MODEL MS2007

VEHICLE SECURITY / REMOTE STARTING SYSTEM

INSTALLATION MANUAL

Table of Contents

Before You Begin

1. Read this manual thoroughly before beginning the installation to ensure a proper understanding of the MS2007 and its functions.
2. Verify the system contents:
    - Main Unit
    - One 4-Button Remote Transmitter (Two-way Transmitter and Receiver)
    - Extended Range Antenna
    - Siren
    - Electronic Shock Sensor
    - Harnesses
        - 14-Pin Main harness
        - 2-Pin Status LED harness
        - 2-Pin Override Switch harness
        - 3-Pin Door Lock harness
        - 4-Pin Shock Sensor harness
        - 3-Pin Optional harness
        - 6 Individual 14 gauge wires with insulated female .250 connectors
3. Discuss the location of the status LED and the Emergency Override Switch with the vehicle's owner.
4. Discuss the optional features of the MS2007 and the features that must be programmed during installation with the vehicle's owner.
5. Check all of the vehicle's operating systems before and after the installation.
6. Verify the parking light polarity jumper setting before plugging the control unit to the harness.

Installation Tips

DO NOT INSTALL THE MS2007 INTO A MANUAL TRANSMISSION VEHICLE AS IT COULD RESULT IN SERIOUS INJURY OR DEATH.

1. Use a Digital Volt/Ohm meter to test all wires. ***Do not*** use a test light.
2. Good power and ground connections are essential for proper operation. Ground the alarm as close to the alarm main unit as possible.
3. Route all wires from the engine compartment to the interior of the vehicle through a grommet and use electrical tape and/or split loom tubing for protection.
4. When adding optional accessories such as door locks, window modules, etc., be sure to fuse each additional accessory power lead separately from the main power source. This will insure that the security system power is retained in the event that an accessory malfunctions.
5. Avoid extending the system's wires. The supplied wiring harnesses provide sufficient length to connect to the required vehicle circuits. If a wire must be extended, be sure to use the appropriate gauge wire in order to avoid a drop in current. Always use wire that is at least the same gauge as the wire you are extending.
6. ***Never*** bypass the fuses included in the MS2007 wiring harness. They are necessary safety items designed to protect both the system and the vehicle.
7. Be sure to perform a full function test of all of the systems components to verify proper operation. Also, be sure to check all of the vehicle's operating systems before and after the installation.
8. For maximum security, disguise all system wires with black electrical tape and/or split loom tubing to prevent a thief from being able to identify the system wiring.

Mounting Components

Main Unit

The main unit should be mounted in the interior of the vehicle. ***Do not*** mount the main unit in the engine compartment. For maximum security, avoid mounting the main unit where it will be easily accessible to a thief. Mount the unit with wire ties through the mounting tabs as high as possible in the dash where it will not interfere with the operation of the pedals .

Set the dipswitches and jumper into the proper positions and double check all connections before plugging the harness into the main unit.

Siren

Mount the siren away from sources of heat and face the opening downward to prevent water collection. Be sure the wires are not easily accessible from underneath the vehicle.

Extended Range Receiver

Mount the receiver in the upper inside corner of the windshield using the supplied double-sided tape. This area should be free from metallic tint or range may be reduced.

Shock Sensor

The dual stage, electronic shock sensor must be mounted in the interior of the vehicle using a tie wrap or screws. Avoid mounting the sensor near sources of strong electrical interference such as cellular phone transceivers or the vehicle's engine computer. Suggested mounting locations are an air conditioning duct, or a dashboard or center console support brace.

Override Switch

Mount the Override Switch in a location near the driver where it is easily accessible but not plainly visible. Plug the blue override switch connector into the blue 2-pin socket on the main unit. Be sure the switch cannot be accidentally pressed or damaged by movement of passengers or contents.

LED Status Indicator

Mount the status LED so that it is visible from both sides of the vehicle. Plug the red LED connector into red 2-pin socket on the Main Unit. A 3/8" hole is necessary for the LED assembly.

Wiring Description

14-Pin Main Harness

Pin 1 - Red: Main Power (+12v) input. [15A fuse]
Connect to constant +12 volt supply. A clean source of power is essential from either the battery or at the constant power supply wire to the ignition switch. If this wire must be lengthened, use the appropriate wire gauge to avoid a drop in current and install a fuse near the power connection. ***Do not*** remove or bypass the fuse holder included on the wire harness.

Pin 2 - Brown: Siren (+12v) output. [3A]
Connect to the Red siren wire. Connect the Black siren wire to chassis ground.

Pin 3 - White: Parking Light (+/-) output. [7.5A built-in relay]
Connect to the parking light circuit. For vehicles with independent left and right parking light circuits, the parking light wires must be connected using diodes to keep the circuits separate. *(See Jumper Settings)*

Pin 4 - Violet/White: Tachometer Input.
Connect to the appropriate coil or negative fuel injector wire for RPM monitoring.

Pin 5 - Blue/White: *not used*

Pin 6 - Brown/White: Horn Honk (-) output. [500mA]
Connect to a relay to honk the vehicle horn.

