

User manual

h3+

HTP610H
Configuration tool



:hager

Index

Page

01 About this manual	6
02 Abbreviations	7
03 The HTP610H configuration tool	9
3.1 Presentation	10
3.2 Contents of the tool	11
3.3 Technical information	12
3.4 Compatibility with h3+ trip units	13
3.5 Connecting the configuration unit with the h3+ circuit breaker	14
3.6 Meaning of the LEDs	15
3.7 Charging the battery	16
3.8 Connecting the configuration unit to a computer	17
3.9 Transporting and securing the unit	18
04 Commissioning the configuration server	19
4.1 Compatible devices and browsers	20
4.2 Computer connection via Wi-Fi	21
4.3 Computer connection via Ethernet cable	23
4.4 Tablet connection via Wi-Fi	24
05 Presentation of the h3+ configuration tool interface	27
5.1 Structure	28
5.2 HTP610H administration session menus	29
5.3 Changing the interface language	30
5.4 MCCB management session menus	31
06 Administration HTP610H session	33
6.1 Opening the administration session	34
6.2 Managing user accounts	35
6.3 Updating the configuration software	37
6.4 Generating passwords	39
6.5 Licenses and information	41
6.6 Closing the administration session	42
07 MCCB management session	43
7.1 Opening the MCCB management session	44
7.2 Closing the MCCB management session	45
7.3 Trip Unit Status menu	46
7.4 Measurements menu	47
7.4.1 Real-time sub-menu	47
7.4.2 Demand sub-menu	52
7.4.3 Energy sub-menu	53
7.5 Test menu	54
7.5.1 Trips sub-menu	54
7.5.2 Contacts sub-menu	58
7.6 Configuration menu	59
7.6.1 Communication sub-menu	59
7.6.2 Measurements sub-menu	60
7.6.3 Protection sub-menu	61
7.6.4 Custom Alarms sub-menu	62
7.6.5 Trip and Contacts sub-menu	64
7.6.6 Reset and Erase sub-menu	66
7.7 Diagnostic menu	67
7.7.1 Indicators sub-menu	67
7.7.2 History sub-menu	67
7.8 Identification menu	69
08 Support	71
8.1 Troubleshooting	72
8.2 Spare parts	73

Warnings and instructions

This documentation contains safety advice which must be respected for your own safety and to prevent property damage.

Safety advice relating to your own safety is identified by a safety warning symbol in the documentation. Safety advice relating to damage to property is identified by "ATTENTION".

The safety warning symbols and the wording below are classified according to the risk level.



DANGER indicates an imminent dangerous situation which, if unavoids, will result in death or serious injuries.



WARNING indicates a potentially dangerous situation which, if unavoids, may result in serious injuries or even death.



IMPORTANT indicates a potentially dangerous situation which, if unavoids, may result in minor or moderate injuries.

ATTENTION

ATTENTION indicates a warning message relating to equipment damage. **ATTENTION** also indicates important instructions for use and particularly relevant information regarding the product, which must be respected to ensure effective and safe use.

Qualified personnel

The product or the system described in this documentation must be installed, operated and maintained by qualified personnel only. Hager Electro accepts no responsibility regarding the consequences of this equipment being used by unqualified personnel.

Qualified personnel are those who have the necessary skills and knowledge for building, operating and installing electrical equipment, and who have received training enabling them to identify and avoid the risks incurred.

Appropriate use of Hager products

Hager products are designed to be used only for the applications described in the catalogues and on the technical documentation relating to them. If products and components from other manufacturers are used, they must be recommended and approved by Hager.

Appropriate use of Hager products during transport, storage, installation, assembly, commissioning, operation and maintenance is required to guarantee problem-free correct operation in complete safety.

The permissible ambient conditions must be respected. The information contained in the relevant documents must be respected.

Publication liability

The contents of this documentation have been reviewed in order to ensure that the information is correct at the time of publication.

Hager cannot, however, guarantee the accuracy of all the information contained in this documentation. Hager assumes no responsibility for printing errors and any damage they may cause.

Hager reserves the right to make the necessary corrections and modifications to subsequent versions.

Purpose of the document

This manual is designed to provide users, electricians, panel builders and maintenance personnel with the technical information required to use the HTP610H configuration tool.

Fields of application

This document is applicable to the HTP610H configuration tool for use on h3+ LSnl, LSI, LSIG and Energy circuit breakers.

Revisions

Version	Date
6LE005546A version zero	September 2018

Copyright

This manual is a component of the configuration tool. Unauthorised reproduction, even partial, is forbidden.

Liability

Hager Group accepts no liability in the event of personal injury or damage to property, including accidental or consequential damage which may be linked to the content of this manual.

Other applicable documents

Document title	Reference
h3+ communication system manual	6LE005550A

Recommendation

The HTP610H configuration tool can only be connected to the above-mentioned h3+ circuit breakers.

You can download these publications and other technical information from our website: www.hager.fr

Contact

Address	Hager Electro SAS 132 Boulevard d'Europe 67215 Obernai France
Telephone	+ 33 (0)3 88 49 50 50
Website	www.hager.fr

- AL** ALarm (Fault-signal auxiliary contact).
- AX** AuXiliary (Open/closed auxiliary contact).
- GF** Ground Fault protection.
- INST** Instantaneous protection.
- LT** Long Time delay protection.
- MIP** Maintenance Interface Port.
- OAC** Optional Alarm Contact.
- PTA** PreTrip Alarm (overload pre-alarm).
- SSID** Service Set Identifier (name of wireless Wi-Fi network).
- ST** Short Time delay protection.
- URL** Uniform Resource Locator (website address).
- ZSI** Zone Selective Interlocking (zone selectivity).

The HTP610H configuration tool

Page

3.1 Presentation	10
3.2 Contents of the tool	11
3.3 Technical information	12
3.4 Compatibility with h3+ trip units	13
3.5 Connecting the configuration unit with the h3+ circuit breaker	14
3.6 Meaning of LEDs	15
3.7 Charging the battery	16
3.8 Connecting the configuration tool to a computer	17
3.9 Transporting and securing the unit	18

The HTP610H configuration tool is used to perform configurations, trip tests and diagnostic procedures on the Energy h3+ circuit breaker. It is also used to perform trip tests on h3+ circuit breakers with an electronic trip unit (LSnI, LSI, LSIg).

The main component of the tool is the configuration unit hosting the configuration server and the configuration software.

It is not necessary to download an application in order to use the HTP610H tool. Just log in to the configuration server using a multimedia tablet or smartphone via a Wi-Fi connection or using a desktop computer or laptop via an Ethernet cable. Once connected, enter the address **<http://htp610h.html>** in a web browser to launch the configuration software.



HTP610H configuration tool

(*) Tablet not included

The h3+ configuration tool facilitates the following:

- View the status of the Energy circuit breaker and its identification parameters
- Synchronise the date and time of the Energy circuit breaker
- Set all the parameters of the Energy circuit breaker
- Display the measurements of the electrical variable in real-time and the calculated variables (Energy trip unit only).
- Run the trip unit test (also available for LSnI, LSI, LSIg and Energy trip units)
- Force activation of the LSI, LSIg and Energy trip unit contacts
- Manage the predefined alarms and customised alarms (Energy trip unit only)
- View the event logs (trips, operations, alarms, settings for Energy trip unit only)
- Activate/deactivate data write permission in order to avoid any remote modifications (Energy trip unit only)
- Manage user accounts
- Update the configuration software and re-generate passwords for communicating accessories.

The HTP610H configuration tool is a case containing all the components necessary to connect and supply the configuration unit. The configuration unit is equipped with a rechargeable battery in order to work off-grid.

The computer, multimedia tablet or smartphone needed to use the configuration software, is not included in the case.



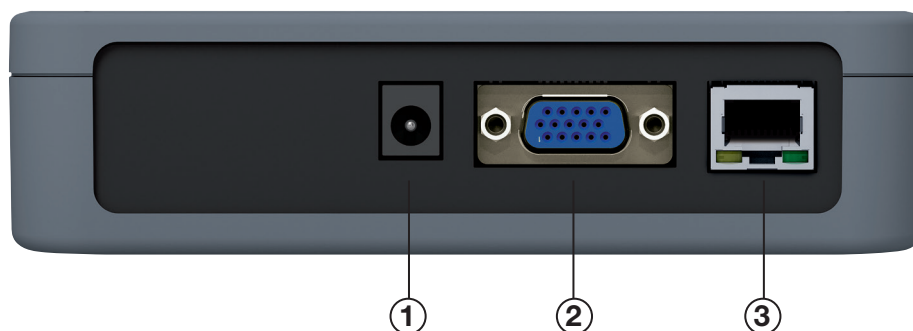
No.	HTP610H contents
①	Carry case
②	Configuration unit
③	HTP020H MIP adaptor
④	HTP030H 1 m connection cable
⑤	110V/230V 60 Hz mains charger (included in the HTP040H box)
⑥	EU/US/EN/Asia plug adaptor (included in the HTP040H unit)

Consumption (charging the battery)	9 W
Ethernet network communication	Ethernet - TCP/IP - RJ45
Operating temperature	-5 °C to +60 °C
Storage temperature	-20 °C to +30 °C
Weight	750 g
Colour	Grey
Protection index	IP2X
Maximum operating altitude	2000 m

HTP050H battery:

Removable	Contact us
Technology	Lithium-ion
Capacity	5800 mAh (7.2 V DC)
Charging time	8 hours
Usage time	8 hours (circuit breaker connected and Wi-Fi activated)
Charging	Charger provided

Connections:



No.	Connection	Description
①	Mains socket	Power supply
②	Circuit breaker socket	Connection to the moulded case circuit breaker
③	Ethernet port	Ethernet connection

Compatibility	Disconnect- ing switch	MAG	TM	Electronic trip units			
				LSnI	LSI	LSIG	Energy
Configuration	No	No	No	No	No	No	Yes
Trip test	No	No	No	Yes	Yes	Yes	Yes
Diagnostic	No	No	No	No	No	No	Yes



Configuration unit connection

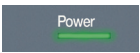
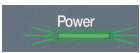
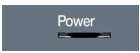
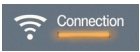
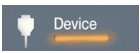
Before switching the configuration unit on, check that the battery is sufficiently charged.

