

# Hybrid 7

MH42, BH4, BH7

MP42, BP4

BF4, BF8



**Software Manual  
for Display Module**



**Available manuals for this unit:**

110009418 / 110009419 Direction for use - Hybrid 7 MH42 / BH4 / BH7 / MP42 / BP4

110009443 / 110009445 Direction for use - Hybrid 7 BF4/BF8

110009500 / 110009499 Userguide - Hybrid 7 MH42 / BH4 / BH7 / MP42 / BP4 / BF4 / BF8

110009493 / 110009494 Software manual - Hybrid 7 MH42 / BH4 / BH7 / MP42 / BP4 / BF4 / BF8

**Where to find them :**

Direction for use and Userguide will be enclosed as physical paper manuals with the unit.

The software manual must be downloaded from [www.nilfiskfood.com](http://www.nilfiskfood.com) - in order to ensure that you always have the latest upgraded version. (It is not supplied with unit in paper form).

At any given time, all manuals and software can be obtained online at [www.nilfiskfood.com](http://www.nilfiskfood.com).

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## 2. Description

This Software manual describes the operation of the Display Module.

The Display Module has a touch screen panel divided into following sections:

**Default User:** Press Default User to start the unit.

**Manager :** Press Manager to set up time, date, parameters and unit variables.

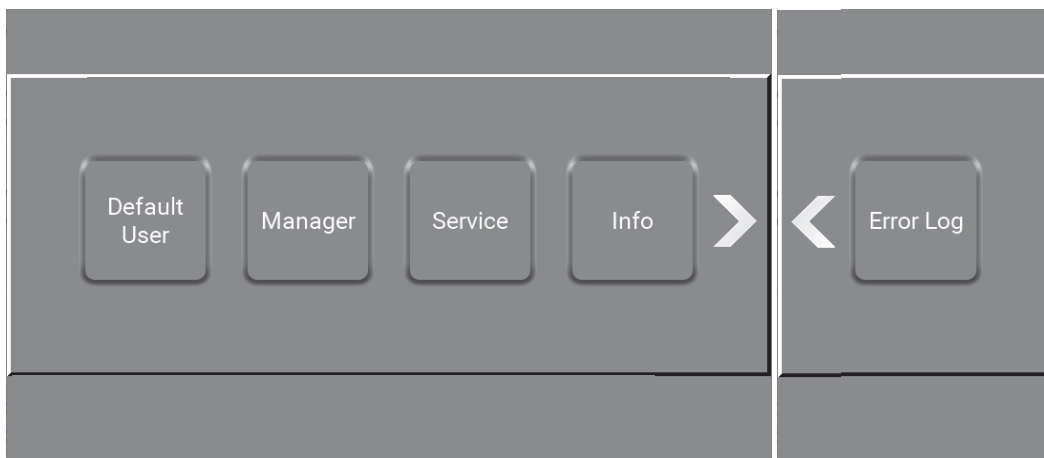
**Service :** Press Service to set up time, date, software settings etc.

**Info :** Press Info to see machine type, software version, run time and installation time.

**Error Log:** Press error log to see the latest errors / warnings (up to 200 logs)

### 2.1. Mainmenu

The Display Modules screen is a touch screen with a main menu divided in two sections:



Underneath each picture you will find the path to the display\

### 2.2. Navigation

The navigation goes through a series of screens and subscreens in a graphic user interface (GUI).

Each menu consists of buttons that lead the user into the system's functions and options. Some of the menus have more than 4 buttons or functions on the user interface. If this is the case, an arrow will appear to the right, giving the user the option to access the additional buttons and functions by pressing the arrows.

### 2.3. Find the specific screen or subscreen

Below each picture in this software manual there is a path like in Windows Explorer to the specific screen or subscreen. It could look like this :

\Mainmenu\Manager\Menu\Settings\RightClick6\...

Mainmenu\ is the first mainmenu on the Display Module.

Manager\ is the button in the mainmenu.

Menu\ is a button on the 1 level subscreen.

Settings\ is a button on the 2 level subscreen.

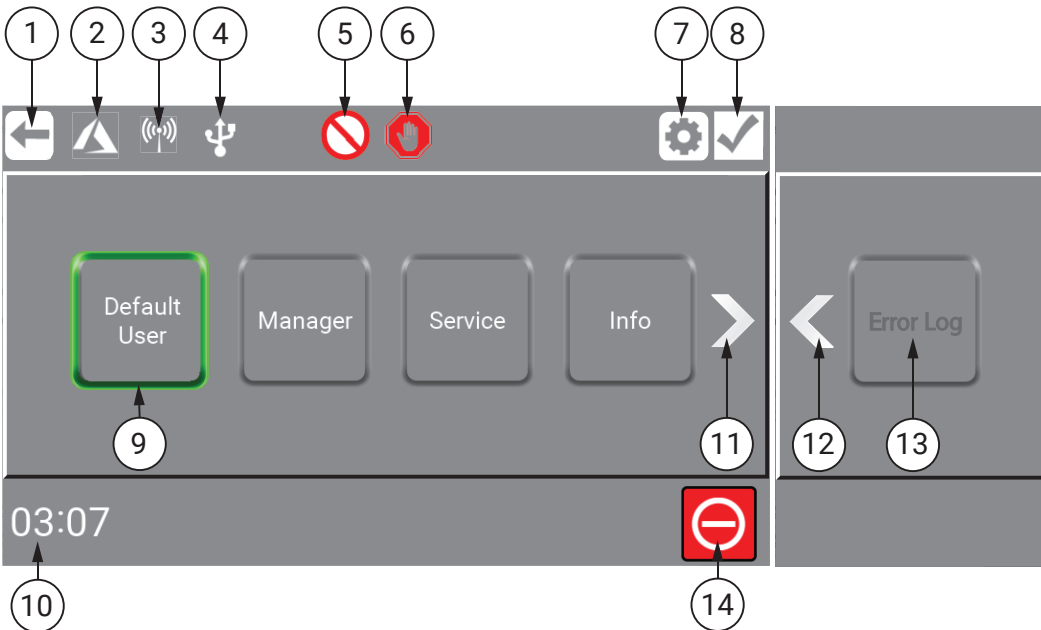
RightClickPic6\ press right arrow 6 times to see this subscreen.

... something is shown in the illustration e.g. is active, is changed and etc.



### 3. Symbols, buttons and icons

This is an introduction to the symbols, buttons and icons, that you as a user will encounter while using this satellite or mainstation.



- ① **Return** - Step backward.
- ② **Azure** - The unit is connected to Azure.
- ③ **Wifi** - The unit is connected to Wifi.
- ④ **USB** - The unit is connected to USB.
- ⑤ **Release** - The unit is not released.
- ⑥ **Blocked** - The unit / is blocked.
- ⑦ **Settings** - Go to the settings menu.
- ⑧ **Confirm** - A choice, value etc
- ⑨ **Green light frame** - The unit / program is running are active.
- ⑩ **Current time** - Clock / CET.
- ⑪ **Move right** - Through menus with more than 4 buttons.
- ⑫ **Move left** - Through menus with more than 4 buttons.
- ⑬ **Disabled button** - The button is inactive.
- ⑭ **STOP** - The unit / program.

## 4. Password protection setup / change

The unit has different kinds of password levels.

To enable / disable or change password protection, see permissions and how to here below.

### 4.1. PIN Code for a Default User (Change not possible)

The password protection and anything other than standard options for the "Default User" is not possible.

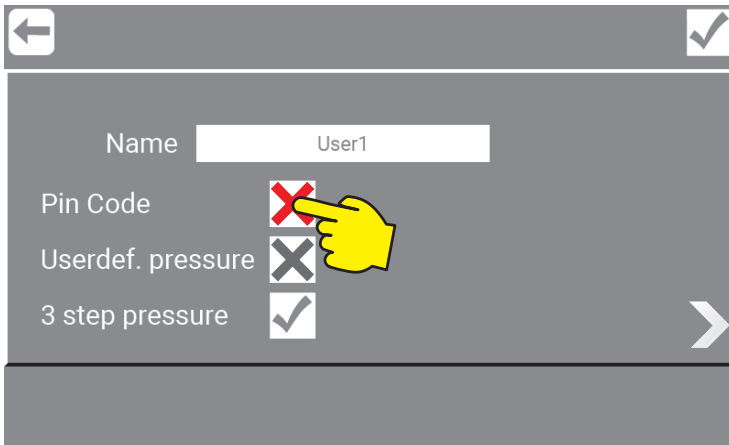
### 4.2. PIN Code for a Customized User / as Manager

The password protection for the "Customized User" is optional.

Log in here as manager is required to enable / disable or change the "Customized Users" passwords.

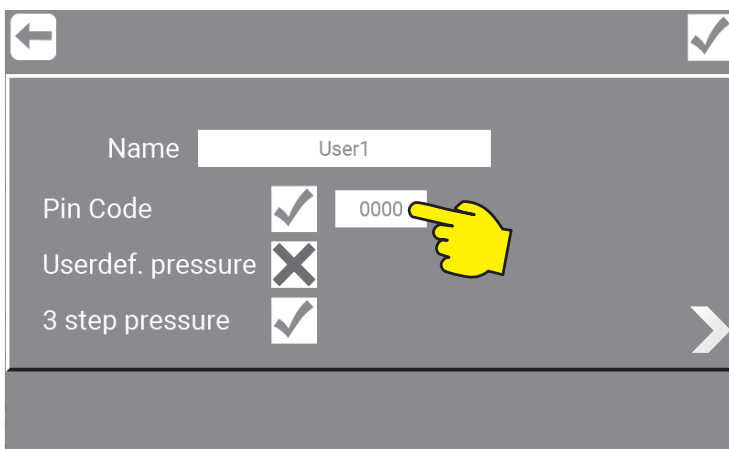
**Go to** \Mainmenu\Manager\PIN\Menu\Users>Edit\PinCode\...

Enable / disable password protection.



\Mainmenu\Manager\PIN\Menu\Users\AddOrEdit\...

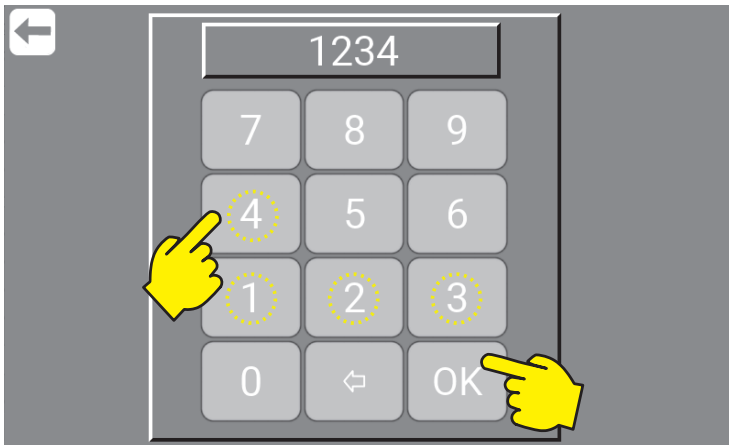
Add PIN code /password.



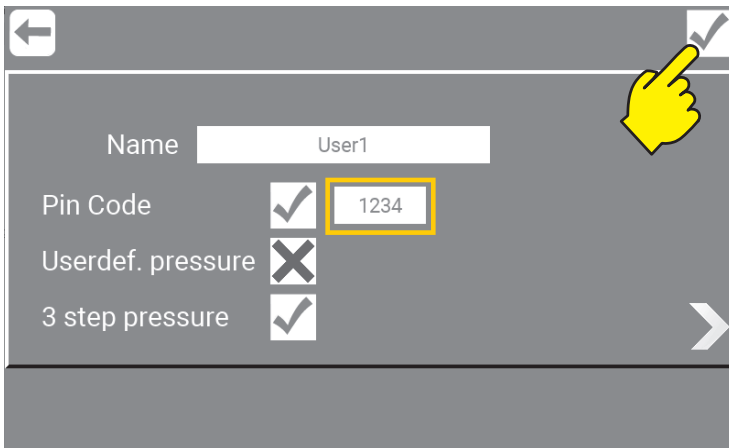
\Mainmenu\Manager\PIN\Menu\Users\AddOrEdit\PinX\...

Enter a new 4 digits code.

To save selected settings, always remember to press "OK", before pressing "Return".



\\Mainmenu\Manager\PIN\Menu\Users\AddOrEdit\PinX\XXXX\...

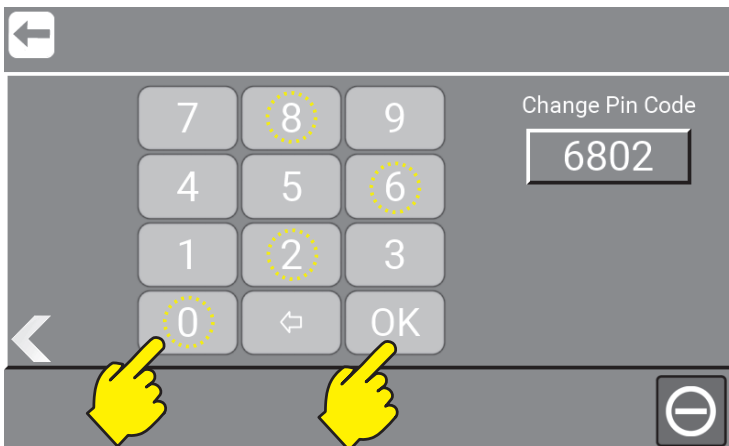


\\Mainmenu\Manager\PIN\Menu\Users\Edit\...

### 4.3. PIN Code for Manager / as Manager

The password protection for the Manager button is required and cannot be disabled.  
Log in here as manager is required to change the Manager PIN code (By default : 6802).

Go to \\Mainmenu\Manager\PIN\Menu\Settings\RightClick7\



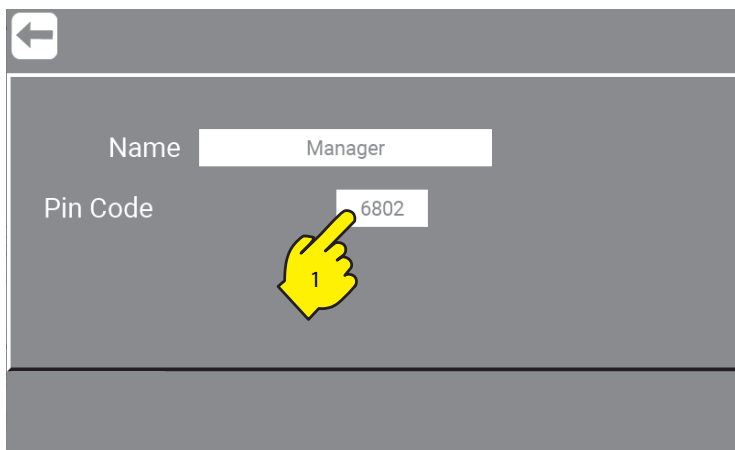
\\Mainmenu\Manager\PIN\Menu\Settings\RightClick7\mess

## 4.4. PIN Code for Manager / as Service

Log in here as Service is required to change the Manager PIN Code.

