nvent RAYCHEM OM-EU2191 Elexant Connect Application User Manual

Contents

nvent RAYCHEM OM-EU2191 Elexant Connect Application

Product Information

Specifications

- Product Name: nVent RAYCHEM ELEXANT CONNECT Application
- Compatibility: Android version 9 and higher
- Supported Devices: Elexant 3500i, 5010i, NGC-20 control units
- Interface: Wireless Bluetooth

Product Usage Instructions

Installation and Setup
Download and install the nVent RAYCHEM ELEXANT CONNECT application from the Google Play Store on your Android device.

Running the Application
Launch the Elexant Connect application on your Android device.

Scanning for Nearby Devices
Go to the scanning section within the application to search for nearby Elexant 3500i, 5010i, or NGC-20 control units.

Fetching Data from Scanned Devices
After scanning, select a device to fetch data and monitor its configuration.

Screen Layout
The application is divided into different screens such as Top Section Screen, Overview Screen, Alarm Screen, Electrical Screen, Maintenance Screen, Limiter Screen, and Setup Screen.

FAQ

- **Q: What devices are compatible with the nVent RAYCHEM ELEXANT CONNECT application?**
  - A: The application is compatible with Elexant 3500i, 5010i, and NGC-20 control units.

- **Q: How can I download the ELEXANT CONNECT application?**
  - A: You can download the application from the Google Play Store on an Android device with version 9 or higher.
- **Q: What is the purpose of the ELEXANT CONNECT application?**
  - A: The application allows for configuration and monitoring of nVent control units via a Wireless Bluetooth interface.

Elexant Connect Application

User Manual

PRODUCT OVERVIEW

This document describes the use and the capabilities of the nVent RAYCHEM ELEXANT CONNECT application. nVent ELEXANT CONNECT configuration and monitoring software is developed for Android version 9 and higher. The software enables
nVent Elexant 3500i, 5010i and NGC-20 control units to be configured and monitored via a Wireless Bluetooth interface. The exact use of this software is described in this manual.

Elexant Connect User Manual – Vital information
This manual is a guide for the setup and operation of the Elexant Connect application (formerly the Field Connect application). Important: All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their particular application. nVent makes no warranties as to the accuracy or completeness of
the information and disclaims any liability regarding its use. nVent's only obligations are those in the nVent Standard Terms and Conditions of Sale for this product, and in no case will nVent or its distributors be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of the product. Specifications are subject to change without notice. In addition, nVent reserves the right to make changes—without notification to Buyer—to processing or materials that do not affect compliance with any applicable specification.

Elexant Connect – License Agreement

Terms and Conditions for "Elexant Connect"

- This end-user license agreement ("EULA") is between you (referred to as "You" or "Your") and nVent Thermal LLC, 899 Broadway Street, Redwood City CA 94063-3104, United States (the "Company") who owns the application software named "Elexant Connect" (the "App") through which You can, amongst other things, configure and monitor the nVent RAYCHEM NGC-20 Field-Mounted Electronic Heat-Tracing Control Units, the Elexant 3500i Electronic Thermostat, and Elexant 5010i Heat-Tracing Control Units (the "Units"). The Company licenses use of the App to You subject to the terms of this EULA. This App requires an Android device with a minimum of 16MB of free storage with 3 GB or more of RAM recommended (the "Device"). The App also requires internet access in order to be downloaded and/or to get the updates the Company might release from time to time. The App also requires an operating system of 9 and upwards and a minimum screen resolution of 800 x 480. You are responsible for making all arrangements necessary to ensure You have access to the App.
- This App will be available and can be accessed in any country, except for Restricted Countries subject to economic sanctions and constraints administered by the U.S. Treasury Department, or applicable export control measures administered by the U.S. Department of Commerce and U.S. Department of State, or any other

government agencies. This App will only be supported by the Company in English. This means that if You require support to use this App, You must be able to communicate with the Company in English. The Company does not file a copy of this EULA. You should print a copy of this EULA for future reference.

Important Notice
By installing, downloading or streaming the App or any portion of the App You agree to the terms of this EULA which will legally bind You. If You are performing any of the foregoing on behalf of a company or other entity, “You” means that entity, and you are binding that entity to this EULA. You represent and warrant that you have the legal power and authority to enter into this EULA and that, if the licensee is an entity, this EULA is entered into by an employee or agent with all necessary authority to bind that entity
to this EULA. If You do not agree to the terms of this EULA, You must not use the App and stop the installation, downloading or streaming process now. If the App was downloaded or otherwise installed, please destroy all copies of the App.

Agreed Terms

Your use of the App and Company warranties

1. In consideration of You agreeing to comply with the terms of this EULA, the Company grants You a non-transferable, non-assignable, non-exclusive and revocable license to use the App on the Device, subject to this EULA and the Privacy Policy, incorporated into this EULA by reference. The Company reserves all other rights.
2. You agree that:
    - You are solely responsible for any use of the App, including (without prejudice to clauses 3.2 and 11.2) any other user that You permit to use the App on the Device; and
    - the Company shall not be liable to any user that You permit to use the App on the Device; and
    - You are responsible for Your actions or those of any user that You permit to use the App on the Device.
3. You may install, download or stream a copy of the App onto the Device and view, use and display the App on the Device for (when the App is properly used in accordance with this EULA and on an operating system for which it was designed)
    1. configuring and monitoring the nVent RAYCHEM NGC-20 Field-Mounted Electronic Heat-Tracing Control Units, the Elexant 3500i Electronic Thermostat, and the Elexant 5010i Heat-Tracing Control Units (the “Units”); and
    2. updating the firmware of the Units.
4. You may not re-download or copy the App content. Features of the App may be available on a limited or temporary basis.
5. At the Company’s sole discretion downloadable App content may be cancelled and/or no longer made available and in such circumstances the Company shall be under no obligation to ensure Your use of the App or App content (as the case may be) is resumed or that You are able to re-download the App content. Examples of this include (without limitation) limited availability in accordance with clause 1.4.

Acknowledgments
You acknowledge and agree that

1. the terms of this EULA apply to the App including any updates or supplements to the App unless such updates or supplements come with separate terms, in which case those terms apply;
2. from time to time updates to the App may be issued by the Company. Depending on the update, You may not

be able to use the App until You have downloaded or streamed the latest version of the App;

3. You will be assumed by agreeing to the terms of this EULA to have obtained permission from the owners of the mobile telephone or handheld Device that is controlled, but not owned, by You to download, install or stream a copy of the App onto the Device. You and they may be charged by Your and their service providers for internet access on the Device. You accept responsibility in accordance with the terms of this EULA for the use (whether the use is by You or the owner of the Device) of the App on or in relation to any Device, whether or not it is owned by You and for any charges levied by service providers for Your use or the owner's use of the App on the Device;
4. the App specifications may be changed without prior notice;
5. the App is provided "as is" and no guarantee, implied or express, is provided by the Company should there be any error, data loss or any other event causing malfunction whatsoever;
6. the App is only to be used as a tool to assist with monitoring the Units and You must separately monitor (and continue to monitor) the Units in accordance with Your current procedures and the Company's instructions; and
7. subject to clause 7.1, all warranties, conditions and other terms implied by law (whether by statute, common law or otherwise) are excluded from this EULA.

License Restrictions

Except as expressly set out in this EULA or as permitted by applicable law, as part of the license from the Company to You at clause 1.1, You agree:

1. not to copy the App except where such copying is incidental to normal use of the App, or where it is necessary for the purpose of back-up or operational security;
2. not to rent, lease, transfer, assign, license, sub-license, loan (or otherwise distribute), distribute, translate, merge, adapt, sell, resell, reproduce, copy, publish the App or disclose the App to third-parties or otherwise commercially exploit the App or make it, or any portion thereof, available to any third party in any manner;
3. not create derivative works based on the App;
4. not copy any ideas, features, functions or graphics of the App;
5. not remove, obscure, alter or move the Company's and/or its licensors' proprietary notices;
6. not to make alterations to, or modifications of, the whole or any part of the App, or permit the App or any part of it to be combined with, or become incorporated in, any other programs;
7. not to disassemble, decompile, attempt to derive the source code or reverse-engineer the App (except to the extent that applicable laws prohibit reverse engineering restrictions, and then only as permitted by such laws);
8. not to use the App to violate, tamper with or circumvent the security of any computer network, software, passwords or otherwise engage in any illegal activity or enable others to do so;
9. keep all copies of the App secure and to maintain accurate and up-to-date records of the number and locations of all copies of the App; and
10. to include the Company's copyright notice on all entire and partial copies You make of the App on any medium.

App Use Restrictions

When using the App You must and (without prejudice to clauses 3.2 and 11.2) You shall procure that other users of the App on the Device must:

1. not use the App in any unlawful manner, for any unlawful purpose, or in any manner inconsistent with this EULA, or act fraudulently or maliciously, for example, by hacking into or inserting malicious code, including viruses, or harmful data, into the App or any operating system;

2. not use the App in a way that could damage, disable, overburden, impair or compromise the Company's systems or security or interfere with other users;
3. not collect or harvest any information or data from the Company's systems or attempt to decipher any transmissions to or from the servers running any service;
4. not take any activity which infringes upon (or has the risk of infringing upon) the intellectual property rights (such as the design rights) of the Company or any third party in relation to Your use of the App;
5. not carry out any activity which infringes upon (or has the risk of infringing upon) the assets, the privacy, and the rights to usage of one's likeness belonging to the Company or any third party;
6. not carry out any activity which unjustly prejudices and/or slanders the Company or any third party and/or any activity which damages the reputation and/or trustworthiness of the Company or any third party;
7. not carry out any activity connected to (or has the risk of being connected to) fraud or any other criminal activity;
8. not carry out any other activity which is against the law, is a violation of public order and standards of decency, or which infringes upon the rights of another user or other third party; and
9. not carry out any other activity which could be deemed unsuitable by the Company.

Intellectual Property Rights

1. You acknowledge and agree that all rights, title and interest, including all intellectual property rights in the App and its content anywhere in the World belong exclusively to the Company and that rights in the App are licensed, and not sold, to You and that You have no rights in, or to, the App or its content other than the right to use the App in accordance with the terms of this EULA.
2. You acknowledge and agree that You have no right to have access to the App in source-code form.
3. "Feedback" means all observing, evaluative or corrective information, statement, comment or observation about an incident, action, event, or process and other content or items prepared or otherwise provided by You to the Company in relation to the App. During the course of using the App, You may provide Feedback to the Company. The Company shall exclusively own all rights, title and interest, including all Intellectual Property Rights, in this Feedback. In the event that any Intellectual Property Rights in Feedback is deemed for any reason not to be exclusively owned by the Company, You agree to assign, transfer and convey to the Company, and hereby assign, transfer and convey to the Company, all right, title and interest, including Intellectual Property Rights, in such Feedback, and agree to provide reasonable cooperation to the Company, at the Company's expense, to perfect such rights.

Data Collection Policy

1. In order to provide You with information tailored to Your interests, the Company may use the data You enter into the App.
2. The Company will only use Your data for research and analysis purposes and such use will be subject to the Company's Privacy Policy. For more information on how the Company may process that information, who the Company may share it with and Your rights to this data, a copy of the Privacy Policy can be obtained by emailing to **thermal.info@nVent.com** .
3. By agreeing to the terms of this EULA by installing, downloading or streaming the App You consent to such processing and You confirm that all data provided is accurate and contains the necessary permissions.

Company's Liability to You

1. Nothing in this clause 7 or this EULA shall limit or exclude the Company's liability to You for:
    - death or personal injury resulting from the Company's negligence;
    - fraud or fraudulent misrepresentation; and
    - any other liability that cannot be excluded or limited by applicable law.
2. Disclaimers
    1. You expressly acknowledge that your use of the App is at your sole risk. The Company provides you the App "as is" and "as available", with all faults and defects, without warranty and without maintenance or support services. The Company makes no representations or warranties of any kind, and the Company disclaims all warranties and representations whether express, implied, statutory or otherwise with respect to the App, including, without limitation any warranty:
        - that the App will be compatible with all or any hardware and software which You may use, except a Device;
        - that the App will be available at all times and will operate uninterrupted and be error free, virus free and secure;
        - of merchantability, of fitness for a particular purpose, of satisfactory quality, of non-infringement, of quiet enjoyment,
        - related to the integrity, timeliness, reliability, and/or accuracy of the App; or
        - that the App will necessarily work on the Device, even if Your Device meets all the operational and technical requirements.
    2. Technical issues and updates are controlled by the Company. However, the Company is not liable or responsible for updating or maintaining Your personal licensed App copy.

Limitation of Liability

1. You acknowledge that the App has not been developed to meet Your individual requirements, and that it is therefore Your responsibility to ensure that the facilities and functions of the App as described in this EULA meet Your requirements.
2. Notwithstanding anything to the contrary and to the maximum extent permitted by applicable law, the Company will have no liability to You for any loss of profit, loss of business, loss of data, business interruption, or loss of business opportunity costs of substitute goods or services, or any indirect, consequential or special loss.
3. If the Company fails to comply with the terms of this EULA, the Company is only responsible for loss or damage You suffer that is a foreseeable result of the Company's breach of this EULA or the Company's negligence up to the limit specified at clause 7.3.4 but the Company is not responsible for any unforeseeable loss or damage. Loss or damage is foreseeable if it is an obvious consequence of the Company's breach or if they were contemplated by You and the Company at the time the Company granted You the license under this EULA.
4. The Company's (together with its affiliates) maximum aggregate liability to You (together with your affiliates) under or in connection with this EULA whether in contract, tort (including without limitation negligence) or otherwise, shall in all circumstances be limited to 2000 EUR in aggregate.

Termination

You may terminate this EULA by ceasing use of the App and uninstalling the App. The Company may terminate this EULA (in whole or in part) at any time with immediate effect on written notice to You:

1. if You are in breach of this EULA;
2. if You give the Company false information or withhold from the Company important information in relation to Your use of the App;
3. if You breach the License Restrictions or App Use Restrictions at clauses 3 and 4 respectively;
4. if You attempt to defraud the Company or act dishonestly;
5. if the App is no longer provided or supported by the Company or its affiliates; or
6. if required to do so by applicable law or regulation, and/or if there is a change in the applicable law that would have a material impact (including a cost impact) on the provision of the App.

Where the Company terminates Your EULA, all license rights granted to You shall immediately terminate and You must cease use of the App, uninstall the App immediately and provide confirmation of the same to the Company in writing (if requested by the Company). Termination will not limit any of nVent's rights or remedies at law or in equity. You are responsible to save and export the data you enter into the App regularly. After termination of this EULA, the Company may delete the data you have entered in the App.

Communication between us and enquiries

1. **Communications**
   - The Company reserves the right, at any time and from time to time, to update, revise, supplement, and otherwise modify this EULA, for example but not limited to, to comply with changes in the law or to take account of new functionalities of the App that the Company may offer. Such updates, revisions, supplements and other modifications will be effective immediately upon publication. Your continued use of the App will be deemed to constitute Your acceptance of such updates, revisions, supplements and other modifications. If you do not agree to any such updates, revisions, supplements and other modifications, please discontinue using the App and uninstall the App.
   - The Company will not necessarily bring changes or updates to Your attention other than in accordance with clause 9.1(a). It is therefore important that You read the terms of this EULA each time You install, download or stream the App to ensure that You are aware of any changes and that You agree to any changes.
   - If You wish to contact the Company in writing, or if any condition in this EULA requires You to give the Company notice in writing, You can send this to us by e-mail to **thermal.info@nVent.com** or by prepaid post to nVent Thermal Europe GmbH, with registered office at Muhlenstrasse 26, CH-8200 Schaffhausen, Switzerland. The Company will confirm receipt of this by contacting You in writing, normally by e-mail. Please ensure that Your email address is provided.
2. **Enquiries**
   If You have any questions regarding this App, wish to report a bug, or if You have additional features You would like to recommend for this App please contact the Company at: **thermal.info@nVent.com** .