	Action
1	Connect the connection cable to the circuit breaker socket of the configuration unit.
2	Connect the other end of the connection cable to the MIP adaptor.
3	Connect the MIP adaptor to the MIP connector located on the front of the h3+ circuit breaker.
4	Press the on/off button on the configuration unit.
5	The configuration unit automatically supplies the circuit breaker (*).

(*) The configuration unit enables the trip unit to operate when the circuit breaker is not self-powered. The power supplied by this unit does not, however, enable the HTD210H panel display to operate.



Front view of the configuration unit.

LED	LED status	Meaning
	Green	Device switched on
	Flashing green	Device currently being switched on or off
	Off	Device switched off
	Orange	Terminal connected
	Orange	Circuit breaker connected

The mains charger is provided in the h3+ configuration tool case. Use this charger to recharge the battery for your configuration unit.



Configuration unit connected to mains supply

A set of mains power adaptors ensures that the device is compatible for use in other countries.

Operation using mains supply and battery power

The configuration tool can be used with the battery or connected to the mains. The charging time to fully charge the battery is 8 hours maximum. It is possible to use the configuration tool with the battery for up to 8 hours by supplying a circuit breaker and with an active Wi-Fi connection.

Battery LED

The status of the battery is shown by the **Battery LED**.

Green	Red	Flashing red	Off	Orange
Battery charged	Charge below 30% and above 10%	Charge below 10%	Battery discharged	Battery charging



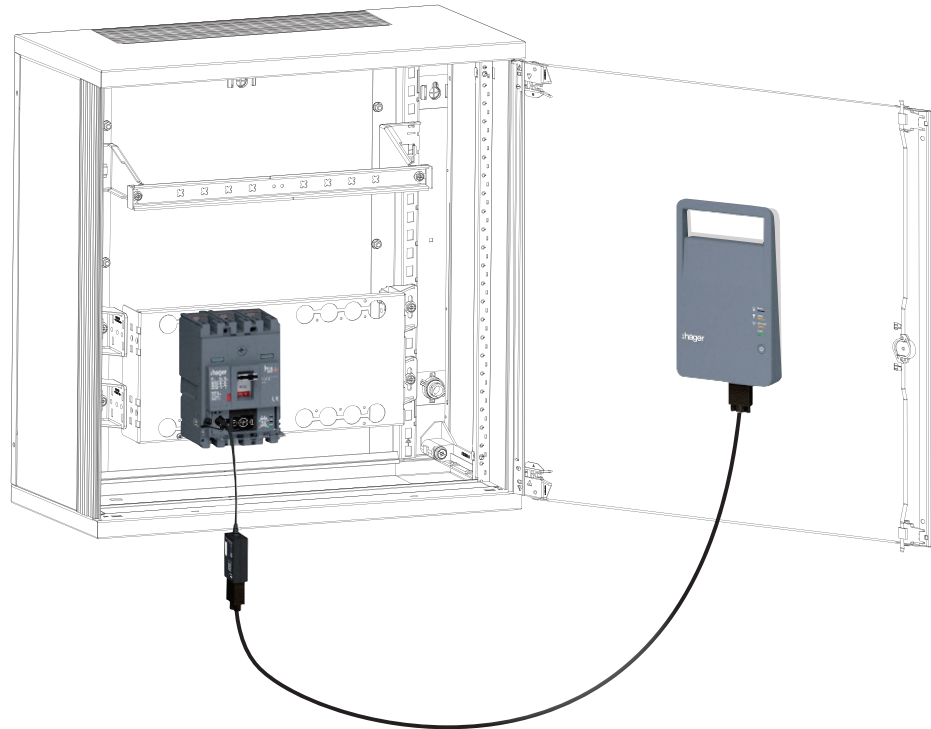
Ethernet connection

The h3+ configuration tool can be used with an Ethernet wire connection with a desktop computer or laptop.

If you want to use the configuration tool with a Wi-Fi connection, please consult the section entitled **Commissioning the configuration server**.

The configuration unit is equipped with a handle to enable it to be transported.

The configuration unit is equipped with a magnetic plate at the rear enabling it to be easily secured to the metal door of an electrical panel.



Securing the configuration unit to the metal wall

Commissioning the configuration server

Page

4.1 Compatible devices and browsers	20
4.2 Computer connection via Wi-Fi	21
4.3 Computer connection via Ethernet cable	23
4.4 Tablet connection via Wi-Fi	24

Compatible devices

The configuration server can be connected using one of the following devices:

- A computer (desktop or laptop) via Wi-Fi or Ethernet cable
- A tablet via Wi-Fi
- A smartphone via Wi-Fi.

In order to benefit fully from all the functions of the h3+ configuration tool, it is advisable for it to be connected to a computer or an iPad.


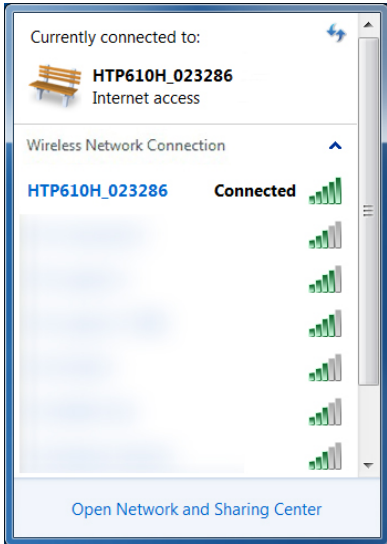
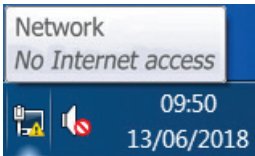

Compatible browsers

It is possible to connect the configuration server to all HTML5-compatible web browsers.

To guarantee optimal performance of the HTP610H configuration tool, it is preferable to use the Google Chrome browser on an Android device, or Safari on an iOS device. Internet Explorer is recommended when using a computer.

ATTENTION
<p>Risk of interruption following inadvertent loss of the Wi-Fi connection. Use of the HTP610H configuration tool requires a stable Wi-Fi connection throughout the entire duration of use of the configuration software. Ensure that any automatic Wi-Fi connections and other means of Internet connection are deactivated (Ethernet, mobile data, etc.).</p>

It is possible to connect to the configuration server via Wi-Fi from a computer.

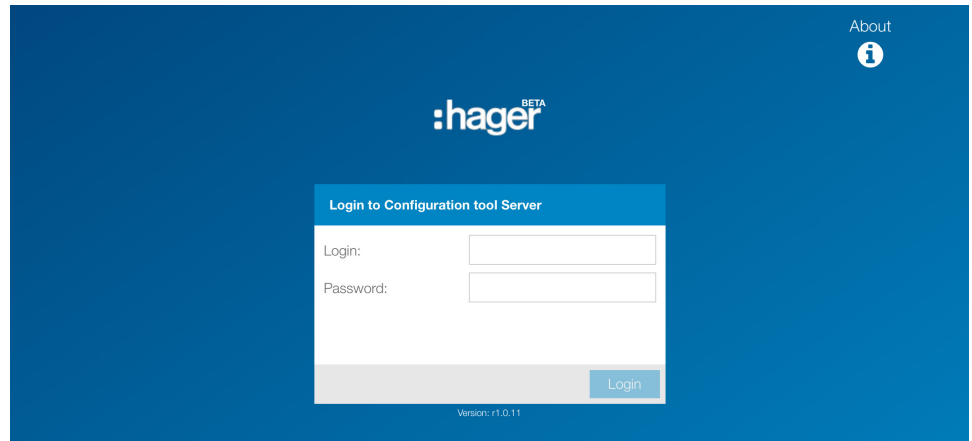
	Action	
1	Switch the configuration server on: <ul style="list-style-type: none"> • Press the on/off button • Wait until the Power LED remains green. 	
2	Ensure that there is no Ethernet cable connection used on the computer. Select the name SSID HTP610H_XXXX of your configuration tool in the list of available networks. Note The SSID name is given on the label at the back of the configuration unit of your configuration tool.	
		
	Enter the Wi-Fi password for the HTP610H tool: MCCB_Configurator Important:	
		
	If a message  : "No internet access" is displayed in the toolbar of your computer, it is still possible to connect to the configuration server. The " Connection " LED lights up orange on the configuration unit.	

