Quick Reference Install Guide

Security and Remote Start

Automate LC Security System

Wiring Connections

Main Harness, 6-pin connector

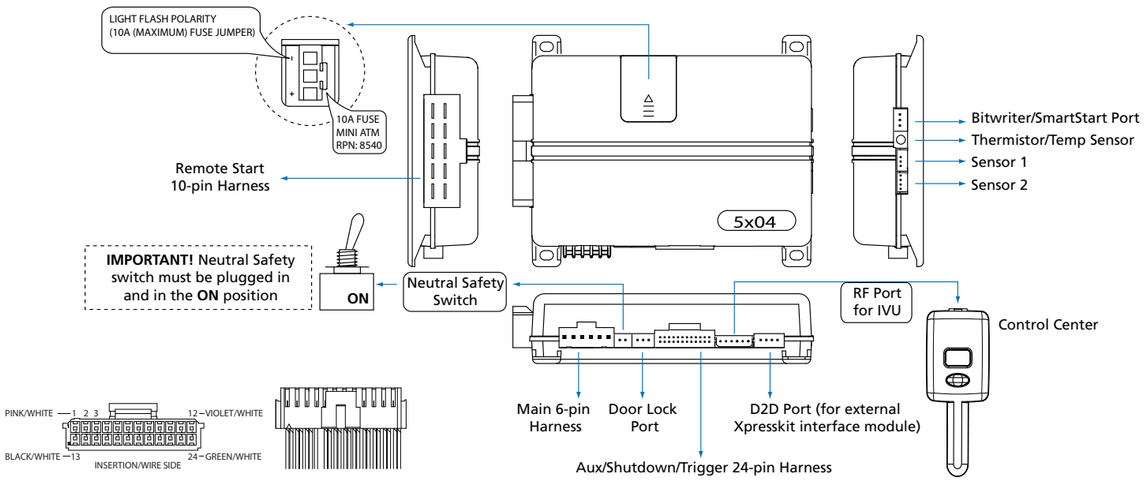
H1/1	RED	(+)12VDC CONSTANT INPUT
H1/2	BLACK	(-) CHASSIS GROUND
H1/3	BROWN	(+) SIREN OUTPUT
H1/4	WHITE/BROWN	PARKING LIGHT ISOLATION WIRE - PIN 87a of onboard relay
H1/5	WHITE	PARKING LIGHT OUTPUT
H1/6	ORANGE	(-) 500mA GROUND WHEN ARMED OUTPUT

Door Lock, 3-pin connector

1	BLUE	(-) 500mA UNLOCK OUTPUT
2	EMPTY	NOT USED
3	GREEN	(-) 500mA LOCK OUTPUT

Remote Start, 10-pin heavy gauge connector

H3/1	PINK	(+) IGNITION 1 INPUT/OUTPUT
H3/2	RED/WHITE	(+) FUSED (30A) IGNITION 2 / FLEX RELAY INPUT 87
H3/3	ORANGE	(+) ACCESSORY OUTPUT
H3/4	VIOLET	(+) STARTER OUTPUT (CAR SIDE OF THE STARTER KILL)
H3/5	GREEN	(+) STARTER INPUT (KEY SIDE OF THE STARTER KILL)
H3/6	RED	(+) FUSED (30A) IGNITION 1 INPUT
H3/7	PINK/WHITE	(+) IGNITION 2 / FLEX RELAY OUTPUT
H3/8	PINK/BLACK	(+) FLEX RELAY INPUT 87A key side (if required) of FLEX RELAY
H3/9	RED/BLACK	(+) FUSED (30A) ACCESSORY/STARTER INPUT
H3/10	NC	No Connection



