

# InteliLite 4 AMF20/AMF25

## Controller for single gen-set applications

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# 1 Front panel elements

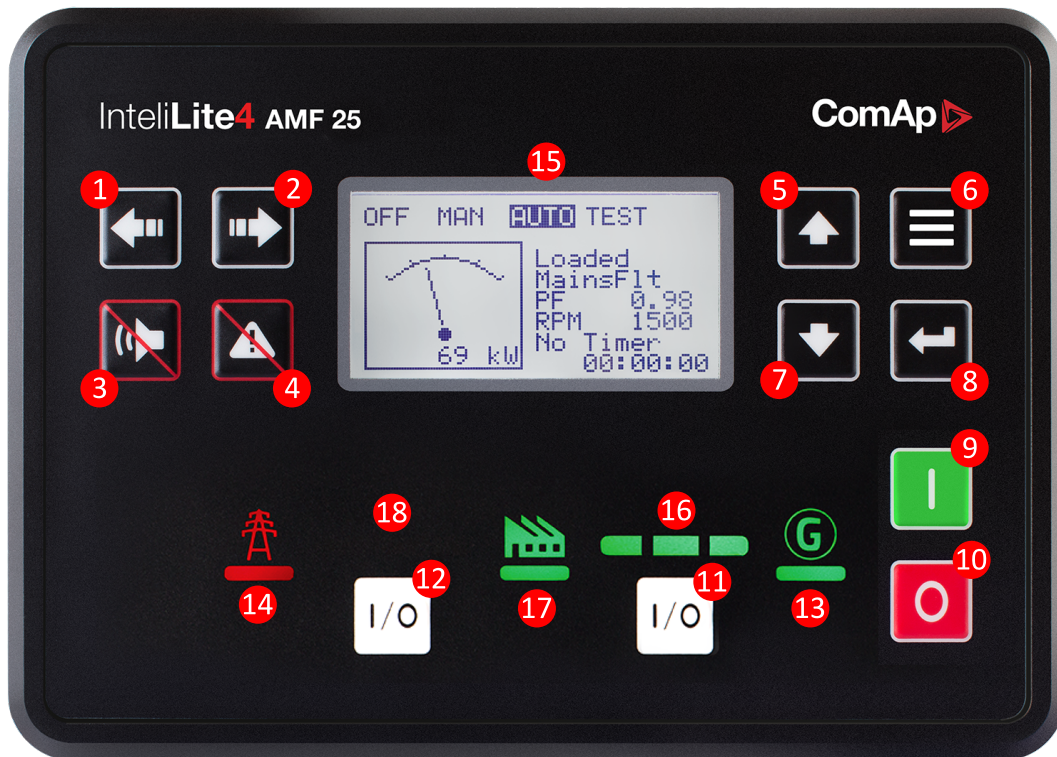


Image 1.1 Operator interface of IntelliLite 4 AMF20/AMF25

Control buttons		
Position	Picture	Description
1		<p><b>LEFT</b> button. Use this button to move left or to change the mode. The button can change the mode only if the main screen with the indicator of currently selected mode is displayed.</p> <p><b>Note:</b> This button will not change the mode if the controller mode is forced by one of binary inputs listed in the Reference Guide – "Operating modes" chapter.</p>
2		<p><b>RIGHT</b> button. Use this button to move right or to change the mode. The button can change the mode only if the main screen with the indicator of currently selected mode is displayed.</p> <p><b>Note:</b> This button will not change the mode if the controller mode is forced by one of binary inputs listed in the Reference Guide – "Operating modes" chapter.</p>
3		<p><b>HORN RESET</b> button. Use this button to deactivate the horn output without acknowledging the alarms.</p>

4		<b>FAULT RESET</b> button. Use this button to acknowledge alarms and deactivate the horn output. Inactive alarms will disappear immediately and status of active alarms will be changed to "confirmed" so they will disappear as soon as their reasons dismiss.
5		<b>UP</b> button. Use this button to move up or increase value.
6		<b>PAGE</b> button. Use this button to switch over display pages.
7		<b>DOWN</b> button. Use this button to move down or decrease value.
8		<b>ENTER</b> button. Use this button to finish editing a setpoint or moving right in the history page.
9		<b>START</b> button. Works in MAN mode only. Press this button to initiate the start sequence of the engine.
10		<b>STOP</b> button. Works in MAN mode only. Press this button to initiate the stop sequence of the Gen-set. Repeated pressing of button will cancel current phase of stop sequence (like cooling) and next phase will continue.
11		<b>GCB</b> button. Works in MAN mode only. Press this button to open or close the GCB.
12		<b>MCB</b> button. Works in MAN mode only. Press this button to open or close the MCB.