3 Launch the configuration software from your device's web browser.

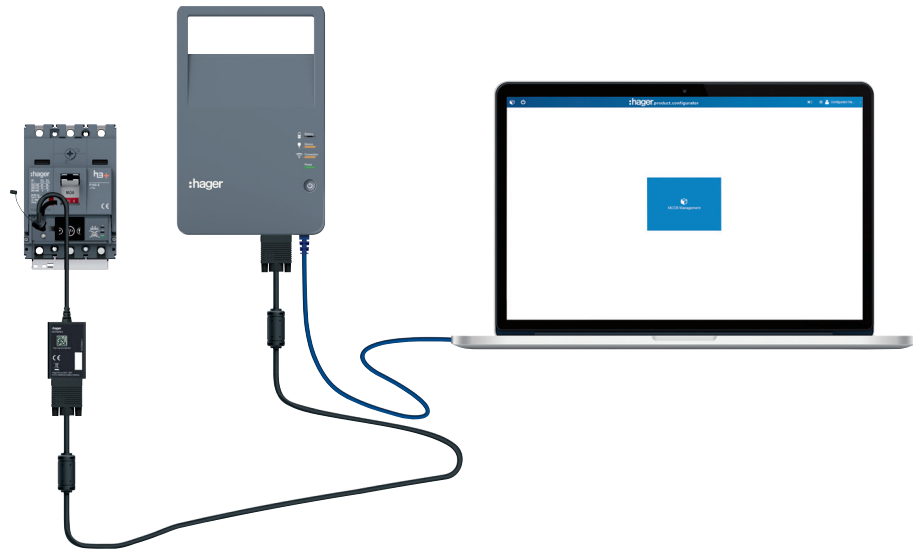
To do this, enter the address in the search bar:

http://www.htp610h.html

The following login screen is displayed:



It is possible to connect to the configuration server via an Ethernet cable connected directly to a computer. Any Ethernet cable (straight or crossover) can be used.




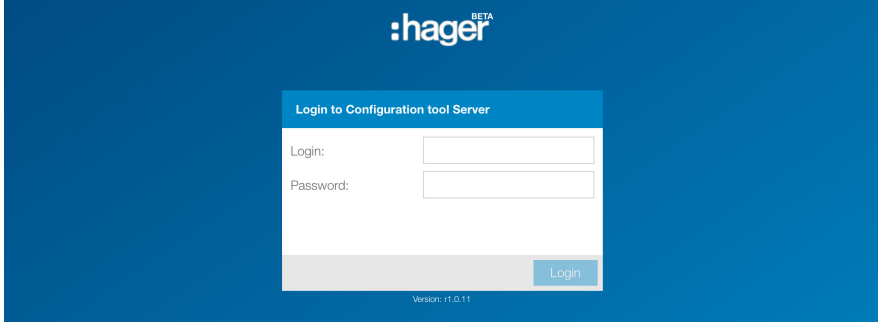


Connection via Ethernet cable

ATTENTION

Risk of inadvertent loss of connection to the configuration server.

If an automatic Wi-Fi connection has been configured on your computer, please deactivate it.

Action	
1	<p>Start the configuration server:</p> <ul style="list-style-type: none"> - Press the on/off button - Wait until the Power LED turns green. 
2	Deactivate your computer's Wi-Fi connection and mobile data.
3	<p>Connect the computer's Ethernet cable to the configuration server.</p> <p>Important:</p>  <p>If a message : "No internet access" is displayed in the toolbar of your computer, it is still possible to connect to the configuration server.</p> <p>The Connection LED should turn orange.</p>
4	<p>To access the configuration server from your computer's web browser:</p> <ul style="list-style-type: none"> - Enter the following address in the address bar: http://www.htp610h.html - The following login screen is displayed: 

ATTENTION
<p>Risk of interruption following inadvertent loss of the Wi-Fi connection. If an automatic Wi-Fi connection has been configured on your multimedia tablet or your smartphone, please deactivate it.</p>

Wi-Fi connection from a multimedia tablet or a smartphone

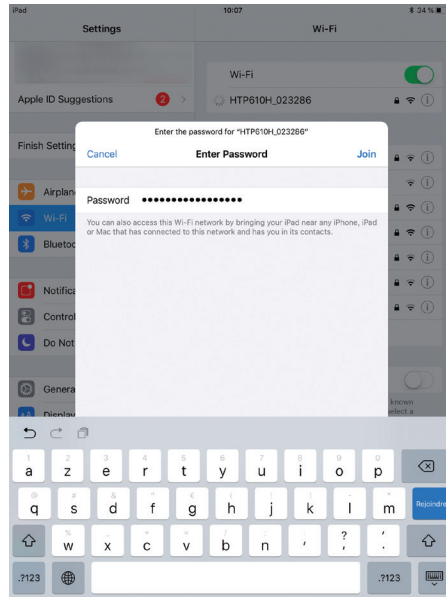
It is possible to connect to the configuration server via Wi-Fi from a multimedia tablet or a smartphone.



	Action	
1	<p>Start the configuration server:</p> <ul style="list-style-type: none"> • Press the on/off button • Wait until the Power LED remains green. 	
2	<p>Deactivate the mobile device's mobile data (cellular) then switch the Wi-Fi connection on. Select the name SSID HTP610H_XXXX of your configuration tool in the list of available networks. The SSID name is given on the label at the back of the configuration unit.</p>	

Enter the Wi-Fi password for the HTP610H tool:

MCCB_Configurator



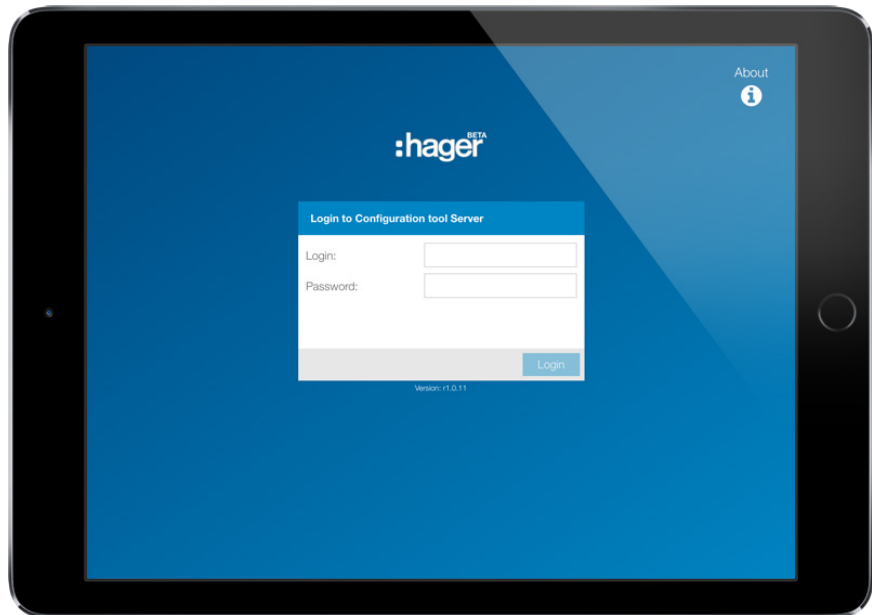
The "**Connection**" LED lights up orange on the configuration unit.

- 3 Launch the configuration software from your device's web browser (Safari/Google Chrome).

To do this, enter the following address in the search bar:

http://www.htp610h.html

The login screen is displayed:



Presentation of the h3+ configuration tool interface

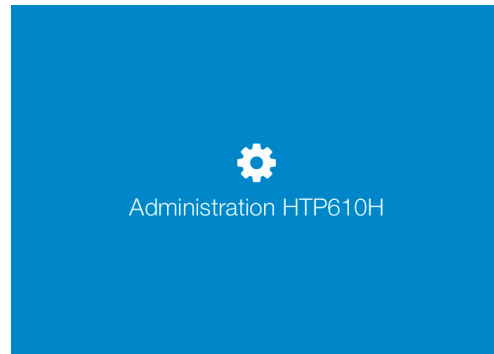
Page

5.1 Structure	28
5.2 HTP610H administration session menus	29
5.3 Changing the interface language	30
5.4 MCCB management session menus	31

Login sessions

The configuration software can be accessed by two different login sessions:

HTP610H administration session



The **HTP610H administration** session facilitates the following:

- Manage user accounts
- Update the configuration software
- Generate passwords for HTD210H and HTC310H/320H
- Display the information concerning the version and the software licenses.

Circuit breaker management session









The **MCCB Management** session provides access to the menus for managing the h3+ LSnl, LSI, LSIG and Energy trip units.

Note





Access to the test and status display menus is restricted for the LSnl, LSI and LSIG trip units.

Main interface icons

-  Switch the tool off
-  MCCB management
-  HTP610H administration
-  Battery status
-  Circuit breaker connection
-  Settings and languages


The **HTP610H administration** session is designed to manage the configuration server: Manage user accounts, update the software and generate passwords for other h3+ communication products.

Administration

Icon	Menu	Function
	Users	Manage Administrator accounts Manage Configurator accounts
	Update	Update the software
	Passwords	Regenerate HTC310H password Regenerate HTC320H password Regenerate HTD210H password
	About	Software version Copyright Open Source library/components

Presentation of the h3+ configuration tool interface







5.3 Changing the interface language

To change the interface language of the h3+ configuration tool, click on the  **settings and languages** dropdown menu located at the top right corner of the screen.

In the dropdown list, click on the desired language to change the interface language.

The **MCCB management** session provides access to the menus for managing h3+ electronic trip units.

Circuit breaker management

	Trip unit status	LED status OAC/PTA outputs Trip unit temperature Energy AX/AL ZSI contacts
	Measurements	Real-time On demand Power
	Test	Trip Contacts
	Configuration	Communication Measurements Protection Customised alarms Trip and contacts Reset & clearing
	Diagnostic	Indicators Log
	Identification	Information about the circuit breaker connected

Administration HTP610H session

Page

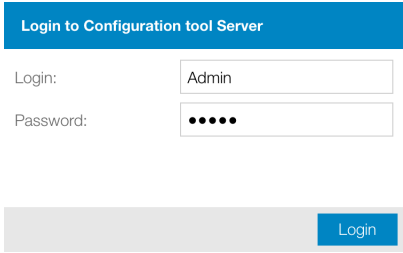
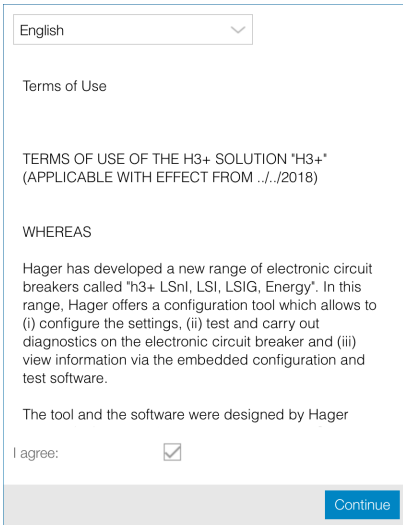
6.1	Opening the administration session	34
6.2	Managing user accounts	35
6.3	Updating the configuration software	37
6.4	Generating passwords	39
6.5	Licenses and information	41
6.6	Closing the administration session	42

ATTENTION

Risk of loss of integrity of the configuration tool.

