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Client: Alarm.com
Model: ADC-NK-100T
Standards: FCC 15.247/IC RSS-247
ID's: YL6143NK100T/9111A-143NK100T
Report #: 2015014DTS

Appendix K: Manual

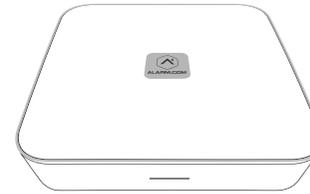
Please refer to the following pages.



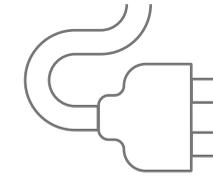
Alarm.com Hub

Install Guide

Box Contents:



Alarm.com Hub
(Cellular Version)



Power Cable/ AC Adapter

What You Need:

 **ALARM.COM**® | Customer Account

If you don't already have a customer account with us, visit www.Alarm.com, and click on "Get Started" to find an authorized Alarm.com dealer near you.

Works With:



Thermostats



Door Locks



Lights



Garage Doors



Appliance Control



Water Sensors
& Control



Image Sensor



Video Cameras



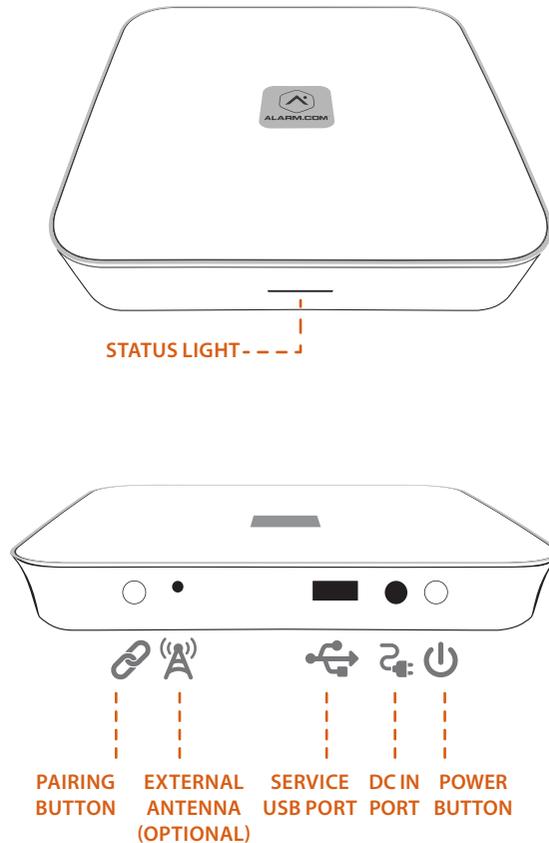
Energy Meters
& Switches



Shades

Alarm.com Hub Overview

With the Alarm.com Hub as your home's command center, you'll gain remote control of your key devices using our reliable and secure cloud service. Create automated lighting, thermostat and video recording rules, and get customized alerts to always know what's going on at home.



Installation

Step 1: Powering Up the Hub

- Plug the AC adapter into an unswitched outlet. (This is an outlet that is always "on," and can't be controlled by an on/off light switch or dimmer switch.) Connect the other end of the AC adapter to the Hub's DC IN port (🔌).
- The Hub's Status Light will change colors during the first few seconds. Once the Status Light stays solid white or continues to flash white, you can continue the setup process.
- Once the Hub is powered up, it will automatically communicate with the Alarm.com cloud and connect to your customer account.

NOTE: It may take up to five minutes for the Hub to complete this process. During this time, you may unplug the Hub and start pairing devices.

Step 2: Pairing Z-Wave Devices with the Hub

If your Z-Wave devices have ever been used previously, first see the Unpairing Z-Wave Devices section on the next page.

- For best results, bring the Hub into the room where your Z-Wave device is installed. The Hub's

battery enables cordless pairing, so you can move the Hub around your home as you pair it with devices.

