SmartMonitor

SITE L, SHIP L, SHIP M

User Manual

T82005432

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Document Purpose

This document provides detailed information about SmartMonitor device.

Quick Setup – Monitoring for Shipment and Site

Follow steps below to operate your device:

1. Configure your device
2. Place your device
    - with external SmartSensor
    - without external sensor
3. Start monitoring
4. Stop monitoring
5. Prepare device for re-use

Contact Sensitech Support for help.

Disclaimer: SmartMonitor offers a summary report of temperature readings that users can download from its USB drive. This report details any configuration changes up to the listed cloud synchronization time but does not feature authenticity watermarks. Since data integrity and authenticity cannot be fully ensured for these reports, SmartMonitor disclaims any liability related to their use as allowed by applicable law. These reports are not suitable for decision-making purposes. For verified and definitive data, please use SmartView, SmartMonitor's cloud solution, which guarantees data integrity and authenticity.

Device Application Information

Intended Use

SmartMonitor is designed for the monitoring of temperature sensitive pharmaceutical goods in storage and/or transport. The device collects and automatically uploads data to the compatible cloud solution SmartView, for immediate decision-making on product integrity.

The information is applicable for SmartMonitor SITE L, SHIP L and SHIP M. For detailed information, read product data sheets.

Available Device Models

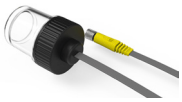
SmartMonitor SHIP L 	Modular real-time monitoring for shipments. • Fully featured: in addition to temperature, providing condition data on humidity and operational handling (e.g., light, shock) for quality assurance and security purposes. • Reusable: enabling reuse and refurbishment on established trade lanes, where device return, and reuse is feasible. • SmartMonitor is capable of supervising product and environmental temperature simultaneously, enabled by the optional SmartSensor.
SmartMonitor SHIP M 	Modular real-time device for shipments. Slim featured and single use. • Slim featured: Real-time temperature & humidity monitoring. • Single use: single use devices for challenging destinations, where device return and reuse is not feasible. • The SmartMonitor is capable of supervising product and environmental temperature simultaneously, enabled by the optional SmartSensor.
SmartMonitor SITE L	Modular real-time monitoring for the monitoring of refrigerator/freezers. Fully featured and reusable. Permanent charging required.

	Fully featured: in addition to temperature, providing condition data on humidity and operational handling (e.g., light, shock) for quality assurance and security purposes Additional data synchronization possibilities through WIFI. SmartMonitor is capable of monitoring product and environment temperature simultaneously, enabled by the optional SmartSensor.

Available Sensor Models

SmartSensor

We offer a range of external sensors with the SmartMonitor, which can be easily and securely applied to the SmartMonitor via the sensor socket (M5), after removing the sensor cap.

SmartSensor TEMP 	SmartSensor TEMP monitors products that are being transported or stored in refrigerators/freezers at temperatures from -40 to +75°C.
SmartSensor GLYCOL 	SmartSensor GLYCOL for the monitoring of products in transport or storage in refrigerators/freezers at temperatures from -40 to +60°C. The glycol bottle simulates the temperature exposure behavior of vials. It is ideal to reduce sudden temperature fluctuations, like refrigerator door/packaging opening or defrosting cycles, while it accurately captures the temperature exposure of the vials monitored.
SmartSensor ULTRA LOW 	SmartSensor ULTR LOW monitors products that are being stored (e.g., in a freezer) or transported (e.g., with dry ice) at temperatures from -100°C to +75°C.
SmartSensor CRYO	SmartSensor CRYO monitors products that are being stored or transported (e.g., cryo vessel, liquid nitrogen) at temperatures from -200°C to +75°C.

Battery Information & Use

Battery Shelf Life

Before first usage: Period from device delivery to customer (on stock), to first start of the device. Within the battery shelf-life period, the device battery run time is ensured according to the data sheet, if stored within the specified storage temperature (device off).

After first usage (in case of re-use): Period from device charge to start of the device. If battery shelf life has been exceeded, the device cannot be started to avoid early depletion of the battery during your shipment.

Battery Expiry	• SmartMonitor SHIP M: once the battery shelf life has been exceeded, the battery expired. The battery expiry date is printed on the front of the device. • If the battery is expired, the device cannot be started. The devices can be returned to Sensitech for recycling and refurbishment.
Battery Recharge	SmartMonitor SHIP L/SITE L: once the battery shelf life has been exceeded, the battery expired and the device needs to be recharged to ensure battery run time according to product data sheet.

Battery Run Time

Time between start of the device until depletion of the battery without charging. Shipment devices cannot be charged while monitoring.

Run-time depends on environmental factors, such as temperature, quality of connectivity, communication technologies and locations services used.

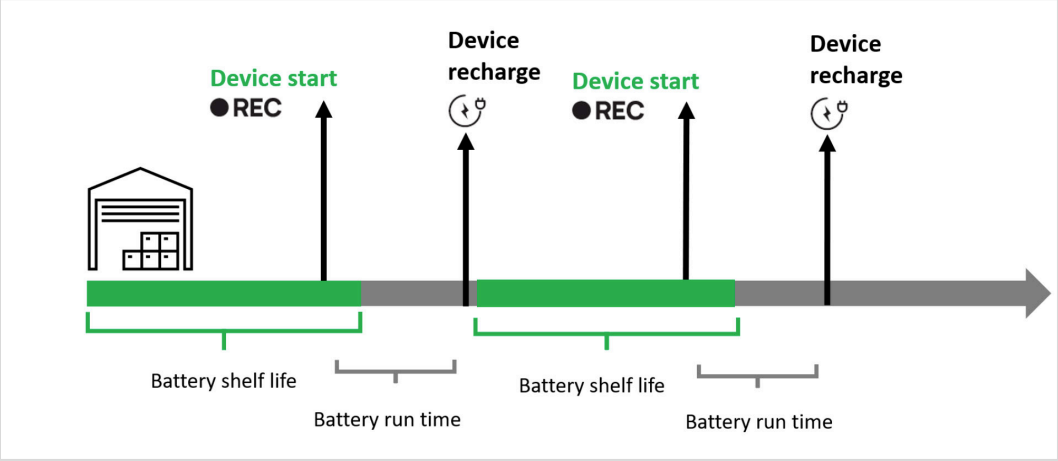
A comparison from the consumer environment:

- ***Impact of temperature***: if a mobile phone is exposed to very hot or very cold temperatures, it drains the battery quickly. Sensitech therefore recommends the usage of a SmartSensor for minus temperature ranges to ensure optimal battery run and device lifetime.
- ***Impact of quality of connectivity:*** if a mobile phone is in an area of bad connectivity, where it continuously is looking for a network, the battery is drained quickly.
- ***Impact of communication technologies used:*** if a mobile phone is connecting to a 2G network, due to unavailability of e.g., 4G network, the battery is drained quicker than with more efficient technologies such as 4G, 5G.
- ***Impact of location services:*** if the location service on a Smart watch is turned on, the battery of the watch is drained much more quickly than if location is turned off.

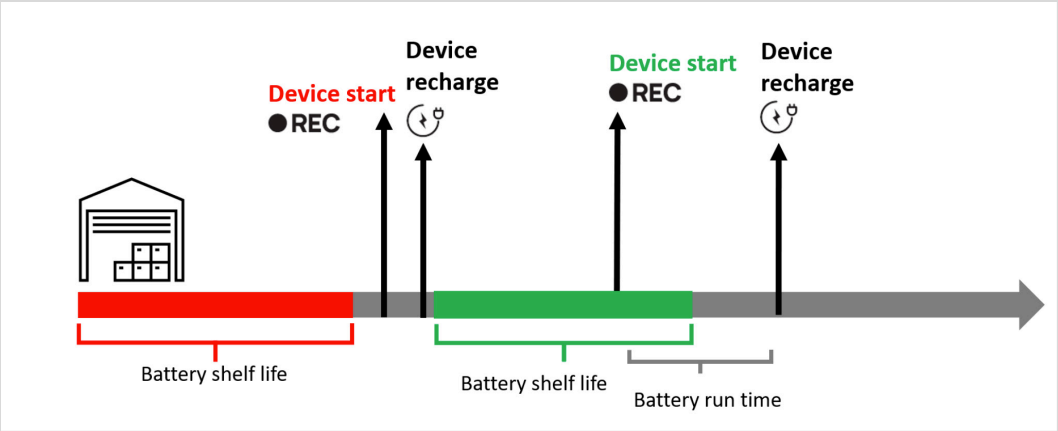
Examples of Battery Shelf Life and Battery Run Time

Battery Shelf Life and Battery Run Time of a SHIP L

Device start within battery shelf life:



Device start NOT within battery shelf life:

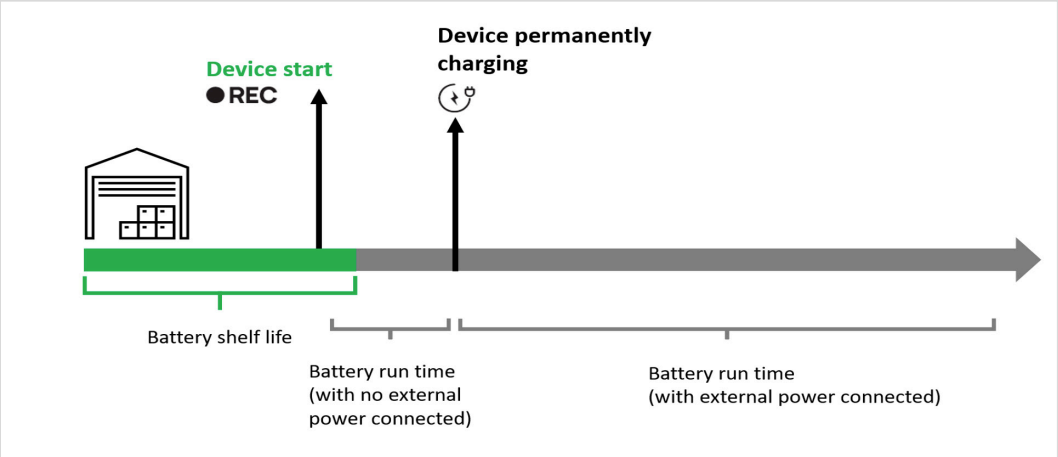


If the device is not started within battery shelf life, recharge is required to ensure battery performance according to the product data sheet.