## Indicators and others

Position	Description
13	<b>GENERATOR</b> status indicator. There are two states – Gen-set OK (indicator is green) and Gen-set failure (indicator is red). Green LED is on if the generator voltage and frequency is present and within limits. Red LED starts flashing when Gen-set failure occurs. After <b>FAULT RESET</b> button is pressed, Red LED goes to steady light (if an alarm is still active) or is off (if no alarm is active).
14	<b>MAINS</b> status indicator. There are two states – Mains OK (indicator is green) and Mains failure (indicator is red). Green LED is on, if mains is present and within limits. Red LED starts blinking when the mains failure is detected and after the Gen-set has started and connected to the load it lights permanently until the mains failure disappears.
15	Graphic B/W display, 132 × 64 px.

16	<b>GCB Status.</b> Consists of 3 green LEDs. The middle green LED is on if GCB is closed. It is driven by GCB CLOSE/OPEN output or by GCB feedback signal. Side green LEDs are on in case the generator status indicator is ok.
17	<b>LOAD.</b> Green LED is ON if load is supplied by mains or by generator. It means, that Gen-set or mains is OK and proper circuit breaker is closed.
18	<b>MCB Status.</b> Consists of 3 green LEDs. The middle green LED is on if MCB is closed. It is driven by MCB CLOSE/OPEN output or by MCB feedback signal. Side green LEDs are on in case the mains status indicator is ok.

 [back to Front panel elements](#)

## 2 Display screens and pages structure

The displayed information is structured into "pages" and "screens". Use PAGE button to switch over the pages.

- ▶ The page Measurement consists of screens which display measured values like voltages, current, oil pressure etc., computed values like i.e. gen-set power, statistic data and the alarm list on the last screen.
- ▶ The page Setpoints contains all setpoints organized to groups and also a special group for entering password.
- ▶ The page History log shows the history log in the order that the last record is displayed first.

### 2.1 Main Screen



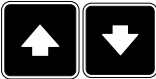
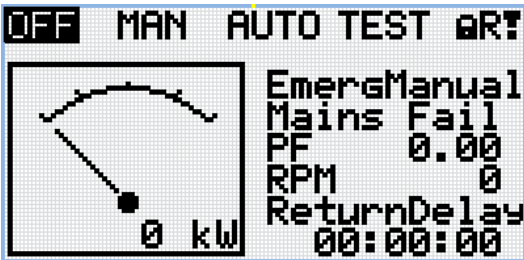
#### 2.1.1 Symbols

- ▶ Padlock – active when LBI ACCESS LOCK is active
- ▶ R – active when there is active remote connection to controller
- ▶ Exclamation mark – active when there is any alarm in alarmlist

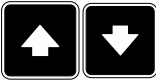
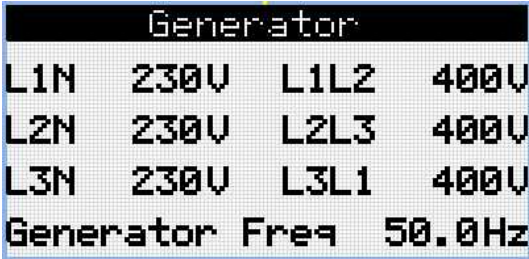
#### 2.1.2 Optional

- ▶ Value can be chosen via setpoints **Main Screen Line 1 (page 1)** and **Main Screen Line 2 (page 1)**.
- ▶ Possibilities are: RPM, PF, Run Hours, ATT, AIN1

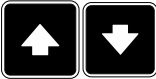
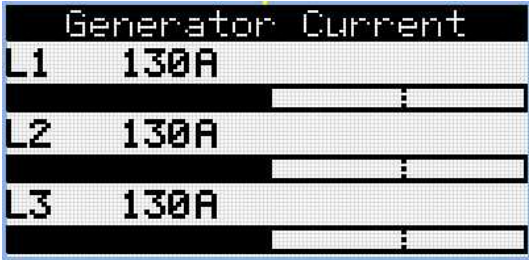
## 2.2 Measurement Screens



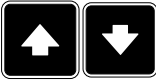
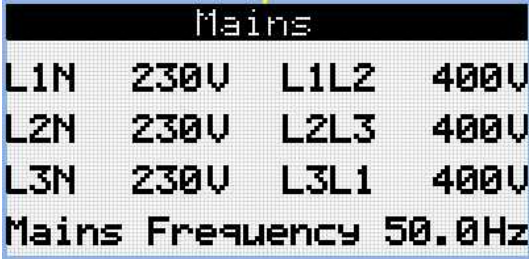
**Note:** Use Up and Down button to move between measurement pages.