Events outside of the Company's control

1. The Company will not be liable or responsible for any failure to perform, or delay in performance of, any of its obligations under this EULA that is caused by any act or event beyond the Company's reasonable control including but not limited to failure of public or private telecommunications networks, acts of God, flood, drought, earthquake or other natural disaster; epidemic or pandemic; terrorist attack, civil war, cyberattacks, civil commotion or riots, war, threat of or preparation for war, armed conflict, imposition of sanctions, embargo, or

breaking off of diplomatic relations; any Laws or any action taken by a government or public authority, including without limitation imposing an export or import restriction, quota or prohibition; collapse of buildings, fire or explosion; and any labor or trade dispute, strikes, industrial action or lockouts ("Event Outside the Company's Control").

2. If an Event Outside the Company's Control takes place that affects the performance of the Company's obligations under this EULA:
    - the Company's obligations under this EULA will be suspended and the time for performance of its obligations will be extended for the duration of the Event Outside the Company's Control.

Other important terms

1. The Company may at any time assign, transfer, mortgage or deal in any other manner with all or any of its rights and obligations under this EULA.
2. You may only transfer Your rights or obligations under this EULA to another person if the Company agrees in writing.
3. Subcontracting. Subject to mandatory applicable Laws, the Company shall be permitted to subcontract or delegate in any manner any or all of the performance of its obligations under the EULA to any Affiliate, contractor or any other third party service provider without requiring Your prior written consent.
4. If the Company fails to insist that You perform any of Your obligations under this EULA, or the Company does not enforce its rights against You, or the Company delays in doing so, that will not mean that the Company has waived its rights against You and will not mean that You do not have to comply with those obligations.
5. This EULA and all documents referred to herein constitute the entire agreement between You and the Company and supersede any prior agreement or arrangement in respect of its subject matter and neither party has entered into this EULA in reliance upon, and it will have no remedy in respect of, any misrepresentation, representation or statement (whether made by the other party or any other person) which is not expressly set out in this EULA or in the documents referred to herein. Nothing in this clause will be interpreted or construed as limiting or excluding the liability of either party for fraud or fraudulent misrepresentation.
6. Each of the conditions of this EULA operates separately. If any court or competent authority decides that any of them are unlawful or unenforceable, the remaining conditions will remain in full force and effect.
7. Any affiliate of the Company may seek to enforce the terms of this EULA to the extent they confer a benefit upon it. Otherwise, none of the terms of this EULA shall be enforceable under the Contract (Rights of Third Parties) Act 1999 by any third party and no other person therefore shall have any rights to enforce any of the terms of this EULA between You and the Company.
8. Please note that this EULA and any non-contractual obligations arising out of or in connection with it are governed by English law. You and the Company agree that the courts of England and Wales will have exclusive jurisdiction to determine any dispute arising out of or in connection with this EULA (including in relation to any non-contractual obligations).

User Responsibilities

The performance, reliability and safety of your heat-tracing system depend on proper design, selection, and installation. The Elexant Connect application will help you to configure and monitor a system that meets your requirements, but it is only a tool. It assumes that your input is accurate, that you are familiar with heat-tracing system design and configuration, and that you will ensure that all components of the heat-tracing system are installed, maintained and used as intended. The configuration of the controller should be reviewed by a knowledgeable engineer to ensure it is appropriate for your application. Additional information relating to safety, design, and installation is contained in Design Guides, Installation Manuals, Data Sheets, and other literature

available from nVent . Be sure to consult these documents as needed.

Safety Warnings
There are important safety warnings which are shipped with nVent products. Be sure to read, understand and follow these safety warnings to reduce the risk of fire, shock, or personal injury. If you have any questions, contact your local representative or contact nVent directly. Warning, Error, and Alarm Messages Under certain conditions, the Elexant Connect application will alert the user with a warning, an alarm, or an error message. These are typically either because the program cannot find an acceptable answer based on user input, or because the user may need to take some additional action to ensure the design requirements are completely met.
For questions, please contact your local representative, or contact nVent directly

- **United States**

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HOW TO RUN THE ELEXANT CONNECT APPLICATION

Click on the icon of the Elexant Connect application

INITIAL SETUP OF THE UNIT

After the program is started the Startup Screen (Fig.1) will be displayed. If it is the first time opening the app, you will be prompted to review and accept the Terms and Conditions (Fig.2) to use the app.

Figure 1: Startup screen

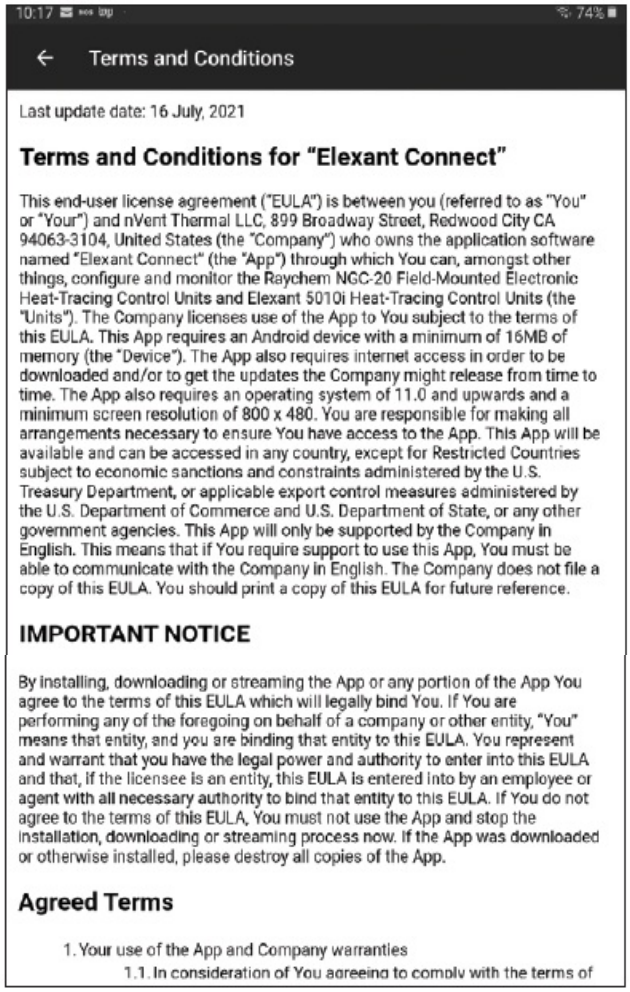


Figure 2: Terms and Conditions

Main Screen

The Main Screen (Fig.3) will be blank every time you open the app. To display a list of devices you can connect to, read Section 3.4. There are 3 buttons on the top right of the screen. When the 3 dots are clicked, it will show the Settings, Terms and Conditions, and Reset Code List.

Figure 3: Main Screen

App Settings

In the Settings (Fig.4) the user can change Temperature Unit and Language the app will display, and the About Section for the App (Fig. 5). If Terms and Conditions is clicked, The Terms and Conditions page can be accessed (Fig.2). Reset Code List will be explained in Section 4.1.1.2.3 (Fig.29).

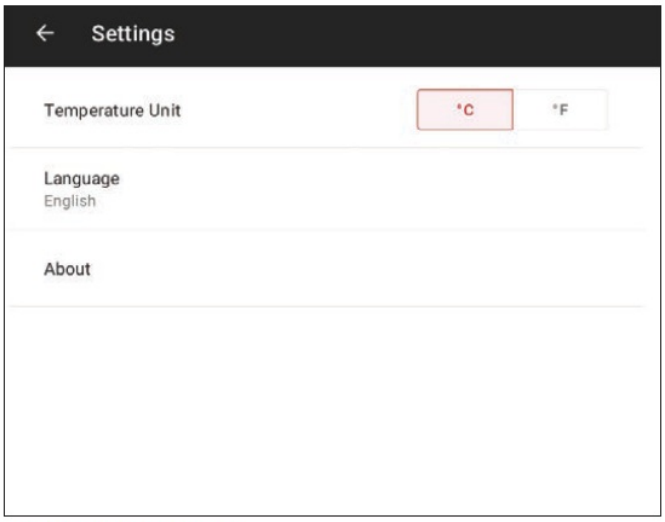


Figure 4: App Settings Screen

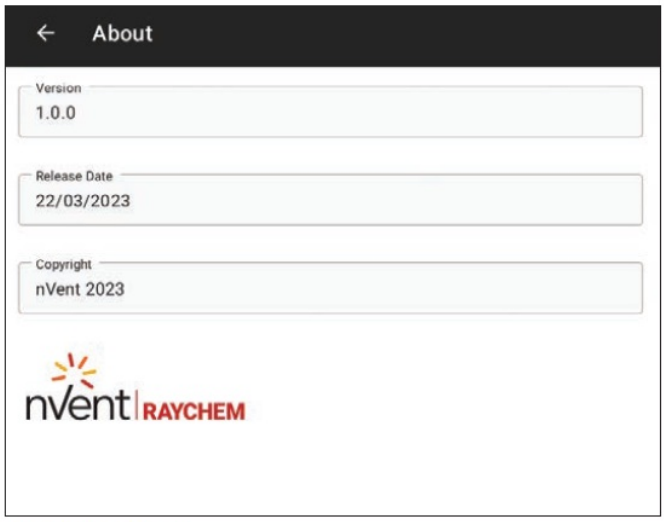
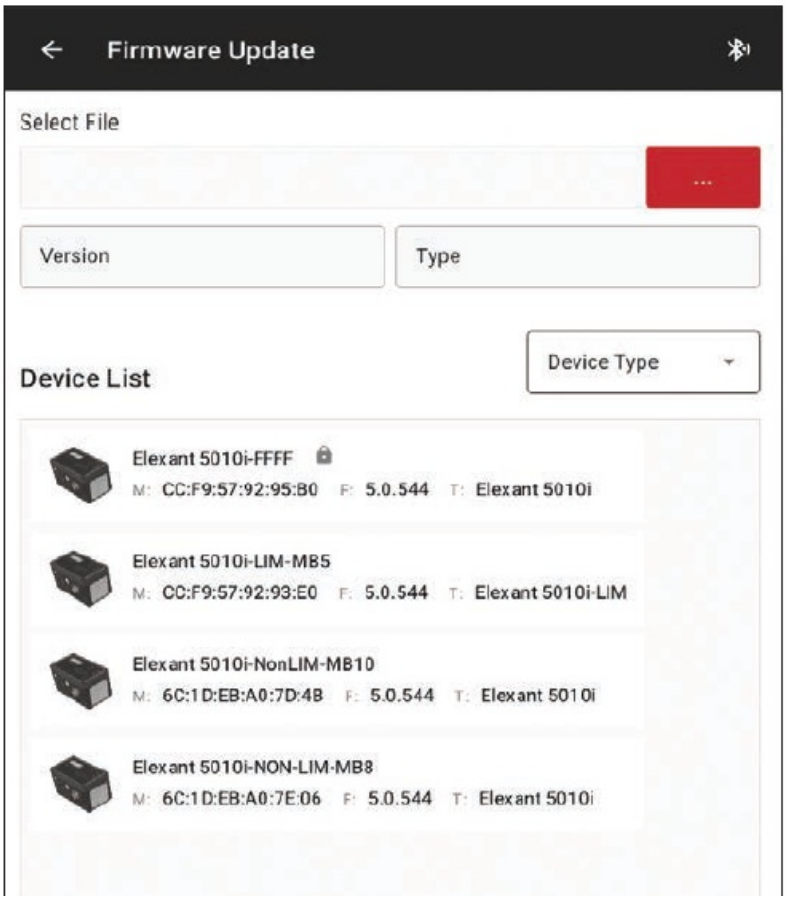


Figure 5: About Screen

Firmware Update Screen

Beside the 3 dots, is the Firmware Update button. This button will be used to update a device's Firmware. You select a file stored in the tablet, which is the .bin file to update the Firmware for a controller (Fig 6).



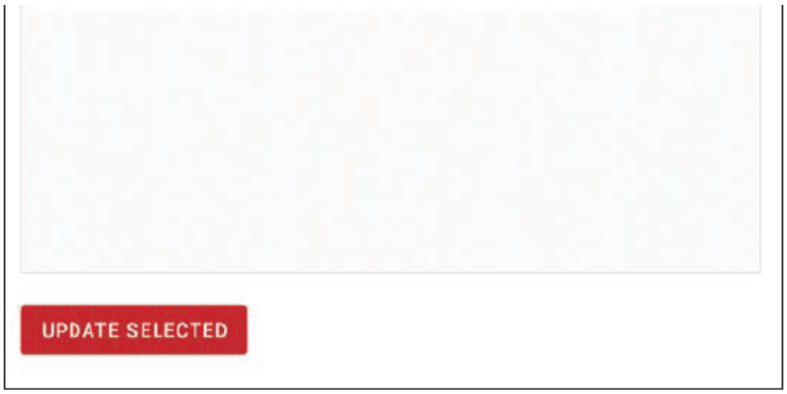
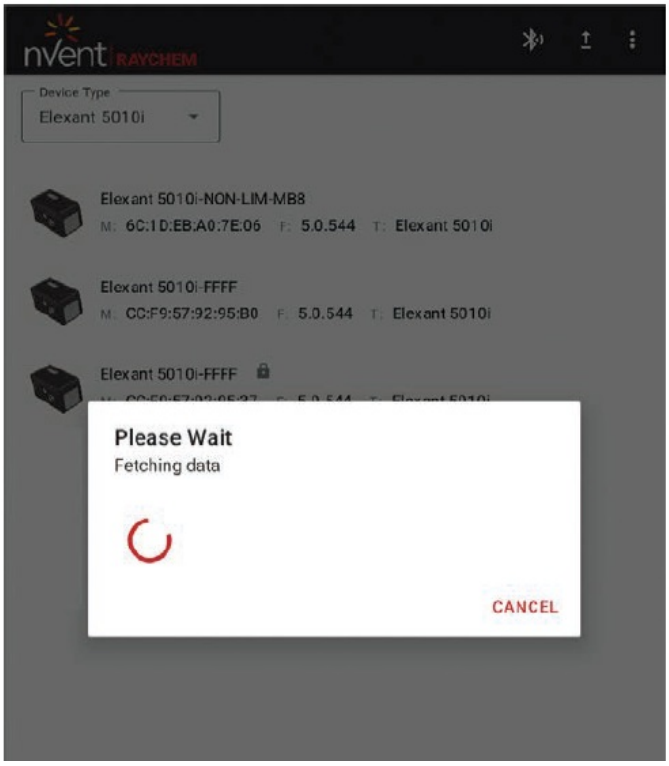


Figure 6: Firmware Update Screen

Connecting to a Controller
The last button is the Bluetooth® Button, will shows up in the Firmware Update Screen as well as the Main Screen, and the process is explained below.

Scanning for Nearby Devices
The way you can connect to either an Elexant 3500i, Elexant 5010i, or NGC-20 is by first scanning for devices by clicking the Bluetooth Button on the top right of the Main Screen. This will scan for all available nVent Controllers which might take a while depending on how many you have (Fig.7). Before scanning, you can filter out what device you want to see with the Device Type drop down menu. When scanning, 2 things will show up on the screen after a device has been scanned. The Device Type (NGC-20, Elexant 3500i, or Elexant 5010i) and The Mac Address for that device.

