

Frequently Asked Questions

i-ALERT[®] 2 Monitoring Solution

Communication

1. How far can the i-ALERT2 Equipment Health Monitor (sensor) communicate?

The stated range of Bluetooth Low Energy is 100m (330 ft) but in most plant environments the realistic range is up to 30m (100 ft).

2. Does the i-ALERT2 sensor only need a Bluetooth connection? Does it require Wi-Fi or cellular service to operate?

Standalone operation of the sensor is possible without Wi-Fi but the features are limited.

Features requiring BLE:

- Acquire and view overall vibration and temperature,
- FFT's, Time Waveforms, ability to scan for devices, create 30 or 90 day reports (IOS only)
- Perform and schedule routes
- Set sensor installation items: orientation, position, device name

Features requiring Wi-Fi/Cellular:

- Register a user account
- Create assets
- Assign sensors to assets
- Claiming ownership of a sensor
- Edit asset details
- Ability to view Goulds technical data such as (BOM, curve)
- Service locator
- Creating route reports (not standard reports)
- Emailing reports

3. Can the i-ALERT2 sensor be used with a Bluetooth extender?

There are several off the shelf Bluetooth range extenders, however not all use Bluetooth 4.0 (BLE) and are robust enough to be used in an industrial environment. The i-ALERT2 sensor has not been tested for use with a Bluetooth extender, at that this time we cannot make a recommendation.

4. How do I turn off the Bluetooth Radio or reset the unit?

You can reboot the sensor by using a magnet over the Bluetooth icon (see image below).

Table of modes



Mode	Remove Magnet	Approximate time
Bluetooth Radio Toggle	While Blue (Middle) LED On	3 sec
Full Unit Reset	After All 3 LED's Go out	12 -15 sec

Refer to page 14 of the i-ALERT2 IOM.

5. I do not see any i-ALERT sensors on the scan screen – what should I check?

- a. Confirm that Bluetooth is turned ON in the phone/tablet
- b. That the i-ALERT2 sensors are within range (30 -100ft).(<--- Why 30 as a minimum, why not 0??)
- c. Confirm that the i-ALERT2 sensor is powered ON and blinking.
- d. Restart Bluetooth on phone
- e. Restart the App

Installation/Start up

6. Can I configure my own alarms?

Alarm and warning levels are set automatically or they are user defined through the App. User can set levels (not exceeding 1.5 ips, or 38.1mm/s RMS) as desired by:

- a. From the scan screen, select the i-ALERT2 monitor that you want to configure
- b. Go to Main Menu [☰]**
- c. Go to 'Equipment Info'
- d. Select 'Alarms and Warnings'
- e. Change setting as desired using "+" and "-"
- f. When your changes are complete, click "Save"

Note: If the alarms are set manually, the automatic baseline feature is disabled.

Video Reference: <https://youtu.be/vbhgB12QQxl>

Refer to page 45-46 of the *i-ALERT2* Application Guide.

7. Will the i-ALERT2 sensor re-baseline when installed on another piece of equipment?

When an i-ALERT2 sensor is moved to a different piece of equipment, it is recommended to use the following commands which can be found under 'Main Menu' → 'Equipment Info'

- a. Choose 'Erase all stored data from i-ALERT2'
- b. Choose 'Start New Baseline'

Note: The Baseline process will require 25 hours of equipment runtime to establish.

Video Reference: <https://youtu.be/o740Yho4HjA>

Refer to page 50 of the *i-ALERT2* Application Guide.

