Idle Timer Controller - ITC620-A1
2009-2014 Chevrolet Express/GMC Savana
Contact InterMotive for additional vehicle applications

Introduction

The ITC620-A1 is an anti-idle system which will shut off gas or diesel engines that are left idling for an extended period of time. The default timer will shut off the engine after 5 minutes of idling if the Park Brake is applied, and 15 minutes if the Park Brake is not applied. This is similar to CARB diesel anti-idling requirements.

Installation Instructions

Disconnect vehicle batteries before proceeding with installation (vehicle may have more than one battery)

IMPORTANT—READ BEFORE INSTALLATION

It is the installer's responsibility to route and secure all wiring harnesses where they cannot be damaged by sharp objects, mechanical moving parts and high heat sources. Failure to do so could result in damage to the system or vehicle and create possible safety concerns for the operator and passengers. Avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Avoid radio frequency energy from antennas or inverters next to the module. Avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

ITC620 Module

Remove the lower dash panel below the steering column and find a suitable location to mount the module. Mount the module in an area away from any external heat sources (engine heat, heater ducts, etc.). Do not mount the module until all wire harnesses are routed and secure. The last step of the installation is to mount the module. When installing the harnesses, leave several inches of take-out such that the module can be removed if necessary.

Data Link Harness (6-Pin Connector)

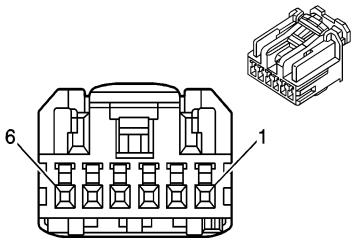
1. Locate the vehicle OBDII Data Link Connector located below the lower left dash panel.
2. Remove the mounting screws for the OBDII connector. Plug the red connector from the ITC620-A1 Data Link T- Harness into the vehicle OBDII connector. Ensure the connection is fully seated and secure with the supplied wire tie.
3. Mount the Black connector from the ITC620-A1 Data Link Harness in the former location of the vehicle OBD II connector.
4. Secure the harness so that it does not hang below the lower dash panel.
5. Plug the 6-pin connector from the Data Link Harness into the 6-Pin connector on the ITC620-A1 module.

ITC620-A1 Harness (12-Pin Connector and 4-Pin Connector)

Most OEM Ignition Switch wires are no longer capable of supplying power to aftermarket systems. Some vehicles now provide Ignition Power outputs that are isolated from the actual Ignition switch signals. If the desired isolated Ignition Output is not available, a relay must be installed to minimize current draw on the Ignition switch wires. The relay must include a kick-back diode to prevent damaging sensitive electronics.

Ignition Switch Connectors

1. Remove the lower steering column trim cover. Locate the ignition switch connector and disconnect it from the switch.
2. Locate Pin #4 Red/White wire and Pin #5 Pink wire on the connector.

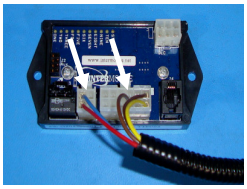


Front View of Connector

Confirm that the Pink wire is located between the Red/White wire and the White wire on the connector. There is a second pink wire at Pin #2, do NOT use this wire.

Performing one step at a time, attach the correct color wire to each white 2-pin connector wire end. These connections must be made by using solder and the supplied heat shrink tubing. Cut the tubing into 1" lengths for this purpose.

1. Find a place on the vehicle Ignition Harness with ample space to install the white 2-pin pigtail connectors. (Supplied with the ITC620-A1.)
2. Cut the Ignition Switch Pin #4 Red/White wire and attach the ignition switch side to the female 2-pin connector Pin #1 Red wire.
3. Attach the Harness side of the Pin #4 Red/White wire to the male 2-pin connector Pin #1 Blue wire.
4. Cut the Ignition Switch Pin #5 Pink wire and attach the ignition side of the Pin #5 wire to the female 2-pin connector Pin #2 (Brown wire).
5. Attach the harness side of the Pin #5 Pink wire to the male 2-pin connector Pin #2 (Yellow wire).
6. Plug the two 2-pin Ignition connectors into the ITC620-A1 Harness.
7. Plug the 12 Pin connector of the ITC620-A1 Harness into the ITC620-A1 Module.
8. Plug the 4 Pin connector of the ITC620-A1 Harness into the ITC620-A1 Module.
9. Reattach the Ignition Switch Connector to the Ignition Switch.



Optional Shutdown indicators and override inputs

There are 3 optional signals with "flying lead" wires provided for connecting to external equipment or devices as described below. These three signal are located on the ITC620-A1 modules 12 pin connector.