Fetching Data from Scanned Devices
After the Scanning process is done, it will start fetching data for the controllers shown on the screen one by one. When fetching data is complete, the Screen will look like (Fig.8). It will fetch the Device Tag and the Firmware Version. If the device has Bluetooth Security (Section 4.1.1.2) enabled, a locked symbol will be shown beside the Tag.
When Scanning, if you recognize the Mac Address to the device you want to connect to, you can click stop scanning, which will prompt the app to start fetching the data for the devices already scanned. You can also skip the Fetching process by clicking cancel, no Tag or the Firmware Version will be shown, but you can still connect to a device when clicked.



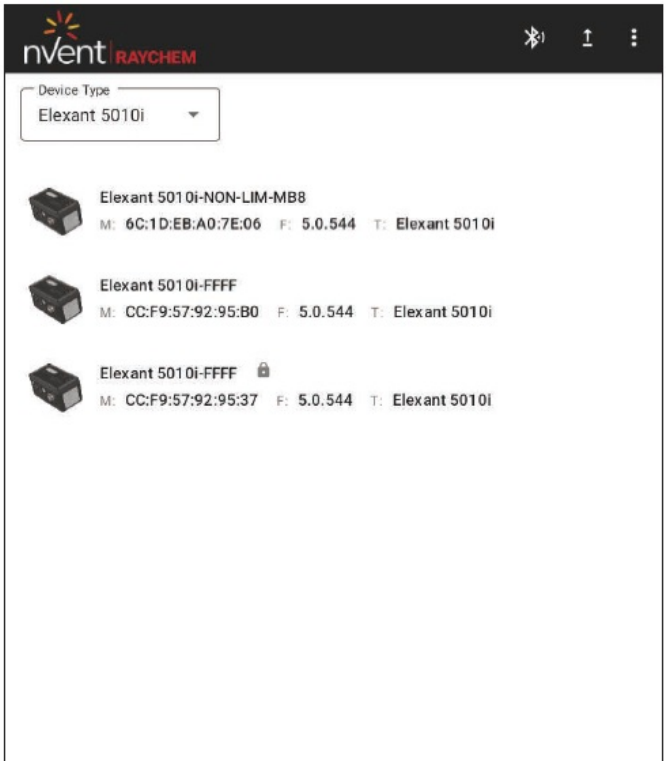


Figure 7: Scanning for Devices

Figure 8: Devices Found

SCREEN LAYOUT

Top Section Screen

Each screen will show the same header information, which looks as follows. You can slide the Tab Section to see the rest of the tabs. Please note that not all settings will be available depending on which controller the Elexant Connect Application is connecting to.

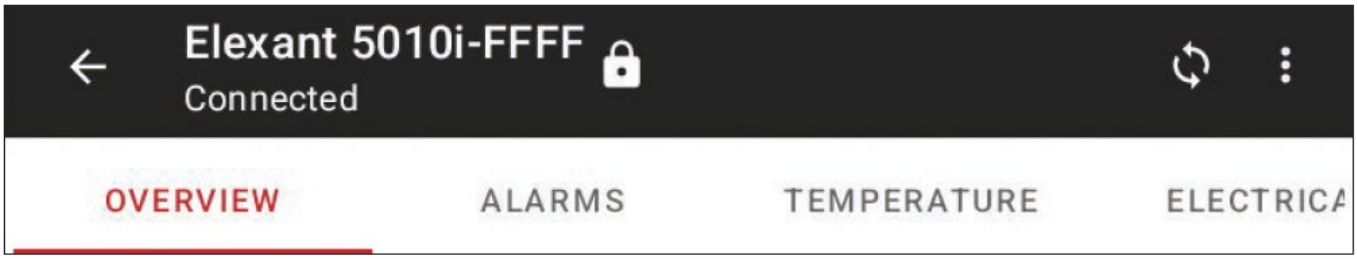


Figure 9: Top Section Application

Controller Settings

In the Settings (Click the 3 dots) There will be 2 options, Import/Export Configuration and Security (Fig.10).

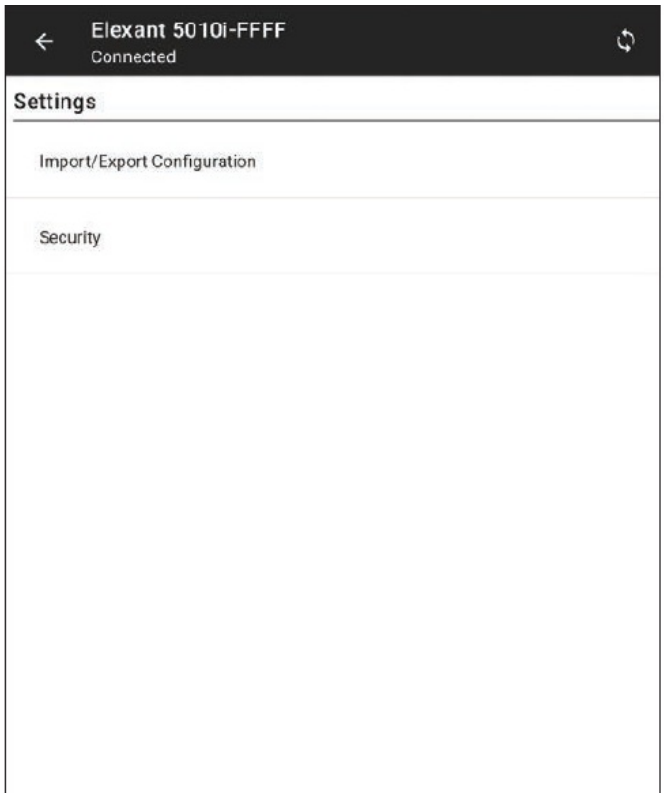


Figure 10: Controller Settings Screen

Figure 11: Import / Export Screen

Import/Export Configuration

Import/Export Configuration (Fig.11) allows the user to Import/Export Configuration Parameters to or from the controller as well allows downloading of monitoring data of the controller.

Bluetooth® Security

An Elexant 3500i or Elexant 5010i controller can have Bluetooth communication protected by password security. By default, the controller is not secured. A secured controller can be in a locked or unlocked state. When the controller is locked, a lock icon will be visible beside the device name.

Enabling Bluetooth® Security

To enable Bluetooth® Security, select the three dots on the top right of the Controller Screen, click Settings and then Security (Fig. 10). This will pop up the Bluetooth® Security Screen (Fig. 12) where you can enable or disable security.

To set up Bluetooth® Security, enter a matching password in the two fields and click update. Make sure “Enable Bluetooth® Security” is enabled.

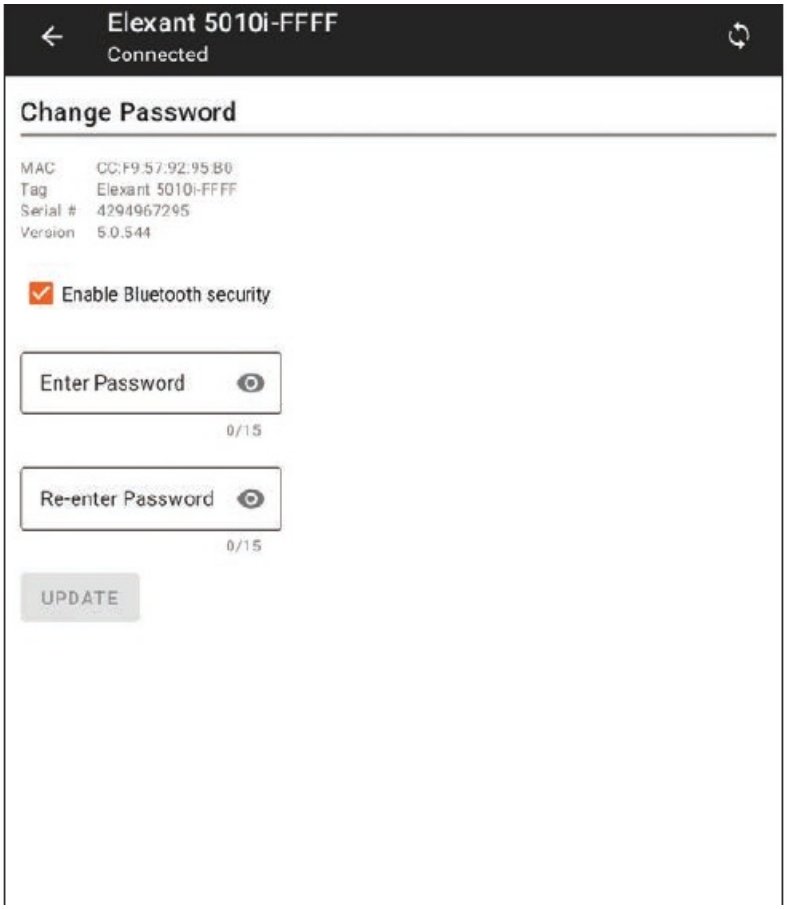
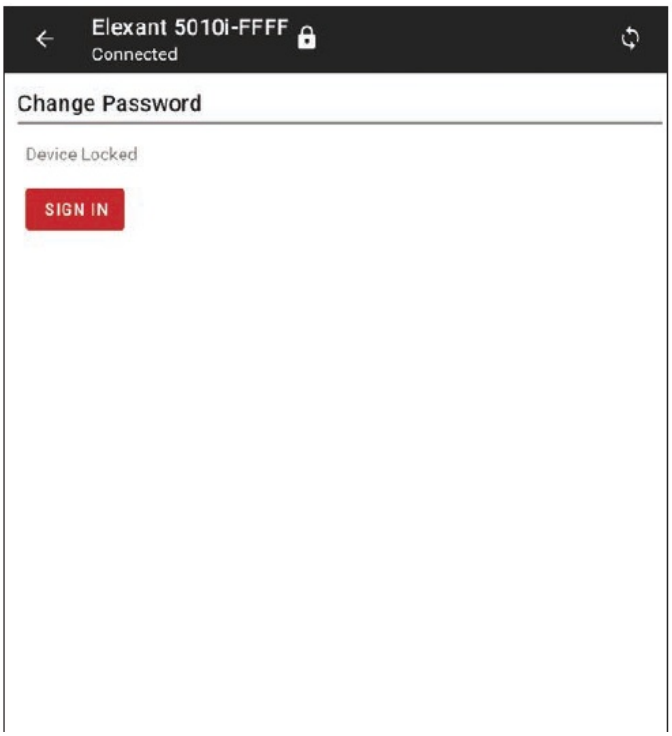


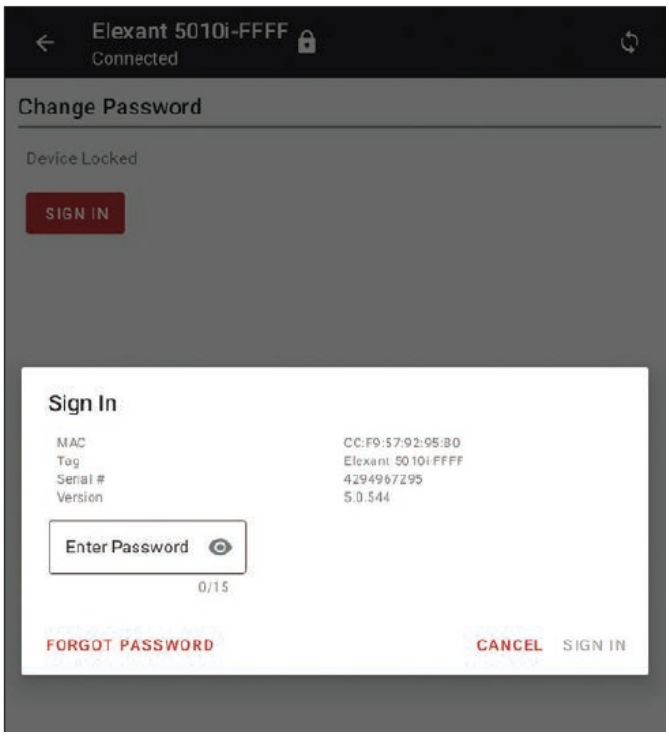
Figure 12: Bluetooth® Security Screen

Once the security is setup, if a device is locked, you will be able to read values using the app but will not be able to change any values. To remove Bluetooth Security, Select the “Enable Bluetooth® Security” to remove the check mark, and select Update.

Unlocking a Controller
There are three ways to open the sign in popup screen to unlock the device.

- Click the Lock Icon on the top of the screen and you will be prompted asking you to Sign in. Click Sign in and you will be directed to the Sign-In Popup Screen (Fig.14)
- Try to change any of the values with a white background and you will be prompted asking you to Sign in. Click Sign in and you will be directed to the Sign-In Popup Screen (Fig.14)
- Navigate to the Bluetooth® Security Screen and click “SIGN IN” (Fig. 13) and it will lead you to the Sign-In Popup Screen (Fig. 14).





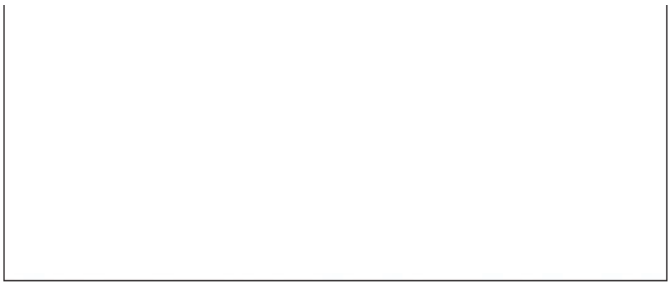


Figure 13: Device Locked

Figure 14: Sign In Popup Screen

Once you have unlocked the device, you will be able to write but if you close the app or leave the Controller Screen, the security will be activated again.

Password Reset Code

If you have forgotten your password, you can request to reset your password. This will generate a key (Fig.15) which you will have to send to nVent Customer Support who will in return give you a code which will reset your security on your device. Reset Code List (Fig.16), which is shown in the Main Screen (Fig.3) will display the reset codes for your devices that you requested for. These keys will only last 48 hours, where, 24 hours after the first key was generated, a new one will be generated if you request again.

