

Smart-Vue Pro Monitoring Solution

Web Application for
Smart-Vue Pro Duo/Quattro Data Loggers

User Guide

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IMPORTANT Read this user guide. Failure to follow the instructions in this user guide can result in damage to the unit, injury to operating personnel and poor equipment performance.

CAUTION All internal adjustments and maintenance must be performed by qualified service personnel.

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Models

Models in the below table show the modules covered in this manual.

Note: Smart-Vue Pro Duo/Quatro below part numbers transition shall be effective from 20 December 2021.

Table 1. Transition Part Number Details

Regulatory Name	Initial Part Number	Initial Part Number Description	New Part Number	Applicable Region
Smart-Vue Pro	SVPHWRMOD002	Smart-Vue Pro Duo	SVPHWRMOD012	North America
Smart-Vue Pro	SVPHWRMOD002	Smart-Vue Pro Duo	SVPHWRMOD022	Europe
Smart-Vue Pro	SVPHWRMOD004	Smart-Vue Pro Quatro	SVPHWRMOD014	North America
Smart-Vue Pro	SVPHWRMOD004	Smart-Vue Pro Quatro	SVPHWRMOD024	Europe
Smart-Vue Pro	NA	Smart-Vue Pro Duo	SVPHWRMOD032	APAC and Latin America
Smart-Vue Pro	NA	Smart-Vue Pro Quatro	SVPHWRMOD034	APAC and Latin America

Safety Instructions



IMPORTANT NOTE: Do not use this product for protection or as part of an automated emergency system or as for any other application that involves protecting people and/or property. This product is designed for use in environments where children are not likely to be present. Customers and users of Thermo Scientific products are responsible for ensuring that the product is fit for the intended usage. Do not open the product casing and do not disassemble or modify internal components in any manner. Thermo Scientific products do not contain any internal components that require user intervention or repair. If the device shows signs of improper operation, disconnect it immediately from its power source or remove the battery and contact Thermo Scientific technical services.

Introduction

This user guide describes how to use the Smart-Vue Pro web application to manage and monitor Smart-Vue Pro data logger featuring LoRaWAN™ long-range wireless connectivity.

Smart-Vue Pro data loggers collect data automatically from connected sensors and transmit the data to the Cloud. These data loggers are part of Thermo Scientific’s latest generation of wireless IoT (Internet of Things) devices.

About this Manual

This user guide describes how to use the features offered by the Smart-Vue Pro application. Before using Smart-Vue Pro, LoRaWAN™ connectivity for your devices must be configured to use a private (on-premises) network with a Thermo Scientific LoRaWAN™ receiver. LoRaWAN is supported by Smart-Vue Pro Duo/Quatro data loggers. See Thermo Scientific LoRaWAN receiver user guide for more details.

Table 2. Terminology used in this document

Terminology	Description
Alarm	An alarm occurs when the system observes a sensor reading that is out-of-bounds, such as a temperature reading or humidity level or CO ₂ reading that is too high or too low with respect to programmed range limits. The system can notify users when alarms occur by sending alerts. Alarms must be acknowledged by an authorized user. See also: Warning .
Alert	An alert is a notification sent by the system to users when the system observes an alarm or warning condition or potential problem. Alerts can be sent by e-mail, SMS or voice calls.
Equipment	The material or space that you are monitoring with a data logger.
Bluetooth®	Bluetooth Low Energy, also known as Bluetooth Smart® or BLE, offers point-to-point wireless connectivity with a practical range of up to about 30 meters (about 100 feet).

Table 2. Terminology used in this document

Terminology	Description
Data logger	Refers to Smart-Vue Pro Duo/Quatro and/or other Thermo Scientific wireless data logger devices.
LoRaWAN	Very-long-range wireless communication protocol available with public or private network connectivity. Free-field wireless range can reach up to nearly 10 miles (about 15 km).
Cloud	Internet-based platform on which data from data loggers is stored and accessed via the Smart-Vue Pro application.
Organization	Refers to your company and its organizational structure based on sites and departments created within the solution.
Profile	In Smart-Vue Pro web application, the term "profile" refers explicitly to Application Manager and User profiles. Every account is assigned one of these two profiles. Accounts with an Application Manager profile can control every aspect of the system (including changing other users profiles, but not their own). Accounts with a User profile start with view-only permissions, and additional application-wide permissions can be added to their individual account as well as to a "role" (see below) assigned within the organizational structure.
Role	The "role" is a very customizable feature that grants further permissions so users can perform a variety of day-to-day tasks at their organizational level.
Warning	A warning alerts users when a sensor reading reaches a programmed limit during data logging. Unlike alarms, warnings do not need to be acknowledged by a user.

Overview of Smart-Vue Pro Intended Use

The concept of Smart-Vue Pro is based on managing sensors that are assigned to entities called “equipment”.

Equipment refers to any assets (such as refrigerators and freezers), rooms or locations in/on which sensors may be placed.

The overall process of using Smart-Vue Pro Web is divided into the following steps:

1. You must first order a license key to cover the number of sensors you will be using. Contact the Thermo Scientific sales representative for more information.
2. Then, use Smart-Vue Pro web app to create your company account, add users and set up your equipment.

The process for configuring Smart-Vue Pro is shown in the following figure:

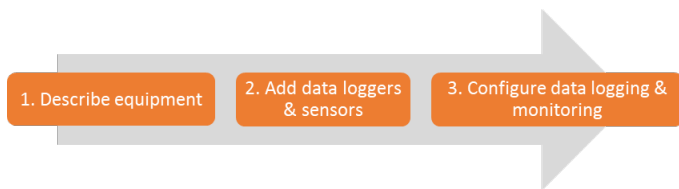


Figure 1. Process Overview

1. **Describe equipment:** The notion of equipment is the central principle for sensor monitoring with Smart-Vue Pro. This approach is based on the idea that you are more likely concerned about the assets you are monitoring than the tool used to accomplish the task. For example, you monitor equipment such as a cold room, refrigerator, deep freezer or incubator. You therefore must add this equipment to your system.
2. **Add data loggers and sensors:** Equipment is monitored by one or more data loggers with sensors that record temperature or humidity or 4-20 mA/0-5 V etc. at regular intervals. Sensors are added automatically when the data logger to which they are attached is added to the system.
3. **Configure data logging and monitoring:** As different pieces of equipment may have different needs in terms of monitoring, sensors must be configured to monitor different ranges at different reading frequencies with different alert strategies, etc.

The Smart-Vue Pro Duo/Quatro data logger (module) is intended to monitor and record a range of physical parameters such as temperature, humidity, 4-20mA depending on the sensors connected to it. The data logger supports digital and PT100 sensors, 4-20mA sensors. The information collected using the sensors can then be transmitted to a database server or cloud using a very-long-range or short-range wireless communication protocols like LoRaWAN or Bluetooth wireless connectivity respectively. The data can be accessed via a web application (Smart-Vue Pro). The Smart-Vue Pro Duo/Quatro data logger and the Smart-Vue Pro Web application enables the user to manage the entire Smart-Vue Pro Solutions. The system can also support audio and visual signaling devices such as Smart Remote Contact (module) and Smart Siren (module). Refer to the user guides of these modules for more information.

The Smart-Vue Pro Solutions is intended to monitor and record critical physical parameters in life science, pharmaceutical and agri-food sectors and perfect for monitoring several pieces of equipment simultaneously that are used in a typical laboratory or in a storage facility. These products should only be used by authorized and adequately trained personnel. It is not considered as a medical device or accessory to a medical device and has therefore not been registered with a medical device regulatory agency.

The Smart-Vue Pro Solutions is 21 CFR Part 11 compatible system and can be used as a document management system in a regulated environment, when the entire solution is controlled through the web application (Smart-Vue Pro). It is the user’s responsibility to develop verification and validation protocol based on the record-keeping requirements.

Smart-Vue Pro Feature Highlights

Smart-Vue Pro enables you to visualize your Smart-Vue Pro data logger's sensor status and data with a management interface for configuration and system administration.

Key application features include:

User and License Management

- Creating company and user accounts.
- Internal, LDAP, or SSO authentication.
- Managing users, roles and application permissions.
- Managing activation keys (license voucher).
- Managing your company's organization different sites and departments.
- Compatibility with FDA 21 CFR Part 11 requirements.
 - Readings and settings stored in secure database
 - Password protection and Configurable policy

Data

- Configuring sensors, receivers and infrastructure elements.
- Viewing data recorded by Thermo Scientific data loggers.
- Monitoring equipment and associated sensors.
- Managing data transmitted by Thermo Scientific Smart-Vue Pro data loggers.
- Viewing detailed sensor readings, history and more.
- Managing sensor calibrations and calibration reminders.
- Importing/exporting sensor calibration information.
- Detailed audit trail.

Alarms

- Configuring and sending alerts when alarms and/or warnings are detected.
- Managing alarms: high and low limits, technical alarms (sensor or communication problems), alert devices, and more.
- Pause alarms and warnings from 30 minutes to 72 hours.
- Setting up flexible scheduling for days, nights, and weekends according to user level and desired contact methods.
- Receiving notification by e-mail by default; SMS/text message and voice call with optional Smart-Vue Alert subscription.
- Schedule alarm reports.

Sensor Reading

- Viewing detailed sensor readings, history, and graphs.
- Generating reports for all key parameters, including configuration, status, events, and alarms.

Prerequisites

Smart-Vue Pro is a web application designed to work with standard web browsers.

The minimum system requirements are as follows:

- Personal computer
- Internet connection
- Screen resolution 1280 x 900 pixels minimum
- Recommended browsers: Web browser applications evolve quickly, and we do our best to keep the Smart-Vue Pro web application compatible with the latest releases. The following were used to test the current version:
 - Google Chrome v87
 - Mozilla Firefox v84
 - Microsoft Edge version v44
 - Opera v73

Note: The Smart-Vue Pro web application does not support Internet Explorer.

Cloud Access Requirements

When using Smart-Vue Pro in Cloud mode, the following ports must be open:

Table 3. Ports

Purpose	URL	Ports	Protocol
For users: Smart-Vue Pro web application	smart-vuepro.thermoscientific.com	443	https
For infrastructure: LoRaWAN receiver connection	smartvueconnect.com	1700	UDP

These ports are used for two-way communication between the Smart-Vue Pro web application running in your browser and the server platform.

Smart-Vue Pro On-Permisses Access

With your Smart-Vue Pro solution running on your company's internal network, simply connect using the URL provided to you by your IT department.

Getting Started

This section describes how to:

1. Create an account on the Smart-Vue Pro web application.
2. Login to Smart-Vue Pro.



CAUTION: This section assumes that you have purchased a license key that is available. Contact the Thermo Scientific sales representative for more information.

Smart-Vue Pro Login

You must connect to the Smart-Vue Pro web platform to use the software.

1. Launch your internet browser application.
2. Enter <https://smart-vuepro.thermoscientific.com> in the address bar.

The application detects your browser language automatically and displays the login window either in English, French, German, Italian, Spanish or Portuguese. For all other languages, English is used:

Figure 2. General login window (login)

Login Authentication

Smart-Vue Pro supports several authentication methods depending on the type of solutions used. The application can either use its own integrated user management platform or it can connect to an external authorization platform.

To use the integrated Smart-Vue Pro authentication:

1. Enter your assigned user-name and password.
2. Click **Log in** to enter the application.

Passwords are case sensitive and encrypted. If you forget your password, click **Forgot password**.

As a security measure, the account will be locked. If User Lockout is enabled in Security → Password policy (described in **System Security Settings**) and you enter an incorrect password the specified number of times consecutively. The only way to unlock the account is to reset the password. Proceed with the **Forgot password** procedure or contact an Application Manager to have them initiate the reset (which you must then complete in order to actually change the password).

To use an external authorization platform (such as LDAP) for Smart-Vue Pro Server (on-premise server) solution:

1. Enter your credentials in the form “authentication_mode/username” and enter the password.
2. Click **Log in** to enter the application.



CAUTION: For specific information on Authentication modes, see **Authentication Modes**. For more information on how to create user accounts, see **Users and Authentication Modes**.

Logging in with SSO (Single Sign-on):

1. Click on Use your organization's login. You will see this window:

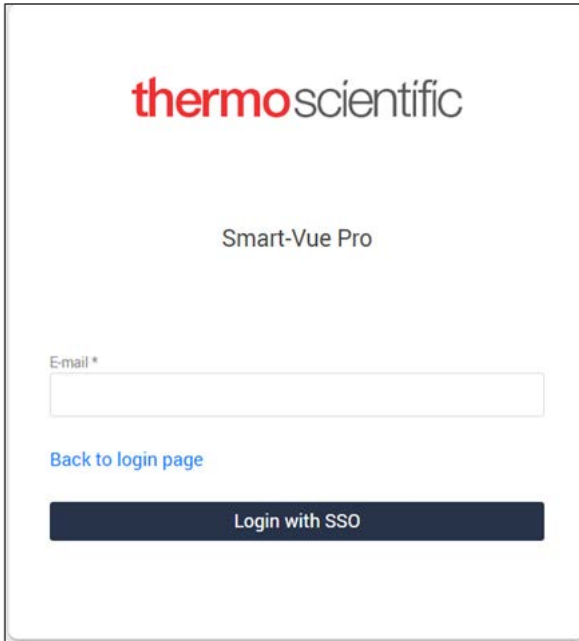


Figure 3. SSO login window

2. Enter your enterprise e-mail address.
3. For your first login, you must provide the Authentication mode name, as configured by an Application Manager when setting up the authentication mode (described in section **Adding An External Identity Provider**). On subsequent logins, you do not have to enter this information.

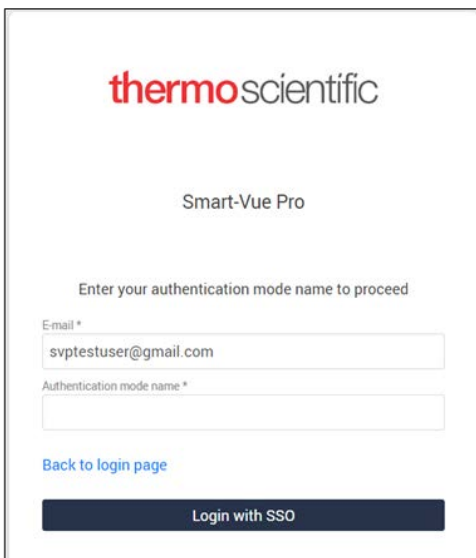


Figure 4. Entering the Smart-Vue Pro authentication mode name in the SSO login window

4. Click on Log in with SSO → complete the sign in with your enterprise system e-mail address and password to enter the application. Here is an example using Microsoft Azure as the identity provider:

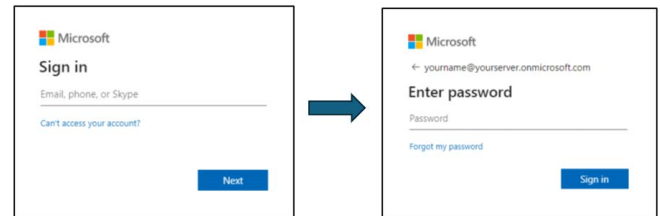


Figure 5. Microsoft SSO authentication window

Changing the Display Language:

The initial language used for Smart-Vue Pro depends on your browser configuration.

Once the Smart-Vue Pro is connected, you can change the application to a supported language at any time:

1. Click your user account image (avatar) at the top right-hand corner of the screen.
2. Click **My account** → **More** (three dots icon) → **Edit localization settings**.
3. Click the **Language** and select the desired language from the list. For the language change to be effective, you must logout and log back into the system.

Automatic System Logout After Inactivity

You will automatically be logged out of the Smart-Vue Pro application after a period of inactivity, as follows:

- If you remain on one of the Watch Mode screens and the Auto refresh option is selected, you will be logged out after 12 hours of inactivity.
- Anywhere else in the application, you will be logged out after 1 hour of inactivity.
- If your session is used periodically and remains active, you will be logged out after 12 hours.

To reconnect to the platform, enter your login credentials in the authentication screen.



CAUTION: The Smart-Vue Pro application version is shown at the bottom of the login window. Move your mouse cursor over the version number for more information. This information may be requested from the technical support team.

Creating your Smart-Vue Pro Company Account

You must create a Smart Vue Pro account to interact and manage Smart-Vue Pro data loggers. You may add users to an existing account at any time (see **Users and Authentication Modes** for details).



CAUTION: When you first create your company account in Smart-Vue Pro, you also create the first user. The user has Application Manager rights and can create additional users. See **Users and Authentication Modes** for more information.

To create your company account and the first Application Manager user:

1. Enter `smart-vuepro.thermoscientific.com` in the address bar of your web browser.
2. Click **New company** as shown below.

The screenshot shows a login form with a 'Password *' field, a 'Forgot password?' link, a 'Log in' button, and a 'Use your organization's login' button. Below these is a 'Not registered?' link and a 'New company' link circled in orange.

Figure 6. Authentication Window (login)

Company Information

Smart-Vue Pro includes a 2-step setup process for creating your company account and a first user account. That account has Application Manager rights and can configure the entire system and add other user accounts. The fields marked with * are required.

The screenshot shows the 'Create a new account' form in Smart-Vue Pro. It is a two-step process: 1. Company and 2. User. The 'Company' step includes fields for 'Company name *', 'Platform *', 'Company address', 'City', 'Postal code', 'Country', and 'International phone no.'. There are also dropdown menus for 'Language' (English), 'Time zone' (UTC+05:30 Chennai, Kolkata, Mumbai, New Delhi), 'Date format' (dd/MM/yy...), 'Time format' (12h AM-...), 'Unit' (*C), and 'Decimal separator' (, (comma)). A 'License key *' field is also present. At the bottom, there is a checkbox for 'I accept the Subscription Terms.' and a 'Next' button.

Figure 7. Filling in the company information

Fill the required fields (marked with *) as appropriate. You can change or update this information later if necessary:

Company name: Enter the name of your company. This name cannot be changed later.

Platform: This unique company identifier is filled in automatically based on the company name you enter.

Company address: City, Postal code, Country, International phone number enter the relevant information for your company.



CAUTION: Make sure you enter the telephone number in international format, with the prefix “[country code]”, such as: +14153817894. Do not include any extra digits or leading zeros.

The following settings apply as a default for your system. They can be overridden by each individual’s settings for local operation and display purposes, but this information is used as a common reference for the company in case people have conflicting profile settings for shared actions.

Example: If you have e-mail alerts sent to people in different regions, English could be the default company language for the same alert message.

Language: Choose the desired default language for your company. You are free to choose your personal preference at any time.

Time zone: Select the time zone based on the primary geographical area for the company.

Date format: Choose the date format to be displayed in the application.

Time format: Choose the time format to be displayed in the application. Readings can be displayed in the **12-hour (AM/PM)** or **24-hour** format.

Unit: Choose the unit of temperature (**degree Celsius (°C)** or **Fahrenheit (°F)**).

Decimal separator: Select the character to use as a decimal separator in numerical values.

License key: Enter your license key in this field. Based on the number of measurement points (sensors) in your system, this key is provided when you subscribe to Smart-Vue Pro.

License management is discussed in further detail in

Updating Company Information.

After completing all the company information, you must click the check box to accept the **Subscription Terms**, then click **Next** to fill in your user information as described in the next section.

User Information

Continue with the setup process by entering basic information for the first Application Manager user (with permissions to control the entire solution).



CAUTION: The e-mail address you enter here is the only information that you cannot change subsequently for your company account. We recommend using an e-mail address that is not strictly tied to a single person, such as “smart-vuepro@your_company.name”.

Figure 8. Entering user information

Fill in the required fields (marked with *) as appropriate:

First name / Last name: Enter the first name and last name.

Email: Enter the e-mail address that is used to login to the system. The e-mail alerts and confirmations by the system are sent to this email address. The e-mail address may only be used once into the system and may not be edited once entered. A message is displayed if the e-mail address is already in use.

Job title: Enter the user’s job function within the company.

After completing the information, select the checkbox **“I accept the Terms of Use and the Privacy Policy Terms”** at the bottom of the screen (you may click Terms of Use and/or Privacy Policy Terms to see the detailed text) and then click **Proceed**.

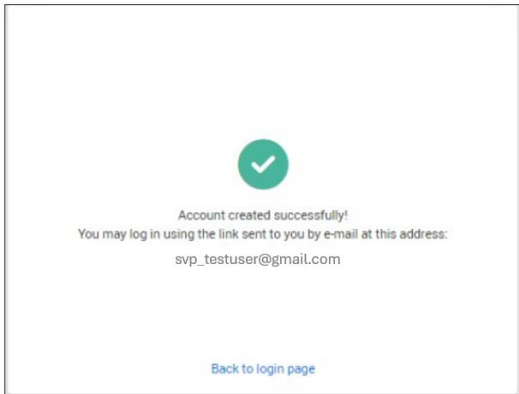


Figure 9. Smart-Vue Pro confirmation of account creation

Your account is created and a confirmation e-mail is sent to the address entered. Click the link in the e-mail to activate the account.

First Connection to the Application



CAUTION: This section applies to systems using Smart-Vue Pro’s integrated authentication (based on the user-name and password). When using external identity providers, namely LDAP or SSO, use your regular enterprise login credentials.

If your system uses Smart-Vue Pro’s integrated authentication mode, you are prompted to create a password the first time you login to the application.

1. Check the confirmation e-mail in your inbox and click the link provided. If you do not see the e-mail, check the spam or junk e-mail folders in case your application filtered it automatically.

2. After you click the link, the following window opens to set your password:

Figure 10. Creating a password upon first connection

3. Enter a new password. Passwords must respect your organization’s password security policy (as described in **System Security Settings**).
4. Confirm the new password by re-typing in the field below.
5. Click **OK**. The password is reset successfully.

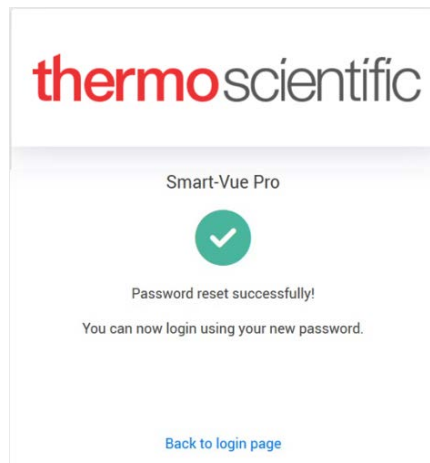


Figure 11. Successful password change

6. Click **Back to login page** to connect to the application using your e-mail address and the password you created.

Forgot Your Password?



CAUTION: This section describes password recovery for systems using Smart-Vue Pro's integrated authentication (based on the user's e-mail address and password). For external identity providers, namely LDAP or SSO, please check with your system administrator if you need help resetting a forgotten password.

5. Enter the new password in the first field, then retype it in the second field to confirm.
6. Click OK to change your password, or on Cancel to keep your old password.

If you are unable to access Smart-Vue Pro or if you cannot remember your user-name or password, the system can send password reset instructions to you by e-mail. Follow these instructions if you must reset your Smart-Vue Pro password:

1. Use your browser to open the address:
smart-vuepro.thermoscientific.com
2. Click **Forgot password** on the login screen.
3. Enter your Smart-Vue Pro account email address and click **OK**.

Figure 12. Entering an e-mail address to receive a new password

4. Check your e-mail in-box and click the link in the email you received to set a new password.

Figure 13. Assigning a new password

Using Smart-Vue Pro

Presentation of the User Interface

The Smart-Vue Pro interface consists of the following main zones:

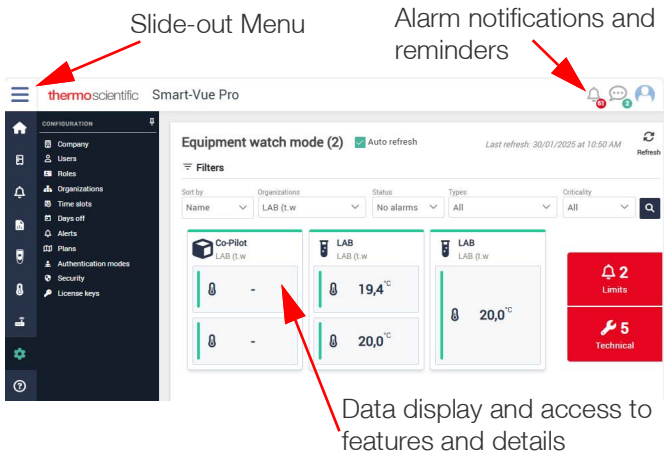


Figure 14. Overview of Smart-Vue Pro user interface

The watch mode screen shown above provides direct access to key features in your monitoring system.

Main Menu

The main menu is located on the left-hand side of the screen that slides open or close when you hover the mouse on the **Menu** icon (☰). Click Menu to access Smart-Vue Pro features. Depending on the context, the menu item displays a statistics pane or a sub-menu with additional features or information (See **Figure 15**):

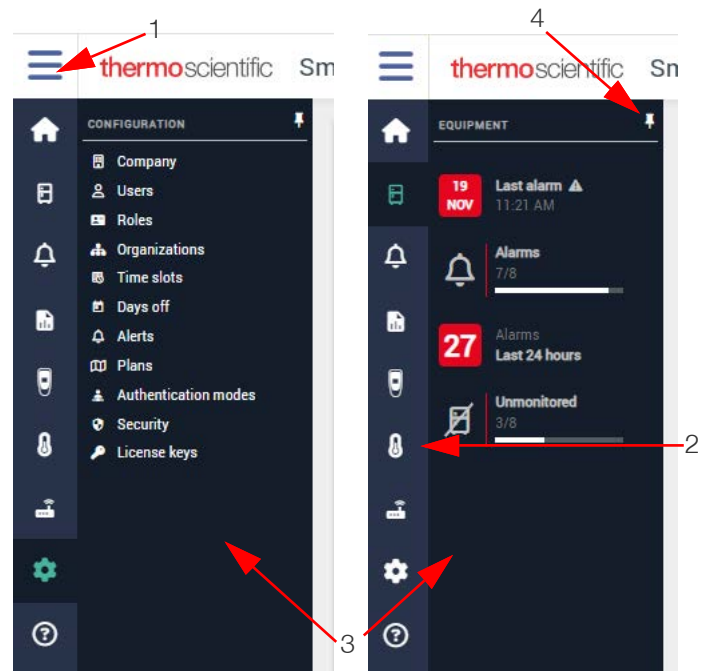


Figure 15. General layout of Smart-Vue Pro main menu

Sub-Menu Indicators

Your system constantly monitors the health of all its components to take an action if necessary. As you slide the main menu on the left-hand side of the screen, sub-menus with key indicators are displayed. Some icon colors vary according to status, such as (Alarms) To acknowledge, which turn from green to red when alarms need your attention.

Equipment: This information pertains specifically to the status of your equipment.

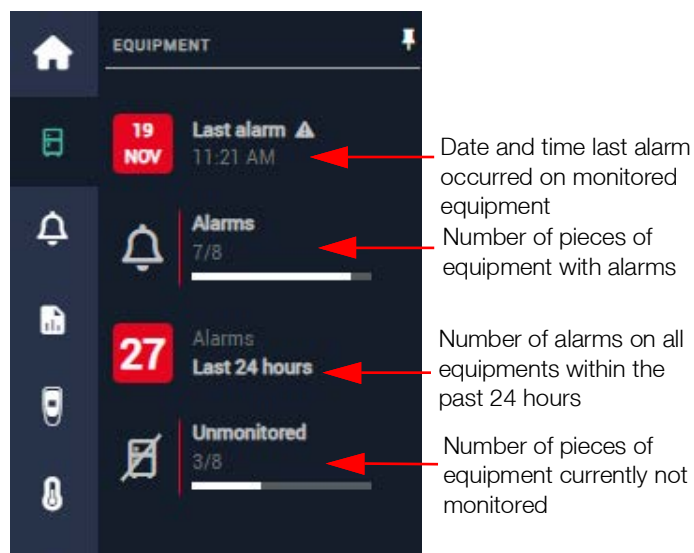


Figure 16. Equipment side-bar indicators

Alarms: This information pertains specifically to alarms detected by the system.

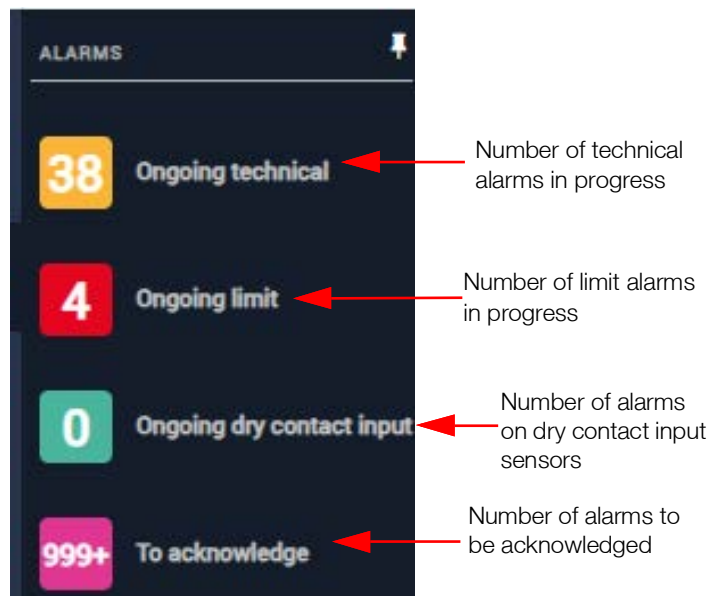


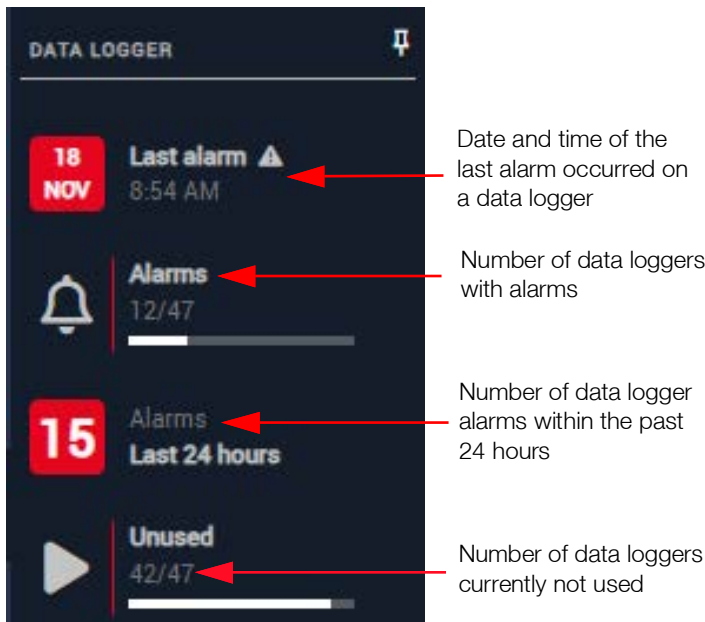
Figure 17. Alarms sub-menu indicators

S.No	Description
1	Menu slide open
2	Navigation menu: Home Equipment Alarms Reports Data Logger Sensors Infrastructure Configuration Help
3	Sub-menu of additional features or Statistics pane depending on the context.
4	Toggle the thumb tack to Pin or Unpin the menu (keep it open or allow it to slide back automatically).

The background color changes as you move your mouse over each feature and when you select a feature.

Data loggers: This information pertains specifically to the status of your data loggers (i.e. not their sensors or equipment to which they are assigned).

Infrastructure: This information pertains specifically to the status of your infrastructure devices, such as receivers and smart remote contact or siren alert devices.

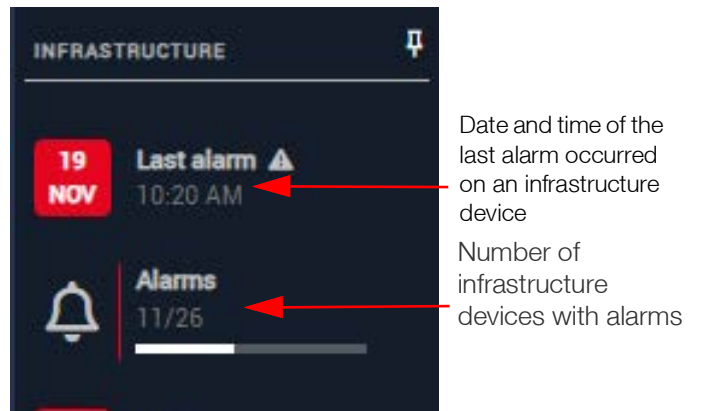


Date and time of the last alarm occurred on a data logger

Number of data loggers with alarms

Number of data logger alarms within the past 24 hours

Number of data loggers currently not used



Date and time of the last alarm occurred on an infrastructure device

Number of infrastructure devices with alarms

Figure 20. Infrastructure




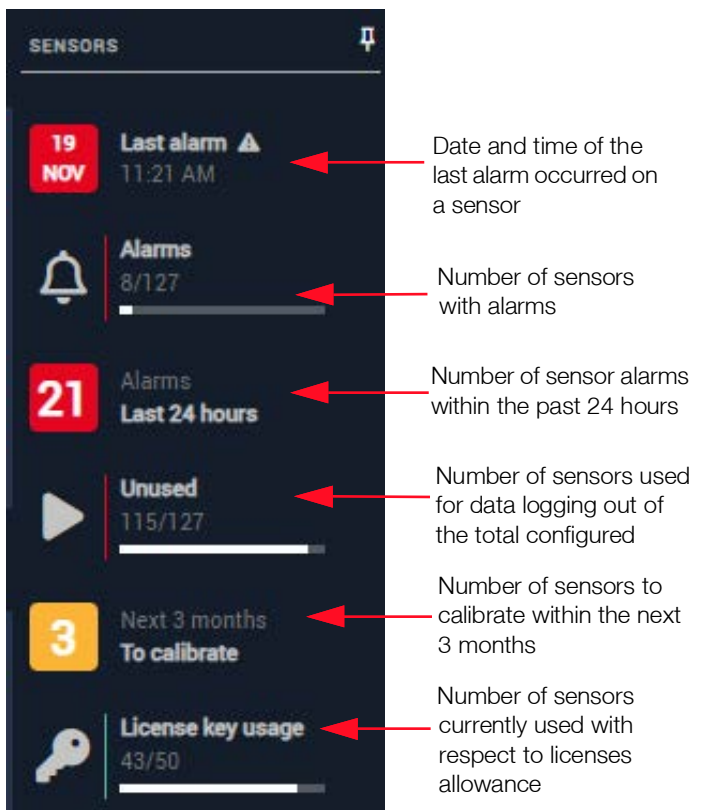
CAUTION: If you pin these side-bars open and make changes in the main screen, such as acknowledging an alarm or updating a license, you must refresh the page (press the F5 or ) for the changes to be reflected by the various indicators

Figure 18. Data logger sub-menu indicators

Sensors: This information pertains specifically to the status of the sensors on your data loggers.



Date and time of the last alarm occurred on a sensor

Number of sensors with alarms

Number of sensor alarms within the past 24 hours

Number of sensors used for data logging out of the total configured

Number of sensors to calibrate within the next 3 months

Number of sensors currently used with respect to licenses allowance

Figure 19. Sensor sub-menu indicators

Using Filters

Many Smart-View Pro screens include a **Filters** option at the top of the display. You may use various fields and search criteria to adapt lists displayed on screen or sort data in different ways. Filters can be very useful for finding specific information quickly or limiting long lists.

The **Filters** feature always works as described depending on the context.

To use **Filters**:

1. Click **Filters** (1) and use the drop-down menu to choose the information you want to display. The following examples show the filters options on the **Equipment** and **Sensors** screens:

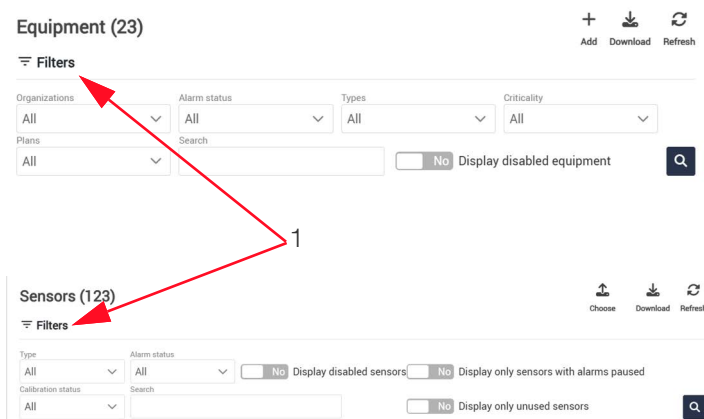


Figure 21. Filters

2. You may filter by entering text in the **Search** field.
3. Apply the filters by clicking the search icon (Q).
The list only displays items related to the criteria you specified.
4. To clear the active filter(s), simply click on Refresh, uncheck the selected options and click the search icon (Q).

Home Screen Overview

The Smart-Vue Pro home screen contains the equipment monitoring dashboard which provides quick access to information about the system. The home screen features two display modes:

Plan View: Displays an image of the facility's floor plan to place the equipment you are monitoring according to its physical location (see **Placing Equipment on the Plan**).

Equipment Watch mode: Allows you to visually check the status of all the equipment and information such as the last recorded reading, sensor status, alarm status and more with this view, each tile shows one piece of equipment with up to two sensors.

Sensor watch mode: Nearly identical to Equipment watch mode, but only shows one sensor per piece of equipment.

Multigraph view: Enables you to display multiple sensor readings from different pieces of equipment on a single graph.

You may choose your default view using the **"Favorites"** bookmark, as shown below.

To pin your preferred view to your home screen, click the desired bookmark (1) as shown:

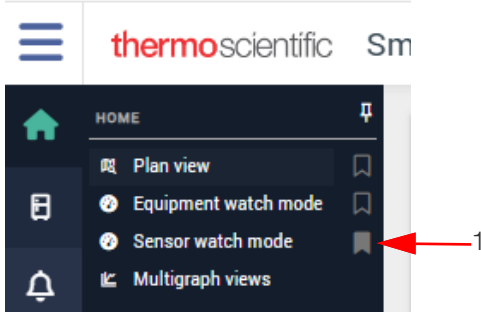


Figure 22. Customizing Smart-Vue Pro home screen

The selected view is opened automatically the next time you login to Smart-Vue Pro.

Note: This does not apply to the Multigraph view feature.

Plan View

Smart-Vue Pro enables you to load a floor plan for a quick visual indication of where your equipment and devices are located. The following is an example showing equipment at various locations on the floor plan (1). For more details, see **Adding a Plan**.

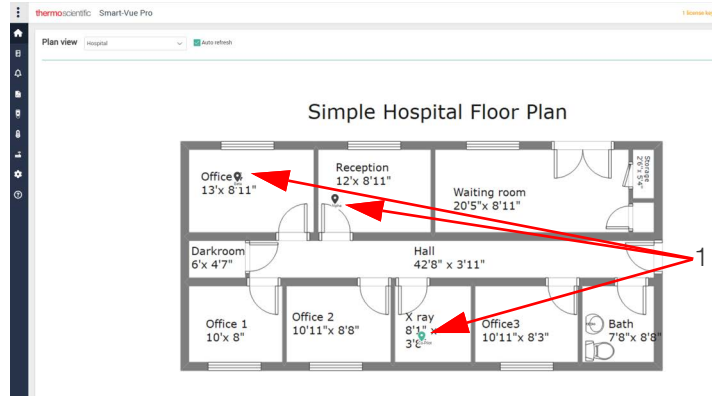


Figure 23. Viewing your sensors on a floor plan of your site

Equipment and Sensor Watch Mode

The **Watch Mode** screen shows the status of all the equipments your profile allows you to view. The thumbnails on the dashboard provide an instant view of your equipment as well as the physical parameters recorded by your data loggers. Enable **Auto refresh** (1) to update the data on your dashboard automatically every five minutes.