Go to \Mainmenu\Service\PIN\Menu\Users\Manager\

Press field with PIN code.

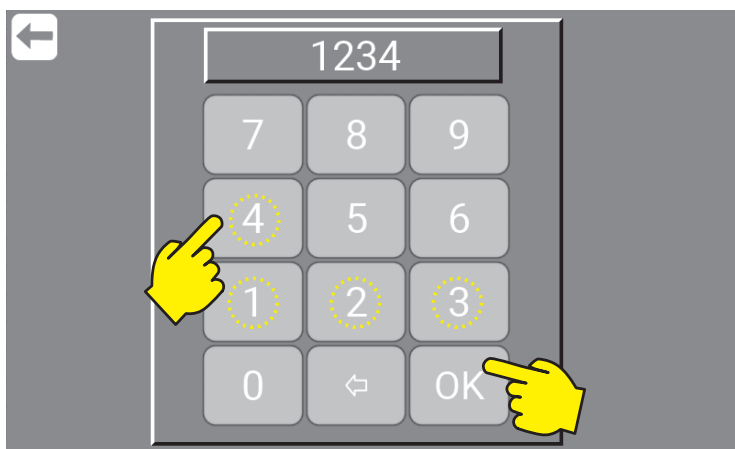


A screenshot of a mobile application interface. At the top left is a back arrow icon. Below it, there are two input fields. The first is labeled 'Name' and contains the text 'Manager'. The second is labeled 'Pin Code' and contains the text '6802'. A yellow hand icon with the number '1' is pointing to the 'Pin Code' field.

\Mainmenu\Service\PIN\Menu\Users\Manager\...

Enter a new code and complete with OK.

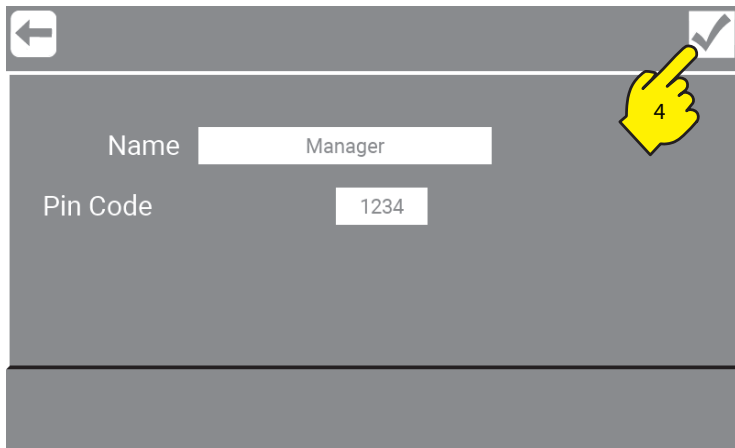
Confirm the password change.



A screenshot of a mobile application interface showing a numeric keypad. At the top left is a back arrow icon. The keypad has a display at the top showing '1234'. The keypad buttons are arranged in a 4x3 grid: 7, 8, 9; 4, 5, 6; 1, 2, 3; 0, a back arrow, and OK. A yellow hand icon with the number '1' is pointing to the '4' button, and another yellow hand icon with the number '2' is pointing to the 'OK' button.

\Mainmenu\Service\PIN\Menu\Users\Manager\...

Confirm the password change.



A screenshot of a mobile application interface. At the top left is a back arrow icon. At the top right is a checkmark icon. Below it, there are two input fields. The first is labeled 'Name' and contains the text 'Manager'. The second is labeled 'Pin Code' and contains the text '1234'. A yellow hand icon with the number '4' is pointing to the checkmark icon.

\Mainmenu\Service\PIN\Menu\Users\Manager\...

## 4.5. PIN Code for Service (Change not possible)

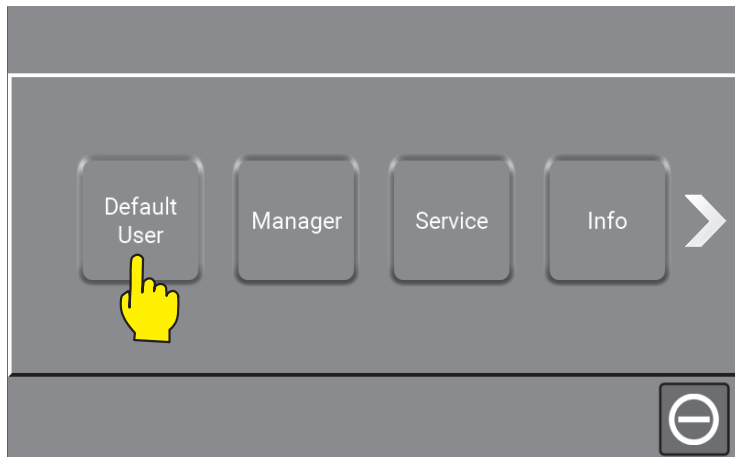
The password protection for the Service button is required and cannot be disabled or changed.

If "Service" password is required, please contact your supplier.

## 5. Default User

### 5.1. Start the unit

To start the unit and / or enable manual cleaning, using a mainstation.  
Press "Default User" button in main menu.



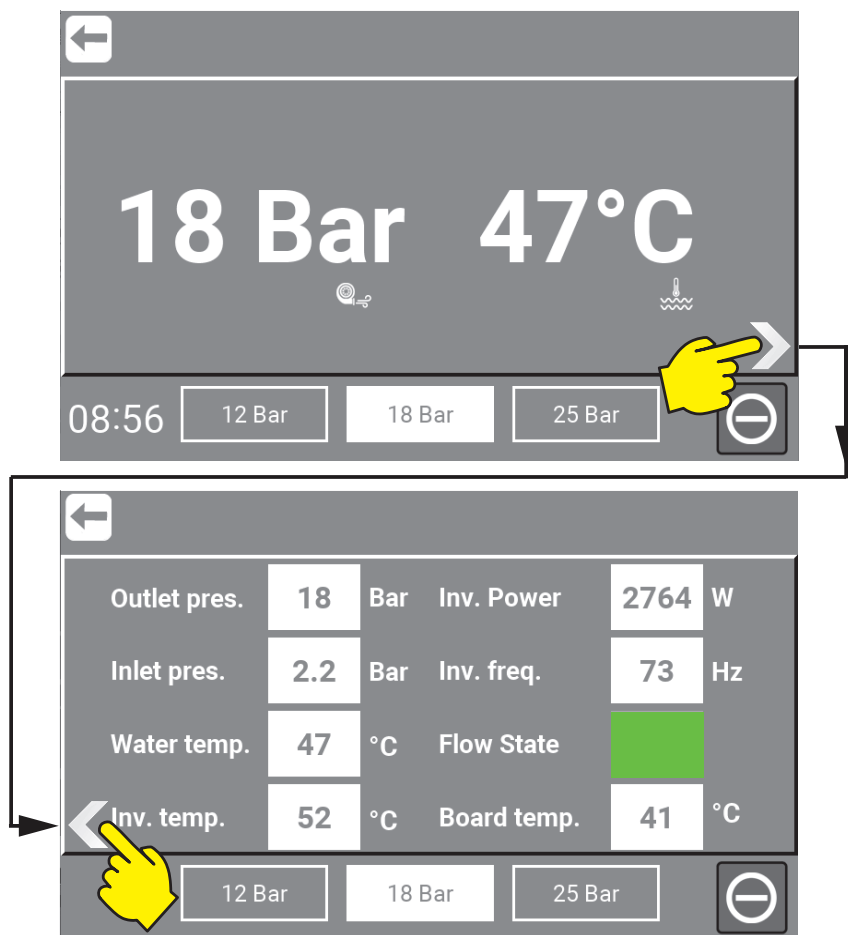
\Mainmenu\

Manual cleaning is now active and will start running when there is flow.

The unit can use either "Startup Method (Flow)" on page 38 or "Startup Method (Pressure)" on page 39

To see more data on the running unit, press "right arrow".

"Return" will send user back to the main menu. See "3. Symbols, buttons and icons" on page 9

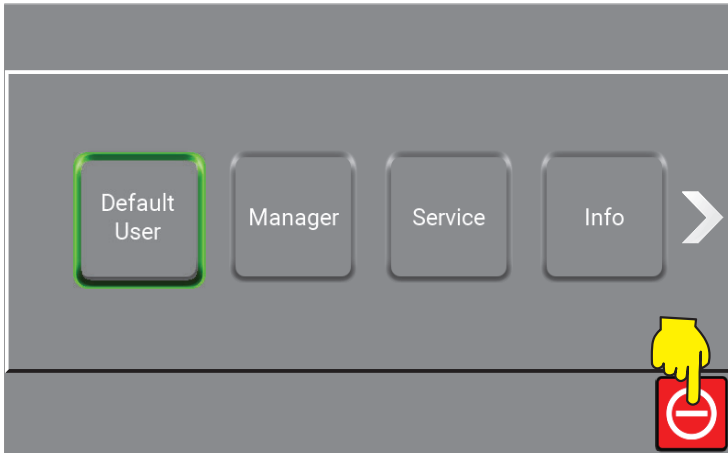


\Mainmenu\DefaultUser\Rightclick1\

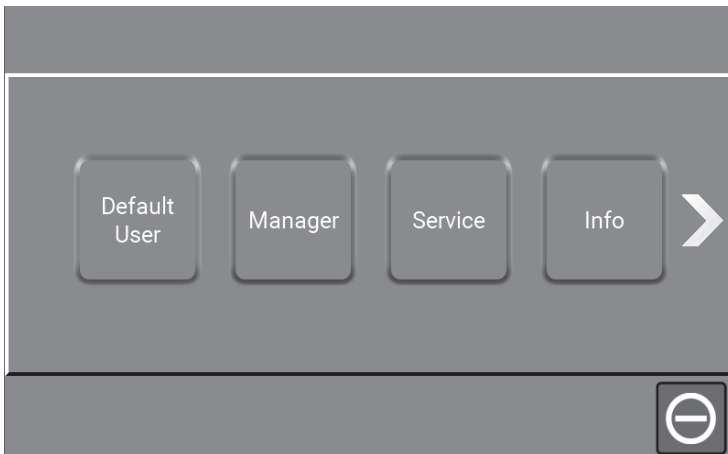
## 5.2. Stop the unit

To stop the unit, press stop.

After pressing the stop button, the green indication will disappear.



Mainmenu\



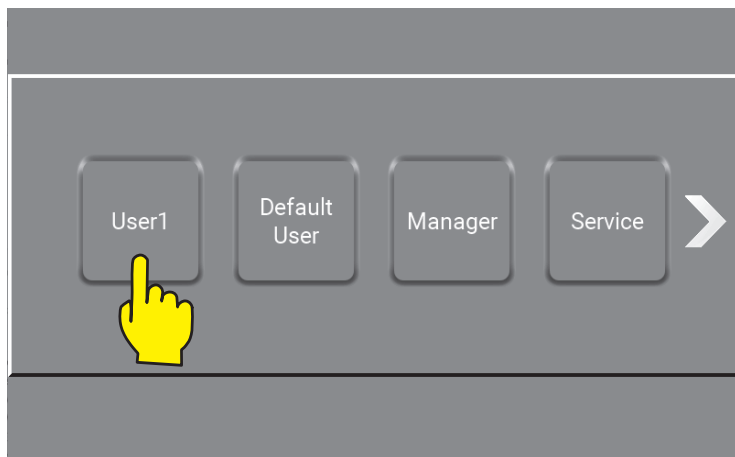
Mainmenu\

It is now possible to select another function or start the unit again.

## 6. Customized User

If a "Customized User or Users" are made, they will be located before the Default User button and can if preferred, be used the same way as Default User but with more privileges.

If a user is deleted, the data will be indexed and remain in the system, however, it will not be linked to the actual name of the specific user (anonymized)



\\Mainmenu\

### 6.1. Add a Customized User / as Manager

Log in as manager to do this : "4.3. PIN Code for Manager / as Manager" on page 11

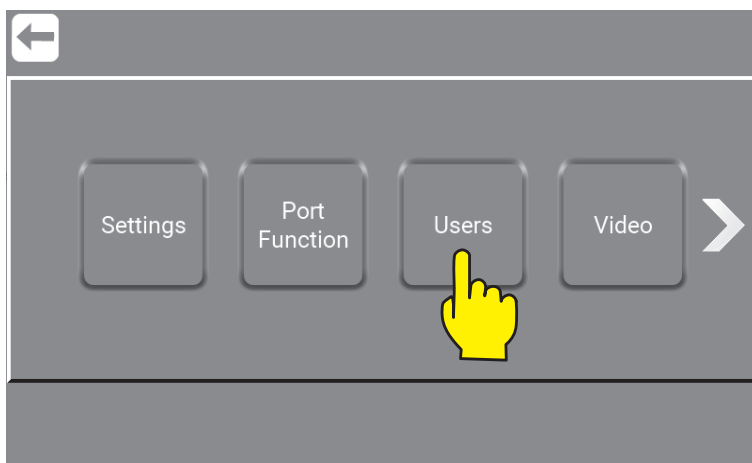
The Users area in which, add, edit and change of customized users are made.

The Hybrid 7 system offers the opportunity to prevent unauthorized use of the system or to give individual user permissions to access and operate the unit.

It is possible to setup up 6 individual users, which could be assigned different rights to change system settings, or to see operation parameters directly linked to the cleaning process.

To add a customized user :

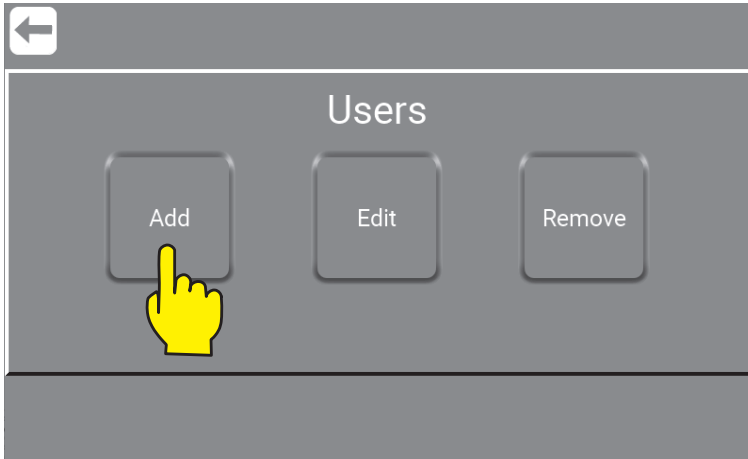
Press the "Users" button.



\\Mainmenu\ManagerOrService\PIN\Menu\...



Press "Add" to add a new customized user.

