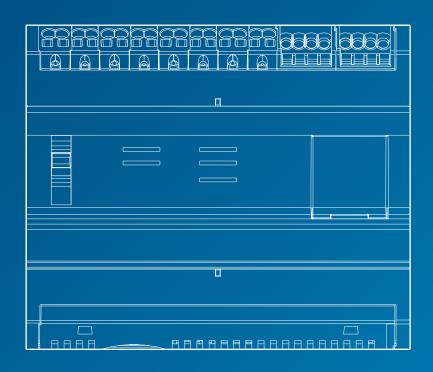
User manual

agardio. manager

Multi energy data logger & monitoring server HTG410H / HTG411H





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1 About the manual

Document scope

This manual describes how to operate the energy monitoring server during configuration, commissioning and maintenance.

Applicability note

This manual is intended for technicians, system integrators and operators (owners, facility managers). Skills and knowledge regarding construction, operation and installation of electrical equipment are required.

Revisions

Revision No.	Date
1.5	09/2018

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Liability

Hager Group disclaims any and all liability for personal injury or property damage including incidental and consequential damages which may arise out of the contents of this manual.

Further applicable documents

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6LE002121A	Installation manual for HTG410H - EN
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2 Safety information

Introduction

This chapter provides important information regarding safety of the energy monitoring server including the classification of the safety notes, qualification of the personnel, liability and intended use.

Chapter contents

Classification of the safety information	7
Safety information for the energy monitoring server	8

2.1 **Classification of the safety information**

Personal injury

This manual contains safety instructions that you must observe for your own safety.

The safety instructions are subdivided into three danger categories. These categories differ with regard to the severity of injuries that can result from non-compliance of these instructions.

The following symbols and terms are used for describing the three danger categories:



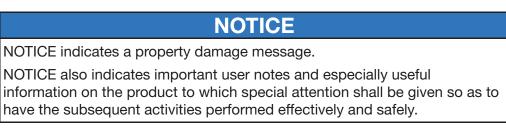
could result in death or serious injury.

ACAUTION

CAUTION indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.

Property damage

This manual contains safety instructions that you must observe to avoid equipment damage. Further, it contains useful information. They are indicated as follows:



2. 2 Safety information for the energy monitoring server

Qualified personnel

The energy monitoring server must be mounted, installed and serviced only by qualified personnel.

Qualified personnel has skills and knowledge regarding construction, operation and installation of electrical equipment. A qualified person has furthermore attended a safety training to be able to recognize and avoid the hazards involved.

Liability

The manufacturer shall not be held responsible for failure to comply with the instructions in this manual.

Intended use

The energy monitoring server

- is an energy and data logger designed as a compact embedded system to support the user to operate small and medium commercial buildings.
- collects and stores information like multi-energy (electricity, water, gas) and electrical power quality (U, I, P, f, THD) of the building distribution network.
- provides access to data as dashboards and graphics displayed with embedded web-pages, commissioning reports, file export.
- generates alarms for the user.

The manufacturer is not liable for any other than the described use.

Risk of electrocution, burns or explosion

Ele	ectrocution, burns or explosion
	Prior to any work on or in the energy monitoring server, isolate the voltage inputs and auxiliary power supplies.
	Prior to any work on or in the energy monitoring server, short- circuit the secondary winding of all current transformers.
	Always use an appropriate voltage detection device to confirm the absence of voltage.
	Put all mechanisms, door and covers back in place before energizing the energy monitoring server.
	Always supply the energy monitoring server with the correct rated voltage.

Risk of inaccurate data results

NOTICE

Inaccurate data results

- Do not incorrectly configure the software, as this can lead to inaccurate reports and/or data results.
- Do not base your maintenance actions solely on messages and information displayed by the software.
- Do not rely solely on data displayed in the dashboard or reports or file data export to determine if the system is operating correctly or meeting all applicable standards and requirements.
- Do not use data displayed in the software as a substitute for proper workplace practices or equipment maintenance.

Risk of equipment damage

Check the compliance with the following specifications:

External safety extra low voltage power supply	24 V DC SELV +/- 10%
Typical consumptions	7 VA
Ethernet network communication	Ethernet - TCP/IP - RJ45/100 base- I/IEEE 802.3
Modus network communication	RS485 Modbus RJ45
Operating temperature	-25 to +70 °C
Storage temperature	-55 to + 85 °C
Humidity storage	95% max HR at 55 °C
Binary digital input 1 and 2	15 to 27 V
Analogue input 4-20 mA 1 and 2	Input impedance <300 Ω
PT 100 input	2-wire probe - EN60751 compliance
Binary digital output	5 to 30 V / ~ 10 mA to 3 A resistive dry contact
Number of relay cycles	100000
Analogue output 0-10 V	Min impedance >= $1k\Omega$
Power supply, digital inputs, digital output connection	0.75-2.5 mm ²
Analogue input/output connection	0.2-1.5 mm²
Degree of protection	IP20
Weight	290 g
Pollution degree	Class 3
Altitude	Max. 2000 m

Micro SD card	Class 10 Industrial type
	USB 2.0 Type A standard connector
USB port 2 (on the bottom of the product)	USB 2.0 Type A standard connector

3 General information

Introduction

This chapter contains information regarding features and technical aspects of the energy monitoring server. The inputs and outputs of the energy monitoring server, the different types of measuring devices that can communicate with the energy monitoring server and central terms regarding the utilization of the energy monitoring server are explained.

The HTG411H is the HTG410H delivered with a μ SD card of 4 Gbyte capacity.

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3.1 Main features

These are the main features of the energy monitoring server:

- Multi-energy management
- Power quality visualization
- Alarms and pre-alarms generation

The energy monitoring server enables these features using the following functions:

- Fieldbus management, i. e. real-time data is transferred by connected measuring devices
- Data storage (depending on the capacity of the embedded µSD card)
- Data export using PNG files
- Two Ethernet ports for local and remote operation
- Four supported protocols: HTTP (Hypertext Transfer Protocol), FTP (File Transfer Protocol), SMTP (Simple Mail Transfer Protocol), NTP (Network Time Protocol)
- Configuration via embedded web pages (system and products)
- Operation via embedded web pages (real-time, dashboard, historic)
- Alarm management
- Commissioning reports
- Maintenance (backup, product update, firmware update)
- user management with different user right levels
- EIEC class simulation tool in regards to IEC60364-8-1 international standard concerning energy efficiency for LV electrical network

3.2 Front view

The energy monitoring server disposes of the following inputs/outputs, switches and LED elements:



Inputs and outputs

No.	Description	Application
1	24 V/DC SELV	Power supply
2&3	Digital input 1 & 2	Read pulse count of a product sub-meter or states (ON/OFF)
4	Normally open relay (24 V/DC, 3A)	Command process
5	0 - 10 V output	Proportional command
6	PT 100 input	Temperature probe
7 & 8	Analogue input 1 & 2 (4 20 mA)	Read any analogue measurement
9	USB 2.0	Connection for USB sticks (e.g. Backup), Wi-Fi or Ethernet interface for configuration
10	Ethernet port 2	Ethernet connection to the user interface
11	Ethernet port 1	Ethernet connection to the user interface and connection for setup/first configuration
12	USB 2.0	Connection for USB sticks (e.g. Backup)
13	RS 485 Modbus	Read Modbus RTU products out

Refer to the installation guide for more detailed information concerning inputs and outputs. **Switches**

Description	Application
Setup (a)	ON: After a reboot the energy monitoring server enters setup mode (see p. 21)
	OFF: After a reboot the energy monitoring server enters standard mode
Modbus	ON: Activate the Modbus terminating resistor of 120 Ω
120 Ω (f)	OFF: Deactivate the Modbus terminating resistor of 120 $\boldsymbol{\Omega}$

Refer to the installation guide for more detailed information concerning the Modbus 120 Ω switch.

LED information

Colour & state	Status	Solution
Modbus (b)		
Green blinking	Connected and functional network.	/
Red fixed	Communication fault.	The Modbus fieldbus is disconnected.
Red blinking	Communication fault.	Modbus parameters are wrong (Baud rate, parity or number of stop bits).
Off	No communication network detected, Modbus is off.	You need to define a Modbus RTU product that is communicating with the energy monitoring server.
Network 1 (c) / 2	(d)	
Green fixed or blinking	Functional network connection 1 / 2.	/
Red fixed or blinking	Communication fault on connection 1 / 2.	Check the connection.
Power (e)		
Green fixed	Functional product.	/
Green or orange blinking	Product initialisation.	Wait for initialisation.
Red blinking	Product enters into power reserve.	Wait until the shutdown progress.

Colour & state	Status	Solution
Red or orange fixed	Software startup problem.	Perform a reset by switching off the power supply.
		Wait for the LED to get off before switching on the power supply again.
Off	Product not powered.	Check the power supply.

3.3 Architecture

Conditions

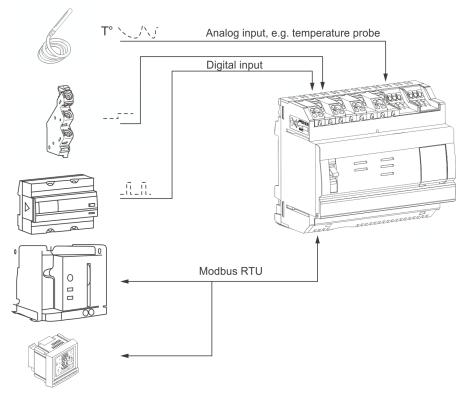
The energy monitoring server is dedicated for small and medium size commercial buildings (e. g. hotels, shops, offices).

To install the energy monitoring server the following is needed:

- the 24 V/DC power supply
- the products to communicate with the energy monitoring server
- an active fieldbus (Modbus RTU)

Overview of measuring devices

The following figure shows the measuring devices that could be present in the architecture:



Digital and analogue measuring devices

The following sorts of digital and analogue measuring devices are able to communicate with the energy monitoring server:

Type of application	Input
Auxiliary contact of a product (MCB, MCCB, door contact) delivering 24 V/DC	Digital 1 & 2
Analogue sensors (current, voltage, frequence, others)	Analogue 1 & 2



Energy sub-meters (gas, water, pressure) with pulse output are able to communicate via

- digital input or
- Modbus RTU if they are linked to an EC700 measuring device (see below).

Modbus RTU measuring devices

The following measuring devices are able to communicate with the energy monitoring server on Modbus RTU:

Product	Article no.
Energy meters single phase:	
40 A direct	ECR 140D
80 A direct	ECR180D, ECA180D
Energy meters 3ph:	
5A direct	ECR 300C, ECR301C, ECA300C
80A direct	ECR380D, ECR381D, ECA380D, ECA 381D
100A direct	EC366, EC367M
125A direct	ECR310D, ECR311D, ECA310D, ECA311D
Via current transformer	
80A	ECR180T, ECA180T
100A	EC376, EC377M
Multifunction meters:	
PMD (Power measurement device) with integrated Modbus	SM101C
PMD with associated Modbus module	SM102E + SM210
	SM103E + SM211
ACB (Air Circuit Breaker)	HWTxxxx with release unit AGR21, AGR22 or AGR31
ATS (Automatic Transfer Switch)	HIC4xxE
PFC (Power Factor Correction)	SPC06HM
Pulse concentrators	EC700
Hager Measurement adapter agardio.protect	LZMxxx
Energy circuit breaker	HHTxxxxxx

The energy monitoring server is able to communicate with up to 31 measuring devices on Modbus RTU.

3.4 Important terms

To enable and maintain the multi-energy and power quality management, data regarding several aspects of the monitored building is needed.

The following terms play an important role within the energy monitoring server:

Term	Meaning	
Building	Location of the electrical installation	
Zone	ne Part or area of a building or infrastructure and its equipments considered for energy efficiency.	
	 Zone represents a surface area in m² or a location where the electrical energy is used, e. g. a Floor, Room, Window area or inner area of the building (without windows), Swimming pool (inside or outside the building), Parking (external), Kitchen in a hotel. 	
Usage	Type of application for which electrical energy is used, e.g. lighting, heating, motor, hot water, hvac (heating, ventilation and air conditioning)	
Cabinet	Switch cabinets in the building like low-voltage main distribution board, sub distribution board etc.	

NOTICE

If you want a measuring device to communicate with the energy monitoring server, you need to allocate it to a defined

- zone,
- usage and
- cabinet.

Thus, the energy monitoring server is able to visualize the values of the measuring device.

4 Commissioning of the energy monitoring server

Introduction

This chapter provides information regarding step-by-step commissioning of the energy monitoring server. This includes the technical equipment to be used (configuration machine and compatible web browsers) and the different ways of connecting the energy monitoring server to the configuration machine. Furthermore, the chapter contains a note about the disposal of the energy monitoring server.

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4.1 Compatible browsers

Configuration machine

To configure the energy monitoring server use one of the following:

- computer (desktop and laptop)
- tablet

Hager recommends to use a computer.

The energy monitoring server requires a web browser that is compliant with HTML5.

Desktop and laptop computers

Hager recommends to use Chrome and IE from the version 10 and above.

Tablets

Depending on their operating system (OS), the following web browsers are compatible for tablets:

Browser \ OS	Android	iOS
Chrome	Compatible	Compatible
Firefox	Compatible	Compatible
IE	Not available	Not available
Safari	Not available	ОК

4.2 Setup mode

Connection

The setup mode is used to connect the energy monitoring server with the computer via the

- Ethernet port 1,
- USB to RJ45 Ethernet interface on the front USB port or
- USB to Wi-Fi interface on the front USB port.

Proceeding

In order to switch the energy monitoring server to setup mode proceed as follows:

Step	Action
1	Set the Setup switch of the energy monitoring server to position ON.
2	Turn off the power supply for more than 10 seconds.
3	Turn on the power again.

TCP/IP configuration

The setup mode allows a special TCP/IP configuration where the energy monitoring server acts as a DHCP server. In this mode, network connectors are configured with following static addresses:

Network connector	IP address
Ethernet port 1	192.168.0.1
USB to RJ45 Ethernet interface	192.168.2.1
USB to Wi-Fi interface	192.168.3.1

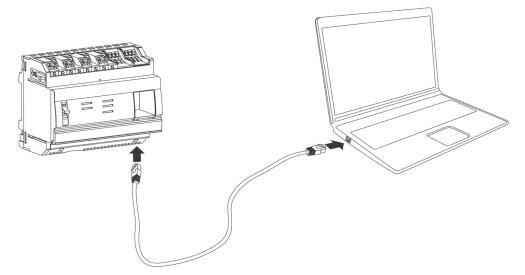
A DHCP server delivers an IP address.

NOTICE

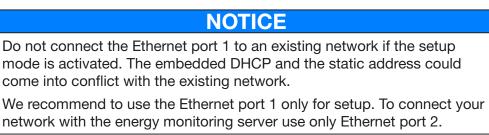
The setup mode is only used temporarily for the first configuration or a special maintenance operation.

4.3 Setup connection using Ethernet Port 1/Ethernet cable

An Ethernet cable (direct or crossed one) connects the energy monitoring server (port 1 only) directly to the computer.



The setup mode is activated. The energy monitoring server acts as the DHCP server.



4.4 First configuration

During the installation, most of the time the LAN (Local Area Network) connection is down, is not established or the energy monitoring server is not physically linked to it. Wait until the installation is finished, before you try to establish the first connection to the energy monitoring server.

During the setup phase, never connect the energy monitoring server to the LAN but only to a local computer using Ethernet cable.

In accordance with your IT network administrator, connect to the energy monitoring server as follows:

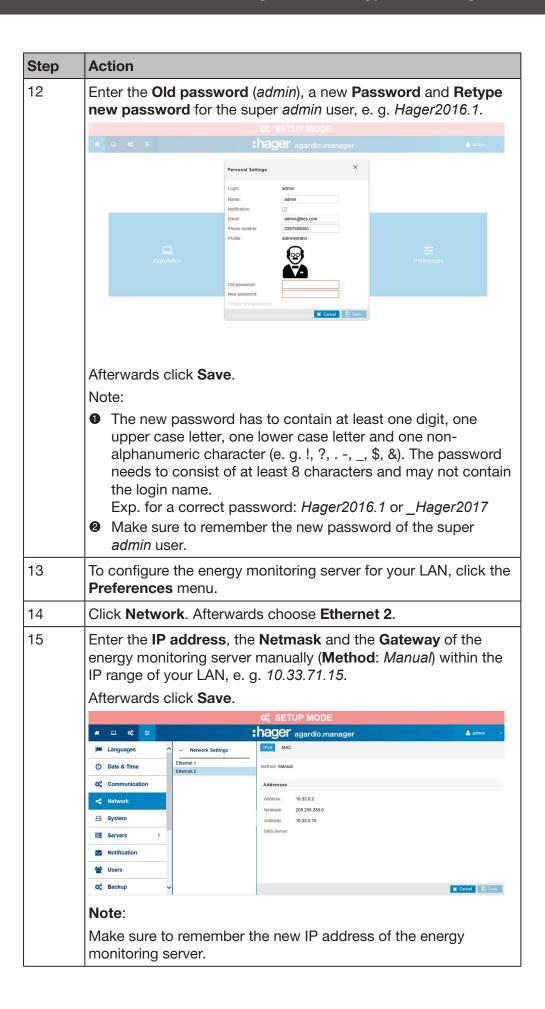


Step	Action	
Commi	Commissioning in setup mode	
1	Set the Setup switch (a) of the energy monitoring server to position ON .	
2	Turn off the power supply for more than 10 seconds and wait untill the power LED gets off.	
3	Turn on the power supply and wait for the boot phase of the energy monitoring server.	
	Result:	
	The Power LED starts blinking and then is illuminated permanently. The setup mode is activated.	
	Note:	
	If the Power LED turns to red, then check if a SD card is inserted into the energy monitoring server and do a reboot (Go back to Step 2).	
4	Connect an Ethernet cable to the energy monitoring server (b) and the computer. Hager recommends to use the RJ45 Setup port Ethernet port 1 (see p. 22).	

Step	Action
5	Configure the IP address of the computer (Exp. for Windows 7 / 10):
	• Open the Control panel .
	 Choose Network and Sharing Center.
	Click Change Adapter Settings.
	In the activated Ethernet connection.
	G Choose Properties from the context menu.
	 Double-click Internet Protocol Version 4 (TCP/IPv4).
	 Configure DHCP = ON (Obtain an IP address automatically and Obtain DNS server address automatically).
	Internet Protocol Version 4 (TCP/IPv4) Properties
	General Alternate Configuration
	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. Obtain an IP address automatically Uge the following IP address: IP address: Subnet mask:
	Default gateway:
	Obtain DNS server address automatically O Use the following DNS server addresses:
	Preferred DNS server:
	Alternate DNS server:
	Validate settings upon exit
	OK Cancel
	Note:
	In this phase, the energy monitoring server acts as a DHCP server.
	Open a web browser.

Step	Action	
7	Enter the IP address of the energy monitoring server into the address bar of the browser (<i>https://192.168.0.1</i> / if you are using Ethernet port 1) and open the Web application delivered by the energy monitoring server.	
	Result:	
	The Login screen of the user interface is displayed:	
	¢\$ SETUP MODE	
	Login to Hager Agardio Manager	
	Login: Password:	
	Reset super admin password Login Version: 11.10	

Step	Action		
8	Enter the login name (default: <i>admin</i>) and password (default: <i>admin</i>).		
	Note:		
	Login name and password are case-sensitive, i. e. you have to differentiate between upper and lower case letters.		
	Click Login to start the user interface of the energy monitoring server.		
	Result:		
	The license screen is displayed:		
	SETUP-MODUS		
	:hager agardio.manager		
	English		
	Software licensing agreement and Information		
	1. Software licensing agreement		
	IMPORTANT:		
	Please read the following carefully before using this software as any use constitutes acceptance of the following terms.		
	This software is designed and reserved for professional use. Hager will not in any way be held responsible in case of use of the software by a private individual.		
	This licensing agreement (the « Agreement ») is between the company receiving the HTG410H or I agree		
	Continue		
	For the complete licence text (see p. 146).		
9	Click I agree and Continue to accept the license agreement of		
	the energy monitoring server. Result:		
	The start screen of the user interface is displayed:		
	the start screen of the user interface is displayed. ☆ SETUP MODE		
	Exploitation		
10	Click the generic functions and choose Personal settings.		
11	Click Change password.		
• •			



Step	Action	
16	Set the Setup switch (a) of the energy monitoring server to position OFF .	
	Result:	
	The following message is displayed:	
	► Notification ×	
	Setup Mode will be disabled after next reboot	
17	Turn off the power supply for more than 10 seconds.	
18	Turn on the power supply and wait for the boot phase of the energy monitoring server.	
	Result:	
	The Power LED starts blinking and then is illuminated permanently.	
	The setup mode is deactivated.	
Migrat	ion into your LAN	
19	Disconnect the Ethernet cable from Ethernet port 1 between computer and energy monitoring server. Connect the computer and the energy monitoring server via Ethernet port 2 to your LAN.	
20	Enter the IP address of the computer manually within the IP range of your LAN, e. g. 10.33.71.15:	
	Open the Control panel.	
	Choose Network and Sharing Center.	
	 Click Change Adapter Settings. 	
	 Right-click the activated Ethernet connection. 	
	Choose Properties from the context menu.	
	Double-click Internet Protocol Version 4 (TCP/IPv4).	
	 Configure DHCP as follows: Use the following IP address: for example: 10.33.71.50 Obtain DNS server address automatically 	

Step	Action			
21	ser	ver an	e IP communication between the energy monitoring d the computer within your LAN as follows (Exp. for 7 / 10):	
	0		a Command Prompt (Enter <i>cmd</i>).	
		📨 Ri	un X	
		<u>O</u> pen	Type the name of a program, folder, document or Internet resource, and Windows will open it for you.	
			OK Cancel <u>B</u> rowse	
	2		m a ping command to 10.33.71.15 (ping 10.33.71.15).	
		Microsof Copyrigh C:\Users Pinging Reply fr Reply fr Reply fr Reply fr Ping sta Ping sta Approxim Min:	<pre>dows/system32(cmd.ee</pre>	
	Note:			
	Contact your IT network administrator if the ping is not responding.			
		the new IP address of the energy monitoring server ne address bar of the browser (<i>https://10.33.71.15/</i>) and Enter .		
	0	Deper	nding on your browser a security message appears:	
		8	There is a problem with this website's security certificate.	
			The security certificate presented by this website was issued for a different website's address.	
			Security certificate problems may indicate an attempt to trick you or intercept any data you send to the server.	
			We recommend that you close this webpage and do not continue to this website.	
			 Click here to close this webpage. Continue to this website (not recommended). 	
			Continue to this website (not recommended). S More information	
	0	Click	"Continue to this website (not recommended)"	

Step	Action	
23	Login to Hager Energy Server Login: Password: Login Enter the login name admin and the new super admin password.	
24	Click Login to start the user interface of the energy monitoring server. Result : The start screen of the user interface is displayed. The energy monitoring server is able to work in your personal surrounding with the new settings.	
25	Configure the energy monitoring server. The easiest way is to let the Configuration wizard (see p. 42) guide you.	

