

# h3+

## HTD210H Panel display





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## Safety symbols

This documentation contains safety instructions you have to observe for your personal safety or for prevention of damage to property.

The safety instructions referring to your personal are notified in the documentation by a safety alert symbol. The safety instructions referring to property damage are notified by the mention **NOTICE**.

The safety alert symbols and mention shown below are classified according to the degree of danger.

### **DANGER**

DANGER indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.

### **WARNING**

WARNING indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

### **CAUTION**

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

### **Warning of property damage**

This user manual contains instructions that you must observe to prevent property damage:

### **NOTICE**

NOTICE indicates a property damage message.

NOTICE also indicates important user notes and especially useful information on the product to which special attention shall be given so as to have the subsequent activities performed effectively and safely.

## Safety information

### Qualified personnel

The product or system described in this documentation should be installed, operated, and maintained only by qualified personnel.

No responsibility is assumed by Hager Electro for any consequences arising out of the use of this material.

Qualified personnel are those who have skills and knowledge related to the construction and operation of electrical equipment and its installation, and who have received safety training to recognize and avoid the hazards involved.

### Proper use of Hager products

Hager products should only be used for the applications described in the catalogue and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Hager. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

### Disclaimer of Liability

The contents of this documentation have been reviewed to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, Hager cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

## **Disposal and recycling information**

You must dispose of the HTD210H Panel display properly according to local laws and regulations. Because it contains electronic components, the Panel display must be disposed of separately from household waste.

According to local laws and regulations your Panel display product shall be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of your product and/or its battery at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.



# 1 About this manual

## Document scope

This document provides information about configuration and operation of the HTD210H Panel display.

## Validity scope

This document is applicable to the HTD210H Panel display for the use with h3+ Energy Moulded Case Circuit Breakers (MCCBs) for monitoring and for setting applications.

## Procedural instructions

Procedural instructions with a fixed order are displayed in clearly arranged tables:

Key	Step/Action	Screen
Touch key	1 Procedural instruction step 1 - Result of first action	Display view
Touch key	2 Procedural instruction step 2 - Result of second action	Display view
Touch key	3 Procedural instruction step 3 - Result of third action	Display view

## Recommendation

The HTD210H Panel display can only be connected with h3+ Energy Moulded Case Circuit Breakers.

## Applicability note

This manual is intended for the following technician groups:

- Panel builders and electrical installers
- System commissioning engineers and integrators
- Service and maintenance personnel

## Revisions

Revision No.	Date
1.00	05/2018

**Related documents**

<b>Document title</b>	<b>Reference</b>
HTD210H Panel display installation instruction	6LE002194A
h3+ Moulded Case Circuit Breakers up to 250 A Technical catalogue	6LE005047A
h3+ Communication System manual	6LE002998A
HTP610H h3+ Configuration tool user manual	6LE003137A

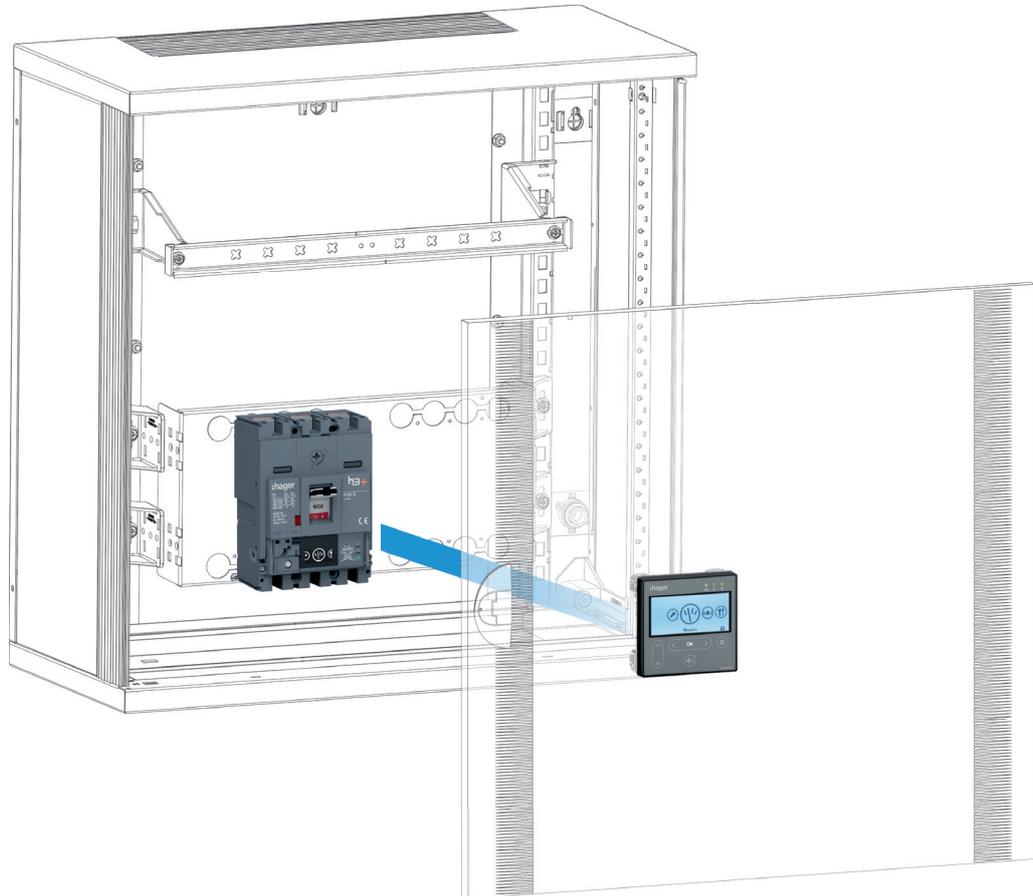
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## 2 The HTD210H Panel display

The HTD210H Panel display is an accessory for the Energy MCCB range. It allows the full monitoring of the Energy MCCB including the setting and configuration of its trip unit.

The HTD210H Panel display is mainly intended for visualising measurements, defining protection settings and managing alarms.



The HTD210H Panel display is usually mounted in the door of a switch cabinet or at a panel where the connected Energy MCCB is installed.

Various adaptors, each with a certain cable length, allow the HTD210H Panel display to be mounted within easy reach of the observer. For example, several units can be mounted at one panel.

Compared to the embedded display of the Energy MCCB, the HTD210H Panel display has extended access functionalities.

It can visualise most of the Energy MCCB measurements additionally to the 20 measurements covered by the embedded display of the Energy MCCB.

The HTD210H Panel display also allows managing alarms and visualising log events (Trips and alarms) which is not possible with the embedded display of the Energy MCCB.

## 2.1 Components overview



	Display part	Description
1	Screen	LCD screen
2	LEDs	<b>Alarm - Communication - Ready</b>
3	RJ9 connector	On the back of device.
4	<b>Contextual</b> key	Functionality depends on the displayed menu.
5	<b>left / OK / right</b> key	Left and right navigation between menus. <b>OK</b> : Confirming entries ( <b>Enter</b> ).
6	<b>back</b> key	One step back or exit the current menu. By holding the key the display changes to Live mode.
7	<b>up / down</b> key	Up and down navigation between menus and submenus.

### Navigation

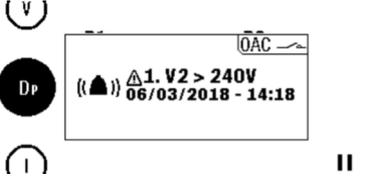
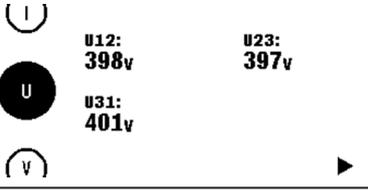
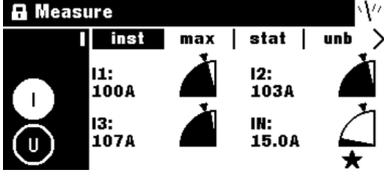
The navigation through the menus is done using the touch keys at the front of the product.

#### NOTE

Do not press the keys, just touch the surface slightly.

### Display

The Display provides different screen views, depending on the corresponding functions:

Display	Menu
	Main Menu
	Alarm pop-up
	Live mode
	Menu (e.g. Measure)

### Standby function

By default the backlight of the display is always on. It can be deactivated in the Configuration menu. If the standby function is activated, the backlight switches on after touching any key. In case of high priority alarm during standby, the display switches on and an alarm pop up is displayed.

**LEDs**

LED	Description	Behaviour
	Alarm with medium and high priority.	red blinking
	Communicating with the Energy MCCB.	yellow blinking
	The device is supplied with power and is ready.	green

**External ports**

External port	Description
Screen	Data connection with the Energy MCCB system and power supply (RJ9 connector).

## 2.2 Menu functions

Overview of the available menu functions of the HTD210H Panel Display.

Screen	Menu	Functions
	Live mode	Standard view of the display - Visualisation of selected measurements (favourites).
	Main menu	- Accessing the menus.
	Measure	- Visualisation of all measurements. - Setting the representation of the measurements.
	Protection	- Management of the Protection settings.
	Alarms	- Management of alarms (Custom, PreTrip, Trip, OAC).
	Configuration	- Setting the screen. - Setting date and time. - Changing the password. - Measurements settings. - Resetting min/max measurement values. - Erasing Trip and Alarm events.
	Information	- Visualisation of trip events and alarm events. - Visualisation of technical information from the connected Energy MCCB and the HTD210H Panel display.

