



Setup Instructions for GE Simon XT with Alarm.com GSM Module

These are the Installation Instructions for the Alarm.com GSM Cellular Module for Simon XT. The GSM Cellular Module enables wireless reporting of all alarms and other system events from the GE SimonXT control panel using an all-digital, GSM/GPRS wireless (cellular) network. The module can be used as the primary communication path for all alarm signaling, or as a backup to a telephone line connection to the central monitoring station. The wireless alarm signaling and routing service is operated by Alarm.com. The module interfaces with the Simon XT panel board, fits into a special compartment inside the panel, and is powered by the control panel and panel battery.

Intended Use

Use this product only for the purpose it was designed for; refer to the data sheet and user documentation.

Compliance

Operation is subject to the following two conditions:

- (1) This device may not cause interference
- (2) This device must accept any interference, including interference that may cause undesired operation of the device

Changes or modifications not expressly approved by Alarm.com can void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment

off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

Installation

Installation consists of removing the plastic cover over the antenna aperture, inserting the GSM module inside the host, and attaching the antenna. Follow these guidelines during installation:

- Do not exceed the hosts total output power when using host power for the GSM module, hardwired sensors, and /or sirens. Refer to the specific panel installation instructions for details.
- Simon XT panels allow a maximum of one Alarm.com GSM module.
- The GSM module draws a maximum of 30 mA average during normal operation. In PowerSave mode, during or immediately following an AC power failure, the module will draw only 10 mA on average.
- Avoid mounting the panel in areas with excessive metal or electrical wiring, such as furnace or utility rooms.
- Leave 12 to 18 in. of open space around the module antenna.
- Do not install the control panel and module in a basement or other below-ground location. Doing so will negatively impact GSM signal strength.

Tools and supplies needed

You will need the following tools and supplies:

- Small flat-head and Phillips screwdrivers;
- Screws (included); and
- Antenna (included).

Troubleshooting: LEDs

Status LEDs indicate network and module status. *Figure 1* shows the location of the LEDs visible

through a slit at the back of the host.

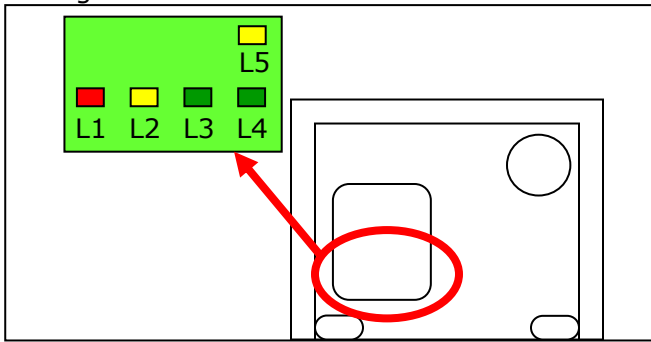


Figure 1

Table 1 describes the LED functions.

LED	Function
L1	Error LED. Will flash 1 to 8 times in an 8-second interval to indicate specific error conditions such as network error, host communication error, or GSM radio error.
L2	Host Communication. Flashes every time the Module communicates with the host.
L3	GSM Communication. Flashes every time the GSM signal level is checked or for every packet sent or received to and from Alarm.com.
L4	GSM Signal Level. Flashes 0 to 5 times to indicate signal strength, or toggles on/off when communicating with Alarm.com servers.
L5	Z-wave Node Status: Flashes in a 8-second interval to indicate specific functionality such as add, delete or replicate

Table 1

LED Details

LED 1 (red)

LED 1 flashes when there is an error. The number of flashes is the error number. If there are two or more errors at the same time, the errors will be flashed one after the other. The LED will stay off for at least four seconds between errors.

