

INSTALLATION GUIDE

Directed Digital
Solutions

GM4



This product is intended for installation by a professional installer only! Attempts to install this product by a person other than a trained professional may result in severe damage to a vehicle's electrical system and components.

2016-11-01

DIRECTED[®]

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Warning! Safety first

 The following safety warnings must be observed at all times:

- Due to the complexity of this system, installation of this product must only be performed by an authorized Directed dealer.
- When properly installed, this system can start the vehicle via a command signal from the remote control. Therefore, never operate the system in an area that does not have adequate ventilation.

The following precautions are the sole responsibility of the user; however, authorized Directed dealers should:

- Never use a test light or logic probe when installing this unit. Always use a multimeter.
- Never operate the system in an enclosed or partially enclosed area without ventilation (such as a garage).
- When parking in an enclosed or partially enclosed area or when having the vehicle serviced, the remote start system must be disabled using the installed toggle switch. It is the user's sole responsibility to properly handle and keep out of reach from children all remote controls to assure that the system does not unintentionally remote start the vehicle.
- **USER MUST INSTALL A CARBON MONOXIDE DETECTOR IN OR ABOUT THE LIVING AREA ADJACENT TO THE VEHICLE. ALL DOORS LEADING FROM ADJACENT LIVING AREAS TO THE ENCLOSED OR PARTIALLY ENCLOSED VEHICLE STORAGE AREA MUST REMAIN CLOSED AT ALL TIMES.**

Use of this product in a manner contrary to its intended mode of operation may result in property damage, personal injury, or death. Except when performing the Safety Check outlined in this installation guide, (1) Never remotely start the vehicle with the vehicle in gear, and (2) Never remotely start the vehicle with the keys in the ignition. The user is responsible for having the neutral safety feature of the vehicle periodically checked, wherein the vehicle must not remotely start while the car is in gear. This testing should be performed by an authorized Directed dealer in accordance with the Safety Check outlined in this product installation guide. If the vehicle starts in gear, cease remote start operation immediately and consult with the user to fix the problem immediately.

OPERATION OF THE REMOTE START MODULE IF THE VEHICLE STARTS IN GEAR IS CONTRARY TO ITS INTENDED MODE OF OPERATION. OPERATING THE REMOTE START SYSTEM UNDER THESE CONDITIONS MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY. IMMEDIATELY CEASE THE USE OF THE UNIT AND REPAIR OR DISCONNECT THE INSTALLED REMOTE START MODULE. DIRECTED WILL NOT BE HELD RESPONSIBLE OR PAY FOR INSTALLATION OR REINSTALLATION COSTS.

Remote starters for manual transmission pose significant risks if not properly installed and operated. When testing to ensure the installation is working properly, only remote start the vehicle in neutral gear, on a flat surface and with a functional, fully engaged parking brake. Do not allow anyone to stand in front of or behind the vehicle.

This product should not be installed in any convertible vehicles, soft or hard top with a manual transmission. Installation in such vehicles may pose certain risk.

Introduction

The GM4 firmware for Directed Digital Solutions is a complete solution for remote start, security (if applicable), bypass interface, and convenience needs compatible with specific Cadillac, Chevrolet, GMC and Hummer vehicles.



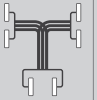
Warning! This module can only be programmed via the web tool, which can be found on www.directechs.com or using the Directechs Mobile application for smartphones. Features and functions will become accessible when you connect the module using the XKLoader.

Pre-installation and application warnings

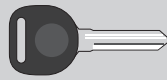
Start here

Firmware notes: This section highlights important information for this specific firmware and will assist in pricing accordingly, as well as bringing awareness to any operational or vehicle limitations.

T-Harness compatible



No



Keys required for programming

1

Keys required for operation

0

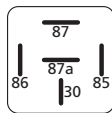
- Unless specified otherwise, all connectors are displayed from the wire side, with the exception of the OBDII diagnostic connector.
- Refer to the "Vehicle wiring reference chart" following each installation type.

General notes: This section highlights important information for this specific firmware.

- [1] The Green Starter Input wire is **only** required for starter kill and antigrind connections.
- [2] The Door Input connection is **only** required for rear door pin detection.
- [3] The installation of an aftermarket hood pin is **only** required on vehicles that are **not** equipped with a factory hood pin.
- [4] The siren is **only** compatible with hybrid systems.


Additional parts required (maximum required):


2 x 1A Diodes



1 x Relay


0 x Resistor


0 x Fuse

Vehicle application guide

The following table lists the vehicles and features which are compatible with this product. The number assigned to each year allows you to determine which installation type should be used for your vehicle.

Vehicles	Years					Features																				
	2007	2006	2005	2004	2003	PK-Immobilizer Bypass-Data No Key Req'd	CC-Heated Mirrors	CC-Heated Seats Activation	CC-Rear Window Defogger Activation	DL-Arm Factory Security	DL-Disarm Factory Security	DL-Door Lock Control	DL-Door Unlock	DL-Driver Priority Unlock	DL-Trunk / Hatch Release	FOB-Control of aftermarket alarm with OEM remote	RS-3x LOCK START (Start control using OEM Remote)	RS-3x LOCK STOP (Stop control using OEM Remote)	RS-RAP Shut Down (Retained ACC Power)	RS-Tach / RPM Output	SS-Entry Monitoring Driver Door Pin	SS-Entry Monitoring Front Door Pins	SS-Factory Alarm Trigger Monitoring	ST-Ignition Status	ST-Keysense Status	
Cadillac																										
Escalade		1	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Chevrolet	07	06	05	04	03																					
Avalanche		1	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CK Pickup		1	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Express Van	2	2	2	2	2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Silverado		1	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Silverado Classic	1					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Suburban		1	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tahoe		1	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
GMC	07	06	05	04	03																					
Savana	2	2	2	2	2	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sierra		1	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sierra Classic	1					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Yukon		1	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Yukon XL		1	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Hummer	07	06	05	04	03																					
H2	1	1	1	1	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Legend:

- CC: Comfort & Convenience Controls
- DL: OE Door Lock & Alarm Controls
- FOB: Sync CAN Interface w/ FOB Remote
- PK: Transponder & Immobilizer Override
- RS: Remote Start & Engine Controls
- SS: Integrated Security & Monitoring
- ST: Function/Feature Status

Wiring connections

The wiring connections listed below are specific to this firmware.