The HTP610H administration session gives access to software updates and enables the user accounts to be managed. Please change the **Administrator** password the first time the configuration tool is used.

To open the HTP610H administration session for the configuration tool from a computer or a multimedia tablet, please proceed as follows:

Action	
1	Open your browser and enter the following URL address: http://www.htp610h.html .
2	<p>On the login page:</p> <p>Login as an Administrator, by entering the administrator account details.</p> <p>By default or when logging in to the tool for the first time, use the following details:</p>  <p>Login: Admin Password: admin</p> <p>Click on Login</p> <p>Note</p> <p>When opening the session for the first time, please accept the general terms of use of the software before continuing to use the software. The following message appears:</p> 
3	Click on Administration HTP610H to access the session menus.

Note

If you cannot establish a connection between the circuit breaker and the h3+ configuration tool, or if you cannot open the web page, please refer to the section entitled **Commissioning the configuration server**.

Change the name and password for the Configurator account by default.

The following Configurator account is available by default.

Login	Config
Name	Configurator name
Password	config

It is possible to change the name and password for this account.
The login identifier information cannot be changed.

To change the default **name** of the user's account and its password, proceed as follows:

	Action
1	Open an Administrator session and click on the Users menu.
2	Select the Config login identifier in the Users menu.
3	Enter the new name in the Name field.
4	Click on Save to confirm the modification.
5	Click on Change password.
6	Enter the old password (config), then enter the new password and follow the instructions on the screen.
	Note
	The password must contain at least 8 characters, including at least one number, one lower case letter, one upper case letter and a special character.


Changing the rights of a user's account

It is possible to assign the Administrator's rights to a Configurator's account.
To change the rights of a user, please proceed as follows:

	Action
1	Open an Administrator session .
2	Select the login identifier to be changed in the Users menu .
3	In the Profile dropdown list, select the Administrator profile.
4	Click on Save to confirm the modification.

Adding a user account


It is possible to add a new user account. To do this, please proceed as follows:

	Action
1	Open an Administrator session and click on the Users menu.
2	Click on the  button
3	Enter a login identifier and a name for the new user.
4	Select the user's Profile : Configurator or Administrator .
5	Enter a valid password. Note The password must contain at least 8 characters, including at least one number, one lower case letter, one upper case letter and a special character. Re-enter the password.
6	Click on Save to save the information.

Changing a user's password

	Action
1	Open an Administrator session and click on the Users menu.
2	Select the login identifier to be changed in the Users menu.
3	Click on Changing the password .
4	Enter the old password used for this account.
5	Enter, then re-enter, the new password Note The password must contain at least 8 characters, including at least one number, one lower case letter, one upper case letter and a special character.
6	Click on Save to confirm the new password.

Deleting a user account

To delete a user account, select the login identifier to be deleted in the **Users** menu, then click on the  button.

Note

It is also possible to delete the default **Config** account of the h3+ configuration tool. The default **Admin** account cannot be deleted.

ATTENTION

It is advisable to use an Ethernet cable connection from a computer in order to update the configuration software.
To avoid any loss of data, ensure that the battery of the configuration unit is sufficiently charged or use mains power throughout the entire update process.

Software update

⚠ Warning!
New firmware will be applied after a system restart

Update file: Select file... Upload

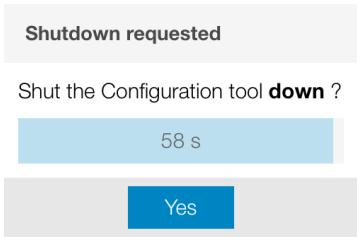
Release information

Current Board Support Package: **r1.0.11**

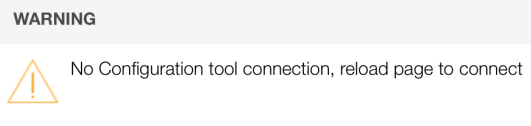
Live-messages from server

✔ Web-socket connected

To update the configuration software, please proceed as follows:

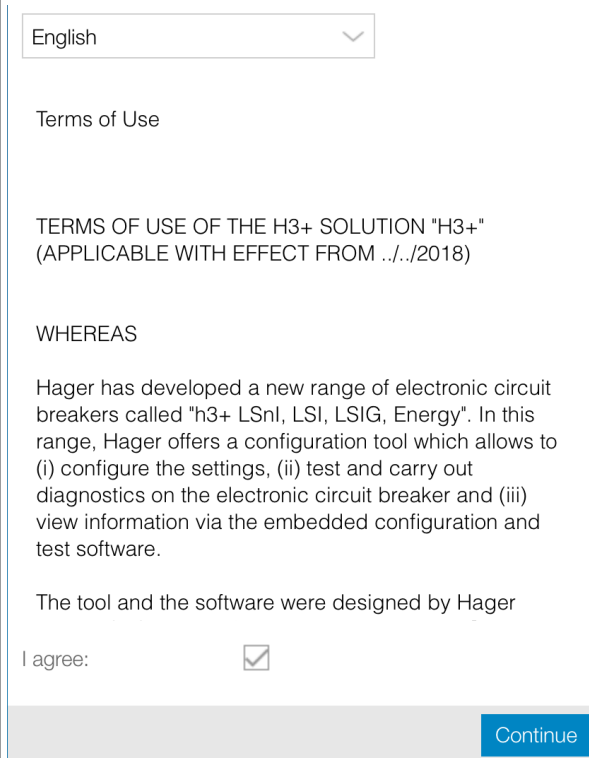
	Action
1	Open a HTP610H administrator session (see section 6.1 Opening the administration session).
2	Select the menu Software update .
3	Click on Select file and choose the update file provided by Hager. Note The name of the update file must have the extension format: .uu64 .
4	Click on Upload to start installing the update. Note Successive server messages appear on the screen as the installation process progresses.
5	At the end of the installation, confirm the message to switch the tool off: 
6	Switch the configuration server off: Press and hold (for approximately 3 seconds) the on/off button.
7	Switch the configuration server on again: Press the on/off button. Wait until the Power LED remains green.

8 As soon as the following message is displayed in the web browser:



Reload the configuration software page.

9 Open an Administrator session (see section 6.1 Opening the administration session) and accept the general terms of use in order to be able to use the new version.



Note

Each time the configuration software is updated, each user must accept the general terms of use of the software before being able to use the configuration tool again. It is also recommended to clear the cache of your web browser to be able to take full advantage of the new functionalities of the update.

The h3+ configuration tool enables the user to reset the passwords for the HTD210H panel display and the HTC310H and HTC320H communication modules.

To reset the administrator's password, please proceed as follows:

	Action
1	Open an administrator session.
2	Click on Passwords .
	Select the product to be reset: - HTC310H - HTC320H - HTD210H .
4	Enter the serial number of the product in the Serial Number field. See below to find where the serial number is located on the product.
5	Click on Generate to obtain the new password.

Locating the serial number for the communication module

The serial number for the HTC310H or HTC320H communication module is found on the product label on the right-hand side.

The serial number is preceded by the letters **SN** and is composed of 19 characters (numbers and capital letters).



Side view of the communication module

Locating the serial number of the HTD210H panel display

The serial number of the HTD210H panel display is found on the label at the back of the product.

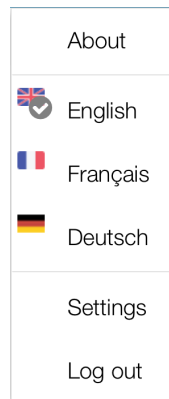
The serial number is preceded by the wording **N° série/Serial number** and is composed of 19 characters (numbers and capital letters).



Side view of the communication module

The **About** menu is used to display the configuration software version installed. It provides access to the list of third-party software components used which are subject to open source licenses as well as the list of software licenses subject to copyright.

To close an **Administration** session, click on **Log out** under the dropdown menu for the operating parameters.



