

i-ALERT[®] Monitoring Solution

i-ALERT Gateway Installation Manual

August 8, 2019

Revision 2.0



Notes, cautions, and warnings



NOTE: A NOTE indicates important information that helps you make better use of your product.



CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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REVISION HISTORY

Revision	Description	Date
0.1	Draft release	4/4/2019
1.0	Draft revision	5/10/2019
2.0	Draft revision	6/30/2019
3.0	Final Revision	8/8/2019

1 Overview

The *i-ALERT*® Gateway is an Industrial Internet-of-Things (IIoT) device. It is deployed on the ITT Pro Services® cloud, enabling you to securely collect, analyze, and act on data from *i-ALERT2*® sensors. The gateway is designed to be plug and play and requires no setup other than physically mounting the unit and applying power. The gateway can be ordered for use with 110/220VAC or 9-60VDC, in both a North American and International versions. Part Numbers are as follows:

Model	Part Number	Description
i-ALERT Gateway Domestic, AC Powered – USA	K13653A-US	110-240 VAC, Domestic Cellular Modem Assembly - USA
i-ALERT Gateway Domestic, AC Powered - CD	K13653A-CD	110-240 VAC, Domestic Cellular Modem Assembly-Canada
i-ALERT Gateway Domestic, DC Powered - USA	K13654A-US	9-60 VDC, Domestic Cellular Modem Assembly-USA
i-ALERT Gateway Domestic, DC Powered - CD	K13654A-CD	9-60 VDC, Domestic Cellular Modem Assembly-Canada
i-ALERT Gateway Pole Mount Bracket Kit	K15535A	The pole mount kit can be used with poles of diameter of 2 inches to 12 inches.

2 System View

2.1 Gateway Interface

The gateway interface points are shown in Figure 1:

1. Plug 1 is an expansion plug allowing an additional gland or conduit fitting to be added
2. Plug 2 is the gland for the power input cable
3. Plug 3 is a water tight air exchange vent
4. Plug 4 is the Cellular SIM card access plug

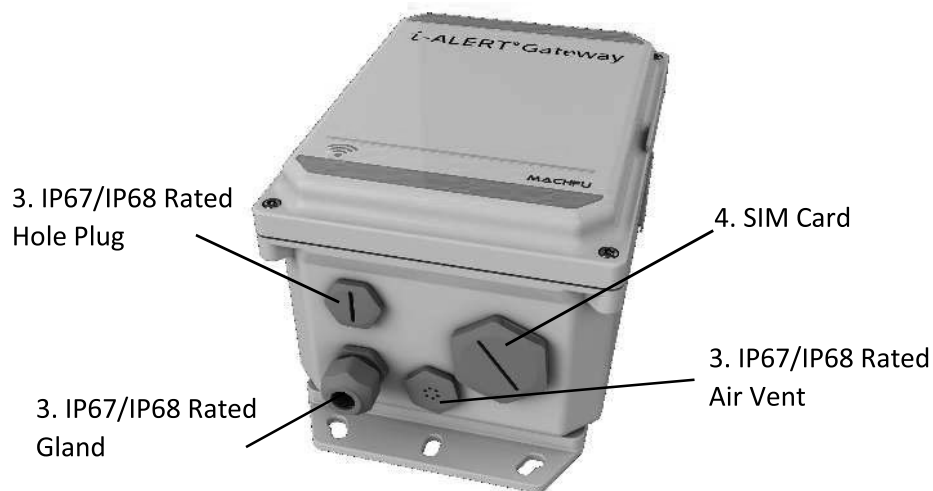


Figure 1: i-ALERT2® Gateway Interface Ports

2.2 Powering the Gateway

2.2.1 AC Powered Gateway

The *i-ALERT*® AC Gateway is by default shipped with a 110 VAC/240 VAC cord separately. This gives the user the option to hardwire the Gateway or to use the provided 110 VAC/240 VAC cord. When using the standard plug-in cord, the rating is no longer classified as C1D2. Please consult standards pertaining to the installation location when powering by this method. Once wired and powered into a 110 VAC/240 VAC outlet or hardwired it will discover and begin communicating with all *i-ALERT2*® sensors and posting data to the ITT AI Platform®.

