



**SMART-VUE™**  
Monitoring Solution

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**Thermo**  
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# Smart-Vue Server/ Smart-Vue Client® 2.0 Software

## USB Wireless Receiver Installation Guide

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**IMPORTANT** Read this instruction manual. Failure to follow the instructions in this manual 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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# Notices

## Safety Instructions

**IMPORTANT NOTE:** Do not use this product for protection or as part of an automated emergency system or for any other application that involves protecting people and/or property. Customers and users of Thermo Scientific products are responsible for making sure 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 and contact Thermo Scientific technical services.

## Electrical Warning (for Devices with AC Adapter)



When using this device with an AC adapter (100-240V AC – 5V DC), always use the specific adapter provided by your supplier (same brand, same product reference). Do not open the adapter yourself and do not dismantle internal components or modify them in any manner. The adapter does not contain any user-reparable parts. If the adapter shows any sign of malfunction, unplug it immediately and contact Thermo Scientific for repair or replacement. Do not connect the adapter to a device or peripheral other than the Thermo Scientific Smart-Vue™ product for which it was intended. Unplug the power cable from the electrical outlet when the adapter is not in use. Do not cause a short circuit with the electrical plug. Do not force either the AC or DC plug. Before removing the connector from any Thermo Scientific Smart-Vue module or unplugging power cables, first unplug the cable from the power outlet. Do not subject the adapter to physical shock, which could cause serious malfunction or damage. Do not use or place the adapter in a wet or humid location. This adapter is not waterproof.

## Battery Warning



This product contains a lithium battery. Make sure you respect polarity (+/-) when inserting batteries into Thermo Scientific Smart-View devices. Reversing polarity by inserting the batteries incorrectly can cause the product to heat up and may lead to a battery liquid leak. Use only batteries recommended by Thermo Scientific. Do not change battery types, such as alkaline and magnesium, or use batteries of different brands or even different types of batteries of the same brand. Incorrect batteries may cause the device to heat up, and may result in a fire or battery liquid leakage. Never dispose of batteries in a fire. Do not charge regular batteries that are not specifically rechargeable. When batteries are low, or if the battery-operated device in question remains unused for a long period of time, remove the batteries from the device to avoid any risk of battery liquid leakage. Never leave batteries within reach of children. In case of a battery leak, avoid all contact with the liquid present on the batteries. Rinse with clear water immediately if the battery liquid comes into contact with the eyes, mouth or skin. Contact a doctor or emergency service immediately. Battery liquid is corrosive and can damage vision, or cause blindness or chemical burns.

## TCP/IP Network Receivers

- Do not disconnect the IP receiver from its connection to your intranet system. Disconnection will prevent the transmission of data (including alarms) from the end-point modules.
- Loss of power to the receiver will also prevent the transmission of data (including alarms) from the end-point modules. Ensure the receiver is plugged into an Uninterruptable Power Supply (UPS) at all times.

## USB Receivers

All Thermo Scientific USB products and drivers are tested thoroughly. However, it is not possible to test and qualify all computers and configurations. Our experience has shown there are some variations in USB implementations by computer manufacturers. It is therefore important for users to avoid unnecessary risk by testing the products and validating processes internally to ensure stability and reliability of USB communications in their environment.

## User Precautions

Here is a non-exhaustive list of known issues that may affect the Thermo Scientific USB receiver. Please consider these and other risks when qualifying your system.

- USB plugs cannot be physically secured to USB ports. Ensure that your USB cable is fastened and routed so it will not be accidentally unplugged.
- If your USB receiver is physically disconnected from the USB port on your computer after configuration, it is imperative to plug it back into the same port. Otherwise, the system may not recognize the receiver and communication with the receiver could be lost.
- Do not unplug the USB receiver, even temporarily, to attach another peripheral USB device such as a camera, printer, MP3 player, etc. The new device may update the USB drivers on your computer and cause the system to not recognize the receiver when it is returned to the previously configured port.
- Deactivate energy saving settings (USB installation only). Power management settings on your computer may shut down power to the USB port and disrupt communication to the USB receiver after a period of non-use to conserve energy. Speak to your local IT department about reconfiguring your system's power management settings so your computer will not "sleep" and disrupt communication during installation.

## FCC Statement



**This paragraph pertains to 915 MHz Smart-View wireless modules.** This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation: FCC Part 15 §107 - §109 - §207 - §247 (Ed 2008).

## Canada — Industry Canada (IC)

**This paragraph pertains to 915 MHz Smart-View™ wireless modules.** This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## Conformity with European Regulations



**This paragraph pertains to 868 MHz Smart-Vue wireless modules.** The CE mark on this the product indicates that Thermo Scientific declares that this product is compliant with Radio equipment and Telecommunications Terminal equipment (R&TTE) directive 1999/5/EC and the Low Voltage Directive (LVD) 2006/95/EC. The following standards were utilized to meet the essential requirements of these directives: EN 301 489-3 v1.4.1 (02), EN 300 220-2 V2.1.2 (R&TTE) & EN 609501:2006/A11:2009 (LVD).



**CAUTION:** Any changes or modifications not expressly approved by Thermo Scientific could void the user's authority to operate the equipment.

## WEEE Compliance

This wireless device complies with the essential requirements and other relevant provisions of the Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE Directive).

## Environmental Protection

Please respect local regulations concerning disposal of packaging, unused wireless devices and their accessories, and promote their recycling.

## RoHS Compliance

The wireless device is in compliance with the restriction of the use of certain hazardous substances in electrical and electronic equipment Directive 2002/95/EC (RoHS Directive). Do not dispose of this product with household trash. Thermo Scientific recycles this product under certain conditions. Please contact us for more information.



## Disclaimer and Limitation of Liability

Thermo Scientific assumes no responsibility for any loss or claims by third parties which may arise through the use of this product. This document is non-contractual and subject to change without notice.

# 1 Introduction

Congratulations and thank you for choosing the Thermo Scientific Smart-View® wireless monitoring solution. This guide describes how to install your system, proceed with basic software configuration using a USB receiver, and discover the key steps to configure the various components.



**CAUTION:** For more detailed information on using and configuring your Smart-View wireless monitoring system, we recommend that you read the various user guides and documents provided on your CD-ROM, in particular the Software User Manual (see section Where to find more information).



**CAUTION:** To set up an Thermo Scientific IP receiver on your Ethernet network, please see the TCP/IP documentation provided with that product.

## 1.1 Package Contents

- Wireless receiver with USB (if applicable)
- CD-ROM with the following:
  - Smart-View Server and Smart-View Client software, drivers, and utilities
  - Technical manuals, including installation guides and the comprehensive *Smart-View Client 2.0 Software User Manual*



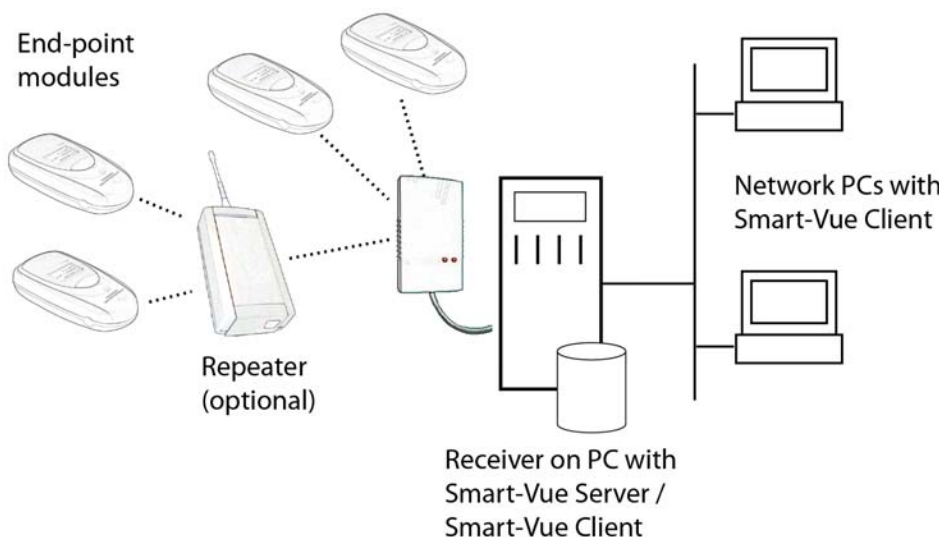
**CAUTION:** Wireless end-point modules for monitoring physical parameters, such as temperature, humidity, and CO<sub>2</sub> levels (these vary with your specific order) and one or more repeaters, if applicable, to extend data transmission range between end-point modules and the receivers, are packaged separately.



## 1.2 Product Overview

The Smart-Vue solution is comprised of wireless end-point modules and software tools that enable you to monitor temperature and/or other physical parameters remotely.

The following diagram shows a basic Smart-Vue installation:



**Figure 1.** Sample Smart-Vue solution

Data is transmitted wirelessly from end-point modules equipped with internal or external probes to a repeater(s), if needed, to a receiver that forwards the data to a database managed by Smart-Vue Server. A repeater helps transmit data over greater distances. Users then access the data by using the Smart-Vue Client software installed on their PCs.



