Anybus Atlas2 Plus – Next generation

User Manual

June 2024

About this document

Safety Guidelines

This manual contains notices which you should observe to ensure your own personal safety, as well as to protect the product and connected equipment. These notices are highlighted in the manual by a warning sign and are marked as followed according to the level of danger:

Draws your attention to important information on handling the product, a particular part of the documentation or the correct functioning of the product.

Warning

This device and its components may only be used for the applications described in this manual and only in connection with devices or components that comply with Industrial Ethernet interfaces.
This product can only function correctly and safely if it is transported, stored, set up, installed, operated and maintained as recommended. Atlas and/ or Mercury is a CE class A product. In a domestic environment it may cause radio interference in which case the user may be required to take adequate measures.

Warranty

Warranty is void if you open Atlas.

Qualified Technicians

Only qualified technicians should be allowed to install and work with this equipment. Qualified technicians are defined as persons who are authorized to commission, to ground, to tag circuits and systems in accordance with established safety practices and standards. It is recommended that the technicians carry a Certified PROFINET Installer or Certified PROFINET Engineer certificate.

Disclaimer of Liability

We have checked the contents of this manual as much as possible. Since deviations cannot be precluded entirely, we cannot guarantee full agreement. However, the content in this manual is reviewed regularly and necessary corrections will be included in subsequent editions. Suggestions for improvements are welcome.

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Referenced documents

Short	Title	Number	Author	Ver
User Manual	Anybus Atlas2 Plus User Manual		Elco Docter	1.0

Table of Contents

1 Getting Started

1.1 Quick Start

This checklist describes all the steps to a quick usage of Atlas, Atlas2 Plus or Atlas2.

Step:	Instructions:
STEP 1	Install the device on a DIN rail.
STEP 2	Use an Ethernet cable to connect the Office port to your laptop directly and the Factory port to the factory network. The Factory port should NOT be connected to a mirror port of a switch.
STEP 3	Connect the Atlas to a power supply. Wait until you see the Network Status / traffic light blink yellow.
STEP 4	Set your laptops IP address to 192.168.1.1 and the netmask to 255.255.255.0.
STEP 5	Open a web browser and go to https://192.168.1.10/. You will receive a warning about the certificate: • Chrome users should click 'ADVANCED' followed by 'Proceed ..' • Edge users should click 'Continue to this website ..'
STEP 6	Enter user 'admin' and password 'admin' for the first login.
STEP 7	Now complete the Setup Wizard (see chapter 2) but do not change the settings of the Office port yet.
STEP 8	Lastly, setup the Office port in the Settings, unplug your laptop and connect the Office port to the office network.

The Atlas is now operational. From here you can change settings, layout and behavior, of the Atlas. If connected to a factory network, it will start scanning and gathering information.

1.2 Atlas installation instructions

1.2.1 Location

Atlas can be installed anywhere in a non-hazardous / non-Ex area that complies with IP 20 (DIN 40 050) and the specified temperature range of -20° to +60° Celsius. Do not install the Atlas in a humid or dusty environment. To comply with UL certification regulations, in ambient temperatures higher than 55°C or 131°F it is mandatory to install the Atlas in an industrial installation cabinet with the "HOT HOUSING" warning label visible during operation.

"WARNING, HOT HOUSING. When in use at an ambient temperature higher than 55°C or 131°F, the housing of the Atlas will be hot. Do not touch the housing!"

To comply with UL certification regulations the Atlas is to be used at altitudes not exceeding 2000m and in non-tropical climate regions only.

1.2.2 Position

The Anybus Atlas can <u>only</u> be installed on a horizontal 35mm DIN rail with the front plates facing forward (see Figure 1 and Figure 2 for an example). In this position the generated heat of the device can escape through the grid in the top of the housing. It is also easier to read the status LEDs. Do not install the Atlas in any other position, this could lead to overheating of the device.

Figure 1

1.2.3 Power supply

The Atlas contains a 3-pin screw type power connector on the front.

The layout is as follows:

1 = - (upper pin)

2 = + (middle pin)

3 = SH (lower pin)

The power supply must comply with the following specifications:

- Voltage: 12 .. 24 VDC
- Wire diameter: < 2.5 mm^2

After the power has been connected, the Atlas will boot up. This process can take somewhere from 15 up to 90 seconds. When it is booted, the green RDY LED will go on. You will see the Network Status LED blink yellow as long as the Setup Wizard has not been completed and a measurement has not been started.

1.2.4 Ethernet connections

The Anybus Atlas has two physical network interfaces named Office and Factory. The networks are not connected with each other one-on-one. The scanning, measuring, and reporting of the network does not occur on the Office side, only on the Factory side.

The Atlas may be connected anywhere in the Factory network. Do not connect Atlas to a mirror port, as the Topology will not be accurate.
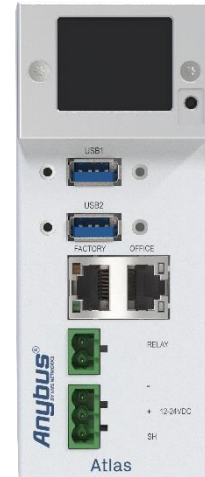
Figure 2 – Atlas2 Plus

Note: the web interface can be reached on the Office <u>and</u> the Factory network IP range. Therefor it does not matter where you are connected, as long as you have set the correct IP range and netmask settings of your laptop/client network card. You will only be able to scan and see the devices connected to the Factory network, not the Office network.

