maybe bad sensor, or 3-06 setting is wrong).
- If you get 2x parking lights after HOLDING LOCK and UNLOCK for 3 seconds then when TAPPING LOCK to set warn away and the vehicle locks, you may have taken too much time, and programming timed out and exited. Try entering programming again and be a little faster.
- Parking lights flash 3x and 3x Chirps immediately after HOLDING LOCK and UNLOCK for 3 seconds: confirm that setting 3-06 in a CM-7200/6200 is set to optional value 2.

Programming RPS Touch:

1. Door trigger connection is REQUIRED;
2. If using a CM-6x00 series brain, update the brain and change option 3-16 to optional value 2;
3. Mount RPS on front windshield and plug into brain;
4. Choose a 4-digit code; '0' is not an option;
5. Turn the key to the On position with the drivers door OPEN;
6. HOLD finger over the 'Red Circle' for :03, siren will chirp 1x and LEDs with flash in a circular pattern;
7. Tap the first digit (HOLD the digit for 2.5 seconds for numbers 6 through 10), you'll receive 1x siren chirp and LED flash in a circular pattern after each digit entry;
8. Repeat step 7 until all four digits are programming; once programmed you'll receive 1x siren chirp and 1x parking light flash.

Troubleshooting with Parking Lights:

- If you receive 3x siren chirps and 3x parking light flashes at step 8, Repeat steps 5-8 again.
- If LCD is paged during :03 'Red Circle' hold, sensitivity of RPS might be too strong or too weak to register finger properly.
- To adjust sensitivity of RPS:
  - Open driver door;
  - Hold the button on the back of the RPS Touch until the LEDs got out;
  - Release button and Tap again (the number of solid LEDs represents the sensitivity, 1 being least, 5 being most sensitive).

PROGRAMMING CHEAT SHEET

Programming EZGo:

1. Replace EZGo battery with new battery (CR2032);
2. Complete installation and verify Black Ground wire on EZGo antenna is grounded;
3. Verify that RF Remote antenna is daisy-chained through EZGo antenna and NOT plugged into the 4-pin port on 7x00 series brain;
4. Mount EZGo antenna on driver side of vehicle (preferably in head liner or windshield)
   PRO TIP: Face sticker on antenna toward preferred entrance zone to get best results).
5. Change feature 1-14 (Auto Mode) on brain with OP500;
6. Go through Remote Learning Procedure for all RF Remotes and EZGo Remote with operation button on back;
7. Verify Lock and Unlock operation of EZGo remote with button on the back;
8. Once brain responds accordingly to button on EZGo remote, press and hold Button on the back, until LED on remote flashes rapidly, to turn on Proximity function;
9. Test operation of Proximity Unlock and/or Lock.

Troubleshooting EZGo:

- If EZGo remote does not want to learn with other RF Remotes:
  - Unplug RF Remote antenna from EZGo antenna and try again.
    - If EZGo remote programs, double check ground location (use OBD2 pin 4) or change EZGo antenna.
    - If EZGo remote does not program, replace battery or replace EZGo kit.
- If Proximity does not work:
  - Verify that Proximity is turned on, HOLD back button on EZGo remote until LED flashes rapidly, 1 Parking Light Flash means proximity is ON, 2 means OFF.
  - Verify that 1-14 is set to desired optional setting.
- If using the 6X00 Series, update to newest firmware and try again.

NOTE: Gray EZ100R will not program to ANT-RFID-315 antennas. The 315 EZGo remotes are Black.

PROGRAMMING CHEAT SHEET

Programming with OP500:

1. Press Unlock 2x to ensure the brain is disarmed;
2. Unplug RF antenna cable from antenna;
3. Plug-in antenna cable into the TOP of the OP500;
4. OP500 will load, once the screen displays 1-01 in the upper left-hand corner, continue with selecting options for each feature that requires a change;
    a. Navigate through the options using the right and left arrows; navigate through the optional settings / values using the up and down arrows.
5. Once all changes are set, Press and HOLD the 'W' button for :03 to write all changes to the brain;
6. 'Success' should display on the screen.

Troubleshooting the OP500:

- "ER 01" + "Fail" means the brain is still in a Locked / Armed state.
- "ER 02" + "Fail" means there is no communication between the brain and the OP500 but the OP500 has power.
    - Unplug the OP500 and try again, OR
    - Bad antenna cable, replace and retry.

Remote Start Error Codes:

If the remote start fails to start, the parking lights will flash 3x followed by the error code.

3 then 1: Motor is running or must learn tach before 1st remote start attempt.
- Learn tach – see above.

3 then 2: Key is in the On position.
- There's resting / residual voltage on ignition input / output wire; verify ignition source.

3 then 3: Door open (M/T only).

Continued on next page.

- Verify door pin connection and that door is shut after existing vehicle during reservation mode setup.

3 then 4: Trunk open.
- Verify trunk pin connection; disconnect or turn off if provided over data by integration module and try again.

3 then 5: Foot brake On.
- Ensure foot brake is not being pressed.
- Verify Lt. Blue / White connection and that there's no resting / residual voltage on wire.
- Turn off if provided over data by integration module and try again – make analog connection if necessary.

3 then 6: Hood open.
- Verify hood pin connection; disconnect or turn off if provided over data by integration module and try again.
- Ensure hood pin is installed properly – required for safe remote start operation.

3 then 7: Reservation mode not set (M/T only).
- If automatic, cut Green / White loop; if M/T, set reservation mode – see Manual Transmission Guide for further assistance.

3 then 8: Tach or tachless sensing failure.
- If the remote start tries 3x and fails for whatever reason, you'll receive this error.
- Verify ignition connections; if 2nd Ignition and/or Starter wires are present, ensure they are being energized properly during remote start.
- If M/T, verify proper clutch switch integration – see Manual Transmission Guide for further assistance.

3 then 9: FT-DAS I or II detected movement during remote start (M/T only).
- Verify vehicle is not in gear and try again.
- If the vehicle has a high center of gravity and/or rocks significantly during crank then make sure the DAS I / II is mounted towards the center of the vehicle and change the option movement settings if necessary.

3 then 10: Valet mode.
- Exit valet, see above, try again.

PROGRAMMING CHEAT SHEET

Remote Start Shutdown Codes:

If the vehicle shuts down after remote start sequence is confirmed, the vehicle's parking lights will flash 4x, pause, then flash again with the error code. On 2-way remotes, you can tap button "IV" or "Key" button to initiate the sequence. On 1- way remotes, hold the Trunk and Start buttons together for 2.5 seconds.

4 then 1: Lost engine sensing signal (Tach / Alternator / Tachless).

4 then 2: Lost parking brake signal (M/T only).

4 then 3: Foot brake triggered.

4 then 4: Hood pin triggered.

Remote Start Reservation Mode Error Codes:

If reservation mode fails the parking lights will flash 4x followed by the error code.On 2-way remotes, you can tap button "IV" or key" button to initiate the sequence. On 1- way remotes, hold the Trunk and Start buttons together for 2.5 seconds

4 then 1: Tach signal has been lost or interrupted during reservation mode or Tach is present after reservation mode is completed.
4 then 2: E-brake/parking brake signal has been lost before or after reservation mode completed.

4 then 3: Foot brake was triggered after reservation mode was completed.

4 then 4: Hood pin was triggered after reservation mode was completed.

4 then 5: Door trigger input was triggered after reservation mode was completed.

Continued on next page.

4 then 6: Trunk trigger input was triggered after reservation mode was completed.

4 then 7: Security system has been triggered after reservation mode was completed.

4 then 8: Ignition input was detected after reservation mode was completed.

4 then 9: No FT-DAS I or II detected.

4 then 10: Keysense input was detected after reservation mode was completed.

Alarm LED Diagnostics:

There will be an external mountable Blue LED for theft deterrent included. 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:

# of Flashes	Trigger
2 Flashes	Door Input
3 Flashes	Shock Sensor Stage 1
4 Flashes	Shock Sensor Stage 2

Continued on next page.

PROGRAMMING CHEAT SHEET

5 Flashes	Tilt Sensor
6 Flashes	Ignition On While System Armed
7 Flashes	Hood Input
8 Flashes	Trunk Input
9 Flashes	AUX Sensor Stage 1
10 Flashes	AUX Sensor Stage 2

FIRSTECH Data

Technical Tip

FIRSTECH'S MANUAL TRANSMISSION MASTER GUIDE v2

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.

FIRSTECH Data

Technical Tip

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Technical Tip

Introduction to Firstech's Manual Transmission Mode

This document will guide you through the process of installing a remote start into a manual transmission vehicle in a safe fashion. It will cover what wires and product are necessary, how to identify the necessary circuits in the vehicle, and discuss common challenges that you may face and the resolutions thereto. **Please note**: all clutch pedal configurations are not covered in this guide.

The information contained in this document will apply to the LATEST firmware version of the CM7-series control module, so it is important that you update the brain before performing the installation. The brain can be manually updated using our CM Updater program found on FirstechData.com or through Compustar.iDatalink.com.

If you have *any* questions or concerns, please reach out to Firstech's Technical Support Department. Our goal is to ensure you are familiar and comfortable with our product and using our product on manual transmission vehicles.

