GO NFC Loggers

Cargo monitoring solutions
User manual

COPELAND
Engineered for Sustainability

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Introduction

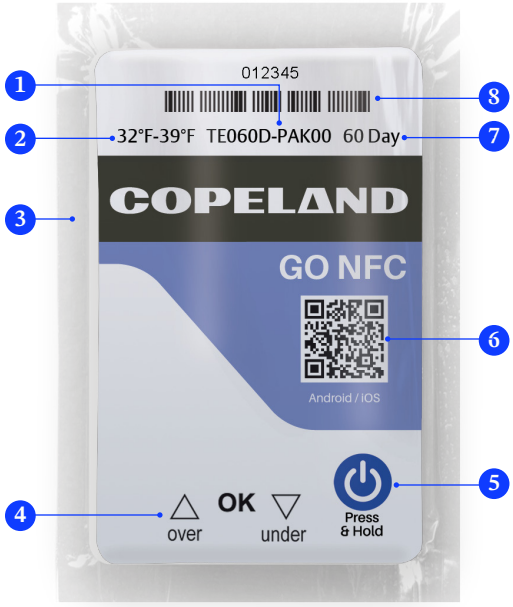
GO NFC Loggers monitor time and temperature of perishable products during distribution and storage. Loggers are flat and transfer data via short-range, near field communications (NFC) using phones and tablets. Logger data is immediately available via mobile application or using the GO NFC Pad Reader. In addition, GO NFC Loggers leverage the capabilities of Android and iOS phones and eliminate the need for proprietary readers. Data is easily sent to any email address via the mobile application.

GO NFC Loggers use an innovative temperature sensor that enables them to take a surface read of the object to which they are attached. This provides a closer approximation of actual product temperature versus the general ambient readings provided by bulkier recorders. Loggers sample temperature every minute for highly accurate temperature sensing, are encased in waterproof packaging and each logger is NIST traceable. Because of the unique physical characteristics of the sensor, ongoing calibration is not required to maintain accuracy. All loggers are manufactured in ISO-9001 registered facilities.

Customers who are interested in maintaining 24/7 historical records can subscribe to cloud upload capabilities where data can be accessed whenever needed.

Understanding the GO NFC Logger

1. **Product Part Number** – A unique number that customers use to reorder additional loggers with the same specification profile.
2. **Temperature Alert Parameters** – Signifies the logger's upper and lower temperature parameters. Alerts will flash if these ranges are exceeded according to the logger's programming.
3. **Plastic Pouch** – each logger is encased in a waterproof IP67 compliant IEC 60259 Standard, plastic pouch.
4. **LED Indicators** – Give a quick visual indication if a product remained within temperature parameters. "Ok" LED will flash to indicate the logger is on. Single LED flashes indicate the logger is actively recording time and temperature. Two flashes in quick succession means that the logger's memory is full.
5. **Press+Hold Button** – To start push the button a minimum of 2 seconds to activate the loggers. Once logger is started, LEDs will flash in a sequence to indicate successful activation. Loggers should be activated when the product is ready for shipment.
6. **QR Code** – Scan the QR code of the logger to gain access to the Copeland GO NFC Reader App.
7. **In Use Life** – Use life indicates how long the logger will log time and temperature.
8. **Logger Serial Number and Barcode Representation** – Each logger has a unique serial number which differentiates it from other Copeland loggers. When information is downloaded from the logger, it will be identified by this serial number



Note that each logger is sealed in a waterproof plastic pouch.

DO NOT REMOVE Logger FROM PLASTIC POUCH..

Activating GO NFC Loggers

Step 1: To activate the logger, press and hold power button located in the lower right-hand corner of the logger for a minimum of 2 seconds.

Step 2: The logger LEDs will flash to indicate successful activation in a rotating sequence towards the power button. The rotation sequence will occur 5 times.

Step 3: Pull clear plastic off glue dot on the back, apply logger to the provided "Find It" sign and attach.

Step 4: Alternatively, apply logger directly to product packaging. LEDs will flash every four seconds to indicate active monitoring.

Interpreting LED alert indicators

- LEDs flash in four second sequences and give a quick visual indication of whether a product remained within temperature parameters.
- Flashing "OK" indicates product was always within acceptable temperature range; flashing amber "Over/Under" symbols indicate the product drifted outside of acceptable range and the data should be examined further via a data download.
- Upper and lower temperature parameters are pre- programmed by Copeland. By default, each label has a 30-minute delay once temperature is out of range before the visual indicator is triggered. There is also a 30-minute "cool down" phase where allows the logger to reach equilibrium with the products environment this helps eliminate false alerts.
- Cool down periods do not appear in the graph of the mobile app and are not considered in calculating trip temperature statistics.