Sensor watch mode (one sensor per piece of equipment):

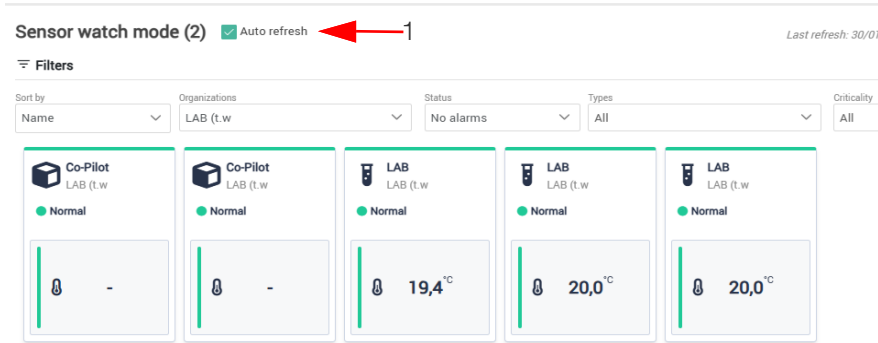


Figure 24. Overview of the sensor watch mode dashboard

Equipment watch mode:

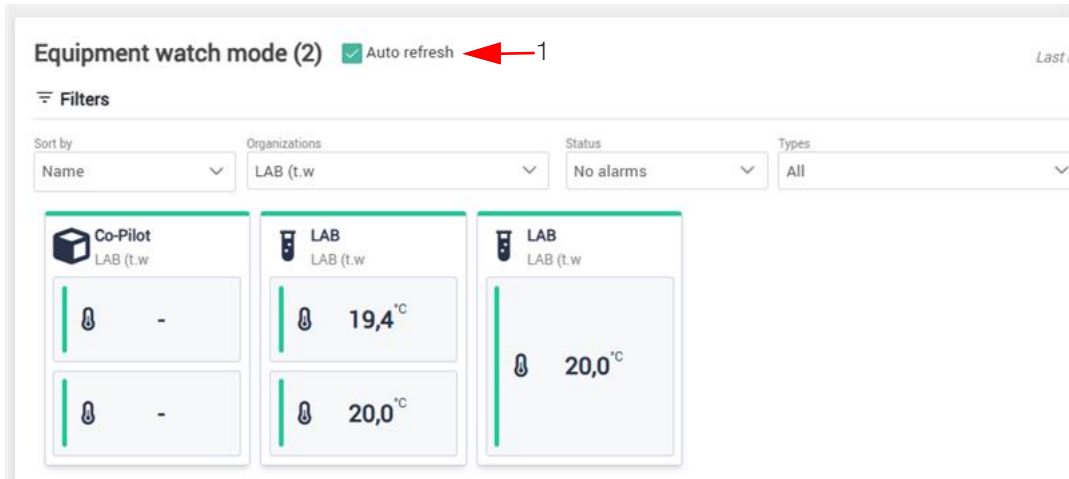


Figure 25. Overview of the equipment watch mode dashboard



CAUTION: Actions and updates with respect to remote data loggers may not always be visible instantaneously. For example, data transfer is based on the configured transfer interval. You may observe a reading on a Smart-Vue Pro data logger screen that has not yet been transferred to the system.

Equipment Tile Presentation

Each tile shows key information about a piece of equipment and its sensors.

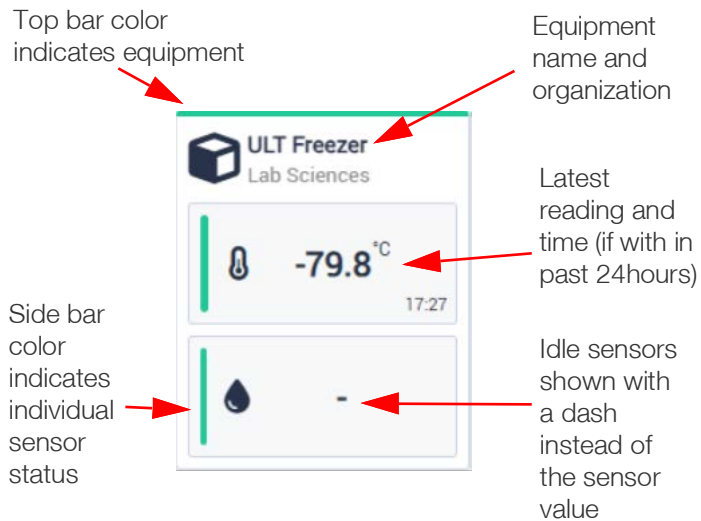


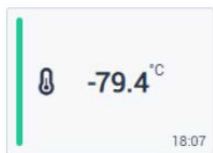
Figure 26. Sensor watch mode tile with key details

Sensor status indication color codes

Sensor status is indicated by the vertical bar to the left of the tile. Three colors are used:

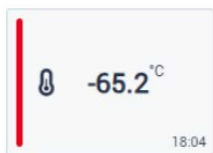
Green

- There are currently no errors or alarms.
- If high and/or low limits are programmed, the reading is within the target range.



Red

- The sensor is currently in an alarm state.
- The sensor reading has gone outside programmed high or low alarm limits, or there is a technical error such as a sensor problem or low battery.



Orange

- The sensor is currently in a warning state.

- The sensor reading has gone outside programmed high or low warning limits.



Equipment status color codes

The horizontal bar across the top of the tile indicates the overall status of the piece of equipment. The colors are as follows:

Green

- There are no errors.
- The sensors and datalogger(s) associated with the equipment are working correctly.



Red

- One or more of the equipment's sensors has triggered an alarm.
- or -
- One or more of the equipment's data loggers have triggered a technical alarm, such as low battery, sensor error, or communication problem.



Orange

- One or more of the equipment's sensors has triggered a warning.

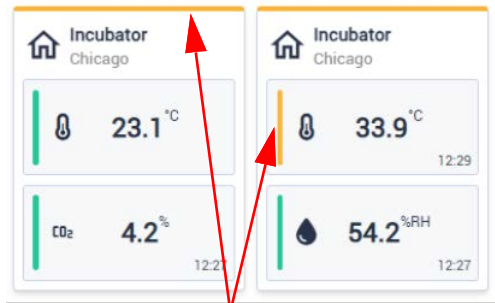


Examples

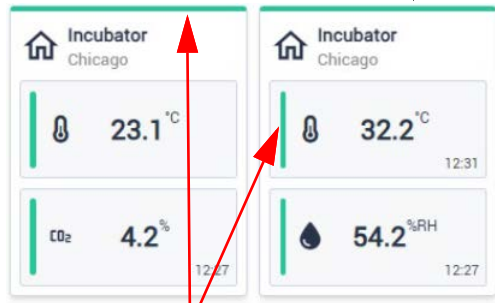
Here are some examples to illustrate the use of colors on the dashboard tiles.

Note: This piece of equipment ("Incubator") has four associated sensors and therefore uses two tiles.

Example 1: Sensor with warning returns to normal

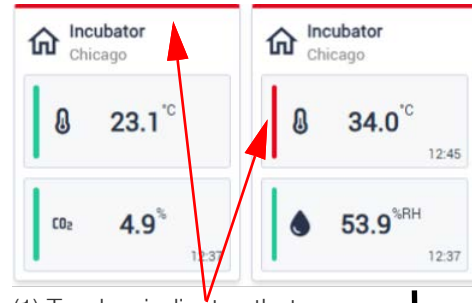


(1) Top bar indicates that a sensor has a warning. Side bar indicates which sensor.

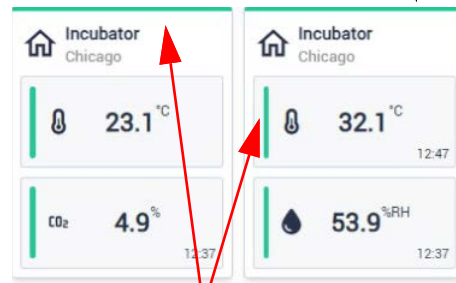


(2) Top bar and side bar indicate that sensor reading has returned to normal.

Example 2: Sensor with alarm returns to normal



(1) Top bar indicates that an element associated with the equipment has an alarm. Side bar indicates a sensor alarm, and which sensor.



(2) Top bar and side bar indicate that sensor reading has returned to normal.

Sensor details with and without warnings or alarms

You can click on a tile to see more details about a particular sensor.

Example 1: Sensor details without warnings or alarms

Here is an example with a sensor running within the programmed target range.



Figure 27. Sensor details panel without alarm or warning

- (1) Equipment name and associated organizational node.
- (2) Sensor serial number. Click to access the sensor directly.
- (3) Latest sensor reading and alarm status.
- (4) High and low alarm limits (red dashed line) and warning limits (orange dashed line). Click in this zone to open the full readings window, with filters and the possibility to create and download reports. Refer to **Viewing Sensor Data** for more details.

Example 2: Sensor details with warning

If the sensor exceeds a reading value that is programmed as warning limit, the color coding changes to orange, as shown below. Warnings do not have to be acknowledged with a PIN code and cause in Smart-View Pro Web application. You may click on the orange button to open the Alarms & Warnings window and see details about the warning.

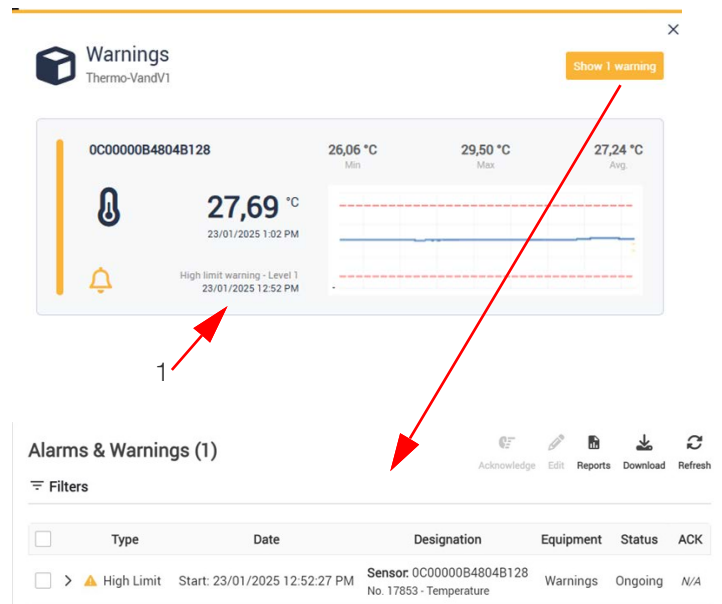


Figure 28. Sensor details panel with a current warning

- (1) The type of warning and timestamp are indicated here.

Example 3: Sensor details with alarm

The color-coding changes to red if the sensor reading exceeds a limit programmed as an alarm, or if there is a technical alarm such as a sensor problem or low battery.

You may click on the red button to open the Alarms & Warnings window and see details about the alarm. The button indicates the number of alarms or warnings associated with the sensor (in the example below, the button indicates 2 alarms/warnings because it takes the previous warning into account).

Alarms and Warnings Panels

When alarms or warnings occur, panels are displayed on the right-hand side of the screen, with counters to indicate the number of alarms and warnings currently active in your monitoring system.

This information is updated dynamically to inform you right away if there are any critical incidents. The panels are cleared automatically as problems are resolved. Click on the red or orange boxes to open the alarm management window (more details are provided about this in section **Viewing Alarm Details**).

Sensor Tile Display for Dry Contact Input Sensors (Smart-Vue Pro Duo/Quatro Only)

In Watch Mode, dry contact input sensor tiles shows an icon indicating the current configuration (as defined on the Smart-Vue Pro Quatro data logger) with alarm colors depending on the open-close state. Normal and triggered states both show the icon corresponding to the “normal” configuration.

If the dry contact input sensor is defined as “normally closed”:

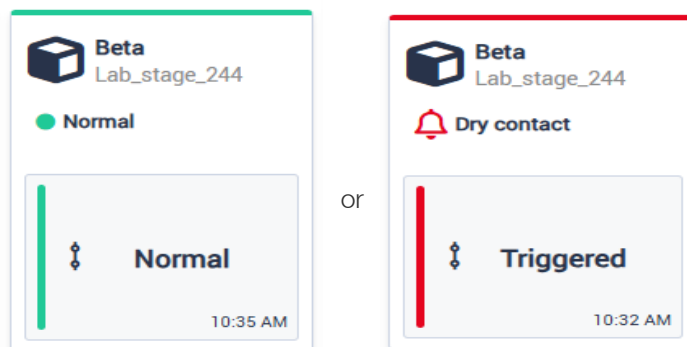


Figure 31. "Normally closed": dry contact loop is closed for normal operation, in an alarm state ("triggered") if the loop is open

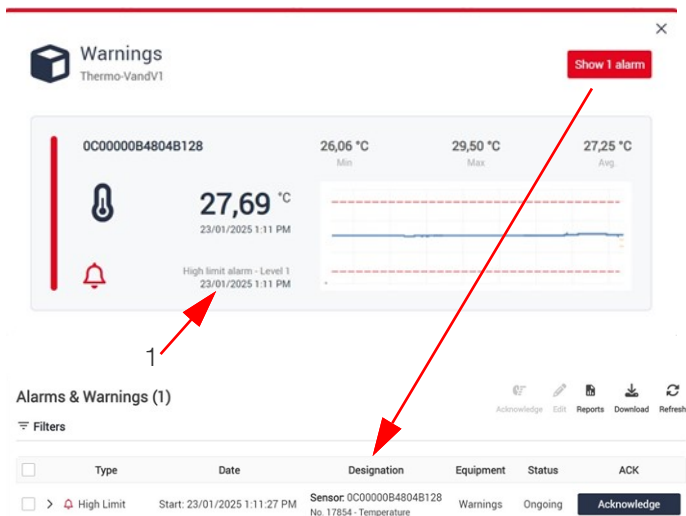


Figure 29. Sensor details panel with an alarm

- (1) The type of warning and timestamp are indicated here.

Example 4: Sensor details with paused alarms

Smart-Vue Pro data loggers have a feature to pause alarms from 30 minutes to 72 hours. This feature can only be activated using the interface on the data logger itself.



Figure 30. Sensor details panel showing alarm pause is activated on the data logger

- (1) Paused alarms are indicated here.

If the dry contact sensor is defined as “normally open”:

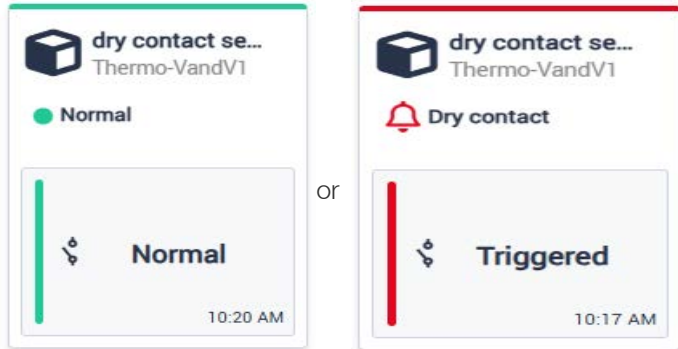


Figure 32. "Normally open": dry contact is open for normal operation, in an alarm state ("triggered") if closed.

Dry contact sensor configuration is covered in more detail in **Using the Smart-View Pro Dry Contact Input Sensor.**

Users and Authentication Modes

Smart-Vue Pro includes a complete user management interface. When you create your company account in Smart-Vue Pro (described in **Creating your Smart-Vue Pro Company Account**), you also create the first user account. That account has an “Application Manager” profile and is thus allowed to control every aspect of the system, its organization, and other user accounts.

Every company account must have at least one user with an Application Manager profile.

Authentication Modes

Smart-Vue Pro supports several user authentication modes:

- Smart-Vue Pro’s own **integrated user authentication platform** identifies users by their user-name and password.
- An **external authorization platform, namely LDAP** (Lightweight Directory Access Protocol) identifies users by their corporate, network or system login name and password. Generally used by large organizations, this option provides consistent and non-redundant user management while offering a broader range of user permissions and password control within corporate IT tools.
- **SSO** (Single sign-on) is an authentication method that uses an external identity provider to enable users to access multiple enterprise applications with a single set of login credentials, thus eliminating the need for multiple passwords. SSO is supported by both Smart-Vue pro Cloud and Smart-Vue Pro On-premises solutions.

Default User Authentication with Integrated Platform

In a default system, only the Smart-Vue Pro internal authentication platform is used. To see the authentication mode(s) used by your system, click **Configuration** (⚙️) →

Authentication modes:



Name ↑	Description ↑↓	Type	URL	Users ↑↓	
acau		SSO		2	✎ ⋮
Internal	Internal Authentication	Internal		94	✎ ⋮
Okta-Testing		SSO		3	✎ ⋮
...		-	⋮

Figure 33. Default Smart-Vue Pro authentication platform



CAUTION: The internal authentication mode may not be disabled or edited in any way.

Adding An External Identity Provider

For your system to access an external SSO identity provider or LDAP active directory, you must add one or more authentication modes to Smart-Vue Pro and configure it as described in this section.





CAUTION: Assistance from your IT department is highly recommended. The configuration process for adding an LDAP or SSO identity provider can be somewhat complicated, as technical information needs to be coordinated between your Smart-Vue Pro system and the identify provider. This involves the Smart-Vue Pro-specific information discussed here, but it also requires access to an external identity provider platform as well as in-depth knowledge of application and user management. The specific details of third-party identity provider services and interfaces may vary and are therefore outside the scope of this document.

Adding LDAP authentication (On-Premises Only)



CAUTION: Before you add LDAP authentication in Smart-Vue Pro, you must make sure that your active directory contains the necessary groups specific to Smart-Vue Pro. All other information is standardized and does not require any particular attention. More information on this is provided in the Smart-Vue Pro On-Premises Installation User Guide.

1. In the main menu, click **Configuration** () → **Authentication modes**.
2. Click () (**Add mode**) and choose LDAP.
3. Fill in the fields below for LDAP settings:

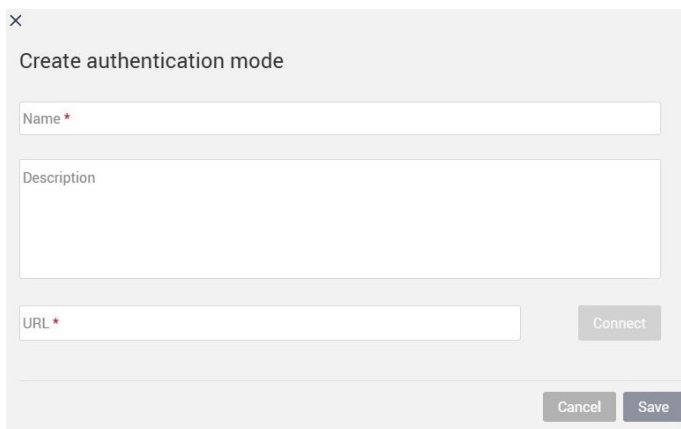


Figure 34. Adding an external LDAP identity provider

Name: Assign a name for the authentication mode. This name is used as a reference by Smart-Vue Pro only and must be unique within your entire Smart-Vue Pro system. If the name is already in use, you will receive an error message.

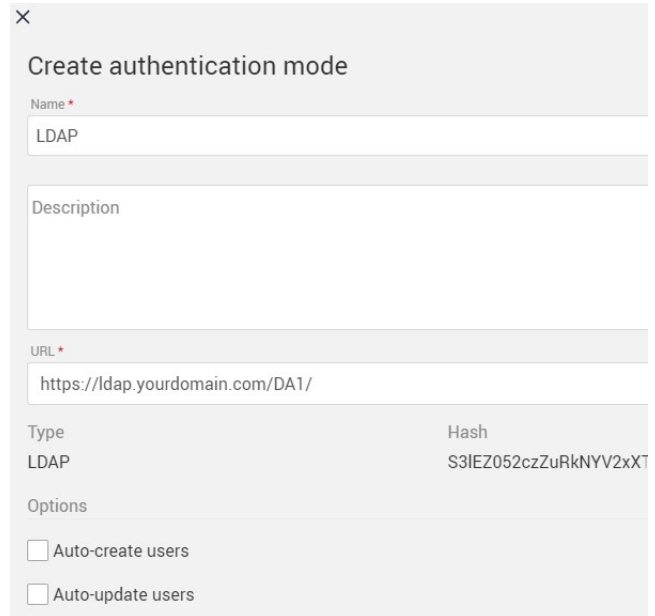
To log in, the user enters this name along with their user-name, in the format:

authentication_mode_name/username

Description: Enter optional information in this field.

URL: Enter the exact URL for connecting to your platform's LDAP authentication agent.

4. Click **Connect**. If the URL is correct and connection to the LDAP authentication agent was established, additional information is displayed:



Type	Hash
LDAP	S3IEZ052czZuRkNYV2xXT

Figure 35. Automatic options with LDAP

In this example, the authentication agent was identified as LDAP, which has the following two options:

Auto-create users: When users who do not exist in the system try to login for the first time, the system creates them automatically. They can login to Smart-Vue Pro and continue with their regular credentials. Their user settings then show which authentication mode is being used (i.e. the name assigned above in step (2)).

Auto-update users: With this option, information from user settings is automatically updated based on information in the external directory. Changes made in the external Active Directory are applied the next time the user logs in.



CAUTION: The user's e-mail address must be:

1. Entered into the LDAP directory, otherwise the user will not be imported.
2. Unique in the system (the same address cannot be used more than once).

Adding SSO authentication



CAUTION: Before you add SSO authentication in Smart-Vue Pro, you must first set up the application, users, and "claims rules" on the identity provider side to define which attributes are sent to Smart-Vue Pro from your identity provider platform and which fields they correspond to in Smart-Vue Pro. In addition, you must create a group and a claim specifically for Smart-Vue Pro "Application Manager" users. Otherwise, the Smart-Vue Pro "User" user type is applied by default.

Technical bulletins available.

We have created detailed technical bulletins on implementing SSO.

For more information, feel free to contact your Technical representative for a technical bulletin on this topic.

To Set up SSO authentication in Smart-Vue Pro:

1. In the main menu, click on **Configuration** (⚙️) → **Authentication modes**.
2. Click on Add (+) and choose SSO.
3. Fill in the fields below for SSO settings:

Figure 36. Adding an SSO identity provider

Name: Assign a name for the authentication mode. This name is used as a reference within Smart-Vue Pro only and must be unique. You will receive an error message if the name is already in use. The first time users log in, they must enter their username as well as this authentication mode name.

Identity provider metadata URL: You will find this URL in the identity provider's configuration console for the application. Copy the full path from the console into this field in Smart-Vue Pro.

4. Click on Connect (1) to verify that the URL is correct and connection can be established and to obtain the other technical information required to complete configuration on the identity provider side.

After connecting, the screen is updated with information for the following:

- Entity ID
- Login URL
- Logout URL
- Token Validation Certificate
- Request signing certificate

You must then copy/paste that information, as shown on the screen below, to your identity provider.

Figure 37. Details to copy to your SSO identity provider settings



CAUTION: With SSO, Smart-Vue Pro manages user session connection certificates. These certificates are valid for one year, as indicated by the date (2) in the above screen and are renewed automatically. If you want to end the current sessions for users logged in with this SSO mode, press the Remove certificate and Renew certificate (3).

- On this same screen, you can activate or deactivate the following options, depending on your needs:

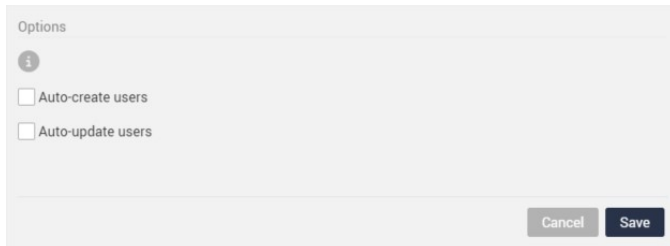


Figure 38. Enabling auto-create and/or auto-update functionality

Auto-create users If this option is activated, Smart-Vue Pro creates new users automatically when they login via SSO. Your users must be created on the identity provider platform and assigned to the application.

Auto-update users With this option, information in user settings is automatically updated based on information sent by the identity provider. Changes made on the identity provider side are applied the next time the user logs in.

- Press Save when done or Cancel to close this window without saving changes.

Editing an External Authentication Platform

You may edit a LDAP or SSO authentication mode that you have added to the system (but not Smart-Vue Pro's integrated authentication).

- Click on **Configuration (⚙️) → Authentication modes.**

Name ↑↓	Description ↓↑	Type	URL	Users ↑↓
Internal	Internal Authentication	Internal		49
YourLDAP		LDAP		4
YourSSO		SSO		0

Figure 39. Sample list of authentication platforms

- To change information, click the **Edit** button (✎) on the line containing the authentication mode you want to edit.

LDAP:

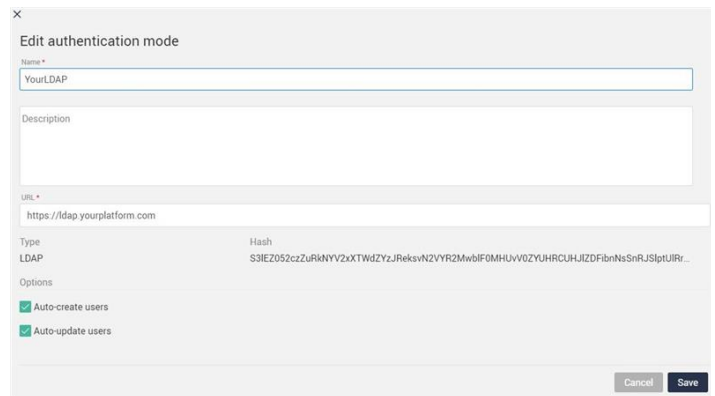


Figure 40. Editing an LDAP authentication mode

If you change the URL to the LDAP authentication, the system checks to make sure that the new URL corresponds to the same agent as before. If not, an error message informs you that the changes will not be taken into account.

SSO:

Edit authentication mode

Name *
YourSSO

Type
SSO

Identity Provider metadata URL
Metadata URL *
`https://login.microsoftonline.com/e454cd78693-458215948c4-bf1d0c05a8ba/fe` **Connect**

Entity ID
`https://sts.windows.net/ef5e-48c4-bf1d-74130c05a8ba/`

Login URL
`https://login.microsoftonline.com/ef5e-48c4-bf1d-74130c05a8ba/saml2`

Logout URL
`https://login.microsoftonline.com/ef5e-48c4-bf1d-74130c05a8ba/saml2`

Token validation certificate
CN=Microsoft Azure Federated SSO Certificate
E3DD42A3A73D3FA7AC5E01A6AC6366F26972A955 (sha256RSA)
05/06/2024 10:55 → 05/06/2027 10:55

Request Signing certificate
CN=noclaims

Cancel **Save**

Figure 41. Editing a SSO authentication mode

If you change the Metadata URL field, use the Connect button to make sure that the connection works correctly. Also, update the information on the identity provider side if necessary. Scroll down if you want to change the Auto-create users and Auto-update users options.

3. Click on Save to save any changes you made, or on Cancel to discard changes.

Options for External Authentication Platforms

Several options are available when you have configured one or more external authentication platforms.



CAUTION: You cannot edit or delete the system's internal authentication mechanism.

To access options for external authentication platforms:

1. Click on **Configuration** (⚙️) → **Authentication modes**.

Authentication modes (3) + Add Refresh

Filters

Name ↑↓	Description ↓	Type	URL	Users ↑↓
Internal	Internal Authentication	Internal		49
YourLDAP		LDAP		4
YourSSO		SSO		0

Figure 42. Access authentication platform options

2. Click the **More** (⋮) (1) to access additional features, depending on the authentication type.

For LDAP:

Synchronize: This option connects to your LDAP agent and fetches all the users configured as Users or Application Managers for Smart-Vue Pro and creates them automatically. This allows you to include users in alert rule definitions even if they have not yet connected to Smart-Vue Pro (which would create those users upon their first login if you enable the Auto-create option described previously). A message is displayed to confirm the operation, informs you if any required information is missing from any LDAP profile, or if the connection could not be established.

Note: If **Auto-create user** and **Auto-update users** are not selected (Refer to section **Adding SSO authentication**), the synchronize button only updates the status of already-existing users (Enabled, Disabled, Expired).

Disable: Prevents associated users from connecting to the system.

Delete: You may only delete an existing authentication mode if there are no associated users.

For SSO

Settings: Opens a read-only pop-up with SSO information. You can use this screen to copy information for your identity provider configuration.

Single Sign-on SAML settings ×

Basic SAML Configuration

Entity ID `https://ocv.net/8eaea849-2457-486a-a8a9-d70779e37280/sp`

Reply URL (ACS) `https://api-staging.nonprod.smartvuepro.thermoscientific.com/is4/api/saml/AssertionConsumerService`

Relay State `?return_url=https%3A%2F%2Fapp-staging.nonprod.smartvuepro.thermoscientific.com%2FsamlACS&domain_name=Okta-SSO`

Request Signing certificate

Figure 43. SSO details (for reference only)

Disable: Prevents associated users from connecting to the system.

Delete: Deletes the authentication mode. You may only delete an existing authentication mode if there are no associated users.

User Accounts

Creating a New Account

To add a new user account, login to Smart-Vue Pro with your Application Manager account, or as a user whose application permissions include Manage other users, and follow these steps:

1. In the main menu, click **Configuration** (⚙️) → **Users**.
You may either: Click (+) (Add user) or click a user-name in the list and then Create from selected (📄) to use an existing user as a template for creating a new one.

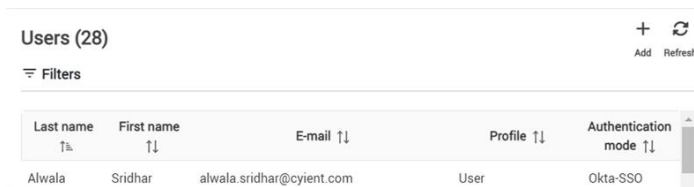


Figure 44. Adding new user

2. The Create user window opens as shown below, with fields either empty or already containing information, depending on your choice in step 1:

Figure 45. User details

3. Enter information to identify the user. The fields marked with an asterisk (*) are required:

First name / Last name: Enter the first and last names.

E-mail: The user’s e-mail address, which is used to login to the system and receive e-mail alerts and confirmations sent by the system.

Username: If you are using Smart-Vue Pro’s integrated authentication, the username can either be the same as the e-mail address or it may be a name that you enter here.



CAUTION: When logging in, you must use the information in the **Username** field.

If you are using an SSO or LDAP authentication agent, the username is your regular corporate system username (in the format: authentication_mode /username).

Authentication mode: This field enables you to choose whether to use Smart-Vue Pro’s internal authentication (based on user-name and a password) or an external authentication platform using the regular corporate system credentials. The option specified when creating the company account is displayed here by default.

When you select LDAP or SSO, a “Connect” button is displayed to test access directly from this screen.

Job title: Enter the role within the company.

International phone: Enter the telephone number in international format, with the prefix “[country code]”, such as: +14153817894. Do not include any extra digits or leading zeros.

Expiration date: When using Smart-Vue Pro’s integrated authentication mode, you may set a date at which this user account will expire. For external authentication platforms, you may not change the expiration date here.

Expired accounts are indicated by this icon in the user list (🕒):

Profile: Two profiles form the foundation for defining user control in the Smart-Vue Pro system:

- **Application manager:** Can control all aspects of the entire system for your entire organization, including changing other Users Profile settings (but not their own).
- **User:** This profile is assigned to all other accounts. Most accounts in your system will be User accounts. Additional control abilities are then assigned by an Application manager or other authorized user on an as-needed basis by activating system-wide application permissions and/or creating organization specific roles in sites and departments.

(See **Organization with Sites and Departments**), offering flexibility.



CAUTION: When using external authentication platforms, you can not change the role directly via Smart-Vue Pro.

Authorize PIN code: This option allows you to determine whether the user is allowed to perform actions that require a PIN code:

- Acknowledging alarms via the Smart-Vue Pro data logger screen.
- Acknowledging telephone alerts.
- Accessing advanced settings menus on the Smart-Vue Pro data logger screen.

Yes Indicates that you can have a PIN code.

No Indicates that you will not have a PIN code.

PIN code: If you are authorized to have a PIN code, enter 4 digits into this field. For additional security, the system will complete the PIN code with 2 additional random digits after you close the window.



CAUTION: To see the full 6-digit code, open your account and select **PIN code** → **Show**. Only the account holder can see their own full 6-digit code in their account. No other system users, including Application Managers, can see another user's full PIN code.

Language: You may change the application language at any time. Select your default language from the **Language** pull-down menu.

Time zone: Select the time zone based on the geographical area when first logged in.



CAUTION: If this user is included in an alert rule, their time zone is taken into account to determine the local time slot, and thus whether or not they will be notified.

Date format: Choose the date format to be displayed in the application.

Hour format: Choose the time format to be displayed in the application. Readings can be displayed in 12-hour (AM/PM) or 24-hour format.

Unit: Choose the unit of temperature to be displayed in degrees Celsius (°C) or Fahrenheit (°F).

Decimal separator: Select the character (period or comma) to use as a decimal separator in numerical values in the Smart-Vue Pro display.

4. Click **Save** to create the user account or **Cancel** to return to the previous screen.
5. The new user will receive an e-mail with a link to create their new password. Upon their first login, they must accept the Terms of Use and Privacy Policy Terms to continue.

Terms and Conditions acceptance

I accept the [Terms of Use](#) and the [Privacy Policy Terms](#).

Close

Figure 46. Terms and Conditions acceptance

Summary of Profiles, Permissions and Roles

The table below summarizes system access according to account profiles, as well as functionality that can be granted using roles and individual permissions.

Table 4. Access differences between Application Manager and User profiles

Main-menu	Sub-menu	Profiles			
		Application Manager	User		
			Default	Can be added by permissions	Can be added by roles
Home	Plan view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
	Watch view	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
Equipment		<input checked="" type="checkbox"/>	n/a	n/a	<input checked="" type="checkbox"/>
Alarms		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
Reports	Audit trail	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
	Report Subscriptions	<input checked="" type="checkbox"/>	n/a	n/a	n/a
Data Loggers		<input checked="" type="checkbox"/>	n/a	<input checked="" type="checkbox"/>	n/a
Sensors		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
Infrastructure		<input checked="" type="checkbox"/>	n/a	<input checked="" type="checkbox"/>	n/a

Table 4. Access differences between Application Manager and User profiles

Main-menu	Sub-menu	Profiles			
		Application Manager	User		
			Default	Can be added by permissions	Can be added by roles
Configuration	Company	<input checked="" type="checkbox"/>	n/a	n/a	n/a
	Users	<input checked="" type="checkbox"/>	n/a	<input checked="" type="checkbox"/>	n/a
	Roles	<input checked="" type="checkbox"/>	n/a	n/a	n/a
	Organizations	<input checked="" type="checkbox"/>	n/a	n/a	<input checked="" type="checkbox"/>
	Time slots	<input checked="" type="checkbox"/>	n/a	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Days off	<input checked="" type="checkbox"/>	n/a	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Alerts	<input checked="" type="checkbox"/>	n/a	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Plans	<input checked="" type="checkbox"/>	n/a	<input checked="" type="checkbox"/>	n/a
	Authentication modes	<input checked="" type="checkbox"/>	n/a	n/a	n/a
	License keys	<input checked="" type="checkbox"/>	n/a	n/a	n/a
Help	Online help	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
	About	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
	Release notes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
	Legal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a

Users may have view-only access to certain menu options without being able to perform actions related to them.

User Details Overview

To view/edit your general account information:

1. Click your user account image (👤) in the upper right-hand corner of the screen, then click **My Account**. The screen contains two main sections:

Information: This section indicates the status of your account (Active / Inactive), its creation date and expiry date (if entered), your user level, the language selected and the PIN code to be typed on a Smart-Vue Pro data logger screen to acknowledge alarms. You may edit this information by clicking on the **Edit** icon (✎).

Localization settings: Display format for time zone, time format, date format, measurement unit, and decimal separator. You may edit this information by clicking **More** (⋮) → **Edit localization settings**.

2. Click **Save** to record your changes, or **Cancel** to return to the previous screen without saving changes.

Editing an Account

To change any of the User account details in your Smart-Vue Pro system:

1. Click **Configuration** (⚙️) → **Users**.
2. Click a line in the table to open the account.
3. The user identification window is displayed:

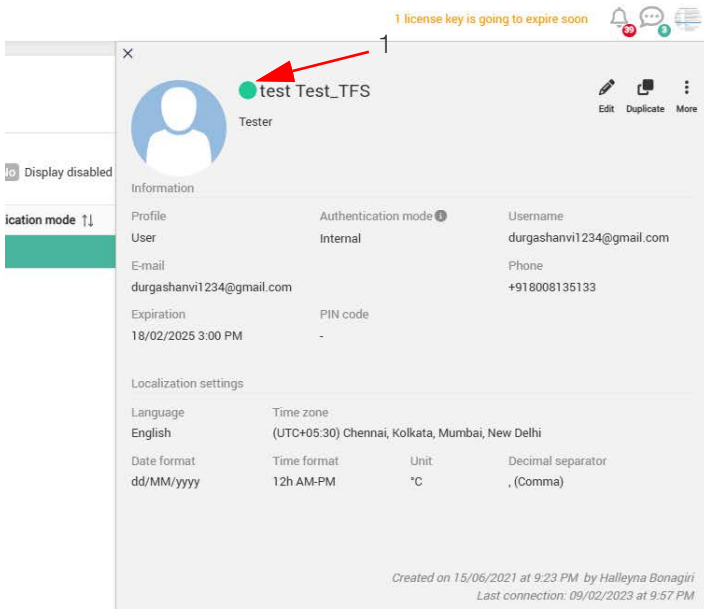


Figure 47. Details for selected user

4. The account status is indicated next to the name (1): Indicates green if the status is OK; red if the account is expired or blocked; or grey if the account is deactivated.

Locked User: If the account using internal authentication is locked because User lockout is activated in Security → Password settings (described **System Security Settings**) and the user entered an incorrect password the specified number of times (three, by default), a padlock is also displayed next to the user’s name in the user list:

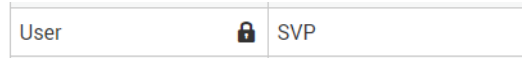


Figure 48. Account locked after consecutive failed password attempts

You must reset the password to reactivate a locked account. You must reset the password to reactivate a locked account. When using SSO, the authentication provider handles password rules.

Expired account: If an account’s expiration date has been reached, an icon is displayed next to the user’s name and they will no longer be able to login.

Users (1)

Filters

Last name ↑↓	First name ↑↓	E-mail ↑↓
holland	Lee	lee.holland@themofisher.com

Figure 49. Expired user account

To set a new expiration date for this user, you must login with an Application Manager account, or as a user with Application Permissions to manage other users, then Edit the account.

5. To edit any information, click the **Edit** button (✎) in the top right-hand corner of the window and edit the fields as needed.

- Click **Save** to save your changes or **Cancel** to exit this screen without saving changes.



CAUTION: Changes made to an existing user:

- The user's e-mail address cannot be changed, as it serves as a unique identifier for this user in the system.
- If an external authentic mode (LDAP) is being used by the system, and the option “Auto-update users” is activated, then some user information presented here may not be modified. If you change the Authentication mode, test the user’s account validity by clicking on the test button .
- Changes take effect the next time the user logs in to the system.
- An account cannot be deleted, it can only be disabled (and then hidden). For traceability reasons, it is not possible to delete a user account from the system.

Assigning Application Permissions to “User” Profile Accounts

“Application permissions” enable people with User profile accounts to perform a variety of different application-wide actions that apply to the entire system. These permissions may be assigned by an Application Manager to a limited group of people within an organization, as they enable significant changes to be made regarding global operation. Application permissions are therefore assigned at the individual account level and generally only on an as-needed basis.



CAUTION: People who do not require these global application-wide permissions can be granted rights to perform many other “day-today” actions within their site or department within the organization (described in **Adding User Roles**).

To assign application permissions to an account with a User profile:

- Login with an Application Manager profile.
- Click Configuration → Users.
- Click a line in the list to open a user who have user role.
- Click More → Edit application permissions.

Figure 50. Editing application permissions for a user account

You can assign the following application permissions:

Manage data loggers: Adding, deleting and modifying data loggers.

Manage infrastructure: Adding, deleting, and modifying infrastructure devices such as receivers/gateways, wireless sirens, and wireless dry contact controllers.

Manage users: Adding, deleting, and modifying user accounts, including contact information and password reset.

Manage plans: Adding, deleting, and modifying floor plan images used to identify equipment locations.

Manage time slots: Adding, deleting, and modifying the time slots used in alert rules.

Manage days off & weekends: Adding, deleting, and modifying workdays and other days used in alert rules.



CAUTION: Users can see their applications permissions at any time (My account → More → Show user permissions) but they may not edit them.

Note Regarding Notifications Related to Account Permissions

The above permissions grant application functionality on a system-wide level to a specific user. Smart-Vue Pro web application displays a warning message if that user makes changes that represent a potential conflict with current configuration elsewhere in the system. Nonetheless, the system does allow the user to make the change.

For example:

- A team in your California laboratory uses a plan image to identify data logger location at their site.
- A user in Sweden with “Manage plans” permissions can delete that plan image from the system, but a warning message is displayed.

The same principle applies to the other application permissions, which could enable users to impact current configurations elsewhere in the system.

The benefit of this feature is that it enables the main Application Manager(s) to grant limited administrative roles to some user accounts. As with any computer system, these permissions must be granted only on an as-needed basis to qualified people.

Updating Contact Details

Contact information in Smart-Vue Pro is used specifically for the purposes of notifying users in case of warnings and alarms. You may only add contact information as described in this section if the user is assigned to an alert rule. This enables you to customize alert rules as needed for your organization, and then assign specific contact methods for a wide variety of situations.



CAUTION: If you want the user to receive alert notifications by e-mail and/or SMS, you must first assign the user to an alert rule as described in **Alert Rules with Users**.

To edit contact details for a user associated with an alert rule:

1. For yourself, click on your account image → My account.
For other users, click on **Configuration** (⚙️) → **Users**.
2. Click a line in the table to edit that user’s account.
3. Click **More** (⋮) → **Edit contact information**.