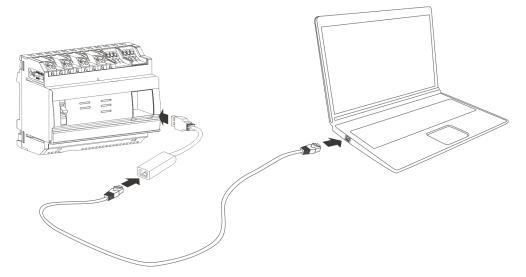
NOTICE

During the setup phase, never connect the energy monitoring server to the LAN but only to a local computer using Ethernet cable.

Store the new password of the super *admin* user in a secure location. If you lose the password of the super *admin* user, the only way to reconnect to the energy monitoring server is to

- switch the energy monitoring server to setup mode (see above: Step 1 - 3)
- reset the super *admin* password (see above: Step 7;
 Enter the *login* name (*admin*) and click **Reset super admin password** to set the password of the super *admin* user back to the default value *admin*, whatever it was before.)
- restart the energy monitoring server (see above: Step 16 18)

4. 5 Alternative setup connection using USB to RJ45 Ethernet interface



The HTG457H is a USB to RJ45 Ethernet interface, especially suitable for local connection with the energy monitoring server using a computer. The HTG457H allows direct connection on the front panel, avoiding any removing of a cover.

The USB port acts as an *Ethernet over USB*. This configuration is used when the access to the RJ45 Setup port - Ethernet port 1 is not possible.

Step	Action
1	Set the Setup switch of the energy monitoring server to position ON .
2	Reset the energy monitoring server by switching off /on the power supply.
3	Wait until the Power LED is fixed green.
4	Connect the USB port of the HTG457H to the front USB port of the energy monitoring server.
5	Connect the Ethernet port of the HTG457H to the Ethernet port of the computer with an Ethernet cable (twisted or not).
6	Configure the IP address of the computer so that the IP address is assigned automatically.
7	Open a web browser.
8	Enter <i>https://192.168.2.1/ i</i> nto the address bar of the browser and open the Web application delivered by the energy monitoring server.

For more detailed information (see p. 23).

4. 6 Alternative setup connection using USB to Wi-Fi interface



The HTG460H WLAN dongle is a USB to Wi-Fi interface, especially suitable for the connection without wire with the HTG410H. It allows direct connection on the front panel. This is the easiest mean to connect a computer or a tablet.

Step	Action	
1	Set the Setup switch of the energy monitoring server to position ON .	
2	Reset the energy monitoring server by switching off /on the power supply.	
3	Wait until the Power LED is fixed green.	
4	Connect the USB port of the HTG460H to the front USB port of the energy monitoring server.	
5	Configure the IP address of the computer so that the IP address is assigned automatically (DHCP).	
6	Use the following WIFI code to connect your computer with the energy monitoring server: HagerHTG410H	
7	Open a web browser.	
8	Enter <i>https://192.168.3.1/</i> into the address bar of the browser and open the Web application delivered by the energy monitoring server.	

For more detailed information (see p. 23).

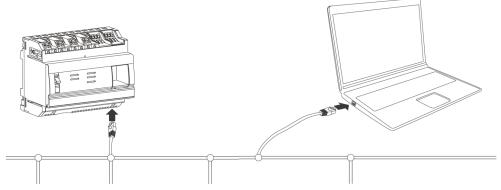
NOTICE

Ensure that the **RJ45 Setup port -Ethernet 1** (see p. 22) is not used simultaneously to one of the alternative setup connections. In setup mode the energy monitoring server activates its DHCP server on RJ45 Setup port - Ethernet 1.

4.7 Connection with Ethernet backbone

The connection with Ethernet backbone is the appropriate installation as soon as the energy monitoring server is working properly. The energy monitoring server is then linked to the LAN of the site by Ethernet 2.

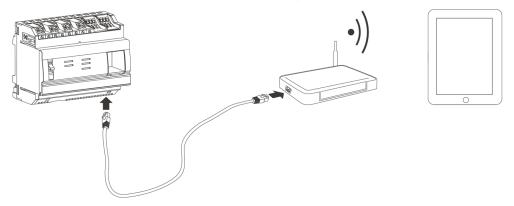
Configuration is still possible even during standard mode.



The setup mode is deactivated. DHCP service is delivered by the site infrastructure.

4.8 Connection with Ethernet Wi-Fi access point

A Wi-Fi access point is installed near the energy monitoring server and an Ethernet cable is connected to the access point and the energy monitoring server. The Wi-Fi access point can be configured as a DHCP server.



The setup mode is deactivated. The energy monitoring server can be configured with static address or with dynamic address.

4.9 Disposal

For protecting the environment, dispose of the energy monitoring server according to the legal requirements.

Disposal has to be carried out by qualified personnel.

5 General information about the user interface

Introduction

This chapter contains overall information regarding the user interface of the energy monitoring server. On the one hand, the screen elements, generic functions and symbols are explained. On the other hand, the chapter gives an overview of all menu items including a short explanation. In addition a brief instruction explains how to use the configuration wizard and how to perform typical tasks.

Chapter contents

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Quick start access	42

5.1 Structure

Start screen

If you log in into the user interface of the energy monitoring server, the start screen is displayed:





Depending on the rights the administrator has given to your user, one or several menus are displayed.

If your user profile is	then the following menu(s) are displayed:
Viewer,	Exploitation.
Configurator,	Exploitation and Configuration.
Administrator,	Exploitation, Configuration and Preferences.

Select a menu by clicking the corresponding

- small icon in the status bar or
- big icon in the middle of the screen.

Screen elements

*	요 📽 😫	thager .agardio.manager	🔒 admin 🗸 🗸	
	Languages ^	(3)	Personal Settings Configuration wizard About	
0	Date & Time	\bigcirc	C English	
¢\$	Communication		French German	
4	Network 2		Polish	
	$\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{$		Spanish	
	Servers >		Dutch Logout	
\sim	Notification			
-	Users			
os	Backup	Preferences		
1	Publisher	Use left menu to set your preferences		
1	Status ba	ar		
2	Menu ba	r		
3	Generic	functions		
lf c	If any alarm is active, a warning icon			

If any alarm is active, a warning icon *here a state of the seneric functions*.

Depending on your profile, the status bar shows the following icons:

lcon	Description
^	Click to display the start screen.
	Click to display the menu bar of the Exploitation menu.
O o	Click to display the menu bar of the Configuration menu.
Į,	Click to display the menu bar of the Preferences menu.
	Click the warning icon to display messages and alarms at the Events menu item (see p. 138).
	Information: No backup available.

The menu bar contains the menu items of the corresponding menu. Click a menu item to open it.

Function	Description
Personal settings	Show or change the e-mail address, phone number and password for your user
Configuration wizard	Navigate through the menu items that need to be filled with data to use the energy monitoring server
About	Show the current software version of the energy monitoring server and legal declarations about used open source programming tools.
All available languages	Choose your working language
Logout	Log out of the user interface

The status bar enables you to use the following generic functions:

NOTICE

For data security and data safety, log out of the user interface when you have finished working with the energy monitoring server. It is necessary to prevent other users from using your profile.

Information missing

If you try to close an action without giving necessary information, a red exclamation mark or a red border shows you where to add the necessary information.

required

Name:

Description:	Bati 👝 🔤 👘
Description.	This field is
Installation date:	07/0

T

Additional functions

Within the menu screens this icons may be displayed:

\bigcirc	Reload data Click this icon to reload the measurement values.
	Download as image Click this icon to download a graphic or chart as *.png graphic.
or	Save as spreadsheet Click this icons to download a spreadsheet with the displayed data as a *.csv file.

5.2 Overview of all menu items

Menu(s) for certain users

The user interface of the energy monitoring server is divided into three menus:

- Exploitation
- Configuration
- Preferences
- Use **Exploitation** if you are a facility manager or a member of the maintenance team.
- Use **Preferences** if you are a system integrator.
- Use **Configuration** if you are an electrician or system integrator.

Exploitation menu

The **Exploitation** menu includes the following menu items:

Menu item	Description
Energy management	 Visualize indicators for energy management and efficiency graphically Dashboard: Charts of the energy distribution and energy trend per usage / zone, download function Consumption: Charts of the energy consumption and energy trend per usage / zone, download function Production: Charts of the energy production (i.e. Solar panels) and energy trend per usage / zone, download function Products: List of the energy index of all measuring devices in one view Pricing: Graphical representation of estimated cost per energy source W.A.G.E.S*: Functionality showing the varying measures related to different non energetic services used for measuring various consumptions *(Water, Air, Gas, Electricity, Steam)
Power quality	 Visualization of power quality indicators Regular: Tables of Phase to Phase / Neutral Voltage, Current per Phase and Frequency Advanced: Tables of Power factor and THD (V, U & I) in percentage of the nominal value. Charts of the different harmonics (V, U & I)
Protection	 Visualization of information on protection products. Dashboard: Overview of the protection products on the dashboard. Products: Visualization of real time information related to selected protection products.
Measurements	 Visualize process data Trends History: Graphical representation of saved measured values from the different measuring devices Instantaneous: Table or figure of current measured values from the different measuring devices Compare: Graphical comparison of a service for a measuring device between two different time periods
Events	View of active events or all events occurring on the system (alarms, tests, logins/logouts, creation of new users)

Menu item	Description	
	Visualize the electrical energy efficiency class EIEC (chart or grid view)	

Configuration menu

The **Configuration** menu includes the following menu items:

Menu item	Description
Building	Update the location of the installation.
(see p. 18)	Create, update and delete entries for
	- Zones : Parts/areas of the building
	 Usages: Type of application for which electrical energy is used (lighting, heating,) Cohinete: Switch achinete in the building
	- Cabinets : Switch cabinets in the building
Products	Create, update and delete entries for the measuring devices that are communicating with the energy monitoring server
Events	Create, update and delete definitions for alarms and messages; occurring events are listed at the Exploitation menu.
EIEC	Set the EIEC parameters for the building
Data management	Update frequencies for saving the current values of the measuring devices
Publisher	Choosing the configurated products and their associated services to be published (sent to the server). Instantaneously or periodically, only possible in Setup Mode.
Pricing	Set tariffs for different services according to relative consumption during the day

Preferences menu

The **Preferences** menu includes the following menu items:

Menu item	Description	
Languages	Change the startup language of the energy monitoring server.	
Date & Time	Change date and time of the energy monitoring server.	
Communication	Set parameters of the fieldbuses (Baud rate, parity).	
Network	Configure LAN settings.	
System	Configure WLAN settings.	
Servers	Configure server settings.	

Menu item	Description	
Notification	Configure the way to inform users about certain events occurring on the system (alarms and tests).	
Users	Create, update and delete users; set passwords.	
Backup	Configure the backup time and FTP settings; export the backup data using USB, FTP or HTTP.	
Publisher	Configure server settings for data export.	
Pricing	Activation / deactivation and setting currency for pricing.	
Catalog	Upload or update product plugins for measuring devices or fieldbuses which need to be configured on the energy monitoring server.	
I/O	Set the 0-10 V output.	
Analyzer	 View status: Diagnosis: Status of the energy monitoring server. Fieldbus: Status of the products connected to fieldbus. Network: Status of IP connection. 	
Maintenance A	Software update : Upload new software versions of the energy monitoring server.	
Factory reset A	Return to factory settings	
	Note : All your configuration settings and data are deleted irrevocably.	
About	Show the current software version of the energy monitoring server and legal declarations about used open source programming tools.	

A: This menu item is only available for the super *admin* user.

5.3 Quick start access

Typical tasks

You can use the quick start access to:

- configure the energy monitoring server
- define a new measuring device
- open a:
 - Dashboard,
 - Real-time view,
 - Historic view

Configure the energy monitoring server

Choose the generic function **Configuration wizard** and let it guide you through the menu items to be filled with data:



The following menu items will be displayed one after another:

Step	Menu item	Description
1	Building Link to Building (see p. 79)	Enter data regarding the location of the installation
2	Date & Time Link to Date and Time (see p. 49)	Set date and time of the energy monitoring server
3	Communication Link to Communication (see p. 50)	Set parameters of the fieldbuses (speed, parity) to fit with the parameters of the connected measuring devices
4	Network Link to Network (see p. 51)	Configure LAN settings
5	Notification Link to Notification (see p. 55)	Configure the way to inform users about events (alarms and messages)
6	Zones Link to Zones (see p. 80)	Define areas of the building

Previous Next

Step	Menu item	Description
7	Usages Link to Usages (see p. 82)	Define a special usage if needed
8	Cabinets Link to Cabinets (see p. 84)	Define the cabinets that are installed in the building
9	Products (see below: Define a new measuring device)	Define the measuring devices that are communicating with the energy monitoring server

At the end, remember to generate the commissioning report:

You have reached the end of the wizard. Please click on the "End" buttor	to display the commissioning r	eport.
Close	Previous	End

If you are	and want to
a system integrator	set the global system parameters: (see p. 46)
an electrician or a system integrator	set / modify product or building parameters: (see p. 77)
a facility manager or member of a maintenance team	visualize energy monitoring data: (see p. 114)

Define a new measuring device

	\frown			
	U		7	

To define an new EC700 modular multifunction meter (see p. 85).

Step	Action
1	Click the Configuration menu 🕵.
2	Click Products.
3	Click O to define a new measuring device that is communicating with the energy monitoring server.
4	Select the measuring device that you want to define.
5	Tick the corresponding check boxes Storage to select the services that you want to be logged and visualized in the menu items of the Exploitation menu. Note :
	The capacity of the database depends on the number of stored services. If the storage is full the oldest values will be overwritten.
6	Click Next.
7	Enter the name of the new measuring device.
8	Allocate the measuring device to a zone, usage and cabinet.
9	Select the address that has been set in the measuring device itself.
10	Click Identification to test the communication between the measuring device and the energy monitoring server. Note :
	If the identification is not successful, check the fieldbus connection and the fieldbus parameters.
11	Click Save.
	Result:
	After a short moment, the new measuring device is displayed in the list of all available products.

For more detailed information (see p. 85).

Open a dashboard

Step	Action	
1	Click the Exploitation menu .	
2	Click Energy management.	
3	Click Dashboard/Consumption/Production.	

For more detailed information (see p. 117).

Open a real-time view

Step	Action	
1	Click the Exploitation menu 😐	
2	Click Measurements .	
3	Click Instantaneous.	
4	Click Product and choose a Product .	
5	Choose the Services that you want to visualize.	
6	Click Apply.	

For more detailed information (see p. 136).

Open a historic view

Step	Action	
1	Click the Exploitation menu	
2	Click Measurements.	
3	Click Trends/History.	
4	Click Product v and choose a Product .	
5	Click Services and choose a service (Services).	
6	Click Additional products if you want the same service of another product to be added in the figure.	
7	Click to choose a Start and End date .	
	Note: Always set an end date greater than the start date.	
8	Click Apply.	

For more detailed information (see p. 130).

6 PREFERENCES menu

Introduction

This chapter provides detailed information regarding all menu items of the **Preferences** menu.

The **Preferences** menu allows managing global system settings of the energy monitoring server.

NOTICE

The **Preferences** menu may only be used by the system integrator or administrator.

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6.1 Overview of the menu items

The **Preferences** menu includes the following menu items:

Menu item	Description
Languages	Change the startup language of the energy monitoring server.
Date & Time	Change date and time of the energy monitoring server.
Communication	Set parameters of the fieldbuses (Baud rate, parity).
Network	Configure LAN settings.
System	Configure WLAN settings.
Servers	Configure server settings.
Notification	Configure the way to inform users about certain events occurring on the system (alarms and tests).
Users	Create, update and delete users; set passwords.
Backup	Configure the backup time and FTP settings; export the backup data using USB, FTP or HTTP.
Publisher	Configure server settings for data export.
Pricing	Activation / deactivation and setting currency for pricing.
Catalog	Upload or update product plugins for measuring devices or fieldbuses which need to be configured on the energy monitoring server.
I/O	Set the 0-10 V output.
Analyzer	 View status: Diagnosis: Status of the energy monitoring server. Fieldbus: Status of the products connected to fieldbus. Network: Status of IP connection.
Maintenance A	Software update : Upload new software versions of the energy monitoring server.
Factory reset A	Return to factory settings
	Note : All your configuration settings and data are deleted irrevocably.
About	Show the current software version of the energy monitoring server and legal declarations about used open source programming tools.

A: This menu item is only available for the super *admin* user.

6.2 Languages

Steps to open the menu item

Step	Action	
1	Click the Preferences menu 🗮.	
2	Click the Languages menu.	
3	Select a default languages for: - The application - The alarm notifications - The Publisher export	
4	Click Save to save the settings.	

Screen to be displayed

*	□ 📽 😫 🗖	:hager.agardio.manager	💄 admin 🔍 🗸
1	Languages	Languages	
0	Date & Time	Default application language: English (United Kingdom) 2	
¢\$	Communication	Alarm notification language: English (United Kingdol 🗸 Publisher export language: German (Germany)	
4	Network	3 English (United Kingdom) Spanish (Spain)	
⊟	System	Utch (Netherlands)	
	Servers >	Portuguese (Portugal) Polish (Poland)	
\sim	Notification		(4)
Jet	lleare		🗙 Cancel 🔛 Save

Further information

At the next login the login screen will appear in the selected language.

To change the language of the user interface, please select the language in the **Generic Functions** menu.

6.3 Date & Time

Steps to open the menu item

Step	Action	
1	Click the Preferences menu ፰.	
2	Click Date & Time.	
3	Choose a method to set date and time.	
4	Click Save to save the changes.	

Screen to be displayed

*	□	:hager .agardio.manager	🐣 admin 🔍 🗸
	Languages	Date & Time Settings	
0	Date & Time 2	Current Time (UTC): Mon, 4 Sep 2017 13:43:16 UTC	
08	Communication	Current local time: Mon, 4 Sep 2017 15:43:16 Time zone: (UTC+01:00) Brussels, Copenhagen, Madrid, Paris 2	
4	Network	Method: Automatic Time Configuration 2 3	
8	System	Automatic Time Configuration	
	Servers >	UTC: Mon, 4 Sep 2017 13:52:33 UTC Estimated local time: Mon, 4 Sep 2017 15:52:33	
\geq	Notification	Estimated local time: Mon, 4 Sep 2017 15:52:33	
***	Users		(4)
¢\$	Backup >		🗶 Cancel 🔛 Save

Further information

There are three ways to set the date and time of the energy monitoring server:

- **Automatic Time configuration**, i. e. time setting by synchronizing the energy monitoring server with time and date of the PC or tablet that hosts the Web browser.
- **NTP server configuration** enables the synchronizing with a NTP time server

In this case, please define the **Server host name** and the **Sever port** of the NTP time server.

- **Manual configuration**, i. e. manual time setting (UTC and local).

NOTICE

Configure the right **Time zone** to enable the correct use of the system time stamps.

6.4 Communication

Steps to open the menu item

Step	Action	
1	Click the Preferences menu 🛅.	
2	Click Communication.	
3	Click MODBUSRTU to display the corresponding settings.	
4	Control, change or add communication settings.	
5	Click Save to save changes.	

Screen to be displayed

*	• • • = 1 :hager .a	gardio.manager	🐣 admin 🔍 🗸
1	Languages Communication Settings	Baud rate (Bd): 19200	
Ø	Date & Time 3	Parity: Even Number of stop: 1	
¢\$	Communication 2	Timeout (s): 0.25 4	
4	Network	Retry number: 3 Data length: 8	
₽	System		(5)
	Servers >		X Cancel 🖺 Save

Further information

- Baud rate (default: 19200 Baud) is the speed of the bus.
- Parity must be set (Even, odd or none). In case none is set, a second stop bit is added.
- **Number of stop** bits depends on the parity setting.
- **Time out** (default: *0,25 seconds*) refers to the maximum waiting time between the interrogation of the master (energy monitoring server) and the reply of the slaves (measuring devices connected to the bus / communicating with the energy monitoring server).
- **Retry number** is the maximum of attempts of the master to get replies from the slaves.
- Data length is 8 for Modbus RTU.

NOTICE

All measuring devices (master and slaves) must have the same settings regarding baud rate and parity in order to ensure the communication. Refer to the installation guide for more detailed information.

Hager recommends to use the following settings:

Baud rate: 19200 Baud Parity: Even Stop bit: 1

:hager

6.5 Network

Steps to open the menu item

Step	Action
1	Click the Preferences menu 🗮.
2	Click Network.
3	 Choose Ethernet 1 or Ethernet 2 to control/change the corresponding network settings. Find the valid settings at Ethernet 1, if the physical cable is connected to Ethernet port 1, Ethernet 2, if the physical cable is connected to Ethernet port 2
4	Choose a Method to set the IP address.
5	Click Save to save changes.

NOTICE

The energy monitoring server has to be integrated into your LAN. Contact the IT network administrator to

- organize the IT settings or
- authorize you to connect the energy monitoring server to the LAN. You need the following information:
 - a) IP address
 - b) Netmask
 - c) Gateway
 - d) DNS server
 - e) SMTP server (see p. 55)

Screen to be displayed

*	- ≪ ≢ 1	:hage	r.agardio.manager	🐣 admin 🔍 🗸
	Languages	✓ Network Settings	IPv4 MAC	
0	Date & Time	Ethernet 1 3 Ethernet 2	Method: Automatic (DHCP) 🛛 🗳	
Q\$	Communication			
4	Network 2			
₿	System			(5)
	Servers >			🗶 Cancel 🖺 Save

Further information

To set the IP address (address, netmask and gateway), there are two methods:

- *Automatic* means that the energy monitoring server gets the IP address automatically from a DHCP server.
- *Manual* means that address, mask, gateway and DNS server have to be set manually.

Hager recommends the manual method.

If you use the manual method, then the following parameters must be set:

Address is the address of the energy monitoring server within the LAN.

Netmask represents the settings which part of the IP address

- is the same for every device in the network (network part).
- is used for addressing (device part).