Technical Tip

Required Components / Connections

Required Components:

1. Firstech control module that is manual transmission compatible with the LOOP INTACT.
    a. CM7x00
    b. CM6x00
    c. CM5x00

2. FT-DAS 3-in-1 Sensor (*pictured below, left*) **OR** FT-DAS II 4-in-1 Sensor (*pictured below, right*)
    a. **Required** for CM7x00 control modules and *highly recommended* for CM5x00 and CM6x00 control modules.
    b. This sensor is included in the FT-CM7000AS-CONT (MAX IT) and the FT-ALARM-IT add-on kit; otherwise sold separately.

Required Connections:

In addition to the standard wiring required for a functioning remote start, you will need:

1. Tachometer sensing (Yellow / Black, CN5 – option 2-10 to 1) – analog connection to the CM or data via a compatible data / immobilizer bypass module **OR** Alternator sensing (Yellow / Black, CN5 – option 2-10 to 3) – analog connection **only** to the stator wire of the alternator. **Voltage sensing and Assuming Running will NOT work.**

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 Tip

2. Parking Brake (Light Blue, CN5) – analog connection to the CM or data via a compatible data / immobilizer bypass module.

3. Door Triggers (s) (Red / White, CN5*) – analog connection to the CM or data via a compatible data / immobilizer bypass module.
    a. **ALL DOORS**, including the trunk / hatch, must be monitored.
        i. CM7x00 offers Normally Closed (N.C.) inputs if needed.
        ii. *Dome Light* is **not** an appropriate connection to monitor door triggers.

    * Additional PICs are available if additional door trigger connections are needed.

4. Second Starter (+ or -) will be used to integrate the clutch during the remote start process.

<u>Strongly Suggested Connection</u>:

Connecting the following wire will provide a better experience for the end user by ensuring the vehicle will **not** attempt to set reservation mode if the control module sees a key in the ignition.

5. Keysense (-) (Brown / White, CN5) **OR** (+) (Pink, CN5 – must change 4-10 to option 3) – analog connection to the CM.

FIRSTECH Data

Technical Tip

Clutch Switch Identification and Testing

Vehicles will typically have one or two switches at the clutch pedal itself (although some will be located on the other side of the firewall). If your vehicle has two switches one will most likely be for the vehicle's cruise control. It is important to test the wires at **both** switches to ensure you have the correct wire(s) needed for a remote start application.

Typically, there are two wires at each switch. For either switch, there are a few ways to test for the integration type:

1. Unplug the clutch switch and take the vehicle out of gear. Does the vehicle start without the clutch pedal being depressed? If so, you have a normally closed clutch pedal switch.

   OR

2. Plug your switch back in and place one of your meter leads on pin 1 and the other lead on pin 2. Set your DMM to the continuity setting. When the clutch pedal is depressed, does the meter beep for continuity? If so, you have a normally open clutch switch.

If your switch is not normally open or normally closed; you may have a negative or positive clutch switch. To identify these, test the following:

- Set your DMM to the vDC setting and ground the negative (black) probe to the vehicle chassis or pin 4 of the OBDII plug. Take your positive (red) probe and test both wires at rest and test them both with the clutch pedal depressed; one of the wires should change state.
  - If one of the wires rests at 12v and goes to ground while depressed, you have a negative clutch system.
  - If one of the wires rests at ground and goes to 12v while depressed, you have a positive clutch system.

If you have no change of state on either wire, you may have to test them during crank as the clutch switch acts as a "pass-through" for the vehicle's starter wire from the ignition.

Technical Tip

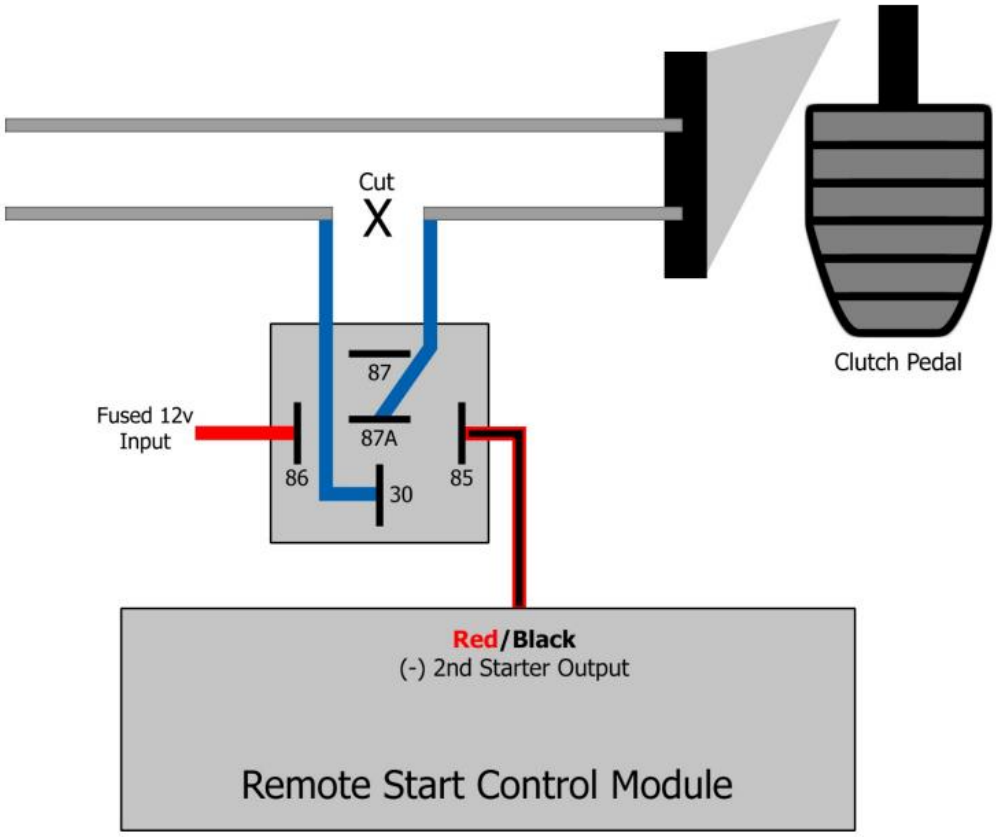
There are other clutch types as well. A multiplex clutch circuit, for instance, is used in many GM applications. Others still, use a trigger (- or +) on one wire while simultaneously needing another wire interrupted and some vehicles require connections in two different switches.

Once you have tested your clutch switch, now you need to wire your relay (if needed). The following examples will illustrate some methods to integrate with a vehicle's clutch switch. As always, if you're unsure, call our Technical Support department or post on the Firstech Feed Facebook group for assistance.

Normally Closed:

If your testing revealed that you have a Normally Closed clutch pedal switch (Car starts without pressing clutch when the clutch switch unplugged), you would use this relay configuration to open either wire of the clutch switch during start. You only need to open one side (see diagram below).

Technical Tip

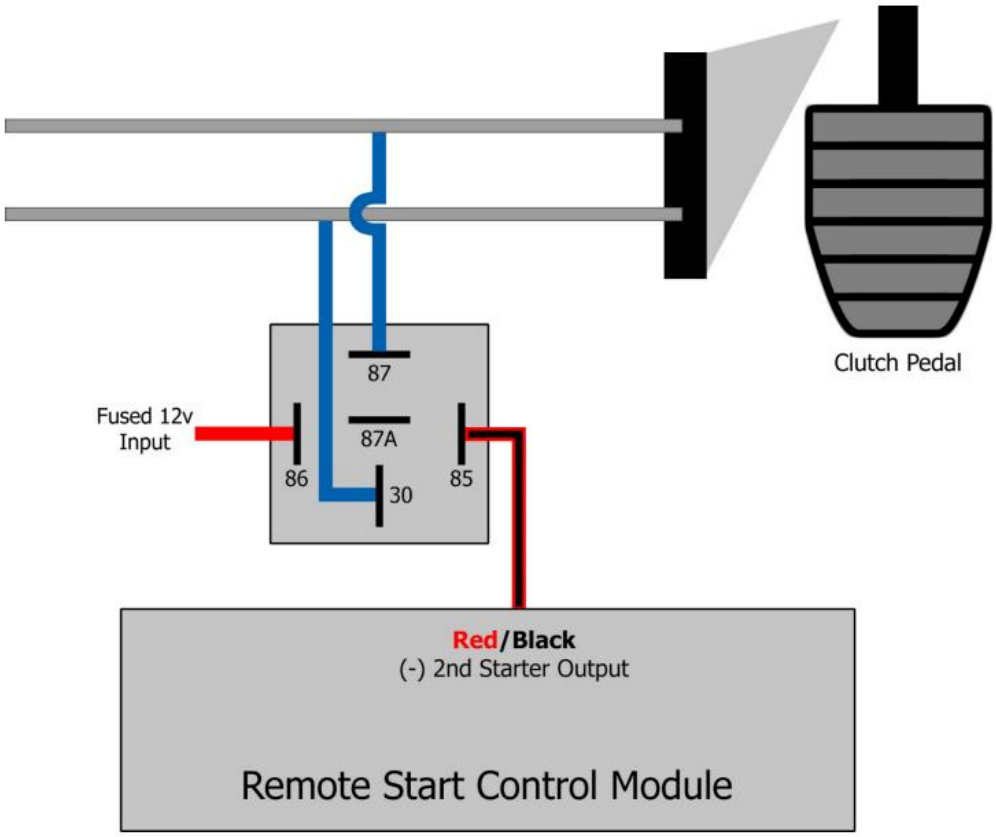


Example of a Normally Closed Clutch Switch Integration

Normally Open:

If your testing revealed that you have a Normally Open clutch pedal switch (Your meter shows continuity between the two wires when the clutch pedal is pressed), you would use this relay configuration to close the wires of the clutch switch together during remote start (see diagram below).