## 2.3 Technical characteristics

### Electrical Characteristics

Rated supply voltage DC	24 V (+/- 30 %) SELV
Consumption	85 mA

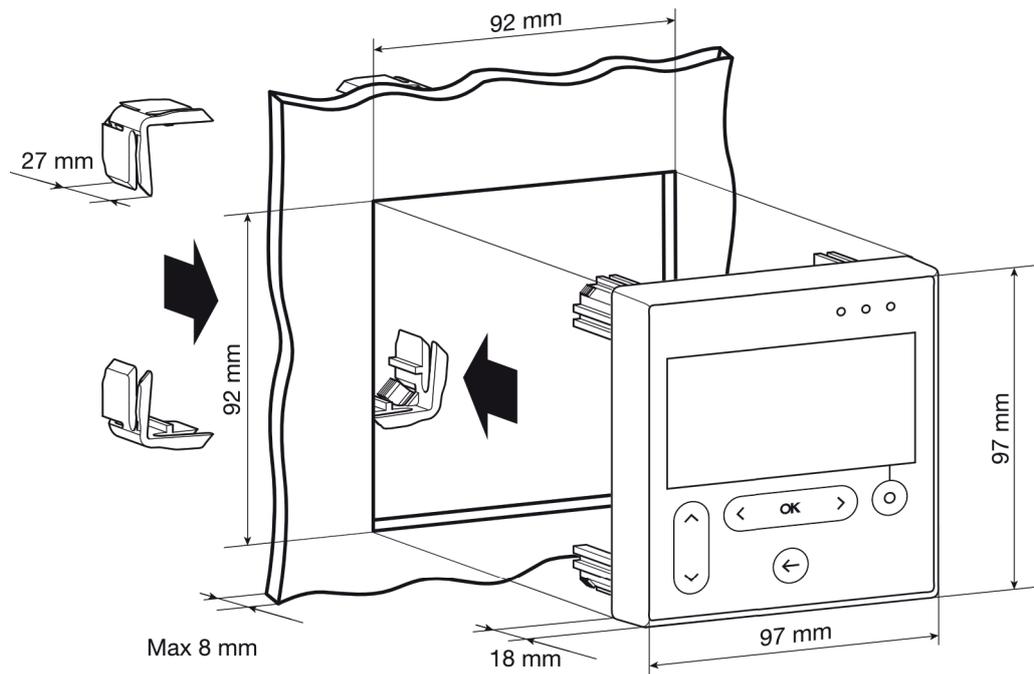
### Environmental and mechanical Characteristics

Operating temperature range	-10 °C...+55 °C
Storage temperature	-20 °C...+70 °C
Degree of pollution	2
Installation category	III
IP rating of front side	IP65
IP rating of back side	IP20
Mechanical protection (front face)	IK07

### Physical characteristics

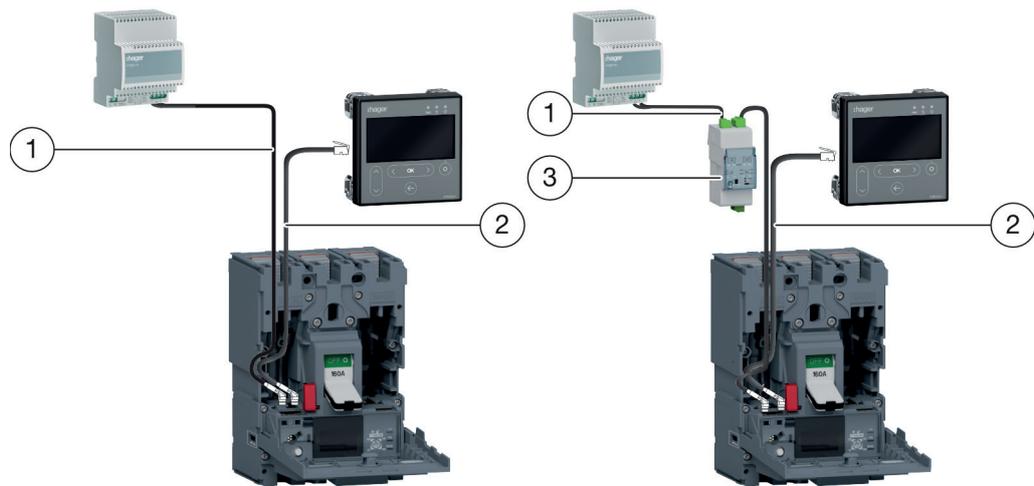
Dimensions W x H x D	97 x 97 x 46 mm
Panel/Door cut-out dimension	92 x 92 mm
Weight	165 g
Screen dimension	37 x 78 mm
Connector type	RJ9
Cable length max	10 m

**2.4 Dimensions and cut-outs**



Dimensions	Width (mm)	Height (mm)	Depth (mm)
HTD210H	97	97	18 (45)
Panel cut-out	92	92	up to 8

## 2.5 Cables and accessories



Power supply by CIP

Power supply by COM module

- |   |                                       |
|---|---------------------------------------|
| 1 | CIP 24 V Adaptor                      |
| 2 | CIP Adaptor for h3+                   |
| 3 | COM module Modbus RTU h3+ without I/O |

Reference	Description	Length (m)
HTC140H	CIP 24 V Adaptor	1.2
HTC310H	COM module Modbus RTU h3+ without I/O	-
HTC320H	COM module Modbus RTU h3+ with I/O	-
HTC330H	CIP Adaptor for h3+	0.5
HTC340H	CIP Adaptor for h3+	1.5
HTC350H	CIP Adaptor for h3+	3.0
HTC360H	CIP Adaptor for h3+	5.0
HTC370H	CIP Adaptor for h3+	10.0

### 3 Connecting and powering the HTD210H Panel display

#### DANGER

##### **Risk of electric shock**

Danger to life, risk of injury due to electric shock, or risk of serious injury.

- Make sure that the device is installed only by a qualified electrician according to the installation standards in force in the country.

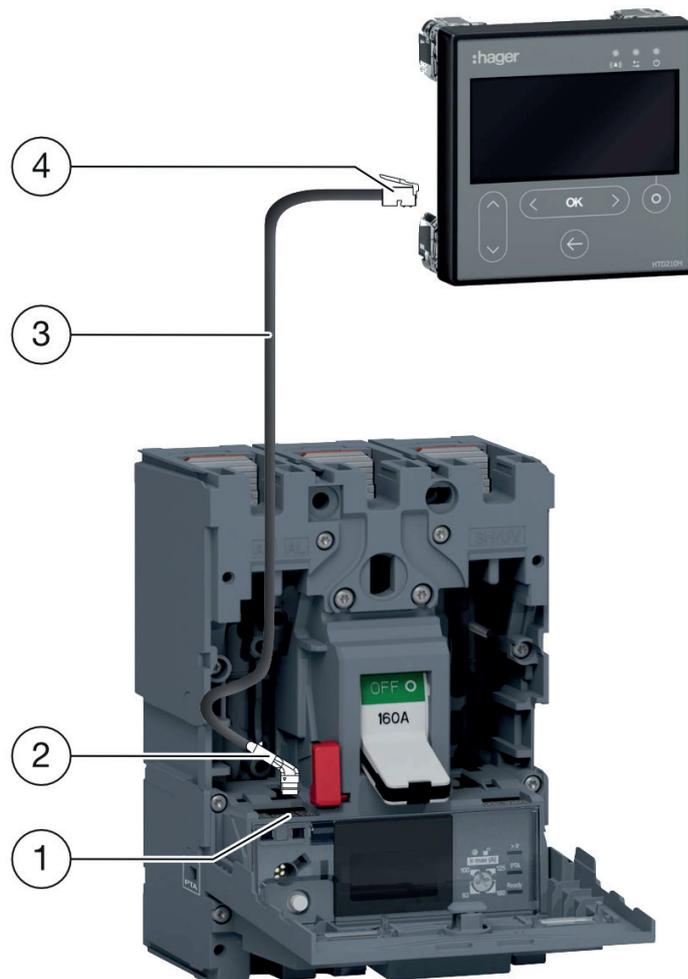
#### NOTICE

##### **Risk of damaging the HTD210H Panel display**

Using a wrong adaptor may result in damaging the device.

- Only connect the RJ9 connector (**Display**) of the HTD210H Panel display to an Energy MCCB using an original Hager HTC3XXH CIP Adaptor.

### 3.1 Connecting the HTD210H Panel display



- 1 | CIP socket
- 2 | CIP connector of the CIP-Adaptor
- 3 | CIP-Adaptor
- 4 | RJ9 plug of the CIP Adaptor

Step	Action
1	Switch the connected Energy MCCB into the "OFF" or "tripped" position. NOTE The front cover of the MCCB can only be opened in the "OFF" or "tripped" position.
2	Open the front cover of the Energy MCCB.
3	Insert the CIP connector of the CIP Adaptor into the CIP socket. NOTICE Risk of damaging plug and socket. - Observe the orientation of the connector. - Do not force to push the connector into the plug.
4	Lead the cable outside the MCCB. - Make sure not to pinch the cables.
5	Lead the cable to the HTD210H Panel display.
6	Connect the RJ9 plug of the CIP Adaptor to the socket named "Display" on the back of the HTD210H Panel display.

## 3.2 Connecting the power supply

### NOTICE

#### Damage of electronic devices

Voltage over 32 V DC will cause damage to the HTD210H Panel display.

- Use only the original Hager HTC3XXH CIP Adaptors to connect and power the HTD210H Panel display.

The 24 V DC power supply of the HTD210H Panel display is not provided by the Energy MCCB. The circuit breaker only passes the power supply to the display via the HTC3XXH CIP Adaptor.

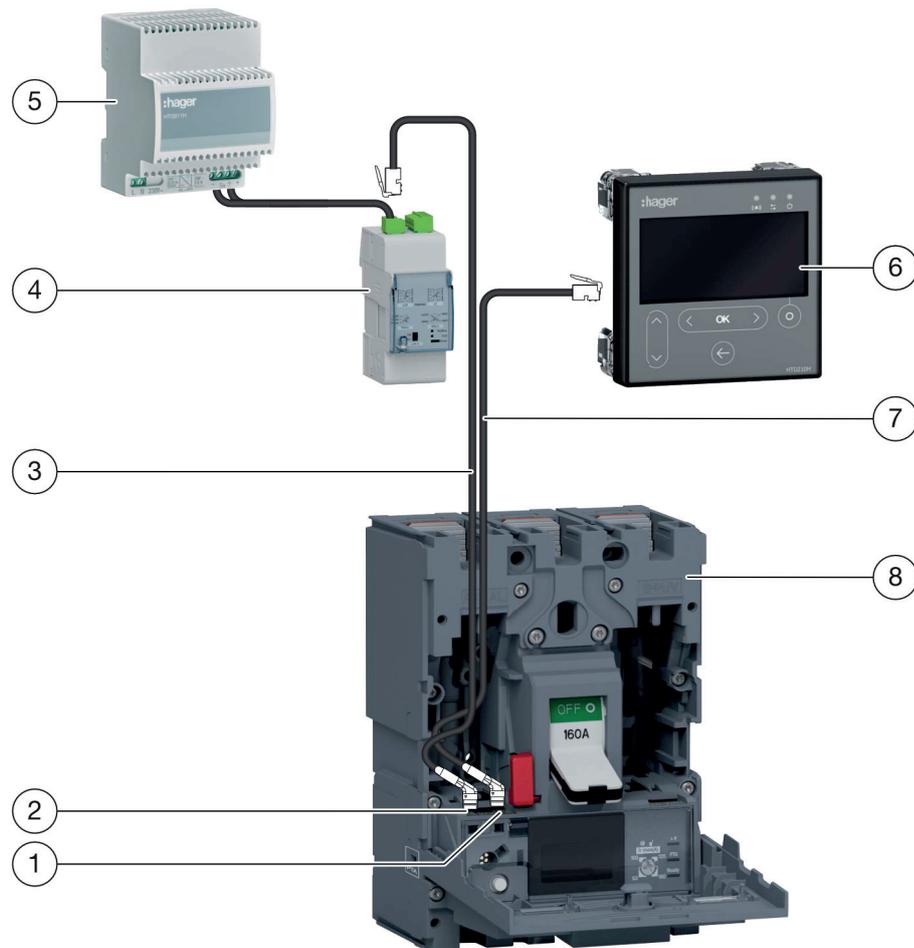
Various adaptors, each with a certain cable length, allow the HTD210H Panel display to be mounted within easy reach of the observer. For example, several units can be mounted at one panel.