Auxiliary/Shutdown/Trigger Harness, 24-pin connector

1	PNK/WHITE	(-) 200mA Ignition 2/Flex OUTPUT
2	BLUE/WHITE	(-) 200mA 2ND STATUS /REAR DEFOGGER OUTPUT
3	RED/WHITE	(-) 200mA TRUNK RELEASE OUTPUT
4	BLACK/YELLOW	(-) 200mA DOME LIGHT OUTPUT
5	DARK BLUE	(-) 200mA STATUS OUTPUT
6	WHITE/BLACK*	(-) 200mA AUX 3 OUTPUT
7	WHITE/VIOLET*	(-) 200mA AUX 1 OUTPUT
8	ORANGE/BLACK*	(-) 200mA AUX 4 OUTPUT
9	GRAY	(-) HOOD PIN INPUT (NC OR NO)
10	BLUE	(-) TRUNK PIN/INSTANT TRIGGER INPUT (N/C OR N/O)
11	WHITE/BLUE**	ACTIVATION INPUT
12	VIOLET/WHITE***	TACHOMETER INPUT
13	BLACK/WHITE****	(-) NEUTRAL SAFETY /PARKING BRAKE INPUT
14	GREEN/BLACK	(-) 200mA FACTORY ALARM DISARM OUTPUT
15	GREEN***	(-) DOOR INPUT
16	BROWN/BLACK	(-) 200mA HORN HONK OUTPUT
17	PINK	(-) 200mA IGNITION 1 OUTPUT
18	VIOLET***	(+) DOOR INPUT
19	VIOLET/BLACK*	(-) 200mA AUX 2 OUTPUT
20	BROWN	(+) BRAKE SHUTDOWN INPUT
21	VIOLET/YELLOW	(-) 200mA STARTER OUTPUT
22	GRAY/BLACK	(-) DIESEL WAIT TO START INPUT
23	ORANGE	(-) 200mA ACCESSORY OUTPUT
24	GREEN/WHITE	(-) 200mA FACTORY ALARM ARM OUTPUT

* Aux channels with the 4 button remote can only be accessed with channel linking to lock, unlock or remote start.

** Connect this wire to ground through an optional momentary switch for turbo timer mode activation (4 button remote control).

*** Required connection for manual transmission vehicles.

**** Ground this wire for automatic transmission vehicles or connect to the parking brake wire for manual transmission vehicles.

Important: NEVER connect 200mA low current outputs directly to a motor or high current device WITHOUT a relay.

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Guide Translations

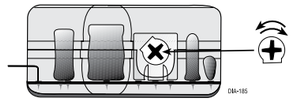
For a Spanish version of the Installation Guide, please download it from www.directechs.com under "Resources".

Traducción de los manuales:
Para obtener una versión en Español o Francés del Manual de Instalación, descárguela de www.directechs.com bajo el título "Recursos" ("Resources").

Installation Points

Adjusting the Sensor

Adjusting the sensor:
Important! Make sure the vehicle is disarmed. The shock sensor sensitivity can be adjusted by using a trimmer tool to turn the potentiometer.

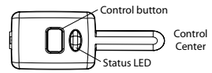


Adjusting the sensor:
1. **Disarm** the system, **turn** the ignition Off.
2. With the sensor mounted in its permanent location, locate the trim pot on the shock sensor module and using a trimmer tool:
   - Turn the potentiometer clockwise for increased sensitivity or
   - Turn it counterclockwise for decreased sensitivity

Note: You can test the new setting by cautiously impacting the vehicle with increasing intensity while noting the LED status on the shock sensor. The LED turns on for a short duration for small impacts before turning off (indicating a warn-away trigger). The impact level required to fully trigger the alarm is indicated when the LED remains on for a longer duration before turning off.

Learning the Tach (not needed with Virtual Tach)

To learn the tach signal:
1. **Start** the vehicle with the key.
2. Within 5 seconds, **press** and **hold** the Control button.
3. After 3 seconds the status LED on your Control Center lights constant when the tach signal is learned.
4. **Release** the Control button.



Important: This unit can learn the tachometer with the analog input or through d2d using an interface module. The unit confirms which source is used by flashing the parking lights. When programming tach learning with:
- Analog, the parking lights flash one time.
- D2D interface module, the parking lights flash twice.