**CAUTION:** Each end-point module (and repeater, if applicable) can only be configured to connect to one receiver, as shown above in Figure 1. That is, any given end-point module can only be read by one receiver.

### 1.2.1 Smart-Vue Server

Smart-Vue Server includes a series of Microsoft® Windows system services to manage the following aspects of the Smart-Vue solution:

- Wireless communications
- Data collection
- Alarm management

Smart-Vue Server has no specific user interface. All system parameters and user actions are handled by Smart-Vue Client.

**1.2.2 Smart-Vue Client**

Smart-Vue Client provides the graphical interface that enables you to control all Smart-Vue wireless solution parameters. The client application is installed by default when you install Smart-Vue Server, as described in this document.

Smart-Vue Client can be installed on other computers in your network to access the Smart-Vue Server remotely.

**1.2.3 Thermo Scientific Wireless Receiver**

The USB receiver can be plugged directly into a USB port on the server and network receivers can be connected to the server via your Ethernet network. This document describes USB receiver installation only.

The receiver does the following:

- Collects data transmitted by Smart-Vue modules and forwards it to Smart-Vue Server
- Transmits configuration and on-demand read requests from Smart-Vue Client software to Smart-Vue modules

**1.2.4 Main Software Features of the Smart-Vue Solution**

- User management, access rights, sensor viewing
- Sensor, repeater, receiver, and alert equipment setup
- Fast alarm emission
- Management of various types of alarms: upper and lower limits, technical alarms in case of a sensor problem or wireless communication problem, software issues, alert media problems, and more.
- Personalized alarm handling for days, nights, and weekends, according to user level and desired contact method.
- Alerts on several types of media, including telephone, SMS, e-mail, fax, wireless sirens, and dry contact devices
- Graph displayed for individual or multiple sensors
- Printable reports for all key parameters, including configuration, status, and alarms
- Customizable presentation of information
- Client-server architecture
- Sensor calibration management and reminders
- Communication and alarm test tools
- Compatibility with FDA 21 CFR Part 11 requirements
  - Readings and settings stored in secure database
  - Password protection
  - Audit trail

## 1.3 Requirements and Recommendations

For the purposes of this Installation guide, we assume you are installing your Smart-Vue Server/Smart-Vue Client software for use with an Thermo Scientific USB or serial port wireless receiver. Please keep the following in mind as you proceed with your Smart-Vue wireless monitoring solution.

### 1.3.1 General Requirements and Recommendations

- The personal computer (PC) running Smart-Vue Server software runs continuously, 24/7/365 and should be connected to an Uninterruptible Power Supply (UPS) that protects against power surges and provides power to back up the PC and components.
- The AC adapter used for your network receiver (if applicable) should also be plugged into the UPS.
- The UPS is also recommended as a power backup for your communication/network systems.
- Weekly manual system testing (e.g., pull a probe, verify the communications system is working) should be performed as defined in your Standard Operating Procedure (SOP).
- Recommended maintenance and calibration procedures should be followed.
- If you are storing cold products, Thermo Scientific recommends use of a back-up cooling system (e.g., CO<sub>2</sub> or LN<sub>2</sub>) to maintain freezer chamber temperature below the critical level should a power failure occur. Contact your local sales representative for more information.
- Thermo Scientific recommends Installation and Operational Qualifications (IQ/OQ) be performed before initial use.
- Thermo Scientific also recommends validation to be performed anytime hardware or software updates have been made. Contact your local sales representative for details.
- For timely notification of an emergency/alarm, it is critical to establish primary, secondary and tertiary call-out procedures with escalation so contact is not dependent on reaching one individual. Ideally, ultimate contact is with a security department or company with 24/7 monitoring.

**Note** *When routing the cable (if necessary) for the Smart-Vue sensor, avoid direct contact with or close proximity placement of the sensor cabling with any high voltage wiring. Cabling should be placed with no less than a minimum of 5 cm (2 inches) distance from high voltage components. Also, avoid running the probe cable in parallel with high voltage wiring. For all other manufacturers' equipment, contact the manufacturer of the instrument for instructions regarding proper placement of the probe.*

Please see the Smart-Vue Client Software User Manual for an in-depth description of Smart-Vue end-point module configuration, alerts, notification, data management and general system features.

## 1.4 System Requirements

- For security, power, and reliability reasons, do not install Smart-View Server on a laptop computer.
- PC running the following Microsoft Windows 32- or 64-bit systems:
  - Windows 7, Windows 8, Windows Server 2008, and Windows Server 2012.

The following table provides examples of expected server performance depending on the number of end-point modules:

**Table 1.** End-point load on Windows 7 / 8, Windows server 2008/2012

Minimum computer specifications	Average end-points	Max. end-points
Intel Core 3, 2 GHz, PC, non-dedicated machine, 2 GB RAM	10	15
Intel Core 3, 2 GHz, PC, dedicated machine, 4 GB RAM	25	50
Intel Core 5, 2 GHz, PC, dedicated machine, 4 GB	50	70
Intel Core 7, 2 GHz, PC, dedicated machine, 8 GB RAM	70	100
Intel Xeon Server 4-Core, 8 GB RAM	100	200
Intel Xeon Server 6-Core, 16 GB RAM	200	350
Intel Xeon Server 8-Core, 16/32 GB RAM	350	500

- 200 MB available hard disk space for the installation and additional space for data (for example, you may expect about 5 MB of data per year for a sensor configured to record data every ten minutes)
- One available USB port, preferably on the back of the computer.
- Windows default regional options should be used for the system date and time.
- Windows display properties should be set to the standard font size. Font magnification (i.e. 125% of normal size) is not supported.
- UPS sized appropriately for your power and system requirements. Make sure you follow the manufacturer's maintenance recommendations.
- Screen resolution of 1024 x 768 or higher
- Windows user account with administrator rights to install the software
- Analog telephone line and, modem (requires free USB port on computer) if you intend to use telephone alerts

- Internet access for sending e-mail alerts and downloading metrology information (such as calibration certificates)
- Microsoft Word and/or Excel to handle data files exported in .DOC and .XLS formats

## 2 Installation Procedure

The procedures described in this section help you do the following:

- Install Smart-Vue Server/Smart-Vue Client software
- Install a USB receiver and associated USB drivers
- Run the receiver installation and configuration wizard so the system detects the receiver and you can easily create your user account



**CAUTION:** Do not plug the USB receiver into your computer until prompted to do so by the receiver installation and configuration wizard. Do not allow Windows to automatically install the drivers.

### 2.1 Before You Begin

#### Temporarily disable the firewall on your computer

For smooth installation, we recommend that you temporarily disable your firewall during installation. (A firewall is a security system that acts as a protective shield between your network and the outside world.)

This must be done by a user with Administrator rights. Contact your system administrator for help if you are unsure or if you do not have Administrator rights.

Disabling your firewall is a temporary solution just for installation. *Refer to* Section 5.1 - *Configuring your firewall for Smart-Vue Server*, for the long-term solution, which involves properly configuring the server or enterprise firewall ports, or contact your system administrator for assistance.

#### Deactivate energy saving settings (USB installation only)

Power management settings on your computer may shut down power to the USB port and disrupt communication to the USB receiver after a period of non-use to conserve energy. Speak to your local IT department about reconfiguring your system's power management settings so your computer will not "sleep" and disrupt communication during installation.

#### Temporarily disable User Account Control

1. Log in to Windows with a user account that has Administrator rights.
2. Click on **Start → Control Panel → User Accounts → Turn User Account Control on or off**.
3. Deselect the checkbox **Use UAC (User Account Control) to help protect your computer**.

## 2.2 Installing Software and Receiver

Follow these steps to install your Smart-Vue Server/Client software:

1. Make sure you are logged on to your computer with Administrator rights.
2. Insert the Smart-Vue Server/Smart-Vue Client CD into the drive on your computer and use Windows Explorer to navigate to the CD-ROM drive.
3. Right-click on **start.exe** in the root folder and select “Run as Administrator”.



**CAUTION:** It is important to launch Start.exe as Administrator, and not simply a user with Administrator rights. “Run as administrator” will ensure that services are installed correctly

4. The welcome screen is displayed.



**Figure 2.** Main screen of the installation application

Menu options include the following:

**Manuals...**

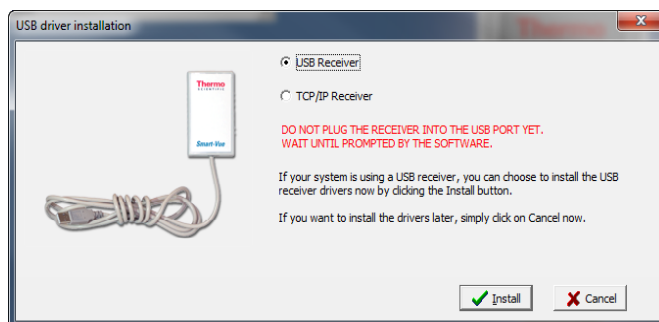
Opens document menu for all Smart-Vue product installation guides (on the CD-ROM) in your default Web browser.

