

X10 GSM MODEM Manual

Modem Setup

1.a. SIM CARD

Working Sim Card must be inserted into modem tray. Use pin or pen to eject the door and put SIM card bottomsides up (see video). New SIM card with regular or prepaid plan need to be activated first before use it.

b. Power up the modem

If everything works properly, the L1 LED light should start and continue blinking .

Modem: L1 LED blinking continuously

L4 LED steady ON

c. How to read LED lights signals:

L1=> Cellular network status

Blinking = network is connected

Steady Light ON = searching network/ disconnected/No service etc

No light = NO power, Bad module

L2=> Powerline-Modem communication

Light ON/ blinking = sending/receiving X10 signals between Powerline and Modem

Light OFF = NO communication between Powerline and Modem

L3=> Modem sending/receiving text messages

Light ON/blinking = receive X10 message from phones or transmit X10 message to phones

OFF = no message activities established

L4=> Controller status

Light ON = Ready, Running

Light OFF = Not ready



2. STORE PHONE and PASSWORD NUMBER

Modem: Switch S1 located under the top board need to be switched into right position – unprotected mode (see modem diagram).

Phone: Type “XXXX” four digit password and send it through text message mode.

Example : If the modem number is (214)111-1111 , cellphone number for monitoring is (214)222-2222 and password to be stored is “XY12” then using the phone ,send text “XY12” to (214)111-1111.

Respond:

Modem: L4 LED turned off briefly

L3 LED will blink 5 times

L2 LED turned ON in few seconds

Phone: “**Modem ACK->**”

If there is no response, send similar text after 15 seconds.

After getting acknowledge, switch S1 back to right position – protected mode ,so Only phone number (214)222-222 with password XY12 can get an access to activate or monitor X10 devices.

For advanced users ,they can store up to three phone numbers or can be sent to Twitter or Facebook account. Adding two more numbers or twitter and facebook numbers can be done using terminal mode serial programming via USB port.

3. HOW TO WAKE UP MODEM

Phone : type “XY12A01”. And wait until get response from modem
“Modem ACK-> A01”

Any House and Unit codes are permitted such as : B12, C07 etc, so type
“XY12C07”

will get reply “Modem ACK-> C07”

If there is no response in 15 secs, try to repeat and send similar text again.

Modem: L4 LED turned OFF in few secs
L3 LED will turned ON in few secs
L2 LED turned ON in few secs

4a.HOW TO RECEIVE X10 SIGNALS:

Let says that there are three (3) X10 wireless motion detector. The first thing to do is to change House/Unit Code. Follow vendor manuals to change them. Never use factory setup since it usually was programmed for House code A and Unit code 1. Example : There are three MS16A motion detectors. Assign first detector with House code A Unit 2, second detector with House code A Unit 4 and third detector with House code A unit 6. These number will be transmitted when a moving object is detected in the front of one of them. We can use odd number House code A unit 5, House code A unit 7 etc to detect dark/light. Please refer to vendor manual.

When Moving object is detected on Motion detector number 2, it will transmit radio signals carry House code A Unit 4 . X10 transceiver module such as TM755 receive these signals and send it to power lines. Powerline serial interface will decode these signals and convert them into serial data and direct them to X10 GSM modem. The modem will convert the data which can be easily understood by human and will be transmitted via GSM cellular network.

Respond:

Modem:

L4 LED turned OFF in few secs
L3 LED will turned ON few secs
L2 LED turned ON in few secs

Phone:

“A*4 ON”

after delays, it will turn back off :

“A*4_OFF”

The timer delays can be set between seconds to minutes (see MS16A manual).

Translations:

A*4 = House code A Unit 4

ON = turn ON => moving object has been detected for X10 sensors. For X10 switches or another X10 input module indicate ON status achieved.

OFF = turn OFF => detector was deactivated after few seconds/minutes delay And ready to detect next moving objects. For X10 switches or another X10 input modules indicate OFF status achieved.

b. Mute the Modem

In many cases, there are pets in the room/house which keep triggering the detectors or someone keep turning on or off X10 switches. These actions will send a lot of text messages. To avoid those signals, we can mute modem temporary by type **“XY12NOP”**.

Respond:

Phone: “Modem ACK-> NOP”

Send another similar text when there is no response in 15 secs until get acknowledged.

When modem is in mute mode, any X10 activities will not be transmitted to phone but still be Monitored by modem

Example : Moving object in the front of detector number 3 and we already mute the modem.

Modem:

L4 LED turned OFF in few secs.

L3 LED lights OFF.

L2 LED turned ON in few secs

To unmute the modem do step 3 above.

5. HOW TO ACTIVATE OR SEND COMMANDS TO X10 MODULES

Example: X10 appliance module AM466 is programmed for House code A Unit code 10.

Phone: To turn it on type :”XY12A10TON”

To turn it off type : “XY12A10OFF”

Translations:

XY12 = password (4 digits password with any combination alphabets/letters/numbers)

A10 = House code A unit 10

TON = Turn On
OFF = Turn OFF

6. OTHER MESSAGES

Example 1 : “**FORCE ON->A*11 ON**”

Most likely there are fast objects or multiple objects which is moving in the front of sensors that trigger multiple signals in very short time. Switching X10 module on/off repeatedly in few seconds might also generate FORCE ON messages.

FORCE ON means that the system perform autoreset to avoid false signals.

On several occasions, there are a lot of X10 traffic which create signal collision. Eventhough X10 protocols is not really fast but it still faster than Text Message System can be processed by Modem and GSM network in which multiple X10 signals received in the very short period.

Example 2 : “***11 ON**”

There is signal collision involving unknown House code on unknown Unit. The modem will not perform autoreset for small disturbance.

FIRMWARE:

2413 V1.2 (For Insteon Powerline 2413S PLM)

2414 V1.1 (For Insteon Powerline 2414S PLC)

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