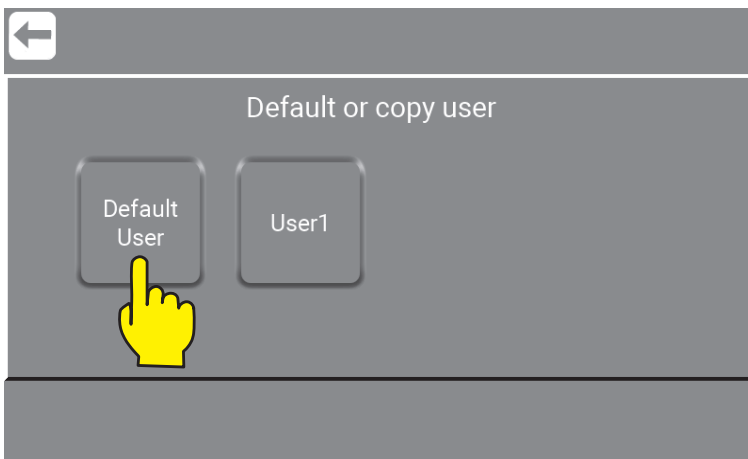


\\Mainmenu\ManagerOrService\PIN\Menu\Users\Add\...

Press **"Default User"** will add a new user.

Press **"User1"** to add a new user with similar settings to e.g. "User1".

**Info :** Be aware that when copying an existing customized user, the username must be unique, but the Pin Code and settings can remain the same.

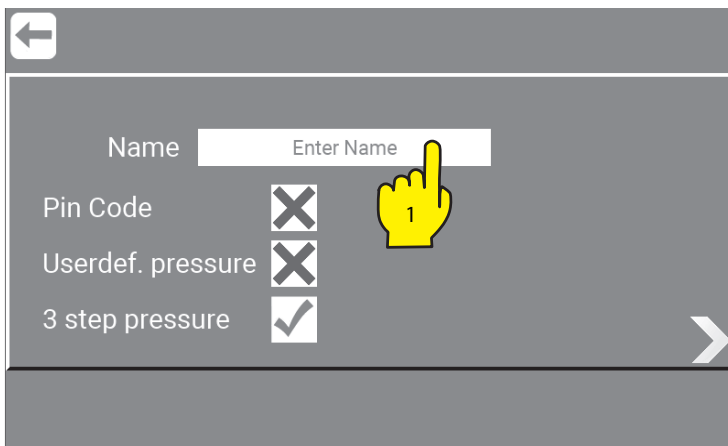


\\Mainmenu\ManagerOrService\PIN\Menu\Users\Add\...

### 6.1.1. Add a Customized Users name / as Manager

Log in as manager to do this : "4.3. PIN Code for Manager / as Manager" on page 11

Press "Enter Name".



\\Mainmenu\Service\PIN\Menu\Users\Edit\...

Apply a Name, Work no., Initials or like.

To save selected settings, always remember to press "Confirm", before pressing "Return".

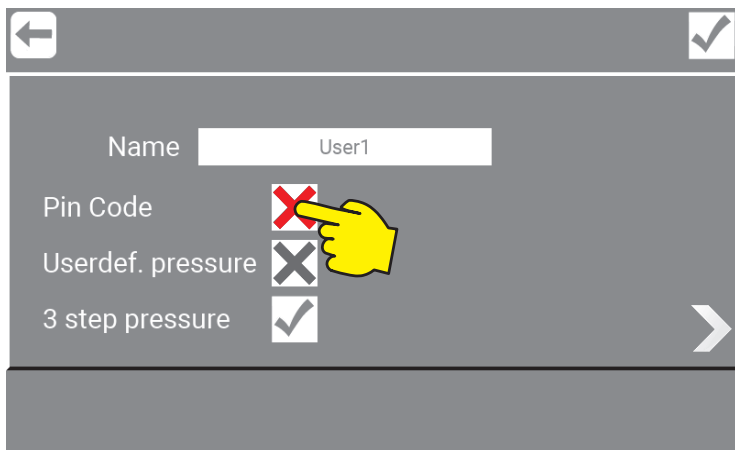


\\Mainmenu\Service\PIN\Menu\Users>Edit\...

### 6.1.2. Add Pin Code to Customized User / as Manager

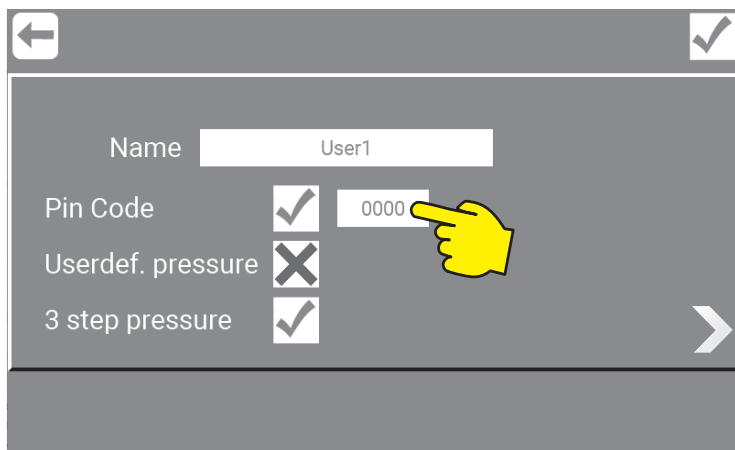
Log in as manager to do this : "4.3. PIN Code for Manager / as Manager" on page 11

Decide, if or not the new user should use a Pin Code (4 digits) to operate the system, to enable press "X"



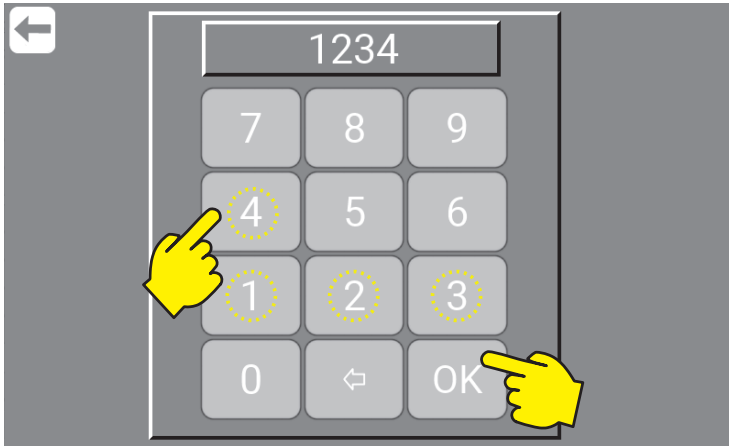
\\Mainmenu\Manager\PIN\Menu\Users>Edit\...

Add PIN code /password.

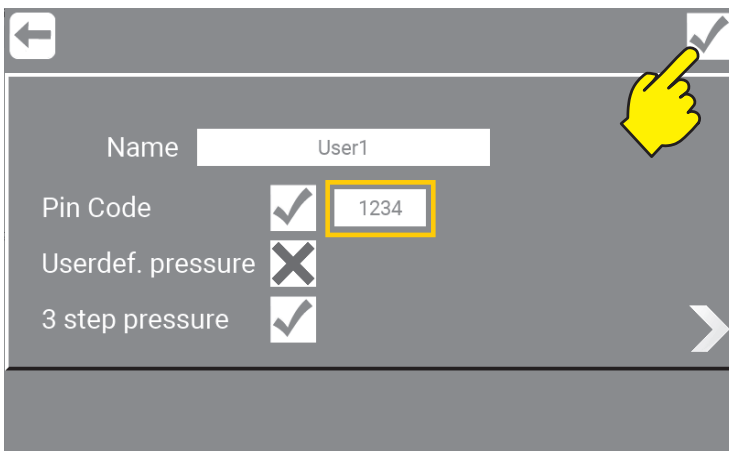


\\Mainmenu\Manager\PIN\Menu\Users>Edit\...

Enter a new 4 digits code. To save selected settings, always remember to press "OK", before pressing "Return".



\\Mainmenu\Manager\PIN\Menu\Users>Edit\...



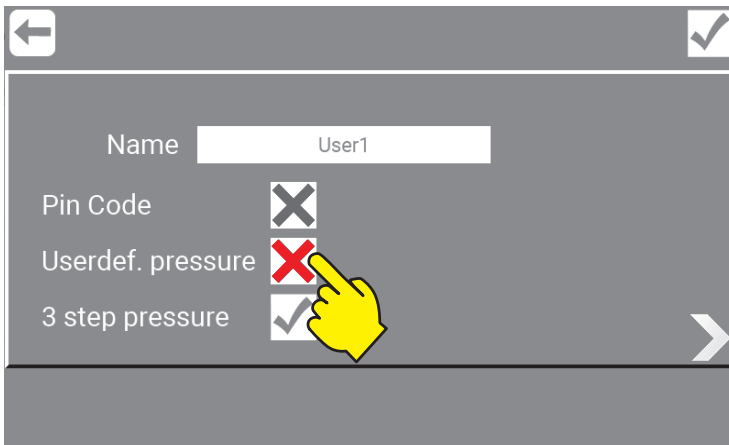
\\Mainmenu\Manager\PIN\Menu\Users>Edit\...

### 6.1.3. Add User defined pressure / as Manager

Log in as manager to do this : "4.3. PIN Code for Manager / as Manager" on page 11

Setting up unique pressure for the user: If this user needs to operate the system at a specific pressure.

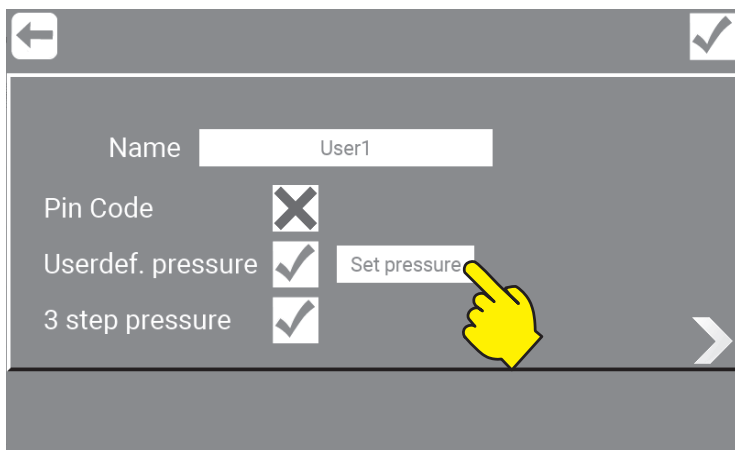
1. Press "X" to enable user defined pressure adjustments.



\\Mainmenu\Manager\PIN\Menu\Users\Add or Edit\...

Userdef. Pressure makes it is possible to set up to 3 different operational setpoints by selecting, the setting will be unique for this user.

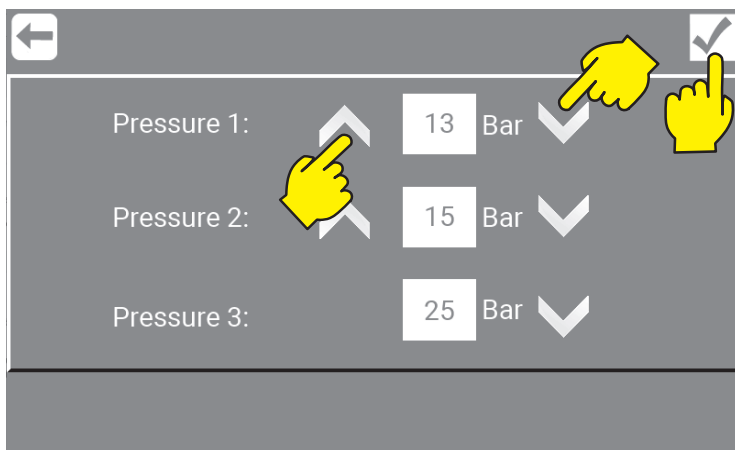
Press "Set pressure"



\\Mainmenu\Manager\PIN\Menu\Users\Add or Edit...

Set pressure by pressing up or down.

Min.3 Bar and max 25 Bar.



\\Mainmenu\Manager\PIN\Menu\Users\Add or Edit...

To save selected settings, always remember to press "Confirm", before pressing "Return".

### 6.1.4. 3 Step pressure / as Manager

Log in as manager to do this : "4.3. PIN Code for Manager / as Manager" on page 11

By selecting 3 step pressure, the system uses one of the default pressure settings.  
The default for the user will be Pressure 1.

If Userdef. Pressure is enabled, it will show this preset e.g. Pressure 1.

P1 = Pressure 1, P2 = Pressure 2 or P3 = Pressure 3

Press "√"

Mainmenu\Manager\PIN\Menu\Users\Add or Edit\...

Press P1, P2 or P3 for the preferred preset pressure.

Mainmenu\Manager\PIN\Menu\Users\Add or Edit\...

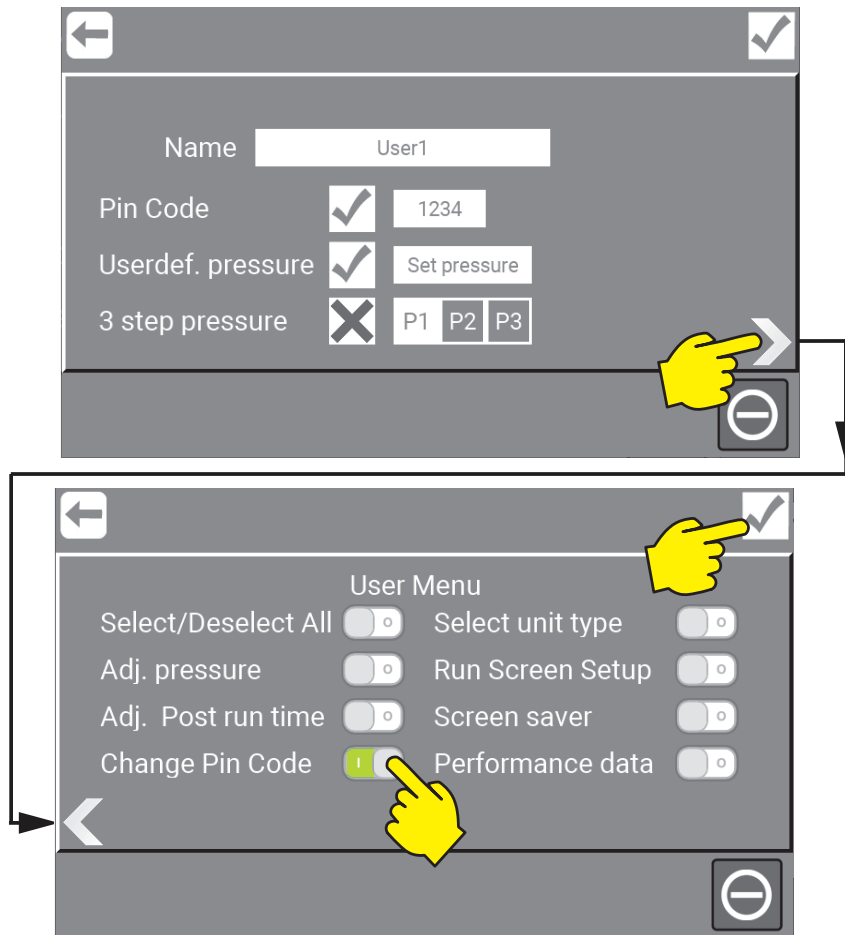
To save selected settings, always remember to press "Confirm", before pressing "Return".

