# THERMCO ACCSL2021 Wireless VFC Temperature Data Logger User Manual



Contents



## THERMCO ACCSL2021 Wireless VFC Temperature Data Logger


## FEATURES

- Monitor 1 or 2 Wireless Temperature Sensors Simultaneously
- Ambient Room Temperature and Humidity Displayed & Recorded
- SMS and Email Alerts
- Replaceable Wireless Sensors!
  No down time for sending equipment back for calibration.
  No fumbling with wires in fridge.
- Bright Color Touch Display for ease of use.
- Web Dashboard, use any browser on local network
  No cloud, No subscription fees!
- Enterprise Network Login for Security
- Time automatically synchronized from internert
- Reports in .PDF format
- No PC Software needed
  * Second Temperature Sensor optional (cat#: ACCSLBLET)

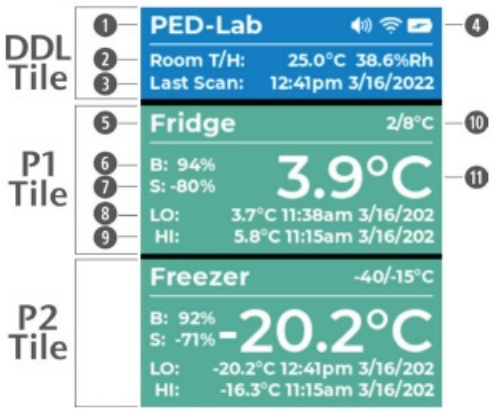
### Wireless Buffered Temperature Sensor



**SmartLOG DDL**

1. Red Alarm LED
2. USB Power LED Green
3. 5v Mirco USB Port
4. Factory Reset Button Deletes All Settings
5. Power On Button
6. Wall Mount Keyhole
7. Kick Out Desk Stand
8. Battery Compartment

## MAIN SCREEN




1. Name
2. Ambient Room Temperature Humidity
3. Time And Date Of Last Scan
4. Buzzer, Wi-Fi Strength, Battery Level Icons

**P1 Tile**

5. P1 Wireless Sensor Name
6. Battery Remaining Power
7. Bluetooth Signal Strength

8. Lowest Temperature Since Last Reset
9. Highest Temperature Since Last Reset
10. Alarm Set Points Min/Max
11. Current Temperature

**P2 Tile**

Same as P1

**OPTIONS SCREEN**

1. Dashboard IP Address
2. Close Options Screen
3. Option Buttons
4. Last Message Today


fig. 1

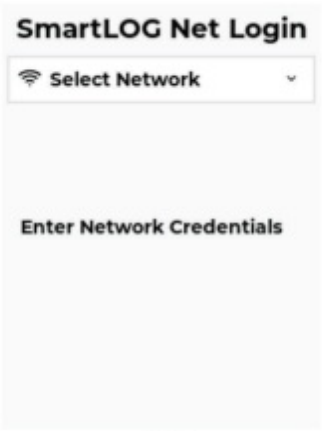



fig. 2

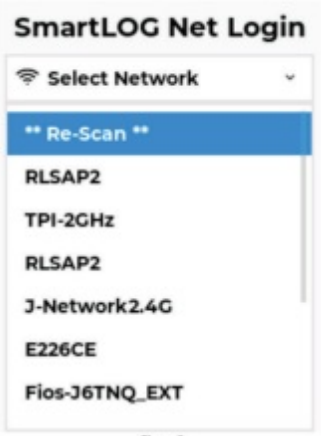



fig. 3


fig. 4


fig. 5


fig. 6

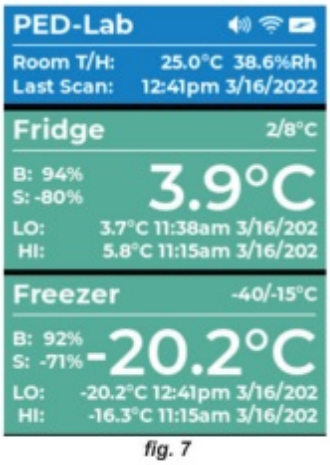



fig. 7

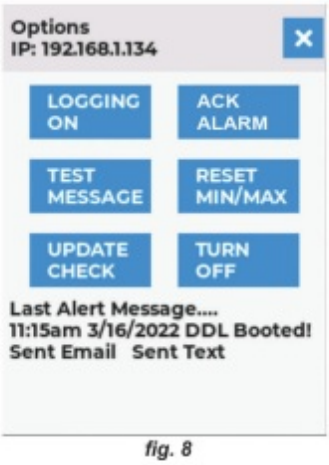



fig. 8

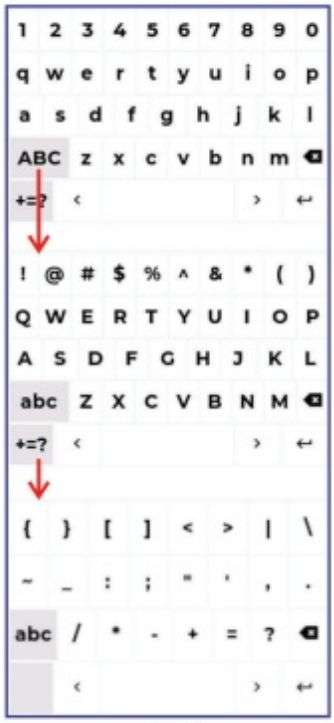


fig. 9

**KIT CONSIST OF:**

- 1 x Digital Data Logger
- 1 x Wireless Transmitter
- 1 x 5V 1A Power Adapter
- 1 x USB Cable
- 2 x AAA (for transmitter)
- 3 x AA (for DDL)
- 1 x Plastic Touch Screen Stylus