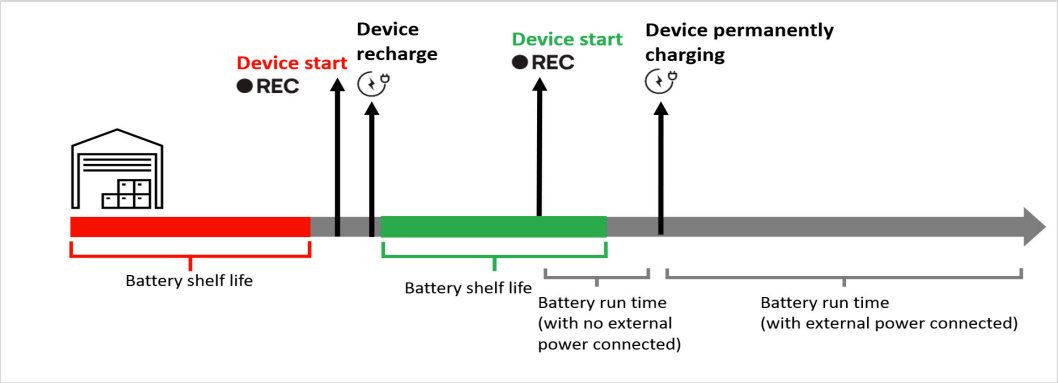
Device cannot be started if battery shelf life has been exceeded, to avoid early depletion of the battery during your shipment.

Battery Shelf Life and Battery Run Time of a SITE L

Device start is within battery shelf life:



Device start is NOT within battery shelf life:

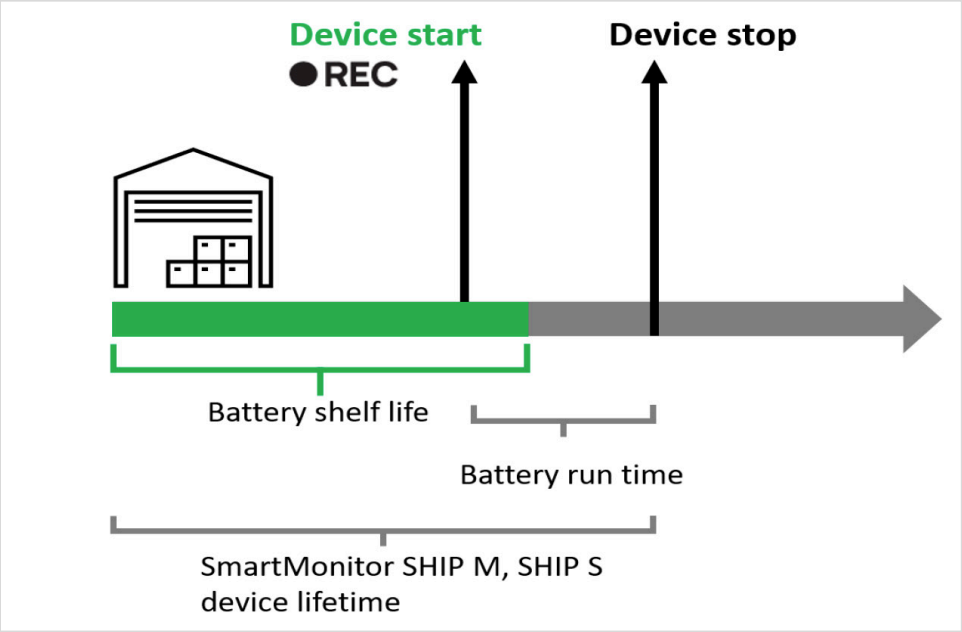


If the device is not started within battery shelf life, recharge is required to ensure battery performance according to the product data sheet.

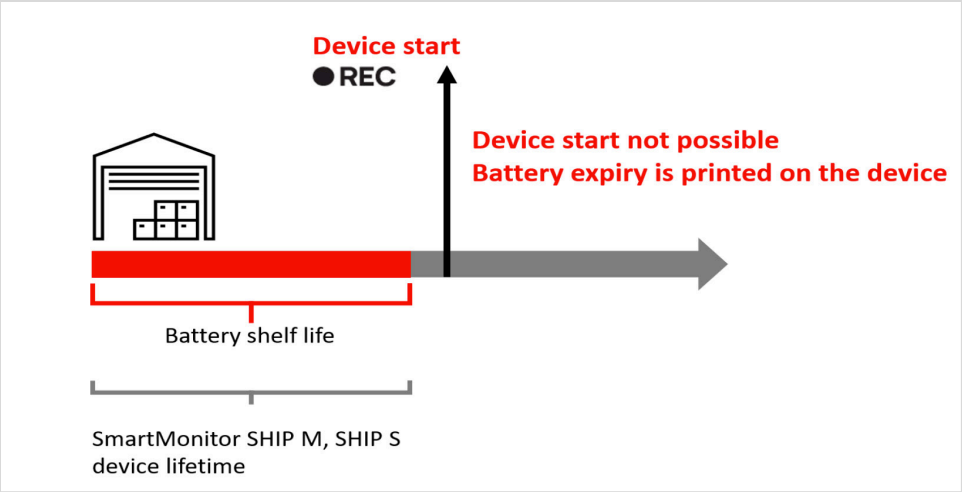
Device cannot be started if battery shelf life has been exceeded, to avoid early depletion of the battery during your shipment.

Battery Shelf Life and Battery Run Time of a SHIP M

The device start is within battery shelf life:



The device start is NOT within the battery shelf life:



If the device is not started within battery shelf life, the battery expires. The device can longer be started. Devices can be returned to Sensitech for recycling and refurbishment.

Please find defined battery shelf life and battery run time per SmartMonitor device model in the data sheet.

Device Lifetime

Typical device lifetime is defined based on a standard use case. Finally, the device's lifetime depends on number of usages, to which temperature ranges the device is exposed during its lifetime, careful handling, amongst others.

Find the defined device lifetime per SmartMonitor device model in the data sheet.

Air Freight

The SmartMonitor device supports automatic flight mode, which ensures the automatic enabling of the flight mode upon take-off and automatic disabling of the flight mode upon landing of the aircraft. The flight mode ensures the suspension of all radio signals in flight. If the landing cannot be detected, the automatic flight mode will be disabled automatically after 24 hours.

The SmartMonitor device also has manual flight mode functionality. Follow instructions to activate **manual flight mode**.

In order to use SmartMonitor devices for product monitoring in air freight (device on), the SmartMonitor device must be approved by the respective airline. Before using the SmartMonitor on a shipment, please check the **airline approval list**.

If your preferred airline has not yet approved of the SmartMonitor, please reach out to Sensitech for assistance.

Airlines may require SmartMonitor or batteries to be declared on the AWB (Airway Bill). For example:

SmartMonitor SHIP L	Nickel metal hydride battery: Not restricted as per Special Provision A199.
SmartMonitor SHIP M	Alkaline battery: Not restricted as per Special Provision A123.

Disclaimer: Sensitech is not liable for approval to use the SmartMonitor on board of your selected carrier and the correct declaration of the SmartMonitor.

Find battery specifications per SmartMonitor device type in the data sheet. Contact your airline to support the correct declaration.

Communication & Geographical Positioning

Communication

Communication between the SmartMonitor and SmartView relies on network availability during scheduled data synchronization intervals. The SmartMonitor automatically selects the most efficient cellular option available; if it cannot find a cellular signal, it will attempt to reconnect after a brief period. To conserve battery life, the SmartMonitor will not continually search for connectivity like a mobile phone does.

For regions with only 2G technology, set a longer synchronization interval. While 2G is common in many low- and medium-income countries, its lower efficiency means shorter battery life.

Geographical Positioning

The SmartMonitor SHIP L and SHIP M use multiple positioning technologies; see the data sheet for details. The device automatically selects the most accurate option available. For optimal GNSS performance, ensure a clear sky view—warehouse or packaged environments may reduce accuracy.

The geographical position of the SmartMonitor is only communicated at the time of synchronization interval.

Device Cleaning

Important! The device should not be in close contact with volatile chemicals such as solvents or other organic compounds. Especially high concentration and long exposure must be avoided. Ketenes, Acetone, Ethanol, Isopropyl Alcohol, Toluene, etc. are known to cause drift of the humidity reading.

Device Handling Warnings

As the configuration can be changed in SmartView while the SmartMonitor device is running and may not yet have been delivered to the device, the tick and the cross on the device are indicative and may be revised when the configuration arrives at the SmartMonitor.

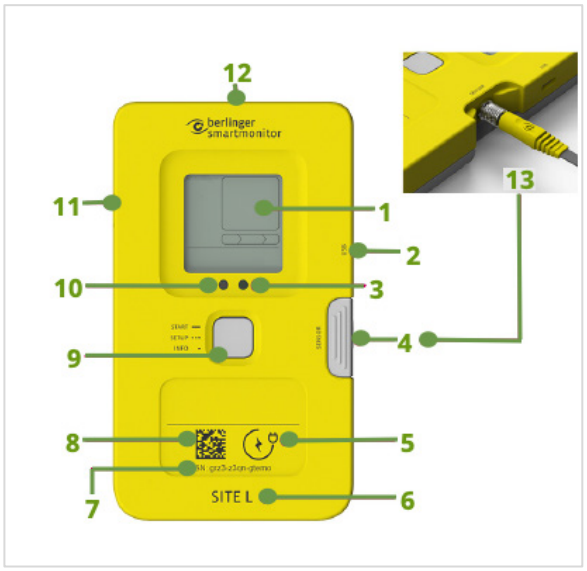
Air Pressure	Excess pressure or vacuum can damage the device.
Automatic Flight Mode	Automatic flight mode may not be activated in all aircraft types. Enable manual flight mode in case of doubt and/or regulation prescribes that radio must be suspended.
Battery	• Battery cannot be removed or replaced. Check data sheets for detailed battery information. Contact Sensitech Support for replacement options. • Risk of fire or explosion if battery is replaced by an incorrect type. • Risk of explosion if battery is disposed of in fire or hot oven. • Leaving battery in extremely high temperature surrounding environment can result in explosion or leakage. • Do not subject battery to extremely low air pressure that may result in an explosion or leakage of flammable liquid or gas. • Instructions required by IEC 62368-1 regarding coin cells.
Compatibility	SmartMonitor device only works in combination with SmartView software (version 6.0 or higher).
Connectivity	Real-time availability of measurements may depend on local connectivity and may be delayed.
Damage	If the SmartMonitor device is damaged, don't use it and contact Sensitech Support for refurbishment options.
General	Ensure that the user manual instructions are followed before using the SmartMonitor for monitoring. Without proper starting, the measurements will not be available.
Humidity and Pressure Sensor	• The SmartMonitor has built-in humidity and atmospheric pressure sensors. • The sensors are located on the left side of the device and are covered by white membrane/seal. Keep the membrane clean. • Do not push, press, peel-off or pin the white membrane as it will damage the sensors and affect the water tightness.