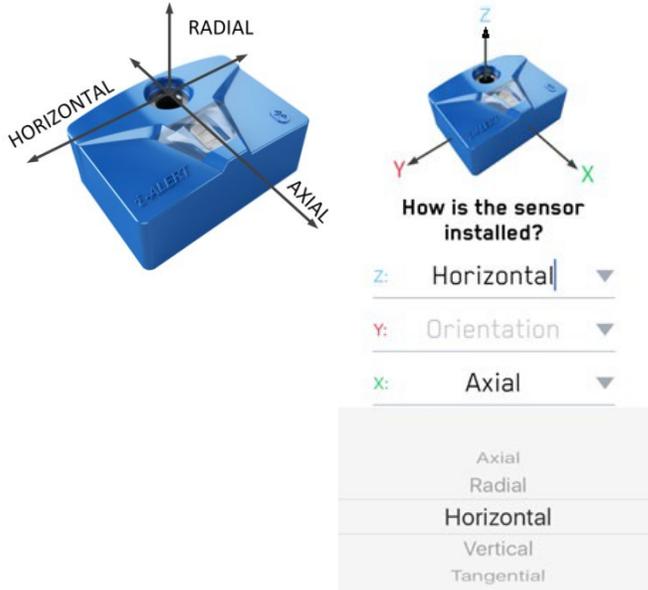
8. Does the i-ALERT2 sensor need to sense light?

The i-ALERT2 sensor is only required to sense light during the initial turn-on period where the yellow/red arrow sticker is removed. During normal operation (once started) ambient light is not necessary for continued operation of the i-ALERT2 monitor. If no ambient light is present during initial start, a flashlight or other source can be used to enable the sensor.

9. Does the i-ALERT2 sensor turn off when it is dark out?

No, once operational, the i-ALERT2 sensor will continue to monitor regardless of ambient light levels.

10. How are the default axes on the i-ALERT2 sensor oriented?



The axis can be changed from the App to account for different installations. It is as easy as following the steps once the sensor is discovered and choosing the desired axis as shown below.

'Main Menu' → 'Equipment Info'

Note: the Z direction is limited to 600 Hz for Sensors manufactured before August 2018 and 700 Hz for those manufactured afterwards.

11. After installation, how do I associate the i-ALERT2 sensor to the asset (equipment)?

- a. App detects the new sensor
- b. Register the sensor and claim ownership if you/company are the legal owner
- c. Name the sensor
Note: By default the sensor has the radio ID as the name. You can change this to a more common name (e.g. VAC PUMP-506). There is a 12 character limit.
- d. Choose the sensor position on the asset (e.g., motor drive end, equipment non-drive end, etc.).
- e. Choose the sensor orientation (i.e. which axis are radial, axial, etc.)
- f. Choose the method for setting the alarm and warning levels.
(e.g. Auto baseline after 25 run hours, set manually or use existing settings)
- g. Assign sensor to asset
 - i. Create asset
 1. Configuration
 2. Define the plant level the sensor is in
 - ii. Assign to existing asset
 - iii. Search for asset

12. If I move an i-ALERT2 sensor to another machine what do I need to do?

Please bear in mind that the i-ALERT2 sensor is associated with a specific piece of rotating equipment and must be re-associated through the App if the sensor is moved to a different machine. The steps to complete this within the App are as follows:

- a. Navigate to Equipment Information from the Main Menu
- b. Choose Erase All Stored Data from i-Alert
- c. Choose Change Asset Details
- d. Choose Change Sensor Name



13. Is there an option for a magnetic mount?

For customers who would like to mount the i-ALERT2 sensor with a magnetic mount, we now have the i-ALERT2 Magnetic Mounting Adapter (Part number: K09925A). Please note that the adapter will limit the upper frequency range to 700Hz and because of the size the temperature accuracy is also reduced.

14. Is it possible to have multiple i-ALERT2 sensors on a single piece of equipment?

Yes, just be sure to set an appropriate sensor TAG name and to change the i-ALERT2 sensor's position under "Equipment Info → Equipment Details" accordingly.

Or set it up in the registration process. The sensor TAG and position can also be set during registration of a newly discovered sensor when prompted and associated to the same asset.

15. How do I mount the i-ALERT2 sensor on vertical equipment?

The i-ALERT2 sensor can be mounted on vertical equipment using any of the same 3 mounting methods used for horizontal equipment. Care should be taken to mount the i-ALERT2 sensor over the bearings. If you want to keep the default orientation make sure that the row of LED's are aligned with the shaft of the rotating machine. **In the case of vertical pumps where one end is submerged, the i-ALERT2 monitor can be used on the dry end only.**



If you mount the sensor other than the default way, be sure to reset the axes orientation Refer to question 10 above.

Refer to the i-ALERT2 Application Guide, page 26.