Errors Flashed on LED 1 (RED)	
# Flashes	Error and Solution
1	Module cannot communicate with the host. Perform a power cycle by disconnecting AC and battery, then reconnecting battery first, followed by AC power. If this does not fix the issue, contact Alarm.com Technical Support.
2	The SIM card is missing. The SIM card holder can be found on the Module. Verify that the SIM card holder is closed securely and that there is a SIM card in the holder.
3	This displays when the Module is first registering with the GSM network after being powered on. If it persists for more than a few minutes, it means the Module is unable to register with the GSM network. Check LED 4 for signal level. If signal level is lower than 2, change the panel's location or use a remote antenna option.
4	The Module is registered on the GSM network but cannot connect with Alarm.com. Contact Alarm.com Technical Support.
5	Radio portion of the Module is not working correctly. If this persists for more than a few minutes, contact Alarm.com Technical Support.
6	This is an error only if it persists for more than a minute. Otherwise, it's just an indication that the Module is fixing an unusual condition regarding communication with the GSM network.

LED 2 (yellow)

LED 2 flashes with every communication between the module and the host. Normal pattern calls for a series of quick flashes every two seconds in Idle Mode or four seconds in PowerSave Mode.

LED 3 (green)

LED 3 flashes with every communication between the module and its radio unit in Idle mode, and with every communication with Alarm.com in Connected Mode. In PowerSave mode, this LED flashes in unison with LED 2.

LED 4 (green)

LED 4 indicates the GSM signal level as a number of flashes (0 to 5 bars). The number of bars may not correspond to the bars shown on your cell phone. A level of 5 bars is obtained only in the strongest signal conditions. Signal level is updated every ten seconds if it fluctuates, or every 30 seconds if it is fairly stable.

If LED 4 is not flashing it indicates one of the following states:

- The module is in power save mode;
- The module just powered up;

- There is no GSM coverage in the area. Alarm.com recommends a signal level of 2 or higher for proper operation of the module.

In connected mode, the LED toggles on and off.

LED 5 (yellow)

LED 5 indicates the mode of z-wave. This is described in more detail below.

Improving wireless signal strength

For optimal wireless signal strength, follow these guidelines:

- Install the module above ground level, as high up as possible within the structure.
- Install the module near or adjacent to an outside facing wall of the structure.
- Do not install the module inside a metal structure or close to large metal objects or ducts.
- Make sure to follow the antenna positioning guidelines that are included with the antenna. Certain antennas must be oriented a specific way in order to receive signals.
- Upgrade the antenna. If you are using the ¼ wave antenna included with the GSM Gateway Module, upgrade to a remote cable antenna. Contact Alarm.com technical support for antenna options.

Troubleshooting/Testing GSM

- The LEDs are not responding. Turn off the panel power and verify that the module is correctly inserted into the panel.
- Module status LEDs do not turn on immediately after initial power up. You may need to wait a few minutes after power up for the module to register on the network.
- Panel/sirens are beeping even though the system is not armed. Press touchpad status button and panel reports the trouble condition. Consult the panel manual for details. Note: If the GSM module is powered down for a short period of time, buffered messages from Alarm.com may be received when module power is restored.
- Panel will not perform GSM phone test. Only 10 GSM phone tests are allowed in a 24h period. If more GSM phone tests are required power cycle the control panel.