Ingress Protection	IP65: Protect from dust ingress and water spray from any direction.
Liability	• The manufacturer shall not be held liable. • If the device was used beyond the manufacturer's given limitations. • for any claims due to improper storage or use of the device. • for any problems with the temperature-controlling and/or -cooling unit. • for the quality of any monitored goods. • for incorrect readings if the device was used beyond its expiry date.
Light Sensor	Do not cover the light sensor with any label or tape to ensure the functionality of the light sensor.
Mechanical Force	Avoid violent shocks and impacts.
Microwave	Do not expose the device to microwave radiation (risk of battery explosion).
Multifunctional Button	Do not apply force as it will damage the button.
Recycling	Recycle to product at the end of its lifetime according to local regulations.
Safety	• Keep away from children. • Don't open it. • Train anyone who handles the SmartMonitor device and/or SmartView.
Sensor Socket (M5)	• The sensor socket (M5) is a sensitive part of the device. • If you are not using the sensor socket (M5), keep it covered to protect yourself from water, dust, etc. • When connecting a SmartSensor, take care to align the SmartSensor well with the device to avoid damaging the pins of the sensor socket (M5). • Do not apply force as it will damage the connector.

Temperature	• Temperatures outside the device operating temperature range may damage the device and/or reduce its performance. • To learn about device operating temperature range for each SmartMonitor type, see the information in the data sheet.
X-rays/Röntgen	Avoid long-term exposure to X-rays/Röntgen (risk of damaging the device).

All information was accurate in publication but may change without notice due to ongoing product development. The SmartMonitor device's QR code links to its User Manual.

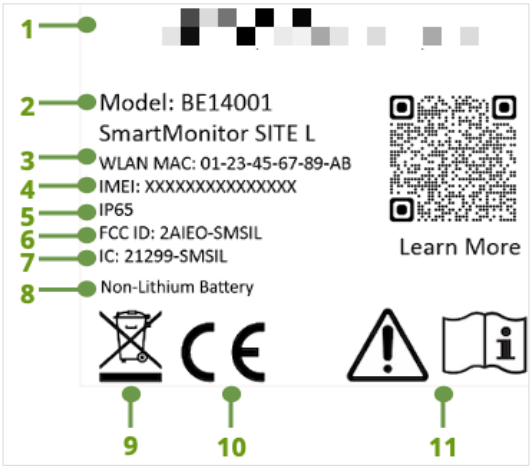
Device & Display Information



No.	Name	Description
1	Display	Multi-information display
2	USB-plug	To charge the battery or download the data manually
3	LED	Light signal to support user interaction 1 x short white signal = always upon button interaction 1 x long green signal = Indication SmartSensor or SmartHub successfully connected 1 x long red signal = User indication about status canceling or warning For SITE L only: Continuous blinking red signal
4	Removeable Cap	Remove for use of external sensor
5	Device Use Information	Indication for permanent charging (SITE L) Indication for re-useable device (SHIP L) Indication for battery expiration (SHIP M)
6	Device Type	SmartMonitor Model
7	Serial Number	Uniquely identifiable device number

8	Barcode	Contains the serial number for read out with barcode scanner
9	Multifunctional Button	• 3 x short press = Setup will cause the device to contact the cloud, trying to synchronize • 1 x long press = start monitoring • 1 x short press = Display info scroll; single button press causes to skip to next information • 1 x short press = Mute acoustic alarm (SmartMonitor SITE L only)
10	Light Sensor	Monitors light events
11	Humidity Sensor	Monitors humidity
12	Centered Hook	Mounting option
13	Sensor Socket (M5)	M5 connector for external sensor

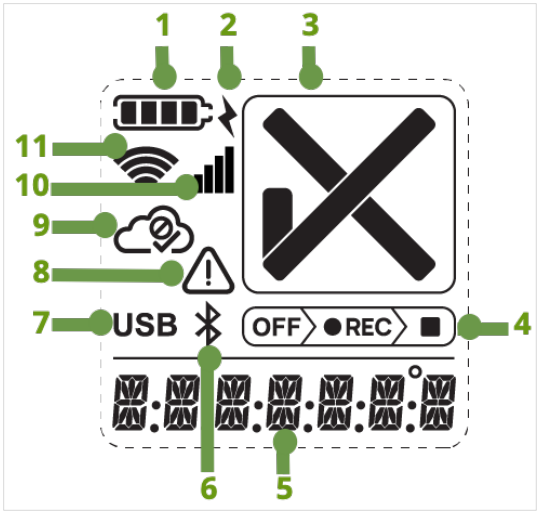
Back Side Label of Device:



No.	Name	Description
1	Contact	Company contact details
2	Model	Model number that SmartMonitor is registered with approval authorities
3	WLAN MAC (Only SITE L)	Unique identifier to connect the SmartMonitor to local WiFi
4	IMEI (for SITE L, SHIP L, and SHIP M)	Unique identifier to connect the SmartMonitor to local WIFI

5	IP65	Protected from dust ingress. Protected from water spray from any direction.
6	FCC ID	Unique identifier assigned to the device registered with the United States Federal Communications Commission
7	IC	Unique identifier assigned to the device registered with Industry Canada
8	Battery	Non-lithium battery indication. More information in this document is under *Device Application Information/Battery Information & Use*.
9	Waste Electrical	Do not put in general waste. Contact Sensitech for recycling and refurbishment services. For more information, please refer to the ***Disposal*** section.
10	CE (conformité européenne)	Means that the SmartMonitor meets European health, safety, and environmental protection standards.
11	General Warning	See information in this document under Warnings section.
12	QR Code	Scan the QR code to learn more about SmartMonitor.

Display



No.	Name	Description
1	Battery Status	Indicates the battery status.
2	Battery Charging	Lightning icon indicates whether external power has been connected.

3	Alarm Status	✓ Device indicates that there is no temperature and/or humidity alarm violation on the device and/or on the external sensor. ✕ Device indicates that there is one or more temperature and/or humidity alarm violation on the device and/or on the external sensor.
4	Measurement Status	OFF SmartMonitor is ready to start – The device is not measuring yet. ● REC SmartMonitor is measuring. ■ SmartMonitor has stopped.

Acoustic Alarm (SmartMonitor SITE L Only)

SmartMonitor SITE L has an integrated buzzer to give an acoustic alarm to the user. The alarm must be acknowledged and closed in SmartView.

Acoustic Alarm (mute by 1 x short press of the multifunctional button).

Device Configuration

The configuration parameters for the SmartMonitor devices are defined via **SmartView**. (Please see **SmartView User Manual** and SmartView Login Page).

The relevant configuration is applied to the shipment/site/sector or directly to the device in SmartView.

Once the allocation in SmartView has been completed, the device is ready for set up.

When performing the SmartMonitor setup, the configuration will be automatically downloaded to the device via cloud synchronization with SmartView. If the cloud cannot be reached upon setup, manual configuration via USB is required. The configuration file must always be generated via SmartView to ensure a single source of truth.

If you would like to configure the device before starting to monitor in order to verify the configuration policy ID and/or shipment/sector name triple push the multifunctional button in quick succession. This will initiate cloud synchronization to download the configuration. Otherwise, cloud synchronization and download of configuration will take place on cloud synchronization interval, when connective is available.

Startable configuration

Startable configuration can be defined in SmartView.

If the function is turned off, you can start the SmartMonitor at any time, and the shipment or sector configuration policy will apply as soon as the device successfully synchronizes for the first time.

Next step: Configure your device

SmartMonitor start prevention

Prevent the start of SmartMonitor until assigning and downloading of another, startable configuration policy in SmartView.

When the function is enabled, the SmartMonitor cannot be started by pushing the multifunctional button.

	If a start prevention is defined in SmartView, the SmartMonitor displays "**PERFORM SETUP**" and "**DO:SETUP**" (as static information) on the screen. The device configuration is required.

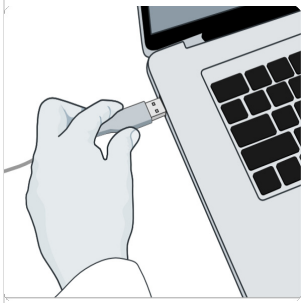
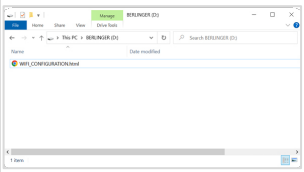
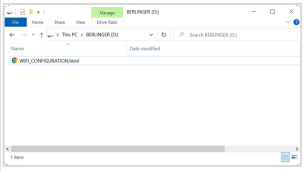
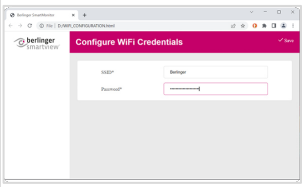
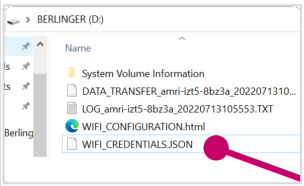
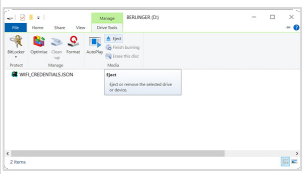
After completing the setup in SmartView, a **triple push of the multifunctional button** is required to synchronize configuration policy. After successful synchronization, the SmartMonitor can be started.