Pin 7 - Brown/Red: Brake (+) input.
Connect to the output from the brake pedal switch.

Pin 8 - Blue: Hood/Trunk Trigger (-) input.
Connect to a negative output from the hood and trunk pin switches.

Pin 9 - Black/White: Dome Light (-) output. [500mA]
Connect to a relay to turn on the vehicle's dome light with disarm/unlock. *(See Dome Light Section)*

Pin 10 - Yellow/White: Auxiliary (-) output. [500mA]
Provides a negative (-) momentary output when button 3 is pressed.

Pin 11 - Blue/Black: Ground when running / Armed (-) output. [500mA]
Connect to an optional relay as shown to disable the vehicle's starter circuit or to interface OEM security features. *(See Starter Defeat / Anti-Grind Option diagram)*

Pin 12 - Black: Ground.
Connect to a solid, clean chassis ground using a ring connector and star washer.

Pin 13 - Violet: Door Trigger (+12v) input.
Connect to positive door switch circuit that has (+12v) when the door is open.

Pin 14 - Green: Door Trigger (-) input.
Connect to negative door switch circuit that has (-) when the door is open.

3-Pin Door Lock Harness **white connector**

Pin 1 - Green: (-) LOCK output [500mA]
Pin 2 - Red: *not used*
Pin 3 - Blue: (-) UNLOCK output [500mA]

3-Pin Optional Harness **red connector**

Pin 1 - Yellow: (-) Vacuum switch input.
Connect to an optional vacuum switch if needed. *(see Vacuum Switch Installation)*

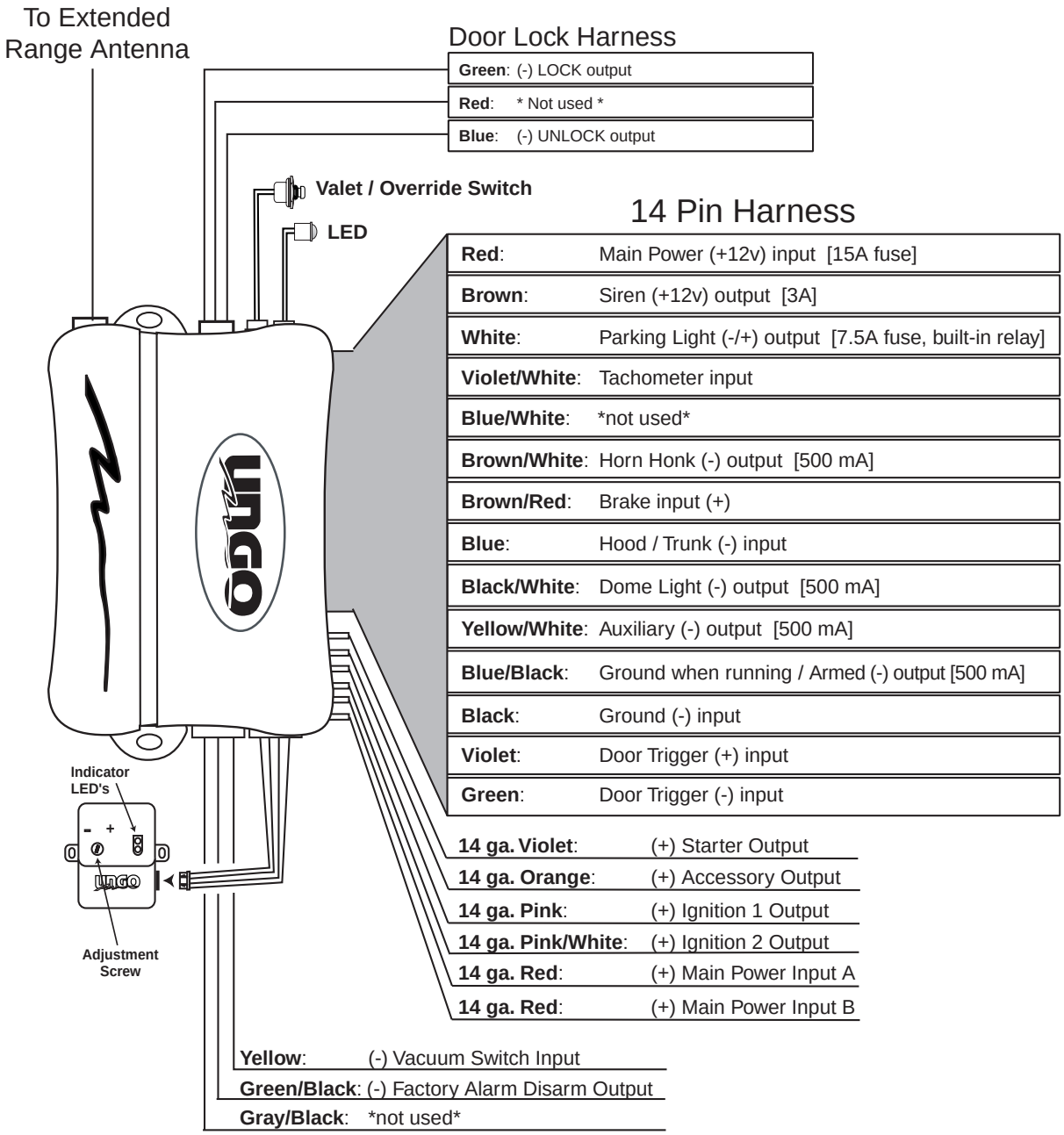
Pin 2 - Green/Black: (-) Factory alarm disarm output. [500mA]
Provides a 1 second pulse when remote start is activated and/or when unlock is pressed on remote transmitter.

