USER GUIDE

Sensi+

Gas Analyzer

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CHAPTER 1

Connecting to Sensi+

Sensi+ is designed to be operational from the moment it comes online. Upon installation, the instrument is fully configured to work in a vast majority of gas analysis scenarios. However, situations might happen where you need to perform additional configurations and actions (adding users, extracting data, acknowledging system events, etc.). These configurations and actions are explained in this document.

NOTICE

All information related to the **physical** installation, connection, and troubleshooting of the Sensi+ gas analyzer can be found in the Sensi+ Installation and Commissioning Guide.

Also, operators of this instrument should familiarize themselves with the content of the Sensi+ Product Safety Guide.

To perform these additional operations, you first need to connect to the instrument via either a wired (Ethernet) or wireless (WiFI) connection.

You will find these connections procedures in this chapter.

NOTICE—CYBERSECURITY

This product is designed to be connected to, and communicate information and data via a network interface. It is the user's sole responsibility to provide, and continuously ensure, a secure connection between the product and the user's network or any other network (as the case may be).

Users shall establish and maintain any and all appropriate measures (such as, but not limited to, the installation of firewalls, the application of authentication measures, the encryption of data, the installation of anti-virus programs, etc.) to protect the product, the network, its system and the interface against any kind of security breaches, unauthorized accesses, interferences, intrusions, leakages and/or theft of data or information.

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https://bit.ly/3CHoNkE

Connecting to the Analyzer

The first step is to establish a link (wired or wireless) between your computer and Sensi+. This link can be established locally or remotely.

The following sections explain each method.

Connecting Locally

There are two methods for connecting locally:

- Via the external Ethernet port
- Via WiFi (optional)

Via the External Ethernet Port

To connect to the analyzer via the external Ethernet port:

1 Configure your laptop with the following fixed IP address:
   - Fixed IP Address: `10.0.0.x` (replace the `x` with any number except 0 or 1)
   - Subnet Mask: `255.255.255.0`

DANGER

Before performing the next step, make sure that the area is properly derated.

2 Connect an Ethernet cable (Cat 5 type, minimum) between your computer and the Sensi+ external Ethernet port (if necessary, refer to the Sensi+ Installation and Commissioning Guide to locate the external Ethernet port).

3 Launch your Web browser and point it to the following address: `https//10.0.0.1`

The Sensi+ web remote interface appears.

NOTE: You may need to confirm that your trust the site you are trying to access (REMOTE HMI) as the Security Certificate cannot be validated with your device.

Via WiFi (Optional)

To connect to the analyzer via WiFi (available if an antenna is present):

1 Make sure that WiFi on your computer is active. By default, the analyzer WiFi connection is enabled.

2 On your computer, in the list of available WiFi connections, select the analyzer (e.g., **GLA533-xxxxxxxxx**).

3 When you are asked to provide the WiFi security password, enter `Sens1plus!`

The Sensi+ web remote interface appears.

NOTE: The WiFi password might have been modified upon commissioning of the analyzer. Make sure that you have the proper access information before trying to connect.

Connecting Remotely

Technically, once your computer is connected to the network shared with your analyzer, you are connected to your analyzer and you just need to log in as explained in the next section.

Logging Into the Analyzer

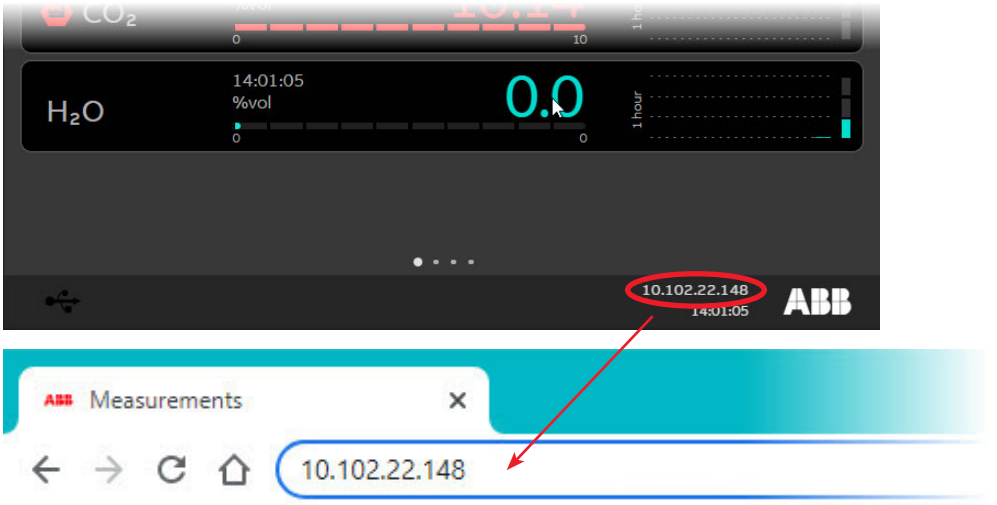
Once you are connected to the analyzer, you need log into it via its Web remote interface. The remote interface is accessible through most mainstream Web browsers. Sensi+ supports the latest versions of Chrome, Firefox, Internet Explorer and Safari. **Chrome is strongly suggested.**

To log into the analyzer:

1 Point your Web browser to the correct address:

- If you are connected locally, through the external Ethernet port, enter the IP address `https://10.0.0.1`
- If you are connected remotely via a network, enter the fixed IP address set during commissioning of the analyzer (refer to the Installation and Commissioning Guide for more information), or enter the IP address assigned by the DHCP server[1] (as displayed on the Sensi+ screen [see Figure 1]).[2]

Figure 1 Analyzer Address in the Web Browser

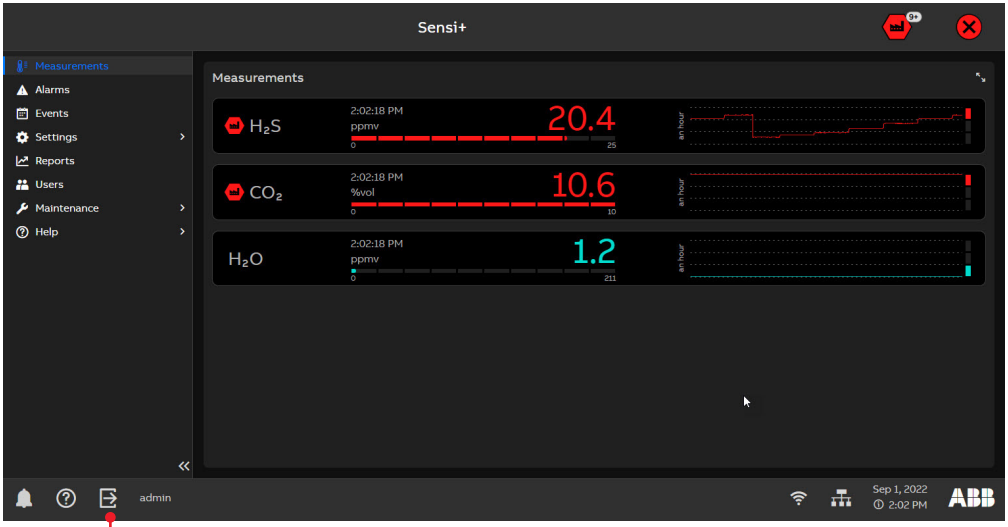


When your browser connects to the address entered, the Sensi+ application appears in the current browser tab.

1 The address assigned by a DHCP server can be found on the Sensi+ analyzer screen or by scanning the network.

2 It is suggested to bookmark this address for future references.

Figure 2 Sensi+ Gas Analyzer Application (administrator access rights)



NOTE: The interface that you see in Figure 2 might differ slightly, depending on your access rights.

2 Click the Login/Logout icon (see Figure 2).

3 In the dialog box that appears, enter your username and password.

NOTE: The default username and password should have been modified during analyzer commissioning. Refer to the Installation and Commissioning Guide for more information.

4 Click **Login**. The interface automatically adapts to your access rights.

CHAPTER 2

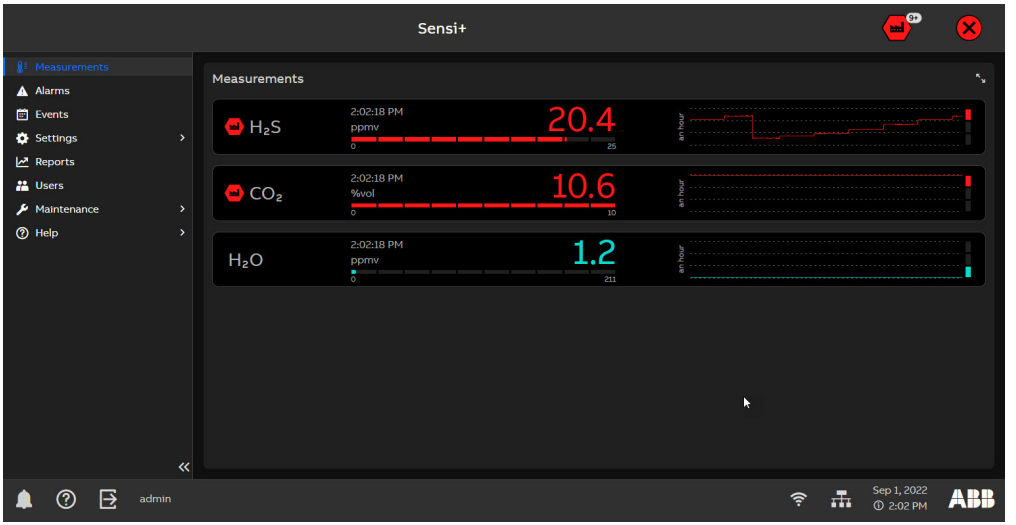
Introducing the Sensi+ Gas Analyzer Software

The Sensi+ gas analyzer application allows you to configure the analyzer, manage its data and user accesses, generate reports, and perform basic maintenance tasks.

When your browser connects to the address entered, the Sensi+ application screen appears in the main window.

NOTE: The interface that you see in Figure 3 below may be slightly different from the one that you see on your screen, depending on the operator's access rights to the system. For more information, see "Configuring User Profiles" on page 26.

Figure 3 Sensi+ Gas Analyzer Application Screen (logged in as administrator)



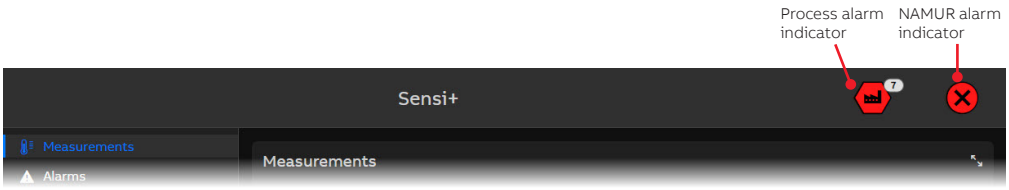
Interface

The following pages provide an overview of the main areas of the Sensi+ application interface.

Top Bar

The application top bar displays two icons illustrating Process and NAMUR alarm categories. A number above one of these icons indicates the number of current alarms for the alarm category (seven process alarms in Figure 4 below). For more information on alarms, see “Managing Alarms” on page 31.

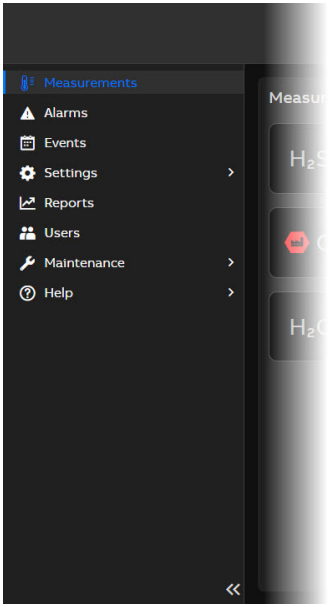
Figure 4 Sensi+ Application Top Bar



Sidebar

The application sidebar provides access to most of the Sensi+ gas analyzer operational functions and options.

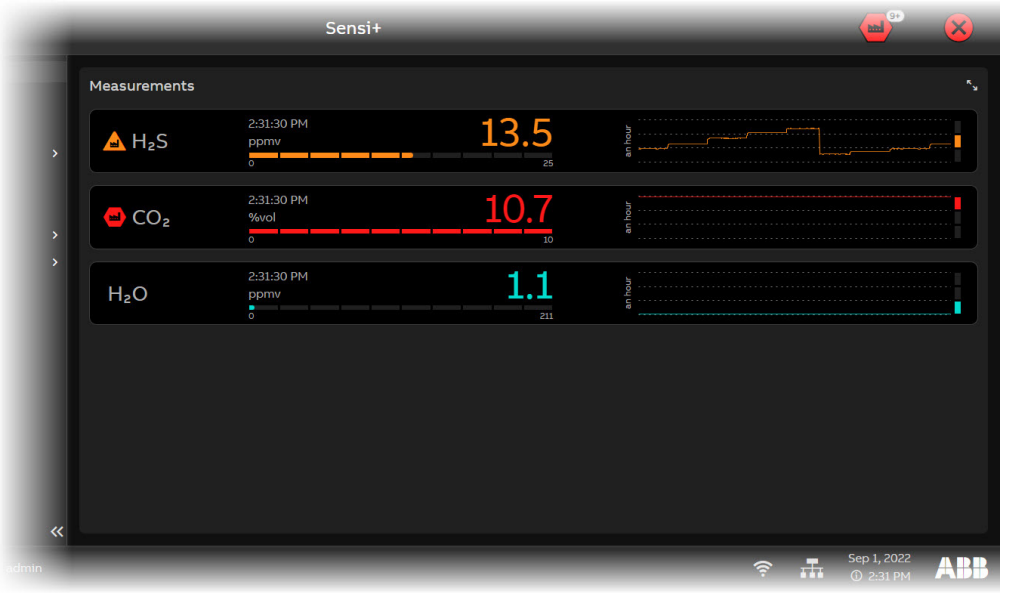
Figure 5 Sensi+ Sidebar (logged in as administrator)



Main Panel

The application main panel displays measurements, alarms and events, as well as all operational functions and configuration options.

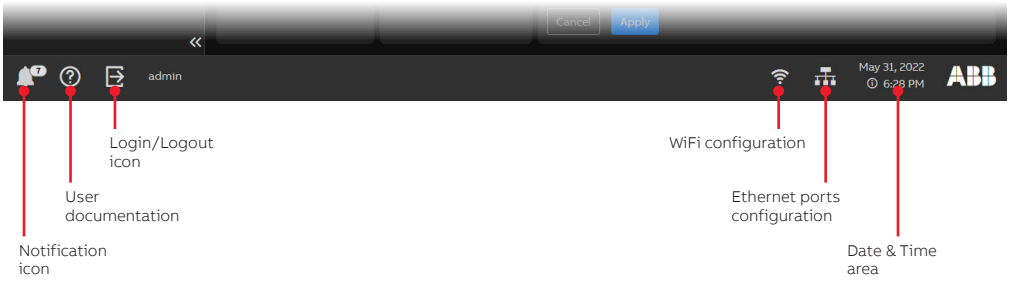
Figure 6 Sensi+ Application Main Panel



Bottom Bar

The application bottom bar provides access to notifications, user documentation and the login function.

Figure 7 Sensi+ Application Bottom Bar (logged in as administrator)



Alarm Colors

Process and NAMUR alarms indicated in an Alarm or Event table are assigned a specific color. These colors (cyan, amber, red) carry the same meaning throughout the graphical user interface. They are explained in more details in “Introducing NAMUR and Process Alarm Conventions” on page 31.

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CHAPTER 3

Configuring Sensi+

The Sensi+ gas analyzer is designed to be a plug-and-play instrument. Its default configuration aims at covering over 90% of use cases. However, there are situations where you might need to modify this default configuration. This chapter explains how to modify this configuration, once you established a link with the gas analyzer (see “Connecting to the Analyzer” on page 2).

Changing Default Administrator Password

NOTICE

For cybersecurity reasons, it is considered a best practice to change passwords after initial analyzer installation, and regularly thereafter. Not doing so could expose your entire network to cyberattacks.

With Sensi+, parameters, functions and interface items are made available depending on the password used to access the system (not the user name).

Upon connecting with the system for the first time, you are presented with the basic Operator remote software interface.

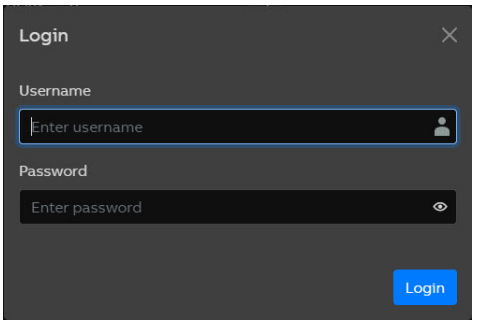
To change the default administrator password:

1. Click the Login/Logout icon in the bottom bar (see Figure 7 on page 7).
2. In the **Login** dialog box that appears (see Figure 8 on page 9), enter the default administrator username and password and click **Login** at the bottom right of the dialog box.

   If the original username and password were not changed as required during commissioning of the analyzer, the default administrator username and password are still:

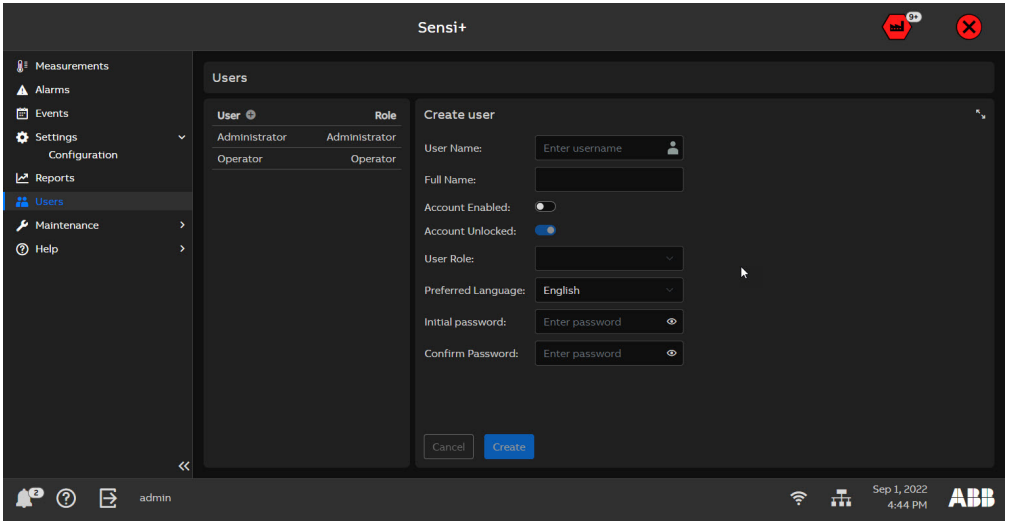
   – Username `admin`
   – Password `Sens1plus!`

Figure 8 Entering the Default Username and Password



3 Once logged in as an administrator, click **Users** in the Sensi+ application sidebar (see “Sidebar” on page 6). The **Users** panel appears to the right.