16. How do I mount the i-ALERT2 sensor on non-Goulds equipment?

The i-ALERT2 sensor can be mounted on non-Goulds equipment using either the drill and tap method or the epoxy method or the ITT Magnetic Adapter. Refer to the Applications Guide for more detailed information, pages 20-27.

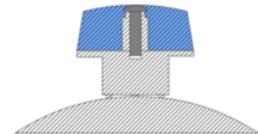
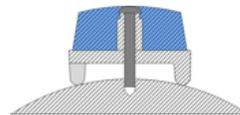
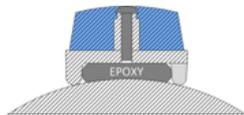
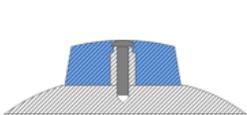
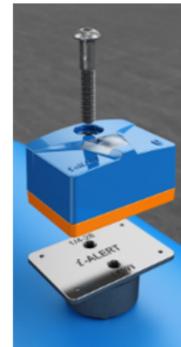
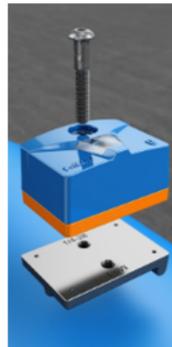
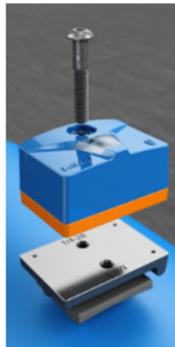
17. How do I install (or re-install) the i-ALERT2 Equipment Health Monitor (sensor)?

Method 1: The i-ALERT2 sensor can be installed by using the center fastener directly to equipment with a threaded hole to accept a 1/4-28 x 1.125" screw.

Method 2: Use a 1/4-28 x 1.5" screw that goes through the i-ALERT2 sensor, through mounting adapter (p/n C10824A or C10987A), and into a drilled and tapped hole in the equipment.

Method 3: Use a 1/4-28 x 1.125" screw that goes through the i-ALERT2 sensor and into mounting adapter (p/n C10824A or C10987A). The mounting adapter can be adhered to the desired location using an epoxy putty that is appropriate for the given application.

Method 4: Use a Magnetic Mount (p/n K05163A). If using this mounting option, the vibration frequency range is limited to a maximum of 700Hz in all directions, and temperature readings will be adversely affected.



Direct Connect	Epoxy	Drill and tap	Magnetic
Screw: 1/4-28 x 1.125in	Screw: 1/4-28 x 1.125in	Screw: 1/4-28 x 1.5in	Screw 1: 1/4-28 x 1.125in
Slot: 2.25in L x 1.6in W	Epoxy: application specific	Tap: 1/4-28 UNF x 1/4in deep	Screw 2: 1/4-28 x 0.75in
Temp Transfer: ★★★★★	Temp Transfer: ★★★★★	Temp Transfer: ★★★★★	Temp Transfer: ★★★★★
Vib Transfer: ★★★★★	Vib Transfer: ★★★★★	Vib Transfer: ★★★★★	Vib Transfer: ★★★★★
Prep Time: ★★★★★	Prep Time: ★★★★★	Prep Time: ★★★★★	Prep Time: ★★★★★

18. Why does the temperature reading not agree with othersensors?

There are factors which can significantly affect temperature readings such as ambient temperature, airflow over the sensor, and mounting method. Temperature as measured by the i-ALERT2 is intended to identify changes over time. The User can input an offset to match the actual absolute temperature value by going to the "Equipment Information" page under **Menu** and then navigate to **Temperature Offset** under **Sensor** Settings. There The user can input the value of the offset. The i-ALERT2 temperature corrections are shown below.

Mounting method	Approximate difference in temperature reading
i-ALERT2 directly mounted to machine	-11°C -20°F
i-ALERT2 mounted on adapter	-22°C -40°F

19. Why do the runtime hours disagree with expected values?

In some cases, the runtime as measured by the i-ALERT2 sensor can differ from actual equipment ON time.

Case 1: On very smooth running machines, the vibration levels are too low to be detected by the default settings. In this case, navigate to Equipment Info -> Runtime Settings, then enable Quiet Mode. There is also a slider to adjust sensitivity further if required.