If the tachometer input on the system is connected to the vehicle, the d2d tachometer input is ignored.

Initializing Virtual Tach (not needed with hardwire tach inputs)

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, go into the Remote Pairing section of this guide and **press/release** the Control button 4 times for step #4, then **press** and **hold** the Control button to reset Virtual Tach. Virtual Tach **cannot** be reset with the Bitwriter.

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

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 must be connected.

Important: After successfully learning Virtual Tach, a small minority of vehicle starters may over crank or under crank during remote start. The Bitwriter can be used fine tune the starter output time in 50 ms increments to compensate for such an occurrence.

Remote Start Shutdown/Startup Diagnostics

Shutdown Diagnostics:
The unit can report the cause of the last shutdown of the remote start system through flash sequences of the status LED.

To perform shutdown diagnostics:
1. With the ignition Off, **press** and **hold** the Control button (on Control Center).
2. **Turn** the ignition On and then back Off while **holding** the Control button.
3. **Release** the Control button.
4. **Press** and **release** the Control button. The status LED flashes to report the last shutdown for one minute or until the ignition is turned on, as shown in the following table:

Status LED Flashes	Shutdown Mode
1 flash	Runtime expired
2 flashes	Over-rev shutdown
3 flashes	Low or no RPM
4 flashes	Transmitter shutdown (or optional push button)
5 flashes	(+) Brake shutdown
6 flashes	(-) Hood shutdown
7 flashes	Timer mode/Turbo mode/Manual mode error *
8 flashes	Neutral safety shutdown
9 flashes	Low battery (voltage mode)
10 flashes	Alarm triggered **
11 flashes	Wait-to-start input timed out

* Timer mode error: Ignition is on or shutdown input is active when activating timer mode.
Turbo mode error: Turbo mode is programmed off, engine is not on or shutdown input is active.
Manual mode error: MTS mode not enabled.

** Alarm was triggered during remote start sequence.

Startup Diagnostics: If the vehicle fails to activate the remote start, the remote start module will notify you via your Responder LC3 remote control and will flash the parking lights on the vehicle to notify you of what caused the no-start situation.

Parking Light Flashes

5 flashes	Brake wire is active
6 flashes	Hood pin wire is active
7 flashes	Manual transmission mode is enabled and not initialized.
8 flashes	Neutral safety wire has no ground or the neutral safety switch is Off.

Long Term Event History

The system stores the last two full triggers in memory. These are not erasable. Each time the unit sees a full trigger, the older of the two triggers in memory is replaced by the new trigger. To access long term event history:

1. With the ignition Off, **press** and **hold** the Control button (on Control Center).
2. **Turn** the ignition On.
3. **Release** the Control button.
4. Within 5 seconds, **press** and **release** the Control button. The status LED flashes in groups indicating the last two zones that triggered the unit for 1 minute or until the ignition is turned off. Refer to table of zones (overleaf on page 2).

Note: The Warn Away triggers are not stored to memory and is not reported.

Bitwriters with a date code of 6a or older require an IC upgrade (p/n 998M). Some bitwriters with a date code of 6B do not require the IC upgrade, refer to tech tip # 1112 for more information.

D2D DATA TO DATA™

The Bitwriter® (p/n 998U) requires chip version **2.7** or newer to program this unit.

More information and full Installation Guide can be found online at: **www.directechs.com.**

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Programming System Features

The System Features Learn Routine dictates how the unit operates. It is possible to access and change most of the feature settings using the Control button.

1. **Open** a door.
2. **Turn** the ignition on, then off.
3. **Select** a Menu. **Press** and **hold** the Control button. The number of siren chirps indicates the menu number. 1 chirp indicates menu 1, 2 chirps - menu 2 and 3 chirps for menu 3.
4. When the desired menu chirps are heard, **release** the Control button.
5. **Select** a Feature. **Press** and **release** the Control button the number of times corresponding to the feature you wish to change. Then **press** and **hold** one more time to select the features.
6. **Program** the Feature. While holding the Control button, you can program the feature using the remote control.