**PRODUCT OVERVIEW**

The McKesson refrigerator/freezer thermometer data logger (also referred to as SmartLOG in this document) is a Wi-Fi digital data logger (DDL) that monitors and records temperature and sensor battery status for up to two wireless sensors. It also logs the ambient room temperature/humidity and backup battery voltage.
The DDL scans for the wireless sensor in 1 minute intervals retrieving temperature, battery and signal data. This data is evaluated for temperature excursions, low battery condition or no data which indicates signal loss from the wireless sensor. If any of these conditions are true, the logger will send alerts via email and text message to contacts listed in the settings page of the dashboard. If there is a temperature excursion, alarm LED and buzzer will sound. Logger then refreshes the main DDL display screen and dashboard with all updated values. The SmartLOG dashboard can be viewed using a web browser on a PC or smart phone. Monitor all DDL conditions, generate PDF reports, and modify settings. using Dashboard (SmartLOG and PC or smart phone must be connected to same local network).
**NOTE:** If main power is lost, battery backup is provided by the 3 x AA batteries allow logging to continue for ~ 3 days (depending on alerts) After approximately 4 hours the DDL will turn off the display and Wi-Fi radio to conserve power allowing logging to continue until main power resumes. Tapping display will power screen for ~1 minute for viewing and then go back off. The Web Dashboard will not be accessible until main power resumes. Alerts will continue to be sent while on battery backup.
The wireless temperature sensor(s) LED blinks every 10 seconds, indicating sensor sent temperature, battery power, and signal strength.

## PRODUCT SETUP

Wireless Temperature Sensor(s)

1. Install quantity 2 AAA batteries. To open turn clip cap counterclockwise 1/8 rotation.
2. Place batteries negative end in first.
3. To close align printed arrows on clip cap and sensor to each other, push in and twist 1/8 turn clockwise.
4. To power on wireless sensor, press power button until blue LED flashes 5 times. LED should flash once every 10 seconds. To power off sensor, press power button until LED flashes two times, then release button.
5. Take note of the four digit serial number on the backside of the sensor(s) and assign to intended P1/P2 in settings page. e.g., P1 Name: Fridge SN# 000E
6. Place wireless sensor in storage unit to be monitored. Allow the sensor temperature to stabilize before setting up DDL. (wait approx. 60 minutes)

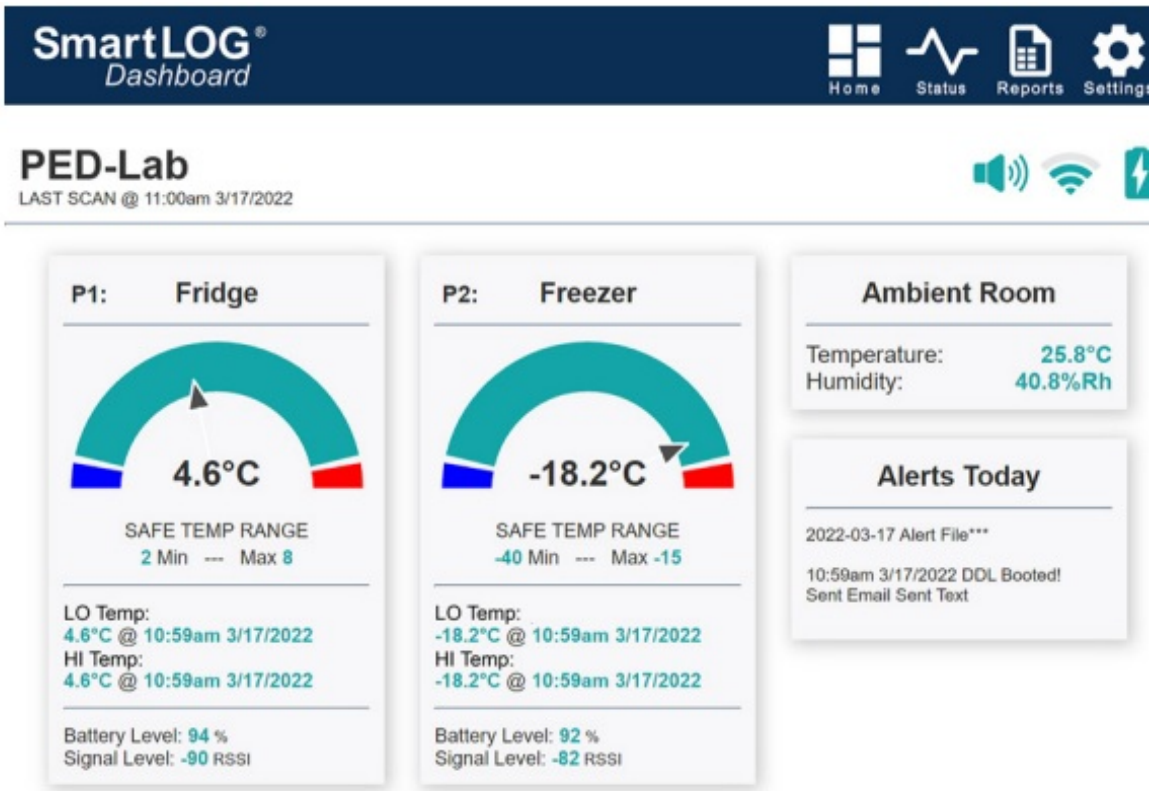
**SmartLOG Digital Data Logger (DDL)**
**NOTE:** The following instructions are only necessary on the initial Start-up of SmartLOG. All configuration settings will be retained in DDL memory.

1. Install quantity 3 AA batteries in compartment behind DDL. Slide cover down to open. Batteries are for backup ONLY! Use wall 110VAC adapter as primary source of power.
2. Attach wall 110VAC adapter to DDL using USB cable and plug in AC adapter to wall outlet.
3. Push and hold ON button on back of SmartLOG DDL until beep sounds, then release.
4. Screen will show “Scanning For Networks” fig. 1
5. Then will change to “Select Network” when scan has completed. fig. 2
6. Tap using provided plastic stylus on “Select Network”
7. A drop-down “SSID’s” (Wi-Fi network names) will appear in location nearest to farthest order. fig. 3
8. Tap on your desired network name you want to connect to.
9. A password field and keyboard will appear, enter the wi-fi network password. fig. 4. Tap eye icon to see hidden typed text if needed.
10. Tap the return key on keyboard (lower right corner) to enter values. DDL will now connect to network.

11. If SmartLOG is able to make a connection to the network, a message will be displayed instructing to complete remaining setup using a web browser. fig. 5 Follow “Dashboard” section to complete settings. If SmartLOG is not able to connect to network it will return to line #4. Repeat network setup.