## 6.2. Add privileges to customized user / as Manager

Log in as manager to do this : "4.3. PIN Code for Manager / as Manager" on page 11

When setting up a user account, it is also possible to allow the individual user extended options like, setting of pressure, change post run time, change how the screen appears and to monitor own Performance data, etc.

As Manager, it is possible to select all or to select individual functions and features. For further information about the different options, please refer to the individual functions, described elsewhere in this manual.



\\Mainmenu\Manager\PIN\Menu\Users\Add or Edit\RightClick1\...

### 6.2.1. Select / Deselect All

Will give the user all the privileges below for their user only.

See more : "6.3. How to use the optional privileges / as Customized user" on page 23

### 6.2.2. Adj. pressure

Makes it possible for the user to adjust one of their own preset pressure buttons (P2).

### 6.2.3. Adj. Post run time

Make it possible for the user to change the time interval from the flow switch detects no flow until the pump stops. Min. 5 sec. and max. 60 sec.

### 6.2.4. Change Pin Code

Make it possible for the user to change their own Pin code.

### 6.2.5. Select unit type

Make it possible for the user to select the unit type. ( Metric / Imperial )

### 6.2.6. Run Screen Setup

Make it possible for the user to change their screen setup and look.

### 6.2.7. Screen saver

Make it possible for the user to change their screensaver.

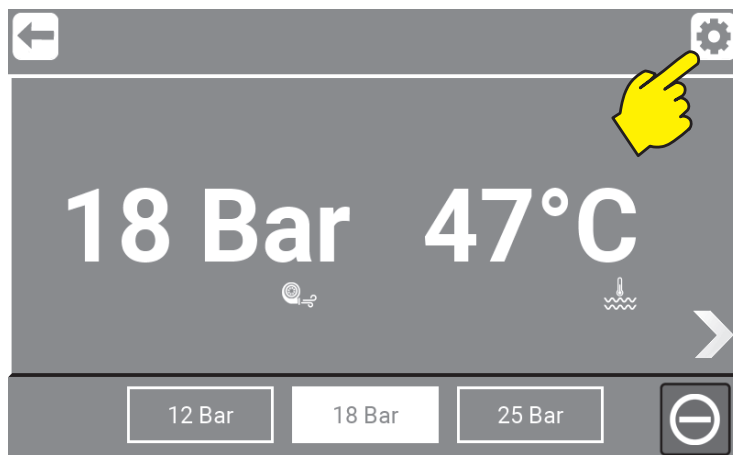
### 6.2.8. Performance data

Make it possible for the user to see the performance for All users, a specific customized User or Default User.

## 6.3. How to use the optional privileges / as Customized user

### 6.3.1. Adjust pressure / as Customized User

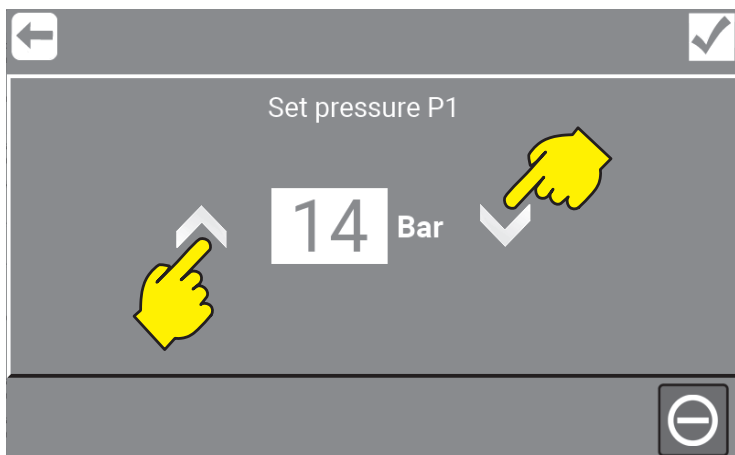
Press "Settings"



Mainmenu\User1\l...

Press up or down arrow until the desired setting is reached.

Min.3 Bar and max 25 Bar.

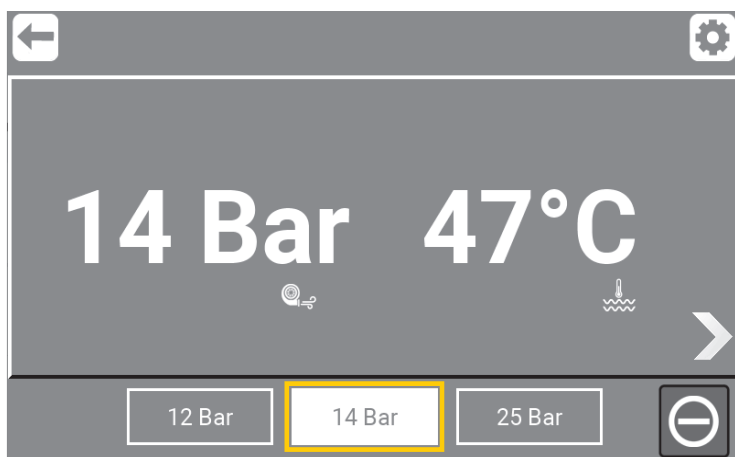


Mainmenu\User1\Settings\...



Mainmenu\User1\Settings\...

To save selected settings, always remember to press "Confirm", before pressing "Return".



\Mainmenu\User1\Settings\Confirm\...

Press "Return" to go back to the mainpage.



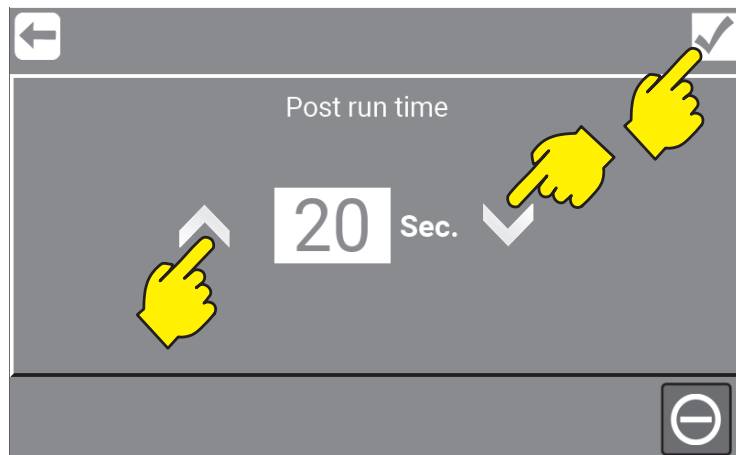
### 6.3.2. Adjust post run time / as Customized User

Log in as manager to do this : "4.3. PIN Code for Manager / as Manager" on page 11

Press up or down arrow until the desired setting is reached.

Min. 5 sec. and max. 60 sec.

To save selected settings, always remember to press "Confirm", before pressing "Return".

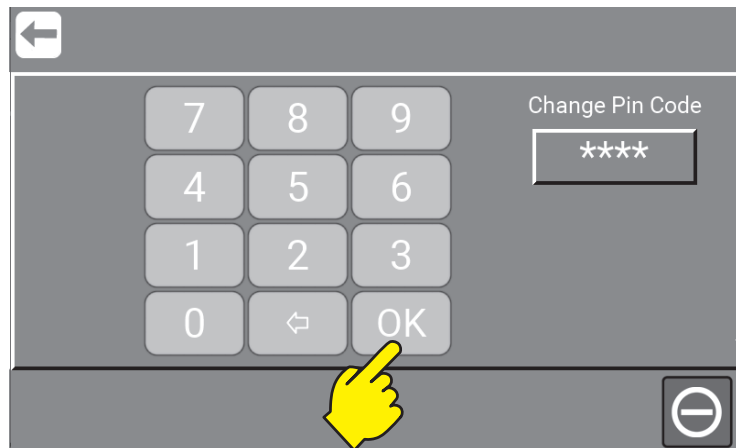


\\Mainmenu\User1\Settings\Confirm\...

### 6.3.3. Change Pin code / as Customized User

Enter a new 4 digits code.

To save selected settings, always remember to press "OK", before pressing "Return".



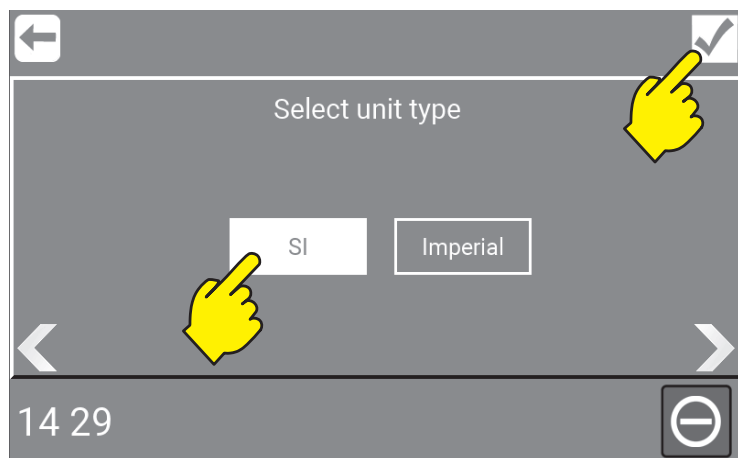
\\Mainmenu\User1\Settings\Confirm\...

### 6.3.4. Select unit type / as Customized User

Log in as manager to do this : "4.3. PIN Code for Manager / as Manager" on page 11

Select unit type of measure. Pressure and temperature.

**SI** Metric - Bars / Celcius or **Imperial** Gallons / Fahrenheit.



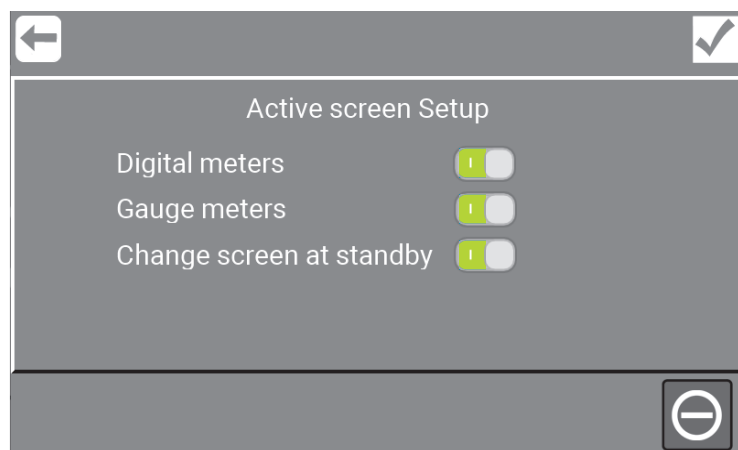
\\Mainmenu\User1\Settings\Confirm\...

### 6.3.5. Run the Screen Setup / as Customized User

Make it possible for the user to change their screen setup and look.

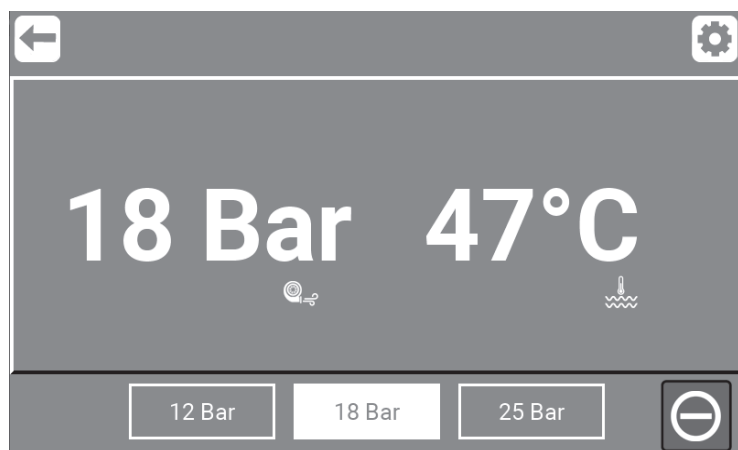
The user can on this screen enable or disable 3 settings / views.

To save selected settings, always remember to press "Confirm", before pressing "Return".



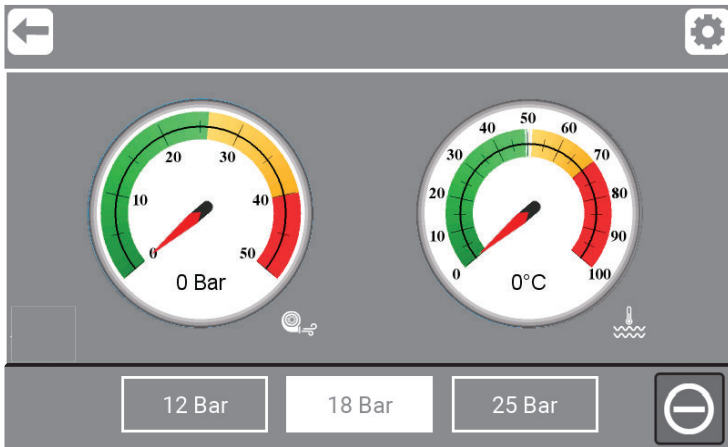
\\Mainmenu\User1\Settings\...

#### 6.3.5.1. Digital meters



\\Mainmenu\User1\Settings\DigitalMeters\On\

### 6.3.5.2. Gauge meters

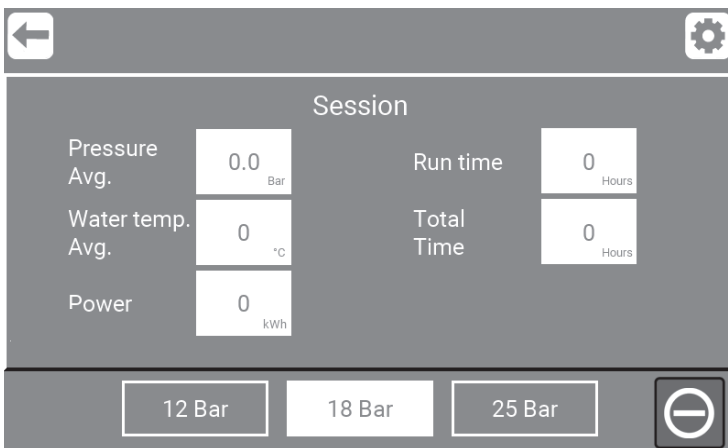


\\Mainmenu\User1\Settings\GaugeMeters\On\

### 6.3.5.3. Change screen at standby

When the pump stops running, this screen can be shown with session data.