In the netmask 255.255.255.0 the first 24 bits are set to 1 and represent the network part. The remaining 8 bits represent the device part and enable you to connect up to 254 devices to the network.

Gateway is the address of the router of the LAN. If you do not assign an IP address to the gateway, then no communication outside the LAN is possible (neither e-mail, nor HTTP or FTP processes).

DNS Server is the IP address or the name of the domain name server. A name is easier to remember than an IP address.

a Linkeye*	Setup	Pass	swore	Sta	tua	DHCP	Log	Hale	Advance
DHCP	You can configure the router to act as a DHCP (Dynamic Host Configuration Protocol) server for your network. Consult the user guide for instructions on how to setup your PCs to work with this feature.								
DHCP Server	⊖ En	able	۲	Disab	le]			
Starting IP Address	192.	168.	1. 1						
Number o DHCP Users									
Client Lease Time			mlr	utes	(0	means	; one da	y)	
					_				
DNS 1		-	0		0	-	0		
2	0		0		0	-	0		
3	0		0		0	-	0		
WINS	0		0		0		0		

Example of a router configuration

Hager recommends to use a static configuration of the energy monitoring server (**Method**: *Manual*). In consequence the LAN gateway (router or firewall) must use the same configuration (i. e. DHCP Server has to be disabled).

Take care to assign different IP addresses for router and energy monitoring server.

6.6 System

Steps to open the menu item

Step	Action	
1	Click the Preferences menu 📰	
2	Click System .	
3	Change the WLAN SSID and/or the password.	
4	Click Save to save changes.	

Screen to be displayed

∻ ⊡ ¢ ;	≅ 1		shager agardio.manager	🐣 admin
Language	5	System		
O Date & Tin	ne	General		
Communio	cation	Device name: WIFI	TJA665-F0879F	
< Network		SSID:	HTG410H	
🖨 System	2	WiFi password:		
Servers	>	Web Server:	Yes	
Notificatio	'n	BACnet Server:	Yes	(4)
📽 Users		-		X Cancel

NOTICE

Hager recommends **not** to change the SSID and the password.

If you have to alter these setting, don't forget to document the changes. Otherwise you will have no further access to the WLAN.

Further information

Agardio manager is a multiprotocol server: these are not all enabled by default. A special login is required to enable the BACnet server.

The user connects to the IHM with the special login "integrator". By default, the password is "integrator".

In the "Preferences" application, the System page presents the activation status of the BACnet server. After activating the server and saving the changes, the integrator can see a new page: Preferences | Servers | BACnet Server.

By activating this status, the protocol becomes visible but is not yet running. More configuration is required (such as the Ethernet interface, UDP port, etc.) before having an executable configuration.

Note: the BACnet server is disabled in setup mode.

6.7 Server

Steps to open the menu item

Step	Action
1	Click the Preferences menu E .
2	Click Server.
3	Click Bacnet Server.

Screen to be displayed

	∝ ≊(1)			
Langua	ges	BACnet Server		
Date &	lime	A Warning!		
Commu	nication		uired to apply new configuration. Reboot induces lost of all active COV subscription.	
Networ	¢	Activated: Ye	9	
System		Server Device name: U2_Compte	sur_injection_Agardio	
Servers	(2).	Description:		
	$\overline{}$	Device identifier: 13864		
📑 Web	Server	Vendor identifier: 1029		
	net Server 3	Password:		
E BAC	let server	Version: 1.0.0		
Notifica	tion			
25		Communication Interface:	Ethernet 2	
Users				
& Backup		Port:	47808	
6 Duonup		Foreign device mode:	No	
Publish	er	BBMD Address:		
	-	BBMD Port:	47808	
Pricing		Period to renew registration (s):	0	
Catalog		Discovering state:	Yos	
		Time synchronization:	No	
± 1/0		Synchronization type:	utc	
Analyze	r >	Max object:	100	
Analyze	<u> </u>	Max cov clients:	5	
Mainter	ance >	Max cov service:	100	
	01110	Apdu max length:	1024	
Factory	reset	Apdu timeout (in sec):	10	
About		Apdu retry:	2	
		Segmentation type:	Both	
		Max segments accepted:	8	

NOTICE

Hager recommends not to alter these settings.

Each modification on these page could lead to a connection problem.

If you have to alter these settings, ask your IT network administrator.

A configuration guide for the Agardio BACnet server is available.

6.8 Notification

Steps to open the menu item

Step	Action	
1	Click the Preferences menu E .	
2	Click Notification.	

NOTICE

NOTICE
Ask your IT network administrator to know the SMTP server address.

Screen to be displayed

*	- ≪ ≢ 1		:hager agardio.manager	🐣 admin
	Languages	Notification Server	Settings	
0	Date & Time	SMTP		
o\$	Communication	Hostname:	mail.gmx.net	
4	Network	From: Test receiver email:	gtvCBD@gateway.fr Agardio@gmx.de	
⇔	System	Port number:	587	
	Servers >	Authentication type: Usemame:	Password Agardio@gmx.de	
	Notification (2)	Password:	******	
-	Users	Daily notification: Hour:	Yes 15.00	
o\$	Backup	Test server config		
1	Publisher	,		🗶 Cancel 🔡 Sa

Functions to choose

- Click **Test server configuration** to send an e-mail to the address entered as **Test receiver email**.

Further information

An SMTP client is configured in order to send Email notifications to users.

Host name is the address of the SMTP server. This address can be an IP address or the name of the server. e. g. *smtp.gmail.com*. The host name is necessary to send e-mails.

From is the e-mail address that is displayed as sender address.

Test receiver email is the e-mail address to which test e-mail will be sent using **Test connection's configuration** when receiving an alert e-mail.

Port number is set to 25 (TCP port for SMTP).

Authentication type is *No Authentication* or *Password* (if a password must be set for e-mail sending).

Daily notification means that the report is sent every day when events are present.

Hour is the time to send the daily report of active events by e-mail.

The energy monitoring server informs users for whom **Notification** is activated at the **Users** (see p. 57) menu item about occurring events and alarms.

Alarms are indicated through:

- the Events (see p. 138) menu item of the Exploitation menu or
- Email if **Notification** is activated and **Email** (address) is specified for the user.

Critical alarms are indicated as soon as they are detected. Other alarms with lower priority and messages are indicated only once daily.

6.9 Users (User management)

Steps to open the menu item

Step	Action	
1	Click the Preferences menu Ξ .	
2	Click Users.	
3 Choose the user whose data you want to control/change		
4	Control, change or add user settings.	
5	Click Save to save the changes.	

Screen to be displayed

*	- ≪ ≆ 1		hager.	agardio.manager	💄 admin 🔍 🗸
	Sprachen	∽ Benutzer	Anmeldung:	admin	
0	Datum & Uhrzeit	- V Erweiterte Suche	Name: Benachrichtigung:	admin Ja (4)	
0	Kommunikation	Da	E-Mail:	admin@hes.com	
4	Netzwerk	H 3 m Lac assus	Telefonnummer: Profil:	0387505050 Administrator	
A	System	admin ranorex			
	Server >	translator			
\sim	Benachrichtigung				
**	Benutzer 2				(5)
0	Backup	an an	🕰 Passwort ändern		X Abbrechen 🖹 Speichern

Fields to enter

A user is characterized by its:

- Status: Activated (Yes/No),
- Login (necessary, see below: Security requirements about login ...),
- Name (necessary),
- Notification (not necessary),
- Email address (necessary),
- Phone number (text field, 15 digit maximum length, not necessary),
- Profile (necessary),
- Icon (figure depending on the profile, set automatically),
- Password (necessary, see below: Security requirements about ... password).

The Login must be unique and cannot be changed.

The energy monitoring server informs users for whom **Notification** is activated about occurring events and alarms. For users to be informed, **Email** (address) has to be specified.

Profiles

The following profiles are available:

Profile	has access to the following menu(s):
Viewer,	Exploitation.
Configurator,	Exploitation and Configuration.
Administrator,	Exploitation, Configuration and Preferences.

Every user can only be assigned to one profile.

Only administrators are allowed to manage users and change passwords. Administrators are able to create new users with Viewer or Configurator profile.

Only the super *admin* user (see below) is able to create new administrators.

Functions to choose

- Click ^{to} to add a new user.
- Click to delete a user that is not working with the energy monitoring server any more.
- Click Change password to change your password, if you are an administrator and know your old password.
 If you need to change your password without knowing the old password, the super *admin* user has to be involved. He might have to delete your user and define a new one.

Admin user

A default user with Administrator profile is defined originally in factory settings as follows:

- Login: admin
- Password: admin

The *admin* login cannot be changed. Only the password of the super *admin* user can be changed.

The super *admin* user has full authorization within the user interface and is seen as a super administrator.

The super *admin* is the only user able to

- create new administrators,
- delete administrators,
- update data about any user,
- update passwords of other administrators,
- update the firmware of the energy monitoring server and
- restore the factory settings.

Hager recommends to

- change the password of the super *admin* user immediately at the first connection to the energy monitoring server (see p. 23).
- create a new administrator to do the main settings for the energy monitoring server.

NOTICE

Store the password of the super *admin* user in a secure location.

If you lose the password of the super *admin* user, the only way to reconnect to the energy monitoring server is to

- switch to setup mode,
- reset the administrator password and
- restart the energy monitoring server.

For more detailed information (see p. 23).

Security requirements about login and password

The following rules must be obeyed:

Login	Password			
minimum length: 3 characters	minimum length: 8 characters			
maximum length: 20 characters	may not contain the login			
may not contain any space	needs to contain at least one non-alphanumeric character upper case letter lower case letter digit 			

The following non-alpha-numeric characters might be used:

!, \$, ', * ,- ,: ,= ,@ ,] ,` ,} ," ,% ,(,+ ,. ,; ,> ,[,^,{ ,~ ,# ,& ,) ,/ ,< ,? ,\ ,_ ,| and , (the comma as a character)

Exp. for a correct password: *Hager2016.1* or _*Hager2017*

Personal settings

If you need to change the e-mail address, phone number or password for your own user and you are not an administrator, then choose the generic function **Personal Settings**:



:hager

6.10 Backup

Steps to open the menu item

Step	Action	
1	Click the Preferences menu ፰.	
2	Click Backup .	
3	Modify settings if necessary.	
4	Click Test to check the server configuration.	
5	Click Save to save the changes.	

Screen to be displayed

*	- ≪ ∓ 1	:hager .agardio.manager	📤 admin 🔍 🗸
	Languages	Backup	
0	Date & Time	✓ Backup settings	^
00	Communication	Backup time: 06 00	
4	Network	✓ FTP settings	
	System	FTP backup active: Yes	
	Servers >	Server URL: ftp.hes.com User login: administrator@hescx //	
\succ	Notification	Passorit: and a second se	
쌆	Users	Port: 21 Encryption: No	
¢\$	Backup 2	Path:	
±	Publisher	Test server configuration	
\$	Pricing	 Last backup information 	
۵	Catalog	Last backup time: Mon, 4 Sep 2017 11:40.25 File name: hesDump_2017-49-04_11-40-22.tzo	
₽	1/0	Size: 15.0MB	
۲	Analyzer >	🛓 Upload badsup on FTP 🔹 Cory badsup on USB 🛓 Direct download of last badsup 😝 Force badsup gene	ration 5
(Maintenance >		X Cancel

Fields to enter

Configuring the backup service consists in setting:

- The time at which the backup creation starts (**Backup time**).
- The indication if backup has to be transferred to an FTP server (**FTP backup active**).

If the backup has to be transferred by FTP the following settings are needed in addition:

- Address (Server URL) and Port (default: 21) and Path of the FTP server.
- The FTP **User login** and **password** if the FTP server is configured to reject anonymous.
- The information if **Encryption** is used by the server (FTP over TLS).

If you change any FTP settings, then click **Save FTP settings** afterwards to save the changes.

NOTICE

The default TCP port for FTP transfer is 21, but it is rejected by most of the firewalls. In case of rejection change the **Port** entry to overpass firewall protection.

You can validate your FTP server configuration by clicking the **Test server** configuration button.

Further information

The backup service stores process and configuration data of the energy monitoring server to the embedded μ SD card. The backup is performed automatically every day at the preset **Backup time (file format '*.lzo')**.

The export of the backup data is performed on demand and concerns data of the previous backup (file format '*.csv'). The export does not create a new backup.

Functions to choose

There are four ways to export backup data:

Click,	if you want to export the data
Upload backup on FTP,	on an FTP server.
	You need to control or complete the FTP settings before you start the export.
Copy backup on USB,	to a USB stick.
	You need to plug in the USB stick to the front face USB connector of the energy monitoring server before you start the export.
Direct download of last backup,	to an HTTP client, e.g. your connected computer.
Force backup generation	on an FTP server.
	Generate a backup on demand on the energy management server.

If you download a backup from HTTP, a similar message is displayed:

Do you want to open or save hesDump_2018-05-07_21-00-07.1zo from agardiomanager-lab.hager.fr? Open Save 🔻 Cancel 🗴

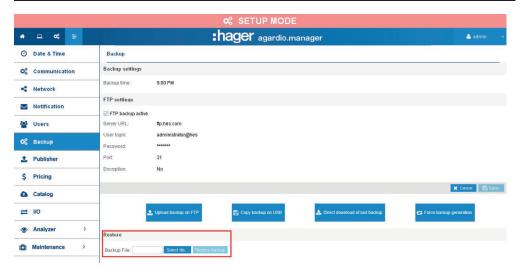
NOTICE

The backup data is needed

- in case of problems or damaging of the energy monitoring server.
- to integrate all settings and logged data into a new energy monitoring server.

Steps to restore a backup

Step	Action	
1	Switch the energy monitoring server to setup mode (see p. 21).	
2	Click the Preferences menu 🛅	
3	Click Backup .	
4	Click Select file and choose the 'LZO' file that contains the backup.	
5	Click Restore backup to integrate all settings and logged data of the backup into the energy monitoring server.	
6	Deactivate the setup mode. (Set the Setup switch to position OFF and restart the energy monitoring server.)	



6.11 Publisher

Steps to open the menu item

Step	Action		
1	Click the Preferences menu 📴.		
2	Click Publisher .		
3	Modify settings.		
4	Click Test server configuration to check the connection.		
5	Click Save to save the changes.		

Screen to be displayed

*	- ≪ ≆ 1	:hager agardio.manager	🐣 admin 🗸 🗸
	Languages	Publisher	
Ø	Date & Time	Activate: Yes	
¢\$	Communication	Export platform: Csv server Protocol: Ftp	
4	Network	Ptp protocol 3	
A	System	Server: 10.125.45.89	
	Servers >	Port: 21 Path:	
	Notification	rau. Encryption: Yes	
	Users	Login: hager Password •••••	
o\$	Backup	Test server configuration 2 4	(5)
2	Publisher 2		X Cancel

Fields to enter

Configuring the Publisher service consists in setting:

- Setting the Publisher service active (Activate).
- Choosing the Export platform
- Choosing the Protocol type

If Ftp protocol is defined above the following settings are needed in addition:

- Server URL and Port (default: 21) of the FTP server
- The export **Path**
- The information if **Encryption** is used by the server
- The FTP **Login** and **Password** if the FTP server is configured to reject anonymous

6.12 Pricing

Steps to open the menu item

Step	Action
1	Click the Preferences menu 🗮.
2	Click Pricing .
3	Modify settings.
4	Click Save to save the changes.

Screen to be displayed

* = * =	= 1	:hager agardio.manager	🛔 admin
Eanguages	Pricing		
O Date & Time	~ Pricing	settings	
Communication	Activated:	Yes V	
< Network	Tariff currency:	Yes No	
🔒 System	✓ FTP pro	otocol	
Servers	> Activated:	No	
Notification	Server: Login:	10.125.45.89 hager	
😫 Users	Password:		
🕸 Backup	Port: Encryption:	21 Yes	
1 Publisher	Path: Test server confi	avator	4
\$ Pricing	(2)		🗶 Cancel 📳 Sa

Fields to enter

Definition of pricing and units of the energy sources:

- Setting the Pricing service active (Activate).
- Choosing the **Tariff currency** (pull down menu).

Configuring the **Tariff currency** consists in setting:

- Setting the Publisher service active (Activate).
- Choosing the Export platform
- Choosing the Protocol type

If Ftp protocol is defined above the following settings are needed in addition:

- Server URL and Port (default: 21) of the FTP server
- The export Path
- The information if **Encryption** is used by the server
- The FTP **Login** and **Password** if the FTP server is configured to reject anonymous

6.13 Catalog

Steps to open the menu item

Step	Action
1	Click the Preferences menu E .
2	Click Catalog.
3	Click Products management or Fieldbus management.

Screen to be displayed - Products management

The following list is displayed at the **Products management**:

8	므 ∞ ≆ (1)		hager .agardio.manage	r		💄 adr	nin	
•	Languages Date & Time		alog management	Fieldbus management 3					
×	Communication	Uploa	d catalog:	Select file Upto	ad				
4	Network		Name 个	Description	Version	Manufacturer	Date		
•		\sim	ANALOGINPUT	Analog input device.	1.3.4	Hager	13/05/2015	1	1
3	System		ARXXX	TemPower 2 air Circuit Breakers - From 800A to 63	1.3.4	Hager	18/11/2015	1	
1	Servers >	п	BINARYINPUT	Binary input device.	1.3.4	Hager	13/05/2015	1	1
\sim	Notification		EC36X	Modular active electrical energy meter for direct co.	1.3.4	Hager	17/11/2015	/	1
6	Users		EC37X	Modular active electrical energy meter up to 6000 A	1.3.4	Hager	17/11/2015	1	1
×	Backup		EC700	Multi-utility pulse concentrator with 7 logical inputs	. 1.3.4	Hager	12/11/2015		
			H3	Smart LSI breaker.	1.2.3	Hager	19/11/2015	1	
L	Publisher	H	HIC4xxE	Energy source commutation manager.	1.3.4	Hager	13/06/2016	/	1
\$	Pricing	Щ.	PULSECOUNTER	Pulse counter device.	1.3.4	Hager	08/04/2015	1	. 1
î.	Catalog (2)		SM101C	Modular multifunction meter displays + kWh, + kvar	1.3.4	Hager	12/11/2015	1	1
-	10		SM102E	Panel mounted measurement unit displays + kWh,	. 1.3.4	Hager	12/11/2015		1
۲	Analyzer >		SM103E	Panel mounted measurement unit displays +/- kWh.	1.3.4	Hager	12/11/2015	1	1
			SPC06HM	Controller for Power Factor Correction.	1.3.4	Hager	13/06/2016		1

Functions to choose

- Click 🔟 to remove a measuring device (product) from the catalog.
- Click \checkmark to modify a measuring device (product) in the catalog.

NOTICE

Hager recommends to keep all measuring devices in the catalog.

Only remove a measuring device from the catalog if you are sure that you will never connect a measuring device of that type to the energy monitoring server. Otherwise you may need the measuring device later on and then have to upload it again.

Adding a new measuring device

To add a new measuring device to the catalog or update available services:

Step	Action
1	Click Select file and choose the HES file that contains the new measuring devices.
2	Click Upload to add the measuring devices to the catalog.

Screen to be displayed - Fieldbus management

The following list is displayed at the Fieldbus management:

*	2		¢\$	#				:	hager .agardio.ma	nager		💄 adm	in	~
-	Us	sers				Cat	alog management	1						
o;	Ba	ackup				Proc	ducts management	Fieldbus manageme	nt					
1	Pu	ublish	er			Uploa	id catalog:		Select file	Upload				
Ś	Dei	ricing					Name 个		Description		Version	Date		
Ş	FIL	icing				6	LOCALIO		Hes system extension for local IO man	nagement.	1.3.4	01/04/2015	1	Û
â	Ca	atalog				-	MODBUSRTU		Hes System for the Modbus protocol.		1.3.4	17/03/2015	1	Û
₽	I/O	þ				<u> </u>								
۲	An	nalyze	er		>									

Functions to choose

- Click 🔟 to remove a field bus protocol from the catalog.
- Click 🔗 to modify a field bus protocol in the catalog.

Adding a new field bus protocol

To add a new field bus protocol to the catalog or update available services:

Step	Action
1	Click Select file and choose the HES file that contains the new protocol.
2	Click Upload to add the protocol to the catalog.

Further information

The energy monitoring server is delivered with a catalog of measuring devices. This catalog embeds a list of products with their signature (product identification), their available services, settings and alarms. A piece of the catalog managing a smart product is called a *plugin*.

In case Hager adds a new product to the catalog, a download of the corresponding plugin will be available on the Hager website of your country or on *https://hgr.io/r/htg411h*. The plugin has to be uploaded into the energy monitoring server (**Upload**).

The catalog can be updated for one or more products at the same time.

Potential error messages

The following list explains the error messages that might be displayed at **Preferences/Catalog**:

Error message	Explanation/solution
Product can´t be added to catalog due to bad format.	You selected the wrong file type at the upload of new products. Use the correct HES file.
Fieldbus can´t be added to catalog due to bad format.	You selected the wrong file type at the upload of new fieldbuses. Use the correct HES file.
Unable to delete a used product.	It is only possible to delete products which are not in use. If you still want to remove a product you must ensure that it is not in use.
Unable to delete a used fieldbus.	You could only delete fieldbuses which are not in use. If you still want to remove the fieldbus you must ensure that it is not in use.

Steps for adding a non Hager product

Step	Action
1	Click the Preferences menu 📴.
2	Click Catalog
3	Click CUSTOM_MODBUSRTU
4	Click Configure custom product

Screen to be displayed

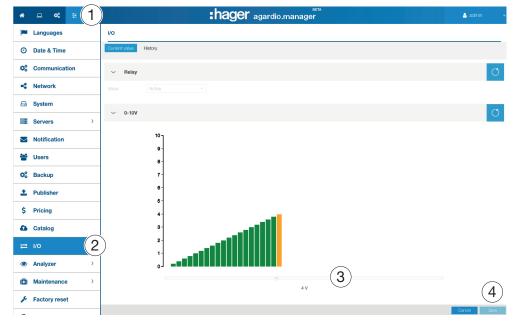
* - •:	≅(1)		:hager agardio.manager	٨		🐣 admir		
Languages		Cat	Catalog management						
Date & Tim	e	Proc	Products management Fieldbus management						
Communic	ation	12.00	Advanced search	Select fie					
Network		- Uploa	d catalog:	Select file Upload			Configure cust	product	
Hetwork			Name ↑	Description	Version	Features	Date		
System		🗆 Star	ndard product						
Servers	>	\sim	ANALOGINPUT	Analog input device.	1.7.0		13/05/2015	/ 0	
Notification	ı		ARXXX	TemPower 2 air Circuit Breakers - From 800A to 6300A.	1.7.0	powerQuality.regularprotection	18/11/2015	/ 1	
Users		п	BINARYINPUT	Binary input device.	1.7.0		13/05/2015	/ 0	
Q ^e Backup		4	CUSTOM_MODBUSRTU	3 Custom MODBUS RTU product	1.7.0	Extendable	14/03/2016	1	
1. Publisher			EC36X	Modular active electrical energy meter for direct conne	1.7.0	 powerQuality.regular commands 	17/11/2015	/ 0	
\$ Pricing			EC37X	Modular active electrical energy meter up to 6000 A vi	1.7.0	 powerQuality.regular commands 	17/11/2015	/ 0	
Catalog	(2)		EC700	Multi-utility pulse concentrator with 7 logical inputs + 2	1.7.0		12/11/2015	/ 0	

6. 14 I/O (Input Output)

Steps to open the menu item

Step	Action
1	Click the Preferences menu 📴.
2	Click I/O.
3	Adjust the settings by moving the slider
4	Click Save to save the settings

Screen to be displayed



Further information

The I/O menu item is a test function to drive the 0 - 10 V output.