Pin 3 - Gray/Black: *not used*

6 Individual 14 gauge wires with connectors

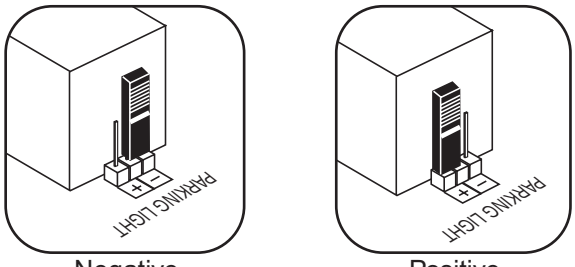
Pin 1 - Violet: (+) Starter output
Pin 2 - Orange: (+) Accessory output
Pin 3 - Pink: (+) Ignition 1 output
Pin 4 - Pink/White: (+) Ignition 2 output
Pin 5 - Red: (+) Main power input A
Pin 6 - Red: (+) Main power input B

Wiring Diagram



Parking Light Jumper Settings

Parking Light Polarity. Selects the polarity (+/-) for the output of the on-board Parking Light relay.

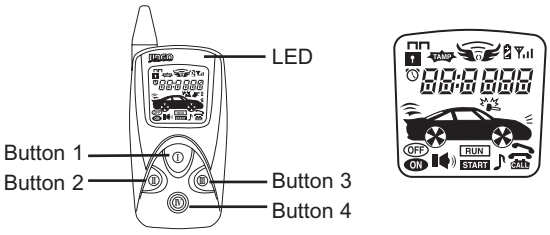


Negative Positive

Pin 1 + Pin 2 = Negative
Pin 2 + Pin 3 = Positive (default)

Remote Transceiver

Remote Transceiver Layout



The Ungo MS2007 comes with a multi-function LCD Remote Transceiver featuring two-way communication with the vehicle. Each time a remote button is pressed, the LED will flash and the remote will beep to indicate that a transmission is taking place. If the remote is within two-way communication range, the LCD will display the status of the system. The remote is also equipped with a built-in chime that will play a tune as confirmation of some features such as remote starting, clock setting, etc.

Button 1 Arms and Disarms the system. This button also activates the system's Panic feature.

Button 2 Activates the system's Remote Start feature.

Button 3 Activates the system's Auxiliary Function, commonly used for trunk release.*

Button 4 Confirms the system's status. This button also activates the LCD backlight for night time use.

LCD Display

The MS2007 Remote Transceiver is equipped with an LCD panel that displays the system's status information. If the remote is within range of the vehicle and a button is pressed, or the vehicle is tampered with, the LCD display will show what action is taking place. The LCD display is backlit for easy viewing at night and will illuminate when Button 4 is pressed, or when confirmation of any action is reported by the vehicle.

Setting the Clock

The remote transceiver has a built-in clock that displays the current time.
To set the clock:

1. Press remote Button 2 and Button 3 simultaneously for two seconds.
   - The remote will beep twice.
   - The LCD will show CLOCK.
2. Press remote Button 2 to set the hour.
3. Press remote Button 3 to set the minutes. Hold Button 3 to advance the minutes rapidly.
   - The hour will be displayed followed by either an "A" or "P" to indicate AM or PM.
4. Press remote Button 4 to save the time setting.
   - The remote will play a tune to confirm the time is set.

System Status Check

To check the current status of your system, press Button 4 on the remote for 2 seconds. The LCD will display CONFRM followed by the current status of the system. The vehicle must be within range for this feature to operate.

Disabling the Remote Confirmation Tunes

To disable the remote confirmation tunes:

1. Press and hold remote Button 4 until SOUND is displayed.
   - The remote will beep three times.
2. Release Button 4.
   - The remote will show ♪ and OFF.
   - The remote will provide a beep confirmation when buttons are pressed, but the tunes will be disabled.

Adding a New Transceiver into the System

Have the desired remotes ready (up to 2) and follow the steps below:

1. Turn the ignition on, off, on, off, on within 4 seconds.
   - The siren will chirp once.
2. Press and hold the Valet switch for 2-3 seconds.
   - The siren will chirp 3 times.
3. Press Button 1 on each remote.
4. Turn off the ignition.

Any transceivers that were previously learned to this system and not included in this procedure will no longer operate this system.

Security Features

Remote Arming

When Armed, the system monitors and protects 3 independent areas, or ***zones***, including the doors, hood/trunk, and shock sensor.

To Arm the system:

1. Turn off the ignition.
2. Press Button 1.
   - The siren will chirp once.*
   - The doors will lock.
   - The parking lights will flash once.
   - The LCD will show and ARM.
   - The LED will flash, indicating the doors, hood and trunk inputs are activated.