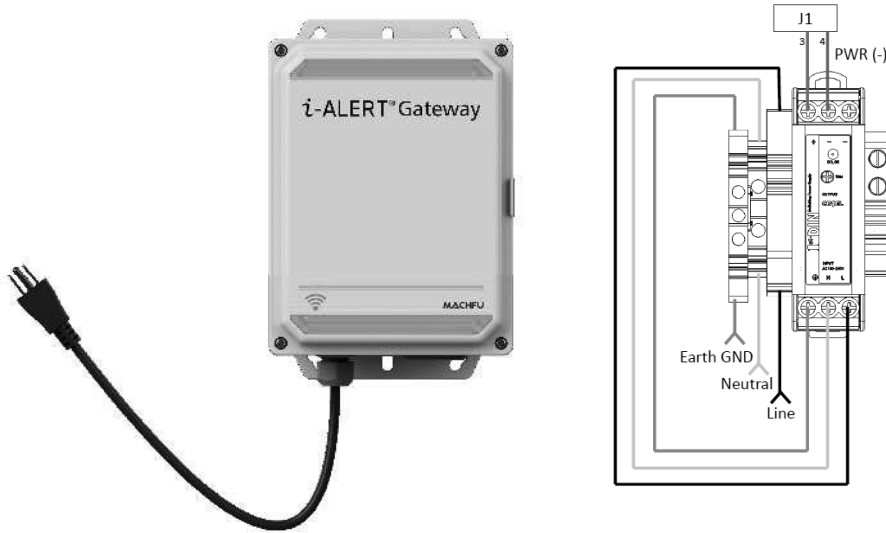


Figure 2: *i-ALERT2*® 120VAC-24VAC option

2.2.2 9-60 VDC Powered Gateway

The gateway can be optionally ordered to be powered from 9-60VDC. When powered in this way, the unit is wired as shown in Figure . Once powered the gateway will discover and begin communicating with all *i-ALERT2*® sensors and posting data to the ITT AI Platform®.

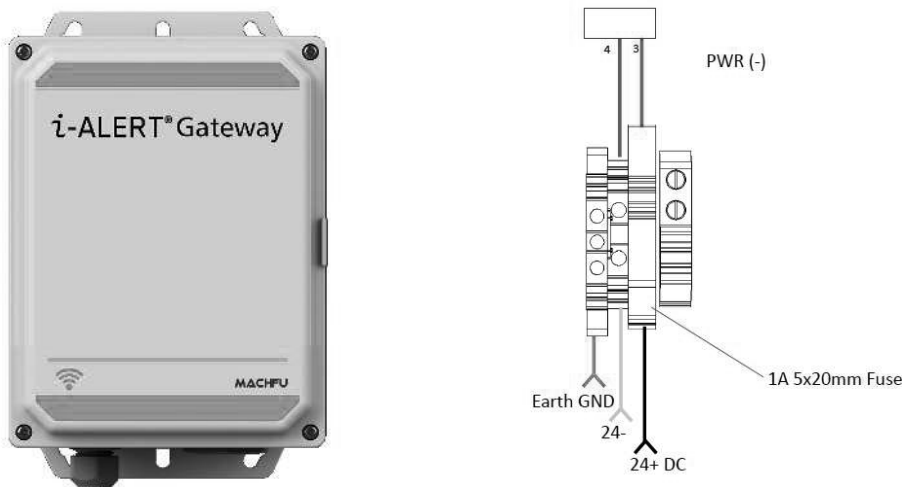


Figure 3: *i-ALERT2*® Optional 9-60 VDC Wiring

2.2.3 Conduit Fittings

The power cord gland may be replaced by a standard 20mm or ½” conduit fitting, See 4.



WARNING: If the *i-ALERT2*® Gateway is rewired using conduit, it must be installed by knowledgeable, skilled personnel familiar with local and/or international electrical codes and regulations.



Figure 4: Replacement of gland with a conduit fitting

2.3 Mounting Options

The gateway is shipped with mounting ears and has an optional poll mounting bracket

2.3.1 Wall Mounting

The mounting ears are shown in 5. Each mounting ear is attached with two flat head screws (item#5). Figure 6 provides information on the mounting hole pattern. The gateway should be mounted vertically as shown in Figure 8.