**DASHBOARD:**

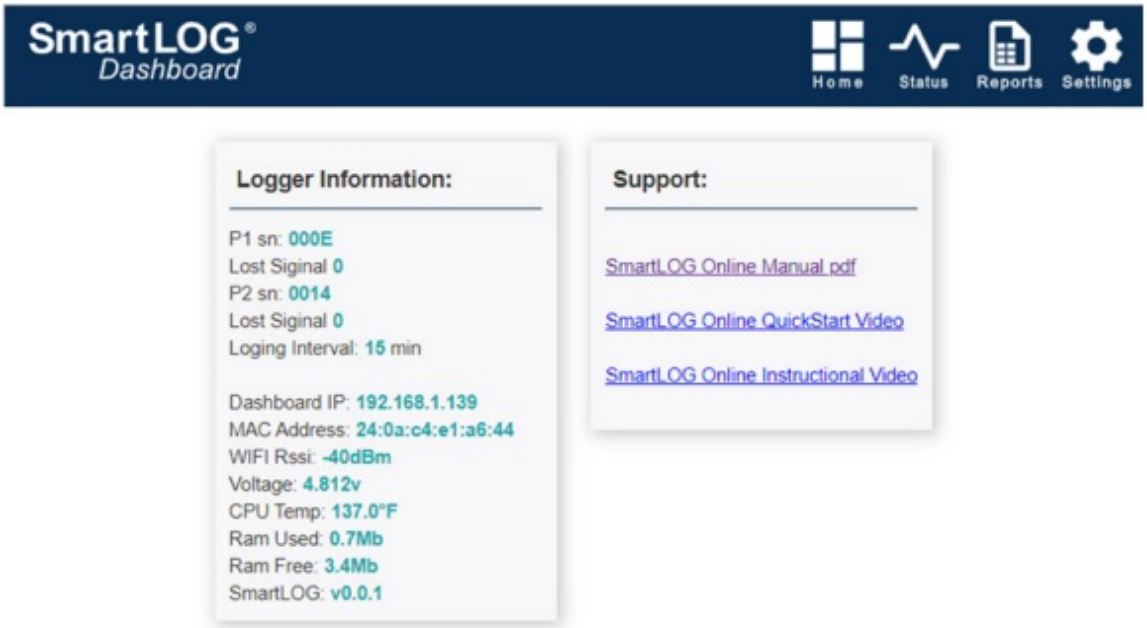
1. In the address bar of a web browser fig. 6, enter “SmartLOG/” or the IP address displayed on DDL. fig. 5
   **Note:** Host Name “SmartLOG” can be changed in settings page if desired.
2. On SmartLOG Dashboard page, click on the “Settings” (cog icon). A pop-up will appear, leave PIN field empty and click “Open”.
3. The Settings Page will now open, customize SmartLOG for desired operation then click Save to complete NOTE: The Access PIN field will require a 5 digit number in order to save the form. This PIN will be required for future access to settings page.
4. When settings are saved the SmartLOG will automatically start booting. If an Update pop-up is displayed, ignore unless there are new features you require or are having issues with SmartLOG. SmartLOG will continue booting after 5 seconds.
5. Display will show boot messages Check Memory, Get Network Time, Set Time Zone, Send Alert Message ‘Booted’ and Then Scan for Temp(s). Once temps are received the Main Screen will be displayed. fig. 7




**SMARTLOG DASHBOARD HOME PAGE**

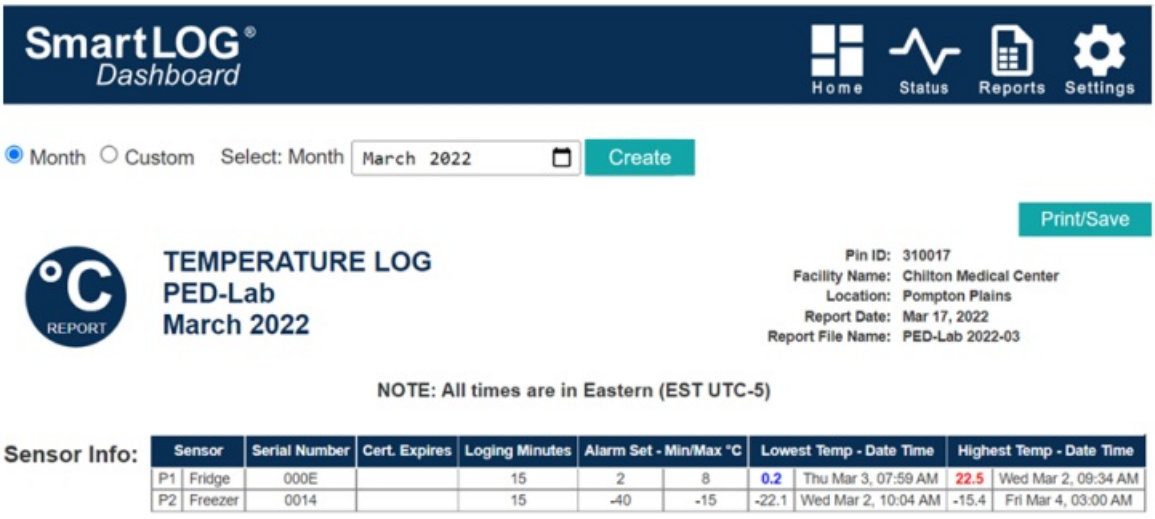
- Navigation Icons
- Logger Name, Alarm Spk, Wi-Fi, Pwr icons Tap Speaker icon to acknowledge alarm. This will mute Alarm Buzzer and send ACK alert Sensor(s) Name
- Temperature Gauge  relative to Min/Max set points

- Current temperature
- Min/Max settings values
- Lowest and Highest recorded
- Temperature, Date and Time
- Sensor Battery power remaining
- Signal strength