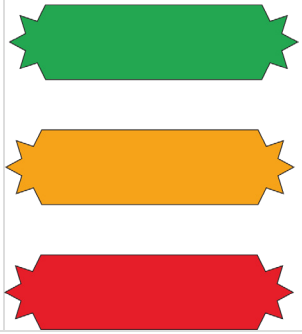
Do not enable configuration policies intended for shipments or sectors.

WIFI Setup for SmartMonitor (SITE L Only)

SmartMonitor SITE L includes WiFi as a communication option. To use communication via WiFi, WiFi needs to be enabled in the configuration policy in SmartView. Additionally, the WiFi needs to be set up on individual device level following the steps below.

Step	Picture	Description
1		Plug in a USB-C cable at the right-hand side of the SmartMonitor device.

2		Connect the other end of the cable via the USB port with your computer.
3		When connecting the SmartMonitor to your computer, a pop-up window of SmartMonitor (Sensitech) will appear. If the pop-up window does not appear, locate the USB-Drive on your computer and open it.
4		Open the available WIFI_CONFIGURATION HTML file.
5		Enter your WiFi network credentials with the SSID and password of the WiFi that you would like to connect to the SmartMonitor and click SAVE.
6		The WIFI_CREDENTIALS.JSON file has been downloaded to your computer. Save the file in the USB-Drive to apply the WiFi credentials to the SmartMonitor. The WiFi credentials file is now added to the SmartMonitor.
7		Eject the device from your computer.

8		Check the color of the LED on the device screen for the status. • Green LED – OK. • Yellow LED – Device is unable to find the configured Wi-Fi network, but the Wi-Fi credentials are saved. • Red LED – Device has encountered an error.

How to Configure Your Device

To configure the SmartMonitor device with the desired configuration (see user manual **SmartView** for instructions), wake up the device from sleep mode with a short press of the multifunction button and then triple push in quick succession. This will initiate cloud synchronization to download the configuration.

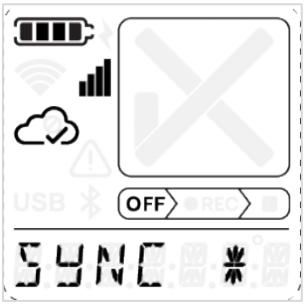
If automatic configuration fails, manual configuration is required. For SmartMonitor SITE L, configuration via WiFi connection is possible.

Automatic configuration

Three times short press the multifunctional button.

Do not apply force as it will damage the multifunctional button.

No	Screen	Description
1		The configuration is initiated.

2		All display symbols are loaded.
3		The firmware version on the device is displayed.
4		The connection to SmartView is established. The tick ( ) in the cloud symbol is blinking, the cellular symbol ( ) is static. The configuration is downloading.
5		The configuration is successfully downloaded to the device. The cloud ( ) and cellular ( ) or WiFi ( ) symbols are static. The LED is lighting green, with the scroll text CONFIG OK. ! A short press of the multifunction button displays the correct configuration name. ! If the name of the configuration is not showing up on the display, manual configuration is required.

The device is now ready to be started. Continue with placing your device.

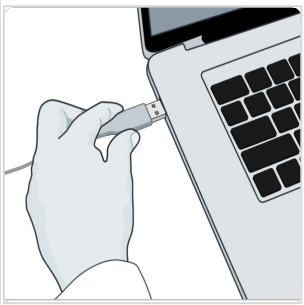
Manual configuration

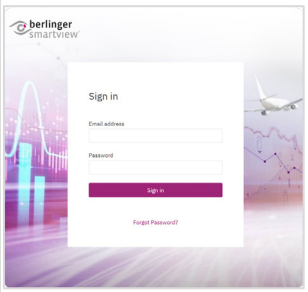
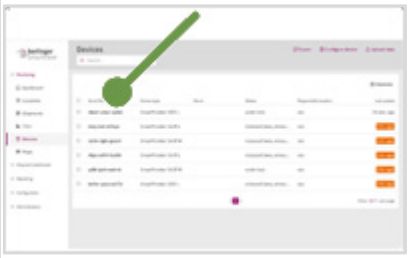
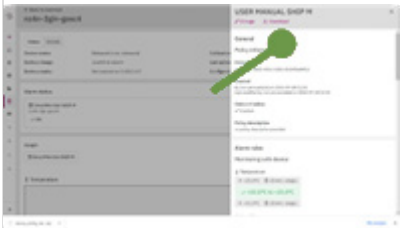
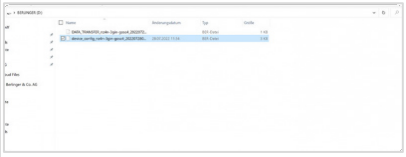
If the display indicates this information, automatic configuration was not successful. Follow the manual configuration steps below.

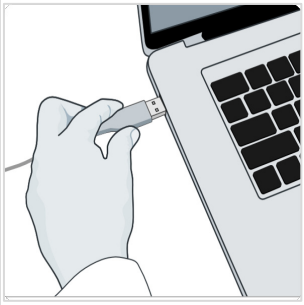
Device indication that manual download for configuration is required.

If the device is not able to establish connectivity with SmartView to download configuration, it is required to manually upload the configuration file to the device via USB. In the next step, connect the device to your computer and wait for the device to appear in the explorer of your computer. In the next step, add the configuration file manually to the SmartMonitor.

Go to the SmartView manual to find out how to download the configuration file to your computer.

Step	Screen	Description
1		Plug in a USB-C cable at the right-hand side of the SmartMonitor device.
2		Connect the other end of the cable via the USB port with your computer.

3		When connecting the SmartMonitor to your computer, a pop-up window of SmartMonitor (Sensitech) will appear. If the pop-up window does not appear, locate the USB-Drive on your computer and open it.
4		Log into SmartView with your credentials. In SmartView, navigate to “Devices” under the section “Monitoring”. In the search function, type in the serial number of the device that you would like to configure. It is printed on the front of the SmartMonitor.
5		Click on the serial number to open the device page.
6		Click the “More” button under “Status” next to the configuration policy.
7		Select “Download”. The configuration policy file has been downloaded to your computer and can be found in the Download folder.
8		Save the device configuration file in the USB Drive.

9		Disconnect the SmartMonitor from your computer.
10		To check if the download has been successfully completed, short press the multifunction button. The scroll text should display the correct configuration name. The device is now ready to be started. If the download was not successful, the display of the SmartMonitor indicates CONFIG NAME, but not the actual name that was given in SmartView.

If more help is needed with configuring your device, contact Sensitech support at sensitech.support@carrier.com.

Next step: Place your device.

How to Charge Your Device

The **SmartMonitor SHIP L and SITE L** are equipped with a **rechargeable battery**. In the following sections, you will find relevant information about charging:

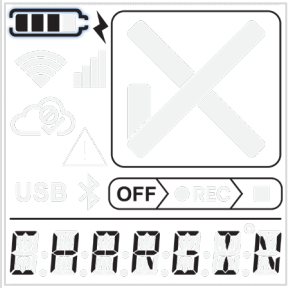
- Charging before use – SmartMonitor SHIP L and SITE L
- Permanent charging – SmartMonitor SITE L only

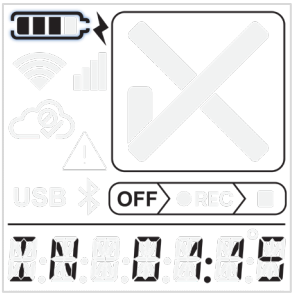
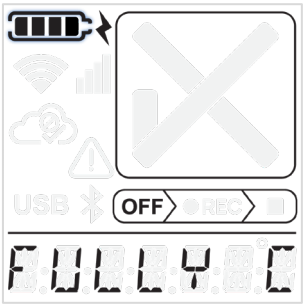
Charging before use (SmartMonitor SHIP L and SITE L)

In order to ensure the SmartMonitor functions according to the data sheet, the SmartMonitor device must be fully charged upon device start.

To check the current battery charge, single press the multifunctional button.

To charge the SmartMonitor, the USB-C cable of the SmartMonitor Power Adapter must be connected to the device and plugged into power.

Screen	Information
	The displayed text, combined with the lightning icon and the scrolling battery bars, indicates that the device is connected to power and charging.

	The time until the battery is fully charged is indicated on the display. Scrolling text: CHARGING – READY IN 01:23 / COOLING – READY IN 00:12.
	Once the battery is fully charged, it will be indicated in the display text, the green LED will light up and all battery bars will be full. Scrolling text: FULLY CHARGED AND READY TO START.

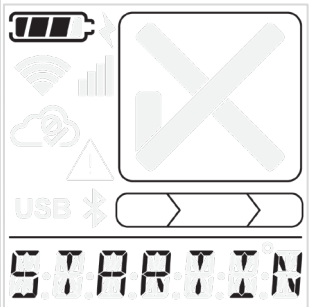
SmartCharger MINI for SmartMonitor SHIP L and SITE L

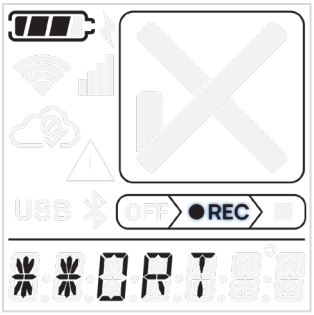
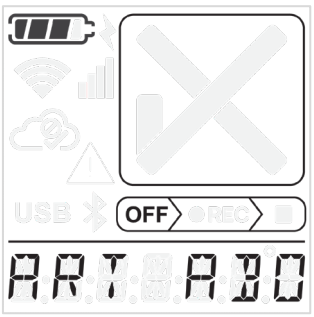
With the SmartCharger MINI (available as a separate accessory), up to five devices can be charged at the same time, ensuring fast charging.

Key Feature: Auto Start Functionality (SHIP L only)

The 'Auto Start' feature must be enabled in SmartView. Ensure that the SmartMonitor has been assigned to the configuration as well.

When a device is removed from the SmartCharger MINI docking station, the Auto Start feature initiates instant start as soon as the device is unplugged.

Screen	Information
	The scrolling text on the display indicates the start of the device.