For features with only two options; 🔒 = option 1 while 🔓 = option 2.
For features with more than two options; 🔒 selects the options in ascending order, while 🔓 selects them in descending order.

Note: Pressing ⟳ button resets the feature to the factory default.

Once a feature is programmed:
- Other features can be programmed within the same menu
- Another menu can be selected
- The learn routine can be exited if programming is complete

To access another feature in the same menu:
1. **Press** and **release** the Control button the number of times necessary to advance from the feature you just programmed to the next one you want to program.
2. Then **press** the Control button once more and **hold** it.

To select another menu:
1. **Press** and **hold** the Control button.
2. After 3 seconds, the unit advances to the next menu and the siren chirps, indicating which menu has been accessed.

The learn routine exits if any of the following occurs:
- The open door is closed
- The ignition is turned On
- There is no activity for 30 seconds
- The Control button is pressed too many times

Bitwriter - Only Options

If programming with the Bitwriter®, the learn routine can be locked or unlocked. If the learn routine has previously been locked, it must be unlocked with Bitwriter® - this cannot be done manually with the Control button.

The Bitwriter® gives you access to a wider range of system options. These features and the adjustments that may be programmed are described in the table below. Default settings are in **bold** type.

Menu Item	Feature	Default	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	Zone 4 Sensor Type*	**None**	Shock/ Omni	Field Disturbance	Tilt Sensor	Glass Break (5)/ Ultrasonic (6)
2	Siren Duration	**30 sec.**	Options: 1 to 180 sec.			
3	Aux/Trunk Icon Type*	**Trunk**	Window	Sunroof	Audio	Lights/Left dr/Right dr/Rear Hatch
4	Aux 1 Timed Output	**30 sec.**	Options: 1 to 90 sec.			
5	Aux 1 Icon Type*	**Pulsed**	Trunk	Window	Sunroof	Audio/Lights/Left dr/ Right dr/Rear Hatch/ Timed/Latched
6	Aux 2 Timed Output	**30 sec.**	Options: 1 to 90 sec.			
7	Aux 2 Icon Type*	**Pulsed**	Trunk	Window	Sunroof	Audio/Lights/Left dr/ Right dr/Rear Hatch/ Timed/Latched
8	Aux 3 Timed Output	**30 sec.**	Options: 1 to 90 sec.			
9	Aux 3 Icon Type *	**Pulsed**	Trunk	Window	Sunroof	Audio/Lights/Left dr/ Right dr/Rear Hatch/ Timed/Latched
10	Aux 4 Timed Output	**30 sec.**	Options: 1 to 90 sec.			
11	Diesel Start Delay Timer	**15 sec.**	Options: 1 to 90 sec.			
12	Timer Mode Runtime	**12 min.**	Options: 1 to 16 min.			
13	Timer Mode Starts	**6 starts**	Options: 1/2/3/4 to 24 (Starts) in increments of 2			
14	Timer mode intervals	**3 hr.**	Options: 1/2/3/4 to 24 in 2 hour increments			
15	Smart start low temp	**0° (F)**	Options: OFF, -20° to 70° in 10° increments			
16	Smart start high temp	**100° (F)**	Options: OFF, 40° to 130° in 10° increments			
17	Smart start low battery (volts)	**10.5V**	Options: OFF, 9V to 12.5V in 0.5V increments			
18	Sensor 1 Level	**7**	Options: 0 to 15 in increments of 1			
19	Starter Release Fine Tune	**6 (normal)**	Options: 0 to 20 in increments of 1			
20	Feature Programming	**Unlocked**	Locked			
21	Transmitter Programming	**Unlocked**	Locked			
22	Remote Start Runtime	**12 min.**	Options: 1 to 60 min.			
23	Virtual Tach Fine tune	**Not Initialized**	Options: Not initialized, 0 to 1000 in 50 millisecond increments			

* feature only available with the 2-way LCD remote

Feature Menus

Default settings are in **bold** type. New features are **bold** with grey background.