Pointers about the IP-address configuration:

In case your office and factory share the same (sub)network you should NOT connect and configure the Office port. Just make sure that the default Office IP-address does not exist on your network and uses a non-existing subnet. In case your company network does use the 192.168.1.0/24 subnet, change the IP-address to be part of a non-existing network, for example 192.168.100.10/24.
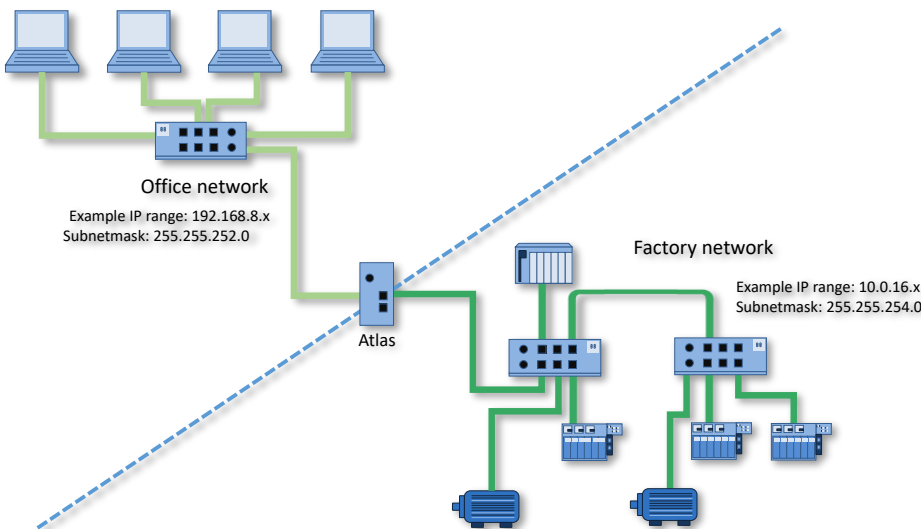
For a description on how to use Atlas, read on from chapter **3**.

1.2.5 Micro-USB

The Micro-USB connection at the bottom of the Atlas has no purpose in normal use.

1.2.6 OLED Display

The OLED Display of the Atlas will display the following details:

- Traffic light status of the network
- Network name
- Measurement Time
- Atlas device name
- Office Interface settings
- Factory Interface settings

1.2.7 Login

After connecting to the office interface of the Atlas you can direct your laptop/pc to its IP address. The default IP address of the Office Interface is 192.168.1.10. The web browser will prompt you the following screen:
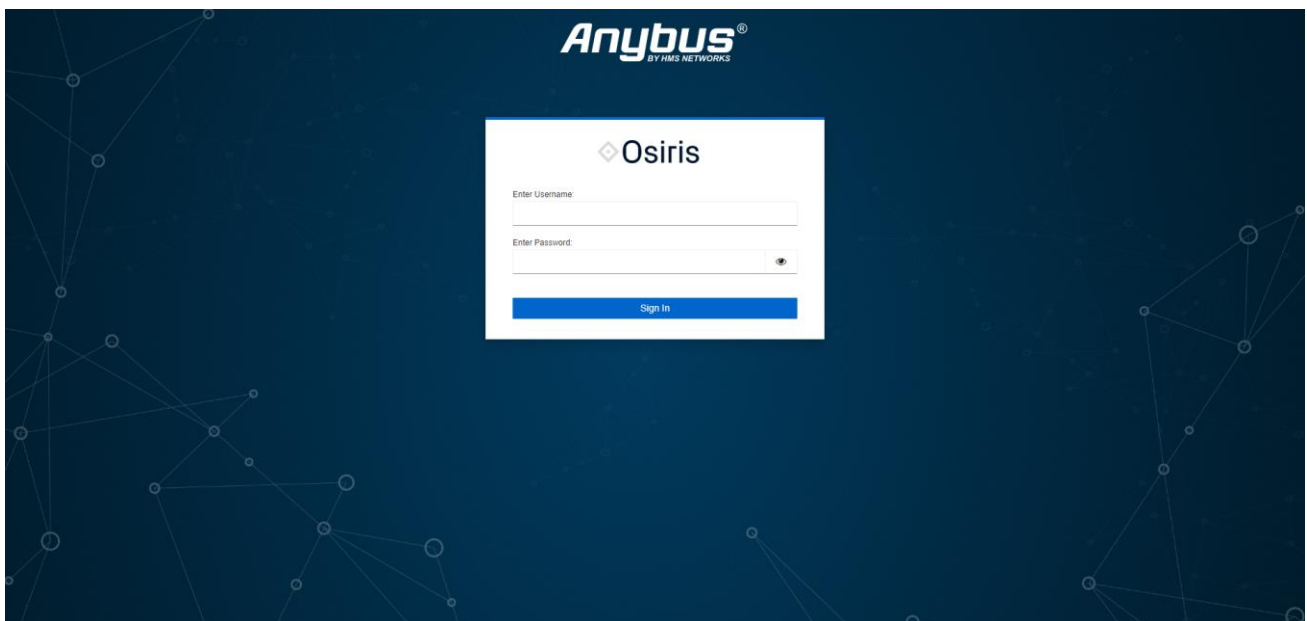
The default login credentials are:

Username: **admin**
Password: **admin**

After first login the user will be prompted to change the password in order to continue.
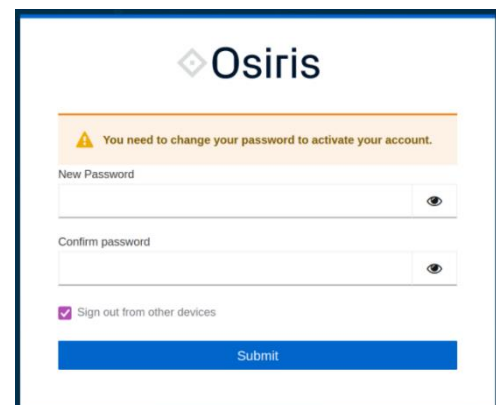
2 Setup Wizard

Once the password has been changed, the user will be directed towards a setup wizard, where the user will have to follow several steps to complete the setup of Atlas. The Setup Wizard helps you setting up the Atlas for use in your networks and is automatically started at first use.