	If you want to stop the process, long press the multifunctional button. The LED light flashes red.
	Once the stop is successful, the devices shows “START ABORTED” on the display.

Permanent charging (SmartMonitor SITE L only)

For SmartMonitor **SITE L**, permanent charging is required. The built-in battery is designed to support power disconnects and outages for a limited amount of time (see data sheet), but not for permanent monitoring.

If external power is not available or longer power outages occur, SmartMonitor SITE L will give a power outage alarm. For refrigerators with Solar Direct Drive (SDD), make sure you set an appropriate power alarm delay in SmartView.

Use the USB-C power charger / cable that comes with the SmartMonitor SITE L.

Screen	Information
	The lightning icon and the scrolling battery bars indicate that the device is connected to power and charging.

	The device is connected to power and fully charged.

How to Place Your Device with External Sensor

This section describes how to place SmartMonitor with an external sensor:

- at a site
- for a shipment

For warnings during the external sensor setup process, see Warnings section.

Please note that all SmartMonitor SHIP devices are dedicated for shipment monitoring, whereas the SmartMonitor SITE L is dedicated for site monitoring.

Ensure SmartMonitor is securely installed and cannot fall.

It is recommended to fix the SmartMonitor with SmartCradle for secure installation. SmartMonitor is responsible for monitoring ambient environmental temperature, while the external sensor tracks the temperature within the refrigerator or freezer.

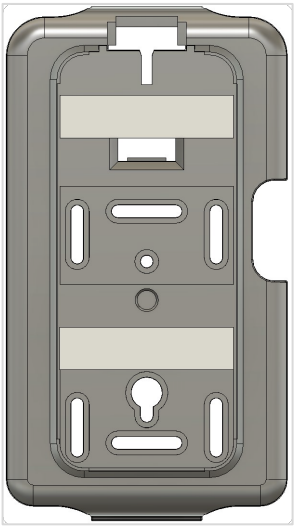
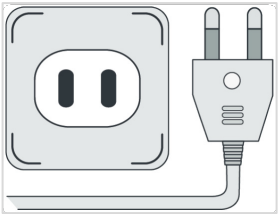
Site

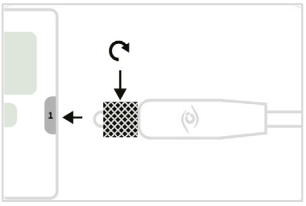
Sensitech offers a range of external sensors compatible with SmartMonitor. All sensor types are connected following the below steps.

Note: Use only original external sensors for SmartMonitor devices.

Make sure that the sensor is properly connected to the device. Do not tighten the connector with pliers or any other tool, otherwise, the connector may be damaged.

If SmartMonitor has been configured with a SmartSensor in SmartView, it will indicate the status accordingly on the device display upon SmartMonitor set up (**SENSOR OK** vs. **SENSOR NOT OK**) (For more information please see Warnings section).

Step	Picture	Description
1		Prepare the SmartCradle.
2		Place the SmartCradle outside the refrigerator/freezer. For alarming on keeping refrigerator door open too long, the SmartMonitor must be placed on the refrigerator door and the external sensor inside the refrigerator/ freezer. The cable of the external sensor should be placed in such a way that it does not interfere with the daily handling of the personnel, or the cable can be disconnected.
3		Connect the USB cable of the SmartMonitor power adapter to the right of the SmartMonitor.
4		Plug the power adapter of the SmartMonitor into the power socket for permanent charging. Ensure that the cable does not represent a tripping hazard. Ensure that the cable cannot easily be disconnected as PERMANENT CHARGING is required for SmartMonitor SITE L.

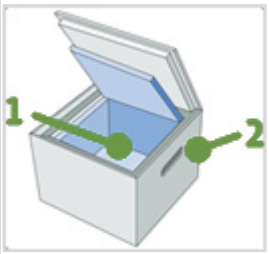
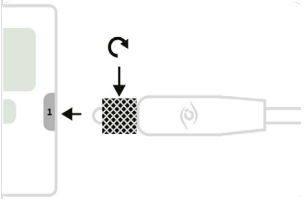
5		To connect an external sensor to the SmartMonitor, remove the grey cap at the right side of the SmartMonitor device.
6		Align the sensor plug with the sensor socket. Ensure the Berlinger eye ( ) is facing the same direction as the SmartMonitor device display. Now plug the external sensor into the sensor plug. **Warning**: Do not apply force as it can damage the connector on the device and/or external sensor.
7		Once correctly applied, tighten the connector by screwing clockwise.
8		Place the SmartMonitor in the SmartCradle. Continue with starting your device.

Shipment

Sensitech offers a range of external sensors compatible with SmartMonitor. All sensor types are connected following the below steps.

Make sure that the sensor is properly connected to the device. Do not tighten the connector with pliers or any other tool, otherwise, the connector may be damaged.

If the SmartMonitor has been configured with a SmartSensor in SmartView, it will indicate the status accordingly on the device display upon SmartMonitor set up (**SENSOR OK** vs. **SENSOR NOT OK**). (For more information, please see Warning section).

Step	Picture	Description
1		Place the SmartMonitor outside the temperature-controlled box/container (2) and the external sensor inside (1) and wait for it to acclimatize. The cable of the external sensor should be placed in such a way that it does not interfere with the daily handling, in order to avoid the risk of the external sensor to be disconnected from the device. Position it so that it does not interfere with opening the box or container, ensuring accurate temperature monitoring. Make sure the external sensor is placed away from the lid or door.
2		To connect an external sensor to the SmartMonitor, remove the grey cap at the right side of the SmartMonitor device.
3		Align the sensor plug with the sensor socket. Ensure the Berlinger eye ( ) is facing the same direction as the SmartMonitor device display. Now plug in sensor into sensor plug. Warning: Do not apply force as it can damage the connector on the device and/or external sensor.
4		Once correctly applied, tighten the connector by screwing clockwise.

Start the SmartMonitor before closing the box.

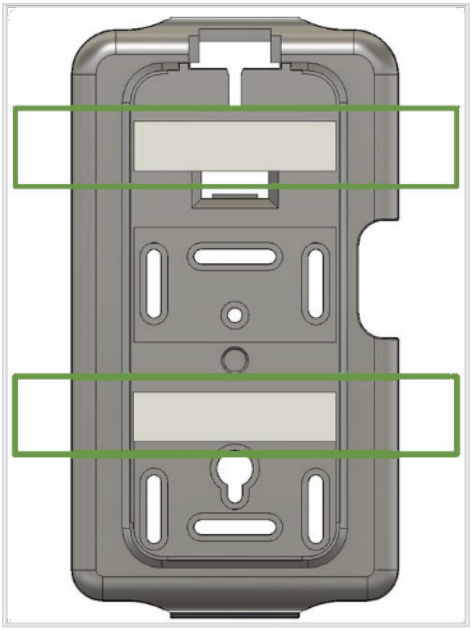
Next step: start your device.

SmartCradle

The double-sided foam tape supplied with the SmartCradle is used to secure the reliable mounting of the SmartMonitor to the outside of the refrigerator/freezer.

Prepare and install the foam tape

Stick the tape stripes on the designated area on the back of the Cradle.



How to install the SmartCradle

Carefully clean the surface in the intended location on the outside of the refrigerator/freezer. Position the Cradle with the double-sided foam tape in the intended location and stick it in place.

Make sure the surface is free of oil, grease and other residues to ensure proper adhesion of the tape.

How to Place Your Device Without External Sensor

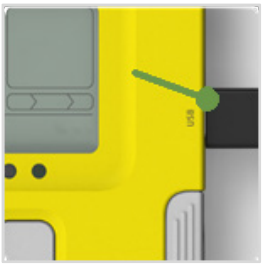
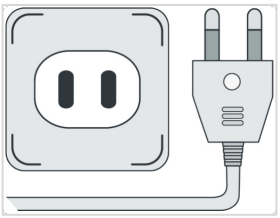
This section describes how to place the SmartMonitor without an external sensor:

- at a site
- for a shipment

Note: that all SmartMonitor SHIP devices are dedicated for shipment monitoring, whereas the SmartMonitor SITE L is dedicated for site monitoring.

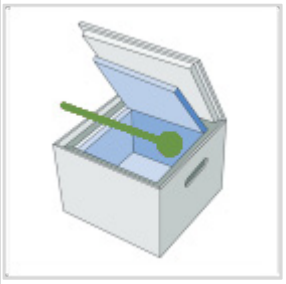
Ensure the SmartMonitor is securely installed and cannot fall. It is recommended to fix the SmartMonitor with the SmartCradle for secure installation.

Site

Step	Picture	Description
1		Place the device inside the refrigerator/freezer and wait for it to acclimatize.
2		Connect the USB cable of the SmartMonitor power adapter to the right of the SmartMonitor.
3		Plug the power adapter of the SmartMonitor into the power socket for permanent charging. ! Ensure that the cable does not represent a tripping hazard. ! Ensure that the cable cannot easily be disconnected as PERMANENT CHARGING is required for SmartMonitor SITE L.

Continue with start your device.

Shipment

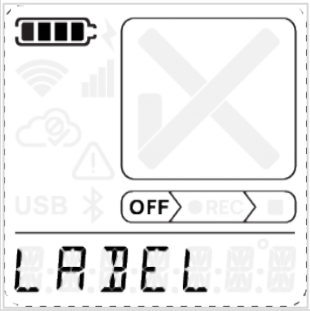
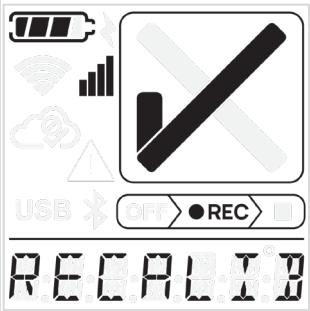
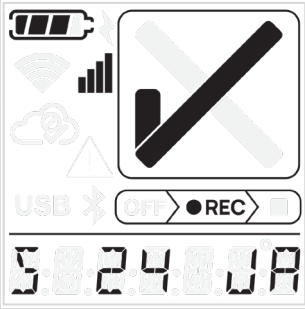
Step	Picture	Description
1		Place the device inside the temperature-controlled box/container and wait for it to acclimatize.
2		Use the mounting option on the back of the SmartMonitor or attach the Velcro tape to the designated area to place the device securely.