Main power harness (H1), 12-pin thick gauge connector

Conn./Pin	Color	Description
H1/1	White	Relay 3 COM – (-) Parking Light Output ¹
H1/2	White/Brown	Relay 3 N.O. – (-) Parking Light Input ¹
H1/3	Brown/Red	Relay 2 N.O. – No Connection
H1/4	Yellow/Red	Relay 2 COM – No Connection
H1/5	Orange/Red	Relay 2 N.C. – No Connection
H1/6	Yellow	Relay 1 COM – No Connection ¹
H1/7	White	Relay 3 COM – (-) Parking Light Output ¹
H1/8	White/Brown	Relay 3 N.O. – (-) Parking Light Input ¹
H1/9	Black	(-) Ground
H1/10	Red	(+) 12 Volt (battery)
H1/11	Orange/Yellow	Relay 1 N.C. – No Connection ¹
H1/12	Brown	Relay 1 N.O. – No Connection ¹

Auxiliary output harness (H2), 16-pin black connector

Conn./Pin	Color	Description
H2/1	Violet/Brown	No Connection
H2/2	Yellow/Black	No Connection
H2/3	Orange/Black	No Connection
H2/4	Tan	No Connection
H2/5	Tan/Black	No Connection
H2/6	Light Green	No Connection
H2/7	Orange/Green	No Connection
H2/8	Orange/Brown	No Connection
H2/9	Violet/Green	No Connection
H2/10	Green/Black	No Connection ²
H2/11	White/Violet	No Connection ²
H2/12	White/Red	No Connection ²
H2/13	Lt. Blue/Black	No Connection ²
H2/14	Green/Red	No Connection ²
H2/15	N/A	No Connection
H2/16	Violet/Yellow	J1850 Data

1. If these outputs are not used by the firmware, they can be configured by the installer when the module is flashed.
2. If these outputs are not used by the firmware, they can be configured by the installer when the module is flashed. Note that they are low current and a relay may be necessary.

Analog harness (H3), 18-pin white connector

Conn./Pin	Color	Description
H3/1	Lt. Blue/Red	No Connection
H3/2	Black/White	(-) Parking Brake Input (manual transmission) ²
H3/3	Gray	(-) Hood Input ²
H3/4	N/A	No Connection
H3/5	Gray/Black	(+) Glow Plug Input ²
H3/6	Violet/White	(AC) Tach Input ²
H3/7	Dark Blue	No Connection ¹
H3/8	Brown/Black	No Connection ¹
H3/9	Red/White	No Connection ¹
H3/10	White/Green	(-) Door Input ²
H3/11	Yellow/Green	(+) Door Input ²
H3/12	Blue/Red	No Connection
H3/13	Light Blue	No Connection ²
H3/14	Pink/Yellow	No Connection
H3/15	Dark Green	No Connection ¹
H3/16	Brown/White	(+) Brake Input ²
H3/17	Brown	(+) Siren Output ¹
H3/18	Blue/White	(-) Accessory 2 Output ¹

MC501 harness (H4), 8 thick-gauge wires (optional)