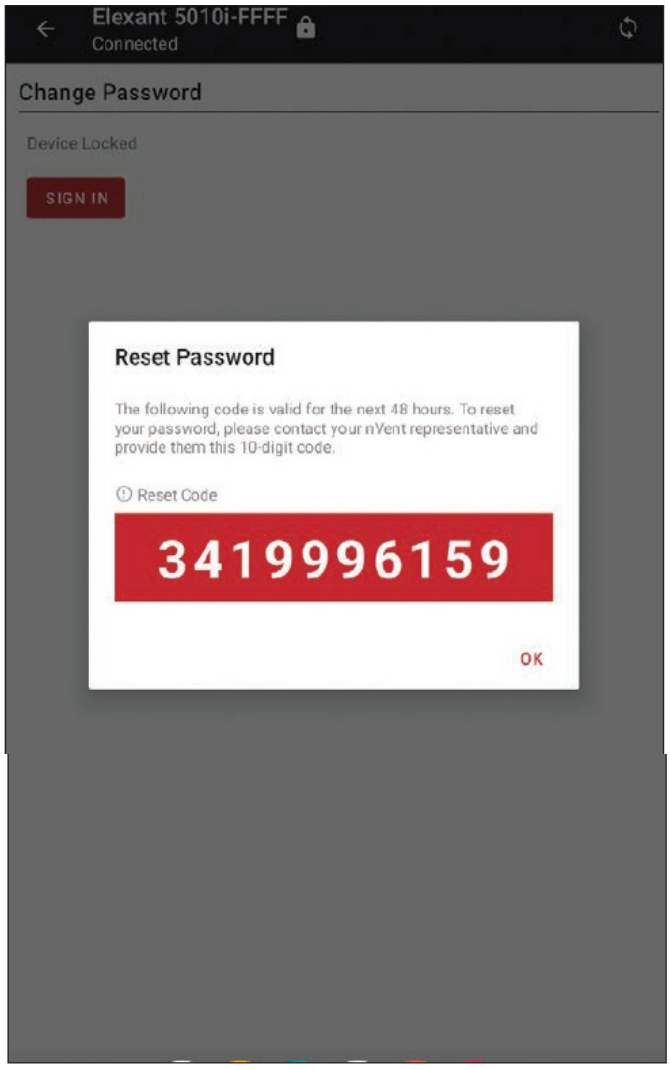


Figure 15: Reset Code Popup Screen

Figure 16: Reset Code List Screen

Controller Tabs

All information of the controller is displayed in separate displays. The user can select different screens for detailed overviews. The selections are

- Overview
- Alarms
- Temperature
- Electrical
- Maintenance
- Limiter
- Setup

General Parameter Information
The user can slide the screens to the left and right to go to the preferred screen.

	Information displayed with light grey background are monitoring data, cannot be changed by user
	Information displayed with white background are controller settings and can be changed by the user.

General Alarm Settings
Each control alarm setting consists of the following selection boxes

- **Enable** / **disable:** to enable or disable the alarm
- **Latch:** To make the alarm permanent till the alarm is reset. By deselecting the selection box, the alarm will disappear once the alarm setting has disappeared
- **Setpoint:** This is the value on which the alarm will be activated
- **Filter time:** This defines how long an alarm situation should exist before the alarm signal is activated / alarm generated in the alarm summary.

OVERVIEW SCREEN

- The main overview screens shows the most common, most used parameters of the Elexant 3500i, Elexant 5010i, and NGC-20 controllers. This overview will enable the user to have a quick overview of the controller.
- The top section describes the Modbus address of the controller, the name, firmware version in the controller, the output status and the number of alarms in the unit.
- The Control section gives a quick overview of the control mode, measured temperature, setpoint and temperature alarms.
- The measured current, low and high current alarms as power consumption are presented in the Current section.
- Ground fault information is presented below. Ground fault can be alarmed upon and/or trip the controller, depending upon customer requirements.

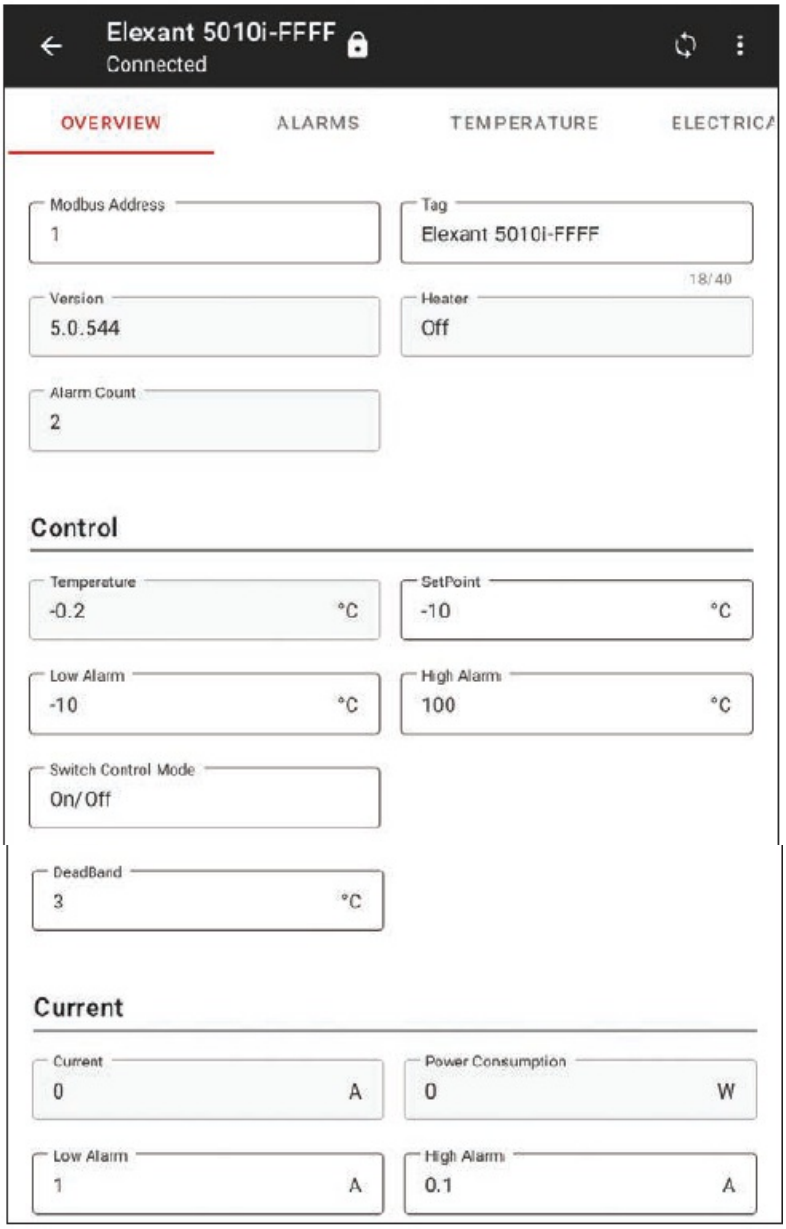


Figure 17: Overview Screen

ALARM SCREEN

The alarm screen shows all alarms present in the controller. The alarms can be reset one by one (Reset Selected), or all by once (Reset All).

The alarm message describes

- Time Stamp
  - The time on which the Android App has read that there is an alarm. It is not when the Alarm had occurred
- The Alarm Type
- The Alarm Value
  - If the Alarm has an associated Setpoint value for it, the value that would be shown is value that raised the Alarm

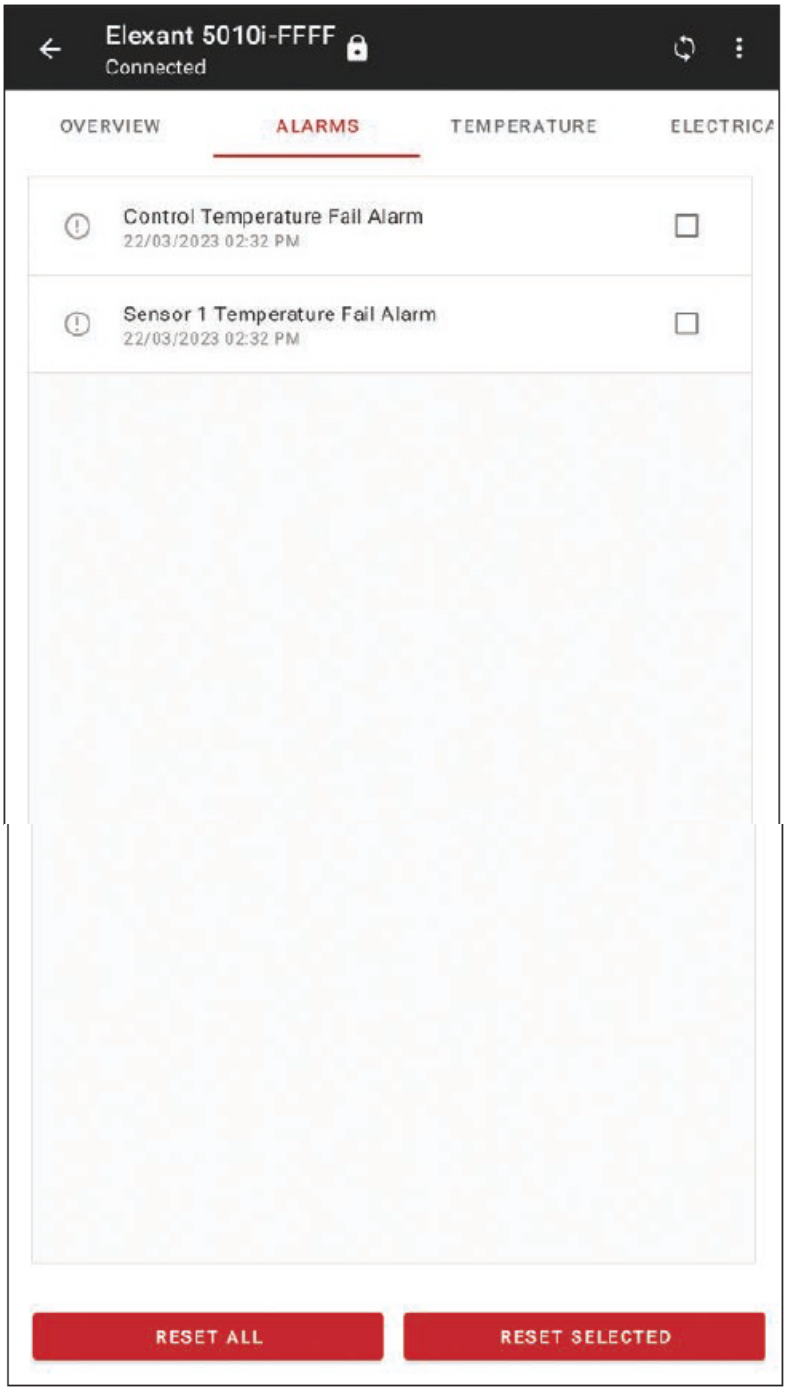


Figure 18: Alarm Overview Screen

TEMPERATURE SCREEN

The temperature screen presents all data available in the controller related to the temperature control.

The top section presents

- Control Temperature based on what Control Temperature Mode was selected (lowest, average or selected source),
- Temperature on which the Heater was last on,
- Temperature sensor 1,
- Temperature sensor 2,
- Temperature source 1 (the input to the controller – under normal conditions this is sensor 1)

- Temperature source 2 (the input to the controller – under normal conditions this is sensor 2)

Figure 19: Temperature Overview

By clicking on the horizontal bar underneath Source 1 / Source 2 more source options become available. These are not used with the current version of the Elexant 3500i, Elexant 5010i, or NGC-20 software but are available for potential future extensions.

The bottom section of the temperature page consists of a horizontal sliding bar. These tabs allow the user to view all details on

- Control
- Sensor 1
- Sensor 2
- Source info

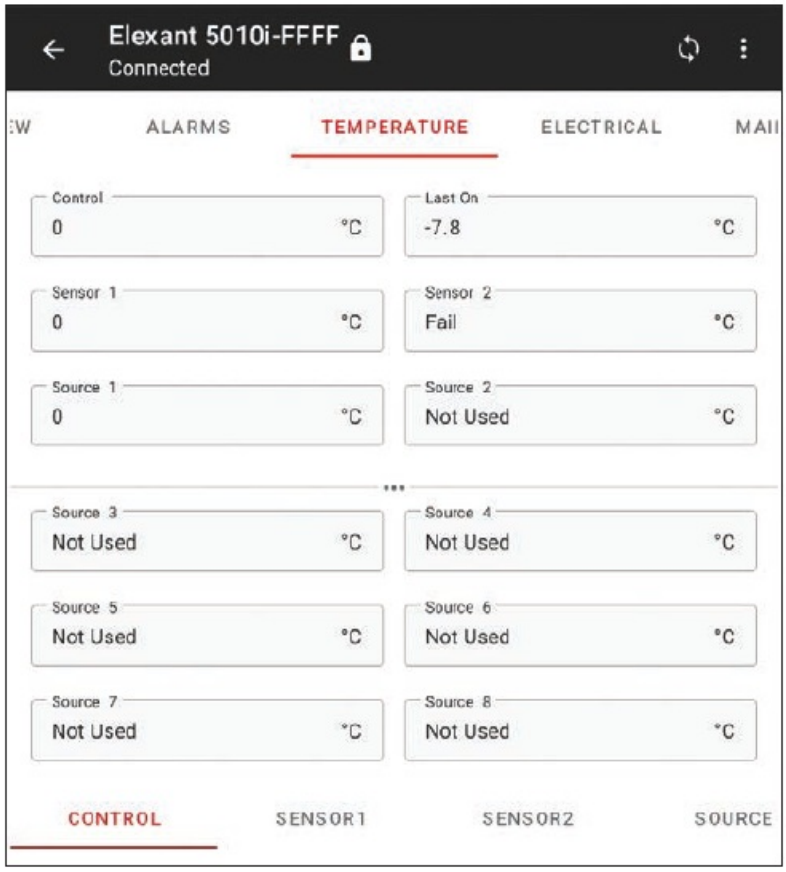


Figure 20: Remote Sources

Temperature – Control Screen

Setpoint
The temperature on which it switches the controller on or off.

Mode

- **Lowest:** Setting the Temperature Control to Lowest means that the output of the controller will be controlled based on the lowest temperature measured by any of the temperature sensors connected to the controller
- **Average:** Setting the Temperature Control to Average means that the output of the controller will be controlled based on the average temperature measured by all the Temperature sensors connected to the controller.
- **Sources:** Setting the Temperature Control to a Source means that the output of the controller will be controlled based on the temperature measured by that source. There are 1 to 8 different sources to pick from

Fail Mode

- **Fail Off:** when the control sensor(s) of the controller fail the output switch will open.
- **Fail On:** when control sensor(s) of the controller fail the output switch will be permanently close.
- **Last %:** this Fail Mode is only applicable to the control mode PASC or Proportional Ambient sensing. It will control the output in a similar manner as it was doing before the sensor(s) failed. This Alternate ON/OFF switching will be time based only – there will be no relation to temperature.
- **Fixed %:** it will alternate the control output ON and OFF at a certain interval.