Case 2: Runtime data is acquired on the i-ALERT2 wakeup cycle of every hour. If the equipment is determined to be running at the time of the check, the counter is incremented by 1 hour. For short equipment cycle times, this can lead to differences from the actual equipment ON time.

Data

20. The i-ALERT2 '30-day report' shows old data.

- a. Download new information
- b. Download new FFT
- c. Wait for download to complete

In general, if the i-ALERT2 sensor has been in communication with a smart device (tablet, phone) which has been connected to the web, the data can be recovered up to the last sensor connection time. Refer to pages 42-44 of the i-ALERT2 Application Guide.

21. What are the default alarm and warning levels for the i-ALERT2 Equipment Health Monitor?

Default Temperature: 80 °C (176°F).
Default Vibration Alarm: 0.5 ips (12.7 mm/s)
Default Vibration Warning: 0.4 ips (10.2 mm/s)

22. What are the Baseline levels set to?

Temperature Alarm: 2 x Average of 25 run hours
Vibration Alarm: 2 x Average of 25 run hours
Vibration Warning: 1.75 x Average of 25 run hours

Note: Minimum alarm level of 0.1 ips (2.54 mm/s) and maximum alarm level is 1.5 ips (38.1 mm/s).

23. Why is there no trend data showing on the weekly trend?

- a. Make sure it has been collecting data for at least 2 weeks
- b. Make sure that you have successfully downloaded the

data Refer to pages 42-44 of the i-ALERT2 Application Guide.

24. What happens to the data collected by the i-ALERT2 sensor?

For all data and privacy related questions refer to the privacy policy link shown below.
<http://www.ittproservices.com/Our-Services/Aftermarket-Products/Monitoring/i-ALERT2-condition-monitor/Privacy-Policy-for-App-Users/>

25. What is the measurement interval for the i-ALERT2 sensor?

Data recording: 1 hour (Default) Configurable down to 1 min under "Equipment Information" in the "Menu" tab

Alarm check: 5 min Configurable down to 1 min under "Equipment Information" in the "Menu" tab

Note: If the sensor acquires 2 consecutive alarms in a row it will capture a new data point and an FFT/TWF.

26. How do I transfer data from the App to a computer?

Using AI Platform

Refer to pages 63-68 of the i-ALERT2 Application Guide.

Without AI Platform

A report can be generated and emailed, or when viewing the trend the upload button can be selected and the raw data (in CSV format) can be viewed or sent by email.

- a. Data points can be viewed by clicking the upload icon  from the trend screen, where individual points can be viewed in tabular format.
- b. Raw data (CSV format) can be exported via email by tapping the upload icon a second time.
- c. Show how to select raw data export from routes

The following video link demonstrates this: <https://youtu.be/QQm8nzCPdI0>

27. Is it possible to transfer data via e-mail?

Yes, please see steps detailed in the [previous question](#).

28. How can I get Data to my DCS or SCADA System?

Data can be extracted manually and sent to a DCS/ SCADA in CSV format. See steps in question 11 above.

29. Does all the curve data, BOM, etc. reside in the i-ALERT2 sensor or at the server location?

All of the equipment data (details, curve, BOM) comes from the i-ALERT Ai Platform. To get access to the equipment information, the smart device will need internet access.

30. Does the vibration data resides on the i-ALERT2 sensor and not the server?

The i-ALERT2 sensor stores data on the device and that data is shared with the App. The App will back up the data and access the equipment records through an internet connection.

31. How often does the i-ALERT2 sensor store data?

The i-ALERT2 sensor stores data (3-axis vibration, kurtosis, runtime, and temperature) every hour for 180 days. After 30 days the data is summarized into a weekly max, min and average values weekly, which is stored up to 5-years.

32. When and what type of data does the i-ALERT2 sensor take on alarm?

FFT, TWF and overall RMS measurements are acquired on two consecutive alarm readings (maximum once every 48 hours). The i-ALERT2 sensor continues to take overall RMS measurements every 5 minutes, storing them hourly.