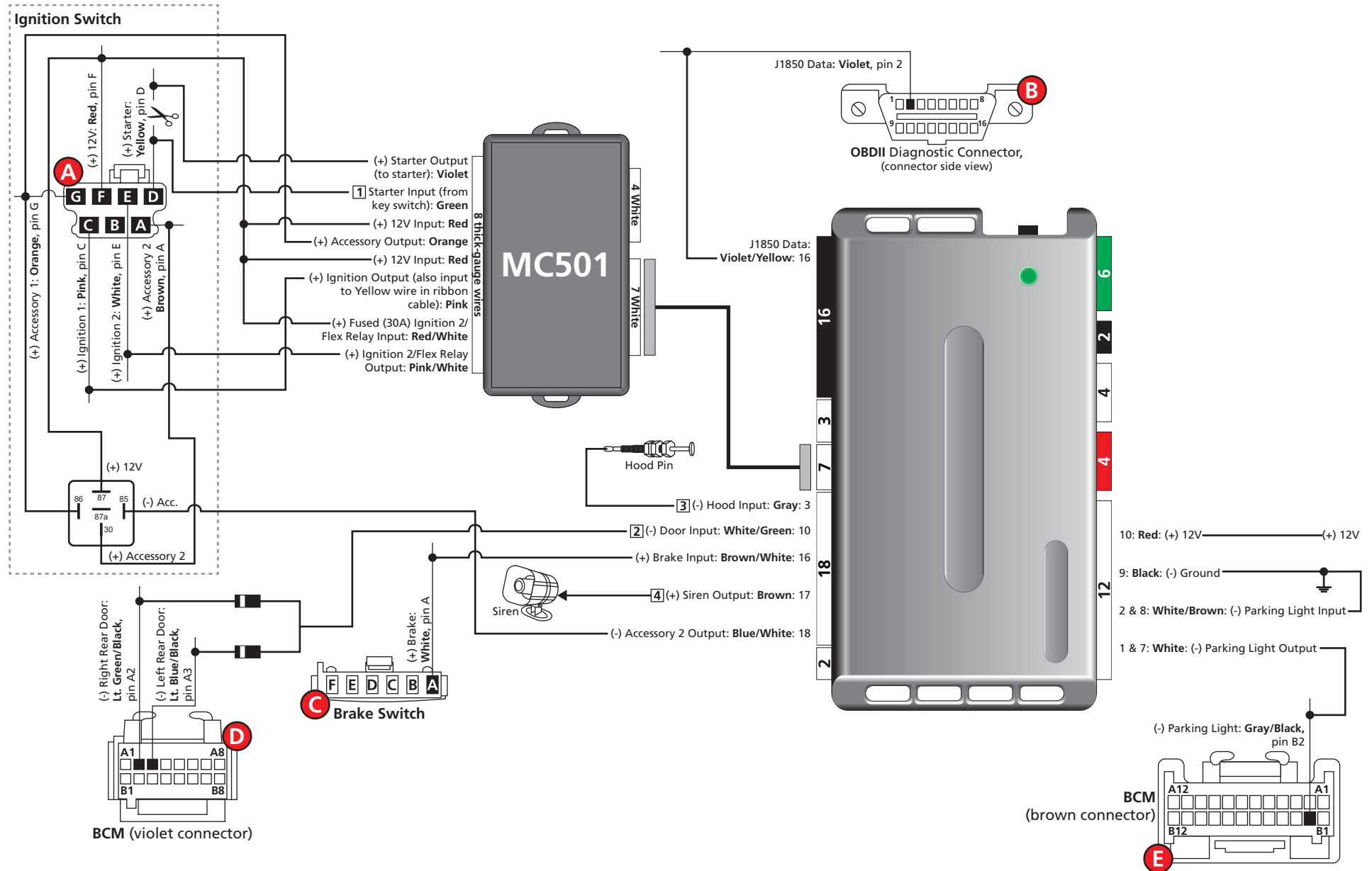
Conn./Pin	Color	Description
H4/1	Pink/White	(+) Ignition 2/Flex Relay Output ³
H4/2	Red/White	(+) Fused (30A) Ignition 2/Flex Relay Input
H4/3	Pink	(+) Ignition Output (also Input to Yellow in ribbon cable)
H4/4	Red	(+) 12 Volt (battery) Input
H4/5	Orange	(+) Accessory Output
H4/6	Red	(+) 12 Volt (battery) Input
H4/7	Green	Starter Input (from key switch) ⁴
H4/8	Violet	(+) Starter Output (to starter)

1. If these outputs are not used by the firmware, they can be configured by the installer when the module is flashed. Note that they are low current and a relay may be necessary.
2. These connections are only required if the corresponding statuses are not supported by the firmware. See "Vehicle application guide" on page 4 for a list of compatible features.
3. If these outputs are not used by the firmware, they can be configured by the installer when the module is flashed.
4. The Green wire is only required for starter disable and anti-grind applications.

Installation (wiring diagrams & vehicle wiring reference charts)

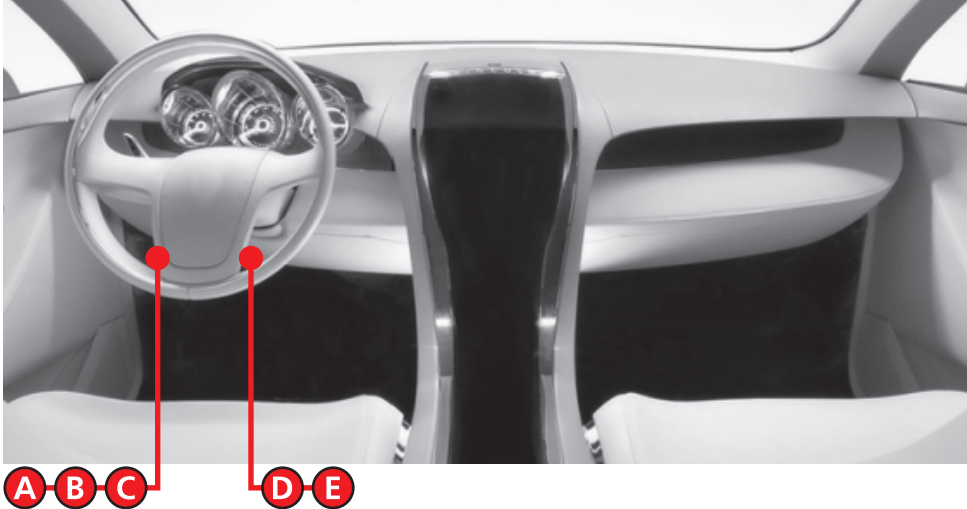
Type 1

⚠ Refer to "Pre-installation and application warnings" on page 4 and "Vehicle wiring reference chart" on page 9 for important information on this installation.