**Full installation...**

Installs Smart-Vue Server and Smart-Vue Client software, as well as receiver drivers. Select this option for the “master” computer in your system.

- Smart-Vue Client...** Installs Smart-Vue Client software only. Select this option for workstations that will connect to the Smart-Vue Server database on the “master” computer.
- Install Cloud...** Installs Smart-Vue Cloud server synchronization component. If you are using a firewall, make sure the outgoing TCP ports are open (see Configuring your firewall for Smart-Vue Server on pg 50). More detailed instructions for installing Smart-Vue Cloud synchronization are provided in the Smart-Vue Quick-Start guide.
- Install receiver driver** Installs receiver drivers only.
- Install phone...** Installs a modem driver.
- Send e-mail...** Creates a new e-mail message for technical support.
- Go to...** Opens the Thermo Scientific web site in your default browser.
- Exit** Quits the installation application.

5. Select the language from the pick-list.
6. Click on the **Full Installation Smart-Vue Server + Smart-Vue Client (recommended)** option on the main screen.
7. Select your receiver type.



**Figure 3.** Select your receiver type



**CAUTION:** This document describes the basic setup for **USB** receivers only. To set up and configure receivers installed on your TCP/IP network, please see the corresponding user manual provided with your network receiver product.


Depending on your choice above, follow the instructions for one of these two installation types (A or B):




### Installing a USB receiver and drivers

1. Click on **USB receiver** (Figure 3), and then click on **Install → Next → Finish** when done. The USB drivers are installed.
2. Plug in your USB receiver when prompted. **We highly recommend using a USB port on the back of your computer to avoid accidental disconnection.**
3. Click on **Continue**.

### Installing Smart-Vue Server and Smart-Vue Client

1. To install Smart-Vue Server, click on **Next → I accept the terms in the license agreement → Next → Install** to install the software.
2. To install Smart-Vue Client, click on **Next → I accept the terms in the license agreement → Next → Install** to install the software.
3. When the Smart-Vue Client installation is done, click on **Finish**. Installation is complete, and the Smart-Vue Client icon (  ) is installed on your desktop. The receiver installation and configuration wizard is displayed (Figure 4).



**CAUTION:** If you click on **Cancel** or close the drivers screen, the driver installation process is cancelled, but the Smart-Vue Server/Smart-Vue Client software application continues to be installed. You may double-click on the Smart-Vue Client icon (  ) on your computer desktop to start the application.

### The next step

Several options are available when you launch Smart-Vue Client:

- Use the Smart-Vue Client first-time configuration wizard to set up your USB receiver right away (described in the next section).
- You may click on Cancel exit the application and configure the receiver the next time you run Smart-Vue Client.
- You may choose not to use the wizard for configuration, which can also be performed using Smart-Vue Client directly (*see Smart-Vue Client 2.0 Software User Manual*)

## 2.3 Running the Wizard

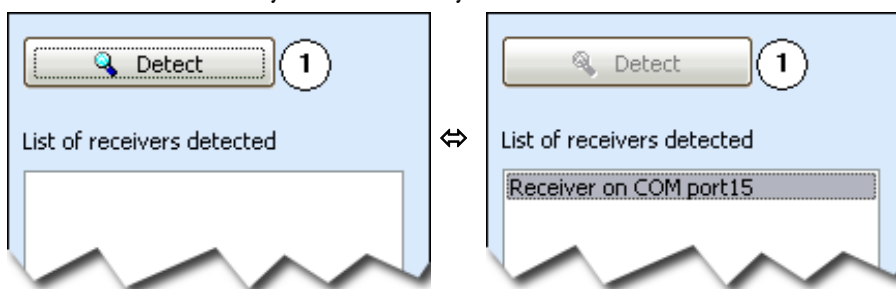
The receiver installation and configuration wizard opens automatically after the application software and receiver drivers are installed as described in the previous section. If you choose not to run this wizard now, it will open the next time you run Smart-Vue Client.



**Figure 4.** First-time receiver installation and Smart-Vue Client configuration wizard

### Wizard step 1: Detecting your local receiver automatically (first-time only)

1. Read the instructions on your screen, and click on **Next**.
2. If it is not already connected, connect your USB receiver to your PC. Wait 5 to 10 seconds for the system to recognize the device.
3. Click on **Detect** ①. The wizard lists the receiver(s) connected to your PC. In most cases, you should only have one receiver.



**Figure 5.** Receiver detected

4. Note the COM port to which your receiver is connected (e.g., COM port 15). You may need this COM port reference to configure your receiver in Smart-Vue Client.

### Placing your receiver

Place your receiver in a slightly elevated location so the antenna is vertical. After you determine the best location, use the provided mounting kit to fasten the receiver.

**Note** *If the wizard does not detect your receiver automatically, you may either try again by clicking on Detect again, or install it manually, as described in the Smart-Vue Client 2.0 Software User Manual.*

### Wizard step 2: Creating a user account

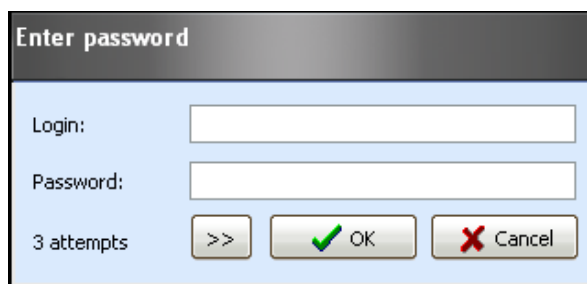
1. Click on **Next**.
2. Enter your **Last name**, **First name**, **User login name**, and **Password**, which must be at least 6 characters (letters, numbers and symbols are allowed). You must enter the password in two fields to confirm. These fields are case-sensitive.

The image shows a screenshot of a software wizard window titled 'Wizard step 2: Creating a user account'. The window has a light blue background and a decorative, wavy bottom edge. It contains five input fields, each with a number in a circle to its right, indicating the sequence of steps: 1. Last name, 2. First name, 3. User login, 4. Password, and 5. Confirm password. The fields are arranged vertically, and the labels are in a standard sans-serif font.

**Figure 6.** Entering account information

3. Click on **Next → Finish**.

- Then enter your **User login** and **Password** in the login window.



**Figure 7.** Smart-Vue Client login screen

You may click on >> to view the default server name (localhost) and port (11000), if necessary.

**Note** Passwords are case sensitive and encrypted. As a security measure, your account will be locked if you enter an incorrect password into the login/password window three consecutive times. If this occurs, please contact your system administrator.

- Click on **OK** to continue.


## 2.4 Automatically Adding a Smart-Vue Module

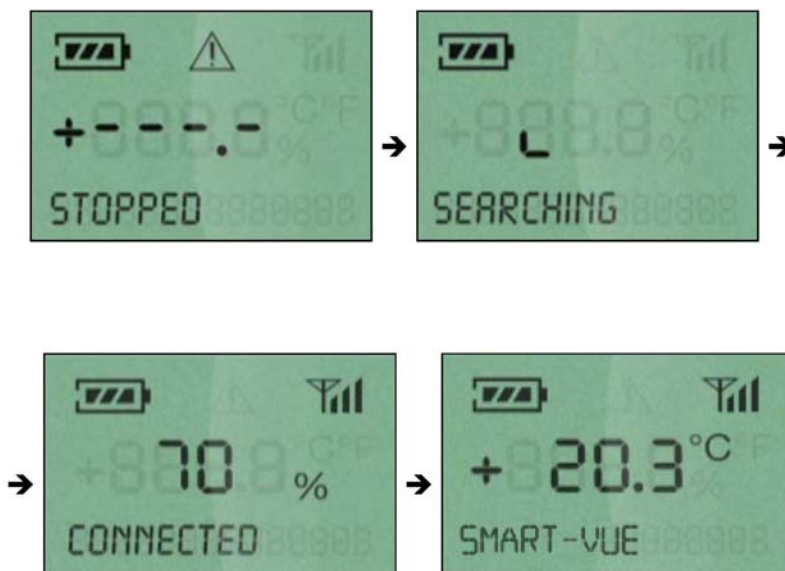
This section describes how to add a Smart-Vue wireless module to your system. Complete documentation is on the Smart-Vue Server/Smart-Vue Client CD-ROM (click on **Help** → **User manual** (📄) to open it from within the Smart-Vue Client software).

**Note** The automatic configuration procedure described here is useful for relatively small (approximately 15 modules), isolated systems. If you have a large number of modules, or if other Smart-Vue systems are operating nearby, it is best to proceed with manual installation as described in the Smart-Vue Software User Manual.