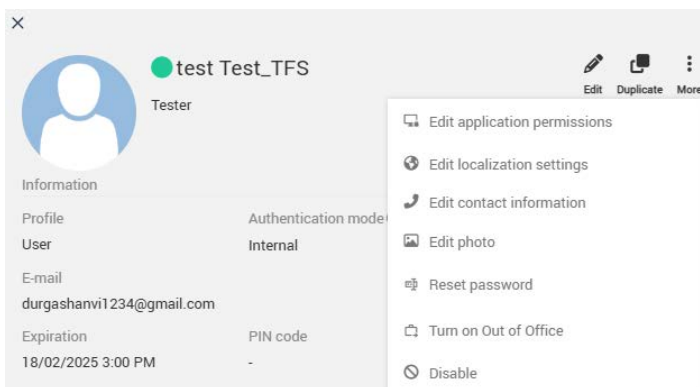


Figure 51. Accessing contact information

Note: Contact information in Smart-Vue Pro is independent from any external authenticated (LDAP) platform information.

Enter the telephone numbers and/or e-mail addresses for the different time slots and different types of alerts you have configured, as described in **Configuring Alert Rules**.

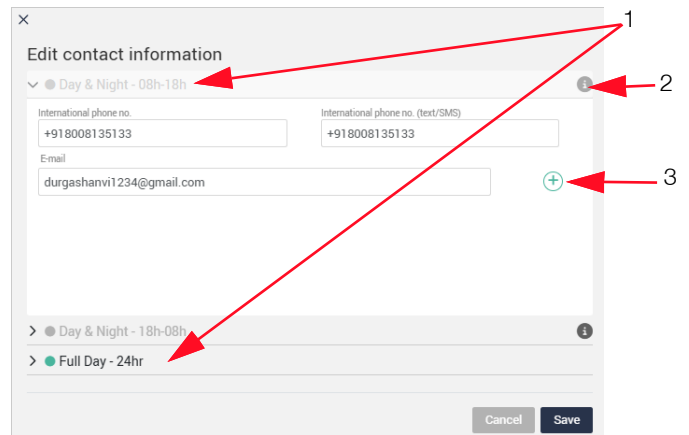


Figure 52. Editing contact information

- (1) All time slots used in alert rules that include this user are displayed. In the above example, there are three time slots.
- (2) An icon (i) is displayed wherever required information is missing. The user in the above screen is associated with an alert rule for voice and SMS/text message, so that information must be entered here. Telephone numbers must be entered in international format using the “+” sign and country code prefix.
- (3) You may add up to 3 email addresses for each time slot by clicking on Add (+).



CAUTION:

1. Smart-Vue Pro Alert notification via voice messaging works with all types of phones in many regions. SMS/text messages are supported on most mobile phones.
2. Remember to enter the “+” sign and country code prefix for both your mobile and land-line phone numbers.
3. You cannot disable a user account if that user is associated with an alert rule.

Personalizing an Account Picture

Smart-Vue Pro can personalize your display with a profile picture when you are logged in to the system. The picture is shown in the upper right-hand corner of the screen.

Picture recommendations:

- Maximum size: < 1 MB
- JPG or PNG format

To add a picture:

1. Click your user image (👤) in the upper right-hand corner of the screen, then click **MyAccount** to open your profile directly (or click **Users** in the left-hand menu and select your name in the user list).
2. Click **More** (⋮) in the top right-hand corner of the window and select **Edit photo**.
3. Click **Choose file**:

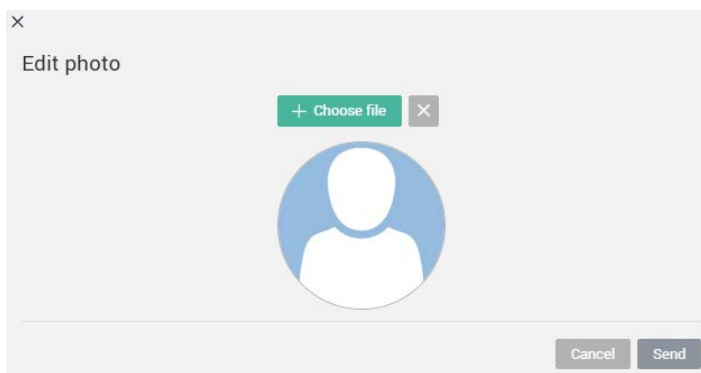


Figure 53. Selecting a profile picture

4. Browse your computer to locate the image you want to use and then click **Open**.
5. The image is uploaded and displayed in Smart-Vue Pro.

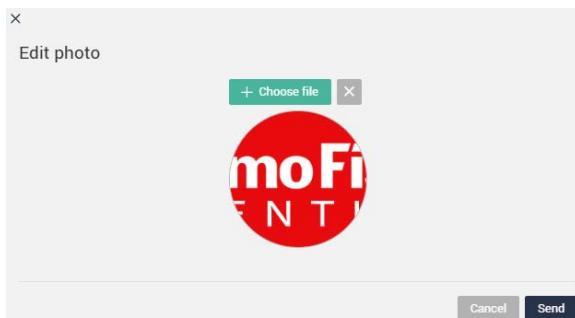


Figure 54. Editing a profile picture

6. Click **Send** to save your changes and update your account.

7. To delete the picture linked to the user account, click (✕) in the screen shown above.

Managing Out of Office

Smart-Vue Pro includes an Out of Office feature that lets you inform the system that you (or a user you are configuring) are absent and should not receive notifications until a specified date and time.



CAUTION: If you choose to use this feature, make sure any alert rules that include this user also have a backup recipient.

To turn on Out of Office:

1. For yourself, click on your account image → My account
For another user, click on Configuration → Users Click on a line in the table to edit that user's account.
2. Click on **More** (⋮) → Turn on Out of Office.
3. Click on the calendar icon and select the date and time until which Out of Office is activated.

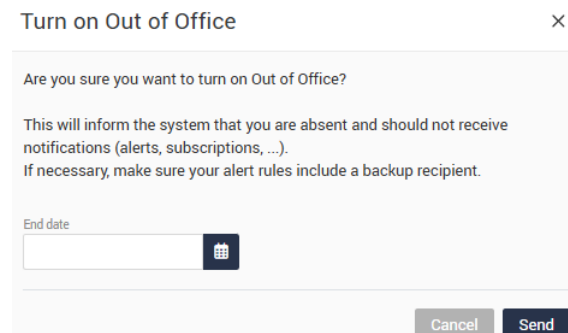


Figure 55. Activating Out of Office functionality

4. Click on **send** to activate out of office, or on **cancel** to close this window without making any changes. Out of office deactivates automatically at the date/time you set.
5. A suitcase icon (🧳) is displayed next to the username in the MyAccount screen and in the User list.
6. You may edit the current Out of Office end date and time by selecting More → Edit Out of Office.
7. You may deactivate Out of Office by selecting More → Turn off Out of Office.
8. If you reconnect to Smart-Vue Pro while Out of Office is turned on, the system asks whether you want to turn it off or leave it on.

Select No to leave it on.
Select Yes to turn it off.

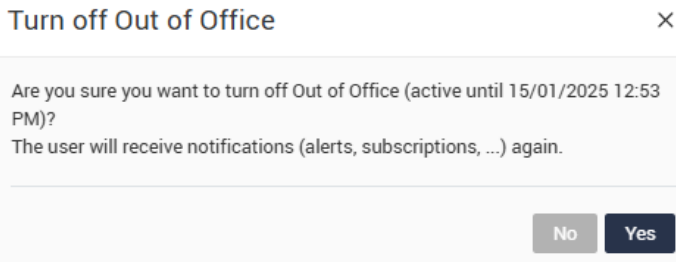


Figure 56. Turn off Out of Office

Managing Passwords

Changing Your Own Password (With Integrated/Internal Authentication)



CAUTION: This section does not apply to users in systems using external authentication (LDAP). The audit trail is updated to reflect a password change, unless the new password and existing password are identical.

Users can change their own passwords.

To change your own password:

1. Click your user profile in the upper right-hand corner of the screen then click **My Account**.
2. Your account window opens directly.
3. Click **More** (⋮) in the top right-hand corner of the window and select **Change password**.
4. Enter the new password and re-type it in the second field to confirm.
5. Click **OK** to save your changes or **Cancel** to return to the previous screen.



CAUTION: Passwords must respect your organization's password security policy (as described **System Security Settings**).

Resetting Another User's Password (With Integrated Authentication)

Users with Application Manager rights can initiate a password reset for other people, when using Smart-Vue Pro internal authentication, but cannot set the password for someone else. In all cases, users must set up their own passwords.

To change a password:

1. Click **Configuration** (⚙️) → **Users**.
2. Click the user profile for which you want to reset the password. The user details appear at the right of the screen.
3. Click **More** (⋮) at the top right of the form and select **Reset password**.
4. In the password reset window, click **Yes** to proceed with the change or **No** to return to the previous screen:

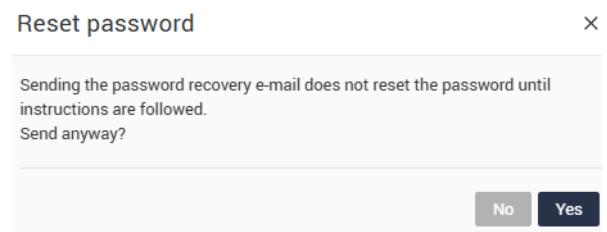


Figure 57. Password reset confirmation

5. The password recovery email is sent to the user with instructions to reset the user password as shown below:

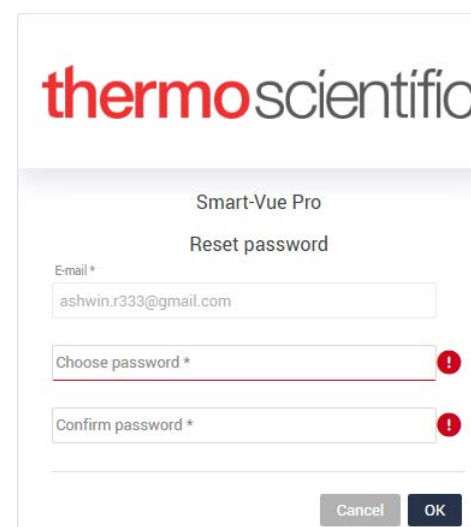


Figure 58. Resetting a user's password

6. The change is taken into account when the user clicks **OK**.

- The regular login screen is displayed the next time the user logs in and user is prompted to enter the new password. The user cannot login without changing the password.

Note: If the user’s account is not locked or expired, it is still possible to connect even if the password has not been reinitialized.

Resetting Your Own Password

A user may reset their own password, when using Smart-Vue Pro’s internal authentication, at any time as follows:

- Click on the profile icon in the upper right-hand corner of the screen, then select My account → More → Change password.

Figure 59. Changing your own password

- Enter a password in the first field, then enter the same password in the second field. The passwords must match and must respect your password security settings (Configuration → Security → Password policy).
- Click on OK to save the new password, or on Cancel to close the window without saving.

Adding User Roles

Overview: Role Permissions vs. Application Permissions

As mentioned previously, most user accounts in your system are created with a “User” profile. This account profile starts by giving people view-only access to specific parts of the application. Remember, the “Application manager” profile is generally limited to a few super-users who need complete access to every aspect of the application.



CAUTION: Users with a user profile must be given rights within the organization in order to view and manage configured equipment or data logging information.

For individual users, you may assign application-wide permissions as described in **Assigning Application Permissions to “User” Profile Accounts** in order to give those people more administrative abilities in terms of system set up and management.

Nonetheless, people with a “User” profile account often need to manage a variety of day-to-day tasks, typically within their part of the organization (described in detail in **Setting Up Your Organization**). Smart-Vue Pro web application therefore enables you to create different roles that can be assigned to those accounts for this purpose.

Role permissions enable you to fine-tune responsibilities and application access within your organization for:

- Managing the organization/Equipment
- Start data logging
- Stop data logging
- Acknowledge alarms
- Manage alert rules
- Manage meteorology parameters

Creating New Roles

Roles are used to allow people with user-level accounts to perform to a variety of different actions that can be considered as “daily” types of actions. Roles are assigned to people as they are associated with sites and/or departments, and a person may have different roles in different parts of the organization. For example, they could be limited to viewing information in one department and only be allowed to acknowledge alarms in another.

Smart-Vue Pro starts with three default roles: **Manager**, **Acknowledger** and **View only**. Only Application managers can add or customize user roles.

To add a new user role and assign permissions:

- In the main menu, click **Configuration (⚙️) → Roles**.
The default system roles are shown with a gray background and may not be edited.

Name	Description	
Acknowledger	Authorized to acknowledge alarms	✎ ✕
Manager	Authorized to manage equipment and data logging	✎ ✕
User permissions	View only	✎ ✕

Figure 60. Default user roles in Smart-Vue Pro

- Then click **(+) (Add Role)**.

3. The **Create Role** window opens as shown here:

Create role

Name *

Description

Permissions

Manage organization / equipment

Start data logging

Stop data logging

Acknowledge alarms

Cancel Save

Figure 61. Adding a new user role

Fill in the fields as required:

Name: Enter a name for the new user role.

Description: Enter a description for the user role (optional).

Permissions: The permissions listed here define what a user is allowed to do in one or more parts of the organization.

To grant permissions, check the permission(s) you want to assign to the role:

Manage organization: The user can set up and configure the system's organizational structure and include other users as allowed.

Start data logging: The user can start data logging for equipment.

Stop data logging: The user can stop data logging for equipment.

Acknowledge alarms: The user can acknowledge alarms.

Manage metrology parameters: The user can update calibration settings.

Manage alert rules: The user can create, edit, and update alert rules.

To assign all these permissions at once, click the check box above the rights list, which selects all check boxes.

4. Click **Save** to apply your changes or **Cancel** to discard your changes. Here is an example after adding a "Calibration" role.

Roles (16)

Name ↑	Description ↓	
Acknowledger	Authorized to acknowledge alarms	✎ ✕
Manager	Authorized to manage equipment and data logging	✎ ✕
View only	Authorized to view items without making changes	✎ ✕
manage metrology	manage metrology	✎ ✕

Figure 62. Custom role displayed in role list

Once the role is created, you may use it when assigning users to sites and departments in your organization, as described in **Assigning an User in Your Organization's Hierarchy**.

Setting Up Your Organization

Updating Company Information

You may update all company information at any time, except for the main contact e-mail address.

General Information

To update your company account:

1. Click **Configuration** (⚙️) → **Company**.

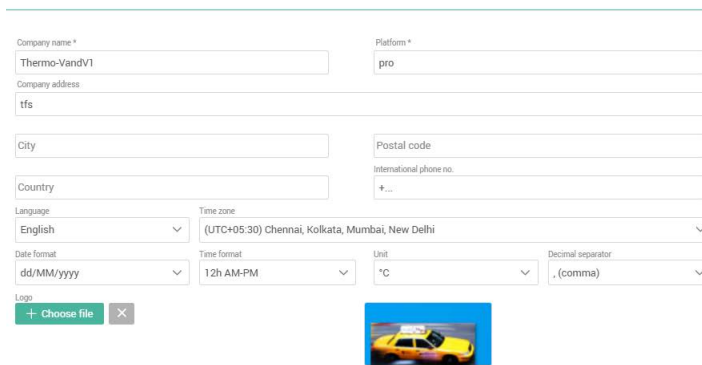


Figure 63. Company account information

2. Fill in the required fields (marked with *) as appropriate.

Company name: Enter the name of the company.

Platform: This unique company identifier is filled in automatically based on the company name you enter.

Company address: City, Postal code, Country, International phone number: enter the relevant information for your company.



CAUTION: Make sure you enter the telephone number in international format, with the prefix “+[country code]”, such as: +14153817894. Do not include any extra digits or leading zeros.

The following settings apply as a default for your system. They can be overridden by each user’s individual settings for local operation and display purposes, but this information is used as a common reference for the company in case users have conflicting profile settings for shared actions.

For example, if you have e-mail alerts sent to user in different regions, English could be the default company language for a same alert message.

Language: Choose the desired default language for your company. Users are free to choose their personal preference at any time.

Hour zone: Select the time zone based on the primary geographical area for the company.

Date format: Select how dates are displayed in the application.

Hour format: Select how time is displayed in the application. Readings can be displayed in the **12-hour (AM/PM) or 24-hour** format.

Unit: Temperature can be displayed in degrees **Celsius (°C)** or **Fahrenheit (°F)**.

Decimal separator: Select the character to use as a decimal separator in numerical values.

Logo: If you want to add a logo image for your company, click **Choose file** (JPG or PNG format, less than 1 MB). This image is used to personalize exports in word and PDF format.

3. Make the desired changes directly in the form and then click **Save** to save the information.

Managing License Keys

Access to Smart-Vue Pro is based on one or more service subscriptions linked with the number of sensors in your system. The following services require a subscription:

- **Smart-Vue Pro web application** and all integrated features (including 24/7 alerts by e-mail only) for a specified number of measurement points.
- **Smart-Vue Pro Alert notification system**, an additional service that provides 24/7 alert notification by telephone voice call and/or SMS-text message (to a cellular telephone).



CAUTION: Contact an authorized Thermo Scientific representative for more information.

When you sign up for one (or both) of these subscriptions, you will receive the associated voucher number(s) to enter in Smart-Vue Pro.

To view information about your Smart-Vue Pro Solution or add a new license key:

1. Click **Configuration** (⚙️) → **License keys**.

This page shows information related to your licenses, such as activation key codes and expiration dates. The Thermo Scientific technical support team may ask you to provide this information if you contact them for assistance.

2. To enter a new voucher number, click (+) **(Add license key)**.

License keys (12) + Add ↻ Refresh

License key	Product	Description	Expiration ↓
XXXXX-XXXXX-XXXXX-XXXXX-KIAAA-QWV04	SmartVueAlert		2025/09/05

Figure 64. Adding a new license key

3. Enter your new voucher number in the pop-up window:

Add license key ×

Cancel
Save

Figure 65. Entering the new license key number

4. Click **Save** to register your license or **Cancel** to discard changes and return to the previous screen.
5. Once the license key is registered, the activation key number is shown in the table along with the license type and expiration date.

License keys (13) + Add ↻ Refresh

License key	Product	Description	Expiration ↓
XXXXX-XXXXX-XXXXX-XXXXX-OMBAA-AFJAE	Smart-Vue Pro	70 measurement points	06/06/2025

Figure 66. Monitoring system’s licenses

Renewing or Expanding Your Current License

If you need to renew one of your licenses or upgrade your current license (such as to expand the number of authorized measurement points), simply click Add license key and enter the new license number as described earlier in section

Managing License Keys.

License Expiration Email Reminders

As the expiration date for any of your licenses draws closer, a message is displayed in the upper right-hand corner of the screen, with a reminder in the Notifications menu. Click on the (🗨️) icon to open the menu:

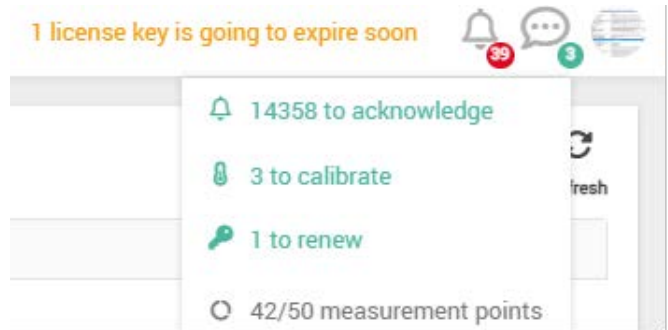


Figure 67. Reminder to renew license

This reminder is displayed, and the first e-mail is sent starting 90 days before the license expiration date.

The e-mail reminders are no longer sent after 7 days following expiration.

Lines containing license keys that have reached their expiration date are shown in Grey with italic text:

License keys (13) + Add ↻ Refresh

License key	Product	Description	Expiration ↓
XXXXX-XXXXX-XXXXX-XXXXX-OMBAA-AFJAE	Smart-Vue Pro	70 measurement points	06/06/2025
XXXXX-XXXXX-XXXXX-XXXXX-ECAAA-Q5VMU	Smart-Vue Pro	50 measurement points	30/05/2025
XXXXX-XXXXX-XXXXX-XXXXX-OQDAA-AN4AM	SmartVueAlert		18/01/2025

Figure 68. Expired licenses indicated in Grey



CAUTION: E-mail reminders are sent regularly up until the expiration date, and slightly after, as follows:

- 90, 60, 30, 21, 14, 7, 6, 5, 4, 3, 2 and 1 day(s) before expiration.
- On the expiration date.
- Once a day for 7 days after expiration.

The e-mail reminders are no longer sent after 7 days following expiration. Lines in the license key table containing keys that have reached their expiration date are shown in grey with italic text:

License key	Product	Description	Expiration
XXXXX-XXXXX-XXXXX-XXXXX-P2AAA-YDDCE	OCEAView 2.0	100 measurement points	02/12/2025
XXXXX-XXXXX-XXXXX-XXXXX-JICAA-AHKK4	OCEAlert		04/14/2023

Figure 69. Expired license(s) indicated in grey and italics

Renewing an Expired Smart-View Pro License

If your Smart-View Pro license expires, you will not be able to connect to the system unless you enter a new license key.

If you attempt to log in to a company account whose license has expired, you will see this screen, prompting you to enter a new license key:

License renewal

The application license has expired.
Please enter a valid license key to renew it.

License key *

Figure 70. Entering a new license key for an expired company account

To continue, you must enter a new license key. Contact the Smart-View Pro representative to obtain a new key. Enter the new key and click Save to login.

System Security Settings

Smart-View Pro allows you to configure several system-wide security options according to your needs and situation:

- Password policy (When using internal user authentication)

Security settings apply to all users.

Password Policy

To control password settings:

1. Click on Configuration → Security
2. Select the appropriate settings in the Password policy tab.

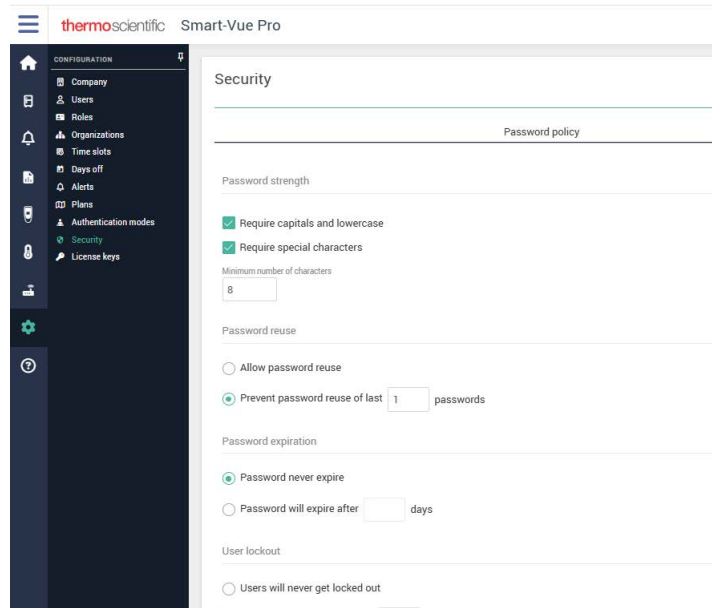


Figure 71. Configuring your system's password policy

Here is a description of the options in this screen

Password strength	
Require capitals and lower case	Passwords must contain both capital and lower-case letters.
Require special characters	Passwords must include at least one special character (punctuation, symbols, etc.)
Minimum number of characters	The password must contain the indicated number of characters or more.
Password reuse	
Allow password reuse	When creating a new password, the user may reassign one that has been used previously.
Prevent password reuse of last [X] passwords	When creating a new password, the user may not assign a password that has been used within the past "X" password changes
Password expiration	
Passwords never expire	Passwords do not expire and therefore do not need to be changed by users

Passwords will expire after [X] days	Users will be prompted to change their password when the indicated number of days has passed.
User lockout	
Users will never get locked out	The system will not lock out users after several failed login attempts
Users will be locked out after [3] failed login attempts	The default setting is to lock users out of the system if they enter the wrong password three times in a row. You may choose a different number.
Lockout lasts for [X] hours	This field indicates how long the user's account remains locked if an incorrect password is entered too many times, mainly as a measure to prevent automated attacks. The system unlocks the user's account after the specified number of hours, or the user may choose to reset their password instead of waiting.

laboratory, but has view-only rights for the facility in New Jersey.



CAUTION: Equipment and infrastructure devices (such as receivers) can only be assigned to one entity in the hierarchy.

An organization can have from one to three levels (Organization, Site and Department). There is no requirement to create sub-divisions with this feature, though it tends to make management much more intuitive than a “flat” structure. You may associate users at whichever level of the organization works best for you. Here are three examples:

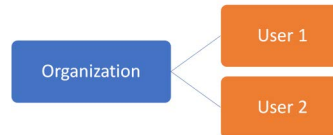


Figure 73. Users directly attached to Organization

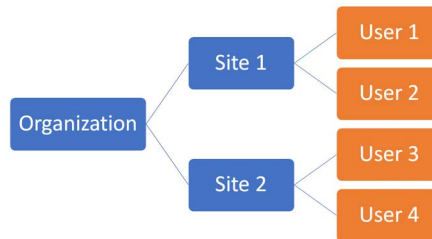


Figure 74. Users assigned to departments and sites in the Organization

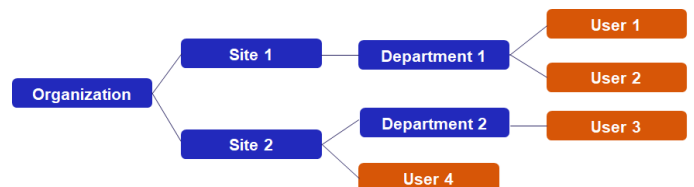


Figure 75. Sample Organizational structures with users assigned at different levels

Organization with Sites and Departments

The Smart-View Pro monitoring system is comprised of one **Organization**, which may be sub-divided into **Sites** and **Departments**. This feature enables you to create a logical hierarchy for managing your system based on geographical, operational or any other criteria that may be useful to you.

For example, you could create a hierarchy as shown in the following figure:

Organizations

Figure 72. Creating a hierarchy that is appropriate for your organization

Users, data loggers, equipment and infrastructure devices are assigned to the various entities in the overall organization. Users may even have different roles (as described in section **Adding User Roles**) in different parts of the organization for example, a user could be a site manager in the Los Angeles

Adding a Site

To add a new site:

1. Click **Configuration** (⚙️) → **Organizations**.
2. Click the name of your company account and then click **Add site** (1).

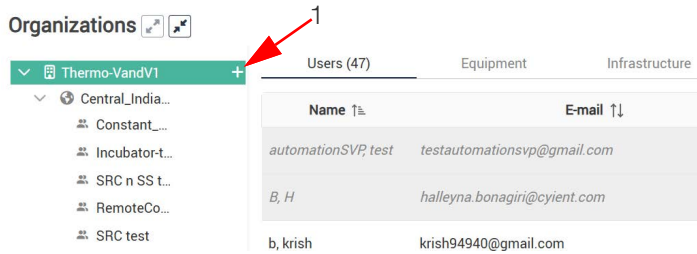


Figure 76. Adding a new site

3. Enter a name for the new site in the pop-up window and click **Save**.

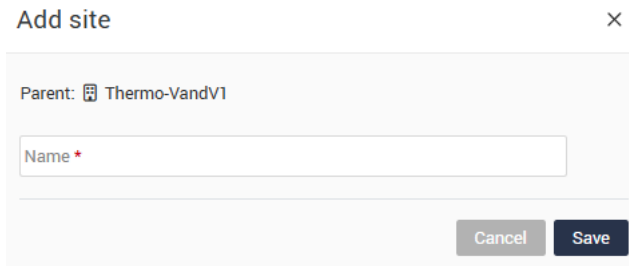


Figure 77. Entering the new site name

The new site appears in your organization's tree structure. You may click (⌘, ⌘, ⌘) or the triangles (▼) in the tree to expand and contract the view. Add as many sites as necessary for your organization.



Figure 78. Adding new sites

Adding a Department

1. Click **Configuration** (⚙️) → **Organizations**.
2. In the organization's tree structure, click the site and then on **Add department** (2):

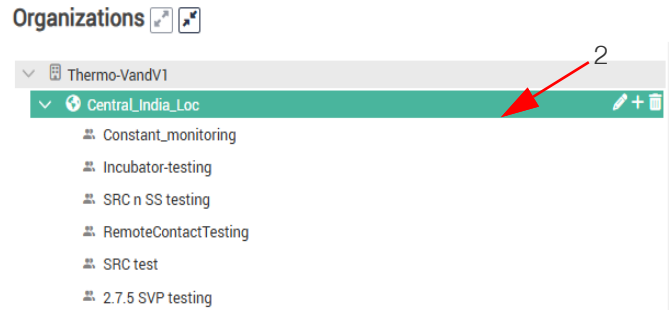


Figure 79. Adding a new department

3. Enter a name in the pop-up window for the new department and click **Save**:

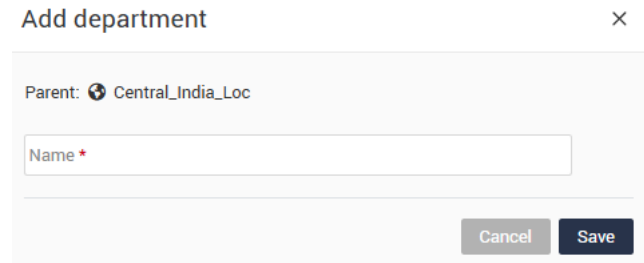


Figure 80. Entering the new department name

The new department is listed in your organization's tree structure:

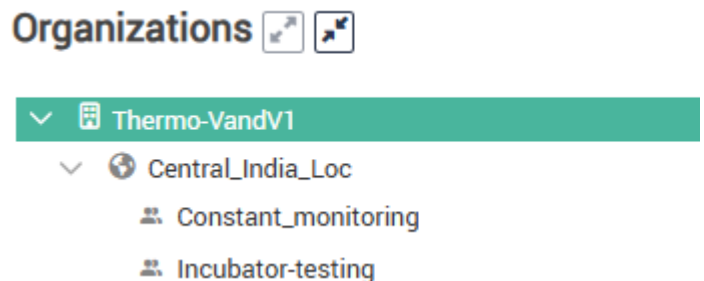


Figure 81. Organizational structure

Editing / Deleting a Site or Department

To manage different sites and departments, click the desired node in the organizational structure and use the available options:

New: To add a new site or department, click (+).

Delete: To delete a site or department, click (🗑️).

Edit: To edit a site name, click (✎). Modify or enter a new name and click (✓) to confirm your changes.

Assigning an User in Your Organization's Hierarchy

When you first start, you have one organization with the Application Manager – the user who created the account – listed as Manager (roles are discussed in the previous chapter). Application managers are associated automatically with all the nodes in the organizational structure. Those users cannot be removed.

Other users must be added here.

You must first create users (see **Users and Authentication Modes**) in order to add them to your sites and departments.

To associate a user with the organization or a site or department:

1. In the **Configuration** → **Organizations** menu, click **Associate users** (+) (1).

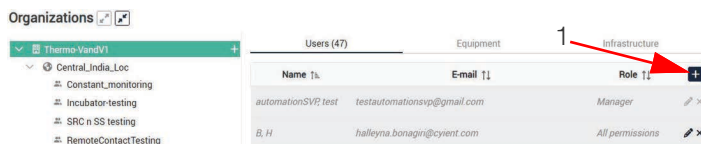


Figure 82. Adding a user to the organization's hierarchy

2. The **Associate user** window opens as shown here:

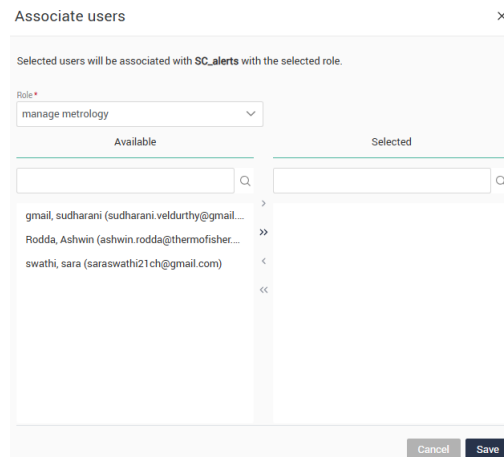


Figure 83. Associate user window

Depending on the department to which the user is assigned, select the role you want to assign to them using the **Roles** drop-down list. A role determines the actions that the user can perform and the objects that they can manage in Smart-Vue Pro.

There are three user roles by default:

- **Acknowledger:** This user profile allows you to acknowledge alarms issued by the system for the sensors they are monitoring. You may also disable those sensors, if necessary.
- **Manager:** User profiles with Manager rights can manage other users and access all application features, except for license and authentication mode management.
- **View only:** User rights are limited to viewing only. These users do not have access to management and configuration windows. Other roles may be added, as described in **Adding User Roles**.

3. Add users to your organization:

Available: Select a user from the list of Available users. Then click (➤) to move the user to the list of Selected users on the right-hand side.

To select multiple users at a time, press and hold the Ctrl key and click each of the users you want to select. Click (➤) to add them to the list of Selected users. To select all available users, click (➤➤).

Selected: To remove an user from your organization, click that user in the list of Selected users and then click (⏪) to move the user to the list of Available users on the left-hand side.

To remove multiple users, press and hold the Ctrl key and, while holding down the key, click each of the other users you want to remove. Click (⏪) to move them to

the list of Available users on the left.
To remove all users, click (◀◀).

4. Click **Save** to save your changes or **Cancel** to exit this screen without saving changes.

Viewing Equipment and Infrastructure in your Organization

The table on the Organizations screen also contains tabs (1) that you can use to list Equipment and Infrastructure assigned to sites and departments.

The example below shows the equipment and infrastructure elements assigned to the selected site:

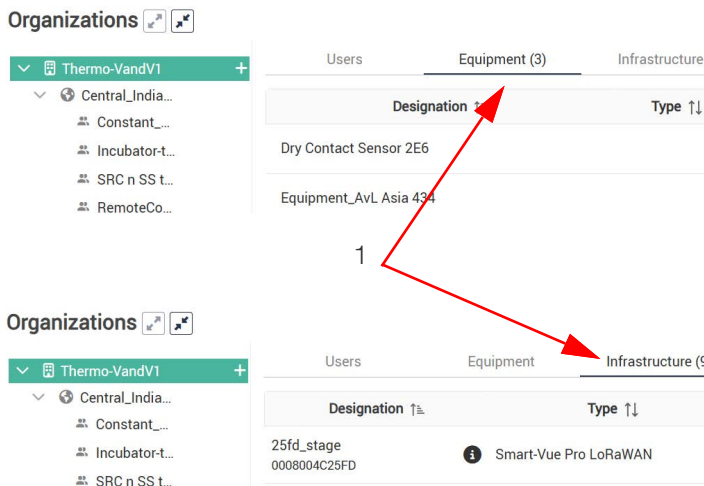


Figure 84. Listing the equipment and infrastructure in your organization

Site Plan Images

Smart-Vue Pro allows you to visually place your equipment on floor plan representing the layout of your organization. Plans are useful for identifying the locations of the sensors associated with the equipment you are monitoring. You may add as many plans as required.

Adding a Plan

To add a plan:

1. In the main menu, click **Configuration (⚙️) → Plans**.
2. Click **Add plan (+)** to import a plan image.

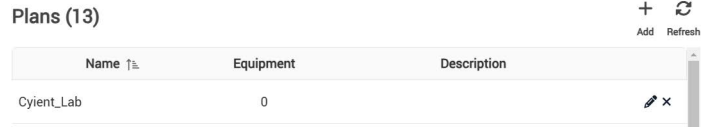


Figure 85. Managing plans

The create plan window opens as shown here:

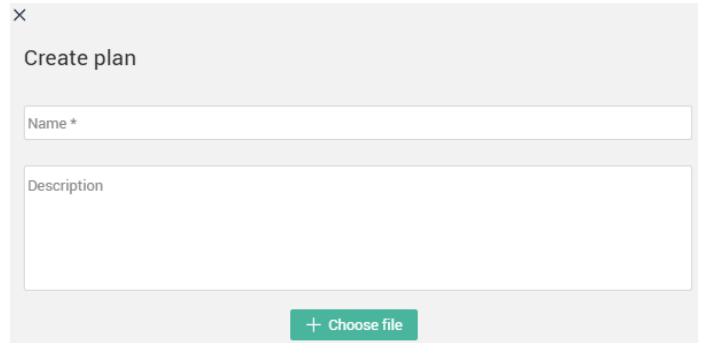


Figure 86. Adding a new floor plan

3. Enter a name for the floor plan in the **Name** field.
4. You may add a description in the **Description** field (optional).
5. Click **Choose file** and select the desired image of your premises (JPG, PNG or GIF format up to 1 MB maximum size). A preview image is displayed after you load the floor plan:

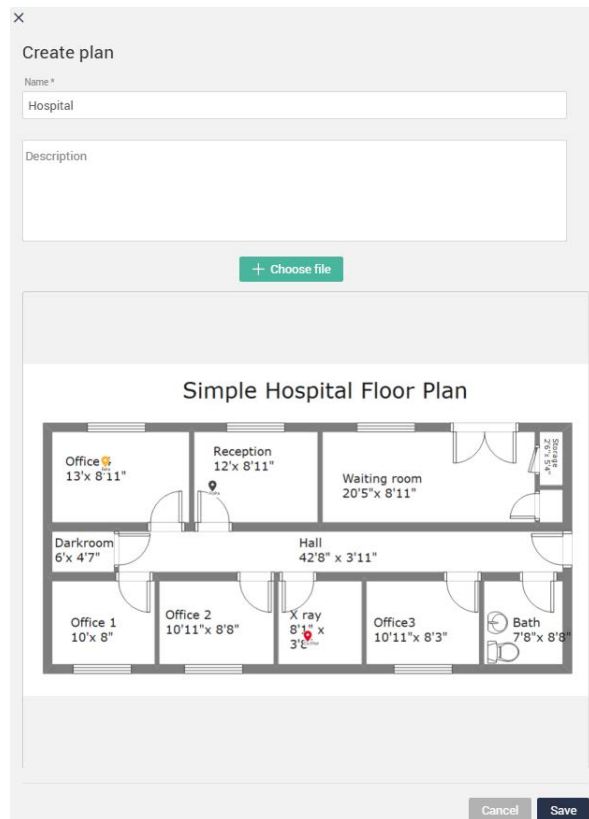


Figure 87. Adding a new floor plan

- You may click the thumbnail image to open the enlarged floor plan.
- Click Save to add the floor plan to your system, or Cancel to close this window and discard your changes.

Editing or Deleting a Plan

You may edit (replace) or delete plan images from your system by clicking on the icons on the right-hand side of the screen:

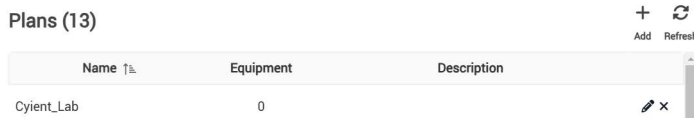


Figure 88. Editing or deleting an existing plan

Edit (✎): Allows you to change the name, description, or plan image as described in the previous section.

Delete (🗑): Allows you to delete the plan from your system.

Placing Equipment on the Plan

Once you have loaded one or more floor plan images, place the equipment on the image according to its physical location.

To place equipment on the plan:

- In the main menu, click **Equipment** (📱).
- Select the equipment you want to place on the plan. The equipment details are shown on the right-hand side of the screen.
- Click **More** (⋮) in the upper right-hand corner of the equipment window and then click **Edit location**.
- Select the desired floor plan using the **Plan** drop-down list to display a larger image.
- Place your equipment by clicking the desired location on the image. The colored location pin (📍) moves to show the new position (1). The grey pin represents the previous equipment position, which disappears after you save the new equipment location.

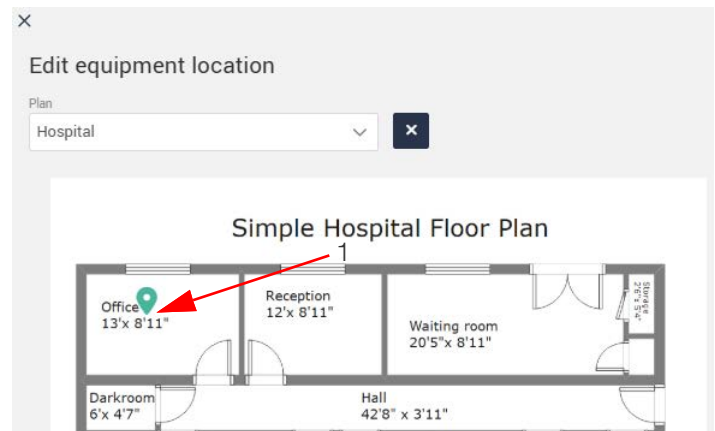


Figure 89. Placing an equipment on the plan

If you want to remove the equipment from the image, you may click the Remove association button (✕).