If you set the graph to a value (e.g. 8.8 V) and **Save** it, the output voltage at the 0 - 10 V output is 8.8 volts.

6.15 Analyzer - Diagnosis

Steps to open the menu item

Step	Action
1	Click the Preferences menu E .
2	Click Analyzer.
3	Click Diagnosis.

Screen to be displayed

* =	≪ ≆ 👍		:hage	er .agardio.manager				🛔 admin 🗸 🗸
O Date -	& Time	Jiagnosis						
Q ⁰ ₀ Com	munication	 CPU temperature 	 Internal temperature 	CPU usage (%)	RAM usage (%)	✓ Database		_
< Netwo	rork					 Databasi 	0 5120	
🖨 Syste	em		10 47°C 70 10		10 5% 100 U		•	
Serve	ers >	20 100	10 60 Hill	30 T0 20 80	20 20 80			
Notifi	ication	61°C 120	0 47°C 70	0 19% ¹⁰⁰	10 90 Juli	З	9.1ME	3
Users	5		17 47 C K	1970	378			
Ø Back	up							
1 Publis	isher	 Event Database size 	 Configuration 	✓ Disk usage	 Version 	~ Process		
\$ Pricir				Internal disk space	Agardio: 1.3.7	Process na	SCPU 0%	VSZ 0%:45.77Mo
a riter				702.0MB used / 5.6GB total (12.25%)	Back-end: 1.3.3	unionts	0%	0% : 20.08Mo
Catal	log			MMC card disk space	Middle-end: 1.3.7	unionfs	4%	0% : 53.62Mo
-	\frown				Historian: 1.3.3	mongod rsyslogd	0%	3% : 271.51M 0% : 37.25Mo
≓ wo	(2)	554.0kB	430.0kB	40.6MB used / 7.5GB total (0.53%)	Controller: 1.3.4	HesControl	2%	0% : 31.66Mo
Analy	yzer - ~				Catalog: 1.3.7	HesBackE	16%	1%: 81.94Mo
👽 Di	lagnosis	2			Catalog. 1.3.7	Historian.py	0%	1% : 58.02Mo
di Fie								
< Ne	etwork							
(C) Maint	tenance >							
& Facto	ory reset							
6 Abou	ıt 🗸							

NOTE:

To expand the views click >, to collapse the views click \checkmark .

The Diagnosis screen displays the following status:

- **CPU temperature** of the measuring device (round display)
- Internal temperature of the measuring device (round display)
- CPU usage of the measuring device (round display)
- RAM usage of the measuring device (round display)
- Database size (disk size symbol)
- Event Database size (disk size symbol)
- Configuration (disk size symbol)
- **Disk usage** (bare graphs):
 - Internal disk space
 - MMC card disk space
- Version of the measuring device (table)
- (current) **Processes** (table)

6.16 Analyzer - Fieldbus

Steps to open the menu item

Step	Action
1	Click the Preferences menu 🗮
2	Click Analyzer.
3	Click Fieldbus.

Screen to be displayed

* □ ≪ ≆ 1		:hag	Jer .agardio.m	nanager	🛓 admin 🔍 🗸
Notification Field	dbus				
Users Loca	al IO				^
We Dackup	mber of products:	11	11		
Dublisher	mber of externals:	8 3 11	11 11		
\$ Pricing Mod	ibusRTU				0
Catalog Nun	mber of products:	3	3		
- ···	mmunicating products:	3	3		
Analyzer	mber of services: mber of settings: 7	88	88		
👽 Diagnosis Moo	dbus statistics:	Statistic		Value	
🛔 Fieldbus 3	(Total frames Communication failed by em Minimum response time	Dr	104916 0.0 10.0ms	
< Network	1	Frames OK Mean response time		104916 28.817ms	
(i) Maintenance	I	Frames KO Maximum response time		0 330.0ms	
Factory reset	1	Number of active frames		22 0	
1 About	1	Error by product Consecutive timeout		0.0	

The Fieldbus screen displays the following information:

- Local I/O
 - Number of products connected to the measuring device.
 - Number of Externals connected to the measuring device.
 - Number of Services (Measurements).
- ModbusRTU:
 - Number of products connected to the measuring device via ModbusRTU.
 - Number of products communicating with the measuring device via ModbusRTU.
 - Number of Services (Measurements) via ModbusRTU.
 - Number of settings: (configuration of products)
 - Modbus statistic (table view).

To refresh the ModbusRTU information click (Refresh).

6.17 Analyzer - Network

Steps to open the menu item

Step	Action
1	Click the Preferences menu 🎛.
2	Click Analyzer .
3	Click Network.

Screen to be displayed

* •	∞ ≆ .	1		:hager .agardio.ma	nager	🐣 admin
Notific	ation	Network				
삼 Users		IP configurati	on			
QS Backu	p	Ethernet 1: Ethernet 2:	Not configured Address:	10.33.138.62		
1 Publis	her	Luternet 2.	Broadcast:	10.33.138.62		
\$ Pricing	9		Netmask:	255.255.255.0		
🚹 Catalo	9	I/O Sent bytes:	34.2MB			
≓ 1/0		Received bytes:	3.6MB			
Analyz	er (2)~	Number of error:				
💔 Diag	gnosis	From			То	
🚠 Fiel	dbus	10.33.138.62.88	88		10.33.161.47:59783 10.33.161.47:59796	
< Net	work 3	10.33.138.62:88	88		194.99.48.37:44717	
(🛱) Mainte	enance >					
🔑 Factor	y reset					
About		~				

The Network screen displays the following information:

- IP configuration (Ethernet 1 & Ethernet 2)
 - Address
 - Broadcast
 - Netmask
- **I/O** (Inputs/outputs)
 - Sent bytes
 - Received bytes
 - Number of errors
- Current connections
 - Numbers of actual used IP addresses

6. 18 Maintenance - Software update

NOTICE

The menu item **Software update** is only available for the super *admin* user.

To save the energy monitoring server from loss of data and configuration, never switch off the 24 V/DC supply of the energy monitoring server during the update phase.

Steps to open the menu item

Step	Action
1	Click the Preferences menu 🗮.
2	Click Maintenance.
3	Click Software update.
4	Click Select file and choose the BZ2 file that contains the update.
5	Click Upload to activate the update.
6	Click Reboot.
	Result:
	- The energy monitoring server switches off and reboots.
7	Wait untill the energy monitoring server switches on again:
	Result:
	- The Power LED lights green.

Screen to be displayed

*	- ≪ ≠ 1) :hager .agardio.manager 🌲 admin 🗸
\$	Pricing	Software update
۵	Catalog	A Warning!
₽	I/O	New firmware will be applied after a system restart
۲	Analyzer >	Updato file: 🛛 Select the 🕐 📩 Upload
0	Maintenance 2~	
	🕹 Software update 3	Current Board Support Package: 22.0 Agardio.manager: 13.4
×	Factory reset	n (6)
0	About ~	Reboot

Further information

If Hager provides a new software version of the energy monitoring server, there are two methods to install it:

- With a remote connection to the user interface.
 You will find a download on the Hager website to upload into the energy monitoring server
 - (see above: Step 1 5).
- Using a USB stick containing the update if you are in front of the energy monitoring server.

Software update via USB

Step	Action
1	Plug the USB stick containing the file *. <i>HBoxFirmware-3.0.0</i> into the front face USB connector.
	Result:
	The Power LED starts blinking with orange colour during a few minutes.
	Note:
	During this phase never
	- remove the USB key nor
	- switch off the 24 V/DC supply.
2	Wait until the Power LED is illuminated permanently with orange colour.
3	Remove the USB stick.
	Result:
	- The energy monitoring server will reboot automatically within a few seconds.

6.19 Factory reset

NOTICE

The menu item Factory reset is only available for the super admin user.

Do not use the reset function unless you have to set the energy monitoring server back to its factory settings. All your configuration settings and data are deleted irrevocably.

Steps to open the menu item

Step	ep Action	
1	Click the Preferences menu 😇.	
2	Click Factory reset.	

Screen to be displayed

*	- ≪ ∓ 1	:hager .agardio.manager	💄 adm
4	Network		
	System		
	Servers >		
\geq	Notification		
꺌	Users		
¢\$	Backup		
t	Publisher	Factory reset	
\$	Pricing	Pactory reset	
0	Catalog		
₽	I/O		
۲	Analyzer >		
0	Maintenance >		
۶	Factory reset 2		
0	About		

Further information

The Factory reset enables you to return to factory settings, i. e. the initial status of the product. All configuration and data will be definitely lost after a confirmation.

6. 20 About (Software version and legal declarations)

Steps to open the menu item

Step Action		Action
	1	Click the Preferences menu ፰.
ľ	2	Click About.

Screen to be displayed

*	- ≪ ≆ 1	hager .agardio.manager	📥 admin 🔍 🗸
~	Network	About	
	System	HTG410H/HTG411H	^
	Servers >	 Version 	
	Notification	13.4	
-	Users	> Copyright Expand panel	
o\$	Backup	Open Source Components / Libraries	
1	Publisher	> Python © 2001-2016 (PFS License)	
\$	Pricing	> Tornado © 2009-2015 (Apache License, version 2.0)	
•	Catalog	> Libmodbus © 2001-2011 Stéphane Raimbault (LGPL v2.1+)	
≓	I/O	> Boost © Joe Coder 2004 - 2006 (Boost Software License)	
۲	Analyzer >	> MongoDB © MongoDB, Inc 2008-2016 (GNU AGPL v3.0)	
(8)	Maintenance >	> PyMongo © 2008 - 2015, MongoDB, Inc. (Apache License, Version 2.0)	
Æ	Factory reset	> mongo-cxx-driver © 2008 - 2015, MongoDB, Inc. (Apache License, Version 2.0)	
i	About 2	> ZeroMQ (LGPLv3)	~

The current software version of the energy monitoring server and further information about included programming tools are displayed.

Click > to show detailed information about a programming tool.

Click \checkmark to close detailed information.

7 CONFIGURATION menu

Introduction

This chapter provides detailed information regarding all menu items of the **Configuration** menu.

The **Configuration** menu allows managing settings about the installation and the commissioning of the energy monitoring server.

NOTICE

The **Configuration menu** may only be used by the electrician or system integrator.

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7.1 Overview of the menu items

The **Configuration** menu includes the following menu items:

Menu item	Description
Building	Update the location of the installation
(see p. 18)	Create, update and delete entries for
	- Zones : Parts/areas of the building
	 Usages: Type of application for which electrical energy is used (lighting, heating,)
	- Cabinets : Switch cabinets in the building
Products	Create, update and delete entries for the measuring devices that are communicating with the energy monitoring server
Events	Create, update and delete definitions for alarms and messages; occurring events are listed at the Exploitation menu.
EIEC	Set the EIEC parameters for the building
Data management	Update frequencies for saving the current values of the measuring devices
Publisher	Choosing the configurated products and their associated services to be published (sent to the server). Instantaneously or periodically, only possible in Setup Mode.
Pricing	Set tariffs for different services according to relative consumption during the day

7.2 Building

Steps to open the menu item

Step	Action
1	Click the Configuration menu 🕰.
	Click Building .

Screen to be displayed

1	:hager agardio.manager	💧 admin
Building	Building	
Zones	Name: Annoire TT15.5	
Usages	Description: Batiment Direction 2ème Etage Installation date: 07/03/16	
편 Cabinets	Address: Europa Blvd Country: France	
Products	City: Obernai	
Events	GPS Coordinates: 48*27*47*Nord 7*28*58*Est Language: French	
EIEC		
Data management		
Publisher		
Pricing	Generate a commissioning report	🗶 Cancel 🛛 💾 Save

Fields to enter

A building is characterized by its:

- Name
- Description
- Installation date
- Address
- Country
- City
- GPS position coordinates
- Language (for logging events and logging data only)

The building is initially defined at the installation.

7.3 Building - Zones

Steps to open the menu item

Step	Action
1	Click the Configuration menu 🕰.
2	Click Building.
3	Click Zones .
4	Double-click an existing zone/floor.
5	 Click to define a new (sub-)zone within the zone. Click to delete the zone from the building.
6	Click Save to save the settings.

Screen to be displayed

* - * 1		:hag	er .ag	gardio.m	anager	📤 admin	~
➢ Building)~ zones (4))		C2QD10			
🔲 Zones 🛛 🕄		Batiment Direction C1QD03	00 00				
4 Usages	-E3 -E3	C2QD10 C3QD09	00 00	(5)			
[편] Cabinets	-E9 - E9 - E9	C4QD05-06-07-08 C5QD17	00				
Products		mmm C7QD33 C6QD18	00 00 00				
↓ Events				Name:	C2QD10		
Q [®] EIEC				Description: Area:	Lampe Bureau Face bale 15		
< Data management				Area unit:	m2		
1 Publisher				Type: lcon:	Floor		
\$ Pricing				Image:	±	6	
	Expand all Collapse all					🗙 Cancel 🔛 Save	

Fields to enter

A zone is characterized by its:

- Name (necessary)
- Description (not necessary)
- Area (value, necessary)
- Area unit (in m² or square ft)
- Type
- Building type (Commercial, Industrial or Infrastructure)
- Icon (necessary)
- Image (download)

A floor or room within a zone is characterized by its:

- Name
- Description
- Area (value)
- Area unit (in m² or square ft)
- Type (Floor or Room)
- Icon
- Image (download)



Further information

Zones must be defined within the building in order to calculate the energy consumption and to achieve effective energy management by modelling a clear building and zone structure.

Configuration of zones follows a tree structure

- starting commonly by buildings for first level,
- continuing with floors for second level and
- rooms for third level.

It is possible to update name, description, icon and image of any zone, floor or room without any consequence.

NOTICE

As measuring devices (Products) need to be allocated to a zone, define

• zones (and cabinets (see p. 85)) first,

measuring devices (Products) thereafter.

It is impossible to delete a zone that any measuring device is allocated to.

Depending on the selected **Building type** the right EIEC criterions (see p. 104) will be selected automatically.

7.4 Building - Usages

Steps to open the menu item

Step	Action
1	Click the Configuration menu 🕵
2	Click Building .
3	Click Usages .

Screen to be displayed

* - * 1		:hager .agardio.manager	👌 admin 🔍 🗸
ک Building 2	Usages	Name: Ventilation	
Zones	Heating	Description: Ventilation	
4 Usages 3	¥ Lighting ¥ Socket	lcon: D	
🔁 Cabinets	A Hvac		
Products	C Process	_	
Products	- Motor		
↓ Events	Appliance Appliance		
¢ ⁸ EIEC	Ventilation		
data management	Fin Air Cooling		
	7 Custom 1		
1 Publisher	7 Custom 2		
\$ Pricing	Custom 3 Custom 4	-	

Fields to enter

A usage is characterized by its:

- Name (necessary)
- Description
- Icon

Further Information

The following usages are initially delivered by the energy monitoring server:

- Heating
- Lighting
- Socket
- Hvac

(Heating, ventilation and air cooling)

Ventilation
 Air cooling

Motor

Appliance

Hot water

-

_

Process

- Custom
 - (i. e.to create a free usage)

For every measuring device that is communicating with the energy monitoring server, a usage should be allocated if possible (depending on the usage that is connected to the measuring device).

It is possible to set and update name, description and icon of the *Custom*-usage.

NOTICE

It is impossible to

- update all other usages that are initially delivered by the energy monitoring server.
- delete a usage if it is allocated to a measuring device.

7.5 Building - Cabinets

Steps to open the menu item

Step	Action						
1	Click the Configuration menu 🕰.						
2	lick Building.						
3	Click Cabinets.						
4	 Click + to define a new cabinet. Click × to delete a cabinet that is not allocated to any measuring device within the energy monitoring server any more. 						
5	Click Save to save the settings.						

Screen to be displayed

* - * 1	:hagei	.agardio	manager	💄 admin 🔍 🗸
Building	 ✓ Cabinets 			
Zones	main cabinet			
4 Usages				
🔄 Cabinets 🛛 3				
Products		Name:	main cabinet	
🗘 Events		Description:	the main building cabinet	
		Location:	Batiment Direction	
¢¢ EIEC		Icon:	rên (
Data management		Image:	*	
1 Publisher	(4)			(5)
\$ Pricing	+ *			Cancel P Save

Fields to enter

A cabinet is characterized by its:

- Name (text field, necessary)
- Description (text field, not necessary)
- Location (selection field, necessary)
- Icon (selection field, necessary)
- Image (upload function for files, not necessary)

Further information

A cabinet has to be defined in the energy monitoring server, if the cabinet hosts at least one measuring device.

It is possible to update name, description, location, icon or image of any cabinet without any consequence.



7.6 Products

Steps to open the menu item

Step	Action
1	Click the Configuration menu 🕰.
2	Click Products .
	NOTE : The Details window will be displayed.
3	 Click to define a new measuring device (see below) that is communicating with the energy monitoring server.
	 Click * to delete a measuring device (see below) that is not communicating with the energy monitoring server any more.
	- Click 🖹 to generate a commissioning report (see below).
4	Set the status of the measuring device (Activated: Yes or No)
5	Click Save to save the settings.

Screen to be displayed

NOTE:

The displayed windows are depending on the selected product.

The following list is displayed for all products in the Details window:



Fields to enter

A measuring device (Product) is characterized by its:

- Name (text field, necessary)
- Creation date
- Туре
- Zone (selection field, necessary)
- Usage (selection field, necessary)

- Cabinet (selection field, not necessary)
- Description (text field, not necessary)
- Landmark (text field, not necessary)
- Source (selection field, necessary)
- Active Fieldbus (selection field, necessary)
- Address (selection field, necessary)
- Settings (depending on product: Table of settings)

More about address

Address is the Modbus address on the fieldbus between 1 and 247, that has to be set uniquely for each Modbus product (i. e. only for one measuring device within the energy monitoring server).

A smart scrolling function displays the Modbus addresses that are already used and proposes the first available address.

If you define a new measuring device of the following type, the energy monitoring server checks the suitable inputs and suggests one of the following addresses:

Туре	Address
Analogueinput	Analogue Input 1 or Analogue Input 2
Binaryinput	Binary Input 1 or Binary Input 2
Temperaturesensor	External Temperature
Pulsecounter	<i>Pulse Input 1</i> or <i>Pulse Input 2</i> or <i>Not on the Gateway</i> (see below: Define a new energy sub-meter)



Utilities

Identification

Click **Identification** to test the communication between the device and the energy monitoring server. It is possible to test device communication at any time during configuration. Testing communication detects that the device is on the line and that it is really the device that is declared. A message indicates a measuring device that does not match the declared one.

Search

To search for certain measuring devices, type a characterizing part of their name, e. g.:

*	▣	0 \$	ŧ			:hag	jer .a
.C	Buildi	ing		>	✓ Products		Details
Ŷ	Produ	ıcts			EC Advanced search	Q	Activated: Communi
Δ	Event	s			Activated: Type:	~	General in
00	EIEC				Fieldbus:	~	Creation (
4	Data ı	manag	ement		Usage:	~	Type: Zone:
1	Publis	sher			Cabinet: Source:	~	Usage: Cabinet:
\$	Pricin	g			Name ↑ ACB	#	Cabinet: Descriptio
					NOD	^	Landmark

Further information

The measuring devices communicating with the energy monitoring server are listed with the symbol \checkmark .

The measuring devices not communicating with the energy monitoring server are listed with the symbol \bigotimes . Check the Modbus connection between the energy monitoring server and the measuring device. Refer to the installation guide for more detailed explanation.

NOTICE

Products need to be allocated to a zone, usage and cabinet in order to follow-up the energy consumption by usage and zone over the time.

Therefore you need to define

- zone,
- usage and
- cabinet first,
- measuring devices (Products) thereafter.

:hager

Add a new measuring device (Product)

Only measuring devices listed in the catalog (see p. 66) are able to communicate with the energy monitoring server. The catalog includes information about the measuring devices. Defining a measuring device creates automatically a list of services that are read from fieldbus.

Before you define a new measuring device at the energy monitoring server

- search for it in the list of all communicating measuring devices.
- update the list of all available measuring devices by uploading the newest version of the catalog (menu **Preferences/Catalog**).

Cata	log Products								×
	Name 1	3333 80 80	Modular multifunction meter displays + kWh, + kvarh, I, U, V, F, P, Q, S, Pl	F. etc.					
V	ANALOGINPUT								
ġ.	ARXXX								
7	BINARYINPUT								
-		*****							
-	EC36X								
	EC37X	Services MODBUSR	τυ						
-	EC700	Name	Description (2)	Unit	Resolution	Offset	Stora	Perio	
	H3	Channel Id: 0 (48)							
\$	HIC4xxE	U12	Phase to phase voltage: U12	v	0.01	0.00		10 min	
đ.	PULSECOUNTER	U23	Phase to phase voltage: U23	v	0.01	0.00		10 min	
~		U31	Phase to phase voltage: U31	v	0.01	0.00		10 min	
1	SM101(V1	Simple voltage: V1	v	0.01	0.00		10 min	
D.	SM102E	V2	Simple voltage: V2	v	0.01	0.00		10 min	
	SM103E	V3	Simple voltage: V3	v	0.01	0.00		10 min	
		F	Frequency: F	Hz	0.01	0.00		10 min	
i tit	SPC06HM	11	Current: I1	mA	1.00	0.00		10 min	
1	TEMPERATURESEN	12	Current: 12	mA	1.00	0.00		10 min	
		13	Current: 13	mA	1.00	0.00		10 min	
		In	Neutral current: In	mA	1.00	0.00		10 min	
		P	∑ Active Power +/- : P	kW	0.01	0.00		10 min	
		Q	∑ Reactive Power +/- : Q	kVAr	0.01	0.00		10 min	
		S	∑ Apparent Power : S	kVA	0.01	0.00		10 min	
		PF	Σ Power factor: PF	N/U	0.00	0.00		10 m	2)
		P1	Active Power phase 1 +/- : P1	kW	0.01	0.00		10 m)

Step	Action			
1	Select the measuring device that you want to add.			
2 Tick the corresponding check boxes Storage to select the services that you want to be logged and visualized in the items of the Exploitation menu.				
	Note:			
	The capacity of the database depends on the number of stored services. If the storage is full the oldest values will be overwritten.			
3	Click Next.			