Except for the CO<sub>2</sub> /temperature module, which uses an AC adapter, all Smart-Vue wireless modules run on battery power. To activate your Smart-Vue module and add it automatically to your Smart-Vue monitoring system, do the following:

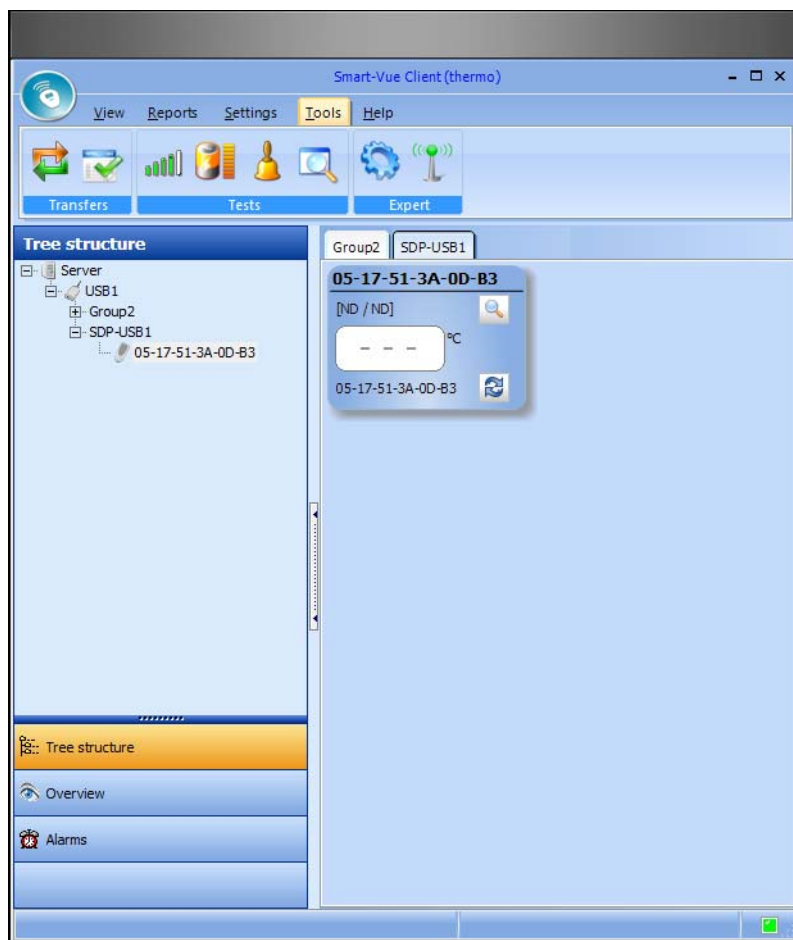
- For battery-powered modules: Insert the provided battery, if not already done, making sure to align the polarity (see image printed inside the battery slot) and making sure you don't over-tighten the screws. For modules with an AC adapter: Plug in the adapter.

2. Make sure the Smart-View Client application is running on your computer. (Double-click the Smart-View Client icon (  ) on the desktop and log in to start if necessary.)
3. Press the large button below the display screen on the front of the module you are installing, and hold it 3 seconds or until “Searching” displays on the module’s screen.  
If a receiver or repeater (if applicable) is within wireless range, the module **establishes the wireless connection automatically**, as shown in the sequence of screen shots below:



**Figure 8.** Smart-View module automatic wireless set-up sequence

The module and its sensor(s) are added automatically to the main Smart-View Client window, with default settings.



**Figure 9.** New module appears automatically in the SDP group whose receiver detected it.

## 3 Software Configuration

When activating your Smart-Vue module as described in the preceding section, the device adds itself to a temporary group created by your current Smart-Vue Server/Smart-Vue Client system but without specific settings. This section shows you how to confirm proper operation of new modules added to your system by:


- Testing the wireless connection
- Moving the sensor from a temporary group into your real group

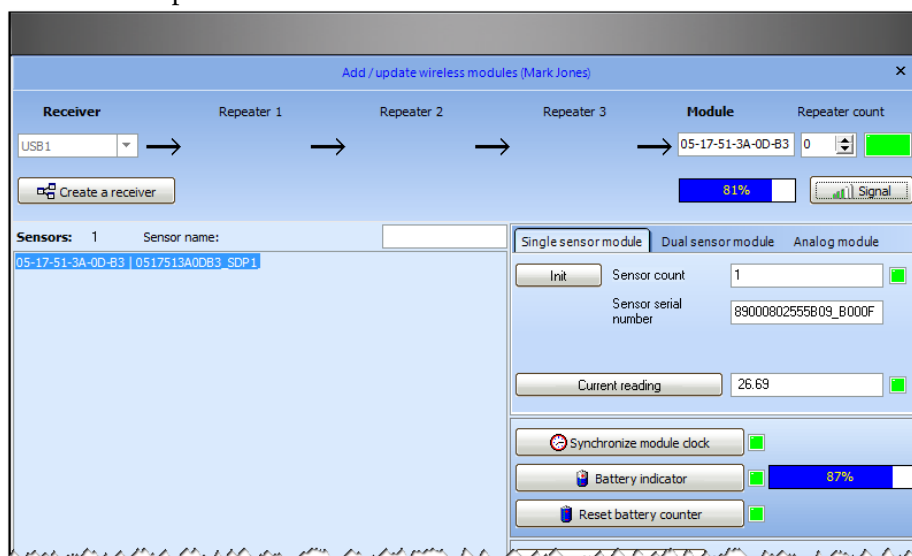
You will need Administrator rights to access most configuration options.

**Note** *Generally speaking, it is important to launch Smart-Vue Client as Administrator, and not simply a user with Administrator rights. “Run as administrator” will ensure that system changes made using the software are handled correctly.*

### 3.1 Testing the Wireless Module Connection

Use Smart-Vue Client to test the wireless signal strength on new end-point modules by doing the following:


1. Place your Smart-Vue modules in their final locations.
2. Select **Settings** → **Sensor settings** (  ), or press **F11**.
3. Enter your login and password, and click on **OK**.
4. Click on **Add/Update a module**, or press **F11** again.
5. Select your receiver (named “USB1” below) in the pick-list, and then click to select the wireless module from the wireless sensor list on the left-hand panel.



**Figure 10.** Configuration with Smart-Vue module on receiver “USB1”

- Click on **Signal** to test the connection. The signal strength is displayed in percentage (%).



**CAUTION:** If this test does not show a wireless signal, please refer to the *Smart-Vue Client Software User Manual* for instructions on adding modules into the system manually. (Manual installation is also required if you are installing more than 15 modules.) You may click on **Help → User manual** () to open it directly from within the Smart-Vue Client software. The signal for each device must show a value higher than 50% when you click on **Signal** in Smart-Vue Client. Higher values are better.

- Click on **Close**.

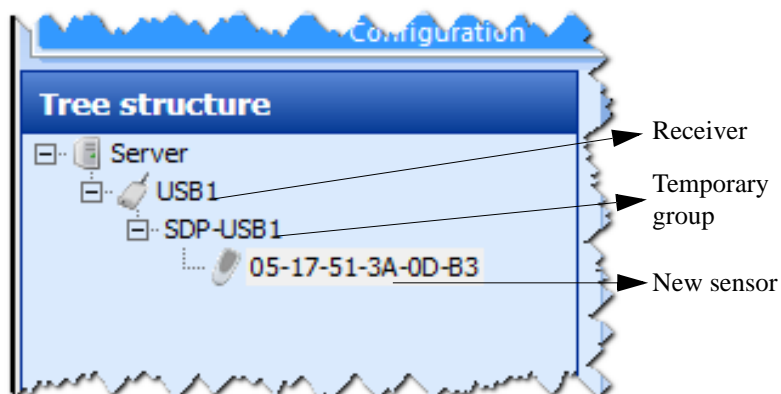
## 3.2 Basic Module Configuration

### 3.2.1 Moving the Sensor into an Active Group

When you add a sensor automatically, it is placed in a temporary group named “*SDP-receiver name*”, where *receiver name* represents the receiver to which the sensor is connected. To use the sensor, you must move it from this temporary group to an active group that you create.

In Smart-Vue Client, any given wireless receiver can manage one or more groups of end-point modules.

- Open Smart-Vue Client on your computer and enter your login name and password. The new Smart-Vue module should be listed as shown here, where “USB1” refers to the receiver and “SDP-USB1” refers to a generic group for new un-configured modules connected to that receiver.



**Figure 11.** New temperature sensor in default “SDP-USB1” group

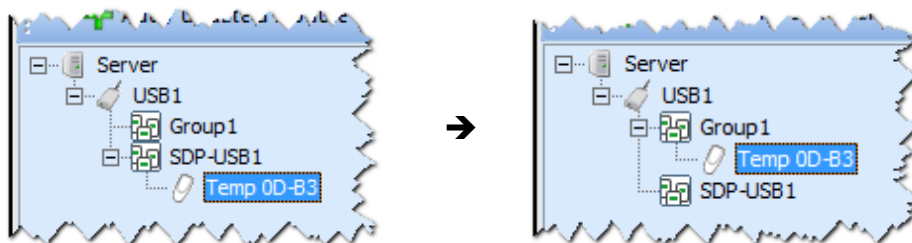


2. Press **F11** or select **Settings → Sensor settings** (🔧) and login when prompted.
3. You may choose to click on **Modify sensor name** to replace the default numeric module address with a user-friendly name (e.g., *Temp 0D-B3*).