Step 1 & 2

Choose an Office and a Factory network IP address. The Office IP address and the Factory IP address must be set to the correct IP ranges with correct netmasks. If you do not know these, use the DHCP setting or contact your system administrator and/or the machine programmer for correct settings. Note that these two settings are independent of each other, and the networks do not 'see' each other. There is no direct connection between the two ports.

Important: it is required that the office IP range and factory IP range are different from each other, and that their subnet masks do not overlap. Gateway and DNS are not mandatory, only enter one gateway, preferably the one for the office interface.

Step 3

Set the correct time zone. This time zone will be used to show the time in the top of the web interface (system bar) and in the reports. Automatic time (NTP) can only be used when Atlas has internet connectivity or when you manually set local time servers in the settings after the Setup Wizard has completed.

Step 4

The last step asks you to enter one or more IP address scan ranges. It is important to choose scan ranges which include all the devices which you want to monitor. On the other hand, making the scan range unnecessarily large can negatively influence the Topology scan result and scan time. In case there are large gaps between devices on your network, it is advised to separate a large scan range into smaller ranges to exclude these gaps. This will speed up the scanning process.
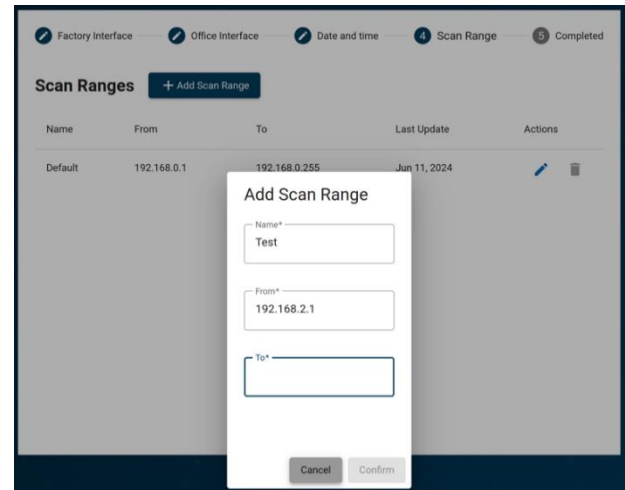
3   User interface

The user interface displays all information by means of a web page. To access this information, simply open a web browser and type in the IP-address of your device (for Atlas the default address is 192.168.1.10 for the Office side and 192.168.0.10 for the Factory side.

3.1 Network Status Page

The opening window of the user interface is called the "Network Status Page". It contains three main elements, allowing the user to get quick access to data regarding troubleshooting a network.

Notification List
This list displays all notifications. The notifications are sorted in order of severity. The user can mark a notification as "Solved". By doing so the notification will be removed from the list until it happens again on another device.

Topology
A small (zoomable) visualization of the graphical topology of the network.

Device List
A concise version of the device list, allowing the user to quickly identify any troublesome devices in the network.

Other items on the Network Status Page are:
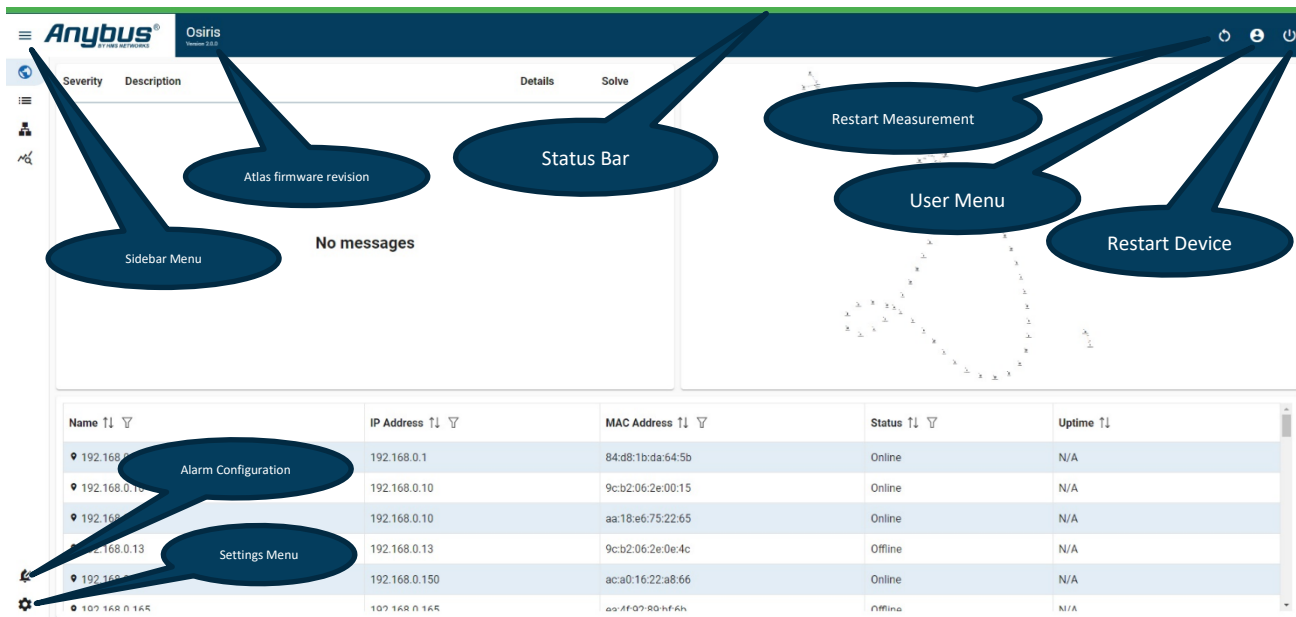
Atlas Firmware Version
The currently running firmware revision of Atlas2 Plus is displayed here.