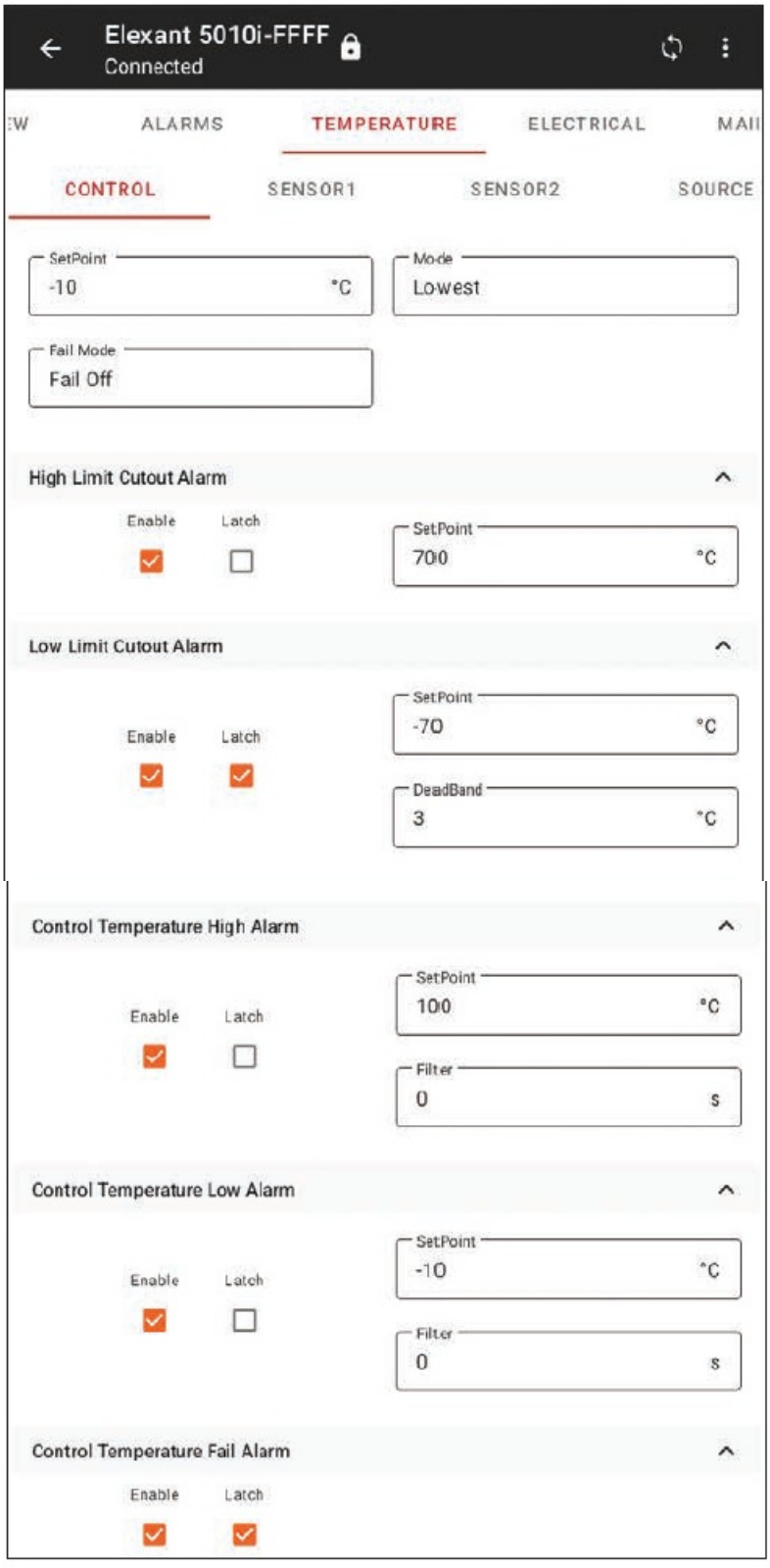


Figure 21: Control Temperature Tab

High Limit Cutout

The High Limit Cut-Out function prevents the heated surface from overheating. When the High Cut-Out Temperature Set Point is reached the controller output will be turned OFF regardless of whether or not the maintain temperature is reached. Use this function for instance to prevent the cable surface temperature exceeding a certain level. It can be configured to operate as either a latching or non-latching type. When the Latching button is set to YES than each time an alarm has occurred the Alarm needs to be manually reset. When set to NO then the alarms will be self-healing and will disappear when the alarm condition is no longer present. The high limit cutout does not need to be reset for normal operation of the controller. Once the conditions are healthy again, the controller will work based on the temperature setpoint.

Low Limit Cutout
The Low Limit Cut-Out function gives the user control of the heater by allowing it to be active in a certain range. When the temperature goes below the Low Limit Cut-Out temperature, the controller output will be turned OFF regardless of whether or not the maintain temperature is reached. It can be configured to operate as either a latching or non-latching type. When the Latching button is set to YES than each time an alarm has occurred the Alarm needs to be manually reset. When set to NO then the alarms will be self-healing and will disappear when the alarm condition is no longer present. The Low limit Cut-Out Alarm does not need to be reset for normal operation of the controller. Once the conditions are healthy again, the controller will work based on the temperature setpoint. You can set a Deadband value for Low limit Cut-Out, if the temperature is less than “Low Limit Cutout Setpoint – Deadband Value”, the alarm will be raised.

Control Temperature Alarms
These are the temperatures at which the controller will generate an alarm when the value has been surpassed.

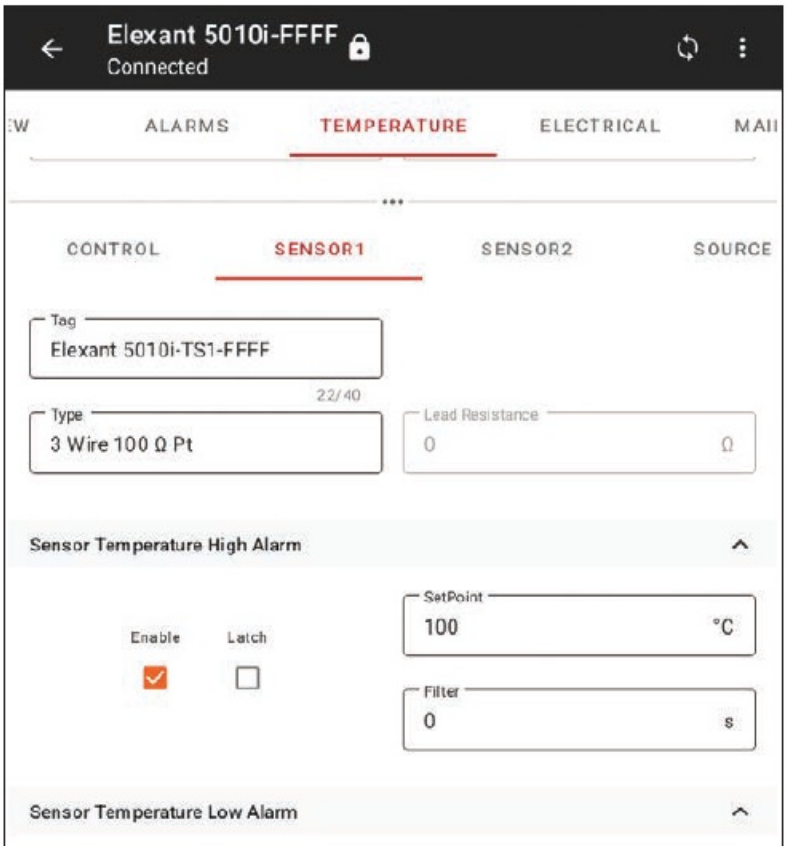
Temperature – Sensor 1 / Sensor 2

Sensor Tag
Each sensor in the controller can have a tag name (max 40 characters)

Type
The controller sensor type can be set to

- 3 wire PT100 (most cases)
- 2 or 3 wire 100 Ohm NiFe
    - Which will prompt for a lead resistance
- Not used

Alarms
For each sensor high temperature alarm, low temperature alarm and sensor temperature failure alarm can be set.



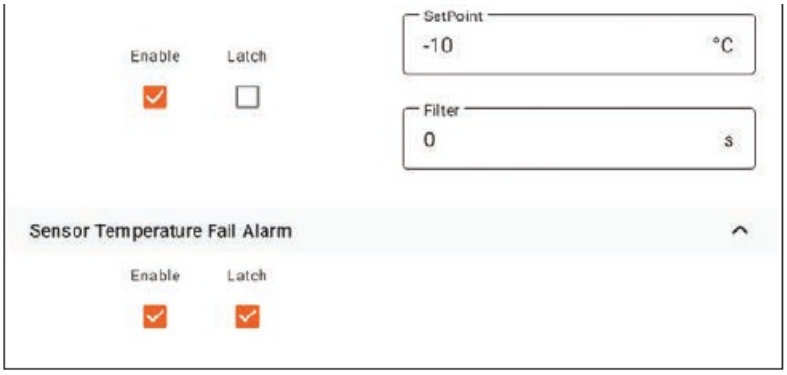


Figure 22: Temperature Sensor 1/2 Tab

Temperature – Source
On this page, each temperature source's Sensor Mode can be configured.

The Modes supported are

- Not Used
- Local
  - Will prompt you to choose either Sensor 1 or 2
- Remote
  - Will prompt you to enter the required information to access the Remote Sensor

Each source can be used for

- Control
- Low limit cutout
- High limit cutout

For each source the alarms can be set

- Enabled / disabled
- Latched / non-latched

By clicking the horizontal bar, the sources 3-8 become visible. These are currently not used in the Elexant 3500i, Elexant 5010i, and NGC-20 controller.

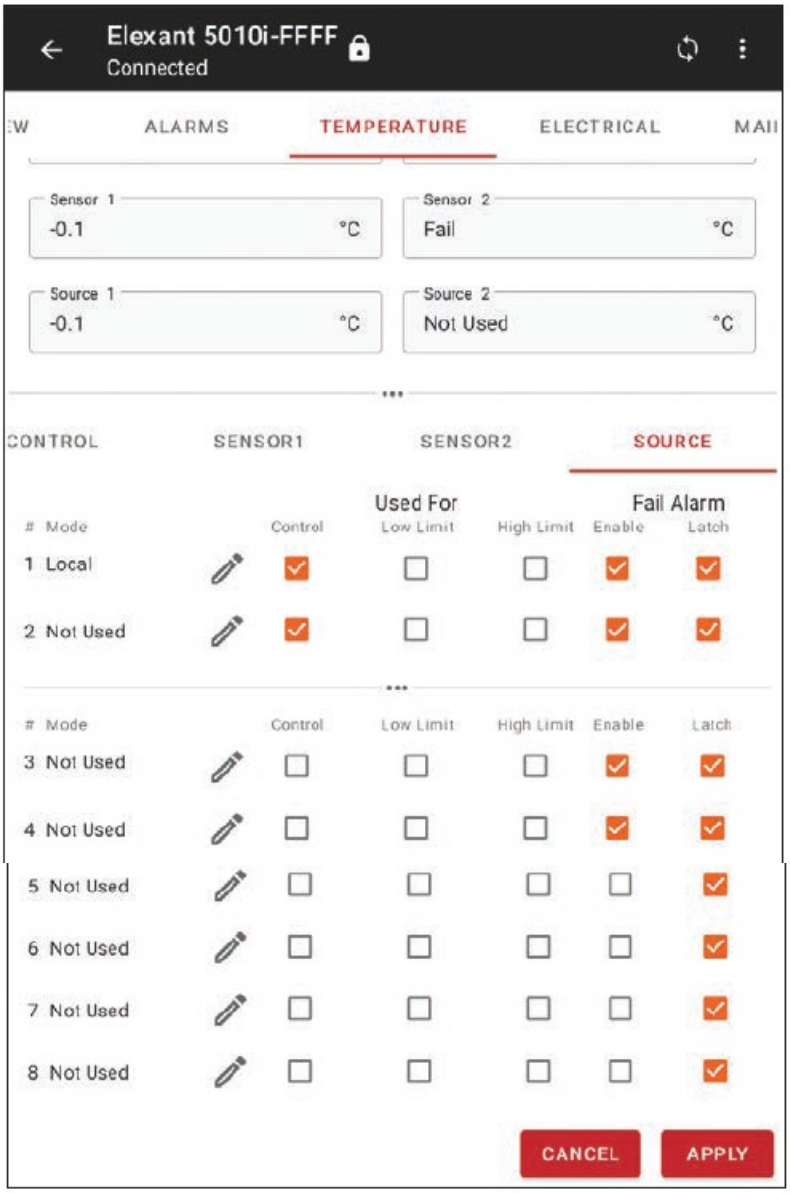
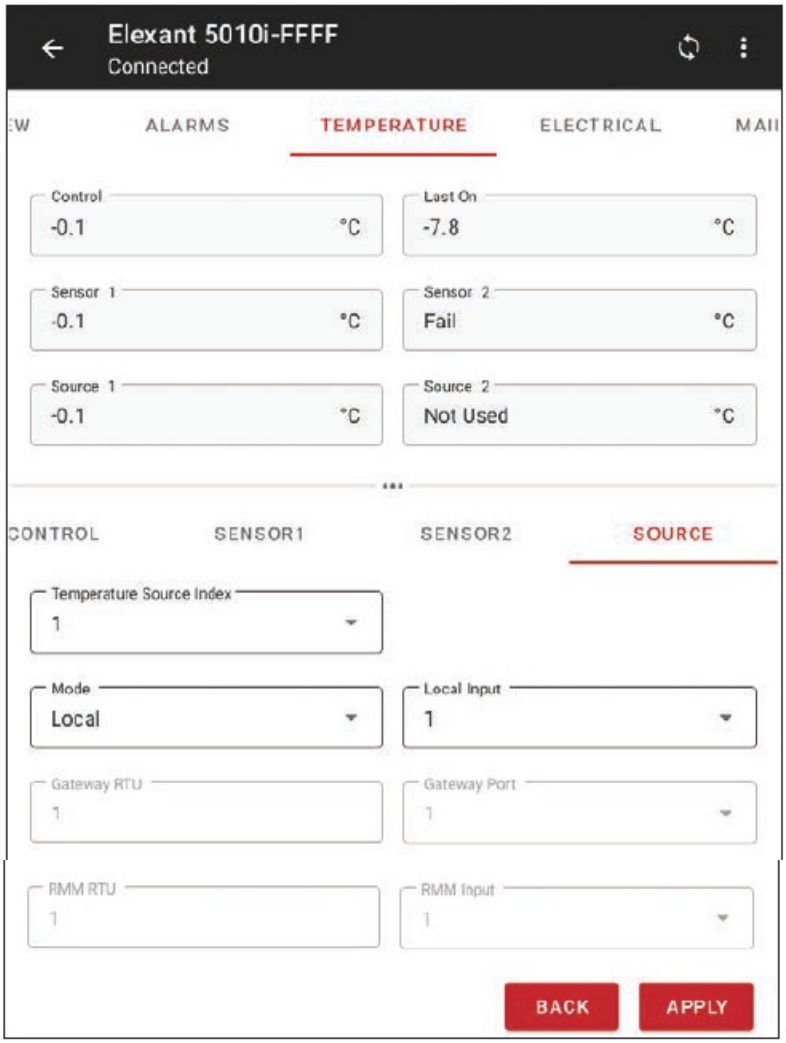


Figure 23: Temperature Source Tab



ELECTRICAL SCREEN

The top section of the screen shows the monitored electrical information of the controller. This includes

- Voltage
- Current
- Ground Fault
- Trace Resistance (calculated)
- Power consumption
- Heater on time
- Contact Cycle count

Figure 24: Electrical Screen Overview

Electrical Config 1 / **Config 2**
On this page, what Switch Control Mode the controller will use can be selected.

The Switch Control modes available are

- On/Off
- Proportional Ambient
- PASC
- Force On
- Force Off

Each of these modes will have different parameters which will be shown when selected.

