Energy server embedded into *DIRIS Digiware D-70*, *DIRIS Digiware M-70* & *ISOM Digiware D-75*.

WEBVIEW-M

EN CONTENTS

1. DOCUMENTATION

All the documentation on the WEBVIEW range can be found on the SOCOMEC site at the following address:
https://www.socomec.com/range-software-solutions_en.html?product=/webview_en.html&view=documentation

Related instruction manuals

Additional instruction manuals linked to the DIRIS Digiware system can be found on the Socomec website:

Instruction manual	Reference
DIRIS Digiware D - Multipoint display and interface with embedded webserver	548088
DIRIS Digiware M - Communication gateway with embedded webserver	548751
DIRIS Digiware - Power Metering and Monitoring System and associated current sensors	542875
Easy Config System - Configuration Software	551765
Product Upgrade Tool - Software for firmware upgrade	545534

2. BEFORE YOU START

Please familiarise yourself with these instructions before setting up and using WEBVIEW-M.

Below is the list of compatible browsers:

- Chrome v96 and above (recommended browser)
- Microsoft Edge
- Firefox v95 and above

We recommend using a 1920 x 1080 pixel screen format to best display the different contents.

The use of a different screen format may change how certain parts are displayed.

3. PREREQUISITES

Make sure the M-xx gateway / D-xx display operates under the latest firmware versions available which can be found on the Socomec website.

You can upgrade the firmware of the M-xx gateway / D-xx display either using the SOCOMEC Product Upgrade Tool software, by connecting a laptop to the Micro USB port of your M-xx gateway / D-xx display, or directly in the webserver of the M-xx gateway / D-xx display (see chapter "9.3. Diagnosis - System", page 36).

4. INTRODUCTION

4.1. About WEBVIEW

WEBVIEW monitors electrical parameters in real-time, tracks energy consumption levels and monitors the insulation of unearthed IT systems. It is integrated into the DIRIS A-40 Power Monitoring Device, the DIRIS Digiware M-70 communication gateway, DIRIS Digiware D-70 and ISOM Digiware D-75 / D-75h displays and the DATALOG H80/81 datalogger.

It is designed for technical users who want a simple, user-friendly and efficient tool to quickly analyse any malfunctions and guarantee energy performance.

With WEBVIEW, you can collect data from DIRIS Digiware devices, DIRIS A and DIRIS B Power Monitoring Devices, COUNTIS energy meters, ISOM Digiware insulation monitoring system, ATyS pM changeover switches and ATyS C55/C65 controllers, but also more generally any devices that communicate using the Modbus protocol (WEBVIEW-L only).

WEBVIEW is accessible from a simple Web browser on a PC or tablet.

4.2. Versions

There are different versions of the WEBVIEW software:

WEBVIEW versions	Host device	Functions
WEBVIEW-S	DIRIS A-40 Ethernet	Monitor Alarms and events Consumption Trends
WEBVIEW-M	DIRIS Digiware M-70/D-70 ISOM Digiware D-75 ISOM Digiware D-75h	Monitor Alarms and events Photoview Consumption Trends
WEBVIEW-L	DATALOG H80/H81	Monitor Alarms and events Photoview Consumption Trends

Please note: WEBVIEW-M manages average values based on the integration period configured in devices.

This user guide details the configuration and visualisation features of WEBVIEW-M.

The DIRIS Digiware M-50 gateway and D-50 display embed a WEB-CONFIG for the configuration only. Therefore, the explanations given in the Settings part (chapter 9) of this instruction manual are also applicable to the M-50 & D-50.

The webserver of the M-50 or D-50 does not offer measurement visualisation and analysis.

5. USER PROFILES

Several profiles are available:

- User (default)
- Advanced User
- Totem User
- Admin
- Cyber Security

Access to the User profile is open and requires no password.

The Advanced User, Admin and Cyber profiles are authorised to change settings and reset counters.

Profile	Access	Default password
User	- Visualisation of measurement data - Access to diagnostics	None
Advanced User	- Visualisation of data - Access to diagnostics + Password management of the Advanced User profile + Reset of counters	Advanced
Totem User	- Visualisation of measurement data - Access to diagnostics + Password management of the Totem User profile + Reset of counters + No disconnection	Totem
Admin	- Visualisation of measurement data - Access to diagnostics + Password management of the Admin profile + Access to configuration menu	Admin
Cyber Security	- Visualisation of measurement data - Access to diagnostics - Password management of all profiles - Access to configuration menu + Cyber Security configuration menu + Firmware upgrade	Cyber

6. START UP

Like any Web application, the WEBVIEW-M software requires an Ethernet network connection.

Just enter the URL of the device in the Web browser to access WEBVIEW-M.

As a reminder, the default IP addresses of the devices embedding WEBVIEW are given in the table below:

WEBVIEW version	Host device	Default IP address
WEBVIEW-M	DIRIS Digiware M-70	192.168.0.4
	DIRIS Digiware D-70	192.168.0.4
	ISOM Digiware D-75 / D-75h	192.168.0.4

6.1. Accessing the application

To open the application, enter the login details on the WEBVIEW-M homepage:

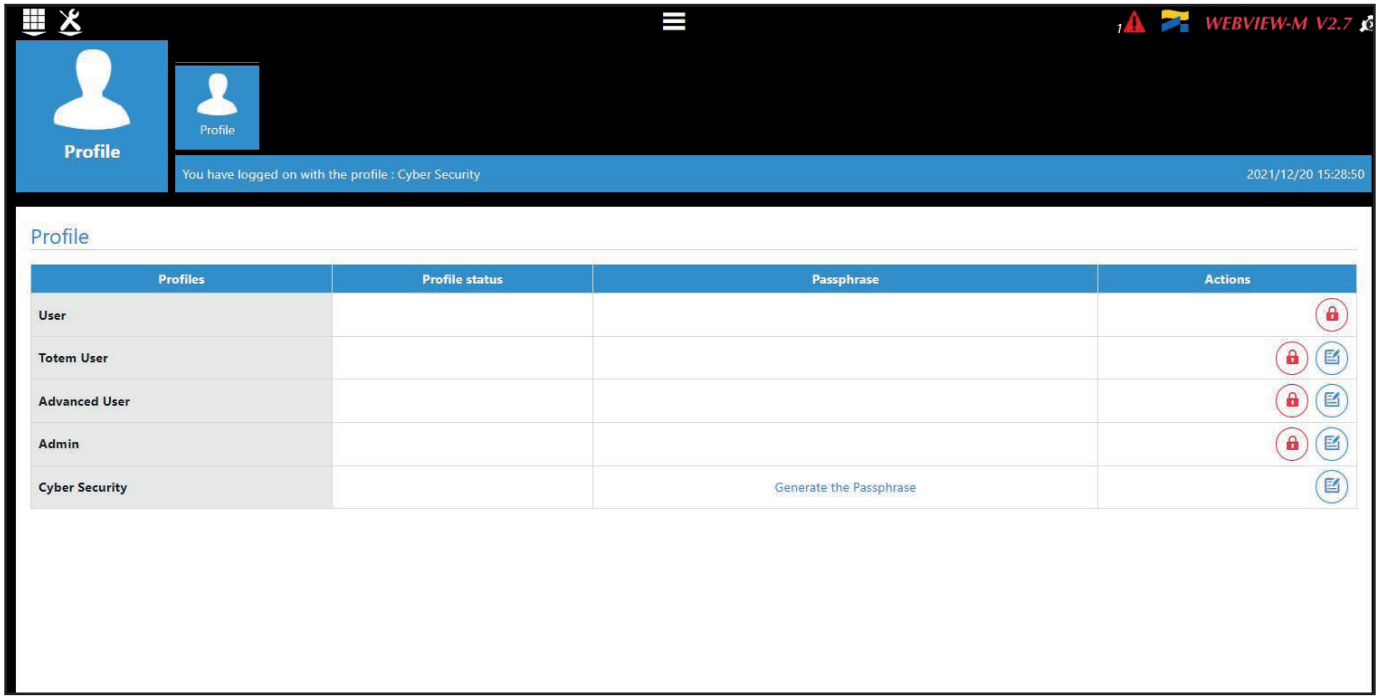
- Profiles: User, Advanced User, Totem User, Admin and Cyber security
- Password: For Advanced User, Totem User, Admin and Cyber security profiles
- Language: select from the list of available languages

When connecting to the Admin, Advanced User or Cyber security profiles for the first time, the application forces the user to change default passwords.

Totem User profile is locked by default. If the use of the Totem User profile is needed, you must connect with the Cyber Security profile, go to the "Profile" menu and unlock the Totem User profile.

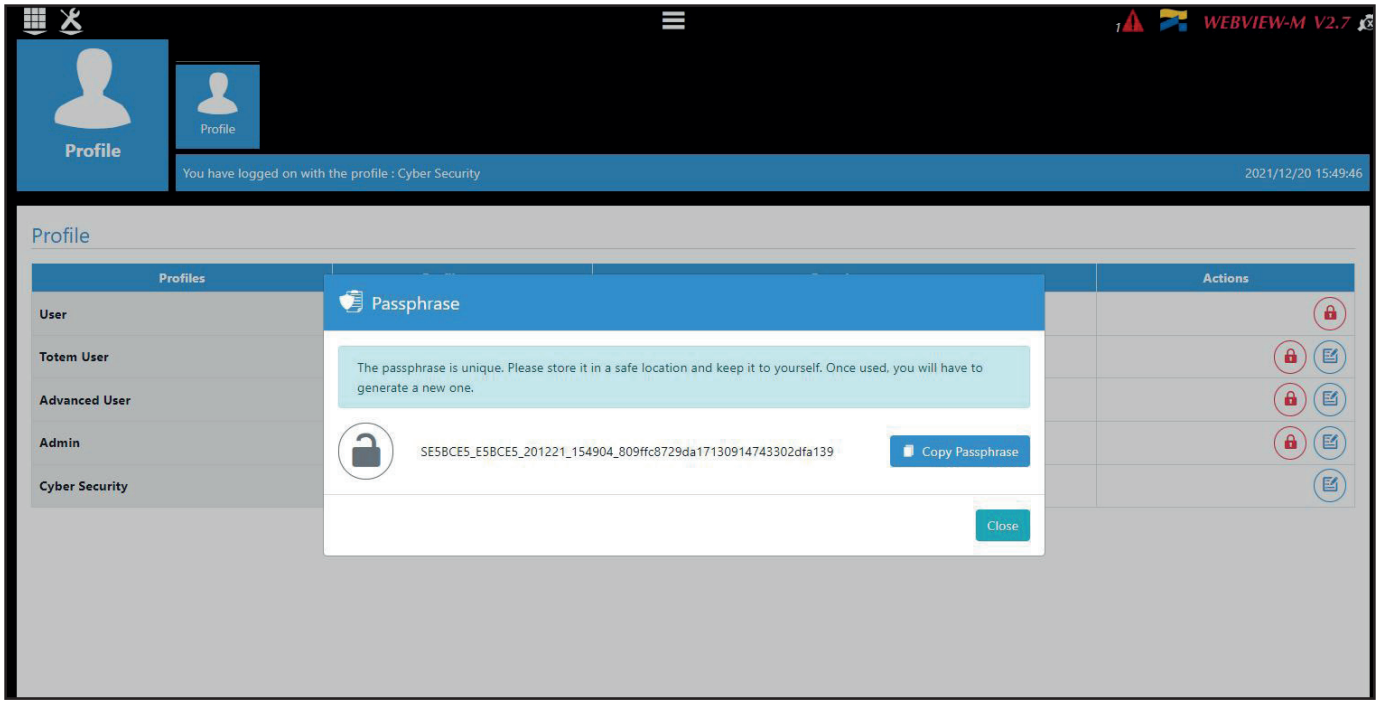
It is highly recommended to change all default passwords right away, especially the password of the Cyber security profile which has the highest privileges including changing passwords for other profiles.

Once passwords have been changed, connect to the Cyber security profile, go to the “Profile” menu and click on “Generate the passphrase”:



Copy the passphrase, paste it somewhere and keep it safe. This will allow you to recover your password for the Cyber security account, should you lose it.

Without the passphrase, the only option left is to reset the M-xx gateway / D-xx display to its factory default settings.



Once authenticated, the user is redirected to the home page displaying the different menus of WEBVIEW-M.

7. ERGONOMIC FEATURES

7.1. Left pane

Use the left pane of certain WEBVIEW-M pages to browse the data

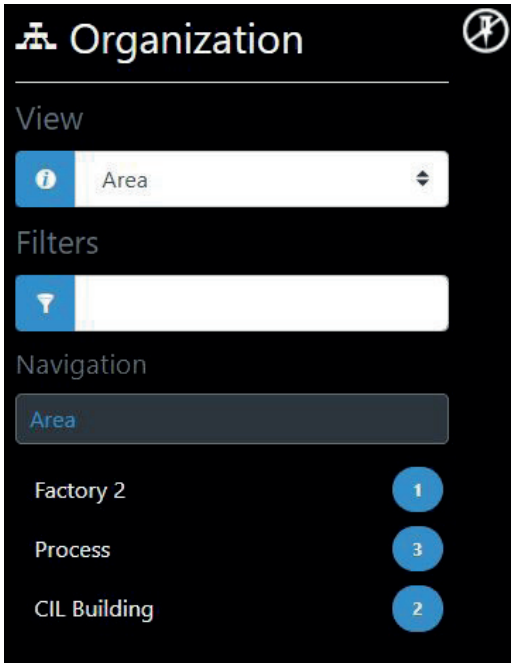
 Open left pane

 Close left pane

 Pin left pane

7.2. Organisation

The Organisation heading on the left pane includes several sections:



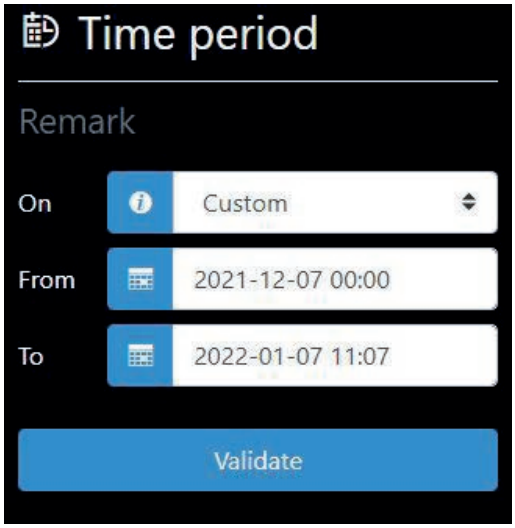
View: Dropdown list giving a selection of navigation modes, customised depending on the features:

Feature	Browsing mode
Monitor	Area, use, fluid, Photoview
Alarms and events	No left pane
Photoview	No left pane
Consumption	Hierarchy, use, fluid
Trends	Area, use, fluid

Filter: You can filter by name (e.g. I-35 - filters all I-35 devices) or you can filter by area name.

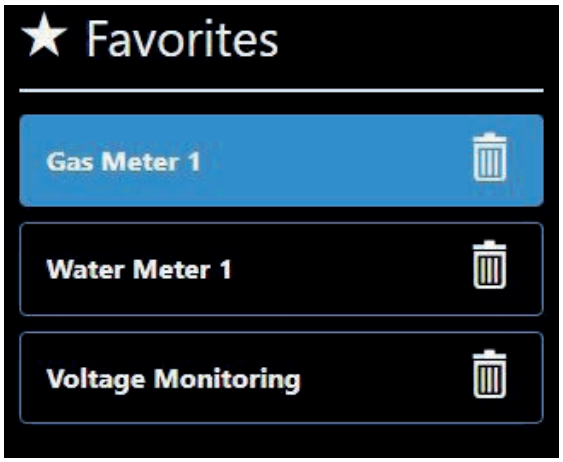
Navigation: Shows the results of the View selection and its filters, and lets you navigate in the network tree. Next to the name of the tree level is the number of loads or related circuits (e.g CIL Building - 2 loads)

7.3. Time period



The **Time period** section in the left pane allows you to select the time period for the display of measurement data. The user can either choose a predefined period (current year or month, etc.), or choose custom dates and times.

7.4. Favourites



Only available under the “Trends” menu, the Favourites allows you to save your frequently consulted measurement logs. (For example, the electrical parameters of a process or load curve correlated with one or several influence factors).

7.5. Optimising the page display

Click on this icon to show/hide the menu bar at the top of the page.

In the "Trends" menu, the user can show or hide the graph configuration while visualising the measurement logs.

8. NAVIGATING THROUGH THE DIFFERENT MENUS

8.1. Home Page

The homepage allows the following functions:

1. Go back to home page
2. Go to WEBVIEW-M settings

Monitor section: Real time monitoring of data measured by the devices.

3. **Monitor**: displays real time measurements and power quality analysis of the electrical installation
4. **Alarms and Events**: displays the list of active and finished alarms from SOCOMEC devices
5. **Photoview**: displays real-time measurements on customised background picture (building plan, electrical diagram, electrical panel etc.)

Analyse section: Analyses the data stored in the gateway/display

6. **Consumption**: displays consumption data
7. **Trends**: displays the measurement logs (historical data)
8. Shortcut to the active **Alarms and Events** menu
9. Log off

Important: The data collected and displayed on WEBVIEW-M depends on the technical features of the devices connected. The screens and tabs automatically adapt depending on the devices and their settings.

Example 1: An alarm is not shown if it has not been pre-configured with Easy Config System.
Example 2: The **Quality** tab is hidden if the device measuring the load does not have the THD function; the same applies to the **Input/Output** tab which is hidden if the device does not have Inputs/Outputs.
Example 3: The **Monitor** tabs of ATyS-p-M are customised according to the characteristics of the device

8.2. Monitor

The data displayed in the **Monitor** menu allows the analysis of the network (**Summary**/**Quality**) and the analysis of the load (**Quality**/**U/I**/**Power**/**Energy**/**Input**/**Output**/**Summary**).

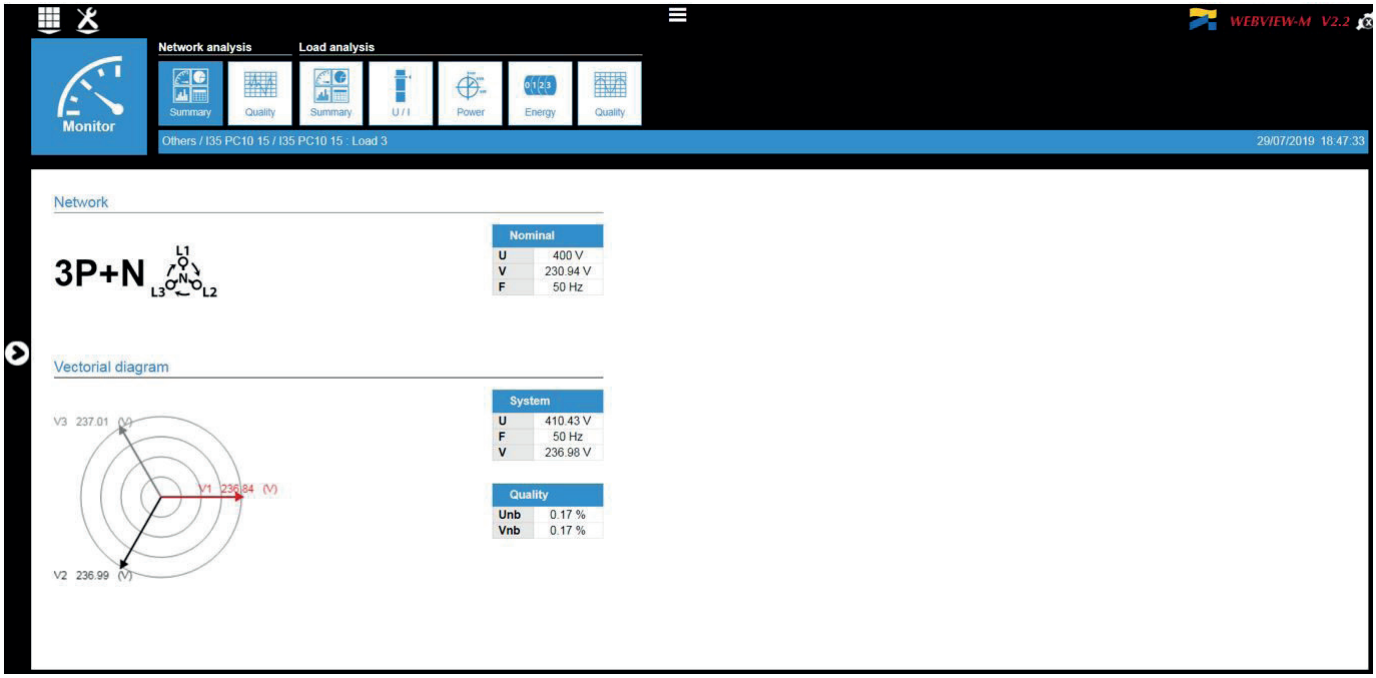
These are real time values collected directly from the devices.

The device to be **Monitored** must be preselected in the left pane to display its measurements.

8.2.1. Monitoring SOCOMEC power monitoring devices

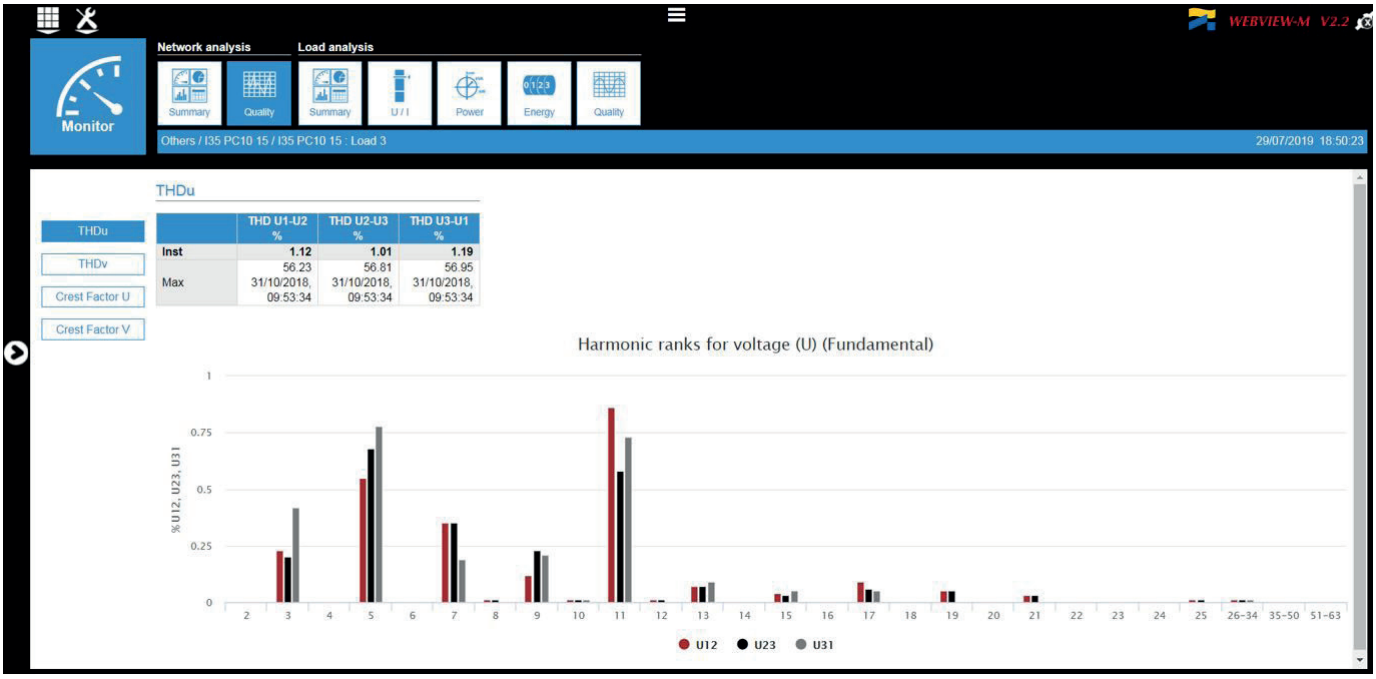
- Network analysis section - Summary

  The "Summary" tab shows the type (3P+N) and Vectorial diagram of the network.



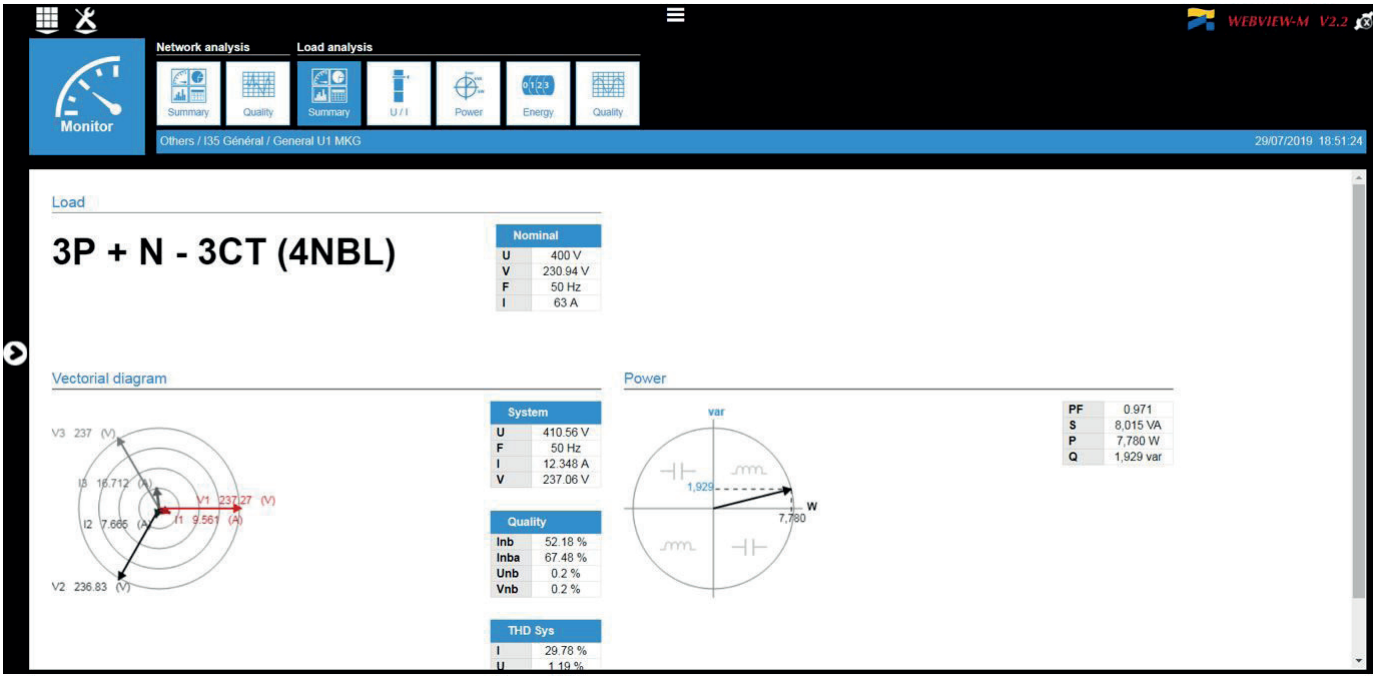
- Network analysis section - Power Quality Monitoring

The “Quality” tab shows the total harmonic distortion (THDu and THDv) and individual harmonics U/V (up to 63rd) of the electrical network.