Figure 9 Users Panel



4 On the **Users** panel, in the **User** list below, click the user named **Administrator**.

Its information is displayed in the panel to the right.

5 If necessary, in the **Administrator** panel, change the **Full name** for something more meaningful.

NOTE: The user name entered when creating a new user **cannot** be changed.

6 In the **Change Password** text field, enter a new password (to make sure that the password is correct, you can reveal it by clicking the eye icon to the right of the text field).

7 In the **Confirm Password** text field, enter the same password as the one entered in the **Change password** text field.

The **Confirm Password** text field is highlighted in red until both passwords match perfectly.

8 Click **Apply** at the bottom of the User panel.

The administrator password is now changed as well as the name displayed for all users with administrator access rights.

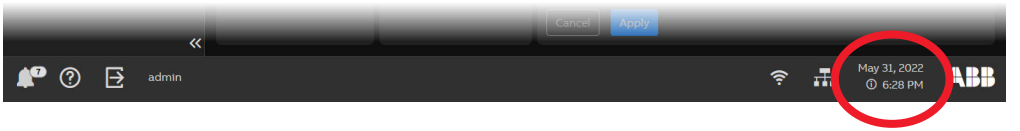
Configuring Analyzer Date and Time

Analyzer date and time should have been set during commissioning of the analyzer. Normally, they do not need to be changed unless 1) the electronics containing the clock chip have been changed, or 2) the clock has drifted over a long period of time (±5 years).

When launching the gas analyzer remote interface, the proper date and time should appear in the bottom bar right corner, next to the ABB logo.

NOTE: All gas analyzer dates and times are in coordinated universal time (UTC). A properly configured browser will automatically translate those dates and times into local time.

Figure 10 Sensi+ Application Bottom Bar



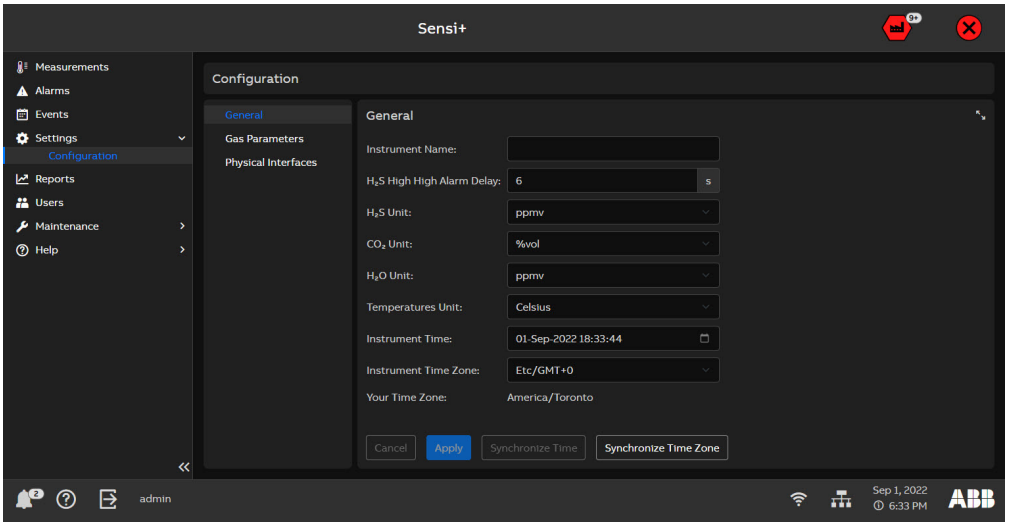
If this is not the case, a circled ¡ appears next to the clock, as shown in Figure 10.

To synchronize the clock:

1 In the Sensi+ application sidebar, select **Settings** > **Configuration**. The **Configuration** panel appears.

2 In the **Configuration** panel, select **General**.

Figure 11 Setting Proper Date and Time Zone



3 At the bottom of the **General** panel, click **Synchronize Time Zone**. The analyzer time synchronizes with the connected PC time zone.

4 Click **Apply** to finish the synchronization procedure.

Naming Your Analyzer

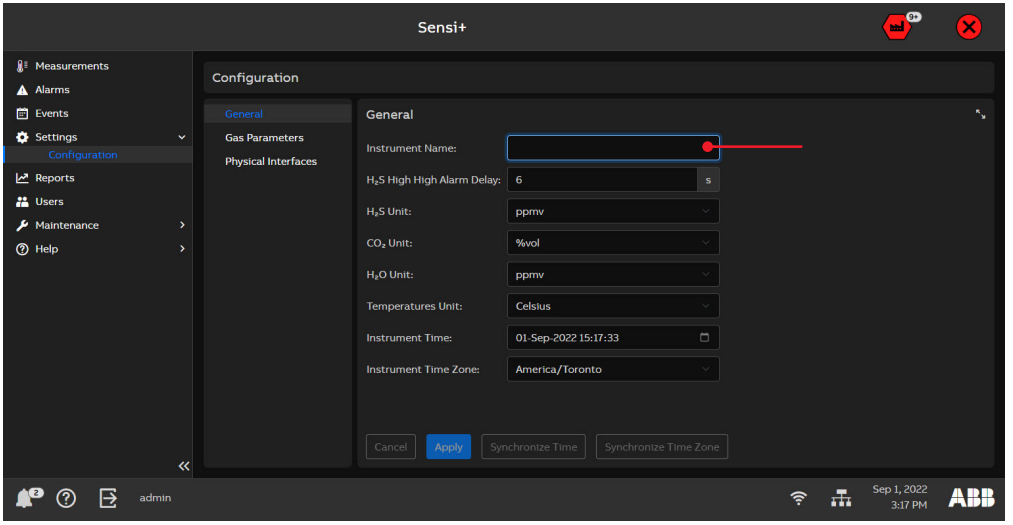
If your Sensi+ is part of a fleet of instruments managed through a network, it is a good idea to assign each instrument on the network a meaningful and easily recognizable name.

To assign a name to your Sensi+:

1 In the Sensi+ application sidebar, select **Settings** > **Configuration**.

2 In the **Configuration** panel displayed, select **General**.

Figure 12 Configuring Sensi+ General Parameters



3 Assign a name to the analyzer in the **Instrument Name** text field.

4 Click **Apply**.

Configuring the Temperature Unit

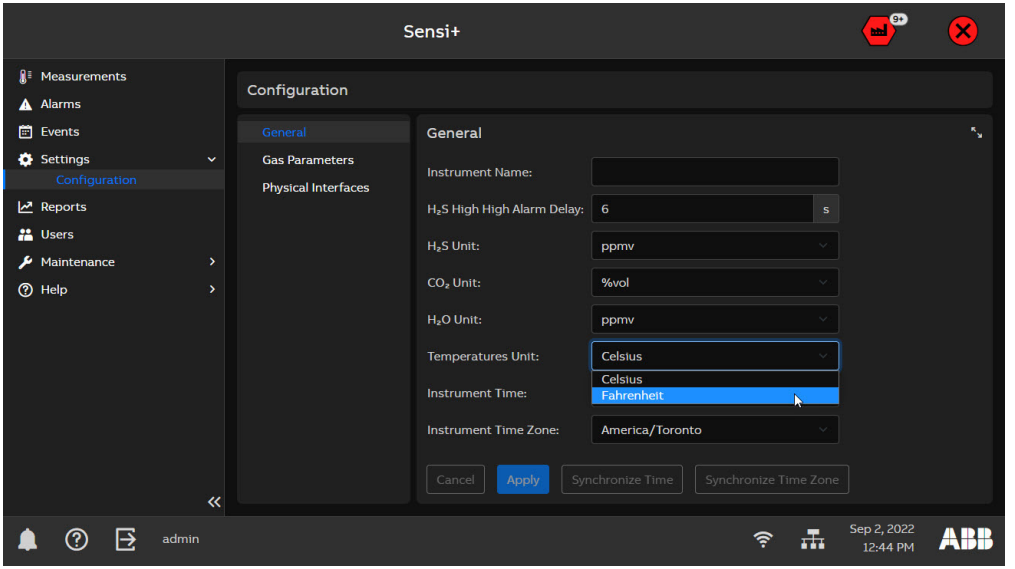
The Sensi+ default temperature unit is the Celsius (°C), but you can change it to the Fahrenheit (°F) is necessary.

To do so:

1 In the Sensi+ application sidebar, select **Settings** > **Configuration**.

2 In the **Configuration** panel displayed, select **General**.

Figure 13 Configuring Sensi+ Temperature Units



3 In the **Temperature Unit** drop-down menu, select **Fahrenheit**.

4 Click **Apply**. Temperature units will now be Fahrenheit (°F) throughout the application.

Configuring Gas Measurement Units

Each gas measurement made by Sensi+ (H_2S, CO_2, and H_2O) can be displayed with one of the following measurement units: ppvm, %vol and mg/m^3.

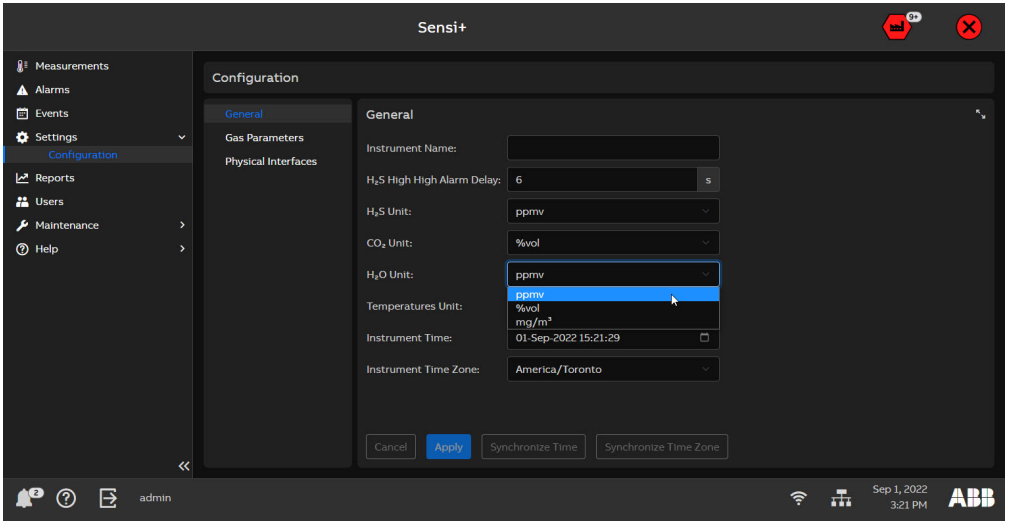
To configure each gas's measurement unit:

1 In the Sensi+ application sidebar, select **Settings** > **Configuration**.

2 In the **Configuration** panel displayed, select **General** (see Figure 14).

3 For each gas measured, select the measurement unit from a drop-down menu.

Figure 14 Selecting a Measurement Unit



4 Once the appropriate measurement units are selected, click **Apply**.

The selected measurement units will be used where appropriate throughout the application.

Configuring Gas Parameters

Gas measurements range and threshold values are factory-set to simplify commissioning. However, these values can be modified if the initial configuration does not correspond to your current situation. The following pages explain how to perform these modifications.

NOTICE

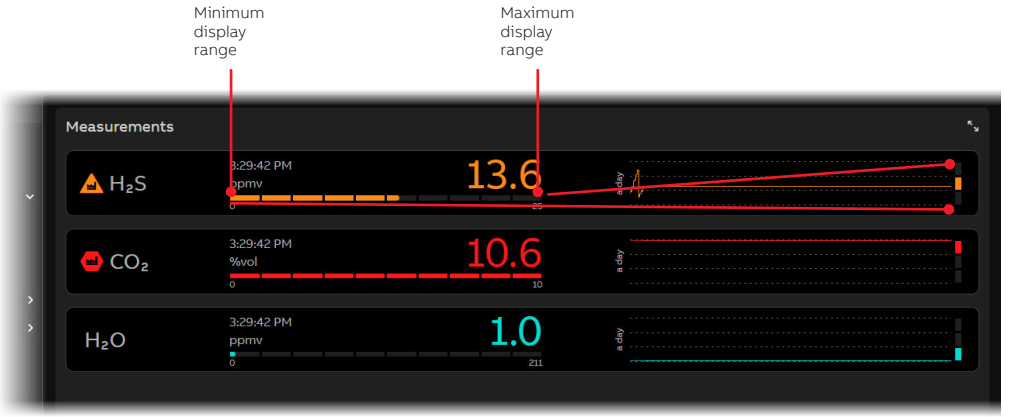
When modifying display range and alarm threshold values, they must follow this logical relation:

- **Min Display Range** < **High Alarm Threshold**
- **High Alarm Threshold** ≤ **High High Alarm Threshold**
- **High High Alarm Threshold** < **Max Display Range**

Configuring the Display Range

Display range values help visualize the recorded data shown in the **Measurements** panel. The values displayed are in direct relation with the 4–20 mA values defined during commissioning of the analyzer. Refer to the Sensi+ Installation and Commissioning Guide for more information.

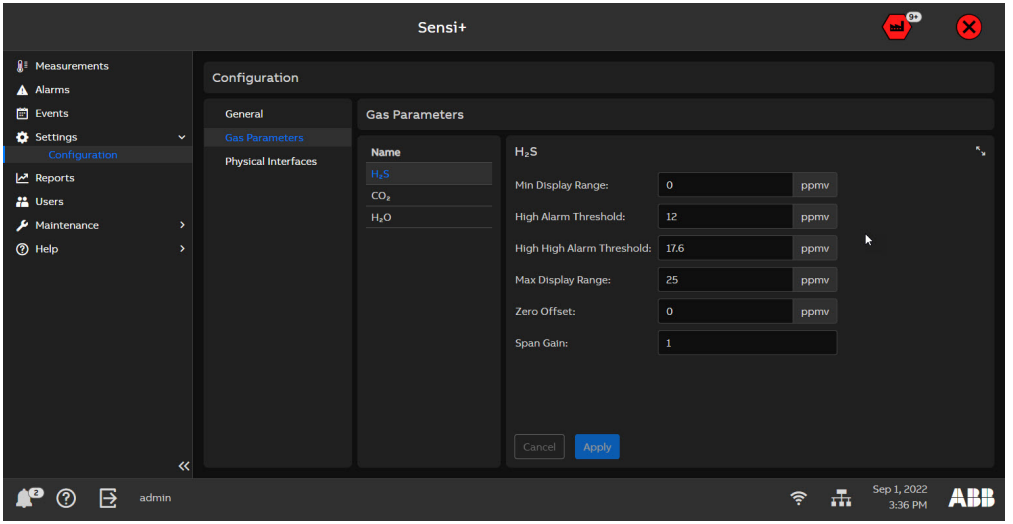
Figure 15 Display Range in Measurements Panel



To set the value display range:

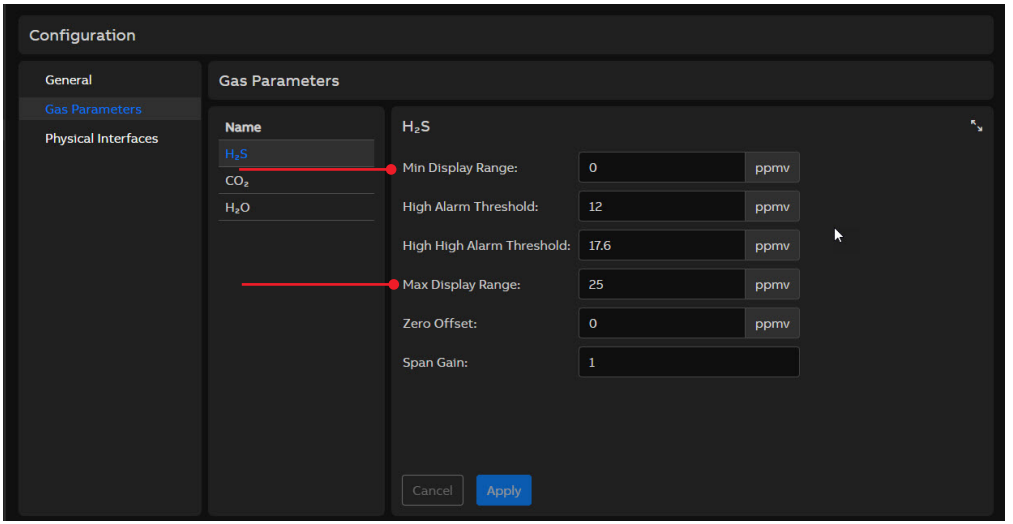
1. From the Sensi+ application sidebar, click **Settings** > **Configuration**.
2. In the **Configuration** panel, select **Gas Parameters** and, under the **Name** column, select the gas whose display range you want to set (see Figure 16 on page 16).

Figure 16 Setting H_2S Gas Parameters



3 Enter the appropriate values in the **Min Display Range** and **Max Display Range** text fields (see below).

Figure 17 Setting the Display Range



NOTE: The unit of measurement used can be changed as necessary (see “Configuring Gas Measurement Units” on page 14). Units of measurements are for each gas.

4 Click **Apply** at the bottom of the panel.

The display range is set. You can repeat this procedure for the remaining gases.

Configuring Alarm Thresholds

Alarm thresholds help highlight problematic levels of a substance in the gas. These thresholds are visible on the **Measurements** panel.

The **High Alarm** threshold is a warning that indicates that attention should be given to a rising gas level. It is indicated by the amber color in the **Measurements** panel.

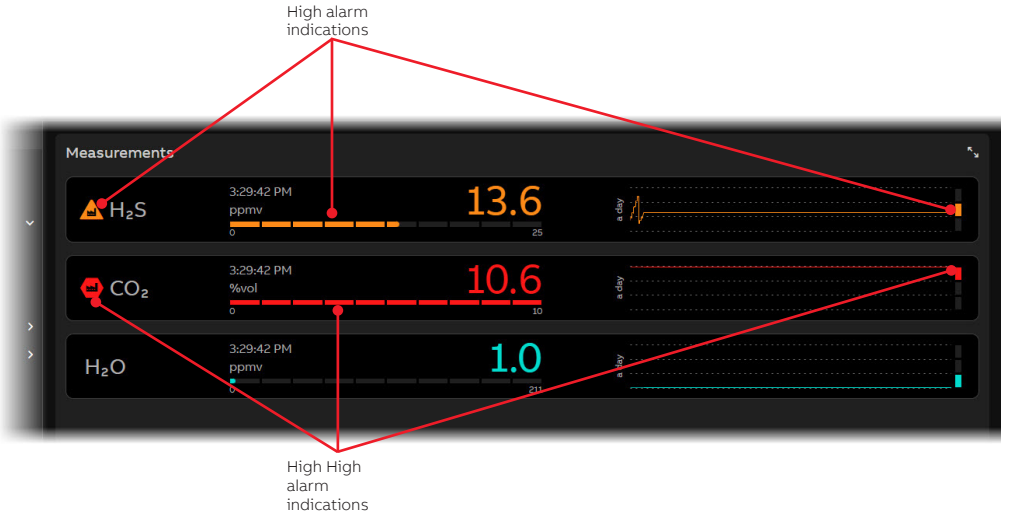
The **High High Alarm** threshold is the actual alarm level where contamination requires actions to be taken. When a High High alarm is registered for any of the measured contaminants, the block valve to the pipeline is closed after the delay set for the High High H_2S alarm (see “Changing the H_2S High High Alarm Delay” on page 19). It is indicated by the color red in the **Measurements** panel.