MCCB management session

Page

7.1	Opening the MCCB management session	44
<hr/>		
7.2	Closing the MCCB management session	45
<hr/>		
7.3	Trip Unit Status menu	46
<hr/>		
7.4	Measurements menu	47
	7.4.1 Real-time sub-menu	47
	7.4.2 Demand sub-menu	52
	7.4.3 Energy sub-menu	53
<hr/>		
7.5	Test menu	54
	7.5.1 Trips sub-menu	54
	7.5.2 Contacts sub-menu	58
<hr/>		
7.6	Configuration menu	59
	7.6.1 Communication sub-menu	59
	7.6.2 Measurements sub-menu	60
	7.6.3 Protection sub-menu	61
	7.6.4 Custom Alarms sub-menu	62
	7.6.5 Trip and Contacts sub-menu	64
	7.6.6 Reset and Erase sub-menu	66
<hr/>		
7.7	Diagnostic menu	67
	7.7.1 Indicators sub-menu	67
	7.7.2 History sub-menu	67
<hr/>		
7.8	Identification menu	69
<hr/>		

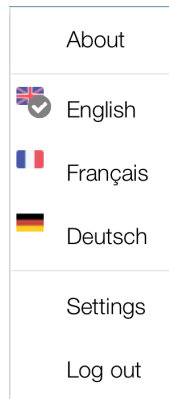
To open a circuit breaker management session, please proceed as follows:

	Action
1	Open your web browser and enter the following URL address: https://www.htp610h.html.
2	<p>On the login page:</p> <p>Login as a Configurator by entering the Configurator account details.</p> <p>By default or when logging in to the tool for the first time, use the following details:</p> <p>Enter the following login identifiers:</p> <div data-bbox="523 555 986 840"><p>Login to Configuration tool Server</p><p>Login: <input type="text" value="Config"/></p><p>Password: <input type="password" value="•••••"/></p><p><input type="button" value="Login"/></p></div> <p>Login: Config Password: config</p> <p>Click on Login.</p> <p>When opening the session for the first time, please accept the general terms of use of the software before continuing to use the software. The following message appears:</p> <div data-bbox="518 1151 970 1729"><p>English</p><p>Terms of Use</p><p>TERMS OF USE OF THE H3+ SOLUTION "H3+" (APPLICABLE WITH EFFECT FROM .../2018)</p><p>WHEREAS</p><p>Hager has developed a new range of electronic circuit breakers called "h3+ LSnI, LSI, LSIG, Energy". In this range, Hager offers a configuration tool which allows to (i) configure the settings, (ii) test and carry out diagnostics on the electronic circuit breaker and (iii) view information via the embedded configuration and test software.</p><p>The tool and the software were designed by Hager</p><p>I agree: <input checked="" type="checkbox"/></p><p><input type="button" value="Continue"/></p></div>
3	Click on MCCB management* to access the session menus.

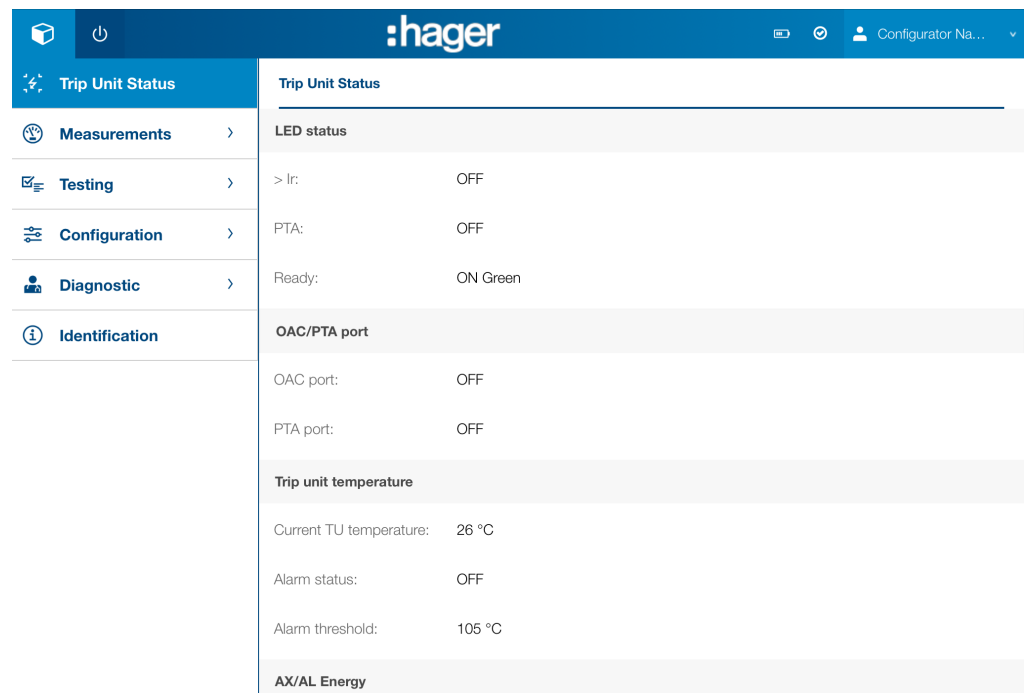
(*) If you cannot click on **MCCB management**, check that the circuit breaker is properly connected to the configuration tool.

If you cannot establish a connection between the circuit breaker and the h3+ configuration tool, refer to the section entitled **Commissioning the configuration server**.

To close a **MCCB management** session, click on **Log out** under the dropdown menu for the operating parameters.



The **Trip Unit Status** menu is used to display the status of the LEDs, the output and input statuses, the status of the AX and AL counters and the temperature of the trip unit.



Here are the possible statuses:

Type of status		Possible statuses
LED status	LED: >Ir	OFF/ON
	LED: PTA	OFF/ON
	LED: Ready	Green/Flashing orange/Red
OAC/PTA port	OAC	OFF/ON
	PTA	OFF/ON
Trip unit temperature	Trip unit temperature	XX °C
	Alarm status	OFF/ON
	Alarm threshold	XX °C
AX/AL Energy	AX status	OFF/ON
	AL status	OFF/ON
ZSI contacts	ZSI1 Short time delay	OFF/ON
	ZSI1 Ground	OFF/ON
	ZSI2 Short time delay	OFF/ON
	ZSI2 Ground	OFF/ON



ATTENTION

To find out more about the measurements, please refer to the h3+ communication system manual.

7.4.1
Real-time sub-menu

In the **Real-time** sub-menu, the measurements provided in real-time by the Energy trip unit are grouped together into five tabs:

- Voltage
- Current
- Power
- THD
- Frequency

:hager
Configurator Na...

Trip Unit Status

Measurements ▾

Real-time

On demand

Energy

Testing >

Configuration >

Diagnostic >

Identification >

Real-time

Voltage Current **Power** THD Frequency

Active power

(kW)	Minimum	Instantaneous	Maximum
P1	0	0	0
P2	0	0	0
P3	0	0	0
Ptot	0	0	0

Reactive power

(kvar)	Minimum	Instantaneous	Maximum
Q1	0	0	0
Q2	0	0	0
Q3	0	0	0
Qtot	0	0	0

Apparent power

(kVA)	Minimum	Instantaneous	Maximum
S1	0	0	0

Voltage tab

The voltage measurements are arranged as follows:

Variable type	Variable Displayed	Minimum Value	Instantaneous	Maximum Value	Unit
Simple, compound, min/max	U12	X	X	X	V
	U23	X	X	X	V
	U31	X	X	X	V
	Umin		X		V
	Umax		X		V
	V1n	X	X	X	V
	V2n	X	X	X	V
	V3n	X	X	X	V
	Vmin		X		V
	Vmax		X		V
Arithmetic mean	Uavg	X	X	X	V
	Vavg	X	X	X	V
Unbalance	U12unbalance	X	X	X	%
	U23unbalance	X	X	X	%
	U31unbalance	X	X	X	%
	UmaxUnbalance	X	X	X	%
	V1nUnbalance	X	X	X	%
	V2nUnbalance	X	X	X	%
	V3nUnbalance	X	X	X	%
	VmaxUnbalance	X	X	X	%

Current tab

The current measurements are arranged as follows:

Variable type	Variable Displayed	Minimum Value	Instantaneous	Maximum Value	Unit
Phase, neutral, Ground, min/max	I1	X	X	X	A
	I2	X	X	X	A
	I3	X	X	X	A
	In (IN)	X	X	X	A
	Ig (IG)	X	X	X	A
	I _{max}	X	X	X	A
	I _{min}	X	X	X	A
Arithmetic mean	I _{avg}	X	X	X	A
Unbalance	I1unbalance	X	X	X	%
	I2unbalance	X	X	X	%
	I3unbalance	X	X	X	%
	InUnbalance	X	X	X	%
	I _{max} NUnbalance	X	X	X	%

Power tab

The power measurements and power factors are arranged as follows:

Variable type	Variable Displayed	Minimum Value	Instantaneous	Maximum Value	Unit
Active power	P1	X	X	X	kW
	P2	X	X	X	kW
	P3	X	X	X	kW
	Ptot	X	X	X	kW
Reactive power	Q1	X	X	X	kvar
	Q2	X	X	X	kvar
	Q3	X	X	X	kvar
	Qtot	X	X	X	kvar
Apparent power	S1	X	X	X	kVA
	S2	X	X	X	kVA
	S3	X	X	X	kVA
	Stot	X	X	X	kVA
Power factor	PF1	X	X	X	-
	PF2	X	X	X	-
	PF3	X	X	X	-
	PFtot	X	X	X	-
Order 1 harmonic power factor (cosϕ)	COS1	X	X	X	-
	COS2	X	X	X	-
	COS3	X	X	X	-
	COStot	X	X	X	-

THD tab

The harmonic distortion level measurements are arranged as follows:

THD

(%)	Minimum	Instantaneous	Maximum
THD_U12	X	X	X
THD_U23	X	X	X
THD_U31	X	X	X
THD_V1N	X	X	X
THD_V2N	X	X	X
THD_V3N	X	X	X
THD_I1	X	X	X
THD_I2	X	X	X
THD_I3	X	X	X
THD_I _{max}	X	X	X

Frequency tab

The Frequency tab displays the following measurements:

Variable type	Variable Displayed	Minimum Value	Instantaneous	Maximum Value	Unit
Frequency	f	X	X	X	Hz
Quadrant	Quadrant number				
Phase rotation	Direct or reverse status				

7.4.2
Demand
(averaged values)
sub-menu

In the **Demand** sub-menu, the values integrated over the interval provided by the Energy trip unit are distributed over two Current and Power tabs.