**Note:** Use Up and Down button to move between measurement pages.

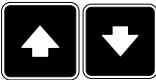
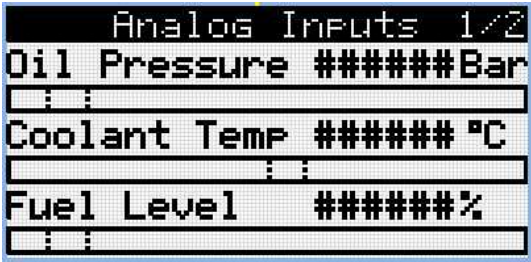


**Note:** Use Up and Down button to move between measurement pages.

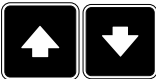
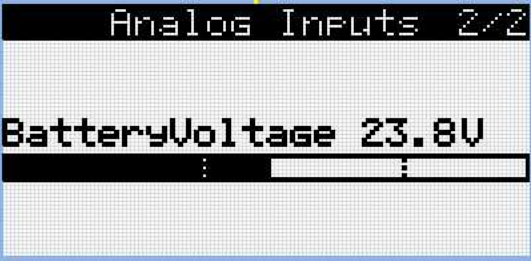
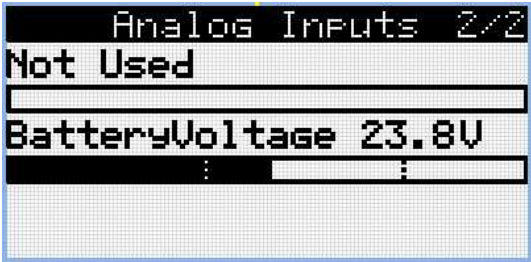


**Note:** Use Up and Down button to move between measurement pages.

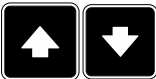




**Note:** Use Up and Down button to move between measurement pages.



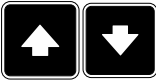
**Note:** Use Up and Down button to move between measurement pages.



**Note:** Use Up and Down button to move between measurement pages.

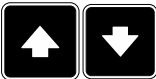
Binary Inputs 2/2		
0000000		
6	Input	0
7	Input	0
8	Input	0
	E-Stop	1

Binary Inputs 2/2		
0000000		
6	Input	0
	E-STOP	1



**Note:** Use Up and Down button to move between measurement pages.

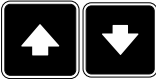
Binary Outputs 1/2		
00000000		
1	Output	0
2	Output	0
3	Output	0
4	Output	0
5	Output	0



**Note:** Use Up and Down button to move between measurement pages.

Binary Outputs 2/2		
00000000		
6	Output	0
7	Output	0
8	Output	0

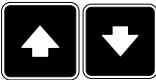
Binary Outputs 2/2		
0000000		
6	Output	0



**Note:** Use Up and Down button to move between measurement pages.



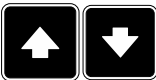
EM-BIOS-EFCP 1/2		
00101010		
Earth Fault		0.00A
:		
IN:	Input	1
	Not Used	0
OUT:	Output	1



**Note:** Use Up and Down button to move between measurement pages.

**Note:** Available only with plug-in module.

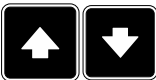
EM-BIOS-EFCP 2/2		
00101010		
IN:	Input	0
OUT:	Output	1
OUT:	Output	0
OUT:	Output	1
OUT:	Output	0



**Note:** Use Up and Down button to move between measurement pages.

**Note:** Available only with plug-in module.

Generator Power			
	kW	PF	kVA
L1	0	0.00C	0
L2	0	0.00C	0
L3	0	0.00C	0
Σ	0	0.00C	0



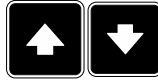
**Note:** Use Up and Down button to move between measurement pages.

ECU Values	
Fuel Rate	#####l/h
CoolantTemp	#####°C
IntakeTemp	#####°C
Oil Press	#####bar
Boost Press	#####bar
Load	#####%



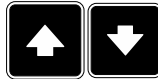
**Note:** Use Up and Down button to move between measurement pages.

Statistics 1/3	
Genset kWh	0
Genset kVarh	0
Mains kWh	0
Mains kVarh	0
Run Hours	0
Num Starts	0



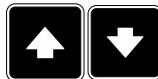
**Note:** Use Up and Down button to move between measurement pages.

Statistics 2/3	
Num E-Stops	0
Shutdowns	0
Maintenance1 Rhrs	0
Maintenance1 Days	0
Maintenance2 Rhrs	0
Maintenance2 Days	0



**Note:** Use Up and Down button to move between measurement pages.

Statistics 3/3	
Maintenance3 Rhrs	0
Maintenance3 Days	0



**Note:** Use Up and Down button to move between measurement pages.

CM-4G-GPS 1/2	
Signal Strength	93%
Net Status	
Net Name	
Net Mode	4G
Status	
IPAddr	123.123.123.123



**Note:** Use Up and Down button to move between measurement pages.

**Note:** Available only with plug-in module.

```
CM-4G-GPS  2/2
GPS Status
Latitude    0.1234
Longitude   0.1234
HomePosDist 123km
Active Satellites 1
```



**Note:** Use Up and Down button to move between measurement pages.

**Note:** Available only with plug-in module.

```
CM-Ethernet
Current IP Address
          123.123.123.123
ETH Interface Status
                Connected
```



**Note:** Use Up and Down button to move between measurement pages.

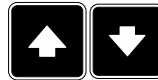
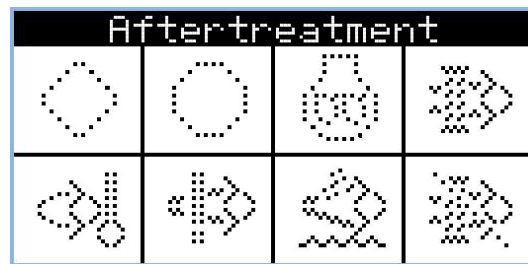
**Note:** Available only with plug-in module.

```
AirGate
CM-4G-GPS
AirGate ID  123456789
Status
CM-Ethernet
AirGate ID  123456789
Status
```