- Load analysis section - Summary

The "Summary" tab gives an overview of the load parameters with vector and power diagrams:



- Load analysis section - Current and voltage monitoring

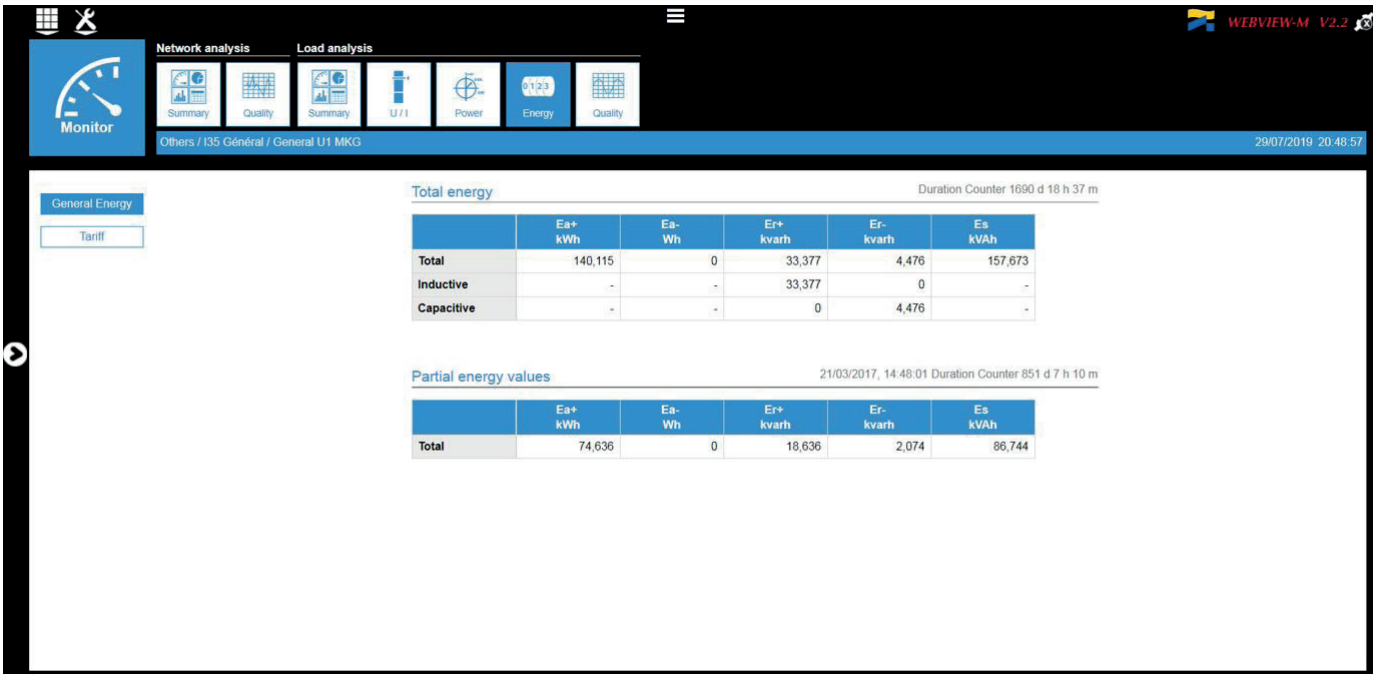
The “U/I” tab shows instantaneous and average data of currents and voltages on bar graphs. Data can also be represented in tabular form.

- Load Analysis section - Power monitoring

The “Power” tab shows instantaneous and average power readings (P, Q, S), as well as cos (phi) and tan (phi) values. Data can also be represented in tabular form.

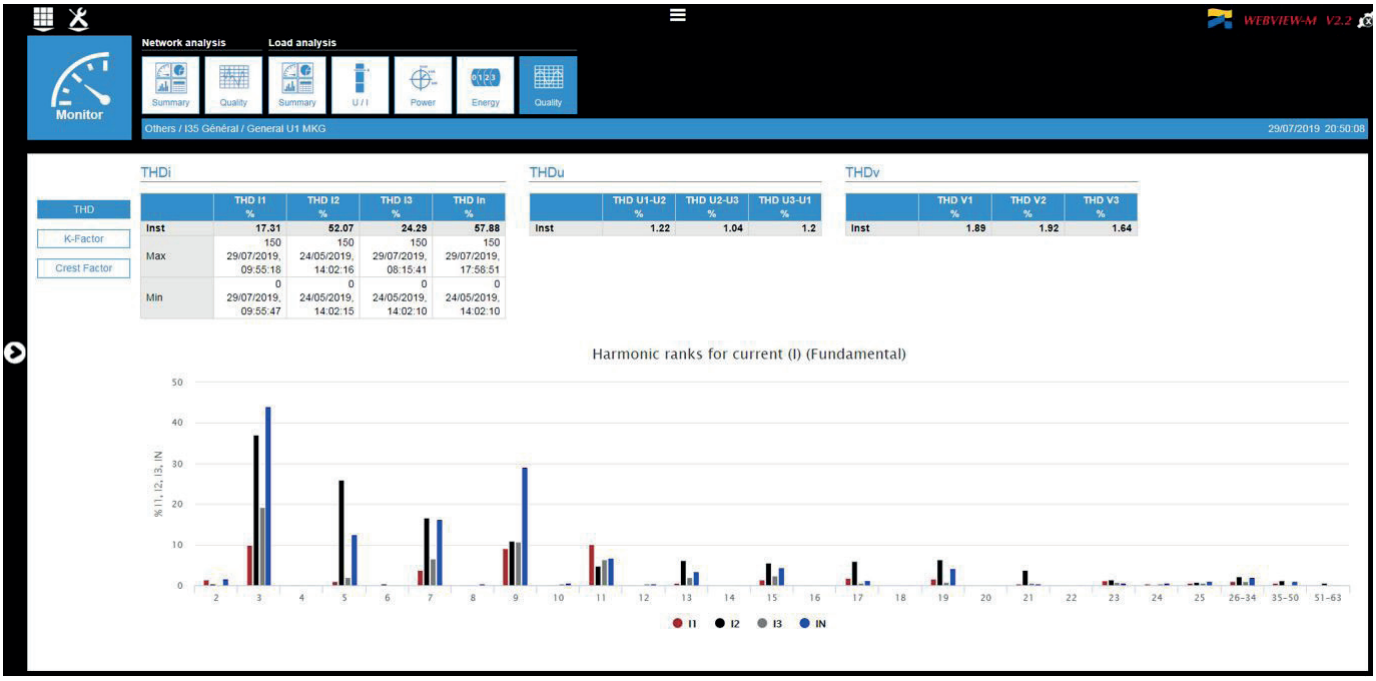
- Load Analysis section - Energy monitoring

The “Energy” tab shows the energy table (Ea+, Ea-, Er+, Er-, Es) and the breakdown over the tariff periods.



- Load Analysis section - Power Quality monitoring

The “Quality” tab shows the harmonic distortion rate (THDi) and individual harmonics I (up to 63rd) as well as the K factor values.



8.2.2. Monitoring ISOM Digiware devices (ISOM Digiware D-75 only)

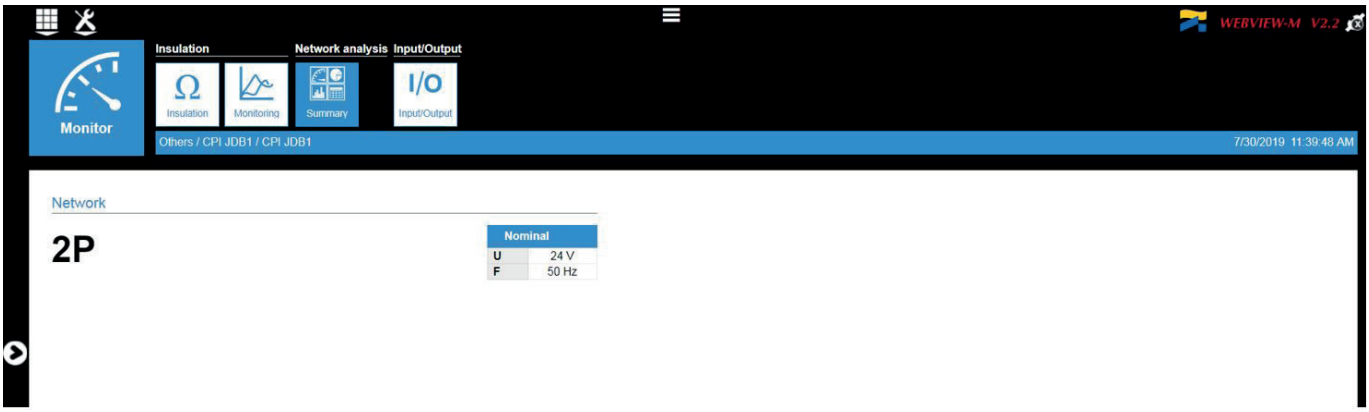
In addition to Power Monitoring Devices (DIRIS Digiware range, DIRIS A and DIRIS B PMDs and COUNTIS energy meters), WEBVIEW-M embedded in the D-75 display also integrates devices from the ISOM Digiware range, in particular the ISOM Digiware L-60 Insulation Monitoring Device / locating current injector, and the ISOM Digiware F-60 insulation fault detection module.

Devices within the ISOM Digiware range are only compatible with the WEBVIEW-M embedded in the ISOM Digiware D-75 display and WEBVIEW-L embedded in the DATALOG H80/H81.

The various Monitoring pages are as follows:

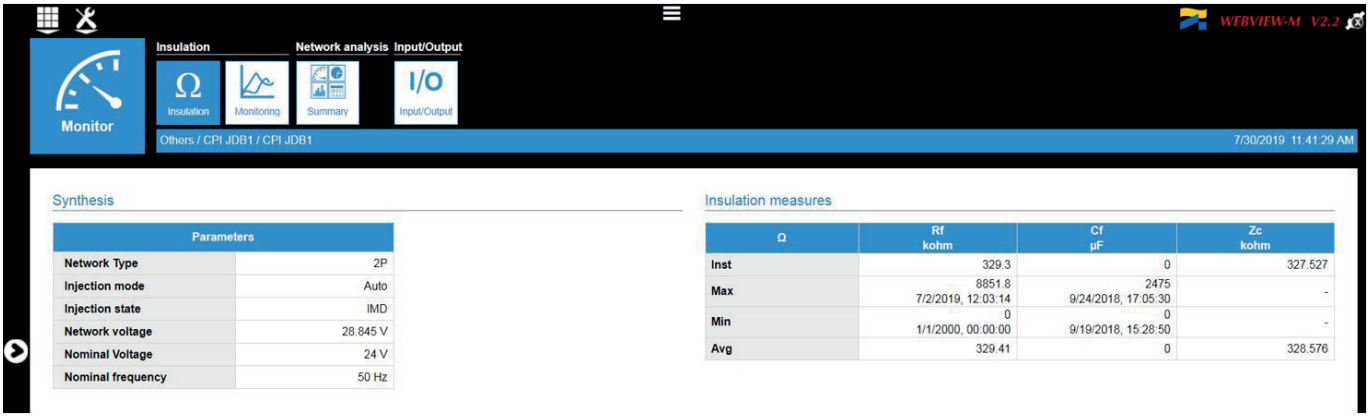
- Network analysis section - Summary

  The “Summary” tab displays the electrical network type (1P+N) and nominal values V and F.



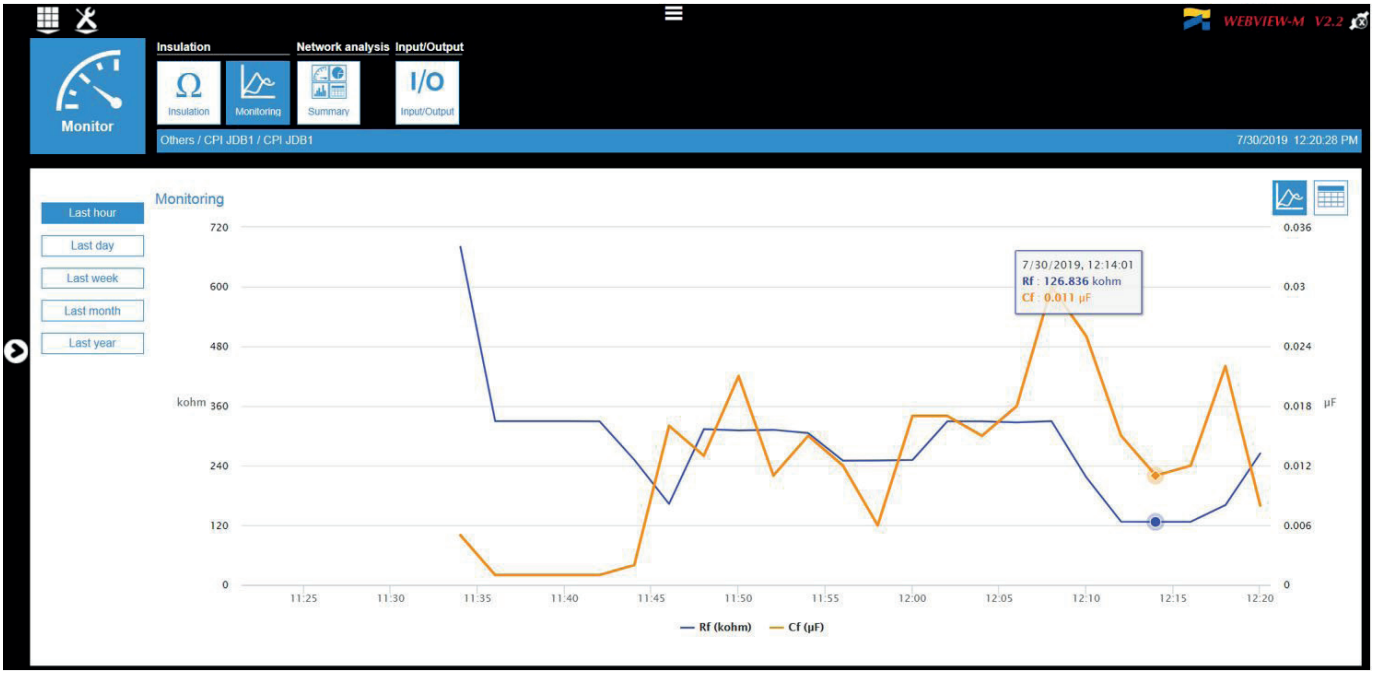
- Insulation section - Insulation

  The “Insulation” displays real time, maximum, minimum and average insulation parameters (Rf, Cf and Zc).



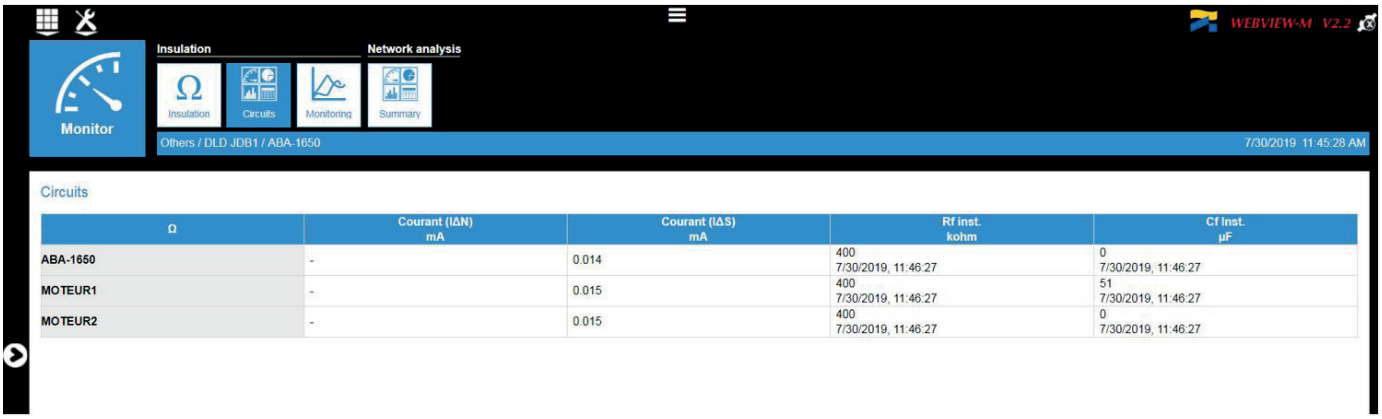
- Insulation section - Monitoring

The “Monitoring” tab displays the trend curve of the insulation parameters (Rf and Cf) over different periods (last hour, last day, last week, last month, last year). Data is also displayed in tabular format.



- Insulation - Circuits (for ISOM Digiware F-60 modules)

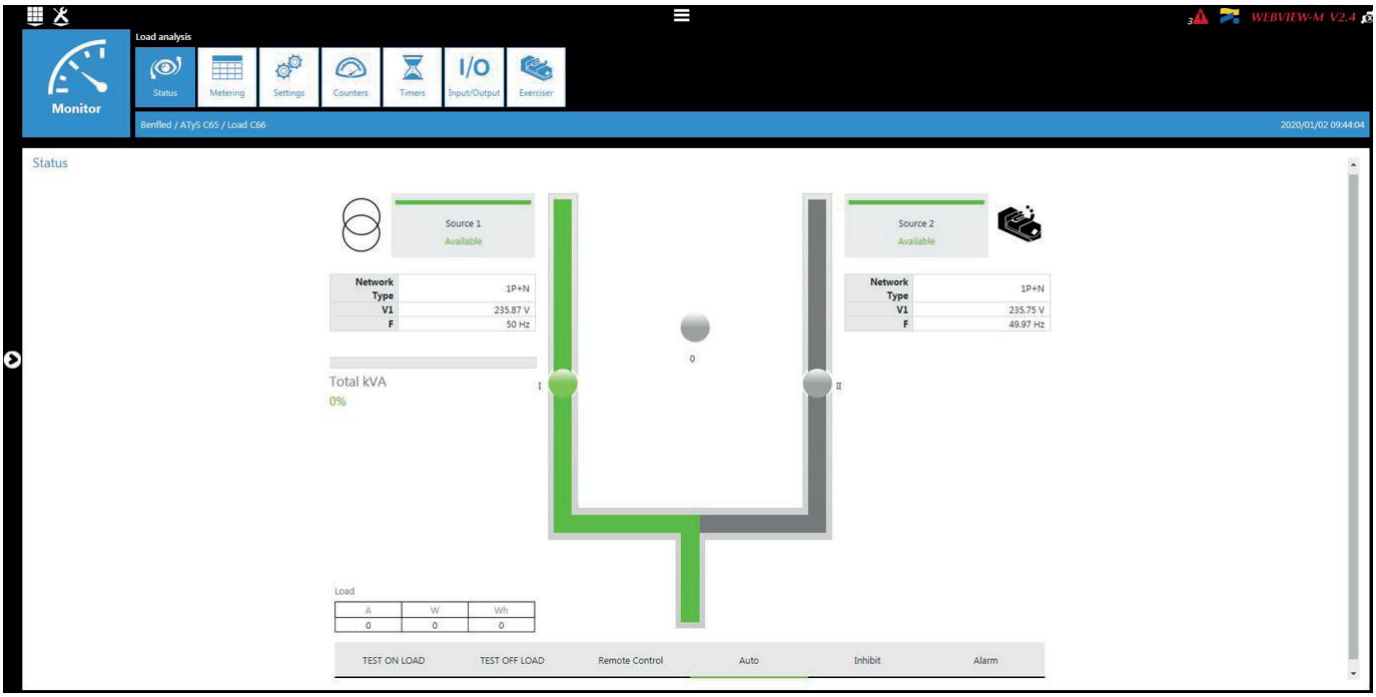
For each F-60, the “Circuits” tab for ISOM Digiware F-60 modules displays insulation parameters (IΔn, IL, Rf and Cf).



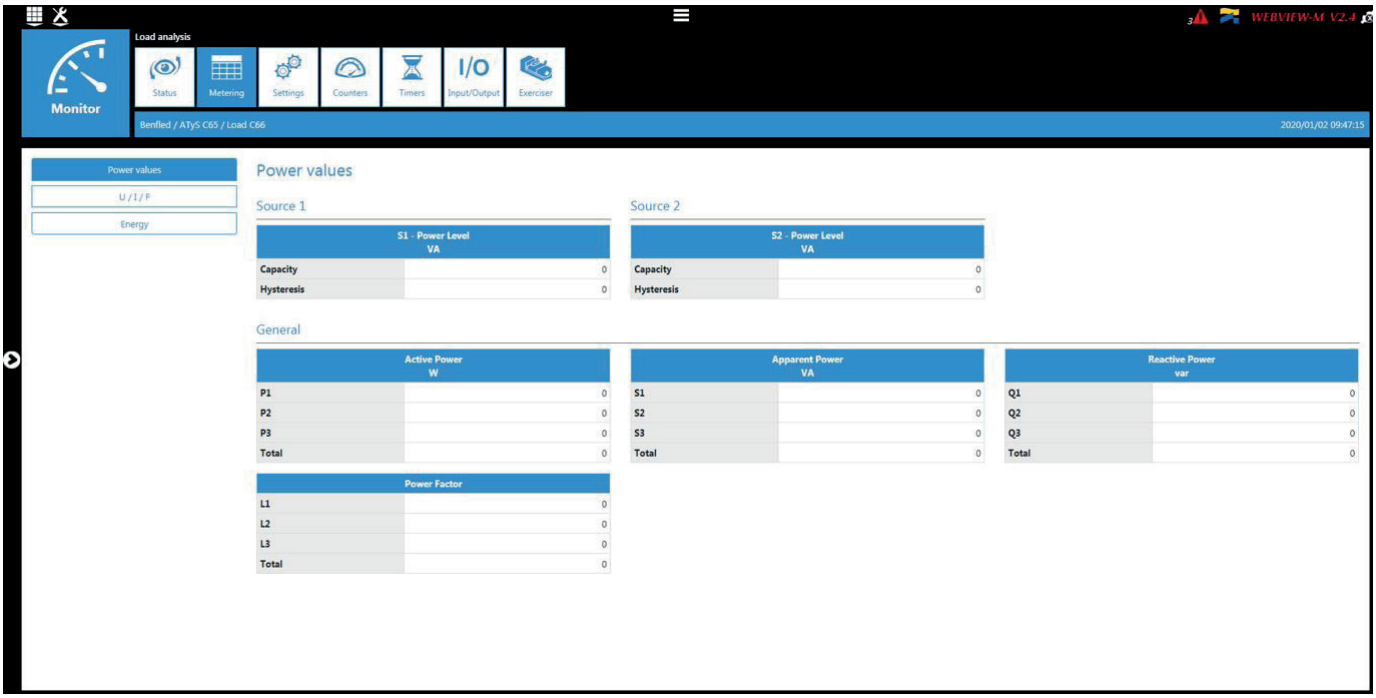
Ω	Courant (IΔN) mA	Courant (IΔS) mA	Rf inst. kohm	Cf inst. µF
ABA-1650	-	0.014	400 7/30/2019, 11:46:27	0 7/30/2019, 11:46:27
MOTEUR1	-	0.015	400 7/30/2019, 11:46:27	51 7/30/2019, 11:46:27
MOTEUR2	-	0.015	400 7/30/2019, 11:46:27	0 7/30/2019, 11:46:27