33. What is the frequency range of the i-ALERT2 sensor?

- July 2015 to July 2018 the frequency range is X: 10-1,000, Y: 10-1,000, Z: 10-600
- August 2018 to Present the frequency range is X: 5-1,100, Y: 5-1,000, Z: 5-700

Use of the Magnetic Mount adapter will limit the upper frequency range to 700Hz for all three axis.

34. What windowing function is applied to compute the FFT?

It is the Hanning window.

Hardware

35. How long will the battery in the i-ALERT2 sensor last?

Under normal operating conditions, the battery should last 2-2.5 years. Battery life is temperature and use dependent. In general, there will be an increase in battery life with lower temperatures and decrease with higher temperatures. Connecting and downloading data from the sensor will also use power. In the 3 (three) year battery life we have accounted for one dashboard connection per day and an FFT/TWF sample every other week. Using the product more than this will naturally reduce the battery life faster. The nominal battery life is based on:

- a. Temperature: 18°C (65°F), average ambient
- b. Dashboard connections (including trend download) of once per day
- c. FFT and Time Waveform usage of one tri-axial request per 14 days
- d. Operation time in Alarm at most 25% of total time

36. Where are the i-ALERT2 sensors made?

The i-ALERT2 sensor is designed and manufactured in the USA.

37. What are the differences between a Version 1 and Version 3.1 i-Alert2?

- a. Faster downloading speeds resulting in faster data viewing
- b. Run-time counter improvements; sensitivity adjustment, using an adjustable slider bar for smooth running equipment like motors
- c. Hourly data storage increased from 60 days to 170 days
- d. Latching alarm shown as "Last alarm <X days"
- e. Battery Optimization for better life
- f. Ability to set alarm check rate (1-5min) and data acquisition rate (1-60min)

38. How do I tell which sensor version I have?

In the App go to "Equipment Info → i-ALERT Information" where the sensor version number will be shown., Alternatively, for the i-ALERT 2 the sticker on the back of the sensor will have a manufacturing date after **8/22/2016**.

39. My sensor appears to be off (it is not blinking), what do I do now?

- a. The unit is in a factory sleep mode: The unit will turn ON when the sticker is removed from the LED window and it is exposed to light. (Note: If it is located in a dark environment you may need to shine a light on the unit.)
- b. The unit has been shutoff: The unit can be turned back on by placing a magnet over the lower right hand side (on the raised Bluetooth icon) until the all LED's flash rapidly then stop. The magnet is then removed immediately after the LED's stop flashing. The unit will then restart automatically.
- c. The unit has no power: To achieve the intrinsically safe rating, the battery is encapsulated and cannot be replaced. If the unit is within the warranty period check with your sales contact about a replacement. If it is not under warranty, then a new unit can be purchased.

40. My i-ALERT2 sensor has stopped working within the warranty period. How do I obtain a replacement?

If your i-ALERT2 sensor has failed within the warranty period, your salesperson for a RMA to return the failed unit, and obtain a warranty form required for replacement.

If you do not know your local sales contact please use the following link: <https://www.i-alert.ai/#/locator>

Or if you have any questions please feel free to contact us:

web: <https://www.i-alert.ai>
email: support@i-alert.ai
phone: +1 315-568-7290

Software

41. Is the Mobile App free?

Yes, it is free to download and use.

42. Can the BOM, Curve, etc. (machine data) be changed in the field if the impeller diameter or application is changed?

At this time only the technical equipment data can be edited, the pump curve and the BOM cannot be edited.

43. What is the limit of observable sensors using the App?

The Scan screen in the current App has been tested to 150 units at a single time.

44. Is it possible to modify equipment details?

Yes, but the modifications are currently limited to equipment details. It is not possible to modify pump curve or bill of materials at this time.

45. What is the meaning of the runtime bar and the red part that appears within?

The runtime counter accumulates run time hours based on machine vibration and displays the number of hours while in operation. The red portion of the bar indicates what portion of total runtime was spent in alarm

46. What does the “Last alarm notification” indicate?

The last alarm notification tells the user within what period of time the last alarm occurred for that sensor. The increments will show an alarm occurred within 2, 7 or 30 days. No notification indicates more than 30 days have passed without an alarm.