**Note:** Use Up and Down button to move between measurement pages.

**Note:** Available only with plug-in module.

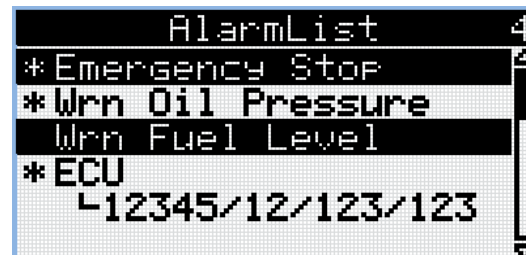


**Note:** Use Up and Down button to move between measurement pages.

**Note:** Available only with ECU supported by TIER4F



**Note:** Use Up and Down button to move between measurement pages.

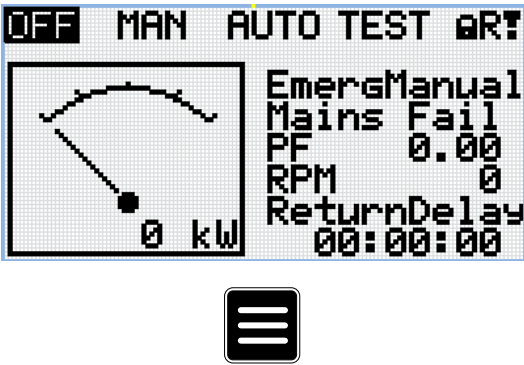


**Note:** Use Up and Down button to move between measurement pages.

**Note:** From all of these pages it is possible to switch seamlessly to the setpoint group page by pressing Page button.

**Note:** There can be some additional screens and also some screens can be hidden. Screen's visibility depends on actual configuration (usage of extension or communication modules, ECU etc.).

## 2.3 Setpoint Screens

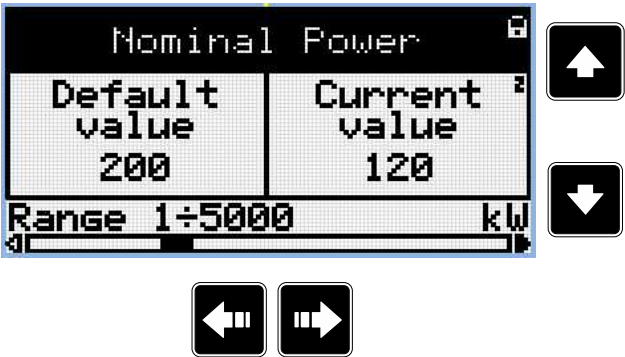


**Note:** From all measurement pages we can fluently go to the setpoint group page by pressing Page button.



**Note:** Use Up and Down button to select required setpoint group.

**Note:** Use Enter button to enter selected setpoint group.

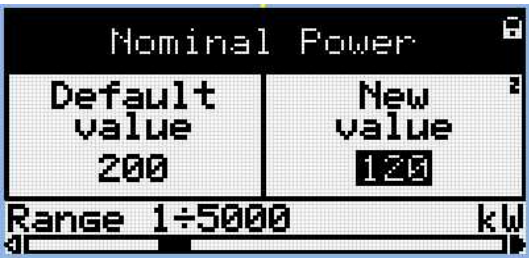


**Note:** Use Up and Down button to select required setpoint.

**Note:** Use Left and Right button to select required setpoint.



**Note:** Use Enter button to enter selected setpoint.



**Note:** Use Up and Down button to set required value of selected setpoint.

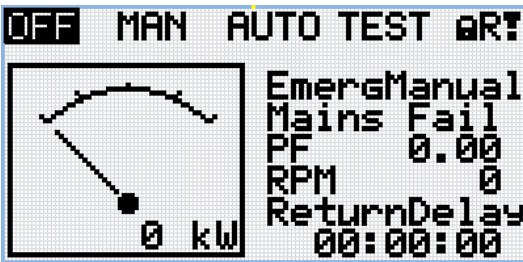


**Note:** Use Enter button to confirm adjusted value of setpoint.



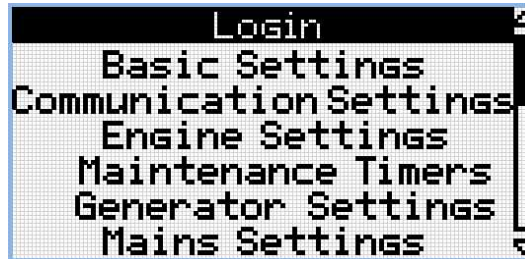
**Note:** Use Page button to discard changes, to set setpoint to previous value and to return to the list of setpoints of selected group.