Status Bar
The Status Bar is displaying the network condition based on a traffic light coloring system. The bar can either be green, amber or red.

Restart Measurement
Using this button will restart the measurement and refresh all previously recorded data.

Restart Device
This option will perform a restart of the Atlas2 Plus operating system. Recorded information will not be deleted, except for any recorded PCAP files in the EtherTAP application.

User Menu
Allows the user to either change the password or sign out of the Atlas2 Plus.

Alarm Configuration
This will bring the user to the Alarm Configuration page where thresholds and triggers of the alarms and notifications can be modified.

Settings
The user will be directed to the settings menu.

Sidebar Menu
Allowing the user to expend/fold the sidebar menu.

3.2 Notifications

The colour of the status bar indicates if there are any errors or warnings to be reported. In case of no notifications: the bar will be green. In other conditions it can turn into the following colours:

Blue: Maintenance Required
Orange: Out of Specification
Red: Warning

The icons in the notification list will have the same corresponding colour as the status bar.

Maintenance Required

Out of Specification

Failure

The user can get more in-depth information about the notification by clicking on the "Details" button.

Severity	Description	Details	Solve
❌	**FAILURE - Device Unresponsive** Device with the IP Address of 192.168.1.134 and MAC address of ea:4f:92:89:bf:6b became unresponsive at 6/17/2024, 5:14:20 PM.	Details	⊘
❌	**FAILURE - IP Conflict** Device with the IP Address of 192.168.3.235 and MAC address of 9c:b2:06:2e:0d:cc experienced a failure condition for IP Conflict with the device/s with the MAC address/es 9c:b2:06:2e:0d:cd at 6/17/2024, 5:14:13 PM.	Details	⊘
❌	**FAILURE - IP Conflict** Device with the IP Address of 192.168.3.235 and MAC address of 9c:b2:06:2e:0d:cd experienced a failure condition for IP Conflict with the device/s with the MAC address/es 9c:b2:06:2e:0d:cc at 6/17/2024, 5:14:13 PM.	Details	⊘
❌	**FAILURE - IP Conflict** Device with the IP Address of 192.168.2.246 and MAC address of 08:00:27:da:4e:04 experienced a failure condition for IP Conflict with the device/s with the MAC address/es 08:00:27:da:4e:01 at 6/17/2024, 5:14:10 PM.	Details	⊘
❌	**FAILURE - IP Conflict** Device with the IP Address of 192.168.2.246 and MAC address of 08:00:27:da:4e:01 experienced a failure condition for IP Conflict with the device/s with the MAC address/es 08:00:27:da:4e:04 at 6/17/2024, 5:14:10 PM.	Details	⊘
⚠️	**OUT OF SPECIFICATION - In Discards** Device with the MAC address of 9c:b2:06:2e:00:74 and port 3 experienced an out-of-specification condition for In Discards at 6/17/2024, 5:14:22 PM.	Details	⊘