- To put the Hub in Pairing Mode, press the Pairing button once (🔗). The Status Light will start flashing green slowly and the Hub will beep once.
- To put your Z-Wave device into Pairing Mode, follow the instructions that came with the device. Most devices have a Z-Wave action button.
- When the device and the Hub begin to communicate, the Hub's Status Light will flash quickly. If pairing is successful, the Hub will beep for one second, and the Status Light will stay solid green for 120 seconds.
- After a device is paired, the Hub automatically exits Pairing Mode. To pair another device with the Hub, place the Hub in Pairing Mode again and follow the steps above.

If pairing is unsuccessful, follow the steps on the next page to unpair the device, and then try pairing it again.

- To exit Pairing Mode, press and quickly release the Pairing button (🔗). Alternatively, the Hub will exit automatically after 120 seconds of inactivity.

Unpairing Z-Wave Devices (If all Z-Wave devices were added successfully, skip to Step 3 below)

- To put the Hub in Unpairing Mode, press and hold the Pairing button (🔗) for five seconds until the Status Light flashes orange slowly and the Hub beeps twice.
- To put your Z-Wave device into Unpairing Mode, follow the instructions that came with the device. For many Z-Wave devices the same button is used for pairing and unpairing.
- When unpairing is successful, the Hub will beep for one second, and the Hub's Status Light will stay solid orange for 120 seconds.
- After a device is unpaired, the Hub automatically exits Unpairing Mode.
- To pair the device with the Hub, return to the beginning of Step 2 above.
- To exit Unpairing Mode, press and quickly release the Pairing button (🔗). Alternatively, the Hub will exit automatically after 120 seconds of inactivity.

Step 3: Pairing Image Sensors

- First remove all batteries from the Image Sensor. The Image Sensor uses two AA lithium batteries.

NOTE: Do not use lithium-ion batteries, which can damage the Image Sensor.

- To put the Hub in Pairing Mode, press the Pairing button (🔗) once. The Status Light will start flashing green slowly and the Hub will beep once.
- To put the Image Sensor in Pairing Mode, simply insert batteries into the Image Sensor.
- It may take the Hub 20 seconds or longer to pair with the Image Sensor. If pairing is successful, the Hub will beep for one second, and the Status Light will stay solid green for 120 seconds.
 - If Image Sensor pairing fails, it may mean the Image Sensor is not within range of the Hub. Try moving the Hub closer to the Image Sensor and repeat Step 3. If problems persist, see Resetting the Image Sensor in the Advanced Mode section of this manual.
- To exit Pairing Mode, press and quickly release the Pairing button (🔗). Alternatively, the Hub will exit automatically after 120 seconds of inactivity.

Step 4: Communication Test

Next, you should run a Communications Test to ensure the Hub has adequate cellular signal strength to communicate with the Alarm.com cloud.

- First, put the Hub in Advanced Mode by pressing and holding the Pairing button (🔗) for 10 seconds. When the Hub enters Advanced Mode, it will beep three times, and the Status Light will alternate colors.
- Press and quickly release the Power button (🔌).
 - This will initiate the Communications Test. When the test has begun, the Hub will beep six times and the Status Light will slowly alternate green and orange flashes.
- When the Communication Test finishes, the Hub will beep for one second.
 - A solid green Status Light indicates a successful test.
 - A solid orange Status Light indicates an unsuccessful test.

- If the Communications Test fails, try moving the Hub closer to an exterior wall or window.

Step 5: Finishing Up

- Reconnect the Hub to power (e.g., plug it back in) if removed during installation.

- Navigate to the Alarm.com Customer Website to login to your new system. Once you login, make sure to:
 - Confirm your e-mail address and contact information.
 - Add other users to your system (if desired).
 - Set up rules and notifications so you always know what's happening around your home.
 - Download the Alarm.com Mobile App (Available for iPhone, iPad, Android and Windows Phone).