2.4 History Log



**Note:** From all measurement pages we can fluently go to the setpoint group page by pressing Page button.





**Note:** From setpoint group page we can fluently go to the history log pages by pressing Page button.

No.	Reason
-001	GCB Closed
-002	MCB Opened
-003	MCB Closed
-004	GCB Opened
-005	GCB Closed
11:05:45	15/03/2003



**Note:** Use Up and Down button to select required alarm reason.



**Note:** Use Enter button to move to the next page of history log.

Time	Date
14:01:43AM	15/03/2014
11:05:45AM	15/03/2014
11:01:43AM	15/03/2014
11:04:43AM	14/03/2014
14:41:43AM	11/03/2014
-002	MCB Opened



**Note:** Use Up and Down button to select required alarm reason.



**Note:** Use Enter button to move to the next page of history log.

RPM	Pwr	Q
1500	15.0	15.0
0	0.0	0.0
0	0.0	0.0
1500	15.0	15.0
1500	15.0	15.0
-002 MCB Opened		



**Note:** Use Up and Down button to select required alarm reason.



**Note:** Use Enter button to move to the next page of history log.

PF LChr	GFra
0.75	C 50.0
0.00	C 0.0
0.00	C 0.0
0.73	C 50.0
0.74	C 50.0
-002 MCB Opened	



**Note:** Use Up and Down button to select required alarm reason.



**Note:** Use Enter button to move to the next page of history log.

Ug1	Ug2	Ug3
230	230	230
0	0	0
0	0	0
230	230	230
230	230	230
-002 MCB Opened		



**Note:** Use Up and Down button to select required alarm reason.



**Note:** Use Enter button to move to the next page of history log.

Ug12	Ug23	Ug31
230	230	230
0	0	0
0	0	0
230	230	230
230	230	230
-002 MCB Opened		



**Note:** Use Up and Down button to select required alarm reason.



**Note:** Use Enter button to move to the next page of history log.

IL1	IL2	IL3
30	30	30
0	0	0
0	0	0
30	30	30
30	30	30
-002 MCB Opened		

↑

↓

←

**Note:** Use Up and Down button to select required alarm reason.

**Note:** Use Enter button to move to the next page of history log.

Um1	Um2	Um3
230	230	230
0	0	0
0	0	0
230	230	230
230	230	230
-002 MCB Opened		

↑

↓

←

**Note:** Use Up and Down button to select required alarm reason.

**Note:** Use Enter button to move to the next page of history log.

Um12	Um23	Um31
230	230	230
0	0	0
0	0	0
230	230	230
230	230	230
-002 MCB Opened		

↑

↓

←

**Note:** Use Up and Down button to select required alarm reason.

**Note:** Use Enter button to move to the next page of history log.

FC	FMI
0	0
0	0
0	0
0	0
0	0
-002 MCB Opened	

↑

↓

←

**Note:** Use Up and Down button to select required alarm reason.

**Note:** Use Enter button to move to the next page of history log.

MFrq	UBat	OilP
50.0	23.2	3.2
0.0	0.0	0.0
0.0	23.2	0.0
50.0	23.3	3.2
50.0	23.3	3.2
-002 MCB Opened		



**Note:** Use Up and Down button to select required alarm reason.



**Note:** Use Enter button to move to the next page of history log.

EngT	FLvl	Ain4
30.0	50	00.0
22.0	20	00.0
23.0	30	00.0
23.0	30	00.0
23.0	50	00.0
-002 MCB Opened		



**Note:** Use Up and Down button to select required alarm reason.



**Note:** Use Enter button to move to the next page of history log.

BIN	BOUT
01101000	11000011
11001001	01001010
01010100	01010100
11010000	01101000
11000011	01010100
-002 MCB Opened	



**Note:** Use Up and Down button to select required alarm reason.



**Note:** Use Enter button to move to the next page of history log.

Mode
MAN
MAN
MAN
MAN
MAN
-002 MCB Opened



**Note:** Use Up and Down button to select required alarm reason.



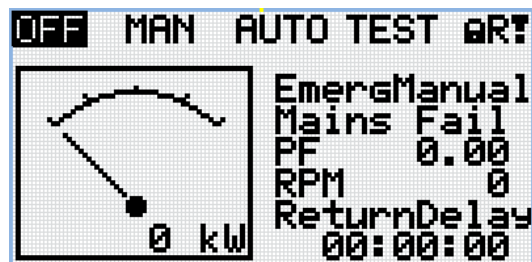
**Note:** Use Enter button to move to the first page of history log.

**IMPORTANT:** The records are numbered in reverse order, i.e. the latest (newest) record is "0" and older records have "-1", "-2" etc.

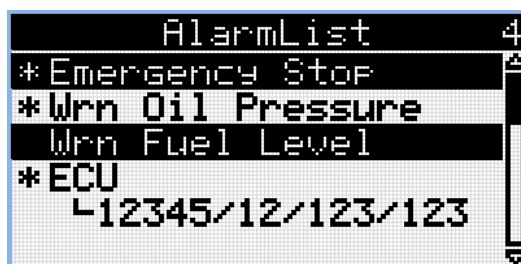
**Note:** This is only basic history record. There can be some additional screens in case that in controller is extension module or ECU is configured. Also it depends on connection type.