Menu 1 - Security

Menu Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	System Arming Mode	**Active**	Passive Arm w/o lock	Passive Arm w/ lock	Auto re-arm w/o lock	Auto re-arm w/ lock
2	Panic Mode	**On**	Ign Off only	Off		
3	Confirmation Chirps	**On w/Warn chirps On**	On w/ Warn chirps Off	Off w/ Warn chirps On	Off w/ warn chirps Off	
4	Siren Duration	**30 sec.**	60 sec.			
5	Ign-controlled Locks	**No Ign-locking**	Lock & Unlock	Lock Only	Unlock Only	
6	Door Lock Pulses	**Single**	Double Unlock Only	Double Lock Only	Double Lock & Unlock	
7	Door Lock Output Duration	**0.8 sec.**	3.5 sec.	0.4 sec.		
8	2nd Unlock	**2nd unlock on Ign-control after first unlock**	2nd unlock on Ign-control with first unlock			
9	Comfort Closure	**No Comfort Closure**	Comfort Closure 1	Comfort Closure 2		
10	Horn Function	**Full Alarm Only**	Siren Function 20 ms	Siren Function 30 ms	Siren Function 40 ms	Siren Function 50 ms
11	Hood Switch type	**Normally Open**	Normally closed			
12	Sensor Full trigger	**Single**	Double			
13	**Door Switch Type**	**Normally open**	Normally closed			
14	**Trunk Switch Type**	**Normally open**	Normally closed			
15	Remote Button unlock (Ign off)*	**On**	Off			

* feature only available with the 2-way LCD remote.

Menu 2 - Convenience

Menu Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	One-time Bypass	**One time bypass Off**	One time bypass On			
2	Nuisance Prevention	**On**	Off			
3	Override Pulse count	**1**	2	3	4	5
4	Door Trigger Error Chirp	**On**	Off			
5	Ign-controlled Dome light	**On**	Off			
6	OEM Alarm Disarm w/Aux-Trunk	**On**	Off			
7	OEM Alarm Disarm Output	**With Unlock**	Before Unlock	Remote Start Only		
8	OEM Alarm Disarm Pulses	**1**	2			
9	Aux 1 Output type*	**Validity**	Latch	Latch/ reset/ign	30 sec. Timed	Off (5)/2nd unlock (6)
10	Aux 1 Linking	**No Linking**	Link to Arm	Link to Disarm	Link to Arm/ disarm	Link to Remote Start only
11	Aux 2 Output Type *	**Validity**	Latch	Latch reset/ign	30 sec. Timed	Off (5)/2nd unlock (6)
12	Aux 2 Linking	**No Linking**	Link to Arm	Link to Disarm	Link to Arm/ Disarm	Link to Remote Start only
13	Aux 3 Output Type *	**Validity**	Latch	Latch reset/ign	30 sec. Timed	Off (5)/2nd unlock (6)
14	Aux 3 Linking	**No Linking**	Link to Arm	Link to Disarm	Link to Arm/ Disarm	Smart Key Control (Link to Remote Start Off)
15	**Aux 4 Output Type***	**Validity**	Latch	Latch reset/ign	30 sec. Timed	Off (5)/2nd Unlock (6)
16	**Aux 4 Linking**	**No linking**	Link to Arm	Link to Disarm	Link to Arm/ Disarm	Link to Remote Start Only
17	**Aux/Trunk Output type**	**Validity**	Off	2nd unlock		

* Aux channels with the 4button remote can only be accessed with channel linking to lock, unlock or remote start.