Technical Tip

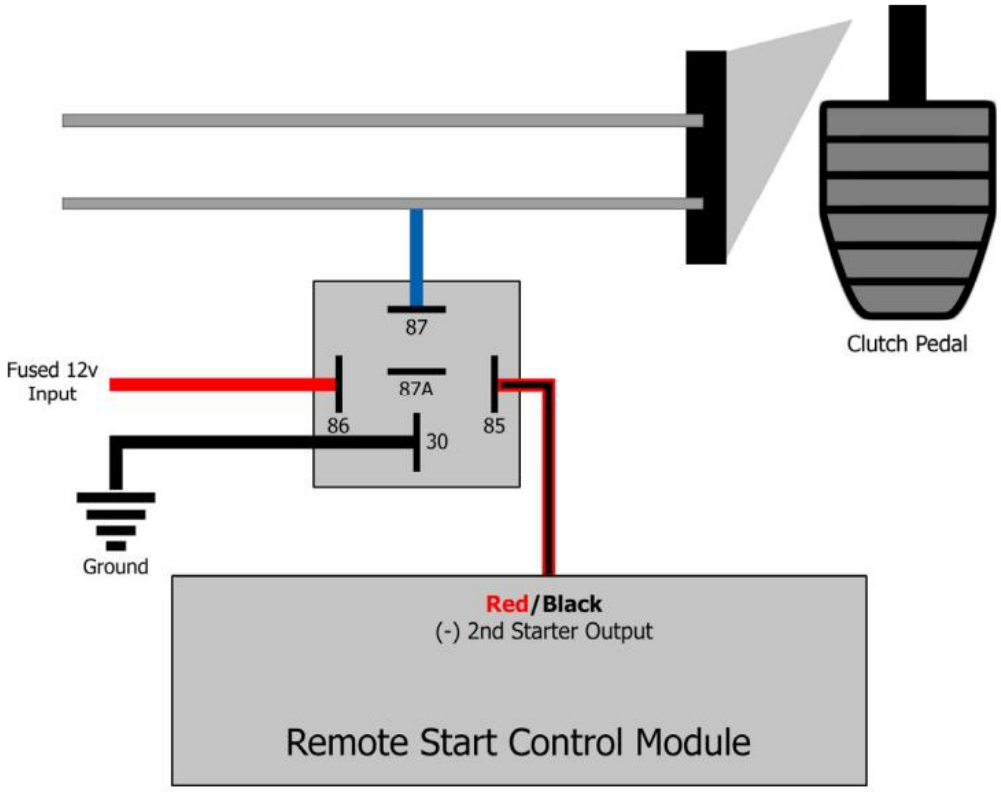


Example of a Normally Open Clutch Switch Integration

Negative Normally Open:

If your testing revealed that you have a negative clutch pedal switch, you would use this relay configuration to Ground the clutch switch during start. In some cases, the relay might not be necessary (see diagram below).

Technical Tip

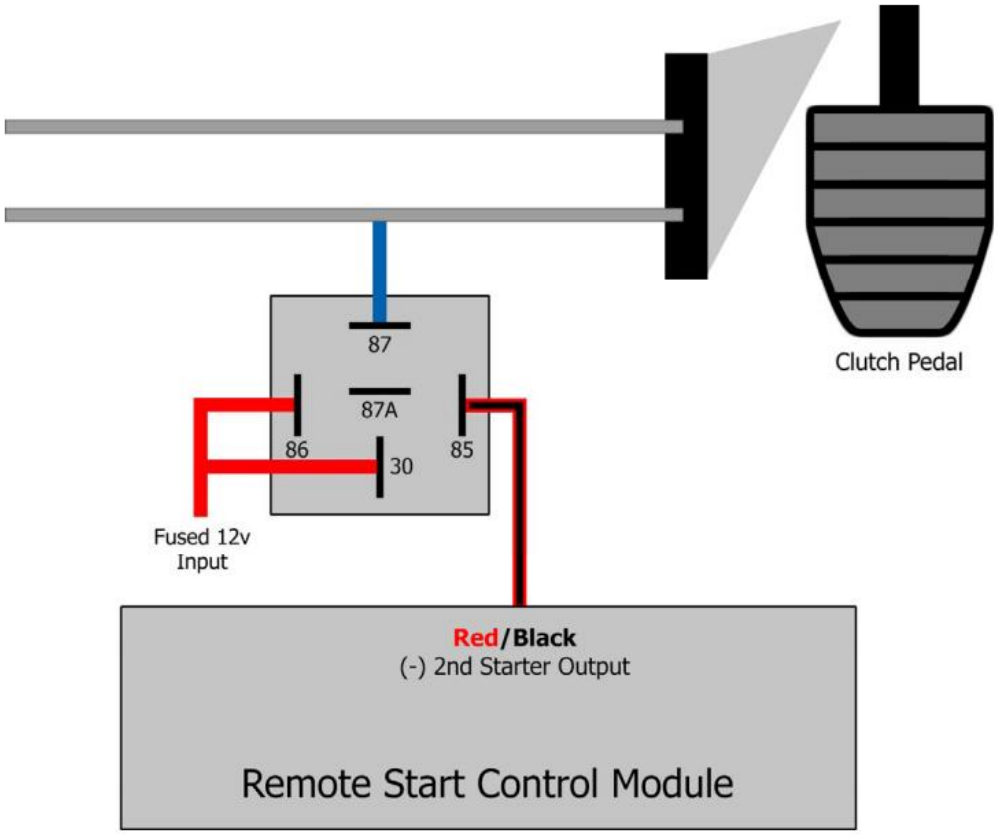


Example of a Negative Clutch Switch Integration

Positive Normally Open:

If your testing revealed that you have a positive clutch pedal switch, you would use this relay configuration to supply 12 volts to the clutch switch wire (see diagram below). In some cases, the relay might not be necessary, and the clutch wire would be powered directly by the (+) Starter output.

Technical Tip

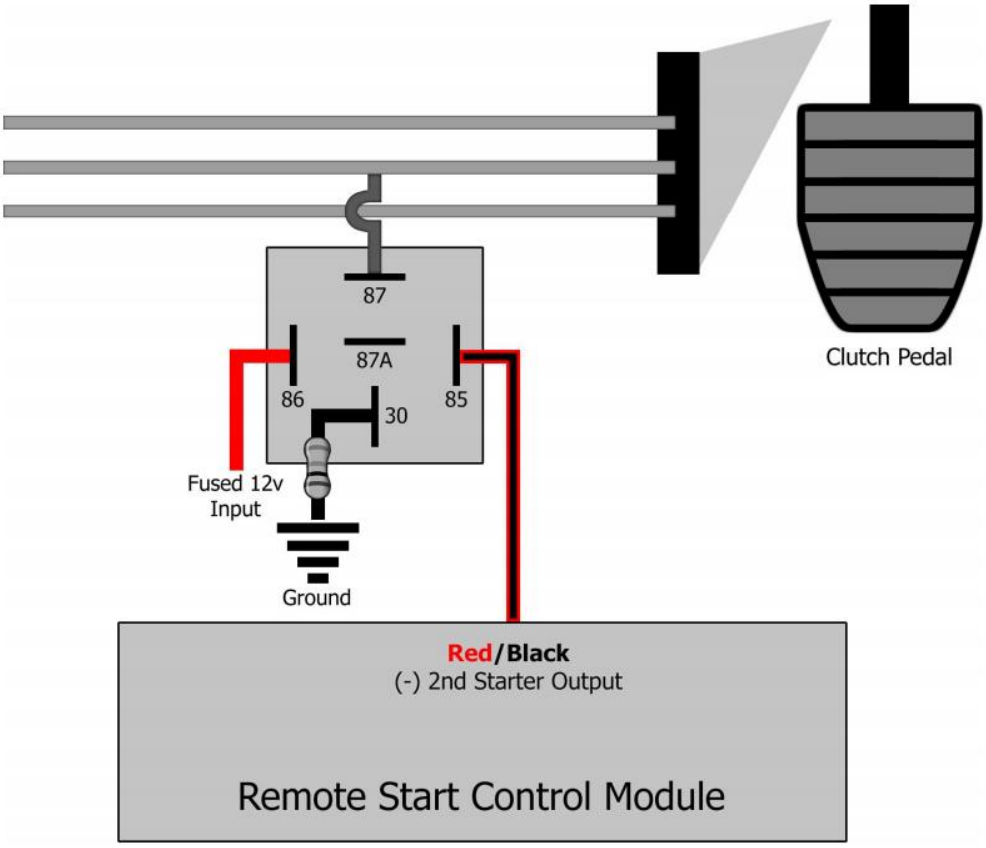


Example of a Positive Clutch Switch Integration

Multiplex Clutch Switch:

Many 3-wire switches are "multiplex." This means that one of the 3 wires will have a reference wire while another wire will change voltage when the clutch pedal is depressed (the last wire is typically a ground reference). GM vehicles typically use a multiplex clutch circuit (see diagram below). To integrate with these clutch circuits you will typically use a relay and a resistor to duplicate what the OEM switch is doing.