- Click **Save** to save the equipment location (or removal) or click **Cancel** to return to the previous screen without saving the changes.

Infrastructure Devices

This section allows you to add different infrastructure components that comprise your monitoring system such as a LoRaWAN receiver, Smart Siren (alert device) and Smart Remote Contact (alert device), etc.,

Your LoRaWAN™ receiver connection must be up and running in order to interact with data loggers and other infrastructure devices. That is, your receiver must be installed and configured to communicate with your Smart-Vue Pro system as described in the appropriate user guide.

Adding Infrastructure

Follow these steps to add a new component to the system manually:

1. Click **Infrastructure** in the main menu and then click (**+**):

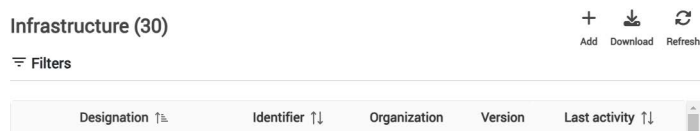


Figure 90. Click to add infrastructure

The **Create infrastructure component** window opens as shown here:

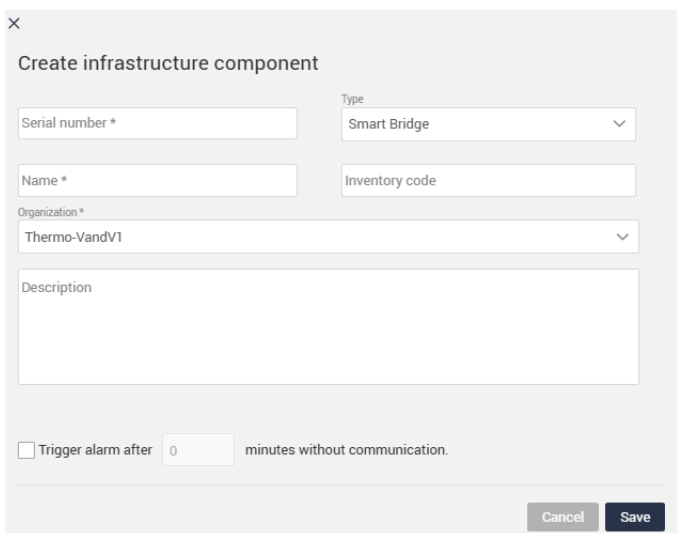
A screenshot of the 'Create infrastructure component' form. The form has a close button (X) in the top left. The title is 'Create infrastructure component'. There are several input fields: 'Serial number *', 'Name *', 'Organization *' (with a dropdown menu showing 'Thermo-VandV1'), 'Type' (with a dropdown menu showing 'Smart Bridge'), and 'Inventory code'. There is a large text area for 'Description'. At the bottom, there is a checkbox for 'Trigger alarm after' followed by a numeric input field set to '0' and the text 'minutes without communication.'. There are 'Cancel' and 'Save' buttons at the bottom right.

Figure 91. Adding infrastructure details

2. Enter the details of the infrastructure element. Fields marked with an asterisk (*) are required:

Serial number/Node ID: Enter the serial number on the back of your infrastructure element (device).

The system identifies the element based on its serial number. If you enter an incorrect serial number, a red exclamation mark is shown in front of the corresponding field. Check the serial number and try again. If the problem persists, contact technical support.

Type: The Type is assigned automatically based on the serial number you enter.

Name: Enter a name for the infrastructure component. This name is used as the reference in all lists.

Inventory code (Optional): Enter the inventory code of the infrastructure element for information purposes.

Organization: Use the drop-down list to select the department to which the infrastructure element is associated. It may be helpful to associate topology with an infrastructure element to target precise alert management and alarm acknowledgment rights.

Note: To add other departments, follow the procedure described in **Organization with Sites and Departments**.

Description (Optional): You may enter a description of the component for information purposes.

Trigger alarm after: Check this option and enter the delay (in minutes) after which the system will trigger an alarm if the infrastructure component is not responding. This mechanism ensures early notification in case of problems or a communication error.

3. Click **Save** to save your infrastructure component, or **Cancel** to close this window without saving changes.

Editing Infrastructure

To manage existing infrastructure, use the following options:

1. In the main menu, click **Infrastructure**.
2. Click a line in the table to view or edit the desired device.

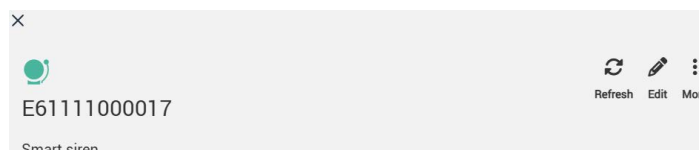







Figure 92. Editing infrastructure details

- Click **Edit** (✎) on the right-hand side of the screen and edit information directly as necessary.
- Several other functions are available under **More** (⋮):

More	Category	Description
More (⋮)	 Alarm history	Opens the Alarm list so you can see any alarms involving this device (a filter is applied to show “Infrastructure” with the device’s serial number).
	 Simulate an alarm	You may use this function to simulate an alarm for testing purposes.
	 Disable	Click to disable the device’s functionality (in the Infrastructure list, a filter enables you to display or hide disabled infrastructure).
	 Remove	Click to remove the device from your system. The device is marked as “removed” in the Infrastructure list. If you wish to restore the same device, you must create it again by entering the serial number.
	 Refresh	Refreshes the infrastructure information window.

configuration interface, which includes information on sending data to your Smart-Vue Pro system.

You are not required to configure the receiver via the Smart-Vue Pro web application. However, if you do not add the receiver to your Smart-Vue Pro infrastructure via the web application, then you will not receive alerts in case a technical problem arises.



CAUTION: Even if it is not technically required to add your LoRaWAN receiver as infrastructure via the Smart-Vue Pro web application, we recommend that you include it along with your other infrastructure devices in order to receive technical alerts in case of any problems.

- Click **Save** to keep your changes or **Cancel** to return to the previous screen without saving changes.

Adding a LoRaWAN Receiver as Infrastructure

LoRaWAN wireless technology is a key feature of the Smart-Vue Pro system.

In terms of configuration, the LoRaWAN receiver is entirely configured on the receiver itself, as described in the Smart-Vue Pro LoRaWAN Receiver User Guide, which you may access online via the **Help** menu of the Smart-Vue Pro web application. That is, the receiver contains its own

Data Loggers

The features described in this section are reserved for users with an Application Manager profile and users with application permission to manage data loggers.

Adding Data Loggers

Adding a Data Logger Manually

Follow these steps to add a Smart-Vue Pro data logger to the system manually:




1. In the main menu, click Data Loggers () and click () to enter all the details for a new data logger, or () to use the selected data logger as a template for the new one (1):



Figure 93. Data logger management window

The **Create data logger** window opens as shown here:

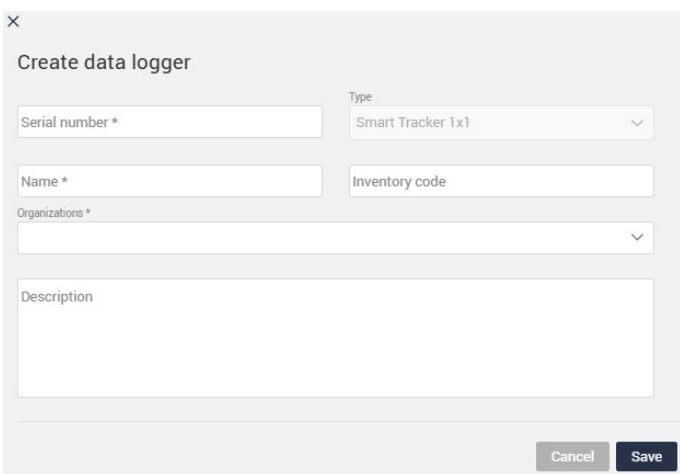


Figure 94. Data logger management window before entering the serial number

2. As you type in the data logger serial number, additional fields are displayed:

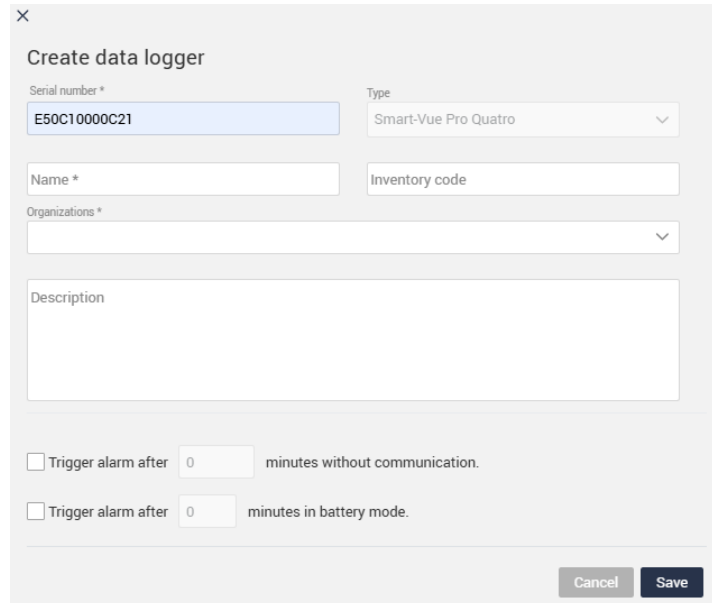


Figure 95. Adding a new data logger

3. Fill the data logger details as required. Options are displayed according to the type of data logger. The fields marked with an asterisk (*) are required.

Serial number: Enter the serial number from the top of data logger / from the information screen of data logger. If you enter an incorrect serial number, a red exclamation mark is shown in front of the corresponding field. Check the serial number and try again.

Contact technical support if the problem persists.

Type: This information is assigned automatically by the system based on the serial number you enter.

Name: Enter a name for the data logger. This name is used as the reference in all lists.

Inventory code: (Optional) You may enter an inventory code for the data logger for information purposes.

Organizations: Data loggers must be assigned to one or more nodes in your site organization. If you assign them to the root of your organization, all users can see them. If you assign them to a specific node, only the users assigned to that node will see them. This helps keep individual people's dashboards relevant for their daily work. Site organization is described in **Organization with Sites and Departments**.

Description: (Optional) You may enter a description of the data logger for information purposes.

Trigger alarm after: These settings help ensure early notification in case of communication errors or power failure:

[##] minutes without communication: This option determines how long the system waits before triggering an alarm if the data logger is not communicating.



CAUTION: A general rule is to set this value to allow 3 communication failures before triggering an alarm. You may then control how to handle notification for communication problems as described in **Alert Notifications**.

[##] minutes on battery mode: This additional checkbox is displayed if the type device you are creating also runs on battery power. The alarm is triggered after the specified number of minutes after the device switches to battery power (i.e., due to a power failure).



CAUTION: Alarms are always sent in real-time, without waiting for the programmed transfer interval.



CAUTION: It is a general practice to allow 3 communication failures before triggering an alarm. You may then control how to handle notification for communication problems as described in **Alert Notifications**.

4. Click **Save** to save the data logger in the database.
5. Before any communication takes place, the data logger is shown as follows, without any sensors:

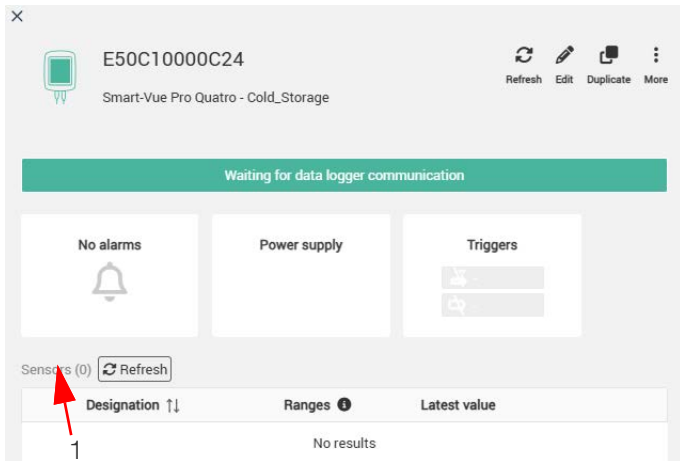


Figure 96. Freshly added data logger

6. On your Smart-Vue Pro data logger: Tap the screen to open the menu and click **Sensors → Refresh** sensors to detect physically connected sensors and ensure that the data logger is up-to-date internally before continuing.

7. In the Smart-Vue Pro web application: Click **Refresh sensors on device** (🔄) icon (1) (above) to communicate with the data logger and update the screen with the latest information.

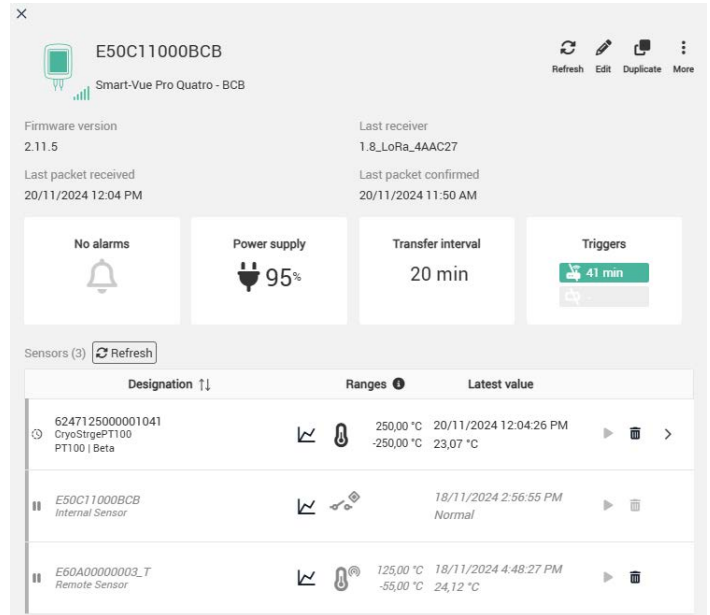



Figure 97. Example of data logger information after refresh

Adding a Data Logger with the Same Settings as an Existing One

If you are setting up a data logger with settings that are already configured, you can save time by clicking the  icon to use the selected device as a template for the new one.

(🔌) **Power status:** Plugged into AC adapter (🔌) or battery level (🔋 or 🔋).



CAUTION: The number of sensors that you may use in your system is determined by your license. Your system may be configured to contain a total number of sensors that is greater than that which the license allows, but you can only use the allowed number of sensors simultaneously.

Viewing Data Logger Details

Regardless of your Smart-Vue Pro user level, you may always check the data for the data loggers you are authorized to view.

To view the graph for a given data logger:

1. Click **Data loggers** in the main menu.
2. Select a data logger.

The data logger details are shown on the right-hand side of the screen, with several sections:

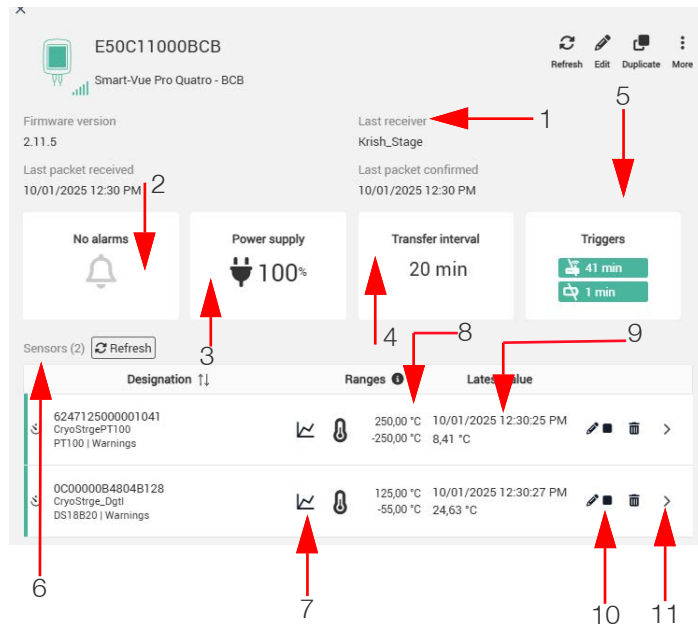


Figure 101. Data logger details

- (1) Data logger’s serial number, name, and inventory code (if present). The LoRaWAN wireless signal quality is shown next to the data logger icon.



- (2) Alarm counter indicating data logger status (sensor related alarm and unexpected stop indication are not shown in data logger alarm status). In case of alarm, the icon changes color and shows the number of alarms, for example:



Figure 102. Alarm counter in data logger details

Hover over the alarm counter with your mouse to view alarm details.

Click the alarm counter to get more information, acknowledge one or more alarms, or generate an alarm report. You will be directed to the alarm management screen (see **Alarms & Alerts**).

- (3) Indicator showing the power source being used and estimated remaining battery level.
- (4) For LoRaWAN communications, the Transfer interval indicates the frequency with which data is transmitted by the data logger to the Smart-Vue Pro system. That information is not relevant for Bluetooth communications, in which case BLE only is displayed instead:



- (5) Alarm trigger rules defined when adding or editing the data logger. Hover over the alarm counter with your mouse to view alarm details.
- (6) Number of sensors associated with the data logger. The active icon (🟢) indicates sensors with data logging in progress. Sensors not yet programmed are greyed out, as indicated by the inactive icon (⚪).
- (7) Click the graph icon to view readings of sensor over time (measurements and associated events.) or download the report in PDF, Excel or Word format (see **Viewing Sensor Data**).

- (8) Sensor operating range.
- (9) Latest values read by sensors with data logging active. The field is empty if data logging is not active.
- (10) Icons to start (▶), stop (■), edit (✎) data logging, or remove a sensor from the data logger.
- (11) When data logging is running, you may click on the right arrow (→) to unfold a complete summary of the data logging configuration

Remove: Enables you to completely remove this data logger from your system and stops data logging. You may need to do this in the event of a data logger swap or hardware problem. If you choose this option, you must enter your password to confirm the operation (or press Send if you are logged in with SSO).



CAUTION: You may remove a data logger even if data logging is active. We recommend doing this only if there is a problem with the data logger and you cannot stop data logging via Smart-Vue Pro web application. The action is tracked in the Audit Trail.

Click Save to keep your changes, or Cancel to return to the previous screen without saving changes.

Data Logger Actions

You may use the options available in the data logger details screen to manage your data loggers.

1. Click **Data loggers** (📱) in the main menu and select a data logger in the list.
2. Click **More** (⋮) (1) in the upper right-hand corner to access available options:

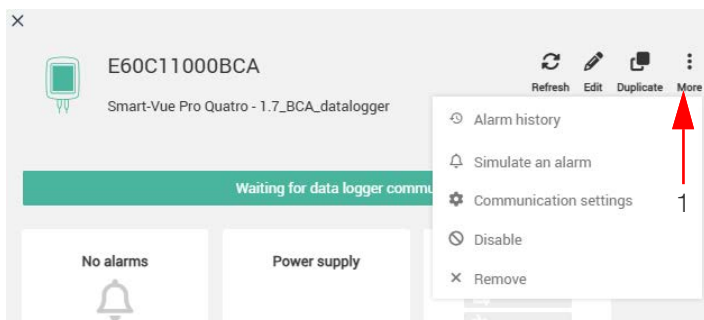


Figure 103. Data logger options menu

Alarm history: Opens the alarm page for the selected data logger (see **Viewing Alarm Details**).

Simulate an alarm: Allows you to simulate the occurrence of an alarm on this data logger for testing purposes. The simulation generates a Technical alarm (Communication lost, Device mismatch, Lost power supply, Low Battery) that is listed in the Audit Trail as an “Alarm simulation”.

Communication settings: This menu provides technical information regarding data logger communications. Reserved for qualified technicians. Incorrect use of data logger settings could cause your system to malfunction. Contact Thermo Scientific technical support for more information.

Disable: Enables you to effectively turn this device off and stop data logging.

Editing Data Logger Details

Follow these steps if you need to modify the information or default values for your data logger:

1. Click **Data loggers** (📱) in the main menu and select a data logger in the list.
2. Click **Edit** (✎) icon. This opens a window identical to that described in **Adding Data Loggers**.

Note: You may not edit the serial number or data logger type fields.

- When editing a data logger, there is some information present that was not displayed earlier:

Figure 104. Editing data logger details

- Firmware version:** Indicates the data logger firmware version number (not editable).
- Last packet received:** This indicates the last time the server received communication from the data logger (“uplink”). The server triggers an alarm if it does not receive communication from the data logger within the configured number of minutes allowed without communication.

Last packet confirmed: This indicates the last time the data logger confirmed communication from the server (“downlink”). The server triggers an alarm if data logging is running and the data logger does not receive acknowledgment from the server within a period (calculated automatically) equal to eight times the number of minutes allowed without communication.

- Transfer interval:** For LoRaWAN communications, you may specify how often the data logger should transmit its data via the LoRaWAN network. The minimum duration is 10 minutes for all Smart-Vue Pro Duo/Quatro data loggers.

Note : Alarms are always sent in real-time. The data logger does not wait for the programmed transfer interval to send alarms.

- Retransfer interval:** For LoRaWAN communications, you may specify how long the data logger should wait to try again in case data was not transferred successfully.

The minimum duration is 5 minutes for all Smart-Vue Pro Duo/Quatro data loggers.

- Trigger alarm after:** These settings help ensure early notification in case of communication errors or power failure.

[##] minutes without communication: This option sets the uplink delay time, that is, the number of minutes that the server can wait before triggering an alarm that it has not received communication from the data logger. As of Smart-Vue Pro 1.11, we recommend setting the number of minutes to:

$2 \times (\text{transfer interval} + 1 \text{ minute})$

For example, with a transfer interval of 20 minutes, we recommend setting this value to 42 minutes.

You may then control how people are notified for communication problems as described in **Alert Notifications**.

[##] minutes on battery mode: this additional checkbox is displayed if the type of device you are Smart-Vue Pro Web Application User Guide creating also runs on battery power. The alarm is triggered after the specified number of minutes after the device switches to battery power (i.e., due to a power failure).

- Click **Save** to keep your changes or, **Cancel** to return to the previous screen without saving changes.

Sensors

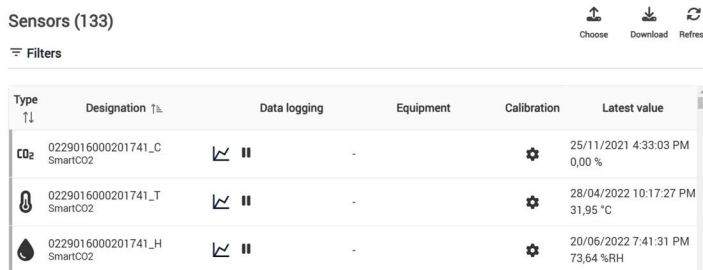
Sensors that are connected physically or wirelessly to your Smart-Vue Pro data loggers are added to the Smart-Vue Pro web application automatically.

For Smart-Vue Pro to recognize the sensor(s) that are physically connected to a Smart-Vue Pro data logger, click **Refresh Sensor** and **Synchronize** in the data logger's **Sensors** menu. Once detected, these sensors are shown in the sensor management window. From the sensor management window, you may:

- Access detailed information about the sensor.
- Display readings in a graph, along with various other information about the selected sensor.
- Manage calibration parameters.

Sensor Summary List

Sensors connected to the Smart-Vue Pro data loggers are listed in the Sensors screen (🔗):



Type	Designation	Data logging	Equipment	Calibration	Latest value
CO ₂	0229015000201741_C SmartCO2	🔄	-	⚙️	25/11/2021 4:33:03 PM 0,00 %
🔗	0229015000201741_T SmartCO2	🔄	-	⚙️	28/04/2022 10:17:27 PM 31,95 °C
💧	0229015000201741_H SmartCO2	🔄	-	⚙️	20/06/2022 7:41:31 PM 73,64 %RH

Figure 105. Sensor list in Smart-Vue Pro

This screen displays all sensors with the following information:

Type: Visual indication of sensor type.

Designation: Sensor serial number, sensor type and associated data logger.

Data logging: Data logging status: running (🔄) or idle (||). Move your mouse over the icon to see data logging settings.

If alarms and warnings are paused (on Datalogger only), the status is displayed as below:

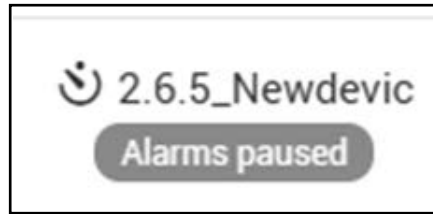


Figure 106. Alarm paused in sensor page

Equipment: The equipment associated with the sensor.

Calibration: Hover your mouse over the field to see calibration parameters or click to open the calibration management window.

Latest value: Date and value of the most recently recorded reading.

Individual Sensor Details

Regardless of your user level in Smart-Vue Pro, you may always check the data for sensors you are authorized to view.

To view detailed information about a sensor:

1. In the main menu, click **Sensors**.
2. Select the desired sensor.
3. The sensor details are shown on the right-hand side of the screen, with several sections:

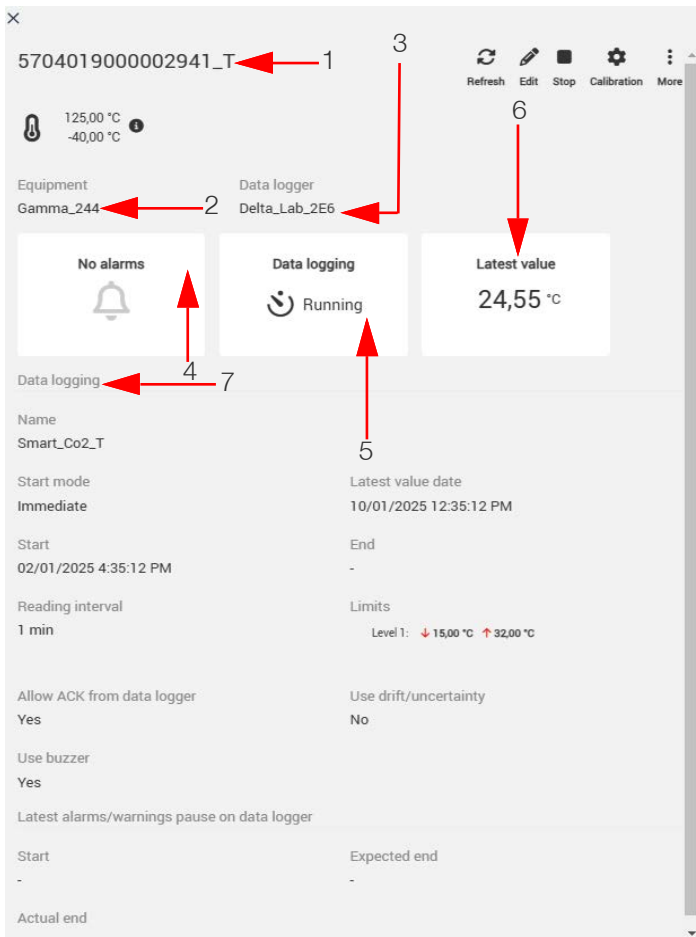


Figure 107. Sensor details

- (1) Sensor serial number and type.
- (2) Name of the equipment with which the sensor is associated.
- (3) Name of the data logger on which the sensor is attached.
- (4) Limit alarm indicator (excursions with respect to programmed limits). Click this indicator for detailed information or to acknowledge an alarm.

- (5) Data logging status for this sensor: **Running** or **Idle**. If alarms and warnings are paused (on Datalogger only), the status is displayed like this



- (6) Last recorded reading.
- (7) Data logging configuration parameters.

Filtering the sensor list display

When looking at the sensor list, you may wish to filter the display to see specific sensors or sensors that meet certain criteria.

To filter the list:

1. Click on Filters (1) and then select the filter(s) you would like to apply (2):

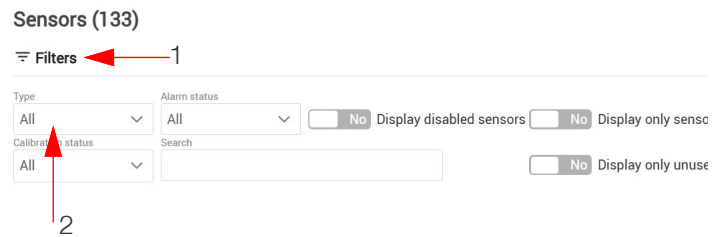
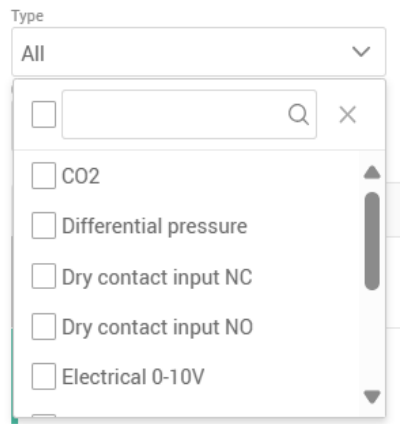


Figure 108. Filtering the sensor list

The available filters are as follows:

Table 5. Filter options

Filter option	Description
Type	<p>By default, this is set to All, to display all sensors. Use the pull-down menu to select one or more specific types of sensors (or type the first letters of the sensor type in the search field at the top of the list):</p> 
Calibration status	<p>By default, this is set to All, to display all sensors regardless of their calibration status. Select Overdue to see those sensors whose calibrations have expired</p>
Alarm status	<p>By default, this is set to All, to display all sensors regardless of their alarm status. Select No alarms to show sensors without alarms, or Ongoing to see sensors that currently are in an alarm state.</p>
Search	<p>You may enter any text here, such as all or part of a sensor serial number in this field.</p>
Display disabled sensors	<p>Set this option to Yes to see all sensors. Set this option to No to exclude those sensors that are disabled.</p>
Display only unused sensors	<p>Set this option to Yes to see all sensors. Set this option to No to see only those sensors that are not currently being used for data logging.</p>

- Apply filters by clicking on the magnifying glass. You may clear all applied filters by clicking on Refresh. Filters are also reset to their default settings when you refresh the page (pressing the F5 key in most browsers) or when you go to another page in the application.

Calibration Parameters

It is important to calibrate the sensors on your Smart-Vue Pro data loggers to fine-tune the accuracy of readings. The calibration procedure is typically handled by Thermo Scientific's in-house metrology laboratory, which determines precise correction coefficients.

Smart-Vue Pro users are also free to manage calibration according to their own standard operating procedures.



CAUTION: Calibration parameters are stored directly in smart-sensors. This means that all sensor readings are adjusted for maximum accuracy, though you may edit calibration parameters if necessary. However, you may not use Smart-Vue Pro to change calibration parameters on remote (Bluetooth wireless) sensors.

Updating Parameters for Calibrated Sensors

Smart-Vue Pro allows you to correct the parameters and calibration information of your Smart-Vue Pro data loggers from the information provided by sensor calibration certificates.



CAUTION: Calibration parameters may be corrected for your sensor(s) only when data logging is disabled. If data logging is currently running on a data logger, you must first stop data logging before you can change calibration parameters.

To update calibration information:

1. Login to Smart-Vue Pro as an Application manager or with a user account whose role includes "Manage metrology parameters" access (as described in **Adding User Roles**).
2. In the main menu, click **Sensors** and click the sensor you want to update.
3. If calibration information has already been provided, you may click **Calibration** (⚙️) → **Edit** (✎️).

Otherwise, click **Add** (+) to enter and save new information.

Figure 109. Creating or adding data logger calibration parameters

4. Here, you may enter the information provided on the sensor calibration certificate:

Coefficient A, B, C: The A, B, and C correction coefficients are used to improve the accuracy of sensor readings mathematically. It is possible to only use A and B when calibrating sensors, in which case C is set to 0. The C coefficient comes into play when you have 3 or more points, where you can either use A and B for a linear calculation, or A, B, and C to determine coefficients based on a curve. Enter the correction coefficients in the A, B, and C fields. To ensure the accuracy of readings, it is extremely important to enter only valid parameters in these fields.

Drift: This value represents the loss of reading accuracy over time. Values may drift lower by a few hundredths per year, which can impact programmed data logging limits. Enter the Drift value provided on calibration certificate.

Uncertainty: Uncertainty is the loss of calibration accuracy with respect to the reference sensor (which has an impact on alarm emission). Enter the value provided on calibration certificate.

Laboratory: Using the drop-down list, select the calibration laboratory that issued the calibration certificate.

Identifier: Enter reference information, such as a certificate number or lab technician's name.

Date: Click in the Date entry field and choose the date on which the sensor was calibrated from the calendar. The current date is displayed by default.

Note : If calibration certificate information had been entered previously for this sensor, the date you enter here must not be earlier than that of the previous certificate.

Calibration and Reminder Frequency

Once you have added calibration information, you may choose to receive notification as a reminder to recalibrate the sensor by a given date.

In the **calibration** screen, click **Edit** (✎) and enter the number of months after the certificate date at which the system will remind you to recalibrate the sensor:

6E85195000001341_T

Calibration parameters

Sensor

Serial number	Unit
6E85195000001341	°C

Parameters (°C)

Coefficient A	Coefficient B	Coefficient C
1,0000	-0,173	0,000000

Drift	Uncertainty
0,01	0,01

Certificate

Laboratory	Identifier	Date
Unknown	-	11/04/2021

Reminder notification

No reminder notification.

Show calibration notification months after

Figure 110. Sensor calibration parameters

Click **Save** (✓) to update sensor information, **Cancel** (✕) to undo any changes you may have made, or **Delete** (🗑) to remove notification.



CAUTION: Calibration is not used for dry contact input sensors (on Smart-Vue Pro Duo/Quatro data loggers), as the only two possible sensor values are “open” or “closed”, as described in the next section.

Importing CSV File with Calibration Information

You may import calibration information from a CSV format text file. This feature offers a practical way to update batches of sensors without having to manually edit each one.

Note: You must be logged in with an Application Manager account, or as a user whose role includes “Manage metrology parameters”. Data logging must not be currently using the sensor(s) to be updated.

Sample text file:

Here is text from a sample CSV file with the required header line and details for one sensor:

```
ProbeSerialNumber;Number;CalibrationDate;CertificateId;
CoefA;CoefB;CoefC;Drift;Uncertainty
8634120000001741;3;2020-12-15;John;1.2;0.1;0;0.25;0.3
```

Field names must be separated by a semi-colon (;).
All the fields below must be present:

Probe Serial Number: The serial number of the sensor to be updated. If a probe has several sensors, its serial number is displayed in Smart-Vue Pro web application with a suffix of “_T”, “_H”, or “_C” (e.g., 8634120000001741_T).

Do not include the suffix in the CSV file.

Number: Identifies the specific sensor with these numbers, notably for multi-sensor probes:

Single sensor probes: 1

Dual temperature + relative humidity probes:

T° = 1 RH% = 2

Triple CO₂ + temperature + relative humidity probes:

CO₂ = 1 T° = 2 RH% = 3

Calibration Date: The date the calibration was performed. This date must be more recent than the previous calibration date.

The date format is YYYY-MM-DD.

Certificate Id: An identifier to indicate the document (certificate) containing calibration information.

CoefA: Correction coefficient A, using a period (.) as the decimal separator.

CoefB: Correction coefficient B, using a period (.) as the decimal separator.

CoefC: Correction coefficient C, using a period (.) as the decimal separator.

Drift: Drift value.

Uncertainty: Uncertainty value.

To import a CSV file with sensor calibration parameters:

1. Login to Smart-Vue Pro web application using an Application manager account, or as with a user account whose role includes “Manage metrology parameters” access (as described in **Adding User Roles**).
2. In the main menu, click Sensors (🔗) and click **Choose** (📁).

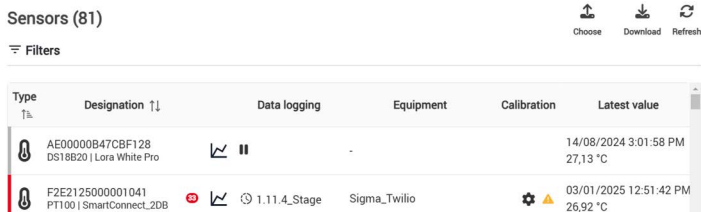


Figure 111. Click to import a CSV file with sensor calibration parameters

3. Browse to locate the CSV file on your computer.
4. Enter your password to import the file.
5. Confirmation is displayed on the screen if no errors are encountered. Each updated sensor has a temporary icon (⚙️) in the Calibration column to indicate that calibration is pending.

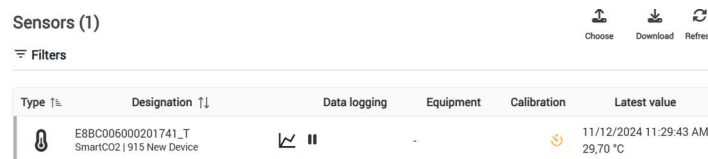


Figure 112. After import but before synchronization with data logger

6. Calibration parameters are updated automatically on the data logger upon the next schedule data transfer interval. For the update to be taken into account right away, you may use the Synchronize function on the data logger. The normal calibration icon (⚙️) is displayed in the Calibration column once the update is complete.

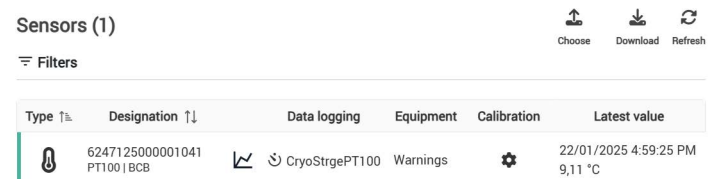


Figure 113. After synchronization with data logger.

Error Messages when Importing a Calibration CSV File

Errors may occur when you import a CSV file with calibration parameters. In that case, each error is indicated with the corresponding line number in the CSV file, as shown here:

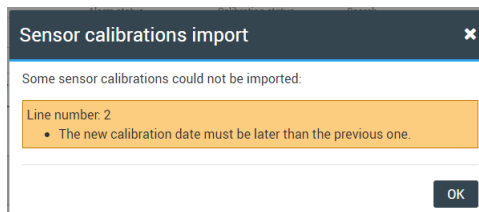


Figure 114. Example of error while importing CSV file

Possible errors are as follows:

Table 6. Possible errors while uploading CSV file with calibration parameters

Message Description	Message Description
Not allowed. Sensor is not plugged into a data logger.	The sensor must be physically plugged into a connected data logger in your system.
Not allowed. Sensor is currently being used for data logging.	Calibration parameters may not be loaded for a sensor that is currently being used for data logging.
Action not allowed for this probe type.	The probe does not support correction parameter management from Smart-Vue Pro.
Sensor not found.	The sensor is not present in your Smart-Vue Pro system.
The new calibration date must be later than the previous date.	The calibration date provided in the CSV file cannot be earlier or the same as the previous date.
Invalid file content	The fields and/or data in the CSV file do not respect the required format.
Not allowed. Sensor has been recycled.	The sensor has been removed from operation and is no longer valid.

Table 6. Possible errors while uploading CSV file with calibration parameters

Message Description	Message Description
Action not allowed for this data logger firmware version.	The data logger firmware does not support correction parameter management from Smart-Vue Pro.

Exporting Sensor Information

From the sensor list you may export detailed sensor information, including calibration parameters, in CSV file format with values separated by a semi-colon (;).

To export sensor details:

1. In the main menu, click **Sensors**.
2. Click Download in the upper right-hand corner.

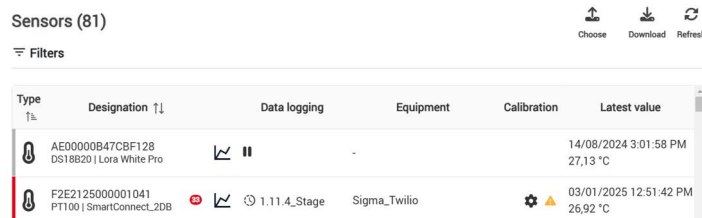


Figure 115. Creating a CSV file with complete sensor details.

3. Depending on your browser and/or download settings, you may need to choose the desired download location for the CSV file on your computer. By default, the file name is presented as follows:

Sensors - 01-12-2021 1235 PM.csv

4. Click Save to download the file.

Using the Smart-Vue Pro Dry Contact Input Sensor

The Smart-Vue Pro dry contact input sensor is used with Smart-Vue Pro Duo/Quatro data loggers to provide fast dry contact loop detection for a variety of situations. Typical uses include door open-close monitoring systems and specialized equipment such as ultra-low-temperature freezers that offer a dry contact output terminal.

The dry contact input sensor is different from sensors that monitor ranges of different readings, such as temperature or humidity. The dry contact sensor simply shows the open-close status of a low-current loop, with the data logger configured to detect either a “normally closed” or “normally open” state to correspond with the device or equipment to be monitored.

Note: For more details on dry contact sensor usage, cabling, and data logger configuration, see the Smart-Vue Pro Quatro User Guide.