**STATUS PAGE**

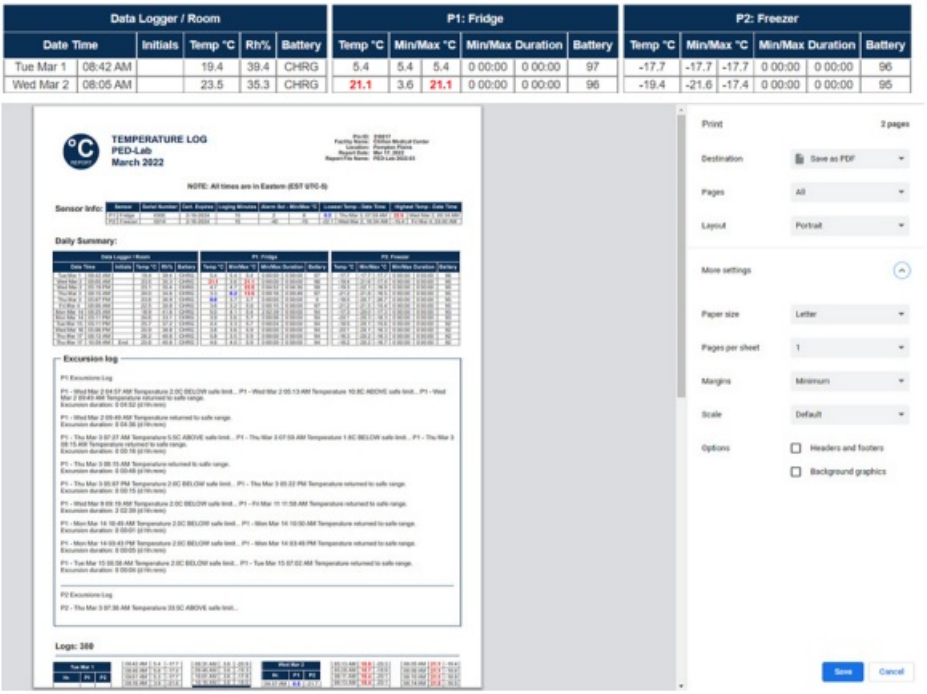
- Logger Information: Sensor serial number Consecutive lost signals from wireless sensor, Logging interval
- Wi-Fi IP addr, Mac addr, Signal strength
- CPU temperature, Ram used and free Firmware version running
- Support: Links to online manual, QuickStart video, instructional video.




**REPORT PAGE**

- **Month:** selection starts on 1st and reports to last record of month.
- **Custom:** user picks from/to dates for report.

- **Create**: button generates the report
- **NOTE:** Report generation can take up to 1 min to create. If no response refresh web page (F5) and create report again.

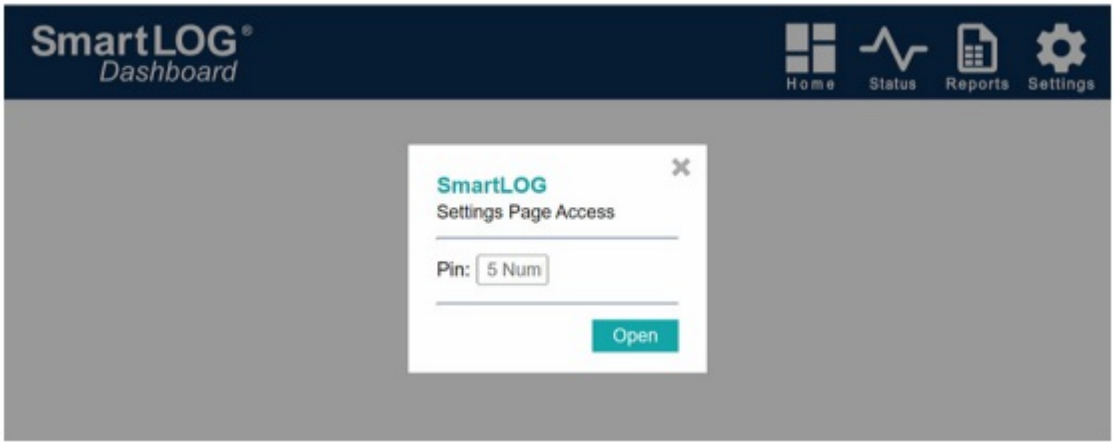


| Data Logger / Room | | | | | P1: Fridge | | | | | P2: Freezer | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date Time | Initials | Temp °C | Rh% | Battery | Temp °C | Min/Max °C | Min/Max Duration | | Battery | Temp °C | Min/Max °C | Min/Max Duration | | Battery |
| Tue Mar 1 08:42 AM | | 19.4 | 39.4 | CHRG | 5.4 | 5.4 | 5.4 | 0 00:00 | 0 00:00 | 97 | -17.7 | -17.7 | -17.7 | 0 00:00 | 0 00:00 | 96 |
| Wed Mar 2 08:05 AM | | 23.5 | 35.3 | CHRG | 21.1 | 3.6 | 21.1 | 0 00:00 | 0 00:00 | 96 | -19.4 | -21.6 | -17.4 | 0 00:00 | 0 00:00 | 95 |