This will bring the user to a new page. This page will allow the user to get more information about the device which the notification is related to.
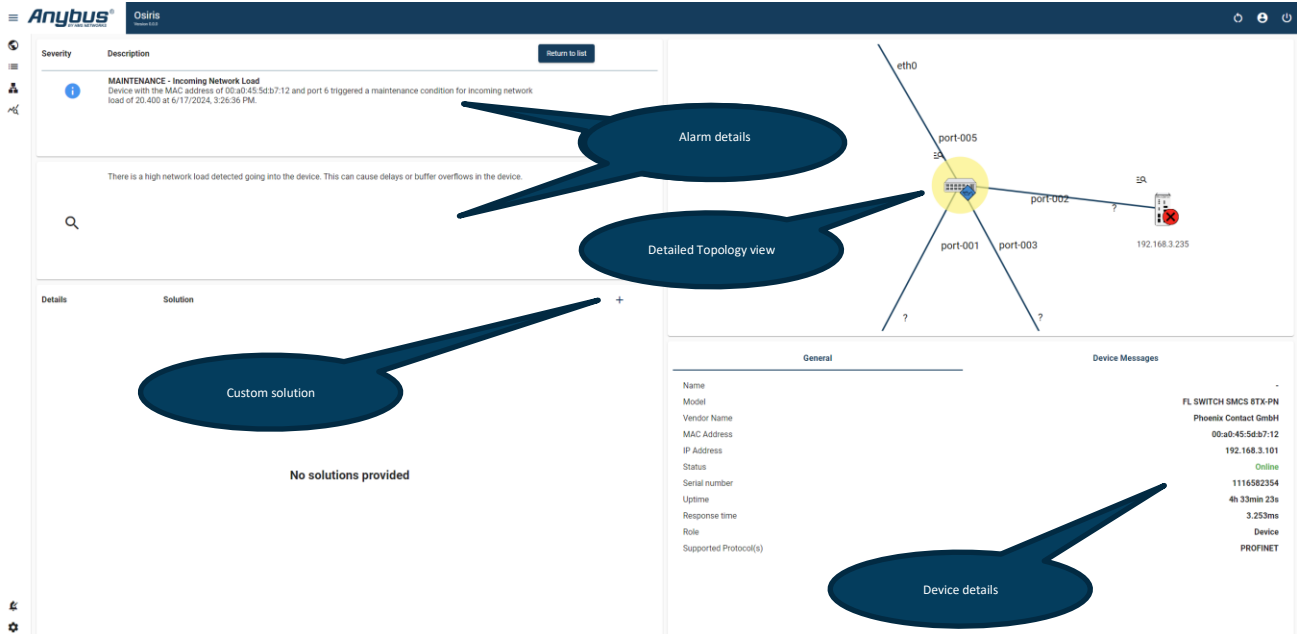
The Custom Solution field allows the user to add their (custom) resolution to the notification. Whenever the same notification reappears, the custom solution will appear in this field, allowing the user to have a much quicker insight to how to resolve the problem.
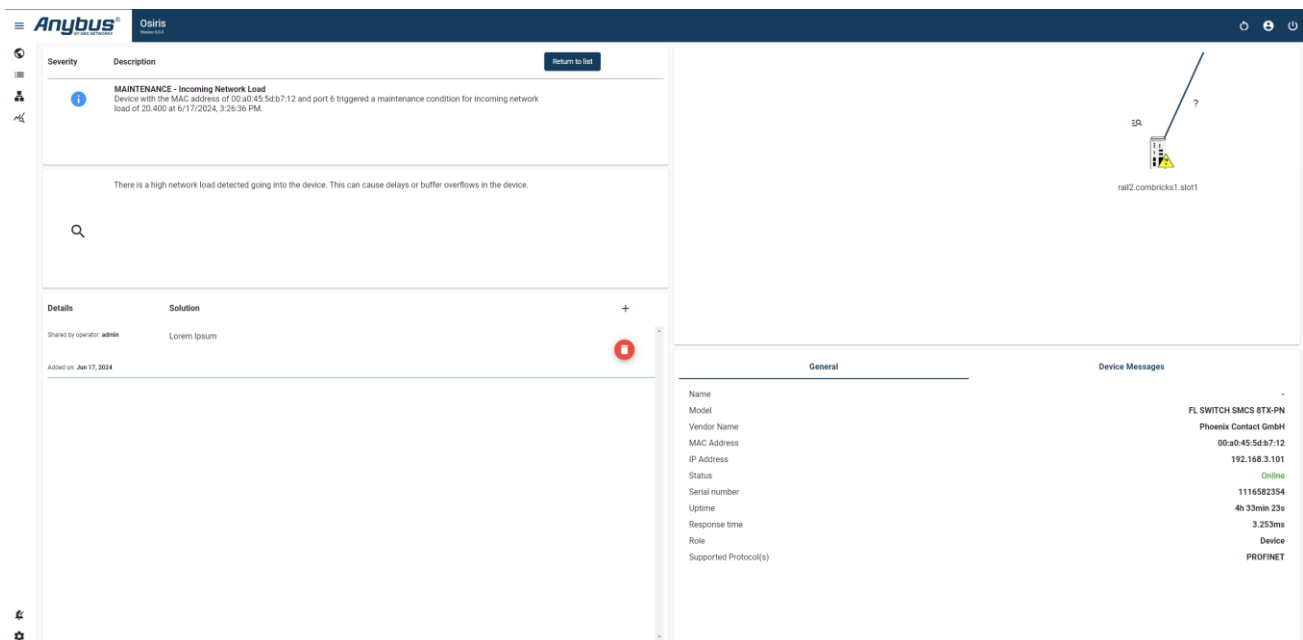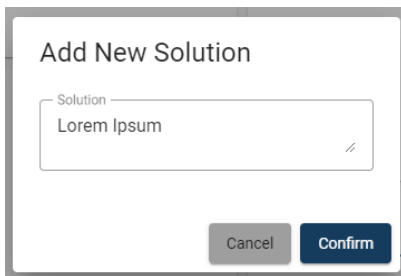
3.3 Device List

Through the sidebar menu the user can access the Device List. This feature gives the user full insight into all the devices / assets which are connected to the network, and which are discovered by the Atlas2 Plus.

Via the pulldown menu it's very easy to customize which columns should be displayed and which ones shouldn't be displayed.

At the top right the user can export the device list into a .CSV format.
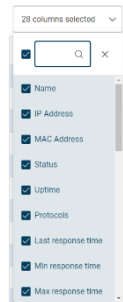
3.4 Topology

The graphical topology can be found on two different pages:

1. Small topology view on the Network Status Page
2. Full size topology view on the designated Topology page.
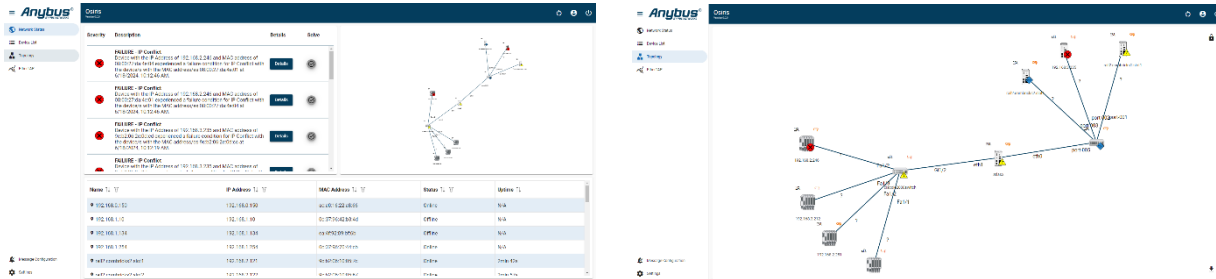
The full size topology view has several features which are not available in the small view on the network status page.
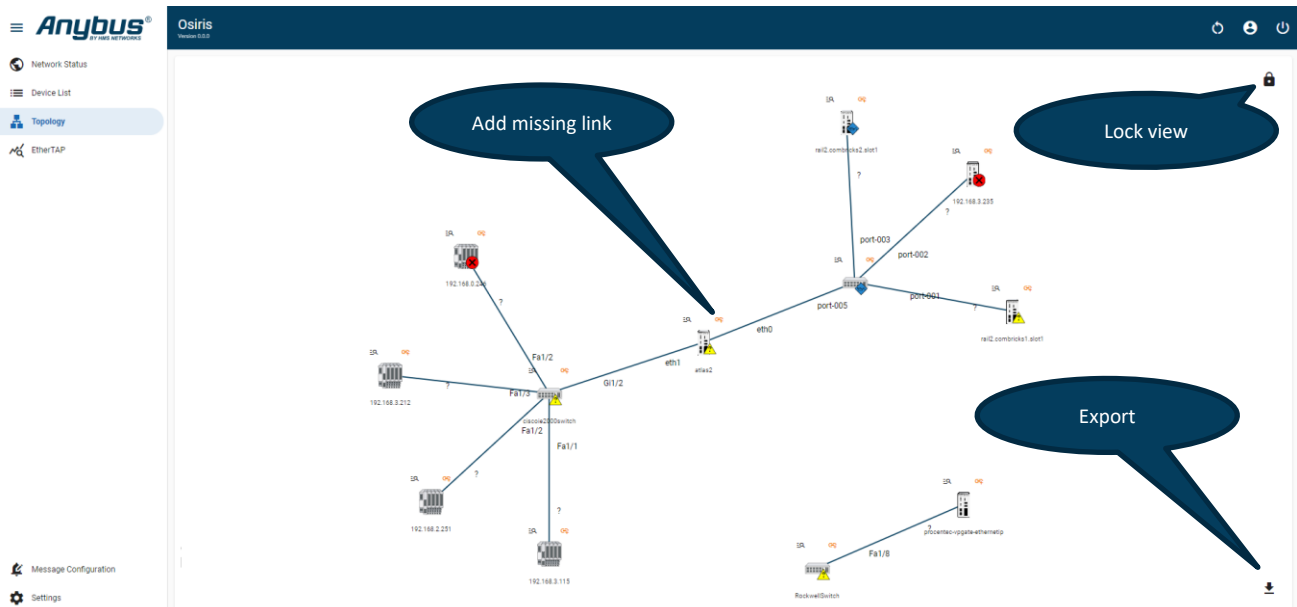
Export Topology
Via this feature the user can export the topology to an image in either a PNG, JPG or SVG format.

Lock View
This will lock the devices in the topology view to their position. The user can drag the devices around and drop them where needed. The devices will now stay in this place until the "Lock View" button gets disabled.
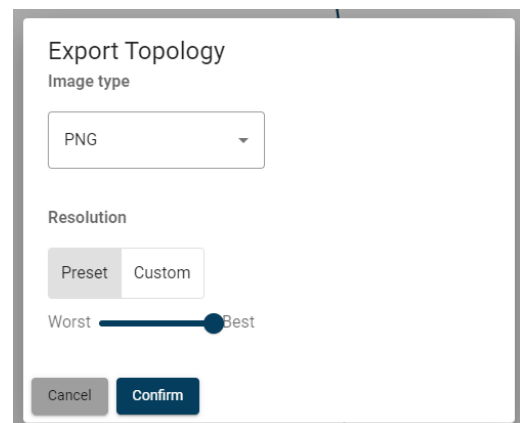
Add Missing Link

When the physical connection of a device cannot be determined, the device will show as a disconnected device in the topology.

By clicking on the orange symbol in the top right corner of a device the user can now manually add the link for the disconnected device.

The user now has to select which port of the device to draw the link to. When port names can be read from the device data they will be displayed in the dropdown menu. If no port names can be read the user will have to select the "no port" option. This
Then the user has to do the same with the device on the other end of the link. The manually added link will now appear as an orange link in the topology.
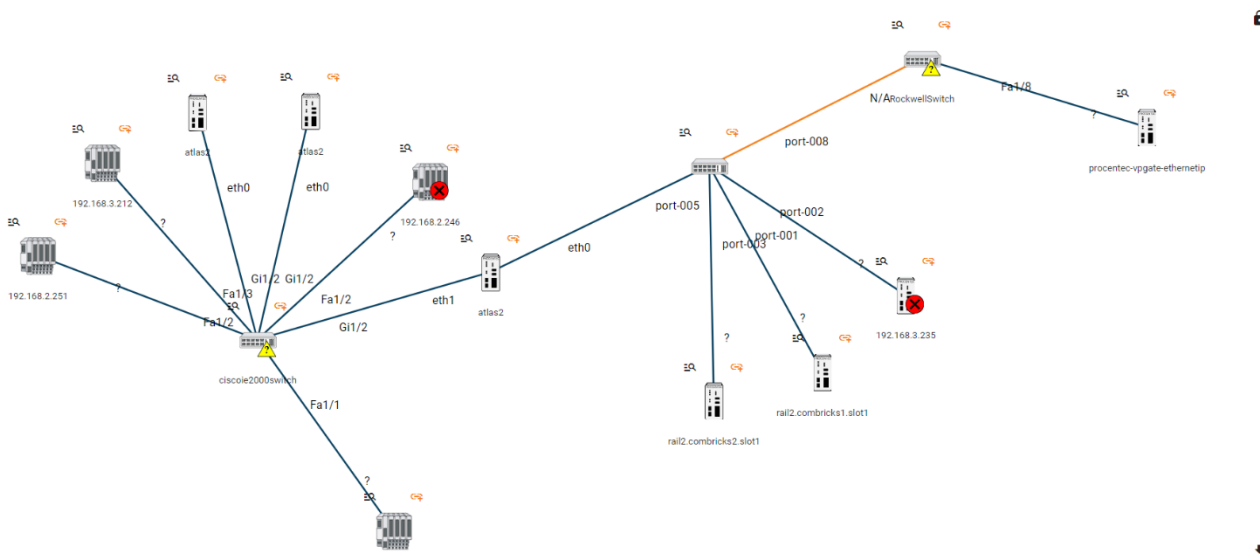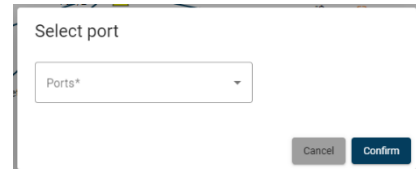
The manually added links can be removed at any time by clicking on the orange link, followed by clicking on "Delete link".