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Cadillac Escalade 2003-2006							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDDI diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E
Chevrolet Avalanche 2003-2006							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDDI diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E

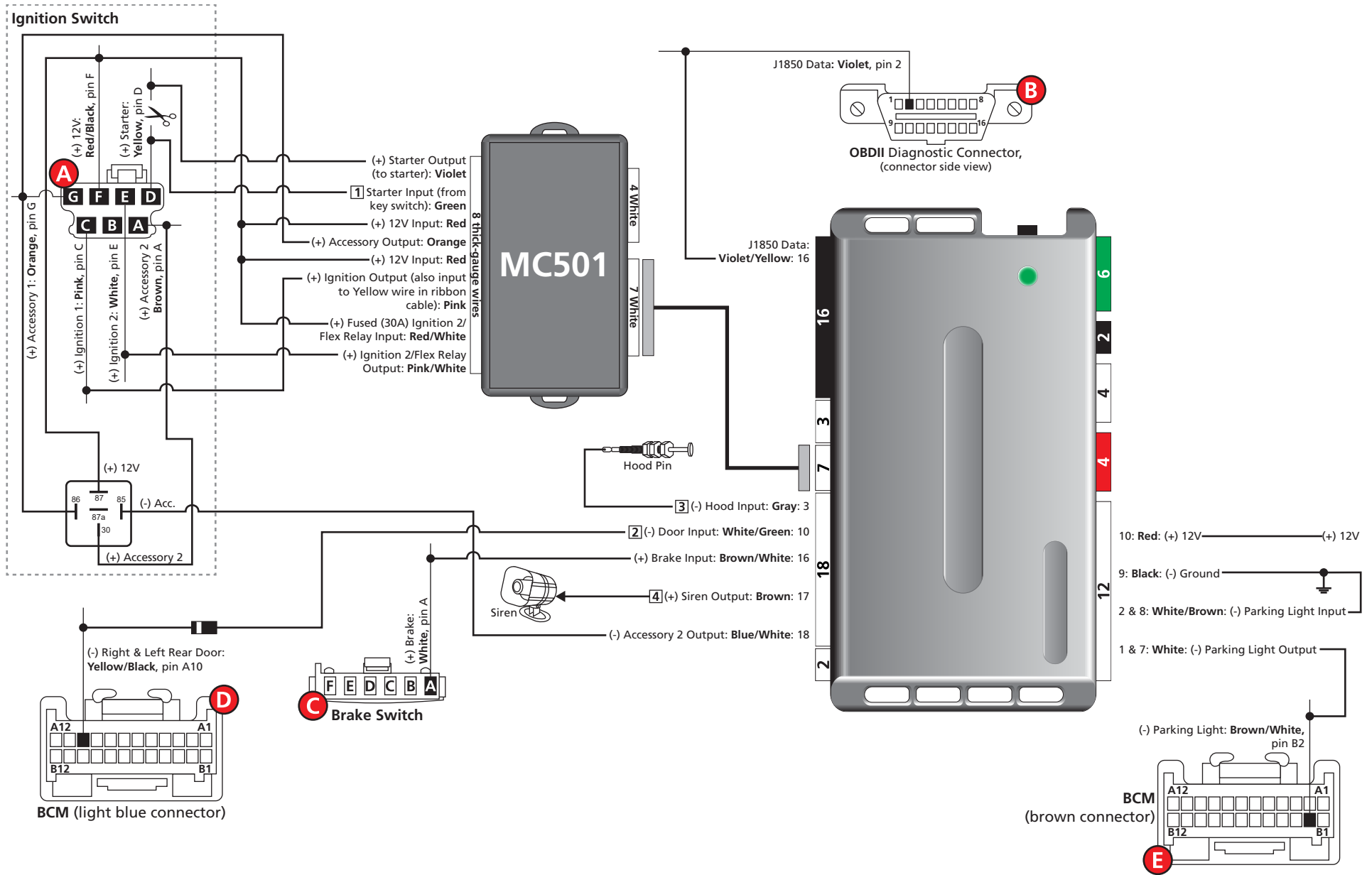
Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Chevrolet CK Pickup 2003-2006							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E
Chevrolet Silverado 2003-2006							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E
Chevrolet Silverado Classic 2007							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E
Chevrolet Suburban 2003-2006							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Chevrolet Tahoe 2003-2006							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E
GMC Sierra 2003-2006							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E
GMC Sierra Classic 2007							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E
GMC Yukon 2003-2006							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E

Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
GMC Yukon XL 2003-2006							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E
Hummer H2 2003-2007							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Lt. Green/Black	A2	(-)	BCM.	Violet	16	D
Left Rear Door	Lt. Blue/Black	A3	(-)	BCM.	Violet	16	D
Parking Light	Gray/Black	B2	(-)	BCM.	Brown	24	E

Type 2

⚠ Refer to "Pre-installation and application warnings" on page 4 and "Vehicle wiring reference chart" on page 14 for important information on this installation.



Vehicle wiring reference chart

This section provides vehicle wiring information to guide you through the various stages of your installation. Refer to www.directechs.com for additional information.



Wire Information				Connector Information			
Function	Color	Pin	Polarity	Location	Color	Pins	Ref.
Chevrolet Express Van 2003-2007							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red/Black	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Yellow/Black	A10	(-)	BCM.	Lt. Blue	24	F
Left Rear Door	Yellow/Black	A10	(-)	BCM.	Lt. Blue	24	F
Parking Light	Brown/White	B2	(-)	BCM.	Brown	24	G
GMC Savana 2003-2007							
Accessory 2	Brown	A	(+)	Ignition switch.	Black	7	A
Ignition 1	Pink	C	(+)	Ignition switch.	Black	7	A
Starter	Yellow	D	(+)	Ignition switch.	Black	7	A
Ignition 2	White	E	(+)	Ignition switch.	Black	7	A
12 Volt	Red/Black	F	(+)	Ignition switch.	Black	7	A
Accessory 1	Orange	G	(+)	Ignition switch.	Black	7	A
J1850	Violet	2	Data	OBDDII diagnostic connector.	Black	16	B
Brake	White	A	(+)	Brake switch.	Black	6	C
Right Rear Door	Yellow/Black	A10	(-)	BCM.	Lt. Blue	24	F
Left Rear Door	Yellow/Black	A10	(-)	BCM.	Lt. Blue	24	F
Parking Light	Brown/White	B2	(-)	BCM.	Brown	24	G

Connecting the module

Important!