NOTICE

When modifying display range and alarm threshold values, they must follow this logical relation:

- **Min Display Range** < **High Alarm Threshold**
- **High Alarm Threshold** ≤ **High High Alarm Threshold**
- **High High Alarm Threshold < Max Display Range**

Figure 18 High and High High Alarm Thresholds

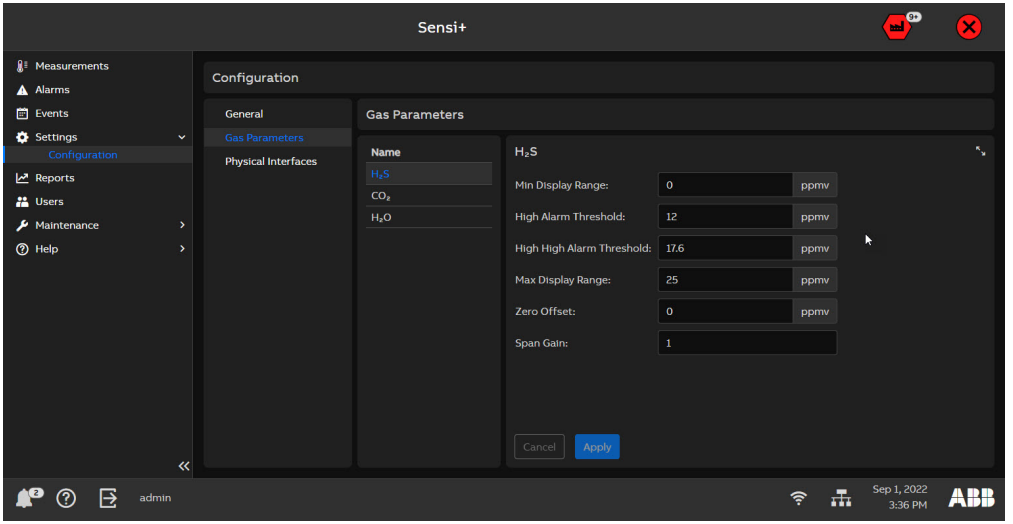


To set the alarm thresholds:

1 From the Sensi+ application sidebar, click **Settings** > **Configuration**.

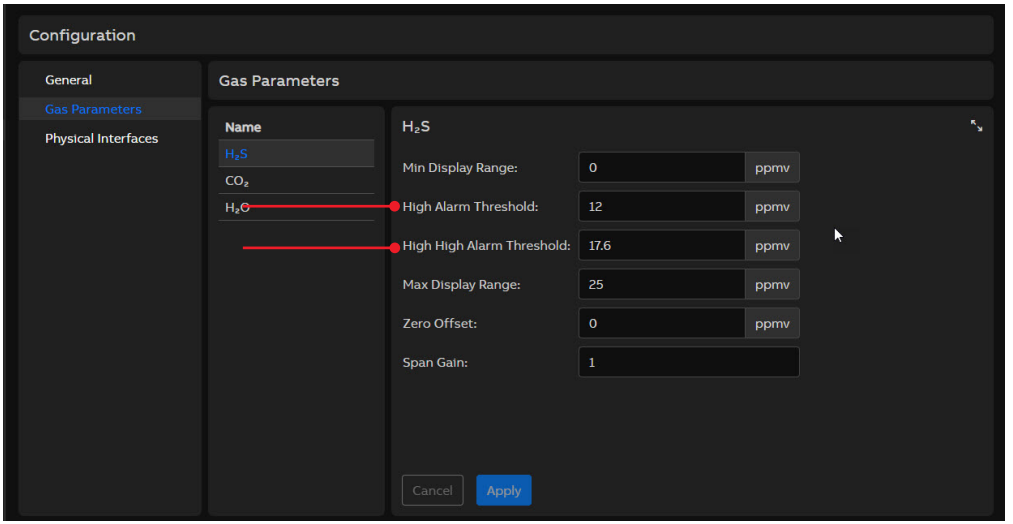
2 In the **Configuration** panel, select **Gas Parameters** and, under the **Name** column, select the gas whose alarm thresholds you want to set.

Figure 19 Setting H_2S Alarm Thresholds



3 Enter the appropriate values in the **High Alarm Threshold** and **High High Alarm Threshold** text fields.

Figure 20 Setting the Alarm Thresholds



NOTE: The unit of measurement used can be changed as necessary (see “Configuring Gas Measurement Units” on page 14). Units of measurements are for each gas.

4 Click **Apply** at the bottom of the panel.

The alarm thresholds are set. You can repeat this procedure for the remaining gases.

Modifying Zero Offsets and Span Gains

These values must be used solely by properly qualified service personnel and should never be modified by unauthorized users.

Changing the H_2S High High Alarm Delay

The H_2S high high alarm delay is the delay between the moment the high high threshold is reached and the moment it is reported (see “Configuring Alarm Thresholds” on page 17). This value must be modified solely by properly qualified service personnel and should never be modified by unauthorized users.

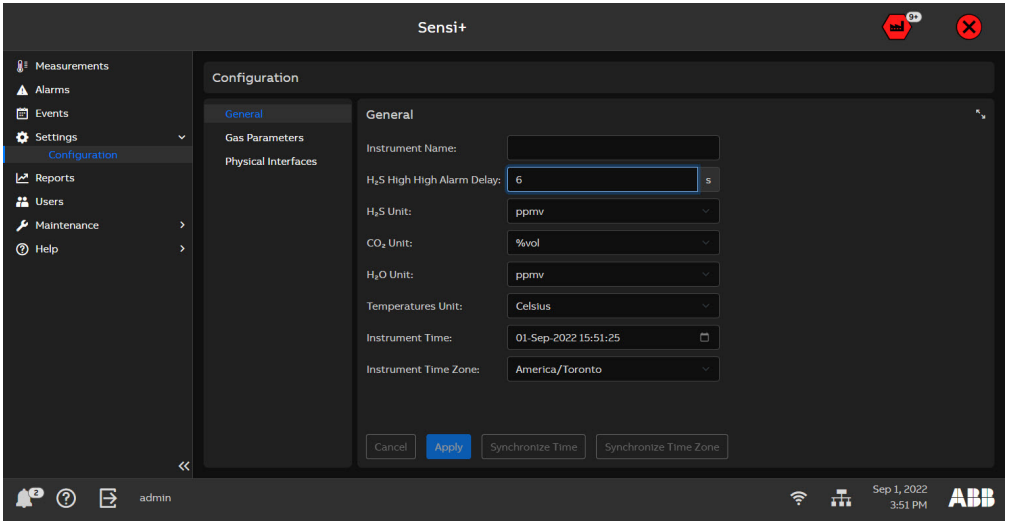
The default delay is six seconds. It ensures that at least three consecutive values are measured above the **Alarm High High** threshold before an alarm is raised.

To change this delay:

1 In the Sensi+ application sidebar, select **Settings** > **Configuration**.

2 In the **Configuration** panel displayed select **General**.

Figure 21 Configuring Sensi+ H_2S High High Alarm Delay



3 Modify the number of seconds in the **H_2S High High Alarm Delay** field.

4 Click **Apply**.

From now on, the set delay will start to count down after recording the first value above the High High threshold. If more values are measured above that threshold during the countdown, the analyzer will raise a High High Alarm and shut down the block valve to the pipeline.

Configuring Internal Connectors

In the first version of the Sensi+ gas analyzers, internal connectors are preconfigured, and very few modifications can be performed. Modifications can be performed on the Ethernet ports, the WiFi connection and the analog output state. These modifications are explained in the following pages.

MODBUS PROTOCOL DISCLAIMER

The Modbus® protocol is an unsecured protocol and, as such, the intended application of this system should be assessed to ensure that these protocols are suitable before implementation. To prevent any unauthorized accesses, always ensure that physical access to the analyzer and network are properly secured. For cybersecurity reasons, ABB decided not to password protect the Modbus communication protocol in Sensi+ series analyzers.

The Sensi+ (GLA533) analyzer requires access to the following TCP ports on the intranet:

- Modbus 502
- TTPS Web Service 443

Modifying the Client Ethernet Port Configuration

The Client Ethernet port, accessible during installation and commissioning (see the Sensi+ Installation and Commissioning Guide) is configured to be a DHCP client. As such, a DHCP host will automatically attribute an IP address to the analyzer upon connection to the network.

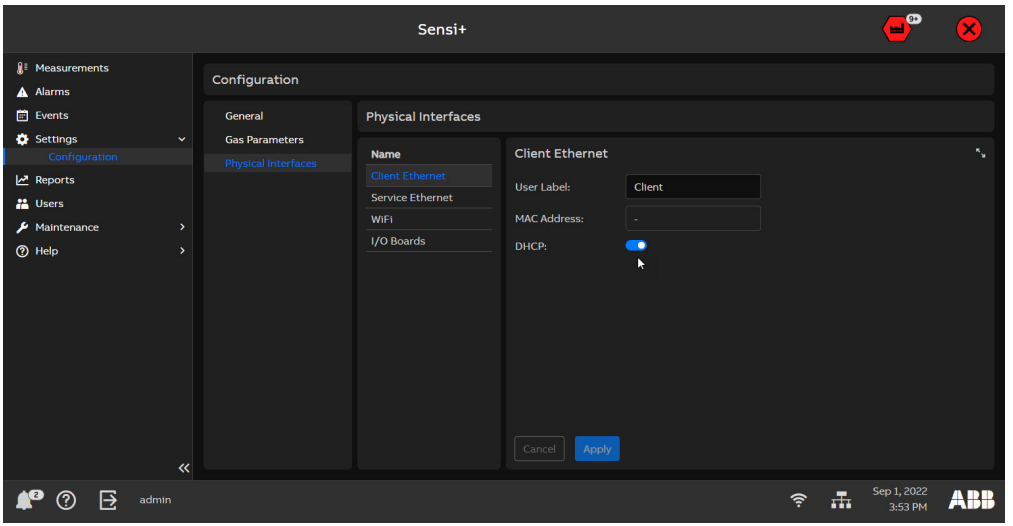
However, it is possible to configure the Client Ethernet port with a fixed IP address.

To modify the Client Ethernet port:

1 In the Sensi+ application sidebar, select **Settings** > **Configuration**.

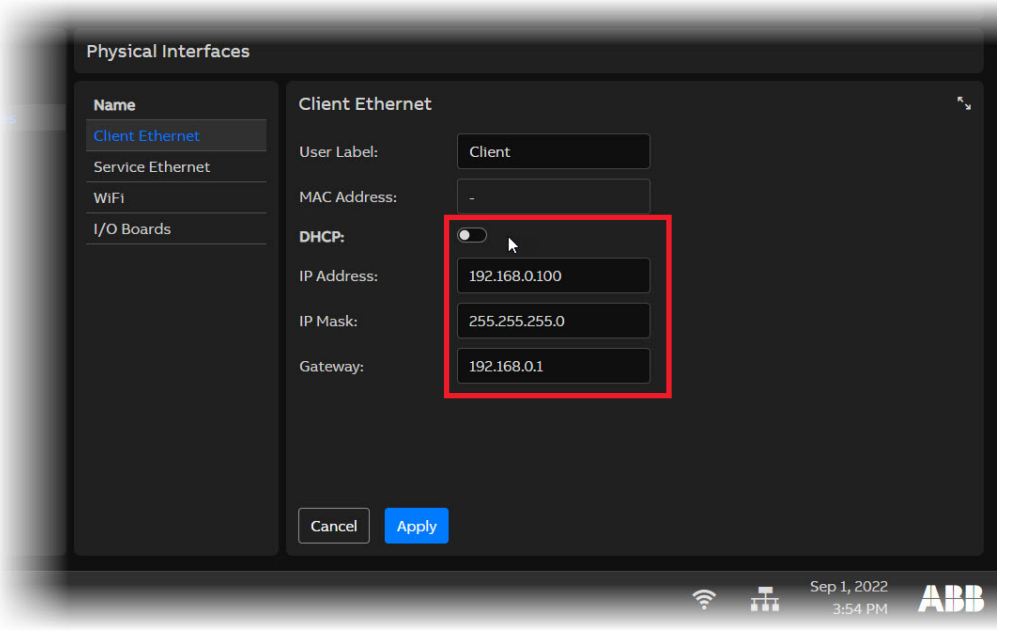
2 In the **Configuration** panel displayed, select **Physical Interfaces** > **Client Ethernet**

Figure 22 Configuring Sensi+ Client Ethernet Port



3 In the **Client Ethernet** panel, click the blue **DHCP** toggle button. This hides the analyzer from the DHCP host and provides specific network connection text fields, as shown in Figure 23.

Figure 23 Configuring Sensi+ Client Ethernet Port IP Addressing



4 Enter the appropriate IP address information relevant to your network in the available fields (**IP Address, IP Mask, Gateway**)

5 Click **Apply**.

The Client Ethernet port becomes visible again on your network, based on the information that you just entered.

NOTE: If necessary, you can also modify the port user label by changing the text in the **User Label** text field.

Modifying the Service Ethernet Port Configuration

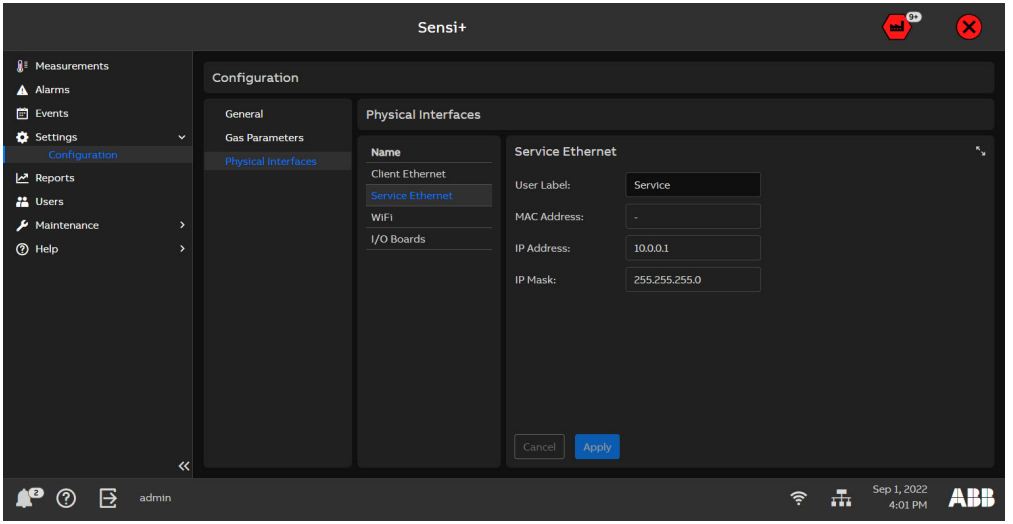
The Sensi+ Service Ethernet port is configured with a fixed IP address (**10.0.0.1**). This address cannot be modified. However, you can modify its user label.

To modify the Service Ethernet port user label:

1 In the Sensi+ application sidebar, select **Settings** > **Configuration**.

2 In the **Configuration** panel displayed, select **Physical Interfaces** > **Service Ethernet**

Figure 24 Configuring Sensi+ Service Ethernet Port User Label



3 Change the text in the **User Label** text field.

4 Click **Apply**.

The Service Ethernet port user label is modified.

Configuring Output Connectors

In the first version of Sensi+, parameters sent through the output connectors (analog and digital) cannot be modified. The proper connections inside the instrument should have been performed during commissioning (for more information, refer to the Sensi+ Installation and Commissioning Guide)

However, since Sensi+ analog connectors are compatible with active or passive modes, you can configure this parameter in the Web remote interface. **By default, analog connectors are set to passive mode.**

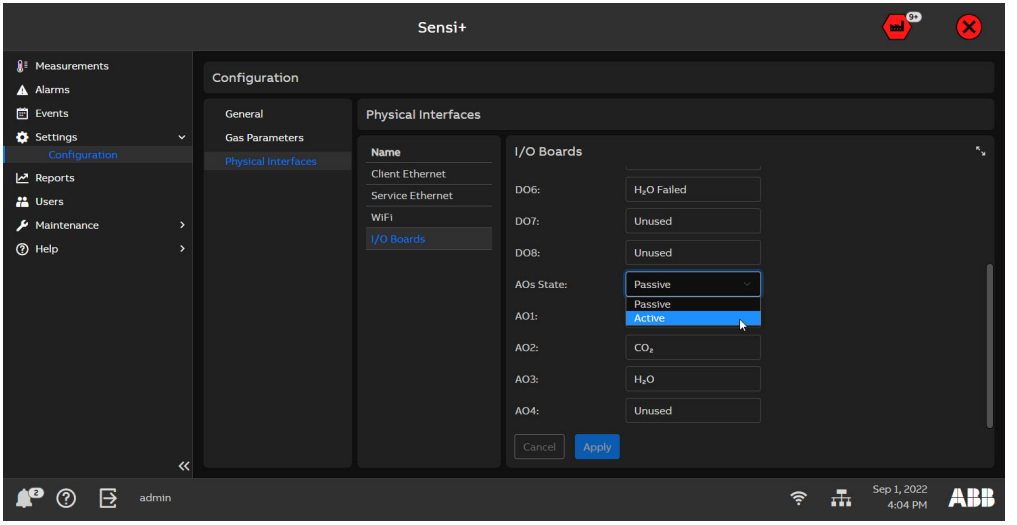
NOTICE

DO NOT change from passive to active mode without first consulting with the personnel who performed the initial installation. Doing so without proper authorization from qualified personnel could damage the analyzer.

To set analog connectors in active mode:

1. In the Sensi+ application sidebar, select **Settings** > **Configuration**.
2. In the **Configuration** panel displayed, select **Physical Interfaces** > **I/O Boards**.
3. Next to the **AOs State** drop-down menu, select **Active** (see Figure 25).
4. Click **Apply**.
5. Reboot Sensi+ (see “Rebooting the Analyzer” on page 57).

Figure 25 Configuring Sensi+ Active Mode for Analog Outputs (AOs)



Configuring the WiFi Connection (optional)

On Sensi+, the WiFi connection is optional. If your Sensi+ comes with this option, an antenna will be visible on the instrument housing. In such a situation, WiFi connectivity is enabled by default. Few parameters can be modified in the first version of the instrument. The analyzer's country of operation, IP address (**10.0.1.1**) and SSID (**GLA533-CPU_Serial_Number**) cannot be modified in the original version of Sensi+.