*** The siren chirp(s) during Arming will alert you the condition of the system and vehicle when the system is armed.**

1 chirp	**=**	**normal arming**
1 + 3 chirps	**=**	**door, hood, or trunk open**

During Arming, if the system detects a bad sensor or an open zone, the system will ignore that input, but keep all other areas protected.

If the shock sensor detects a light impact to the car, the siren will sound 5 chirps to warn away the potential intruder. The remote will display WARN and the icon.

While the system is **Armed**, the system will trigger if:

- **The doors are opened.**
- **The shock sensor detects an impact to the vehicle.**
- **The hood or trunk is opened.**

When triggered, the siren will sound, and the parking lights will flash and the horn will honk (if connected). The remote will display the triggered zone on the LCD:

- If the door is opened the LCD will display DOOR.
- If the trunk is opened the LCD will display TRUNK and the icon.
- If the shock sensor is triggered the LCD will display SHOCK and the icon will animate.

If the same input triggers the system 3 times during a single arming cycle, the system will bypass that input, keeping the other zones protected until the next time the system is armed.

Remote Disarming

To Disarm the system:

Press Button 1.

- The siren will chirp twice.*
- The doors will unlock.
- The parking lights will flash twice.*
- The LCD will show and DISARM.
- The LED will turn off.

Silent Arming / Disarming

Your system may be optional configured to Arm and Disarm silently. This feature must be programmed by your Authorized Ungo dealer.

Passive Arming

The system is pre-programmed for *Passive Arming*. The system arms itself automatically, each time the ignition is turned off and all of the doors, hood and trunk are closed.

To start the Passive Arming Process:

1. Turn off the ignition.*
2. Open the door and exit the vehicle.
   - Once all doors are closed and the dome light is turned off, the LED will begin to flash.
3. After 30 seconds,
   - The siren will chirp (if Passive Arming with chirp is selected).
   - The parking lights will flash.
   - The doors will lock.**
   - The status LED will flash red, indicating the system is armed.
   - The LCD will display and ARM.
4. The system is now armed.

* **The ignition must have been on for *at least* 10 seconds before the Passive Arming sequence will begin.**

** **If the Passive Locking feature is selected.**

This feature may be disabled by your Authorized Ungo dealer.

Remote Sensor Bypass

The system can be set up so that in case of extreme weather conditions (such as high winds), the shock sensor can be temporarily bypassed using the remote, while the system is Armed, to prevent false alarming.

To Bypass the sensors:

1. After Arming the system, press remote Button 2 within 2 seconds.
   - The siren will chirp indicating the sensors have been bypassed.
2. The sensors will remain bypassed until the next time the system is armed.

Panic Mode

Allows you to instantly trigger the alarm in an emergency situation using the Remote Transceiver.

To enter Panic Mode:

1. Press and hold Button 1 for 3 seconds.
   - The siren will sound.
   - The LCD will show PANIC.
2. Press Button 1 again to stop panic.

If Panic Mode is not stopped by the Remote, it will automatically time out after 45 seconds, and the system will return to its prior Armed/Disarmed state.

Emergency Override

In case your Remote Transceiver becomes inoperable, or it is lost or stolen, you can still enter and drive your car by using the following procedure. Be sure that you have your ignition keys ready and that you know the location of the Override Switch before you perform this procedure.

To override the system:

1. Unlock the door using the key.
2. Enter the vehicle.
   - Because the system is Armed, the system will trigger and the siren will be sounding.
3. Turn ignition key on.
4. Press and hold the Override Switch.
   - The system will Disarm.
5. You can now start and drive the car.

Automatic System Rearming

This feature insures the security of the system by protecting your car in case of an accidental Disarm. If your system becomes Disarmed due to an accidental press of the Arm/Disarm Button, the system will automatically rearm if no other activity is detected within one minute. The Passive Door Locking feature will also relock the doors.

Any of the following will cancel Automatic System Rearming:

- **Turn on the Ignition.**
- **Open the Trunk or Hood.**

Automatic System Rearming is independent of Passive Arming and only takes place if the system was Armed (actively or passively) and then Disarmed by the Remote Transceiver.

Automatic System Rearming and Passive Arming may be disabled by your Authorized Ungo dealer.

Remote Start Features

Remote Starting

To Remote Start the System:

1. Be sure the System is not in Valet Mode.
2. Press Button 2.
   - The LCD will show START.
   - The parking lights will turn on.
   - The siren will chirp 3 times (if the system is Armed, the shock sensor will turn off).
   - The ignition will turn on.
   - The engine will start and run for the duration of its programmed Run Timer.*
   - The heater or air conditioner will turn on (if turned on prior to exiting the vehicle).
   - The LED will double flash.
   - The LCD will show ENGINE RUN.

   ***If the engine fails to start on the first attempt, it will repeat the starting procedure 2 more times.**

Turning on the ignition key then pressing the brake pedal will disengage the MS2007 and allow you to operate and drive your vehicle in a normal manner.