**Report has 4 sections**

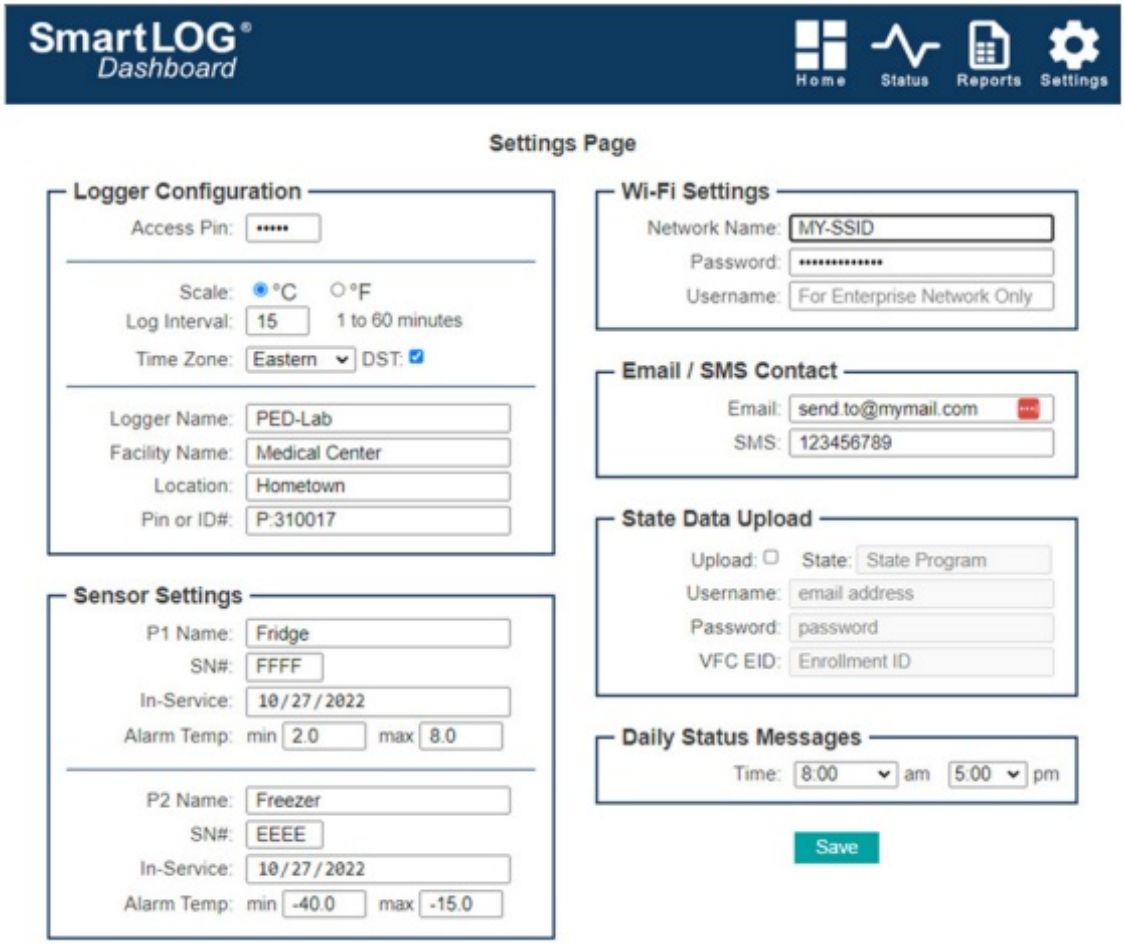
1. Sensor Info
2. Daily Summary
3. Excursion Logs
4. Status/Alert Logs
5. Logs

All excursion values are color coded red for high values, blue for low values
**Print/Save:** button opens print menu, select save as PDF option to create a permanent file on your PC.




**SETTINGS PAGE ACCESS POP-UP**
**Pin:** 5 digit number
If created during initial setup enter Pin number, otherwise, leave blank and click Open.

## SETTINGS PAGE




### Logger Configuration

- **Access Pin**: 5 digit number (required to save) Scale: Display & Report in °C or °F.
- **Log Interval:** Select from 1 to 60 minutes.
- **Time Zone:** Set your local Time Zone.
- **DST:** Daylight Savings Time, sets clock forward by one hour when checked.
- **Time is automatically synchronized from internet. Logger Name:** Name is used in reposts, emails & SMS messages sent. Do not use the same name if using additional data loggers on the same network. Use up to 12 alphanumeric characters, hyphen “-”, no spaces.
- **Facility Name**: Location:, Pin or ID#: are optional fields that show on reports.

### Sensor Settings

P1 & P2 Name: A drop down list to select Fridge or Freeze that will auto-populate Alarm Temp: min and max values. Custom name & min/max values can be entered. For single sensor application, set P2 to No Sensor Sensor SN#: Enter 4 digit serial number located on back of wireless sensor or new replacement sensor. In-Service: Auto-populates with current date. Reports will display Sensor Expires date (+2 yrs from In-Service date).

### Wi-Fi Setting

These fields are populated from the initial SmartLOG SETUP.

- **If you need to change the network:** Network Name: SSID (Service Set Identifier) is the name of your wireless network
- **Password:** network password.

- **Username**: is for Enterprise Networks.

**Email/SMS Contact**

- **Email:** Address to send alert email to.
- **SMS:** 10 digit phone number to send text msg to.

**State Data Upload**
Logs can be sent daily directly to state VFC servers. Feature will be available in future update.

**Daily Status Messages**
Select one or both an am or pm time for daily notifications of sensor(s) current, min, max temps and battery level plus ambient room temperature, humidity and SmartLOG battery state. These messages will be displayed in Reports Status/Alert Logs section. Time: can be set to OFF for both am and pm to disable status messages.

**TEMPERATURE EXCURSIONS**
If a temperature sensor detects an excursion the SmartLOG alarm led will flash, buzzer will sound and DDL display and dashboard tiles will change to warning colors. See ACK BUTTON for more information

**DDL OPTIONS SCREEN:**
Tapping “Main” screen anywhere opens the “Options” screen. fig. 8 Tap X to close options screen if no change are needed.

**EMAIL / SMS MESSAGES**

| | |
|---|---|
| **Alert Messages**<br><br>*** sent every hour until acknowledged ACK** | * *Time Date* Temperature Excursion *Name*: Temp 8.5C (above limit of 8.0C)<br><br>*Time Date* Temperature Notice *Name*: Returned to safe temp 7.5C” |
| | * *Time Date* POWER Failure ON Battery Backup 100% remaining<br><br>*Time Date* POWER Restored OFF Battery Backup |
| | * *Time Date* Sensor Signal Lost *Name*: Check sensor battery or distance from logger<br><br>*Time Date* Sensor Signal Found *Name*: Check sensor battery or distance from logger |
| | * *Time Date* Sensor Battery Low *Name*: Replace battery 24% remaining |

| | |
|---|---|
| **Alert Messages From Buttons** | *Time Date* User Stopped Logging<br><br>*Time Date* User Started Logging |
| | *Time Date* Alarm Acknowledged |
| | *Time Date* Test Message Dev-Logger IP address is: xxx.xxx.xxx.xxx |
| | *Time Date* User Reset Min Max |