Powering Down

- Remove the power cable from the back of the Hub and press the Power button (🔌) for four seconds to power down the Hub.

OPERATING NOTE: Periodically, the Hub's Status Light will flash white for up to 60 seconds. This is normal. However, if the light flashes white for longer than a minute, contact your service provider.

Advanced Mode

This section is for authorized professional installers and service providers.

The Hub has an Advanced Mode for troubleshooting and service. To access features in the following section, put the Hub in Advanced Mode by holding down the Pairing button (🔗) for 10 seconds. When the Hub enters Advanced Mode, it will beep three times, and the Status Light will alternate colors. To exit Advanced Mode, press and quickly release the Pairing button (🔗). Alternatively, the Hub will exit automatically after 120 seconds of inactivity. From Advanced Mode, you can perform the following advanced actions.

Z-Wave Replication

This process copies a Z-Wave Network from an old master node (such as a Panel or Z-Wave controller) to the Hub.

CAUTION: Z-Wave Replication erases all currently connected Z-Wave devices.

NOTE: The command to enable or disable Z-Wave Replication can be sent from the Alarm.com Dealer Website's AirFX™ Toolkit. Z-Wave Replication is only available during the first 120 seconds after initially powering on the Hub.

- After entering Advanced Mode, press and hold the Pairing Button (🔗) for five seconds. When Z-Wave Replication has begun, the Hub Status Light will blink green slowly and the Hub will beep four times.

- To cancel Z-Wave Replication, you must immediately press and release the Pairing button (🔗). This feature is only available during the first five seconds after Z-Wave Replication has begun.

- When Z-Wave Replication is complete, the Status Light will shine solid green for 10 seconds and the Hub will beep for one second.

Factory Resetting

This resets the Hub to its factory settings.

CAUTION: Factory Resetting erases all devices and settings.

NOTE: The command to enable or disable Factory Resetting can be sent from the Alarm.com Dealer Website's AirFX Toolkit. Factory Resetting is only available during the first 120 seconds after initially powering on the Hub.

- After entering Advanced Mode, press and hold the Pairing button (🔗) for 10 seconds. When the reset process has begun, the Status Light will blink orange slowly and the Hub will beep five times.

- To cancel Factory Resetting, you must immediately press and release the Pairing button (🔗). This feature is only available during the first five seconds after Factory Resetting has begun.

- When Factory Resetting is complete, the Status Light will shine solid orange for 10 seconds.

- Next, contact Alarm.com Customer Support to reinitialize the Hub.

Communications Test

This tests the Hub's connection to the Alarm.com cloud.

- After entering Advanced Mode, press and immediately release the Power button (🔌).

- When the test has begun, the Hub will beep six times and the Status Light will slowly alternate green and orange flashes.

- When the Communication Test finishes, the Hub will beep for one second.

- A solid green Status Light indicates a successful test.

- A solid orange Status Light indicates an unsuccessful test.

- If the Communications Test fails, try moving the Hub closer to an exterior wall or window.

Resetting the Image Sensor

This resets the Image Sensor to its factory settings. This is helpful before pairing if the Image Sensor has been previously used with another gateway or panel.

- Ensure that the Image Sensor is not connected to another active network.

- Locate the reset hole on the front of the Image Sensor. Use a paper clip to push the reset button for 10 seconds. When the Image Sensor has been reset, a light in the IR slot directly below the reset hole will flash quickly.

- For more Image Sensor Information, see the Image Sensor Installation Guide.