8.2.3. Monitoring ATyS C55/C65 controllers

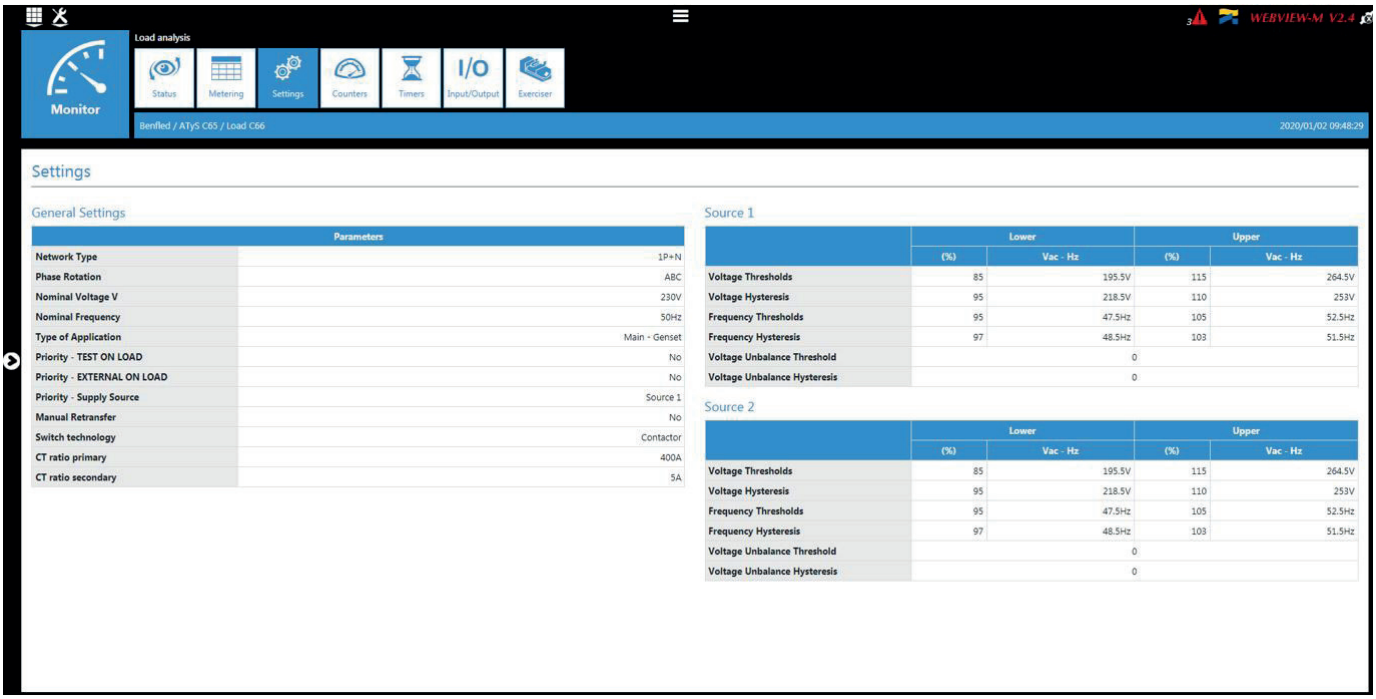
- “Status” tab



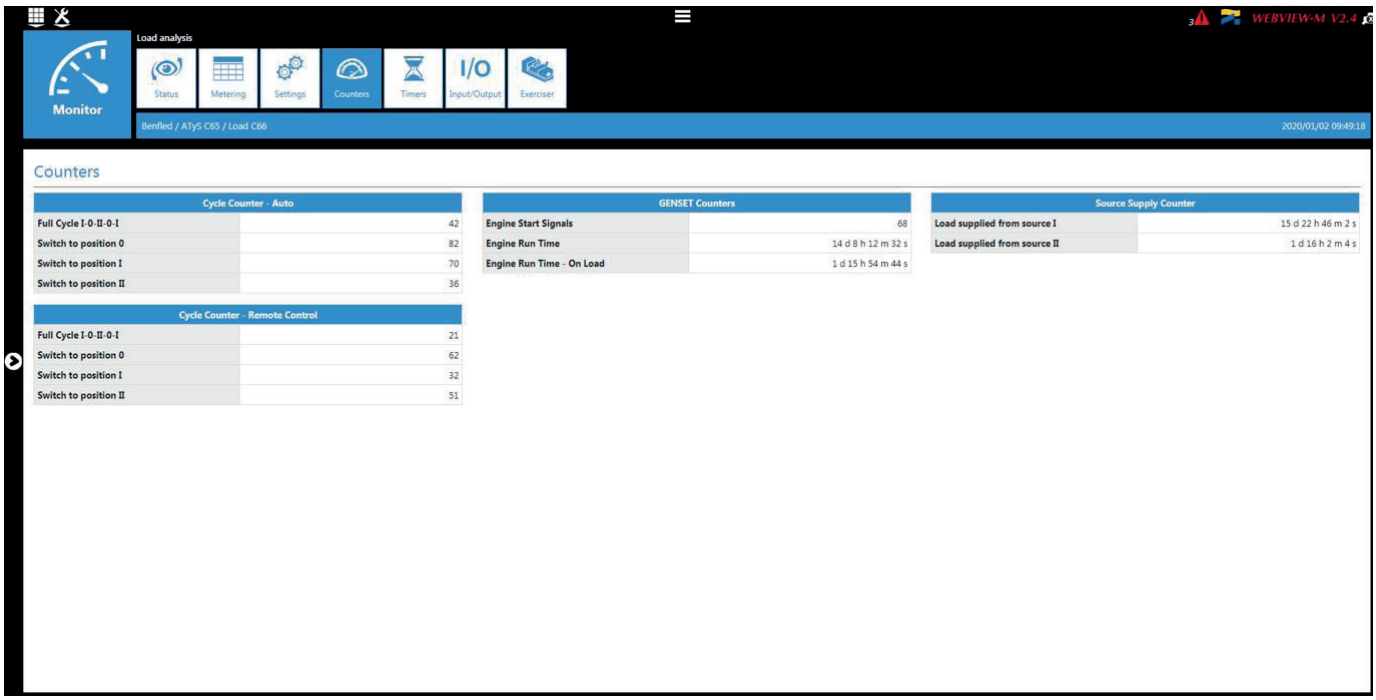
- “Metering” tab



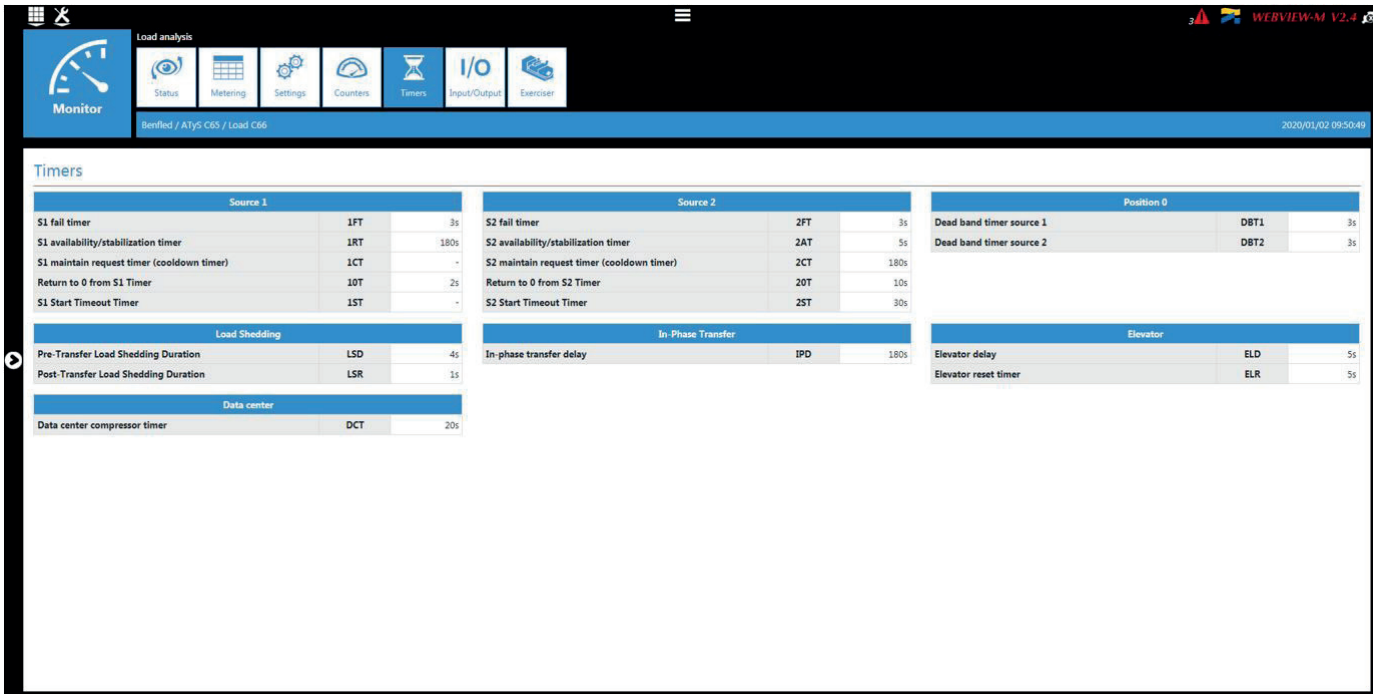
- “Settings” tab



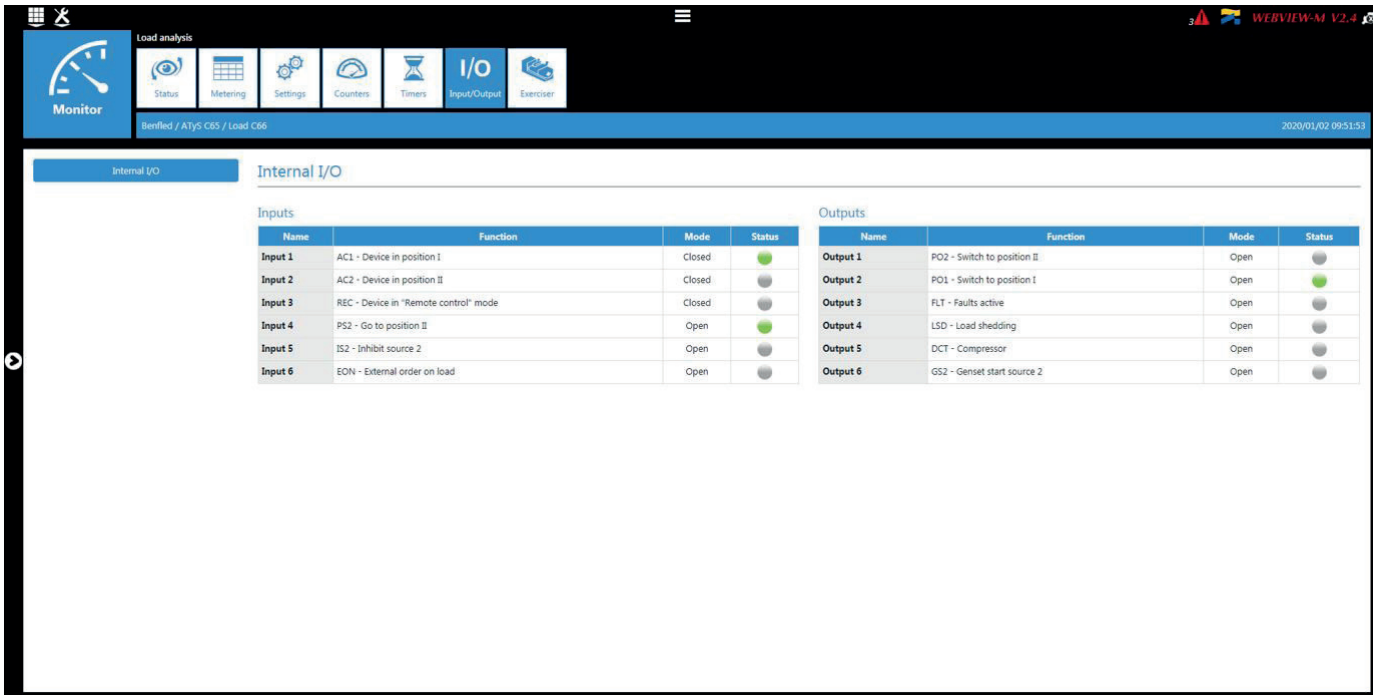
- “Counters” tab



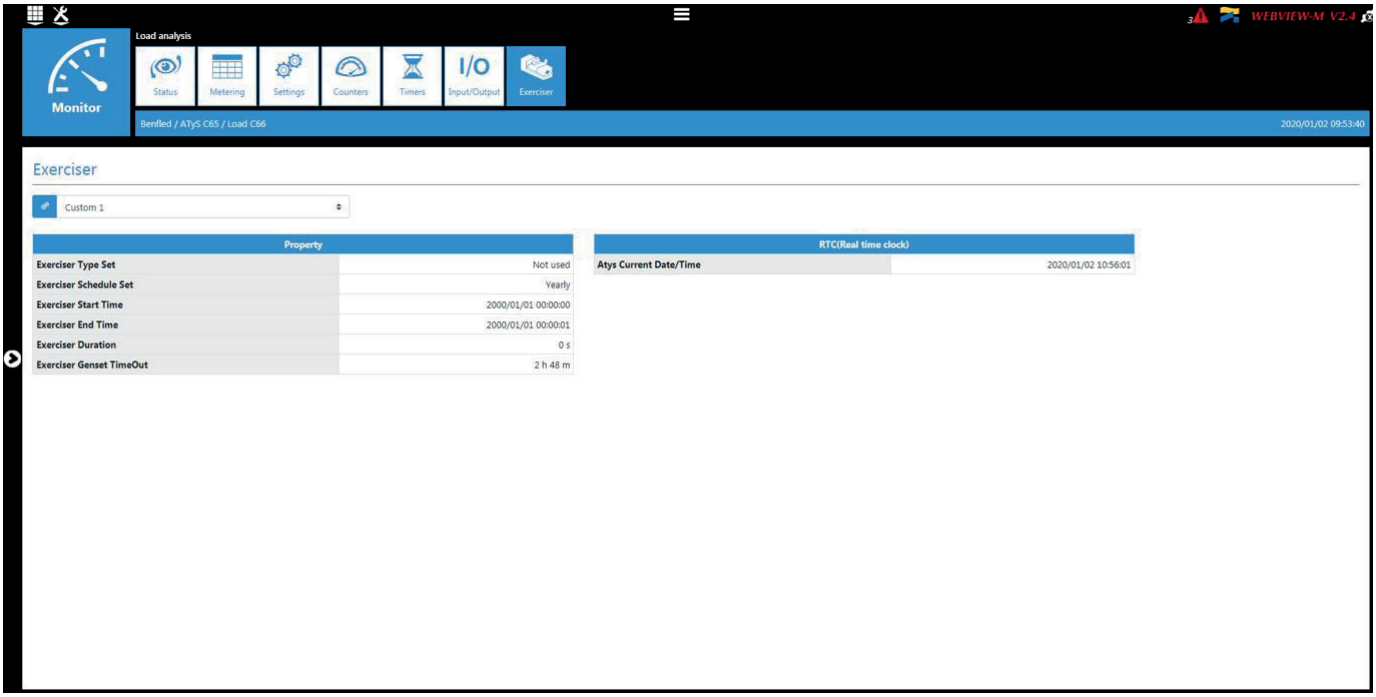
- “Timers” tab



- “Input/Output” tab

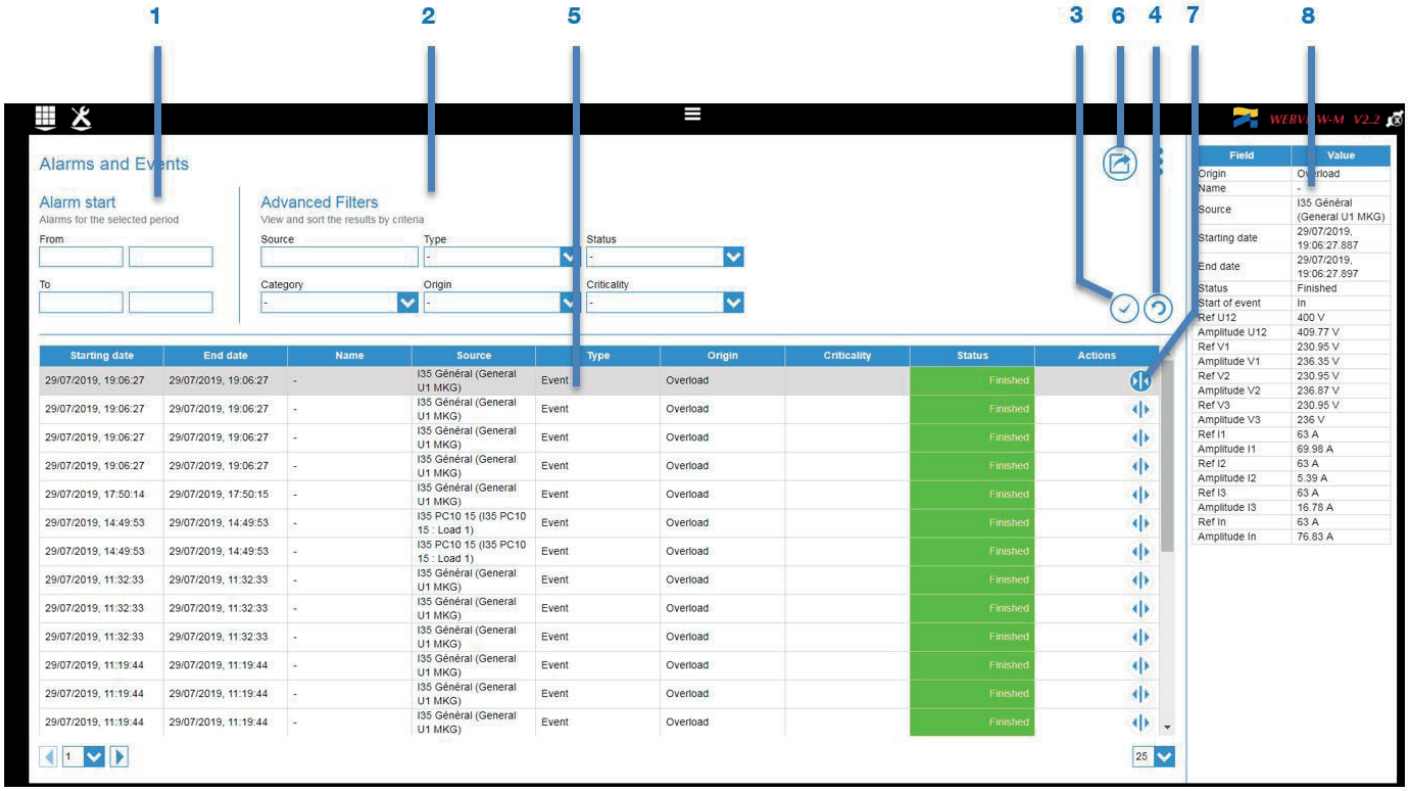


- “Exerciser” tab



8.3. Alarms and events

The **Alarms and Events** menu displays all active and finished alarms from SOCOMEC devices on a dashboard.



The **Alarms and Events** page shows the following functions:

1. Selection of the **Alarms and Events** analysis period
2. Filtering **Alarms and Events** by data source (Configured devices), by type (Alarms or EN 50160 events, by alarm category and type, by status (active, finished, finished, not acknowledged etc.), by criticality
3. Validates the selection (period and filters)
4. Resets the selection (period and filters)
5. Displays the result of the selection
6. Exports alarm file (zip file with **Alarms and Events files**)
7. Opens the window showing details of the alarm selected (to the right of the screen)
8. Window showing alarm details

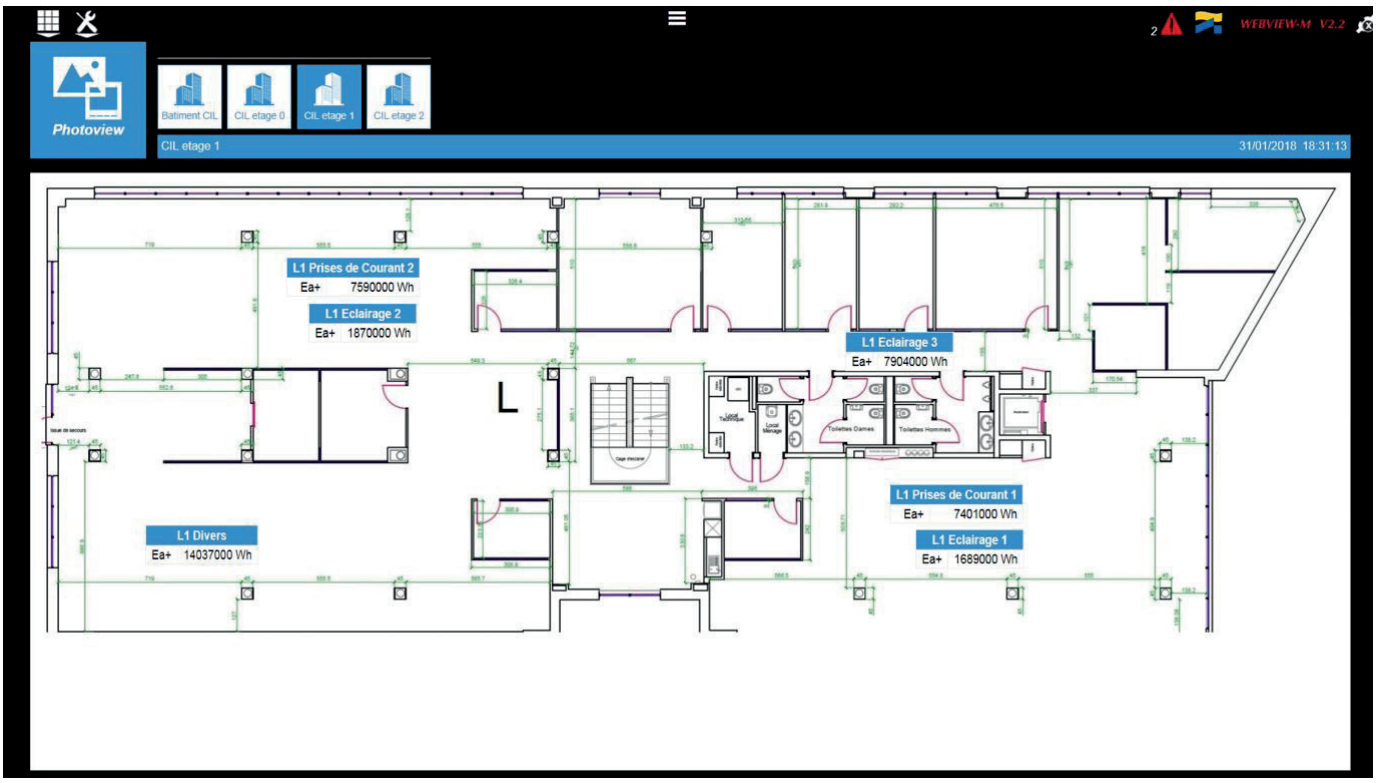
8.4. Photoview

The **Photoview** menu allows you to create a custom dashboard by uploading a picture (site map, electrical panel, single-line diagram etc.) and to drag & drop real time measurements directly on the chosen picture.

Below is a Photoview page based on a picture of the SOCOMEC CIL building, including links to the different floors, pictograms of devices and measurement tables.

1. Tabs of the different Photoview pages created
2. Hypertext link to access another Photoview page: option to create a page tree view
3. Text box
4. Device icon
5. Table of measurements

Below is the Photoview page of the 1st floor of SOCOMEC CIL building, based on a picture of the floor plan and including various measurements related to this area.



When clicking on the various added elements (e.g. a measurement table), the user is redirected to the “Monitor” menu of the associated device.

Below is a second example of a Photoview page,showing a LV switchboard with the various measurements related to each outgoing feeders.

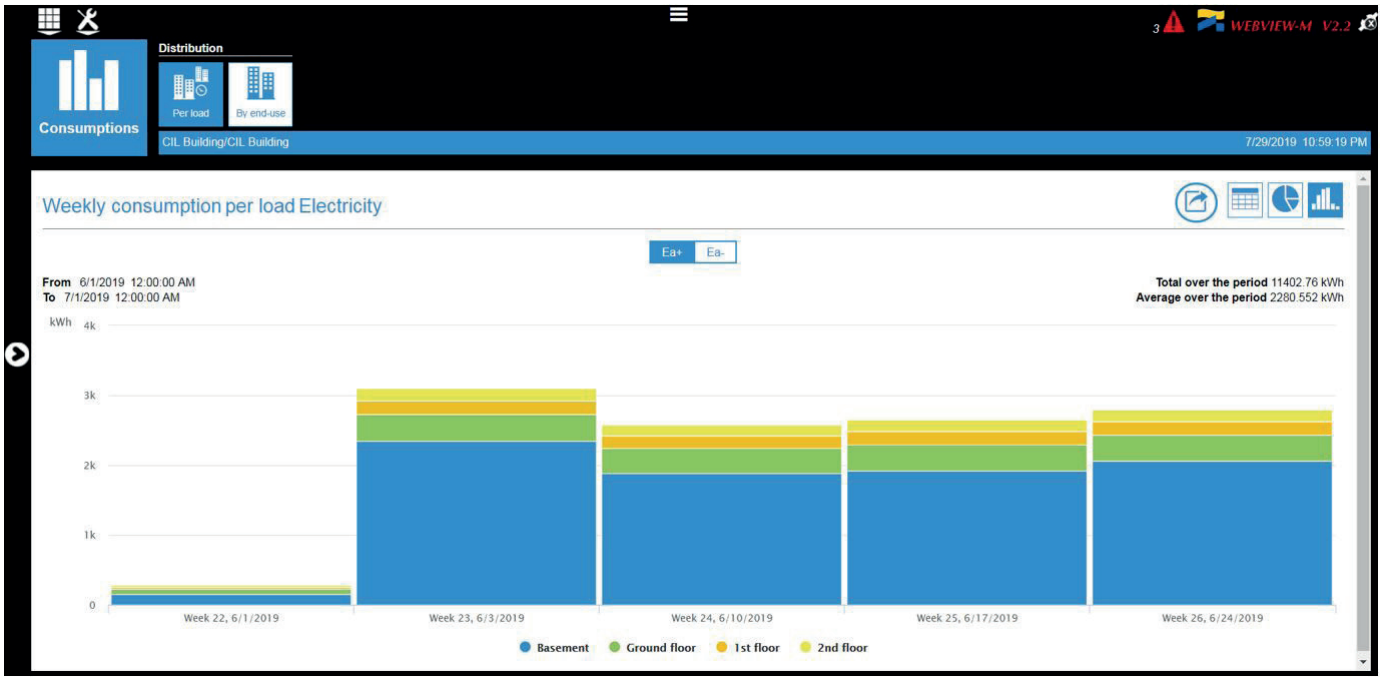
8.5. Consumptions

The **Consumptions** menu allows a representation of energy flows consumed by the different loads over specific time periods.

Open the left pane to organise the consumption visualisation by hierarchy, use or utility (fluid) and to choose the time period.

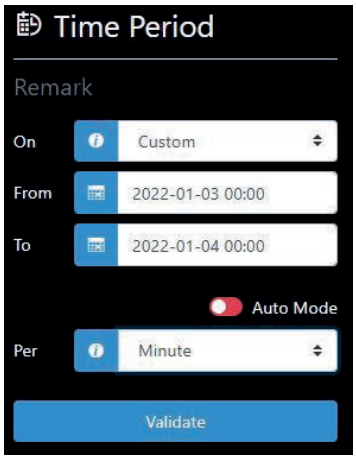
The **Consumptions** menu offers 2 predefined presentation modes: by load or by usage, based on the hierarchies which have been configured. If no hierarchy has been created, there will be no breakdown of consumptions. The interface will therefore propose a simple view of the consumptions and provide energy indexes recorded per device.

For example, a breakdown of the CIL building's energy consumptions by load for the week of 06/10/2019 to 06/16/2019



Clicking on a consumption bar displays more detailed time data: Month -> Week -> Day -> Hour

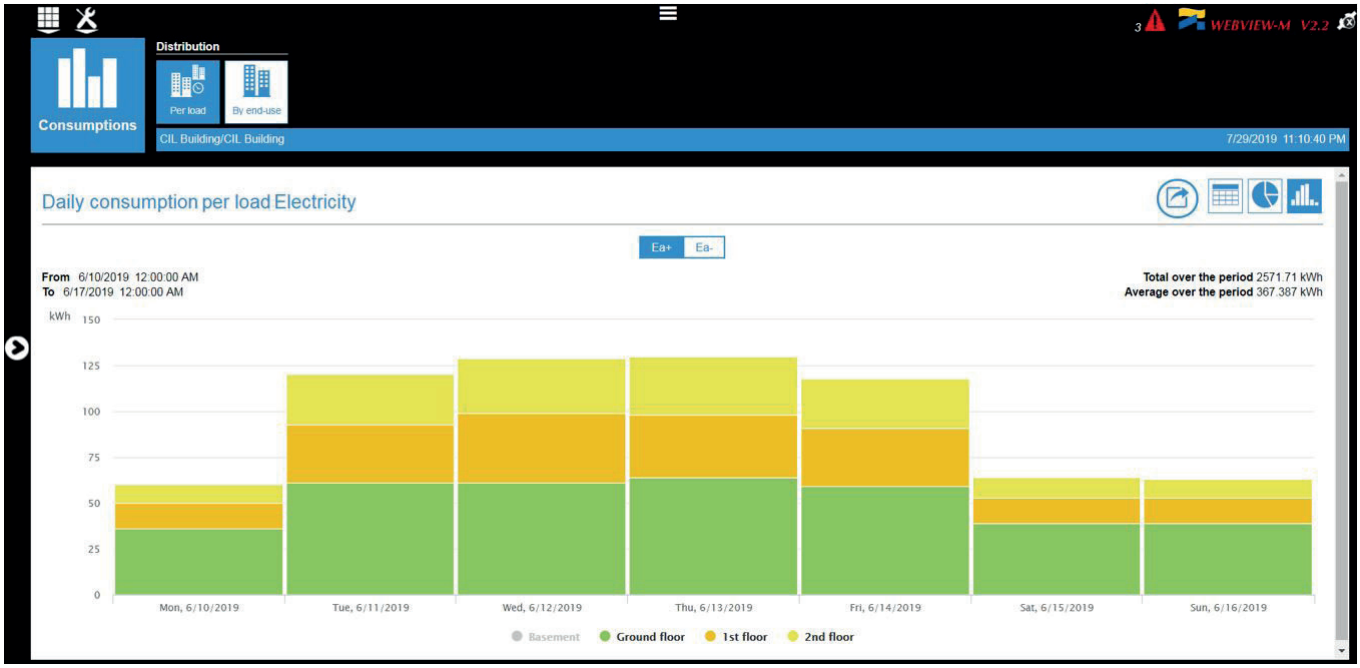
To display consumption curves with a resolution below the hour, open the left pane and in the "Time Period" section, disable "Auto mode" and select "Per minute":



To be able to display consumption per minute, make sure the integration period of consumption curves configured in Easy Config System on the M-70 gateway / D-70 display is consistent (below 60 minutes).

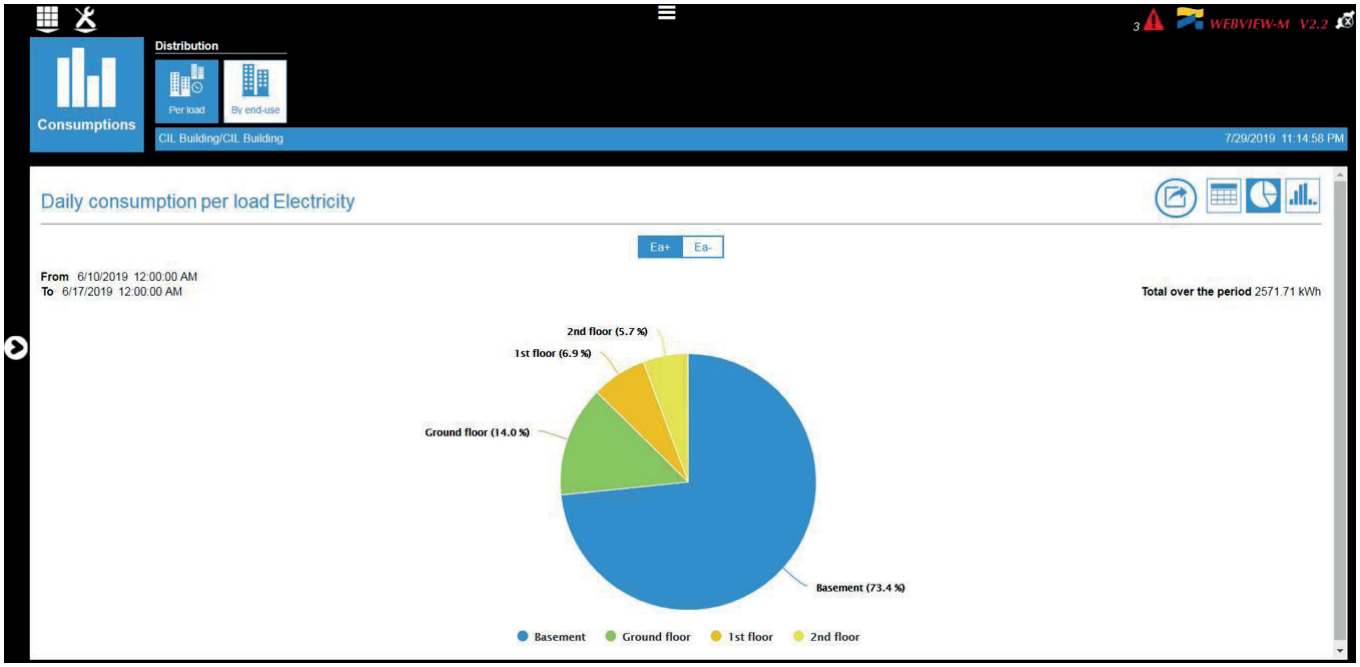
For example, clicking on the weekly bar displays daily consumptions.