There are two ways to power the display:

1. If the COM module for modbus communication is connected to the Energy MCCB, the COM module conveys the 24 V DC power supply.
2. If no COM module is connected, the display must be powered by an external 24 V DC power supply.

It is recommended to use only the HTG911H 24 V DC SELV power supply to ensure the isolation of the equipotential bonding between communicating cables of the h3+ Energy communication system.

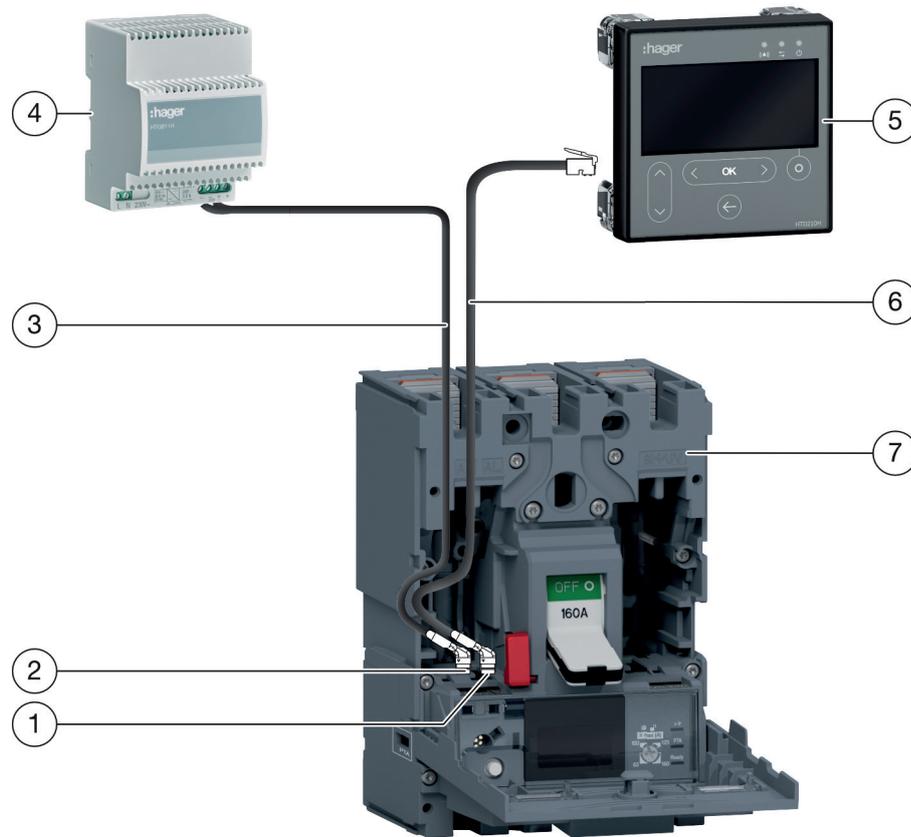
## 1 Powering the Panel display via the COM module



1	CIP connector of the CIP-Adaptor to connect with Panel display	5	Power supply HTG911H
2	CIP connector of the CIP-Adaptor to connect with COM module	6	HTD210H Panel display
3	CIP-Adaptor to connect with COM module	7	CIP-Adaptor to connect with Panel display
4	COM module	8	Energy MCCB

Step	Action
1	Make sure the COM module is connected to the MCCB. If not, insert the CIP connector of the second CIP Adaptor into the free CIP socket. NOTICE Risk of damaging plug and socket. - Observe the orientation of the connector.
2	Lead the second CIP Adaptor outside the MCCB.
3	Close the front cover of the MCCB.
4	Insert the RJ9 Plug of the second CIP Adaptor into the COM socket of the COM module (HTC310H/HTC320H).
5	Make sure that the COM module (HTC310H/HTC320H) is connected to a 24 V DC power supply. If this is not the case, connect the recommended Power supply HTG911H to the 24 V DC terminal of the COM module.

2 Powering the Panel display directly via an external power supply



1	CIP connector of the CIP-Adaptor to connect with Panel display	5	HTD210H Panel display
2	CIP connector of the CIP-Aadaptor to connect with power supply	6	CIP-Aadaptor to connect with Panel display
3	CIP-Adaptor to connect with power supply	7	Energy MCCB
4	Power supply HTG911H		

Step	Action
1	Insert the connector of the CIP-24 V Adaptor in the free CIP socket of the MCCB. NOTICE Risk of damaging plug and socket. - Observe the orientation of the connector.
2	Close the front cover of the MCCB.
3	Connect the recommended Power supply HTG911H with the 0 V / 24 V wires of the CIP 24 V Adaptor.

### 3.3 First power-up

When first powered up, the Panel display starts with the Language settings menu after having displayed the Startup screen. The language English is preset. If this is appropriate, confirm with the **OK** key.



#### Changing the language:

Key	Step/Action	Screen
	1. Select another language.	
	2. Confirm the selection. - The selected language will appear on the display. - The display switches to Live mode.	

#### NOTES

The language can also be changed within the Configuration menu (refer to Configuration menu on page 59).

It is recommended to change the password after the first power up (refer to Configuration menu on page 59).

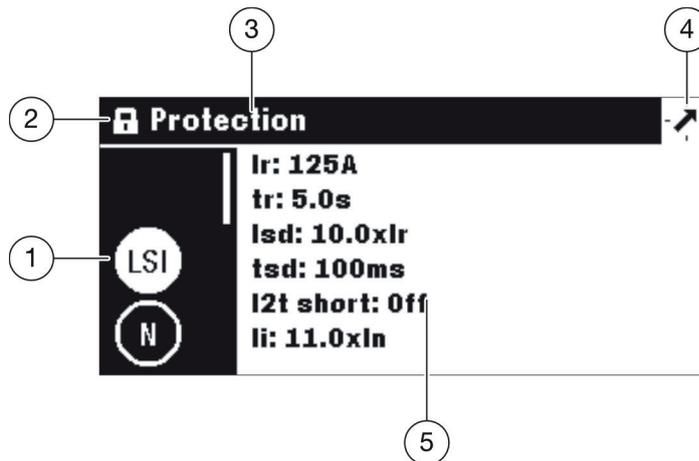
## 4 Display modes and navigation

This chapter gives an overview of the display modes and the navigation within **Live mode** and the **Main menu**.

### 4.1 Navigation

#### Display principle

The display principle is nearly identical within all menus.



1	Submenus
2	Padlock symbol: Menu is protected
3	Name of menu
4	Icon of menu
5	Data window

#### Submenus

Each icon refers to a submenu. The activated submenu is highlighted. To select a submenu navigate using up / down keys.

#### Padlock symbol

The padlock in locked position indicates that the content of this menu is protected by a password. To unlock the protection, refer to Locked/Unlocked mode on page 32.

An unlocked menu has no padlock symbol.

## Data window

The Data window displays several information depending on the selected submenu:

- Settings within submenus
- Information
- Second level submenus

All inputs are done using the touch keys.

Key	Name	Description
	<b>Contextual</b>	- Functionality depends on the displayed menu
	<b>left / OK / right</b>	- Left and right navigation within menus and submenus. - <b>OK</b> : Confirming entries ( <b>Enter</b> ).
	<b>Back</b>	- One step back. - Hold the key to exit the current menu and enter <b>Live mode</b> .
	<b>up / down</b>	- <b>Up</b> and <b>down</b> navigation within menus and submenus

## Meaning of left / OK / right symbols in the manual

In this manual the, **left / OK / right** symbol is represented as follows depending on the key to use:

	Touch the <b>OK</b> key to confirm entries ( <b>Enter</b> ).
	Touch the <b>left</b> and/or <b>right</b> navigation key to scroll through values, for example.

## 4.2 Start-up screen

The Panel display starts as soon as it is powered up. If the communication with the Energy MCCB is available, the Start-up screen is displayed and the communication between the HTD210H Panel display and the Energy MCCB is tested.



While the Start up screen is displayed, the Panel display is fetching its configuration settings stored in the Energy MCCB. If the stored data is corrupted or empty (e.g. on first power up), default values will be set.

After the successful start-up sequence the display switches automatically to Live mode (see page 28) and the green LED indicates that the device is ready.

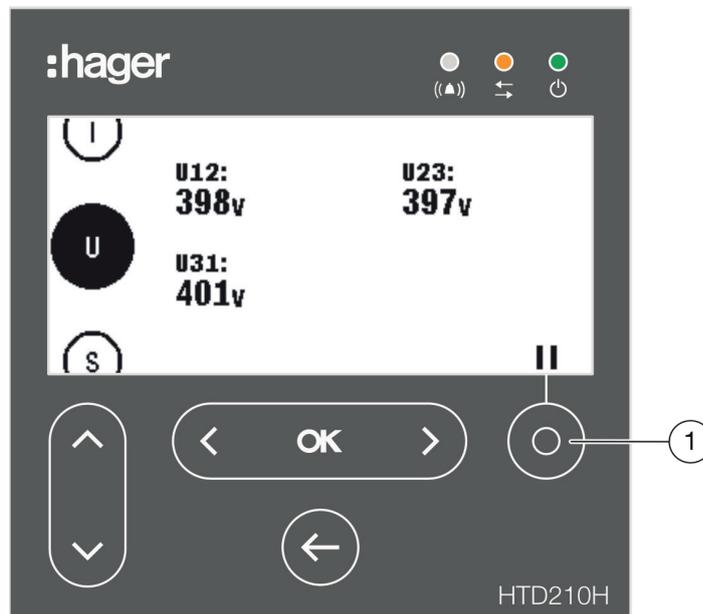
### Start-up failures

If the start-up has failed, the Panel display shows various signs of dysfunction depending on the origin of the failure.