Shut Down

Any of the following will shut down the engine when it is under Remote Start control:

1. Press Button 2 for 3 seconds.
   - After the engine shuts down, the doors will lock (if installed and programmed).
   - The LCD will show OFF.
2. Press the brake pedal.
3. Open the hood (or trunk if connected).
4. Completion of the timed run cycle (Remote Start Time-Out).

Stop and Go

The Stop and Go Feature allows you to remove the ignition key and exit the vehicle while keeping the engine running during short stops.

To leave the vehicle running:

1. Press the brake pedal and hold.
2. While pressing the brake pedal, push Button 1 on the remote.
   - The LED will double flash.
   - The parking lights will flash 5 times.
3. Release the brake pedal.
4. Remove the key from the ignition switch.
5. You may now exit the vehicle, arm the alarm and lock the doors.

To re-enter the vehicle and resume driver control:

1. Disarm the alarm by pressing Button 1 on the remote.*
   - The doors will unlock.*
2. Turn on the ignition.
3. Press the brake pedal to disengage the MS2007.
   - The LED will turn off.

***If optional keyless entry feature is installed.**

Auto Cold Starting

The Auto Cold Starting Feature automatically starts the vehicle every two hours and runs for the preset Run Time. This feature must be programmed by your Authorized Ungo dealer.

To enter Cold Start Mode:

1. Be sure ignition is off.
2. Press and hold the brake pedal and Valet switch.
3. Continue holding then press remote Button 2, then release.
   - The parking lights will flash 5 times.
   - The engine will start and run for 30 seconds then shut down.
   - The LED will quadruple flash.
4. The system will remain in Cold Start Mode until the vehicle is started using the remote or the Cold Start Feature has completed 12 run cycles.

Note: Pressing the brake pedal will also turn off the Auto Cold Starting Feature.

Timed Remote Starting

The Timed Remote Starting Feature automatically starts the vehicle at the user's programmed time of day. This programmed time will start the vehicle one time. This feature needs to be programmed for each use.

To program a Remote Start time:

1. Press remote Button 2 and Button 3 simultaneously for four seconds.
   - The LCD will show CLOCK and START.
2. Press remote Button 2 to set the hour.
3. Press remote Button 3 to set the minutes. Hold Button 3 to advance the minutes rapidly.
   - The hour will be displayed followed by either an "A" or "P" to indicate AM or PM.
4. Press remote Button 4 to save the time setting.
   - The remote will play a tune to confirm the alarm clock is set and LCD will display ON, and START.
   - When the alarm goes off, the remote will show and will emit an alert tone for 10 seconds or until Button 4 is pressed.

To cancel the Timed Remote Starting feature before the selected time, repeat step 1 then press remote Button 1. This will turn off the Timed Remote Starting feature and emit a confirmation tone and display OFF.

Programming Switches

Accessing the DIP Switches

Open the control unit enclosure by lifting off the rear panel. Snap the rear panel back in place after the desired settings are made.

Switch Functions and Selections

1. **Gasoline vs. Diesel Engine Mode.** Diesel Mode allows the glow plugs to warm up for up to 20 seconds before cranking the starter.

   Switch ON = Gasoline Mode (default)
   Switch OFF = Diesel Mode

2. **Vacuum Switch.** Select between normal operation or optional vacuum switch operation with either Gasoline or Diesel engines. DIP Switch #4 is ignored when Vacuum Switch operation is selected. *(see Vacuum Switch Diagram on Page 14)*

   Switch ON = Smart Sense or RPM Monitoring (default)
   Switch OFF = Vacuum Switch Operation

3. **Starter Cranking Duration.** Extend the cranking duration if the engine does not start successfully with the normal crank duration. In the extended crank setting, the starter will engage for a longer duration on remote start-up. Normal setting selects standard crank duration.

   Switch ON = Normal Crank Duration (default)
   Switch OFF = Extended Crank Duration

4. **Tach/Spark Sense vs. Smart Sensing.** Select Smart sensing (tach-less) or Tach/Spark sensing operation. Smart Sensing detects engine condition through the system's power wire. Tach sensing will detect engine condition through the VIOLET/WHITE wire input connected to coil, fuel injector or other pulsing signal that transmits engine RPM data.

   Switch ON = Smart Sensing (default)
   Switch OFF = Tach/Spark Sensing

Programming

Entering System Programming

To enter System Programming:

1. Turn on ignition.
2. Wait 2 seconds, then press the valet switch 5 times within 5 seconds.
   - The siren will emit a buzzing sound, indicating that you have entered Programming.
3. Press the valet switch the number times equal to the System Parameter you want to change.
   - The siren will chirp each time the valet switch is pressed.
4. Within 5 seconds, press the transmitter button corresponding to the desired operating mode for that System Parameter.
   - The siren will chirp to indicate the setting.

   1 chirp = Button 1
   2 chirps = Button 2
   3 chirps = Button 3

5. When finished, turn the ignition key off to save the changes. Turn the key off at any time during programming and the changes that were made will be saved.

System Initialization and Default Reset

To reset all System Programming Parameters to factory default settings.

1. Enter System Programming.
2. Press Transmitter Button 3.
   - The siren will chirp 6 times indicating that the reset signal was received.
   - All System Programming parameters are now set to factory default settings.
   - The Valet Mode is off.
3. Turn ignition off.