By clicking on one of the load names ("Basement" in the example below), it can be removed from the graph.
The total consumption value given in the top right corner is also updated when loads are selected / unselected:

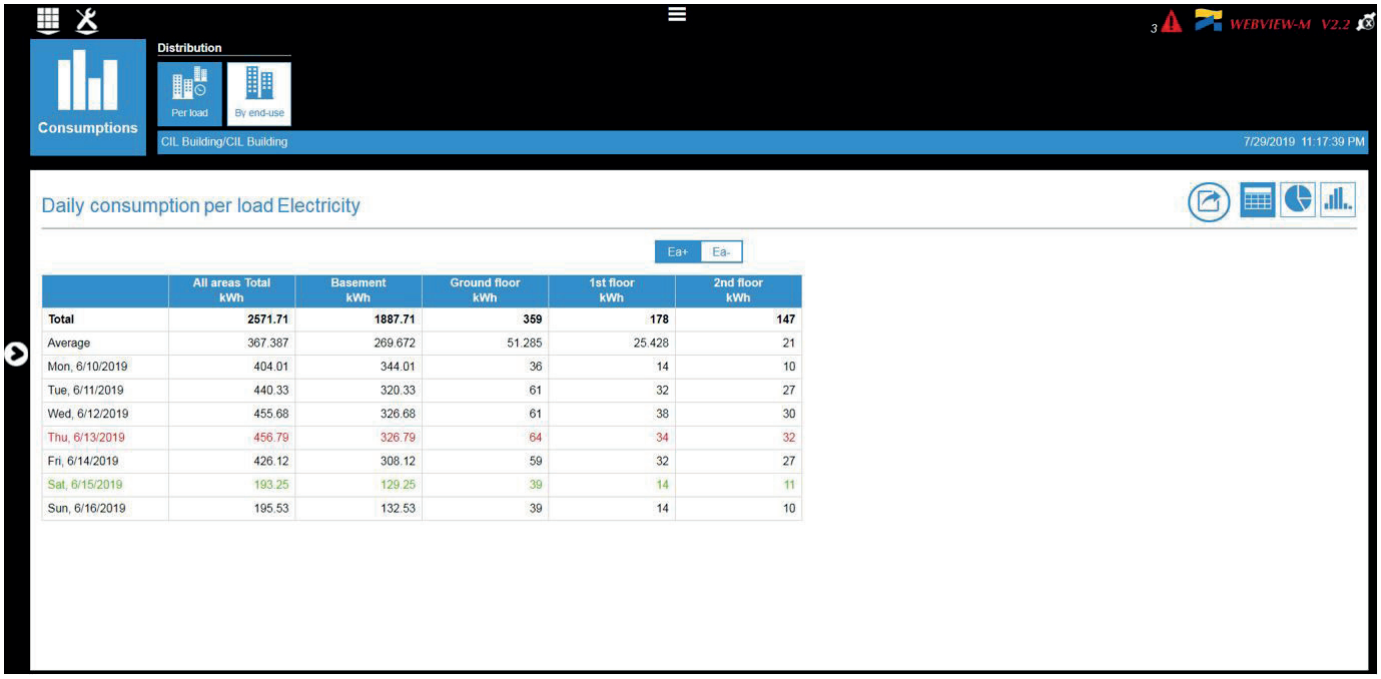


Other graphical representations are available:

- Pie chart



- Table view



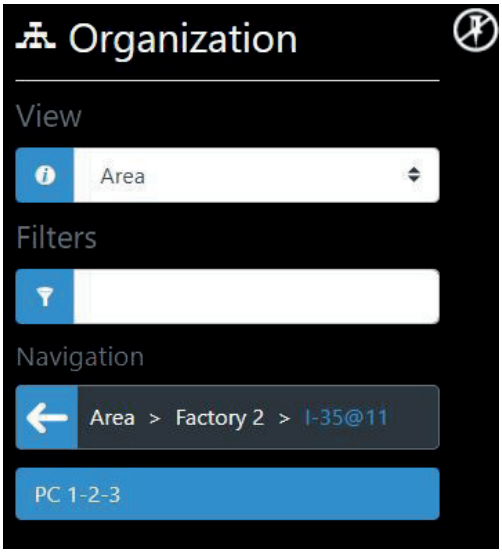
	All areas Total kWh	Basement kWh	Ground floor kWh	1st floor kWh	2nd floor kWh
Total	**2571.71**	**1887.71**	**359**	**178**	**147**
Average	367.387	269.672	51.285	25.428	21
Mon, 6/10/2019	404.01	344.01	36	14	10
Tue, 6/11/2019	440.33	320.33	61	32	27
Wed, 6/12/2019	455.68	326.68	61	38	30
Thu, 6/13/2019	456.79	326.79	64	34	32
Fri, 6/14/2019	426.12	308.12	59	32	27
Sat, 6/15/2019	193.25	129.25	39	14	11
Sun, 6/16/2019	195.53	132.53	39	14	10

8.6. Trends

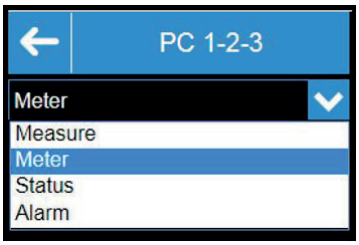
The **Trends** menu displays measurement logs (historical measurements) collected by the devices over the time period selected in the left pane.

First go to the left pane and select the measurements you want to show on the graph.

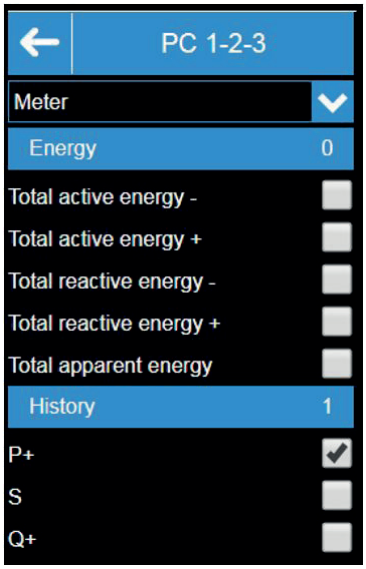
1. Select an area, then select a device within this area, and a circuit for this device (in our case a DIRIS Digiware I-35 module located in the "Factory 2" and measuring a circuit named “PC 1-2-3”).



2. Select the data category (Measure, Meter, Status, Alarm).

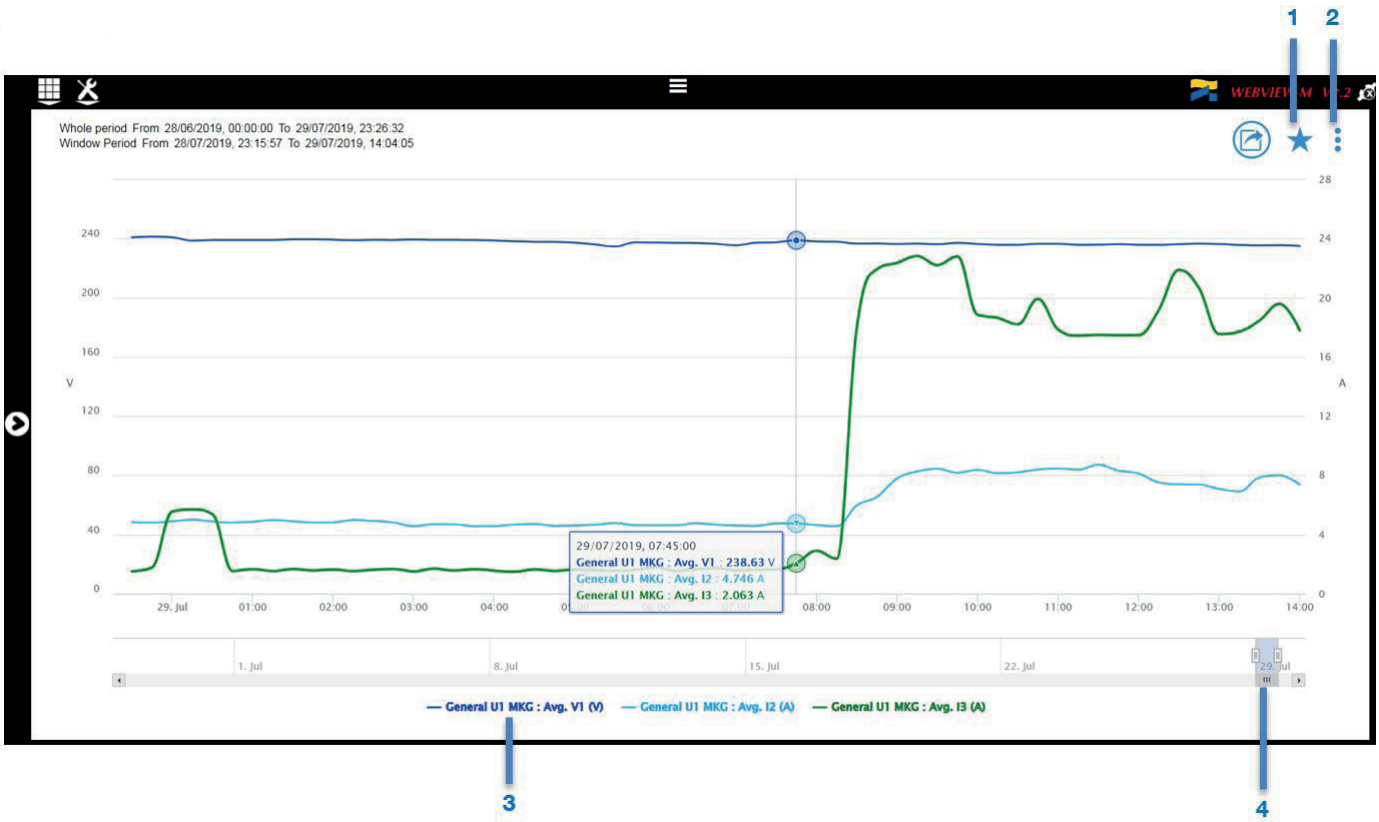


3. Check the type of data in the category. Please note that a variable is only proposed if it has been selected beforehand during the configuration of the equipment from the Easy Config System software.

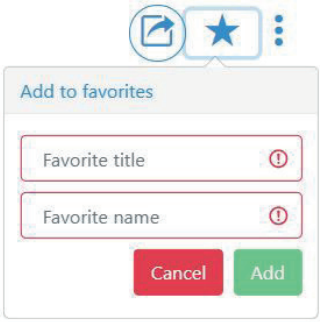


When selecting the data types, the trends are automatically displayed, over the chosen time period, with scale information on both sides of the graph, according to the different units measured.

You can choose to show several parameters with different units (e.g. voltage, current, power), from one or multiple devices.

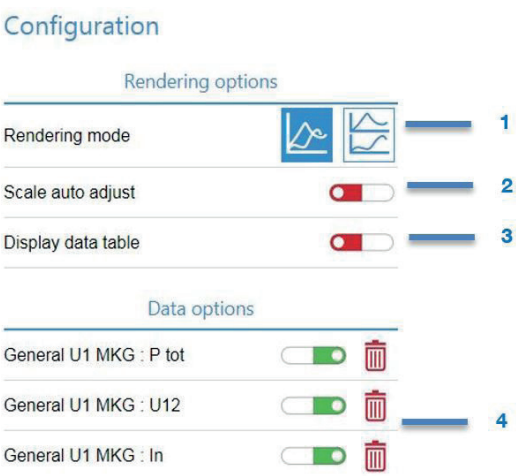


Create favourites: allows to freeze and save the data selection for later retrieval



1. Enter a name and title for the favourite created
2. Open the configuration pane
3. Data displayed on the graph: show/hide the curves by clicking on the name of the data
4. Selection range within the time period: zoom in on a time period to see the range you want to analyse in detail

Configuration pane



1. Change the display mode: several measurements on the same graph or several graphs superimposed on the same time period.
2. Change the scaling type: by default the graph starts from 0, but click on the selector to centre the graph around the minimum and maximum value.
3. Display of the data table for the chosen time period
4. Option to select or delete data

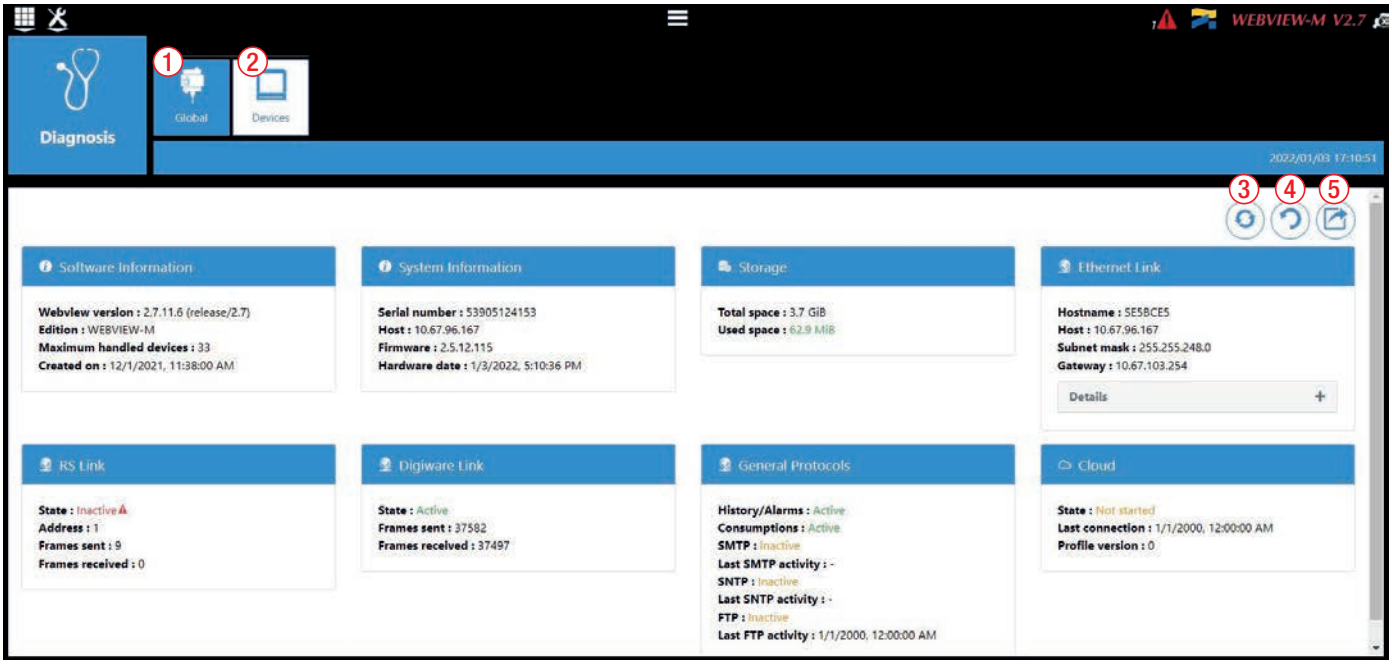
9. SETTINGS

Before being able to use the different features offered by WEBVIEW-M, the application must be configured.
This section describes the different settings in detail.
You need to log in as Administrator (Admin) or Cyber security to access the configuration interface for Devices and Hierarchies.

Click on the “Wrench/Screwdriver” icon  :

1. Customise - Profile: to change the passwords of the different profiles
2. Customise - Application Customisation: to customise the interface of WEBVIEW (company logo and background pictures)
3. Customise - Devices: to configure your measurement system’s architecture and visualisation options
4. Diagnosis - Diagnosis: displays information on the M-xx gateway / D-xx display and downstream devices. Helpful for troubleshooting
5. Diagnosis - Protocols: to configure the communication protocols and network services of the M-xx gateway / D-xx display
6. Diagnosis - System: to perform system actions on the M-xx gateway / D-xx display such as a back-up/restore of configuration and data, or a firmware upgrade
7. Security - Cyber Security: only available with the Cyber security profile, it enables to implement a custom cyber-security policy to secure the access and transmission of data

9.1. Diagnosis – Diagnosis



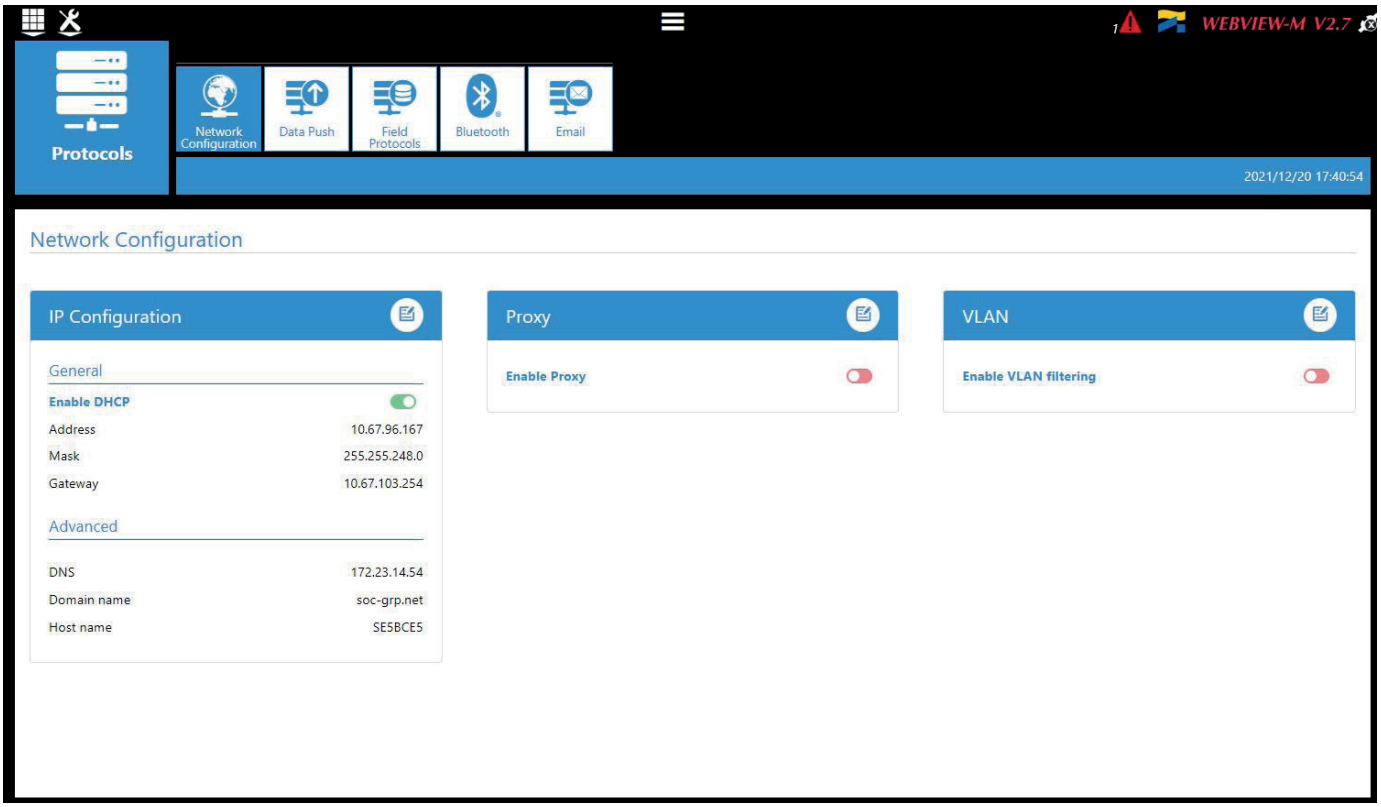
1. Global - detailed analysis of the M-xx gateway / D-xx display's status and settings
2. Devices - detailed list of devices connected to the M-xx gateway/D-xx display
3. To reboot the M-xx gateway/D-xx display
4. To reset communication information
5. To export the Syslog event file from the M-xx gateway / D-xx display. This file lists and timestamps all events that occurred

9.2. Diagnosis – Protocols

The "Protocols" menu allows you to configure all communication protocols and services of the M-xx gateway / D-xx display.

- Network Configuration

From the “Protocols” menu, the “Network configuration” tab allows you to modify the M-xx gateway / D-xx display’s IP configuration:

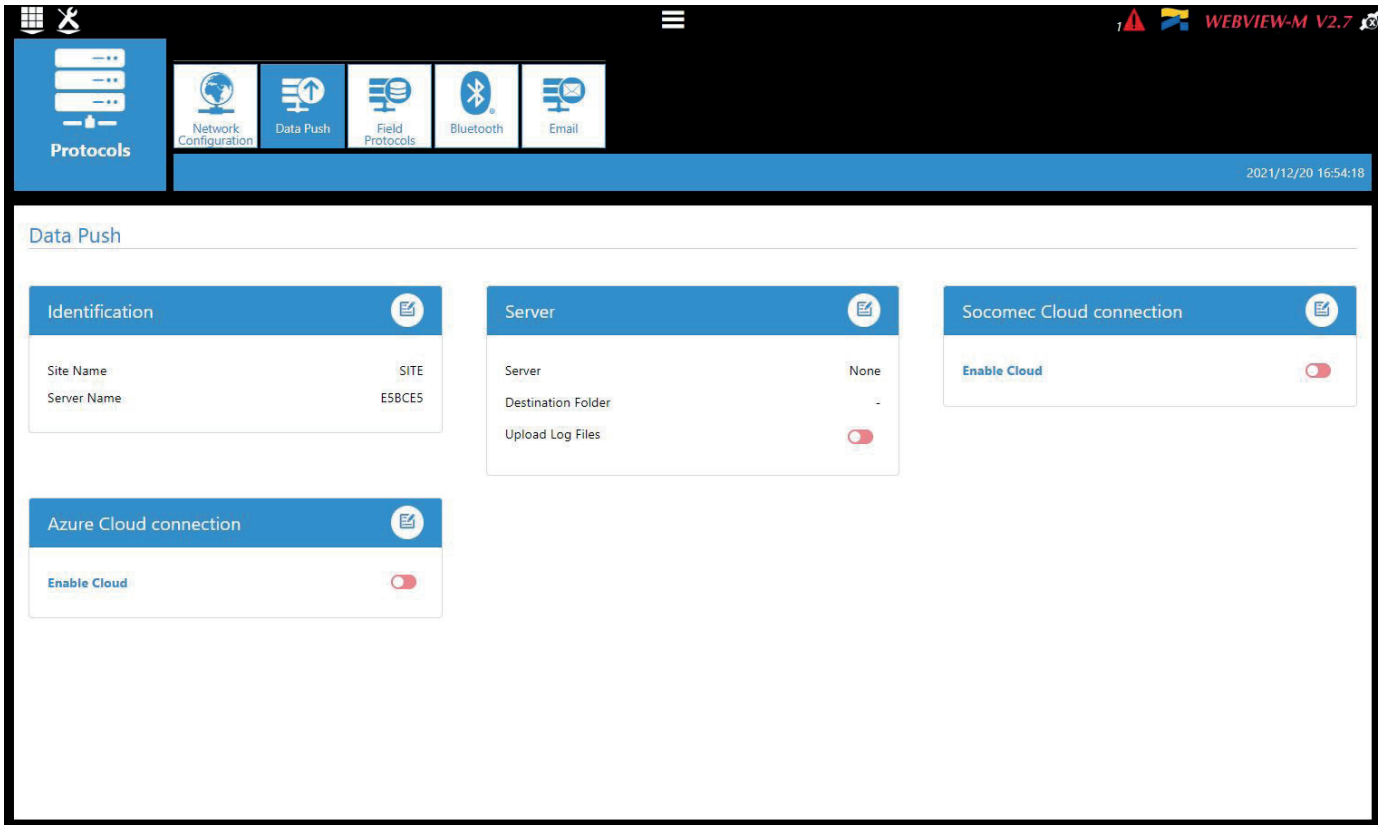


- Data Push

  - Identification

    o Site name: This setting is essential to connect the M-xx gateway / D-xx display to a physical location within the project structure. Default Site name is “SITE” and must be changed (in EMS export mode only) or a system alarm (FTP error) will be triggered.

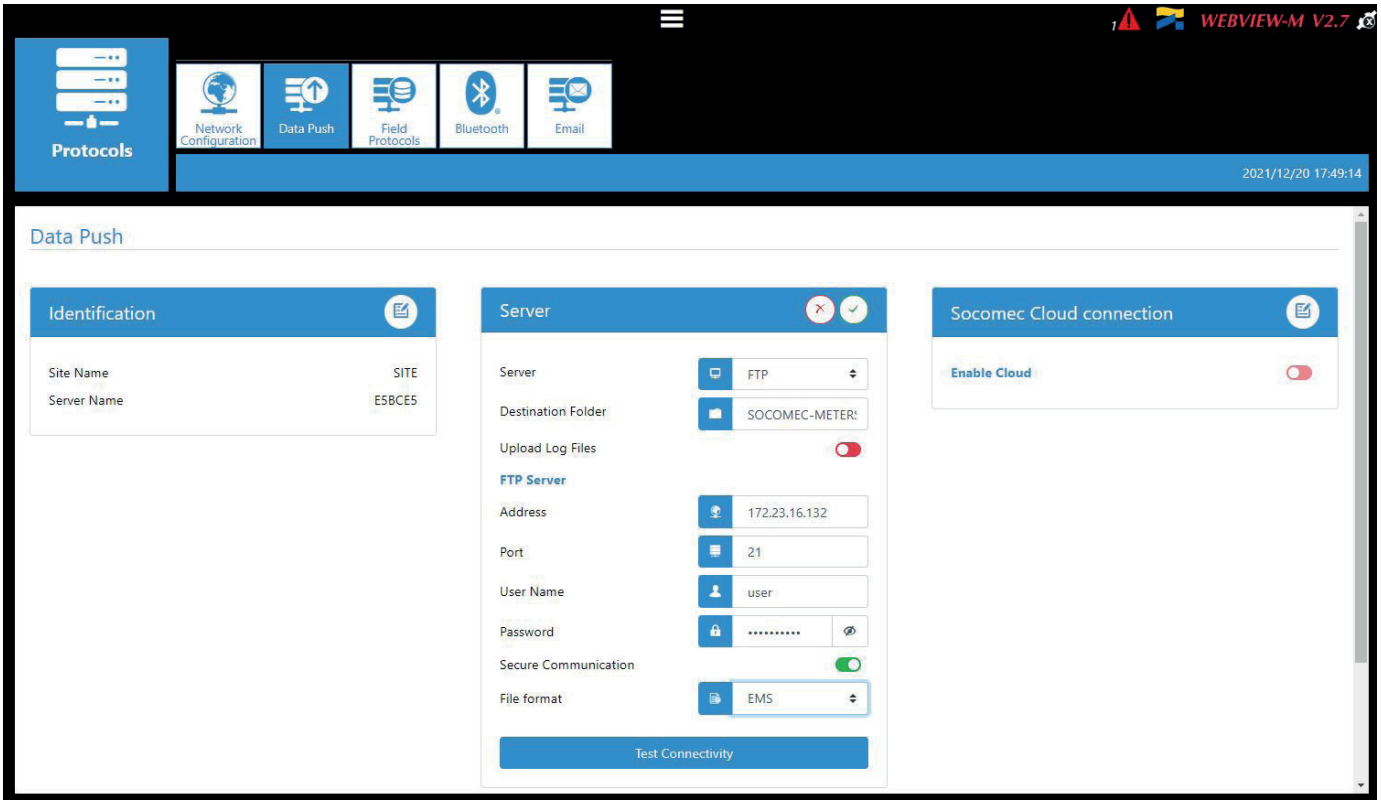
    o Server name: Unique identifier of the M-xx gateway / D-xx display. The default server name is the NET ID, marked on the front face of the M-50/M-70 gateway and shown on the home screen of the D-50/D-70 display.