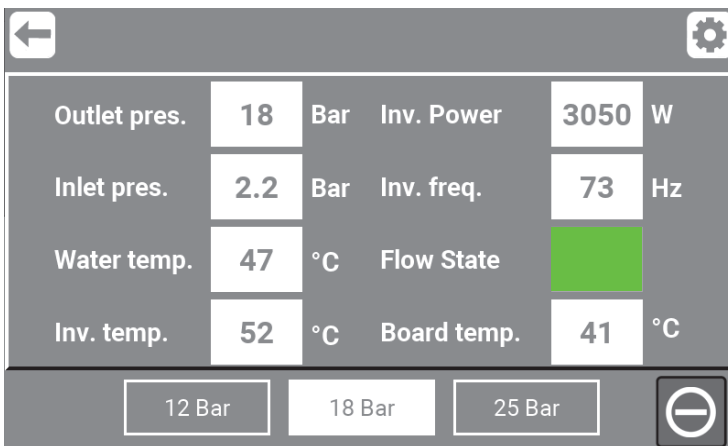
When the pump starts again it will switch back. Session data will be a stored between start and stop of the unit.



\\Mainmenu\User1\Settings\GaugeMeters\On\

### 6.3.5.4. Graphic overview ( Always visible )

If all "Active Screen Setup" is disabled. A graphic overview will always be visible.

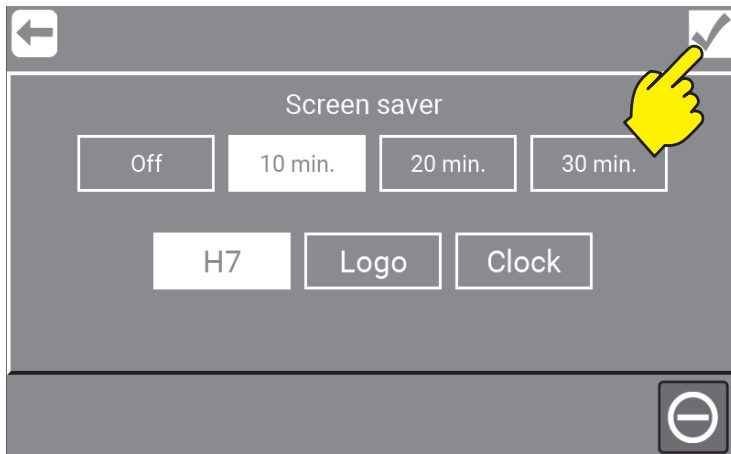


\\Mainmenu\User1\Settings\GaugeMeters\On\

### 6.3.6. Change screen saver / as Customized User

Change the amount of time that elapses before the screen saver starts.

When you press 10, 20 or 30 minutes and an option to change the type of screen saver becomes available.



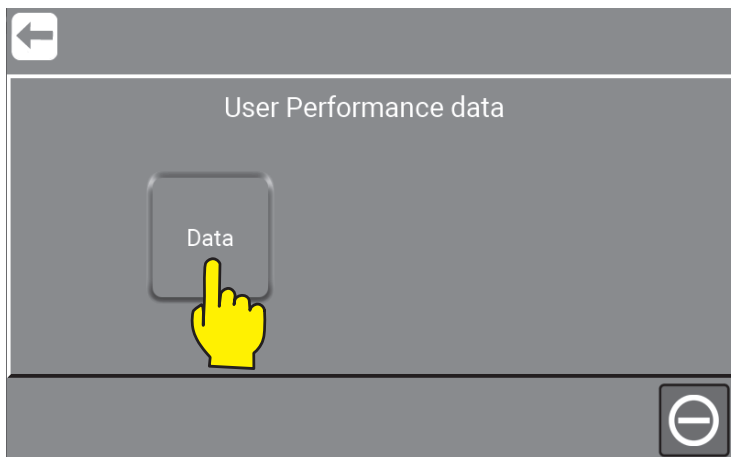
\\Mainmenu\User1\Settings\Confirm\...

### 6.3.7. Performance data / as Customized User

Performance Data can either be displayed as totals for the unit or for the individual user who has logged in.

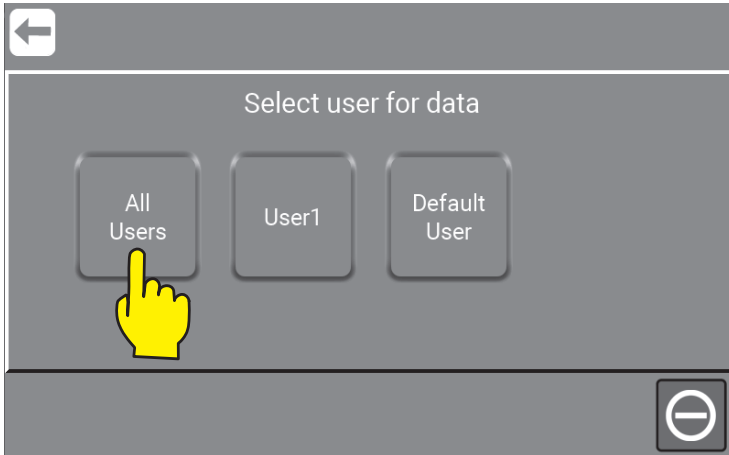
Manager will have access to all Performance Data, while as an individual User the access will be limited to see the data that has been logged while been logged in, i.e., Users own data.

The system show Run time, Water Temperature and Power consumption.

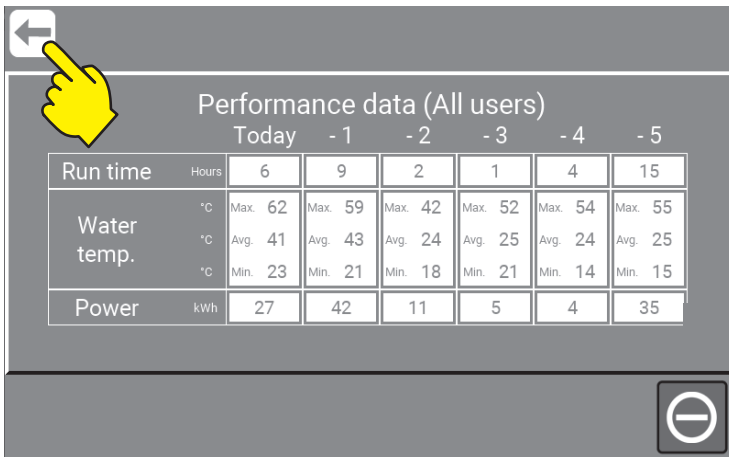


\\Mainmenu\User1\Settings\RightClickX...

Press e.g. "All Users"



\\Mainmenu\User1\Settings\RightClickX\...



\\Mainmenu\User1\Settings\RightClickX\AllUsers\

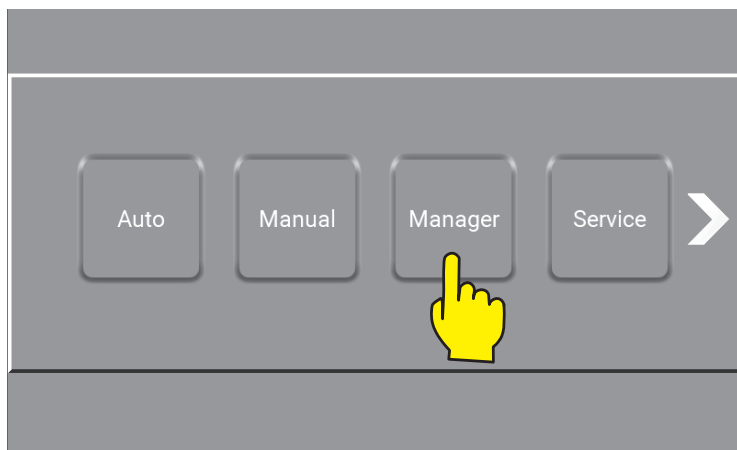
Press "Return" to go back to Mainmenu.

## 7. Manager

The Manager function has permissions to make functional changes and adjustments for Customized Users, Performance settings and other settings for "Users" and "Manager". For setup of the entire system, network updates and software changes e.g. Service access is needed, for this go to "8. Service" on page 36

### 7.1. Setup and changes / as Manager

To set up time, date, parameters and unit variables, press the "Manager" button in the main menu.



\\Mainmenu\

The "Manager" button in main menu is password protected and a numeric keypad will show up. This password can be changed, see : "4. Password protection setup / change" on page 10

Enter the correct code and complete with OK. (By default : 6802)

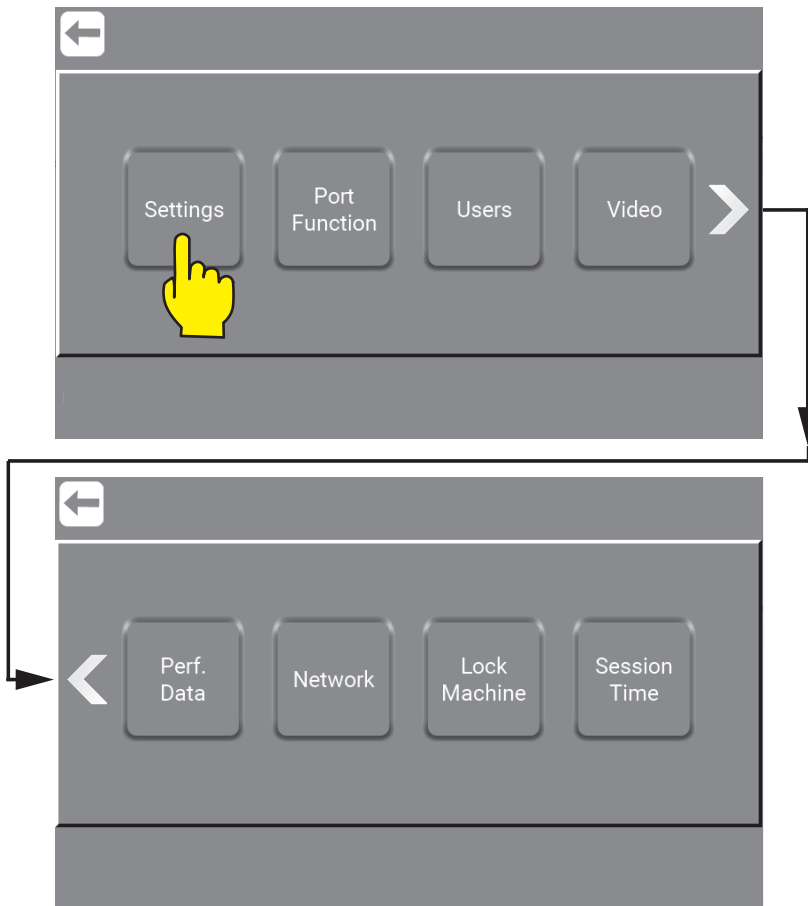


\\Mainmenu\Manager\

## 7.2. Settings / as Manager

"Settings" menu for the manager, is very similar to Settings as Service.  
To see complete menu and how to use it go to "8.2. Settings / as Service" on page 37

Press the "Settings" button.

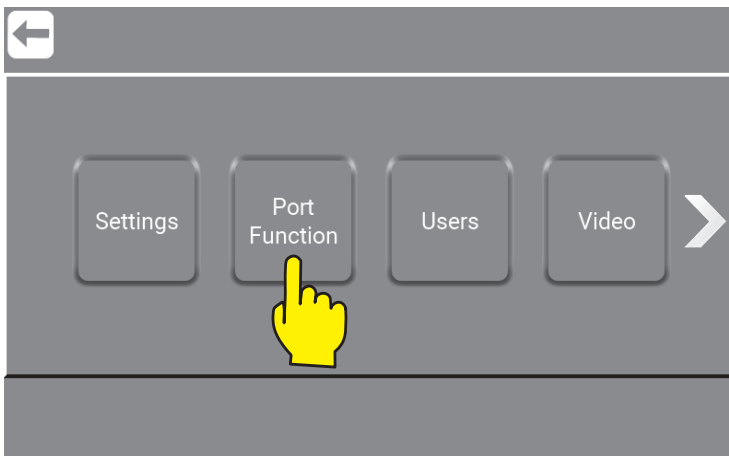


\\Mainmenu\Manager\PIN\Menu\Settings\

## 7.3. Port Function / as Manager

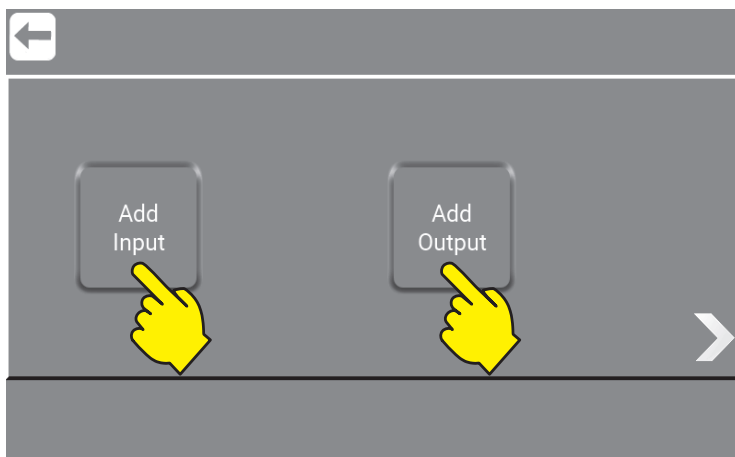
The Port function area as Manager is for working with Inputs and Outputs.

Press the "Port Function" button.



\\Mainmenu\Manager\PIN\Menu\...

Press the "Add Input" button.



\\Mainmenu\Manager\PIN\Menu\PortFunctions\...

All about inputs and how to make their setup - go to :

"8.3.1. What is Inputs, Inputs available and their functionality" on page 43

All about outputs and how to make their setup - go to :

"8.3.3. What is Outputs, Outputs available and their functionality" on page 45

For a complete list of all inputs / output connected or in use go to :

"8.3.6. Show I/O's connected or in use" on page 48

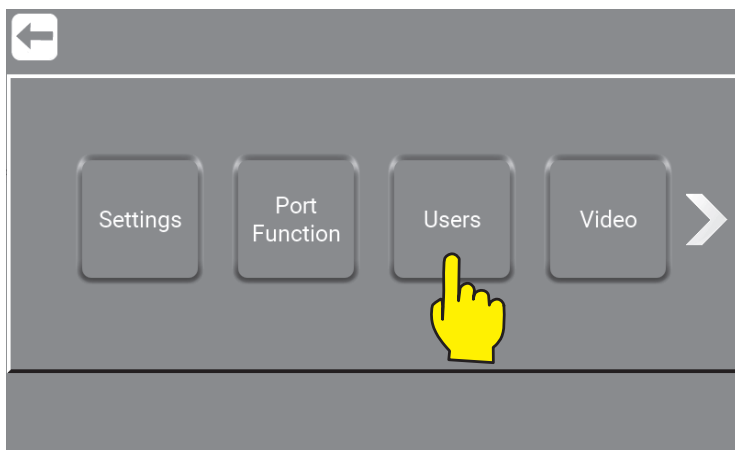
## 7.4. Users / as Manager

The Users area in which, add, edit and change of customized users are made.