The following electrical alarms can be set on this page

- Switch Fail Alarm
- Load current High Alarm
- Load current Low Alarm
- Line Voltage High Alarm
- Line Voltage Low Alarm

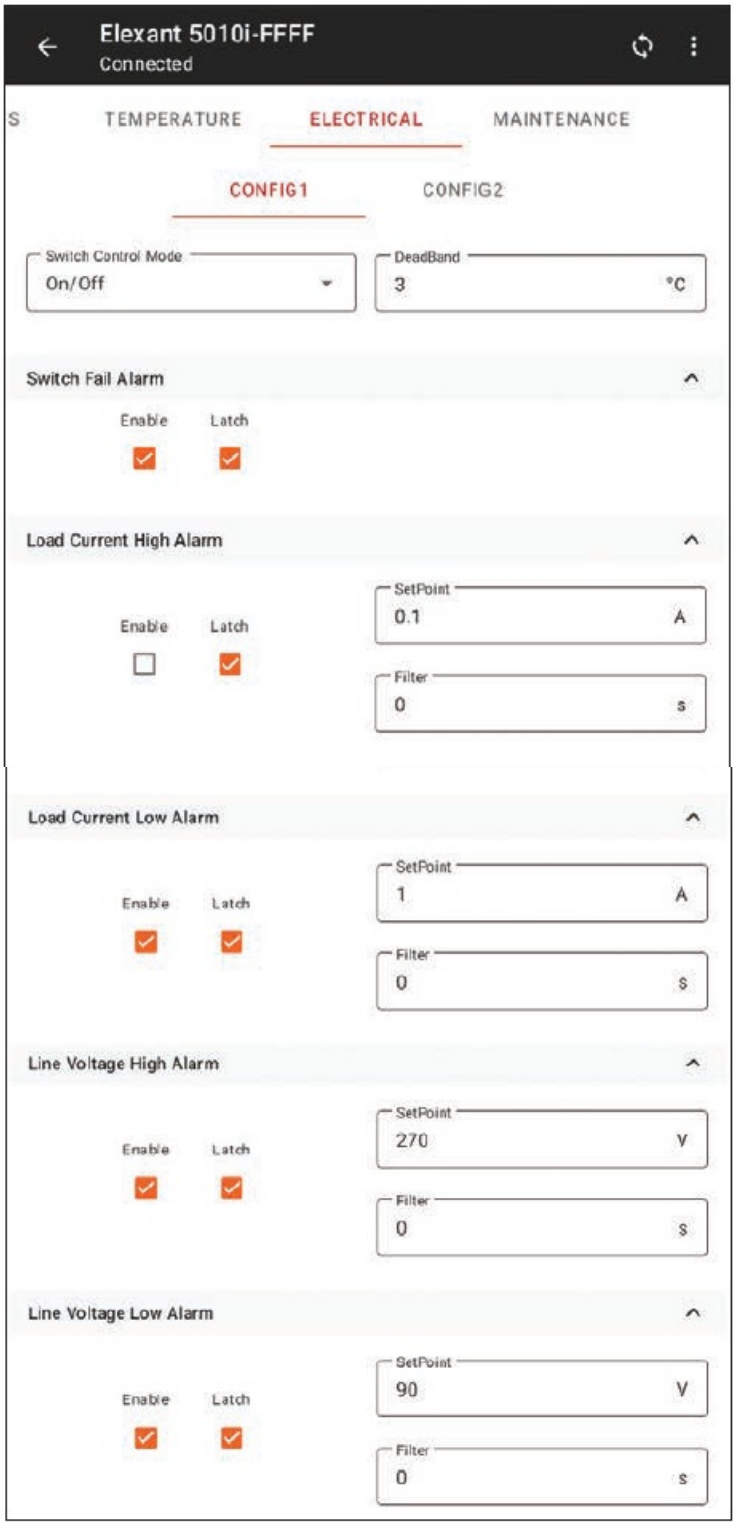


Figure 25: Electrical Config 1 Tab

The following electrical alarms can be set on the Electrical – Config 2 page

Nominal Trace Resistance

- The calculated value of the tracing resistance. (Ohms)

  Trace Resistance High Alarm:
- If the calculated tracing resistance deviates more than x% an alarm will be generated

Trace Resistance Low Alarm
If the calculated tracing resistance deviates more than x% an alarm will be generated

Ground Fault High Alarm
The value at which an early warning will be generated in the form of a High GF alarm. Typical value between 15 and 20 mA.

Ground Fault Trip Alarm
The value at which a ground fault signal will trip the output permanently OFF. Typically, the setpoint is set slightly higher value than the High GF Current Setpoint.

Ground Fault CT Alarm
Enabled when the GF coil fails during scheduled internal tests

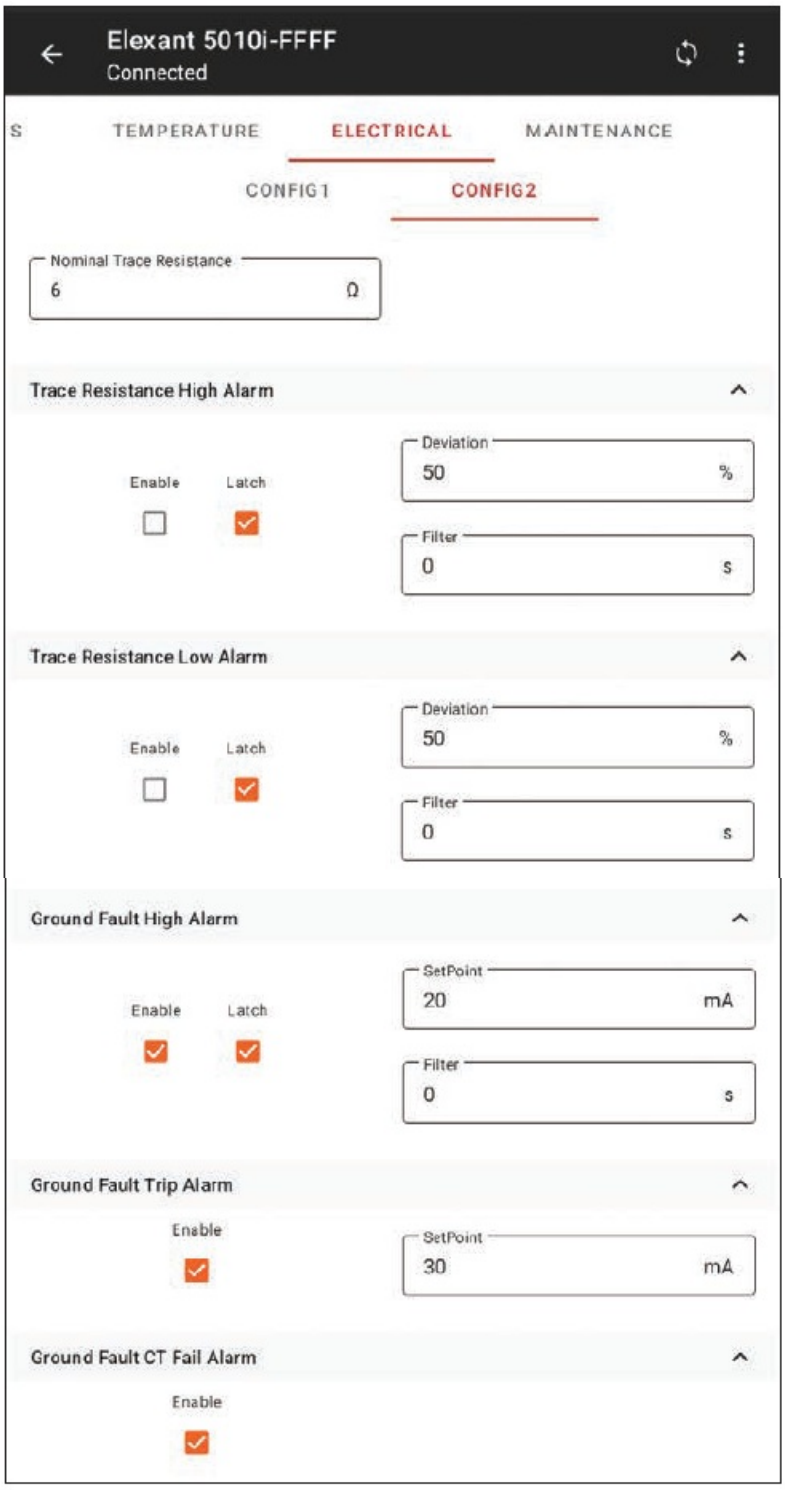


Figure 26: Electrical Config 2 Tab

MAINTENANCE SCREEN

Alarm Settings

Auto Cycle
The auto-cycle feature will switch on the controller for
1 minute each x hours as defined in this setting. During this period the controller will test its proper working. Any malfunction will be reported as an alarm. Note that the Elexant 3500i has a fixed Auto Cycle setting of 24 hours, but can be enabled or disabled.

Device Reset

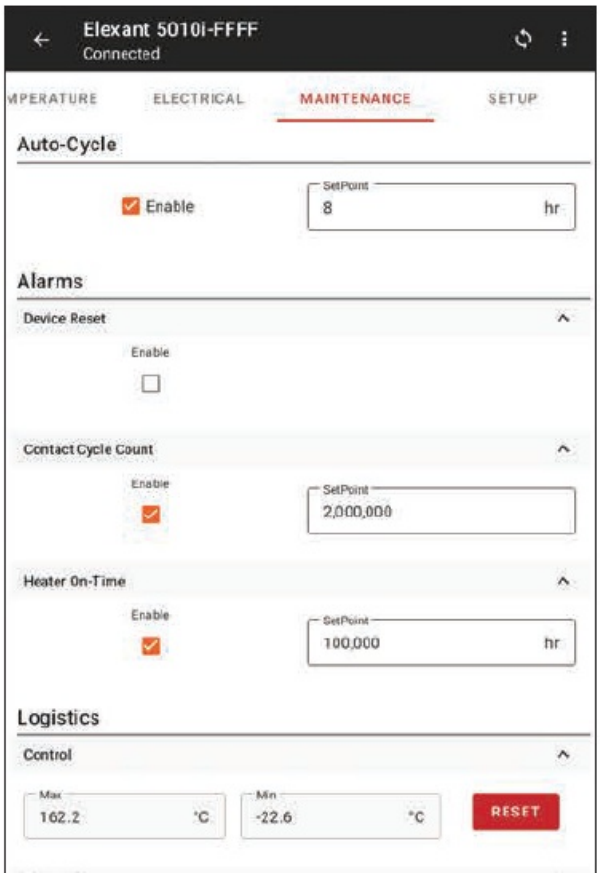
- Alarm will be generated when the controller cycles power

  Contact Cycle Count
- Enables an alarm after x number of switches.

  Heat On-Time
- Count the hours the heat tracing cable has been switched on.

Logistics
This section describes the minimum and maximum measured values of the controller since the last reset

Accumulators
Count the hours on, in use, power and contact cycle count



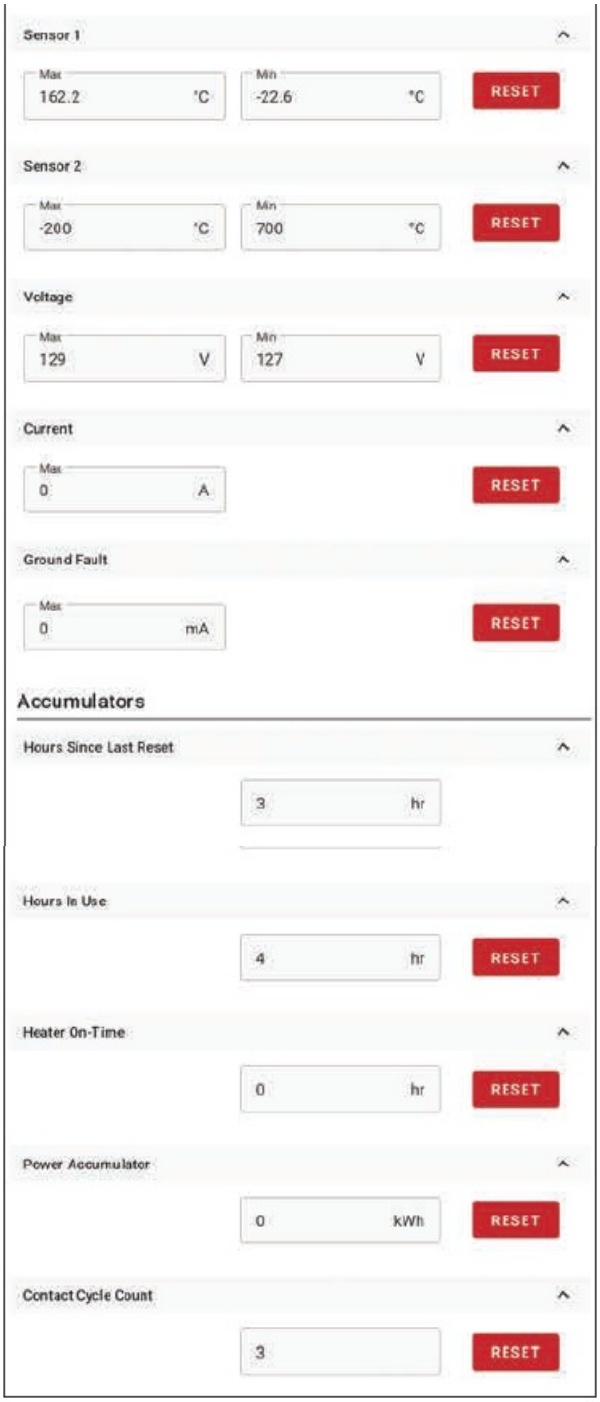


Figure 27: Maintenance Screen

LIMITER SCREEN

This section in the Elexant Connect application describes how to configure the SIL2 approved Safety Temperature Limiter in the Elexant 5010i-LIM and NGC-20-CL-E controller. The purpose of the limiter is to prevent heating applications from overheating. The Safety Temperature Limiter is approved for use in Hazardous area Zone 1, Zone 21, Zone 2 and Zone 22.

Firmware
This field shows the actual firmware revision of the Safety Temperature Limiter.

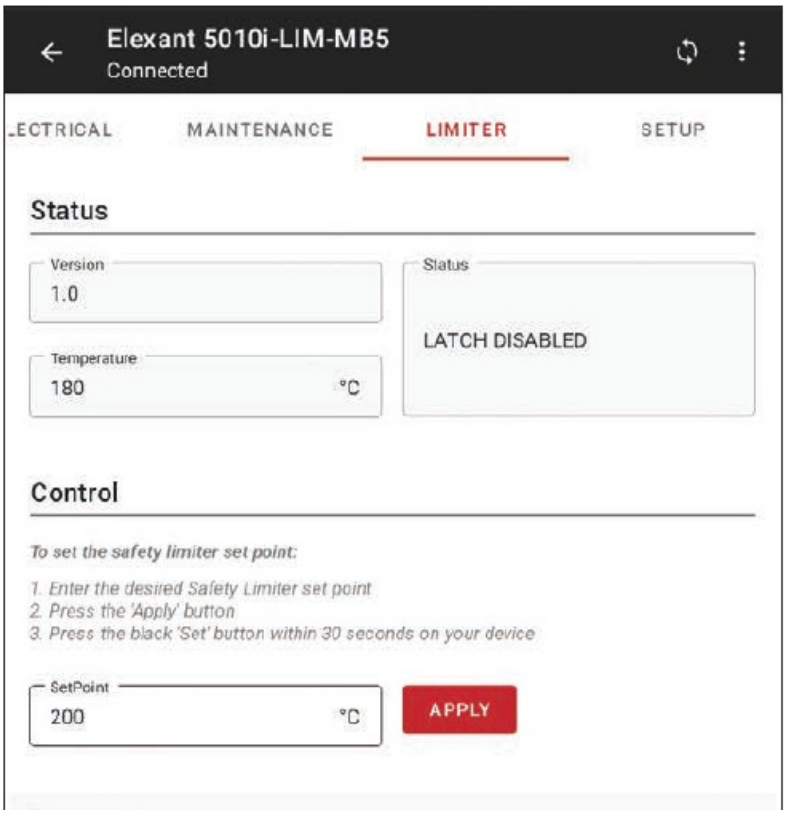
Safety Limiter Status
This field shows the actual status of the Safety Temperature Limiter.(Normal operation, Tripped, Latch Temporarily Disabled)

Safety Limiter Temperature
Shows the temperature actually being measured by the Limiter RTD. If this value surpasses the Safety Limiter Set

Point the Safety Limiter will trip open. Once the Safety Limiter has tripped a manual intervention will be required to Reset / Rearm the Safety Temperature Limiter. Resetting the safety Temperature limiter will be only possible after all process conditions have returned to a safe state. (The Limiter Temperature has dropped below the Limiter Temperature Set Point.