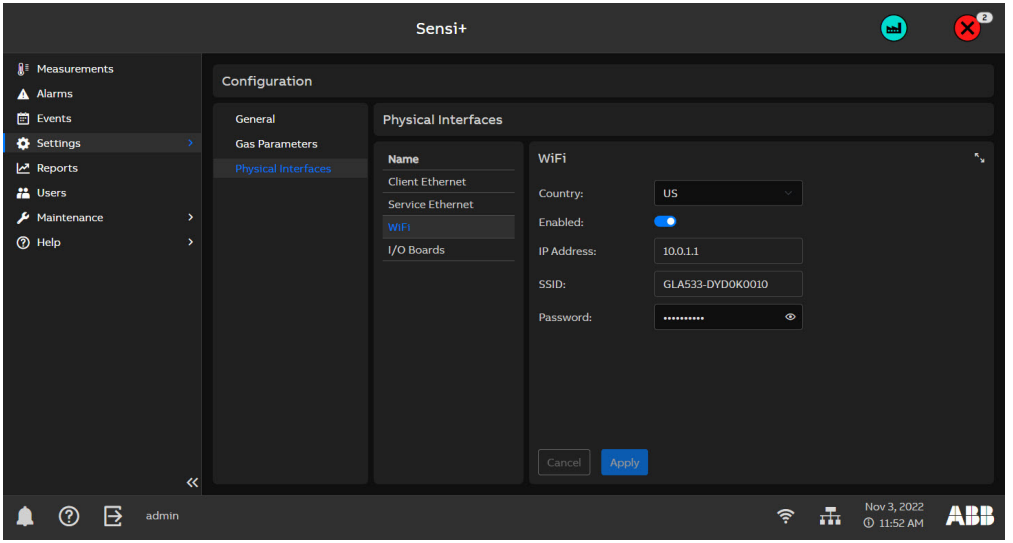
Disabling/Enabling the WiFi connection

To disable (or re-enable) the WiFi connection:

1 In the Sensi+ application sidebar, select **Settings** > **Configuration**.

2 In the **Configuration** panel displayed, select **Physical Interfaces** > **WiFi**

Figure 26 Configuring Sensi+ WiFi connection



3 Click the toggle button next to **Enabled**. The toggle button turns black.

4 Click **Apply** at the bottom of the panel.

The WiFi connection becomes inactive.

If you were currently connected via WiFi, you lose the connection immediately.

Changing the WiFi Password

By default, the Sensi+ password is **Sens1plus!**. It should have been changed upon commissioning of Sensi+.

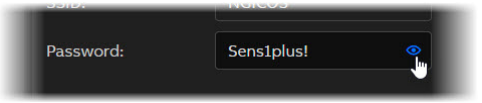
NOTE: If you forgot the WiFi password, only users with administrator or maintenance privileges can recover that password from the analyzer WiFi configuration parameters.

To change it again:

1. In the Sensi+ application sidebar, select **Settings** > **Configuration**.
2. In the **Configuration** panel displayed, select **Physical Interfaces** > **WiFi** (see Figure 26 on page 24).
3. In the **Password** text field, enter a new password.

   To ensure that you enter the correct password, click the “eye” icon on the right-hand side of the text field to reveal the exact content of the password (see Figure 27).

Figure 27 Revealing the Current Password



4. Click **Apply** at the bottom of the panel.

   The new password is now in effect, and will be valid on the **next** connection.

Configuring User Profiles

Different types of users have access to different types of functions in the Sensi+ Web remote interface.

NOTICE

Only users logged in as administrators can create, modify, or delete user profiles.

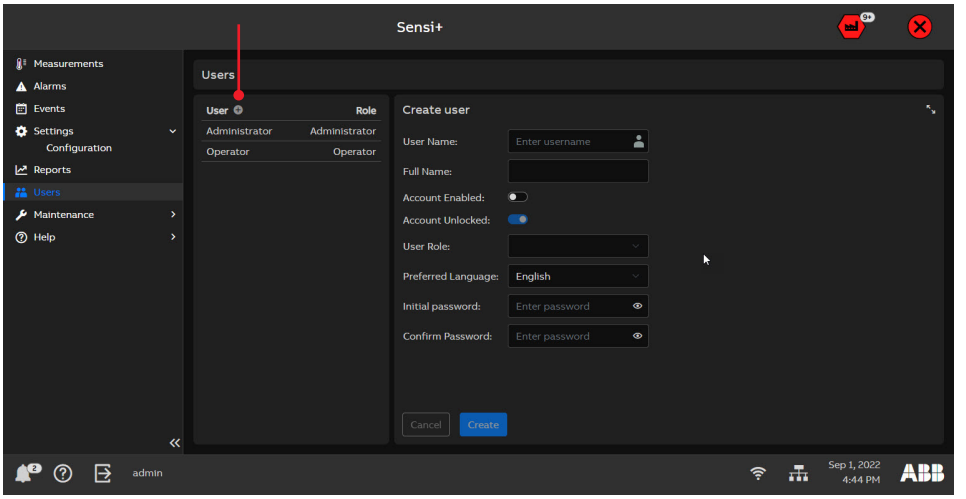
Creating a User Profile

To create a user profile:

1 In the Sensi+ application sidebar, select **Users**.

2 In the **Users** panel displayed, click the **+** sign next to the **User** list title. The **Create user** panel appears to the right.

Figure 28 Creating a User



3 Enter the appropriate information in each field as detailed below:

- **User Name:** the name with which the system will recognize the user (between 3 and 30 characters). It is the name to enter when logging into the system. Once created, this user name cannot be changed. There cannot be two identical user names
- **Full name:** the real name of the user whose profile you are creating.
- **Account Enabled:** by default, a new user account is disabled. Only administrators can enable and disable user accounts (e.g., when an employee leaves). To enable an account, click the **Account Enabled** toggle button. The toggle button turns blue to indicate activation.
- **Account Unlocked:** by default, a new user account is unlocked. A user account can be locked by the system (e.g., after reaching the maximum number of failed password input). Only administrators can unlock user accounts. To unlock it, click the **Account Unlocked** toggle button. The toggle button turns blue to indicate activation.
- **User Role**: each role provides specific access rights to its user. Three roles exist in the original version of the gas analyzer: Operator, Maintenance and Administrator.

Table 1 Access Rights for Each User Role

	Operator	Maintenance	Administrator
Measurements panel	No restrictions	No restrictions	No restrictions
Alarms and **Events** panels	Export, Filter	Acknowledge, annotate, export, filter	Acknowledge, annotate, export, filter
Configuration panel	Vew	View and modify	View and modify
Reports panel	No restrictions	No restrictions	No restrictions
Users panel	Not visible	Not visible	View and modify
Maintenance panel	View analyzer local display	• View analyzer local display • View and modify Validation panel • View and modify Analyzer panel • View and modify Advanced panel	• View analyzer local display • View and modify Validation panel • View and modify Analyzer panel • View and modify Advanced panel
Help panel	No restrictions	No restrictions	No restrictions

- **Preferred Language:** in the original version of the gas analyzer, only English is available.
- **Change Password:** enter a password. When you enter a password, the Confirm Password field becomes highlighted in red.
  To ensure that you enter the correct password, click the “eye” icon on the right-hand side of the text field to reveal the exact content of the password (see Figure 27 on page 25).
- **Confirm Password** (highlighted in red once a password is entered in the field **Change Password**): reenter the same password as the one you entered in the **Change Password** field. When you reenter the password correctly, the red highlight disappears.
  To ensure that you enter the correct password, click the “eye” icon on the right-hand side of the text field to reveal the exact content of the password (see Figure 27 on page 25).

PASSWORD MANAGEMENT RULES

- Passwords must be between 3 and 12 (users) or 16 (administrators) characters long.
- Passwords can contain lowercase and uppercase letters, special characters and numbers.
- Administrator passwords must contain characters from at least two categories.
- Any user is locked out of the system after the 9th try at entering a password. Administrators are locked out for 15 minutes and users, 5 minutes.
- Administrators can unlock any other user and reset all other passwords.
- **If all passwords are forgotten (including the last administrator password), the analyzer will be completely locked and require a factory reset, thus erasing to complete content of all internal databases.**

4 Click **Create**. The new user profile appears in the **User** list and this user can now enter the Web remote interface according to its role.

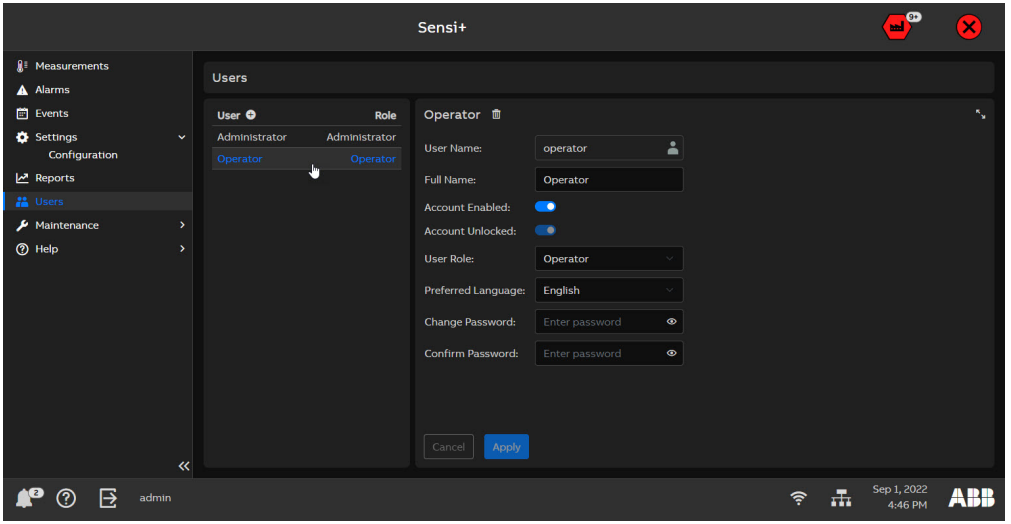
Modifying a User Profile

To modify a user profile:

1 In the Sensi+ application sidebar, select **Users**.

2 In the **Users** panel displayed, select the user whose profile you want to modify.

Figure 29 Editing a User Profile



3 Modify the information as necessary.

NOTE: The user name **cannot** be modified.

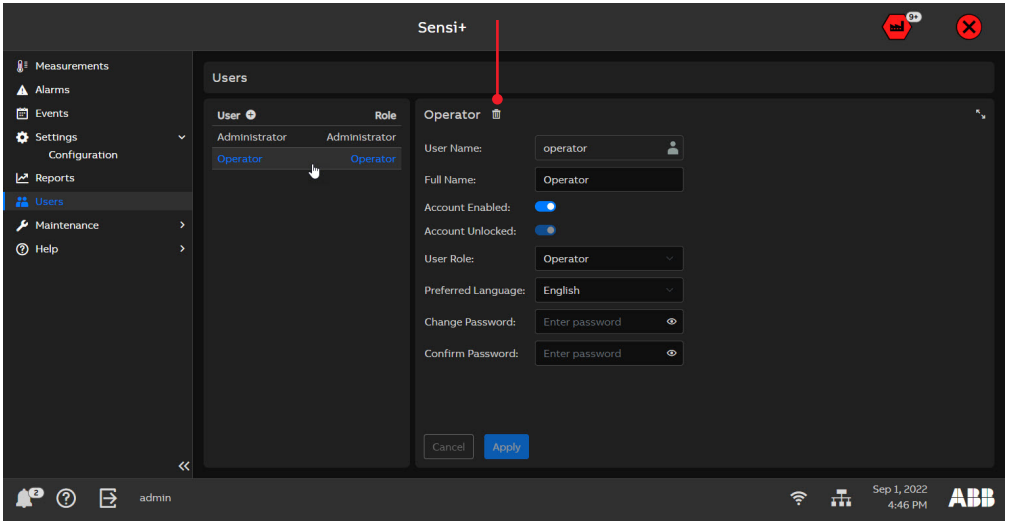
4 Click **Apply**. The modified information becomes active.

Deleting a User Profile

To delete a user profile:

1. In the Sensi+ application sidebar, select **Users**.
2. In the **Users** panel displayed, select the user profile that you want to delete.
3. Click the trash can icon next to the user name at the top of the panel. The user profile is deleted and the person using this profile will no longer have access to the associated functions.

Figure 30 Deleting a User Profile



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CHAPTER 4

Managing Alarms

Alarms can be raised when abnormal situations occur in a monitored process (process alarms) or the analyzer (NAMUR alarms). The following pages explain how to manage these alarms.

Introducing NAMUR and Process Alarm Conventions

The analyzer can raise two alarm types: process and NAMUR. Process alarms indicate abnormal situations within the process (the monitored substances), whereas NAMUR alarms relate to abnormal situations within the analyzer itself.

These are the process alarms:

Table 2 Process Alarms

Alarm	Icon	Meaning
Alert (red)		High High Alarm threshold value reached (as configured in the analyzer)
Warning (amber)		High Alarm threshold value reached (as configured in the analyzer)
Information (cyan)		Low priority notification, mostly refering to a low gas quality

For additional information on configuring alarm thresholds, see “Configuring Alarm Thresholds” on page 17.

Table 3 NAMUR Alarms

Alarm	Icon	Meaning
Failure		Because of hardware problems, values provided by the analyzer are not to be trusted, and IMMEDIATE action must be taken.
Check function		Because of hardware problems, values provided by the analyzer are not to be trusted.
Out of specificaton		When the analyzer recognizes that it is not operating under conditions in which is it supposed to be operating.
Maintenance required		Because of hardware problems usualy related to a part of the instrument that is about to reach its end of life, values provided by the instrument are still valid, but might not be for very long anymore.

Displaying Alarms

General alarm notifications appear in the top right corner of the Sensi+ application (see Figure 4 on page 6).

To display specific alarms (process or NAMUR), click the appropriate icon. The relevant **Alarms** table appears, AND the **Filters** panel appears as well to confirm which alarms are displayed.

You can also click **Alarms** from the Sensi+ application sidebar. When displaying alarms this way, they are not automatically filtered by alarm type (process vs. NAMUR).

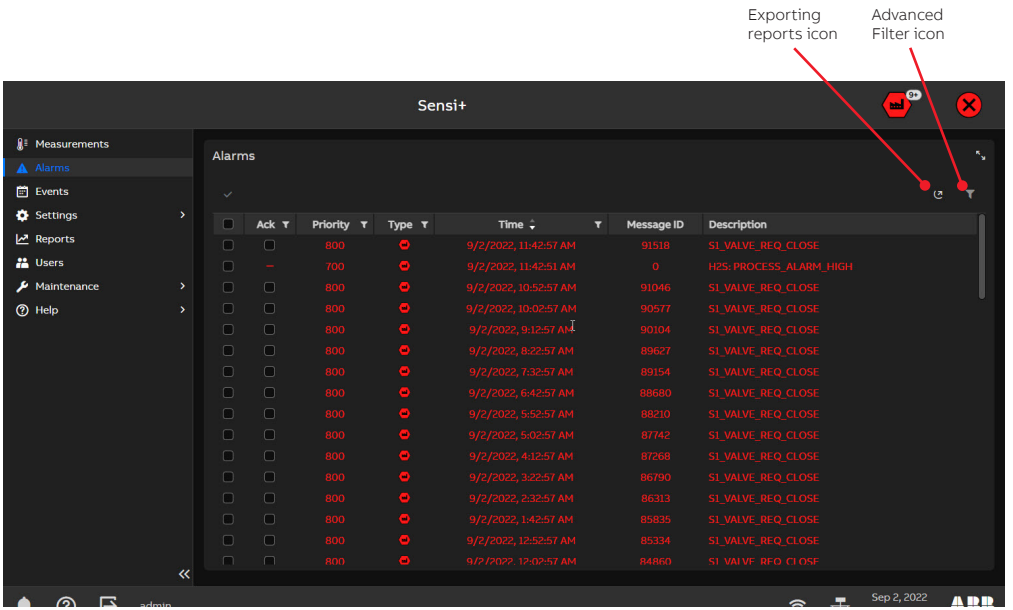
Sorting Alarms

In the **Alarms** panel, you can sort alarms in chronological or reverse chronological order. By default, alarms are sorted in reverse chronological order (most recent first).

To sort alarms:

1 From the Sensi+ application, click **Alarms** in the sidebar.

Figure 31 Alarms Panel



2 In the **Time** column, click ▼ to sort alarms starting with the latest, and ▲ to sort them starting from the earliest.

Acknowledging Alarms

From the **Alarms** table, you can acknowledge individual alarms, more than one alarm or all alarms at once. The following pages explain these procedures.

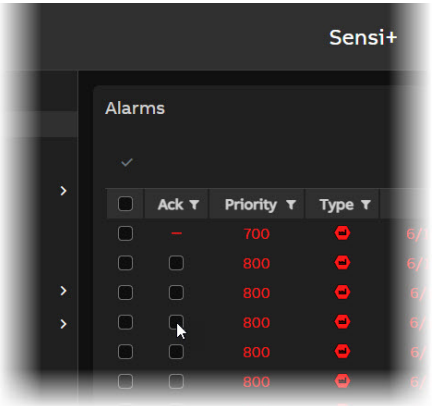
NOTE: Alarms displaying a dash in the **Ack** column cannot be acknowledged and removed from the **Alarms** table.

Acknowledging One Alarm

To acknowledge just one alarm:

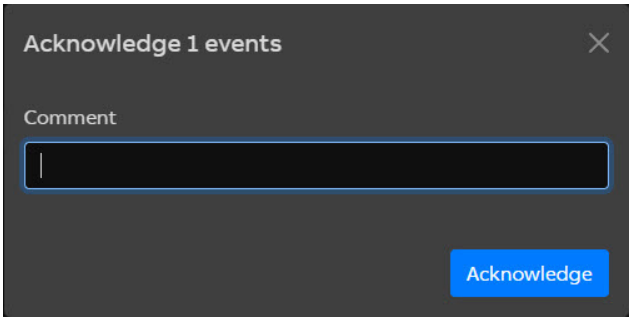
1 From the **Alarms** table, underneath the **Ack** column, check the box next to the alarm that you want to acknowledge (see Figure 32).

Figure 32 Checking a Box to Acknowledge One Alarm



2 As soon as you check the box in the **Ack** column, a **Comment** dialog box appears (see Figure 33) where you can enter a comment as to why you acknowledge the selected alarm.

Figure 33 Commenting on Alarm Acknowledgment



3 Once the comment is entered, click **Acknowledge**. The selected alarm is acknowledged and disappears from the **Alarms** table.

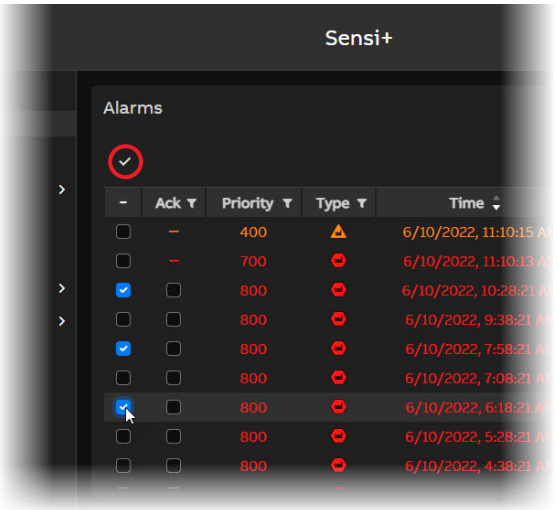
If you need to review the alarm once it has been acknowledged, go to the **Events** table (for more information on managing events, see “Managing Events” on page 43).