Are all very similar to for more and how to use it go to :

"6.1. Add a Customized User / as Manager" on page 16

Press the "Users" button.



\\ainmenu\Manager\PIN\Menu\Users\...

## 7.5. Video / As Manager (Coming up)

Video instructions to come - not yet available .



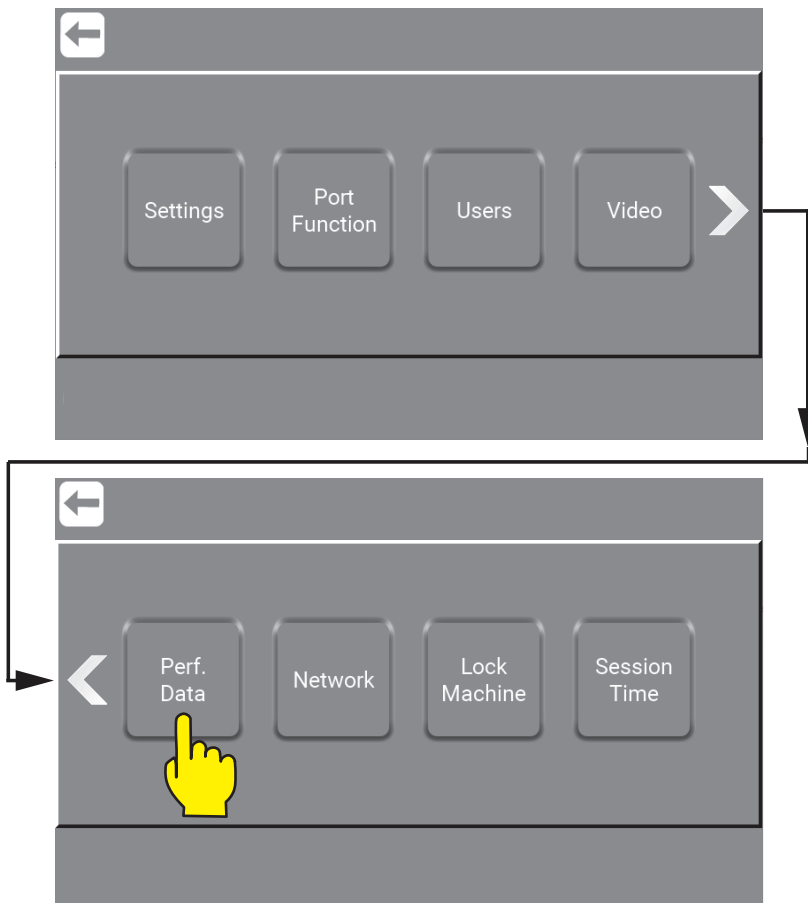
## 7.6. Perform. Data / as Manager

Performance Data can either be displayed as totals for the unit or for the individual user who has logged in. Manager will have access to all Performance Data, while as an individual User the access will be limited to see the data that has been logged while been logged in, i.e., Users own data.

The system show Run time, Water Temperature and Power consumption.

More and how to use it go to : "6.3.7. Performance data / as Customized User" on page 28

Press the "Perf. Data" button.



\\Mainmenu\ManagerOrService\PIN\Menu\Settings\

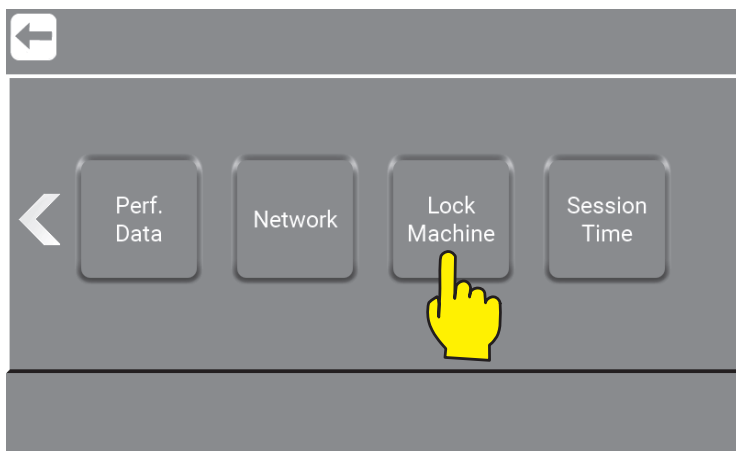
## 7.7. Network / as Manager

"Network" menu for the manager, is very similar to "Network" as Service. For more and how to use it go to "8.8. Network / as Service" on page 56

## 7.8. Lock Machine

The Machine can be protected from being used outside a defined timespan to prevent unauthorized use of the system.

Press the "Lock Machine" button.

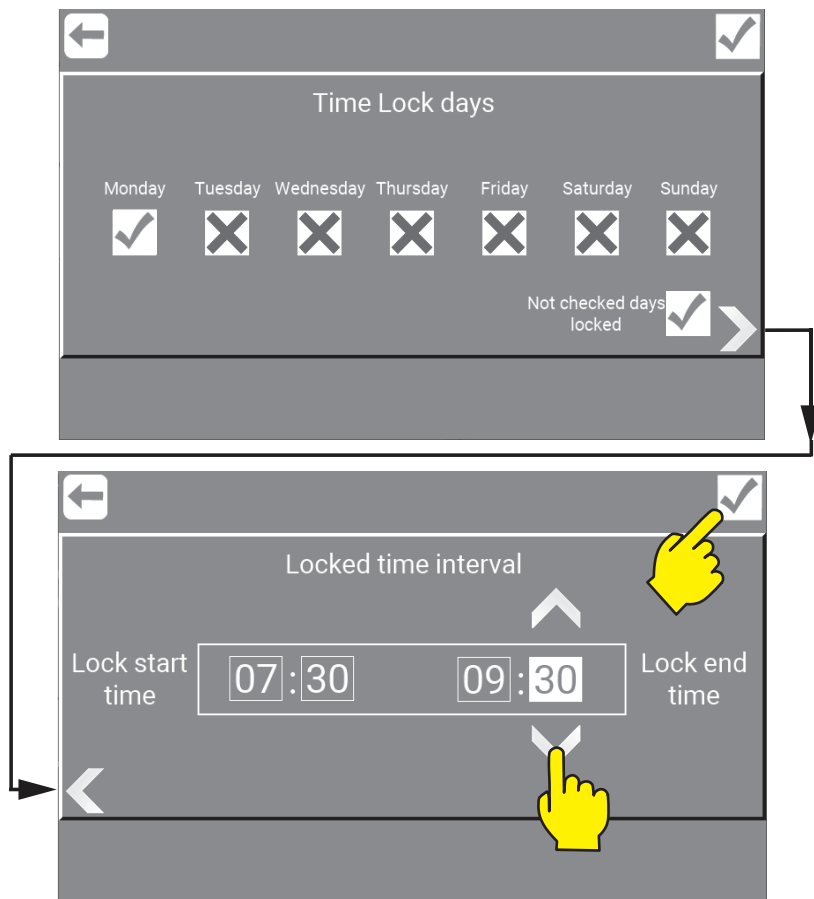


\\Mainmenu\Manager\PIN\Menu\...

As per default the unit is not locked.

To enable the time lock function, select the days the machine should be locked by pressing "X", it will turn to "✓". Function will be activated for days marked with a "✓".

If "not checked days" are checked, days marked with an "X" will be locked, otherwise they will be unlocked. The shown "Locked time interval" blocks the unit for two hours – between 7:30 and 9:30 on the days where free.

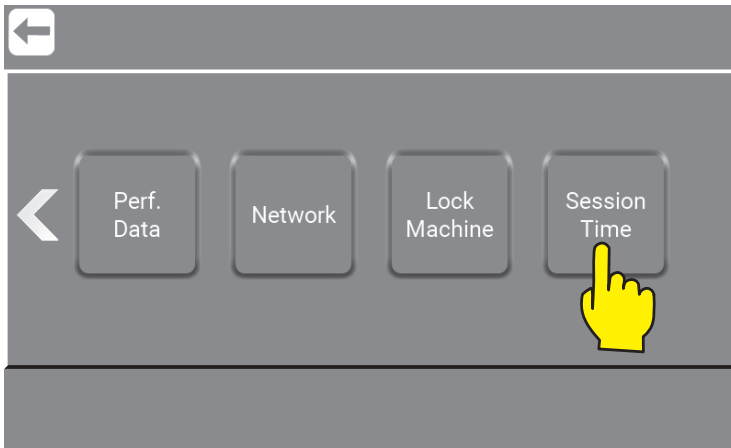


\\Mainmenu\Manager\PIN\Menu\LockMachine\...

To save selected settings, always remember to press "OK", before pressing "Return".

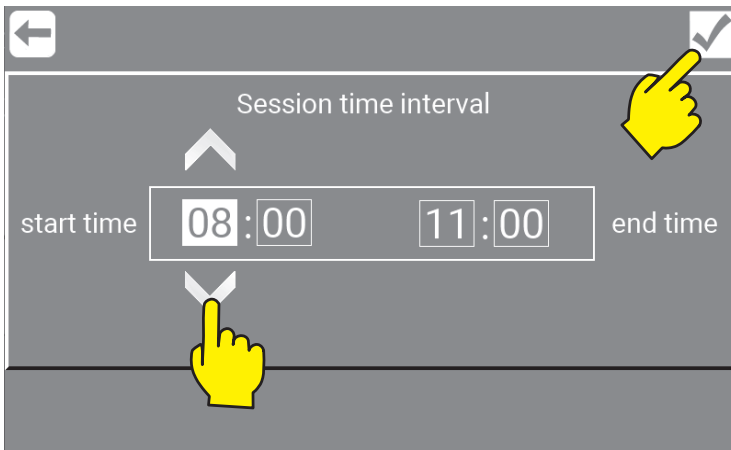
## 7.9. Session Time Interval

Press the "Session Time" button.



\\Mainmenu\Manager\PIN\Menu\...

The shown "Session time interval" allows the unit to be active for three hours – between 8:00 and 11:00.



\\Mainmenu\Manager\PIN\Menu\...

To save selected settings, always remember to press "OK", before pressing "Return".

## 7.10. Manual / as Manager

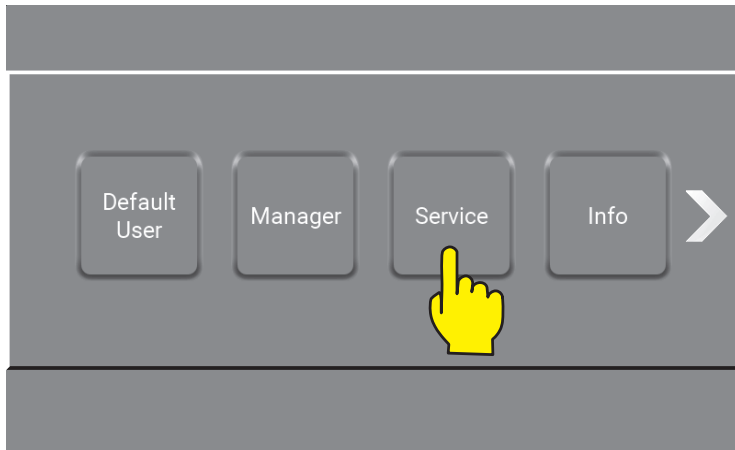
The Manager test mode (Manual) is a place to test if the setup of the units is as required. For more and how to use it go to "8.11. Manual / as Service" on page 57

## 8. Service

### 8.1. How to use Service menu

The service menu is for trained service personnel only.

Here you can change the setup, make adjustments and changes in general. This on a higher level then Manager. Be aware that changes made in this area, might impact the functionality of your unit and cause that the unit runs poorly or even fails. Thorough training is required.



\\Mainmenu\

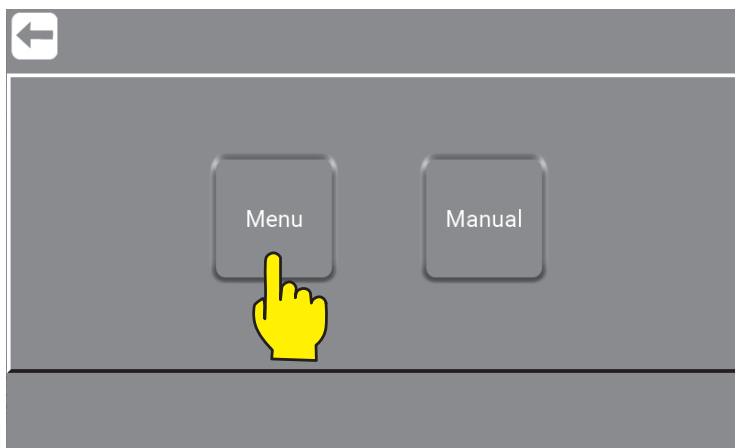
The Service button in main menu is password protected and a numeric keypad will show up. For more about password protection see : "4. Password protection setup / change" on page 10

Enter the correct Service code and complete with OK.



\\Mainmenu\Service\...

Press the "Menu" button.



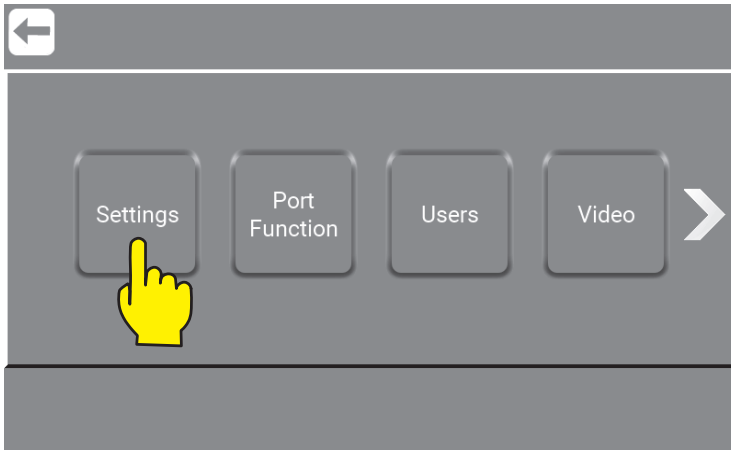
\\Mainmenu\Service\PIN\...

## 8.2. Settings / as Service

"Settings / as Service" menu is almost the same as "Settings / as Manager", so all pictures are the same with the exception of the last 4 pictures. First one only for "Settings / as Manager" and last the 3 only for "Settings / as Service" on page 43.

**Note :** The **"Users"** and **"Upgrade Software"** (Here marked with yellow boxes.) is only available as Service.

Press the "Settings" button.



\\Mainmenu\ManagerOrService\PIN\Menu\...