Start the SmartMonitor before closing the box.

Next step: start your device.

Device Info Before Monitoring Start

To scroll through available device info, single-push the multifunctional button. Skip scroll text items with button short press.

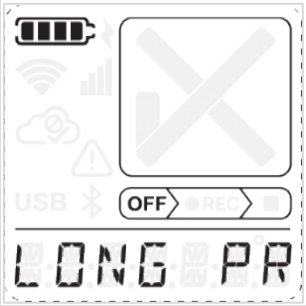
Step	Screen	Description
1		The name of the configuration defined in SmartView is displayed.
2		The defined label name (e.g., Airway Bill, Refrigerator/Freezer ID, etc.) from SmartView is displayed on the screen.
4	 	The SmartMonitor's recalibration date can be shown on the display. When you scroll to "RECALB," simply press the multifunctional button briefly to view the date in the format DD MMM YYYY. Please note that this feature is not available for SmartSensors; their calibration details are listed on the label attached to each device.

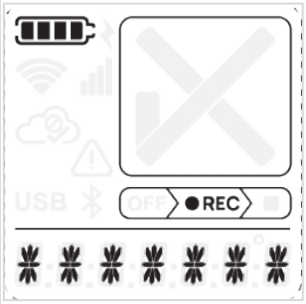
How To Start Monitoring

Press and hold the multifunctional button

To get the device ready to start, check the battery level and make sure it is charged. After charging, the device takes at least one hour to recover and reach ambient temperature. During this time, it is not possible to start the device.

To start monitoring, press and hold the multifunctional button for longer than **3 seconds** until the letters are replaced with stars (“*******”).

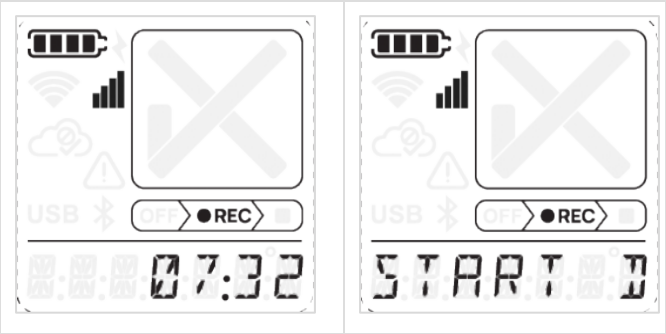
Nr.	Screen	Description
1		Upon device interaction, the device will indicate to the user that long-press of the multifunctional button is required for start. If long-press released too early, during the start process, this screen will be displayed as well and the LED lights up red.

2		Upon long-press device interaction, the start screen will be loaded.
3		Hold the button until the letters are replaced with stars (“*******”) from left to right and the LED signal has blinked white once.
4		If no start delay is configured, in case of a successful start, record sign (●REC) will be on and tick* (✔) will be displayed. The 7-digit text field will display the temperature.

Check here for WARNINGS on device start.

Start Delay

If a start delay is configured, the device starts with alarming only after start delay countdown. The remaining countdown is indicated on the display in days:hours:minutes format (if >24h: DDh:HH:MM, if <24h: HH:MM).



* The tick can be hidden by disabling the alarm status function in the configuration policy in SmartView. In this case, the field remains empty.

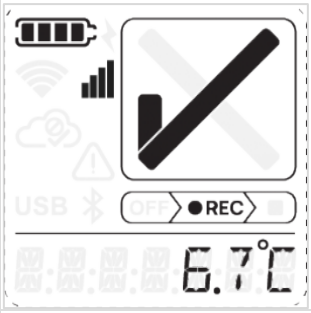
Auto Start with SmartCharger > Subchapter

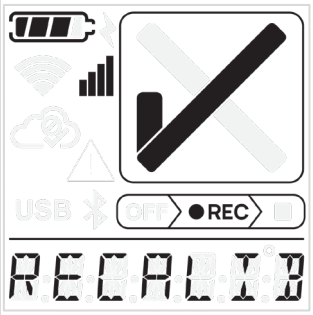
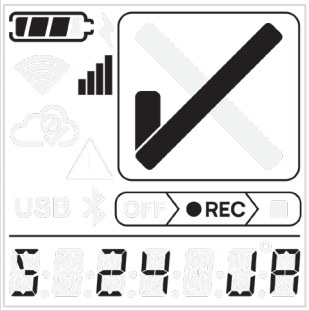
- Running device
- Device info when device is running
- Device alarm while running
- Cloud sync while running
- Manual read out while running

Device Info When Device is Running

Single-push the multifunctional button.

To scroll through available device info, single push the multifunctional button. Skip scroll text items with a short button press.

Nr.	Screen	Description
1a		Home Screen: The current temperature is displayed on the screen.
1b		With external sensor If an external sensor is successfully set up and connected, the Home Screen displays the current temperature of the external sensor. To check the temperature of the SmartMonitor device (internal sensor), go to SmartView.
2		The name of the configuration defined in SmartView is displayed.
3		The defined label name (e.g., Airway Bill, Refrigerator/Freezer ID, etc.) from SmartView is displayed on the screen.

4	 	The date for the SmartMonitor to be recalibrated can be displayed on the screen. After the scroll-through of “RECALB”, perform a short-press of the multifunctional button to display the date in format DD MMM YYYY. Note: This does not apply to SmartSensors (to be found on the calibration label attached to SmartSensors).
5		With a long press of the multifunction button, the device can be stopped.

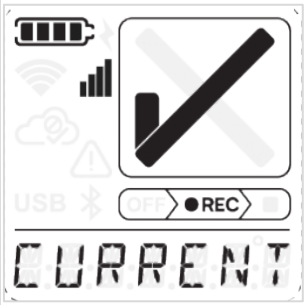
SmartMonitor SITE L Only

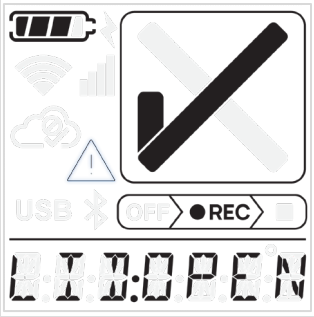
Nr.	Screen	Description
1		Measured Maximum Temperature The measured maximum temperature within the last 24 hours.

		
2	 	Measured Minimum Temperature The measured maximum temperature within the last 24 hours.
3		Current Date/Time The current date/time is displayed in the following format: DDMMMYYYY HH:MM

Device Alarm While Running

No.	Screen	Description
1		✔ Device reports that there is no temperature and/or humidity alarm violations on the device and/or on the external sensor
2		✕ Device reports that there is one or more temperature and/or humidity alarm violations on the device and/or on the external sensor
3		Infinite scroll on alarm source. SmartMonitor vs. SmartSensor Temperature vs. Humidity Cloud
4		To enter device info, single button-press.

5		The device reports that the refrigerator door exceeds the maximum duration defined in SmartView. The prerequisite is that the feature is enabled in the configuration policy in SmartView. Go to Lid Detection Reset.

Acoustic and visual alarm (LED), for SmartMonitor SITE L only. Check for further warnings in the Warnings section. Cloud sync while running. Upon Cloud synchronization, the following screens are displayed.

No.	Screen	Description
1		Cloud tick (☁) is blinking while syncing.
2		With connectivity: Static cloud tick (☁) display after sync success.
3		The cloud icon disappears after 30 seconds.

4		Without syncing: Static cloud sync fail display until the next successful sync.

Manual Read Out While Running

Follow the instructions on Manual Read Out While Running to retrieve data manually while the device is running.

How To Stop Monitoring

SmartMonitor SITE L can be stopped via cloud command only.

To stop the device, long-press the multifunctional button.

No.	Screen	Description
1		Upon device interaction, the device will indicate to the user that a long-press of the multifunctional button is required for stopping. ! If long-press is released too early during the stop process, the same screen will be displayed and the LED lights up red.
2		Upon long-press device interaction, the stop screen will be loaded.

3		Hold the button until the letters are replaced with stars (“*******”) from left to right and the LED signal has blinked once. The stop icon indicates that the device has been successfully stopped.

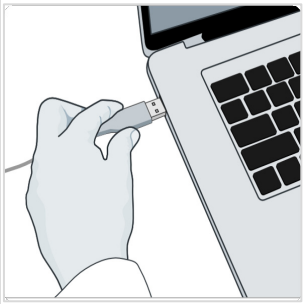
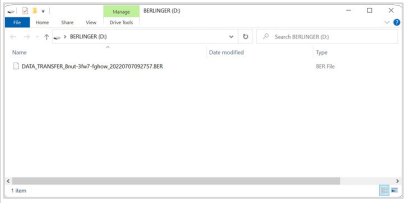
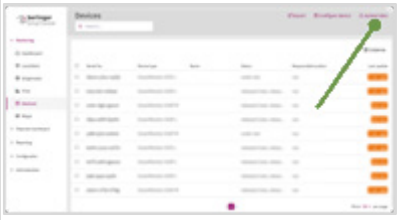
Automated read out

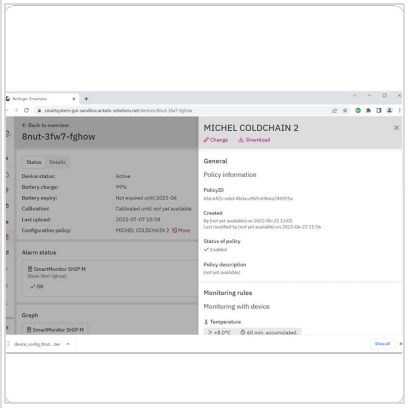
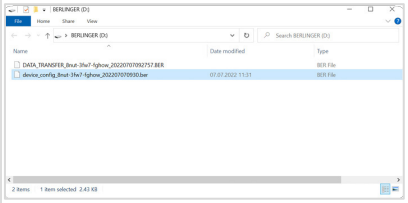
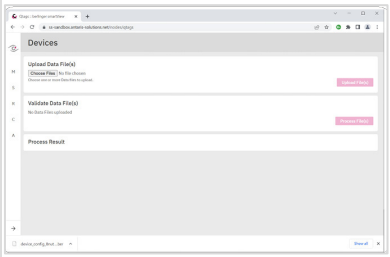
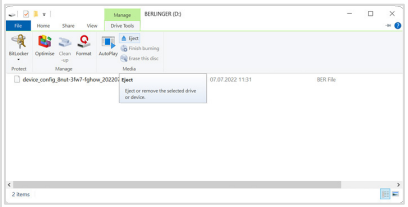
No.	Screen	Description
1		Establishing connection to SmartView. Cellular or WiFi symbol is blinking.
2		All data has been uploaded to the cloud.