CONFIGURATION menu

:hager

Catalog Products	×
General information	
Name: H3 SM Activated:	
Zone: New Forum V	
Usage: Lighting ~	(2)
Cabinet: MDB	
Source: No Source V	
Technical information	
Address: 2 V	
3 - Multi creation	
Number of products: 2 × +	



Step	Action
1	Enter the name of the new measuring device.
2	Allocate the measuring device to a zone, usage and cabinet. Select the address that has been set in the measuring device itself.
3	Tick the check box Multi creation and select the number of identical products to connect with the measuring device.
4	Click Identification to test the communication between the measuring device and the energy monitoring server.
	Note:
	If the identification is not successful, check the fieldbus connection and the fieldbus parameters.
5	Click Save .

Catalog Product

- General info	ormation	
Name:	H3 SM	
Activated:		
Zone:	New Forum	
Usage:	Lighting	
Cabinet:	MDB	
Landmark:		
Source:	No Source V	
- Technical in	formation	
Address:	2 ~	
— 📝 Multi cre	ation –	
Number	Communication with product in progress	

After a short moment the new measuring device is displayed in the list of all available products.

Previous Identification Save

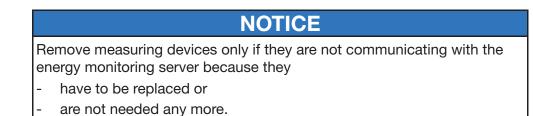
 \times

Delete a measuring device (Product)

General information	
Are you sure ?	×
Are you sure you want to delete p	roduct Pulsecounter 1 ?
	Remove Cancel
Cabinet Main	

Click **Remove** to delete the measuring device (Product) that is not communicating any more with the energy monitoring server.

Click **Cancel** to abort the deletion.



Define a new energy sub-meter

Energy sub-meters (e. g. water pulse sub-meters) can communicate with the energy monitoring server in two ways:

They are connected to

- the digital input 1 or 2 of the energy monitoring server or
- one of the inputs of an ec700.

In both situations you first need to define a new measuring device as follows:

	Name ↑	_ P Pu	Ise counter device.						
~	ANALOGINPUT								
	ARXXX	۸							
٦	BINARYINPUT								
	EC36X								
3	EC37X	Services LOCALIO							
	EC700	Name	Description	Unit	Resolution	Offset	Stora	Periodicity	
	H3	Channel Id: 0 (1)							_
2	HIC4xxE	Ea+NotReset	Total Positive Active Energy (not resetable): Ea+	kWh	1.00	2.00		10 min	1.
ų.	PULSECOUNTER								
3	SM101C								
į,	SM102E	-							
	SM103E	-							
iù.	SPC06HM	-							
ß	TEMPERATURESEN								
		-							
									Nex 4, 100%

Step	Action
1	Select the PULSECOUNTER measuring device and click
	Configure a service to choose a Name, Resolution (e.g. 10 means that one pulse is equivalent to 10 m ³) and if necessary an Offset.
2	Click Update to save the settings.

Step	Action
3	Click Storage if you want the service to be logged and visualized in the menu items of the Exploitation menu.
	Note:
	The capacity of the database depends on the number of stored services. If the storage is full the oldest values will be overwritten.
4	Click Next.
5	Enter the name of the new energy sub-meter and allocate it to a zone, usage and cabinet.

If you use a digital input of the energy monitoring server, then go on as follows:

Step	Action
6	Select the Pulse Input address of the energy sub-meter that is connected to the energy monitoring server (<i>Pulse input 1</i> or 2). Technical information Adress: Pulse Input 1 (Linked to Cpt6) Pulse Input 2 (Linked to Cpt7)
7	Click Save .
	Result:
	After a short moment the new energy sub-meter is displayed in the list of all available products.

EC700 Installation

If you use the multifunction meter EC700 for connecting the energy sub-meter with the cproduct, do the following:

	n
	ne or several new pulse counters to your products, which eant to be connected to the EC700 (see above).
in 🖍 offset. Click s	t the PULSECOUNTER measuring device and click on , order to choose a name, resolution and if necessary an Storage if you want the service to be logged and ized in the menu items of the EXPLOITATION menu.
Eath TotP EsNo Er+N Er-N Er-R Ea-N Er-R Eath Ea-R EasR	NotReset Reset
4 Click	Update in order to transfer the settings.
5 Click I	Next.
define Note: Select	Not on the gateway.
7 Define	a new multifunction meter EC700 as a new product.

Step	Action								
8	Assign the channels to the pulse counters to be connected.								
	Catalog Products X								
	Name Multi-veloping public concentrator with 7 logical inputs + 2 analog inputs ARXXX Multi-veloping public concentrator with 7 logical inputs + 2 analog inputs ARXXX Multi-veloping public concentrator with 7 logical inputs + 2 analog inputs BINARYINFUT Multi-veloping public concentrator with 7 logical inputs + 2 analog inputs E C36X Public counterts								
	EC/07 Name Service name Service label Unit Zone Cabinet Usage								
	H3 Channel Id. 1 I-B HICAXE PUISECOUNTER Puisecounter 1 PUISECOUNTER Puisecounter 1								
	SM101C Channel Id 3								
	SM102E Click to attach e pulse O								
	em Click to attach a pulse O #G SPC06HM Channel Id: 5 O								
	TEMPERATURESEN. Cick to attach a pulso Cick to attach a pulso Channel Id 6								
	Cick to attach a pulse								
	Click to attach a pulse								
	test 4.00% -								
	In order to remove a pulse counter (multifunction meter) from a								
	channel click on \bigotimes .								
9	Click Next.								
10	Enter the name of the new multifunction meter and assign it to a cabinet.								
11	Click Activated.								
12	Click identification and then on Save.								
	Result:								
	After a short moment, the new energy sub-meter is displayed in the list of all available products.								

Services

The following list is displayed for all products in the Services window:

요 🧠	E		:r	nag	Jer agardio.mana	ager		🐣 admin
🗲 Standort	>	✓ Produkte		C	Details Messwert Befehle	Historie		
🝞 Produkte		- V Erweiterte Suche	Q	\$	Aktualisierungsdienste			
		Name ↑	ý	_	Messwert		Beschreibung	Gespeicher
🗘 Ereignisse					Canal Id: 0 (33)			
		ACB	•	1	U12		Phase-Phase-Spannung: U12	Ja
C EIEC Auswei	tung	비. Cpt6	~	4	U23		Phase-Phase-Spannung: U23	Ja
		ull_ Cpt7	~	4	U31		Phase-Phase-Spannung: U31	Ja
Catenmanag	ement		~	4			Phase-Neutralleiterspannung: V1	Ja
				4			Phase-Neutralleiterspannung: V2	Ja
1 Datenexport		III EC051_2_Bureau_face_baie	~	4			Phase-Neutralleiterspannung: V3	Ja
		I∭_ EC051_3_Bureau_coté_baie	~	4			Strom: I1	Ja
\$ Energiekoste	n	IL EC051_4_Lampes_colonnes	~	4			Strom: 12	Ja
			_	4			Strom: 13	Ja
		III_ EC051_5_Clim_EST	× 1	4			Neutralleiterstrom: In	Ja
		IL EC051_6_Clim_OUEST	~	4			∑ Wirkleistung +/- : P	Ja
		EC051_7_Chauffe_eau	~	4			∑ Blindleistung +/- : Q	Ja
				4			∑ Scheinleistung : S	Ja
		EC376_LUMIERE	~	4			Σ Leistungsfaktor: cosφ	Ja
		EC700_Etage_2	~	4			Wirkleistung Phase 1 +/- : P1	Ja
		Modular active electrical ener.	. 0	4			Wirkleistung Phase 2 +/- : P2	Ja
		gar .		4			Wirkleistung Phase 3 +/- : P3	Ja
		SM102E_LUMIERE	~	4			Blindleistung Phase 1 +/- : Q1	Ja
		E Temp-Etage	~	4			Blindleistung Phase 2 +/- : Q2	Ja
		1 Tester	~	4			Blindleistung Phase 3 +/- : Q3	Ja
				4	S1		Scheinleistung Phase 1 : S1	Ja
		O X B		4	S2		Scheinleistung Phase 2 : S2	Ja

Click \clubsuit to add a new alarm for the corresponding service of the selected measuring device. The alarm will be listed at the **Events** menu item of the **Configuration** menu.

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Commands

The **Commands** button and the corresponding window are only displayed for the modular active electrical energy meters (EC366 and EC376):

*	요 📽 🛱	:ha	ager .agardio.manager	📥 admin 🔍 🗸
×	Building >	✓ Products	Details Services Commands History	
۲	Products	Advanced search	Reset all Partial Energies.	🔅 Run
4	Events	Name ↑ 🖌	All Partial Energies index are resetted to default value.	
		_ ıll Cpt6 ✓	Service label Value Unit	Date
¢\$	EIEC	ıll Cpt7 ✓	Total Positive Active Energy (resetable): 99 kWh	04/09/2017 16:29:02 😂
~	Data management	네 EC051_1_Indirect_goulotte	Total Negative Active Energy (resetable) 4 kWh	04/09/2017 16:29:02 🖸
-		EC051_2_Bureau_face_bale ✓	Total Positive Reactive Energy (resetabl 6 kvarh	04/09/2017 16:29:02 😂
1	Publisher	اللهِ EC051_3_Bureau_coté_baie	-	
Ś	Pricing	IIL EC051_4_Lampes_colonnes ✓		
~	Theing	ıll EC051_5_Clim_EST ✓		
		ILL EC051_6_Clim_OUEST ✓	-	
		اللهِ EC051_7_Chauffe_eau		
		EC376_LUMIERE		
		EC700_Etage_2		
		SM102E_LUMIERE 🗸		
		👔 Temp-Etage 🗸	-	
		ıl⊈ test ✔		
			_	
		O × B		
Cli	ck on 🔁 to	reload the curren	t measure.	
	-			

Click on ^{Run} to reset all Partial Energies.

History

The History window is displayed for the modular active electrical energy meters (EC36X, EC37X, SM10X) and the EC700 multifunction meters:

*	묘 ≪ ≆	:ha	ager .agardio.manager	占 admin 🕔
p	Building >	✓ Products	Details Services Commands History	
Ŷ	Products	- V Advanced search	Commands(1)	
¢	Events	Name↑ #		
¢\$	EIEC	nų cpto v	Settings(3)	
4	Data management	ılų EC051_1_Indirect_goulotte v ılų EC051_2_Bureau_face_baie v	✓ 30/08/2017 10:38:18	
1	Publisher	nų EC051_3_Bureau_coté_baie v	Setting Last value Value Date	Origin update
\$	Pricing	ıll EC051_4_Lampes_colonnes v IL EC051_5_Clim_EST v		
		ių EC051_6_Clim_OUEST v		
		IL EC051_7_Chauffe_eau		
		EC700_Etage_2		
		SM102E_LUMIERE • Temp-Etage •		
		비빛 test	-	
		0 × 1		

To expand the views click >, to collaps the views click \checkmark .

Pulse counters

The Pulse counters window is only displayed for the EC700 multifunction meters:

ł	무 🤏 🛱				-110	ager .aga	rdio.manager				💄 admin
£	Building >	~	Products	_	Details Services	B History Put	se counters				
Ð	Products		Advanced search	Q	Update channels	Service name	Service label	Unit	Zone	Cabinet	Usage
Δ	Events		Name ↑	#	Channel Id: 1	our not name	CONTROL MUCH	Unit	Lono	oubinot	obago
-		4	Cpt6	-	EC051_1_Indirect	Ea+Reset	Total Positive Acti	kWh	C1QD03	main cabinet	Lighting
¢\$	EIEC	Щ.	Cpt7	*	Channel Id: 2						
~	Data management	14	EC051_1_Indirect_goul	-	EC051_2_Bureau	Ea+Reset	Total Positive Acti	kWh	C2QD10	main cabinet	Lighting
~	Data management	14	EC051_2_Bureau_face	~	Channel Id: 3						
t	Publisher	11	EC051_3_Bureau_coté	~	EC051_3_Bureau	Ea+Reset	Total Positive Acti	kWh	C3QD09	main cabinet	Lighting
		11	EC051_4_Lampes_colo	~	Channel Id: 4 EC051 4 Lampe	Ea+Reset	Total Positive Acti	kWh	C4QD05-06-07-08	main cabinet	Lighting
\$	Pricing	18	EC051_5_Clim_EST	-	Channel Id: 5	24.110001	1010110000100100		014010101110		c.gg
		11	EC051_6_Clim_OUEST	-	EC051_5_Clim_E	Ea+Reset	Total Positive Acti	kWh	C5QD17	main cabinet	Air Cooling
		10	EC051 7 Chauffe eau	-	Channel Id: 6						
		10	EC376 LUMIERE	~	EC051_6_Clim_O	Ea+Reset	Total Positive Acti	kWh	C6QD18	main cabinet	Air Cooling
		-	EC700 Etage 2	~	Channel Id: 7						
			SM102E LUMIERE		EC051_7_Chauff	Ea+Reset	Total Positive Acti	kWh	C7QD33	main cabinet	Heating
			1.000								
		8	Temp-Etage	*							
		0	×								

The pulse counters connected to the multifunction meter are listed.

Disconnecting of a pulsecounter

To disconnect a pulsecounter from the EC700:

Step	Actio	n						
1	Click	Update c	hanne	els:				
	-	A new w	/indov	v opens:				
							×	er
Pulse counters								
Name	Service name	Service label	Unit	Zone	Cabinet	Usage		
Channel Id: 1							~	Unit
EC051_1_Indirect	Ea+Reset	Total Positive Activ	kWh	C1QD03	main cabinet	Lighting	0	
Channel Id: 2								kWh
EC051_2_Bureau	Ea+Reset	Total Positive Activ	kWh	C2QD10	main cabinet	Lighting	0	
Channel Id: 3								kWh
EC051_3_Bureau	Ea+Reset	Total Positive Activ	kWh	C3QD09	main cabinet	Lighting	0	
Channel Id: 4								kWh
EC051_4_Lampes	Ea+Reset	Total Positive Activ	kWh	C4QD05-06-07-08	main cabinet	Lighting	0	
Channel Id: 5								kWh
Click to attach a pu						6		
Channel Id: 6						(2	Rem	ove pulse counter from channel
EC051_6_Clim_O	Ea+Reset	Total Positive Activ	kWh	C6QD18	main cabinet	Air Cooling	0	
Channel Id: 7						6		kWh
EC051_7_Chauffe	Ea+Reset	Total Positive Activ	kWh	C7QD33	main cabinet	Heating	3) o ĭ	
						0	Save	kWh

Step	Action
2	Klick on the 🛇 icon of the pulsecounter to remove: - The pulsecounter will be disconnected from the channel.
3	Click Save to save changes.

ECX180T Installation

If you use the ECX180T, do the following:

Step	Action
1	Click the Configuration menu 🕵
2	Click Products.
3	Click O to define a new measuring device (see below) that is communicating with the energy monitoring server.
4	Select the measuring device.
5	Click Storage if you want the service to be logged and visualized in the menu items of the Exploitation menu.
	Note:
	The capacity of the database depends on the number of stored services. If the storage is full the oldest values will be overwritten.

Cata	log Products										
	Name 个	106	kWhmeter for direct connections of up to 3x80A 4M								
Sta	ndard product	and a second									
V	ANALOGINPUT	1 2:215 No 10									
		3.804 Non an IV									
	ARXXX	1									
п	BINARYINPUT										
-	EC36X	Services MODBUSRTU									
	EC37X	Name	Description	Unit	Resolution	Offset	Acquisition	Storage	Perio		
	EC700	First channel					2				
в	ECR140D				0.04	0.00	-	_			
9		V1	Simple voltage: V1	V	0.01	0.00			10 min		
1	ECX180T	F	Frequency: F	Hz	0.01	0.00			10 min		
11	ECX18XD	11	Current: I1	mA	1.00	0.00			10 min		
180	ECX30XC	P1	Active Power phase 1 +/-: P1	kW	0.01	0.00			10 min		
		Q1	Reactive Power phase 1 +/-: Q1	kvar	0.01	0.00			10 min		
12	ECX31XD	S1	Apparent Power phase 1: S1	kva	0.01	0.00			10 min		
	ECX38XD	PF1	Power factor phase 1: PF1	N/U	0.00	0.00			10 min		
	H3+	Ea+NotReset	Total Positive Active Energy (not resetable): Ea+	kWh	1.00	0.00			10 min	1	
		Ea-NotReset	Total Negative Active Energy (not resetable): Ea-	kWh	1.00	0.00			10 min	1	
-	HIC4xxE	Ea+Reset	Total Positive Active Energy (resetable): Ea+	kWh	1.00	0.00			10 min	1	
岸	NH_Measurement_Ad	Ea-Reset	Total Negative Active Energy (resetable): Ea-	kWh	1.00	0.00			10 min	1	
att.	PULSECOUNTER	Ea+T1	Total Positive Active Energy (Tariff 1): Ea+	kWh	1.00	0.00			10 min		
naj.		Ea+T2	Total Positive Active Energy (Tariff 2): Ea+	kWh	1.00	0.00			10 min		
	SM101C	Ea+T3	Total Positive Active Energy (Tariff 3): Ea+	kWh	1.00	0.00			10 min		
	SM102E	Ea+T4	Total Positive Active Energy (Tariff 4): Ea+	kWh	1.00	0.00			10 min		
	SM103E	 Second channel 									
-		V1	Simple voltage: V1	V	0.01	0.00			10 min		
1 ¹¹	SPC06HM	F	Frequency: F	Hz	0.01	0.00			10 min		
ŀ	TEMPERATURESENS	11	Current: I1	mA	1.00	0.00			10 min		
		P1	Active Power phase 1 +/-: P1	KW	0.01	0.00			10 min		
		Q1	Reactive Power phase 1 +/-: Q1	kvar	0.01	0.00			10 min		
		S1	Apparent Power phase 1: S1	kVA	0.01	0.00			10 min		
		PF1	Power factor phase 1: PF1	N/U	0.00	0.00			10 min		
		Ea+NotReset	Total Positive Active Energy (not resetable): Ea+	kWh	1.00	0.00			10 min	1	
		Ea-NotReset	Total Negative Active Energy (not resetable): Ea-	kWh	1.00	0.00			10 min	1	
		Ea+Reset	Total Positive Active Energy (resetable): Ea+	kWh	1.00	0.00			10 min	1	
		Ea-Reset	Total Negative Active Energy (resetable): Ea-	kWh	1.00	0.00			10 min	1	
		Ea+T1	Total Positive Active Energy (Tariff 1): Ea+	kWh	1.00	0.00			10 min		(
		Ea+T2	Total Positive Active Energy (Tariff 2): Ea+	kWh	1.00	0.00			10 min		1
		E.a T.9	Total Dositius Anti-a Energy (Tariff 2): En -	LAAda	1.00	0.00					`

Step	Action
1	Click Next.
2	Enter the name of the new measuring device.
3	Allocate the measuring device to a zone, usage and cabinet. Select the address that has been set in the measuring device itself.
4	Click Identification to test the communication between the measuring device and the energy monitoring server. Note :
	If the identification is not successful, check the fieldbus connection and the fieldbus parameters.

NOTICE If you want to use a tariff management with an ECX180T product, it is important to use the same energy source for each channel of the product 5.

Catalog Products		×
- General inform	ation	
Name:		
Activated:		
Zone:	U2 V	
Cabinet:	main cabinet ~	
Landmark:		
- Technical infor	mation	
Address:	25	
- First channel -		
Usage:	No Usage V	
Source:	No Source 5	
- Second chann	el	
Usage:	No Usage ~	
Source:	No Source 5	
- Third channel		
Usage:	No Usage ~	
Source:	No Source 5	
— 🗌 Multi creat	on (4)	
	Previous Identification	Save

Generate a commissioning report

• n	21	ger			
	Q				
	creator :	admin			
Report generati		2017/03/24 09:55:53			
Report generati	on date .	2017/03/21 05:00:00			
Site con	figurat	ion			
Site con	figurat	ion			_
Site con	figurat Porto	ion			_
		ion		 	_
Name	Porto	ion	 	 	-
Name Installation Date	Porto	ion		 	-
Name Installation Date Address	Porto 2017/01/14	ion		 	-
Name Installation Date Address Country	Porto 2017/01/14	ion			-
Name Installation Date Address Country	Porto 2017/01/14	ion	 	 	-

The commissioning report is the list of all defined measuring devices, used to

- prove the configuration of the measuring device,
- check addresses that are already used,
- investigate causes for measuring devices not communicating with the energy monitoring server (

Click **Download the report** to save the commissioning report for printing or archiving.

Click **Go back to Configuration** to close the report-window.

Potential error messages

The following list explains the error messages that might be displayed at **Configuration/Products**:

Error message	Explanation/solution
Impossible to create the product, no more available address.	All appropriate in-/outputs are in use. If you still want to use an appropriate in-/output, then you have to delete an existing product.
Identification failed, a ['Timeout'] replied.	Connection or communication error with the connected measuring device. Check the Modbus connection and the appropriate communication settings (if necessary refer to the settings in the installation manual).

7.7 Events

Steps to open the menu item

Step	Action
1	Click the Configuration menu 🕰
2	Click Events .
3	 Click Add Alarm to add a new alarm for a measuring device that is communicating with the energy monitoring server. Click Add hierarchical alarm to add a new alarm at an superordinate level of other alarms. Click to control or change a certain alarm. Click i to delete an alarm that is not needed any more.

To add new alarms, there is an alternative way described at the Products menu item (see p. 85).