Current tab

The averaged current measurements per interval (Demand currents) are arranged as follows:

(Ampere)	Instantaneous	Maximum
I1	X	X
I2	X	X
I3	X	X
In	X	X
Iavg	X	X

Power tab

The averaged power measurements per interval (Demand powers) are arranged as follows:

Variable type	Variable Displayed	Instantaneous	Maximum Value	Unit
Demand active power	P1	X	X	kW
	P2	X	X	kW
	P3	X	X	kW
	Ptot	X	X	kW
Demand reactive power	Q1	X	X	kvar
	Q2	X	X	kvar
	Q3	X	X	kvar
	Qtot	X	X	kvar
Demand apparent power	S1	X	X	kVA
	S2	X	X	kVA
	S3	X	X	kVA
	Stot	X	X	kVA

7.4.3
Energy sub-menu

In the **Energy** sub-menu, the energy measurements are arranged as follows:

Active energy

(kWh)	Value
Ea abs	Absolute active energy (delivered + received)
Ea	Active energy signed
Ea In	Active energy delivered
Ea Out	Active energy received
Ea In NR	Active energy delivered (counter not reset)
Ea Out NR	Active energy received (counter not reset)

Reactive energy

(kvar)	Value
Er Abs	Absolute reactive energy (delivered + received)
Er	Reactive energy signed
Er In	Reactive energy delivered
Er Out	Reactive energy received

Apparent energy

(kVAh)	Value
Es	Apparent energy

The h3+ configuration tool is used to test the trip curve of LSnl, LSI, LSIG and Energy trip units. The **Test** menu provides access to the trip curve test and the test to activate the contacts integrated into the trip unit.



Overview of sub-menus

Trip	Test settings Tripping graph Measurement raw data
Contacts	PTA OAC output contacts ZSI contacts

7.5.1 Trips sub-menu

Test settings tab

Pole to trip	Phase - Neutral - Ground
Type of test	Automatic - Semi-automatic - Manual
PTA & Long time delay	Activated - Deactivated
Strength	To be set for a Manual type test

Tripping graph tab

	Option to export the curve
--	----------------------------

Measurement raw data tab

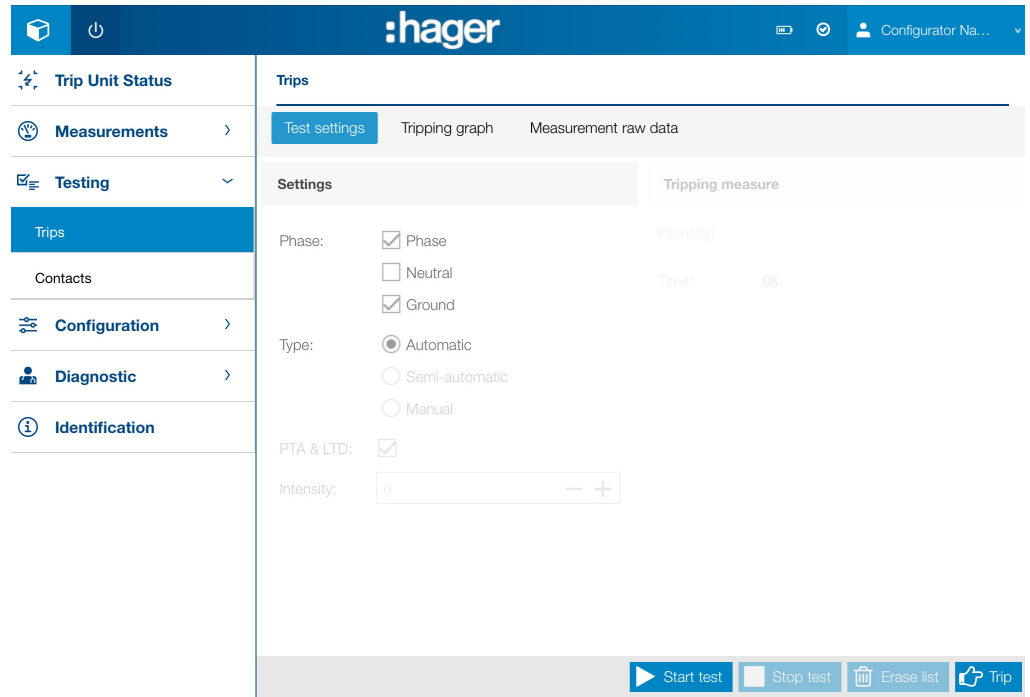
	Option to export the list
--	---------------------------

The trip test can be launched automatically, semi-automatically or manually. It is also possible to run a trip command in order to check the circuit breaking opening mechanism.

Note

The automatic, semi-automatic or manual trip test is also used to check the circuit breaker opening mechanism.

Automatic	The configuration tool tests all the points on the trip curve.
Semi-automatic	The configuration tool tests the points on the trip curve in stepping mode.
Manual	The configuration tool tests the points on the trip curve from a specific strength. The strength must be defined manually. In addition, it is possible to choose whether or not to test the PTA and Long time delay values. Note The tool automatically calculates a time delay associated with the manually defined strength.



Configuring a trip test

Before initiating a trip test, it is necessary to configure the test. Please proceed as follows:

	Action
1	Click on the tab Test settings .
2	Then select the type of test.
3	Select or deselect the trip unit pole or poles to be included in the test. Note Depending on the type of test, one or more poles may be selected at the same time: - Automatic: One single pole or simultaneously up to all types of pole. - Semi-automatic: One single pole or Phase and Neutral poles at the same time. - Manual: One single pole.
4	If the type of test selected is Automatic or Semi-automatic , run the test. If the type of test is Manual, perform the following steps.
5	Select or deselect the PTA & Long time delay test.
6	Enter the strength value.
7	Run the test.

Performing an automatic or semi-automatic test

DANGER

Risk of serious injury or danger of death
Ensure that the power supply inlet upstream of the circuit breaker is cut off and isolated before performing a trip curve test.

Please proceed as follows:

	Action
1	<p>Check that the circuit breaker is in the ON position before starting the test. Check that the test has been configured (see above).</p>
2	<p>Run a test by clicking on Start test.</p> <p>Note In the case of an automatic test, the display automatically switches to the Tripping graph tab in order to make it possible to view the progression of the test curve.</p> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> </div>
3	<p>In the case of a semi-automatic test: Click on Reset MCCB at the bottom of the display after each test point has been checked.</p> <p>In the case of an Automatic test: Wait for the test to finish.</p> <p>Note It is possible to stop a test at any moment by clicking Stop test.</p>

At the end of the test, it is possible to view and export the results to a web browser page:

- Result in the form of a curve: **Tripping graph tab**
- Result in the form of a list of test points: **Measurements raw tab.**

Trips

Test settings Tripping graph Measurement raw data			
I(A)	Pole	Type	Time(ms)
243	Phase	PT	17083.78
335	Phase	PT	8701.7
462	Phase	PT	4501.99
693	Phase	PT	1982.87
707	Phase	PT	1901.69
721	Phase	PT	1830.51
736	Phase	PT	1754.64
751	Phase	PT	1685.47
766	Phase	PT	1619.17
770	Phase	PT	39.24
782	Phase	PT	39.24
798	Phase	PT	36.56
814	Phase	PT	36.49
830	Phase	PT	34.03

[Export](#)

Performing a manual test

DANGER

Risk of serious injury or danger of death
Ensure that the power supply inlet upstream of the circuit breaker is cut off and isolated before performing a trip curve test.

Please proceed as follows:

Action	
1	Check that the circuit breaker is in the ON position before starting the test. Check that the test has been configured (see above).
2	Run the test by clicking on Start test.
3	Wait for the test to finish.
<p>Note The strength test is performed on the parameters set when adjusting the protection. A time delay is automatically set to the value of the strength chosen. It is possible to stop the test at any moment by clicking Stop test.</p>	

Running a trip command

DANGER

Risk of serious injury or danger of death
Ensure that the power supply inlet upstream of the circuit breaker is cut off and isolated before running a trip command.

Please proceed as follows:

	Action
1	Check that the circuit breaker is in the ON position before starting the trip sequence.
2	Run a trip command by clicking on Trip .
3	Reset the circuit breaker and run the trip command again if necessary.

Reinitialising the test values

If you want to reset the values after a test, click on **Erase list**.

Note

If you perform another test after a previous test without resetting the test values, the line of the previous test will be combined with that of the new test. The combination also applies to the list of test points.

7.5.2 Contacts sub-menu

	Contacts	
	OAC/PTA port	
	OAC port	ACTIVATE
	PTA port	ACTIVATE
	ZSI port	
	ZSI2 Short delay	ACTIVATE
	ZSI2 Ground	ACTIVATE

The **Contacts** sub-menu is used to activate and deactivate the contacts present on the trip unit.

It concerns the following contacts:

- **OAC** output contact
- **PTA** overload pre-alarm output contact
- **ZSI** contacts (zone selectivity)

Note

It is only possible to activate OAC and ZSI contacts on an Energy trip unit. It is not possible to activate the PTA contact on the LSnl trip unit.



The **Configuration** menu has six sub-menus to manage all of the parameters of the Energy trip unit:

- **Communication sub-menu**
- **Measurements sub-menu**
- **Protection sub-menu**
- **Custom Alarms sub-menu**
- **Trip and Contacts sub-menu**
- **Reset and Erase sub-menu.**

**7.6.1
Communication
sub-menu**

The **Communication** sub-menu facilitates the following:

- Define the customisable fields of the Energy circuit breaker.
- Synchronise the date and time of the Energy trip unit.
- Authorise/prohibit data writing for the Energy trip unit.