Safety Limiter Temperature Set Point
This field holds the Safety Limiter Set Point. This value should be chosen in accordance with the Temperature Class of the area in which the heating application is installed (T-class T4, T3, T2) or the maximum surface temperature allowed for the heating device assuming this is a lower temperature. Since the Safety Temperature Limiter is a safety device it requires a special procedure to write a new set point to the Temperature limiter. Tap in the Limiter Temperature Set Point field to start the write procedure. This will open a new screen.

Note: When using Fahrenheit, temperatures may be off by one degree.



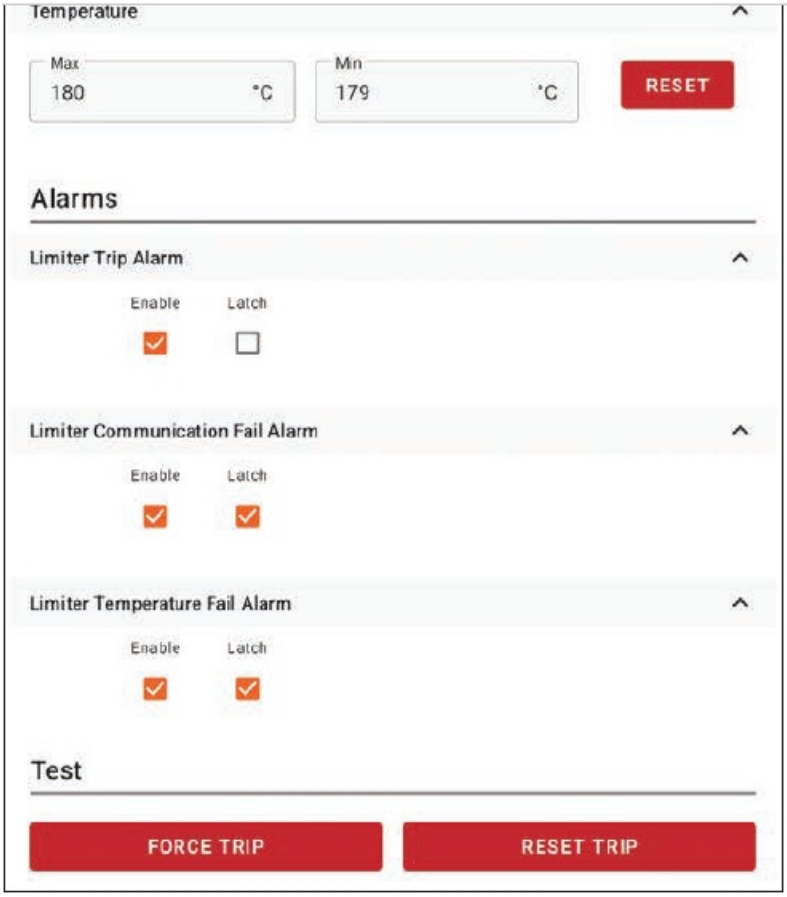


Figure 28: Limiter Overview Screen

From this point onward the Elexant Connect app device will send the new set point at regular intervals to the controllers (Polling). The polling process will be repeated until the process is cancelled or until the Safety Limiter Set button inside the unit is pressed. Press and hold the button for 3 seconds. The Display of the controller will flash briefly and show actual and new limiter cut out temperature. The Safety Limiter Temperature Set button is the Black Push button on the left-hand side of the Elexant 5010i-LIM hardware as is shown on Figure xx below. After the new set point has been successfully updated a message will appear confirming the new set point has been successfully updated.

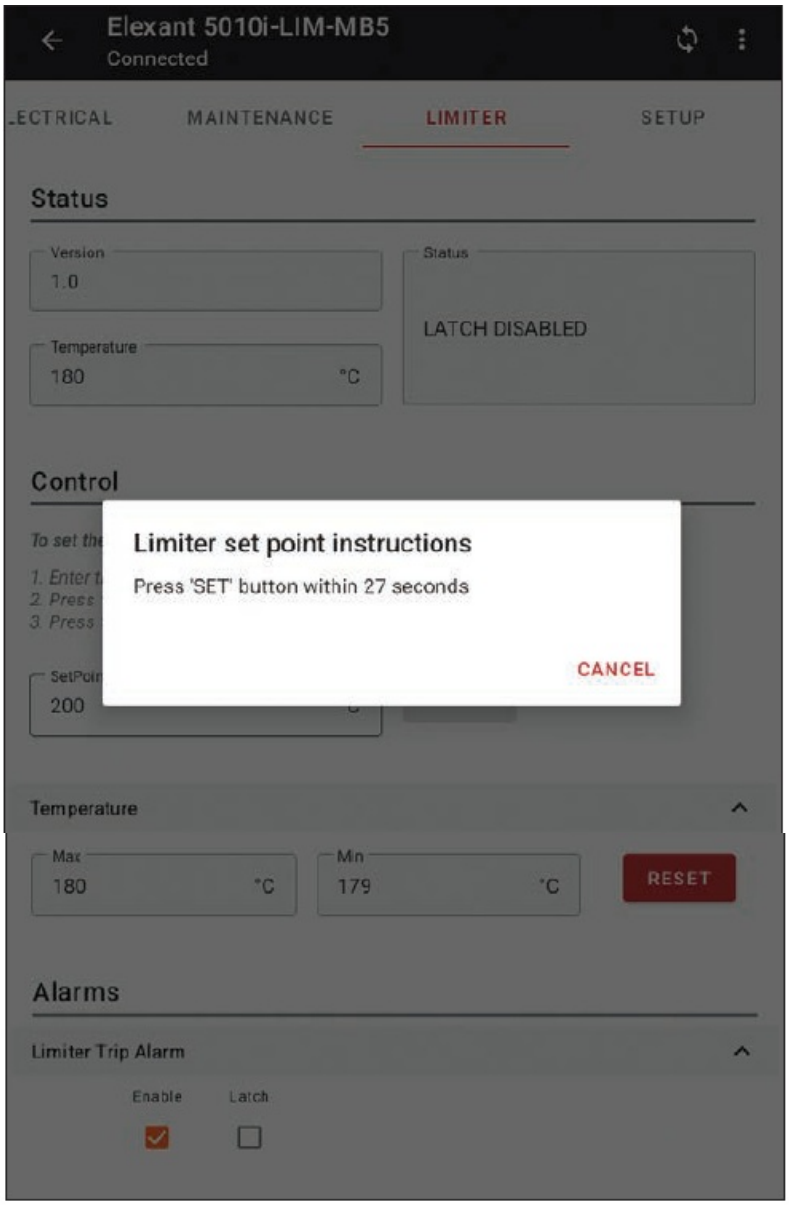
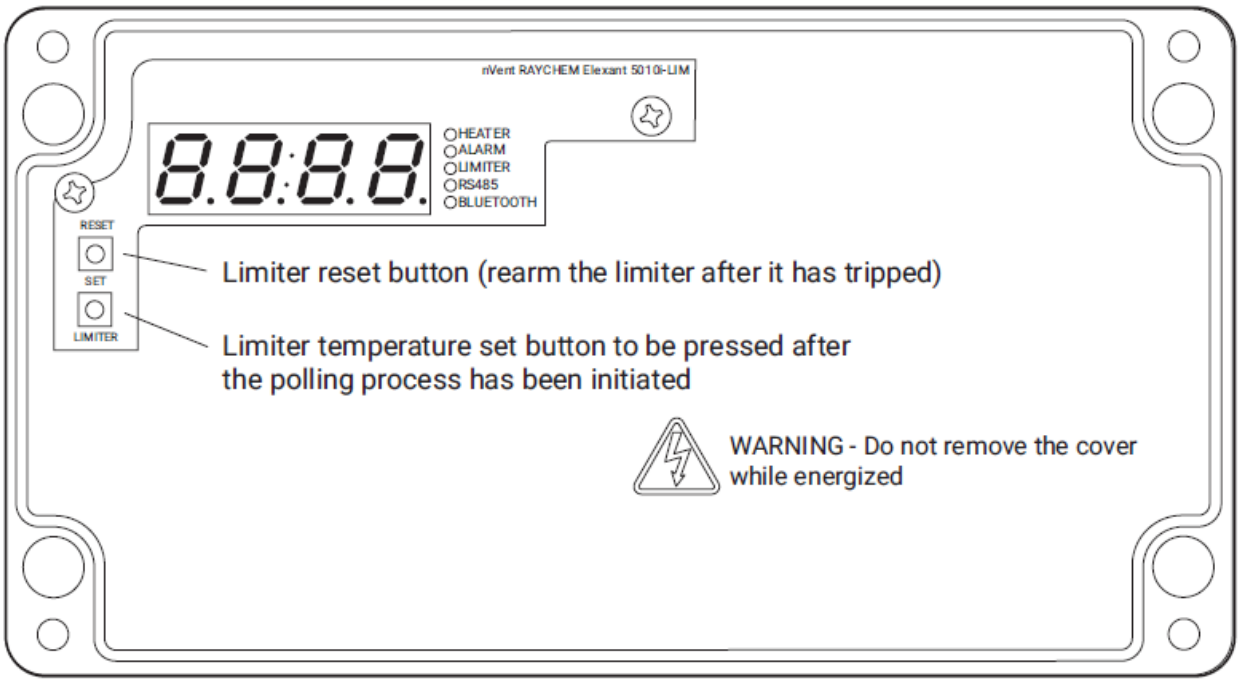


Figure 29: Limter Confirmation



Reset the Safety Temperature Limiter

Once the safety Temperature limiter has tripped it will need to be reset in order to restore normal operation.

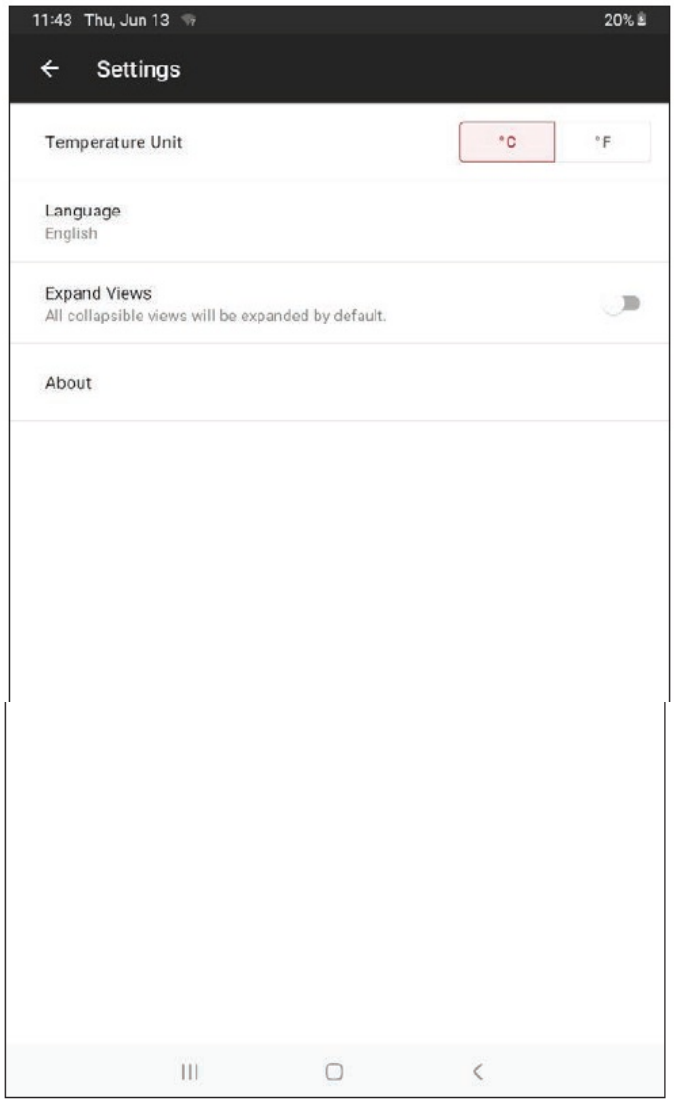
Resetting the Safety Temperature limiter will only be possible after safe operating conditions have returned. Resetting the Safety Temperature Limiter is a safety Function therefore the Reset operation is protected by a password in order to prevent the Safety Temperature limiter form being reset unintentionally. The Safety temperature Limiter can be reset from the app. In order to do so, tap on Reset Tripped Limiter. A number will be displayed on the screen that needs to be entered in the box as confirmation to reset the limiter.

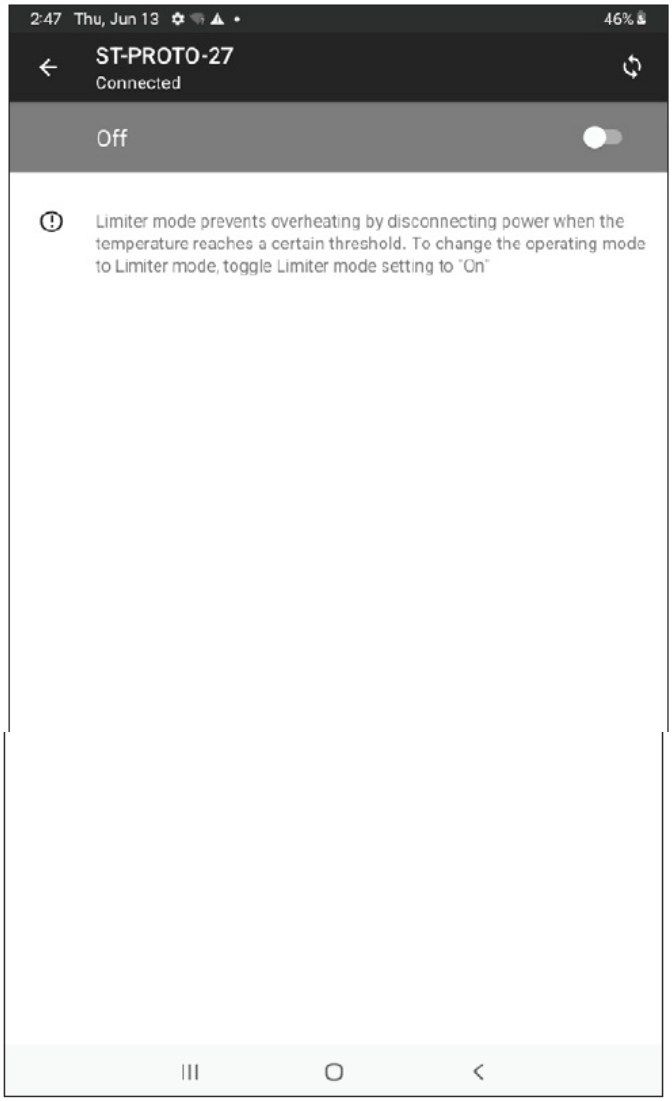
Trip Limiter – Test Function for SIL Approved Safety Temperature Limiter
This is the test function of the SIL 2 approved Safety Temperature limiter. Hit this field in order to Test the safety Temperature limiter at regular intervals at least once every year. When tripped a screen will pop up confirming that the Safety Temperature Limiter has tripped successfully. In order to rearm the safety temperature limiter, follow the procedure as explained in the previous paragraph.