Warning beeper, lamp or LED output - Orange wire, Pin #2. This signal provides 12V when active. The maximum allowed draw on this circuit is 1/2 amp. If an LED is used, it must have either an integral resistor or one wired in series. (A typical value would be 13V/0.02A= 650 ohms. 620 & 680 are standard values. Use 1/2Watt resistor). Attach this Orange wire to the positive input for the LED or beeper. Attach a ground wire to the negative side of the circuit. This output pulses repeatedly during the final 30 seconds of Shutdown.

Override High input - Green wire, pin #4. Applying 12V to this input will prevent engine shut down, and can be connected to equipment such as a PTO, pumps, compressors, etc.

Override Low input - Blue wire, pin #5. Applying ground to this input will prevent engine shut down, and can be connected to equipment such as a PTO, pumps, compressors, etc.

Ensure that unused flying leads will never make electrical contact with anything by taping, cutting, or extracting the wires (pin extraction requires Molex tool).

If the module's factory default settings will not be changed as described on the following page, proceed to the Post Installation Check List section.

Reconnect the vehicle batteries

Reconfiguring the minimum engine shut down temperature and shut down times (optional)

Requirements

- USB to Serial Communication cable (part number s-h37a1) whichis a one time purchase. This is required to all programming and is recommended to be kept in a central location.
- Laptop computer (programming is done while the module is on the vehicle).

Reconfiguration

Ensure that the proper drivers are installed for the USB to Serial Communication cable provided by Inter-Moti9ve. All drivers files are located online at http://www.ftdichip.com/Drivers/VCP.htm

1. Find the correct drivers for your PC and follow the steps to download the latest version (located under the "Driver Version" heading). If unsure about the installation process, contact InterMotive for further assistance.
2. Once the installation process is complete, plug one end of the cable into the PC's USB port.
3. Ensure the vehicle key is off and plug the other end into the ITC620-A1 module's COM port.
4. Open the Microsoft communication application HyperTerminal. This program can be found under: Start > All Programs > Accessories > Communications > HyperTerminal.
5. A prompt will appear to give this connection setup a name. It is recommended to use something meaningful such as "ITC Config", which may be reused in the future.

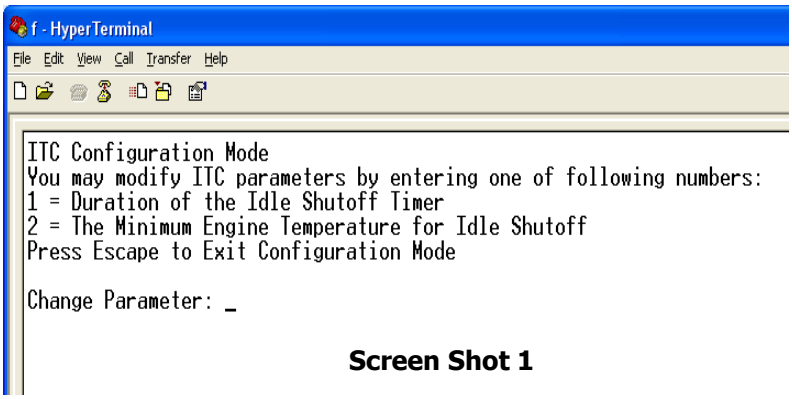
The next window will prompt to select the "COM port" to use for communicating with the module. Even though this download cable plugs into a USB port, it is treated like a serial COM port by HyperTerminal. Typically, the highest numbered COM port will be the InterMotive Communication cable.

Note: The COM port number can be confirmed in Windows XP by right-clicking on 'My Computer' and selecting 'Properties.' From this window select the 'Hardware' tab and click on 'Device Manager.' In the Device Manager window, expand the 'Ports' menu and the download cable connection will be displayed as 'USB Serial Port.'

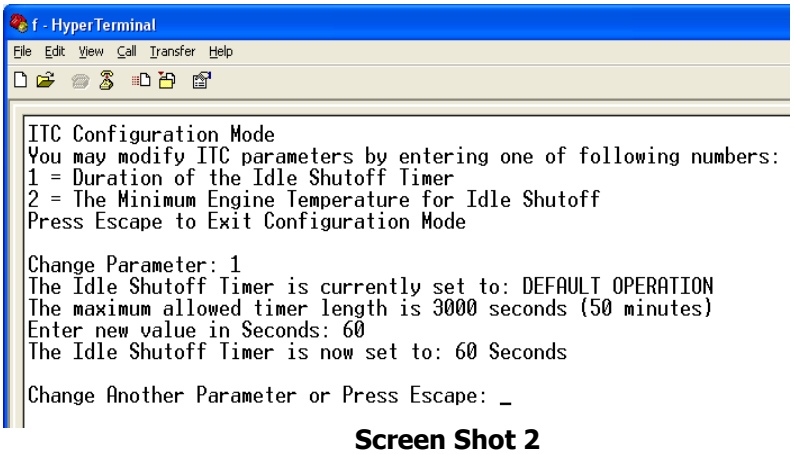
Reconfiguring the Minimum Engine Shut Down Temperature and Shut Down Times (continued)

In the next HyperTerminal window, several of the default parameters for the Port Settings need to be changed. Change the Bits per second to: **57600**, Data bits to: **8**, Parity: **None**, Stop bits: **1** and Flow control: **None.** HyperTerminal setup is now complete. The above setup information will be stored under the connection name. This step will not need to be done again in HyperTerminal.