Acknowledging More Than One Alarm

To acknowledge more than one alarm:

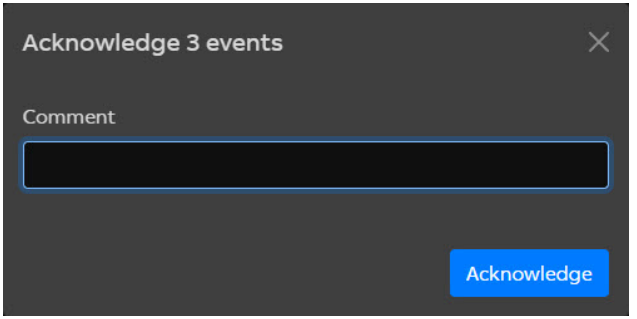
1 From the **Alarms** table, in the leftmost column (left of the **Ack** column), check the boxes next to the alarms that you want to acknowledge (see Figure 34).

Figure 34 Checking More Than One Box Next to Alarms to Acknowledge



2 Click the checkmark at the top of the column (see Figure 34). As soon as you click the checkmark, a **Comment** dialog box appears (see Figure 35) where you can enter a comment as to why you acknowledge the selected alarms.

Figure 35 Commenting on Alarms Acknowledgment



3 Once the comment is entered, click **Acknowledge**. The selected alarms are acknowledged and disappear from the **Alarms** table.

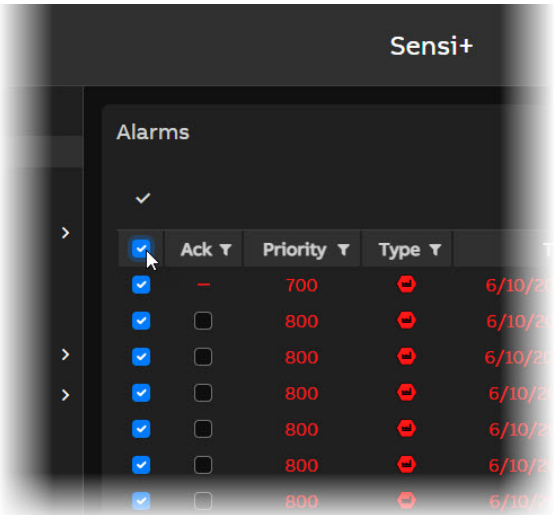
If you need to review the alarms once they have been acknowledged, go to the **Events** table (for more information on managing events, see “Managing Events” on page 43).

Acknowledging All Alarms at Once

To acknowledge all alarms at once:

1 From the **Alarms** table, in the leftmost column (left of the **Ack** column), check the box in the column title. This selects all current alarms (see Figure 36).

Figure 36 Checking All the Boxes Next to Alarms to Acknowledge



2 Click the checkmark at the top of the column (see Figure 34 on page 34). As soon as you click the checkmark, a **Comment** dialog box appears (see Figure 35) where you can enter a comment as to why you acknowledge the selected alarms.

3 Once the comment is entered, click **Acknowledge**. All acknowledgeable alarms are acknowledged and disappear from the **Alarms** table.

If you need to review an alarm once it has been acknowledged, go to the **Events** table (for more information on managing events, see “Managing Events” on page 43).

Filtering Alarms

In the **Alarms** panel, you can filter the content of the alarm table by status, priority, type and/or time period. You can filter the content from the general **Filters** panel or from a specific column in the **Alarms** table. The following pages explain these filtering options.

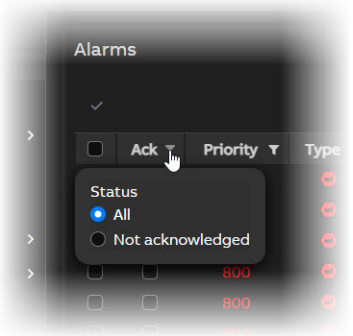
Filtering by Alarm Status

The status of an alarm is either **Acknowledged** or **Not Acknowledged**. You can filter out all alarms that were acknowledged to keep only the alarms still needing acknowledgment.

To do so:

1 From the **Alarms** table, click the funnel icon next to the **Ack** column title. The **Status** filter is displayed.

Figure 37 Status Filter



2 In the **Status** filter, select **Not acknowledged**, then click outside the filter. The filter disappears and only alarms to be acknowledged remain in the **Alarms** table.

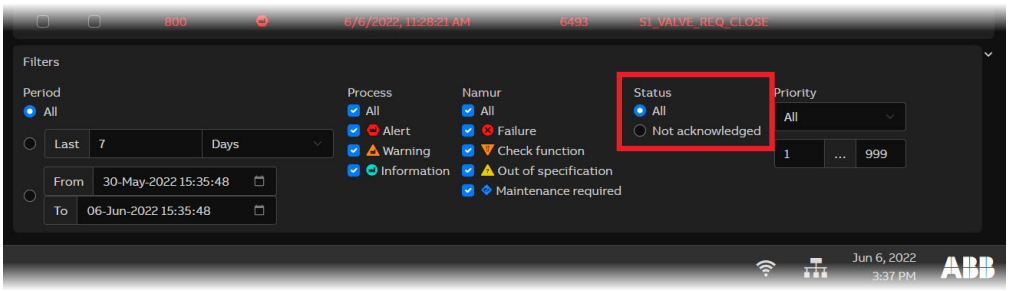
NOTE: When a filter is applied to a column, the funnel icon turns blue.

You can also filter by alarm status from the **Filters** panel.

To do so:

1 From the **Alarms** panel, click the Advanced Filter icon (see Figure 31 on page 32). The **Filters** panel appears below the **Alarms** panel.

Figure 38 Filters Panel by Status



2 Under **Status**, select **Not acknowledged**. All acknowledged alarms are immediately removed from the **Alarms** table.

For more information on acknowledging alarms, see “Acknowledging Alarms” on page 33

3 Close the **Filters** panel by clicking the Advanced Filter icon (see Figure 31 on page 32).

Filtering by Priority

In Sensi+, alarms are assigned a priority, and a level within that priority as shown in the table below.

Table 4 Alarm Priorities

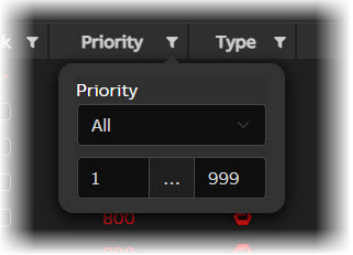
Priority	Severity Level
Information	0 to 99
Notification	100 to 399
Warning	400 to 699
Alarm	700 to 999

You can filter alarms by priority and/or by severity level.

To do so:

1 From the **Alarms** table, click the funnel icon next to the **Priority** column. The **Priority** filter is displayed.

Figure 39 Priority Filter



2 In the **Priority** filter, select the required priority from the drop-down menu. All other priorities are removed from the current **Alarms** table.

3 If necessary, you can fine-tune the filter further by specifying a range of security levels in the text boxes located underneath. The modified range is immediately updated as you change the range of the severity level.

4 Click outside the filter. The filter disappears and only alarms with the specified priorities remain in the **Alarms** table.

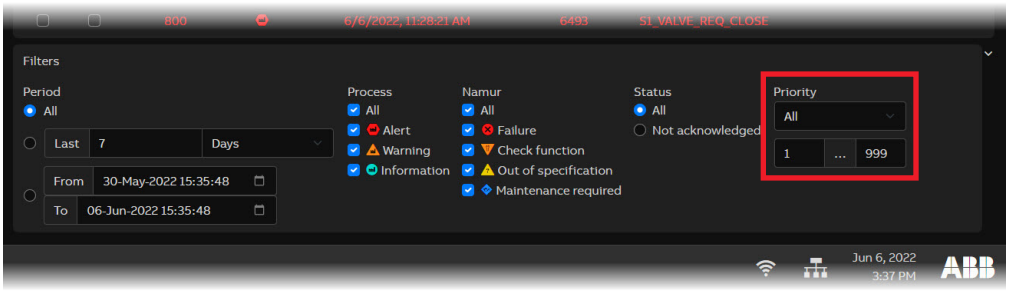
NOTE: When a filter is applied to a column, the funnel icon turns blue.

You can also filter by alarm priority from the **Filters** panel.

To do so:

1 From the **Alarms** panel, click the Advanced Filter icon (see Figure 31 on page 32). The **Filters** panel appears below the **Alarms** panel.

Figure 40 Filters Panel by Priority



2 Under **Priority**, select the required priority from the drop-down menu. All other priorities are removed from the current **Alarms** table.

3 If necessary, you can fine-tune the filter further by specifying a range of security levels in the text boxes located underneath. The modified range is immediately updated as you change the range of the severity level.

4 Close the **Filters** panel by clicking the Advanced Filter icon (see Figure 31 on page 32).

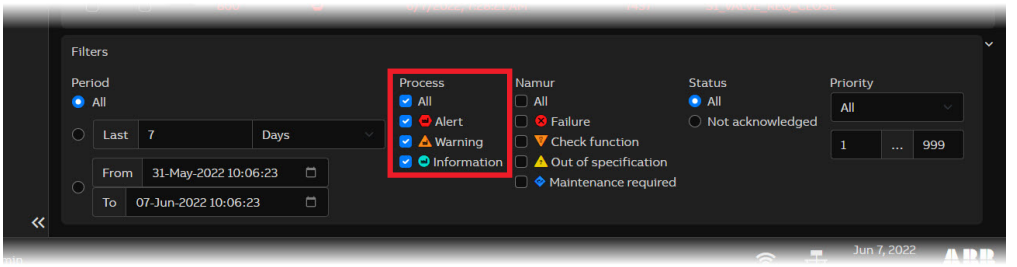
Filtering by Alarm Type

The analyzer can raise two alarm types: process and NAMUR. Process alarms indicate abnormal situations within the process (the monitored substances), whereas NAMUR alarms relate to abnormal situations within the analyzer itself.

Quick Filter

You can quickly filter and display alarms by type. For example, to quickly filter for all process alarms, click the Process alarms indicator in the Sensi+ top bar (see “Sensi+ Application Top Bar” on page 6). The **Alarms** panel opens, as well as the **Filters** panel, which indicates that all process alarms are displayed.

Figure 41 Filters Panel - Only Process Alarms



You can proceed in the same fashion to quickly filter by NAMUR alarms by clicking the NAMUR alarm indicator in the Sensi+ top bar (see “Sensi+ Application Top Bar” on page 6). The **Alarms** panel opens, as well as the **Filters** panel, which indicates that all NAMUR alarms are displayed.

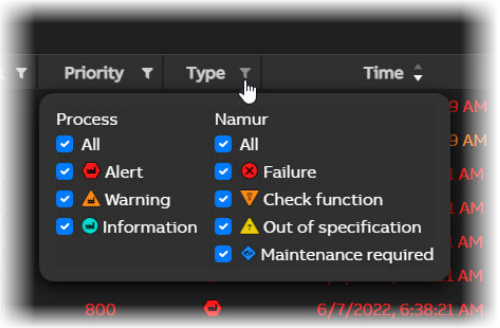
From the Alarms Type column

You can also filter alarms from the **Type** column in the **Alarms** table.

To do so:

1 From the **Alarms** table, click the funnel icon next to the **Type** column title. The **Type** filter is displayed.

Figure 42 Type Filter



2 In the **Type** filter, uncheck the boxes next to the alarm types that you want hide in **Alarms** table, then click outside the filter. The filter disappears and only “checked” alarms remain in the **Alarms** table.

NOTE: When a filter is applied to a column, the funnel icon turns blue.

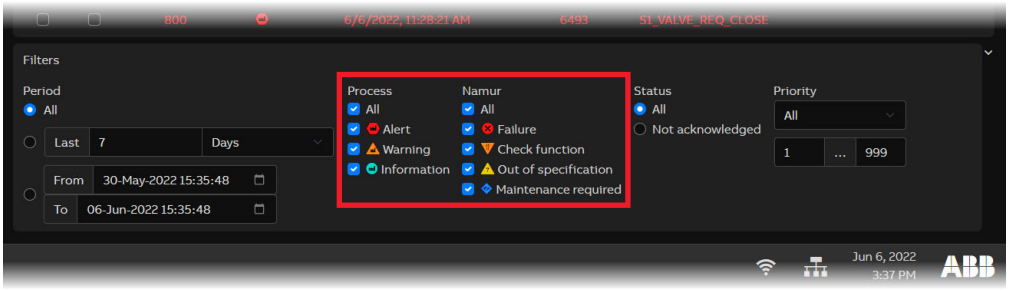
From the Filters panel

You can also filter by alarm type from the **Filters** panel.

To do so:

1 From the **Alarms** panel, click the Advanced Filter icon (see Figure 31 on page 32). The **Filters** panel appears below the **Alarms** panel.

Figure 43 Filters Panel by Type



2 Under **Process** and/or **NAMUR**, uncheck the boxes next to the alarm types that you want hide in **Alarms** table. The unchecked alarms are automatically hidden and only “checked” alarms remain in the **Alarms** table.

3 Close the **Filters** panel by clicking the Advanced Filter icon (see Figure 31 on page 32).

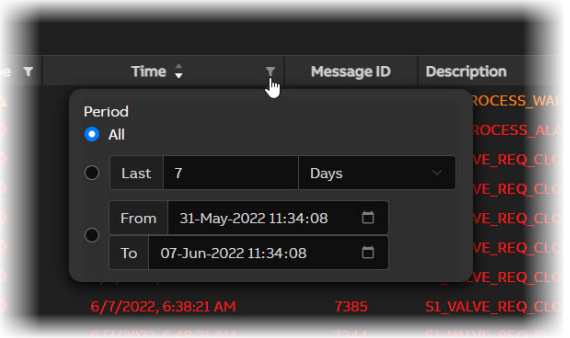
Filtering by Time Period

In the **Alarms** table, you can choose display only alarms that happened during a specific time period

To do so:

1 From the **Alarms** table, click the funnel icon next to the **Time** column title. The **Period** filter is displayed.

Figure 44 Period Filter



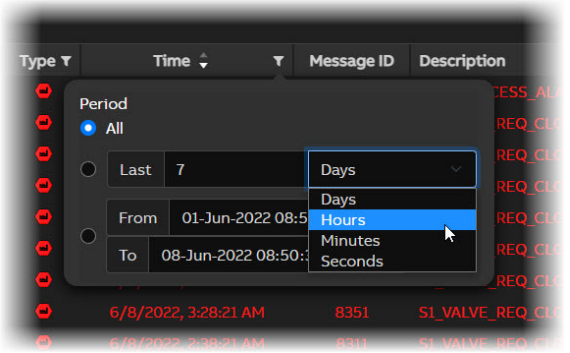
2 In the **Period** filter, you can either specify a relative time period (i.e., last 7 days, last 2 hours, etc.) or an absolute time period (from date and time *x* to date and time *y*).

To set a relative time period:

a Select the proper unit of time (days, hours, minutes, seconds).

b Enter the required number for that time period.

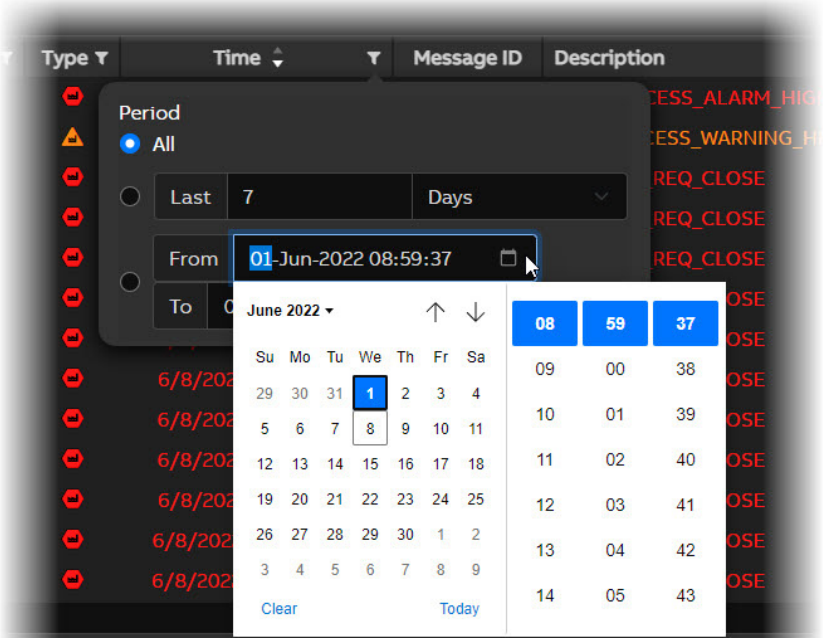
Figure 45 Setting a Relative Time Period Filter



To set an absolute time period:

a In the **From** date field, click the calendar icon on the right-hand side of the field (see Figure 46 on page 41).

Figure 46 Setting an Absolute Time Period Filter



b On the left-hand side of the filter, select the start **date** of the time period.

c On the right-hand side of the filter, select a start **time** for the time period.

d Repeat steps **b** and **c** for the end time period in the **To** date field.
The **Alarms** table is automatically updated.

3 Click outside the filter. The filter disappears and only alarms that occurred during the specified time period remain in the **Alarms** table.

NOTE: When a filter is applied to a column, the funnel icon turns blue.

Exporting Alarms

In the current version of the Web remote interface, alarms cannot be exported independently. However, they can be exported as part of an events report (for more information on exporting events, see “Managing Reports” on page 53).

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CHAPTER 5

Managing Events

Events happen inside the analyzer: configuration changes, status changes (warning to alarm, warning to normal, etc.), system errors and reboots, etc. These events are recorded by the Sensi+ gaz analyzer. The following pages explain how to manage these events.

Displaying Events

To display analyzer events, click **Events** from the Sensi+ application sidebar. By default, events are sorted in reverse chronological order (most recent first), and filtered to display only events that occurred during the last week.

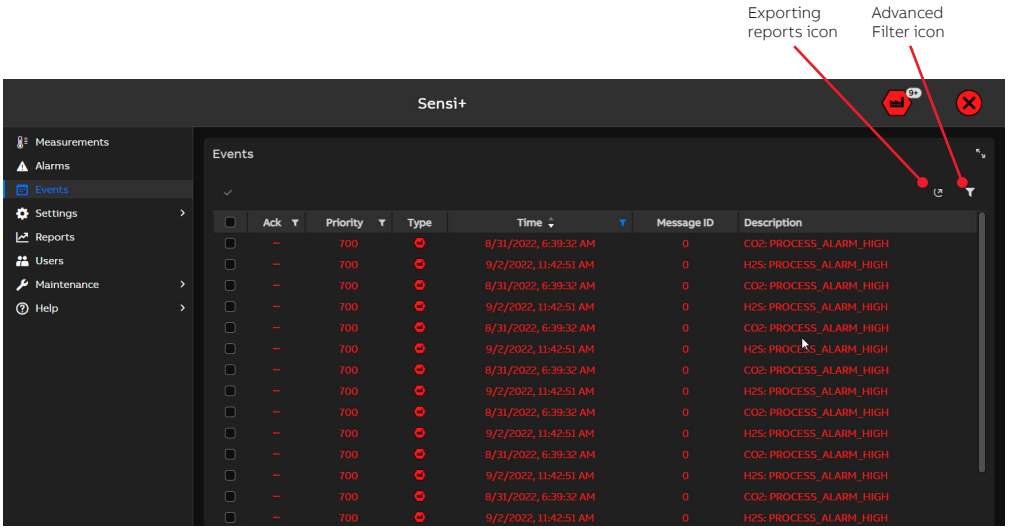
Sorting Events

In the **Events** panel, you can sort events in chronological or reverse chronological order. By default, events are sorted in reverse chronological order (most recent first).