Technical Tip



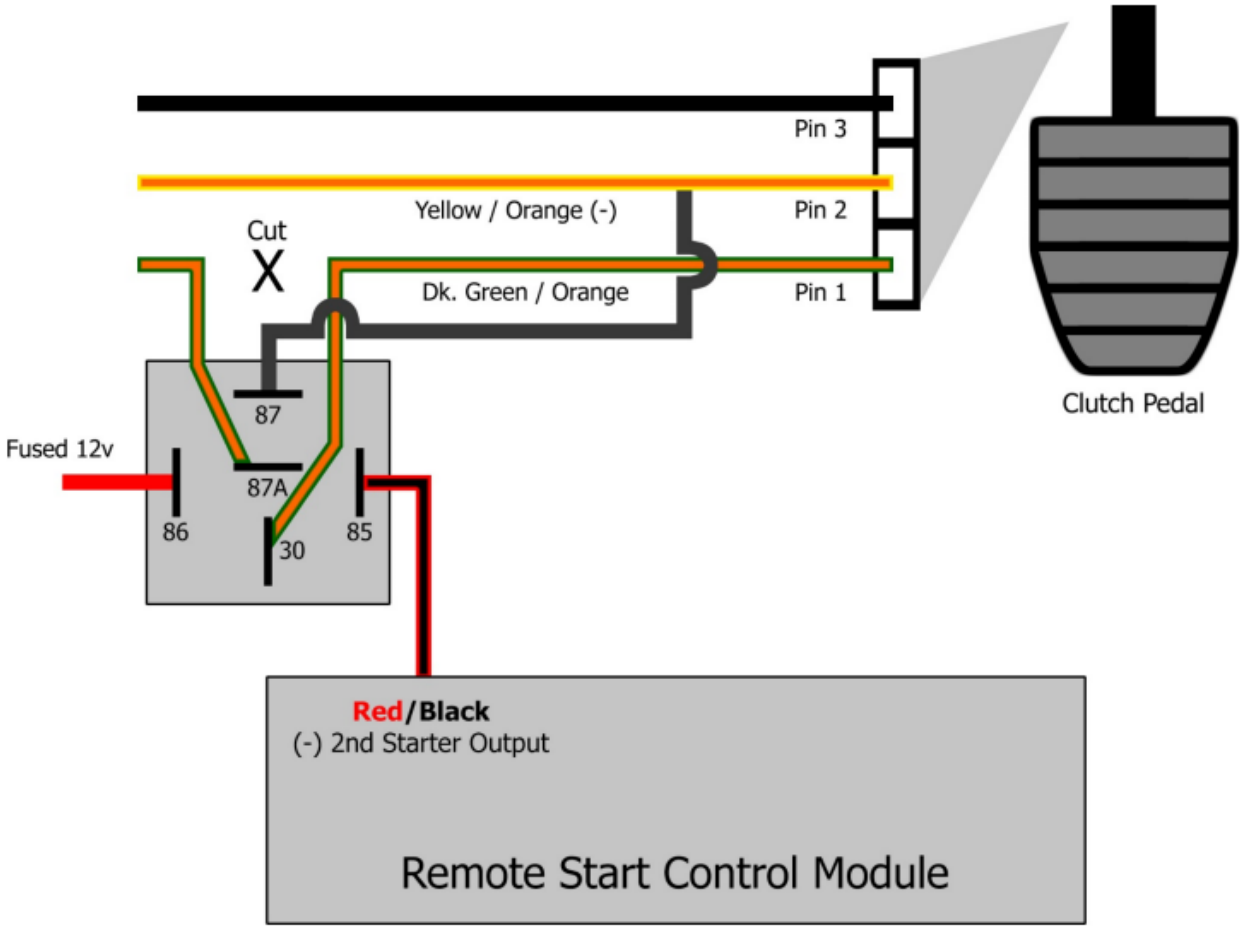
Example of a Multiplex Clutch Switch Integration

Multi-Operational Clutch Switch:

There are other configurations of 3-pin clutch switches you may encounter. The 2011+ Jeep Wrangler has a clutch switch that is located in the engine bay and more difficult to access. You will use the (-) 2nd Starter wire (Red / Black, CN5) to activate a SPDT relay that will feed the signal coming from Pin 1 (Dk. Green / Orange) to Pin 2 (Yellow / Orange) while opening / interrupting Pin 1.

The Challenger is another example of a 3-pin clutch switch system which operates the same way, but the clutch switch is located inside the vehicle.

Technical Tip



Example of the Jeep Wrangler / Dodge Challenger Clutch Switch Integration

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 Tip

Setting Up the Control Module for a Manual Transmission Vehicle

With our CM7x00 control modules reservation mode is split into two settings; how the control module "Enters" and how it "Sets." These features are controlled by options 2-14 and 2-15 respectively.

2-15	**Reservation Mode: "Enter With"**	Off	Parking / E-Brake Set	Parking / E-Brake Set **AND** Hold "Start" Button for 2.5 Sec.	Parking / E-Brake Set -> Release -> Set (within 7 Sec.)
2-16	**Reservation Mode: "Set With"**	Last Door Closed (Locks **Before** Shutdown)	Last Door Closed **AND** Lock Command	10 Sec. After Last Door Closed **OR** Lock Command	Last Door Closed (Locks **After** Shutdown)

2-14 – Reservation Mode: "Enter With"

ATTENTION: YOU MUST select a reservation "Enter With" option to enable manual transmission capabilities. THIS FEATURE CAN ONLY BE CHANGED WITH A FIRSTECH DEALER PROGRAMMER.

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.

FO1 – OFF (Automatic Transmission **Only**) (*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. This method is **NOT** recommended for Push-to-Start (PTS) vehicles.

Technical Tip

FO3 – Parking / E-Brake Set AND Hold "Start" Button for 2.5 Sec.: 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 – Parking / E-Brake Set -> Release - > Set (Within 7 Sec.): 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, to leave the vehicle running and enter manual transmission reservation mode.

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)

FO1 – Last Door Closed (Doors Lock BEFORE Shutdown) (*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 Sec After Last Door is Closed OR LOCK Command: *(actions required within 5 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

Technical Tip

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 Shutdown): (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.

Setting Up and Testing Reservation Mode

Standard Key Vehicles:

1. Start the vehicle with the vehicle's key (normal operation);
    a. Ensure that all the vehicle's doors, trunk, and hood are closed, and the vehicle is in neutral.
2. With your foot on the brake pedal:
    a. Engage the parking / e-brake, release the foot brake (2-14 set to 2);
    OR
    b. Engage the parking / e-brake, release the parking / e-brake, engage the parking / e-brake again within 7 seconds, release the foot brake (2-14 set to 4);
3. Shut the ignition off and remove the key from the ignition, the vehicle should remain running;
    a. **Troubleshooting**: if the vehicle shuts down immediately the control module is either:
        i. Not seeing the parking / e-brake signal (analog or over data);
        OR
        ii. Not seeing a tachometer or alternator signal, or tachometer is not programmed (analog or over data);
        OR
        iii. In valet.
4. Open the door, exit the vehicle, shut the door;

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WARNING: There should be no wiring routed around any pedals which can cause a driving hazard.

Technical Tip

   a. **Troubleshooting**: if the vehicle shuts down immediately on shutting the door the control module is:
      i. Not seeing the FT-DAS or FT-DAS II plugged in.

5. Once the door is shut:
   a. After a few seconds the vehicle will automatically lock, then shut down (2-15 set to 1)
      i. **Troubleshooting**: If the vehicle does not lock (just shuts down), the control module is not seeing the vehicle's door open and close.

      OR

   b. Hit the **Lock** button on a Firstech remote or the OEM remote (if OEM remote control is available through the data module), the vehicle will shut down (2-15 set to 2)

      OR

   c. The vehicle will automatically lock 10 seconds after the last zone is closed **OR** hit the **Lock** button on a Firstech remote or the OEM remote (if OEM remote control is available through the data module), the vehicle will shut down (2-15 set to 3)

      OR

   d. After a few seconds the vehicle will automatically shut down, then lock (2-15 set to 4).
6. The unit will not be ready to remote start. **IF** you get a remote start error of 3 then 7 parking light flashes when attempting to remote start, please refer to the additional troubleshooting section below.

<u>Push-to-Start Vehicles</u>:

1. Start the vehicle with the vehicle's key (normal operation);
   - Ensure that all the vehicle's doors, trunk, and hood are closed, and the vehicle is in neutral.
2. With your foot on the brake pedal:
   - Engage the parking / e-brake, release the foot brake, hold the "start" button on the Firstech remote for 2.5 seconds (2-14 set to 3);

     OR

   - Engage the parking / e-brake, release the parking / e-brake, engage the parking / e-brake again within 7 seconds, release the foot brake (2-14 set to 4);

Technical Tip

- **Troubleshooting**: if the control module does not enter reservation mode, the control module is either:
    i. Not seeing the parking / e-brake signal (analog or over data);
    OR
    ii. Not seeing a tachometer or alternator signal, or tachometer is not programmed (analog or over data);
    OR
    iii. In valet.

3. Open the door, exit the vehicle, shut the door;
    - **Troubleshooting**: if the vehicle shuts down immediately on shutting the door the control module is:
        i. Not seeing the FT-DAS or FT-DAS II plugged in.
4. Once the door is shut:
    - After a few seconds the vehicle will automatically lock, then shut down (2-15 set to 1)
        i. **Troubleshooting**: If the vehicle does not lock (just shuts down), the control module is not seeing the DAS module.