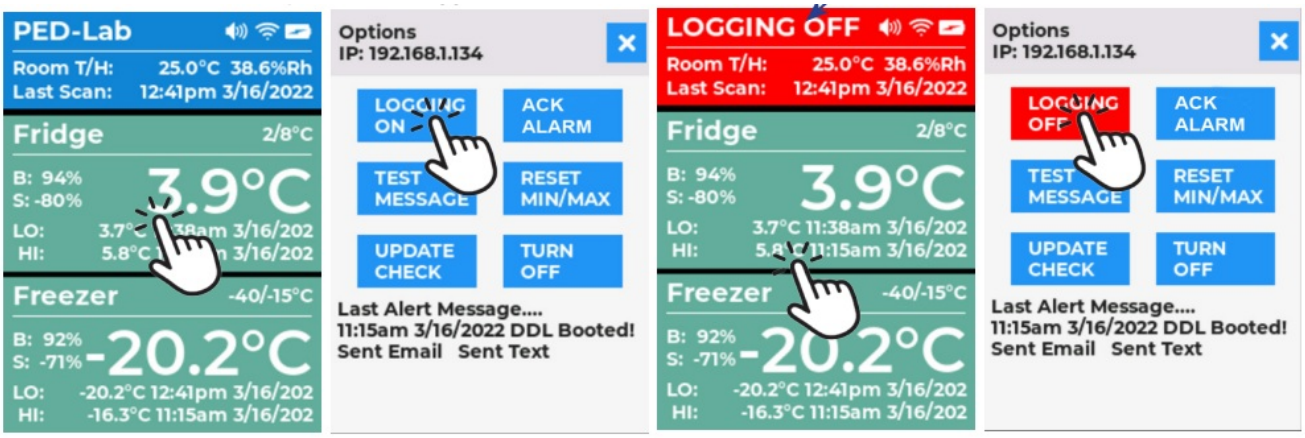
| | |
|---|---|
| **Daily Status Messages** | *p1 Name*: Cur:7.6C Min:5.0C Max:7.6C Bat:100%<br><br>p2 *Name*: Cur:-20.0C Min:-20.0C Max:-20.0C Bat:100% Amb:22.8C/48.5% Bat:CHRG |

**LOGGING BUTTON:** When set to OFF, data recording will stop and alerts will be disabled from being sent NOTE: Alerts are sent every hour until alarm condition clears, or if logging is off.
**LOGGING OFF**

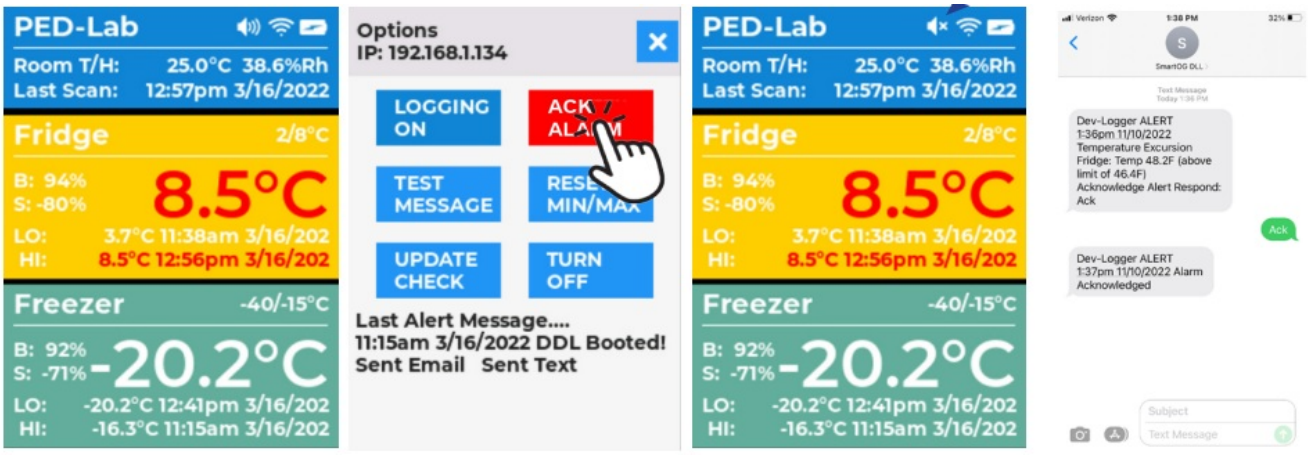
1. If button reads “LOGGING ON” it is in the ON state, logging data active.
2. Tap this button to turn LOGGING OFF. Wait for button to transition as email/SMS alerts are being sent out. When alerts are complete, the screen will switch back to the main screen automatically showing DDL tile in red and logger name replaced with “LOGGING OFF”.

**LOGGING ON**

1. If button reads “LOGGING OFF” it is in the OFF state, logging data stopped.
2. Tap this button to turn LOGGING ON. Wait for button to transition as Email/SMS alerts are being sent out. When alerts are sent the screen will switch back to the main screen automatically showing DDL tile blue and “LOGGING OFF” replaced with logger name.




**ACK BUTTON:** When temperature excursions are acknowledged with the ACK button the audible buzzer will be muted and an alert message will be sent. The screen will switch back to the main screen automatically after Email/SMS are sent. Speaker icon will have an X indicating speaker is muted. You can acknowledge an alarm with text message also.