Note: Both the cool down period and the delay before a first alert can be modified via custom orders. If you have a custom logger and would like to learn more about how these elements are defined, contact Copeland for more information.

GO NFC Reader Mobile App

Visit copeland.com/gonfc for App download and product information. Also, the user can scan the QR Code printed on the GO NFC Logger or visit your mobile app store.

Supported systems

- Any Android 4.1 or newer with NFC reader.
  NOTE: Not all Android devices are NFC-enabled.
- iPhones 7 or newer; iOS 9 or newer.

Downloading Logger data

1. Open the GO NFC Logger Reader Mobile App. (iOS or Android)

provide directions on how to change the setting.

3. Place your device within one inch (2.5 cm) of the GO NFC Loggers (phones or distance may vary) . iOS Version offers short tutorial video upon using app for the first time.

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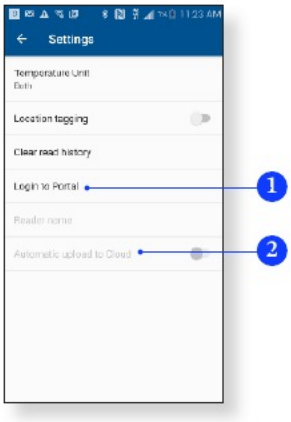
5. Data from loggers will be downloaded and saved to device.

NFC cloud-based access

GO NFC Logger data scanned from Android, iOS devices or GO NFC Pad Reader can be accessed anytime via a secure online portal. Contact your sales representative to enable this feature for a minimal fee per logger.

1. From the app settings, access to "Login to Portal" is available

2. Logger data can automatically be sent to the cloud with each scan.



Understanding the Logger data

The app will bring up a display of the logger's information when first read. Serial number and part number are displayed at the top. Also, at the top right is a menu that allows you to share logger data and change the app settings. Below the logger serial number are several tabbed areas that include the following,

1. **Summary tab** - displays general information for the logger including: status and temperature statistics. If configured with alerts, a summary of the alert condition is displayed.

2. **Alerts tab** - if the logger is configured with alerts, the Alerts tab will display detailed information about each alert that was triggered while the logger was recording.

3. **Graph tab** - displays the temperatures recorded by the logger in graph format. If the logger is configured with alerts, the alert limits are displayed on the graph.

4. **Table tab** - displays the temperatures recorded by the logger in a table format. If the logger is configured with alerts, important temperatures are color coded to indicate excursions

Once read, logger data is stored in your device's internal memory. Read History screen displays a list of labels read by your device. Selecting a label reading will display that readings' detailed information. For Android press and hold. For iOS swipe left. This will give you the option to delete a single reading. Going to the settings from any screen allows

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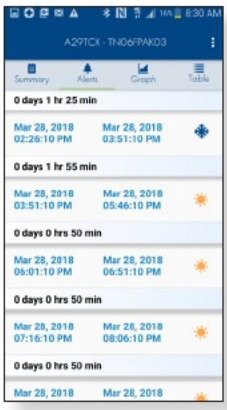
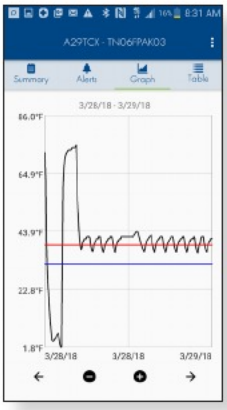
Note that time will correspond to the time on your mobile device.

Label summary



Alerts



Temperature graphs

Table summary

GO NFC Pad Reader & desktop software

The GO NFC Pad Reader and desktop software provides an easy and convenient alternative to reading the data with using a mobile app. Follow these simple steps to complete set-up:

Step 1: Download the GO NFC Pad Reader version software located at copeland.com/gonfc. Note: Windows Software compatible for both 32 bit and 64 bit computers; Mac software available for Apple computers.

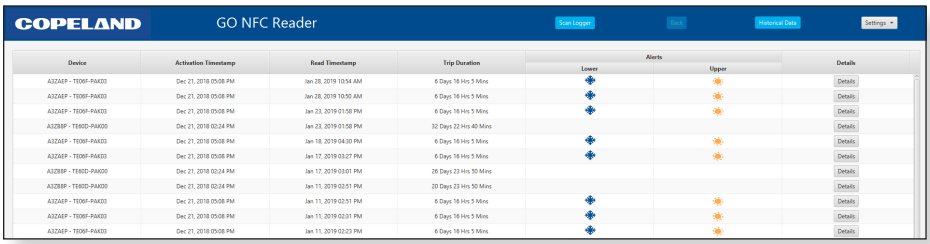
Step 2: Plug in the HID OMNIKEY Pad Reader into computer. The device driver will download automatically.