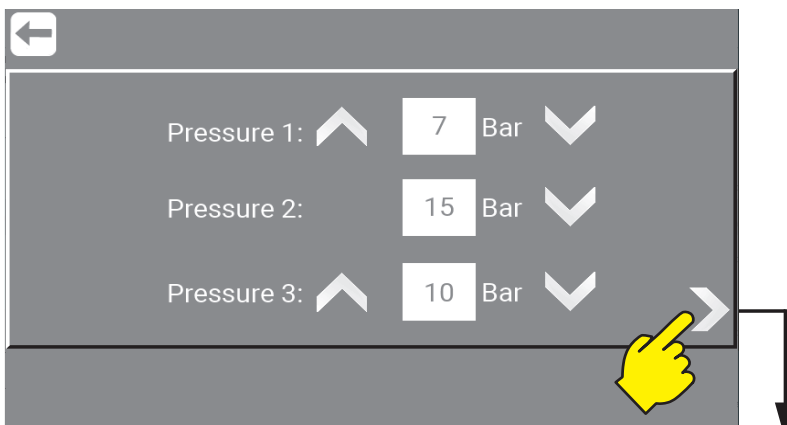
In the "Settings" menu for service a long range of settings can be adjusted in order to change the behavior of the unit. Navigation through the settings menu is done using the right and left arrows.

### 8.2.1. Preset pressure

Set the preset pressure on machine level.

Set Pressure 1 (P1), Pressure 2 (P2) / Pressure 3 (P3)

Min. 3 Bar and max. 25 Bar.



\\Mainmenu\ManagerOrService\PIN\Menu\Settings\

### 8.2.2. Post run time

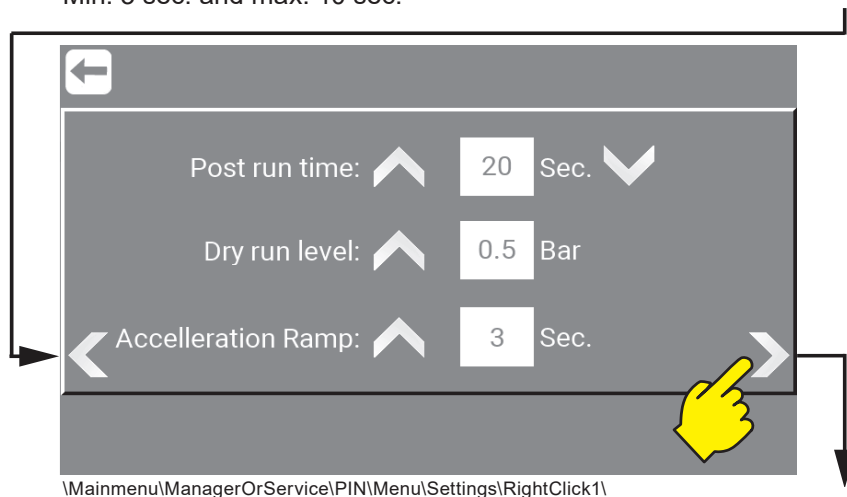
This time interval is the time from the flow switch detects no flow until the pump stops. Min. 5 sec. and max. 60 sec.

### 8.2.3. Dry run level

Minimum Dry run level that the unit requires to run.  
Min. 0.5 Bar and max. 4 Bar.

### 8.2.4. Acceleration Ramp

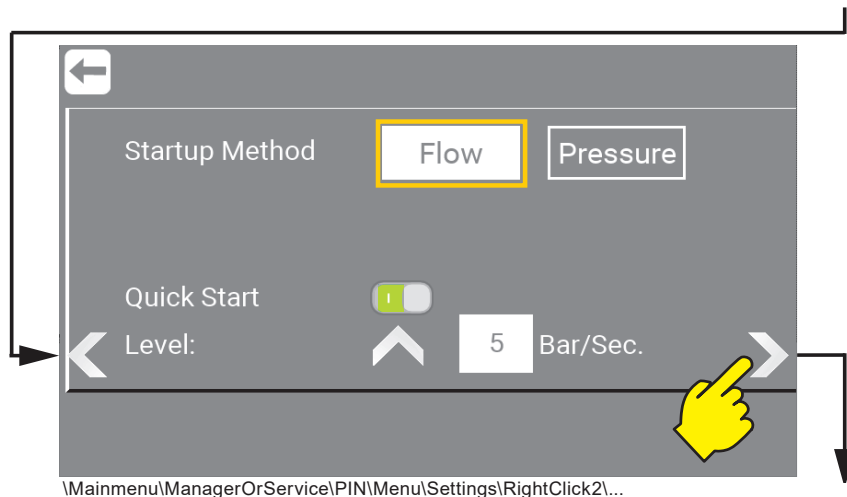
The time it takes for the pump to accelerate from standing still until maximum speed is achieved (unregulated).  
Min. 3 sec. and max. 10 sec.



### 8.2.5. Startup Method (Flow)

As standard, the units factory setting for Startup method is Flow. For Startup method "Pressure" see: "8.2.7. Startup Method (Pressure)" on page 39

FLOW start, the pump will start as soon as the flowswitch detects a steady flow above: 2 L/min (Factory default setting), through the pipe system. The pump will then run until the flow is cut off or gets below 1.5 l/min. It is possible to set a postrun time, that allows the pump to continue to run for a selected amount of seconds, even without any flow detected. If the flow is re-established during postrun time, the pump will continue to run. It is possible to adjust the postrun time, see: "8.2.2. Post run time" on page 38

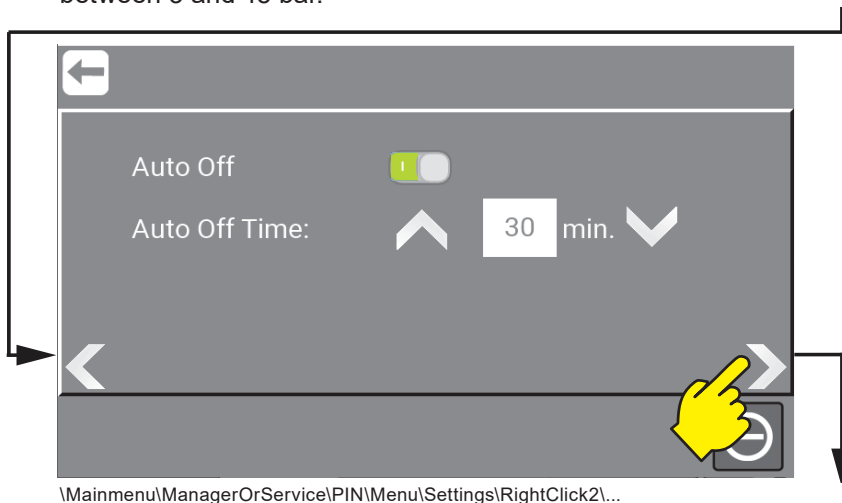


### 8.2.6. Quick Start

When the unit is in Flow start mode, it is possible to select “Quick Start” this function will when activated, monitor how the pressure is in the system and if it is dropping. And if so start the pump if the conditions are met e.g. 5 bar/second.

### 8.2.7. Startup Method (Pressure)

PRESSURE start, the unit will start when the pressure sensor detects a system pressure below the setpoint “Start pressure” and will remain running as long as the flow switch detects a flow in the system – the above mentioned “Postrun time” will apply to the pressure start method as well. It is possible to adjust the pressure using the arrows up or down – the value can be set between 3 and 15 bar.



### 8.2.8. Auto Off

If Auto Off is enabled (Green), the system will leave Standby mode and enter Off mode after a given time. If the system is protected by a Pin, this code must be entered before the unit will be able to start again.

The time before entering Off mode can be set between 5 and 60 minutes, using the Up and Down arrows.

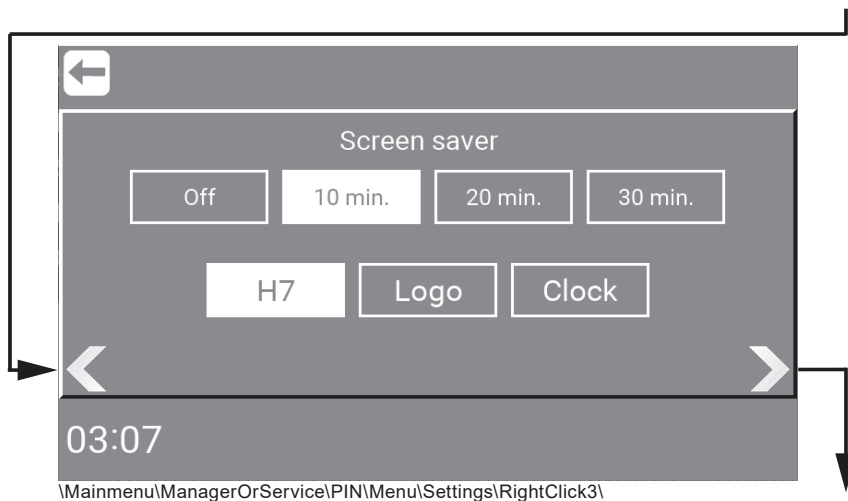
### 8.2.9. Auto Off Time

If Auto Off is disabled, the system will remain in Standby mode and can be started at any given time. In this mode, Pin code will have no effect unless the stop button is pressed.

### 8.2.10. Screen saver

Set time for the screen saver.

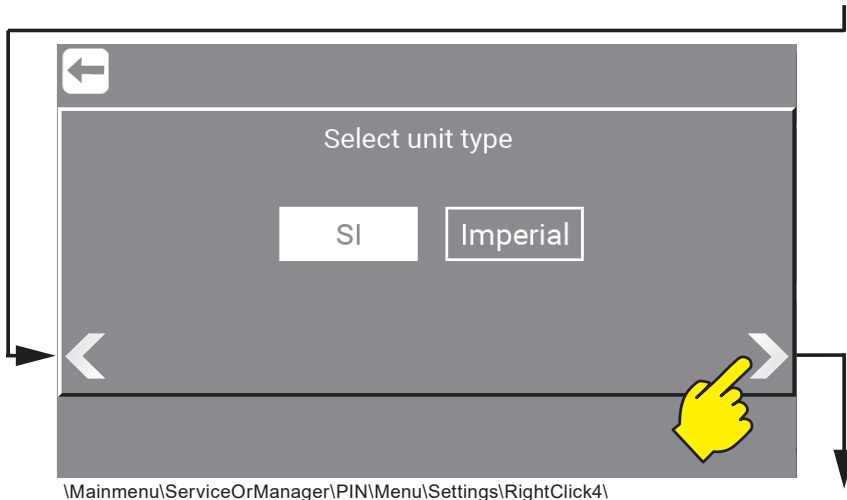
And choose if the screen saver should show H7 (Robot), Logo or Clock when activated.



### 8.2.11. Select unit type ( Metric / Imperial )

Select unit type of measure. Pressure and temperature.

**SI Metric** - Bars / Celcius or **Imperial** Gallons / Fahrenheit.

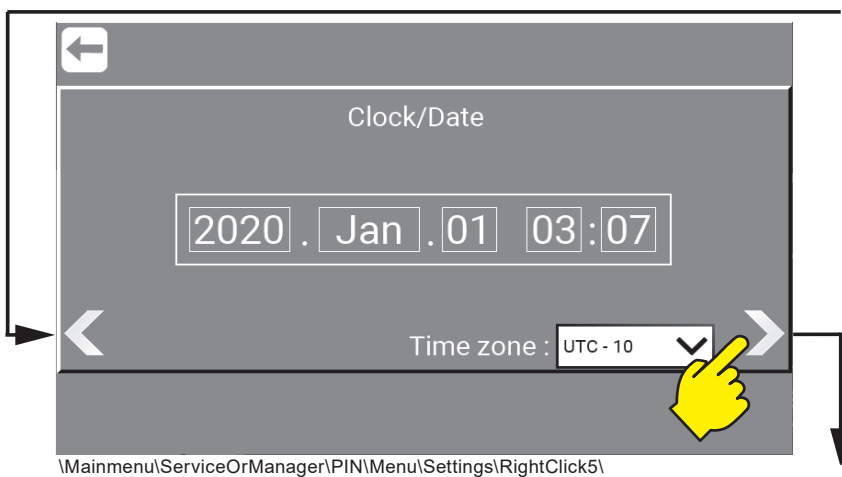


### 8.2.12. Clock/Date

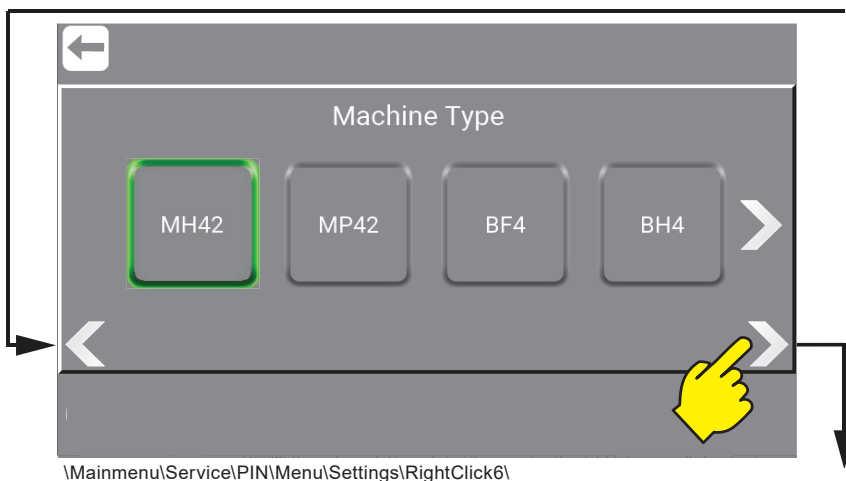
Select Clock and date by pressing

### 8.2.13. Time zone

Select the units timezone.







### 8.2.14. Change of Machine type (Only as Service)

Machine type are defined on the identification plate.

More about this in the Direction for Use manual.