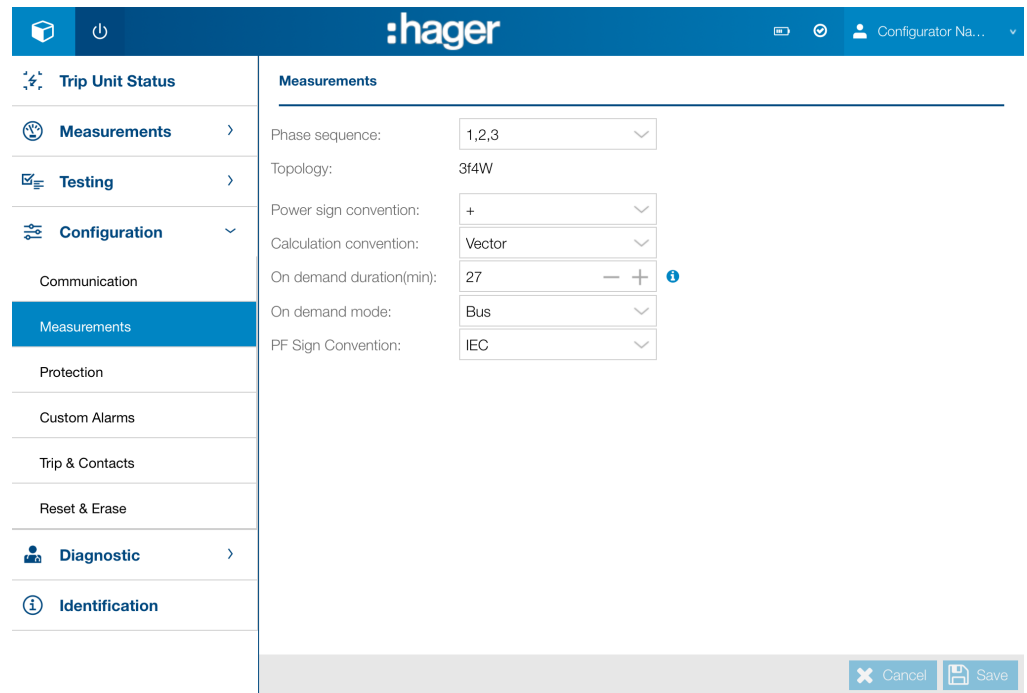
Parameter	Description	Setting
Custom field 1	Available to associate a customised description to the Energy circuit breaker.	ASCII character string. Up to 32 characters.
Custom field 2	Available to associate a second customised description to the Energy circuit breaker.	ASCII character string. Up to 32 characters.
Date and time synchronisation	Used to synchronise the date and time of the computer or tablet connected.	Synchronise the circuit breaker.
Data write permission	Used to activate/deactivate data write permission for the Energy trip unit in order to avoid any remote modifications.	Activated/Deactivated, activated by default.

Note

Data write permission is also available from the Energy embedded display.

7.6.2
Measurements
sub-menu

The **Measurements** sub-menu is used to set the measurement parameters.



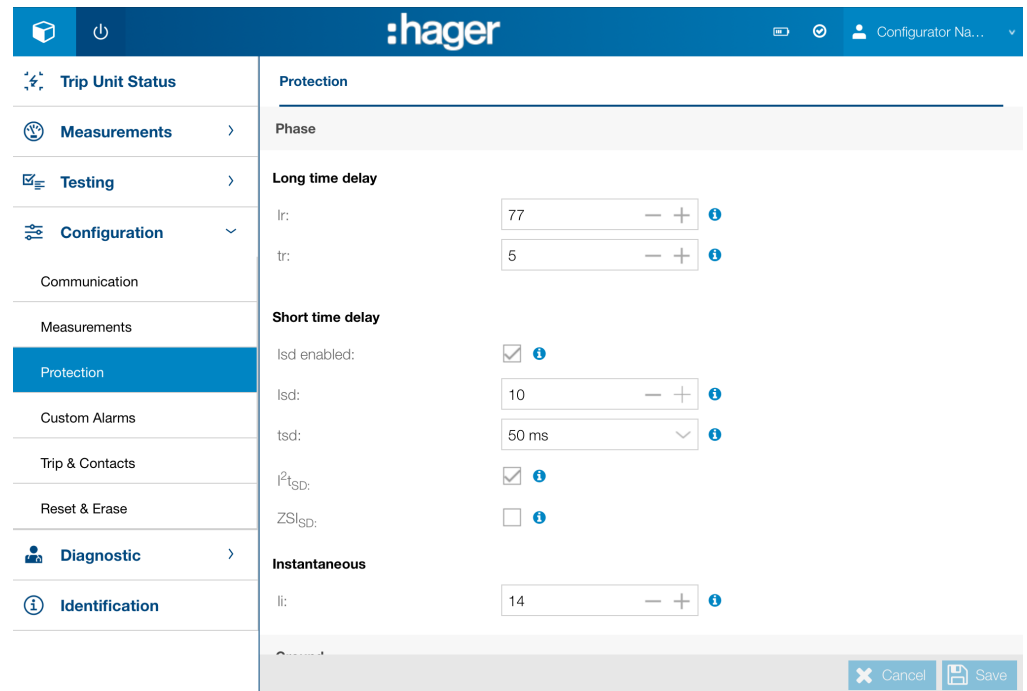
Parameter	Description	Adjustment range
Phase sequence	Choice of phase rotation	1,2,3 / 1,3,2, by default 1,2,3
Power sign convention	Choice of power sign convention	+ / -, by default +
Calculation convention	Choice of active and apparent power calculation convention	Vector/Arithmetic, by default Vector
On demand duration (min)	Adjustment of the length of the period for integrating the averaged values.	From 5 to 60 minutes (in increments of 1), by default 30 minutes
On demand mode	Definition of the type of integration of averaged values	Fixed/sliding/Bus, by default fixed.
Power factor sign convention	Choice of the power factor sign convention and $\cos\varphi$	IEEE/IEC, by default IEC.

Note

To find out more about the measurement parameters, please refer to the h3+ communication system manual.

7.6.3
Protection sub-menu

The **Protection** sub-menu is used to set the protection parameters for the Energy trip unit.



Attribute	Parameter	Unit	Adjustment range
Long time delay	Ir	A	Adjustment dependent on rating In (in increments of 1)
	tr	s	0.5, 1.5, 2.5, 5.0, 7.5, 9.0, 10.0, 12.0, 14.0, 16.0
Short time delay	Isd activated	-	Activated/Not activated
	Isd	x Ir	1.5 to 10 in increments of 0.5
	tsd	ms	50, 100, 200, 300, 400
	I ² tsd	-	Activated/Not activated
	ZSIsd	-	Activated/Not activated (P250 and P630 Energy only)
Instantaneous	li	x In	Adjustment dependent on rating In (in increments of 0.5)
Ground	Ground activated	-	OFF/3P/4P
	lg	x In	Adjustment dependent on rating In (in increments of 5)
	tg	ms	50, 100, 200, 300, 400, 500
	I ² tGF	-	Activated/Not activated
	ZSIGF	-	Activated/Not activated
Neutral	Neutral activated	-	Activated/Not activated (leave "not activated" on Energy 3P)
	Coef. N	%	50 / 100

Note

The protection parameters are set in a different way depending on the type of parameter:

- By entering the value directly
- By increasing/decreasing the value by clicking on the – and + icons
- By choosing from a list of values by clicking on the list icon
- By ticking the form.

7.6.4
Custom Alarms
sub-menu

The **Custom Alarms** sub-menu is used to manage the definition and activation of the customised alarms.

ATTENTION

Please carefully read the section on Managing alarms and logs in the 3+ communication system manual in order to use this menu correctly.

The alarms are listed in the form of a table to provide a quick overview of the following information:


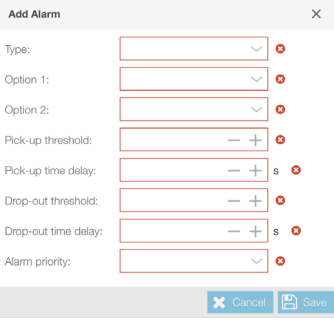
- Alarm order number (up to 12 alarms can be defined)
- Activation threshold and time delay values
- Deactivation threshold and time delay values
- Priority (Top, Medium, Low, None)
- Alarm operating status.

Alarm n...	Pick-up value / delay	Drop-out value / delay	Alarm priority	Sta...
1	Quadrant 1 > 1 / 1s	Quadrant 1 < 1 / 1s	High	OFF
2	I1 > 70A / 1s	I1 < 60A / 1s	Medium	OFF
3	Frequency > 54Hz / 1s	Frequency < 51Hz / 1s	Medium	OFF
4	I2 > 170A / 8s	I2 < 139A / 3s	Low	OFF
5	I2 > 994A / 5s	I2 < 20A / 1s	None	OFF
6				
7				
8				
9				
10				
11				
12				

Measurement values that can be associated with a customised alarm.