To sort events:

1 From the Sensi+ application sidebar, click **Events**.

Figure 47 Events Panel



2 In the **Time** column, click ▼ to sort alarms starting with the latest, and ▲ to sort them starting from the earliest.

Acknowledging Events

It is possible to acknowledge events for which actions have been taken. You can either acknowledge each event individually or all at once and you can do so while being connected remotely or when you are on site without a computer handy.

From the **Events** table, you can acknowledge individual events, more than one event or all events at once. The following pages explain these procedures.

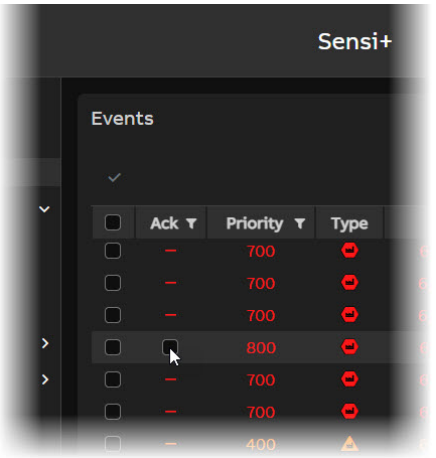
NOTE: Events displaying a dash in the **Ack** column cannot be acknowledged.

Acknowledging One Event

To acknowledge just one event:

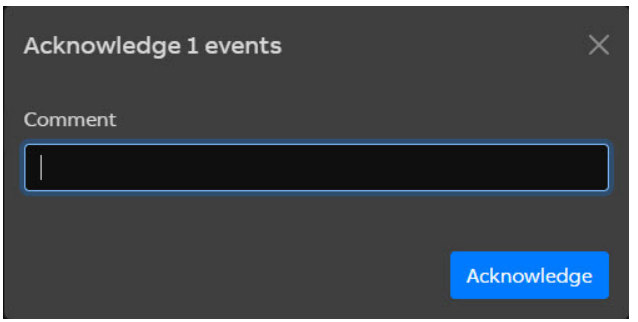
1 From the **Events** table, underneath the **Ack** column, check the box next to the event that you want to acknowledge (see Figure 48).

Figure 48 Checking a Box to Acknowledge One Event



2 As soon as you check the box in the **Ack** column, a **Comment** dialog box appears (see Figure 49) where you can enter a comment as to why you acknowledge the selected event.

Figure 49 Commenting on Event Acknowledgment



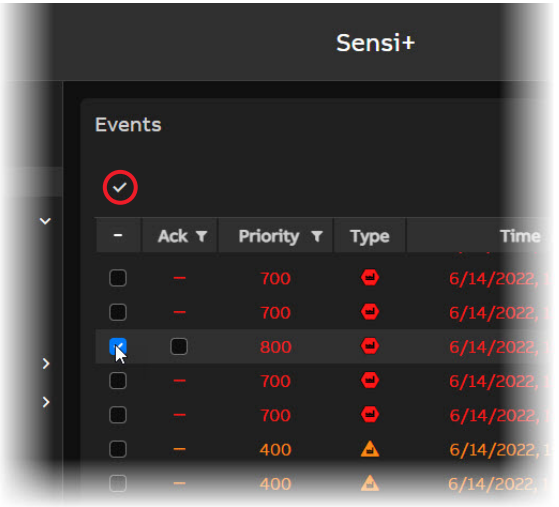
3 Once the comment is entered, click **Acknowledge**. The selected event is acknowledged and a checkmark appears in next to it in the **Ack** column.

Acknowledging More Than One Event

To acknowledge more than one event:

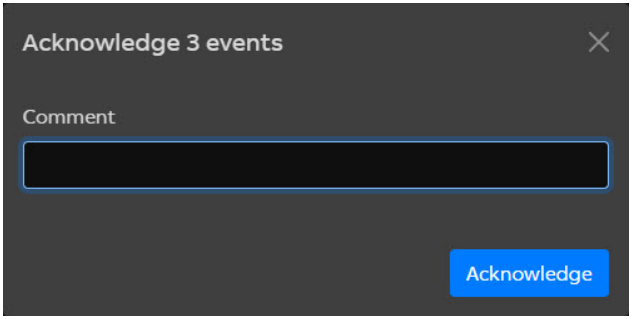
1 From the **Events** table, in the leftmost column (left of the **Ack** column), check the boxes next to the events that you want to acknowledge (see Figure 50).

Figure 50 Checking the Boxes Next to Events to Acknowledge



2 Click the checkmark at the top of the column (see Figure 50). As soon as click the checkmark, a **Comment** dialog box appears (see Figure 51) where you can enter a comment as to why you acknowledge the selected events.

Figure 51 Commenting on Events Acknowledgment



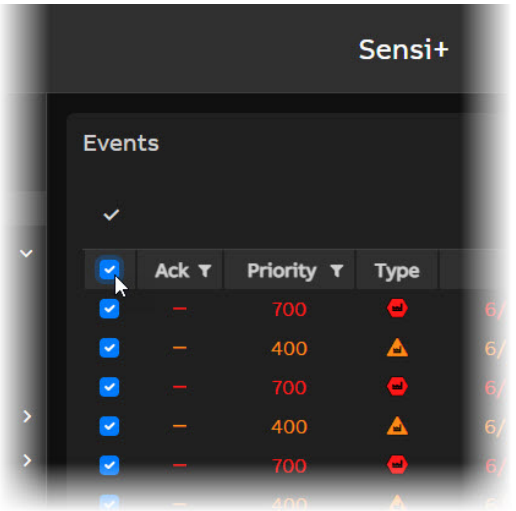
3 Once the comment is entered, click **Acknowledge**. The selected events are acknowledged and a checkmark appears in next to them in the **Ack** column.

Acknowledging All Events at Once

To acknowledge all events at once:

1 From the **Events** table, in the leftmost column (left of the **Ack** column), check the box in the column title. This selects all current events (see Figure 52).

Figure 52 Checking the Boxes Next to Events to Acknowledge



2 Click the checkmark at the top of the column (see Figure 52). As soon as click the checkmark, a **Comment** dialog box appears (see Figure 51) where you can enter a comment as to why you acknowledge the selected events.

3 Once the comment is entered, click **Acknowledge**. All events are acknowledged and a checkmark appears in next to them in the **Ack** column.

Filtering Events

In the **Events** panel, you can filter the content of the event table by status, priority and/or time period. You can filter the content from the general **Filters** panel or from a specific column in the **Events** table. The following pages explain these filtering options.

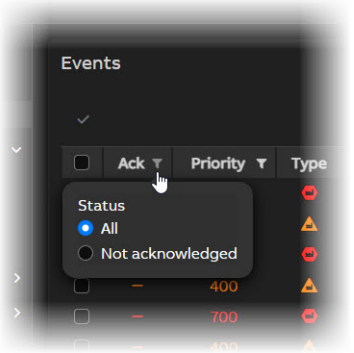
Filtering by Event Status

The status of an event is either **Acknowledged** or **Not Acknowledged**. You can filter out all events that were acknowledged to keep only the events still needing acknowledgment.

To do so:

1 From the **Events** table, click the funnel icon next to the **Ack** column title. The **Status** filter is displayed.

Figure 53 Status Filter



2 In the **Status** filter, select **Not acknowledged**, then click outside the filter. The filter disappears and only events to be acknowledged remain in the **Events** table.

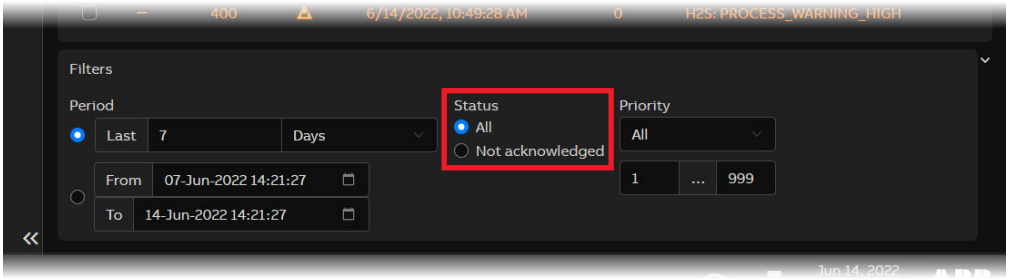
NOTE: When a filter is applied to a column, the funnel icon turns blue.

You can also filter by event status from the **Filters** panel.

To do so:

1 From the **Events** panel, click the Advanced Filter icon (see Figure 47 on page 43). The **Filters** panel appears below the **Events** panel.

Figure 54 Filters Panel by Status



2 Under **Status**, select **Not acknowledged**. All acknowledged events are immediately removed from the **Events** table.

For more information on acknowledging events, see “Acknowledging Events” on page 44.

3 Close the **Filters** panel by clicking the Advanced Filter icon (see Figure 47 on page 43).

Filtering by Priority

In Sensi+, events are assigned a priority, and a level within that priority, as shown in the table below.

Table 5 Event Priorities

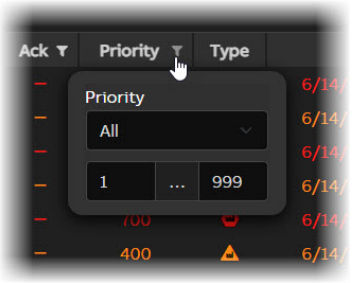
Priority	Severity Level
Information	0 to 99
Notification	100 to 399
Warning	400 to 699
Alarm	700 to 999

You can filter events by priority and/or by severity level.

To do so:

1 From the **Events** table, click the funnel icon next to the **Priority** column. The **Priority** filter is displayed.

Figure 55 Priority Filter



2 In the **Priority** filter, select the required priority from the drop-down menu. All other priorities are removed from the current **Events** table.

3 If necessary, you can fine-tune the filter further by specifying a range of security levels in the text boxes located underneath. The modified range is immediately updated as you change the range of the severity level.

4 Click outside the filter. The filter disappears and only events with the specified priorities remain in the **Events** table.

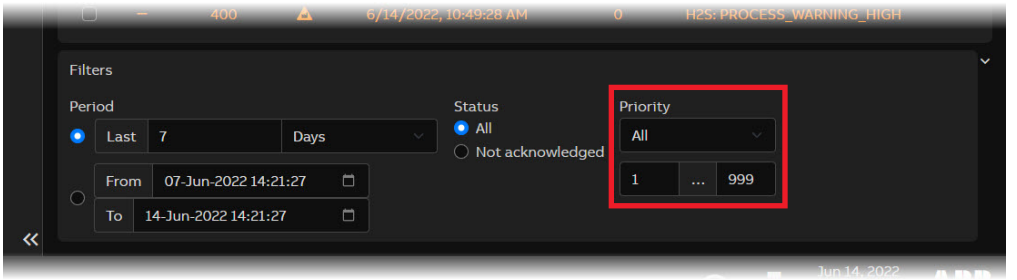
NOTE: When a filter is applied to a column, the funnel icon turns blue.

You can also filter by event priority from the **Filters** panel.

To do so:

1 From the **Events** panel, click the Advanced Filter icon (see Figure 31 on page 32). The **Filters** panel appears below the **Events** panel.

Figure 56 Filters Panel by Priority



2 Under **Priority**, select the required priority from the drop-down menu. All other priorities are removed from the current **Events** table.

3 If necessary, you can fine-tune the filter further by specifying a range of security levels in the text boxes located underneath. The modified range is immediately updated as you change the range of the severity level.

4 Close the **Filters** panel by clicking the Advanced Filter icon (see Figure 47 on page 43).

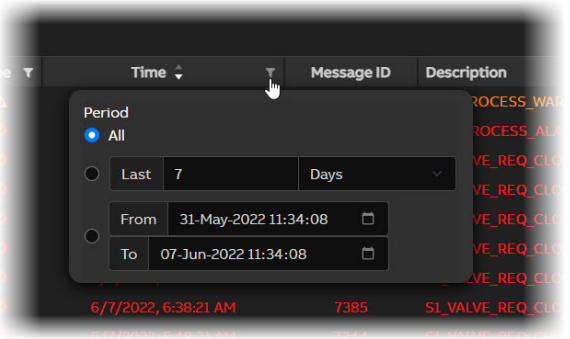
Filtering by Time Period

In the **Events** table, you can choose display only events that happened during a specific time period.

To do so:

1 From the **Events** table, click the funnel icon next to the **Time** column title. The **Period** filter is displayed.

Figure 57 Period Filter



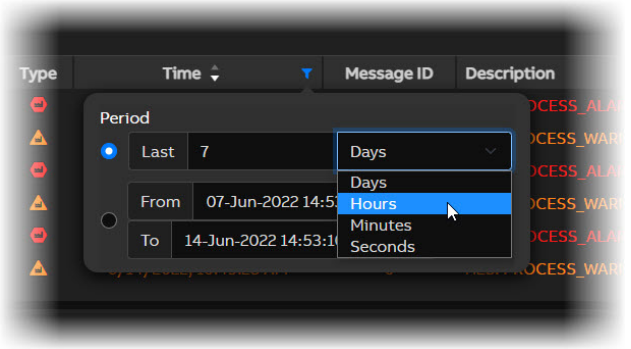
2 In the **Period** filter, you can either specify a relative time period (i.e., last 7 days, last 2 hours, etc.) or an absolute time period (from date and time *x* to date and time *y*).

To set a relative time period:

a Select the proper unit of time (days, hours, minutes, seconds).

b Enter the required number for that time period.

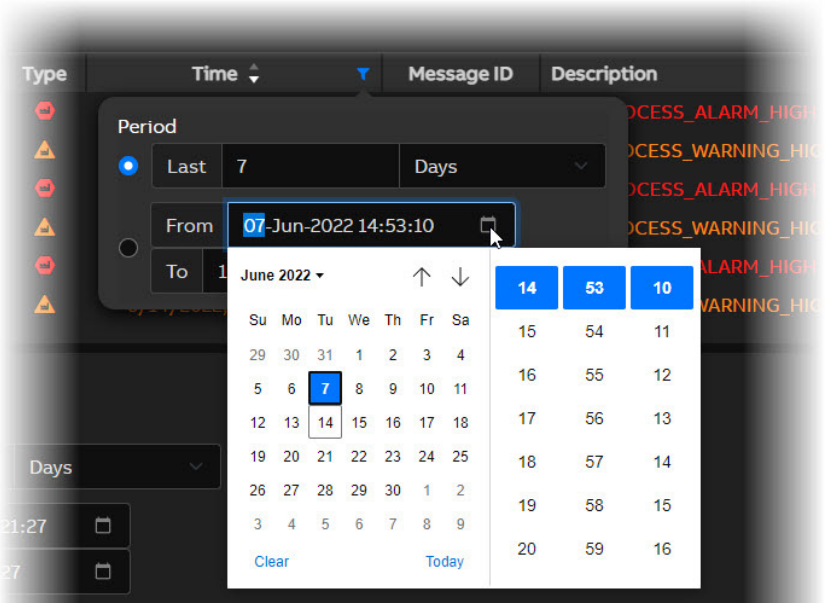
Figure 58 Setting a Relative Time Period Filter



To set an absolute time period:

a In the **From** date field, click the calendar icon on the right-hand side of the field (see Figure 59).

Figure 59 Setting an absolute time period filter



b On the left-hand side of the filter, select the start **date** of the time period.

c On the right-hand side of the filter, select a start **time** for the time period.

d Repeat steps **b** and **c** for the end time period in the **To** date field.
The **Alarms** table is automatically updated.

3 Click outside the filter. The filter disappears and only alarms that occurred during the specified time period remain in the **Alarms** table.

NOTE: When a filter is applied to a column, the funnel icon turns blue.

Exporting Events

In the current version of the Web remote interface, events can be exported from the **Reports** panel. For more information on exporting events, see “Managing Reports” on page 53.

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CHAPTER 6

Managing Reports

With the initial release of the Sensi+ remote software, you can generate and download five types of reports:

- **Events**: content of the **Events** table
- **Results**: instrument data and measured gas concentrations
- **Results (compact)**: instrument data and measured gas concentrations, and instrument health monitoring, in a more compact format
- **Health Monitoring**: instrument health monitoring data
- **Health Monitoring (compact)**: instrument health monitoring data in a more compact format

Generating Reports

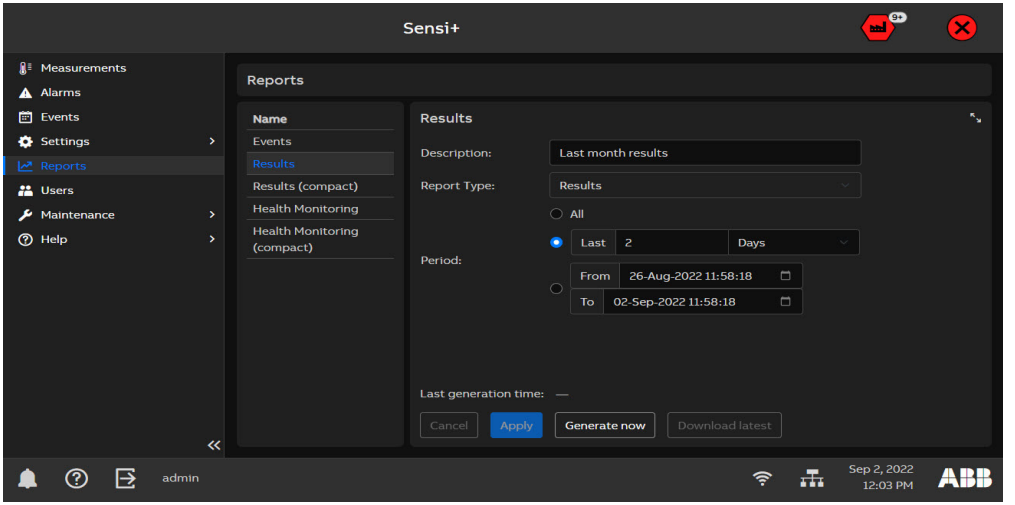
NOTE: Report generation can take between a few seconds and a few minutes depending on the type and size of the report to generate.

To generate any of these reports:

1 In the Sensi+ application sidebar, select **Reports**.

2 In the **Reports** panel, under the reports **Name** list, select the report that you want to generate (see Figure 60).

Figure 60 Selecting a Report to Generate



3 Click **Generate now**. The report file is generated and the date and time of that report appear next to **Latest generation time**. To view the content of this report, you will need to export that report as explained in the next section.