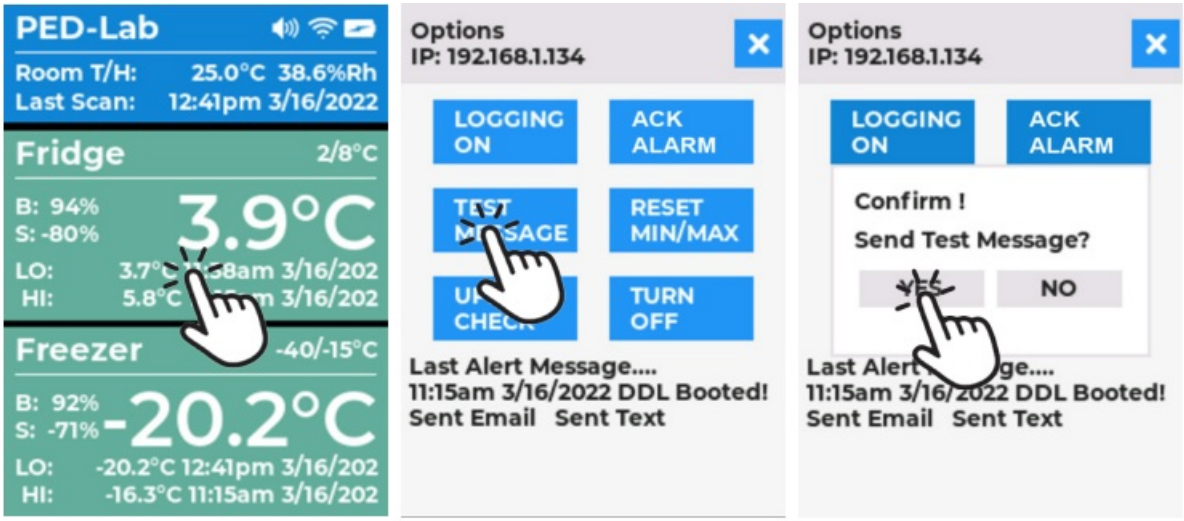



If ACK BUTTON was clicked and temperature returns to a safe range, DDL display and dashboard will return to

normal.

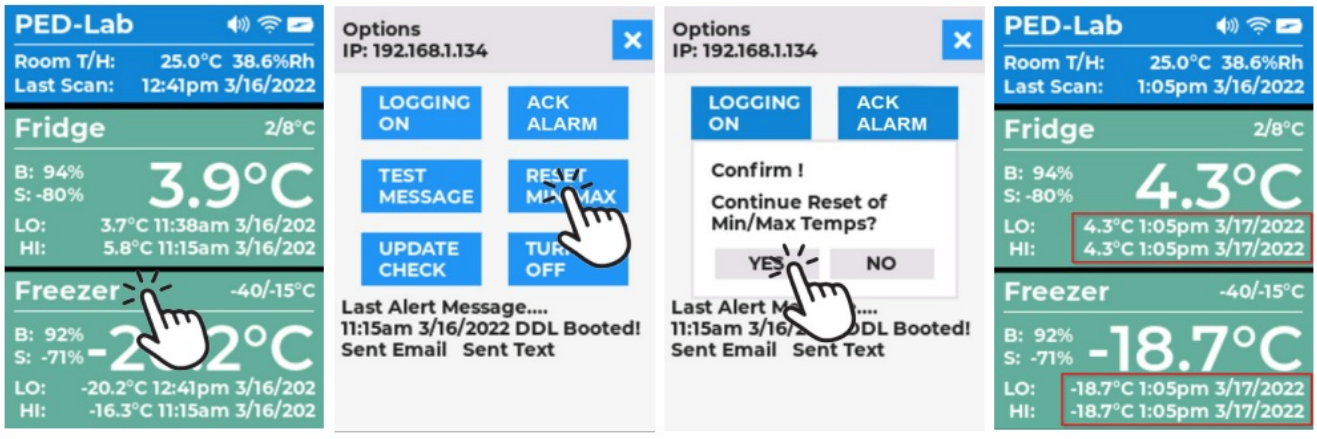
**TEST MESSAGE BUTTON:** Will send an email and/or SMS to recipients in contact list. Received message links will open Dashboard in a browser.

1. Tap TEST MESSAGE button.
2. Tap YES in Confirm pop-up window will send a Test Email and SMS message then return to main screen. If you tap NO, the pop-up will close and you will be sent back to main screen automatically.



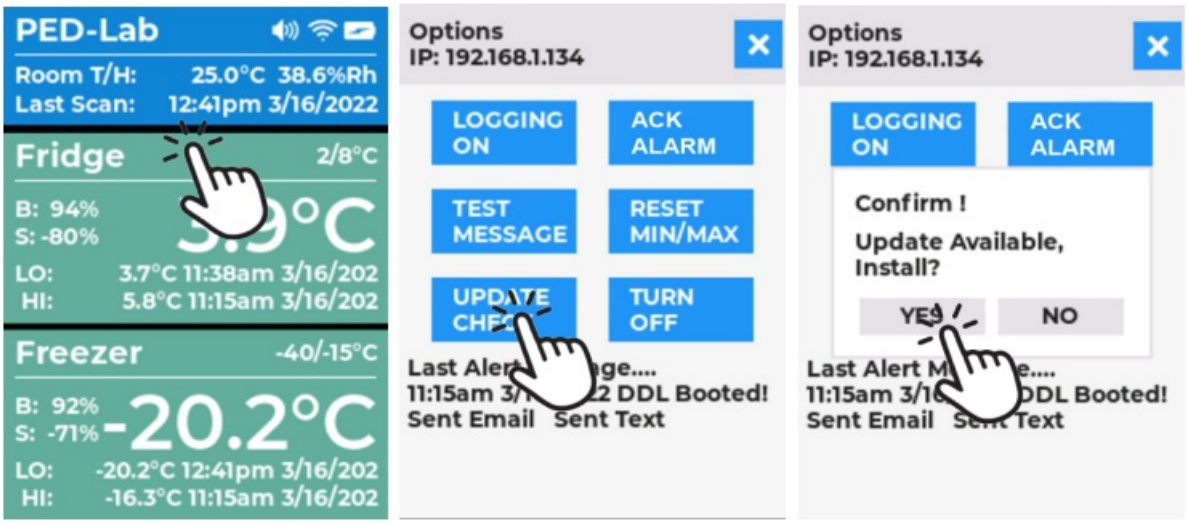

**RESET MIN/MAX BUTTON:** Sets memory recorded min and max values to current temperature, time and date and re-moves alert and alarm colors from display if excursion was triggered.

1. Tap RESET MIN/MAX button.
2. Tap YES in confirm pop-up window to reset values. Wait for button to transition as email/SMS alerts are being sent out. Pop-up will close and switch back to the main screen automatically. If you tap NO, the pop-up will close and will be sent back to main screen automatically.




**UPDATE CHECK BUTTON:** Checks online for new firmware. If new firmware is available, user has option to update. NOTE: Only recommended if having issues or new features you require.