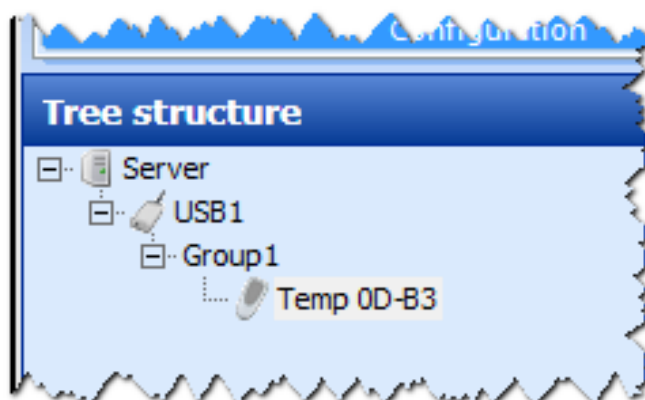
**CAUTION:** The name on the module's LCD is refreshed every 24 hours (maximum) to preserve battery life. Thus, name changes may not be shown immediately, but they are taken into account in the software.

4. Click on the receiver name → **Create group** and then enter a name for the group, such as “Group1”.
5. Drag the new sensor from the temporary “SDP-USB1” group to your active group.



**Figure 12.** Move the sensor from the temporary “SDP” group to your active group


6. Click on **Yes → OK → Close** to update the module, save this change, and return to the updated tree structure, as shown here:

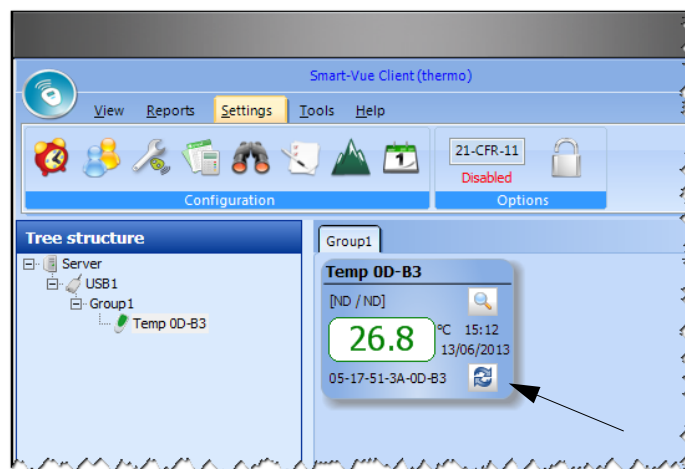



**Figure 13.** Temperature sensor in the “Group 1” group

### 3.2.2 Testing a Module by Running an On-Demand Read

You may confirm end-to-end operation by launching an on-demand read from Smart-Vue Client.

1. Click on the sensor in the tree structure (e.g., Temp 0D-83).
2. Double-click on the latest reading or click on the refresh button (  ) to read the sensor wirelessly and update the display. This may take a moment, depending on your system's current activity and the number of readings to download.



**Figure 14.** Double-click on the latest value or click on refresh button (  ) to run an on-demand read and confirm end-to-end communication

### 3.3 General Note Regarding System Validation

Upon completion of the installation and software configuration, we recommend that you print, review, and retain the following reports (generated by Smart-Vue Client) to confirm system configuration and to use for future reference:

Report	Recommendation
Wireless path	No modules have been configured as repeaters, or only when necessary.
Battery strength	All battery strengths are above 96%.
Signal strength	All signal strengths are above 50%.
Sensor status	All applicable modules are enabled.
Settings status	Confirm each sensor's configuration (reading and transfer intervals, correction parameters, SEA settings, etc.).

### 3.4 Where to go Next

For more information and advanced system settings not covered here, we recommend that you read the *Smart-Vue Client Software User Manual*.

To access the user manual from within Smart-Vue Client, click on Help in the main menu bar, and then click on the PDF icon to open the manual.



Opens the *Smart-Vue Client Software User Manual*



Downloads the latest version of the *Smart-Vue Client Software User Manual*

The Appendix in the next section of this manual provides an overview of the main configuration process.

## 4 Basic Smart-Vue Configuration

Congratulations! You have now installed the Thermo Scientific Smart-Vue Server/Smart-Vue Client software with the default settings.

To begin customizing your settings to meet your laboratory requirements, we recommend following these additional steps.

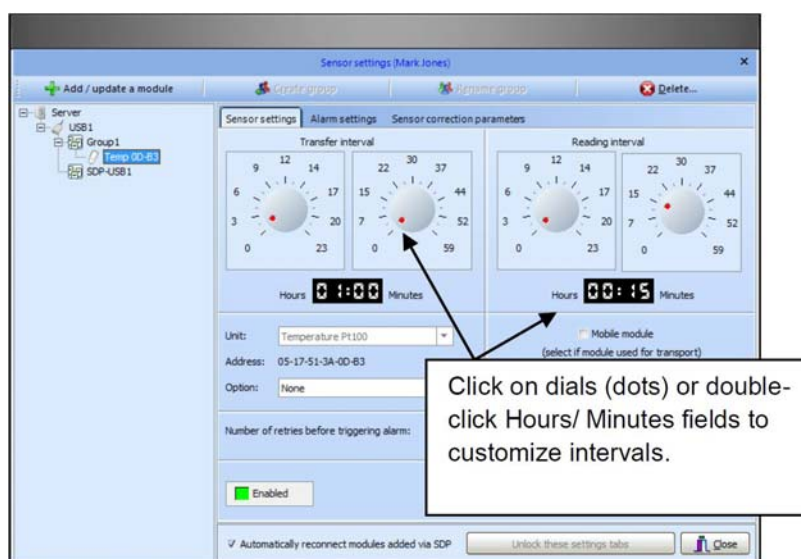
**Note** *Not all settings are covered in this section. **The objective is to get you started with the minimum configuration.** Please refer to the Smart-Vue Client Software User Manual for further details.*

**Note** *Please make sure you understand your laboratory's requirements before proceeding with the configuration.*

**Note** *Generally speaking, it is important to launch Smart-Vue Client as Administrator, and not simply a user with Administrator rights. "Run as administrator" will ensure that system changes made using the software are handled correctly.*

### 4.1 Setting Basic Sensor Parameters

1. Access module settings by pressing **F11** or by selecting **Settings** ➔ **Sensor settings** (🔑) on the Smart-Vue Client main screen and logging in when prompted.

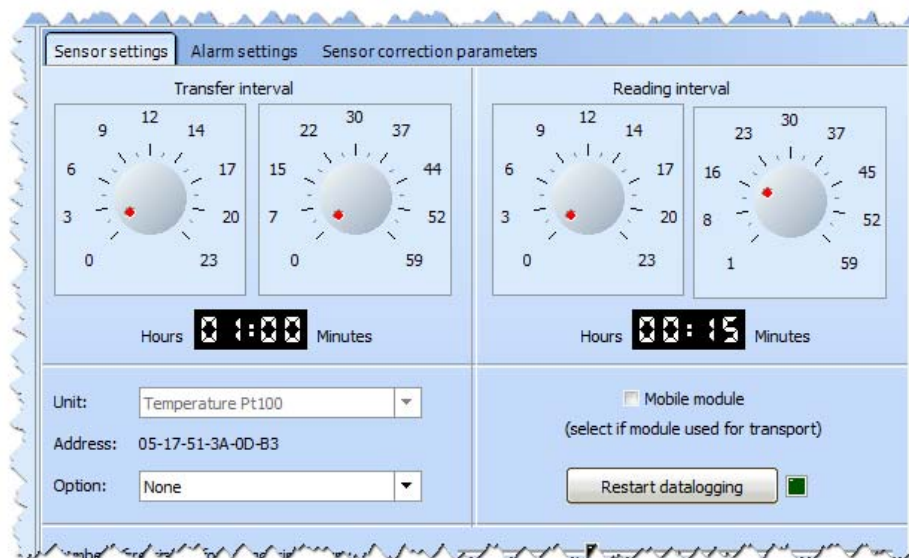


**Figure 15.** Main sensor settings screen

2. Choose a sensor in the left-hand panel
3. Click on **Unlock these settings tabs** (if required) to make changes.
4. Adjust the specific settings (*Sensor settings tab*). You should do this for all sensors in your system.

### 4.1.1 Sample Sensor Settings


For example, this screen shows a temperature sensor configured for data transfer once every hour, with measurements every 15 minutes:



**Figure 16.** Example of main sensor settings (detail)

Alarm limits are also defined by way of the main sensor settings screen (Alarm Settings tab). Alarms and alerts are described in the next section.

Please refer to section 3.12 in the *Smart-View Client 2.0 Software User Manual* for more details about configuring sensors.