 [back to Display screens and pages structure](#)

### 3 Browsing alarms



**Note:** Use Up button to move to alarmlist from main measurement screen.



- ▶ Active alarms are displayed as white text on black background. It means the alarm is still active, i.e. the appropriate alarm conditions are still present.
- ▶ Inactive alarms are displayed as black text on white background. It means the alarm is no more active, i.e. the appropriate alarm conditions are gone.
- ▶ Not confirmed alarms are displayed with an asterisk. It means the alarm is still not acknowledged (confirmed).
- ▶ ECU alarms: SPN/FMI/OC/SC
  - SPN – Suspect parameter number
  - FMI – type of protection
  - OC – number of errors
  - SC – source of error





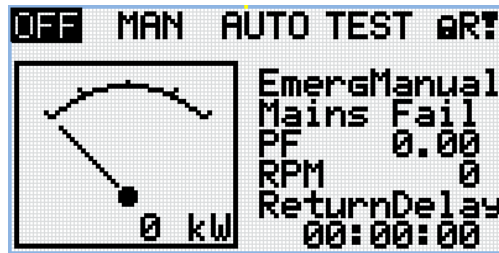
## 3.1 User access management alarms

The controller comes to the customer with turned on Production mode, the default administrator password and with no filled email address for password reset. Due to the security reasons following user access management alarms appear. Detailed description of situation when the alarms are active are described below:

- ▶ **Wrn Production Mode** is present in the alarm list all the time while production mode is turned on. To turn off the Production mode go to User management and uncheck the checkbox Production mode or go to Production Mode display screen and select disable.
- ▶ **Wrn Default Password** appears in alarmlist when the default administrator password is set and communication module is plugged in the controller. The purpose of alarm is to inform that the controller might be or is connected to the untrusted interface and cybersecurity rules are not fulfilled due to default administrator password.
- ▶ **Wrn Password reset e-mail addr is not set** appears in alarmlist when there is no email address set and the administrator password is not the default one. The purpose of alarm is to inform that there is possibility that the controller might not be accessible by administrator password due to forgotten password reason. Password reset procedure cannot be performed without filled email address. To fill out email address, the administrator password is required.

◀ back to Browsing alarms

## 4 Login



**Note:** From all measurement pages we can fluently go to the setpoint group page by pressing Page button.



**Note:** Use Up and Down button to select setpoint group Login.



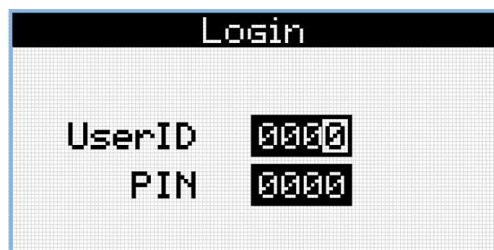
**Note:** Use Enter button to enter setpoint group Login.



**Note:** Use Up and Down Button to select Login.



**Note:** Use Enter button to enter Login.

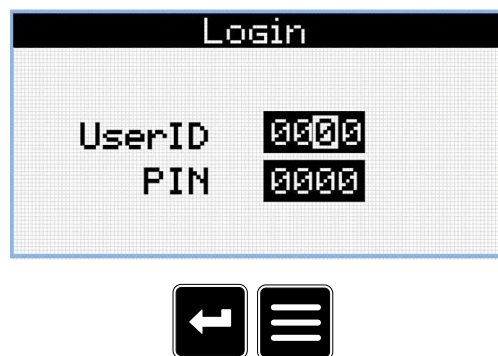


## UserID Edit



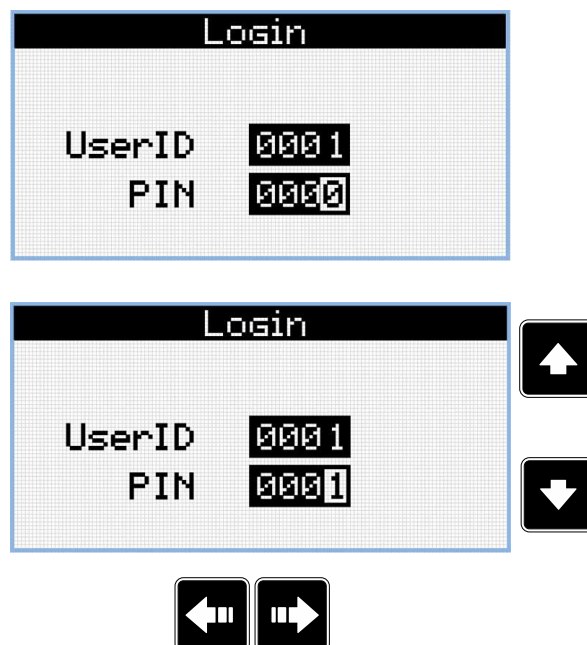
**Note:** Use Up and Down Button to change the digit.