Programmable System Parameters

Feature	Button 1 (default)	Button 2
1. Arming Mode Selection	Passive	Active
2. Passive Locking	On	Off
3. Auto Rearm	On	Off
4. Silent Arming Mode	Normal	Silent
5. Door Unlock Pulse	Single	Double
6. Door Lock/Unlock Pulse Width	1 second	3 seconds
7. Ignition Controlled Door Locking	On	Off
8. Auto Cold Starting	Disabled	Enabled
9. Auto Cold Start Timing	Every 2 hours	Every 1 hour
10. Trunk Disarm Feature	Disable	Enable
11. Dome Light Delay	Off	On
12. Delay Timing	10 seconds	60 seconds
13. Engine Run Time	15 minutes	30 minutes
14. Auto-Lock Before & After Engine Cranking	On	Off
15. Auto-Lock After Remote Start Shutdown	On	Off
16. Parking Light Disarm Operation	Normal	30 seconds

1. Arming Mode Selection. Selects whether or not the system will Passively Arm.
2. Passive Locking. Selects whether or not the system will automatically lock the doors with Auto Rearm and Passive Arming.
3. Auto System Rearm. When selected, the system will automatically rearm if no other activity is detected within 30 seconds of Remote Disarming. See Installation Binder for more details.
4. Silent Arming Mode. When selected, the system will Arm and Disarm without siren chirps.
5. Door Unlock Pulse - Single/Double. Selects between a single or double pulse door unlock output.
6. Door Lock Pulse Width. Selects between a 1-second or a 3-second output for the door locks.
7. Ignition Controlled Door Locking/Unlocking. Selects whether or not the system automatically unlocks the doors when the ignition is turned off.
8. Auto Cold Starting. Allows Cold Start Feature activation via the remote transmitter.
9. Auto Cold Start Timing. Selects how often the vehicle starts when auto cold start mode is activated.
10. Trunk Disarm Feature. When selected, this feature will automatically disarm the alarm when the auxiliary function (trunk) is activated.
11. Dome Light Delay. Delays the open zone warning chirps for timed dome light circuit equipped vehicles.
12. Delay Timing. Sets the delay for the open zone warning chirps. See Dome Light Delay.
13. Engine Run Time. Selects between a 15-minute or 30-minute run cycle.
14. Auto-lock Before & After Engine Cranking. Automatically locks the doors before and after cranking the starter.
15. Auto-lock after Remote Start Shutdown. Automatically locks the doors 5 seconds after the remote start is shut down.
16. Parking Light Disarm Operation. When selected, the parking lights will remain on for 30 seconds after disarming the system.

Shock Sensor

The Electronic Dual Stage Shock Sensor can detect and determine the difference between a light and heavy impact. With proper location and sensitivity adjustment, false alarms (triggering) can be avoided.

The Electronic Dual Stage Shock Sensor is designed to be mounted in the interior of the vehicle using a tie wrap or double-sided tape. (Prior to mounting the sensor with double-sided tape, be sure to clean the surface area well.) Be sure to avoid mounting the sensor to sources of strong electrical interference such as cellular phone transceivers or the vehicle's computer.

Suggested mounting locations are an air-conditioning duct, steering column, ignition wiring harness, or center console/dash board support brace.

Testing the Electronic Dual Stage Shock Sensor:

1. Make sure all the windows on the vehicle are rolled up and all doors are closed.
2. Arm alarm system, wait until the LED status indicator begins to flash.
3. Test sensitivity of the sensor by hitting various places and locations on the vehicle.
   (Be careful no to damage the vehicle while testing the sensitivity of the sensor.)

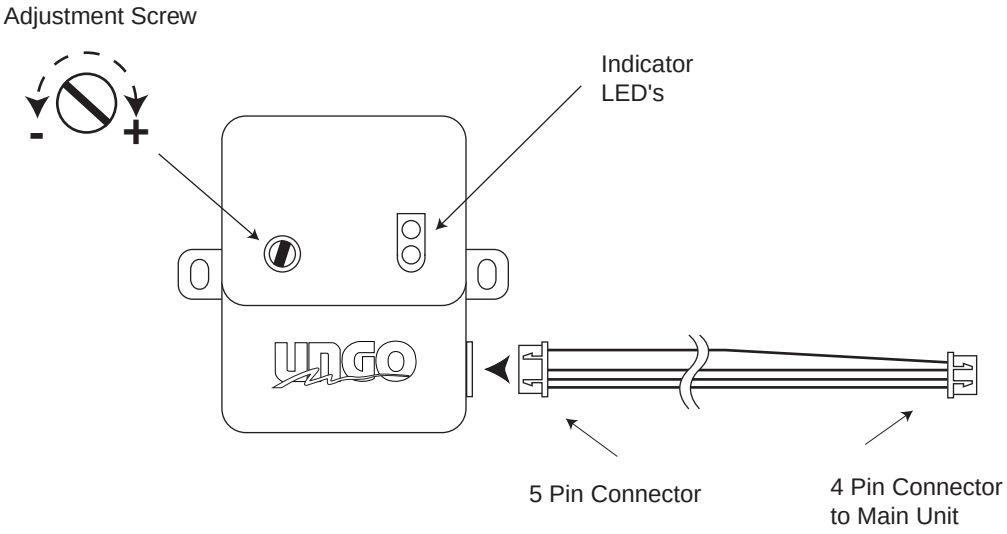
Note: Never test sensitivity by hitting the windshield of the vehicle, because it can be easily cracked or stolen.