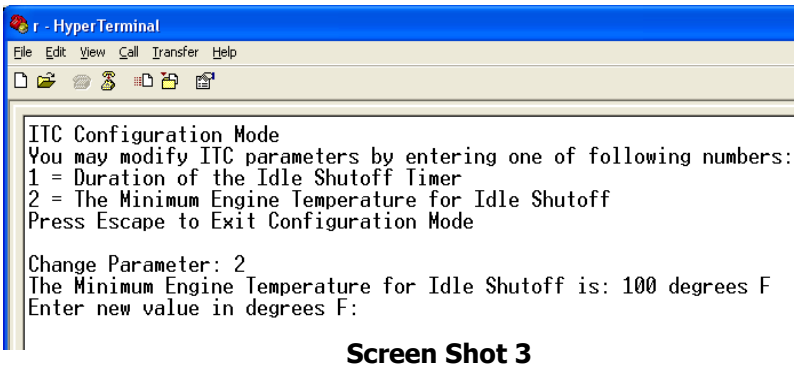
1. Turn the vehicle key to the ON position. The ITC620-A1 module will wakeup and text will be displayed on the open HyperTerminal window.
2. If nothing appears, unplug the 6 pin Data Link connector going into the ITC620-A1 module, wait several seconds, and plug the connector back in.
3. If still nothing appears, go to File > New Connection and try re-configuring the HyperTerminal as described above. If unsuccessful, contact InterMotive for further assistance.
4. With communication established, type in the word "config" (followed by the enter key) and the screen will look like Screen Shot 1
5. Enter the Parameter to be changed: 1 or 2.
6. If 1 is selected, the screen will look like Screen Shot 2. Key in a new Idle Shutdown Time in seconds. This new shut down time will be used regardless of Park Brake on or off. Restoring the default 5/15 minute timing can be done by setting this time to 10,000.
7. If 2 is selected, the screen will look like Screen Shot 3. Key in a new minimum warm up temp in degrees F. ITC620 will not shut the engine off until this temperature is reached.
8. Press escape when parameters are set correctly.
9. When finished, key off ignition and disconnect the Communication cable.



Screen Shot 1



Screen Shot 2



Screen Shot 3

Post Installation Check List

Putting the module into Test Mode

It is recommended to mount the module after all post installation checks are complete.

1. Start the engine.
2. Enter Test Mode by pushing and holding the Service Brake while setting and releasing the Park Brake 4 times within 10 seconds. When successful, LED10 on the ITC620-A1 module will be lit.
3. Release the Service Brake. When this mode is active, the shut off timer is reduced to 15 seconds. LED 9 will come on for 1 second at the start of the shut off timer. A Park Brake, Service Brake, or Accelerator Pedal input will reset the timer. LED 9 will light to verify each input.
4. Also verify function of any lamp or buzzer connected to the optional indicator output. During the final 5 seconds the indicator will flash or sound multiple times until the engine is shut off.
5. Confirm LED10 goes off when engine is shut off.
6. Turn off the ignition. Status LED will light briefly.

ITC620 Module

Ensure all harnesses are properly connected and routed, and are not hanging below the dash area. Mount the module as described on page 1, and secure with screws or double sided tape. Reinstall the column trim cover and under dash panel.

If the ITC620-A1 fails any step in the Post Installation Check List, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at (530) 823-1048.

Leave in vehicle
Operating Instructions Idle Timer Controller - ITC620-A1
2009-2014 Chevrolet Express/Savana
Contact InterMotive for additional vehicle applications

ITC620-A1 Overview

The ITC620-A1 is an anti-idle engine shut off system. It automatically shuts off the engine if the vehicle is left idling for an extended period of time without operator input.

Default operation: with the Park Brake disengaged the engine will shut off after 15 minutes of idling. If the Park Brake is set, the idle time is 5 minutes before shut off.

Custom operation: A custom timer length may have been set by the final stage vehicle manufacturer. If this is the case, the engine will shut off after this time limit expires, regardless of the Park Brake being set, or not.

Ignition Power Restore and Restart

After an auto-shut off, the ignition key must be cycled off, then back on, before ignition power will be re-stored, and the vehicle can be restarted.

When ITC620-A1 has switched off Ignition power, there is still a small power draw from the batteries. This draw could potentially drain the batteries if the key is left ON and in the vehicle for several days. For this reason, as well as to prevent theft, the key should always be removed from the Ignition once the operator has finished with the vehicle.