  - Server

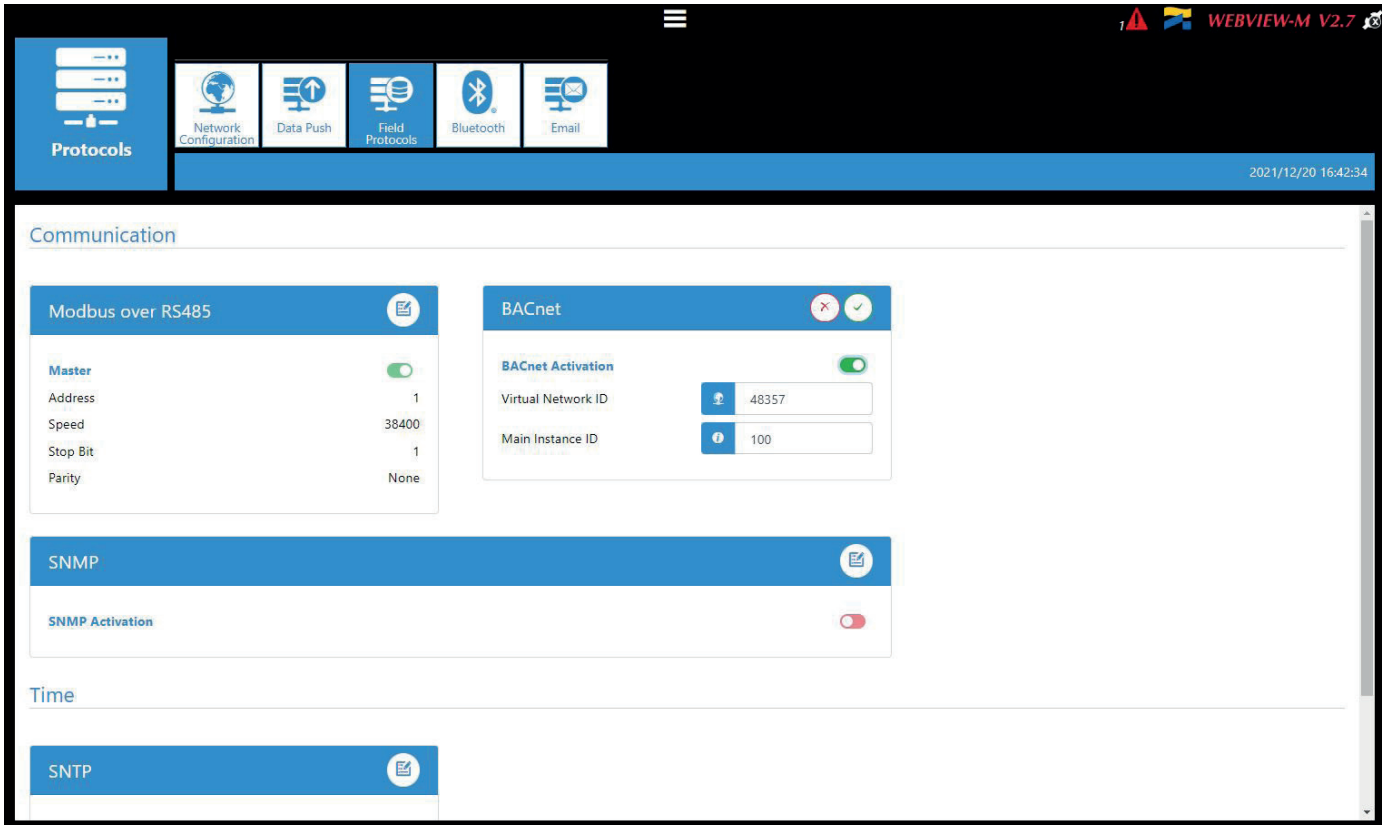
    o Server: To send data files to a remote server, the Administrator selects the FTP(S) server
    o Destination folder: Enter the remote server directory for receiving the files
    o Upload log files: Select if you want the gateway/display to also send the log file to the remote server
    o Address: Enter the IP address of the remote server
    o Port: Enter the software port (usually 20 or 21 for FTP)
    o User name: enter the login to access the remote server
    o Password: enter the password to access the remote server
    o Secure communication: open a secure session between the gateway and the remote server
    o File format: there are 2 types of file to export the data (CSV and EMS – see appendices 1 and 2). The CSV format is easier to use while EMS is better for importing data into external energy management software.
    o Test connectivity: Test the FTP export function

Once the data push server has been configured, go to the «Devices» menu, then the «Planning» tab to configure the type of data to be exported as well as the export frequency of each data type.
Refer to chapter 9.9 - “Datalogger” for more information.

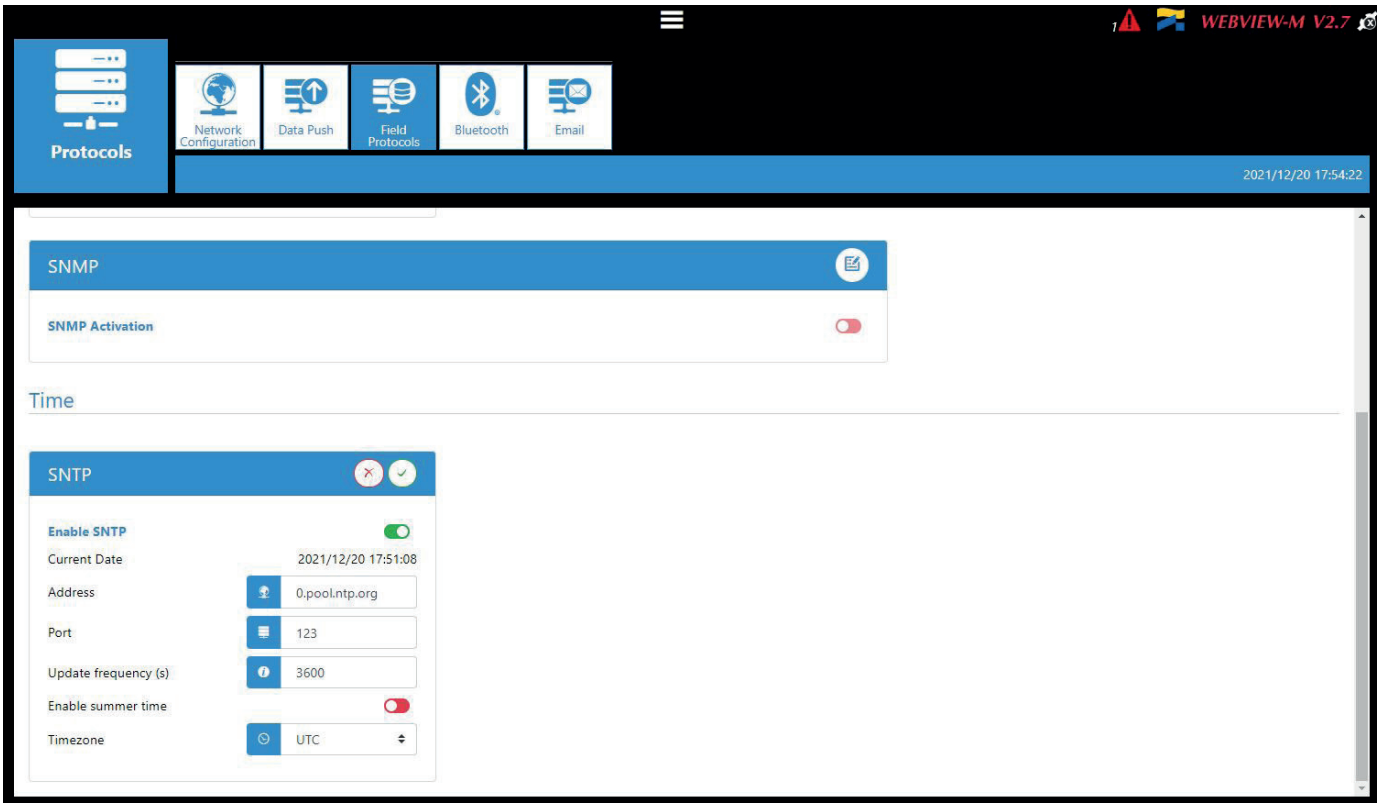


- Field protocols

  - Communication: allows you to configure the different field protocols that the M-xx gateway / D-xx display can use to communicate to external energy management systems.

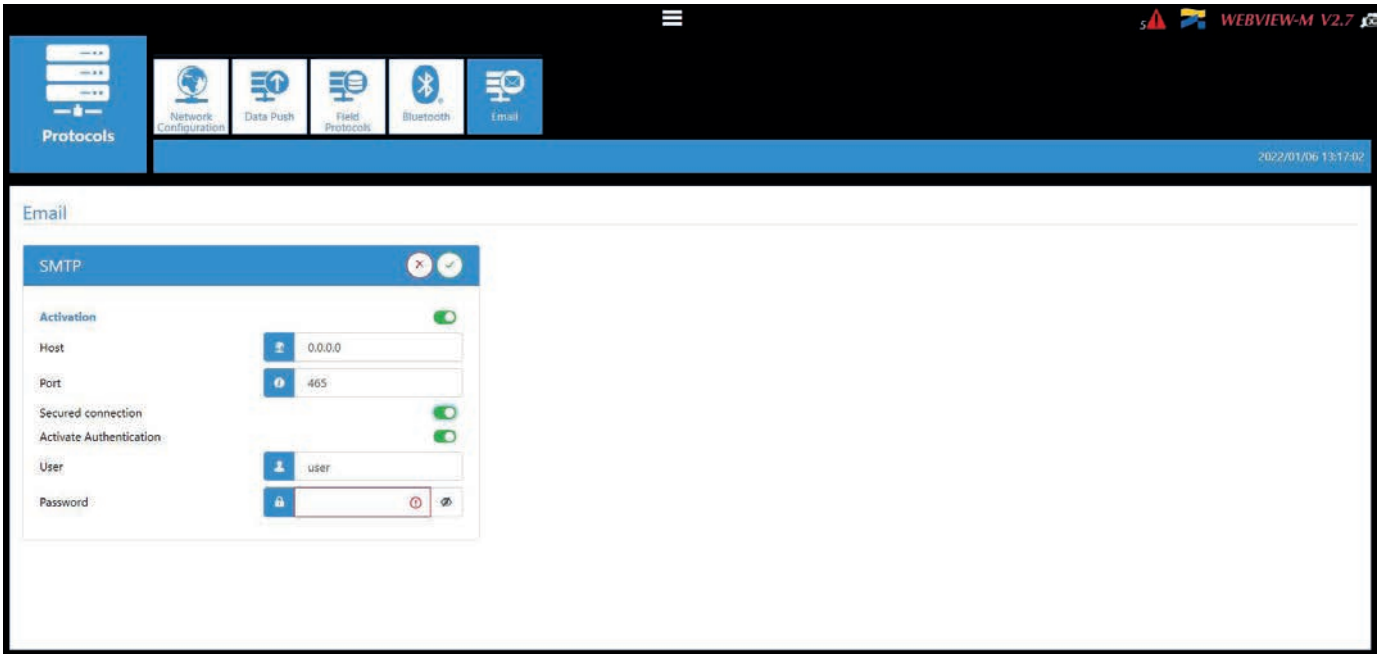


- Time: allows you to configure an SNTP server to automatically synchronise the clock of the M-xx gateway / D-xx display to an external computer.



- Email

This tab allows you to configure an SMTP server for email notifications in case of alarms on a slave device connected to the M-xx gateway / D-xx display, or an alarm on the gateway itself.



Once the SMTP server has been configured, go to the "Devices" menu, "Notifications" tab to configure the email notification settings (source and recipient email address, notification frequency etc.).
Refer to chapter 9.10 - "Notifications" for more information.

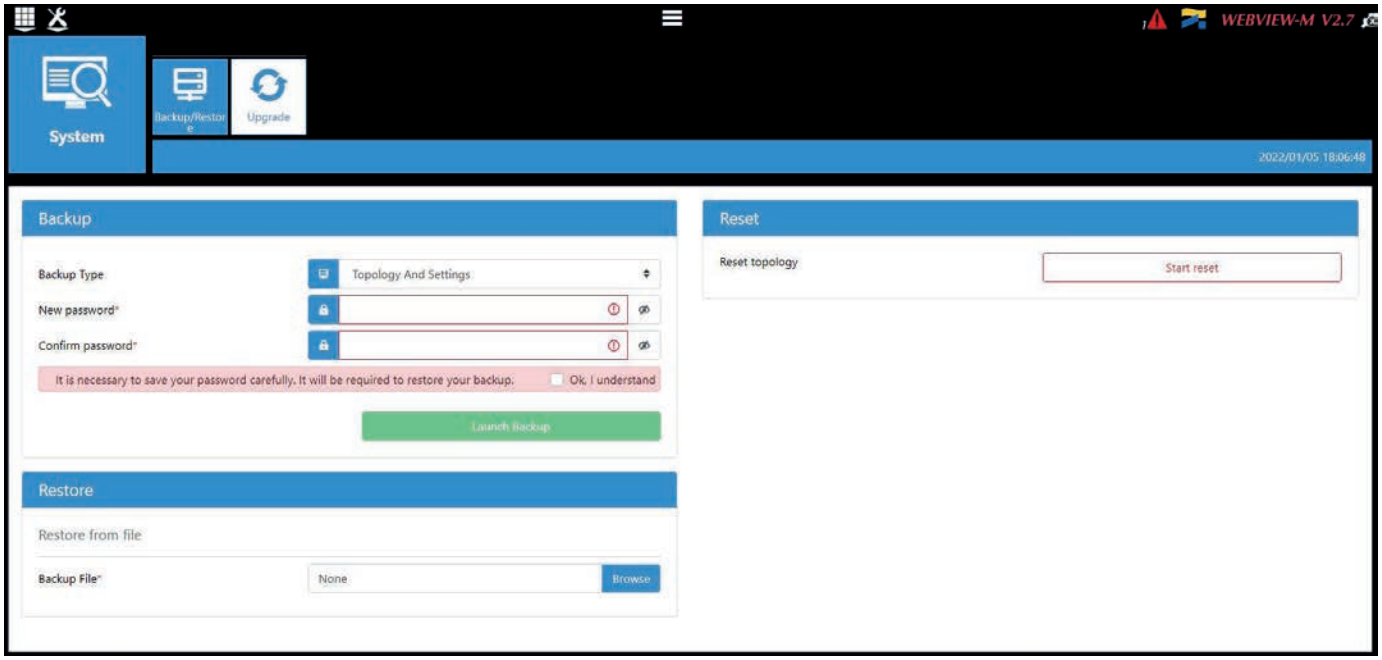
9.3. Diagnosis - System

The "System" menu allows to perform system actions such as a back-up/Restore or a firmware upgrade of the M-xx gateway / D-xx display.

• Back-up/Restore

The "Back-up/Restore" tab allows you to back up the configuration and measurements of your M-xx gateway / D-xx display on an external drive and to restore them on the same or on a different M-xx gateway / D-xx display in the event of an attack leading to a loss of data or malfunction.

It is recommended to back up your M-xx gateway / D-xx display on a regular basis to avoid undergoing a loss of data on WEBVIEW.



• **Backup part**

- Backup Type: choose the type of back-up: topology and settings only or a full backup (topology + settings + data).
- Password: choose a password and save it somewhere safe. The same password will be required during the Restore process.

• **Restore part**

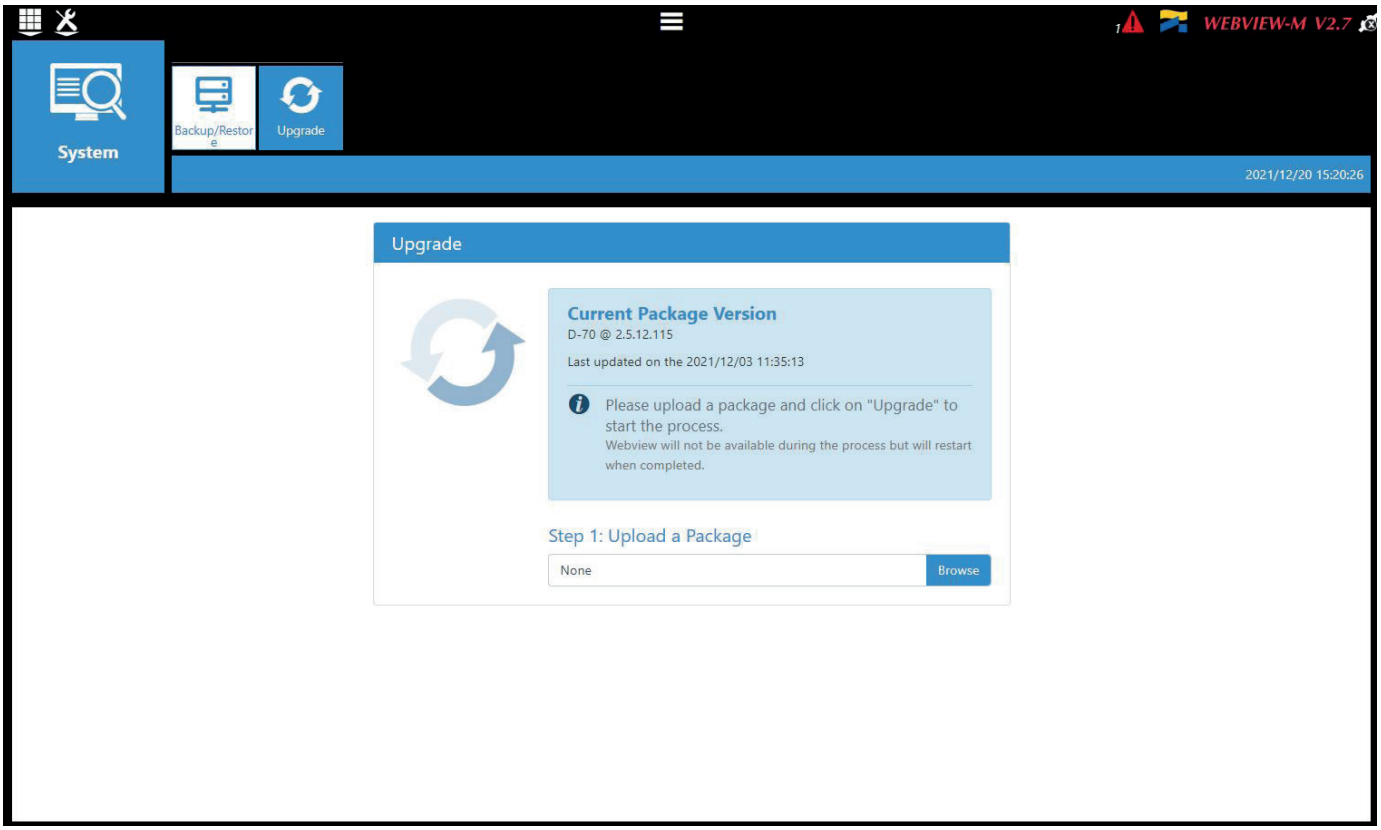
Upload your backup file, enter the password used during the backup process.

• **Reset part**

You can reset the topology of the M-xx gateway / D-xx display. This will erase all devices previously added.

• Upgrade

The "Upgrade" tab allows to upgrade the firmware of the M-xx gateway / D-xx display.



Upload the desired firmware package (.dfu file) by clicking on the “Browse” button.

Wait until the package is loaded, and once package consistency check is finished, click on “Upgrade”.

Once the upgrade is finished, the web page will reload automatically.

9.4. Security – Cyber Security

The Cyber Security menu is only available when logged in as Cyber security.

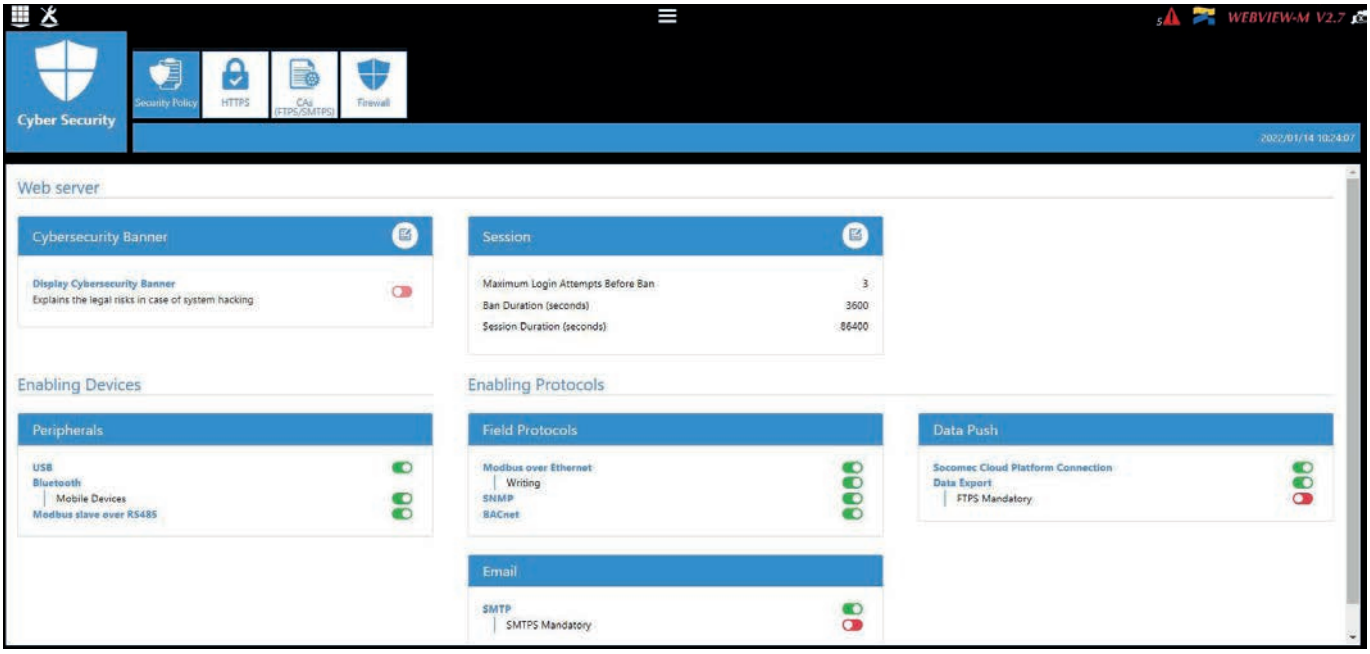
The Cyber Security menu allows you to:

- Define a custom security policy
- Secure the client-server communication (HTTPS, FTPS, SMTPS)
- Prevent flooding attacks by implementing a firewall in the gateway/display.

Their implementation is explained in paragraphs 9.4.1 through 9.4.4.

9.4.1. “Security Policy” tab

You can reduce the attack exposure of the gateway/display by disabling certain peripherals or services that are not essential to your use case:



Cybersecurity Banner
Choose if you want to display the cybersecurity banner which explains the legal risks in case of system hacking. The message will be displayed on login page.

Session
You can customise the session policy (maximum login attempts before profile lockout, lockout duration and session duration).

Peripherals

- USB: disable the USB port
- Bluetooth Low Energy: disable the Bluetooth Low Energy
- RS485 port: authorise or disable Modbus communication on the RS485 port

Email

- Make the secure version of SMTP mandatory for email notifications in case of alarms

Field protocols

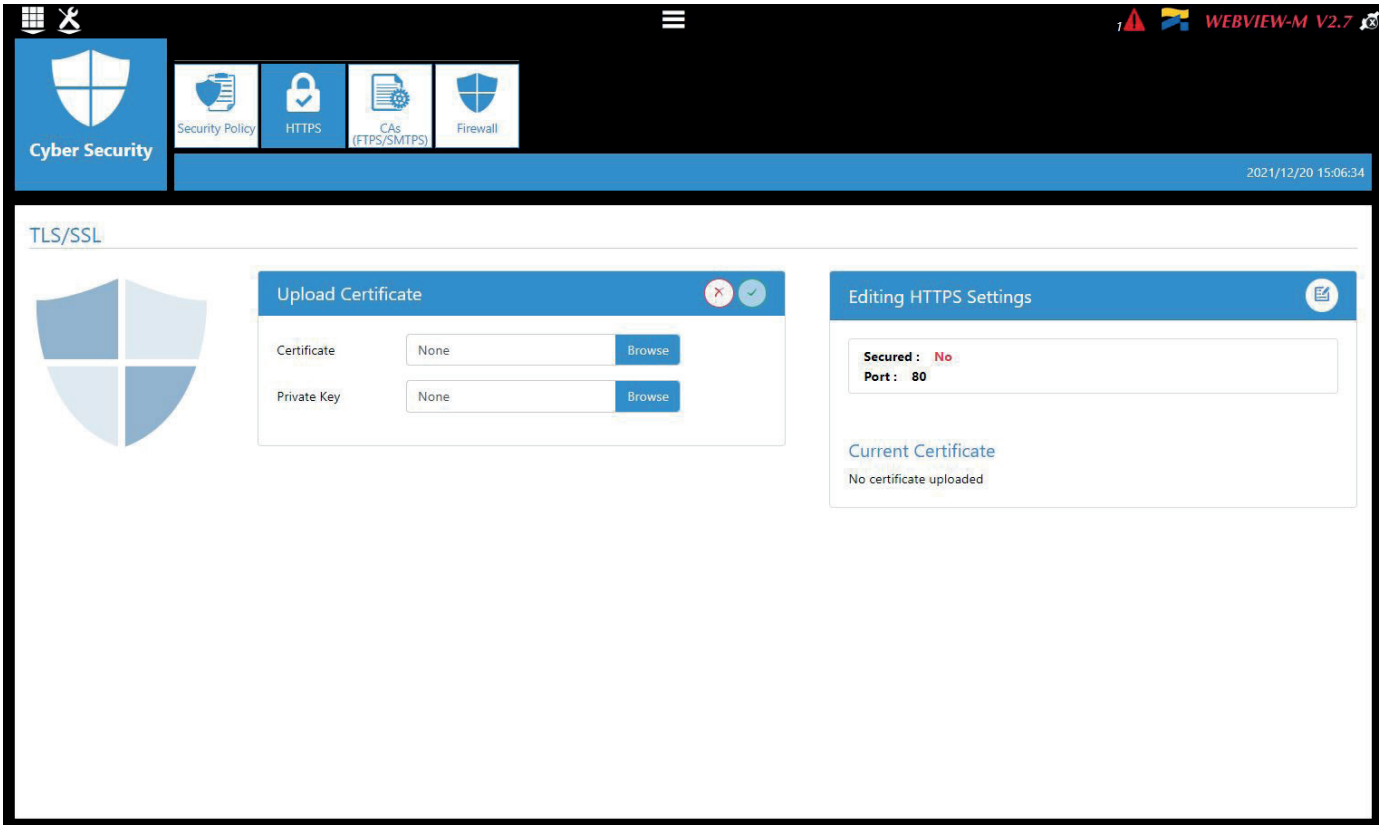
- Modbus Write function: authorise or disable to prevent people from changing settings over Modbus
- SNMP: activate or deactivate the SNMP protocol
- BACnet: activate or deactivate the BACnet protocol

Data push

- Socomec cloud platform: authorise or block the export of data to the Socomec platform
- Data export, FTPS mandatory: force the data export to an FTP server with a secure connection

9.4.2. “HTTPS” tab

The HTTPS tab allows you to upload a digital certificate to secure the web navigation:

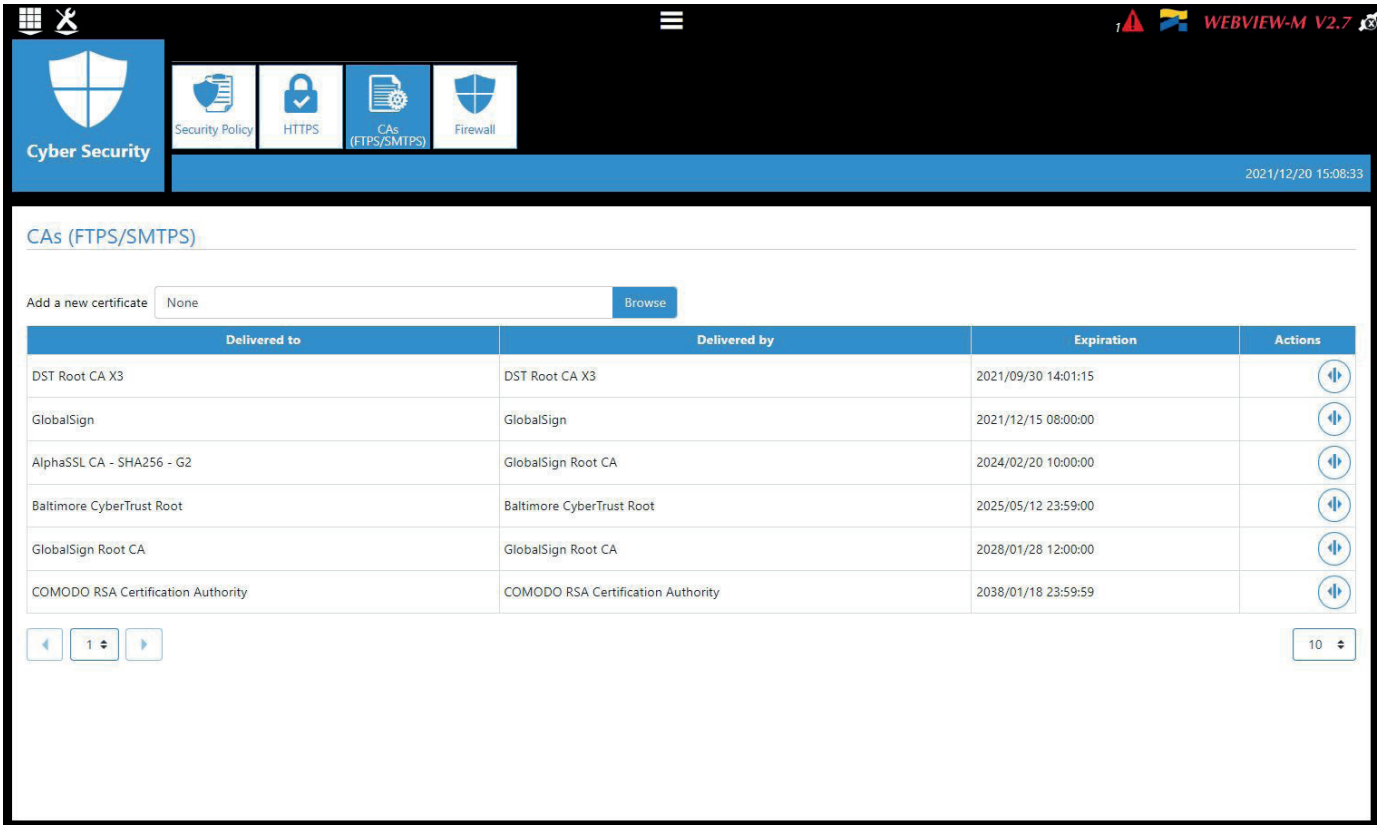


The M-xx gateway / D-xx display will accept a digital certificate under the .pem format. Once a digital certificate and private key has been uploaded, you can edit HTTPS settings to secure the web navigation.