Downloading Reports

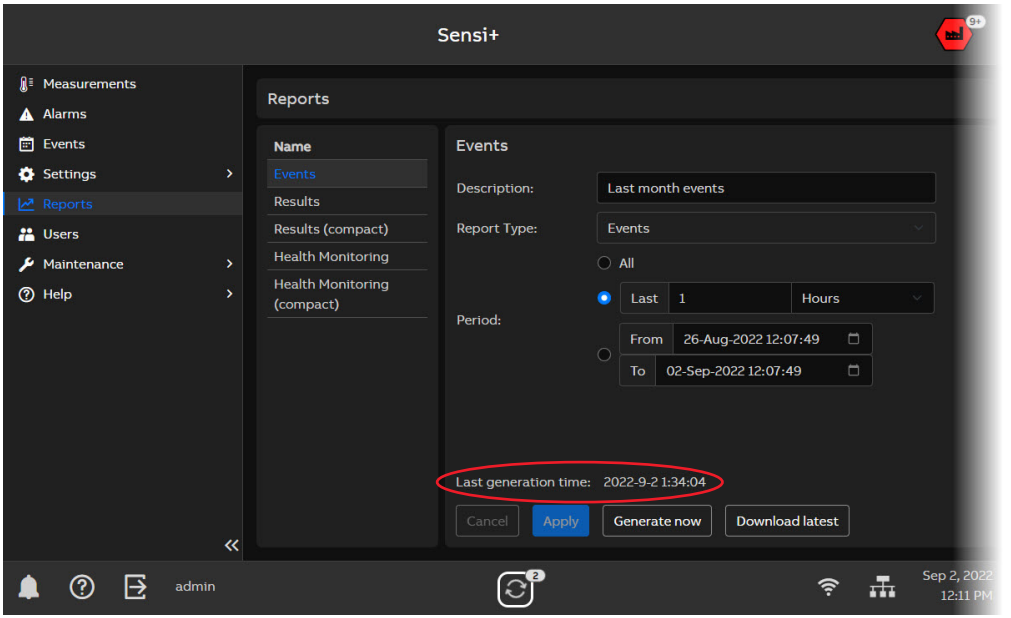
To download any of these reports:

1 In the Sensi+ application sidebar, select **Reports**.

2 In the **Reports** panel, under the report **Name** list, select the generated report that you want to download (to generate a report, see “Generating Reports” on page 53).

If there is no **Latest generation time** indicated, no report has been generated at this point. You will need to generate that report before downloading it, as explained in “Generating Reports” on page 53

Figure 61 Downloading an existing report



3 Click **Download latest**. A **Save As** dialog box appears in which you can browse to a directory where you want to save the report file (*.tsv* file).

NOTE: *.tsv* files are tab-delimited text files. They can be opened in generic text applications like Microsoft® NotePad™ or in spreadsheet programs like Microsoft Excel®.

4 If necessary, you can also change the name of the report file. By default, the report is named as indicated in the **Reports** list (*Events.tsv, Results.tsv, CompactResults.tsv, HealthMonitoring.tsv, CompactHealthMonitoring.tsv*).

5 In the **Save As** dialog box, click **Save**.

The report file is downloaded in the selected directory.

CHAPTER 7

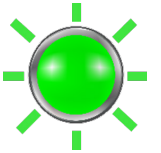
Troubleshooting

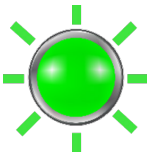
As usual with ABB products, reliability is of the essence. Troubleshooting might happen occasionally. Most of the time, service has to be performed by authorized ABB service personnel. If such situations arise, you will need to contact ABB after-sales service. When in contact with ABB service personnel, you might be asked to provide certain information about your system. The following pages provide relevant details.

Diagnosing Problems

Most problems that could happen within the Sensi+ gas analyzer will be recorded as events in the **Events** table. You will be informed of these problems either with alarms or by looking at the LEDs on the analyzer housing. The meaning of the various LEDs is explained below.

Table 6 Analyzer LED Behavior

 Power		 Process		 NAMUR	
	Solid YELLOW (power on; during software boot process)		OFF (during boot and warmup process)		OFF (during boot process)
	Solid GREEN (when powered up; software booted)		OFF (during boot and warmup process)		Blinking GREEN (during warmup; normal initialization phase)
	Solid GREEN (when powered up; software booted)		Solid GREEN (when process values are valid; software booted, no process error)		Solid GREEN (when powered up; software booted, no NAMUR error)

Power		Process		NAMUR	
					Solid YELLOW (analyzer Out Of Specification [see page 31])
			Solid ORANGE (Warning [see page 31])		Solid ORANGE (Check Function; temporarily invalid [see page 31])
			Solid RED (Alarm [see page 31])		Solid RED (Alarm [see page 31])
			Solid BLUE (notifications)		Solid BLUE (valid system data, but requires maintenance)
	Solid GREEN		OFF (during boot, warmup and **SW update process**)		Blinking BLUE (during Software upload / update process)
	Solid GREEN		OFF (during boot, warmup and **SW update process**)		Blinking GREEN (during application restart after SW update; normal initialization phase)
	Solid GREEN (when powered up; software booted)		Solid GREEN (values valid; software booted, no error)		Solid GREEN (powered up; software booted, no NAMUR error)
	Solid GREEN (when powered up; software booted)		OFF (during boot, warmup and **SW update process**)		Solid BLUE (software update error)

Rebooting the Analyzer

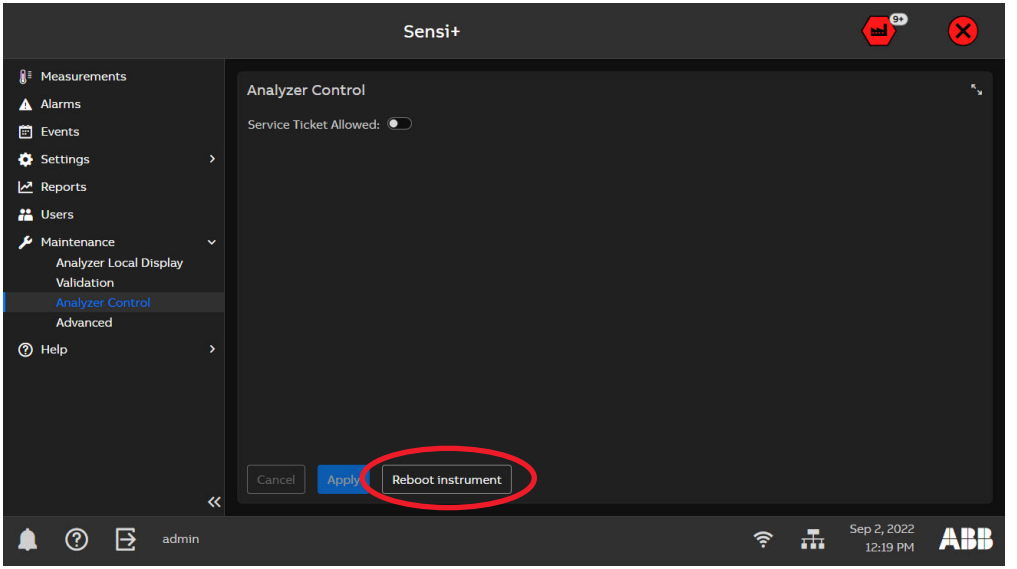
After performing certain maintenance tasks, you might need to reboot the analyzer.

To do so:

1 In the Sensi+ application sidebar, select **Maintenance > Analyzer Control**.

2 In the **Analyzer Control** panel, click **Reboot instrument** (see Figure 62).

Figure 62 Rebooting the Analyzer



The instrument will shut down and restart, going through all the initialization process. You can follow the reboot process by watching the LEDs behavior, as indicated in Table 6 on page 55.

Installing Firmware Updates

At some point in the future, you might be asked by ABB service representatives to update your analyzer firmware. Firmware updates can only be performed locally via a USB key.

Before performing any firmware update, it is **strongly recommended** to export your system results and events (see “Managing Reports” on page 53).

To install a firmware update:

1 Insert the USB key containing the firmware update in the analyzer USB port.

2 Reboot the analyzer (see “Rebooting the Analyzer” on page 57)

Once the analyzer has rebooted, follow the on-screen instructions.

Performing Analyzer Validation

Analyzer validation is typically performed at the end of commissioning to ensure that the system is working properly from the beginning.

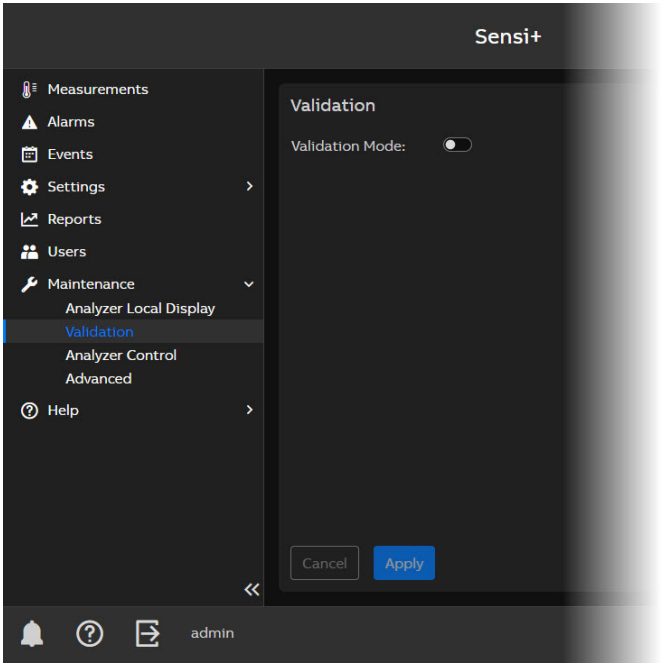
To perform a validation:

1 Connect the computer and the analyzer (see “Connecting to the Analyzer” on page 2).

2 Log in to the analyzer as administrator (see “Logging Into the Analyzer” on page 3).

3 In the Sensi+ application sidebar, select **Maintenance > Validation** (see Figure 63).

Figure 63 Validation panel



4 From the **Validation** panel, click the **Validation Mode** toggle button, then click **Apply**.

This raises a NAMUR orange alarm (instrument not ready/unhealthy) (see “Introducing NAMUR and Process Alarm Conventions” on page 31).

5 Prepare the system to switch from live stream to validation gas bottle.

6 Connect the validation gas bottle to the gas input port and make sure that it is ready for the switch from live stream.

7 Switch stream to the validation gas bottle and note the required information.

8 Switch back to live stream and disconnect the validation gas bottle.

9 Wait until measurements return to their normal/expected values.

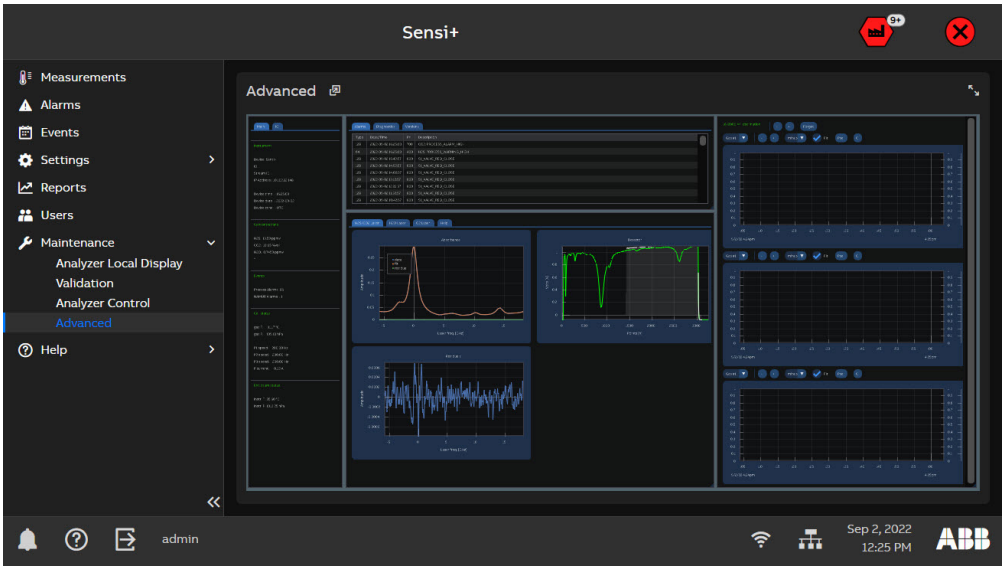
10 Once the measured values have returned to normal, go back to the **Validation** panel (**Maintenance > Validation** [see Figure 63]), click the **Validation Mode** toggle button, then click **Apply**.

Performing Advanced Troubleshooting

Performing advanced troubleshooting is reserved to personnel who has received the appropriate training. During this training, they will have received all the instructions needed to understand the underlying analyzer behavior.

An advanced troubleshooting panel is accessible from the Sensi+ application sidebar under **Maintenance > Advanced**.

Figure 64 Advanced Maintenance Panel



About Your Sensi+ Gas Analyzer

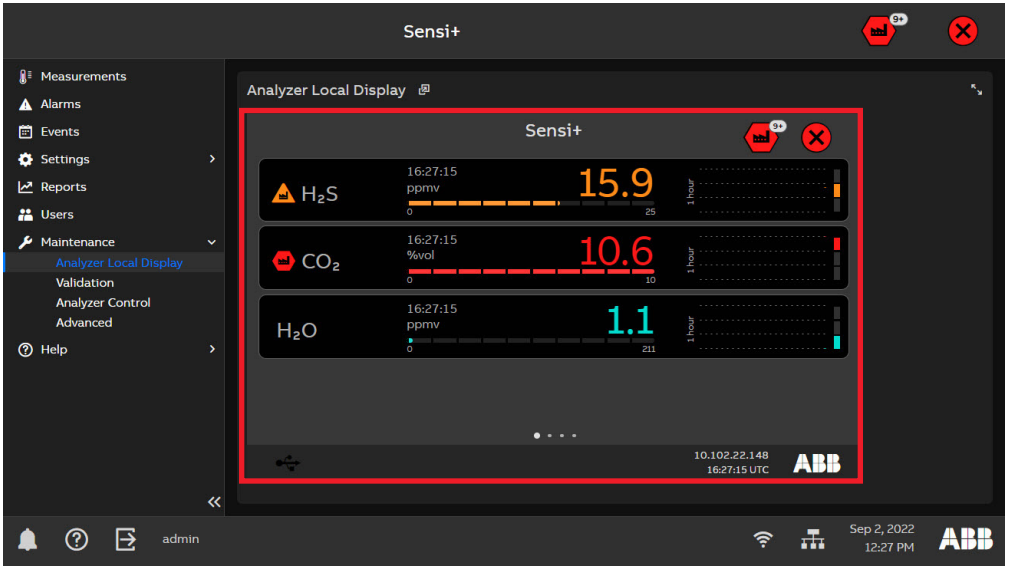
Should you need to contact the ABB after-sales service for troubleshooting purposes, you might be asked to provide specific information about your analyzer. This information is accessed either directly on the analyzer physical screen or remotely from the analyzer local display panel in the Web remote interface.

To access this information:

1 In the Sensi+ application sidebar, select **Maintenance > Analyzer local display**. The exact information displayed on the analyzer physical screen appears on the remote interface.

NOTE: The first of four dots is highlighted at the bottom of the analyzer local display. These dots are **panel identifiers** to help you navigate through the information panels of the local display.

Figure 65 Analyzer Local Display in the Sensi+ Application

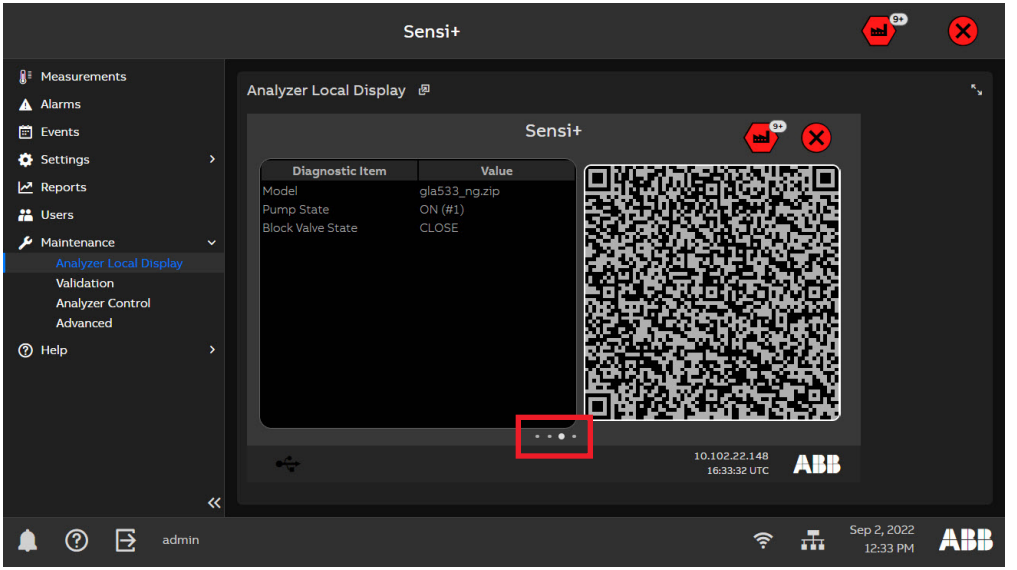


2 On your computer keyboard, press the right arrow twice or reach the third panel of the local display. This gives you access to some basic mechanical information about the analyzer, including a QR code.

NOTE: From the Web remote interface, you can use all keyboard arrow keys (up, down, left, right) to navigate through the various local GUI screens, as you would with gesture on the real local GUI.

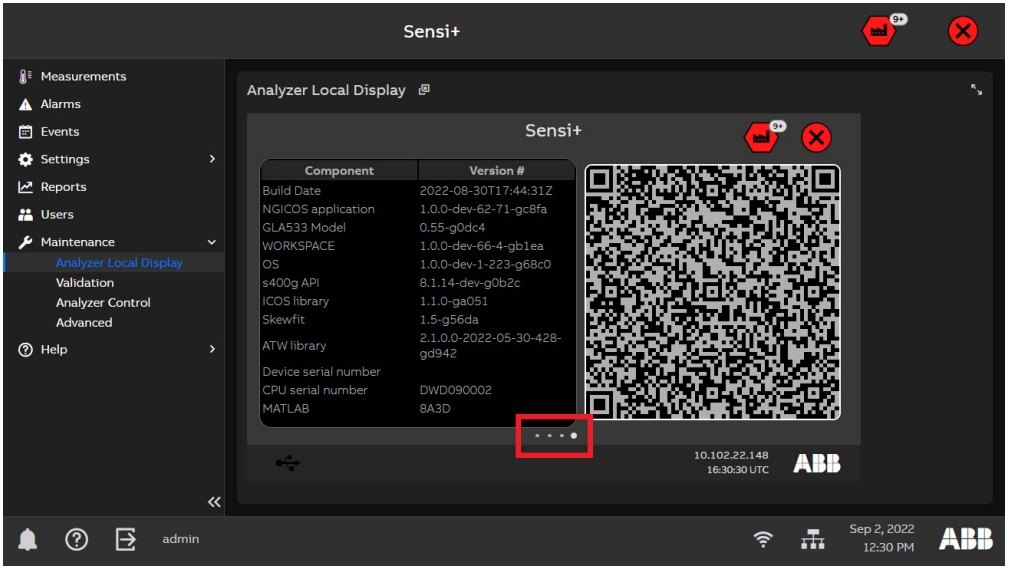
NOTE: The QR codes give you access to an ABB Web page.