The port numbers of the devices in the topology are based on the port names in the SNMP data of the device. Therefore, this can result in port numbers being displayed in different formats as this could vary per vendor.

3.5 EtherTAP and EtherTAP2

When the user connects an EtherTAP or EtherTAP2 to the Atlas2 Plus he will be able to receive additional diagnostics data from the network. This additional data can be accessed by browsing to the EtherTAP page via the menu on the left-hand side.

This screen will provide the user with the following information:

Port A Statistics
Diagnostic details concerning Port A of the EtherTAP.
These details concern the network load and ethernet errors (CRC, Jabber and Collisions).

Port B Statistics
Diagnostic details concerning Port B of the EtherTAP.
These details concern the network load and ethernet errors (CRC, Jabber and Collisions).

PROFINET Details
The table in the center will display PROFINET details which are gathered from the EtherTAP. These are details such as cycle times, jitter and dropped/lost packets.

Manual Recording
This feature allows the user to capture a recording of all traffic passing through the EtherTAP. Through the slider on the left hand side the user can configure the file size of the captured recording file. This can vary between 1 MB and a maximum of 25 MB. Once the recording has completed a PCAP file will be available for download. The recorded PCAP file will not be stored automatically and will be lost when refreshing the page or when navigating to a different page. The existing file will also be overwritten when a new recording is started.

3.6 Message Configuration

The Atlas2 Plus comes with a default set of triggers and thresholds for notifications.
These thresholds can be modified and customized to be most efficient to the user's network. Each type of notification can be modified for each level of notification.


When required they can also be easily reset to the default settings by clicking on the Reset button on the far right side of each type of notification.

4 Settings

Through the Settings Menu at the bottom left of the screen the user will be allowed to change several settings.

Display Options
Allows the user to switch between light mode and dark mode of the user interface.
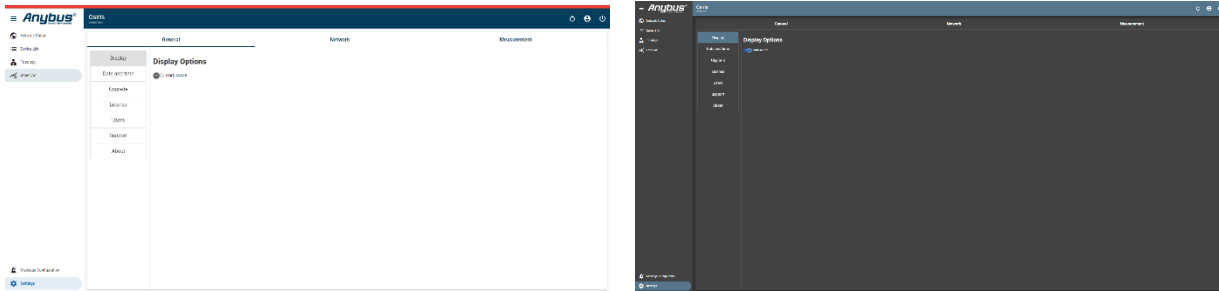
Date and time
Allows the user to set/change the date and time of the Atlas2 Plus.

Upgrade
Allows the user to upload a firmware package and perform a firmware update.

License Manager
Allows the user to check current license details, check for updates and perform an online and/or offline license update.

Users
Allows the user to open the User Management Administrator Console.

Support
Allows the user to generate a Diagnostic Dump files.

About
Displays the current firmware version and allows the user to rollback to the previously installed firmware package. After clicking on the Rollback button the user will have to confirm the Rollback procedure before continuing as the rollback procedure is irreversible.
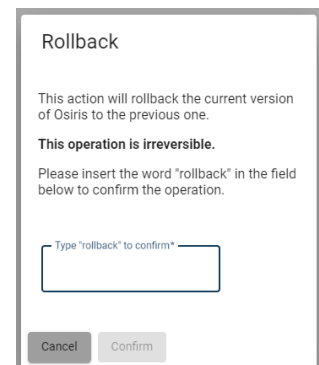
4.1 User Management