- The M-xx gateway / D-xx display are compatible with RSA and ECDSA (Elliptic Curve Digital Signature Algorithm) digital certificates. The use of ECDSA digital certificates is recommended to optimise the speed of the web navigation.
- The private key size must not exceed 2048 Bits.

9.4.3. “CAs (FTPS/SMTPS)” tab

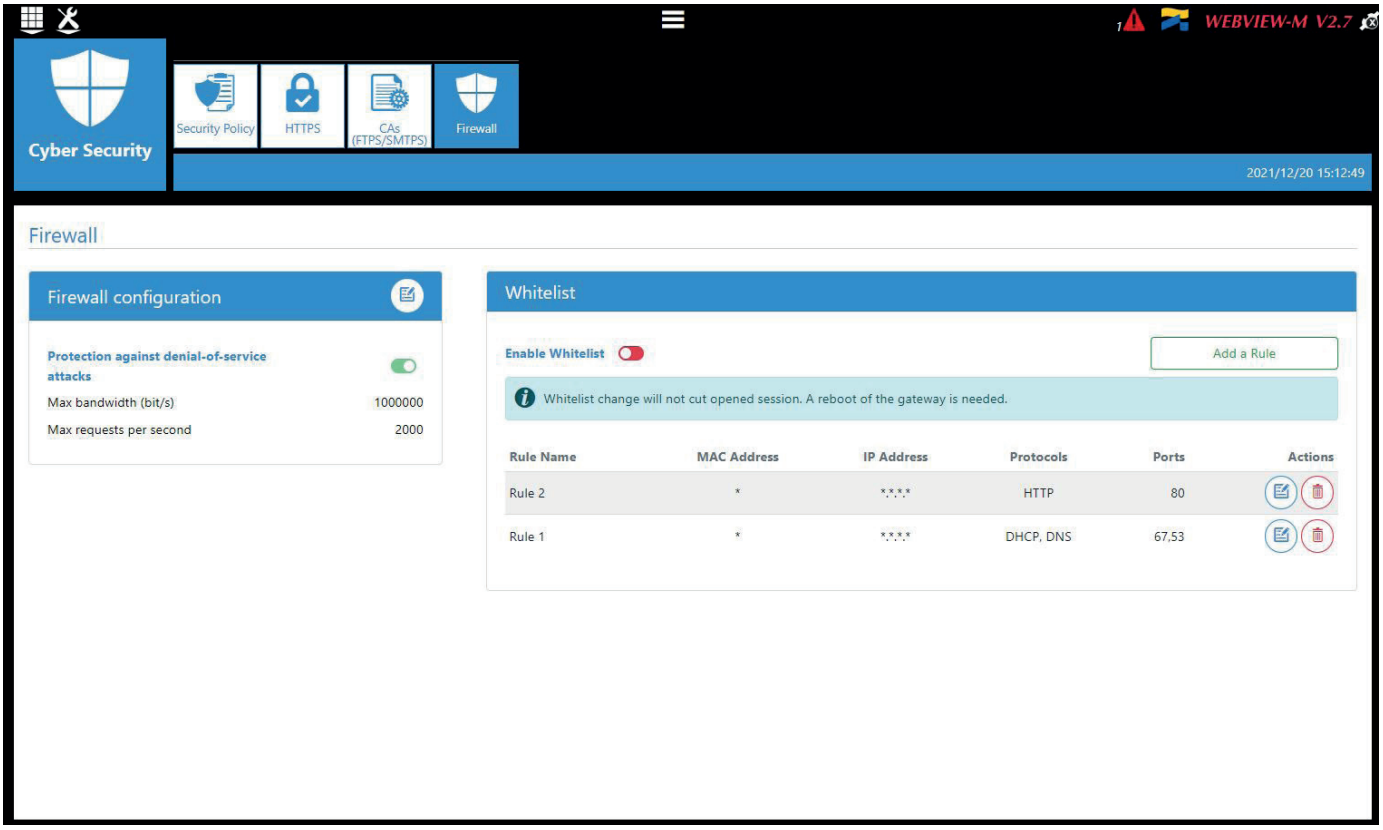
This tab allows a secure client (M-xx gateway / D-xx display) to server (FTP, SMTP) communication by adding the relevant certificate authorities within the client.
Some of the most common Certificate authorities are already included to the M-xx gateway / D-xx display, but you can add others if necessary.



Refer to appendix 3 for more information on how to find and upload a server’s CA to a DIRIS Digiware M-xx gateway / D-xx display.

9.4.4. “Firewall” tab

This tab allows you to implement a firewall to protect against Deny-Of-Service attacks also called Flooding attacks by entering a max bandwidth in bit/s and a max number of requests per second:



Firewall

A MAC address exceeding one of the above parameters while communicating to the gateway/display will be blocked for 30 seconds.

Whitelist

The Whitelist part allows to add rules to filter MAC Addresses / IP Addresses / Protocols / Ports which can or can’t connect to the M-xx gateway / D-xx display.

Up to 10 rules can be set.

- "*" in the MAC address column allows all MAC addresses.
- 192.168.*.* allows all IP addresses starting with 192.168.

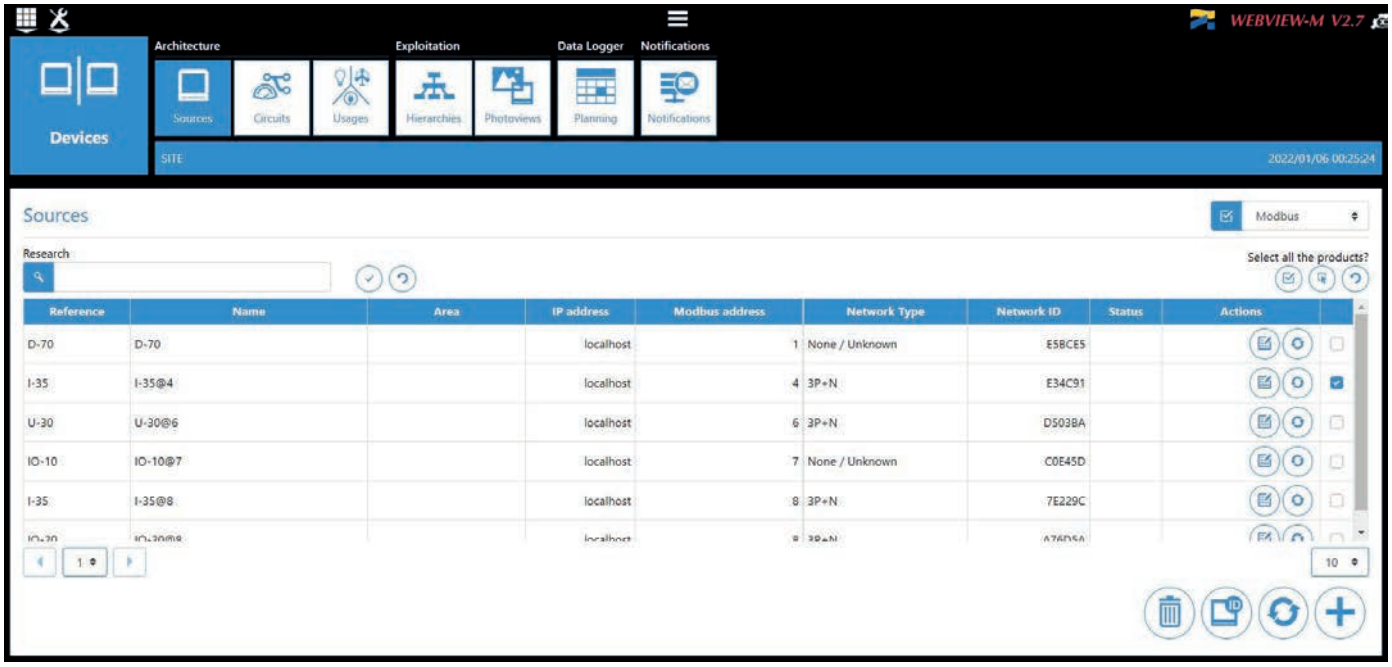
9.5. Customise - Devices

This is where the Administrator configures his measurement system architecture.

9.6. Device creation

9.6.1. Sources tab

The "Sources" tab displays all devices in the M-xx gateway / D-xx display's topology.



When accessing the "Sources" menu for the first time, WEBVIEW will automatically load the devices present in the M-xx gateway / D-xx display's topology.

To load new devices present in the topology, you must click on  in the bottom right corner for them to be added to WEBVIEW.

Devices can also be added manually to WEBVIEW, one at a time.

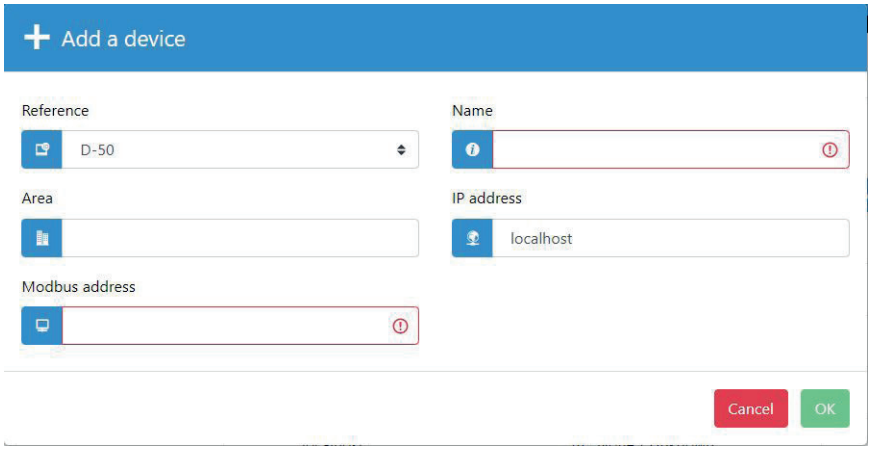
Everytime the auto-discovery process is launched from the DIRIS Digiware M-xx gateway or D-xx display, the topology in WEBVIEW must be synchronised by clicking on  in the bottom right corner.

9.6.2. Adding devices one at a time

Click on the “+” icon for manually adding devices one at a time. Adding an M-xx gateway or D-xx display will also add their entire topology (all devices connected downstream).

The Administrator selects the reference of the new device and fills out all the fields related to that device (name, area, IP address and Modbus address).

After validation, the device is added to the sources list and its loads, as configured in the device are added to the “Circuits” menu.



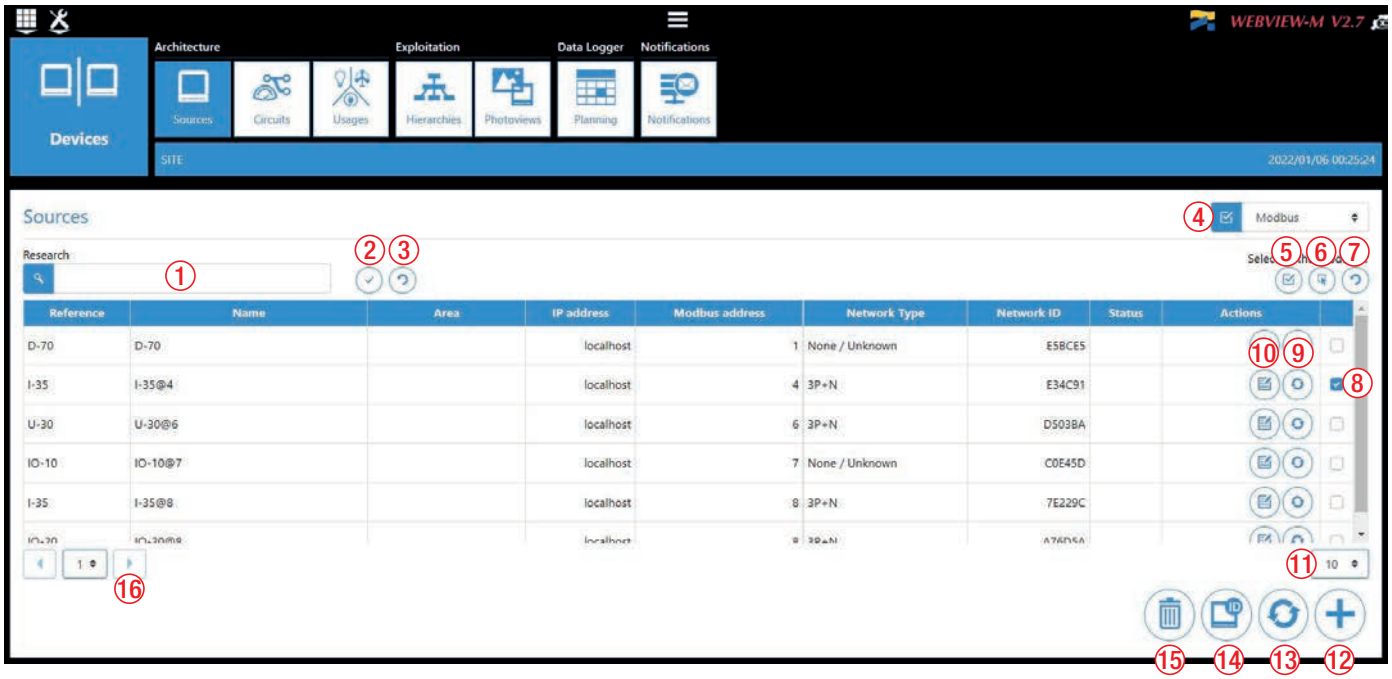
The various SOCOMEC devices that are supported by WEBVIEW-M are given in the following list:

Gateways	DIRIS Digiware	COUNTIS	DIRIS A	Switches
D-50	D-40	Ci	A-10	ATyS p M
D-50v2	I-30	E03	A-20	C55
D-70	I-30 dc	E04	A-30	C65
G-30/G-40	I-31	E13	A-40	C66
G-50/G-60	I-33	E14	A-40 Ethernet	
M-50	I-35	E17	A-40 Profibus	**DIRIS A Old**
M-70	I-35 dc	E18	A14	A10
	I-43	E23	A17	A20
DIRIS B	I-45	E24	A17 2In	A20v2
B-10	I-60	E27	A17 THD	A40v2
B-30 RF	I-61	E28	A17 THD In	A40v3
B-30 RS485	IO-10	E33	A60	
	IO-20	E34	A80	
	S-130	E43		
	S-135	E44		
	S-Datacenter	E44R		
	U-10	E47		
	U-20	E48		
	U-30	E53		
	U-31 dc	ECI32		
	U-32 dc	ECI3		
	R-60			

Once all devices have been added in WEBVIEW, the Admin profile allows to:

- Manage devices via the "Sources" tab.
- Manage measurement circuits / loads via the "Circuits" tab.
- Manage usages associated to circuits via the "Usage" tab.

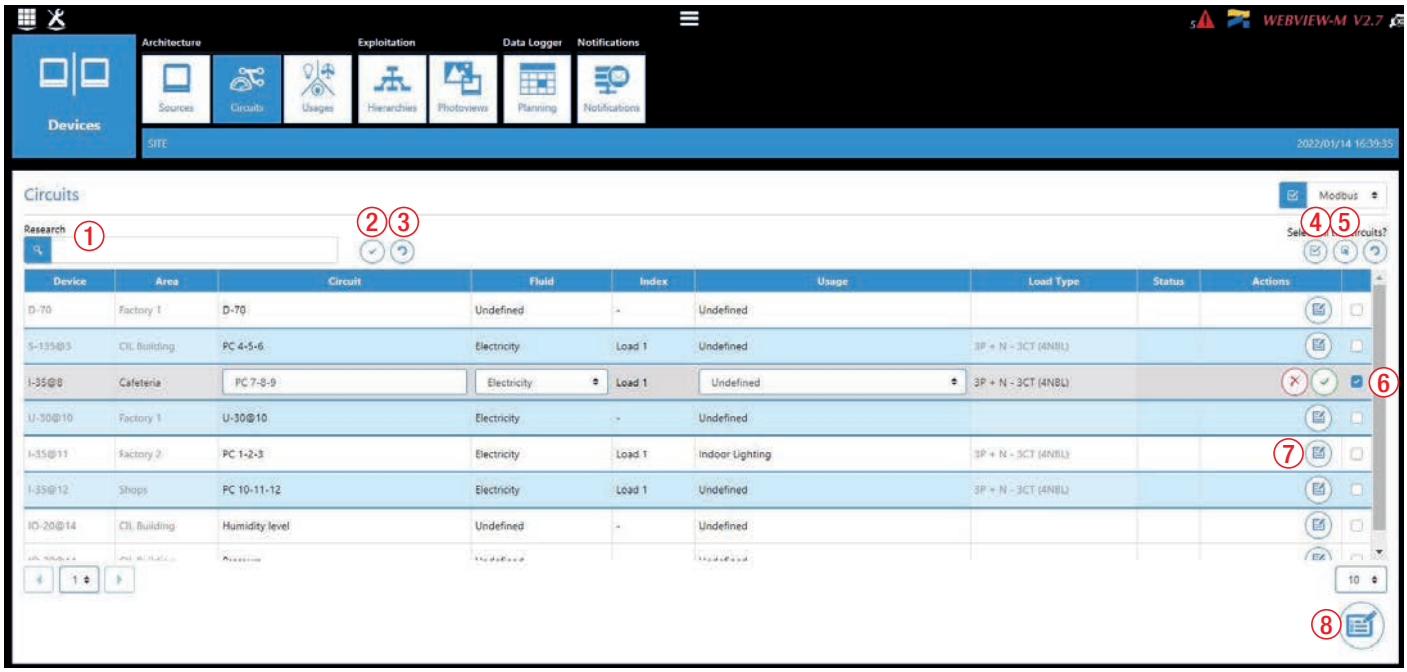
9.6.3. Manage devices - "Sources" tab



From the "Sources" tab submenu, the Admin or Cyber security profiles can manage all devices:

1. Search a device by name, area, IP address
2. Confirm your selection and/or perform a search
3. Reset filter to show all devices
4. Switch to other sources (from Modbus devices to Bluetooth devices for example)
5. Select all the devices of the active page
6. Select all the devices of all the pages
7. Unselect all the devices of all the pages
8. Select a device
9. Refresh row (must be done if some settings have been changed in the device using Easy Config System)
10. Edit fields for this device
11. Set the number of rows per page
12. Add a device manually
13. Refresh all rows
14. Autodetect devices present in the M-xx gateway / D-xx display's topology
15. Delete all selected devices. The M-xx gateway / D-xx display cannot be deleted.
16. Go from one page to another

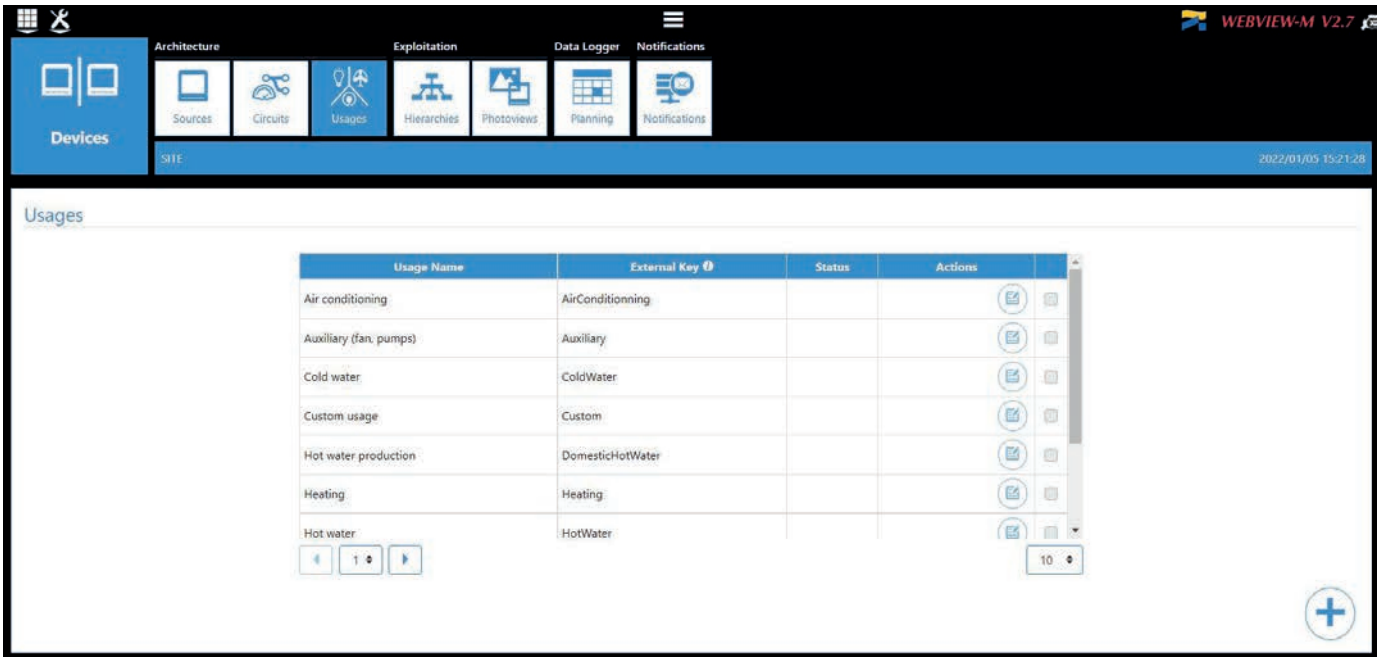
9.6.4. Manage measurement circuits - "Circuits" tab



From the "Circuits" tab, where the list of measurement circuits (circuits from the same device are grouped by colour) is displayed, the Administrator can:

1. Search by name, area, circuit
2. Confirm the selection and/or perform a search
3. Reset filter to show all circuits
4. Select all the circuits of the active page
5. Select all the circuits of all the pages
6. Select a circuit
7. Edit the field of the selected circuit (name, flow and use)
8. Edit the fields of multiple selected circuits (flow and use)

9.6.5. Manage usages - "Usages" tab



WEBVIEW comes with a list of predefined usages which can be associated to each measurement circuit from the "Circuits" tab.

Additional custom usages can also be created in the "Usages" tab, by clicking on the "+" icon. Each custom usage can be renamed to match the site characteristics.

Once custom usages have been created, they can be be associated to measurement circuits from the "Circuits" tab.

Usages are useful to group together consumptions from several loads or areas which belong to the same energy usage.

To view the breakdown of energy consumption, one or several hierarchies must be created.

9.7. Hierarchies

Hierarchies allow to organise measurement points in a tree structure, to have a practical overview of the loads.

A hierarchy generally represents a geographical organisation (site =>building=>areas) allowing to view the energy breakdown across the different areas, loads, and usages.

There are other display modes to choose from: by electrical chart, by the services of an organisation, etc.