Manual read out

If the device is not able to establish connectivity with SmartView to upload monitoring data, it is required to manually upload the data to SmartView via USB. In the next step, connect the device to your computer and wait for the device to appear in your driver. In the next step, download the data file manually to the computer.

Device indicates that manual transfer of monitoring data to SmartView is required. Review SmartView manual to find out how to upload the monitoring data to SmartView.

Step	Screen	Description
1		Connect a USB-C cable to SmartMonitor.
2		Connect USB cable with computer. The SmartMonitor display indicates REPORT if successfully connected.
3		When connecting the SmartMonitor to the computer a pop-up window of SmartMonitor (Sensitech) will appear. If the pop-up window does not appear, locate the USB Drive on your computer and open it.
4		Log into SmartView and locate the “**Data upload**” functionality under the tab “**Monitoring**”, “**Devices**”. Choose “**Data upload**” on the top right corner.

5		Click **Choose Files** and select the files displayed in the USB-Drive.
6		Click **Choose Files** and select the files displayed in the USB-Drive.
7		Once the files have been added select "**Upload File(s)**". Check Process Result to see if your files have been successfully uploaded. SmartView will provide a file that needs to be placed on the SmartMonitor to confirm the successful receipt of data.
8		Disconnect the SmartMonitor from your computer.
9		When the upload has been successfully completed, the display of the SmartMonitor indicates "DONE", otherwise repeat 1-9 to ensure that all data is available in SmartView.

Status when stopped

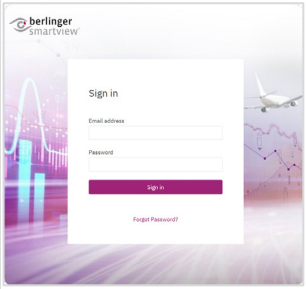
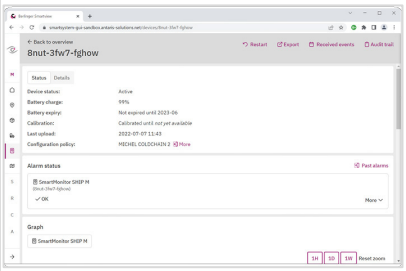
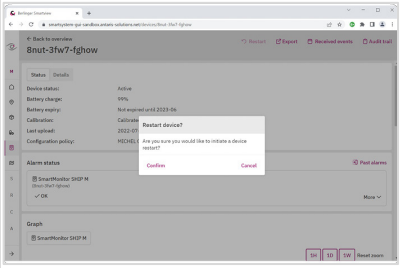
No.	Screen	Description
1		✔ Device indicates that no alarm violation took place during the entire monitoring period.
2		✕ Device indicates that alarm violation took place during the monitoring period.
3		Infinite scroll on alarm source. SmartMonitor vs. SmartSensor Temperature vs. Humidity Cloud.

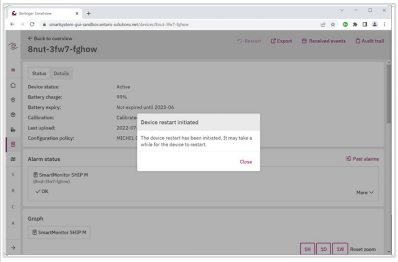
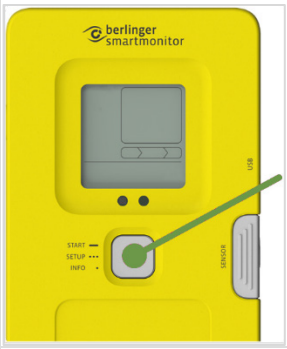
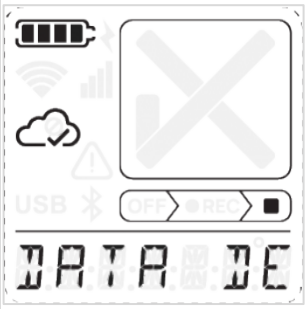
How to wipe your device

(For SmartMonitor SHIP M only)

Prepare SmartMonitor for Re-Use

SmartMonitor SHIP M is a single use device and therefore, the restart is not possible.

Step	Screen	Description
1		Only when the data from the previous use has been successfully uploaded to SmartView and the restart procedure has been completed, the SmartMonitor SHIP L is ready for re-use.
2		Log into SmartView and locate the device that you would like to restart under the tab “Monitoring”, “Devices”. Type the serial number printed on the front of the SmartMonitor into the Device overview and open the device page.
3		On the top right of the SmartMonitor device page select “Restart”.
4		Confirm on the pop-up screen that you want to restart the selected SmartMonitor.

5		Confirmation that SmartMonitor device restart has been initiated
6		To initiate the restart of the SmartMonitor, triple-push the multifunctional button.
7		The display indicates “**DELETE**” during the process.
8		Once completed, the return message defined in the configuration is displayed.

To get the device ready to start, check the battery level and make sure it is charged. After charging, the device takes at least one hour to recover and reach ambient temperature. During this time, it is not possible to start the device.

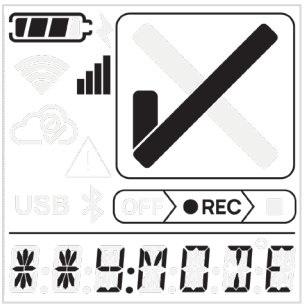
Additional functionalities:

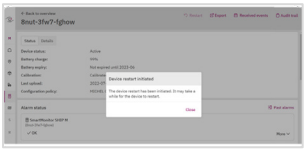
Manual Flight Mode

Once the device is started, the device can be put in ‘manual flight mode’.

During 'manual flight mode', RF emission exceeding what is allowed on aircraft, is suspended until the 'manual flight mode' is disabled. The device stores the manual flight mode state in non-volatile memory to ensure that the mode stays enabled even when the device unexpectedly resets. During active 'manual flight mode', any results from 'automatic flight mode' are ignored e.g., even if automatic flight mode determines that the device is not in flight, the radios remain suspended.

Activate the flight mode with the following steps (the process to deactivate the flight mode is the same):

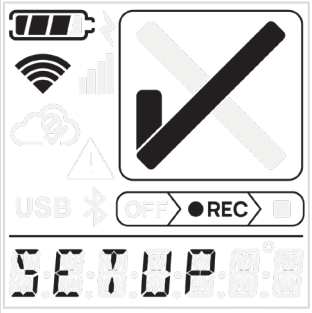
No.	Screen	Description
1		Triple push the multifunctional button to get into the menu options.
2		"**ACTIVATE FLIGHT MODE**" will appear on the screen. Long press the multifunctional button to perform the activation/deactivation.
3		The **FLY:MODE** screen is loading up confirmation.

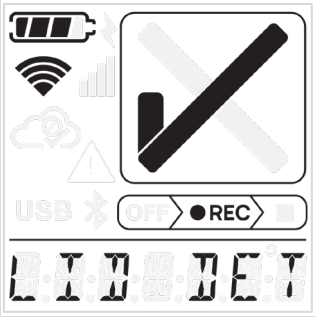
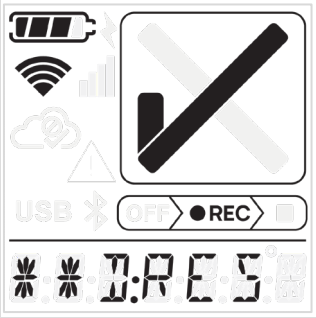
4		Static **FLIGHT** screen indicates the Flight mode is on.
5		Confirmation that the restart of the SmartMonitor device has been initiated.
6		To initiate the restart on the SmartMonitor, triple-push the multifunctional button.

Lid Detection Reset (for SmartMonitor SITE L only)

If you move or reposition the refrigerator, reinstall the SmartMonitor SITE L, or notice it is not alarming as expected, recalibration may be necessary.

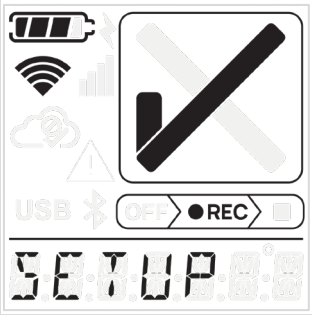
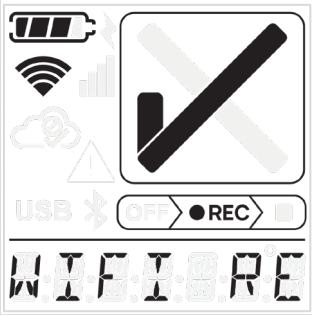
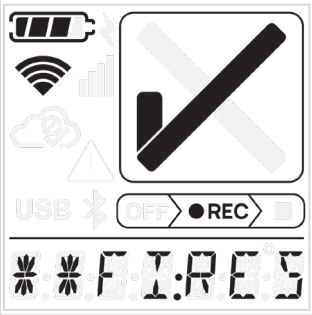
Follow the steps below to reset the lid detection function while the device is recording:

Screen	Information
	Triple push the multifunctional button to get into the menu options.

	Short press the multifunctional button to cycle through the menu items until the **LID DETECTION RESET** option appears.
	To perform the reset, long press the multifunctional button. The scrolling text will display **LID:RES**.

Wifi Reset

Follow the steps below to reset the WiFi option on SmartMonitor SITE L:

Screen	Information
	Triple push the multifunctional button to get into the menu options.
	Short press the multifunctional button to cycle through the menu items until the **WIFI RE** (WiFi reset) option appears.
	To perform the reset, longpress the multifunctional button. The scrolling text will display **WIFI:RES**.