Step 3: Place the GO NFC Logger on top of the pad reader. Note: only one logger can be scanned at a time.

Step 4: The Desktop software can be used with a username, password account or in offline mode when no internet connection is available.

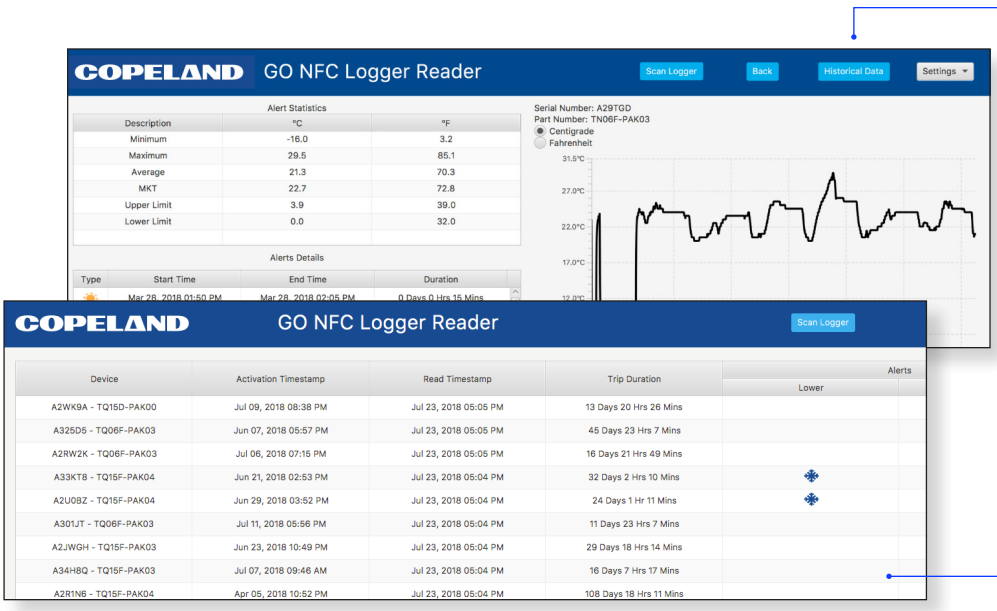
Step 5: To retrieve data, click Scan Logger. (The home screen will be blank when user first logs in and newly scanned loggers will always appear at the top of the list)

- High-level information is displayed as a list: serial number, part number, activation and read timestamp, and trip duration.
- Temperature alerts are indicated by icons: A Snowflake indicates a lower limit, a Sun indicates upper limit.



The "Scan Logger" button is near the top in the GO NFC Reader software.

Step 6: Click Details button to view Alert Statistics, Alert Details,Temperature data, and the Temperature Graph for individual loggers.

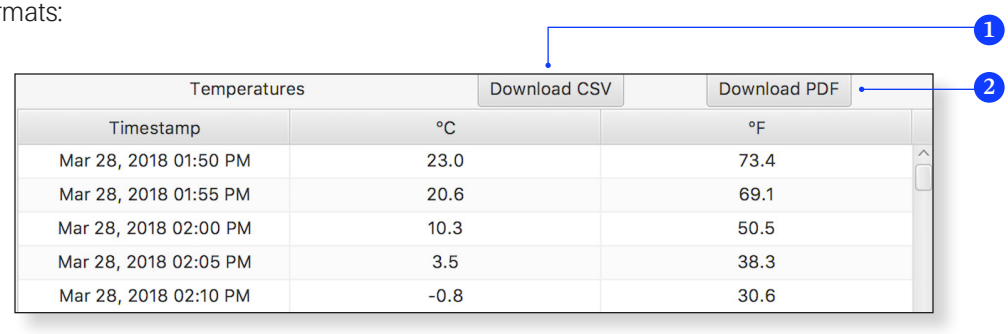


By clicking the historical data button it will show recently scanned loggers (up to 100 loggers). Additional historical records are available in the online portal.

List of scanned loggers

Step 7: From the Details page, reports can be exported and saved to a desired directory in ether of the following formats:

1. CVS
2. PDF



Logger placement scenarios

The form factor of the GO NFC Logger promotes its use in a variety of scenarios including at the pallet, carton and product level.