Please refer to the chapter Assistance on page 69 for more explanation.

### 4.3 Live mode

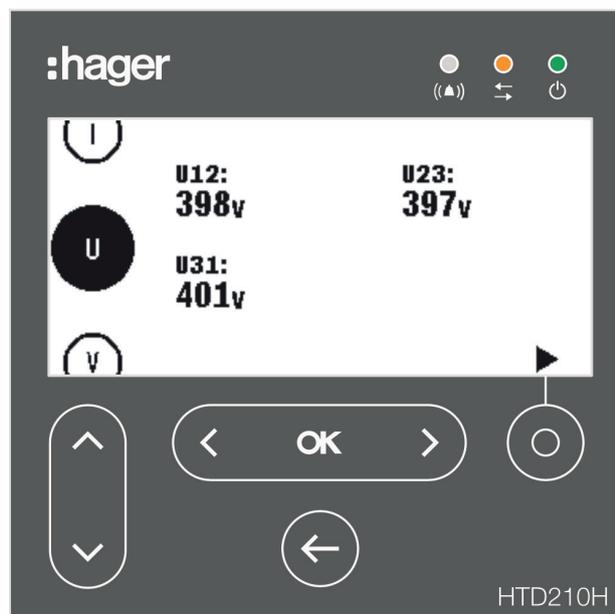
After start-up or if there is no user action within a menu for 2 minutes, the display switches automatically to Live mode.



Live mode displays the measurement screen views set as favourites in the Measure menu. To set the favourites refer to Setting favourites and representation on page 44.

The display shows each value for about 3 seconds and then scrolls to the next value.

Use the **Contextual** key (1) to pause or to continue the animation.



Live mode paused

NOTE

I, U and V measurement values are set as favourite by default. These values are displayed in Live mode at first start-up of an Energy MCCB.

**Display options within Live mode**

For representing screen views of voltage, current and power, the following options are available:

Value	Bar graph	Gauge

To change the type of the representation use the **left** or **right** keys.

**NOTE**

The representation chosen in the Live mode menu is automatically applied to the concerned screen view in the Measure menu.

**Navigation in Live mode**

Key	Navigation
	- Pause and start the live animation.
	- Change the display representation: numerical, gauge, bar graph (possible during running or paused animation).
	- Open the Main menu (possible during running or paused animation).
	- Scroll up and down through the displayed favourite measurements (possible during running or paused animation).

### 4.4 Main menu

The Main menu gives access to the menus. By default, the Measure menu is preselected.



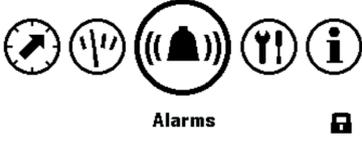
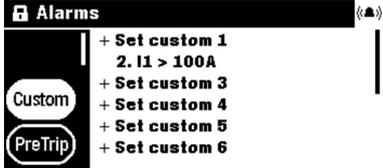
There are 5 menu items:

Symbol	Menu	Functions
	Protection	- Changing and displaying the protection settings.
	Measure	- Displaying the available measurements. - Setting favourites.
	Alarms	- Changing and displaying the available alarms.
	Configuration	- Changing and displaying device settings of the connected Energy MCCB and the Panel display.
	Information	- Displaying device information of the connected Energy MCCB and the Panel display. - Displaying information about events/alarms. - Displaying the status of the Energy MCCB.

**Opening the Main menu from Live mode**

Key	Step/Action	Screen
 or 	1. Stop Live mode. - The Main menu opens with the Measure menu preselected.	

**Selecting and opening a menu**

Key	Step/Action	Screen
	1. Select a menu.	
	2. Open the menu.	

## 4.5 Locked/Unlocked mode

Most of the menus and functions are protected with a password to lock the modification of most of the settings.

Locked functions or menus are labelled with a padlock symbol.

Symbol	State	Description
	Locked	Function is password-protected and locked.
	Unlocked	Function unlocked and no more password-protected.
	Locked (blinking)	Selected menu or function is password-protected. Enter the password to unlock the function.

### Locked Menus

The following menus are locked by default:

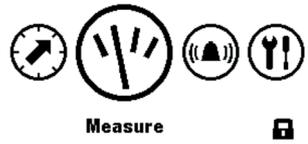
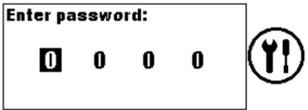
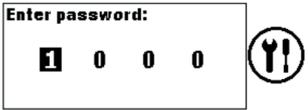
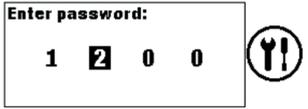
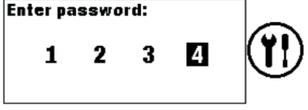
- Protection
- Alarms
- Configuration:
  - Setting date and time
  - Changing the password
  - Measurement settings
  - Resetting the min/max measurements
  - Erasing alarms and trip events

### Password

The HTD210H Panel display is delivered with the predefined password '3333'.

If the predefined password is not working, refer to your delivery documents for the predefined password.

Unlocking a menu or function using the password 1-2-3-4, for example

Key	Step/Action	Screen
 or 	1. Open the Main menu. - The closed lock symbolizes that the display is locked.	
	2. Open the password input menu. - The password consist of 4 digits.	
	3. Increase / decrease the value of the digits.	
	4. Select the next digit and set the values.	
	5. Confirm your entry.	
	RESULT: - The display is unlocked. - The lock symbol is open.  - The submenus are locked no longer.	
	X If the password is incorrect, enter it again.	

## 4.6 Alarm warnings

### Alarm priorities

The Panel display manages the alarm warnings depending on the priority level:

Priority	Actions			
	Stored as alarm event	Stored in active alarms list*	Alarm pop-up**	Alarm LED blinking
Low	x			
Medium	x	x		x
High	x	x	x	x

(\*) Stored in active alarms list: In Live mode only, an alarm icon is displayed above the Contextual key, as a contextual icon. If no alarm pop-up is displayed, the alarm can be recalled by touching the Contextual key.

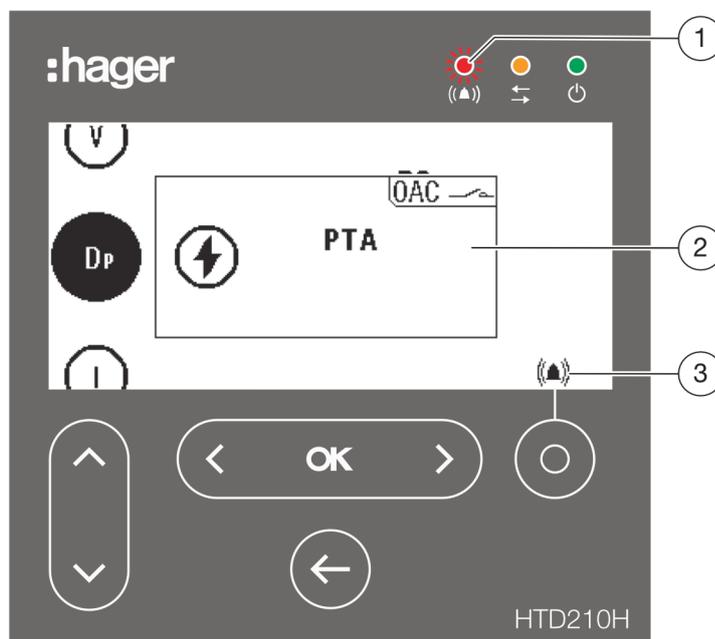
(\*\*) Alarm pop-up: The alarm pop-up is immediately displayed (regardless of mode).

#### NOTE

When an alarm with low priority occurs, it is not notified by the display.

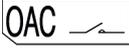
### Alarm warnings

High priority alarms are signalled by an Alarm pop-up.

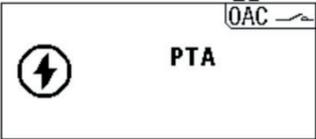
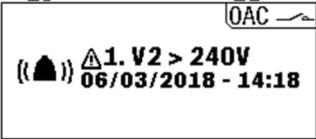


- 1 Alarm LED
- 2 Alarm pop-up
- 3 Icon Active alarms list

**Alarm pop-up description**

	Trip alarm
	Alarm event
	Occurs when the active alarm has been assigned to the OAC output contact. It indicates that the OAC contact has switched to its active state. The OAC can be assigned to one of the 12 custom alarms, the overload Pre-trip alarm PTA or a System alarm (Trip-unit internal error, Trip-unit overtemperature, Neutral-pole disconnection).

**Alarm pop-up example**

  		<p><b>Pre-trip alarm</b></p> <p>Occurs when the load current of the circuit breaker has reached the defined Threshold (default 90 % I<sub>r</sub>).</p>
  		<p><b>Trip test</b></p> <p>Has occurred on the 06/03/2018 at 14:35; a trip test was performed via the h3+ Configuration tool HTP610H.</p>
  		<p><b>Custom alarm nb 1</b></p> <p>Has occurred on the 06/03/2018 at 14:18; voltage on phase 1 V2 &gt; 240 V</p>

**Acknowledging alarm pop-ups**

Occurring alarm pop-ups with high priority must be acknowledged.

Acknowledging alarms with high priority:

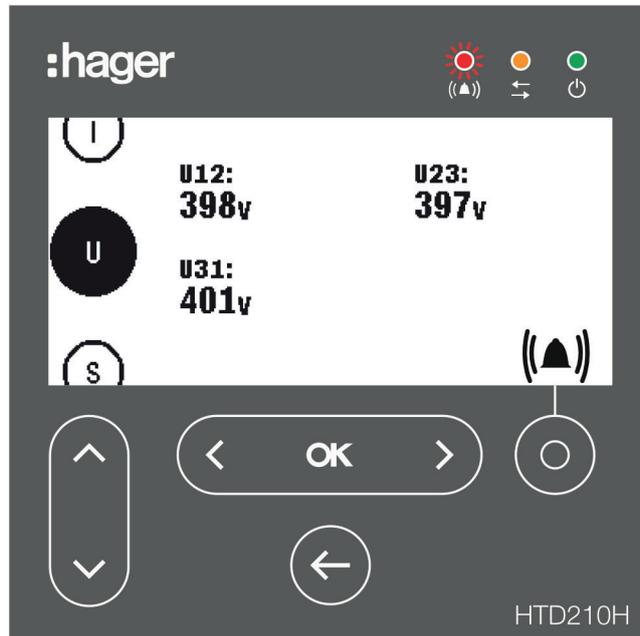
Key	Step/Action
	1. Acknowledge the alarm pop-up. - The pop-up disappears.