Click on **Help** → **User manual** (  ) to open the document in PDF format directly from within Smart-View Client.

## 4.2 Alarms and Alerts

One of the main features of the Smart-View monitoring system is its ability to automatically alert users if an anomaly condition is detected on any sensor or receiver. Smart-View Client offers numerous options to alert users in case **alarms** are detected, for example: if a sensor measures a value outside the configured upper or lower limits, or if a Smart-View module detects a technical error.



**CAUTION:** Alarms are not configured automatically during the installation process. It is a **manual process** that must be completed for each sensor. This section provides an overview of basic alarm settings. Refer to Section 5 in the Smart-View Client Software User Manual for details.

**Alarms** refer to the technical error conditions detected by Smart-Vue modules. For example an **alarm** could be transmitted to Smart-Vue Client by the Smart-Vue module if the sensor's temperature rises above -18°C.

This can trigger a variety of **alerts**, such as activating a laboratory siren, playing a voice message on your computer speakers, printing a report, sending e-mail, fax, SMS or making a voice call.

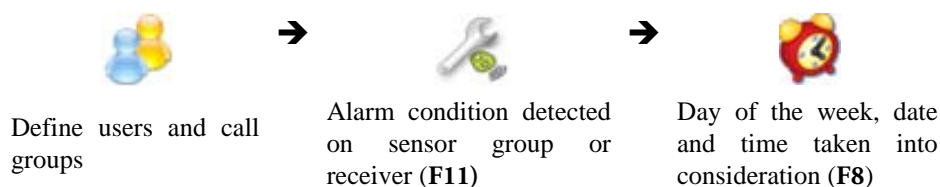
A specific type of modem is required for notification by fax or phone call. Contact your sales representative for more information.

#### 4.2.1 Alert System Overview

The overall alert mechanism in the Smart-Vue solution is based on three concepts, each of which must be taken into account for the system to function correctly:

- **Call groups** are defined to determine who gets notified and how (e-mail, phone call, fax, siren, etc.).
- **Receivers and sensor groups** trigger alerts when alarm conditions are detected, such as when a receiver is unplugged, or if any sensor in the group detects a reading that falls outside a specified alarm limit. Every sensor can have its own alarm settings and limit values, but alerts are triggered based on the sensor group. To create an alert that is unique for a particular sensor, you would create a group containing only that sensor.
- **Day, date and time settings** are defined to determine the appropriate alert action depending on when an alarm is detected. For example, the application can notify you on your work phone during the week and on your mobile phone at night or over the weekend.

Alarms are transformed into alerts as follows:



**Figure 17.** Overview of the alert mechanism

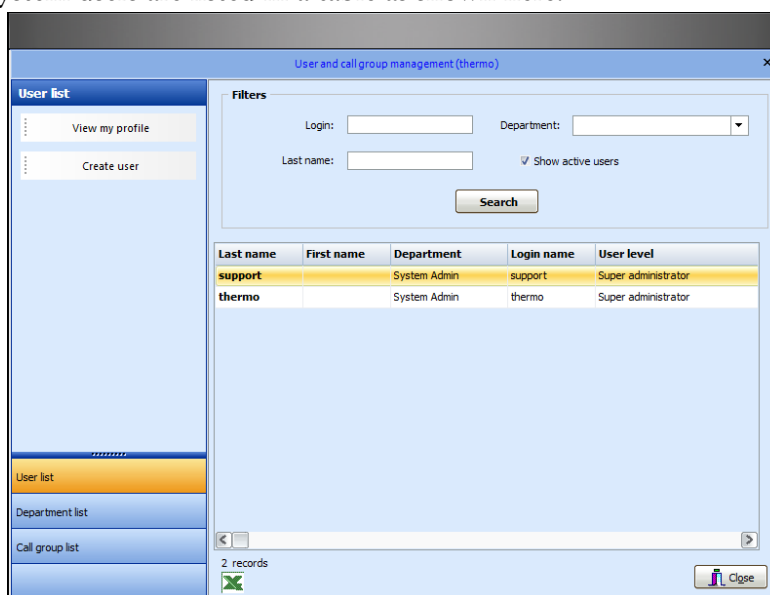
## 4.3 Setting up Users and Call groups

Call groups are comprised of system users. Both categories are configured under **Settings → User and Call group Management** (👤).

### 4.3.1 Users

Start by adding or updating users as follows, logging in when prompted:

1. In Smart-Vue Client, click on **Settings** (🔧) → **User and Call group Management** (👤) → **User list** on the lower left side of the screen. System users are listed in a table as shown here:



**Figure 18.** User list in Smart-Vue Client

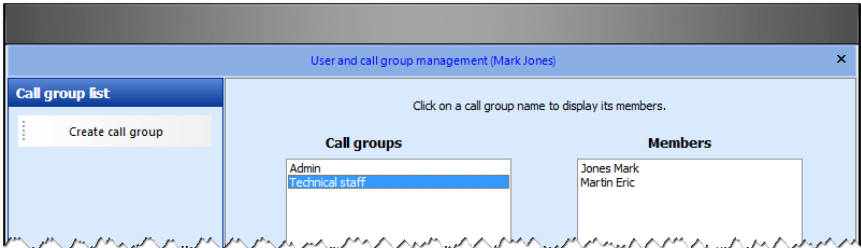
2. You may do the following:
  - Click on **Create user** to add a new user and define the person's first and last names, department, login, user level and contact details.
  - Click on the Password tab to enter and confirm an initial password for the user.
3. Confirm creation of the user account.
4. Double-click a name in the list to edit that user's settings, contact details, phone numbers, e-mail addresses and more.
  - Once entered, the user login name may not be modified.

Please refer to Section 2 in the *Smart-Vue Client 2.0 Software User Manual* for more details on user configuration. Click on **Help → User manual** (📄) to open the PDF file directly.

**4.3.2 Call Groups** Follow these steps to set up your call groups, logging in when prompted:

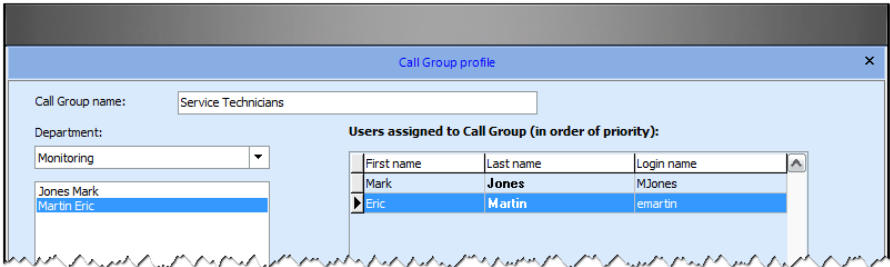
- 1. In Smart-Vue Client, click on **Settings** ➔ **User and Call group Management** (👤) ➔ **Call Group List** on the lower left of the screen. This window shows existing call groups and their members.

The **Admin** call group is created by default. You may add as many additional call groups as you want.



**Figure 19.** Sample call group and its members

- 2. Assign users to a call group by clicking on the name of an existing call group in the left-hand panel, or click on **Create call group** to enter a new call group name.
- 3. Select an applicable department to view user names within it. Select a user name in the left-hand panel, as shown below, and then click on the right arrow (➔) to add that user to the call group.



**Figure 20.** Adding members to a call group

For more details on this topic, please refer to Section 6 in the *Smart-Vue Client Software User Manual* (press **F1** to open the PDF file).

- 4. Click on **OK** ➔ **Close** to return to the main screen.




## 4.4 Setting Alarm Conditions for Receivers and Sensors

### 4.4.1 Receiver Alarms are Automatic

Alarms are transmitted to Smart-Vue Client when anomaly conditions are detected.

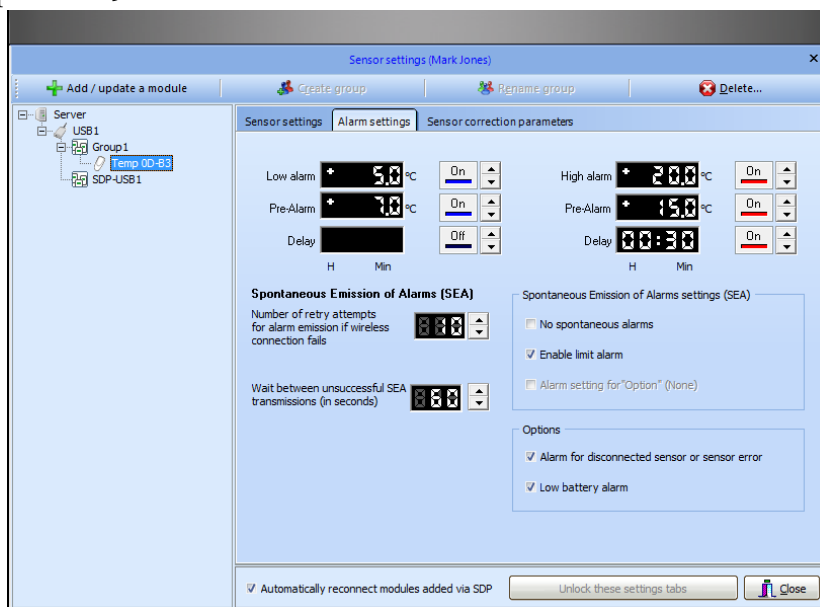
### 4.4.2 Smart-Vue Module Alarms are Configured in Sensor Settings

Receivers do not require any particular alarm settings. An alarm is generated automatically if the system detects a problem for any receiver configured in the system.