Through the settings menu the user will be able to open the User Management Administrator Console. This button will guide the user to a different window:
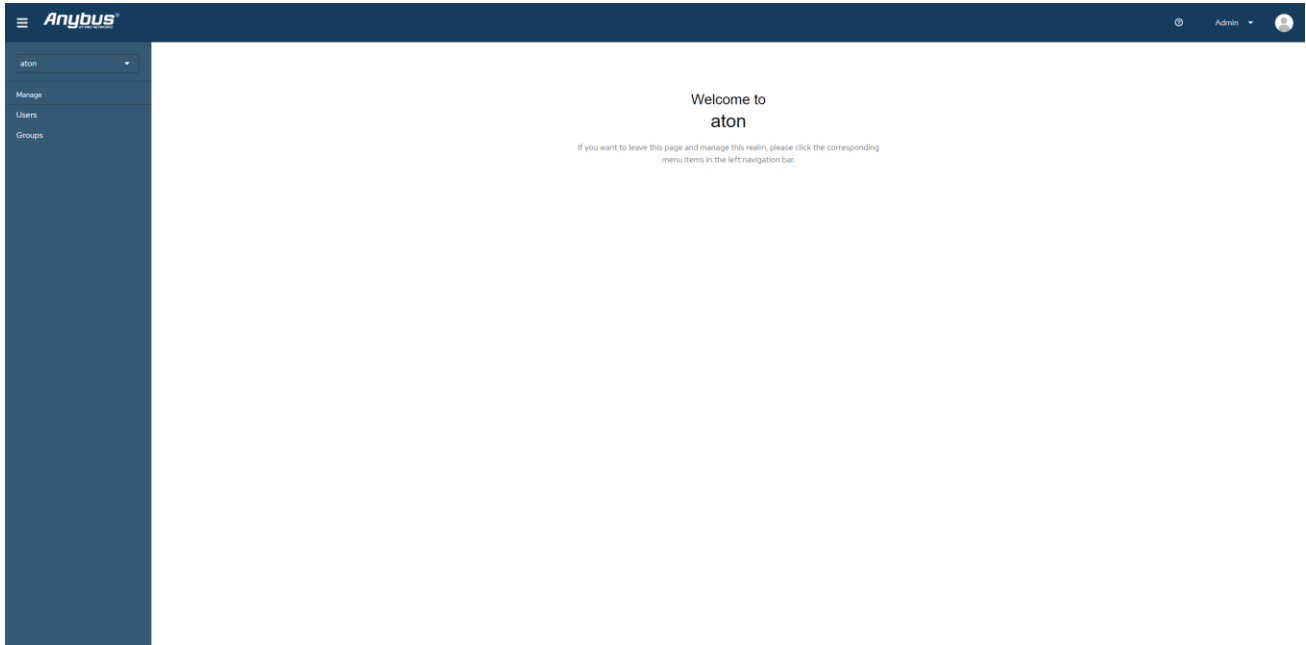
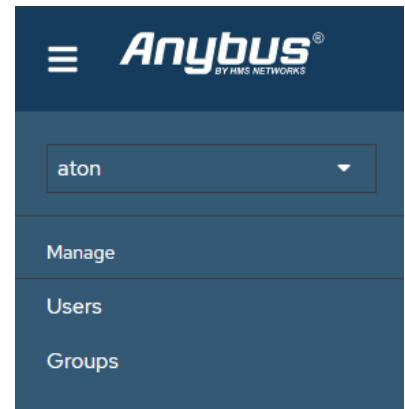Via this menu you will be able to manage, add and customize different user accounts.
The menu on the left-hand side shows three different options:

Dropdown Menu
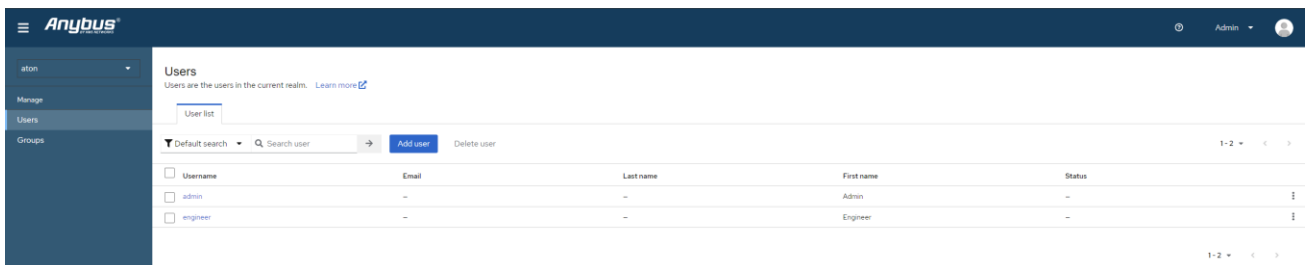This dropdown menu shall not be used and should always be set to "Aton".

Users
This menu allows the user to add, modify or remove user accounts for the Atlas2 Plus web interface.

By default the Atlas2 Plus has two different user accounts: Admin and Engineer.
Through the Users menu new user accounts can be easily added:

Click on Add user. This will bring you to a different view.

Here the new user account can be set up.

Under the "Join Groups" button you can select whether the new account should be configured as an Admin role (full access) or as an Engineer role (read only).

Click on Create, followed by clicking on the "Credentials" tab at the top of the screen.

The Credentials tab is where you will have to configure the password for the new user account.

You can configure any password you'd like.
By enabling the "Temporary" checkbox the user will be prompted to change the password after first log in.
After saving the password the account is ready for use.

You can now log in with the newly created user account, and due to setting the password as Temporary, the new user will be forced to change the password after first log in.

Groups

By default Atlas2 Plus comes with two different user groups: Admin and Engineer. Accounts which are assigned to the Admin group will have full read & write access to the Atlas2 Plus measurement data and settings. The Engineer group will only have read access and will not be able to change any settings of the Atlas2 Plus. If required more user groups can be added with customized names and privileges.

Groups

A group is a set of attributes and role mappings that can be applied to a user. You can create, edit, and delete groups and manage their child-parent organization. Learn more

	Group name	
☐	Admin	⋮
☐	Engineer	⋮