Before connecting the Directed Digital Solutions, it is important to ensure that the proper feature and function programming is selected using the configuration wizard. Visit www.directechs.com to use the latest version of the online tool.

Flashing a module using your computer:

1. **Disconnect** the main module from any (+) 12V power source, then **connect** it to your computer using the **XKLoader2**.
2. Go to **www.directechs.com** using Internet Explorer; the configuration wizard will be displayed automatically.
3. Follow the instructions in the pop up window that will be displayed when the module is detected.

Flashing a module using your smartphone or tablet:

1. **Disconnect** the main module from any (+) 12V power source, then **connect** it to the **XKLoader3**.
2. Launch the **Directechs Mobile** app on your smartphone or tablet.
3. Select **FLASH YOUR MODULE** and follow the on-screen instructions.

When the flashing operation is successful, you can proceed with the instructions below.

Manual or automatic transmission selection

The yellow loop on the Directed Digital Solutions controls which transmission type the unit is configured for. The state of the loop (uncut or cut) when the main module is powered up will determine which type is selected.

- Uncut (default): Manual transmission.
- Cut: Automatic transmission.

For safety reasons, all Directed Digital Solutions are shipped ready to use with a manual transmission (the yellow loop is untouched). If the loop is cut after power has been applied, it is necessary to cycle power to the main module (via the white 12-pin main power harness) so the unit will see the state change on the loop and appropriately configure the transmission type.

Ready mode

To successfully remote start a vehicle equipped with a manual transmission, the Ready Mode feature must be enabled before exiting the vehicle. Please refer to the Owner's Guide for more details on this required process.

Additional connections required for vehicles equipped with a manual transmission (if not supported by firmware)

Connection	Description
(-) E-Brake Status Input (Black/White, pin 2)	Must be connected to a working emergency brake in the vehicle. Although most vehicles have simple (-) trigger emergency brake circuits note some vehicles do not and may require unique integration methodologies.
(-) Door Trigger Input (White/Green, pin 10) OR (+) Door Input (Yellow/Green, pin 11)	Must be connected to a working door trigger in the vehicle, which monitors all doors. The unit must monitor the door pins to allow the Ready Mode process to be enabled. Note: Some vehicles may require unique integration methodologies for this circuit.
(AC) Tachometer Input (Violet/White, pin 6)	Must be connected to a working tachometer signal in the vehicle (fuel injector, ignition coil, true tach, etc.) and learned successfully to the Directed Digital Solutions.

Note: Refer to www.directechs.com for more information.

Optional sensors

Note: The sensor port is only active on hybrid systems.

The 4-pin sensor port is compatible with a number of different Directed sensors including, but not limited to:

- Shock Sensor – 504D
- Field Disturbance Sensor – 508D
- Ultrasonic Sensor – 509U

Note: In the case of 508D, power and ground must be hardwired to the vehicle – power and ground should **NOT** be obtained from the 4-pin sensor port.

Each sensor will have its own instructions, which must be followed for installation and adjustment.

RF Systems

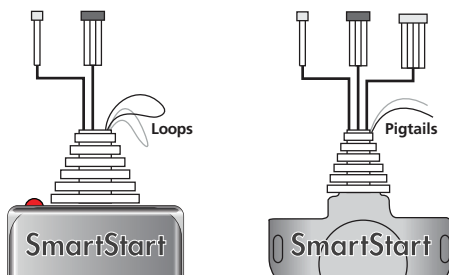
An RF System consists of one or multiple remotes, a Control Center (antenna), and an antenna cable – various combinations exist. An RF System allows the vehicle owner to control the system with enhanced range. Two-way models are available. Please follow the instructions included with the kit for appropriate installation and programming information.

When flashing the Directed Digital Solutions, make sure to pick the remote you will be using. This way the main module will have the necessary firmware to interact with the remote and Control Center (antenna) combination.

When used in conjunction with SmartStart

Disconnect power from the Directed Digital Solutions before connecting the SmartStart module. Failing to do so could damage main module. To enable D2D communication between the Directed Digital Solutions and the SmartStart one of the following actions must be executed:

- SmartStart with **Loops** – The brown loop must be cut.
- SmartStart with **Pigtails** – The gray wire must be connected to a ground source.





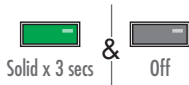





⚠ DO NOT connect the SmartStart 2-pin power harness when using the Directed Digital Solutions. Power and ground will be provided by the D2D connector on main module. Refer to the SmartStart documentation for further details.

Module programming

 Refer to "LED diagnostics and troubleshooting" on page 18 for more information and for troubleshooting purposes.

To connect the module:

- 1** Please **ensure** that the vehicle is in a safe location and cannot move forward during programming. For vehicles equipped with a manual transmission, make sure the gearshift lever is in the neutral position. 
- 2** **Connect** all the harnesses to the Directed Digital Solutions, **EXCEPT** the 12-pin main power harness. 
- 3** **Connect** the 12-pin main power harness, and wait until the LED turns ON solid red. 
- 4** **Turn** the key to start the vehicle. 
- 5** Once the configuration is completed, **reconnect** the module. The LED turns ON solid green for 3 seconds, then turns OFF. 
- 6** **Turn** vehicle ignition OFF once the module is successfully programmed. 
- 7** **Pair** remotes (if applicable). For information on how to pair a specific remote, please refer to its corresponding owner documentation, which can be found inside the product packaging of the complete system or on www.directechs.com. * 
- 8** By default, the tachometer is preprogrammed for the vehicle. For instructions on how to program tach, see page 21. 