**NOTE**

After being acknowledged, the alarm may be still active if the cause is not eliminated. In this case the alarm pop-up can be recalled via the active alarms list.

**Active alarms list**

All descriptions of active alarms with medium or high level of priority are accessible in the active alarms list using the **Contextual** key.

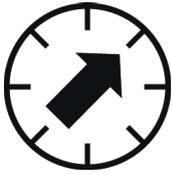


High priority level active alarm pop-ups can be recalled after having been acknowledged using the **Contextual** key when the alarm icon is displayed.

Active alarms with medium priority level, can be displayed as pop-ups using the **Contextual** key when the alarm icon is displayed.

Key	Step/Action	Screen
	1. Open the active alarms list.	
	2. In case of several active alarms: - Go to the next or previous alarm pop-up.	

## 5 Protection menu



This chapter gives an overview of the Protection settings menu and the adjustable parameters of the connected Energy MCCB.

### 5.1 Submenus

In the Protection menu the protection settings of the connected Energy MCCB can be displayed and modified.



The modification of these settings is protected by a password, refer to Locked/ Unlocked mode on page 32.

As long as the menu is locked, the settings are protected against unauthorised changes.

#### Available submenus



Submenus	Attribute
	L: Long-time protection S: Short-time protection I: Instantaneous protection
	N: Neutral protection
	G: Ground fault protection
	Only available on P250 and upper sizes of Energy circuit breakers: - Short: Zone Selective Interlocking (ZSI) protection on Short-time currents. - Ground: Zone Selective Interlocking (ZSI) protection on Ground fault currents.

## 5.2 Navigation and modifying setting

NOTE

The Display must be in Unlocked mode for modifying the settings, refer to Locked/Unlocked mode on page 32.

Key	Step/Action	Screen
	1. Open the Protection menu.	
	2. Select a submenu. - The selected submenu is highlighted. - The adjustable parameters are displayed in the Data window.	
	3. Confirm the selection. - The first parameter in the Data window is highlighted.	
	4. Select a parameter. - The selected parameter is highlighted.	
	5. Confirm the selection. - A pop-up window of editing the selected parameter opens.	
	6. Set the desired value of the Energy MCCB settings.	
	7. Confirm the setting. - The new setting is displayed in the Data window.	
	8. Return to the Protection menu.	
	9. Return to the Main menu.	

### 5.3 Submenu contents

Attribute	Parameter	Unit	Description
L	lr	A	Range depending on In rating, set in step of 1.
	tr	s	0.5, 1.5, 2.5, 5.0, 7.5, 9.0, 10.0, 12.0, 14.0, 16.0
S	l <sub>sd</sub>	x Ir	1.5 to 10 in steps of 0.5; Off; default enabled, if disabled, tsd and I <sub>2t</sub> short will be hidden.
	tsd	ms	50, 100, 200, 300, 400
	I <sub>2t</sub> short	-	On / Off; default Off; if enabled a I <sup>2t</sup> curve is added to Short-time protection.
I	li	x In	Range depending on In rating, set in steps of 0.5.

Attribute	Parameter	Unit	Description
N	IN / Ir (%)	% Ir	50 / 100 / Off; to be kept at Off for 3P circuit breakers.

Attribute	Parameter	Unit	Description
G	Ground	-	Off / 3P / 4P; default enabled; if disabled, I <sub>g</sub> , t <sub>g</sub> and I <sub>2t</sub> ground will be hidden.
	I <sub>g</sub>	x In	Range depending on In rating, set in steps of 5.
	t <sub>g</sub>	ms	50, 100, 200, 300, 400, 500
	I <sub>2t</sub> ground	-	On / Off; default Off; if enabled a I <sup>2t</sup> curve is added to Ground fault protection.

Attribute	Parameter	Unit	Description
ZSI	Short	-	On / Off; default Off; If I <sub>sd</sub> is disabled, it will be hidden.
	Ground	-	On / Off; default Off; If Ground is disabled, it will be hidden.

NOTE

The ZSI submenu is only available on P250 and upper-size Energy circuit breakers. For more explanation on ZSI, refer to the h3+ Communication system manual (see Related documents on page 10).



## 6 Measure menu



This chapter gives an overview of the Measure menu contents of the connected Energy MCCB.

### 6.1 Submenus

In the Measure menu, most measurements of the corresponding Energy MCCB can be displayed.



#### NOTE

The representation of the individual measured values (value, bar graph or gauge), depends on the favourite settings made in the Measure menu or on the representation view in Live mode.

#### Easy navigation

To allow a clear navigation within the Measure menu, the information is sorted by submenu (current, voltage, power ...) and label (P, Q, S, Pmax ...).

Each measurement view provides a contextual menu for setting the favourites and the representation of measurement values.

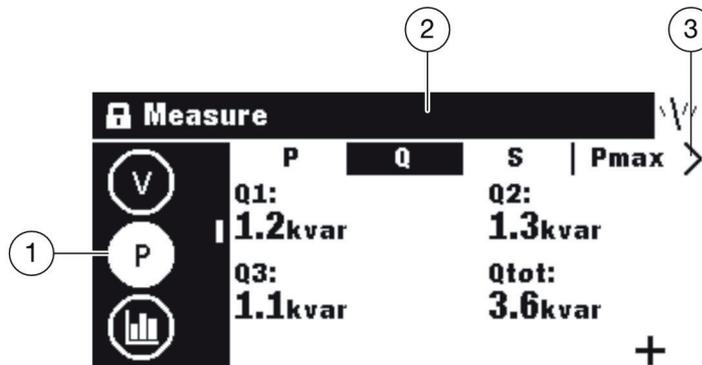
Available submenus



Symbol	Functions
I	Current measurements
U	Phase-to-phase voltage measurements
V	Phase-to-neutral voltage measurements
P	Active power, Reactive power, Apparent power and maximum values
	On-demand measurements
PF	Power factor and $\cos \phi$
THD	Total harmonic distortion
E	Energy
F	Frequency and others

## 6.2 Navigation within the Measure menu

The navigation in the Measure menu is done vertically to select a submenu. The navigation in a submenu is done horizontally to select a labelled screen view. Each submenu has several labelled screen views except the F submenu with only one screen view.



### 1 Submenus

- The selected submenu icon is highlighted.
- To navigate:



### 2 Labels of screen view

- The label of the selected screen view is highlighted.
- To navigate:



### 3 Icon Invite to right views

- Indicates that there are more screen views.

### 6.3 Setting favourites and representation

Each measurement screen view can be selected as a favourite to be displayed in Live mode.

Following screen views are selected as default favourites and displayed in Live mode.

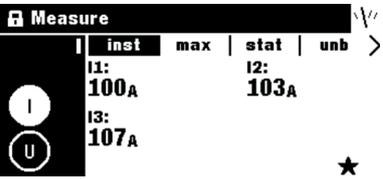
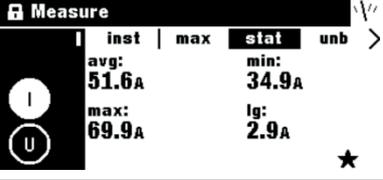
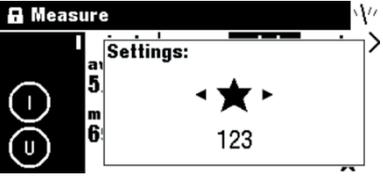
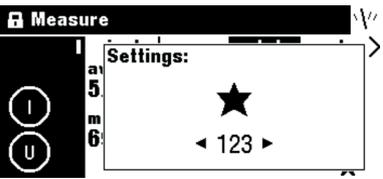
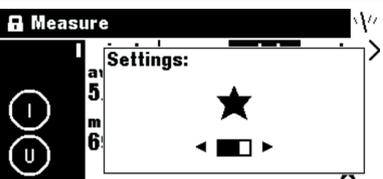
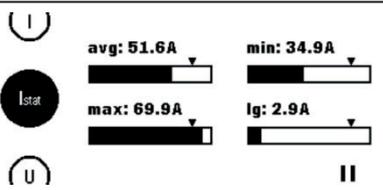
#### Setting Favourites

Key	Step/Action	Screen
	1. Open the Measure menu	<p>Measure </p>
	2. Select a submenu. - The selected submenu icon is highlighted.	
	3. Select the desired screen view. - The selected screen view label is highlighted. - The screen view status is displayed in the lower right corner:  Parameter already set as favourite ★ Parameter not set as favourite +	
	4. Open the Settings pop-up.	
	5. Set or unset the favourite status as follows:  Unset as favourite ★ Set as favourite ★	
	6. Exit the Measure menu. RESULT: Back in Live mode the favourite screen views are displayed.	<p>Measure </p>

**Changing the representation**

For most of the screen view, the following 3 representation options are available:

Numerical	Gauge	Bar graph
◀ 123 ▶	◀  ▶	◀  ▶

Key	Step/Action	Screen
 + 	1. Open the Measure menu	 Measure 
	2. Select a submenu. - The selected submenu icon is highlighted.	
	3. Select the desired screen view. - The selected screen view label is highlighted.	
	4. Open the Settings pop up.	
	5. Select the representation settings	
	6. Select the desired kind of representation.	
	7. Confirm your selection. RESULT: Back in Live mode the favourite screen views are displayed.	

## 6.4 Measurements Settings

### Current



inst	max	stat	unb	misc
[A]: rms current I1, I2, I3 and IN (neutral)	[A]: Last maximum rms current I1, I2, I3 and IN (neutral) (with date and time stamp); can be reset.	[A] avg: Arithmetic average current of I1, I2 and I3  [A] min: Minimum instantaneous rms current between I1, I2 and I3  [A] max: Maximum instantaneous rms current between I1, I2 and I3  [A] Ig: rms value of the calculated current Ig	[%]: Unbalanced I1, I2, I3, IN vs. Arithmetic average current avg.  The unbalanced values are signed.	[A] max: Last maximum current value between I1, I2, I3; can be reset.  [A] Ig Max: Last maximum rms value of the calculated current Ig; can be reset.  [%] Unb Max: Last Maximum of unbalanced current; can be reset.