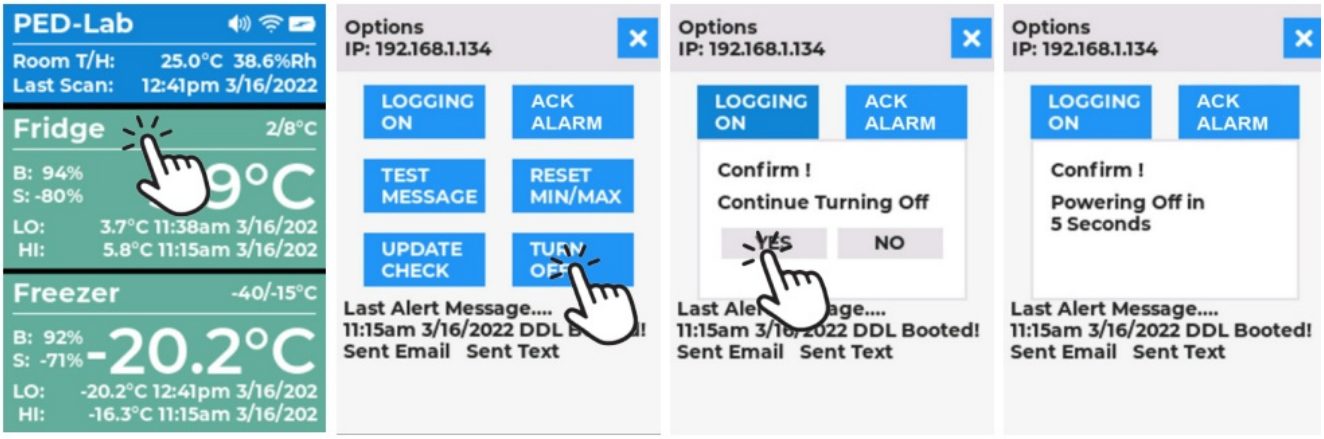
1. Tap UPDATE CHECK.
2. Taping YES in confirm pop-up window will download and install firmware then return to main screen. If you tap NO, the pop-up will close and will be sent back to main screen automatically. Other responses: No Wi-Fi: SmartLOG not connected to network, No Updates: SmartLOG is up to date.




**TURN OFF BUTTON:** Powers off SmartLOG.

1. Tap TURN OFF button.
2. Tap YES in confirm pop-up window to power off. Wait for button to transition as email/SMS alerts are being sent out.

   Confirm pop-up window “Powering Off In 5 Seconds”.




**TROUBLESHOOTING GUIDE**

| | |
|---|---|
| Logger not powering on | Check 5v adapter, USB cable, batteries |
| Not receiving wireless temperatures | Check batteries and/or shorten distance between DDL and sensor |
| Data logger not responding | Remove USB power and batteries: reinstall batteries and connect USB p ower cord. Push on button until you hear beep. If no response data logge r may be faulty. |
| Incorrect Time | Turn logger off. Start logger, will update from online time server. |
| Not able to connect to browser | Name or IP must be entered in the ADDRESS BAR not SEARCH SmartL OG DDL must be connected to same network as PC or smart phone |
| Unresponsive web page | Click the refresh icon or press the F5 key for PC |
| Reset to factory | Press RESET button on back of unit until you hear 2 beeps. Unit will reb oot. Will need to re-configure logger. |
| Email Response: Timed Out | Was not able to connect to your email server, incorrect credentials, email and/ or password. |

**SPECIFICATIONS**

| | |
|---|---|
| SMARTLOG® DDL MONITOR GATEWAY | |
| Wi-Fi: | 802.11 b/g/n (2.4 GHz only) |
| Security: | WPA/WPA2 Enterprise |
| Display: | 240×320 pixel TFT Color Display w/Touch Screen |
| Screen Update: | 60 seconds |
| Memor: | 16MB (2 years of records @ 5 minute intervals) |
| Ambient Sensor: | Temperature range -40 to +125°C (-40°F to 257°F), Humidity range 0-100%RH |
| Alarms: | Audible Piezo Buzzer/Visual LED/SMS/Email |
| Date/Time: | NTP clock synchronization during boot |
| Power: | 5v wall adapter w/5’ micro USB cable |
| Batteries: | Alkaline 1.5v 3 x AA (backup only for power loss) |
| Battery Life: | ~ 3 days with no alarms, (NOTE: replace all batteries after any power loss of more than 1 day) |
| Working Temp: | -20 °C ~ 70 °C |
| Dimensions: | 83 (W) X 120 (H) X 26 (D) mm, |
| WIRELESS BUFFERED TEMPERATURE SENSOR | |
| Temperature Range: | -40C to 50°C (-40°F to 122°F) |
| Accuracy: | ±0.5°C (±1.0°F) |
| Distance: | 50m/164ft (open field), 10m/32ft (inside fridge/freezer) |
| Buffer medium: | Glycol |
| Batteries: | Alkaline 1.5v 2 x AAA |
| Battery Life: | ~1yr |
| Certification: | 2yr NIST ISO17025 Certificate Included |

## Warranty

With respect to the goods, unless expressly agreed otherwise in writing, Thermco Products, Inc. provides warranty for material and manufacturing defects for a period of one (1) year from date of purchase. During said period, Thermco Products, Inc. offers to provide physical examination of goods, provide repair of goods and/or components, or replace defective goods. This process would be subject to Thermco Products, Inc. issuing a Return Goods Authorization (RGA), which may or may not be at customer expense. Warranty shall not be considered for components such as batteries, incompetent installation, faulty maintenance by customer, normal wear and tear or deterioration of components due to improper use or non-compliance with proper use of goods.

**Note:**

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

**Contains FCC ID:** 2AC7Z-ESP32WROVERE
**Contains IC:** 2109-ESP32WROVERE
CAN ICES-003(A)/NMB-003(A)
DTS (Digital Transmission Systems) rules replace DSS (Direct Sequence Spread spectrum)

10 Millpond Drive Unit #10 Lafayette, NJ 07848 – Phone: 973.300.9100
rev 11/14/2022

## Documents / Resources

| | |
|---|---|
|  | THERMCO ACCSL2021 Wireless VFC Temperature Data Logger [pdf] User Manual<br>ACCSL2021 Wireless VFC Temperature Data Logger, ACCSL2021, Wireless VFC Temperature Data Logger, Temperature Data Logger, Data Logger, Logger |

## References

- Thermco Products