If the shock sensor detects a light impact to the car, the siren will sound 5 chirps to warn away the potential intruder. The remote will display WARN and the icon.

If the shock sensor is triggered the LCD will display SHOCK and the icon will animate.

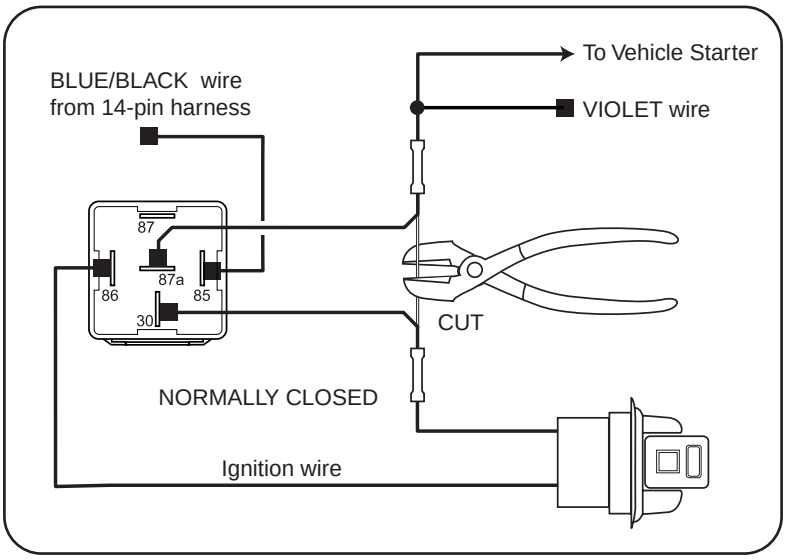
Adjusting the Electronic Dual Stage Shock Sensor:

- Turn the adjustment screw on the sensor clockwise to increase the sensitivity.
- Turn the adjustment screw on the sensor counter clockwise to decrease the sensitivity.



Starter Defeat / Anti-Grind Option

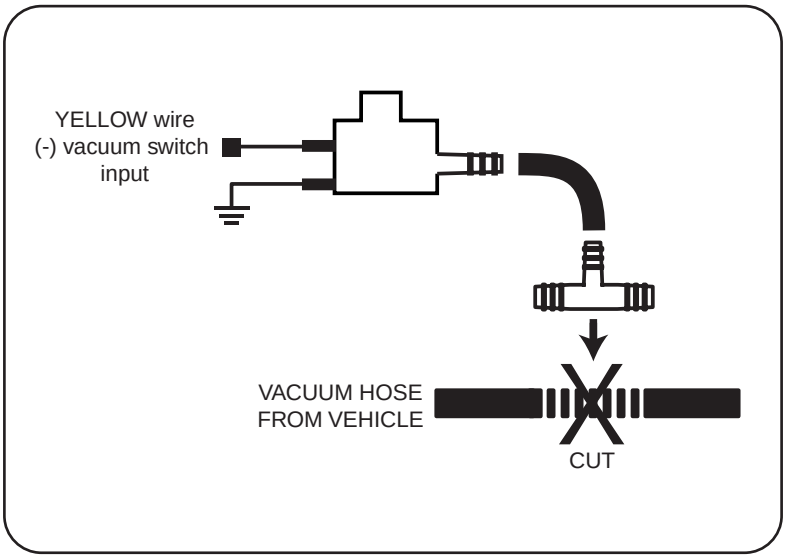
When the remote starter is activated or the alarm is armed, the ground when running output becomes active and stays active. This output will remain on until the alarm is disarmed and the remote starter is disengaged. If the Starter Defeat option is installed, the system will have the added benefit of an Anti-Grind circuit. When the vehicle is remote started, turning the key to the start position will not grind the starter. Connect the Blue/Black wire and 14ga. Violet wire to an optional relay as shown.