### Voltage – Phase-to-phase



inst	max	unb	avg
[V] U12: rms phase 1 to phase 2 voltage.	[V] U12: Last maximum rms of U12 (date and time stamped); can be reset.	[%] U12: unbalanced U12 voltage vs average phase-to-phase voltage.	[V] U: Arithmetic average of U12, U23 and U31.
[V] U23: rms phase 2 to phase 3 voltage.	[V] U23: Last maximum rms of U23 (date and time stamped); can be reset.	[%] U23: unbalanced U23 voltage vs average phase-to-phase voltage.	[V] max: Maximum arithmetic average of U12, U23 and U 31; can be reset.
[V] U31: rms phase 3 to phase 1 voltage.	[V] U31: Last maximum rms of U31 (date and time stamped); can be reset.	[%] U31: unbalanced U31 voltage vs average phase-to-phase voltage. Add:  [%] max: maximum unbalanced voltage vs average phase-to-phase voltage.	

**Voltage – Phase to neutral**



inst	max	unb	avg
[V] V1N: rms phase 1 to neutral voltage.	[V] V1N: Last maximum rms of V1N (date and time stamped); can be reset.	[%] V1N: unbalanced V1N voltage vs average phase-to-neutral voltage.	[V] V: Arithmetic average of V1N, V2N and V3N.
[V] V2N: rms phase 2 to neutral voltage.	[V] V2N: Last maximum rms of V2N (date and time stamped); can be reset.	[%] V2N: unbalanced V2N voltage vs average phase-to-neutral voltage.	[V] max: Maximum of arithmetic average of V1N, V2N and V3N; can be reset.
[V] V3N: rms phase 3 to neutral voltage.	[V] V3N: Last maximum rms of V3N (date and time stamped); can be reset.	[%] V3N: unbalanced V3N voltage vs average phase-to-neutral voltage.	
		[%] max : maximum of unbalanced voltage vs average phase-to-neutral voltage.	

**Power / Max power**



P	Q	S	Pmax	Qmax	Smax
[kW] P1, P2, P3: Phase active power.	[kvar] Q1, Q2, Q3: Phase reactive power.	[kVA] S1, S2, S3: Phase apparent power.	[kW] P1, P2, P3: Phase active power; can be reset.	[kVAR] Q1, Q2, Q3: Phase reactive power; can be reset.	[kVA] S1, S2, S3: Phase apparent power; can be reset.
[kW] Ptot: Total active power.	[kvar] Qtot: Total reactive power.	[kVA] Stot: Total apparent power.	[kW] Ptot: Total active power; can be reset.	[kVAR] Qtot: Total reactive power; can be reset.	[kVA] Stot: Total apparent power; can be reset.

**On-demand power / Max on-demand power**



P	Q	S	Pmax	Qmax	Smax
[kW] P1, P2, P3: Phase on demand active power.	[kvar] Q1, Q2, Q3: Phase on demand reactive power.	[kVA] S1, S2, S3: Phase on demand apparent power.	[kW] P1, P2, P3: Maximum phase on demand active power; can be reset.	[kVAR] Q1, Q2, Q3: Maximum phase on demand reactive power; can be reset.	[kVA] S1, S2, S3: Maximum phase on demand apparent power; can be reset.
[kW] Ptot: Total on-demand active power.	[kvar] Qtot: Total on demand reactive power.	[kVA] Stot: Total on demand apparent power.	[kW] Ptot: Maximum total on demand active power; can be reset.	[kVAR] Qtot: Maximum total on demand reactive power; can be reset.	[kVA] Stot: Maximum total on demand apparent power; can be reset.

**Power factor**



Pow. Fact.	cosφ
PF1-3: Power factor on phase 1-3	cosφ1-3: Fundamental power factor on phase 1-3
PF tot: Total power factor	cosφTot: Total fundamental power factor

**Total harmonic distortion**



U [%]	V [%]	I [%]
U12: THD of U12	V1N: THD of V1N	I1: THD of I1
U23: THD of U23	V2N: THD of V2N	I2: THD of I2
U31: THD of U31	V3N: THD of V3N	I3: THD of I3
		I <sub>Max</sub> : Maximum THD between I1, I2 and I3

**Energy**



Ea	Er	Es
[kWh] EaIn: Direct active energy	[kVARh] ErIn: Direct reactive energy	[kVAh] Es: Apparent energy
[kWh] EaOut: Reverse active energy	[kVARh] ErOut: Reverse reactive energy	

**Network**



Network
[Hz] Frequency
Quadrant: Power operating quadrant
rot. field: current order of phase sequence < 1, 3, 2 or 1, 2, 3 >

## 7 Alarms menu



This chapter gives an overview of the Alarms menu.

Setting and editing alarms will be explained.

### 7.1 Submenus

In the Alarms menu the following parameters can be set and modified:

- Custom alarms
- Pre-trip alarm
- Trip alarms
- OAC output contact



The modification of these settings is protected by a password, refer to Locked/Unlocked mode on page 32.



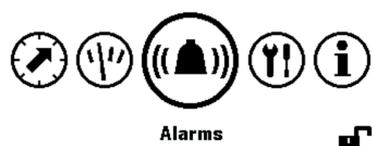
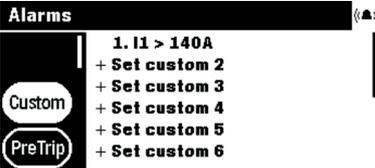
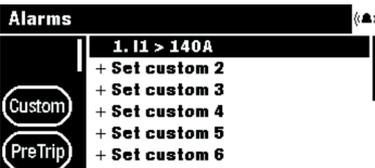
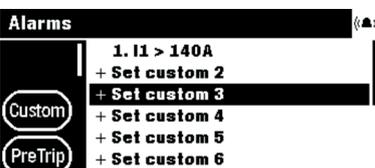
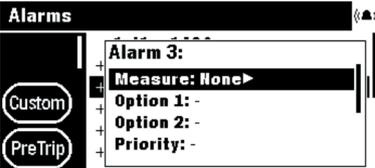
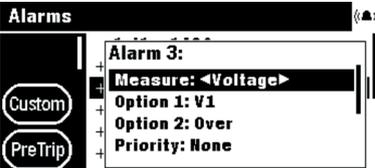
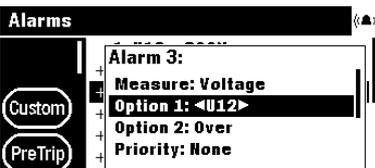
Submenu	Attribute
<b>Custom</b>	<p>Custom alarm</p> <ul style="list-style-type: none"> <li>- Up to 12 custom alarms can be defined to audit an event of measurement by definition of thresholds and time delays. Several parameters allow to set the condition for activation and the priority level.</li> </ul>
<b>PreTrip</b>	<p>Pre-trip alarm</p> <ul style="list-style-type: none"> <li>- A Pre-trip alarm (PTA) is a predefined alarm that drives the behaviour of the PTA LED on the Energy MCCB and the PTA output contact. Its priority is fixed as a high level one. When the PTA is activated, a related pop up is displayed on the Panel display. Its threshold can be modified in the PreTrip submenu.</li> </ul>
<b>Trip</b>	<p>Trip alarm</p> <ul style="list-style-type: none"> <li>- There are 5 kinds of Trip alarms corresponding to the following trip events: <ul style="list-style-type: none"> <li>- Long-time trip L</li> <li>- Short-time trip S</li> <li>- Instantaneous trip I</li> <li>- Ground fault trip G, trip test (test performed with h3+ Configuration tool)</li> </ul> </li> </ul> <p>For a Trip alarm, only its priority level can be set.</p>
<b>OAC</b>	<p>OAC output contact</p> <ul style="list-style-type: none"> <li>- One of the following alarm types can be assigned to the OAC output contact: <ul style="list-style-type: none"> <li>- overload pre-alarm PTA</li> <li>- Custom alarm</li> <li>- System alarm</li> <li>- Default assigned to overload pre-alarm PTA.</li> </ul> </li> <li>- The behaviour of OAC contact can be set to the following modes: <ul style="list-style-type: none"> <li>- Automatic (no acknowledgement required)</li> <li>- Latching (need to be acknowledged by Modbus communication)</li> </ul> </li> </ul>

## 7.2 Navigation and setting

NOTE

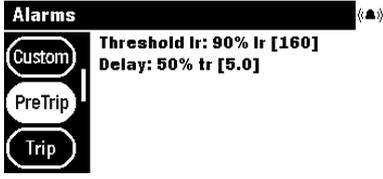
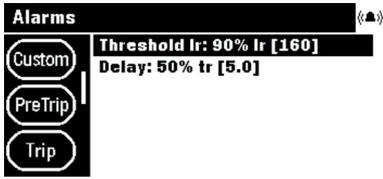
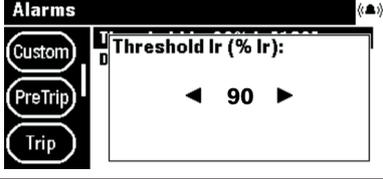
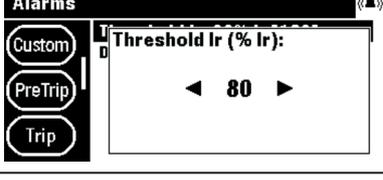
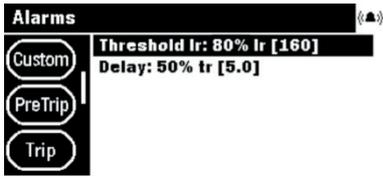
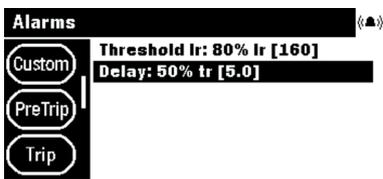
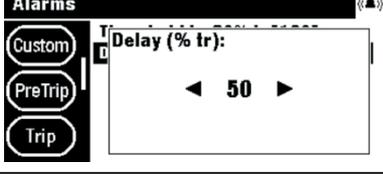
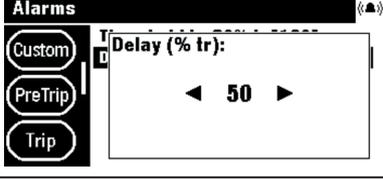
The display must be unlocked to set alarms, refer to Locked/Unlocked mode on page 32.

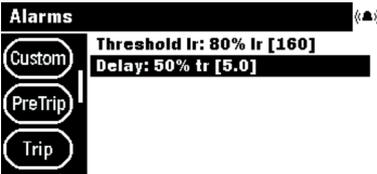
### Displaying and setting custom alarms

Key	Step/Action	Screen
 	1. Open the Alarms menu.	 <p style="text-align: center;">Alarms</p>
 	2. Select Custom. - All defined and undefined custom alarms are displayed.	
	3. Confirm the selection. - The first parameter of the custom alarms list is highlighted.	
 	4. Select the desired custom alarm to display or to modify the settings.	
	5. Confirm the selection. - The alarm settings pop up opens. - The first parameter <b>Measure</b> has to be set. This parameter defines the type of measurement to be assigned to this custom alarm.	
	6. Select the type of measurement.	
  	7. Select and set the complementary attribute of this type of measurement.	