**Note:** Use Left and Right button to move between digits.



**Note:** Use Enter button to confirm the UserID or Page button to cancel entering Login.

## PIN Edit



**Note:** Use Up and Down Button to change the digit.

**Note:** Use Left and Right button to move between digits.



**Note:** Use Enter button to confirm the PIN and Logging or Page button to cancel entering the Login.



**Note:** In case that invalid UserID or PIN are entered, the controller shows Wrong Credentials screen. Use Enter button to enter Login again or Page Button to go back to menu.

## 4.1 Account break protection

The controller is protecting the user accounts against breaking by a brute-force attack, i.e against breaking into the controller by fast repeating attempts to login with credentials generated from the range of all possible combinations.

If the account break protection detects a possible attack and blocks an account or interface the alarm **Wrm Brute Force Protection Active** is activated. The alarm can be used to send an active message (e.g. e-mail) to inform about that situation. The detailed behavior of the controller depends on situation.

### 4.1.1 PIN protection

If an user performs **ten consecutive attempts** to login using UID/PIN, providing **correct UID** but **incorrect PIN**, the user account is permanently blocked for login using UID/PIN. The user must login with username/password and change the PIN to unblock this login method again.

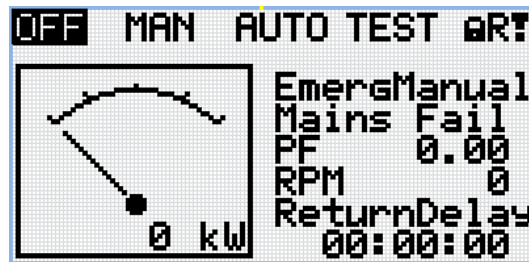
## 4.2 Reset accounts to factory default

If credentials (username and/or password) for administrator account are lost, it is possible to reset all user accounts to the factory default state. For more information **see Resetting the administrator password on page 1**.

After reset procedure user accounts are in factory default state.

Wrm Default Password appears in alarmlist when the default administrator password is set and communication module is plugged in the controller. The purpose of alarm is to inform that the controller might be or is connected to the untrusted interface and cybersecurity rules are not fulfilled cause there is default administrator password.

## 5 Logout



**Note:** From all measurement pages we can fluently go to the setpoint group page by pressing Page button.



**Note:** Use Up and Down button to select setpoint group Login.



**Note:** Use Enter button to enter setpoint group Login.



**Note:** Use Up and Down Button to select Login.



**Note:** Use Enter button to enter Login.



**Note:** Use wrong credentials – wrong UserID or PIN.



**Note:** Use Enter button to accept the inputs.

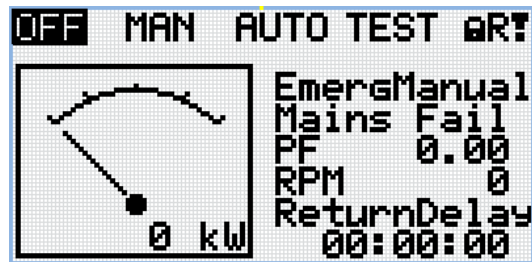


**Note:** Use Page button to return to the Main screen.

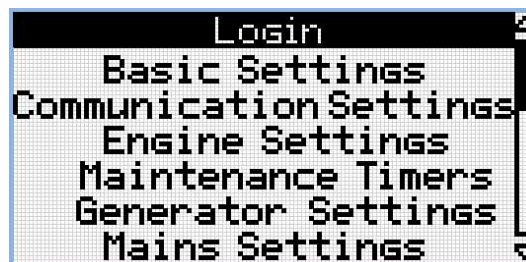
⬅ back to Logout



## 6 Production mode



**Note:** From all measurement pages we can fluently go to the setpoint group page by pressing Page button.



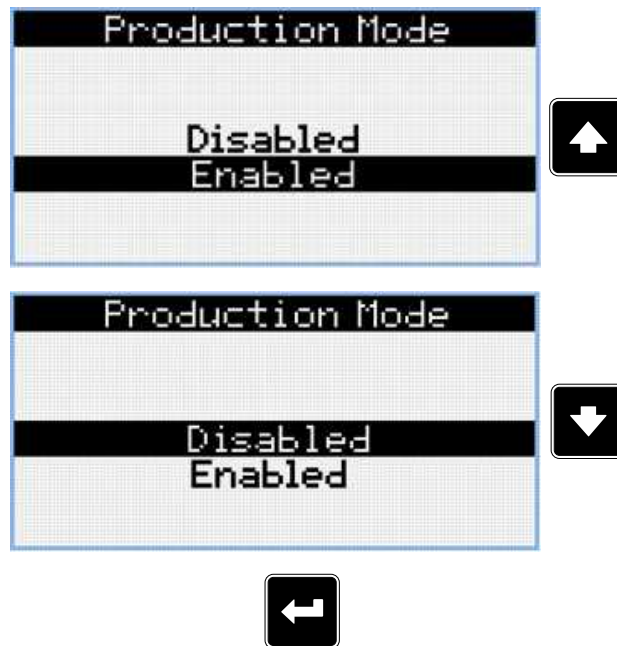
**Note:** Use Enter button to enter setpoint group Login.