Figure 66 Analyzer Local Display Basic Mechanical Data



3 Press the right arrow one more time to reach the fourth panel of the local display. This gives you access to various software and firmware data about the analyzer, including a QR code.

Figure 67 Analyzer Local Display Basic Software Data



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APPENDIX A

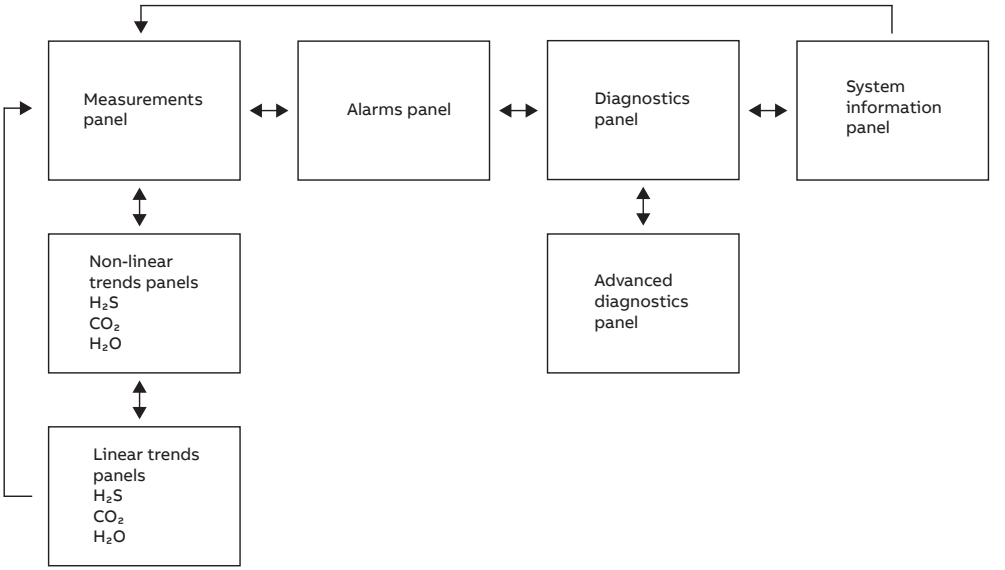
The Local Graphical User Interface

The Sensi+ gas analyzer screen displays a graphical user interface (the Measurements panel; see Figure 69 on page 64) once the start-up sequence is completed. The following pages provide further details on the information available on the various information panels that can be displayed.

You navigate through the information panels by swiping your hand in front of the gesture sensors located below the screen (refer to the Sensi+ Installation and Commissioning Guide.if you need to locate the gesture sensors).

Hand swipes up, down, left, and right, made one inch in front of gesture sensors, allow you to access the different information panels, as illustrated below.

Figure 68 Gesture navigation



Information Panels

The following sections provide more details on the various information panels accessible on the gas analyzer screen.

For more information on the configuration of the displayed units of measurement, alarms and alarm thresholds, as well as a more complete description of the various types of alarms, see the appropriate sections elsewhere in this guide.

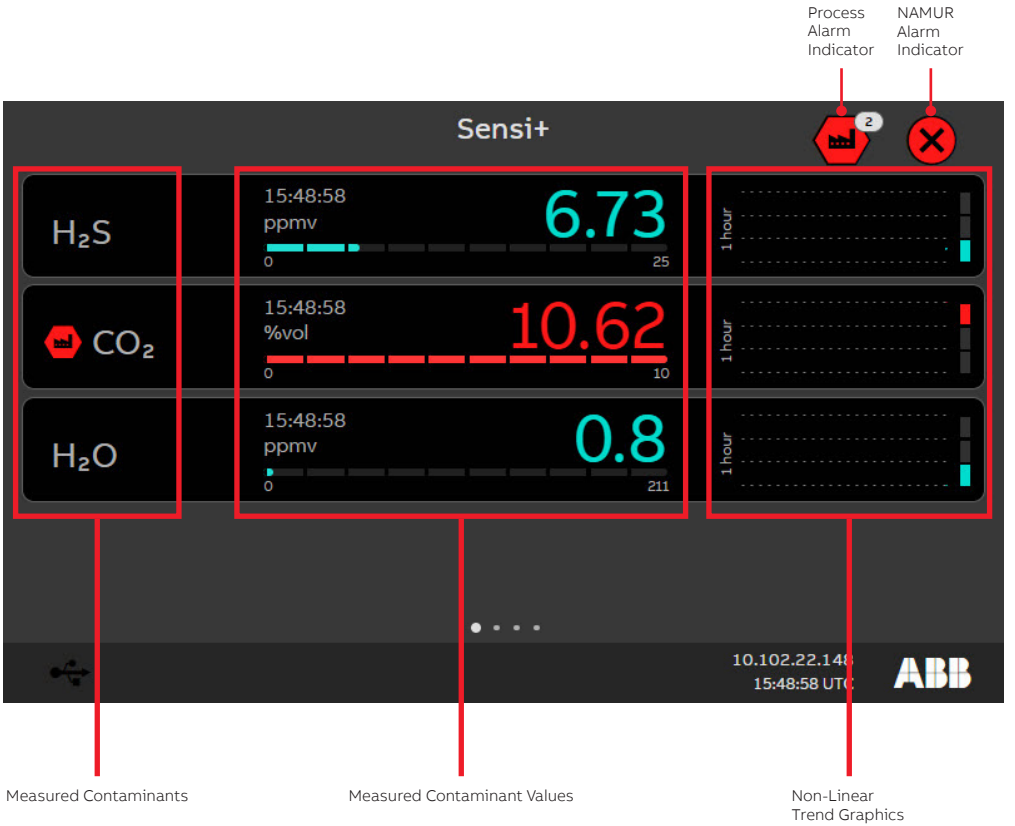
You cannot modify the information displayed directly from the analyzer graphical user interface.

Measurements Panel

This is the main panel indicating the contaminants measured, the measurements themselves, and the general trends (see “Configuring Gas Measurement Units” on page 14, and “Configuring Gas Parameters” on page 15), as well as the presence of process and NAMUR alarms (see “Introducing NAMUR and Process Alarm Conventions” on page 31).

NOTE: The NAMUR and process alarms colors (cyan, amber, red) carry the same meaning throughout the graphical user interface.

Figure 69 Measurements Panel

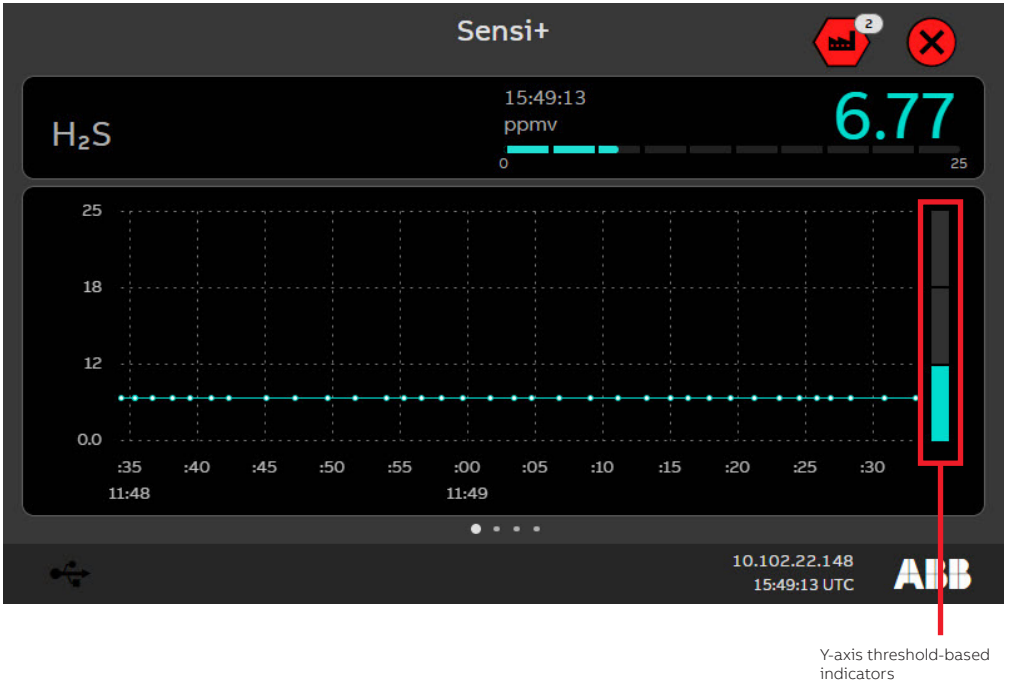


Non-Linear Trend Panels

Non-linear trend panels use warning and alarm threshold limits (illustrated by the cyan, amber and red colors) as the Y-axis separation. Each contaminant has its own non-linear trend panel.

These panels are designed to specifically highlight transitions between normal contaminant concentration values and outlying concentration values. They constitute a more detailed view of the non-linear trend graphics displayed in the Measurements panel (see Figure 69 on page 64)

Figure 70 Non-Linear Thread Panel

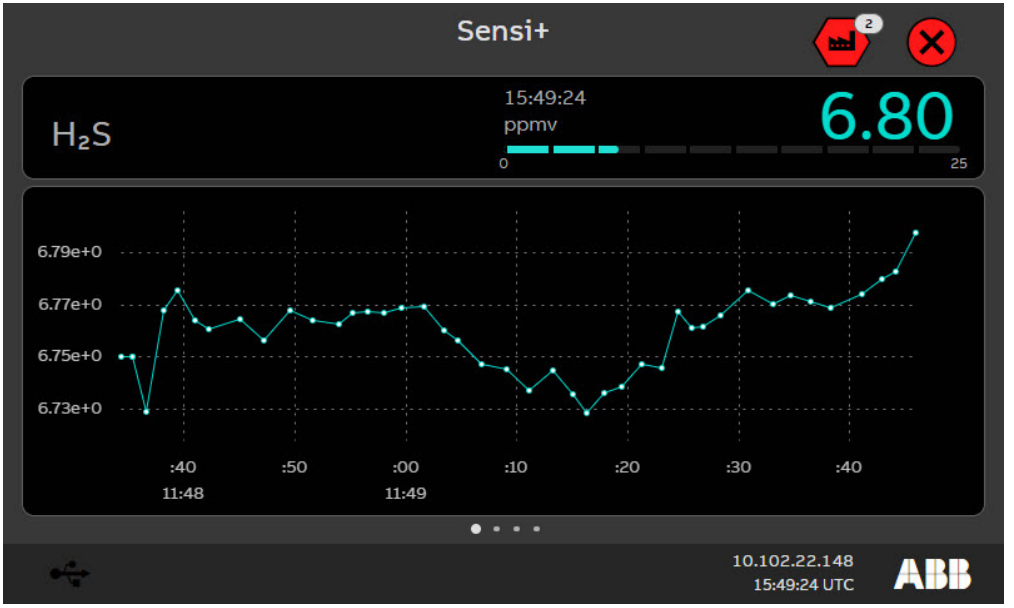


Linear Trend Panels

In linear trend panels, the scaling gives a linear representation of the measured values but less appreciation of the alarm and warning thresholds. Each contaminant has its own non-linear trend panel.

The main difference with non-linear trend panels is the Y-axis scaling.

Figure 71 Linear Trend Panel



Alarms

The alarms panel displays the various ongoing alarms that the analyzer is experiencing. You cannot manage these alarms (acknowledgment, filtering, etc.) from the local graphical user interface (GUI). You must connect to the analyzer via the Web remote interface (as explained in the guide) and follow the instructions given in “Managing Alarms” on page 31 and “Managing Events” on page 43).

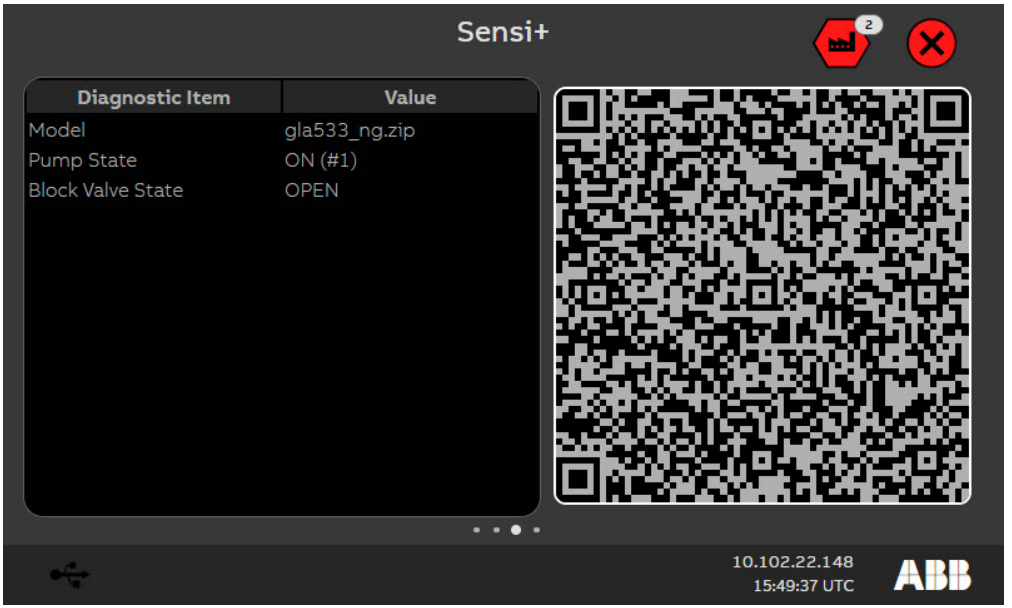
Figure 72 Alarms Panel

Diagnostics

The diagnostic panel provides information on the state of important analyzer mechanical components (pump and block valve).

The QR code on the right directs you to an ABB Web page.

Figure 73 Diagnostics Panel

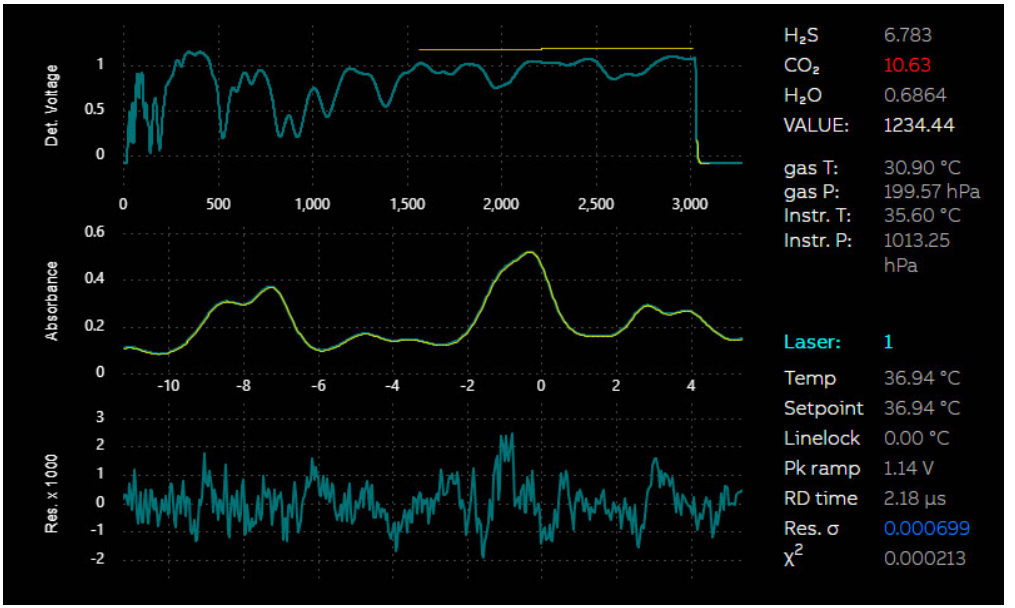


Advanced Diagnostics

The advanced diagnostic panel provides more detailed information on specific components of the analyzer (measured values, gas and instrument temperatures and pressures, laser characteristics, etc.).

Explanations on this advanced diagnostic panel are provided during formal advanced training.

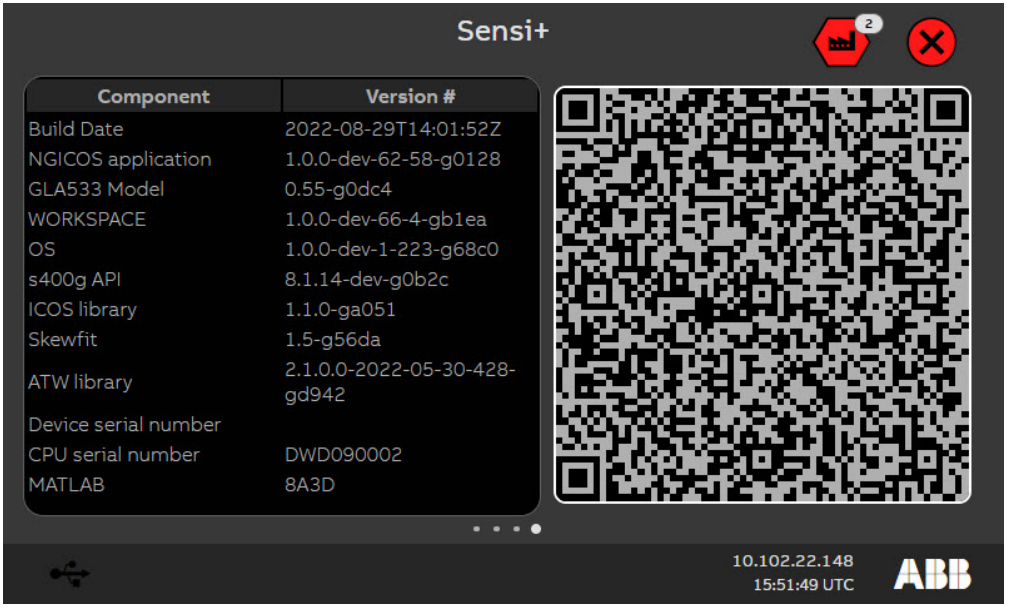
Figure 74 Advanced Diagnostics Panel



System Information

The system information panel provides technical information specific to your analyzer. The QR code on the right directs you to an ABB Web page.

Figure 75 System Information Panel



ABB, Inc.
Measurement & Analytics

3400, rue Pierre-Ardouin
Québec (Québec) G1P 0B2
Canada

Phone:
North America: 1 800 858 3847
Worldwide: +1 418 877 8111

Email:
icos.@ca.abb.com

WWW.abb.com/analytical

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