Optional Shutdown Indicators

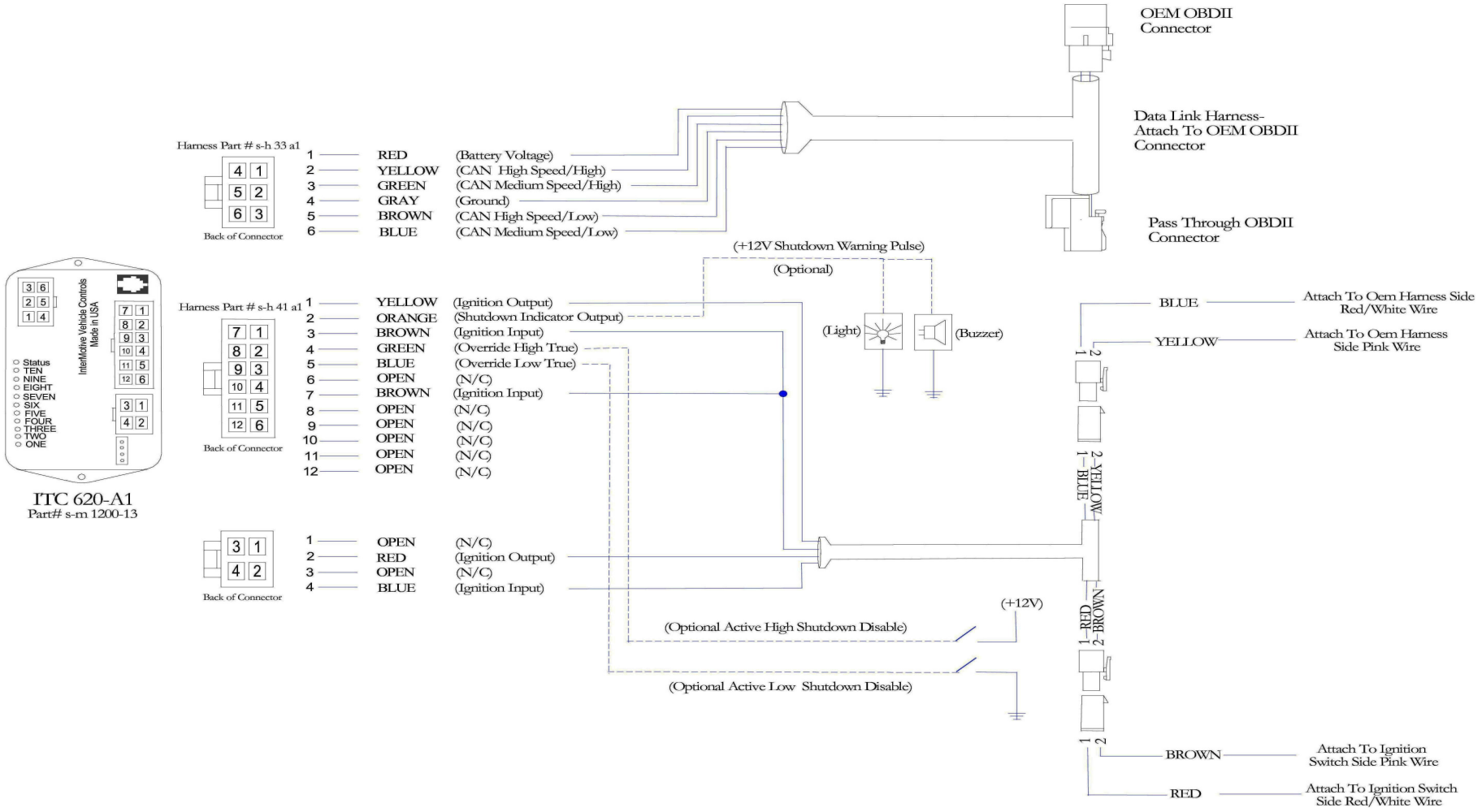
The vehicle's final stage manufacturer may have installed an optional indicator lamp or buzzer which ITC620-A1 will use to warn of impending engine shut down. If installed, it will flash or sound repeatedly during the final 30 seconds prior to Shut Off.

Applying Service Brake, Accelerator pedal or Park Brake will reset the shut down timer.

Timer Override Inputs

The ITC620-A1 provides Timer Override inputs which the vehicle manufacturer may have wired to other equipment (PTO, AC, etc….). This allows certain equipment on the vehicle to prevent engine shut down as necessary.

Once the optional equipment is switched off the ITC620-A1 will resume Idle Timer shut down operation.



Submit product registration at www.intermotive.net

If the ITC620-A1 fails any step in the Post Installation Check List, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at (530) 823-1048.