LIMITER MODE FOR THE ELEXANT 3500I

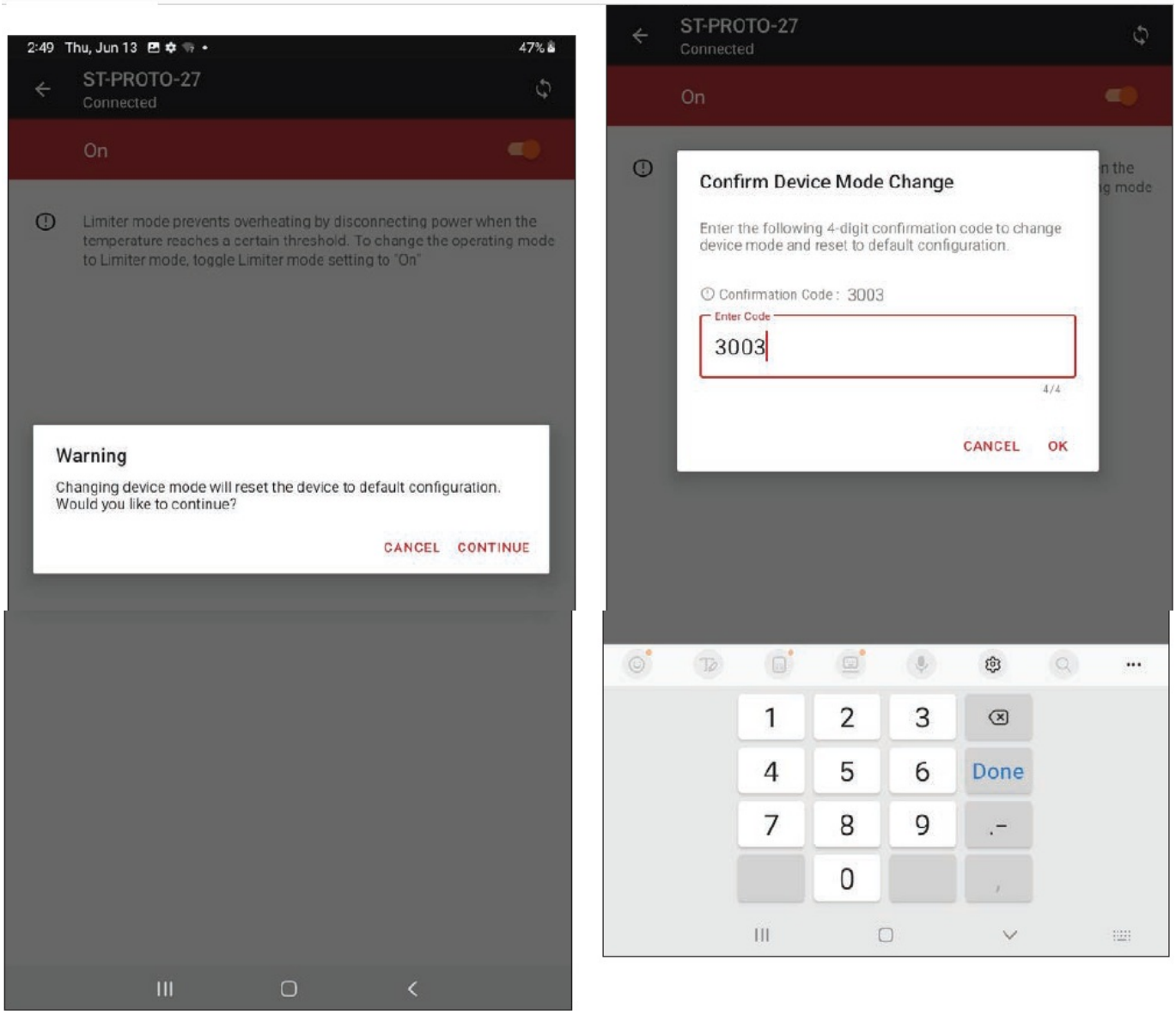
This section in the Elexant Connect application describes how to configure an Elexant 3500i Electronic Thermostat as a Limiter device. Please note that only the Communicating, Current Sensing, and Ground Fault Detecting variants of the Elexant 3500i can be configured to be used as a Limiter device. The purpose of the limiter is to prevent heating applications from overheating.

- To configure an Elexant 3500i as a limiter device, navigate to Settings by selecting the 3 dots in the top right corner of the screen.
- Next, select Limiter Mode. From here slide the toggle to the right to turn on Limiter Mode.





- After enabling Limiter Mode, select the back arrow and you will be prompted with this warning. Please note that enabling Limiter Mode will reset the Elexant 3500i to its default configuration.
- When enabling Limiter Mode, you must enter the 4 digit confirmation code displayed to confirm the setting.



- Once enabled, the Elexant Connect Application will display the Limiter Tab.

Limiter Status
This field shows the actual status of the Temperature Limiter. (Normal Operation, Tripped, Latch Temporarily Disabled).

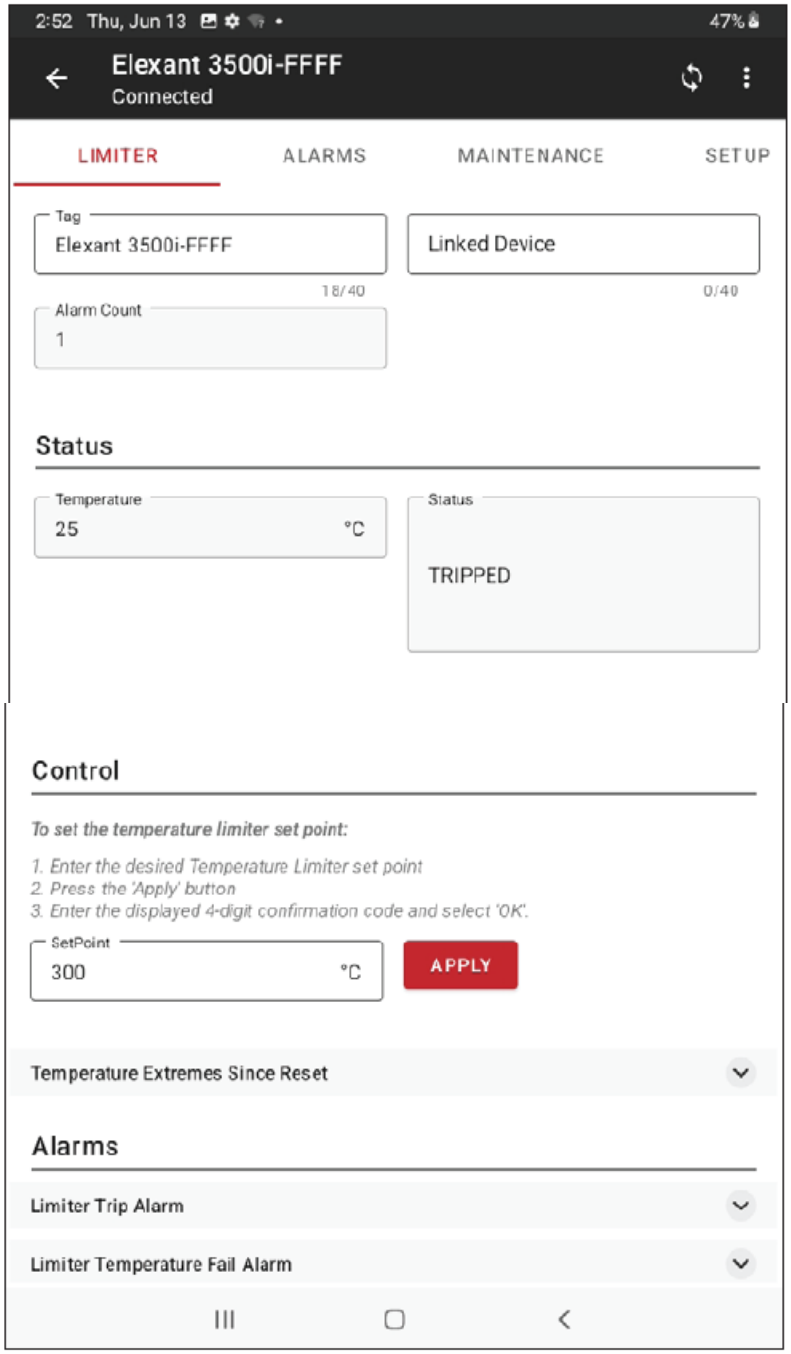
Temperature
Shows the measured temperature of the Limiter RTD. If this value surpasses the Temperature Limiter Set Point the Temperature Limiter will trip open. Once the Temperature Limiter has tripped, a manual intervention will be required to Reset / Rearm the Temperature Limiter. Resetting the Temperature Limiter will only be possible after all process conditions have returned to a safe state. (The Limiter Temperature has dropped below the Temperature Limiter Set Point)

Temperature Limiter Set Point
This field holds the Temperature Limiter Set Point, and should be selected in accordance with the temperature class of
the area in which the heating application is installed or the maximum surface temperature allowed for the heating

device.

Reset the Temperature Limiter
Once the Temperature Limiter has tripped it will need to be reset in order to restore normal operation. Resetting the Temperature Limiter will only be possible after safe operating conditions have returned. Resetting the Temperature Limiter is protected by a password in order to prevent the Temperature Limiter from being reset unintentionally. The Temperature Limiter can be reset from the application. In order to do so, tap on Reset Trip. A number will be displayed on the screen that needs to be entered in the box as confirmation to reset the limiter.

Trip Limiter
The Temperature Limiter may be forced to trip in the application to verify its functionality. To test the function of the Temperature Limiter, tap on Force Trip. When tripped a screen will pop up confirming that the Temperature Limiter has tripped successfully. In order to rearm the Temperature Limiter, follow the procedure as explained in the previous section.



SETUP SCREEN
The top of the screen allows the user to change the name of the device.

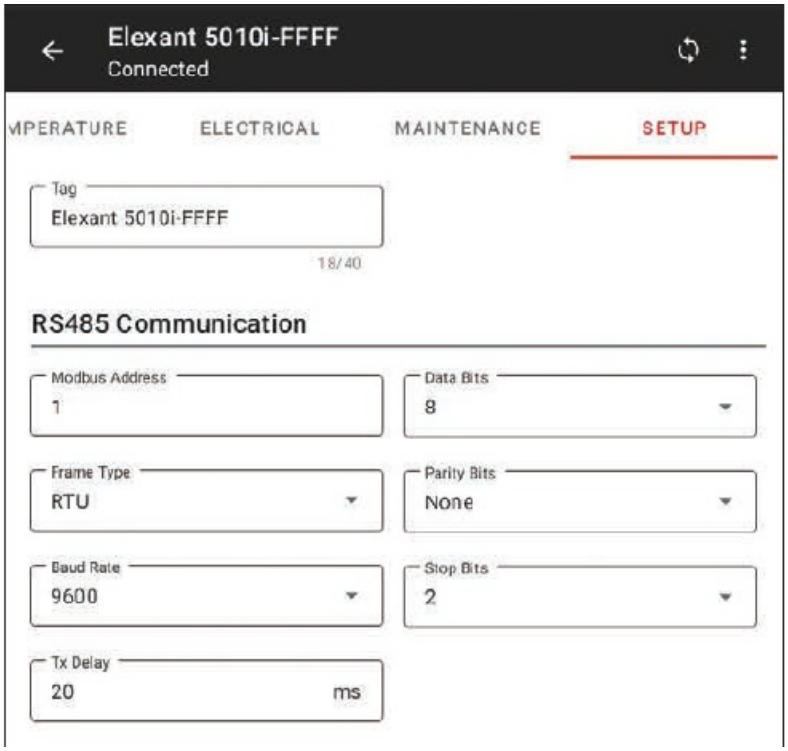
- RS485 Communication Parameters can be changed here as well.
- The app provides the option of selecting which of the 16 Load Shedding Zones the controller would be a member of. For more details on Load Shedding, please refer to nVent RAYCHEM Supervisor Operations Manual.

Alarm Relay Output Mode has 3 different options

- Normal
- Toggle
- Flash

The temperature unit shown on the LED Display can be set here.

Turning on Test Trace will turn on the heater for x seconds, allowing the controller to detect any abnormal activities.



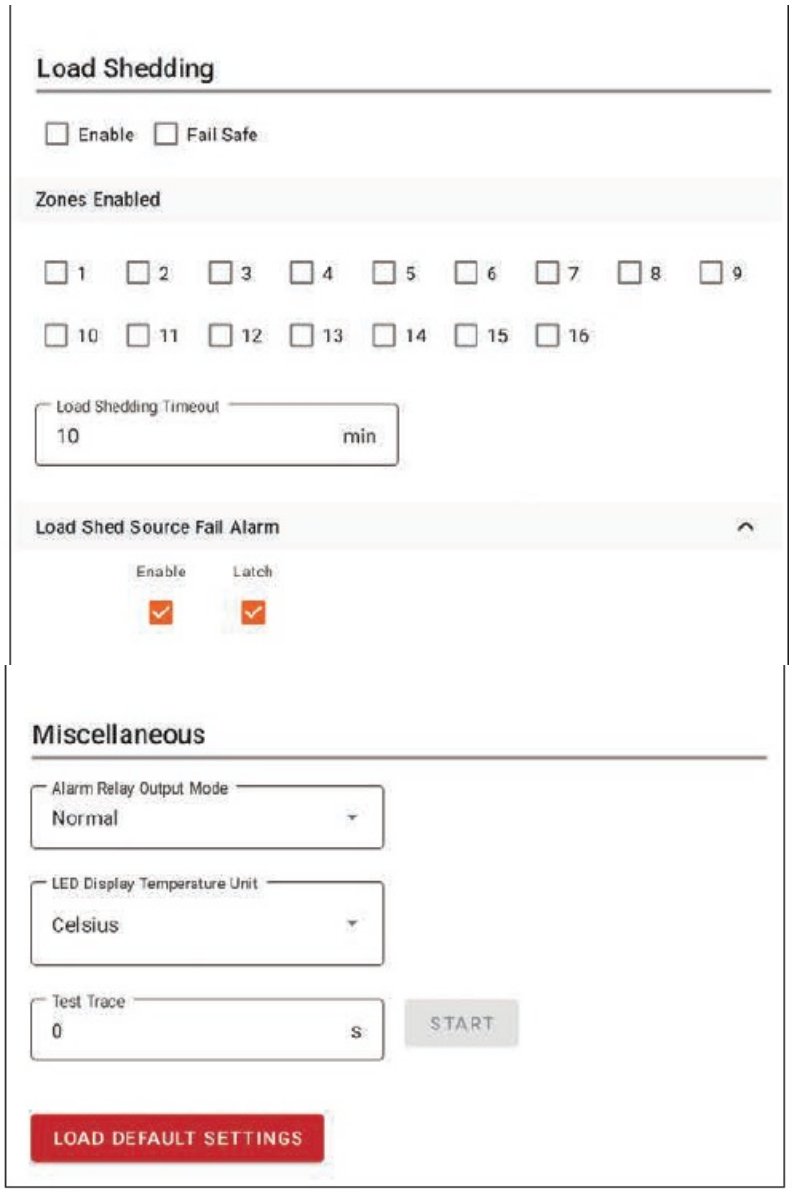


Figure 30: Controller Setup Screen

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  cn.thermal.info@nVent.com
- **Latin America**

  Tel +1.713.868.4800

  Fax +1.713.868.2333

  thermal.info@nVent.com

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Documents / Resources

	nvent RAYCHEM OM-EU2191 Elexant Connect Application [pdf] User Manual OM-EU2191 Elexant Connect Application, OM-EU2191, Elexant Connect Application, Connect Application

References

- Electrical Heat Tracing | Heat Tracing | nVent RAYCHEM
- User Manual