In the Sensors, Data loggers and Equipment menus, dry contact sensors are shown as follows (with slight variations depending on the context):

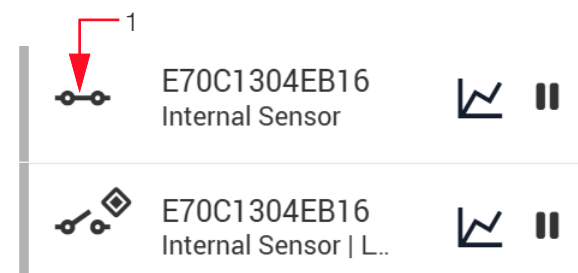


Figure 116. Dry contact sensor display

Note: For each physical dry contact sensor, you will see two sensors listed. This is done to ensure traceability in case you use both configuration options. The sensor with the (◊) icon and “Internal Sensor” label corresponds to the current setting on the Smart-Vue Pro Duo/Quatro data logger. Data logging is described in detail in **Data Logging**.

Configuration is indicated by the following icons (1):

	The electric current loop is configured for “normally closed”.
	The electric current loop is configured for “normally open”.

4-20 mA, 0-10 V Loop Sensors

The Smart-Vue Pro sensor for 4-20 mA (current) and 0-10 V (voltage), for Smart-Vue Pro Quatro data loggers, is physically the same product. You will therefore see both sensors listed in Smart-Vue Pro and you must choose the right one for your needs.

- The 4-20 mA sensor is indicated by “_I” in the serial number.
- The 0-10 V sensor is indicated by “_U”.

Sensors (4)

≡ Filters







Type ↓	Designation ↑	
	B774115000001441_U 0-5V/0-10V	 
	B774115000001441_I 4-20mA	 

Figure 117. Selecting the 4-20 mA / 0-10 V Smart-Sensor.

Description

4-20 mA current and 0-10 V voltage Smart-Sensors can be connected to industry-standard devices that generate appropriate output signal. The signal can be measured to provide status information for a variety of applications, including wind monitors, particle counters, ultra-low-temperature (ULT) freezers and temperature, and relative humidity devices, and more. Read values are converted into useful information by the Smart-Vue Pro web application, then displayed both in the web application and on the Smart-Vue Pro data logger display.



Figure 118. 4-20 mA / 0-10 V Smart-Sensor

Table 7. Sensor wiring

Black	Common ground
Red	0-10 V input
White	4-20 mA input

Connect the wires according the type of device you want to monitor.



CAUTION: Do not connect all three wires.

A sensor may only monitor one of the two input parameters (red or white wire, but not both). The maximum voltage on the 4-20 mA input wire is 2 V. Exceeding this value will damage your sensor.

Mapping Values for Meaningful Readings

For sensor readings to be relevant in your context, you must map the low values (0 V or 4 mA) and high values (10 V or 20 mA) to match the limit values produced by your connected device. For example, on a 4-20 mA device, the low 4 value could correspond to a CO₂ level of 0% and the high 20 mA value could correspond to 10% CO₂. In that case, you would map 4 to 0 and 20 to 10 in Smart-Vue Pro. You may use other units to meet your needs.

To do this:

1. Click **Sensors** in the left-hand menu.
2. Select the sensor you wish to modify from the sensor list.
3. Click **Calibration** (⚙️).
4. Edit the values in the **Range** zone (1) (below) to meet your needs.

Low: The lower value output by your device.

High: The higher value output by your device.

Unit: The measurement unit you would like to display in Smart-Vue Pro.

- Click **Save** to save your changes or **Cancel** to close this window without saving changes.

Figure 119. Mapping 4-20 mA / 0-10 V values

The unit you specify here is shown in the Smart-Vue Pro web application as well as on the data logger.



CAUTION: The mapping from 4 to 20 mA or 0 to 10 V is strictly linear. The 0-10 V sensor is also used for 0-5 V output devices. Simply adjust your low and high values accordingly.

Simulating a Sensor Alarm for Testing

You may trigger a limit alarm on a sensor for testing purposes to ensure that related alert rules and user contact work properly. To test a sensor alarm:

- Login to Smart-Vue Pro as an Application manager.
- In the main menu, click **Sensors** for a list of the sensors in your system.
- Click the sensor you want to test.
- Click **More** (⋮) and select **Simulate an alarm** from the drop-down menu. You will then be able to see the alarm in the Alarm list and Audit trail (indicated as “Simulation” in both places). Any related alert rules for the sensor are triggered, such as, e-mail or telephone alerts.

Removing a Sensor

You may remove sensors from the system, for example if they are no longer used or if they have been replaced on the Smart-Vue Pro data logger. To remove a sensor:

- Login to Smart-Vue Pro as an Application manager.
- In the main menu, click **Sensors** for a list of the sensors in your system.
- Click the sensor you want to remove.
- Click **More** (⋮) and select **Remove** from the drop-down menu. To remove a sensor, data logging must not be running.



CAUTION: Smart-Vue Pro data loggers update sensor information in Smart-Vue Pro automatically based on the physically connected sensor(s). When you plug in a new sensor (or even plug the same one back in if it had been removed accidentally), the sensor(s) will appear again in the Smart-Vue Pro web application.

Disabling / Enabling a Sensor

You may disable a sensor so that it cannot be used for data logging or you can enable a sensor that has been disabled. To do this:

- Login to Smart-Vue Pro as an Application manager.
- In the main menu, click **Sensors** from a list of the sensors in your system.
- Click the sensor you want to disable or enable.
- Click **More** (⋮) and select **Disable** (or **Enable**) from the drop-down menu. To disable a sensor, data logging must not be running.



CAUTION: Disabled sensors are no longer shown in the sensor list. To enable a disabled sensor, use the Filter option in the sensor list and select Display disabled sensors. You may then choose to enable it as described above.

Equipment


This chapter describes managing equipment in the Smart-Vue Pro system and assigning data loggers and sensors to that equipment.

It is important to remember the underlying notion in Smart-Vue Pro web application that your goal is to monitor equipment, rather than just activate data logging using sensors. With that understanding, you must define your equipment and then assign sensors to monitor it.

The “equipment” in Smart-Vue Pro refers to the temperature controlled chambers, cabinets, refrigerators, tanks, enclosures, and other spaces you may choose to monitor with Smart-Vue Pro data loggers.

Adding Equipment

To add equipment:

1. Click **Equipment** () in the left-hand menu.
2. Click (+) to enter details manually.

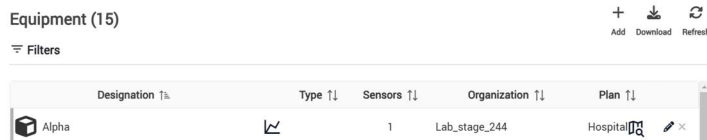


Figure 120. Equipment management window

3. The **Create equipment** window opens as shown here:

Figure 121. Adding new equipment

4. Fill the equipment details. The fields marked with an asterisk (*) are required:


Name: Enter a name for your equipment. This name is used in all lists.

Inventory code (Optional): You may enter an inventory code for the equipment for information purposes.

Type: Enter a type of equipment in the field.

Icon: Click the icon and select the most appropriate symbol to visually represent the equipment.

Organization: Equipment is assigned to sites and departments.

You must assign an organization to your equipment using the pull-down menu. To add a department to this list, click **Configuration** () **Organization** and follow the instructions provided earlier in **Organization with Sites and Departments**.

Critical / Not critical: Determine the criticality level for the equipment by clicking on the appropriate option.

This information is used to fine-tune the data logging mode and alert rules based on equipment criticality.

Mobile / Static: Indicate whether the equipment is dedicated to a static environment (refrigerators, freezers, water-baths) or a mobile environment (coolers, packages).

5. Click **Save** to save the equipment or **Cancel** to close this window without saving changes.

The equipment is listed in the equipment management screen:

Figure 122. Equipment list in Smart-Vue Pro

Associating Sensors with Equipment

This section describes assigning one or more sensors to monitor equipment.

To associate a sensor with equipment:

1. Click **Equipment** (🗄️) on the left-hand side of the menu to see the list of equipments you are allowed to manage.
2. Click the equipment to which you want to add a sensor.
3. Click **Add** (+) (1):

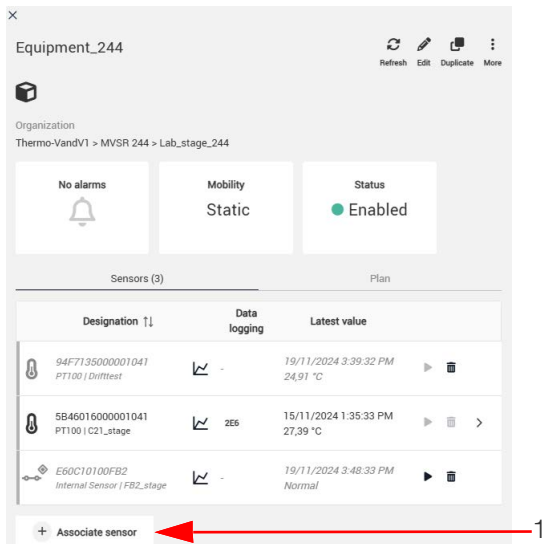


Figure 123. Equipment details

4. Tick one or more check boxes to select the corresponding sensor(s):

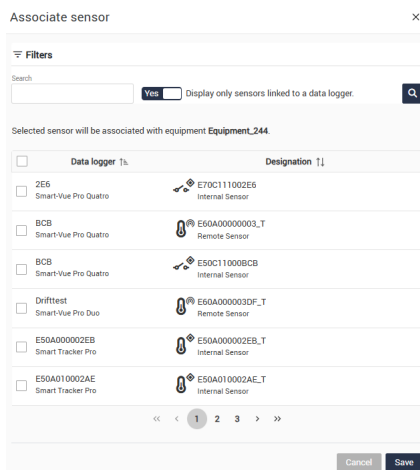


Figure 124. List of available sensors

5. If you have many sensors in your system, you may click on Filters to search for specific data loggers. Type all or

part of the data logger name in the Search field and then click on the magnifying glass to refresh the list.

Note : Sensors that have been unplugged from a data logger may still be in the system. If you would like to list only those sensors that are currently linked to a data logger, click the toggle switch to **“Yes”** and click on the magnifying glass. Otherwise, to list all sensors, toggle the switch to **“No”** and click on the magnifying glass.

6. Click **Save** to complete the association or **Cancel** to exit this screen without saving changes.

Dissociating Sensors from Equipment



CAUTION: You may only dissociate sensors from equipment if they are not being used for data logging. If the sensor is being used for data logging, you must first stop data logging as described in **Stopping Data Logging**, and then dissociate the sensor from the equipment.

To dissociate a sensor from equipment:

1. Click **Equipment** (🗄️) in the main menu to see the list of equipment you are authorized to manage.
2. Click the equipment from which you want to remove a sensor.
3. Click **Remove association** (🗑️) (1) next to the sensor you want to remove:

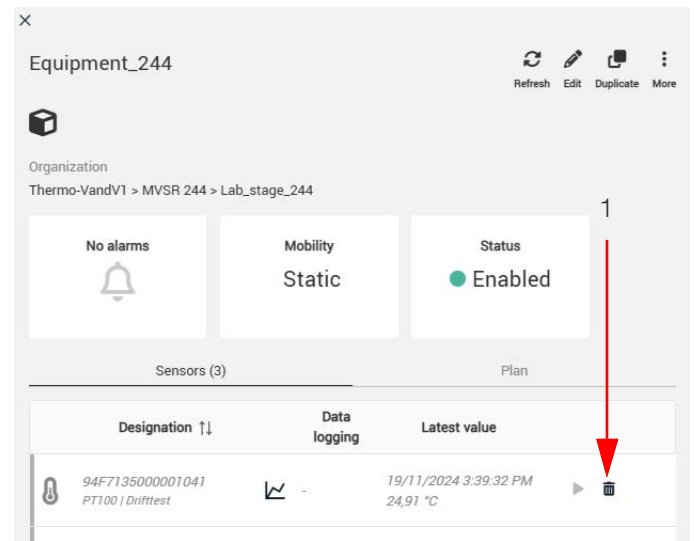


Figure 125. Dissociating a sensor from equipment

- Click **Yes** and confirm the operation when prompted, or click **No** to return to the previous screen:

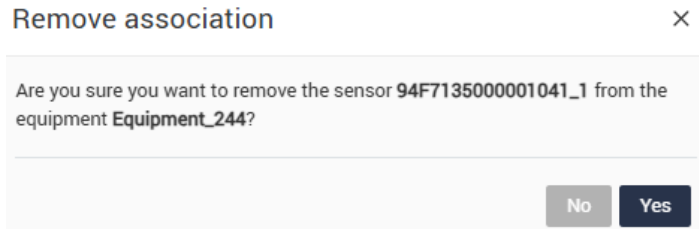


Figure 126. Confirming sensor dissociation

Viewing Equipment Details

Regardless of your user level in Smart-Vue Pro, you may always check the data for the equipment you are authorized to view.

For a complete view of all equipment details, including sensor readings:

- Click **Equipment** (🗄️) in the main menu.
- Select the desired equipment.
- The equipment details are displayed as shown below:

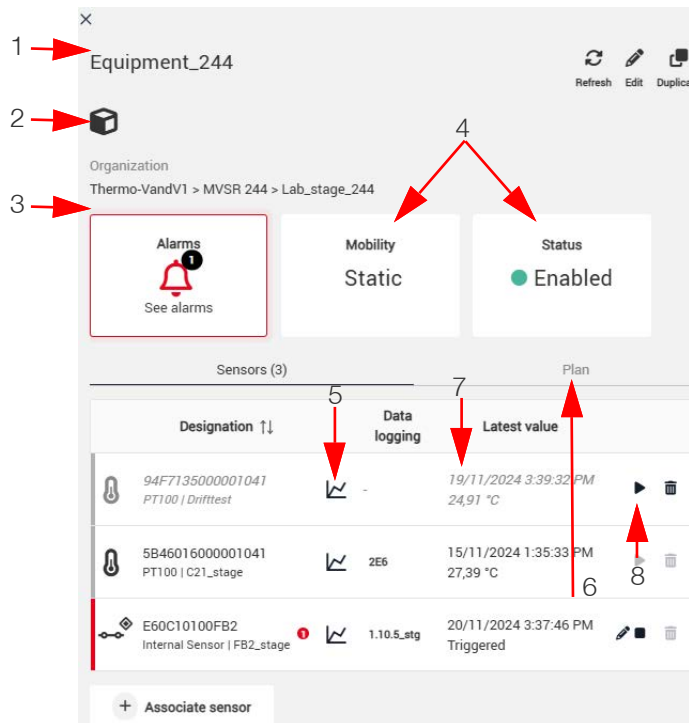


Figure 127. Equipment details

- Equipment name and type.
- Organization and department (if configured) to which the equipment is associated.
- Current alarm indicator. An alarm is an “out-of-bounds” state or other error detected on a data logger or sensor. Hover your mouse over the indicator or click it for details or to acknowledge an alarm.
- Mobility indicator (Mobile or Static) and equipment status (Enabled or Disabled).
- Opens a graph with all sensor readings.
- If you have placed the equipment on a plan, click **Plan** to view the exact location of the equipment on the map.
- Shows most recent values reading for this sensor. A dash (-) is displayed if no readings are available.
- ✎ Click to edit current data logging settings (starting with Smart -Vue Pro 1.11).
 - ✕ Click to remove the sensor from its current equipment.
 - ▶ Click to set sensor settings and **start data logging** (password required).
 - ⏹ Click to **stop data logging** (password required).

Modifying / Managing Equipment

You may use the options available in the equipment details screen to manage the equipment in your Smart-Vue Pro system.

- Click **Equipment** (🗄️) in the main menu.
- Select the desired equipment.

3. Click **More** (⋮) in the upper right-hand corner of the screen and then click one of the available options:

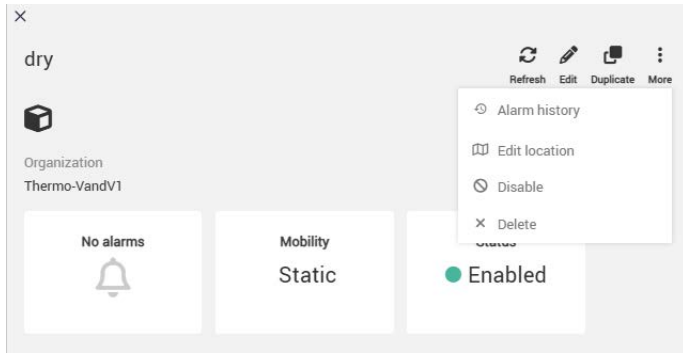


Figure 128. Equipment details

Alarm history: Opens the alarm page for the selected equipment (described in **Viewing Alarm Details**).

Edit location: This option is only available for "Static" equipment, allowing you to locate the equipment on a floor plan or change its position on the plan (see **Placing Equipment on the Plan**).

Disable / Enable: Select this option to disable equipment or enable equipment that has been disabled. Disabled equipment is no longer shown in the equipment list or as a tile in the Watch Mode display.

Note: Equipment cannot be disabled if data logging is currently running on one of its sensors. To enable disabled equipment, use the Filter option in the equipment list and select **Display disabled equipment** to enable it.

Delete: Removes the selected equipment from the system.

Edit: To modify the information for existing equipment, click **Edit** (✎). Click **Save** to keep your changes, or **Cancel** to return to the previous screen without saving changes.

Refresh: Click **Refresh** (↻) to update the information in this window.

Deleting Equipment

You may delete equipment only if the following conditions are met:

- The equipment must not be associated with a sensor.
- If one or more sensors are associated with the equipment, you must first unpair the sensor(s) before deleting the equipment. See **Dissociating Sensors from Equipment** for more details on this feature.

To remove equipment:

1. Click **Equipment** (📁) in the main menu.
2. Select the desired equipment.
3. Click **Delete** (✕) (1) to remove the selected equipment:

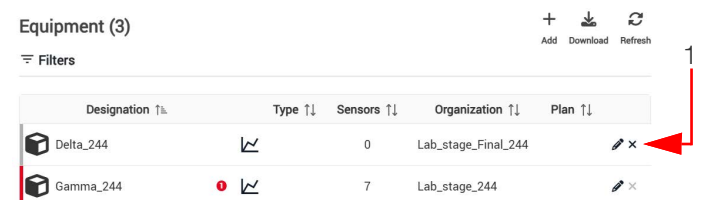


Figure 129. Equipment management window

4. Click **Yes** to confirm the operation when prompted, or click **No** to return to the previous screen:

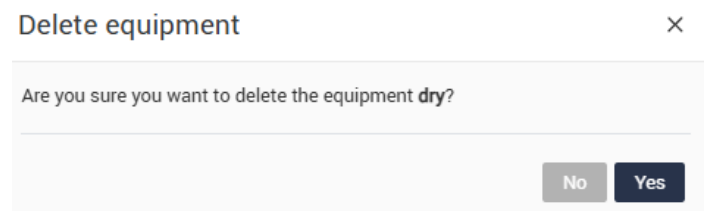


Figure 130. Confirming equipment removal

Data Logging

To use your Smart-Vue Pro data logger, you must first program data logging.



CAUTION: Data logging is configured at the equipment level. Once you have assigned a sensor to equipment (described in **Associating Sensors with Equipment**), you may set up data logging.

Data logging consists of recording physical parameters (such as temperature and humidity) over time. Sensor readings are recorded based on a set of configuration options that are used to manage your data logger while data logging.

Data logging parameters include:

- The sensor reading frequency.
- High and low alarm limits.

How Does It Work?

Here is a quick overview of the data logging flow with Smart-Vue Pro:

1. The Smart-Vue Pro data logger equipped with sensors is installed on the equipment to be monitored.
2. Sensor readings are collected by the Smart-Vue Pro data logger, which then sends the data to the Cloud or your server via LoRaWAN wireless connectivity.
3. Smart-Vue Pro enables you to manage every aspect of your system, equipment, users, and data. When limits are exceeded or other anomalies are detected, an alert is displayed on the Smart-Vue Pro data logger. You can receive alerts 24/7 by e-mail, SMS/ Text message or Voice message from the Smart-Vue Pro system.

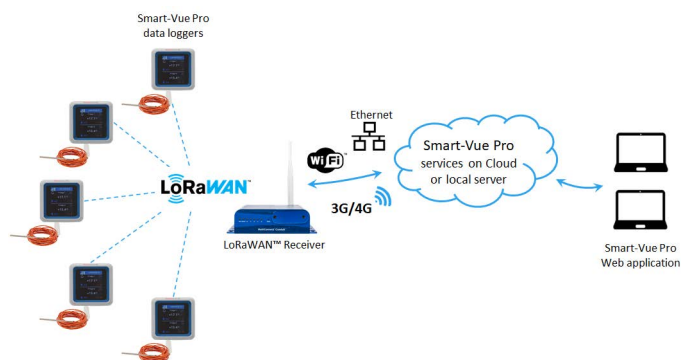


Figure 131. The Smart-Vue Pro data logger communicates with Smart-Vue Pro via an on-premises LoRaWAN receiver

Setting Up Data Logging



CAUTION: A sensor must be associated with equipment in order to start data logging.

To configure data logging:

1. You can start data logging either via **Equipment** (📁) or **Data Loggers** (🔌) or **Sensor** (📡) in the left-hand menu as long as the sensor is associated with equipment. The instructions below are identical for all cases.
2. Click the name of the equipment (1) (or data logger) for which you want to start data logging:

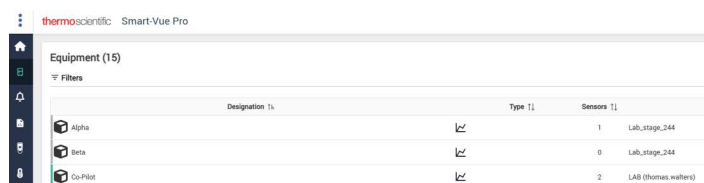


Figure 132. Click a piece of equipment to set up data logging

3. Details and available sensors are shown on the right-hand side of the screen. Click **Start data logging** button (▶) (2) to access sensor settings:

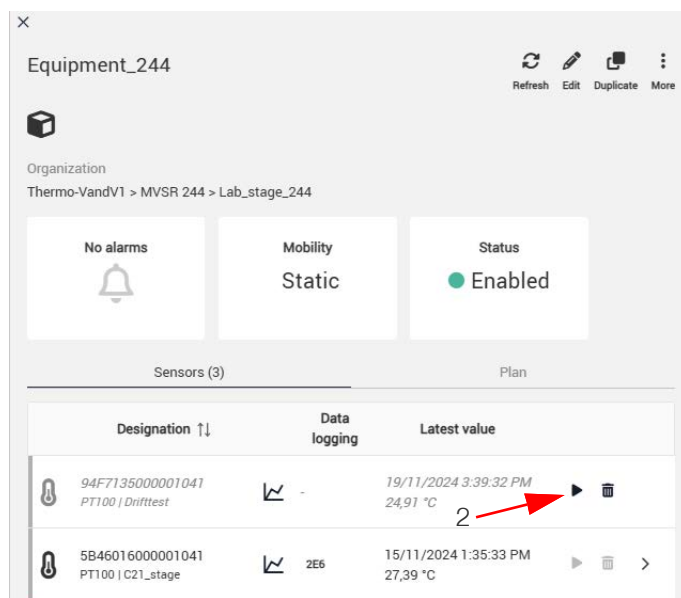


Figure 133. Choosing a sensor for data logging

- Enter your system password and click **Send** to continue.

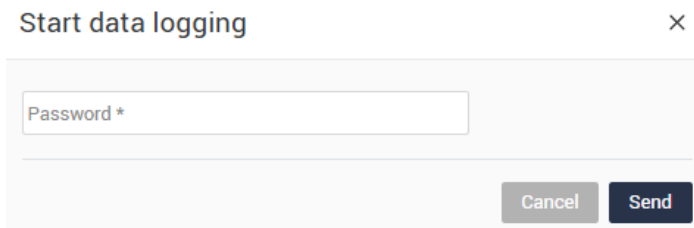


Figure 134. Entering password to enter data logging settings screen

The **Start data logging** window opens, with several zones (in the image below):

- General sensor properties (1).
- Choosing to create a new data logging configuration or selecting an existing configuration (2).
- Entering specific parameters (3) the information in this zone varies according to sensor type.

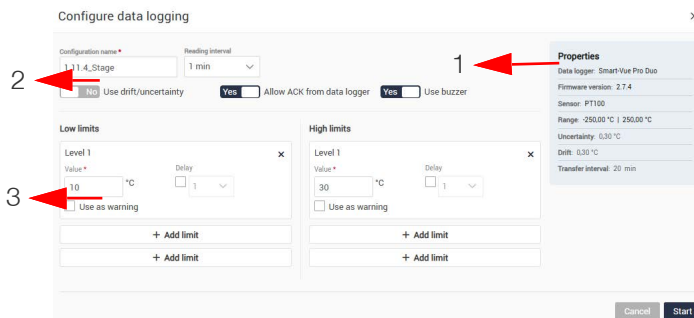


Figure 135. Defining data logging settings (example with temperature sensor)

- Define the settings for a new data logging session as described in the next section or select an existing configuration.

Environmental Sensors (Temperature, Humidity, etc.)

For sensors that take readings across a range of values, such as temperature or humidity, the data logging options in the Start data logging window shown above are as follows:

If there are no templates, the **New data logging configuration** field is selected by default. Previous settings are displayed if the sensor has already been used.

- Set the following information:

Reading interval: The frequency with which the sensor records a reading. Use the drop-down list to select the value that meets needs.

Use drift/uncertainty: Select this check box if you want to take into account the deviation and uncertainty values provided for the sensor (see **Updating Parameters for Calibrated Sensors**).

These values will diminish read value tolerance: for example, if you set low and high limits at 2°C and 8°C, with drift of 1°C and uncertainty of 1°C, the effective target range is considered by the system as being as the “worst case scenario”, or 2°C to 6°C). Drift and uncertainty values can be shown on sensor graphs (described in **Displaying Sensor Graph**)

Allow ACK from data logger: [Smart-Vue Pro Duo/Quattro only] Select this checkbox if you want users to be able to acknowledge alarms via the Smart-Vue Pro Duo/Quattro screen. If you deselect this checkbox, acknowledgment cannot be performed via the data logger screen.

Use buzzer: [Smart-Vue Pro Duo/Quattro only] Select this checkbox if you want the buzzer on your Smart-Vue Pro Duo/Quattro data logger to buzz in case of an alarm. The data logger must be running on AC power for the buzzer to function.

- You may set low and high limits to ensure that the physical parameter(s) in the monitored environment remain(s) within a specific range of values.



CAUTION: You may enter up to three high limits and three low limits to benefit from multiple warnings if limit excursions persist and each limit may either be treated as a warning or an alarm (See below). You may enter the limits in any order that you choose. The first one you enter is displayed on the Smart-Vue Pro data logger display.

Low Limit

Value: The lowest acceptable sensor reading (lowest temperature, lowest humidity level, etc). Any readings below the limit(s) will trigger an alarm. Click (+) to set up additional limits or (x) to remove limits you may have added.

Low delay: Indicates how many readings lower than the low limit can be observed before triggering an alarm. The maximum number for this field is 200 readings.

The corresponding duration in terms of time is simply the number of readings indicated here, multiplied by the read interval. This information is shown in a tool tip that is displayed when you hold your cursor over the icon.

Use as warning: Starting with Smart-Vue Pro version 1.16, you can configure limits as a “warning” rather than an “alarm”. The only difference is that a warning does not require acknowledgment (either in Smart-Vue Pro or by entering a PIN code on a data logger).

High Limit

Value: The highest acceptable sensor reading. Any readings above the limit(s) will trigger an alarm. Click (+) to set up additional limits or (x) to remove limits you may have added.

Delay: Indicates how many readings above the high limit can be observed before triggering an alarm. The maximum number for this field is 200 readings.

The corresponding duration in terms of time is simply the number of readings indicated here, multiplied by the read interval.

Use as warning: Starting with Smart-Vue Pro version 1.16, you can configure limits as a “warning” rather than an “alarm”. The only difference is that a warning does not require acknowledgment (either in Smart-Vue Pro or by entering a PIN code on a data logger).



CAUTION: When configuring delays as described above, you may hold your mouse over the (i) icon next to the Delay field to see a tool tip showing the exact duration in terms of time. The value indicated here is updated to reflect any changes you make for Reading interval or Delay.

1. Click the desired item in the Data loggers or Equipments or Sensors.
2. Click the Start data logging button (1).

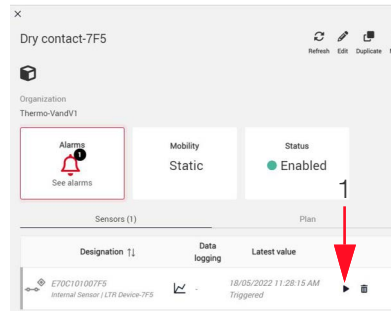


Figure 137. Defining data logging settings for dry contact sensor

3. Enter your system password and click Send to continue.
4. The Start data logging window opens, with several zones (shown below):
 - General sensor properties (2), including indication of current sensor configuration (NO = Normally Open; NC = Normally Closed).
 - Specific parameters for this data logging session (3).

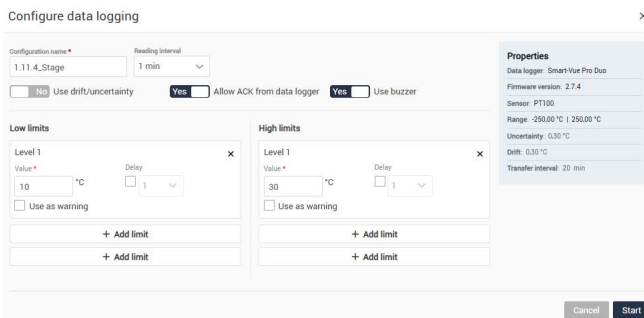


Figure 136. Dynamic calculation of time before alarm occurs.

If a reading exceeds these limits when data logging is running (and the delay is reached, if configured), you will be notified of the alarm by a color change on the data logger screen and outer ring, and via the system’s alert mechanism.

While the data logger is in an alarm state, the Smart-Vue Pro data logger buzzer will also emit an audio alarm when plugged into AC power.

Dry Contact Input Sensors (Smart-Vue Pro Duo/Quatro Data Logger Only)

To start data logging for a dry contact input sensor on a Smart-Vue Pro Duo/Quatro data logger:

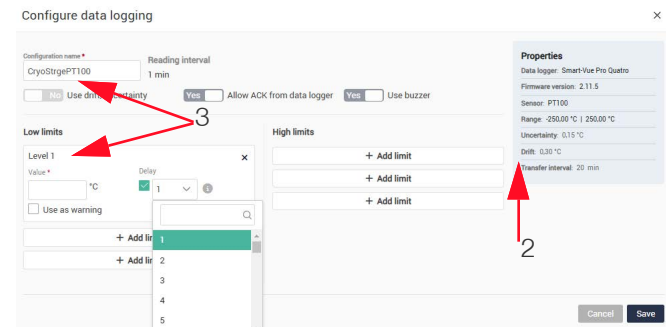


Figure 138. You may configure up to three alarm delay times

Define the settings as described for the fields as follows:

Configuration name: Assign a name for the data logging session.

Delay(s) before alarm: Choose the desired time from the pull-down list (from 0 seconds to 60 minutes). You may click (+) to add up to three delay levels. Each delay may be assigned to a different alert notification (as described in **Configuring Alert Rules**).



CAUTION: If you do not set any delay, the sensor never enters an alarm state. The tile in Watch Mode does not turn red when the sensor state changes.

Reading is continuous, with every loop opening and closing action recorded in data logging. That information is sent to the server at the programmed transfer interval.

If the loop remains open for a period of time specified for an alert, then the alert is sent immediately upon detection. For example, if data logging is set with a 1-minute alarm delay, and the loop remains open for 1 minute, then the alarm condition is transmitted right away to Smart-Vue Pro web application and the alert notification is sent by the system as defined by alert rules.



CAUTION: If you want to change the configuration from “Normally closed” to “Normally open”, or vice versa, you must first stop data logging in Smart-Vue Pro web application before making the change on the Smart-Vue Pro data logger.

Starting Data Logging

1. Click Start in the lower right-hand corner of the details screen to begin recording sensor readings. The system sends the command to the data logger and then waits for communication to be established.

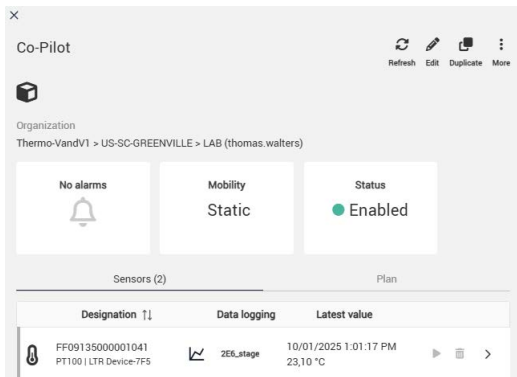


Figure 139. Equipment with data logging in the process of starting

2. Data logging begins at the next programmed transfer interval and the information on the screen is updated:

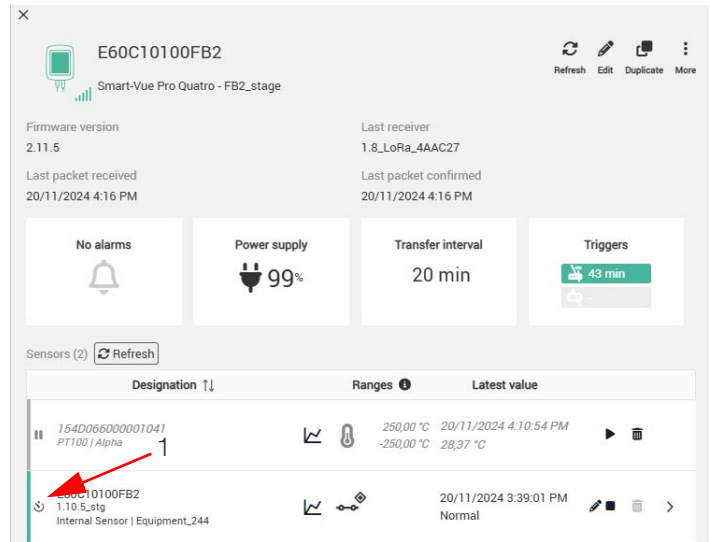


Figure 140. Equipment with data logging started

Data logging in the process of being started is indicated by a timer icon (⌚) in equipment details screen (1). The timer changes to (🕒) when data logging is running.



CAUTION: Once data logging is running, a tooltip with complete details is displayed when you hold your mouse over the data logger name corresponding to the sensor, in several places in the application:

- Sensor list associated with a piece of equipment (📱).
- Main sensor list (🕒).
- Sensor list in data logger details (📱).

For example:

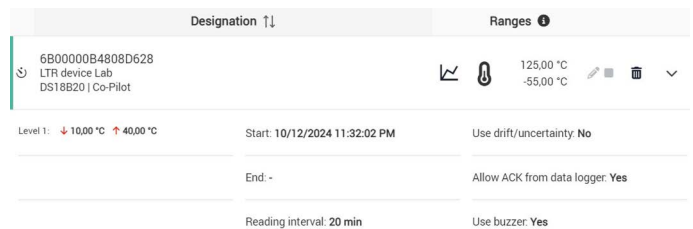


Figure 141. Information shown in pop-up window

Changing Data Logging Settings On-The-Fly

If your user role allows you to start and stop data logging, you may change data logging settings at any time, even while data logging is running. For example, you can change high or low

limits or the data logging session name without stopping data logging. This makes it easy to handle changes and while ensuring continuity in your data logging records.



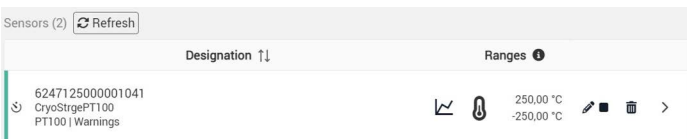
CAUTION: This feature is available for data loggers with firmware 2.7 or higher. In order to change data logging on-the-fly, your user role must allow you to both “Start data logging” and “Stop data logging”, as described in **Adding User Roles**.

You may change data logging settings from the Equipment (🔧), Data loggers (📄), or Sensors (📌) screens. When data logging is running, you will see the Edit icon (✎) as shown below.

Equipment screen:



Data logger Screen:



Sensor screen:

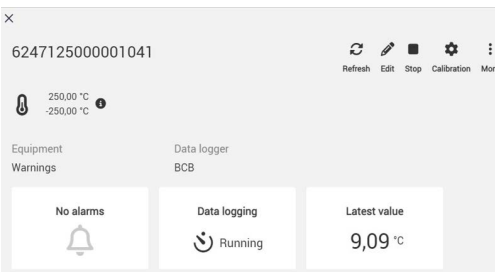


Figure 142. Editing settings without stopping data logging

To change data logging settings:

1. Click on the Edit (1) icon (✎).
2. Enter your password and press Send (or press Send if you are logged in with SSO). This opens the Edit data logging window with your current settings (here, 10°C low limit and 40°C high limit):

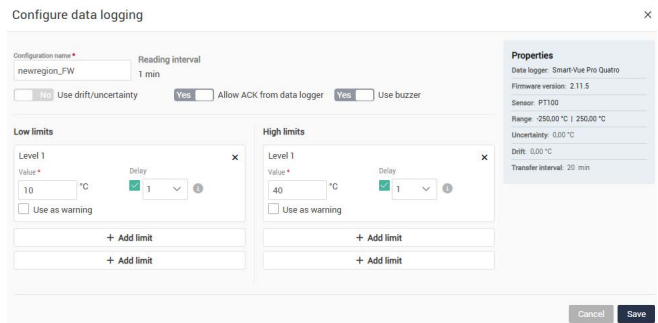


Figure 143. Editing data logging setting

3. Simply change the limit values as desired, for example changing the low limit to 10°C and the high limit to 40°C:

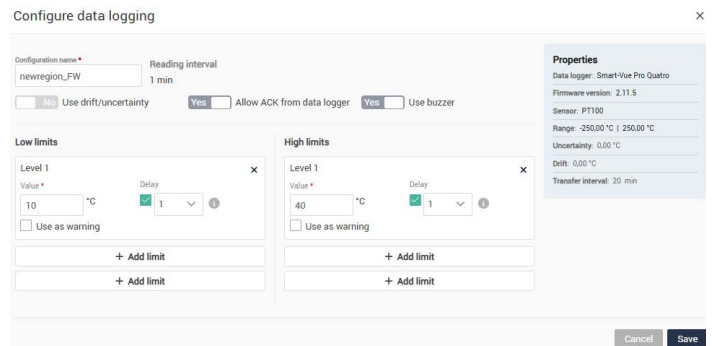


Figure 144. Assign new values for low and high limits

Note : you can also change the data logging session name, but not the reading interval, drift/uncertainty, acknowledgment, or buzzer options. You can change the transfer interval in Data logger → Edit data logger.

4. Press **Save** to apply your changes, which will take effect the next time the data logger is synchronized (either manually via the data logger menu or at the next programmed transfer interval). It may take one or two synchronization cycles to be completely taken into account.


Stopping Data Logging



CAUTION: Data logging can be stopped either via the Equipment or Data logger menu.

You may stop data logging that is currently running:

1. In the main menu, click **Equipment** (🔧) or **Data loggers** (📄) or **Sensors** (📌) in left hand menu. The instructions below are identical in all three cases.

- Click the name of the equipment or data logger for which you want to stop data logging.
- Sensors for which data logging is in progress have a **Stop data logging** button (). Click the button (1) to stop data logging:

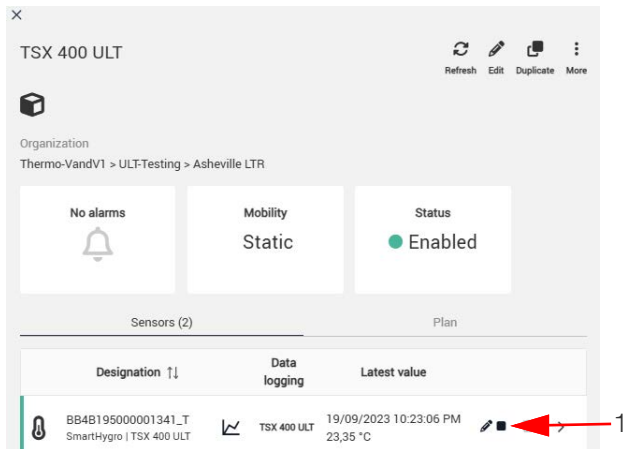


Figure 145. Stopping data logging

- You will be promoted to your action by entering your password in the pop-up window:

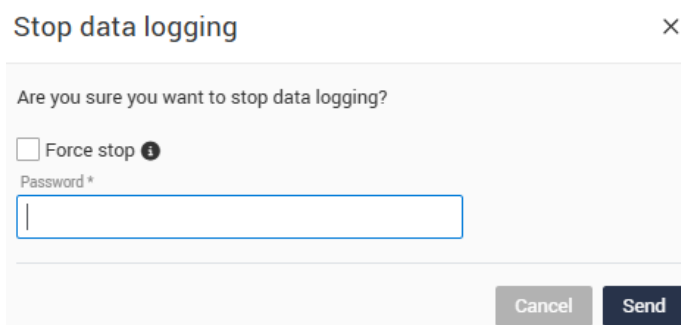


Figure 146. Entering your password to stop data logging

If you select **Force stop**, data logging is stopped at the next programmed transfer interval without retrieving the latest information from the data logger (readings or any other information). Any unretrieved information is lost.