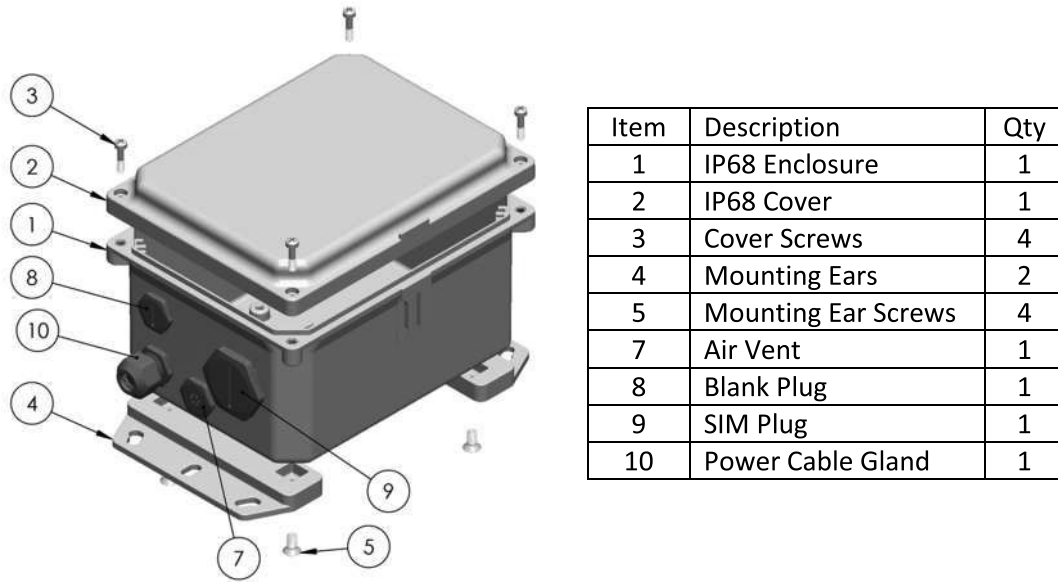


Figure 5: Gateway Assembly

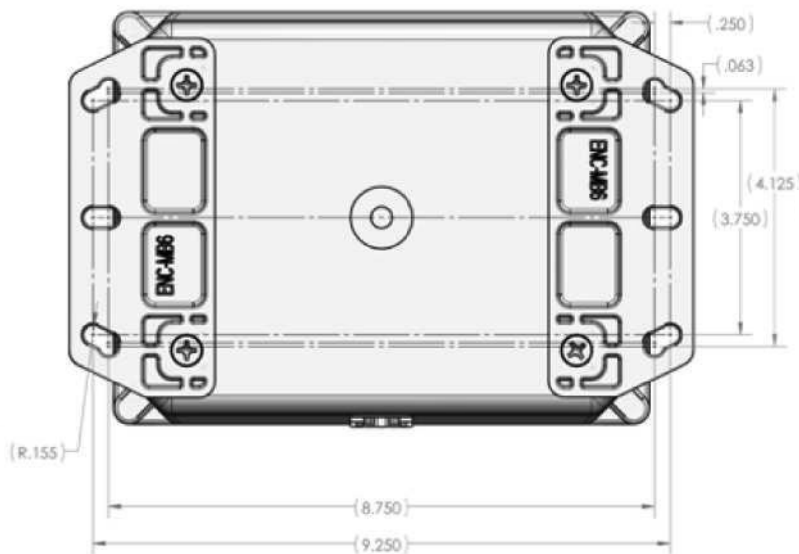


Figure 6: Gateway Back plate Mounting Diagram

2.3.2 Pole Mounting

The *i-ALERT*® Gateway can be modified to be mounted with an optional pole mount bracket kit as shown in Figure . The pole mount kit can be used with poles of diameter of 2 inches to 12 inches.

To mount the bracket to the gateway, remove the mounting ears by removing the screws (4 X item #5, Figure). Then attach the brackets using the four screws (item #6) and washers (item #7) as shown in Figure