Screen to be displayed

ñ	- • 1		. :hager.ag	ardio.manager			🔒 admin	
ŗ	Building >	Alarms 3)					
Э	Products	Add Alarm Add hiera	rchical alarm					_
		Name	Description	Priority	Product	Service		
7	Events (2)	seuil bas 23°C	Attention seuil bas atteint	Warning	Temp-Etage	Temperature	1	1
		Seuil haut 23.4°C	Seuil haut atteint	Warning	Temp-Etage	Temperature	1	1
	EIEC	seuil	test	Warning	Temp-Etage	Temperature	1	1
\$	Data management	qwe	qwe	Major			1	Û
	Publisher							
\$	Pricing							
		< < Page 1	of1 > ≫ C				Displaying 1 -	4 of 4

Fields to enter

An alarm is characterized by its:

- Product (selection field, necessary)
- Service (selection field, necessary)
- Activated
- Type (selection field, necessary)
- Text (column Name, text field, necessary)
- Description (text field, not necessary)
- Priority (selection field, necessary)
- Threshold, Warning threshold and Hysteresis (selection fields, necessary for all types except Binary)
- Delay (selection field, necessary)

A hierarchical alarm is characterized by its:

- Text (column Name, text field, necessary)
- Description
- Priority (selection field, necessary)
- subordinated alarms that are assigned to it

Further information

Priority (critical, major, minor or warning) indicates the importance of alarms.

Warnings, major and minor alarms are mentioned in the daily report of Users (User management) (see p. 57).

If critical alarms are triggered, then

- an e-mail (see p. 57) is sent to the End user (User management)
- the Normally open relay (see p. 13) output is activated.

Low/High Threshold is the value below/above which the alarm is triggered.

Hysteresis is the amount by that the value might rise (low threshold) or fall (high threshold) without triggering the alarm again.

Delay is the time (in minutes) before a second alarm is triggered (if the values oscillate).

Alarms are structured following a hierarchy. Upper/hierarchical alarms generalize and summarize lower ones. A low level specialized alarm is generated when a problem appears. If the specialized alarm is subordinated to a hierarchical alarm, the hierarchical alarm is displayed first and user can drill down to see the causing subordinated alarm(s).

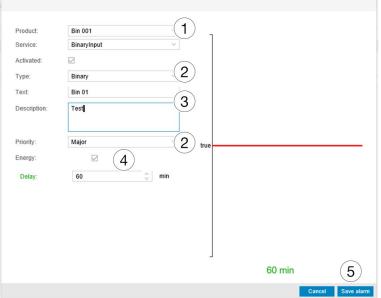
:hager

Add a new alarm for a measuring device

Alarms can be added only for services of measuring devices that are listed in the catalog (see p. 66).

Depending on the product and the service you choose different types of alarms and further characterizations are available and needed: **Configuration-Products-Services** or **Events-Add Alarm:**

Product:	MT300	~			
Service:	In		1) 45		
Activated:			40		
Туре:	High and Low Th	nreshold	2)		
Text:	HiLo		35		
Description:	Test		3 30		
Priority:	Major	, (2 25		
High threshold					
Threshold:	44	○ A	20		
Warning threshold:	42	○ A			
Hysteresis:	2	0 A	15		
Low threshold		(.	4)		
Threshold:	14	0 A	10		
Warning	20	A			
threshold: Hysteresis:	23	Â	5		
Delay:	60	min		60 min	(5)
				c	ancel Save ala



Step	Action
1	Choose measuring device (Product) and service to be monitored by the new alarm.
2	Choose type and priority of the new alarm.
3	Enter the name (Text) and description of the new alarm.

Step	Action
4	Enter or choose values for threshold, warning threshold, hysteresis and delay.
	For binary alarms only : Click Energy if you want the alarm to be triggered at the value <i>false</i> . Otherwise the alarm will be triggered at the value <i>true</i> .
5	Click Save alarm.

The new alarm is active at once. Click **Activated** before saving the alarm, if you want to activate the alarm later.

Add a new hierarchical alarm

v alarm				
Text:	N			×
Priority: 2 Ma	ajor Description	Priority	Product	Service
seuil bas 23°C	Attention seuil bas atteint	Warning	Temp-Etage	Temperature
Seuil haut 23.4°C	Seuil haut atteint	Warning	Temp-Etage	Temperature
seuil	test	Warning	Temp-Etage	Temperature
gwe (3)	qwe	Major		
				(4)
				Cancel Save al

Step	Action
1	Enter the name (Text) and description of the new hierarchical alarm.
2	Choose the priority of the new hierarchical alarm.
3	Click \Box for all (on top) or selected alarms to subordinate them to the new hierarchical alarm.
4 Click Save alarm.	



Potential error messages

The following list explains the error messages that might be displayed at **Configuration/Events**:

Error message	Explanation/solution
Event involved in a hierarchical link, cannot be deleted.	Events which are part of an hierarchical alarm cannot be deleted. If you still want to delete the event, you first have to remove it from the hierarchical alarm.
Event has already parent, only one is allowed.	You tried to link an alarm that is already part of an existing hierarchical alarm to another new hierarchical alarm.

7.8 EIEC

Steps to open the menu item

Step	Action
1	Click the Configuration menu 🕵
2	Click EIEC .
3	Choose one of several alternatives for the efficiency measure or efficiency performance level.
4	Click Next.

Screens to be displayed

*	- * 1	:hager.agardio.manager	🐣 admin 🔍 🗸
æ	Building >	EIEC Settings	
Ð	Products	3/16	
Φ	Events	Required optimizzation No consideration analysis for motors: To analyse and optimize motors efficiency class or drives for less than 50 % of installed power	
¢\$	EIEC 2	O To analyse and optimize motors efficiency class or drivers for 50 % of installed power O To analyse and optimize motors efficiency class or drivers for 70 % of installed power To analyse and optimize motors efficiency class or drivers for 90 % of installed power	
4	Data management	10 analyse and optimize motors efficiency cases or arives for 90 % of installed power	
1	Publisher		
\$	Pricing		4
			Previous Next

There are fifteen more screens displayed asking for the different efficiency measures or efficiency performance levels to be entered in the same way.

The default value is *no consideration*.

About the EIEC classification

The DIN VDE 0100-801 (international standard IEC 60364-8-1) entered into force in Germany in October 2015.

The standard prescribes that every electrical installation (new electrical installations and modification of existing electrical installations) has to be classified into a so called Electrical Installation Efficiency Classes (EIEC).

The aim is to provide the best possible energy supply with the lowest energy consumption.

The classification depends on 16 defined criteria (13 Efficiency measures EM and 3 Performance Levels PL). Within each criterion 0-4 Points could be reached (EM0-EM4 or PL0-PL4). No consideration of the respective criterion means 0 points.

Depending on the total point score, the system will then be classified as follows:

No. of points	Class
< 58 points	EIEC4
< 48 points	EIEC3
< 36 points	EIEC2
< 26 points	EIEC1
< 16 points	EIEC0

NOTICE

The 16 criteria of the EIEC depend on the type of building that is entered at the Zone (see p. 80) menu item.

7.9 Data management

Steps to open the menu item

Step	Action
1	Click the Configuration menu 🥵.
2	Click Data management.
3	Control or change frequencies for logging a type of service.
4	Click Save to save changes.

Screen to be displayed

*	- • 1		:hager .agardio.manager	👗 admin 🗸 🗸
p	Building >	Metrology Phase to phase voltage : U	10 mn	^
Ø	Products	Simple voltage : V	10 mn	
Δ	Events	Current : I	10 mn	
4	Lyenta	Frequency : F	10 mn	
¢\$	EIEC	Power : P,Q,S	10 mn	
~	Data management 2	Power factor : PF	10 mn	
<u> </u>		- Energies		
1	Publisher	Total energy	^{10 mn} (3)	
	D datas	Resettable energy	10 mn	
\$	Pricing	Harmonics		
		Total harmonic distortion : U	10 mn	
		Total harmonic distortion : V	10 mn	
		Total harmonic distortion : I	10 mn	
		Harmonic : U	10 mn	
		Harmonic : V	10 mn	
		Harmonic : I	10 mn	
		Temperature		
		Temperature	10 mn	
		Statistics		
		Phase to phase voltage : U	10 mn	(4) -
				🗶 Cancel 🛛 🔛 Save

Further information

For each type of service a list box allows selecting among frequencies (50 min, 30 min, 20 min, 15 min, 10 min and 5 min).

According to the selected frequencies, the energy monitoring server stores the current values of all measuring devices that are communicating with the energy monitoring server.

Note:

The capacity of the database depends on the number of stored services. If the storage is full the oldest values will be overwritten.

7.10 Publisher

Steps to open the menu item

Step	Action
1	Click the Configuration menu 🕰.
2	Click Publisher.
3	Click (expand) Settings and modify Parameters.
4	Save changes.

Screen to be displayed

*	□ « 1		:hager agardio.manager	🐣 admin 🔍 🗸
ŗ	Building >	Publisher		
Ø	Products	✓ Settings		^
۵	Events	Services		
¢\$	EIEC	Relative consumption:	Yes	
4	Data management	Normalized values:	No	
		Services:	Ea+Reset	
1	Publisher (2	Products:	Incomer PV1, Incomer PV2	
\$	Pricing	Frequency		
		Frequency:	Daily	
		Granularity:	All	
		Time:	17:00	
		Day:		
		Day of month:		
		Template		
		Use custom file name:	No	
		Custom name template:	Hostname 🖞 Free text 🖹 Start date 🏦 Free text 🗯 End date 🏚	
		Report formula:	Last value	(4) .
				* Cancel D Save

Settings menu

Fields to enter

The publisher file is characterized by:

Services

- Relative consumption for the selected period (Yes/No) NOTE:

If the relative consumption is selected, you have only energy services available.

- Services (Multiple selection possible)
- **Products** (Multiple selection possible)

Frequency

- Frequency: Daily, weekly or monthly transmission of the publisher file
- Granularity: Interval of measured value recording
- **Time:** Date of transmission of the publisher file (if **Frequency** / **Daily** is selected)
- **Day:** Weekday of transmission of the publisher file (if **Frequency** / **Weekly** is selected)

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Template

- Template description (fixed value)
- Include headers: (Yes/No)
- Separator: Separator for the table output
- **Report formula:** Choice of average or last value of the measuring device.
- One line per product (Yes/No)
- **Custom template**: Used custom template of the publisher file NOTE: If the custom template is selected, you can select and arrange the columns of the table by drag and drop the individual lines to define the *.csv file.

Last report information menu

*	묘	o:	ŧ			:hag	er agardio.manager		👌 admin	
×	Building	1		>	Publisher					
۲	Product	s			template.	THOUGHT I THE RAL IN SU			Ŭ	^
۵	Events				Report formula: Include headers:	Last value				
¢\$	EIEC				Separator:	;				
<	Data ma	inagen	nent		Template:	Default				
2	Publishe	er			One line per product: Custom	No History type				
\$	Pricing				template:					
			(5	→ Last report	information				
						on, 21 May 2018 17:09:23 IA665-F05DB0_180521-170000_HistoricRep	unit rev			
						1.0kB	Z Download last generated life	8 Download publisher archive		>
									🗶 Cancel 🛛 🖹 Save	

Upload/Download publisher file

Step	Action
5	Click on (expand) Last report information:
	The following information is displayed:
	- Last publish time : Time the last publisher file was sent to the server.
	- File name: Name of the publisher *.csv-file.
	- Size: Size of publisher *.csv-file
6	Click on Force upload file:
	- The publisher file is immediately sent to the server.
7	Click on Download last generated file :
	- The last, generated publisher file is downloaded from the server.
8	- Click on Download last publisher archive :
	- The Publisher.zip archive is downloaded from the server.

Generate publisher file in Setup Mode

Notice:

The button **Generate** (to generate the publisher file immediately) is only shown in Setup-Mode.

*	▣	08	ŧ			:ha	ager agardio.manag	ger		💄 admi	
×	Build	ling		>	Publisher						
0	Produ	ucts			Report formula:	Last value					*
121					Template:	One product per line					
4	Event	ts			One line per product	Yes					
00	EIEC										
4	Data	manag	ement			2000/12/31 12:00:00	Agardio.manager	Product 1			
1	Publi	sher			 Last report 	information					
\$	Pricir	ng			File name: T	Ved, 15 Nov 2017 17:04:30 JA665-F05DB0_171115-170000_ 3.0kB	HistoricReport.csv		(
						▲ Force upload file	Lownload last generated file	🛓 Download publis		9 ienerate X Cancel	× Save

Step	Action
9	Click on Generate to produce (generate) the current publisher file.

7.11 Pricing

Steps to open the menu item

Step	Action	
1	Click the Configuration menu 🕵	
2	Click Pricing .	
3	Select a Source.	
4	Modify Parameters.	
5	Save changes.	

Screen to be displayed

	- < (1)			:h	ager agardi	o.manager			👗 Fabi 🔷 👻
۶	Building	~ Sources	Main Grid						
۲	Products	Biomass Genset	Taniff #1		Tariff #2		Tariff #3	Tariff #4	^
4	Events	Main Grid Solar	Name: Réseau électrique	(4)	Name: tariff 2		Name: tariff 3	Name: tariff 4	
Q ⁰	EIEC	Wind	Activited Yes	<u> </u>	Activated Yes		Activated: Yes	Activated: No	
		-	Unit: KWh		Unit: kWh		Unit: KWh	UNE KMb	
4	Data management		Tariff value: 0.080000 EUR		Tariff value: 0.120000 B	UR	Tariff value: 0.200000 EUR	Tariff value: 0.000000 EUR	
	BACnet		Monday Tuesday Wednesd	day Thursday	Friday Saturday	Sunday			
1	Publisher		Hour		riff #2 Tariff #3	Taciff #4			
	(0)		00.00 - 01.00						
s	Pricing (2)		01:00 - 02:00						
	\bigcirc		02:00 - 03:00						
			03:00 - 04:00						
			04:00 - 05:00						
			05:00 - 06:00						
			06:00 - 07:00						
			07:00 - 08:00						
			08:00 - 09:00	-					
			09:00 - 10:00						
			10:00 - 11:00			1			
			11:00 - 12:00						
			12:00 - 13:00			1			
			13:00 - 14:00						
			14:00 - 15:00						
			15:00 - 16:00						
			10.00 11.00	64					
				_					
				_					
									\frown
									(5)
			22:00 - 23:00						(\mathbf{S})
			23.00 - 00.00						\smile \checkmark
									X Cancel 🔁 Save

For every energy source 3 electricity tariffs can be set.

Fields to enter

- Name
- Activated (Yes/No)
- Unit: Value dimension of the energy source (kW/h, MW/h)
- Tariff value: Tariff of the energy unit

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Setting a tariff active or inactive

Step	Action				
1	Doublec	Doubleclick on a Tariff # field at the time table.			
		elected tariffs o ly shaded if ina		tive or inactiv	е.
 Sources 	s	Main Grid			
Biomass					
Genset		Tariff #1	Tariff #2	Tariff #3	Tariff #4
Main Grid		Name: tariff 1	Name: tariff 2	Name: tariff 3	Name: tariff 4
Solar		Activated: Yes	Activated: Yes	Activated: Yes	Anti-stadi Man
Wind		Activated: Yes	Activated: res	Activated: Yes	Activated: Yes
		Unit: kWh	Unit: kWh	Unit: kWh	Unit: KWh
		Tariff value: 0.156400 EUR	Tariff value: 0.100000 EUR	Tariff value: 0.250000 EUR	Tariff value: 0.50
		Hour	$\Box^{\text{Tariff #1}}$		
✓ Sources	s	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00 Main Grid			
	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00			
Biomass	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00	Tariff #2	Tariff #3	
Biomass Genset	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00 Main Grid Tariff #1	Tariff #2	Tariff #3	X Cancel 🖺 Sa
Biomass Genset Main Grid	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00 Main Grid			🗙 Cancel 🛛 🖺 Sa
Biomass Genset Main Grid Solar	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00 Main Grid Tariff #1	Tariff #2 Name: tariff 2 Activated: Yes	Tariff #3	X Cancel 🖺 Sa
Biomass Genset Main Grid Solar	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00 Main Grid Tariff #1 Name: tariff 1	Tariff #2 Name: tariff 2	Tariff #3 Name: tariff 3	X Cancel E Sa Tariff #4 Name: tariff 4
Sources Biomass Genset Main Grid Solar Wind	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00 Main Grid Tariff #1 Name: tariff 1 Activated: Yes	Tariff #2 Name: tariff 2 Activated: Yes	Tariff #3 Name: tariff 3 2 ated: Yes KWh	X Cancel R Se Se Tariff #4 Name: tariff 4 Activated: Yes
Biomass Genset Main Grid Solar	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00 Main Grid Tariff #1 Name: tariff 1 Activated: Yes Unit: KWh Tariff value: 0.156400	Tariff #2 Name: tariff 2 Activated: Yes Unit: Yes No	Tariff #3 Name: tariff 3 2 stated: Yes kWh PR Tariff value: 0.250000 EUR 2	X Cancel X Cancel X X
Biomass Genset Main Grid Solar	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00 Main Grid Tariff #1 Name: tariff 1 Activated: Yes Unit: KWh Tariff value: 0.156400 EUR 2	Tariff #2 Name: tariff 2 Activated: Yes Unit: Yes No Tariff value: 0.100000 EU	Tariff #3 Name: tariff 3 2 stated: Yes kWh PR Tariff value: 0.250000 EUR 2	★ Cancel ► Set Tariff #4 Name: tariff 4 Activated: Yes Unit: KWh Tariff value: 0.500000 EUR €
Biomass Genset Main Grid Solar	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00 Main Grid Tariff #1 Name: tariff 1 Activated: Yes Unit: kWh Tariff value: 0.156400 EUR Monday Tuesday	Tariff #2 Name: tariff 2 Activated: Yes Unit: Yes No Tariff value: O.100000 EU Wednesday Thursday Tariff #1	Tariff #3 Name: tariff 3 2 ated: Yes kWh kWh IR Tariff value: 0.250000 EUR Ø Friday Saturday Su Tariff #2 Tariff #3	★ Cancel ♥ Set Tariff #4 Name: tariff 4 Activated: Yes Unit: KWh Tariff value: 0.500000 EUR ♥
Biomass Genset Main Grid Solar	S	00:00 - 01:00 01:00 - 02:00 02:00 - 03:00 Main Grid Tariff #1 Name: tariff 1 Activated: Yes Unit: KWh Tariff value: 0.156400 EUR Monday Tuesday Hour	Tariff #2 Name: tariff 2 Activated: Yes Unit: Yes No Tariff value: O.100000 EU Wednesday Thursday Tariff #1	Tariff #3 Name: tariff 3 2 ated: Yes kWh kWh IR Tariff value: 0.250000 EUR Ø Friday Saturday Su Tariff #2 Tariff #3	★ Cancel ♥ Sa Tariff #4 Name: tariff 4 Activated: Yes Unit: KWh Tariff value: 0.500000 EUR ♥

Assign a tariff to a daily period

A tariff can be assigned per hour. The tariff stays shaded if inactive.

Step	Action	
1	Click on the (hour-) bar of a tariff in the time table.	
2	Click at the position for the new assigned tariff for the period.	
3	 The (hour-) bar will move and change its colour. The tariff is assigned to the new period. 	



7.12 Pricing report

Steps to open the menu item

Step	Action	
1	Click the Configuration menu 🕰.	
2	Click Pricing.	
3	Click Pricing report.	

Screen to be displayed

* · · « 1	:hager agardio.manager	🐣 admin 🗸 🗸
	Pricing report	
Products	✓ Configuration	
↓ Events	Period of publication: By Day	
¢s EIEC	Separator: ;	
S Data management	\sim Last report information	
BACnet	Last generation time:	
1 Publisher	File name: A No report available A	
\$ Pricing (2) -	Size:	
1 Pricing report	🛓 Copy reports on USB 🔔 Force uplead of last report 📃 🛓 Download last report 📃 🛓 Download	I report archive
	Í	
		🗶 Cancel 🔛 Save

8 **EXPLOITATION** menu

Introduction

This chapter provides detailed information regarding all menu items of the **Exploitation** menu.

The **Exploitation** menu allows data visualizations and event control of the measuring devices that are communicating with the energy monitoring server.

NOTICE

The **Exploitation** menu is useful for the facility manager or technical maintenance team.

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8.1 Overview of the menu items

The **Exploitation** menu includes the following menu items:

Menu item	Description
Energy management	Visualize indicators for energy management and efficiency graphically
	 Dashboard: Charts of the energy distribution and energy trend per usage / zone, download function
	 Consumption: Charts of the energy consumption and energy trend per usage / zone, download function
	 Production: Charts of the energy production (i.e. Solar panels) and energy trend per usage / zone, download function
	 Products: List of the energy index of all measuring devices in one view
	 Pricing: Graphical representation of estimated cost per energy source
	 W.A.G.E.S*: Functionality showing the varying measures related to different non energetic services used for measuring various consumptions *(Water, Air, Gas, Electricity, Steam)
Power quality	Visualization of power quality indicators
	 Regular: Tables of Phase to Phase / Neutral Voltage, Current per Phase and Frequency Advanced: Tables of Power factor and THD (V, U & I) in percentage of the nominal value. Charts of the different harmonics (V, U & I)
Protection	Visualization of information on protection products. - Dashboard : Overview of the protection products
	 on the dashboard. Products: Visualization of real time information related to selected protection products.
Measurements	Visualize process data
	 Trends History: Graphical representation of saved measured values from the different measuring devices
	 Instantaneous: Table or figure of current measured values from the different measuring devices
	 Compare: Graphical comparison of a service for a measuring device between two different time periods

Menu item	Description		
Events	View of active events or all events occurring on the system (alarms, tests, logins/logouts, creation of new users)		
EIEC	Visualize the electrical energy efficiency class EIEC (chart or grid view)		

:hager

8.2 Energy management - Dashboard

Steps to open the menu item

Step	Action	
1	Click the Exploitation menu .	
2	Click Energy management.	
3	Click Dashboard.	

Screen to be displayed

The following dynamic figures are displayed:

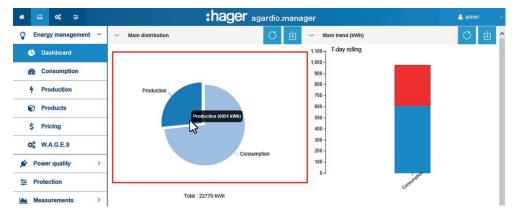
- Main distribution (pie chart)
- Main trend (bar chart)
- Pricing (bar graph)
- W.A.G.E.S (bar graph)



Further information for all pie or bar charts

The whole kWh-values of the charts are updated depending on the capabilities of the measuring devices to refresh data.