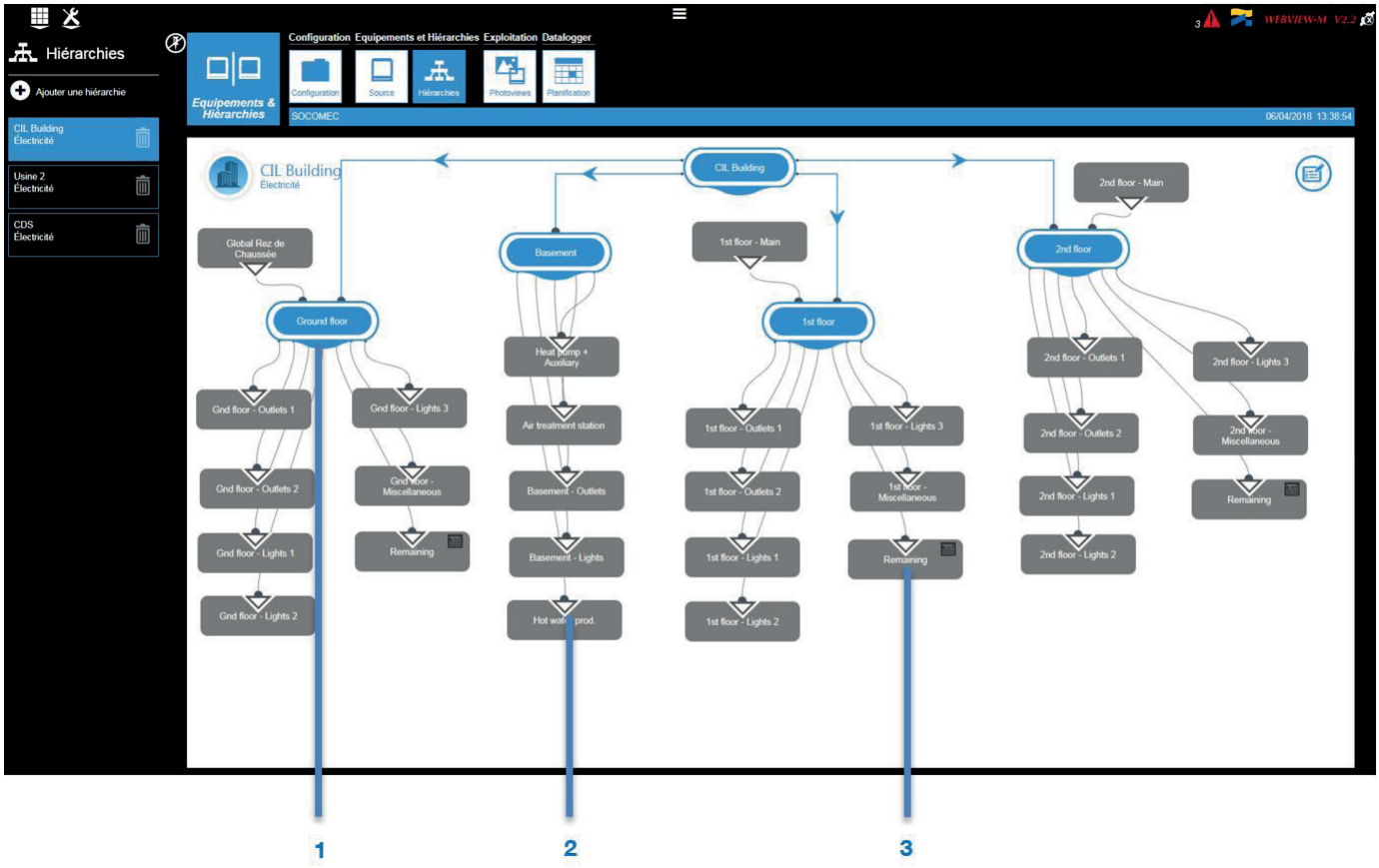
9.7.1. Rules for creating hierarchies

A hierarchy is made up of 3 elements, as follows:

- Node: Splits the tree into various hierarchical levels (max. 32 per hierarchy)
- Hierarchy: Create hierarchical parent/child links between different hierarchies so you can show more complex multi-level hierarchies, with multiple measurement points (example of a multi-level hierarchy: Campus - Buildings - Floors - Corridors)
- Circuits: Correspond to the measurement points carried by a device (max. 50 per hierarchy)
- Non-measured point: Automatically calculates a non-measured circuit.

The rules for creating hierarchies are as follows:

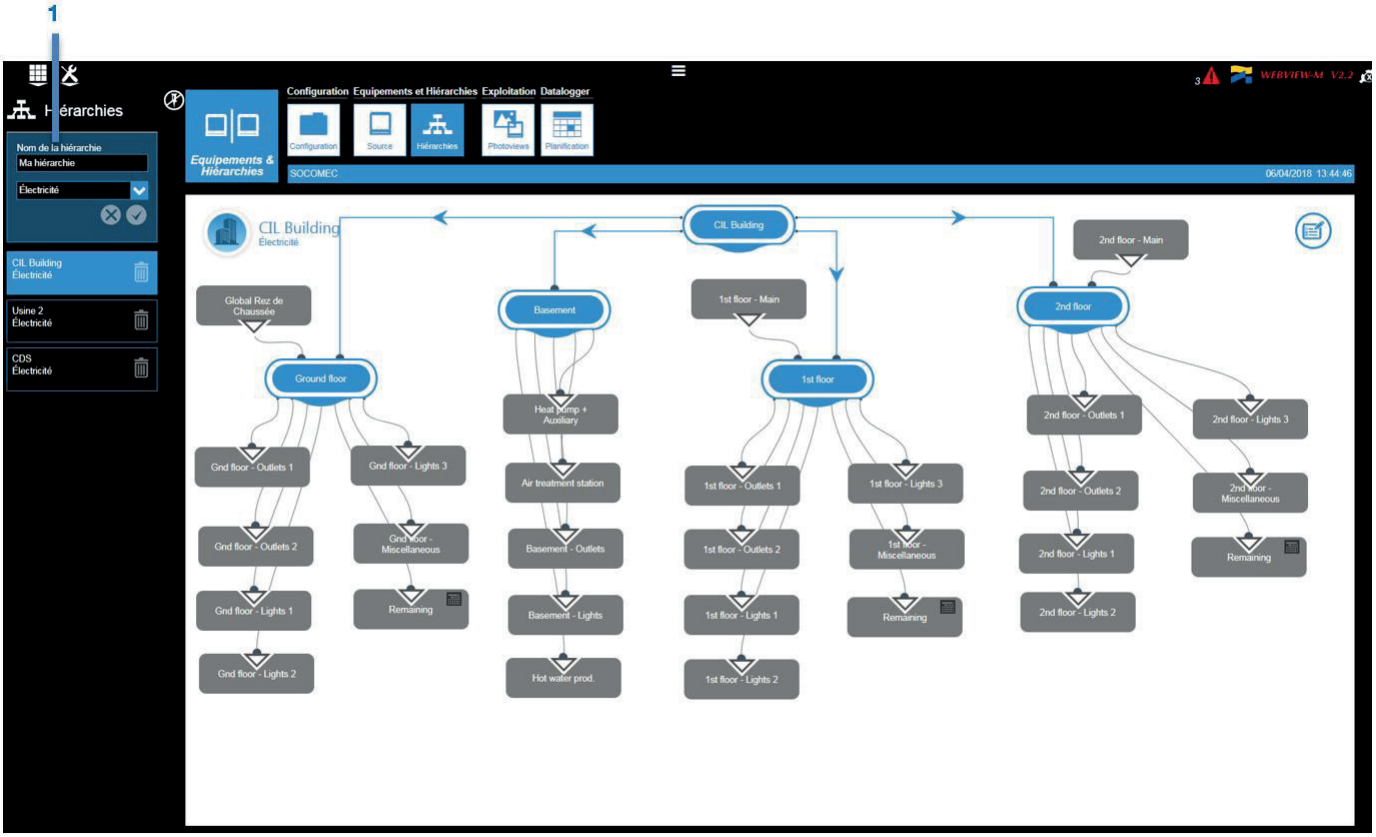
- A hierarchy is for a single utility type (e.g. electricity) and cannot include multiple utilities (water, gas, electricity)
- You can create up to 10 different hierarchies
- The hierarchies can be interlinked to create multi-level hierarchies (levels 1, 2, 3…). This is useful for large-scale power monitoring systems.



1. Node
2. Circuit
3. Non-measured point = (Global 1st floor) - (all loads measured on Floor 1)

1. Creating a new hierarchy.

To create a new hierarchy, the Administrator enters a name and selects a utility type (1). After confirming, an empty hierarchy is created containing its main node only.



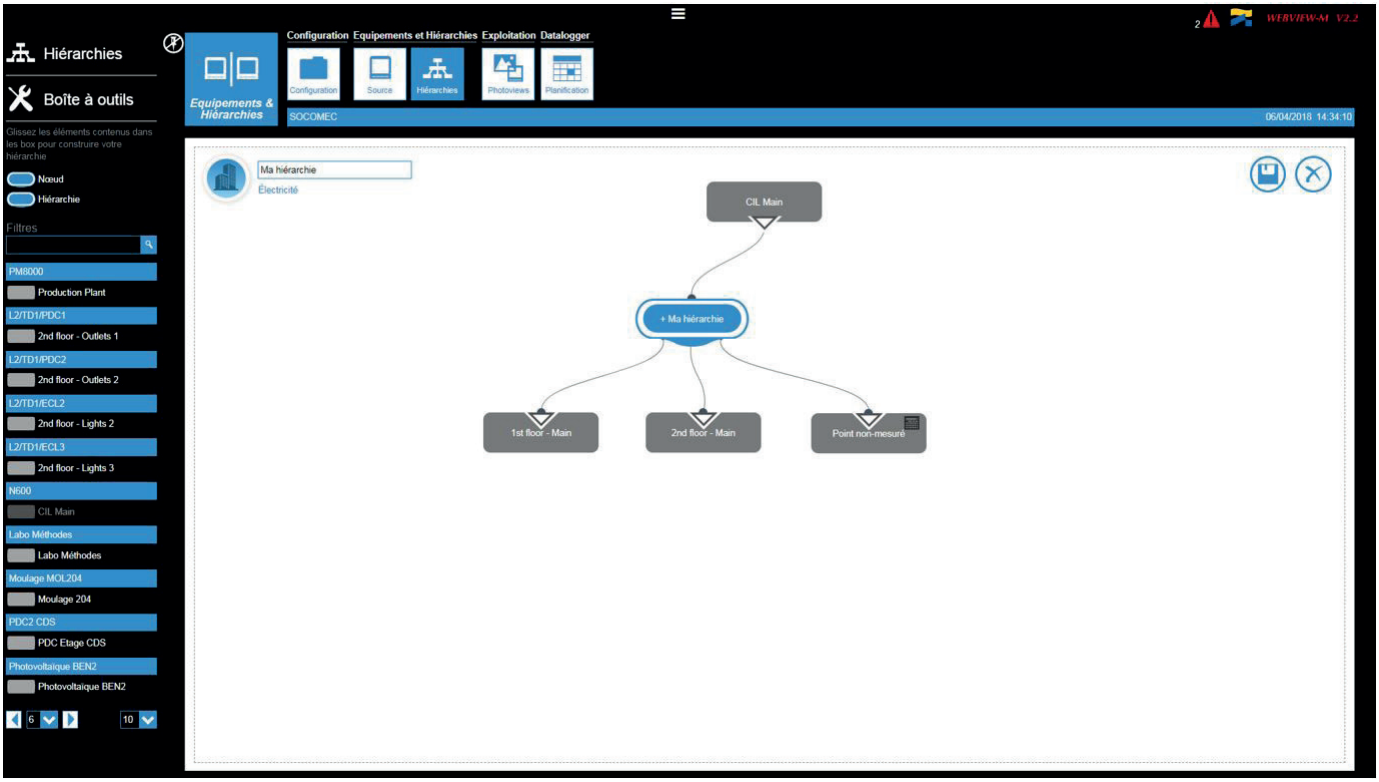
2. Building the hierarchy

To build the hierarchy, the Administrator has different modules to choose from in the left pane (Node, Hierarchy and Load). Just drag & drop the modules onto the hierarchy construction page and create links between them.

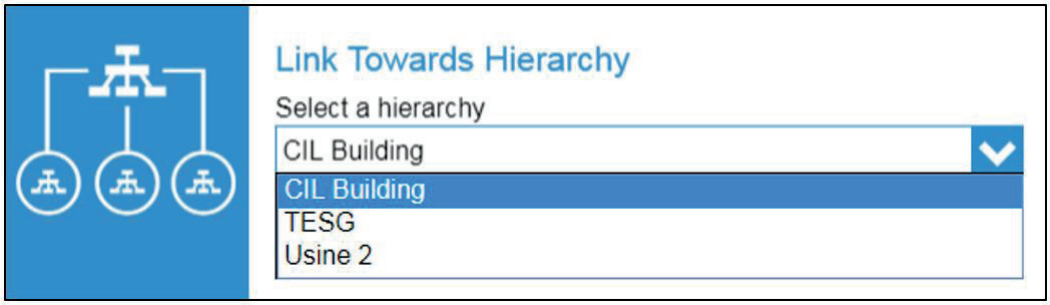
Click on a node to rename it.

You can create links between nodes and loads. Set them in the direction of flow, using the mouse to drag a link from the handle under the node, or drag a load to another node/load. A triangle appears on the measuring point indicating the direction of the energy flow.

When you create a link from a load (CIL Main) to a node (My hierarchy), the system automatically generates a Non-Measured Point that automatically computes the delta between the load associated with the node and all the loads attached to that node.



By dragging and dropping a “Hierarchy” module, the Administrator can create parent/child links between the current hierarchy (parent) and the already existing hierarchies (children).



Once the hierarchy is created, you can visualise the energy consumption breakdown per load and per usage in the Consumption menu accessible from the home page.

9.8. Photoview

Photoview allows you to customise the display of the data using background images of the client (Building Map, single-line diagrams, picture of panel etc.).

Measurement data can be displayed in the form of a value chart, against the background image chosen by the Administrator.

Once they are set up, Photoview pages can be viewed by all WEBVIEW-M users.

9.8.1. Rules on creating a Photoview page

Photoview pages can include the following elements:

- Measurement: table summarising the values the Administrator wants to display on the Photoview page
- Text: text field to add comments, titles or any notes the Administrator deems helpful
- Devices: Shows images of SOCOMEC devices on the Photoview page. Click on a hyperlink to go straight to the product monitoring menus (Monitoring)
- Link: creates links between your Photoview pages. You can recreate a multi-level hierarchy of Photoview pages: Campus - Buildings - Floors - Corridors

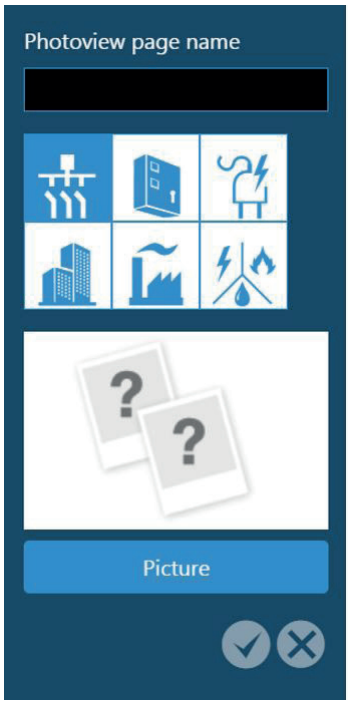
The rules for creating Photoview pages are as follows:

- One Photoview page can contain all the collected values, regardless of the utility type and associated usages
- You can create 21 Photoview pages
- You can link Photoview pages with hypertext links

1. Link
2. Text
3. Device
4. Measurement

1. Creating a Photoview page.

To create a Photoview page, the Administrator chooses a name for the page, selects a symbol to represent it and opens the selection window for the background picture.



2. Selecting the picture

Administrators can upload pictures from their computer, under the following conditions:

- The size of the image must not exceed 10 485 760 bytes
- The resolution of the image must not exceed 1920 (w) x 1080 (h).

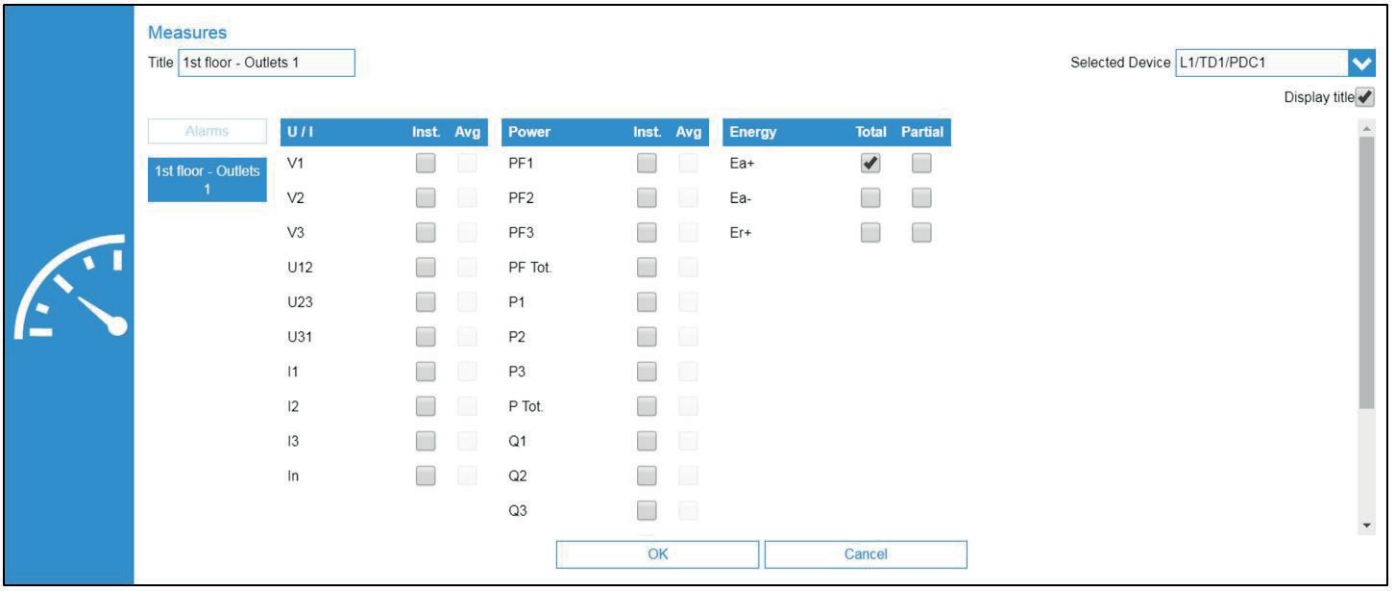
3. Creating the Photoview page

To build the Photoview page, the Administrator can use the various objects in the Toolbox in the left pane (measurement, text, devices and link). As an Administrator, just drag & drop objects to the Photoview page.

- Measurement

  When a Measurement object Is added to the background picture, the following window appears. The Administrator can:

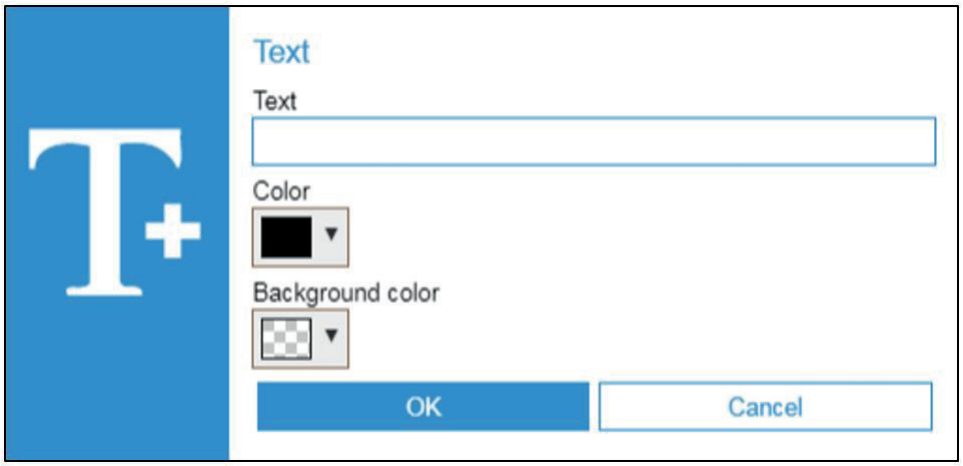
  - o Select the device
  - o Check parameters to display
  - o Name the measurement table



- Text

  When a Text object is added to the background picture, the following window appears. The Administrator can:

  - o Enter the text to display
  - o Choose the font and background colour

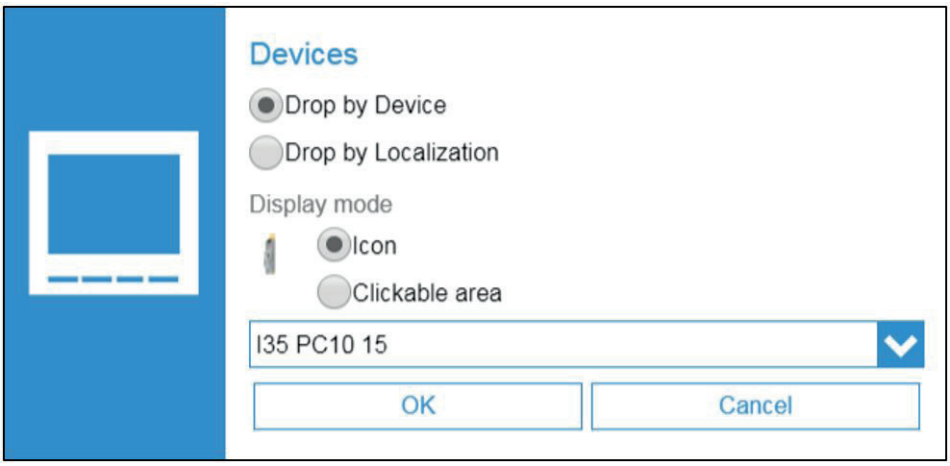


- Devices

  When a Device object is added to the background picture, the following window pops up. The Administrator can:

  - o Add a device (“Drop by product”) or all the devices from one location (“Drop by location”)
  - o Choose a display mode: the icon of the selected device or just a clickable area, which can be adjusted and positioned anywhere onto the background picture.

  All icons and clickable areas contain a hypertext link to the monitoring page for that device (Monitoring).



- Link

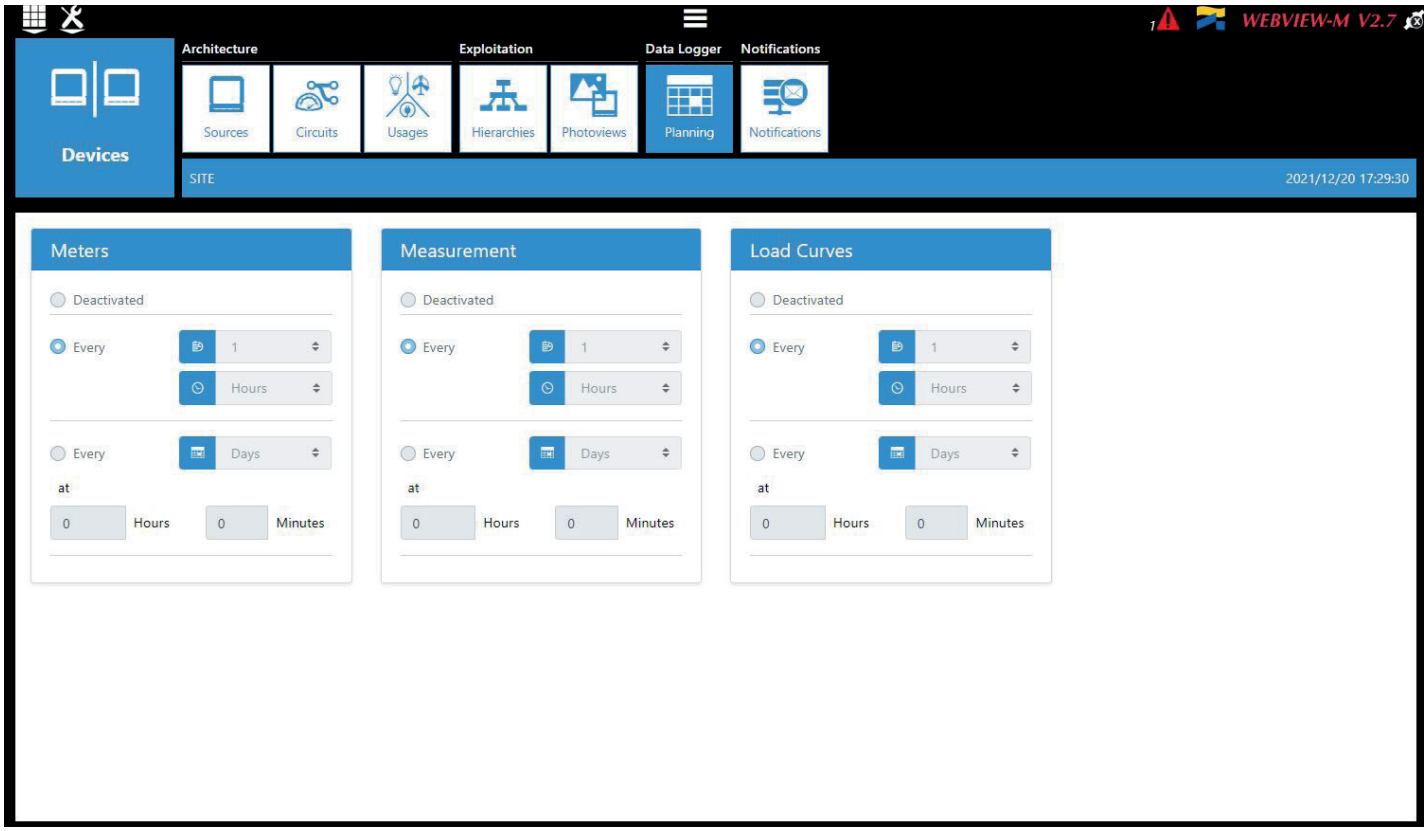
  When a Link object is added to the background picture, the following window appears. The Administrator can create a link to another Photoview page.

Creating links is useful if you have a main switchboard equipped with meters or power monitoring devices, that feeds several subpanels also equipped with meters.

9.9. Datalogger

The Datalogger section is used to collect, store and export data to a third-party server.

Under the “Devices” menu, the “Planning” tab allows you to set the export schedule: the type of data and the export frequency for each data type:



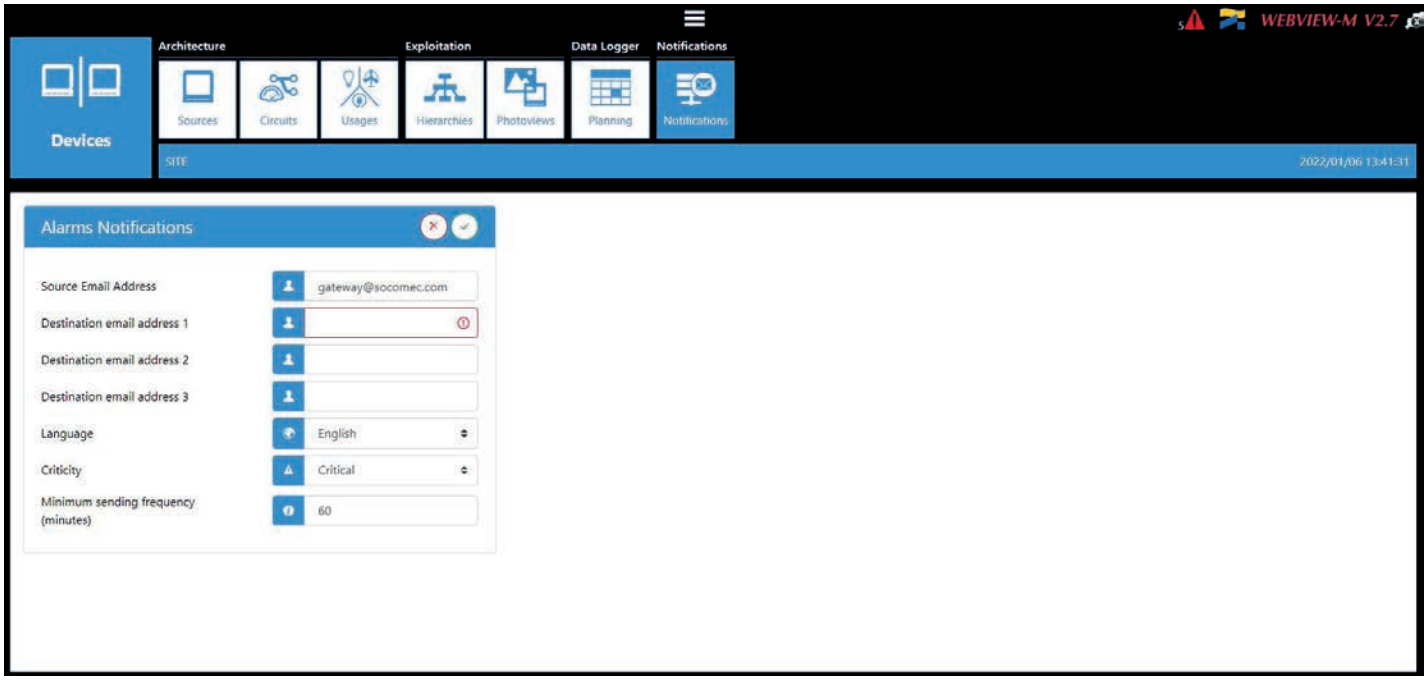
The M-xx gateway / D-xx display exports data files for each type of selected variable:

- Energy index (Ea+/-, Er+/-, Es)
- Measurements: U, I, F, PF etc.
- Load curves: demand power (P+/-, Q+/-, S)

For each type of variable, you can define how often files are sent: every X minutes / hours or at a specific date/time within the day/week.