1. Access sensor settings by pressing **F11** or by selecting **Settings** → **Sensor settings** (  ) and logging in when prompted.
2. Click on the **Alarm settings** tab of the Smart-Vue Client main screen.
3. Choose the sensor in the left-hand panel
4. Click on **Unlock these settings tabs** to make changes.
5. Adjust the alarm limits to meet your specific needs. You should do this for all sensors in your system.

### 4.4.3 Sample Alarm Limit Settings

This screen shows an alarm is sent if the temperature rises above 20°C or drops below 5°C:




**Figure 21.** Example of main alarm settings (detail)

For complete details, click on **Help** → **User manual** (  ) to open the *Smart-Vue Client Software 2.0 User Manual* in PDF form directly from within Smart-Vue Client.

## 4.5 Setting Day, Date and Time Parameters




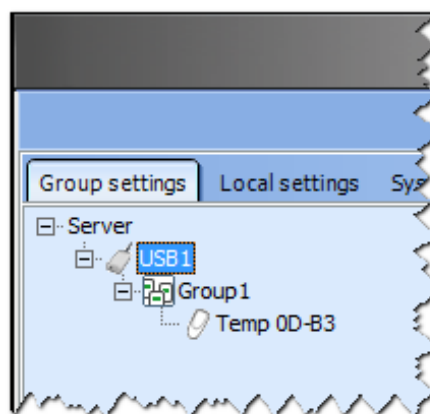
**CAUTION:** For the alarm/alert system to function, you must add at least one call group (which must contain users) to be alerted in case of an alarm on either a receiver or sensor group.

Alerts are established both for receivers and for sensor groups. Section 6 in the *Smart-Vue Client 2.0 Software User Manual* provides additional information about setting day, date and time alert parameters for receivers and sensor groups. Click on **Help → User manual** () to open the document.

### 4.5.1 Configuring Alert Parameters for a Receiver

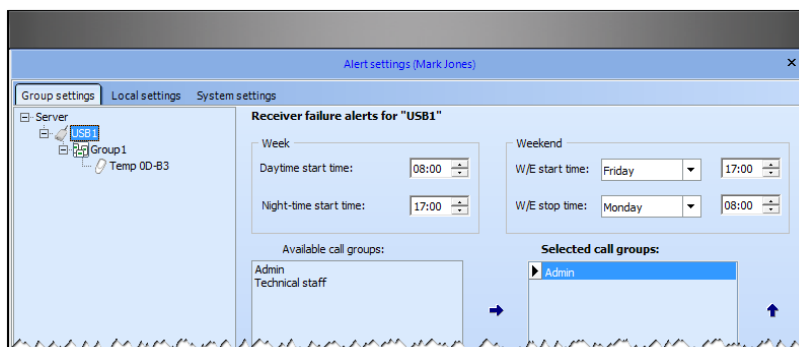
Follow these steps to configure basic alert actions for a receiver:

1. In Smart-Vue Client, press **F8** or click on **Settings → Alert settings** (.
2. Click on the receiver you wish to configure (“USB1” in the example).



**Figure 22.** Click on the receiver name to set alert actions

3. Click on a call group name under **Available call groups**, and then click on the right arrow (➔) to add it to the **Selected call groups** panel on the right.



**Figure 23.** Click on the right arrow (➔) to select call groups to be alerted in case of receiver alarms

After a group has been added, you may double-click on it (in the right-hand panel) to edit its profile.

4. Click on **Set holidays** to determine specific days that will be handled as weekends.
5. Click on **Periods without alerts** if there are times you do not want to receive alerts if alarm conditions are detected. Click on a time slot to change the status.
6. Repeat this procedure for each **receiver** in your system.



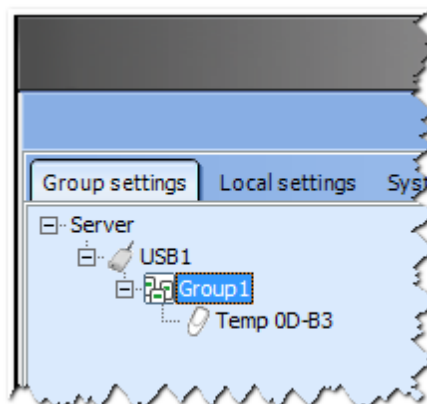
**CAUTION:** At least one call group must be listed in the right-hand panel.

#### 4.5.2 Configuring Alert Parameters for a Sensor Group

Sensor alerts are configured for groups, not individually for each sensor. Follow these steps to configure basic alert actions for a sensor group:

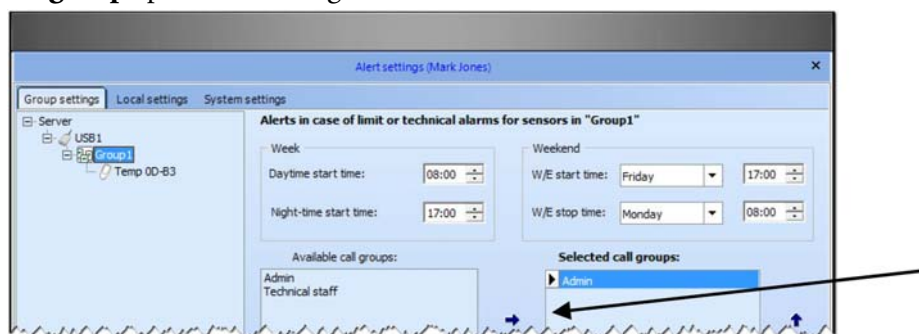
1. In Smart-Vue Client, press **F8** or click on **Settings ➔ Alert settings** (🔧).

- Click on the group that you wish to configure ("Group1" in the example).



**Figure 24.** Click on a sensor group to configure alert settings

- Just as for the receiver, click on a call group name in the left-hand panel, and then click on the right arrow (➡) to add it to the **Selected call groups** panel on the right.



**Figure 25.** Click on the right arrow (➡) to select call groups to be alerted in case of sensor alarms in the selected group

- After a call group has been added, you may double-click on it (in the right-hand panel) to edit its profile.
- Repeat this procedure for each **sensor group** in your system.


**CAUTION:** At least one call group must be listed in the right-hand panel.



### 4.5.3 Configuring Holidays and Periods without Alerts

Holidays and periods without alerts may be defined using Smart-Vue Client. Alerts detected on defined holidays are handled in the same manner as weekends, for all alarm types. Periods without alerts can be defined for each sensor. During a period without alerts, no alerts are issued for the sensor in question, even if an anomaly condition is detected

You may configure these options as follows:

1. In Smart-Vue Client, press **F8** or click on **Settings** → **Alert configuration** ().
2. Click on **Set holidays** to determine which specific days should be treated as weekends. Alerts on these days are handled in the same manner as alerts on weekends, for all alarm types.
3. Click on **Exit** when done.
4. Click on **Periods without alerts**, select a sensor in the tree structure and then define periods during which you do not want to receive alerts, even if alarm conditions are detected.
5. Repeat this step for each sensor that you wish to configure. During periods without alerts, no alarms are handled for the selected sensors, regardless of the detected alarm type.
6. Click on **OK** to save your changes.

## 5 Appendices

### 5.1 Configuring your Firewall for Smart-Vue Server

Earlier in this document (*refer to Section 2 - Installation procedure*), we recommended that you temporarily disable your computer's firewall to get your solution up and running without complications.

The long-term solution is to configure the firewall so it authorizes communications with the Smart-Vue Server/Smart-Vue Client software modules. This simple procedure involves adding some TCP ports to the firewall configuration, as described here. If you are using Windows firewall, please follow the steps below (if your operating system is not listed, contact your system administrator).

Open the Control Panel, and then:

Windows 7 and 8:

Click on **System And Security → Windows Firewall → Advanced Settings → Inbound Rules → New Rule** and add rules for the ports below.

Name	Port number	TCP or UDP
Smart-Vue Server	11000	TCP
Receiver 1		
SmartSvc	11001	TCP
Receiver	10001	TCP
Receiver 2		
SmartSvc	11002	TCP
Receiver	10002	TCP
MySQL	33006	TCP
CloudPush	8087 and 33006	TCP

**Note** *The above ports are the default ports for the various services.*

**Note** *If you have installed other firewall software, please check the firewall user manual for specific instructions that may apply, or check with your system administrator.*

## **5.2 Note about Anti-Virus Software**

In some cases, third-party anti-virus software may cause problems with Smart-Vue Client/Smart-Vue Server software operation.