If you move the mouse over any piece (zone or usage) of the chart, the corresponding kWh-value will be displayed:



A download-function is available for every chart to generate a PNG file.

The dashboard (energy distribution per usage and per zone) is updated every day (connected with backup time).

The energy trends are calculated with a 7 day rolling method. That means, e. g. on Thursday 26th, the calculation is done using Wednesday 25th info versus Wednesday 18th.

The blue part of the bar is the difference of energy index (kWh for this example) between Wednesday 25th and Wednesday 18th.

The other part (green, red or orange) zone is the difference of energy index (kWh for this example) evolution between

- the difference of the current 7 days (Wednesday 25th and Wednesday 18th) and
- the previous 7 days (Tuesday 24th and Tuesday 17th).

-	the difference of energy index evolution between the two periods has
green	decreased.
red	increased.
orange	been stable.

8.3 Measurements - Consumption

Steps to open the menu item

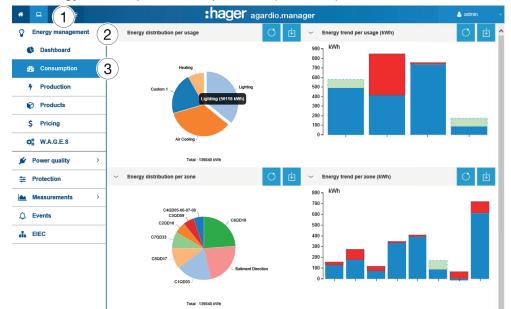
Step	Action
1	Click the Exploitation menu .
2	Click Energy management.
3	Click Consumption.

Screen to be displayed

_

The following dynamic figures are displayed:

- Energy consumption per usage (pie chart)
- Energy consumption per zone (pie chart)
 - Energy consumption trend per usage (bar chart)
- Energy consumption trend per zone (bar chart)



8.4 Measurements - Production

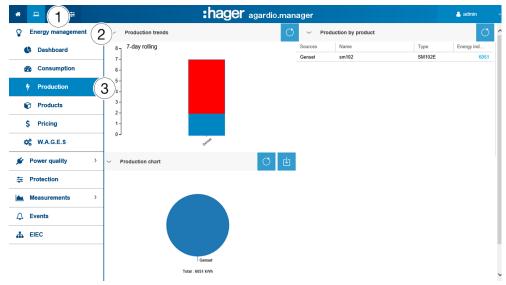
Steps to open the menu item

Step	Action
1	Click the Exploitation menu .
2	Click Energy management.
3	Click Production.

Screen to be displayed

The following dynamic figures are displayed:

- Energy production trends per product (bar chart)
- Energy production per product (Table)
- Energy production per source (pie chart)



8.5 Energy management - Products

Steps to open the menu item

Step	Action
1	Click the Exploitation menu 🛄.
2	Click Energy management.
3	Click Products.
4	Click Product distribution.

Screen to be displayed

The following dynamic figure is displayed:

* • 1 =			ager agar	dio.manag	ger				🚨 admin
Energy manag	Product distribution 4 a co	insumption							_
Cashboard	Product distribution								C [
Consumption	Name 个	Energy index (Date	Туре	Sources	Creation date	Zone	Usage	Cabinet
Production	Product(s) without source								
Products 3	📔 C1	1321505	07/09/2018 11:49:11	EC37X	No Source	02/11/2017	U2	No Usage	main cabinet
	C2Q10 (General measures	89219	07/09/2018 11:48:24	SM103E	No Source	02/11/2017	U2	No Usage	main cabinet
\$ Pricing	🗾 C3	32871	07/09/2018 11:48:11	EC36X	No Source	02/11/2017	U2	No Usage	main cabinet
Ø W.A.G.E.S	📰 C4	25733	07/09/2018 11:48:34	EC36X	No Source	02/11/2017	U2	No Usage	main cabinet
Q ₆ W.A.G.E.S	Q10	92030	07/09/2018 11:48:57	H3+	No Source	14/09/2017	U2	Process	main cabinet
🖋 Power quality	Q11	39243	07/09/2018 11:49:08	H3+	No Source	14/09/2017	U2	Process	main cabinet
	Q12	41400	07/09/2018 11:47:48	H3+	No Source	15/09/2017	U2	No Usage	main cabinet
	Q13	42470	07/09/2018 11:47:20	H3+	No Source	15/09/2017	U2	No Usage	main cabinet
Measurements	Q14	66023	07/09/2018 11:48:14	H3+	No Source	15/09/2017	U2	No Usage	main cabinet
	Q15	3477	07/09/2018 11:47:38	H3+	No Source	15/09/2017	U2	No Usage	main cabinet
↓ Events	Q16	85641	07/09/2018 11:47:15	H3+	No Source	15/09/2017	U2	No Usage	main cabinet
LIEC	Q17	47598	07/09/2018 11:47:32	H3+	No Source	15/09/2017	U2	No Usage	main cabinet
	Q18	0	07/09/2018 11:47:32	H3+	No Source	15/09/2017	U2	No Usage	main cabinet

Further information

The **Product distribution** gives information about all products communicating with the energy monitoring server. It is useful for a facility manager to get the energy indices (Total Positive Active Energy Ea+) of all measuring devices in one click.

The **Product distribution** is updated every hour. Therefore the value is always the same or lower than the **Total Positive Active Energy (resettable): Ea+** that you can find in the **Measurements - Instantaneous** menu item (Table view, Label *Ea+Reset*).

Steps to open the menu Relative consumption

Step	Action
1	Click the Exploitation menu .
2	Click Energy management.
3	Click Products.
4	Click Relative consumption

Screen to be displayed

The following dynamic figure is displayed:

<u>∗ </u>		;ha	IGE agardio.mana	ger		📥 admir
© Energy management (2)	oduct distribution Relative of	onsumption (4)				
C Dashboard	Product name	Туре	Energy index (kWh)	Start date	End date	Relative consumption
	Q3	H3+	35694	07/09/2018	07/09/2018	
Consumption	Q4	H3+	99554	07/09/2018	07/09/2018	····· 1
Production	Q5	H3+	118503	07/09/2018	07/09/2018	(
V Production	Q6	H3+	38684	07/09/2018	07/09/2018	1
Products (3)	Q7	H3+	42425	07/09/2018	07/09/2018	(
	Q8	H3+	89378	07/09/2018	07/09/2018	1
\$ Pricing	Q9	H3+	28269	07/09/2018	07/09/2018	1
Ø W.A.G.E.S	Q10	H3+	92033	07/09/2018	07/09/2018	
	Q11	H3+	39246	07/09/2018	07/09/2018	1
🖌 Power quality	Q12	H3+	41402	07/09/2018	07/09/2018	1
Protection >	Q13	H3+	42472	07/09/2018	07/09/2018	[
	Q14	H3+	66026	07/09/2018	07/09/2018	1
Measurements	Q15	H3+	3477	07/09/2018	07/09/2018	
🛆 Events	Q16	H3+	85645	07/09/2018	07/09/2018	

Further information

In this menu, you can choose **the periods of consumption by products**, which you will validate and register, and which will display during the disconnection as the welcome screen.

8.6 Energy management - Pricing

Steps to open the menu item

Step	Action
1	Click the Exploitation menu .
2	Click Energy management.
3	Click Pricing.

Screen to be displayed

This screen displays the graphical representation of the distribution and the history regarding the cost related to different energy services having units in kWh or MWh.

The following dynamic figures are displayed:

- Pricing distribution per source (pie chart)
- Pricing division per source (bar chart)
- Pricing history (line diagram)
- Cost and Kwh per source



Functions to choose

- Click **Last day** to see the representation for the last day.
- Click **Last week** to see the representation for the last week.
- Click Last month to see the representation for the last month.

8.7 Energy management - W.A.G.E.S

Steps to open the menu item

Step	Action
1	Click the Exploitation menu .
2	Click Energy management.
3	Click W.A.G.E.S.

Screen to be displayed

This screen shows representations of the energies detected by the connected measuring devices.

<u>* - (1)</u> ≝			:	hage	er aga	ardio.mana	ager					🔒 admin
Energy management 2	W.A.G.E.S											
C Dashboard	∼ Water	r					~	Steam				
Consumption		Name	Туре	Value	Unit	Date		Name	Type	Value	Unit	Date
	Щ.	EZN W1	PULSECOUNTER	10388.6	m3	27/09/2017 09:	嘲.	EZN W2	PULSECOUNTER	15532.4	m3	27/09/2017 09:
Production	ell.	SVS W1	PULSECOUNTER	4.5	m3	27/09/2017 09:	ıЩ.	SVS W3	PULSECOUNTER	1.1	m3	27/09/2017 09:
Products												
•												
\$ Pricing												
\$ Pricing ct W.A.G.E.S)											
¢ WA.G.E.S)											
¢€ W.A.G.E.S 3 € Power quality >) ~ Steam						~ Ai	ŗ				
¢€ W.A.G.E.S 3 € Power quality >		Name	Туре	Value	Unit	Date	~ AI	Name	Туре	Value	Unit	Date
0° WAGES 3 Power quality > Protection >		Name EZN W3	Type PULSECOUNTER	Value 12017.8	Unit J	Date 27/09/2017 09	× ۵۱ ال		Type PULSECOUNTER	Value 9487.7	Unit m3	Date 27/09/2017 09
0° WAGES 3 Power quality > Protection >	4			12017.8				Name		9487.7		
0° WAGES 3 Power quality > Protection >	đ.	EZN W3	PULSECOUNTER	12017.8	J	27/09/2017 09:	а.	Name EZN W4	PULSECOUNTER	9487.7 2.3	m3	27/09/2017 09:

8.8 Power quality - Regular

Steps to open the menu item

Step	Action
1	Click the Exploitation menu .
2	Click Power quality.
3	Click Regular .
4	Select a measuring device (Product).

Screen to be displayed

The following dynamic tables are displayed:

- Phase to Phase Voltage
- Current Per Phase
- Phase to Neutral Voltage

Frequency						
* - 1 =	:hager agar	dio.manager				👌 admin
Service Section Sectio	SM102E_	LUMIERE				
C Regular	U: Phase to Phase	Voltage (Instantaneous	RMS, Average o	of RMS, Maximum of	RMS) (V)	Ŀ
		U12		U23		U31
& Advanced	Inst.	411.2	1	412.05		409.66
the Destantion	Max.					
	Avg.					
Measurements	I: Current Per Phas	se(Instantaneous RMS, A	verage of RMS,	Maximum of RMS) (/	A)	山
↓ Events		11	12	13	In	Ig
	Inst.	9.76	6.04	3.3	5.98	
LIEC EIEC	Max. Avg.	84.79	53.37	31.54	69.88	
	_					
	V: Phase to Neutra	I Voltage (Instantanfeou	s RMS, Average	of RMS, Maximum o	fRMS) (V)	ц.
		V1		V2		V3
	Inst.	237.0	4	237.77		237.05
	Max.					
	Avg.					
	F: Frequency (Inst	antaneous, Average) (Hz)			طا ا
	F					
	Inst. 50.01					
	Max					

The tables contain the instantaneous, the maximum and the average values for all displayed services of the measuring device.

Further information

The whole values of the tables are updated depending on the capabilities of the measuring devices to refresh data.

The maximum and average values are calculated from all values logged after the last device reset.

8.9 Power quality - Advanced

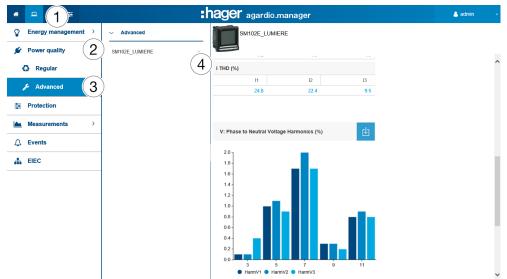
Steps to open the menu item

Step	Action
1	Click the Exploitation menu 😐.
2	Click Power quality .
3	Click Advanced.
4	Select a measuring device (Product).

Screen to be displayed

The following dynamic tables and bar charts are displayed:

- Power factor (table)
- Total Harmonic Distortion (THD) of Voltage (V and U) as well as current (I) (table)
- Phase to Neutral Voltage (%, bar chart)
- Phase to Phase Voltage (%, bar chart)
- THD per Phase (%, bar chart)



All bar charts are displayed with harmonic ranks 3, 5, 7, 9 and 11.

Further information

The whole values displayed in the tables and bar charts are updated depending on the capabilities of the measuring devices to refresh data.

Power factor is the ratio between kW (active power) and kVA (apparent power).

THD is the summation of all harmonic components to the power of voltage or the current compared against the fundamental component of the voltage or current wave. A high THD means distortions due to nonlinear loads (electronics ballast, computer power supplies for examples).

Harmonic Ranks

For analysis of the power quality it is important to monitor the odd-numbered harmonic ranks 3, 5, 7, 9 and 11. Harmonic ranks lead to distortion of voltage and current. This can impair the proper functioning or destroy the equipment.

Harmonic ranks are caused by equipment with non-linear characteristics and generate additional frequencies which are integer multiples of the fundamental frequency (e.g. 50 Hz). Number 3 represents 3 times the fundamental frequency 50 Hz, i. e. 150 Hz.

The diagrams show the harmonics of the voltages/currents in percentage of the nominal voltages/currents.

NOTICE

Harmonic Ranks

This function is only available in the list for Advanced Power Quality features.

8.10 Protection - Dashboard

Steps to open the menu item

Step	Action
1	Click the Exploitation menu .
2	Click Protection.
3	Click Dashboard.

Screen to be displayed

This screen displays the existing protection devices on the dashboard and their status.

* - 1)≆		:t	nager agardio.mana	ger		💄 admin
Energy management >	Protection dashboard					
🖋 Power quality						0
Protection (2)	Name 1	Туре	Product's communication sta	Pre-trip status	Trip status	Trip time
	H3+ Inverter MDB1 80kVA	НЗ	~	*	~	
Dashboard (3	H3+ NF 10 CBD	H3	~	~	~	
Products	H3+ NF5 West Side	H3	¥.	~	~	
Froducts	H3+ NF8 Cafeteria	H3	×	~	~	
Measurements >						
↓ Events						
EIEC						

8.11 Protection - Products

Steps to open the menu item

Step	Action
1	Click the Exploitation menu 🛄.
2	Click Protection.
3	Click Products.
4	Select a protection device.

Screen to be displayed

This screen displays only the real time information related to selected protection products.

*	- 1 ≠	Label Current value Last update date Long time delay, Ir high threshold 0 A 05/10/2017 10:33:05 Iono time delay, Ir high threshold 425 A 05/10/2017 10:33:05				
Ŷ	Energy management >	Protection	АСВ			
۶	Power quality >	ACB ~				
ŧ	Protection (2)		Long time delay		<u>ه</u>	
	\bigcirc	T	Label	Current value	Last update date	
	Dashboard		Long time delay, Ir high threshold	0 A	05/10/2017 10:33:05	
			Long time delay, Ir low threshold			
	Products (3)		· · · · ·			
			Long time delay protection, start mode	cold start	05/10/2017 10:33:05	
	Measurements >		Short time delay		e e	
¢	Events		Label	Current value	Last update date	
			Short time delay, Isd threshold	3000 A	05/10/2017 10:33:05	
-	EIEC		Short time delay, Tsd time delay	0.4 s	05/10/2017 10:33:05	
			Short time delay, I2t setting	I2t disabled	05/10/2017 10:33:04	
			Instantaneous		也	
			Label	Current value	Last update date	
			Instantaneous li threshold	800 A	05/10/2017 10:33:05	
			Ground fault		也	
			Label	Current value	Last update date	
			Ground fault Ig threshold	Protection disabled	05/10/2017 10:33:05	
			Ground fault tg time delay	-0.1 s	05/10/2017 10:33:05	
			Ground fault I2t setting	800 A	05/10/2017 10:33:04	
			Mautral		db 🕹	

8. 12 Measurements - Trends / History

Steps to open the menu item

Step	Action
1	Click the Exploitation menu
2	Click Measurements.
3	Click History.
4	Choose a measuring device (Product).
5	Choose a Service .
6	Click Additional products if you want the same Service of another product to be added in the figure and select the products (optional).
7	Choose a Start and End date .
	Note:
	Always set an end date greater than the start date.
8	Select the Average or last value
9	Select Show temperature to display the measures alone with corresponding temperatures.
10	Click Events if you want to show all events to the selected product.
11	Click Apply.

Screen to be displayed

The following chart is displayed:

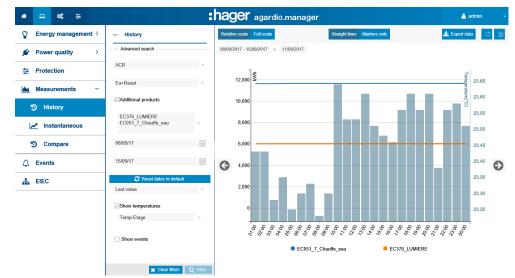
* -(1) ≆			🐣 admin
Energy management >	✓ History	Relative scale Full scale Straight lines Markers only	🕹 Export data 🔿
Power quality		27 août 2018 - 3 septembre 2018	
Protection >	C1	(4) (5) ₁,305,000] ∰	
Measurements (2)	Ea+NotReset		
ා History	Additional products	(6) 1,300,000	
Real-time	EC1 (Channel 1)	č –	
Real-time multi	27/08/18	(7) 1.295,000	
Compare	03/09/18	1,290,000	
Ĵ Events	Reset dates to default Average	8 1,285,000	
EIEC	Show temperatures	(9)	
	Show events	(10) 1,280,000	
			alcanara
		22 22 22 22 20 20 20 20 20 20 20 20 20 2	240 B
	X Clear filters		

The figure shows values within the selected time period.

Click the marker to display the average values per hour and minute in the course of the corresponding day:



Daily average value:



Functions to choose

- Click **Reset dates to default**, to reset the observation period to the last 7 days.
- Select **Average** (default selection) or **Last Value** in the drop down list below the date selection to display the corresponding values.
- Click **Relative scale** (default selection) to display the service values in a dynamic scale of the vertical coordinate axis.
- Click **Full scale** to display the service values in the coordinate system with fix initial value 0 of the vertical coordinate axis.
- Click **Straight lines** if you want the values to be connected by a straight line.
- Click Markers only if you want the values to be displayed without a connecting straight line. Clicking on the dot changes from daily value to hourly value. Clicking again will change from hourly to minute (depending on the setting in service management).

- Click **Download as image** to download the figure as PNG file.
- Click **Export data** to download the values as *.csv file.

Further information

The whole values of the figure are updated depending on the capabilities of the measuring devices to refresh data.

8. 13 Measurements - Instantaneous

Steps to open the menu item

Step	Action
1	Click the Exploitation menu 😐.
2	Click Measurements.
3	Click Real-time .
4	Choose a measuring device (Product).
5	Choose the Services that you want to visualize.
6	Click Apply.

Screens to be displayed

The following dynamic figure is displayed at the **Table View**:

Energy management >	✓ Real-time	Table View	Graphical View				
Power quality			C2Q10				
Protection >	C2Q10	4)					
	Select/Deselect all	Name	Channel ↑	Label	Date	Value	Unit
Measurements 2	U12 (General measures)	U12	General measures	Phase to phase vol	07/09/2018 12:47:26	407.64	V
\smile	U23 (General measures)	5)	General measures	Phase to phase vol	07/09/2018 12:47:26	408.13	V
History	U31 (General measures)	U31	General measures	Phase to phase vol	07/09/2018 12:47:26	407	V
	V1 (General measures)	V1	General measures	Simple voltage: V1	07/09/2018 12:47:26	0	V
🛃 Real-time 🛛 🔁	V1 (General measures)	V2	General measures	Simple voltage: V2	07/09/2018 12:47:26	0	V
J	V3 (General measures)	V3	General measures	Simple voltage: V3	07/09/2018 12:47:26	0	V
Real-time multi	F (General measures)	F	General measures	Frequency: F	07/09/2018 12:47:02	49.98	Hz
	General measures)	11	General measures	Current: I1	07/09/2018 12:47:26	46.94	A
Compare	General measures)	12	General measures	Current: I2	07/09/2018 12:47:26	35.42	A
Al Inc. Altra	General measures)	13	General measures	Current: 13	07/09/2018 12:47:26	50.91	A
Events	☑ IN (General measures)	IN	General measures	Neutral current: IN	07/09/2018 12:47:26	0	A
	General measures)	р	General measures	∑ Active Power +/-: P	07/09/2018 12:47:26	27.79	kW
EIEC	General measures)	Q	General measures	∑ Reactive Power	07/09/2018 12:47:26	2.29	kvar
	General measures)	S	General measures	∑ Apparent Power: S	07/09/2018 12:47:26	27.89	KVA
	PF (General measures)	PF	General measures	∑ Power factor: PF	07/09/2018 12:47:26	1	N/U
	P1 (General measures)	P1	General measures	Active Power phas	07/09/2018 12:47:26	0	kW
	P2 (General measures)	P2	General measures	Active Power phas	07/09/2018 12:47:26	0	kW
	P3 (General measures)	P3	General measures	Active Power phas	07/09/2018 12:47:26	0	kW
	🗹 Q1 (General measures)	Q1	General measures	Reactive Power ph	07/09/2018 12:47:26	0	kvar
	🖂 Q2 (General measures)	Q2	General measures	Reactive Power ph	07/09/2018 12:47:26	0	kvar
	Q3 (General measures)	-					

The following dynamic figure is displayed at the **Graphical View**:

* 😐 🛸 🗄			🐣 admin
C Energy management >	~ Real-time	Table View Graphical View	
Fower quality		C2Q10	
	C2Q10		_
Measurements -	Select/Deselect all		E
D History	U23 (General measures) U31 (General measures)	408.4 >	
🛃 Real-time	V1 (General measures) V2 (General measures)	408.2 408.1 408.0	
Real-time multi	∨3 (General measures) F (General measures)	407.9	
Compare	 ☑ I1 (General measures) ☑ I2 (General measures) 	407.7 407.8	
↓ Events		U12 - General measures	
👬 EIEC	 ☑ Q. (General measures) ☑ S. (General measures) ☑ PF. (General measures) 		
	P1 (General measures) P2 (General measures)	408.6 >	
	 ✓ P3 (General measures) ✓ Q1 (General measures) ✓ Q2 (General measures) 	400.4 400.3 400.2	
	Q3 (General measures)	408.0	

:hager

Functions to choose

- Click **Select/deselect all** (if needed) to check/uncheck the boxes of all services of the selected measuring device.
- Click **Clear filters** to delete all display settings regarding product and services.