* Your aftermarket remote may differ from the model shown in the illustrations.

You have successfully completed the module programming sequence.









LED diagnostics and troubleshooting

This section provides LED diagnostics and troubleshooting information to guide you through the various stages of your installation.


Module programming

LED	Description	Troubleshooting
 Off	Module has no power.	Make sure the D2D harness is connected and that 12 Volt is present between the red and black wires. If 12 Volt is present, the module may be defective.
 Solid red	Waiting to begin the programming sequence.	Ensure the correct programming procedure is being followed.
 Flashes red & green	Initialization failed.	Reset the module and complete the programming again. If the issue persists, please contact Technical Support.
 Solid orange	Transponder functions were skipped.	(If compatible) when the RXT mode is not desired or convenience features are needed, please reset and reprogram the module.
 Flashes green	All required CAN networks has been detected.	Normal operation.
 Flashes orange	1 of 2 CAN networks has been detected.	Normal operation.
 Flashes orange slowly	Key2GO initiated.	Please follow the steps indicated in "Module programming" on page 17 to complete the Key2GO programming.
 Solid green x 3 secs	Module was successfully programmed with all functions.	Normal operation.
 Solid orange x 3 secs	Module was successfully programmed without transponder functions.	Normal operation.






Module programming – Error codes

LED	Description	Troubleshooting
 Flashes red x 1	CAN2 not detected.	Check the CAN2 Orange/Green and Orange/Brown wire connections. Wake up the data bus by turning the ignition on and try again. If your installation does not require this connection, skip this step by pressing the programming button 5 times.
 Flashes red x 1	J1850 not detected.	Check the J1850 wire connection. Wake up the data bus by turning the ignition on and try again.
 Flashes red x 2	CAN1 not detected.	Check the CAN1 Tan and Tan/Black wire connections. Wake up the data bus by turning the ignition on and try again. If your installation does not require this connection, skip this step by pressing the programming button 5 times.
 Flashes red x 3	Bypass data not detected.	Check the bypass line connection. If more than one wire is used, make sure they are not inverted. Ensure the vehicle still operates correctly using the factory key.
 Flashes red x 4	Bypass processing error.	The bypass calculation failed. Reset the module and try again. If the condition persists, please contact Technical Support.
 Flashes red x 5	ISO 1 not detected.	The Yellow/Black wire did not detect the expected signal. Refer to "Installation (wiring diagrams & vehicle wiring reference charts)" on page 8 to check the connections.
 Flashes red x 6	ISO 2 not detected.	The Orange/Black wire did not detect the expected signal. Refer to "Installation (wiring diagrams & vehicle wiring reference charts)" on page 8 to check the connections.
 Flashes red x 7	MUX not detected.	The Violet/Green or Violet/Brown wire did not detect the expected voltage value. Refer to "Installation (wiring diagrams & vehicle wiring reference charts)" on page 8 to check the connections.







External module synchronization

LED	Description	Troubleshooting
 (Flashes red, red, then orange) x 10	OBDII feature not supported.	The diagnostic data bus was not detected, therefore the SmartStart features will be limited.






Active Ground When Running (Status)

LED	Description	Troubleshooting
 Flashes green	Ground When Running (Status) command received.	The module has initialized the remote start sequence.
 Flashes red & orange	Ignition ON command received.	The module has received the Ignition ON command and is processing the remote start sequence.
 Flashes green quickly	Start ON command received.	The module has received the Start ON command and is processing the remote start sequence.
 Flashes red x 10	PTS shutdown error.	The PTS output from the module was not activated due to safety protection.
 Flashes red x 21	CAN bus incorrectly detected.	Verify the CAN1 and CAN2 connections. Refer to "Installation (wiring diagrams & vehicle wiring reference charts)" on page 8 to check the connections.


Commands

LED	Description	Troubleshooting
 Flashes orange x 1	LOCK command received.	If the bypass module fails to flash, it did not receive the signal. Commands can come from RF or D2D.
 Flashes orange x 2	UNLOCK command received.	
 Flashes orange x 3	TRUNK command received.	
 Flashes orange x 4	AUX1 command received.	
 Flashes orange x 5	AUX2 command received.	
 Flashes orange x 6	AUX3 command received.	

Shutdown codes

LED	Description	Troubleshooting
 Flashes green x 1	Takeover successful.	Normal operation.
 Flashes red x 1	Runsafe was not disabled.	No UNLOCK command was received prior to opening the door, or the 45 second timer expired in takeover mode.
 Flashes red x 2	Brake was not detected.	The brakes were not detected, which prevents the system from shutting down the vehicle.
 Flashes red x 3	Smart key was not detected.	The smart key was not detected, which prevents the system from shutting down the vehicle.
 Flashes red x 4	Speed was detected.	The vehicle was detected as moving, which prevents the system from shutting it down.

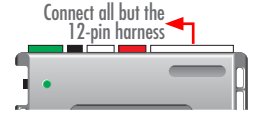
Analog error codes

LED	Description	Troubleshooting
 Flashes red, green & orange	DEI feature error.	A feature config file mismatch was detected. Please contact Technical Support.

Soft reset

A module reset will only erase the steps performed in "Module programming" on page 17. The firmware and settings flashed to the module will not be affected.