Inspect Recalibration Due Date

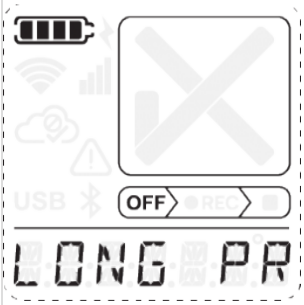
When a SmartMonitor is calibrated, the recalibration due date can be inspected on the device display as described in the Device & Display Information section.

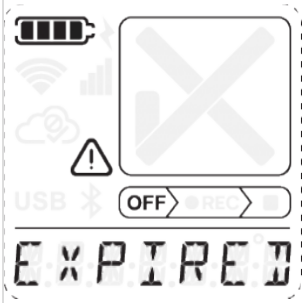
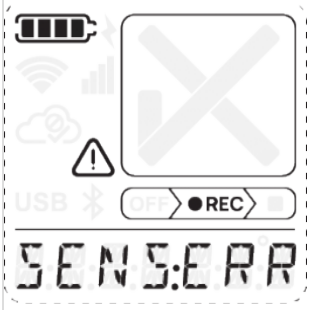
For SmartSensors, the calibration information can be inspected on the label attached.

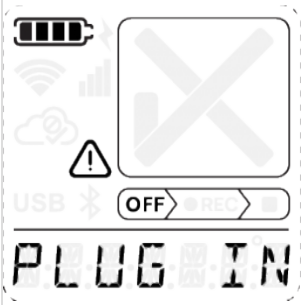
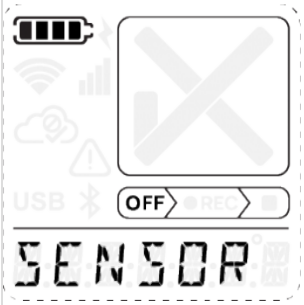
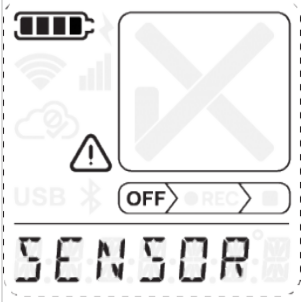
The calibration certificate of all devices can be inspected in SmartView.

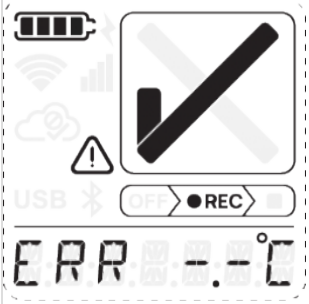
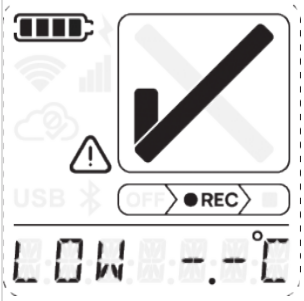
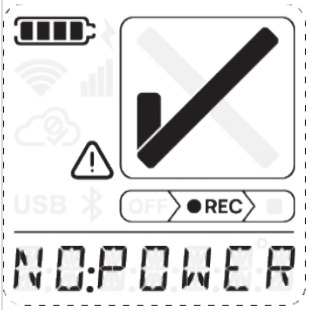
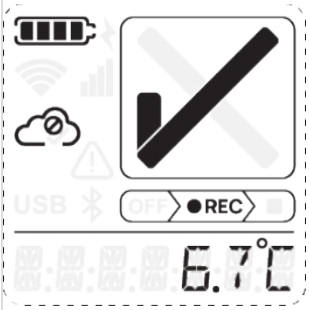
Warnings

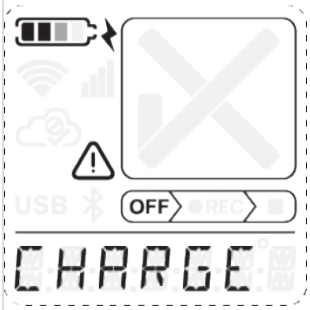
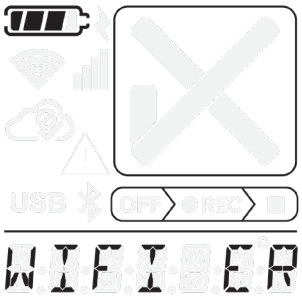
Display Warnings

Category	Problem	Effect	Solution
Low battery	Blank display	No information visible	Connect the device to USB charger to charge the battery.
General		**SMARTMONITOR ERROR** **ERROR** is shown on the display, the exclamation mark ⚠ is blinking and the LED lights up red. The device self-test was unsuccessful.	Contact sensitech.support@carrier.com for support.
Device start		Device cannot be started Display shows **LONG PR** and the LED lights up red.	Press the multifunctional button for at least 5 seconds.
Device start		**LOW BATTERY** **LOW:BATT** is shown on the display, the battery symbol is blinking and the LED lights up red. The device charge is too low to start the device.	Connect the device to power to charge the battery.

Device start		**BATTERY EXPIRED (ONLY SMARTMONITOR SHIP M)** **BAT:EXPIRED** will be shown on the display and the battery symbol is blinking. Exclamation mark ⚠ is blinking. The LED lights up red. The battery expiry date is reached. The device can no longer be started as Sensitech cannot guarantee battery performance according to data sheet.	Use an alternative device for your shipment. Reach out to Berlinger for return of the device with expired battery for recycling.
Device start		**CALIBRATION EXPIRED** Scroll "**CALIBRATION EXPIRED**" + "**EXPIRED**" Static and the exclamation mark ⚠ is blinking. The LED lights up red. The calibration expiry date set by the customer in SmartView has been reached. The device can no longer be started.	Recalibrate the device and update in SmartView accordingly.
External sensor		**EXTERNAL SENSOR ERROR** SENS:ERR will be shown on the display and the exclamation mark ⚠ is blinking.	Reconnect the external sensor to the device.

		The external sensor is disconnected.	
External sensor	 	**PLUG IN SENSOR** The configuration policy defined in SmartView provides the option to prevent the start of the device without external sensor connected. If this option is enabled, the SmartMonitor will indicate to the user that the external sensor needs to be connected before the start of the device.	Plug in the external sensor to the SmartMonitor. If the correct sensor has been connected, the display shows SENSOR OK. The long green LED signal indicates that the SmartSensor has been successfully connected.
External sensor		**SENSOR NOT OK** The external sensor, which has been connected to the device by the user, is not the SmartSensor type set to the configuration policy defined by the customer in SmartView. The LED lights up red.	Ensure the SmartSensor type defined in the configuration policy SmartView matches the SmartSensor type applied to the device.

Running device		**ERR-.-°C** will be shown on the display and the exclamation mark ⚠ is blinking. The measured temperature is out of the specified device temperature measurement range (TBC) of the SmartMonitor device. Single press the multifunctional button to indicate information on the error type.	Check the data sheet for the device measurement temperature range and ensure that the device is not exposed to temperatures outside of this range.
		**HI**, **LOW** and **-.-°C** will be shown on the display and the exclamation mark ⚠ is blinking. The display indicates whether the measured temperature is too high or too low.	
Running device		**NO POWER FOR SMARTMONITOR SITE L ONLY** will be shown on the display with scroll "**POWER PLUGGED OUT**" and the exclamation mark ⚠ is blinking. The SmartMonitor is disconnected from power.	Reconnect the SmartMonitor to power.
Running device		**No WIFI connection** No connection to SmartView software.	For SmartMonitor SITE L, add the WiFi credentials. If the problem still exists, contact sensitech.support@carrier.com

Running device		**“CHARGING CANNOT START” ONLY SMARTMONITOR SHIP L** Scroll + “**CHARGE**” Static is shown on the display and exclamation mark ⚠ is blinking. The SmartMonitor SHIP L cannot be started when charging. (TBC)	Wait until the battery is fully charged and disconnect from charging to start the device.
Running device		**T:CHARGE** will be shown with “**TEMPERATURE TOO HIGH/LOW FOR** **CHARGING**” on the display and the exclamation mark ⚠ is blinking. The SmartMonitor environment temperature is too high or too low.	Check the data sheet for charging temperature range.
Running device		**CHAR:ERR** will be shown with “CHARGING ERROR” on the display and the exclamation mark ⚠ is blinking. The battery charging system has detected an issue and stopped charging to prevent damage.	Contact sensitech.support@carrier.com for support.
Running device		**WIFI Error** The device could not establish a Wi-Fi connection.	Check the device display for more details about the error (e.g., incorrect credentials or cloud access failure).

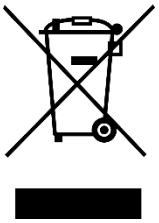
On the back of the device is a 3D-code, which links to a page where more information about the device is available.

If more help is needed, contact Berlinger support at sensitech.support@carrier.com

Disposal

Electronic devices are recyclable and do not belong in household waste. At the end of its lifetime, dispose of the product in accordance with the regulation of your country or return it to Sensitech according to Sensitech Return Merchandise Authorization process.

If more help is needed, contact Sensitech support at sensitech.support@carrier.com



Certification & Standards

Relevant information can be found in the data sheet.

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS and complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- L'appareil ne doit pas produire de brouillage.
- L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications made to this equipment not expressly approved by Sensitech may void the FCC authorization to operate this equipment.

Note: This device has been tested and meets the standards for a Class B digital device under part 15 of the FCC Rules. The established limits are intended to reasonably safeguard against harmful interference in residential environments. Since this equipment generates, uses, and may emit radio frequency energy, improper installation or use may cause unwanted interference with radio communications. While interference-free operation is not guaranteed for every setup, if the device disrupts radio or TV reception—determined by switching it off and on—the user should try the following solutions to resolve the issue:

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

Radiofrequency radiation exposure Information:

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Ce transmetteur ne doit pas être place au même endroit ou utilise simultanément avec un autre transmetteur ou antenne.

Regulatory certification

CE

FAQ & Glossary

Glossary of Symbols

Symbol	Description
	OK symbol
	ALARM symbol
OFF	SmartMonitor is ready to start
	SmartMonitor is measuring
	SmartMonitor has stopped
	Cloud status: Upload successful
	Cloud status: Upload not successful
	Connected to cellular
	Connected to WiFi
	Acoustic Alarm

The warning box includes important information or warnings.