If you do not select **Force stop**, data logging is stopped at the next programmed transfer interval, but all the information is retrieved from the data logger. The operation may take longer with this option.



CAUTION: Do not confuse the data logger's wireless data "transfer" interval, with the sensor "reading" interval configured for each sensor.

- Click Send to stop data logging, or on Cancel to return to the previous screen without making any changes.

Note Regarding Reading Interval vs Transfer Interval

With LoRaWAN wireless communications, do not confuse the data logger's wireless data "transfer" interval, with the sensor "reading" interval configured for each sensor.

Sensor data is first stored in the data logger's internal memory and then transferred wirelessly to the Smart-Vue Pro web application platform at programmed intervals. To preserve data logger battery life under normal operation, transmission to the server occurs periodically, but not at every reading. If you modify settings in Smart-Vue Pro web application platform, the values on the data logger screen are updated when the next transfer interval occurs.

The wireless transfer interval refers to the frequency with which the data logger sends its collected information to the server.

The reading interval refers to the frequency with which the data logger reads its connected sensors.

For example, the data logger could read its sensors every 5 minutes and then send the data every 20 minutes.

Reading intervals can also depend on the data logger type and transfer interval. Here are some specific cases:

- In Bluetooth (BLE) mode, the minimum sensor reading interval for some sensors on Smart-Vue Pro Duo is 5 seconds (Pt100, 4-20 mA).
- In Bluetooth (BLE) mode, the minimum sensor reading interval on Smart-Vue Pro Quatro is 15 seconds.
- In LoRaWAN mode: the minimum reading time depends on the transfer interval: minimum read time = transfer interval/20 (results are rounded up to the nearest minute). For example, with Smart-Vue Pro Duo/Quatro:
 - A transfer interval of 40 minutes supports a minimum read time of 2 minutes.
 - A transfer interval of 20 minutes (default value) supports a minimum read time of 1 minute.
 - A transfer interval of 15 minutes (the minimum value), the minimum read value is 1 minute, due to rounding.

Note: The minimum transfer interval with LoRaWAN connectivity is 15 minutes.

Viewing Sensor Data

Sensor data is first stored in the data logger's internal memory and then transferred wireless to the Smart-Vue Pro platform at programmed intervals. To preserve data logger battery life under normal operation, transmission to the server occurs periodically, but not at every reading. If you modify settings in Smart-Vue Pro, the values on the Smart-Vue Pro data loggers screen will be updated when the next reading interval occurs.

There are several ways to access data collected by a sensor:

Equipment details: Provides equipment details, including graphs.

Sensor list: Sensor readings displayed in a table with data export options.

To access the list of the readings recorded by a sensor:

1. Click **Readings** (📈) in the Equipment, Data Loggers or Sensors screens.
2. A color graph is displayed showing readings recorded by the selected sensor:



Figure 147. Example of a sensor graph

The **Readings** window contains two tabs Graph and Data:

Graph (1): The graph shows readings in a visual format over time. You can display information from several sensors running data logging in a given piece of equipment at the same time by clicking on the Measurement points drop down menu:

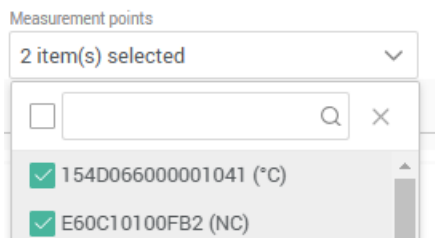


Figure 148. Readings window

Data (2): A list is displayed showing all data and events that occurred throughout the data logging session (readings, time-stamps, start, stop, limits exceeded, technical alarm, etc.).

Displaying Sensor Graph

All sensor readings are shown in graph to track variations over the entire data logging cycle:

- The vertical axis shows the reading value.
- The horizontal axis shows the time scale.
- High and low alarm and warning limits
- High and low alarm limits are by horizontal red dotted lines.
- High and low warnings are indicated by horizontal orange dotted lines.
- Limits can be displayed with Drift and Uncertainty corrections.
- Alarms (high and low limits) and events (technical alarms) are displayed in red color. A key describing different colors is shown at the bottom of the graph.
- Minimum, maximum and average readings calculated during the data logging cycle are shown at the bottom right-hand side of the graph.

Displaying Corrected Limits on Graphs

When you launch data logging, you have the option to take Drift and Uncertainty values into account. These values are stored for each sensor via the Calibration function.

Here is an example of a sensor graph for data logging programmed with two high limits and three low limits, indicated by horizontal red and orange lines (1):

Annotations to Graph Points

You may click on reading points to add comments to a graph, for example to explain an unexpected value or exception in the data logging session.

1. As you move the mouse cursor along a graph, each reading point is indicated by a triangle (▲).

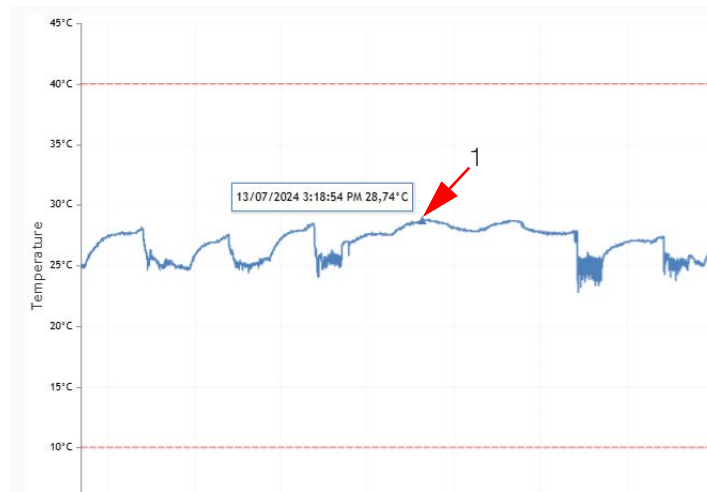


Figure 152. Pop-up label indicates the reading's date / time stamp

2. When you place the cursor directly over the triangle, the cursor becomes a hand symbol.

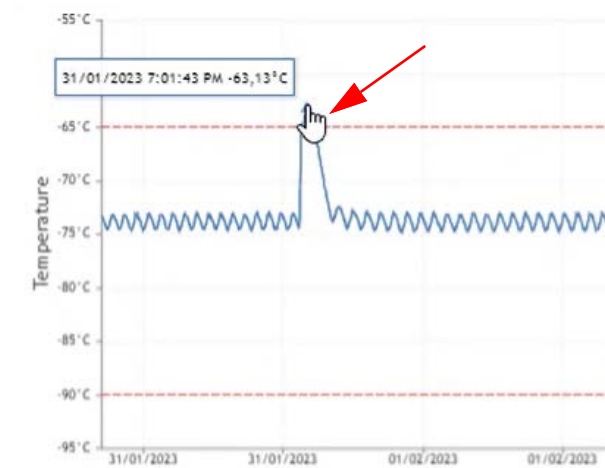


Figure 153. Mouse cursor becomes a hand to click and add a comment

3. Click on the desired point and enter your text in the comment field.

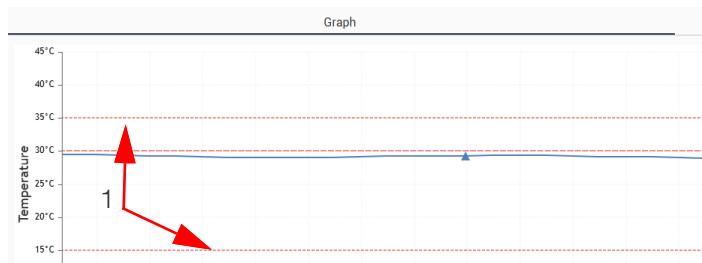


Figure 149. High and low limits shown if programmed

The screen below shows the same data logging session with the high and low limits adjusted to take potential drift and uncertainty into account by clicking Display corrected limits(2):

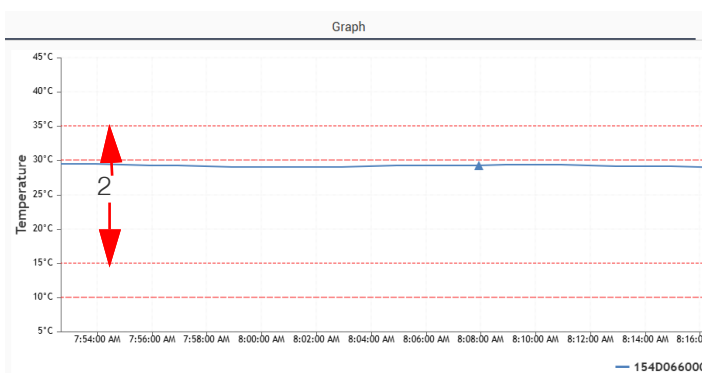


Figure 150. High and low limits corrected for drift and uncertainty

Limit values are adjusted by 2°C, the total of drift plus uncertainty in this example.

Selecting the Display Period

By default, the graph shows readings for the past 7 days.

To adjust the dates for the graph display:

1. Click **Start date** and/or **End date** fields (1) and choose a month, day, and year from the date selection calendars.



Figure 151. Selecting the display period

2. Click (Q) to confirm your choice and refresh the graph.
3. The two scroll buttons next to the **Start** and **End** dates are used to change the period for which you would like to display graphs. Click the arrows to move back or forward by one week.

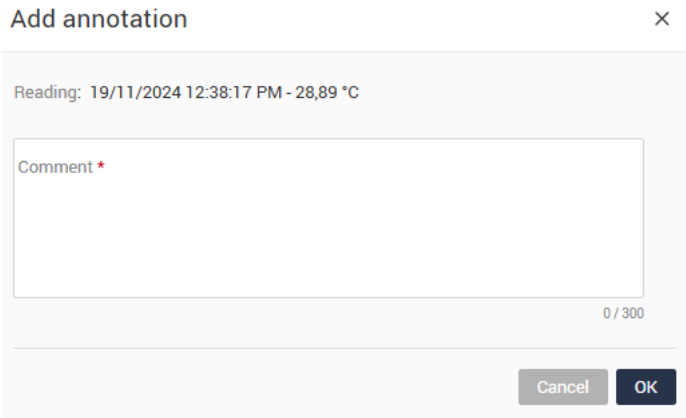


Figure 154. Enter your text in the Comment field

- Click on OK when done, or on Cancel to close the window without saving changes. Reading points with annotations are indicated by a blue triangle that remains in place.

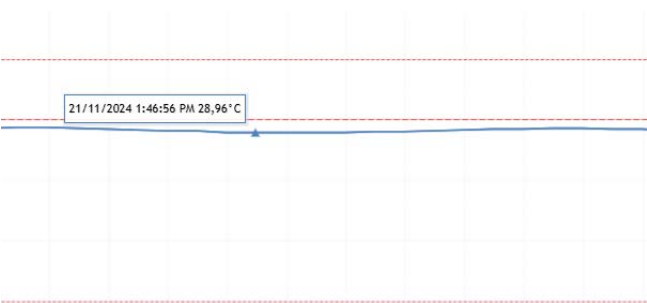


Figure 155. Blue triangle on graph indicates an annotation

- When your mouse cursor hovers over the blue triangle, the details of the reading point and the annotation are displayed in a pop-up window.



Figure 156. Annotation displayed in pop-up in graph window

- The annotation is also displayed in the Data tab. The annotation is timestamped with the time it was created, and placed on the line corresponding to the reading in question.

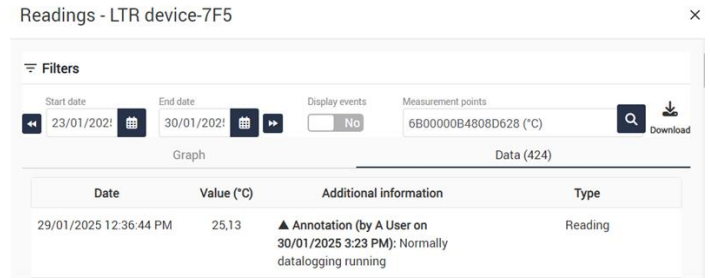


Figure 157. Annotation is displayed Under Additional Information in Data tab

To edit or remove a comment:

- Click on the blue triangle (▲).
- You may edit the text in the Comment field as desired. Click on Remove to delete the annotation, on Cancel to close the window, or on OK to save any changes.



CAUTION: Actions to create, edit, and remove annotations are recorded in the audit trail.

Including Events in Graph Display

You may choose to include events in the graph displays, such as “Data logging started”, “Data logging stopped”, “Low battery alert”, etc.,.

To include events, click **Display events** toggle switch at the top of the window to adjust the display:

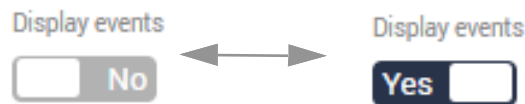


Figure 158. Event display toggle switch

Viewing Paused alarm period

A feature to pause alarms and warnings was introduced in data logger firmware version 2.11, allowing you to pause alarm and warning generation for a specified period of time ranging from 30 minutes to 72 hours. This can be useful when moving equipment or preparing for cleaning operations that would lead to unnecessary alarms and/or warnings. You may resume normal alarm/warning functionality manually at any time from the data logger.



CAUTION: This feature is controlled exclusively via the Datalogger user interface. You will find more details in the datalogger user guide.

To see the paused period when viewing graphs in Smart-Vue Pro web application, you must include events in the graph display as described in the previous section.



Figure 159. Gray zone shows period when alarms were paused

You can see when the alarm pause was taken into account by the system (1) and when it ended (2). This information is also recorded in the audit trail.

Zoom and Control Tools

When you move the mouse cursor (1) over the graph, a tool-tip displays reading values and timestamps:

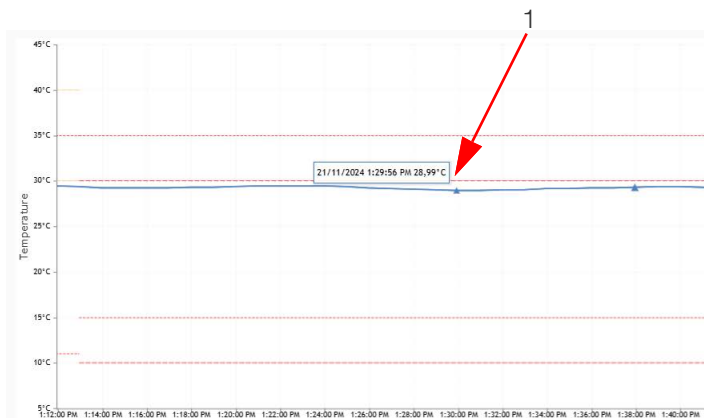


Figure 160. Reading graph with high and low limits

If **Display events** is selected, events are indicated with the appropriate background color for warnings and alarms (light orange for warnings or light red for alarms) on the graph. Move the cursor over the graph to see event details (2):

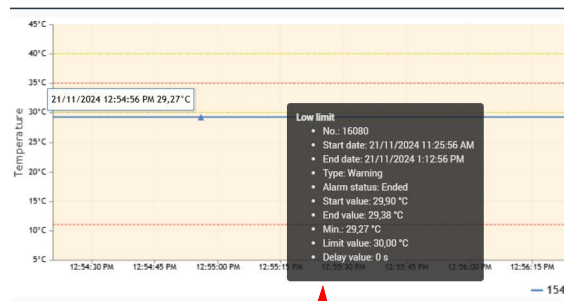


Figure 161. Graph with event details

You may zoom into the graph to examine details more closely:

1. Left-click and hold the mouse button and drag the cursor over the desired location in the graph.
2. Release the mouse button to zoom in on the selected area (3).

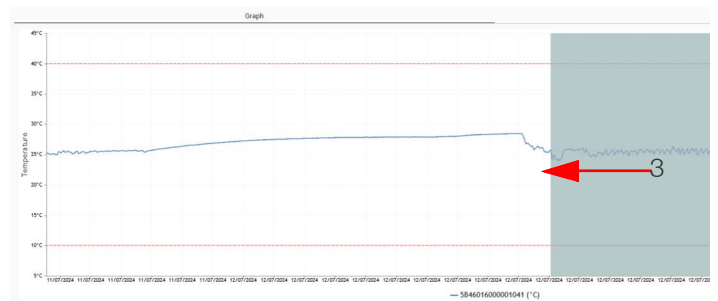


Figure 162. Selecting the zoom area

The selected area is enlarged.

3. Repeat these steps to get a higher zoom level if needed.

As you zoom in on the graph, additional tools are shown in the upper right-hand corner of the graph (4):

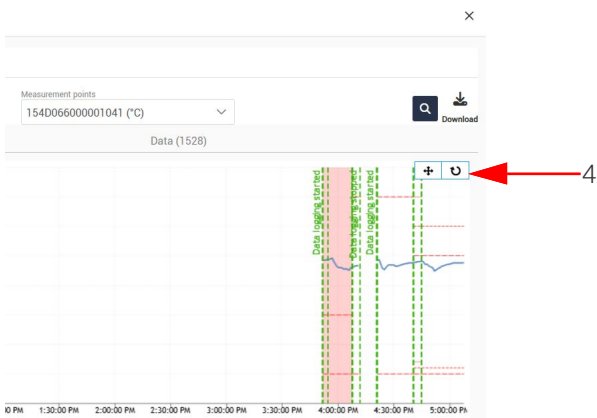



Figure 163. Zoom and Control tools

Table 8. Zoom and Control tools

Icon	Description
	Enables you to use your mouse to scroll right and left through the graph. When you click this button, the mouse cursor turns into a multi-directional arrow. Then click anywhere on the graph and drag right or left while holding the mouse button to focus on particular areas of the graph.
	Turns off panning mode.
	Clears zoom or pan effects and restores the graph to its original scale.

Exporting sensor data

You may generate a report based on the filters applied to the graph display by clicking on the **Download** button () at the top of the screen and selecting the format (Excel, PDF, Word, or text). This is described in more detail in **Sensor reading reports**.

Multigraph views across different equipment

Smart-Vue Pro web application features a multigraph view that enables you to superimpose readings from multiple pieces of equipment or different dataloggers at the same time. This offers a practical way to compare equipment performance over a given period of time, and export a report in PDF format.

Here is a sample multigraph view:





Figure 164. Smart-Vue Pro web application of multigraph display

The key elements on this screen are:

- (1) Date and time range
- (2) Name to use when exporting graphs in PDF format
- (3) Measurement points to display
- (4) Serial numbers are clickable to show or hide curves
- (5) Summary with key data for each measurement point

Follow this two-step process to create a multigraph view:

1. In the main menu, select Home () → Multigraph () views.
2. Click on the top checkbox (1) to select all displayed equipment, or select individually by clicking in the checkbox(es) for the equipment you want.

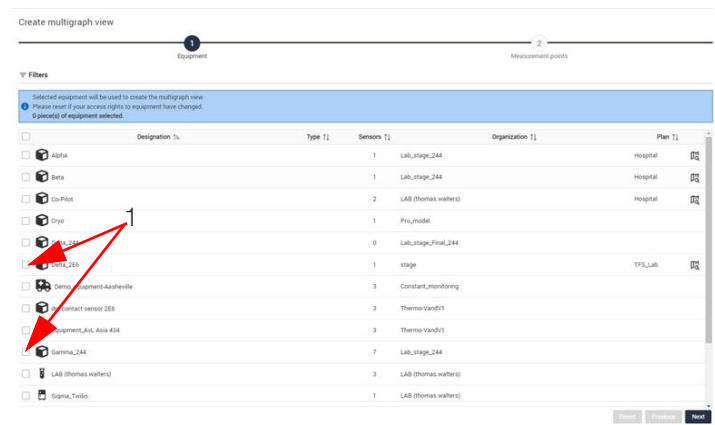


Figure 165. Selecting equipment for multigraph display

3. You can click on Reset to clear your selection, or select the desired equipment and click on Next to continue

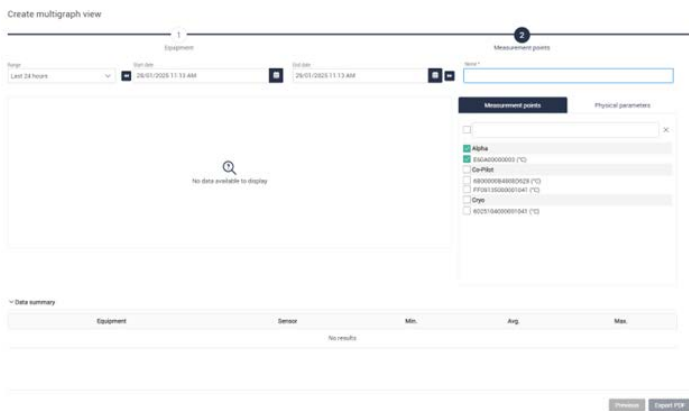


Figure 166. Selecting date range and measurement points

4. Select the desired date and time range



Figure 167. Date and time range selection

Here, you may choose a preset range (from 24 hours to 1 month), or enter start and end dates using the calendar icons (📅). Use the arrow buttons (⏪) buttons to shift the selected period back or forward in time, with a maximum range of one month.

5. Then select the measurement points to include:

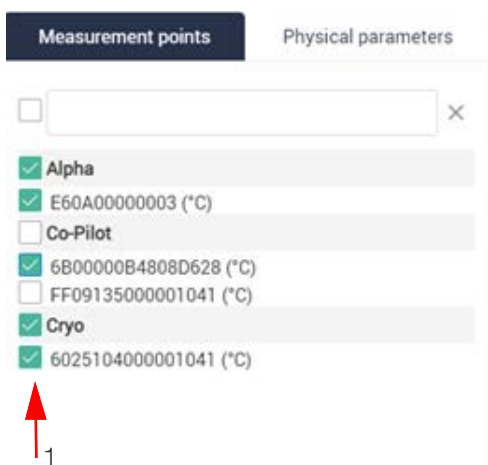


Figure 168. Selecting measurement points for multigraph display

6. Click on the top checkbox to select all displayed equipment and measurement points, or make individual selections.



CAUTION: You can display up to ten measurement points simultaneously.

7. Enter a sensor serial number in the field (2) if you want to filter the list. You may click on the icon to clear the field.

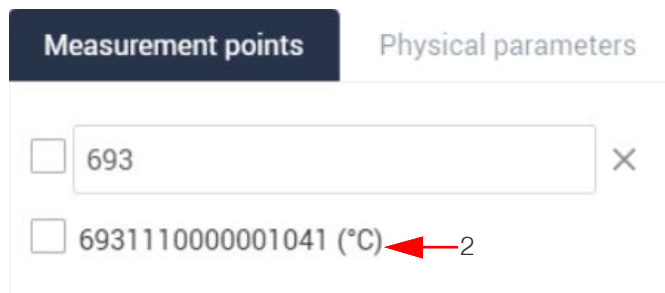


Figure 169. Filtering by sensor serial number

8. If you have included different sensor types, such as temperature and humidity, the Physical parameters tab allows you to select which types you want to display on the fly by clicking on the buttons:

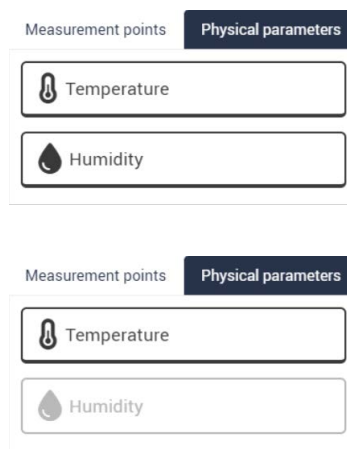


Figure 170. Filtering by sensor serial number

9. Graphs are added as you select measurement points (sensors). Here is an example with three sensor reading curves:

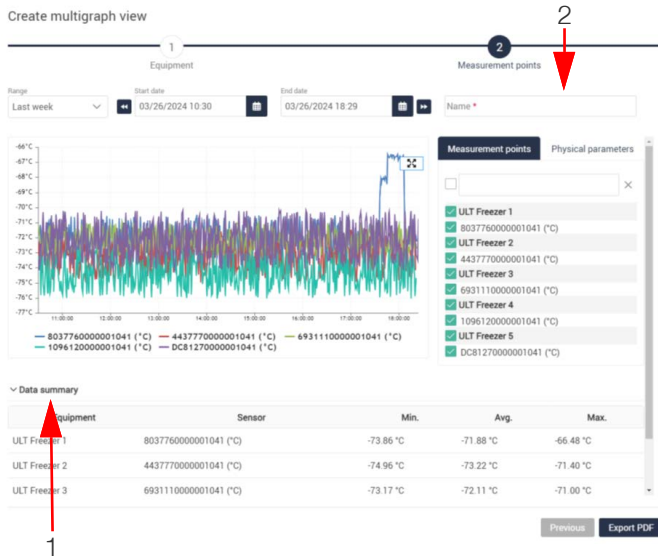


Figure 171. Superimposed measurement point graphs

10. Click on Data summary (1) to fold or unfold key details about each sensor, notably the minimum, average, and maximum values.

11. To create a report, enter a name for the report in the Name field (2), then click on Export PDF. The PDF will be generated with the name in your computer's downloads folder.

12. For your convenience, you may click on the sensor numbers beneath the graphs (3) to show them or erase them from the display. Even when hidden from the display, data from the selected sensors will still be included in the summary and report.

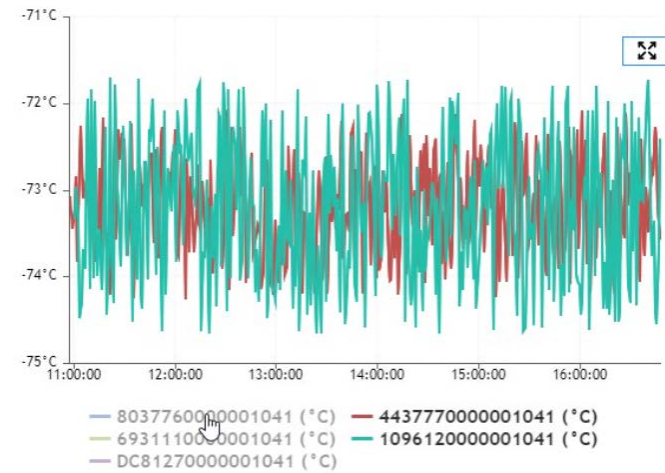
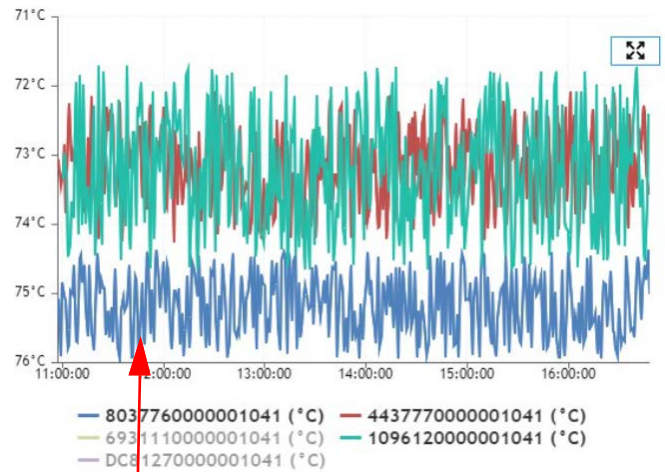


Figure 172. Superimposed measurement point graphs

List of Sensor Readings

1. Click **Readings** icon (📈) via the Equipment, Data Loggers or Sensors menu:

Sensors (133)

☰ Filters

Type ↑↓	Designation ↑≡	Data logging
CO2	0229016000201741_C SmartCO2	📈

or

Equipment (15)

☰ Filters

Designation ↑≡	Type ↑↓
Alpha	📈

or

Data loggers (54)

☰ Filters

Type ↑↓	Designation ↑≡
Smart-Vue Pro Quatro	1.7_BCA_datalogg...

Figure 173. Accessing sensor data

2. Click the Data tab (1):

Readings - LTR device-7F5

☰ Filters

Start date: 15/01/2025 03:52 | End date: 22/01/2025 03:52 | Display events: No | Measurement points: 6B00000B4808D628

Graph | Data (503)

Date	Value (°C)	Additional information	Type
22/01/2025 3:32:02 PM	24,25		Reading
22/01/2025 3:12:02 PM	24,25		Reading
22/01/2025 2:52:02 PM	24,13		Reading
22/01/2025 2:32:02 PM	24,25		Reading

Figure 174. List of readings/events

3. You may include the list of events for the selected sensor using the **Display events (Yes/No)** toggle button (2).

The table includes the following information:

- Event date
 - Reading value
 - Event details
 - Event type
4. You may use the date range selector to adjust the dates for displaying events.

Figure 175. Selecting the date range for displayed data

Use the right and left arrow buttons (◀ and ▶) to move forwards or backwards through the calendar.

Generating Reports

Smart-Vue Pro enables you to export several different reports concerning your equipment.

Downloading Various Reports

Many screens in the application offer a **Download** button (↓), notably those presenting lists of equipment, sensors, alarms, etc. Several format options are displayed when you click the download button (1).

Infrastructure (30)

+ Add | Download | Refresh

☰ Filters

Designation ↑≡	Identifier ↑↓	Organization	Version	Last activity ↑↓
1.11_stage Smart-Vue Pro LoRaWAN	0008004BDFF1	stage_test		31/05/2023 10:49 AM ⬇️ ⬆️ ⬇️ Latency: 219 ms

1

Figure 176. Data export tools

The available options are:

Excel (.xlsx): Creates XLSX format file that you can open with Microsoft Excel, including summary and detailed sensor data.








PDF (.pdf): Creates a complete PDF file of the information displayed on the screen, including summary and detailed sensor data.

Word (.docx): Creates DOCX format file that you can open with Microsoft Word, including summary and detailed sensor data.

Data (.txt): Creates a text file in CSV format with detailed sensor readings.

Downloading various reports (.txt)

The following table indicates the report format options available in the application:

Application screen	MS Excel (.xlsx)	.CSV	PDF	PDF summary pages only	MS Word (.docx)	Data (.txt)
Equipment list ()	X		X		X	
Alarms ()	X		X		X	X
Audit trail ()	X		X		X	
Data logger list ()	X		X		X	X
Sensor list ()		X				
Sensor readings ()	X		X	X	X	X
Infrastructure list ()	X		X		X	




Sensor reading reports

This section describes the different options for creating sensor reports.



CAUTION: If you plan on generating several copies of your report in different file formats, or multiple different reports, make sure your browser is not configured to block multiple downloads from the site.

To create a sensor report:

1. Click on Readings () in any of the Equipment, Data loggers, or Sensors screens to open the sensor readings screen described in the previous section.
2. The default date range covers the past week. You may use the filters to select a different date range, then click on () to apply the change.
3. Click on Download () and choose from the available options:

Excel (.xlsx): Creates an XLSX format file that you can open with Microsoft Excel, including a summary and the sensor data.

PDF (.pdf): Creates a complete PDF file of the information displayed on the screen, including detailed sensor data.

PDF – Summary (PDF): Creates a two-page PDF file with summary information about the sensor, but not the data.

Word (.docx): Creates a DOCX format file that you can open with Microsoft Word, including a summary and the sensor data.

Data (.txt): Creates a text file in CSV format.

```

SerialNumber;Name;InventoryCode;Description;
E40C0104576D;Incubator 1;123451;Lab data logger 1;
E40C01045731;Incubator 2;123452;Lab data logger 2;
E40C0104576F;Incubator 3;123453;Lab data logger 3;
E40C0104577B;Incubator 4;123454;Lab data logger 4;
E40C0104577A;Incubator 5;123455;Lab data logger 5;
    
```

Figure 177. Sample CSV report with sensor data

Dry Contact Input Sensor Listing

When downloading readings in Excel, PDF, or Word format for dry contact input sensors, the sensor serial number has a suffix of "-1" or "-2".

As indicated below, Normally Open (NO) corresponds to the "-1" suffix, and Normally Closed (NC) corresponds to "-2".

thermo scientific Readings

Report Filters

Start Date : 01/08/2024 04:38 PM
 End Date : 15/01/2025 04:38 PM
 Sensors : E70C111002E6-1 Dry_Contact_NO

Alarms & Warnings Summary

Type	Total	Ongoing
High limit alarms	0	0
Low limit alarms	0	0
High limit warnings	0	0
Low limit warnings	0	0
Technical alarms	21	0
Dry Contact alarms	4	0
Dry Contact warnings	0	0
Total	25	0

Figure 179. Dry contact input sensor serial number with suffix in report (1of2)

Date	Value	Unit	Date	Value	Unit	Date	Value	Unit	Date	Value	Unit
08/01/2025 04:02:12 PM	25.84	°C	08/01/2025 04:03:12 PM	25.85	°C	08/01/2025 04:04:12 PM	25.86	°C	08/01/2025 04:05:12 PM	25.86	°C
08/01/2025 04:06:12 PM	25.82	°C	08/01/2025 04:07:12 PM	25.68	°C	08/01/2025 04:08:12 PM	25.54	°C	08/01/2025 04:09:12 PM	25.44	°C
08/01/2025 04:10:12 PM	25.41	°C	08/01/2025 04:11:12 PM	25.34	°C	08/01/2025 04:12:12 PM	25.24	°C	08/01/2025 04:13:12 PM	25.13	°C
08/01/2025 04:14:12 PM	25.06	°C	08/01/2025 04:15:12 PM	25.02	°C	08/01/2025 04:16:12 PM	25.07	°C	08/01/2025 04:17:12 PM	25.13	°C
08/01/2025 04:18:12 PM	25.21	°C	08/01/2025 04:19:12 PM	25.30	°C	08/01/2025 04:20:12 PM	25.40	°C	08/01/2025 04:21:12 PM	25.42	°C
08/01/2025 04:22:12 PM	25.38	°C	08/01/2025 04:23:12 PM	25.33	°C	08/01/2025 04:24:12 PM	25.17	°C	08/01/2025 04:25:12 PM	25.06	°C
08/01/2025 04:26:12 PM	25.00	°C	08/01/2025 04:27:12 PM	25.09	°C	08/01/2025 04:28:12 PM	25.10	°C	08/01/2025 04:29:12 PM	25.16	°C
08/01/2025 04:30:12 PM	25.23	°C	08/01/2025 04:31:12 PM	25.33	°C	08/01/2025 04:32:12 PM	25.38	°C	08/01/2025 04:33:12 PM	25.38	°C
08/01/2025 04:34:12 PM	25.33	°C	08/01/2025 04:35:12 PM	25.23	°C	08/01/2025 04:36:12 PM	25.12	°C	08/01/2025 04:37:12 PM	25.12	°C
08/01/2025 04:38:12 PM	25.07	°C	08/01/2025 04:39:12 PM	25.02	°C	08/01/2025 04:40:12 PM	25.00	°C	08/01/2025 04:41:12 PM	25.06	°C
08/01/2025 04:42:12 PM	25.13	°C	08/01/2025 04:43:12 PM	25.21	°C	08/01/2025 04:44:12 PM	25.28	°C	08/01/2025 04:45:12 PM	25.35	°C
08/01/2025 04:46:12 PM	25.42	°C	08/01/2025 04:47:12 PM	25.48	°C	08/01/2025 04:48:12 PM	25.48	°C	08/01/2025 04:49:12 PM	25.33	°C
08/01/2025 04:50:12 PM	25.27	°C	08/01/2025 04:51:12 PM	25.17	°C	08/01/2025 04:52:12 PM	25.09	°C	08/01/2025 04:53:12 PM	24.96	°C
08/01/2025 04:54:12 PM	24.93	°C	08/01/2025 04:55:12 PM	24.93	°C	08/01/2025 04:56:12 PM	24.98	°C	08/01/2025 04:57:12 PM	25.04	°C
08/01/2025 04:58:12 PM	25.10	°C	08/01/2025 04:59:12 PM	25.17	°C	08/01/2025 05:00:12 PM	25.24	°C	08/01/2025 05:01:12 PM	25.33	°C
08/01/2025 05:02:12 PM	25.35	°C	08/01/2025 05:03:12 PM	25.31	°C	08/01/2025 05:04:12 PM	25.27	°C	08/01/2025 05:05:12 PM	25.16	°C
08/01/2025 05:06:12 PM	25.02	°C	08/01/2025 05:07:12 PM	24.96	°C	08/01/2025 05:08:12 PM	24.97	°C	08/01/2025 05:09:12 PM	24.98	°C
08/01/2025 05:10:12 PM	25.03	°C	08/01/2025 05:11:12 PM	25.09	°C	08/01/2025 05:12:12 PM	25.16	°C	08/01/2025 05:13:12 PM	25.20	°C
08/01/2025 05:14:12 PM	25.28	°C	08/01/2025 05:15:12 PM	25.28	°C	08/01/2025 05:16:12 PM	25.23	°C	08/01/2025 05:17:12 PM	25.09	°C
08/01/2025 05:18:12 PM	24.85	°C	08/01/2025 05:19:12 PM	24.90	°C	08/01/2025 05:20:12 PM	24.91	°C	08/01/2025 05:21:12 PM	24.97	°C
08/01/2025 05:22:12 PM	25.04	°C	08/01/2025 05:23:12 PM	25.14	°C	08/01/2025 05:24:12 PM	25.19	°C	08/01/2025 05:25:12 PM	25.27	°C
08/01/2025 05:26:12 PM	25.27	°C	08/01/2025 05:27:12 PM	25.21	°C	08/01/2025 05:28:12 PM	25.07	°C	08/01/2025 05:29:12 PM	25.02	°C
08/01/2025 05:30:12 PM	24.90	°C	08/01/2025 05:31:12 PM	24.79	°C	08/01/2025 05:32:12 PM	24.85	°C	08/01/2025 05:33:12 PM	24.62	°C



Min	Max	Average	Standard Deviation	Activation Energy	MKT
24.25 °C (09/01/2025 04:53:12 AM)	28.96 °C (12/01/2025 03:00:12 PM)	26.90 °C	1.25 °C	83.14472 kJ/mol	26.98 °C

Date	Value	Unit	Date	Value	Unit	Date	Value	Unit	Date	Value	Unit
08/01/2025 04:02:12 PM	25.84	°C	08/01/2025 04:03:12 PM	25.85	°C	08/01/2025 04:04:12 PM	25.86	°C	08/01/2025 04:05:12 PM	25.86	°C
08/01/2025 04:06:12 PM	25.82	°C	08/01/2025 04:07:12 PM	25.68	°C	08/01/2025 04:08:12 PM	25.54	°C	08/01/2025 04:09:12 PM	25.44	°C
08/01/2025 04:10:12 PM	25.41	°C	08/01/2025 04:11:12 PM	25.34	°C	08/01/2025 04:12:12 PM	25.24	°C	08/01/2025 04:13:12 PM	25.13	°C
08/01/2025 04:14:12 PM	25.06	°C	08/01/2025 04:15:12 PM	25.02	°C	08/01/2025 04:16:12 PM	25.07	°C	08/01/2025 04:17:12 PM	25.13	°C
08/01/2025 04:18:12 PM	25.21	°C	08/01/2025 04:19:12 PM	25.30	°C	08/01/2025 04:20:12 PM	25.40	°C	08/01/2025 04:21:12 PM	25.42	°C
08/01/2025 04:22:12 PM	25.38	°C	08/01/2025 04:23:12 PM	25.33	°C	08/01/2025 04:24:12 PM	25.17	°C	08/01/2025 04:25:12 PM	25.06	°C

thermo scientific Readings

Created by Ashwin Rodde (ashwin.rodde@avent.com)

15/01/2025 10:23:14 AM (GMT +0000)

Report Filters
Start Date : 08/01/2025 04:02 PM
End Date : 15/01/2025 04:02 PM
Equipment : Gamma_244 (Thermo-VandV1 - MYSR 244 - Lab_stage_244)
Sensors : 5704019000002941-2

Alarms & Warnings Summary						
Type	Total	Ongoing	Acknowledged	Duration	%	Longest Duration
High limit alarms	0	0	0			
Low limit alarms	0	0	0			
High limit warnings	0	0	0			
Low limit warnings	0	0	0			
Technical alarms	0	0	0			
Dry Contact alarms	0	0	0			
Dry Contact warnings	0	0	0			
Total	0	0	0	00 h 00 min 00 s	0.00%	00 h 00 min 00 s

Figure 178. Sample report with summary pages and sensor data

Report Filters

Start Date : 04/06/2024 04:41 PM
 End Date : 15/01/2025 04:41 PM
 Sensors : E70C111002E6-2 Dry_Contact_NC

Alarms & Warnings Summary

Type	Total	Ongoing
High limit alarms	0	0
Low limit alarms	0	0
High limit warnings	0	0
Low limit warnings	0	0
Technical alarms	1	0
Dry Contact alarms	3	0
Dry Contact warnings	0	0
Total	4	0

Figure 180. Dry contact input sensor serial number with suffix in report (2of2)

Audit Trail

The audit trail is a key feature for traceability in equipment monitoring solutions, notably with respect to the FDA's CFR Part 11 guidelines. Smart-Vue Pro tracks every system action in a non-modifiable list that provides complete details about system events, such as:

- Alarms
- User login/logout
- Configuration changes
- New equipment/devices/sensors
- Profile updates
- Alert rule creation/modification/testing
- Data logging start/stop
- System messages
- Password changes
- Application version updates
- Etc.