- 1 If required for your installation, **connect** all the harnesses to the Directed Digital Solutions, **EXCEPT** the 12-pin main power harness. **Press** and **hold** the programming button, then **connect** the 12-pin harness to the module.



- 2 **Wait** 3 seconds until the LED turns ON solid orange then **release** the programming button. The LED turns ON solid red.



Hard reset

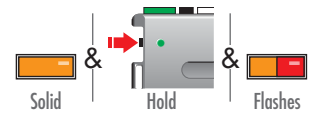
Warning Against Executing a Hard Reset!

A hard reset will revert the flashed firmware back to its default settings. Depending on the installation, some settings may need to be reconfigured. Connect your module to a computer and use the web configuration tool to edit its programmable features.

- 1 If required for your installation, **connect** all the harnesses to the Directed Digital Solutions, **EXCEPT** the 12-pin main power harness. **Press** and **hold** the programming button, then **connect** the 12-pin harness to the module.



- 2 After 3 seconds the LED turns ON solid orange. **Keep holding** the programming button until the LED flashes red, then orange slowly.



- 3 **Release** the programming button. The LED turns ON solid red.



Learning the Tach (not needed with Virtual Tach)

Tach comes preprogrammed, therefore learning is not required; however, it can be readjusted with the following operations:

1. Start the vehicle using the key.
2. Within 5 seconds, press and hold the Control Center* (antenna) or the main module programming button, until the LED on the Control Center (antenna) or the main module turns ON solid.
3. Release the button. Tachometer value is now stored in memory.

If the LED does not turn ON solid, find an alternate tach source.

* If the Control Center (antenna) was not included in your kit, the tach can be programmed using the programming button directly on the main module.

Note: When the tachometer is programmed, the main module automatically enters the Tachometer engine checking mode.

Initializing Virtual Tach (not needed with hardwired or data tach applications)

To program Virtual Tach:

1. After the install is complete, remote start the engine. The programming operation may require 3 cranks of the starter before the engine starts and runs. Do not turn off the remote start if this happens, it is a normal programming operation.
2. Once the engine begins running, let it run for at least 30 seconds.
3. Using the Remote, send the Remote start command to turn remote start off. Virtual Tach is programmed. To reset Virtual Tach, a module reset must be done.

Note: Virtual Tach cannot be used in Manual Transmission Mode. It is also not recommended for diesel trucks.

Virtual Tach handles disengaging the starter motor during remote starting – it does not address over-rev. If the customer wants to have the over-rev protection capability, the tach wire or data tach must be used.

Important! After successfully learning Virtual Tach, a small minority of vehicle starters may over crank or under crank during remote start. Use the VirtualTach Fine tune feature in the configuration wizard to adjust the starter output time in 50mS increments to compensate for such an occurrence.

Limited lifetime consumer warranty

Directed Electronics. ("Directed") promises to the original purchaser to repair or replace (at Directed's election) with a comparable reconditioned model any Directed unit (hereafter the "unit"), excluding without limitation the siren, the remote transmitters, the associated sensors and accessories, which proves to be defective in workmanship or material under reasonable use during the lifetime of the vehicle provided the following conditions are met: the unit was purchased from an authorized Directed dealer, the unit was professionally installed and serviced by an authorized Directed dealer; the unit will be professionally reinstalled in the vehicle in which it was originally installed by an authorized Directed dealer; and the unit is returned to Directed, shipping prepaid with a legible copy of the bill of sale or other dated proof of purchase bearing the following information: consumer's name, telephone number and address; the authorized dealers name, telephone number and address; complete product description, including accessories; the year, make and model of the vehicle; vehicle license number and vehicle identification number. All components other than the unit, including without limitation the siren, the remote transmitters and the associated sensors and accessories, carry a one-year warranty from the date of purchase of the same. ALL PRODUCTS RECEIVED BY DIRECTED FOR WARRANTY REPAIR WITHOUT PROOF OF PURCHASE FROM AN AUTHORIZED DEALER WILL BE DENIED. This warranty is non-transferable and is automatically void if: the unit's date code or serial number is defaced, missing or altered; the unit has been modified or used in a manner contrary to its intended purpose; the unit has been damaged by accident, unreasonable use, neglect, improper service, installation or other causes not arising out of defects in materials or construction. The warranty does not cover damage to the unit caused by installation or removal of the unit. Directed, in its sole discretion, will determine what constitutes excessive damage and may refuse the return of any unit with excessive damage.