If you are having problems, you may check whether or not this is the case by temporarily disabling your anti-virus software to see if that resolves the issue. Follow specific instructions for your operating system and application.

Anti-virus applications generally place an icon in the Windows task tray in the lower right-hand corner of your screen. For example, to disable an anti-virus application such as Norton AntiVirus or McAfee, right-click on the application's icon in the lower right-hand corner of your screen, next to the system clock. This should display a pop-up menu in which you will see a Preferences, Open or Disable option.

The actual steps for disabling anti-virus software differ from vendor to vendor. Check the documentation for your application or check with your system administrator for help.

## **5.3 Note about Automatic Windows Updates**

Windows updates can have an effect on overall system performance if set to automatic. We therefore recommend that Windows updates be conducted manually, and that you test the system thoroughly to ensure full operation of the monitoring solution and alert notification process.

## **5.4 Troubleshooting**

If you are having difficulties using your Smart-Vue solution, take a look at these frequently asked questions before contacting technical support.

### **Why can't I install the software on my system?**

You must be logged in to your Windows PC with Administrator rights to add software applications.

### **Why doesn't the installation and configuration wizard detect my receiver?**

It is possible that your firewall or anti-virus settings are blocking access to the device. See the preceding sections in this Appendix for more information on those topics.

### **How can I tell if the receiver is working correctly?**

The receiver's two LEDs turn on briefly when you plug it into your USB port. One remains on to indicate that the device is running. If one light blinks continually, there may be a problem with the device. If the LEDs do not turn on at all, there may be a problem with the USB port. Try another device in that port to verify it works correctly.

### **Why doesn't Windows detect the USB receiver when I plug it in?**

You must install the USB drivers for your receiver before plugging it in for the first time. Follow the instructions in the installation and configuration wizard for best results. The USB drivers are provided on your Smart-Vue Server/Smart-Vue Client CD-ROM. Do not use USB hubs or port replicators. Thermo Scientific USB receivers are tested on many different computers, but USB ports are not all the same.

### **My receiver was working yesterday but not today. What is the cause?**

To retain the same configuration, the USB receiver must always be plugged into the same USB port. Make sure your receiver is plugged in correctly. Try unplugging it and plugging it back in. We recommend that you plug the receiver into a USB port on the back of your computer to avoid moving or removing it by accident. Check your configuration in Windows (**Control Panel → System → Device Manager → USB serial port**) to make sure your software is using the correct USB port.

## **5.5 Receiver Specifications**

- ISM (Industrial Scientific Medical) band with 4 frequencies: US/CAN 915 MHz; Europe 868 MHz; APAC 434 MHz; India and other countries 867 MHz
- Channel width: 50 kHz
- Frequency deflection: 16 KHz
- Transmission speed: 9600 Baud in NRZ mode
- Modulation type: GFSK
- Driven receiver sensitivity for BER= 1%: -107dbm to -110 dBm
- Driven transmission: 8 dBm to 10 dBm
- Power output: 25 mW (USB)
  - USB receiver casing: ABS plastic, IP65 protection for indoor use
- Operating conditions: 0°C to 50°C (32° to 122°F); 0 to 90% RH, non-condensing



- USB connector
- Size: 89 x 50 x 24 mm (3.5 x 2 x 0.94 in.)
- Weight: 100 g (3.5 oz.)

## **5.6 End-user License Agreement**

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## **17. EXCLUSION OF INCIDENTAL, CONSEQUENTIAL AND CERTAIN OTHER DAMAGES AND REMEDIES**

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## **18. EXPORT RESTRICTIONS**

You agree that you will comply with all applicable export laws, restrictions and regulations of any relevant French or foreign agency or authority. You agree not to export or re-export, or allow the export or re-export of the Software in violation of any such law, restriction or regulation.



## **19. ENTIRE AGREEMENT - SEVERABILITY**

This EULA (including any addendum or amendment to this EULA which is included with the Software) is the entire agreement between you and Thermo Scientific relating to the Software and the support services (if any) and they supersede all prior or contemporaneous oral or written communications, proposals and representations with respect to the Software or any other subject matter covered by this EULA. To the extent the terms of any Thermo Scientific policies or programs for support services conflict with the terms of this EULA, the terms of this EULA shall control.

If any provision of this EULA is held to be void, invalid, unenforceable or illegal, the other provisions shall continue in full force and effect.

## **20. NO-WAIVER**

Any waiver of any breach or failure to enforce any provision of this Agreement will not be deemed a future waiver of such term or a waiver of any other provision. Any waiver, amendment or modification of any provision of this Agreement will be effective only if it is in writing and signed by Thermo Scientific and you.

## **21. JURISDICTION AND APPLICABLE LAW**

### **21.1 Governing Law.**

This Agreement shall be governed by and construed in accordance with the laws of FRANCE irrespective of FRANCE's conflicts of laws rules.

### **21.2 Jurisdiction.**

Any dispute, litigation action or otherwise arising out of or in connection with this EULA shall be brought exclusively in the "TRIBUNAL DE COMMERCE de MONTPELLIER" (FRANCE) (Commercial Court of MONTPELLIER – FRANCE) which shall have sole jurisdiction to determine any matters or disputes arising out of this agreement and Thermo Scientific and you irrevocably consent to the jurisdiction of such court and venue in MONTPELLIER, FRANCE

## **22. MISCELLANEOUS.**

This Agreement will be binding upon and inure to the benefit of Thermo Scientific and you, and our respective successors and permitted assigns.

## 5.7 Uninstalling Smart-Vue Server/Smart-Vue Client

This section describes how to uninstall your software from the server and/or a client computer.

### 5.7.1 Uninstallation on the Server Computer



**CAUTION:** The following procedure completely removes all Smart-Vue Server/Smart-Vue Client software and data. Please make sure you save any important data before uninstalling these components.

Follow these steps if you need to remove both Smart-Vue Server and Smart-Vue Client software from the server computer:

1. On the server computer, close the Smart-Vue Client application if it is running.
2. Click on **Start → Control Panel** (or **Settings → Control Panel**, depending on your Windows version).
3. Double-click on **Add/Remove Programs** or **Uninstall a program**.
4. In the list of currently-installed programs, select “Smart-Vue Server” and click on the **Remove** button or **Uninstall/Change**.



**CAUTION:** As a safety measure, this action does not remove your data. A complete copy of your database, including the configuration and all sensor readings, is copied to:

C:\SmartVue\Previous

This information can be restored if necessary. Please contact technical support if you need to restore your system. If you do not need to keep this data (or after archiving it), you may delete the Smart-Vue Server folder:

C:\SmartVue

5. Then select Smart-Vue Client and click on the **Remove** button or **Uninstall/Change**.
6. Delete the Smart-Vue Client folder and sub-folders. For a default installation, the folders to remove are located here:
  - C:\Program Files (x86)\Thermo\Smart-Vue Client
7. Reboot the computer.

### 5.7.2 Uninstallation on a Client Computer

Computers other than the server only have Smart-Vue Client installed. Removing Smart-Vue Client software does not remove or have any effect on data stored by Smart-Vue Server on the server computer.

Follow these steps to remove Smart-Vue Client software from a *client computer*:

1. On the client computer, close the Smart-Vue Client application if it is open.
2. Click on **Start → Control Panel** (or **Settings → Control Panel**, depending on your Windows version).
3. Double-click on Add/Remove Programs or **Uninstall a program**.
4. In the list of currently-installed programs, select “Smart-Vue Client” and click on the **Remove** button or **Uninstall/Change**.
5. Delete the Smart-Vue Client folder and sub-folders. For a default installation, the folder to remove is:

C:\Program Files (x86)\Thermo\Smart-Vue  
Client

You do not need to reboot the computer after removing this software.



**CAUTION:** To change the installed language of Smart-Vue Client on a given computer, you must completely uninstall any previous version of Smart-Vue Client from that computer as described here before re-installing the software in a different language.

## **6 Warranty Statement**

Thermo Scientific warrants the functions of the Smart-View Monitoring system in accordance with our standard warranty as described in the Terms and Conditions of Sale applicable to your purchase of this product. Unless otherwise agreed to in writing, Thermo Scientific warrants that the product will conform to published specifications for a period of two years from the date of delivery.

For additional details concerning this warranty, please consult the “Warranty” section of our standard Terms and Conditions of Sale.

## Important

For your future reference and when contacting the factory, please have the following information readily available:

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Date Purchased: \_\_\_\_\_

The above information can be found on the dataplate attached to the equipment. If available, please provide the date purchased, the source of purchase (manufacturer or specific agent/rep organization), and purchase order number.

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### IF YOU NEED ASSISTANCE:

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#### India

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Sales: +852 2885 4613

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Sales: +49 6184 90 6000

Thermo Fisher Scientific Inc.

275 Aiken Road  
Asheville, NC 28804  
United States

[www.thermofisher.com](http://www.thermofisher.com)

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