**Note:** Use Up and Down Button to select Production Mode



**Note:** Use Enter button to enter Production Mode.



**Note:** Use Up and Down Button to change to disabled

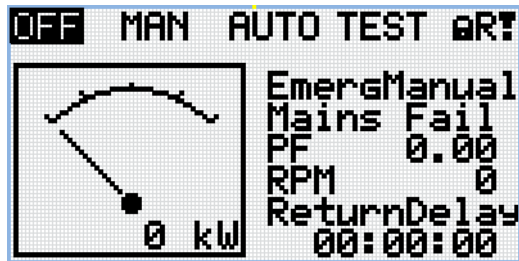
**Note:** Use Enter button to disable the Production Mode.



**Note:** Once Disabled is confirmed by Enter button the option Enabled is no longer on the screen and therefore it is not possible to enable Production mode by HMI display screen. Use IntelliConfig to enable the Production mode.

 back to Production mode

## 7 Information screen



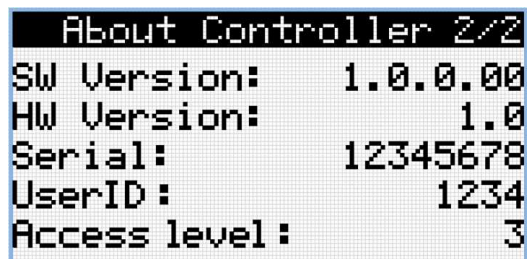
**Note:** On Main measurement screen press Enter and Page button together. Enter button has to be pressed first.



**Note:** Use Page button to move to the next page.



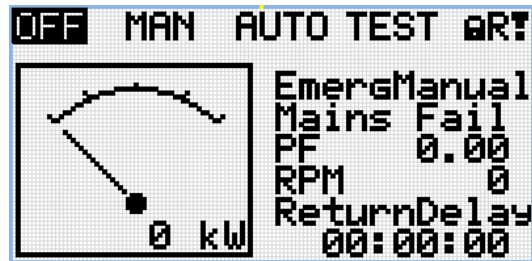
**Note:** Use Page button to move to the next page.



**Note:** Use Up button to move back to main measurement screen.

 **back to Information screen**

## 8 Language selection



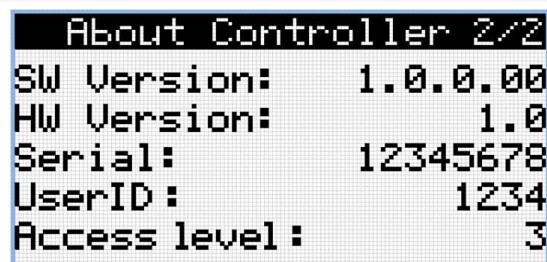
**Note:** On Main measurement screen press Enter and Page button together. Enter button has to be pressed first.



**Note:** Use Page button to move to the next page.



**Note:** Use Page button to move to the next page.




**Note:** Use Page button to move to the next page.



**Note:** Use Up and down button to select required language.

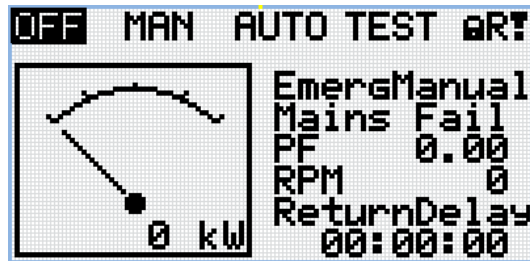


**Note:** Use Enter button to confirm selected language.

 back to Language selection



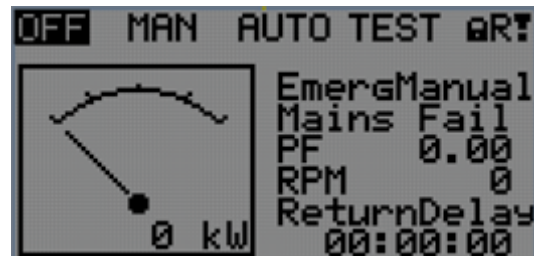
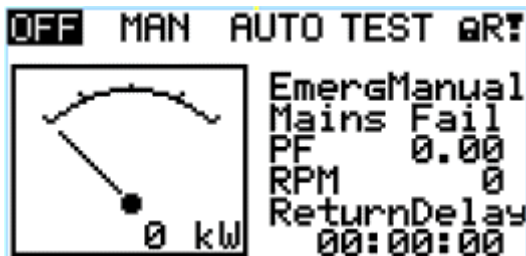
## 9 Display contrast adjustment



**Note:** On any measurement screen press Enter and Up button together for higher contrast.



**Note:** On any measurement screen press Enter and Down button together for lower contrast.



**Note:** After setting a contrast, no another action is needed.

⬅ back to Display contrast adjustment