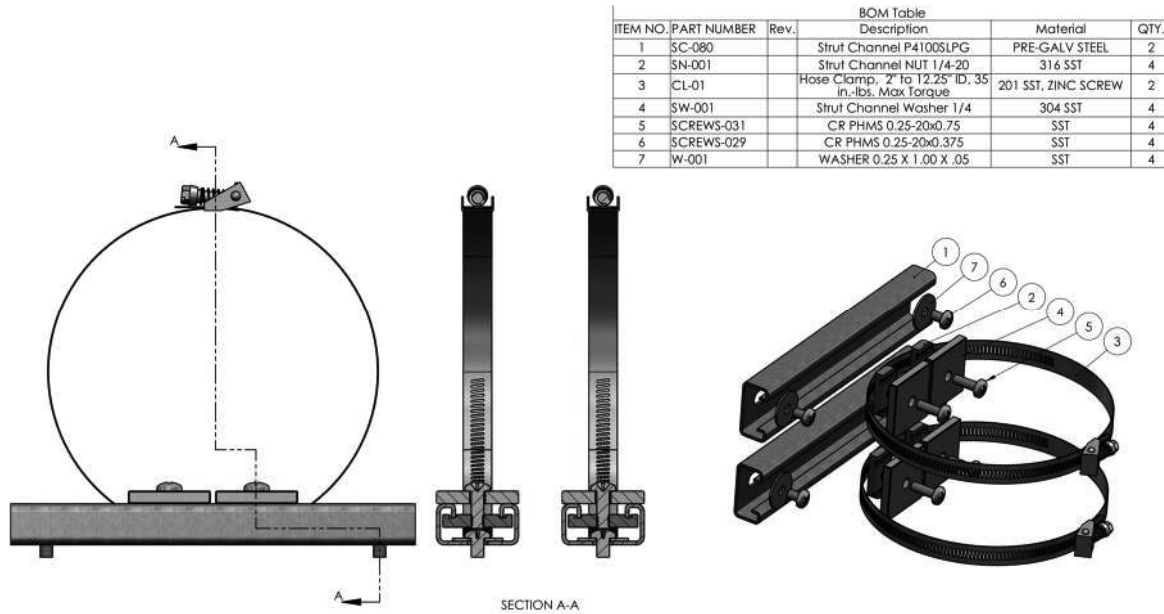



Figure 7: Pole Mount Bracket Kit



Figure 8: Gateway with pole mount bracket

3 i-ALERT Gateway Quick Start Guide

The following guide provides the basic instructions to install your i-ALERT Gateway. Please read the full i-ALERT Gateway Installation and Operation Manual at www.i-alert.com/xxxxx prior to installing your i-ALERT Gateway.

 **WARNING** WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Select Location




- Select a location central to the nearest cluster of i-ALERT enabled machines. The typical range from the i-ALERT Gateway to the i-ALERT sensors is 100 to 250ft (30-80M).
- To verify what i-ALERTs are in range. Open the i-ALERT Mobile App and go to the Scan for Devices Screen to verify what i-ALERT sensors are in Bluetooth range.
- Use a mobile device with a cellular connection to check signal strength. The location should have at least 1 bar (2 preferable) of reception.

Installation




- Install the gateway on a wall or pole (pole mount kit sold separately) that elevates the i-ALERT Gateway a minimum of 6 ft (2m) off the ground and no more than 50ft (15m) above any i-ALERT enabled machines.
- Verify the i-ALERT gateway environmental and hazardous location ratings meet the minimum requirements for the area selected.

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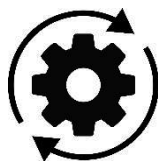
Power Up



- The i-ALERT Gateway comes in two versions. A 120-220VAC and a 9-60VDC version.
- Check the label on the bottom of the gateway to determine which voltage to apply.
- Install power cabling and fasten the cover on the i-ALERT gateway before applying power.

 **WARNING** WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.


Auto-Configure



- Apply power.
- The i-ALERT Gateway will automatically configure to the cellular network and detect any i-ALERT sensors in range.
- Depending on the number of i-ALERT sensors this process will take 10-60 minutes.

Verify



- In order to view the i-ALERT sensors online go to www.i-alert.ai and sign in with your i-ALERT account.
- You must have an i-ALERT Ai Platform PRO account to view your sensors.
- Only i-ALERT sensors that are registered to your account can be viewed online.
- Once you log into the i-ALERT Ai Platform you will see a wireless icon  next to an i-ALERT sensor that is receiving data via the i-ALERT Gateway.

3.1 Troubleshooting

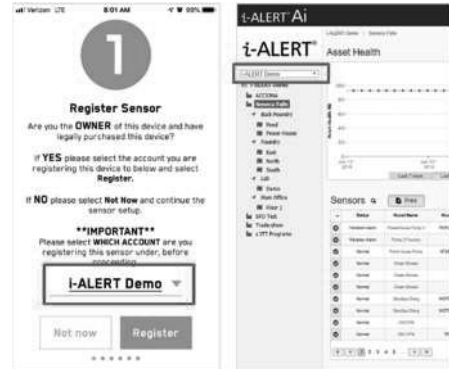
I don't have an i-ALERT Ai Platform PRO Account

To view your i-ALERT enabled sensors online via the i-ALERT Gateway you must have a PRO account. If you do not have a PRO account contact us at sales@i-alert.ai or log into your i-ALERT account at www.i-alert.ai and follow the instructions to upgrade your account to Ai PRO.