To view your system's audit trail:

1. Click **Reports** (📄) **Audit trail**.
2. Here you may click:

- (1) To open filter options and refine the display by choosing the types of information you want to see.
- (2) To download an XLSX, PDF or DOCX version of the displayed list.
- (3) Sort: click on the icons to sort by Date or User name.

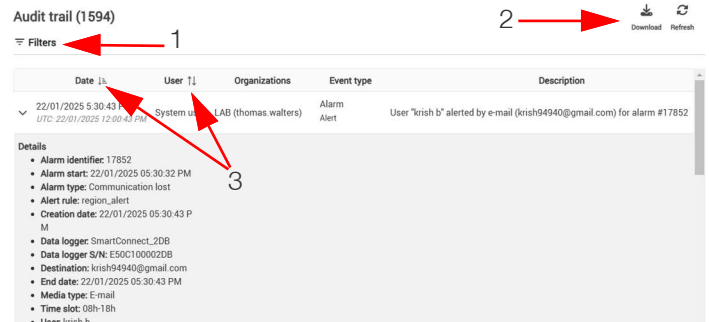


Figure 181. Audit trail list

3. The header fields show the event date, user, type, and description. You may sort (4) the list by date or user by clicking the headers using your mouse.
4. You may expand any event item by clicking on (5) for details on a particular event, as shown here:

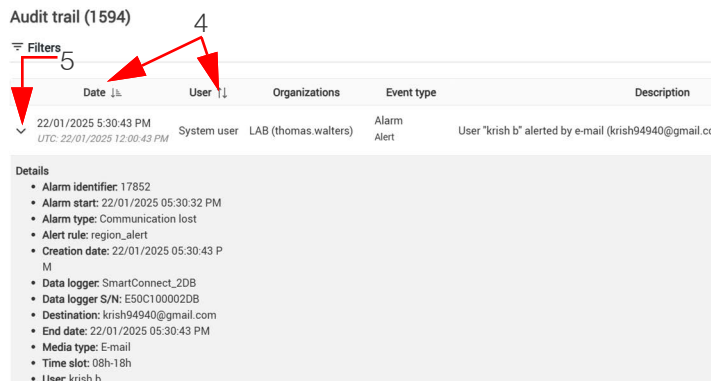


Figure 182. Complete details for a specific event

For some audit trail items, the Old value and New value fields (4) show information that has changed:

Event type	Description
Data logging State change	Data logging session "1.10.5_stg" stopped on data logger "FB2_stage"

perty name	Old value	New value
		21/11/2024 04:03:14 PM
	Stopping	Stopped

Figure 183. Old and new values shown when relevant

Exporting the Audit Trail

As described above in section **Downloading Various Reports**, you may also download audit trail information in XLSX, PDF or DOCX format. The following figure shows a sample first page from a PDF download:

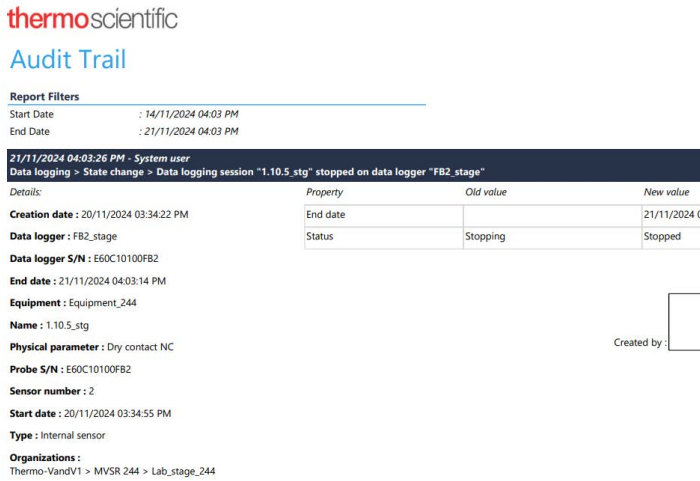


Figure 184. Downloading an audit trail report

Note: On the Audit Trail page, if a filter is applied and no date range is set during export, then only the last week of data is exported by default.

Filtering The Audit Trail Display

When looking at the audit trail, you may wish to filter the display to see specific events that meet certain criteria.

To filter the list:

1. Click on Filters (1) and then select the filter(s) you would like to apply (2):

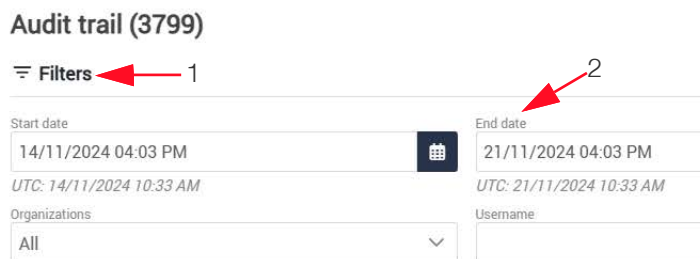


Figure 185. Filtering the audit trail display

The available filters are as follows (click on the magnifying glass button to apply)

Table 9. Filter Option

Filter option	Description
Start date	Indicate the date and time at which you would like the list to start.
End date	Indicate the date and time at which you would like the list to end.
Organizations	By default, this is set to All, to display all events across your entire organization. You may type the first characters or full name of the organizational node(s) you are looking for and or scroll through the pull-down menu to select the organizational node(s) you want.
Username	You may type the first characters or full name of the User associated with the event.
Types	By default, this is set to All, to display all entries. The pull-down list contains many options, such as Alarm, Alert rule, Authentication mode, Company, and more.
Subtypes	By default, this is set to All, to display all event subtypes. You may specify various criteria related to your choice for Types
Search	You may enter text to use as search criteria

2. Apply filters by clicking on the magnifying glass.
3. You may clear all applied filters by clicking on Refresh . Filters are also reset to their default settings when you refresh the page (pressing the F5 key in most browsers) or when you go to another page in the application.

Alert Devices

The Smart-Vue Pro system supports several “electronic” alert notification mechanisms, notably:

- E-mail (native to all Smart-Vue Pro systems).
- SMS/Text message (optional via Smart-Vue Pro Alert).
- Automated voice call (optional via Smart-Vue Pro Alert).

In addition, you may use hardware alert devices via LoRaWAN® wireless technology:



Figure 186. Smart Siren (audio & visual alerts)



Figure 187. Smart Remote Contact (triggers an external smart remote contact device connect)



This chapter describes adding the hardware devices to your system.

Smart Siren



WARNING: Siren devices may emit sound levels that could damage hearing. Use caution when using the Smart Siren by turning down the volume and then adjusting as appropriate.

To add a Smart Siren to your system:

1. Click **Infrastructure** () in the left-hand menu, then **Add** ().
2. In the screen shown below, fill in the fields to create the new Smart Siren:

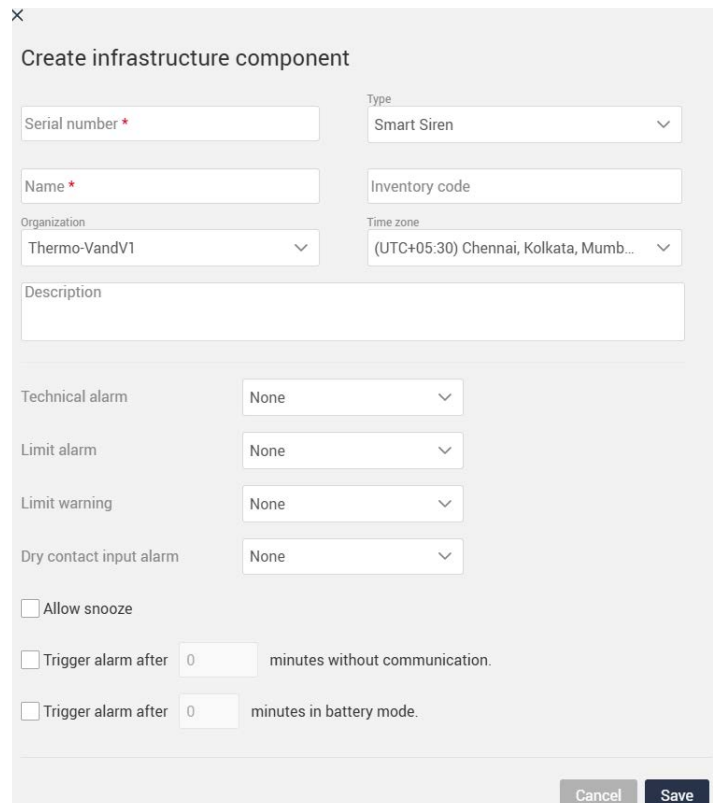
A screenshot of a web form titled "Create infrastructure component". The form includes fields for "Serial number *", "Name *", "Organization" (set to "Thermo-VandV1"), "Type" (set to "Smart Siren"), "Inventory code", "Time zone" (set to "(UTC+05:30) Chennai, Kolkata, Mumb..."), and "Description". Below these are dropdown menus for "Technical alarm", "Limit alarm", "Limit warning", and "Dry contact input alarm", all set to "None". There are also checkboxes for "Allow snooze", "Trigger alarm after 0 minutes without communication.", and "Trigger alarm after 0 minutes in battery mode.". At the bottom right are "Cancel" and "Save" buttons.

Figure 188. Adding a Smart Siren to your system

Serial number: Enter the serial number provided on your product.

Type: Select Smart Siren. If you select the incorrect type of device here, it will be adjusted automatically upon the system's first connection.



CAUTION: We recommend that you test new alert devices by simulating alerts. You may test the siren directly. **More** (⋮) → **Simulate an alarm** once the device has been created, and/or in the full context of testing an alert rule by simulating a sensor alarm (see **Simulating a Sensor Alarm for Testing**).

Name: Enter a name to use as a reference in your system.

Inventory code: Enter an inventory code for this device (optional).

Organization: You must assign the device to a branch of your organization. Choose the level that is appropriate for your hierarchy.

Time zone: Enter the time zone in which the device is located in order to make sure that it is activated at the right moment (as defined in Alert rules).

Description: You may enter information here as desired (optional).

Technical alarm: Choose how the siren should react when receiving a technical alarm, such as a low data logger battery:

None = no reaction

Buzzer and light = Audio sound + red siren light

Light only = Red siren light only

Limit alarm: Choose the siren type when receiving a limit alarm, such as a temperature excursion (None, Buzzer and light, Light only).

Limit warning: Choose how the siren should react when receiving a limit warning, such as a temperature excursion (None, Buzzer and light, Light only).

Dry Contact input alarm: Choose how the siren should react when receiving a dry contact alarm concerning a Smart-Vue Pro data logger (None, Buzzer and light, Light only).

Allow snooze: Enables you to press the snooze button on the siren to turn off the light and/or buzzer until the next alarm occurs.

Trigger alarm after [X] minutes without communication:

The system checks communication with all devices periodically. If the system fails to communicate with the siren, and then fails again after "X" minutes that you specify, an alarm is triggered (such as an e-mail or text message).

Trigger alarm after [X] minutes on battery mode:

If the siren switches from AC power to battery mode, an alarm is triggered after the number of minutes you specify here.

The new siren is listed in the Infrastructure list shown here:

Designation ↑↓	Identifier ↑↓	Organization	Version	Last activity ↑↓
Smart Siren Smart Siren	E61111000017	Lab_stage_244	2.7.8	22/01/2025 3:35 PM

Figure 189. Siren shown in Infrastructure list

Testing your Smart Siren

We recommend that you test any newly installed alert devices to ensure smooth operation in your context. To test the siren:

1. Click the siren name in the list.
2. Click **More** (⋮) → (🔔) **Simulate an alarm**.

Note: This alarm is useful for testing the siren device itself, outside the context of any alert rules.

3. Confirm details in the window that opens:

Simulate an alarm [X]

Infrastructure
AvL Smart Siren

Date
15/01/2025 12:43 PM

Alarm or warning type
Technical - Communication lost

Cancel Send

Figure 190. Details for simulating an alarm

Use the drop-down list to choose one of the available alarm types for the siren: "Technical – Communication lost", "Technical – Lost power supply", or "Technical – Low Battery".

4. Click **Send** to launch the test, or **Cancel** to return to the previous window without taking any action.

Other Smart Siren Functions

Once you have added the siren to your system, you may include it in alert rules to notify users in case of alarms.

Alarms & Alerts provides details on how to configure alerts. Other functions (1) are available by clicking on the siren in the list, which opens the siren details as shown here:

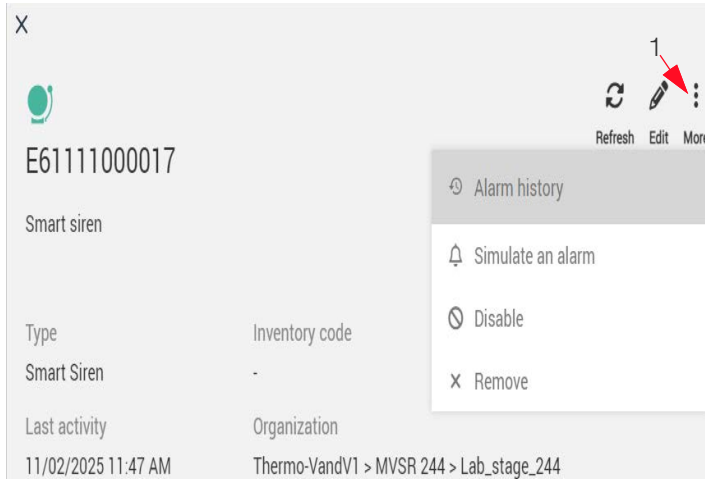


Figure 191. Additional options for Smart Siren management

More	Category	Description
	Refresh	Refreshes the siren information window.
	Edit	Opens the Edit infrastructure window in which you may modify all the same details you entered when creating the siren.

More	Category	Description
	Alarm history	Opens the Alarm list so you can see any alarms involving this device (a filter is applied to show “Infrastructure” with the siren’s serial number) .
	Simulate an alarm	You may use this function to simulate an alarm as described in the previous section.
	Disable	Click to disable the siren’s functionality (in the Infrastructure list, a filter enables you to display or hide disabled infrastructure).
	Remove	Click to remove the siren from your system. The siren is marked as “removed” in the Infrastructure list. If you wish to restore the same siren, you must create it again by entering the serial number.

Smart Remote Contact

To add a Smart Remote Contact device to your system:

1. Click **Infrastructure** () in the left-hand menu, then **Add (+)**.
2. In the screen shown below, enter the fields to create the new Smart Remote Contact:

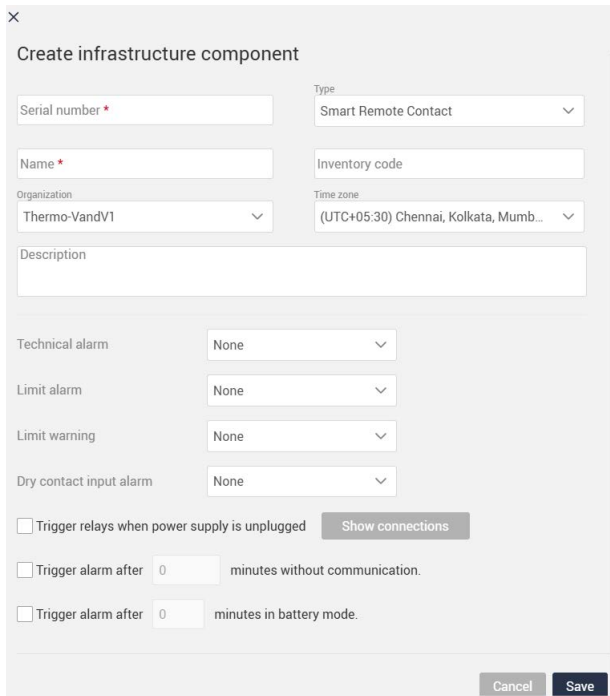


Figure 192. Adding a Smart Remote Contact device to your system

Serial number: Enter the serial number provided on your product.

Type: Select Smart Remote Contact. If you select the incorrect type of device here, it will be adjusted automatically upon the system's first connection.



CAUTION: We recommend that you test new alert devices by simulating alerts. You may test the siren directly via **More (⋮) → Simulate an alarm** once the device has been created, and/or in the full context of testing an alert rule by simulating a sensor alarm (see **Simulating a Sensor Alarm for Testing**).

Name: Enter a name to use as a reference in your system.

Inventory code: If you have an inventory code for this device, you may enter it here (optional).

Organization: You must assign the device to a branch of your organization. Choose the level that is appropriate for your hierarchy.

Time zone: Enter the time zone in which the device is located in order to make sure that it is activated at the right moment (as defined in Alert rules).

Description: You may enter information here as desired (optional).

Technical alarm: Choose how the remote contact device should react when receiving a technical alarm, such as a low data logger battery:

None = no reaction

Relay 1 = Triggers state change on relay 1 (terminals 1-2-3)

Relay 2 = Triggers state change on relay 2 (terminals 4-5-6)

Relay 1 & relay 2 = Triggers state change on both relays

Limit alarm: Choose how device reacts when receiving a limit alarm, such as a temperature excursion (None, Relay 1, Relay 2 or Relay 1 & relay 2).

Limit warning: Choose how the device should react when receiving a limit warning, such as a temperature excursion (None, Relay 1, Relay 2, or Relay 1 & relay 2).

Dry Contact input alarm: Choose how the device should react when receiving a dry contact alarm concerning a Smart-Vue Pro data logger (None, Relay 1, Relay 2, or Relay 1 & relay 2).

Trigger relays when power supply is unplugged:

Determines relay behavior if AC power is lost. You may click **Show connections** to see images of the different wiring options (details on relay open and closed configuration are provided below in section **Terminal Wiring**).

Trigger alarm after [X] minutes without communication:

The system checks communication with all devices periodically. If the system fails to communicate with the device, and then fails again after "X" minutes that you specify, an alarm is triggered (such as an e-mail or text message).

Trigger alarm after [X] minutes on battery mode:

If the remote contact device switches from AC power to battery mode, an alarm is triggered after the number of minutes you specify here.

The new remote contact device is listed in the Infrastructure list shown here:



Designation [↑]	Identifier [↑]	Organization	Version	Last activity [↑]
Smart Remote Contact Smart Remote Contact	E61111000003	Lab_stage_Final_244	2.7.8	20/12/2024 2:32 PM

Figure 193. Remote Contact shown in Infrastructure list

Testing your Smart Remote Contact Device

We recommend that you test any newly installed alert devices to ensure proper operation in your context. To test the remote contact device:

1. Click the Smart Remote Contact name in the list.
2. Click **More** (⋮) → (🔔) **Simulate an alarm**.

Note: This alarm is useful for testing the remote contact device itself, outside the context of any alert rules.

3. Confirm details in the window that opens:

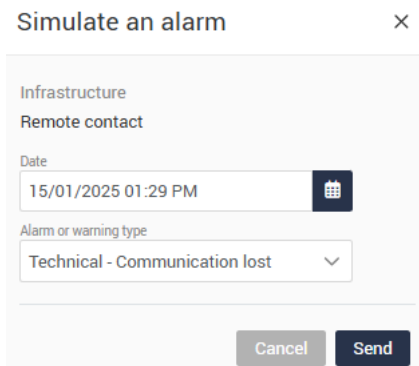


Figure 194. Details for simulating an alarm

Use the pull-down list to choose one of the available alarm types for the siren: “Technical – Communication lost”, “Technical – Lost power supply” or “Technical – Low Battery”.

4. Click **Send** to launch the test, or **Cancel** to return to the previous window without taking any action.

Other Smart Remote Contact Device Functions

Once you have added the remote contact device to your system, you may include it in alert rules to notify users in case of alarms. **Alert Devices** provides details on how to configure alerts. Other functions (1) are available by clicking on the device in the list, which opens details as shown here:

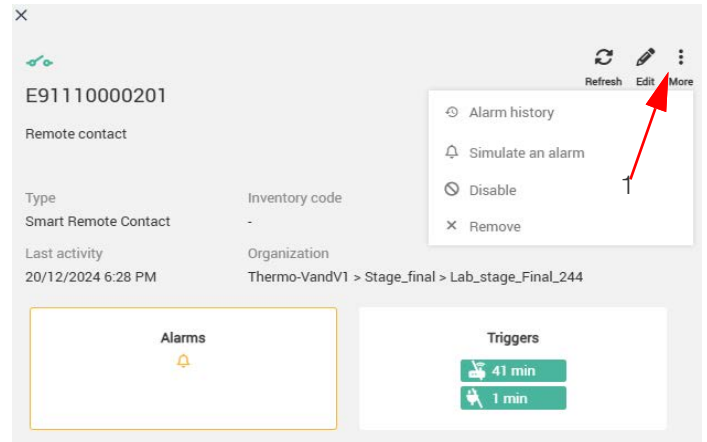









Figure 195. Additional options for Smart Remote Contact management

Table 10. Other functions for Smart Remote Contact

More	Category	Description
	 Alarm history	Opens the Alarm list so you can see any alarms involving this device (a filter is applied to show “Infrastructure” with the device’s serial number)
	 Simulate an alarm	You may use this function to simulate an alarm as described in the previous section.
	 Disable	Click to disable the device’s functionality (in the Infrastructure list, a filter enables you to display or hide disabled infrastructure).
	 Remove	Click to remove the remote contact device from your system. The device is marked as “removed” in the Infrastructure list. If you wish to restore the same siren, you must create it again by entering the serial number.
	 Refresh	Refreshes the Smart Remote Contact information window.
	 Edit	Opens the Edit infrastructure window in which you may modify all the same details you entered when creating the device.

Terminal Wiring

The terminal is wired as shown in the following figure (the images are shown in the Smart-Vue Pro Web application).

When "Trigger relays..." checkbox is not selected.

Default state: Pins 2&3 of relay1 and Pins 5&6 of relay2 are short circuited.

Alarm State: Pins 1&2 of relay1 and Pins 4&5 of relay2 are short circuited.

When "Trigger relays..." checkbox is selected.

Default state: Pins 1&2 of relay1 and Pins 4&5 of relay2 are short circuited.

Alarm State: Pins 2&3 of relay1 and Pins 5&6 of relay2 are short circuited.

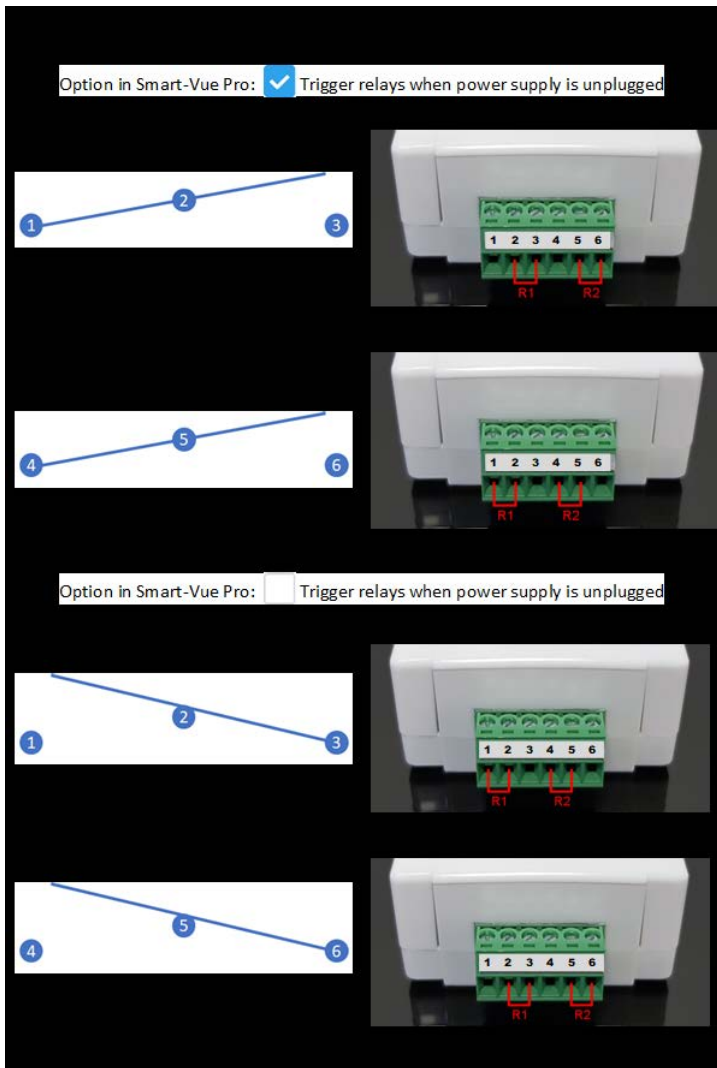


Figure 196. Terminals for open and closed relays

Connect the wires of your external devices to the terminal poles as appropriate for your needs.



CAUTION: The two blocks (1-2-3 and 4-5-6) may be cabled differently from each other. For example, with **Trigger relays when power supply is unplugged** selected, 1-2-3 may be cabled for "Normally open" and 4-5-6 may be cabled for "Normally closed".

Alarms & Alerts

The Smart-Vue Pro monitoring system features an alert mechanism that notifies you if the sensors go outside their expected range or if some type of technical error occurs. For example, if a temperature sensor is configured to monitor a cold-storage unit between 2°C and 8°C, and the sensor reads a temperature of 9°C, then an alarm is shown in Smart-Vue Pro. The system can also send an alert to one or more users if an alarm is detected. It is therefore important to understand the distinction between alarms and alerts.

Handling Alarms

Alarms Highlighted in the Dashboard

The first place you will see an alarm visually is in the dashboard, in the **Watch Mode** screen.

When there are no errors, the equipment tile color is green and Normal is displayed.

Here is a “healthy” system dashboard and equipment details window:

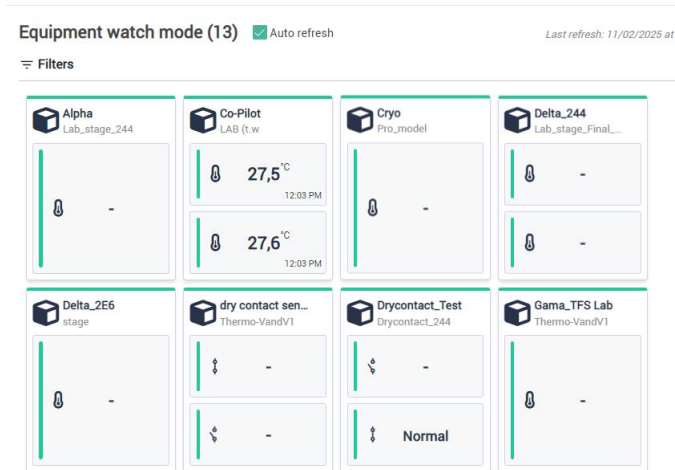


Figure 197. Watch mode screen and equipment details with no alarms

When an alarm occurs, the equipment’s color indicator changes from green to red (when an upper limit is exceeded, or a low limit is exceeded, or for a technical alert) or orange for warnings, which do not require acknowledgment.

The alarm indicators show:

- On the main screen, the number of pieces of equipment currently with an alarm.
- On the equipment details screen, the type of alarm.

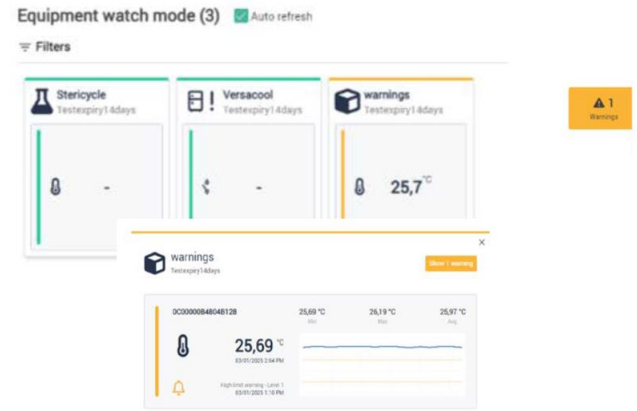


Figure 198. Dashboard and equipment details with a limit warning

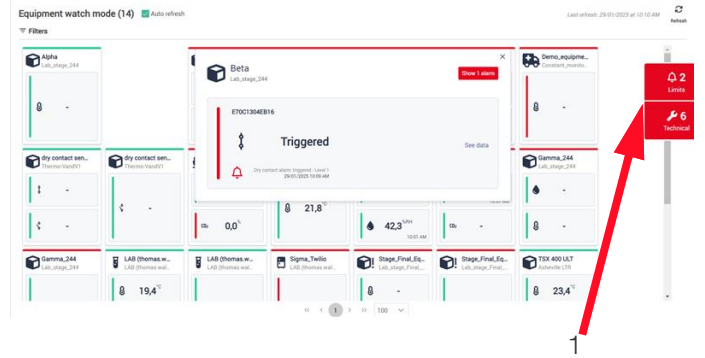


Figure 199. Dashboard and equipment details with an alarm

The alarm counters (1) increment to show:

1. On the main screen, the number of alarms currently on an equipment.
2. On the equipment details screen, the number of alarms currently on the equipment (i.e. on different sensors at the same time).

Viewing Alarm Details

When you see an equipment with errors:

1. Click one of the alarm counters mentioned above (1) or click **Alarm** icon to open the alarm list in the left-hand menu (🔔).
- If you click the counter in the dashboard window or on (🔔) in the menu, you will see all current system alarms.

Note: When clicking from Watch Mode, a filter is applied you will only see the type of alarms or warnings indicated on the counter.

- If you click the equipment thumbnail, you will access the alarm directly (that is, with filters applied in the Alarm list to show alarm only).
2. The **Alarm** list opens and shows the alarm events for the selected equipment. Unfold alarm details by clicking on the arrow (▼) (2).

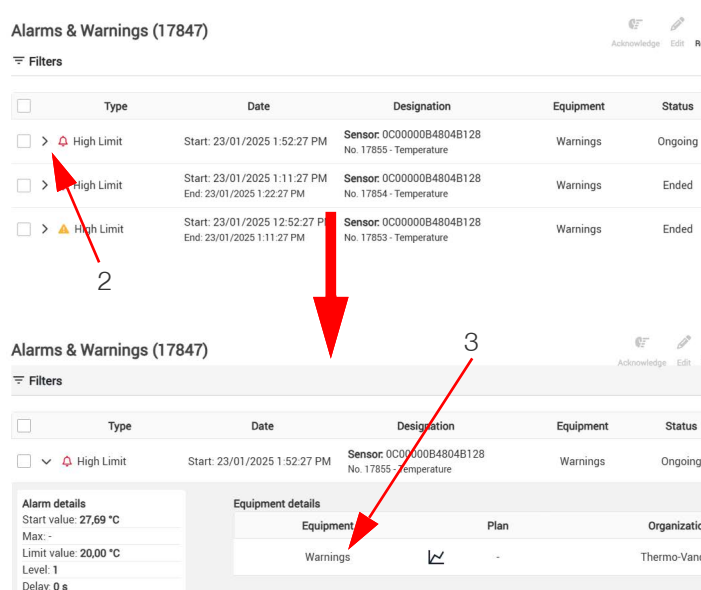


Figure 200. Displaying alarm details

- Click the graph icon (📈) to open the sensor graph which shows the date/time when the alarm started.
- You may access the equipment directly by clicking on the link in the Equipment column (3).

Alarm Types and Sources in Smart-Vue Pro Web Application

The Smart-Vue Pro web application alarm list presents all the different alarms that have occurred in the system. The Filters

feature on the Alarms screen enables you to display alarms according to their source (1) and/or type (2).

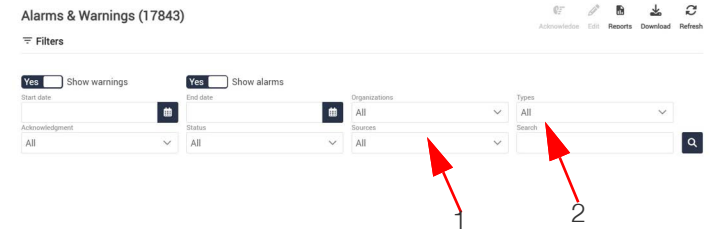


Figure 201. Filtering by alarm type and / or source

You may use the pull-down menus to display any or all of the alarm types described below (All is selected by default when you unfold the Filters function).

The Sources are the devices or equipment in your system that may generate alarms with the following options:

Data logger: Alarms related to data loggers

Equipment: Alarms for equipment you are monitoring

Infrastructure: Alarms concerning various devices in your system, notably:

- Smart Remote Contact (alert controllers)
- Smart-Vue Pro LoRaWAN Gateway (receivers)
- Smart Siren (alert devices)
- **Sensor:** Alarms related to sensors connected to data loggers.

The options under Types are:

Communication lost: This alarm is generated if the server does not receive communication from the data logger or alert device after the period of time defined for “Trigger alarm after X minutes without communication”.

Data logger mismatch: This alarm may be generated if you delete a data logger on which data logging is currently running, without stopping data logging, and you then add that data logger back into Smart-Vue Pro web application.

On the rare chance that you encounter this error, contact Service for factory reset.

Dry contact triggered: This alarm indicates that the dry contact input sensor detected a state change for which an alarm was configured.

High limit: This alarm is generated when a reading exceeds programmed high limit alarms levels 1, 2, and/or 3.

Invalid sensor type: This alarm is generated if data logging is running and you swap the sensor with a sensor type that is not identical to the original.

Low battery: A low battery alarm is issued by data loggers if the remaining battery level reaches 10%.

Low limit: This alarm is generated when a reading is below programmed low limit alarms levels 1, 2, and/or 3.

MKT: Reserved for future use.

Power lost: This error occurs if a data logger’s AC adapter is no longer receiving power (for example, if electricity in the building goes off or if the adapter is unplugged). The alarm is generated based on your choice for the “Trigger alarm after [X] minutes in battery mode”.

Sensor failure: A sensor failure alarm indicates that a sensor connected to a data logger did not respond when an attempt was made to read the sensor. This could be due to a poor wired connection, out-of range situation for a wireless sensor, or a hardware failure. Check the connection and try swapping the sensor with an identical sensor to see if the problem is resolved.

Unexpected stop: This alarm may be generated if the data logger stops data logging unexpectedly, for example if the batteries were changed in a device (and it completely lost power), and data logging was not restarted in Smart-Vue Pro web application. As of Smart-Vue Pro 1.11, data logging restarts automatically once the data logger reconnects to the server.

Acknowledging Alarms


When alarms are displayed for your equipment, you must acknowledge the alarm in Smart-Vue Pro and troubleshoot the problem so that further alarms do not continue to occur. Warnings shown in orange do not need to be acknowledged. The color will revert to green once the sensor reading is back within the programmed range (unless it persists or worsens and becomes an alarm shown in red).



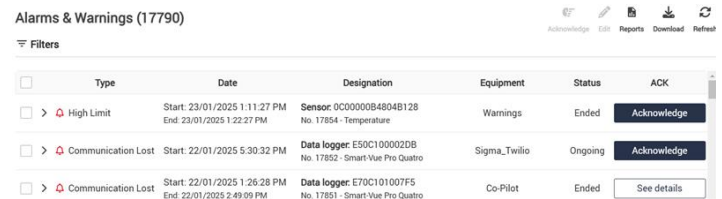
CAUTION: It is important to note that the alarm status is still shown in red in the Smart-Vue Pro dashboard until the next reading transmitted by the data logger no longer indicates the alarm condition.

More importantly, acknowledging the alarm in the software does not actually fix any physical or technical problem encountered by the data logger and the equipment could still be in an alarm state.

Follow these instructions to acknowledge an alarm:

1. Click **Alarms** () in the main menu, or on the alarm counter in the dashboard or equipment details screens.

2. The alarm management screen displays equipment with alarms:



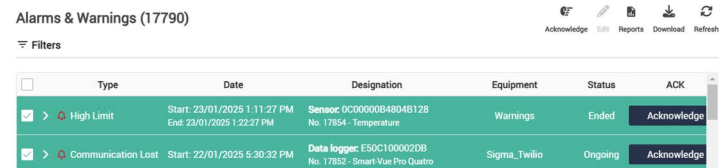
Type	Date	Designation	Equipment	Status	ACK
High Limit	Start: 23/01/2025 1:11:27 PM End: 23/01/2025 1:22:27 PM	Sensor: 0C00000B4804B128 No. 17854 - Temperature	Warnings	Ended	Acknowledge
Communication Lost	Start: 22/01/2025 5:30:32 PM	Data logger: E50C100002DB No. 17852 - Smart-Vue Pro Quatro	Sigma_Twilio	Ongoing	Acknowledge
Communication Lost	Start: 22/01/2025 1:26:28 PM End: 22/01/2025 2:49:09 PM	Data logger: E70C101007F5 No. 17851 - Smart-Vue Pro Quatro	Co-Pilot	Ended	See details

Figure 202. Alarm management and acknowledgment screen



To organize the display of unacknowledged alarms, click **Filters** and select **Not ACK** from the **Acknowledgment** drop-down list, or select any other criteria depending on your needs.

3. To acknowledge a single alarm, click on **Acknowledge** on the line with the alarm you want to acknowledge. Enter your password to continue (or press Send if you are connected via SSO).
4. You may acknowledge several alarms at once by clicking on their check boxes in the first column:



Type	Date	Designation	Equipment	Status	ACK	
<input checked="" type="checkbox"/>	High Limit	Start: 23/01/2025 1:11:27 PM End: 23/01/2025 1:22:27 PM	Sensor: 0C00000B4804B128 No. 17854 - Temperature	Warnings	Ended	Acknowledge
<input checked="" type="checkbox"/>	Communication Lost	Start: 22/01/2025 5:30:32 PM	Data logger: E50C100002DB No. 17852 - Smart-Vue Pro Quatro	Sigma_Twilio	Ongoing	Acknowledge

Figure 203. Acknowledging several alarms at the same time

5. Click **Acknowledge** at the top of the screen. If one of the alarms in your selection has already been acknowledged, it will be deselected automatically and thus not affected by the current acknowledgment.

- The **Alarm acknowledgment** pop-up is shown on the right-hand side of the screen:

Figure 204. Enter the details for acknowledging an alarm

- To acknowledge the alarm, you must enter an incident cause in the Cause field. The 30 most recent entries in this field are stored and may be reused in the future by clicking the drop-down list (1).
- The **Corrective action** and **Preventive action** fields are optional and can be used to include further information with the acknowledgment. This information is included in alarm reports that you generate.
- Click **Save** to save your changes (and confirm by entering your password) or **Cancel** to discard changes and return to the previous screen.
- Once the alarm has been acknowledged, a **"See details"** button is enabled.



Remember, acknowledging an alarm does not necessarily eliminate any physical problems at the sensor, data logger or equipment levels.

Editing Acknowledged Alarms

You may edit alarm acknowledgments even after they have been saved. You may only edit your own acknowledgments, not those of another user.

To edit a single acknowledgment:

- Click Alarms (🔔) in the main menu, or on the alarm counter in the dashboard or equipment details screens to open the alarm list.
- Choose an alarm to edit by clicking on See details (1).

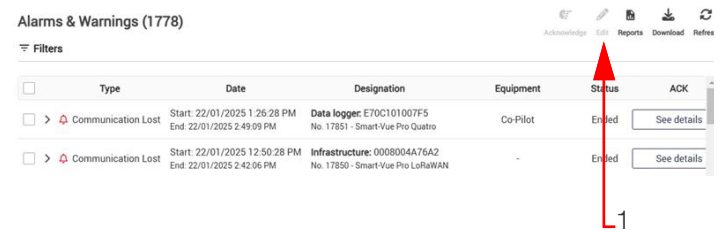


Figure 205. Selecting a single acknowledgment to edit

- In the Acknowledgment details screen, click Edit, make the desired changes and then click Save to keep the changes or on Cancel to leave the previous information as it was.

To edit several acknowledgments at the same time:

- Select checkboxes in the left-hand column and then click on Edit (✎) in the upper right-hand corner (2):

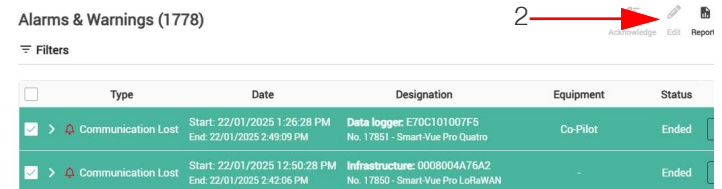


Figure 206. Selecting multiple acknowledgments to edit

- In the Edit alarm acknowledgments screen, make the desired changes and then click Save to keep the changes or on Cancel to leave the previous information as it was.