    OR
    - Hit the **Lock** button on a Firstech remote or the OEM remote (if OEM remote control is available through the data module), the vehicle will shut down (2-15 set to 2)

    OR
    - The vehicle will automatically lock 10 seconds after the last zone is closed **OR** hit the **Lock** button on a Firstech remote or the OEM remote (if OEM remote control is available through the data module), the vehicle will shut down (2-15 set to 3)

    OR
    - After a few seconds the vehicle will automatically shut down, then lock (2-15 set to 4).
5. The unit will not be ready to remote start. **IF** you get a remote start error of 3 then 7 parking light flashes when attempting to remote start, please refer to the additional troubleshooting section below.

Technical Tip

Additional Troubleshooting Tips / Information:

- If the vehicle has an electronic parking / e-brake and reservation mode is failing to enter, ensure that either:
    - The data module provides parking / e-brake (including electronic parking / e-brake specifically) over data;

      OR
    - The analog connection to the electronic parking / e-brake is not lost once the ignition turns off (or shortly thereafter).

- Reservation mode seemingly sets, but fails to remote start, if Retained Accessory Power (R.A.P.) is connected it can cancel reservation mode.
    - To fix this issue you will have to turn off door status monitoring over data through the Blade-AL or ALCA via Compustar.iDatalink.com or through Weblink Mobile and make analog connections for the door triggers. Again, **every** entry point must be monitored for proper manual transmission remote start installation. Please refer to one of the following R.A.P. shutdown applications (depending on the door trigger configuration of the vehicle).
- If the alarm feature is turned on in the control module and the alarm was triggered after reservation mode was set, reservation mode will reset.
- If any zone was opened or breached after reservation mode was set (client re-entered the vehicle or a faulty trigger), reservation mode will be cancelled.

Technical Tip

Use of Turbo Timer with Reservation Mode

The setup for reservation mode and turbo timer are very similar. For the initial set up, we need to set option 2-02 to:

- Option 2 for 2 minutes;
- Option 3 for 1 minute; OR
- Option 4 for 4 minutes.

Lastly, we need to activate it on the remote (**Please refer to the manual for the RF transmitter you are using** – typically, on a 5-button transmitter it is F 1x then unlock or, on a 4-button transmitter, trunk + remote start simultaneously for .5 second.

To set Reservation Mode with Turbo Timer activated:

1. Pull into the parking space and proceed to set Reservation Mode as normal (refer to the standard key and push-to-start steps above);
2. Exit the vehicle with the key;
3. If 2-15 is set to Option 1, 3, or 4, hit Lock within 10 seconds to activate the Turbo Timer feature. If you do not hit Lock within the 10 seconds the unit will set Reservation Mode.
    - If 2-15 is set to Option 2 (press Lock to set Reservation Mode) the Lock press will set reservation mode *and* activate Turbo Timer every time – in short, 2-15-3 with Turbo Timer on will always activate Turbo Timer.

Technical Tip

Use of Idle Mode with Reservation Mode

Idle Mode is the mode where you can have the remote start take over control of the ignition on the vehicle while it is already running, remove the keys, leave the vehicle, and lock the car. This allows you to go into a store and keep your car running and locked the entire time; in rare instances it also allows for key takeover in select PTS vehicles that otherwise do not offer key takeover.

To use Idle Mode with a manual transmission:

1. 2-14 **must** be set to Option 3 which is "Engage the parking / e-brake, release the parking / e-brake, engage the parking / e-brake again within 7 seconds;"
2. Engage the parking / e-brake **one time**;
3. Hold the Remote Start button on the RF transmitter for 2.5 seconds to activate Idle Mode;
4. Exit the vehicle and lock the vehicle.

Idle mode is now set and will run for the runtime (based on 2-07).

Firstech Integration Applications

FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-CDK1	DL-CH5 v3.6	FTI-CDK1-SET1A_05092019	Chrysler	300/300C	2005-07
			Dodge	Charger	2006-07
			Dodge	Magnum	2005-07
		FTI-CDK1-SET1B_04292019	Chrysler	PT Cruiser	2006-10
			Dodge	Caliber (with start wire)	2007
		FTI-CDK1-SET1C_04292019	Jeep	Commander	2006-07
			Jeep	Grand Cherokee	2005-07
		FTI-CDK1-SET2A_04292019	Chrysler	Aspen	2007-10
			Dodge	Caliber	2007-12
			Dodge	Dakota	2007-11
			Dodge	Durango	2007-10
			Dodge	Ram 1500	2007-08
			Dodge	Ram 2500	2007-09
			Dodge	Ram 3500	2007-09
			Dodge	Ram 3500 Cab only	2007-09
			Dodge	Ram 4500 Cab only	2008-10
			Dodge	Ram 5500 Cab only	2008-10
			RAM	4500 Cab only	2011-19
			Ram	5500 Cab only	2010
			Mitsubishi	Raider	2007-09
		FTI-CDK1-SET2B_05102019	Chrysler	200	2011-14
			Chrysler	Seabring	2007-10
			Dodge	Avenger	2008-14
			Dodge	Nitro	2007-11
			Jeep	Compass	2007-17
			Jeep	Liberty	2008-12
			Jeep	Patriot	2007-17
			Jeep	Wrangler JK Stad key	2007-18

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Firstech Integration Applications

FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-CDK2	DL-CH4 v2.8	FTI-CDK2-SET1A_05132019	Chrysler	300	2008-10
			Chrysler	Town & Country	2008-10
			Dodge	Challenger	2008-14
			Dodge	Charger	2008-10
			Dodge	Grand Caravan	2008-10
			Dodge	Magnum	2008-9
			Dodge	Ram	2009
			Jeep	Grand Cherokee	2011-13
			RAM	C/V	2010
			RAM	1500	2010-12
			RAM	2500	2010-12
			RAM	3500	2010-12
			RAM	4500	2011-12
			RAM	5500	2011-12
			VW	Routan	2009-10
		FTI-CDK2-SET1B_05132019	Chrysler	Town & Country	2011-16
			Dodge	Durango	2011-13
			Dodge	Grand Caravan	2011-19
			RAM	C/V	2011-15
			VW	Routan	2011-12
		FTI-CDK2-SET1C_05132019	Dodge	Journey	2009-10
			Jeep	Commander	2008-10
			Jeep	Grand Cherokee	2008-10

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Firstech Integration Applications

FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-CDP1	DL-CH7 v3.3	FTI-CDP1-SET1A_05152019	Chrysler	300 PTS	2011-17
			Dodge	Challenger PTS	2015-17
			Dodge	Charger PTS	2015-17
			Dodge	Dart	2013-16
			Dodge	Durango PTS	2014-17
			Dodge	Journey PTS	2011-17
		FTI-CDP1-SET1C_05152019	Jeep	Grand Cherokee PTS	2014-17
			Jeep	Grand Cherokee diesel	2014-17
			RAM	1500/2500/3500 PTS	2013-17
			RAM	1500/2500/3500 PTS Diesel	2013-17
		FTI-CDP1-SET2A_05152019	Chrysler	300 PTS	2018
			Dodge	Challenger PTS	2018-19
			Dodge	Charger PTS	2018-19
			Dodge	Durango PTS	2018
			Dodge	Journey PTS	2018
		FTI-CDP1-SET2C_05152019	Jeep	Grand Cherokee PTS	2018-19
			Jeep	Grand Cherokee diesel	2018-19
			RAM	1500/2500/3500 PTS	2011-19
			RAM	1500/2500/3500 PTS Diesel	2018-19
	DL CH8 v2.2	FTI-CDP1-SET1A_05152019	Dodge	Dart Tip Start	2013-16
		FTI-CDP1-SET1B_05152019	RAM	1500/2500/3500 TIP Diesel	2013-17
		FTI-CDP1-SET1C_05152019	RAM	1500/2500/3500 TIP	2013-17
		FTI-CDP1-SET2C_05152019	RAM	1500/2500/3500 TIP	2018
			RAM	1500/2500/3500 TIP Diesel	2018
	DL-CH12 v2.4	FTI-CDP1-SET1D_05172019	Jeep	Cherokee PTS	2014-18
			Jeep	Cherokee TIP	2014-18
		FTI-CDP1-SET1E_05152019	Chrysler	200 PTS	2015-17
		FTI-CDP1-SET1F_05172019	Jeep	Compass PTS	2017-18
		FTI-CDP1-SET1G_05152019	Chrysler	Pacifica Hybrid	2017
			Chrysler	Pacifica PTS	2017
		FTI-CDP1-SET1H_05162019	Fiat	500X PTS	2015-17
			Jeep	Renegade PTS	2015-17
		FTI-CDP1-SET2E_05152019	Chrysler	PacificaPTS	2018
		FTI-CDP1-SET2F_05172019	Jeep	Cherokee PTS	2019
			Jeep	Cherokee TIP	2019
		FTI-CDP1-SET2G_05162019	Jeep	Renegade PTS	2018
		FTI-CDP1-SET2H_05202019	Jeep	Wrangler JL PTS	2018-19
		FTI-CDP1-SET2J_05152019	Dodge	Challenger PTS	2019
			Dodge	Charger PTS	2019
	DL-CH13 v1.1	FTI-CDP1-SET2D_05152019	RAM	1500 NG	2019

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Firstech Integration Applications

FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-FDK1	DL-FM2 v1.2	FTI-FDK1-SET1A_05202019	Ford	Edge STD 40 bit key	2007-10
			Ford	Escape STD 40 bit key	2008-12
			Ford	Flex STD 40 bit key	2009-12
			Ford	Focus STD 40 bit key	2008-11
			Lincoln	MKX STD 40 bit key	2007-10
			Mazda	Tribute STD 40 bit key	2008-11
			Mercury	Mariner/Hybrid STD 40 bit key	2008-11
		FTI-FDK1-SET1A2_05222019	Ford	Fusion STD 40 bit key	2006-12
			Lincoln	Zephyr STD 40 bit key	2006
			Mercury	Milan/Milan Hybrid STD 40 bit key	2006-10
		FTI-FDK1-SET1A3_05222019	Ford	Explorer STD 40 bit key	2006-10
			Ford	Spot Trac STD 40 bit key	2007-10
			Ford	Mountaineer STD 40 bit key	2006-10
		FTI-FDK1-SET1B_05222019	Ford	Mustang STD 40 bit key	2010-14
			Lincoln	MKS STD 40 bit key	2009-12
			Lincoln	MKZ/MKZ Hybrid STD 40 bit key	2010-12
			Mercury	Sable STD 40 bit key	2008-09
		FTI-FDK1-SET1C4_05242019	Ford	Fiesta STD 40 bit key	2011-19
	DL-FM3 v1.2	FTI-FDK1-SET2A1_05242019	Ford	Edge STD 80 bit key	2011-14
			Ford	Explorer STD 80 bit key	2011-15
			Ford	Taurus STD 80 bit key	2013-17
			Lincoln	MKX STD 80 bit key	2011-12
		FTI-FDK1-SET2A2_05242019	Ford	F150 STD 80 bit key	2011-14
			Ford	F sereies Super Duty	2011-16
		FTI-FDK1-SET2B_05242019	Ford	Expedition STD 80 bit key	2015-17
		FTI-FDK1-SET2C_05242019	Ford	Flex STD 80 bit key	2013-16
		FTI-FDK1-SET2D_05282019	Ford	Fiesta STD 80 bit key	2014-18
		FTI-FDK1-SET2E_05282019	Ford	Transit STD 80 bit key	2015-18

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Firstech Integration Applications

FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-FDK2	DL-FM6 v1.2	FTI-FDK2-SET1_05292019	Ford	Edge STD KEY	2015-19
			Ford	Edge PTS	2015-19
			Ford	Edge ST PTS	2019
			Ford	Ecosport PTS	2018
			Ford	Ecosport STD KEY	2018
			Ford	Expedition PTS	2018-19
			Ford	Expedition STD KEY	2018-19
			Ford	Explorer PTS	2016-19
			Ford	Explorer STD KEY	2016-19
			Ford	F-150 STD KEY w/OE-KE	2015-19
			Ford	F-150 PTS	2015-19
	DL-FM8 v2.0		Ford	F-SERIES SD STD KEY w/ OE-KE	2017-19
			Ford	F-SERIES SD PTS	2017-19
			Ford	FUSION STD KEY	2014-19
			Ford	FUSION Hybrid STD KEY	2014-19
			Ford	FUSION PTS	2014-19
			Ford	FUSION Hybrid PTS	2014-19
			Ford	Ranger PTS	2011-19
			Lincoln	Continental PTS	2017-18
			Linclon	MKC PTS	2015-18
			Lincoln	MKZ PTS	2014-18
			Lincoln	MKZ Hybrid PTS	2014-18
			Linclon	Navigator PTS	2018
			Lincoln	Nautilus PTS	2019
		FTI-FDK2-SET2_05292019	Ford	Fusion STD KEY	2013
			Ford	Fusion Hybrid STD KEY	2013
			Ford	Fusion PTS	2013
			Ford	Fusion Hybrid PTS	2013
			Lincoln	MKZ PTS	2013
			Lincoln	MKZ Hybrid PTS	2013

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Firstech Integration Applications

FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-GMK2	DL GM7 v3.3	FTI-GMK2-SET1A_05292019	Buick	Encore flip key	2013-16
			Buick	LaCrosse Flip Key	2010
			Buick	LaCrosse Flip Key	2011-16
			Buick	Regal Flip key	2011-16
			Buick	Verano Flip key	2012-17
			Chevrolet	Camaro Flip key	2010-15
			Chevrolet	Colorado Flip key	2015-16
			Chevrolet	Cruze/Cruze LTD	2010-16
			Chevrolet	Equinox Flip key	2010-17
			Chevrolet	Impala flip key	2014-16
			Chevrolet	Malibu flip key	2013-16
			Chevrolet	Orlando flip key	2011-14
			Chevrolet	Silverado 1500 std key	2014-16
			Chevrolet	Silverado 2500/ 3500 std key	2015-16
			Chevrolet	Sonic Flip key	2012-16
			Chevrolet	Spark Flip key	2012-17
			Chevrolet	Suburban std key	2015-16
			Chevrolet	Tahoe	2011-19
			Chevrolet	Trax Flip	2013-16
			GMC	Canyon STD key	2015-16
			GMC	Sierra 1500 STD key	2014-16
			GMC	Sierra 2500/3500 std key	2014-16
			GMC	Terrain Flip key	2010-17
			GMC	Yukon std key	2015-16
		FTI-GMK2-SET1B_05292019	Chevrolet	Colorado std key w/o ONSTAR	2015-16
			Chevrolet	Silverado 2500 std key w/o ONSTAR-W/FA	2015-16
		FTI-GMK2-SET1C_05292019	Chevrolet	Colorado std key w/o ONSTAR-W/FA	2015-16
			Chevrolet	Silverado 1500 std key w/o ONSTAR-W/FA	2014-16
			Chevrolet	Silverado 3500 std key w/o ONSTAR-W/FA	2015-16
			GMC	Canyon STD key w/o ONSTAR	2015-16
			GMC	Canyon STD key w/o ONSTAR-w/FA	2015-16
			GMC	Sierra 1500 std key w/o ONSTAR-W/FA	2014-16
			GMC	Sierra 2500 std key w/o ONSTAR-W/FA	2014-16
			GMC	Sierra 3500 std key w/o ONSTAR-W/FA	2014-16
		FTI-GMK2-SET2A_05292019	Chevrolet	Silverado 1500 std key w/o ONSTAR	2014-16
			Chevrolet	Silverado 2500 std key w/o ONSTAR	2015-16
			Chevrolet	Silverado 3500 std key w/o ONSTAR	2015-16
			Chevrolet	Suburban std key w/o ONSTAR	2015-16
			Chevrolet	Tahoe std key w/o ONSTAR	2015-16
			GMC	Sierra 1500 std key w/o ONSTAR	2014-16
			GMC	Sierra 2500 std key w/o ONSTAR	2014-16
			GMC	Sierra 3500 std key w/o ONSTAR	2014-16
			GMC	Yukon std key w/o ONSTAR	2015-16
		FTI-GMK2-SET2B_05292019	Chevrolet	Suburban std key w/o ONSTAR-w/FA	2015-16
			Chevrolet	Tahoe std key w/o ONSTAR-w/FA	2015-16
			GMC	Yukon std key w/o ONSTAR-w/FA	2015-16

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FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-GMK2	DL GM12 v1.6	FTI-GMK2_SET2A2_05302019	Chevrolet	Silverado 1500 std key	2017-18
			Chevrolet	Silverado 1500 std key	2019
			Chevrolet	Silverado 2500/ 3500 std key	2017-19
			Chevrolet	Suburban std key	2017-18
			Chevrolet	Tahoe STD key	2017-18
			GMC	Sierra 1500 STD key	2017-19
			GMC	Sierra 1500 LTD STD KEY	2019
			GMC	Sierra 2500/3500 STD key	2017-19
			GMC	Yukon std key	2017-18
		FTI-GMK2-SET1A2_05302019	Buick	Regal Flip key	2017
			Chevrolet	Colorado STD key	2017-19
			Chevrolet	Cruze flip key	2017-19
			Chevrolet	Impala flip key	2017
			Chevrolet	Sonic Flip key	2017-18
			Chevrolet	Trax Flip key	2017-18
			GMC	Canyon STD key	2017-19
		FTI-GMK2-SET1B2_05392019	Chevrolet	Colorado std key w/o ONSTAR	2017-19
		FTI-GMK2-SET1C2_05302019	Chevrolet	Colorado std key w/o ONSTAR-W/FA	2017-19
			Chevrolet	Silverado 1500 std key w/o ONSTAR-W/FA	2011-19
			Chevrolet	Silverado 2500 std key w/o ONSTAR-W/FA	2017-19
			Chevrolet	Silverado 3500 std key w/o ONSTAR-W/FA	2017-19
			GMC	Canyon STD key w/o ONSTAR	2017-19
			GMC	Canyon STD key w/o ONSTAR-w/FA	2017-18
			GMC	Sierra 1500 std key w/o ONSTAR-W/FA	2017-18
			GMC	Sierra 2500 std key w/o ONSTAR-W/FA	2017-19
			GMC	Sierra 3500 std key w/o ONSTAR-W/FA	2017-19
		FTI-GMK2-SET2B2_05302019	Chevrolet	Silverado 1500 std key w/o ONSTAR	2017-18
			Chevrolet	Silverado 1500 std key w/o ONSTAR	2019
			Chevrolet	Silverado 2500 std key w/o ONSTAR	2017-19
			Chevrolet	Silverado 3500 std key w/o ONSTAR	2017-19
			Chevrolet	Suburban std key w/o ONSTAR	2017-18
			Chevrolet	Tahoe std key w/o ONSTAR	2017-18
			GMC	Sierra 1500 std key w/o ONSTAR	2017-18
			GMC	Sierra 1500 LTD STD KEY w/o ONSTAR	2019
			GMC	Sierra 2500 std key w/o ONSTAR	2017-19
			GMC	Sierra 3500 std key w/o ONSTAR	2017-19
			GMC	Yukon std key w/o ONSTAR	2017-18
		FTI-GMK2-SET2C2_05302019	Chevrolet	Suburban std key w/o ONSTAR-w/FA	2017-18
			Chevrolet	Tahoe std key w/o ONSTAR-w/FA	2017-18
			GMC	Yukon std key w/o ONSTAR-w/FA	2017-18