To understand how to read and use the exported files, refer to annexes 1 and 2.

9.10. Notifications



- Source email address: email address used by the M-xx gateway / D-xx display to send emails.
- Destination email address 1: email address #1 to which email notifications will be sent.
- Destination email address 2: email address #2 to which email notifications will be sent.
- Destination email address 3: email address #3 to which email notifications will be sent.
- Language: language in which emails are sent.
- Criticality of alarms to send: choose to send “information” or “Non critical” or “Critical” alarms.
- Maximum waiting time: Time to wait to receive the email notification after the alarm is triggered on a device. This allows to limit the number of emails sent by the M-xx gateway / D-xx display, especially when the alarm repeatedly changes state

ANNEX I. EXAMPLE OF A DATA FILE EXPORTED TO A REMOTE SERVER – CSV FORMAT

Device name	IP Address	Modbus Address	Begin date	End date
I35_102	0.0.0.0	102	2000-01-01T00:00:00	2018-09-26T09:55:00
Load Name	Security lighting Circulation	Security lighting Circulation	Security lighting Storage Metrol	Security lighting Storage Metrol
Usage	Heating	Heating	Heating	Heating
Nature	Elec	Elec	Elec	Elec
Measured value	EA+	EA-	EA+	EA-
Unit	Wh	Wh	Wh	Wh
Scale	1.0000000	1.0000000	1.0000000	1.0000000
2018-09-26T09:50:00	0	0	0	0
2018-09-26T09:40:00	0	0	0	0
2018-09-26T09:30:00	0	0	0	0
2018-09-26T09:20:00	0	0	0	0
2018-09-26T09:10:00	0	0	0	0
2018-09-26T09:00:00	0	0	0	0
2018-09-26T08:50:00	0	0	0	0
2018-09-26T08:40:00	0	0	0	0
2018-09-26T08:30:00	0	0	0	0
2018-09-26T08:20:00	0	0	0	0
2018-09-26T08:10:00	0	0	0	0
2018-09-26T08:00:00	0	0	0	0
2018-09-26T07:50:00	0	0	0	0
2018-09-26T07:40:00	0	0	0	0
2018-09-26T07:30:00	0	0	0	0
2018-09-26T07:20:00	0	0	0	0
2018-09-26T07:10:00	0	0	0	0
2018-09-26T07:00:00	0	0	0	0
2018-09-26T06:50:00	0	0	0	0
2018-09-26T06:40:00	0	0	0	0
2018-09-26T06:30:00	0	0	0	0
2018-09-26T06:20:00	0	0	0	0
2018-09-26T06:10:00	0	0	0	0
2018-09-26T06:00:00	0	0	0	0
2018-09-26T05:50:00	0	0	0	0
2018-09-26T05:40:00	0	0	0	0
2018-09-26T05:30:00	0	0	0	0
2018-09-26T05:20:00	0	0	0	0
2018-09-26T05:10:00	0	0	0	0
2018-09-26T05:00:00	0	0	0	0
2018-09-26T04:50:00	0	0	0	0
2018-09-26T04:40:00	0	0	0	0
2018-09-26T04:30:00	0	0	0	0
2018-09-26T04:20:00	0	0	0	0
2018-09-26T04:10:00	0	0	0	0
2018-09-26T04:00:00	0	0	0	0
2018-09-26T03:50:00	0	0	0	0
2018-09-26T03:40:00	0	0	0	0
2018-09-26T03:30:00	0	0	0	0
2018-09-26T03:20:00	0	0	0	0
2018-09-26T03:10:00	0	0	0	0
2018-09-26T03:00:00	0	0	0	0

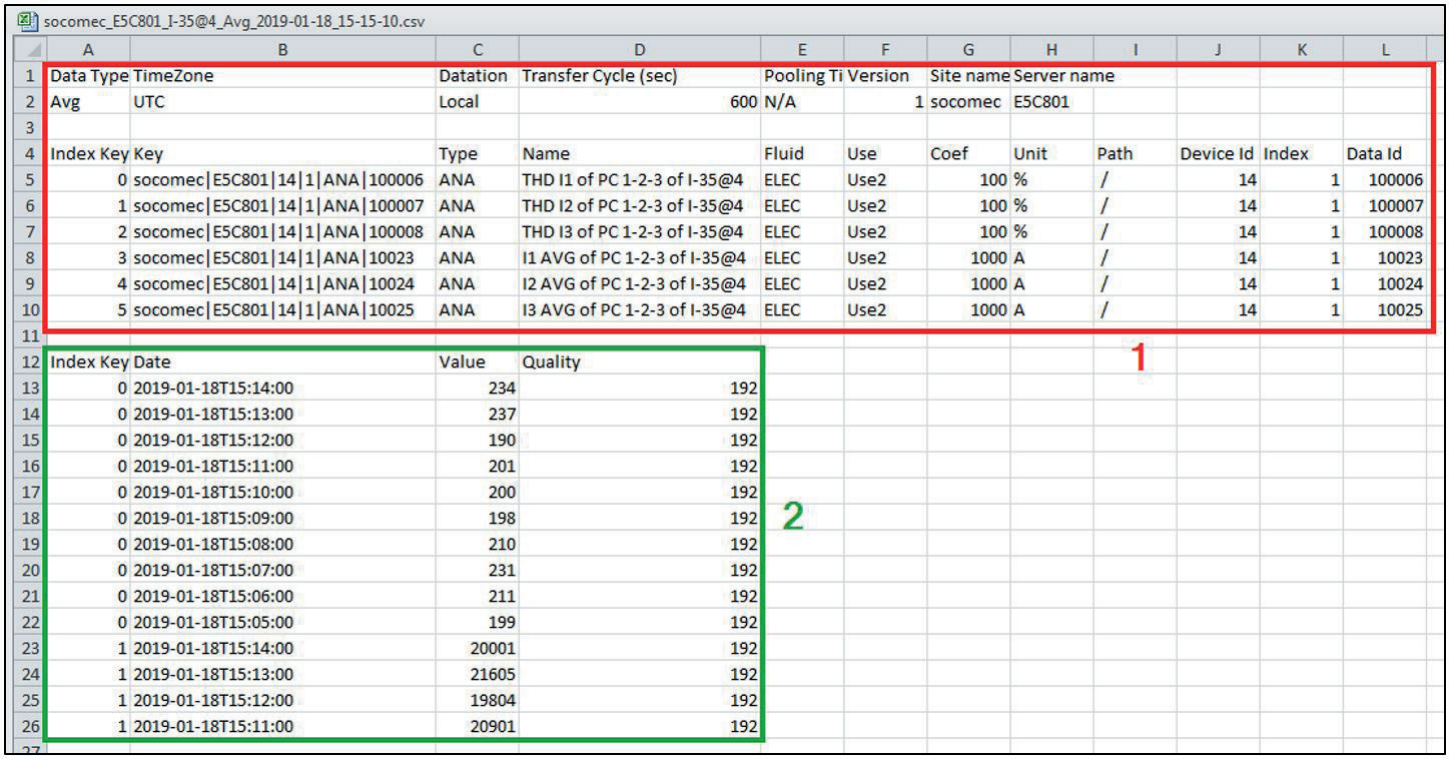
ANNEX II. EXAMPLE OF A DATA FILE PUBLISHED TO THE REMOTE SERVER – EMS FORMAT

In EMS format, the exported files are named as follows:

Site name_Server name_Device name_Data type_Date_Time.csv

Example: If a file is exported with the name **socomec_E5C801_I35_LoadCurve_2019-01-18_15-15-10.csv**, that is, a file exported on January 18th, 2019, at 3:15pm, it contains load curve data from a device called "I35" connected to an M-50/M-70 gateway or D-70/D-75 display whose server name is E5C801 and the site name is "socomec".

Reading the file:



socomec_E5C801_I-35@4_Avg_2019-01-18_15-15-10.csv

	A	B	C	D	E	F	G	H	I	J	K	L
1	Data Type	TimeZone	Datation	Transfer Cycle (sec)	Pooling Ti	Version	Site name	Server name				
2	Avg	UTC	Local	600	N/A	1	socomec	E5C801				
3												
4	Index Key	Key	Type	Name	Fluid	Use	Coef	Unit	Path	Device Id	Index	Data Id
5	0	socomec|E5C801|14|1|ANA|100006	ANA	THD I1 of PC 1-2-3 of I-35@4	ELEC	Use2	100	%	/	14	1	100006
6	1	socomec|E5C801|14|1|ANA|100007	ANA	THD I2 of PC 1-2-3 of I-35@4	ELEC	Use2	100	%	/	14	1	100007
7	2	socomec|E5C801|14|1|ANA|100008	ANA	THD I3 of PC 1-2-3 of I-35@4	ELEC	Use2	100	%	/	14	1	100008
8	3	socomec|E5C801|14|1|ANA|10023	ANA	I1 AVG of PC 1-2-3 of I-35@4	ELEC	Use2	1000	A	/	14	1	10023
9	4	socomec|E5C801|14|1|ANA|10024	ANA	I2 AVG of PC 1-2-3 of I-35@4	ELEC	Use2	1000	A	/	14	1	10024
10	5	socomec|E5C801|14|1|ANA|10025	ANA	I3 AVG of PC 1-2-3 of I-35@4	ELEC	Use2	1000	A	/	14	1	10025
11												
12	Index Key	Date	Value	Quality								
13	0	2019-01-18T15:14:00	234	192								
14	0	2019-01-18T15:13:00	237	192								
15	0	2019-01-18T15:12:00	190	192								
16	0	2019-01-18T15:11:00	201	192								
17	0	2019-01-18T15:10:00	200	192								
18	0	2019-01-18T15:09:00	198	192								
19	0	2019-01-18T15:08:00	210	192								
20	0	2019-01-18T15:07:00	231	192								
21	0	2019-01-18T15:06:00	211	192								
22	0	2019-01-18T15:05:00	199	192								
23	1	2019-01-18T15:14:00	20001	192								
24	1	2019-01-18T15:13:00	21605	192								
25	1	2019-01-18T15:12:00	19804	192								
26	1	2019-01-18T15:11:00	20901	192								

The csv file is split into two parts:

- A header section shown in red (1). It provides a unique identification for each variable exported, based on the multiple parameters including the site name and the server name, the data type, the data ID, the device ID.
- The green section (2) contains logged and timestamped data. Each line is identified by a simplified key, an Index Key, which returns to the unique key in cells B5 to B10 in the above image.

The final data of cells C13 to C26 comes from the matching coefficient (cells G5 to G10) and the matching unit (cells H5 to H10).

Example for line 13 of the previous image:
The THD I1 of the circuit PC1-2-3 of the module I-35@4 is equal to 2.34% on January 18th, 2019, at 3.14 pm.

When integrating into a third-party energy monitoring software, remember to **always use the unique ID** from column B in the header section (1) as the import code and not just use the simplified code from column A in section (2).
If multiple gateways and/or displays are used and exported to the same remote server, they cannot be separated with the simplified code and you may lose data.

ANNEX III. FIND AND ADD A SERVER'S CA (CERTIFICATE AUTHORITY) TO AN M-XX GATEWAY / D-XX DISPLAY

Requirements:

1. An unfiltered internet connection
2. OpenSSL software installed

Instructions

> Use the following command:

```
openssl s_client -connect <server>:<port> -build_chain
```

> Example for Gmail (SMTP):

```
openssl s_client -connect smtp.gmail.com:465 -build_chain
```

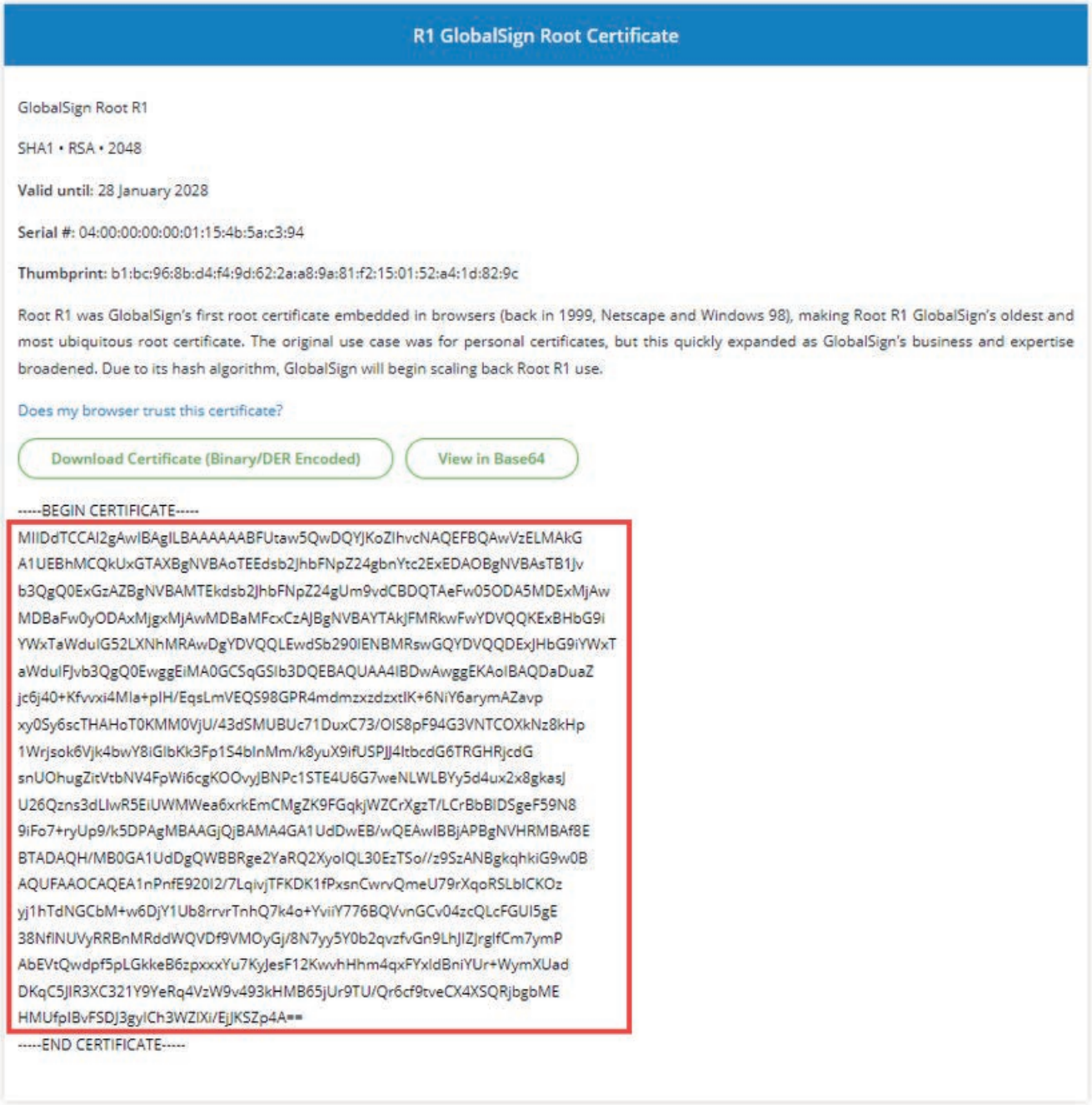
> Check the last line of the certificate chain in the command output:

```
$ openssl s_client -connect smtp.gmail.com:465 -build_chain
CONNECTED(00000268)
---
Certificate chain
 0 s:CN = smtp.gmail.com
   i:C = US, O = Google Trust Services LLC, CN = GTS CA 1C3
 1 s:C = US, O = Google Trust Services LLC, CN = GTS CA 1C3
   i:C = US, O = Google Trust Services LLC, CN = GTS Root R1
 2 s:C = US, O = Google Trust Services LLC, CN = GTS Root R1
   i:C = BE, O = GlobalSign nv-sa, OU = Root CA, CN = GlobalSign Root CA
```

> Go the corresponding company's website and find the page where you can download the root certificates.
For Gmail, GlobalSign Root CA: https://support.globalsign.com/ca-certificates/root-certificates/globalsign-root-certificates

> Download the PEM (or Base64) certificate.

If the certificate is given as text, copy the text in between `BEGIN CERTIFICATE` and `END CERTIFICATE` into a text file and save it with a `.pem` extension, as shown in the example below:



R1 GlobalSign Root Certificate

GlobalSign Root R1

SHA1 • RSA • 2048

Valid until: 28 January 2028

Serial #: 04:00:00:00:00:01:15:4b:5a:c3:94

Thumbprint: b1:bc:96:8b:d4:f4:9d:62:2a:a8:9a:81:f2:15:01:52:a4:1d:82:9c

Root R1 was GlobalSign's first root certificate embedded in browsers (back in 1999, Netscape and Windows 98), making Root R1 GlobalSign's oldest and most ubiquitous root certificate. The original use case was for personal certificates, but this quickly expanded as GlobalSign's business and expertise broadened. Due to its hash algorithm, GlobalSign will begin scaling back Root R1 use.

Does my browser trust this certificate?

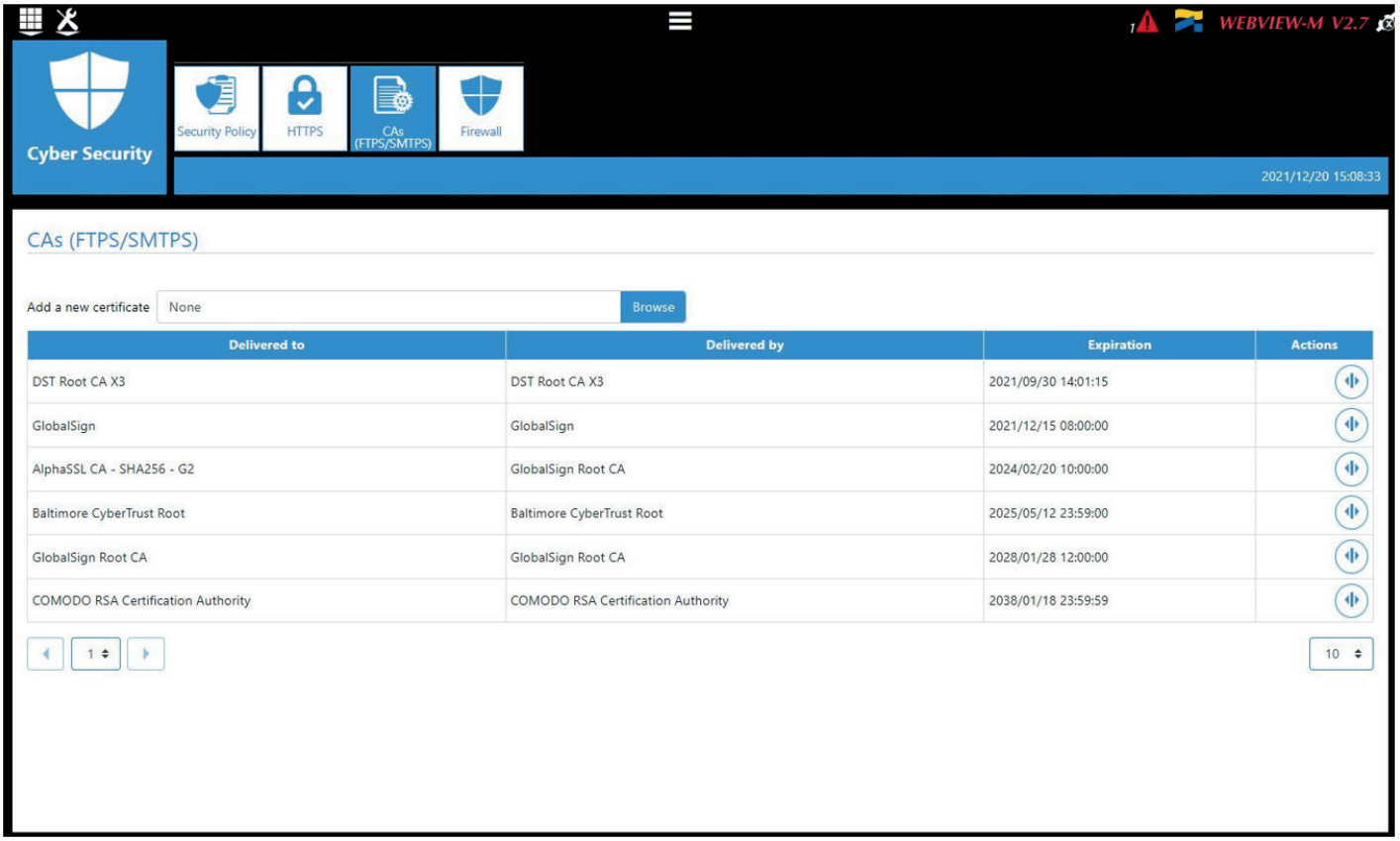
Download Certificate (Binary/DER Encoded) | View in Base64

-----BEGIN CERTIFICATE-----
MIIDdTCCAl2gAwIBAgILBAAAAAABFUtaw5QwDQYJKoZIhvcNAQEFBQAwVzELMAkG
A1UEBhMCQkUxGTAXBgNVBAoTEEdsb2JhbFNpZ24gbnYtc2ExEDAOBgNVBAsTB1Jv
b3QgQ0ExGzAZBgNVBAMTEkdsb2JhbFNpZ24gUm9vdCBDQTAeFw05ODA5MDExMjAw
MDBaFw0yODAxMjgxMjAwMDBaMFcxCzAJBgNVBAYTAkJFMRkwFwYDVQQKExBHbG9i
YWxTaWduIG52LXNhMRAwDgYDVQQLEwdSb290IENBMRswGQYDVQQDExJHbG9iYWxT
aWduIFJvb3QgQ0EwggEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEKAoIBAQDaDuaZ
jc6j40+Kfvvxi4Mla+pIH/EqsLmVEQS98GPR4mdmzxzdzxtIK+6NiY6arymAZavp
xy0Sy6scTHAHoT0KMM0VjU/43dSMUBUc71DuxC73/OlS8pF94G3VNTCOXkNz8kHp
1Wrjsok6Vjk4bwY8iGlbKk3Fp1S4bInMm/k8yuX9ifUSPJJ4ltbcdG6TRGHRjcdG
snUOhugZitVtbNV4FpWi6cgKOOvyJBNPc1STE4U6G7weNLWLBYy5d4ux2x8gkasJ
U26Qzns3dLlwR5EiUWMWea6xrkEmCMgZK9FGqkjWZCrXgzT/LCrBbBlDSgeF59N8
9iFo7+ryUp9/k5DPAgMBAAGjQjBAMA4GA1UdDwEB/wQEAwIBBjAPBgNVHRMBAf8E
BTADAQH/MB0GA1UdDgQWBBRge2YaRQ2XyolQL30EzTSo//z9SzANBgkqhkiG9w0B
AQUFAAOCAQEA1nPnfE920I2/7LqivjTFKDK1fPxsnCwrvQmeU79rXqoRSLblCKOz
yj1hTdNGCbM+w6DjY1Ub8rrvrTnhQ7k4o+YviiY776BQVvnGCv04zcQLcFGUl5gE
38NflNUVyRRBnMRddWQVDf9VMOyGj/8N7yy5Y0b2qvzfvGn9LhJIZJrglfCm7ymP
AbEVtQwdpf5pLGkkeB6zpxxxYu7KyJesF12KwvhHhm4qxFYxldBniYUr+WymXUad
DKqC5JlR3XC321Y9YeRq4VzW9v493kHMB65jUr9TU/Qr6cf9tveCX4XSQRjbgbME
HMUfpIBvFSDJ3gyICh3WZlXi/EjJKSZp4A==
-----END CERTIFICATE-----

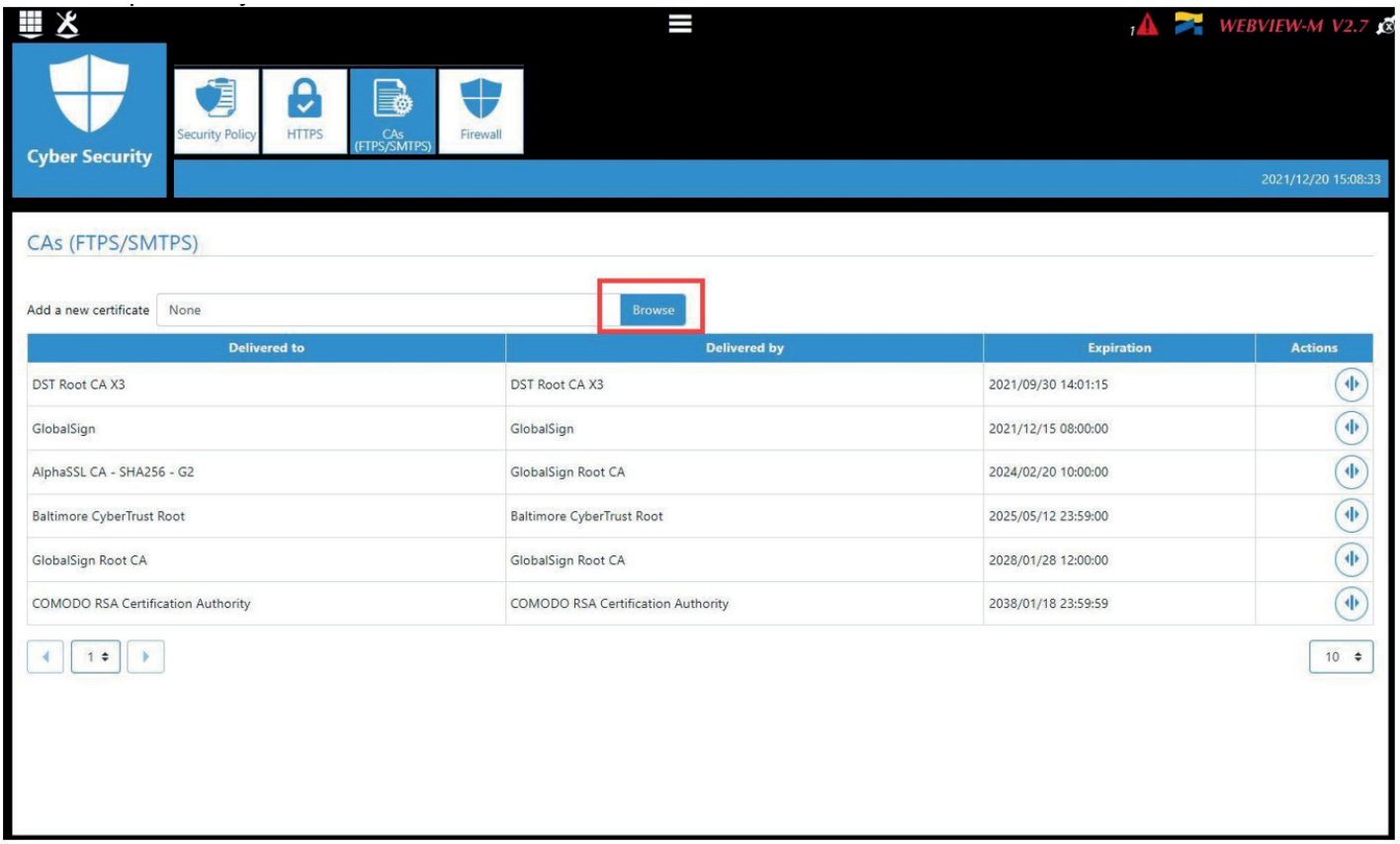
> Connect to the webserver (WEBVIEW for M-70 / D-70 and WEB-CONFIG for M-50 / D-50) under the Cyber Security profile.

> Go to the Cyber Security menu:

> Click on the “CAs (FTPS/SMTPS)” tab:



> Add the previously downloaded PEM file :



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