Type of measurement	Measurement attribute	Activation condition
Long time delay	I1, I2, I3, IN, IMax, I1Unb, I2Unb, I3Unb, IMaxUnb, IAvg	Above/below
Ground current	IG	Above/below
Voltage	V1, V2, V3, VN, VMax, VMin, V1Unb, V2Unb, V3Unb, VMaxUnb, Vavg, U12, U23, U31, Umax, Umin, U12Unb, U23Unb, U31Unb, UmaxUnb	Above/below
Power	Pd1, Pd2, Pd3, PdTot, Pr1, Pr2, Pr3, PrTot; Qd1, Qd2, Qd3, QdTot, Qr1, Qr2, Qr3, QrTot, S1, S2, S3, Stot	Above/below
Power factor	PF1, PF2, PF3, PF tot, cosφ1, cosφ2, cosφ3, cosφTot	Capacitive/inductive
THD	I1, I2, I3, V1, V2, V3, U12, U23, U31	Above
Frequency	f	Above/below
Average over interval	I1, I2, I3, IN, IAvg, P, Q, S	Above/below
Quadrant	Quadrant 1, Quadrant 2, Quadrant 3, Quadrant 4	-
Phase rotation	1, 2, 3; 1, 3, 2	-
Dephasing	Advance, delay	-

Adding a new alarm

Action	
1	<p>Click on </p> <p>Note A data entry form for the alarm parameters appears on the display.</p> 
2	<p>Configure the alarm by filling in all of the form's fields.</p> <p>Note Click on Cancel to reset the input fields.</p>
3	<p>Click on Save to confirm the alarm.</p>


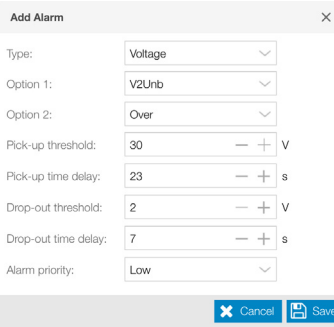
Note

The form fields are entered in a different manner depending on the parameter type:

- By increasing/decreasing the value by clicking on the – and + icons
- By choosing from a list of values by clicking on the list icon.

Once a customised alarm has been created, it becomes active even if no priority has been assigned to it.

Modifying an alarm

Action	
1	<p>Click on </p> <p>Note A data entry form for the alarm parameters appears on the display.</p> 
2	<p>Perform the desired modifications.</p> <p>Note Click on Cancel to reset the input fields</p>
3	<p>Click on Save to confirm the alarm.</p>

Note

- The form fields are entered in a different manner depending on the parameter type:
- By increasing/decreasing the value by clicking on the – and + icons
 - By choosing from a list of values by clicking on the list icon.

Deleting an alarm

Action	
1	Click on next to the alarm concerned in the alarm table.
2	Click on Yes to confirm the deletion.

Confirmation ✕

Are you sure?

Yes
No

**7.6.5
Trip and Contacts
sub-menu**

The **Trip and Contacts** sub-menu is used to set the parameters for the activation alarms and output contacts.

The screenshot shows the hager configuration interface. The top navigation bar includes the hager logo and a 'Configurator Na...' dropdown. The left sidebar contains a menu with the following items: Trip Unit Status, Measurements, Testing, Configuration (expanded), Communication, Measurements, Protection, Custom Alarms, Trip & Contacts (highlighted), Reset & Erase, Diagnostic, and Identification. The main content area is titled 'Trip & Contacts' and is divided into two sections: 'Trip Alarm Settings' and 'Output Contact Settings'. The 'Trip Alarm Settings' section includes: Long Time (Low), Short Time (High), Instantaneous (High), Ground Fault (High), and Trip Test (High). The 'Output Contact Settings' section includes: PTA Threshold % Ir (80), PTA Pickup time % tr (50), OAC Assignment (Custom alarm 1), and OAC Behaviour (Latching). At the bottom right of the main content area, there are 'Cancel' and 'Save' buttons.

Trip alarms heading

This heading is used to configure the priority level for the trip alarms.

Parameter	Setting
Long time delay	Choice of priority: Top, Medium, Low, None
Short time delay	
Ground fault	
Trip test	

Note

A trip alarm is always active, even if no priority has been assigned to it.

Output contacts heading

This heading facilitates the following:

- Configure the PTA output contact and the PTA overload pre-alarm threshold
- Configure the OAC output contact.

Parameter	Description	Adjustment range
PTA threshold	PTA overload pre-alarm threshold in % Ir	60 to 95 (5% increments), by default 90
PTA time delay	PTA overload pre-alarm time delay in % tr	5 to 80 (5% increments), by default 50
OAC allocation	Allocation of an alarm to the OAC output contact	See the list, by default PTA overload pre-alarm
OAC performance	Performance of the OAC output contact	Automatic/Manual, by default Automatic

List of alarms to be allocated to the OAC contact:

- PTA overload pre-alarm
- Customised alarm 1
- Customised alarm 2
- Customised alarm 3
- Customised alarm 4
- Customised alarm 5
- Customised alarm 6
- Customised alarm 7
- Customised alarm 8
- Customised alarm 9
- Customised alarm 10
- Customised alarm 11
- Customised alarm 12
- Internal trip unit error
- Trip unit temperature alarm
- Rupture of the neutral pole.

7.6.6
Reset and Erase
sub-menu

The **Reset and Erase** sub-menu is used to reset all the minimum and maximum measurements for the device by clicking on **All**.

Reset & Erase

Measure - Reset Min/Max ⌵

All

Complete measuring

Current Voltage Power Power factor THD

Frequencies

Energies

Energies

On demand

Current Power

Trip Alarms - Erase Alarms ⌵

All High priority Medium priority Low priority Info priority

Custom Alarms - Erase Alarms ⌵

All High priority Medium priority Low priority Info priority

AX/AL - Reset Counters ⌵

Parameter	Reset or clearing criterion
Complete measuring	All Min/Max, all currents, all voltages, all powers, all power factors, all THD, all frequencies
Energy measurements	All energy counters that can be reset
On demand measurements	All currents, all powers
Trip alarms	All, in priority level
Custom alarms	All, in priority level

Note
To perform the reset or clearing operation, click on the desired criterion then **confirm**.



The **Diagnostic** menu is used to view the maintenance indicators of the trip unit and to view the event logs.
It is composed of **Indicators** and **History** sub-menus.

7.7.1
Indicators sub-menu

The **Indicators** menu states all the information concerning the current status of the trip unit, the last trip and the counters.

Type of indicator	Content
Trip status	Trip status
	LT count before trip
Last trip	Trip description
	Machine time
	User time
	Duration of fault
	Additional information
Maintenance indicators	Duration of trip unit operation
	Mechanical cycle AX counter
	Total number of AX mechanical cycles
	PTA counter
	OAC counter
	AL counter
	Total number of AL trips
	LT counter
	ST counter
	INST counter
	GF counter
	Test counter

7.7.2
History sub-menu

The **History** sub-menu is used to view the event logs:

- Trip alarms
- Customisable alarms
- Modification of the protection settings.

It is possible to filter the display over a period of time or by type of event.
The list displayed can be sorted by **User date, Machine date, Additional information, Type, Length of incident and value.**

The screenshot shows the Hager diagnostic interface. On the left is a navigation menu with options: Trip Unit Status, Measurements, Testing, Configuration, Diagnostic (selected), Indicators, History (selected), and Identification. The main area is titled 'History' and contains a table of events. The table has columns for 'Type', 'Date user', and 'Date'. The events listed include various Over Voltage and Under Voltage alarms, as well as Lagging Power Factor PF1. Some events are marked with a lightning bolt icon (Trip) or a crossed-out bell icon (deactivated alarm).

Type	Date user	Date
Over Voltage V1	01/01/2000 00:00:27	0 De
Over Voltage V2	01/01/2000 00:00:27	0 De
Over Voltage V1	01/01/2000 00:00:27	0 De
Under Voltage U31	01/01/2000 00:00:27	0 De
Over Voltage V1	01/01/2000 00:00:31	0 De
Under Voltage U31	01/01/2000 00:02:02	0 De
Under Voltage U31	01/01/2000 00:04:04	0 De
Over Voltage V2	01/01/2000 00:09:11	1 De
Over Current I1	01/01/2000 00:10:17	1 De
Over Voltage V2	01/01/2000 00:10:47	1 De
Over Voltage V2	01/01/2000 00:11:46	1 De
Over Voltage V2	01/01/2000 00:11:54	1 De
Over Voltage V1	01/01/2000 00:14:06	1 De
Lagging Power Factor PF1	01/01/2000 00:14:23	1 De
Over Voltage V1	01/01/2000 00:14:47	1 De

Note

A customised **Alarm** type event is represented by the icon: when the alarm is activated and when the alarm is deactivated.
 A **Protection settings** type event is represented by the icon:
 A **Trip** type event is represented by the icon:

The **Identification** menu displays the identification information for the circuit breaker concerned.

Identification	
Product site code:	F
Serial number:	1
Production day:	01/01
Year:	2000
Hardware version:	0.4.0
Software version:	0.11.0
Brand name:	hager
Range name:	h3+
Frame size:	P160
Nominal rating:	100 A
Number of poles:	4
Trip Unit Type:	Energy

Support

Page

8.1 Troubleshooting

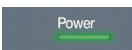

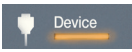
72

8.2 Spare parts

73

In the event of a problem when using a h3+ circuit breaker, this section provides advice on how to resolve issues.

Malfunction	Advice
Message: "No configuration tool connection, reload the page to connect".	Check whether the configuration unit is switched on and whether the Wi-Fi connection or Ethernet link is activated. Refresh the web page.
Message: "No cable connected to the configuration tool".	Check the connection and operation of the Ethernet cable.
Message: "No product connected to the configuration tool".	Check the connection between the configuration unit and the circuit breaker.

LED message	Advice
 Flashing red	Switch the configuration unit off and then switch it back on. Contact your Hager technical support if the fault persists.
 Flashing orange	Switch the configuration unit off. Check the connection and operation of the Ethernet cable. Then switch the configuration unit back on. Contact your Hager technical support if the fault persists.
 Flashing orange	Check the connection between the configuration unit and the circuit breaker.

The following parts of the h3+ configuration tool are available as spare parts:

- MIP adaptor: HTP020H
- 1 m connection cable: HTP030H
- Mains adaptor and plug adaptor: HTP040H
- Spare battery: HTP050H.

Please contact us in the event of a faulty configuration unit.



Hager Electro SAS

132 Boulevard d'Europe
BP3
67210 OBERNAI CEDEX

hager.com