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FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-GMP1	DL GM8 v3.1	FTI-GMP1-SET1A_05292019	Buick	Encore PTS	2017-18
			Buick	LaCrosse PTS	2010
			Buick	LaCrosse PTS	2011-14
			Buick	LaCrosse PTS	2015-16
			Buick	Regal PTS	2013-17
			Buick	Regal PTS	2018-19
			Cadillac	CT6 PTS	2014-18
			Cadillac	SRX PTS	2011-12
			Cadillac	SRX PTS	2013-16
			Cadillac	XT4 PTS	2019
			Cadillac	XTS PTS	2013-16
			Chevrolet	Blazer PTS	2019
			Chevrolet	Cruze PTS	2013-18
			Chevrolet	Impala PTS	2014-18
			Chevrolet	Malibu PTS	2013-15
			Chevrolet	Silverado PTS	2019
			Chevrolet	Sonic PTS	2017-18
			Chevrolet	Spark PTS	2016-18
		FTI-GMP1-SET2A_05292019	Cadillac	ATS PTS	2011-19
			Cadillac	CTS Sedan PTS	2014-18
			Cadillac	Escalade PTS	2015-18
			Chevrolet	Camaro PTS	2016-18
			Chevrolet	Suburban PTS	2015-18
			Chevrolet	Tahoe PTS	2015-18
			GMC	Yukon PTS	2015-18
		FTI-GMP-SET1B_05292019	Buick	Enclave PTS	2018
			Buick	Envision PTS	2017-18
			Buick	LaCrosse PTS	2017-18
			Buick	Verano PTS	2012-17
			Cadillac	XT5 PTS	2017-18
			Chevrolet	Corvette PTS	2014-18
			Chevrolet	Equinox PTS	2018-19
			Chevrolet	Malibu PTS	2016-19
			Chevrolet	Traverse PTS	2018
			GMC	Acadia PTS	2017-18
			GMC	Terrain PTS	2018

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FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-HDK1	DL HA1 v1.6		Acura	EL 1.7 STD key	2001-05
			Acura	EL 1.7 STD key w/OEA	2001-05
			Acura	RSX STD key	2002-06
			Acura	RSX STD key w/OEA	2002-06
			Acura	TL STD key	2004-06
			Acura	TL STD key	2007-08
			Acura	TSX STD key	2004-08
			Honda	Accord/Accord Hybrid STD key	2003-07
			Honda	Civic/Civic Hybrid STD key	2001-05
			Honda	Civic STD key w/OEA	2001-05
			Honda	CR-V STD key	2002-06
			Honda	CR-V STD key w/OEA	2002-06
			Honda	Element STD key	2003-11
			Honda	Element STD key w/OEA	2003-11
			Honda	Odyssey STD key	2005-10
	DL HA2 v1.6		Acura	CSX STD key	2006-11
			Acura	MDX STD key	2007-13
			Acura	RDX STD key	2011-19
			Honda	Civic STD key	2006-11
			Honda	Civic hybrid STD key	2006-11
			Honda	CR-V STD key	2007-11
			Honda	CR-Z STD key	2011-16
			Honda	Fit STD key	2009-13
			Honda	Insight STD key	2010-14
FTI-HDK2	DL HA3 v2.0+	FTI-HDK2_SET2B3_06032019	Honda	CR-v STD Key	2012-16
			Honda	Civic/Civic Hybrid STD Key	2012-15
		FTI-HDK2-SET1A3_0531201	Acura	TL STD Key	2009-14
			Acura	TSX STD Key	2009-14
			Acura	ZDX	2010-11
			Honda	Accord Crosstour STD Key	2010-12
			Honda	Accord STD Key	2008-12
			Honda	Odyssey STD Key	2011-17
			Honda	Pilot STD Key	2009-15
	DL HA6 v3.6+	FTI-HDK2-SET2B6_06032019	Honda	Accord Crosstour STD Key	2013-15
			Honda	Accord STD Key	2013-17
			Honda	CR-v STD Key	2017-18
			Honda	Civic/Civic Hybrid STD Key	2016-18
			Honda	Fit STD Key	2015-19
			Honda	HR-V STD Key	2016-19

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FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-HDP6	DL HA6 v3.6+	FTI-HAP6-SET1_05312019	Acura	RLX PTS	2014-15
			Honda	Accord Crosstour PTS	2013-15
			Honda	Accord Hybrid PTS	2013-17
			Honda	Accord PTS	2013-17
			Honda	CR-V PTS	2015-16
			Honda	Civic PTS	2014-15

FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-HDP7	DL HA6 v3.6+	FTI-HAP7-SET1_05312019	Acura	ILX PTS	2016-17
			Acura	MDX PTS	2016-18
			Acura	RDX PTS	2016-18
			Acura	RLX PTS	2016-17
			Acura	TLX PTS	2015-18
			Honda	Fit PTS	2015-18
			Honda	HRV PTS	2016-18
			Honda	Odyssey PTS	2014-17
			Honda	Pilot PTS	2016-18
			Honda	Ridgeline PTS	2011-19

FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-HDP8	DL HA6 v3.6+	FTI-HAP8-SET1_06042019	Honda	CR-V PTS	2017-18
			Honda	Civic PTS	2016-18
			Honda	Honda Odyssey PTS	2018

FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-MAP1	DL MA3 v3.1	FTI-MAP1-SET1_06052019	Mazda	3 PTS	2014-18
			Mazda	6 PTS	2014-18
			Mazda	CX-3 PTS	2013-18
			Mazda	CX-5 PTS	2013-18
			Mazda	CX-9 PTS	2016-18
			Mazda	MX-5 PTS	2016-18

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FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-NSK1	DL NI4 v1.8	FTI-NSK1-SET1_06102019	Infinity	QX56 STD KEY	2005-09
			Nissan	350Z STD Key	2006-09
			Nissan	Altima STD Key	2005-06
			Nissan	Armada STD key	2005-15
			Nissan	Cube STD Key	2009-14
			Nissan	Frontier STD Key	2005-18
			Nissan	Juke STD Key	2011-18
			Nissan	Maxima STD Key	2004-08
			Nissan	NV200 STD Key	2013-17
			Nissan	Pathfinder STD Key	2005-12
			Nissan	Quest STD Key	2004-09
			Nissan	Rogue Select STD Key	2014-15
			Nissan	Rogue STD Key	2008-13
			Nissan	Sentra STD Key	2007-12
			Nissan	Titan STD Key	2005-15
			Nissan	Versa STD Key	2007-11
			Nissan	Versa STD Key	2012-18
			Nissan	Xterra STD Key	2005-15
			Suzuki	Equator	2011-19
		FTI-NSK1-SET2_06102019	Infinity	QX56 STD KEY w/OEA	2005-09
			Nissan	350Z STD Key w/OEA	2006-09
			Nissan	Altima STD Key w/OEA	2005-06
			Nissan	Armada STD key w/OEA	2005-15
			Nissan	Cube STD Key w/OEA	2009-14
			Nissan	Frontier STD Key w/OEA	2005-18
			Nissan	Juke STD Key w/OEA	2011-18
			Nissan	Maxima STD Key w/OEA	2004-08
			Nissan	Micra STD Key	2015-17
			Nissan	NV1500/2500/3500 STD Key	2012-18
			Nissan	Pathfinder STD Key w/OEA	2005-12
			Nissan	Quest STD Key w/OEA	2004-09
			Nissan	Rogue STD Key w/OEA	2008-13
			Nissan	Sentra STD Key w/OEA	2007-12
			Nissan	Sentra STD Key w&w/o-OEA	2013-19
			Nissan	Titan STD Key w/OEA	2005-15
			Nissan	Versa NOTE STD Key	2014-18
			Nissan	Versa STD Key w/OEA	2007-11
			Nissan	Versa STD Key w/OEA	2012-18
			Nissan	Xterra STD Key w/OEA	2005-15
			Suzuki	Equator w/OEA	2009-11
		FTI-NSK1-SET3_06102019	Infinity	QX56 Intellikey	2008-10
			Nissan	Armada IntelliKey	2005-15
			Nissan	Maxima Intelli key	2007-08
			Nissan	Pathfinder Intelli key	2008-12
			Nissan	Rogue Select Intelli key	2014-15
			Nissan	Rogue Intelli key	2008-13
			Nissan	Sentra Intelli key	2007-12
			Nissan	Versa Intelli key	2007-17