47. I do not see any pump / machine product information - what should I check?

- a. Internet connection.
- b. Confirm that the pump is an ITT model, or the data has been entered manually.
- c. If the Internet connection is active, and it is an ITT pump, contact the ITT sales team about any missing records.

48. I cannot log in.

Confirm that the phone or tablet is connected to the internet, and the login ID and Password are correct. If the problem persists, contact ITT by email at support@i-alert.ai.

49. How do I see individual data points when viewing an FFT or trend graph?

- a. Individual data points can be viewed by press and hold on the graph and hold to slide through using the cursor.
- b. Data points can also be viewed by clicking the upload icon, where individual points can be viewed in tabular format.
- c. Raw data (CSV format) can be exported via email by tapping the upload icon a second time.

50. How do I clear individual i-ALERT2 data or remove old sensors from the App?

- a. Open App and select “scan for devices” page
- b. “Swipe left” on the desired i-ALERT2 tag name (“Press and hold” if Android)
- c. Tap “delete”

Routes

51. Is there an efficient way to gather data on multiple sensors?

The Routes feature provides this functionality. Tap the Routes icon in the main menu to configure a route.

52. How do I create a new route?

Please refer to the link shown below for video instructions:

<https://www.youtube.com/watch?v=5Jlzw4Gk5Dk>

53. While executing a route, can I make changes?

Changes take effect after the current route is completed.

54. What is the difference between available route types?

- a. **Quick:** Overall vibration and temperature
- b. **Agile:** Overall vibration and temperature and alarm FFT's unless 60 days have elapsed
- c. **Traditional:** Overall vibration and temperature, user acquired and alarm FFT's for all sensors

55. Is there a maximum number of sensors that can be added to a route?

The practical upper limit is 200 sensors per route.

56. Why do some i-ALERT2 sensors fall to the checked equipment list immediately during a route?

Depending on the route type, you may only need a status update which may seem instantaneous to the user.

57. What happens if I complete the route and have no cell service?

The data will be stored within the smart device and a report can be issued at a later time.

58. Is there any way to view the most recent Route Report?

- a. "Swipe left" on the Route List page over the desired route. ("Press and hold" if Android)
- b. Select report

59. Is there any way to organize the list?

Use the "Location #1" field under Equipment Details to add additional information.

60. How can I see what floor a sensor is on?

Use the "Location #2" field under Equipment Details to denote additional location details.

61. Can I send a route to someone?

At this time it is not possible to transfer a route.

62. Does the App take into account other user's routes?

Each route is a separate event, and does not affect any other route.

63. How do I check the last routes summary?

"Swipe left" on route name ("Press and hold" if Android) in main route page, and choose "Previous"

64. Can I skip a sensor? Can I un-skip a sensor that was previously skipped?

"Swipe left" on the sensor name ("Press and hold" if Android) in the main page and choose "skip" or "un-skip".

65. If I start a route by accident, how do I reset it?

The route can be paused by the back arrow in the upper left to return to the main route screen. To reset the route and start over, left swipe on each asset and choose "skip". The route will complete and can then be restarted.

Gateway

66. How do I pick a good place to install the Gateway?

- 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.

For more information please go to: <https://www.i-alert.com/Alert/media/iAlert/Support/i-ALERT-Gateway-Instruction-Manual.pdf>

67. What option for power source does the Gateway need?

- The i-ALERT® AC Gateway is by default shipped with a 110 VAC/240 VAC cord separately.
- The gateway can be optionally ordered to be powered from 9-60VDC.

68. Does the Gateway need to be configured

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

69. How do I troubleshoot the Gateway if verification is not successful?

Please see the instructions that came with the device to get the SSID and Password needed. Then follow the instructions on the sheet. To get the instructions please go to:

<https://www.i-alert.com/Alert/media/iAlert/Support/i-ALERT-Gateway-Instruction-Manual.pdf>

70. Do I need the Ai Portal for using the Gateway?

To make use of the Gateway the user needs to have access to the Ai Platform.

71. What if there is no Cell Service in the area where the Gateway is installed?

The ideal case would be to have a location where cell service is available but if this is not the case then please contact i-ALERT team at:

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

email: support@i-alert.ai

phone: +1 315-568-7290

To see what options are possible.