Pallet Level - Many customers apply GO NFC Loggers to the side of a pallet. Copeland provides signage and clear plastic pouching to facilitate locating loggers on pallets at the receiving end as depicted in the photo to the right.

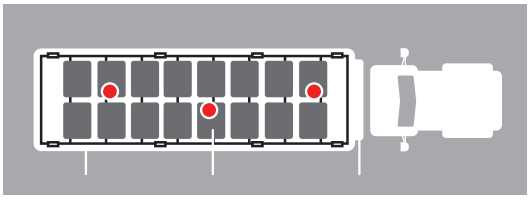
Many customers place several GO NFC Loggers on different pallets within a load to perform temperature mapping. This promotes broader sampling and provides more detailed information on the temperature fluctuations experienced within a container.

Carton Level - Many customers with high-value product where temperature specifications are critical may choose to use GO NFC Loggers on each individual carton inside a master case.

Product Level - Loggers are sealed in a plastic pouch and take surface reads of the object to which they are attached. They can be placed in or laid directly on top of product for highly accurate temperature reads. In order to facilitate finding GO NFC temperature monitoring loggers, it is recommended that placement of loggers be clearly flagged on the outside of packaging. Copeland provides customers with a brightly colored "Find It" signs upon request.

GO NFC Logger in pouch

Pouch placement on a pallet



Pouch placement within shipping container

GO GreenSense recycling program

GO NFC Loggers can be easily recycled through the GO GreenSense program. GO GreenSense is a recycling program that facilitates the return of Copeland temperature monitoring loggers for proper battery and component recycling. Through the GO GreenSense program, Copeland provides customers with eco-friendly return boxes and pre-paid postage return labels free of charge. Unlike bulky traditional temperature monitoring devices, customers can fit hundreds of temperature loggers in the provided medium-sized box. GO GreenSense takes the hassle out of returning loggers for recycling. For more information, email go.green@copeland.

Troubleshooting and FAQ's

Q: Q: Where to download apps?

A: To download the GO NFC app go to your mobiles app store which is available in Android and iOS.

Q: What are other methods to download software?

A: You can download the software at copeland.com/gonfc, which is available in Windows and Mac OS. Also available in multiple languages.

Q: I cannot get my device to read a logger or it displays an error message while reading.

A: Try the following suggestions:

- Verify your device has an NFC reader.
- Turn on notifications and increase the volume so you can hear the tones that indicate a logger is being read.
- Reposition the logger until it starts reading, then hold it still.
- Consult your device documentation for help finding the NFC reader position on your mobile device.

Q: Why are my loggers' LED lights flashing twice in rapid succession?

A: This indicates the memory of your logger is full.

Q: Why doesn't my logger have any upper or lower LED alert indicators?

A: Your logger is likely a data logger only without specified alert parameters.

Lithium battery exemption

Batteries utilized in GO NFC Logger contain less than 0.1 grams of lithium metal per cell, are individually wrapped, and are therefore acceptable for use on airplanes. Supporting documentation is available by contacting Copeland Support..

Regulatory

Certification and regulatory information are available at copeland.com/cargo.

Technical specifications

Alarm configurations	Upper/lower/both/none
Alarm indicators	LEDs indicate temp over/under/OK
Calibration	Silicon based sensor is calibrated at the time of manufacture by Texas Instruments; NIST certificate of traceability available
Certifications	FCC, CE, RCM, China RoHS, WEEE
In-use life	Up to 90 days
IP rating	IP67
Memory	1922 hard data points
NIST traceable	Yes
Operating environment	-25°C to 60°C (-13°F to 140°F)
Read range	Up to 2" (5.08 cm)
Reading redundancy	GO NFC Pad Reader
Recycle options	GO GreenSense™ Program
Shelf life	15 months
Size	2.4 in x 3.4 in (61 mm x 81 mm)
Start delay	Standard 30 minutes, customizable
Supported readers	Android™ 4.1/ iPhone® 7 or newer with the NFC app, NFC-enabled tablets, NFC Pad Reader with software Mac and Windows compatible
Temperature accuracy	±0.5°C typical between -25°C to 60°C (-13°F to 140°F)
Temperature resolution	0.1°C
Temperature sampling frequency	One minute, five minute average record
Temperature units	°F and/or °C
Weight	14.2 g (0.5 oz)

Technical supportt

Available 24 hours a day, 7 days a week.

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