Note : When you edit multiple acknowledgments, the new information overwrites the old information contained in all selected acknowledgments.

Alarm Report Subscriptions

Smart-Vue Pro can generate alarm reports automatically and send them at programmed intervals.



Users with Application Manager rights can assign reports to other users, whereas regular users can only create reports for themselves, without being able to assign them to other users.

Scheduling a Report

To schedule a report and assign users:

1. click on **Alarms** (🔔) and select any filters you may want to use for your report.
2. Click on **Reports** (📄) in the upper right-hand corner of the screen.

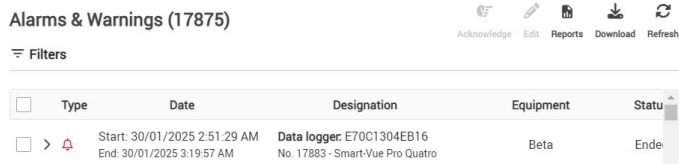


Figure 207. Scheduling an alarm report to send to one or more users

The report is created with default parameters (not editable as of this writing):

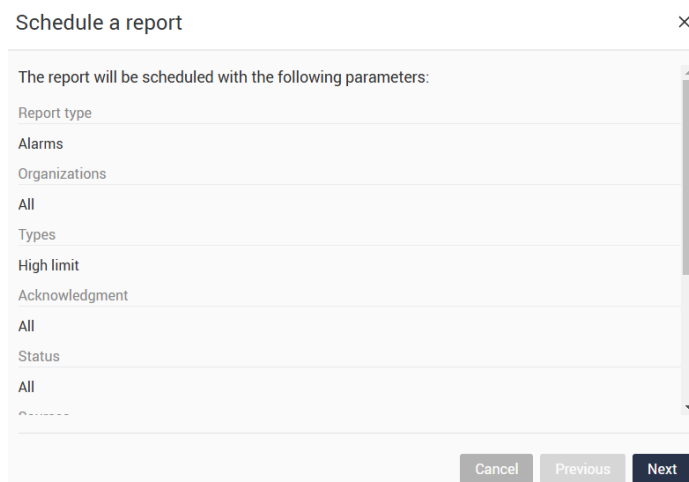


Figure 208. Default report parameters

3. Click **Next** and edit details for the report:

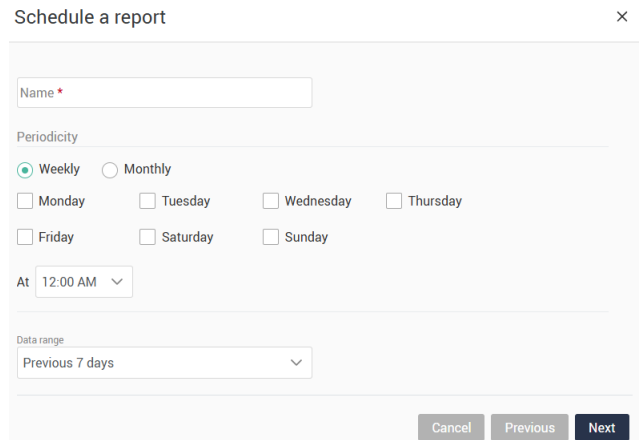


Figure 209. Set up the report to meet your needs

Name: Enter a name to refer to this report.

Periodicity: Select whether the report should be produced on a weekly or monthly basis.

Weekly: Select one or more days to generate the report:

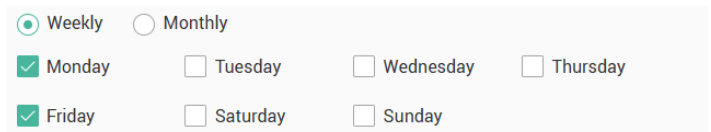


Figure 210. Report printed on selected days every week

Monthly: Select the day of the month to print the report:

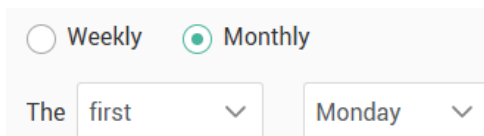


Figure 211. Report printed on the specified day once a month

At: Indicate the time of the report to be produced.

Data range: Specify the time period for which you want to include data (from “Previous 7 days” to “Previous month”).

4. Users with “User” rights in the system can only create reports for themselves, so they must click **Save** at this point, or on **Previous** to return to the scheduling screen, or **Cancel** to close the window without saving changes.

- Users with “Application Manager” rights must click **Next** to select the users (including themselves) who will receive the report in PDF format via e-mail:

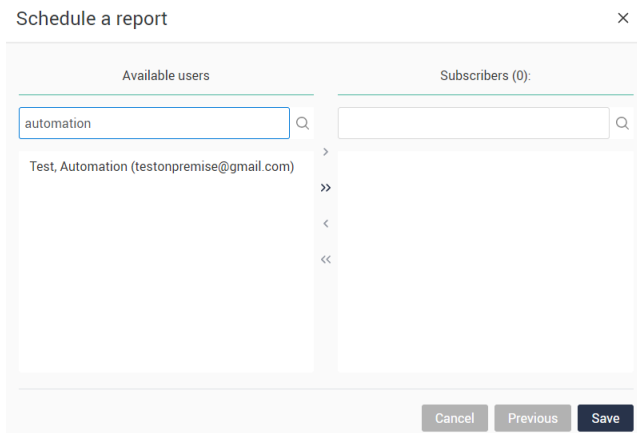


Figure 212. Include users in report distribution

To add users:

Double-click a user-name or click (>) move the selected user from **Available** to **Subscribers**.

To select multiple users at a time, press and hold the **Ctrl** key and click each of the users you want to select. Click (>) to add them to the list of **Subscribers**.

To select all available users, click (>>).

To remove users:

To remove a user from a report, double-click a user-name in the list of **Subscribers** (on the right-hand side) or click a user and click (<) to move the user to the list of Available users on the left-hand side.

To remove multiple users, press and hold the **Ctrl** key and, while holding down the key, click each of the other users you want to remove. Then click (<) to move them to the list of **Available** users on the left.

To remove all users, click (<<).

- Click **Save** when done, **Previous** to return to the scheduling screen, or **Cancel** to close the window without saving your changes.

Editing Scheduled Reports and Subscriptions

You may edit and update reports that you have created (as described in the previous section) and reassign users to those reports.

To modify a report:

- Click **Reports** (📄) → **Report subscriptions**.

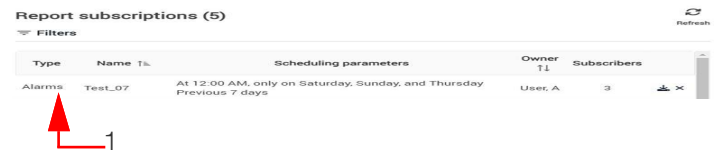


Figure 213. Include users in report distribution









- To run the report right now, click (📄).
- To delete the report, click (✕).
- To access report configuration, click anywhere on the line with the report (1).




Figure 214. Report summary screen

This screen contains several options for managing the report:

Table 11. Options for Managing Report

More	Category	Description
		Filter – Displays the parameters used to filter data and establish the report. As of this writing, the parameters may not be edited.
		Generate the report – You may click this icon to generate the report at any time.
		Edit – Enables you to change scheduling options for the report. The options here are the same as those used to create the report (as described in the previous section).
	Options – Contains the following items:	
More 		Change owner – The report owner is allowed to manage report details. If the report is assigned to multiple subscribers, ownership may only be assigned to another Application Manager. A regular User cannot be the owner of a report that is sent to other people.
		Edit subscribers – Allows Application Managers to edit the list of users who receive the report via e-mail.
		Disable – Deactivates automatic generation of the report. You may Enable the report subsequently if you want (to show reports that have been disabled, open Filters at the top of the screen and select “Show inactive”)
		Remove – Completely removes the report from the system.



CAUTION: The user who created the reported is indicated as the “Owner”. You may change the owner via More  as described above.

Alert Notifications

Smart-Vue Pro offers several alert notification mechanisms:

- By default, every system provides alert notification via e-mail and every user profile is required to include an e-mail address.
- **Smart-Vue Pro Alert** is an optional web-based solution that adds SMS/text messaging and automated voice call support. You must enter a valid license key in order to use Smart-Vue Pro Alert notification features, as described in **Managing License Keys**.

Smart-Vue Pro can send alerts to one or more users configured in Call Groups. Each user is configured with an e-mail address to be used for this purpose. To implement alerts, you must therefore create one or more Call Groups and create alert rules to determine the equipment and data loggers for which those groups will receive alert e-mails.

Configuring Alert Rules



CAUTION: In order to create and configure alert rules, your user role must allow you to “Manage alert rules” as described in Adding user roles.

An alert is a notification sent by the system to users when the system observes an alarm condition or potential problem in the monitored environment.

Alert rules can be configured and assigned to different call groups in order to notify, by telephone and/or e-mail, users designated to handle an alarm category. You may define different criteria for one or more nodes in your organization, or according to the geographical areas you cover or sensor categories. Alert rules are based on “Time slots” and “Weekends and holidays”, defined in the system. These entities enable you to handle a variety of different cases, including Day/Night and weekend modes.

Follow these steps to configure an alert rule:

1. Click **Configuration (⚙️) → Alerts → Add alert rule (+)**.
2. The **Create alert rule** screen is displayed:

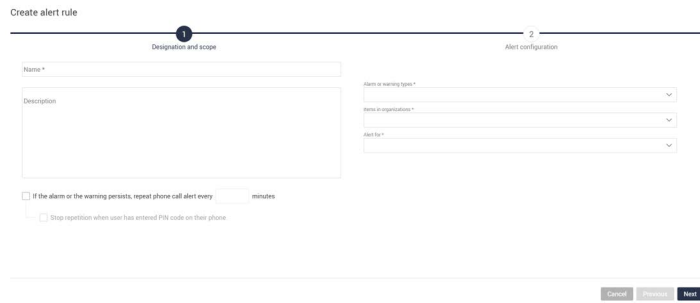


Figure 215. Setting up an alert rule (Step 1)

3. Fill the in fields according to your needs. The fields marked with an asterisk (*) are required:

Name: Assign a friendly name to identify the alert rule.

Description: Enter a description of the alert, for your information.

Alarm or warnings type: Select one or more type of alerts (Limits, Dry Contact (for future) or Technical).

Limit alerts are the high and low limit values that you may configure for sensor readings.

Technical alerts concern technical issues with your sensors and receivers, such as low battery and communication errors. A given rule can only apply to one or the other of these types of alerts.

Dry contact triggered (Level 1, 2, 3) corresponds to the time delays configured when starting data logging for the dry contact sensor on a Smart-Vue Pro Duo/Quatro data logger. See section **Dry Contact Input Sensors (Smart-Vue Pro Duo/Quatro Data Logger Only)** for more details. This enables you to have a different alert notification for each different time delay.

Items in organizations: Choose the relevant organization(s) and/or department(s).

Alerts for: Select the type of equipment for which alerts will be sent: Infrastructure, mobile equipment, Shipments, or Static equipment.

Criticality: Select the criticality level(s) for which the alert rule applies (critical and/or not critical) as configured for equipment criticality does not apply to alerts for infrastructure components.

If the alarm persists, repeat phone call alert every [XX] minutes: Check this option to set the repeat frequency for this alert if the alarm condition persists and specify the desired time interval between calls.

Note: Only voice phone calls are repeated. not email and SMS/text message notifications.

Stop repetition when user has entered PIN code on their phone: If you do not check this option, the phone call notification cycle repeats at the specified interval as long as the alarm is still active. If the alert rule is configured for the system to call several people, calling stops when the first person enters their PIN code. The call cycle then resumes after XX minutes if the alarm persists. If you check this option, the first user to enter their PIN code stops the call cycle and subsequent users are not called.

4. Click Next to set up the users who will be alerted and when, as described below.

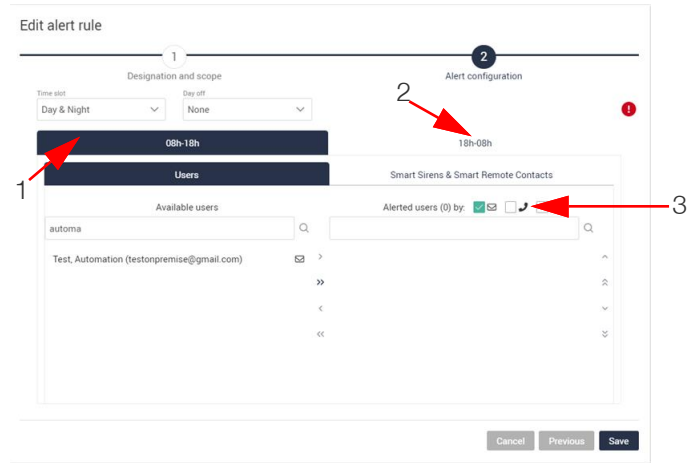


Figure 216. Assigning users to time periods in an alert rule (Step 2)

In the above image, time periods are shown on two or three tabs based on selection (2). Remember to assign users and/or alert devices to each period.

You may configure notifications to be sent to users or devices (3), notably Smart Sirens and/or Smart Remote Contact configured in your system.

5. Select the **Time slot** and **Days off** for the alert:

Time slot: Use the drop-down menu to select the alarm period from the available options. Other time slots may be added as described in **Time Slots**.

Days off: Use the drop-down list to select Days off periods (such as weekends and holidays). Other days off may be added as described in **Setting Days off (Weekends and Non-Working Days)**.

Alert Rules with Users

Add or remove users in the **Users** tab (3) of the screen as shown in **Figure 215** and **Figure 216**:

1. Determine how users will be alerted (1): via e-mail (✉) automated voice call (☎) or SMS / Text message (💬). Click the check box (☐) → (☑) to assign one or more alert types.
2. To add users: Double-click a user-name or click (➤) to move the selected user from Available to Alerted. To select multiple users at a time, press and hold the Ctrl key and click each of the users you want to select. Click (➤) to add them to the list of Selected users. To select all available users, click (➤➤).
3. To remove users: To remove a user from a rule, double-click a user-name in the list of Alerted users (on the right-hand side) or click a user and click (➤) to move the user to the list of Available users on the left-hand side. To remove multiple users, press and hold the Ctrl key and while holding down the key, click each of the other users you want to remove. Then click (➤) to move them to the list of Available users on the left. To remove all users, click (➤➤).
4. To change the contact sequence: Users are contacted in the order in which they are listed in the alert rule. The top user is contacted first, etc. You may click (⬆) and (⬇) icons to move the selected user up or down one line at a time. You may click the (⬆) and (⬇) icons to move the selected user to the very top or bottom, respectively.
5. Click **Save** to save the rule (or add alert devices, as described in the next section), click **Previous** to return to step 1 or click **Cancel** to close this window without saving any changes.



CAUTION: When including a user in an alert rule, make sure their time zone is configured correctly in their profile to ensure that they are notified in the correct time slot(s) based on their local time.

Alert rules with Smart Siren or Smart Remote Contact Devices

To add or remove alert devices, click **Sirens & Smart remote contacts** tab (4) of the alert rule screen:



Figure 217. Assigning alert devices to time periods in an alert rule (Step 2)

1. Select one or more sirens (📢) or smart remote contact devices (📞) in the “Available” column.
2. To add devices: Double-click a device name or click (➤) to move the selected device from **Available** to **Alerted**. To select multiple devices at a time, press and hold the **Ctrl** key and click each of the devices you want to select. Click (➤) to add them to the list of “Triggerred” devices. To select all available devices, click (➤➤).
3. To remove devices: To remove a device from a rule, double-click a device name in the list of **Triggerred** devices (on the right-hand side), or single-click a device name and click (➤) to move the device to the list of **Available** devices on the left-hand side. To remove multiple devices, press and hold the **Ctrl** key and, while holding down the key, click each of the other devices you want to remove. Then click (➤) to move them to the list of **Available** devices on the left. To remove all devices, click (➤➤).
4. To change the trigger sequence: Devices are triggered in the order in which they are listed in the alert rule. The top device is triggered first, etc. You may click (⬆) and (⬇) icons to move the selected device up or down one line at a time. You may click the (⬆) and (⬇) icons to move the selected device to the very top or bottom, respectively.
5. Click **Save** to save the rule (or add users as described in the **previous** section), on **Previous** to return to step 1, or on **Cancel** to close this window without saving any changes.



CAUTION: When including an alert device in an alert rule, make sure the rule's time zone is configured correctly to ensure that the device is triggered in the correct time slot(s) based on local time.

Modifying or Deleting Alert Rules

To disable or change the conditions or recipients of an alert rule, click **Configuration** (⚙️) → **Alerts**.

The alert rules you defined earlier are shown in the table with the configuration parameters and characteristics of the equipment involved.

1. To modify an alert rule, click Edit (✎) for the rule you wish to modify (1):

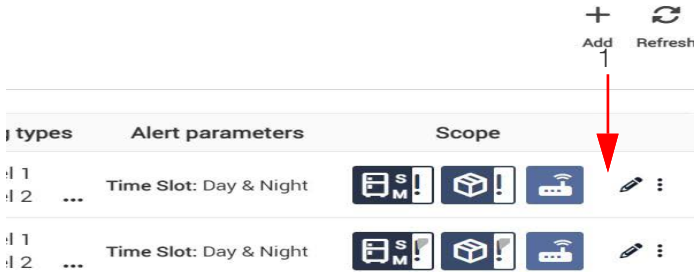


Figure 218. List of alert rules saved in the system

2. Make the desired changes (with all the same options as described in the previous sections when creating the rule).
3. Click **Save** to save your changes or **Previous** to return to the previous screen without saving changes.
4. For more options, click **More** (⋮) for a drop-down menu with the following options:

Create using as template: This option enables you to create a new alert rule based on the currently selected rule.

Simulate an alarm: Enables you to validate the alarm scenario by sending a test alert using the selected rule. No alert is listed in the Alarm list, but people are contacted and/or devices are triggered as if an alarm occurred.

Disable: Deactivates the alert rule. You may reactivate it at any time selecting the alert rule and clicking on "Enable" in the drop-down menu.

Delete: Deletes the alert rule from the system.

Filtering The Alert Rules display

When looking at the alert rules list, you may wish to filter the display to see specific

rules that meet certain criteria.

To filter the list:

1. Click on Filters (1) and then select the filter(s) you would like to apply (2)

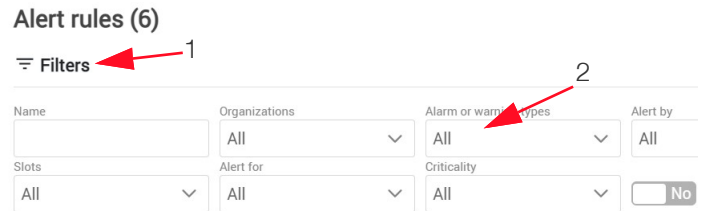


Figure 219. Filtering the alert rule display

The available filters are as follows (click on the magnifying glass button to apply):

Table 12. Filter options

Filter option	Description
Name	Type in the first characters or full name of the alert rule you are looking for.
Organizations	By default, this is set to All, to display all rules across your entire organization. You may type the first characters or full name of the organizational node(s) you are looking for or scroll through the pull-down menu to select the organizational node(s) you want.
Alarm or warning types	By default, this is set to All, to display all rules. You may specify Dry contact input alarm, Limits, or Technical.
Alert by	By default, this is set to All, to display all rules. You may specify Call, E-mail, or SMS (text message).
Slots	By default, this is set to All, to display all rules. Use the pull-down menu to select one or more rules from your list of configured rules.

Filter option	Description
Alerts for	By default, this is set to All, to display all rules. You may specify Infrastructure elements, Mobile equipment, Shipments, or Static equipment.
Criticality	By default, this is set to All, to display all rules. You may specify Critical or Not critical.
Display disabled rules	Set this to No to not show disabled rules. Set this to Yes to show disabled rules.

- Apply filters by clicking on the magnifying glass. You may clear all applied filters by clicking on Refresh. Filters are also reset to their default settings when you refresh the page (pressing the F5 key in most browsers) or when you go to another page in the application.

Time Slots

As described earlier in **Configuring Alert Rules**, you may configure specific time slots during which your system will send alerts to users. These time slots may then be used in the context of one or more alert rules.

Adding Time Slot

To add a time slot:

- In the main menu, click **Configuration** (⚙️) → **Time slots**.
- Click **Add time slot (+)**.

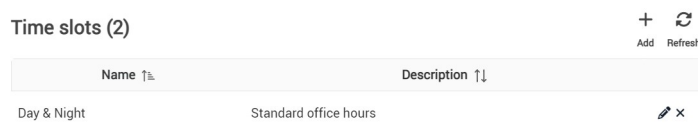


Figure 220. Adding a new time slot

- The **Create time slot** window opens on the right-hand side of the screen:

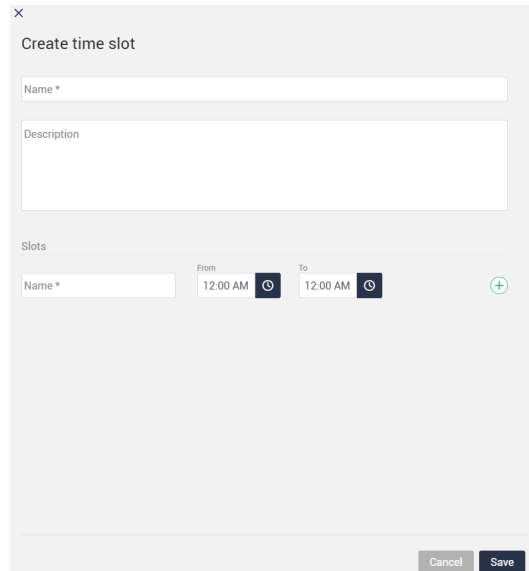


Figure 221. Time slot details

- Enter the details of the new time slot. The fields marked with an asterisk (*) are required:

Name: Enter a name for the time slot.

Description: Enter a description of the time slot.

Slots: Enter a name for the time slot and then, define the start and end time. These parameters are used by the application to determine the start and end of the alarm period.



To avoid confusion, all times are indicated in local time of the user who will be receiving the alert or the device to be triggered.

- Click **Add (+)** to add up to a total of three time slots, if needed.
- Click **Save** to save your changes or **Cancel** to discard changes and return to the previous screen.

Modifying or Deleting Time Slots

To change the time slots of your alert rules:

- In the main menu, click **Configuration** (⚙️) → **Time slots**.

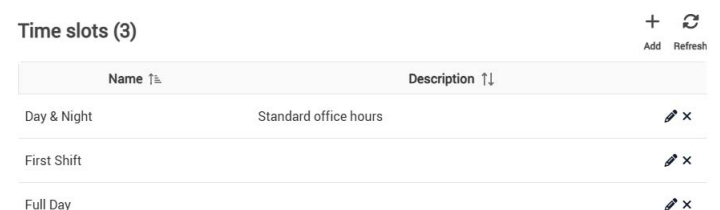


Figure 222. Time slot list

2. Click **Edit** (✎) to modify a time slot.
3. Make the necessary changes.
4. Click **Save** to save your changes or **Cancel** to discard changes and return to the previous screen.
5. If you want to delete a time slot, select the time slot and click **Delete** (✕).

Setting Days off (Weekends and Non-Working Days)

Smart-Vue Pro enables you to manage non-working days such as weekends, public holidays and other days off. You may use this feature to fine-tune your system's alert rules.

To add days off:

1. In the main menu, click **Configuration** ⚙️ → **Days off**.



Figure 223. Adding days off (non-working days)

2. Click **Add days off** (+), which opens the **Create days off** window:

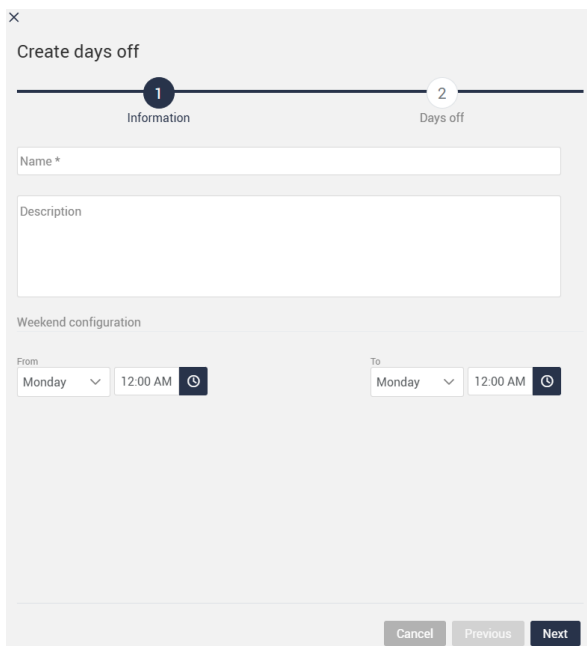


Figure 224. Entering details for days off

3. Fill the fields according as desired. The fields marked with an asterisk (*) are required:

Name: Enter a name as a reference for the day(s) off. You will be able to use this name when you create alert rules.

Description: (Optional) You may enter a description of the day off for information purposes.

Weekend configuration: Set the start and end times that are considered as part of the weekend, for example, for on-call staff. These settings are used by the application to determine the start and end of the weekend alarm period.

4. Click **Next** → + Add days off

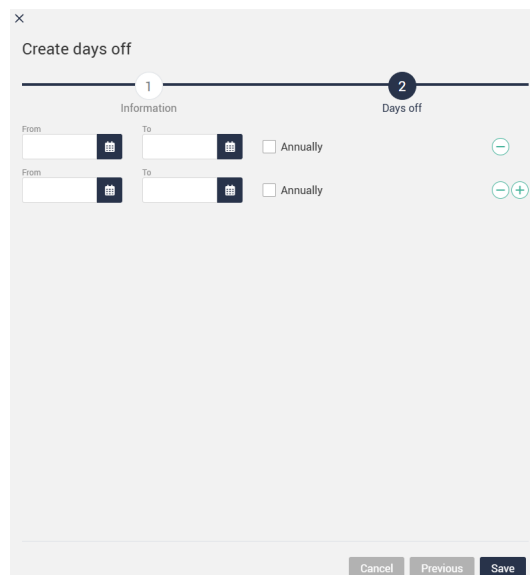


Figure 225. Adding days off to be used in alert rules

5. Select dates in the **From** and **To** fields.
6. If the day is to be considered as a day off every year, click the **Annually** check box.
7. You may remove a day off by clicking on **Remove** (—) next to the item to be deleted, or add a day or range off by clicking on **Add** (+).

Note: When clicking from Watch Mode, a filter is applied you will only see the type of alarms or warnings indicated on the counter.

8. Click **Save** to save the day(s) off in the system, **Previous** to return to the previous screen without saving changes or **Cancel** to discard your changes.

Modifying or Deleting Weekends and Days off

To edit a weekend or day off:

1. In the main menu, click **Configuration** (⚙️) → **Days off**

Days off (2) + Add ↻ Refresh

Name ↑↓	Description ↑↓	
France - Jours fériés		 
U.S. - days off		 

Figure 226. List of days off in your system

2. Select the line you want to change, click **Edit** (✎).
3. Make the desired changes.
4. Click **Save** to save your changes or **Cancel** to discard changes and return to the previous screen.
5. If you want to delete a day off configuration, select the desired line and click **Delete** (✕).

Getting Help

User Manuals

User manuals for the Smart-Vue Pro web application and related products are available directly from the application.

Click **Help** → **Online help** to download the latest documents:

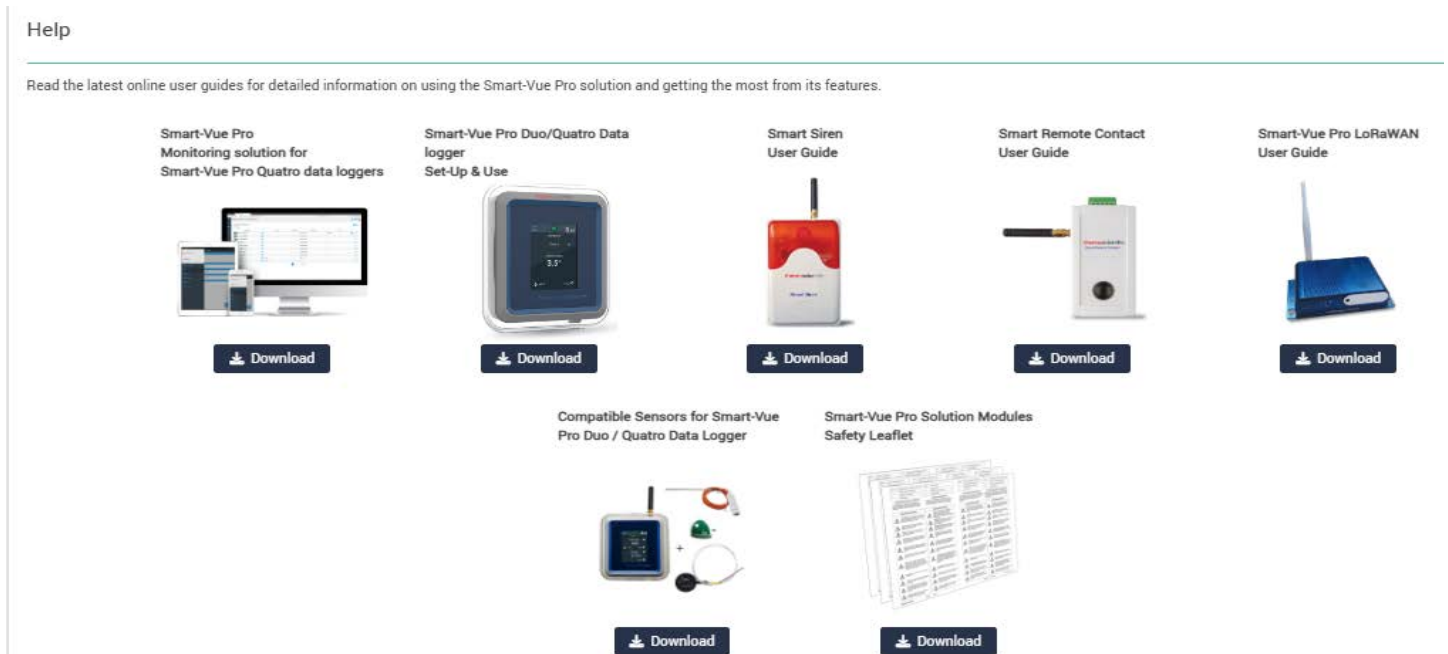


Figure 227. Access to Smart-Vue Pro and companion product user guides

Viewing Smart-Vue Pro Version Release Notes

If the Smart-Vue Pro web application has been updated since the last time you logged in, the release notes concerning the new version are displayed on your screen:

Release notes

Smart-Vue Pro has been updated.
What's new:

Figure 228. Latest release notes

This message is not displayed for new users. You may click **Do not show these notes again** to stop the message from being displayed when you log in again. Click **Close** to close the window and continue with Smart-Vue Pro.



You may show all Smart-Vue Pro release notes at any time by clicking **Help** → **Release notes**.

Appendix


Alarms

Table 13. Alarm Details

Type	Meaning	Web App alarm color
High Limit Alarm	Sensor input reading is higher than high limit value set.	Red
Low Limit Alarm	Sensor input reading is lower than low limit value set.	Red
Sensor Fail	Input Sensor has failed.	Red
Invalid sensor	When a different sensor is replaced during data logging.	Red
Communication lost	When data logger or infrastructure (LoRaWAN) is not communicating as per the setting in web app i.e., web app triggers an alarm after X minutes without communication with Data logger or Infrastructure.	Red
Power lost	When data logger is not under AC power and communicating on battery power, as per the setting in web app i.e., web app triggers an alarm after X minutes without AC power supply.	Red
Unexpected stop	This alarm may be generated if the data logger stops data logging unexpectedly, for example if the batteries were changed in a device (and it completely lost power), and data logging was not restarted in Smart-Vue Pro. As of Smart-Vue Pro 1.11, data logging restarts automatically once the data logger reconnects to the server.	Red
Low battery	The battery on the SVP Quatro is low.	Red

FAQ

1. I just installed a new data logger. It seems to be working fine, but no information is updated in the Smart-Vue Pro dashboard.

- Information is automatically sent to the system at the end of each programmed “transfer period”. The transfer period is generally longer than the sensor reading period, so you may simply need to wait for the cycle to begin in order to have data in the web application.
- On the Smart-Vue Pro data logger, you may use the **Synchronize** feature to trigger communication between the system and the data logger.
- You may also refresh the application screen using the **Refresh** button () that is present throughout Smart-Vue Pro.

2. I used the Smart-Vue Pro web application to activate data logging on a Smart-Vue Pro data logger. The data logger now displays the temperature and session name as expected, however, I still do not see any readings in the web application. What should I do?

If the data logger screen shows information other than “Data logger waiting for configuration”, it means that communication from the server was successful. The edges of the tile in the Watch Mode screen (in the web application) should no longer be gray. Just wait until sensor readings are uploaded at the next transfer interval.

3. My data logger was data logging and it lost power (unplugged or batteries removed). But when we restored power, Webapp showed an Unexpected Stop alarm. Why?

Starting with Smart-Vue Pro Ver1.11: if a data logger with one or more data logging sessions in progress stops unexpectedly, you will see an “Unexpected Stop” technical alarm in webapp. However, once the data logger is turned on again and communication is re-established with the server, data logging settings are restored and data logging restarts and when alarm is acknowledged, the end date and time is updated.

In versions prior to version 1.11: when you restore power, the data logger is operational but the data logging session is not restarted. The data logger therefore still needs your attention and it triggers the Unexpected Stop alarm to notify you that your equipment is not being monitored

4. Can a data logger be removed which is currently running a data logging session?

Yes, you can remove a data logger from your Smart-Vue Pro system even if data logging is running. You should only do this in cases where there is a problem with the data logger, or if a data logger had to be swapped while still running. In those cases, the Smart-Vue Pro web application can no longer stop the data logging session via software and you may need to remove the data logger from the system.

5. Where can I find information about using the Smart-Vue web application with my Smart-Vue Pro data loggers running in Bluetooth mode and the Smart Connect mobile application?

The Smart Connect User Guide provides details about using the mobile application in conjunction with the web application.

6. Are all features available when using the Smart-Vue Pro web application and the Smart Connect mobile application for my data loggers in Bluetooth-only mode?

Most viewing and display features are the same, regardless of whether data is collected via a LoRaWAN receiver or pushed by your Bluetooth-enabled device running Smart Connect. Some configuration features are specific for LoRaWAN operation and do not apply when using Smart Connect, such as "Trigger alarm after n minutes without communication."

7. Why an unexpected stop alarm shows in ongoing state although it is acknowledged?

Unexpected stop event occurs when the data logging is in progress and battery/power supply is removed.

When the battery (or plug your power supply) is placed, the device reboots. However, all data loggings are stopped so the data logger sends this alarm to notify the customer that your product (ex: vaccine) is no longer monitored.

8. Why doesn't it show any error while creating a company even if the license key or last digit is changed?

Validation of license is done when one accepts and tries to create company. To ensure the security, it is a best practice to check the license key on server side and not on front side (javascript). The error is shown in the final page and user won't be able to create a company when last digit of the license key is changed.

9. Explain the following error "Data logger configuration mismatches server".

If the physical data logger has a different state than the status on the web app, this alarm is created. For example, starting a data logging, performing a factory reset and communicating with the server.

10. What is the significance of system user and support user in Audit Trail records?

System user: When the action is performed by the application.

Note: It is not a real user (sending an email, etc.)

Support user: When the technical support uses the special account to perform some actions.

11. What is the significance of setting time interval for communication lost separately in Infrastructure and Data logger pages?

Infrastructure (gateway) communicates with server in every 10 seconds, however, it updates its activity in every 5 minutes.

A LoRa gateway takes 5 minutes to start. Communication lost alarm is triggered after two missing reading intervals +1 boot duration. Hence, a 15 minutes time interval is defined for communication lost in Infrastructure page.

12. Why does the time stamp show as 01/01/0001 before starting the data logging in web app watch mode screen?

Until the first data push to cloud we find the time stamp as 01/01/0001. Once the data is synced to cloud we observe the related time stamp.

13. I successfully generated a sensor report in MS Excel format, but then I was unable to generate the same report as a PDF. What should I do?

If you plan on generating several copies of a report in different file formats, or several different reports, make sure your browser is not configured to block multiple downloads from the site. The first download will usually work fine, but subsequent file downloads could be blocked by your browser.

14. The unit or temperature range for my sensor is not displayed correctly in the Smart-Vue Pro web application. What should I do?

Under rare conditions, it may happen that the sensor's physical parameter (unit) or temperature does not appear properly in the Smart-Vue Pro web application. If that occurs, resynchronize the information by unplugging the sensor from the SVP Duo/Quattro data logger and pressing Menu --> Settings-->Refresh Sensors. Then plug the sensor back into the data logger and press on Menu --> Settings --> Refresh Sensors again to push updated information to the web application.

15. Can I remove a data logger from Smart-Vue Pro webapp if data logging is currently running?

Yes, you can remove a data logger from your Smart-Vue Pro system even if data logging is running. You should only do this in cases where there is a problem with the data logger, or if a data logger had to be swapped while

still running. In those cases, Smart-Vue Pro can no longer stop the data logging session via software.

16. My data logger does not seem to be able to detect an Emerald Bluetooth module that I want to use as a remote sensor.

In order to use an Emerald module as a wireless sensor on your data logger, a few conditions must be met:

- The Emerald module must be compatible with the Smart-Vue Pro solution.
- The Emerald module must not have already been used on the Smart-Vue Pro system.
- You may need to factory reset the Emerald module. Contact technical support team for help

17. How can I check the battery level of a remote sensor?

The battery level of Emerald devices being used as remote sensors (paired with data loggers) is shown in the battery level column of the Data loggers screen in Smart-Vue Pro web application.

WEEE Compliance

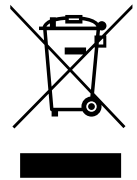
WEEE Compliance. This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2012/19/EU. It is marked with the following symbol. Thermo Fisher Scientific has contracted with one or more recycling/disposal companies in each EU Member State, and this product should be disposed of or recycled through them. Further information on our compliance with these Directives, the recyclers in your country, and information on Thermo Scientific products which may assist the detection of substances subject to the RoHS Directive are available at www.thermofisher.com under Services & Support.

Great Britain



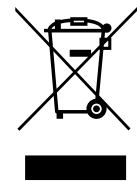
WEEE Konformität. Dieses Produkt muss die EU Waste Electrical & Electronic Equipment (WEEE) Richtlinie 2012/19/EU erfüllen. Das Produkt ist durch folgendes Symbol gekennzeichnet. Thermo Fisher Scientific hat Vereinbarungen getroffen mit Verwertungs-/Entsorgungsanlagen in allen EU-Mitgliederstaaten und dieses Produkt muss durch diese Firmen wiederverwertet oder entsorgt werden. Mehr Informationen über die Einhaltung dieser Anweisungen durch Thermo Scientific, die Verwerter und Hinweise die Ihnen nützlich sein können, die Thermo Fisher Scientific Produkte zu identifizieren, die unter diese RoHS-Anweisung fallen, finden Sie unter www.thermofisher.com unter Services & Support.

Deutschland



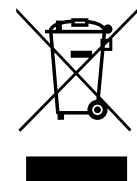
Conformità WEEE. Questo prodotto deve rispondere alla direttiva dell'Unione Europea 2012/19/EU in merito ai Rifiuti degli Apparecchi Elettrici ed Elettronici (WEEE). È marcato col seguente simbolo. Thermo Fisher Scientific ha stipulato contratti con una o diverse società di riciclaggio/smaltimento in ognuno degli Stati Membri Europei. Questo prodotto verrà smaltito o riciclato tramite queste medesime. Ulteriori informazioni sulla conformità di Thermo Fisher Scientific con queste Direttive, l'elenco delle ditte di riciclaggio nel Vostro paese e informazioni sui prodotti Thermo Scientific che possono essere utili alla rilevazione di sostanze soggette alla Direttiva RoHS sono disponibili sul sito www.thermofisher.com in Servizi e Supporto.

Italia



Conformité WEEE. Ce produit doit être conforme à la directive euro-péenne (2012/19/EU) des Déchets d'Equipements Electriques et Electroniques (DEEE). Il est marqué par le symbole suivant. Thermo Fisher Scientific s'est associé avec une ou plusieurs compagnies de recyclage dans chaque état membre de l'union européenne et ce produit devrait être collecté ou recyclé par celles-ci. Davantage d'informations sur la conformité de Thermo Fisher Scientific à ces directives, les recycleurs dans votre pays et les informations sur les produits Thermo Fisher Scientific qui peuvent aider la détection des substances sujettes à la directive RoHS sont disponibles sur www.thermofisher.com sous Services et Assistance.

France



Contact Information

Thermo Fisher Scientific products are backed by a global technical support team ready to support your applications. We offer cold storage accessories, including remote alarms, temperature recorders, and validation services. Visit www.thermofisher.com or call:

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Australia	+61 39757 4300	1 300 735 292
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