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FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-NSP1	DL NI5 v2.0	FTI-NSP1-SET1_06132019	Infinity	EX35 PTS	2009-12
			Infinity	EX 37 PTS	2013
			Infinity	FX35 PTS	2009-12
			Infinity	FX37 PTS	2013
			Infinity	FX50 PTS	2010-13
			Infinity	G25 PTS	2011-12
			Infinity	G35 PTS	2007-09
			Infinity	G37 PTS	2008-13
			Infinity	Q60 PTS	2014-15
			Infinity	QX50 PTS	2014-17
			Infinity	QX70 PTS	2014-17
			Nissan	350Z PTS	2009
			Nissan	370Z PTS	2009-16
			Nissan	Altima/Altima hybrid PTS	2007-08
			Nissan	Altima/Altima hybrid PTS	2009-12
			Nissan	GT-R PTS	2009-16
			Nissan	Maxima PTS	2009-14
			Nissan	Murano PTS	2011-19
	DL NI6 v2.2	FTI-NSP1-SET2A_06132019	Infinity	M35 Hybrid PTS	2012-13
			Infinity	M37 PTS	2010-13
			Infinity	M56 PTS	2010-13
			Infinity	Q70 PTS	2014-17
			Infinity	Q70L PTS	2015-17
			Infinity	QX56 PTS	2011-13
			Infinity	QX80 PTS	2014-17
			Nissan	Armada PTS	2017
			Nissan	Cube PTS	2009-14
			Nissan	Juke PTS	2011-17
			Nissan	Quest PTS	2011-14
			Nissan	Quest PTS	2015-17
			Nissan	Sentra PTS	2013-19
			Nissan	Versa/Vers Note PTS	2014-18
			Nissan	Versa/Vers Sedan PTS	2013-18
		FTI-NSP1-SET2B_06142019	Infinity	Q70 PTS	2018-19
			Infinity	Q70L PTS	2018-19
			Infinity	QX80 PTS	2018-19
			Nissan	Armada PTS	2017-18

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FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-NSP2	DL-NI3 v4.1+	FTI-NSP2-SET1_06072019	Infinity	JX35	2013
			Infinity	Q50 PTS	2014-18
			Infinity	Q60 PTS	2017-18
			Infinity	QX60 PTS	2014-18
			Nissan	Altima PTS	2013-18
			Nissan	Maxima PTS	2016-18
			Nissan	Murano PTS	2015-17
			Nissan	Pathfinder PTS	2013-18
			Nissan	Titan PTS	2016-17
			Nissan	Titan PTS	2018-19
	DL-NI8 v2.2+	FTI-NSP2-SET2_06072019	Infinity	QX50 PTS	2019
			Nissan	Qashqai	2017-18
			Nissan	Rogue PTS	2014-16
			Nissan	Rogue PTS	2017
			Nissan	Rogue Sport	2018-19
	DL-NI9 v1.7+	FTI-NSP2-SET3_06072019	Nissan	Qashqai STD Key	2017-18
			Nissan	Qashqai STD Key	2019
			Nissan	Rogue Sport STD Key	2011-19
			Nissan	Rogue Sport STD Key	2019
			Nissan	Rogue STD Key	2014-16
			Nissan	Rogue STD Key	2017
			Nissan	Rogue STD Key	2018-19

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FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-TLK1	DL-TL1 v2.7	FTI-TLK1-SET1A_06182019	Pontiac	Vibe 40 bit STD key	2009-10
			Scion	xB 40 bit STD key	2008-10
			Toyota	Corolla 40 bit STD key	2009-10
			Toyota	Matrix 40 bit STD key	2009-10
			Toyota	RAV4 40 bit STD key	2006-10
		FTI-TLK1-SET1B_06192019	Scion	xD 40 bit STD key	2008-10
			Toyota	Camry 40 bit STD key	2007-11
			Toyota	Highlander 40 bit STD key	2008-10
			Toyota	Sequoia 40 bit STD key	2008-10
			Toyota	Tundra 40 bit STD key	2007-10
			Toyota	Yaris 40 bit STD key	2006-10
	DL-TL5 v2.3	FTI-TLK1-SET 2B2_06212019	Scion	xD 80 bit STD key	2011-14
			Toyota	Camry 80 bit STD key	2010-11
			Toyota	Highlander Hybrid 80 bit STD key	2012-13
			Toyota	Highlander 80 bit STD key	2011-13
			Toyota	Sequoia 80 bit STD key	2011-14
			Toyota	Tundra 80 bit STD key	2011-17
			Toyota	yaris sedan 80 bit STD key	2011-12
		FTI-TLK1-SET2A1_06192019	Scion	IQ 80 bit STD key	2011-19
			Scion	TC 80 bit STD key	2011-15
			Toyota	4Runner 80 bit STD key	2010-19
			Toyota	Sienna 80 bit STD key	2011-14
		FTI-TLK1-SET2A2_06192019	Scion	xB 80 bit STD key	2011-15
			Toyota	Corolla 80 bit STD key	2012-13
			Toyota	Matrix 80 bit STD key	2012-14
			Toyota	RAV4 80 bit STD key	2011-12
		FTI-TLK1-SET2B1_06212019	Toyota	Camry 80 bit STD key	2012-14
			Toyota	Prius C 80 bit STD key	2012-14
			Toyota	Yaris 80 bit STD key	2012-14
	DL-TL9 v2.6	FTI-TLK1-SET3A1_06242019	Toyota	Sienna (H) 80 bit STD key	2015-17
		FTI-TLK1-SET3A2_06242019	Toyota	Sienna (H) 80 bit STD key	2018-19
		FTI-TLK1-SET3B1_06242019	Toyota	Camry (H) 80 bit STD key	2015-17
			Toyota	Prius C (H) 80 bit STD key	2015-16
			Toyota	Yaris (H) 80 bit STD key	2015-16
		FTI-TLK1-SET3B2_06242019	Toyota	Prius C (H) 80 bit STD key	2017-18
			Toyota	Yaris (H) 80 bit STD key	2017-19
		FTI-TLK1-SET3B4_06242019	Toyota	Sequoia (H) 80 bit STD key	2015-17
		FTI-TLK1-SET3C1_06242019	Scion	iM (H) 80 bit STD key	2016
			Toyota	Corolla (H) 80 bit STD key	2014-16
			Toyota	RAV4 (H) 80 bit STD key	2013-15
		FTI-TLK1-SET3C2_06242019	Toyota	CH-R (H) 80 bit STD key	2018-19
			Toyota	Highlander (H) 80 bit STD key	2017-18
			Toyota	Tacoma (H) 80 bit STD key	2018-19
		FTI-TLK1-SET3C3_06242019	Toyota	Highlander (H) 80 bit STD key	2014-16
			Toyota	Tacoma (H) 80 bit STD key	2016-17
		FTI-TLK1-SET3C4_06242019	Toyota	Corolla iM (H) 80 bit STD key	2017-19
		FTI-TLK1-SET3C5_06242019	Toyota	RAV4 (H) 80 bit STD key	2016-19
		FTL-TLK1-SET3B3_06242019	Toyota	Sequoia (H) 80 bit STD key	2018-19
			Toyota	Tundra (H) 80 bit STD key	2018-19

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FT part Number	FIRMWARE	GUIDE #	MAKE	MODEL	YEAR
FTI-TLP1	DL-TL2 v3.8	FTI-TLP1-SET1_07222019	Lexus	GX460 PTS	2010-17
			Lexus	RX350 PTS	2010-15
			Lexus	RX450h PTS	2010-15
			Toyota	4Runner PTS	2010-18
			Toyota	Sienna PTS	2011-18
	DL-TL6 v2.7	FTI-TLP1-SET2A_07222019	Toyota	Avalon PTS	2013-15
			Toyota	Camry PTS/ Camry PTS Hybrid	2012-17
			Toyota	Corolla PTS	2014-16
			Toyota	Prius C PTS	2012-15
			Toyota	RAV 4 PTS	2013-15
		FTI-TLP1-SET2B_07222019	Toyota	Avalon PTS	2016-18
			Toyota	Corolla PTS	2017-19
			Toyota	Prius C PTS	2016-18
			Toyota	RAV 4 PTS	2016-18
		FTI-TLP1-SET2C_07222019	Lexus	ES300h PTS	2013-15
			Lexus	ES350 PTS	2013-15
		FTI-TLP1-SET2D_07222019	Lexus	ES350 PTS	2016-18
	DL-TL7 v2.5	FTI-TLP1-SET3A_07222019	Lexus	IS200t PTS	2011-19
			Lexus	IS250 PTS	2014-15
			Lexus	IS300 PTS	2016
			Lexus	IS350 PTS	2014-16
			Toyota	Highlander Hybrid PTS	2014-16
			Toyota	Highlander PTS	2014-16
		FTI-TLP1-SET3B_07222019	Lexus	IS200t PTS	2017
			Lexus	IS300 PTS	2017-18
			Lexus	IS350 PTS	2017-18
			Lexus	LX570 PTS	2016-18
			Lexus	NX200T PTS	2015-17
			Lexus	NX300/NX300h PTS	2017-18
			Lexus	RC300 PTS	2017-18
			Lexus	RC350 PTS	2015-17
			Lexus	RX350 PTS	2016-18
			Lexus	RX450h PTS	2016-18
			Toyota	CH-R PTS	2014-18
			Toyota	Highlander hybrid PTS	2018-19
			Toyota	Highlander PTS	2018-19
			Toyota	Land Cruiser PTS	2016-19
			Toyota	Tacoma PTS	2016-19

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