I have logged into my i-ALERT Ai PRO account and I don't see my i-ALERT sensors.

The i-ALERT Ai Platform will only show you i-ALERTs that are registered to your account.

- Make sure to complete the i-ALERT registration process during configuration of the i-ALERT sensor.
- When logged into the i-ALERT Ai Platform make sure you are looking at the correct account.
- If you are not sure who the sensors is registered to and need assistance contact us at support@i-alert.ai with a picture of i-ALERT sensor serial number located on the bottom of the i-ALERT sensor.



How do I know the i-ALERT Gateway is communicating properly?

- With a personal computer or mobile device make sure you are in wireless range of the gateway. Go to the Wi-Fi settings on your device and look for a network with the SSID i-ALERT Gateway MXXXXXXX.
- Connect to this Network and enter in the user password provided at the top of page. For misplaced passwords please contact support@i-alert.ai.
- Once connected to the WI-FI network open a browser and in the address bar type <https://192.168.100.1:8443/itt>. The user will be directed to the gateway login page.
- Sign in to the gateway login page with:

Username: **i-ALERT**
Password: **i-ALERT**



- Gateway Status Page:

STATUS OVERVIEW

Cell: STATUS ▲ SIGNAL STRENGTH: -81 dBM

Sensor Count: 5

AWS IoT Status: Connected

Last Scan: Aug 1, 2019 12:11 PM

Sensor	TAG Name	Version	Last Advertisement	Radio Sta
04F3-12-0F-09-05	D5D90F12F3C4	Version 3.0	2 minutes ago	OK
0C-82-87-53-CB-11	11CB53B7B20C	Version 3.0	9 seconds ago	OK
0C-82-87-51-DC-63	63DC51B7B20C	Version 3.0	8 seconds ago	OK
0C-82-87-58-74-99	997458B7B20C	Version 3.1	9 seconds ago	OK
0C-82-87-51-DC-7E	7EDC51B7B20C	Version 3.0	9 seconds ago	OK
0C-82-87-51-09-84	04D951B7B20C	Version 3.1	8 seconds ago	OK

STATUS: ▲ indicates the gateway is connected to a cellular network.







SIGNAL STRENGTH: Range of -30 to -20 dbM is preferable.

SENSOR COUNT: Number of i-ALERTs connected to the gateway

AWS IOT STATUS: Show is the gateway is connected to the i-ALERT Ai Platform.

SENSOR LIST: List of i-ALERT sensors connected to the

4 Safety and regulatory information

-  **WARNING:** Before you begin any of the procedures in this section, read the safety and regulatory information that is shipped with your system. For additional best practices information, go to www.machfu.com/regulatory_compliance.
-  **WARNING:** If the *i-ALERT2*® Gateway is rewired using conduit, it must be installed by knowledgeable, skilled personnel familiar with local and/or international electrical codes and regulations.
-  **WARNING:** The *i-ALERT2*® Gateway is designed for use in wet environments given the AC out is properly enclosed. The *i-ALERT2*® Gateway enclosure is rated for an Ingress Protection (IP) rating of IP68. Note that the electrical out must also provide environmental protection.
-  **WARNING:** When installing the *i-ALERT2*® Gateway for DC operation, the responsible party or integrator shall use the 12-57 VDC with a minimum of 13 W power rating.
-  **WARNING:** Ensure that the power source providing power to the *i-ALERT2*® Gateway is reliably grounded and filtered such that the peak-to-peak ripple component is less than 10 percent of the input DC voltage.
-  **WARNING:** To ensure the protection provided by the *i-ALERT2*® Gateway is not impaired, do not use or install the system in any manner other than what is specified in this manual.

5 Regulatory Notices

FCC Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this

equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

FCC Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(e) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all nearby people and must not be co-located or operated in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation statement. This device complies with Part 15 of the FCC Rules. 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.

Industry Canada Statement

This device complies with Industry Canada's license-exempt RSSs. 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;
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.

Industry Canada Radiation Exposure Statement

This radio transmitter with model: Mach3 Gateway has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio with model: Mach3 Gateway a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Visit our website for the latest version of this document and more information:

<https://www.i-alert.ai/>



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