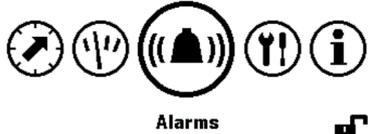
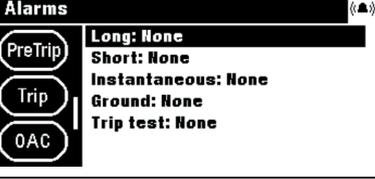
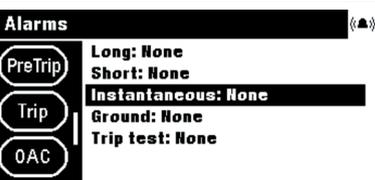
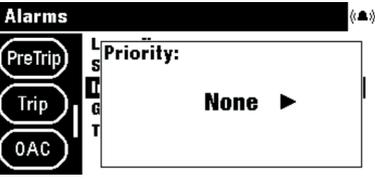
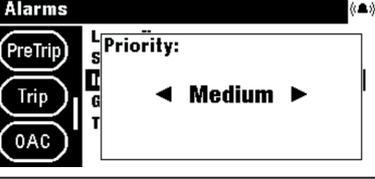
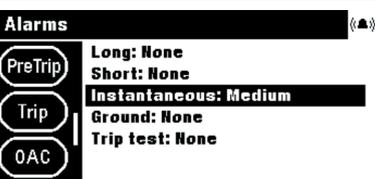
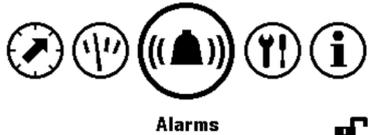
Key	Step/Action	Screen
  	8. Select and set the alarm activation condition (Option 2).	
  	9. Select and set the alarm priority.	
  	10. Select and set activation thresholds and time delays: <ul style="list-style-type: none"> <li>- threshold: Pick-up value</li> <li>- threshold: Drop-out value</li> <li>- time delay: Pick-up delay</li> <li>- time delay: Drop-out delay</li> </ul>	
	11. Confirm the settings. <ul style="list-style-type: none"> <li>- The new custom alarm is set.</li> </ul>	
	12. Return to the Alarms menu.	

Displaying and setting Pre-trip alarms

Key	Step/Action	Screen
 	1. Open the Alarms menu.	 <p style="text-align: center;">Alarms </p>
 	2. Select PreTrip. - The selected submenu icon is highlighted. - The adjustable parameters are displayed in the Data window.	 <p>Alarms </p> <p>Custom Threshold Ir: 90% Ir [160] Delay: 50% tr [5.0]</p> <p>PreTrip</p> <p>Trip</p>
	3. Confirm the selection. - The threshold parameter is highlighted.	 <p>Alarms </p> <p>Custom Threshold Ir: 90% Ir [160] Delay: 50% tr [5.0]</p> <p>PreTrip</p> <p>Trip</p>
	4. Confirm the selection of the threshold parameter. - The threshold pop-up is displayed.	 <p>Alarms </p> <p>Custom Threshold Ir (% Ir):</p> <p>◀ 90 ▶</p> <p>PreTrip</p> <p>Trip</p>
	5. Set the Ir threshold of the Pre-trip alarm.	 <p>Alarms </p> <p>Custom Threshold Ir (% Ir):</p> <p>◀ 80 ▶</p> <p>PreTrip</p> <p>Trip</p>
	6. Confirm the Ir threshold.	 <p>Alarms </p> <p>Custom Threshold Ir: 80% Ir [160] Delay: 50% tr [5.0]</p> <p>PreTrip</p> <p>Trip</p>
 	7. Select the delay parameter.	 <p>Alarms </p> <p>Custom Threshold Ir: 80% Ir [160] Delay: 50% tr [5.0]</p> <p>PreTrip</p> <p>Trip</p>
	8. Confirm the selection.	 <p>Alarms </p> <p>Custom Delay (% tr):</p> <p>◀ 50 ▶</p> <p>PreTrip</p> <p>Trip</p>
	9. Set the Pre-trip alarm delay (default 50% of tr).	 <p>Alarms </p> <p>Custom Delay (% tr):</p> <p>◀ 50 ▶</p> <p>PreTrip</p> <p>Trip</p>

Key	Step/Action	Screen
	<p>10. Confirm the Pre-trip alarm delay. - The new parameters for the alarm type are set.</p>	
	<p>11. Return to the Alarms menu.</p>	

Displaying and setting Trip alarms

Key	Step/Action	Screen
 	1. Open the Alarms menu.	 <p style="text-align: center;">Alarms </p>
 	2. Select Trip. - The selected alarm type is highlighted. - The adjustable parameters are displayed in the Data window.	 <p>Alarms </p> <p>PreTrip Long: None                      Short: None                      Trip Instantaneous: None                      OAC Ground: None                      Trip test: None</p>
	3. Confirm the selection. - The first parameter is highlighted.	 <p>Alarms </p> <p>PreTrip Long: None                      Short: None                      Trip Instantaneous: None                      OAC Ground: None                      Trip test: None</p>
 	4. Select the parameter to be modified.	 <p>Alarms </p> <p>PreTrip Long: None                      Short: None                      Trip Instantaneous: None                      OAC Ground: None                      Trip test: None</p>
	5. Confirm the selection. - The alarm settings pop up opens.	 <p>Alarms </p> <p>PreTrip L S T G T Priority:                      Trip None ▶                      OAC</p>
	6. Select a value.	 <p>Alarms </p> <p>PreTrip L S T G T Priority:                      Trip ◀ Medium ▶                      OAC</p>
	7. Confirm the setting. - The new value for this parameter is set.  To set the other parameters return to step 3.	 <p>Alarms </p> <p>PreTrip Long: None                      Short: None                      Trip Instantaneous: Medium                      OAC Ground: None                      Trip test: None</p>
	8. Return to the Alarms menu.	 <p style="text-align: center;">Alarms </p>

Displaying and setting the OAC output contact

Key	Step/Action	Screen
	1. Open the Alarms menu.	
	2. Select OAC. - The selected submenu icon is highlighted.	
	3. Confirm the selection. - The Assignment parameter is highlighted.	
	4. Confirm the selection of the Assignment parameter. - The Assignment pop-up is displayed.	
	5. Select the alarm to be assigned to the OAC output contact.	
	6. Confirm the setting. - The alarm selected is assigned to the OAC output contact.	
	7. Select the Reset mode parameter of the OAC output contact.	
	8. Confirm the selection. - The Reset mode pop-up is displayed.	
	9. Set and confirm the reset mode. - The OAC output contact is defined.	
	10. Return to the Alarms menu.	

### 7.3 Submenu contents

NOTE

The measurement attributes within the Custom submenu depend on the protection settings defined in the Energy MCCB (3P/4P, Ground fault activation, Neutral activation...). Therefore not all combinations of the listed parameters are always possible.

**Custom**

Type of Measurement	Option 1 (measurement attribute)	Option 2 (alarm activation condition on Option 1)
Current	I1, I2, I3, IN, IMax, I1Unb, I2Unb, I3Unb, IMaxUnb, IAvg	Over, Under
Ground	-	Over, Under
Voltage	V1, V2, V3, VN, VMax, VMin, V1Unb, V2Unb, V3Unb, VMaxUnb, Vavg, U12, U23, U31, Umax, Umin, U12Unb, U23Unb, U31Unb, UmaxUnb	Over, Under
Power	Pd1, Pd2, Pd3, PdTot, Pr1, Pr2, Pr3, PrTot; Qd1, Qd2, Qd3, QdTot, Qr1, Qr2, Qr3, QrTot, S1, S2, S3, Stot	Over, Under
Pow. Fact.	PF1, PF2, PF3, PF tot, cosφ1, cosφ2, cosφ3, cosφTot	Lagging, Leading
THD	I1, I2, I3, V1, V2, V3, U12, U23, U31	Over
Frequency	-	Over, Under
Demand	I1, I2, I3, IN, IAvg, P, Q, S	Over, Under
Quadrant	Quadrant 1, Quadrant 2, Quadrant 3, Quadrant 4	-
Phase seq.	1, 2, 3 ; 1, 3, 2	-
Lead or Lag	Lead ; Lag	-

NOTE

If a custom alarm is defined and set to None priority, the alarm is created but remains deactivated as long as its priority is set to None.

For more explanations on measurement settings refer to the h3+ Communication system manual (see Related documents on page 10).

**PreTrip**

Parameter	Unit	Description
Threshold Ir	% Ir	60 to 95; default 90, set in steps of 5.
Delay	% tr	5 to 80; default 50, set in steps of 5.

**Trip**

Parameter	Description
Long	Set alarm priority for Long-time tripping; default High.
Short	Set alarm priority for Short-time tripping; default High.
Instantaneous	Set alarm priority for Instantaneous tripping; default High.
Ground	Set alarm priority for Ground tripping; default High.
Trip Test	Set alarm priority for the trip test with the h3+ Configuration tool; default High.

**OAC**

Parameter	Description
Assignment	Default Pre-trip Alarm; Assign an alarm* to OAC output contact.
Reset mode	Latching / Automatic; Set behaviour of OAC contact; Latching: acknowledgment required through Modbus to set OAC contact back to normal position; Automatic: no acknowledgement required; default Automatic.

(\*) List of alarms that can be assigned to the OAC output contact.

**Assignments to Alarm types**

<b>Alarm type</b>	<b>Assignment</b>
	None
Pre-trip alarm (PTA)	PreTrip alarm Ir
System alarm	Overtemperature
	Neutral breach
	Internal error
Custom alarm	Custom alarm 1
	Custom alarm 2
	...
	Custom alarm 12

## 8 Configuration menu



This chapter gives an overview of the Configuration menu and the adjustable parameters of the connected Energy MCCB.

### 8.1 Submenus

In the Configuration menu all settings are displayed and can be set (excepting the protection settings).



The settings are password protected, refer to Locked/Unlocked mode on page 32 to unlock the function.