Menu 3 - Remote start

Menu Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	Transmission Mode	**Manual**	Automatic			
2	Engine Checking Mode	**Virtual Tach**	Voltage	Off	Tachometer	
3	Cranking Time	**0.6 sec.**	0.8 sec.	1.0 sec.	1.2 sec.	1.4 (5)/ 1.6 (6)/ 1.8 (7) 2.0 (8)/ 4.0 (9)
4	Remote Start Runtime	**12 min.**	24 min.	60 min.		
5	Activation Pulse Count	**1**	2			
6	Turbo Mode *	**No Turbo Mode**	On-1 min.	On-3 min.	On-5 min.	On- 10 min.
7	Timer Mode Runtime	**12 min.**	3 min.	6 min.	9 min.	
8	Flex Relay Function	**Ignition 2**	Accessory 2	Starter 2		
9	Diesel Start Delay	**Wait-to Start input**	Timed 15 sec.	Timed 30 sec.	Timed 45 sec.	
10	Accessory during Diesel Start Delay	**On**	Off			
11	Status 2 Output	**Status**	Latch Rear Defogger	Pulse Rear Defogger		
12	Parking Light Output	**Constant**	Pulsed	Off		
13	Anti-grind Output	**On**	Off			
14	Tach Mode Starter Release	**Normal**	Increase	Decrease		
15	Vehicle Temp Auto Report **	**Off**	On			
16	**Remote Start Safelock**	**Off**	On			

* with the 4 button remote; turbo timer mode can only be activated with an optional push button to the white/blue (-) activation input wire on the 24 pin harness/
** not applicable to 1-way remote.

2-way Remote Pairing

Prepare the vehicle system to be Paired with a new remote
1. **Open** a door.
2. **Turn** the key to the ON position.
3. Within 5 seconds **press** and **release** the Control button on the system's Control Center one time.
4. Within 5 seconds, **press** and **hold** the Control button on the Control Center. The status LED will flash one time and the siren will chirp once to confirm the system is ready for remote pairing.
5. **Release** the Control button and proceed below.

Note: If no remote pairing results, the system will exit after 60 seconds.

Prepare the new remote to be Paired with the system
Make sure the LC3 remote is set for the desired Car 1 (Default) or Car 2 operation.
1. **Press** and **hold** the ƒ button for 8 seconds until the main menu appears.
2. **Press** and **release** the ⟳ button until Remote Pair text is displayed.
3. **Press** and **release** the ƒ button until Pair text is displayed.
4. **Press** and **hold** the 🔒 button until tones are played on the LC3 remote.
5. Successful or Failed Pair: The LC3 remote control indicates a successful or failed pairing on the display.

Note: Please see installation guide for pairing with the 1-way companion remote.

Basic Remote Functions

Level / Button	DIRECT ACCESS	ƒ X 1	ƒ X 2	ƒ X 3	ƒ X 4
🔒	ARM	SILENT ARM	SENSOR BYPASS	ARMED (SILENT SENSOR)	ARMED (SILENT TRIGGER)
🔓	DISARM	SILENT DISARM	VALET MODE	CAR FINDER	
⟳	REMOTE START	RUNTIME RESET	TIMER MODE	SMART START	REAR DEFOGGER
AUX	TRUNK RELEASE	AUX 1	AUX 2	AUX 3	AUX 4
ƒ	FUNCTION SHIFT	CABIN TEMPERATURE REQUEST (2-WAY ONLY)	RUNTIME CHECK (2-WAY ONLY)	LAST TRIGGER REQUEST (2-WAY ONLY)	

Note: See Owner's guide for more details and 1-way remote functions.

Table of Zones

A zone is represented by the number of status LED flashes used by the system to identify a particular type of input.

Zone	Description	Input Description
1	Trunk Pin	24 pin Harness Blue wire
2	Instant trigger: a heavier impact detected by the shock sensor	Shock sensor.
3	Door switch trigger	24 pin Harness Green or Violet wire
4	Instant trigger: For optional sensors	Optional MUX port
5	Ignition trigger	10 pin Harness Pink wire
6	Hood Pin	24 pin Harness Grey wire

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