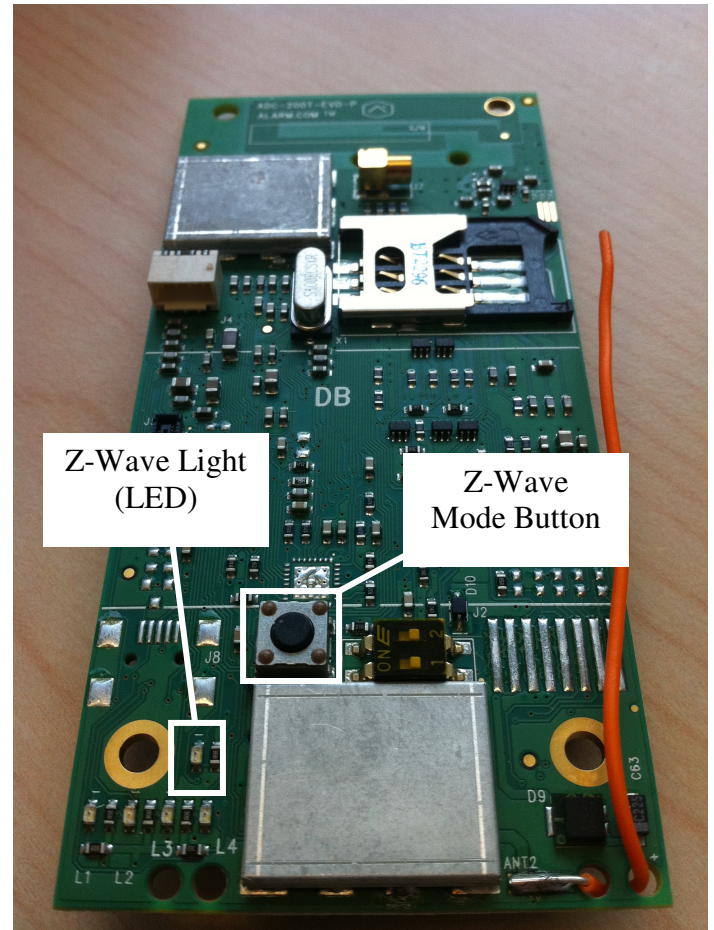


Figure 2

Adding Z-Wave Devices

1. Press and hold down the Alarm.com Z-Wave Mode button until the Z-wave light begins flashing a 4-blink pattern to indicate that the module is in Add mode. Then let go of the button.
2. Press the appropriate button(s) on the Z-Wave device to add it to the network. Observe the Z-wave light on the Alarm.com Gsm Module. The yellow Z-wave light will become solid and stay solid for 1 minute once the device has been added successfully. (Once you've pressed the button on the device, it may take up to 5 seconds for the light to become solid. You do NOT need to hold down the device button during this time.)
3. To add another device, you can repeat the steps above. (You do not need to wait for the solid light to go away before holding down the Alarm.com Z-wave button to enter Add mode again.)

Deleting Z-Wave Devices

1. Press and hold down the Z-Wave Mode button on the Alarm.com module.
2. The Z-wave light on the Gsm Module will begin flashing a 4-blink pattern to indicate that the module is in Add mode.
3. Press and hold down the Z-Wave Mode button (for ~2 seconds) again to enter Delete/Exclusion mode. The Z-Wave light on the Alarm.com module will change from a 4-blink pattern to a 2-blink pattern to indicate that the module is currently in Delete mode.
5. Press the appropriate button(s) on the Z-Wave device to delete it from the network. For most devices, this involves just a quick press of the device button.
6. Observe the Z-Wave light on the Alarm.com module. The yellow Busy light will become solid and stay solid for 1 minute once the device has been deleted successfully. (Once you've pressed the button on the device, it may take up to 5 seconds for the light to become solid.)
7. To delete another device, you can repeat the steps above. (You do NOT need to wait for the solid Z-Wave light to go out before doing this.)

Troubleshooting Z-Wave

If there is an error, or the two minute time limit expires when adding a device, the panel will issue a single low-pitch beep and the LCD will display "Z: Timeout/Error". Try the following troubleshooting steps:

- If the device is already part of a Z-Wave network (whether the existing network or an old network) , it cannot be added again. If you suspect the device you are adding may already have been added to a network, first try deleting ("excluding") it from its network and then try adding it again. If you receive a Timeout/Error message when trying to delete the device, it's likely the issue is range related
- You may need to move the device closer to the panel (or vice versa) while adding it, or use a portable controller to add it.
- Other 900 MHz wireless devices may be interfering with the Z-Wave messages. Try moving or replacing any 900 MHz headsets, cordless phones, baby monitors, wireless speaker extenders, IR remote control extenders, or similar devices. Or, try changing the channel used by these devices.