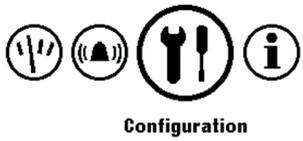
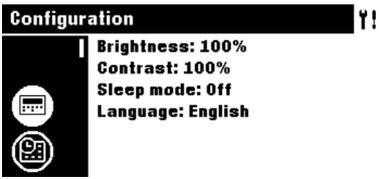
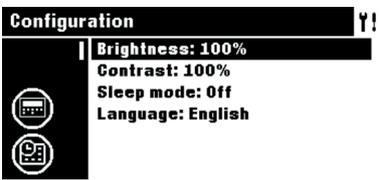
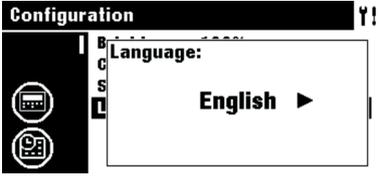
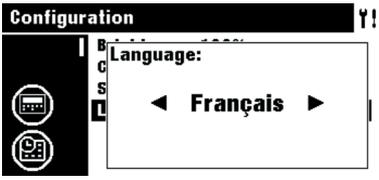
Available submenus



Submenus	Function
	Setting the Display
	Setting date and time
	Changing the password
	Setting the measurements
	Resetting min/max measurements
	Erasing custom alarms
	Erasing trip events

## 8.2 Navigation and setting

The following example explains how to adjust the settings in the Configuration menu in general. The individual settings for each parameter may differ.

Key	Step/Action	Screen
	1. Open the Configuration menu.	
	2. Select a submenu. - The selected submenu is highlighted.	
	3. Confirm your selection. - The first parameter that can be adjusted is highlighted.	
	4. Select a parameter. - The selected parameter is highlighted.	
	5. Confirm your selection. - The pop-up window of the selected parameter opens.	
	6. Select a value.	
	7. Confirm the setting. - The new setting takes effect.  To set other parameters return to step 4.	
	8. Return to the Configuration menu.	

### 8.3 Submenu contents

NOTE

Except for the Display submenu, the display must be unlocked before changes are possible, refer to Locked/Unlocked mode on page 32.

#### Display settings



Parameter	Description	Values
Brightness	Setting the brightness of the display.	20 – 100 % (increment 20)
Contrast	Setting the contrast of the display.	0 – 100 % (increment 25)
Display mode	Display mode off: The backlight of the display switches off after 5 minutes if no interaction occurs. Touching the soft key switches on the backlight again.	On, Off
Language	Setting the language of the display.	English, Japanese, French, German, Italian, Spanish, Portuguese, Chinese

#### Date and time settings



Parameter	Description	Format
Date	Setting the actual date.	DD/MM/YYYY
Time	Setting the actual time.	HH:MM

#### Change password



Parameter	Description	Format
Change password	Changing the current password.	**** [4 digits]

#### Measurement settings



Parameter	Description	Values
Phase sequence	Defining the sequence of the connected phases.	1,2,3> / <1,3,2; default 1,2,3>
Topology	Defining the topology of the connected phases. (On 3P circuit breakers only 3P topology is available.)	3P/3P+N
P Sign convention	Defining the sign convention of the power linked to top/bottom or bottom/top sense of the power supply.	Plus / Minus; default Plus
Calc. convention	Defining the calculation convention of Qtot, Stot, Eap, ErOut, Erln and PF.	Vector / Arithmetic; default Vector
PF Sign convention	Defining the sign convention of the power factor.	IEC / IEEE; default IEC
On-demand Mode	Defining the type of integration of on demand measurements.	Fixed / Sliding / Bus sync.; default Fixed
On-demand Duration	Defining the duration of the time window of on demand measurements.	From 5 to 60 min, set in steps of 1; default 30 min

NOTE

For more explanation on measurement settings, refer to the h3+ Communication system manual.

**Resetting all minimum and maximum measurement values**



Category	Description
Reset all min / max	Resetting all min / max values.
Reset current min / max	Resetting current min / max values only.
Reset voltage min / max	Resetting voltage min / max values only.
Reset power min / max	Resetting power min / max values only.
Reset PF min / max	Resetting power factor min / max values only.
Reset freq. min / max	Resetting frequency min / max values only.
Reset THD min / max	Resetting Total harmonic distortion min / max values only.
Reset on demand P max	Resetting on-demand power min / max values only.
Reset energies	Resetting all energies.

**Erasing alarm events**



Category	Description
Erase all alarm events	Erasing <b>all</b> alarm events.
Erase low priority	Erasing all low priority alarm events only.
Erase medium priority	Erasing all medium priority alarm events only.
Erase high priority	Erasing all high priority alarm events only.

**Erasing trip events**



Category	Description
Erase all trip events	Erasing <b>all</b> trip events.
Erase low priority	Erasing all low priority trip events only.
Erase medium priority	Erasing all medium priority trip events only.
Erase high priority	Erasing all high priority trip events only.



## 9 Information menu



This chapter gives an overview of the Information menu and the information displayed.

### 9.1 Submenus

The Information menu displays several information about the status of the connected Energy MCCB and the HTD210H Panel display itself.



In this menu no user inputs or settings are possible. Only information is displayed.

#### Available submenus

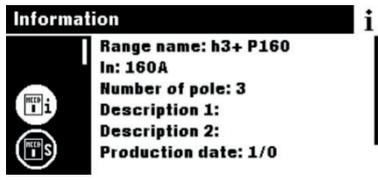
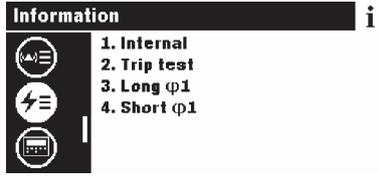
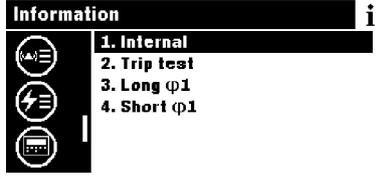
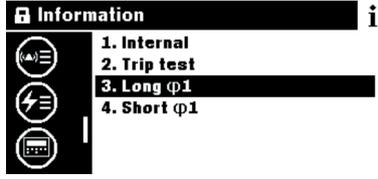
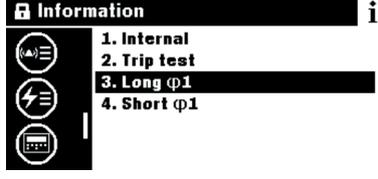
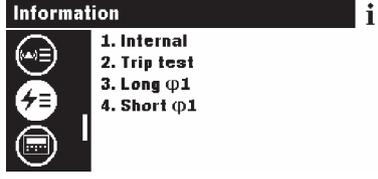


Symbol	Functions
	MCCB information
	AX-AL Energy PTA and OAC status
	History of alarm events (up to 40 events)
	History of trip events (up to 40 events)
	Serial number

## 9.2 Navigation in submenu MCCB information

Key	Step/Action	Screen
	1. Open the Information menu.	
	2. Scroll up and down to view more entries and their information or status.	
	3. Return to the Information menu.	

### 9.3 Navigation in History of alarm events and History of trip events

Key	Step/Action	Screen
	1. Open the Information menu.	
	2. Select the History of alarm event submenu or the History of trip events submenu. - The selected submenu is highlighted; e.g. the history of trip events.	
	3. Confirm your selection. - The first entry in the Data window is highlighted.	
	4. Select an event.	
	5. Confirm the event to view additional information. - An information pop-up opens.	
	6. Close the pop up.	
	7. Return to the Information menu.	

## 9.4 Submenus contents

### MCCB information



Parameter	Description
Range name	Range name of the circuit breaker.
In	In rating of the circuit breaker.
Number of pole	Number of poles of the circuit breaker.
Description 1	Custom field 1 free for additional description of the connected circuit breaker.
Description 2	Custom field 2 free for additional description of the connected circuit breaker.
Production date	Production date of the connected circuit breaker in Day/Year.
Serial number	Identification number of the connected circuit breaker.

### MCCB Status



Parameter	Description
AX status	Used only if the AX/AL Energy accessory is mounted. - Status ON/OFF of the circuit breaker.
AL status	Used only if the AX/AL Energy accessory is mounted. - ON: circuit breaker is tripped - OFF: circuit breaker is not tripped
AX counter	Used only if the AX/AL Energy accessory is mounted. Number of operation cycles since the last reset.
AL counter	Used only if the AX/AL Energy accessory is mounted. Number of trips since the last reset.
PTA	Current status of the PTA output contact.
OAC	Current status of the OAC output contact.
Operating time	Cumulated operating time (days).

### Custom alarm events



The history of custom alarms is sorted from latest (rank 1) to earliest (rank up to 40). For date and time of alarm event, select the alarm and use the **OK** key.

### Trip events history



The history of trip alarms is sorted from latest (rank 1) to earliest (rank up to 10). For date and time of alarm event, select the alarm and use the **OK** key.

### Serial number



Serial number of the HTD210H Panel display

## 10 Assistance

### Dysfunction cases

In case of a dysfunction of the Panel display, note the LED. and the displayed popups.

Alarm LED	Comm. LED	Ready LED	Pop-up message	Recommendation
OFF	OFF	OFF		<ul style="list-style-type: none"> <li>- Check if an external supply is powering and connected to one of both CIP terminals of the MCCB.</li> <li>- Check the CIP Adaptor between display and MCCB by replacing it.</li> <li>- Refer to your Hager contact.</li> </ul>
Blinking	Blinking	ON	 <b>MCCB error</b>	<p>MCCB dysfunction.</p> <ul style="list-style-type: none"> <li>- Check the status of the MCCB (message on embedded display, LED indication on MCCB) and refer to the h3+ Communication system manual.</li> <li>- If the MCCB is recognised as defective, replace the MCCB.</li> <li>- Refer to your Hager contact.</li> </ul>
Blinking	OFF	ON	 <b>Communication error</b>	<ul style="list-style-type: none"> <li>- Check the CIP-Adaptor between display and MCCB by replacing it.</li> <li>- Re-connect the Panel display.</li> <li>- Refer to your Hager contact if the message is still occurring.</li> </ul>
Blinking	OFF	ON	 <b>Compatibility Error</b>	<ul style="list-style-type: none"> <li>- Check the compatibility of the MCCB device with the current Panel display.</li> <li>- Refer to your Hager contact.</li> </ul>
Blinking	OFF	ON	 <b>Internal error</b>	<ul style="list-style-type: none"> <li>- The Panel display may be defective. Restart the MCCB and the Panel display.</li> <li>- Refer to your Hager contact if the message is still occurring.</li> </ul>

### Password lost

In case the password is lost, it is possible to unlock the Panel display by generating a new password. The h3+ Configuration tool HTP610H is necessary for the password generation.

Refer to the HTP610H h3+ Configuration tool user manual to proceed.

For more assistance refer to your Hager contact.



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