Starter Defeat / Anti-Grind

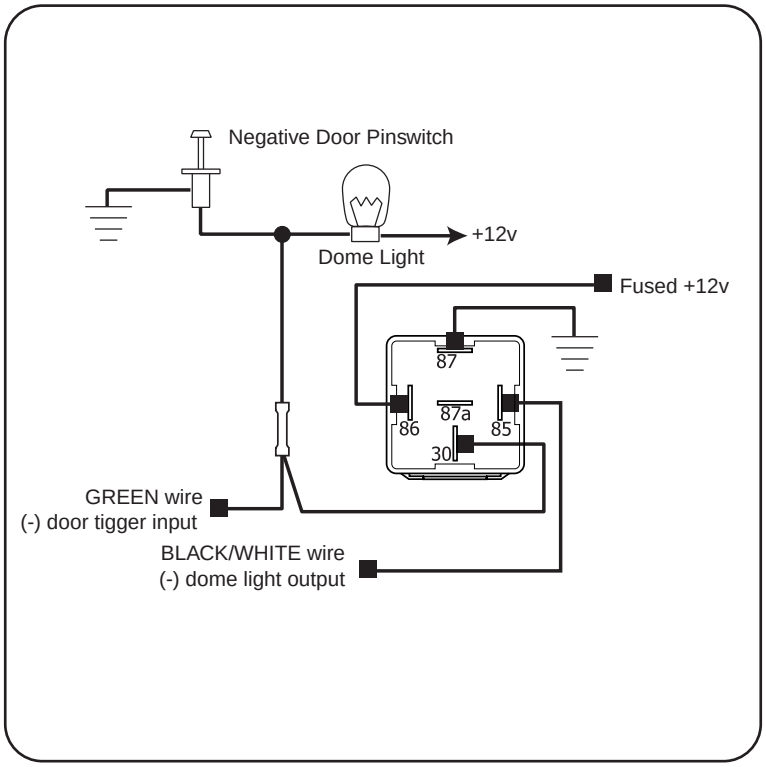
Vacuum Switch Installation

For vehicle's without a proper tach wire, an optional vacuum switch may be installed. See the diagram below.

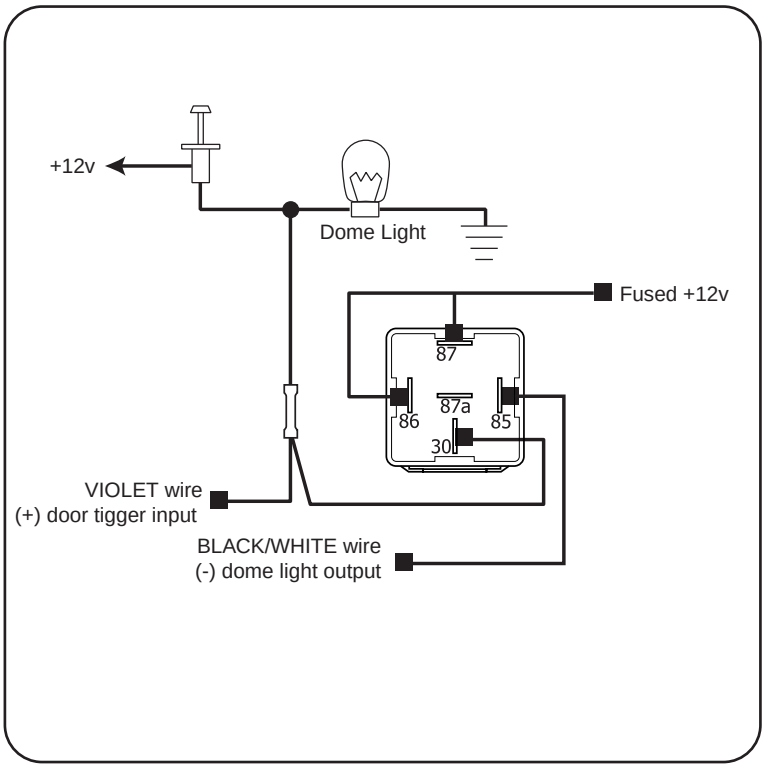


Vacuum Switch

Dome Light



Negative Dome Light



Positive Dome Light

Trouble Shooting

Symptom	Cause	Solution
Keyless Entry features operate but vehicle will not start.	Remote Start in Valet Mode. LED is on solid.	Turn ignition key to on position, press and hold valet switch while turning off the ignition. LED will go out.
Vehicle will not remote start.	Safety inputs are triggered.	Check Brake Switch Input (+) (Brown / Red Wire) or Hood Input (-) (Blue Wire) shorted to ground.
Engine cranks but not long enough to allow vehicle to start.	Crank time must be increased.	Set programming switch 3 to OFF position.
MS2007 will not Add Transmitters or go into Programming Mode.	Ignition #1 (Pink Wire) is on wrong connector- Ignition / Accessory #2.	Connect the main ignition input / output to the Ignition 1 connector on the board.
Car horn honks and vehicle will not start.	Vehicle has a factory alarm system.	Connect red wire on accessory plug (red plug) to factory alarm disarm wire.
Vehicle starts without pressing Remote Transmitter.	System in Automatic Cold Start Activation Mode.	To Exit: 1.Press brake pedal, or 2. Remote start the vehicle using the transmitter.
Vehicle cranks and begins to run then shuts off.	Smart Sense is not working. Use the Tach / Spark sense.	Connect the Violet/ White wire. Set programming switch #4 to OFF position.
Vehicle cranks and begins to run then shuts off.	Vehicle has a theft deterrent system that prevents starting w/o key in ignition.	Install factory security bypass module.
Vehicle cranks and begins to run then shuts off in extremely cold weather.	Voltage drop caused by cold weather and/or main red wires too small of a gauge.	Make sure power wires are run directly to the battery and/or use heavier gauage wire.
System is difficult to disarm immediately after being triggered.	Tranceiver is sending alert signal to LCD remote and may not receive the disarm signal from remote	Wait a few seconds to disarm system.