TO THE MAXIMUM EXTENT ALLOWED BY LAW, ALL WARRANTIES, INCLUDING BUT NOT LIMITED TO EXPRESS WARRANTY, IMPLIED WARRANTY, WARRANTY OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, ARE EXPRESSLY EXCLUDED; AND DIRECTED NEITHER ASSUMES NOR AUTHORIZES ANY PERSON OR ENTITY TO ASSUME FOR IT ANY DUTY, OBLIGATION OR LIABILITY IN CONNECTION WITH ITS PRODUCTS. DIRECTED DISCLAIMS AND HAS ABSOLUTELY NO LIABILITY FOR ANY AND ALL ACTS OF THIRD PARTIES INCLUDING ITS AUTHORIZED DEALERS OR INSTALLERS. DIRECTED SECURITY SYSTEMS, INCLUDING THIS UNIT, ARE DETERRENTS AGAINST POSSIBLE THEFT. DIRECTED IS NOT OFFERING A GUARANTEE OR INSURANCE AGAINST VANDALISM, DAMAGE OR THEFT OF THE AUTOMOBILE, ITS PARTS OR CONTENTS; AND HEREBY EXPRESSLY DISCLAIMS ANY LIABILITY WHATSOEVER, INCLUDING WITHOUT LIMITATION, LIABILITY FOR THEFT, DAMAGE AND/OR VANDALISM. THIS WARRANTY DOES NOT COVER LABOR COSTS FOR MAINTENANCE, REMOVAL OR REINSTALLATION OF THE UNIT OR ANY CONSEQUENTIAL DAMAGES OF ANY KIND. IN THE EVENT OF A CLAIM OR A DISPUTE INVOLVING DIRECTED OR ITS SUBSIDIARY, THE VENUE SHALL BE SAN DIEGO COUNTY IN THE STATE OF CALIFORNIA. CALIFORNIA STATE LAWS AND APPLICABLE FEDERAL LAWS SHALL APPLY AND GOVERN THE DISPUTE. THE MAXIMUM RECOVERY UNDER ANY CLAIM AGAINST DIRECTED SHALL BE STRICTLY LIMITED TO THE AUTHORIZED DIRECTED DEALER'S PURCHASE PRICE OF THE UNIT. DIRECTED SHALL NOT BE RESPONSIBLE FOR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, ANY CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, DAMAGE TO VEHICLE, DAMAGES FOR THE LOSS OF TIME, LOSS OF EARNINGS, COMMERCIAL LOSS, LOSS OF ECONOMIC OPPORTUNITY AND THE LIKE. NOTWITHSTANDING THE ABOVE, THE MANUFACTURER DOES OFFER A LIMITED WARRANTY TO REPLACE OR REPAIR THE CONTROL MODULE SUBJECT TO THE CONDITIONS AS DESCRIBED HEREIN. THIS WARRANTY IS VOID IF THE UNIT HAS NOT BEEN PURCHASED FROM DIRECTED, OR AN AUTHORIZED DIRECTED DEALER, OR IF THE UNIT HAS BEEN DAMAGED BY ACCIDENT, UNREASONABLE USE, NEGLIGENCE, ACTS OF GOD, NEGLIGENCE, IMPROPER SERVICE, OR OTHER CAUSES NOT ARISING OUT OF DEFECT IN MATERIALS OR CONSTRUCTION.

Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights and you may also have other rights that vary from State to State.

This warranty is only valid for sale of product(s) within the United States of America and in Canada. Product(s) sold outside of the United States of America or Canada are sold "AS-IS" and shall have NO WARRANTY, express or implied.

For further details relating to warranty information of Directed products, please visit the support section of Directed's website at: www.directed.com.

This product may be covered by a Guaranteed Protection Plan ("GPP"). See your authorized Directed dealer for details of the plan or call Directed Customer Service at 1-800-876-0800.

(920-10011-01 2011-06)

Quick Reference Guide



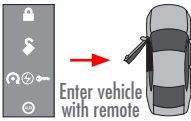


Sending commands to your vehicle

Whether you want to remote start the engine, lock/unlock the doors or pop the trunk, there are 3 possible ways you can send commands to your vehicle, using the:

- Factory remote.
- Aftermarket remote.
- Directed SmartStart application via your smartphone.




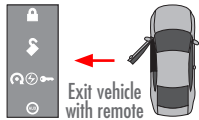
If applicable, you can also start the engine remotely by pressing the Lock button 3 times quickly on your factory remote.

Vehicle takeover with regular key

- 1 **Close** the vehicle doors, hood and trunk, then **send** the Remote Start command to start the vehicle.* 
- 2 **Send** the Unlock command on the factory or aftermarket remote.* 
- 3 **Enter** the vehicle, while making sure the factory remote is inside with you. 
- 4 **Insert** your key in the ignition barrel and **turn** it to the ON position. 
- 5 **Depress** the brake pedal, **put** the car in gear and **drive** off. 

* Icon and remote appearance may differ depending on the model purchased.





Pit stop/idle mode

- 1 **Stop** the vehicle in a safe parking spot and **put** the gear in Park (P). 
- 2 **Press** the Remote Start button on the transmitter.*  &  Parking lights flash x1
- 3 It is safe to **leave** the engine running and **exit** the vehicle with the factory remote in hand.  Exit vehicle with remote

* Icon and remote appearance may differ depending on the model purchased.

List of available commands

Note that the information below is for many Viper, Clifford, Python, Autostart and AstroStart models. Icons and commands may differ depending on the model and options purchased. Refer to your authorized installation center for more specific information.

Button(s)	Actions
	Press & hold for 1 second to lock.
	Press & hold for 1 second to unlock.
 *	Press & hold for 1 second to remote start.
 *	Press & hold for 5 seconds to activate the trunk release (optional).

* Icon and remote appearance may differ depending on the model purchased.

SmartStart compatible

This system is compatible with Directed SmartStart. For a complete list of supported features, please visit www.mysmartstart.com.

What is SmartStart?

Now you can remote start, lock and unlock your car just by pushing a button on your smartphone; using the SmartStart App from Directed, the leader in vehicle security and remote start. The simple graphical interface gives you control over the following features of your installed remote start or security with remote start system:

- Lock/Arm
- Unlock/Disarm
- Remote Car Starter
- Trunk Release
- Panic
- Aux Channels

You can also control multiple vehicles – great for families – and assign more than one user to control a vehicle. It's easy with SmartStart! But, this is only the beginning! SmartStart is loaded with additional features including GPS tracking, SmartSchedule, vehicle status, roadside assistance, parked car finder and more.

The application enables a “Cloud-Connected Car” like never before, providing 2-way interaction with your vehicle. Connectivity is managed through the Directed Cloud Services (DCS) network linking car, app, end user, and the Internet.

For more information, visit www.mysmartstart.com.

Notes