Status Light Definitions

| User Mode Cellular Hub | | |
|------------------------|--|---|
| LIGHT COLOR | LIGHT PATTERN/BEEPS | MEANING |
| WHITE | Solid  | Hub powered on and connected to Alarm.com |
| | Fast blink  | No cellular signal strength. Hub not connected to Alarm.com |
| | One blink  | Signal strength inadequate (1 out of 6 bars). Hub not connected to Alarm.com |
| | Two blinks  | Minimum recommended signal strength (2 out of 6 bars). Hub not connected to Alarm.com |
| | Three blinks  | Signal strength 3 out of 6 bars. Hub not connected to Alarm.com |
| | Four blinks  | Signal strength 4 out of 6 bars. Hub not connected to Alarm.com |
| | Five blinks  | Signal strength 5 out of 6 bars. Hub not connected to Alarm.com |
| | Six blinks  | Signal strength 6 out of 6 bars. Hub not connected to Alarm.com |
| GREEN | Slow blink  | Hub is in Pairing Mode |
| | One beep  | Device found, attempting to pair |
| | Solid  120 seconds; One second beep | Device successfully added |

| LIGHT COLOR | LIGHT PATTERN/BEEPS | MEANING |
|------------------------|--|---|
| ORANGE | Slow Blink  Two beeps | Hub is in Unpairing Mode |
| | Solid  120 seconds; One second beep | Device successfully removed |
| GREEN & ORANGE | Alternating  | Device already in network |
| WHITE & GREEN & ORANGE | Alternating; Three beeps  | Hub turned on OR Hub entering OR exiting Advanced Mode. |
| WHITE & ORANGE | Alternating  | Battery powered |

Status Light Definitions (Continues)

| Advanced Mode Cellular Hub | | |
|----------------------------|---|---|
| LIGHT COLOR | LIGHT PATTERN/BEEPS | MEANING |
| WHITE | Solid  | No errors or status messages |
| | One blink  | No Z-Wave nodes |
| | Two blinks  | SIM card missing |
| | Three blinks  | Trying to register with HSPA/CDMA network |
| | Four blinks  | Connected to HSPA/CDMA network. Cannot connect to Alarm.com |
| | Five blinks  | Radio not working |
| | Six blinks  | Fixing unusual ACK condition with HSPA/CDMA network |
| | Seven blinks  | No Z-Wave Home ID |
| | Eight blinks  | Account setup error |
| GREEN | Slow blink  | Z-Wave replication initiated |
| | Four beeps  | Z-Wave replication completed |
| | 10 seconds; One second beep | |

| LIGHT COLOR | LIGHT PATTERN/BEEPS | MEANING |
|----------------|---|------------------------------------|
| ORANGE | Slow blink  | Factory resetting initiated |
| | Five beeps  | Factory resetting, Hub will reset. |
| GREEN & ORANGE | Solid 10 seconds; One second beep  | Communication Test Mode initiated |

Regulatory & Certifications

Hub Specifications

| | |
|-------------------------|--|
| Power Requirements | 5V nominal |
| Standby current | 90mA (45mA in PowerSave Mode) |
| Peak Current | 1.5 A |
| Max. Voltage Protection | 28V |
| Operating Voltage | 4.6V - 5.53V |
| Operating Temperature | 32 to 120°F (0 to 49°C) |
| Storage Temperature | -30 to 140°F (-34 to 60°C) |
| Max. Relative Humidity | 90% non-condensing |
| Module Dimensions | 13.75 cm x 14.25 cm |
| Housing Dimensions | 16 cm x 16 cm |
| Cellular Network | Dual Band CDMA1xRTT (3G) or Dual Band HSPA 2G/3G (850/1900 MHz) |

Battery Specifications

| | |
|------------------------|---|
| Type | Lithium Ion |
| Rated Capacity | 1300 mAh |
| Charging Temperature | 0 to 45°C |
| Discharge Temperature | -20 to 60°C |
| Storage Temperature | 1 year at +15 to +35°C 1 month at -20 to +60°C 3 months at -20 to +45°C |
| Max. Relative Humidity | 65 ± 20% |
| Listings | UL 1642 |

Regulatory & Certifications

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:

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

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Under Industry Canada regulations, this radio

transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement,

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC ID: YL6143NK100T
IC: 9111A-143NK100T



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