Further information

The whole values of the table view and the graphical view are updated depending on the capabilities of the measuring devices to refresh data.

:hager

8. 14 Real-time multi product measurements

Steps to open the menu item

Step	Action
1	Click the Exploitation menu .
2	Click Measurements.
3	Click Real-time multi product.
4	Choose the measuring devices (Products).
5	Choose the Services that you want to visualize.
6	Click Additionnal products to add measuring devices.
7	Click Apply.

Screen to be displayed

The following figure is displayed:

•		:hage	er agardio.manager			🚨 admin
Energy management	> Creat-time multi product					
Power quality	> Advanced search	Product	Channel 个	Date	Value	Unit
Protection	, ^{C2Q10} (4	3 - Current: I3				
Measurements 2	Additional products	6	General measures	07/09/2018 13:02:22	49.31	A
Ŀ	Products	S - ∑ Apparent	Power: S			
D History	Services:	C2Q10	General measures	07/09/2018 13:02:22	21.92	KVA
Real-time	U12 (General measures)	5 U23 - Phase to	phase voltage: U23			
Real-time multi	(3) U31 (General measures) V1 (General measures)	C2Q10	General measures	07/09/2018 13:02:22	405.57	V
D Compare		V2 - Simple vo	Itage: V2			
	F (General measures)	C2Q10	General measures	07/09/2018 13:00:47	0	V
Events	I1 (General measures) I2 (General measures)	V3 - Simple vo	Itage: V3			
EIEC	☐ 12 (General measures)	C2Q10	General measures	07/09/2018 13:00:47	0	V
	IN (General measures)	OEGIO	Contra medicatea	011082010 10.00.47		*
	P (General measures)					
	□ Q (General measures)					
	S (General measures)					
	PF (General measures)					
	P1 (General measures)					
	P2 (General measures)					
	P3 (General measures)					
	Q1 (General measures)					
	Q2 (General measures)					
	Q3 (General measures)					
	S1 (General measures)					
	S2 (General measures)					
	S3 (General measures)					
	X Clear filters Q A	(7)	a 1 of 1 > >> C			Displaying 1 -

Further information

We can visualize the most 5 measuring devices and 10 services.

8.15 Measurements - Compare

Steps to open the menu item

Step	Action
1	Click the Exploitation menu .
2	Click Measurements.
3	Click Compare.
4	Choose a measuring device (Product).
5	Choose a Service .
6	Choose Last value or Average value.
7	Set Period 1.
8	Set Period 2.
9	Click Events if you want to show all events to the selected product.
10	Click Apply.

Screen to be displayed

The following chart is displayed:

* □(1) ≆	:ha	agardio.manager	🛔 admin
C Energy management	∽ Compare	Relative scale Full scale Straight lines M	arkers only 📩 Export data 🔿
✗ Power quality >	- V Advanced search	1 août 2018 - 15 août 2018 16 août 2018 - 30 août 2018	
The Protection >			
🔺 Measurements (2) 🔹	S		
D History	Average 6	1,320,000	4° 1
Real-time	Period 1	1,300,000	
Real-time multi product	01/08/18	1,280,000	
🔊 Compare (3	15/08/18	1,260,000	
↓ Events	Reset dates to default Period 2	1,240,000	
🛔 EIEC	16/08/2018 (8)	- 1,220,000 1,220,000 1,210,000	
	30/06/2018 (C) ☑ Show events (9)		Period 2
	X Clear titlers Q Ar	(10)	

Functions to choose

- Click **Reset dates to default**, to reset the period setting to default values.
- Select **Average** (default selection) or **Last Value** in the drop down list below the date selection to display the corresponding values.
- Click **Relative scale** (default selection) to display the service values in a dynamic scale of the vertical coordinate axis.
- Click **Full scale** to display the service values in the coordinate system with fix initial value 0 of the vertical coordinate axis.
- Click **Straight lines** if you want the values to be connected by a straight line.

- Click **Markers only** if you want the values to be displayed without a connecting straight line.
- Click **Download as image** to download the figure as PNG file.
- Click **Export data** to download the values as CSV file.

Further information

The whole values of the figure are updated depending on the capabilities of the measuring devices to refresh data.

8.16 Events

Steps to open the menu item

Step	Action
1	Click the Exploitation menu 🛄.
2	Click Events.

Screens to be displayed

The following dynamic table is displayed at Active Events:

ŵ	- 1 ≆	:hager agardio.manager			💄 admin
Ŷ	Energy management >	Active events All events			
#	Power quality >				du du
-		Caption	Occurrence time	Scope	Description
幸	Protection	O The service backend is unreachable, will b	04/09/2017 12:00:53	Internal	If a service is not available, then part of the system can not wor
14.4	Magazinamanta	 Communication timeout with product rerere 	20/07/2017 09:50:22	Internal	The Gateway cannot receive any data from the remote product.
	Measurements >	 Power-fail of the Gateway. 	20/07/2017 09:39:25	Internal	Gateway had rebooted to a power fail.
Δ	Events 2	 Publication to server 10.125.45.89 failed. 	18/07/2017 22:02:55	Internal	The server is not available.
44		 FTP server ftp.hes.com is not available. 	18/07/2017 16:00:07	Internal	If Gateway is configured to save periodically its backup to a re
#	EIEC				
		≪ < Page 1 of 1 > ≫ C			Displaying 1 - 5 of

The following dynamic table is displayed at **All Events**:

# □ ≪ ≆		:hag	jei	agardio.manage	r		🛔 admin	
Energy management >	Active events All events							
✗ Power quality →	Filter							ţ.
	Period	^		Caption	Occurrence ti	Scope	Description	
= Protection	From:		A	FTP server ftp.hes.com is	05/09/2017 0	Internal	If Gateway is configured to save periodi	
Measurements	To:	400 400 400	⊠	User 'dplacek' has logged i	04/09/2017 2	Internal	User has logged in the web application.	
wiedsurements /	Event type		⊠	User 'dplacek' has logged i	04/09/2017 2	Internal	User has logged in the web application.	
∧ Events	Alarm		⊠	User 'admin' has logged out.	04/09/2017 1	Internal	User has logged out of the web applicati	
	C Error		⊠	User 'admin' has logged in	04/09/2017 1	Internal	User has logged in the web application.	
Å EIEC	○ Warning		A	Communication timeout wit	04/09/2017 1	Internal	The Gateway cannot receive any data fr	
	Information		⊠	User 'admin' has logged in	04/09/2017 1	Internal	User has logged in the web application.	
			A	FTP server ftp.hes.com is	04/09/2017 1	Internal	If Gateway is configured to save periodi	
	Status		⊠	SMTP server mail.gmx.net	04/09/2017 1	Internal	If Gateway is configured to send email n	
	○ New		⊠	User 'admin' has logged in	04/09/2017 1	Internal	User has logged in the web application.	
	Read		1	Power on of the Gateway.	04/09/2017 1	Internal	Gateway had started.	
	 Acknowledged 		A	Power-fail of the Gateway.	04/09/2017 1	Internal	Gateway had rebooted to a power fail.	
	Scope		A	Power-fail of the Gateway.	04/09/2017 1	Internal	Gateway had rebooted to a power fail.	
	Hierarchical		⊠	Switch activating the setup	04/09/2017 1	Internal	Setup mode has been selected. Gatewa	
	O Process		1	Power on of the Gateway.	04/09/2017 1	Internal	Gateway had started.	
	Internal		A	Power-fail of the Gateway.	04/09/2017 1	Internal	Gateway had rebooted to a power fail.	
	O Product		A	Power-fail of the Gateway.	04/09/2017 1	Internal	Gateway had rebooted to a power fail.	
	Alarm type		⊠	Switch activating the setup	04/09/2017 1	Internal	Setup mode has been selected. Gatewa	
	_ <i>/</i>	~	M.	User 'admin' has looged in	04/09/2017 1	Internal	User has looged in the web application.	
	Alarm status Clear filters	Q Filter	\ll	< Page 1 of 111	> » G		Displaying 1 - 50 of 55	50

Click an event to display more detailed information about the event.



Further information

Click All Events, if you want to

- have a look at the list of all events or
- filter for a certain
 - (time) period,
 - event type (alarm, error, warning or information),
 - status (new, read or acknowledged),
 - scope (hierarchical, process, internal or product) and/or
 - alarm type (binary, high threshold, low threshold, high and low threshold)
 - alarm status (on, warning, down)

Event symbols and their meaning

Symbol	Meaning
!	Information
	Notification send
	Active alarm (that needs to be acknowledged)
⊗	Alarm that has been acknowledged
$\mathbf{+}$	Bad trend
	Warning

Alarms and messages

There are two major sorts of events: Alarms and messages.

Alarms	Messages		
report an abnormal status of a measuring device	report a status with no effect		
have to be acknowledged	do not need to be acknowledged		
require a corrective action	do not require any action		
Typical example:	Typical example:		
Communication timeout with product	User 'itl' has logged in as viewer.		

Acknowledgment of alarms

Active alarms have to be acknowledged manually by entering a comment as follows:

Step	Actio	on			
1	Click	k the alarm that you want to acknowledge.			
2	Ente	r a comment (Mes s	sage).		
3	Click Acknowledge Alarm .				
	Resu	ult:			
		acknowledged alar lowledge user and		•	All events. e have been saved.
* 😐 📽	ŧ	_	er .agardio.ma	inager	💄 admin 🔍 🗸
5 Energy manage	gement >	Active events All events			
💉 Power quality	>				
T Destantion		Caption	Occurrence time	Scope	Description
Protection		O The service backend is unreachable, will b	04/09/2017 12:00:53	Internal	If a service is not available, then part of the system can not wor
Measurements	s >	Communication timeout with product rerere	20/07/2017 09:50:22	Internal	The Gateway cannot receive any data from the remote product
		Power-fail of the Gateway. Publication to server 10.125.45.89 failed.	20/07/2017 09:39:25 18/07/2017 22:02:55	Internal Internal	Gateway had rebooted to a power fail. The server is not available.
🗘 Events		FTP server ftp.hes.com is not available.	18/07/2017 16:00:07	Internal	If Gateway is configured to save periodically its backup to a re
A EIEC					Displaying 1 - 5 of 5
		Alarm Id.: 2003 Caption: Power-fail of the Gateway. Description: Gateway had rebooted to a power fa Acknowledgement Message:	Scope: Internal	Occurrence time:	20/07/2017 09:39:25
		<			Acknowledge alarm

At the **Occurrence time** the alarm was first triggered.

List of main alarms

Туре	Text
Critical Alarm	Free available memory is too low (<i>{n}</i> %).
	Free available space on μ SD is too low ({ <i>n</i> }%).
	Free available space on eMMC is too low ({n}%).
	Impossible to get µSD card.
	CPU temperature is too high ($\{n\}^\circ$ C).
	The service <i>{0}</i> is unreachable, will be restarted.
	Communication error with product {0}, Modbus address {1}.
	Communication timeout with product <i>{0}</i> , Modbus address <i>{1}</i> .
	FTP server {0} is not available.
	FTP server doesn't know login <i>{0}</i> .
	FTP server doesn't allow writing file in the specified directory.
Major Alarm	CPU too high (<i>{n}</i> %).
	Administrator password has been restored to default value.
	Gateway has been restored in factory configuration.
Minor Alarm	Power-fail of the Gateway.
Minor Error	NTP server {0} is not available.
Minor Info	User has logged in as <i>{1}</i> .
	User has logged out.
	A new user {0} is added with {1} right.
	The user <i>{0}</i> is deleted.
	The user {0} is updated with {1} right.
	Switch activating the setup mode has been turned on.
	SMTP server {0} is not available.
	SMTP server {0} reject the authentication '{1}'.
	SMTP server reject the message to send.

For **Minor Info** alarms there is no need to react.

The following dummy variables are used:

	is corresponding to a
{n}	numerical value that will be filled in by the energy monitoring server.
{0}, {1}	name or designation that will be filled in by the energy monitoring server.

Potential error messages

The following list explains the error messages that might be displayed at **Exploitation/Events**:

Error message	Explanation/solution
Hierarchical event cannot be acknowledged before child issue.	Before the hierarchical alarm can be acknowledged, you have to acknowledge the alarm which led to the activation.

8.17 EIEC

About the EIEC classification

The DIN VDE 0100-801 (international standard IEC 60364-8-1) entered into force in Germany in October 2015.

The standard prescribes that every electrical installation (new electrical installations and modification of existing electrical installations) has to be classified into a so called Electrical Installation Efficiency Classes (EIEC).

The aim is to provide the best possible energy supply with the lowest energy consumption.

The classification depends on 16 defined criteria (13 Efficiency measures EM and 3 Performance Levels PL). Within each criterion 0-4 Points could be reached (EM0-EM4 or PL0-PL4). No consideration of the respective criterion means 0 points.

Depending on the total point score, the system will then be classified as follows:

No. of points	Class
< 58 points	EIEC4
< 48 points	EIEC3
< 36 points	EIEC2
< 26 points	EIEC1
< 16 points	EIECO

For detailed information about the IEC 60364-8-1 (DIN VDE 0100-801) refer to the Hager-Tipp **16DE0118_01**.

Preparations to do

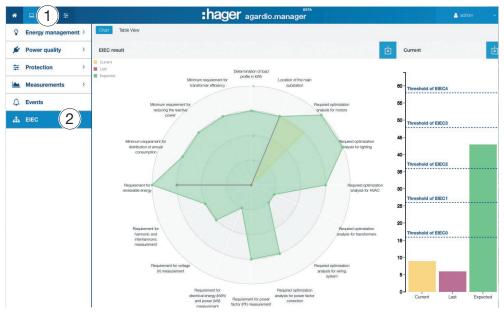
Before you start the EIEC chart, you need to give information regarding the energy efficiency at the **EIEC** menu (see p. 104) item of the **Configuration** menu.

Steps to open the menu item

Step	Action	
1	Click the Exploitation menu 🛄.	
2	Click EIEC.	

Screens to be displayed

The following figure is displayed at the Chart:



Click **Current**, **Last** or **Targeted** at the **Chart** to show/hide the corresponding levels.

On bars graphs appear:

The expected level, that is at first,

The last level (precedent) before modification,

And finally the current level.

The following figure is displayed in the Table view:

*	⊒ ¢\$ ≆	:hager agardio.manager				💄 admin 🔍 🗸	
Ŷ	Energy management >	Chart Table View					
#	Power quality						山
+	Protection	Parameter	0	1	2	3	4
	Measurements >	Determination of load profile in kWh	No consideration	Load profile consumption of the installation for a day	Load profile consumption of the installation for each day of a week	Load profile consumption of the installation for each day of a year	Permanent data logging of the load profile consumption of the installation
¢	Events	Location of the main substation	No consideration	Position of the main substation is within 60 % of the distance from the optimum	Position of the main substation is within 40 % of the distance from the optimum	Position of the main substation is within 25 % of the distance from the optimum	Position of the main substation is within 10 % of the distance from the optimum
	EIEC			position to the most distant load	position to the most distant load	position to the most distant load	position to the most distant load
		Required optimization analysis for motors	No consideration	To analyse and optimize motors efficiency class or drives for less than 50 % of installed power	To analyse and optimize motors efficiency class or drives for 50 % of installed power	To analyse and optimize motors efficiency class or drives for 70 % of installed power	To analyse and optimize motors efficiency class or drives for 90 % of installed power
		Required optimization analysis for lighting	No consideration	To consider lamp type and position	To consider lamp type and position with natural lighting	Control according to natural lighting source or building use or lamp type	Control according to natural lighting source and building use and to consider lamp type
		Required optimization analysis for HVAC	No consideration	Temperature control	Temperature control at zone level	Time and temperature control at zone	Time and full sensor control per zone
		Required optimization analysis for transformers	No consideration	No consideration	Selection of all transformers	Selection of all transformers	Selection of all transformers

The EIEC **Table** shows the 5 EIEC levels and the corresponding criteria. The green values have been entered at the **EIEC** menu item of the **Configuration** menu (see p. 104).

Further information

The EIEC Chart and Table

- are used as a checklist for the 16 criteria of the IEC 60364-8-1.
- help the building owner and facility manager to improve the energy efficiency of the building.

9 Error messages

The following list explains the error messages displayed by the energy monitoring server:

Error message	Explanation/solution					
Transaction aborted.	You switched too fast between different functionalities.					
at Preferences/Catalog:						
Product can't be added to catalog due to bad format.	You selected the wrong file type at the upload of new products. Use the correct HES file.					
Fieldbus can't be added to catalog due to bad format.	You selected the wrong file type at the upload of new fieldbuses. Use the correct HES file.					
Unable to delete a used product.	It is only possible to delete products which are not in use. If you still want to remove a product you must guarantee that it is not in use.					
Unable to delete a used fieldbus.	It is only possible to delete fieldbuses which are not in use. If you still want to remove the fieldbus you must guarantee that it is not in use.					
at Configuration/Products:						
Impossible to create the product, no more available address.	All appropriate in-/outputs are in use. If you still want to use an appropriate in-/output you have to delete an existing product.					
Identification failed, a ['Timeout'] replied.	Connection or communication error with the connected measuring device. Check the Modbus connection and the appropriate communication settings (if necessary refer to the settings in the installation manual).					
at Exploitation/Events:						
Hierarchical event cannot be acknowledged before child issue.	Before the hierarchical alarm can be acknowledged, you have to acknowledge the alarm which led to the activation.					
at Configuration/Events:						
Event involved in a hierarchical link, cannot be deleted.	Events which are part of an hierarchical alarm cannot be deleted. If you still want to delete the event you first have to remove it from the hierarchical alarm.					
Event has already parent, only one is allowed.	You tried to link an alarm that is already part of an existing hierarchical alarm to another new hierarchical alarm.					

10 Software licensing agreement

Software licensing agreement and Information regarding data protection

1. Software licensing agreement

IMPORTANT:

Please read the following carefully before using this software as any use constitutes acceptance of the following terms.

This software is designed and reserved for professional use. Hager will not in any way be held responsible in case of use of the software by a private individual.

This licensing agreement (the « Agreement ») is between the company receiving the HTG410H or HTG411H server (« you ») and HAGER ELECTRO SAS, a simplified joint-stock company with capital of €6,975,000, whose registered office is located at 132 boulevard d'Europe, 67210 OBERNAI, FRANCE, listed on the Saverne Trade and Company Register under number 675 980 114 (« Hager »).

The Agreement is related to the embedded configuration and monitoring software built into your HTG410H or HTG411H server (the « Software ») and its documentation which, once connected to a computer and electrical installation, enables you to configure the installation's different measurement and protection elements, establish the physical and computer links between these elements and produce operating graphics and measurements which can be printed and exported to other operating tools. The Agreement includes the Software in object code form, and consists of, without this list being exhaustive, libraries, data and any other written or electronic document relating to the Software.

The Software cannot in any circumstance be used and/or marketed independently of the HTG410H or HTG411H servers.

By using the Software, you agree to be bound by the Agreement as the « Licensee ». If you disagree with the terms of the Agreement, please do not use the Software.

Article 1 - Purpose

The purpose of this Agreement is to specify the conditions under which Hager grants you a license on the Software so that you can use it as the end user as a professional.

In order to use the Software, you must be in possession of a HTG410H or HTG411H sever and a compatible computer tool (such as a computer, tablet or Smartphone, etc.) equipped with a web browser which, once connected to the server, will allow you to exploit the measurements of the connected products and use the Software's features, namely:

- Index the measurement and/or protection products for the electrical installation in question;
- Establish computer links between these products;
- Perform the configuration of different measurement products;
- Perform the acquisition and storage of measurements;
- View the measurements as a curve or graph;
- Export measurements to other operating tools; and
- Generate commissioning reports.

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You undertake to maintain all of the Hager proprietary notices present on the Software components in good condition.

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In consideration of your commitment to comply with the provisions of the Agreement, Hager grants you the non-exclusive, personal, non-assignable and non-transferable right to use the Software.

The Agreement does not grant you any ownership rights on the Software, which remains the exclusive property of Hager. It does not grant you any copyright or any rights to any patents, trade secrets, trade names or trademarks (either registered or unregistered) related to the Software.

As the license does not include the delivery of the Software in source language, you are only granted a license on the version embedded in the HTG410H or HTG411H server.

Article 4 - Updates

To ensure the proper functioning of the Software within the limits of its existing features, Hager reserves the right to make an update of the Software, its product compatibility files and any other documents relating to the Software available to the end user (such as the HTG410H or HTG411H server's configuration file).

When an update is available, it will be made available on Hager's website and you will have the opportunity to download it or not.

Article 5 - Warranty and Liability

As the Software is of standard design and created to satisfy the greatest possible number of users, Hager does not guarantee its suitability for your specific needs.

Specific warnings:

- It is your responsibility to read the Software documentation and Hager's recommendations carefully and comply with them. Hager will in no event be held liable for any failure of the Software in case of use which does not comply with its instructions and recommendations.
- Hager may in no event be responsible for any computer connections you establish with the Software or the use that you make of curves or reports produced via the Software, nor of their contents. You are solely responsible for the use you make of them.
- Hager is only responsible for the Software it provides. Thus, Hager will not be held responsible for any consequence resulting in particular from

a failure of the electrical system (e.g. power failure, short circuit, etc.), from a failure of the computer network to which it is connected, from any instability or inadequacy of your installation and/or computer equipment, from any failure of the terminal with which the Software is used, or malfunctions caused by third party software (the Software is not designed to work with third party software), from an insufficient capacity of your wireless network, environmental factors (such as buildings, topography, weather and atmospheric conditions, etc.) or other factors that may affect the use of Internet or satellites and satellite data. In this context, Hager cannot guarantee the availability, accuracy, completeness, uninterrupted use of the Software.

- You are also responsible for backing up your data regularly. Hager will not be held responsible for the loss of your data if you have failed to back it up.
- You are solely responsible for keeping your login information confidential (username, password).

You are solely responsible for the use that you make of the Software, which must comply with the documentation.

You are responsible for ensuring the compliance with the obligations arising from these terms and conditions by yourself and all users of the Software.

Within the limits established by applicable law, Hager shall not be responsible for any indirect damages (including but not limited to loss of profit, loss of earnings, loss of backups, loss of data or information) resulting from your use of the Software.

In any case, if Hager is responsible for a breach causing you direct damages, Hager's liability under the Agreement may not exceed six hundred (600) euros.

Finally, in the event a claim is raised by a third party, you should immediately inform Hager of this claim by sending a registered letter to the following address:

HAGER ELECTRO SAS Service Qualité 132, Boulevard d'Europe 67210 OBERNAI FRANCE

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