See : "Available manuals for this unit:" on page 2

**M/B:**    **M:** Mainstation / **B:** Booster

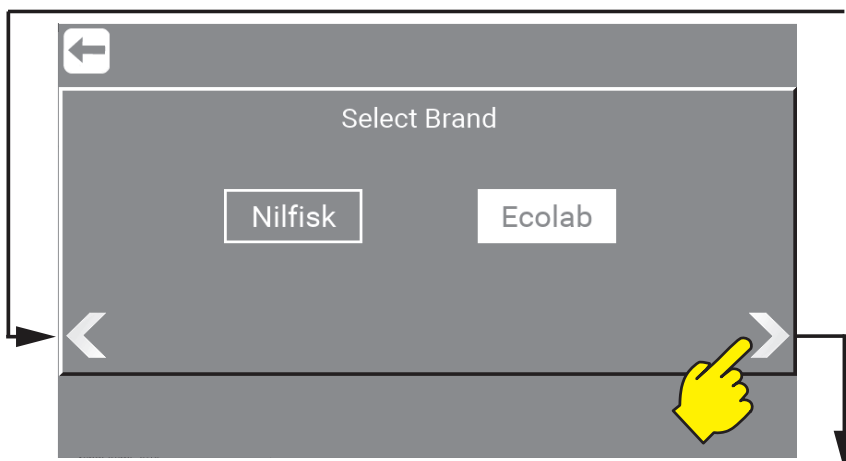
**H/P/F:** **H:** Hybrid / **P:** Pegaus / **F:** Floor

**4/7/8:**    **4** = Number of Users

**2:**        **2** = Number of products

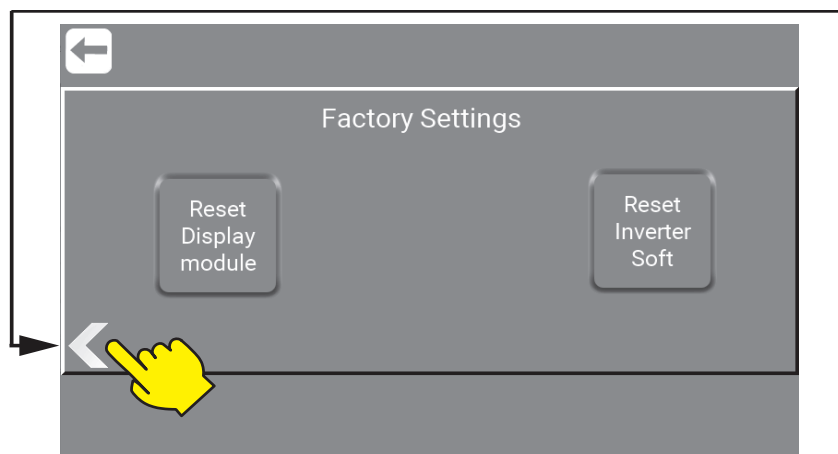
The selected machine type is highlighted with a green frame.

As Service it can be changed here. Press the right arrow to see all the machine types available.



### 8.2.15. Select Brand (Only as Service)

As "Service" it is possible to switch the graphic user interface (GUI) between Nilfisk or Ecolab.

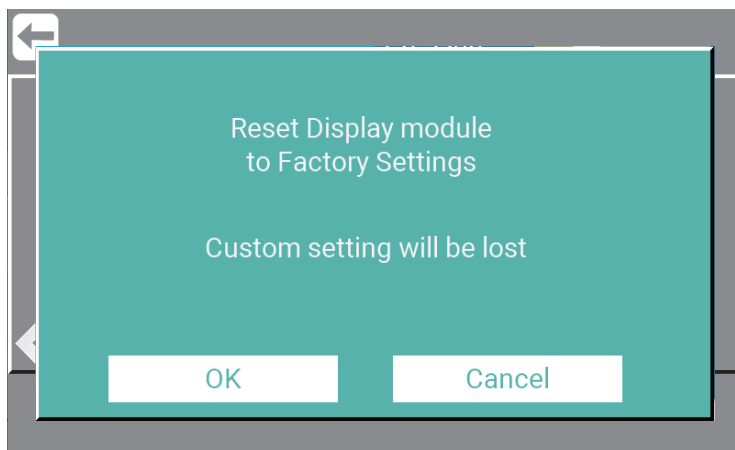


\\Mainmenu\Service\Menu\Settings\RightClick9\...

## 8.2.16. Factory Settings - Reset to Default (Only as Service)

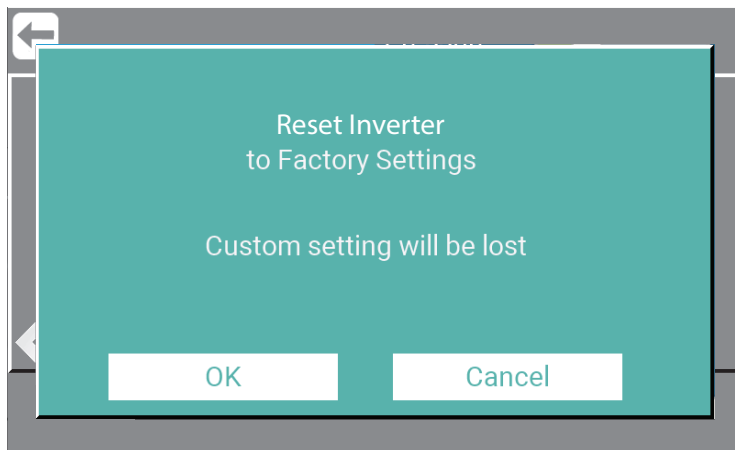
**Reset Display module** : Reset of the Display Module software.

Alle customer settings will be lost when a reset is completed, so when pressing one of these buttons a pop-up will appere and ask you to confirm this reset.



\\Mainmenu\Service\Menu\Settings\RightClick9\ResetDisplayModule\...

**Reset Inverter Soft** : Reset of the Inverter Software.



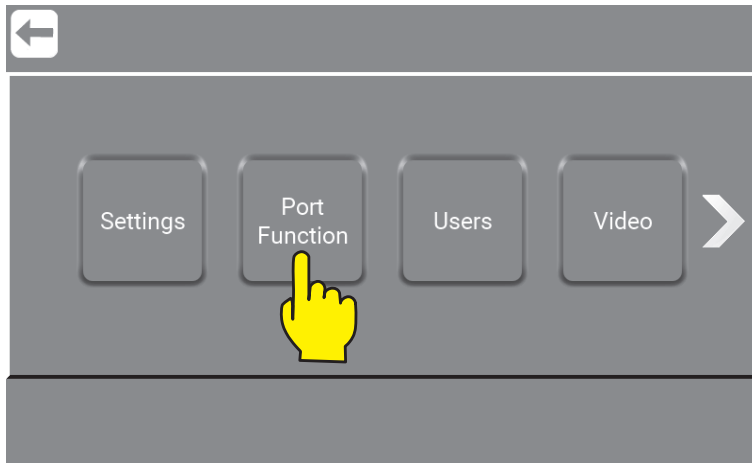
\\Mainmenu\Service\Menu\Settings\RightClick9\ResetInverterSoft\...

## 8.3. Port Function / as Service

In the Port function area it is possible to manage ports and monitor and the status of all I/O's (Input / Output).

The Menu point enables the possibility to Add, Remove I/O's and select predefined functions. This function makes it possible to interact with 3rd. part equipment.

Press the "Port Functions" button.



\\Mainmenu\Service\PIN\Menu\...

### 8.3.1. What is Inputs, Inputs available and their functionality

Input signals are in general electrical signals given to the unit to achieve a given behavior, for example, start wash program, warning or error. For more about the different kinds of inputs and how to make them follow the next steps.

#### 8.3.1.1. Lance Empty

Makes it possible for the Display Module to make an error when the product can of a specific product is empty. This error will prevent the unit from being started. Input can be either Product A, B, C or Global. Global means that the it doesn't pay attention to which can is empty. Must be connected to a level switch.

#### 8.3.1.2. Lance Low

Warning that indicates that the level in the product can of a specific product is getting critical. If this is activated the program running, will run to the end, but a new program cannot be started. Input can be either Product A, B, C or Global. Global means that the it doesn't pay attention to which can is empty. Must be connected to a level switch.

#### 8.3.1.3. Release

If this input is activated, it is a release for the entire machine. This signal is required in order for the machine to run, regardless of whether it is a wash program or manual. If removed it stops the machine.

#### 8.3.1.4. Blocked

If this input is activated, This is a block for the entire machine. This signal is required in order for the machine to run, regardless of whether it is a wash program or manual. If removed it tops the machine.

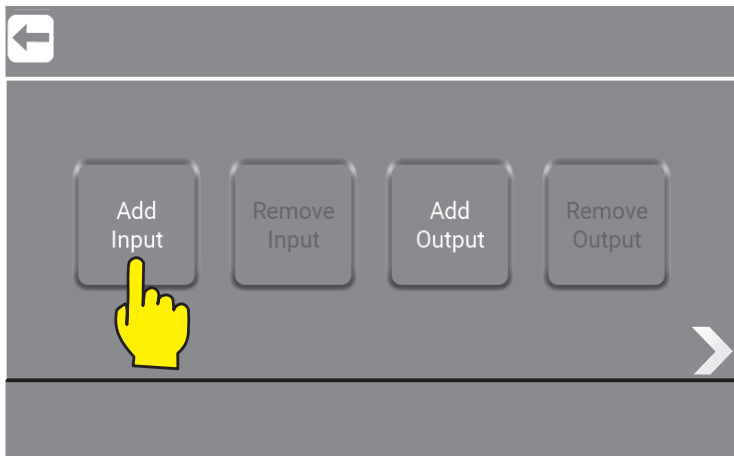
#### 8.3.1.5. Analog

The Analog Port Function enables the possibility to connect a flow switch or set the output pressure from the pump remotely.

### 8.3.2. Add Input - How to add Input signals

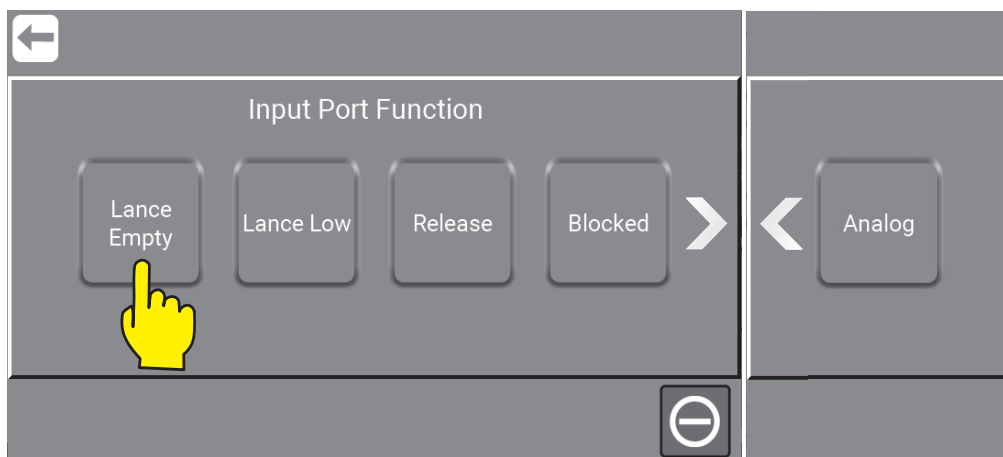
To add functionality to the Display Module, inputs are needed.

Press the "Add Input" button.



\\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\...

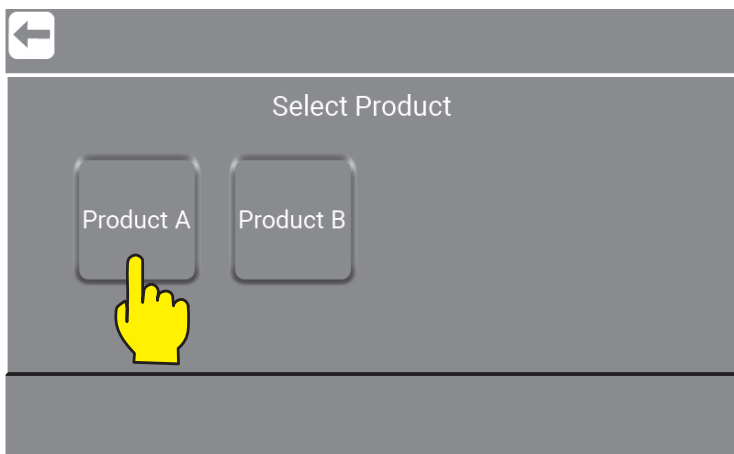
Press the input required e.g. "Lance Empty" button.



\\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\...

**Note :** For a complete list of all inputs as well as how to use the setup functions - go to :  
"8.3.6. Show I/O's connected or in use" on page 48

Press the function e.g. "Product A" button.



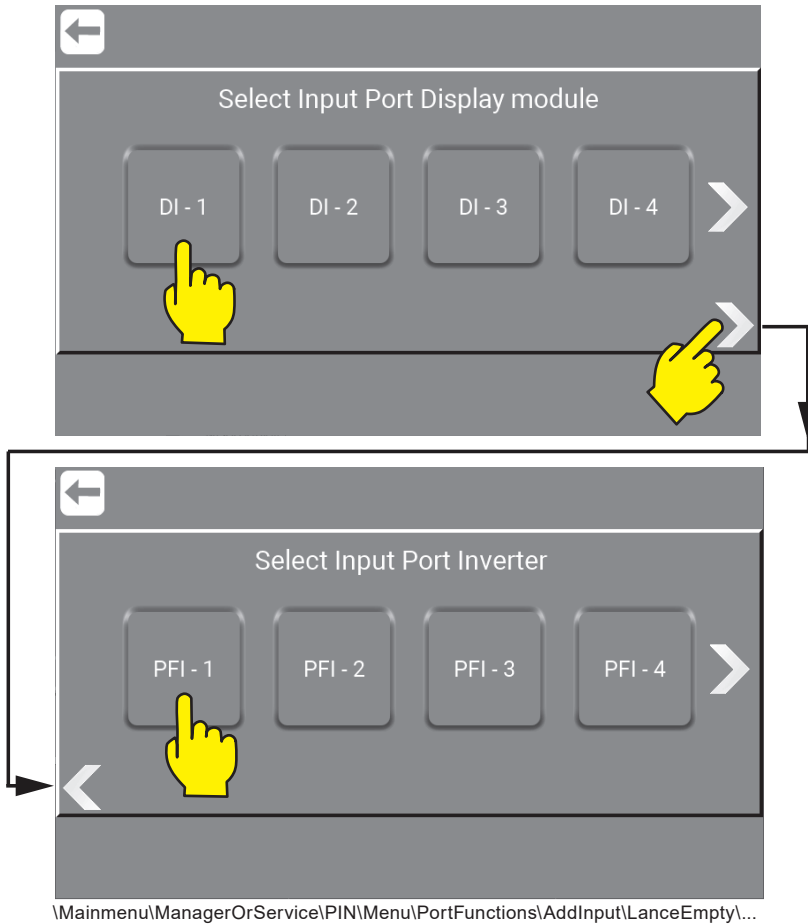
\\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\AddInput\LanceEmpty\...

Press the required port for input.

DI : Direct Inputs (6 is Located in the Display Module).

PFI : Potential Free Input (4 is located in the Inverter).

GPI : General Purpose Input (4 is located in the Inverter).



\\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\AddInput\LanceEmpty\...

### 8.3.3. What is Outputs, Outputs available and their functionality

Output signals is used to indicate a given behavior or state, to another control, light tower etc. could for e.g. be system active or program finished.

#### 8.3.3.1. System Active

Output activated when the unit is running or in standby.

#### 8.3.3.2. Running

Activated when pump is running.

#### 8.3.3.3. Not Running

Activated when pump is NOT running

#### 8.3.3.4. Error

Output signal activated when an error is detected in the system, could be low inlet pressure, no communication etc.

#### 8.3.3.5. Stopped

Activated when system is stopped, could be when stop button is pressed.

### 8.3.3.6. Delayed Start

Delayed Start is typically used when the startup of the pump needs to be delayed allowing e.g., a pre-pressure pump to start, before the unit itself starts up. Select Delayed Start and select the desired output port DO 1 to 9 or RL 1 or 2 using the terminal blocks on the PCB at the Display Module.

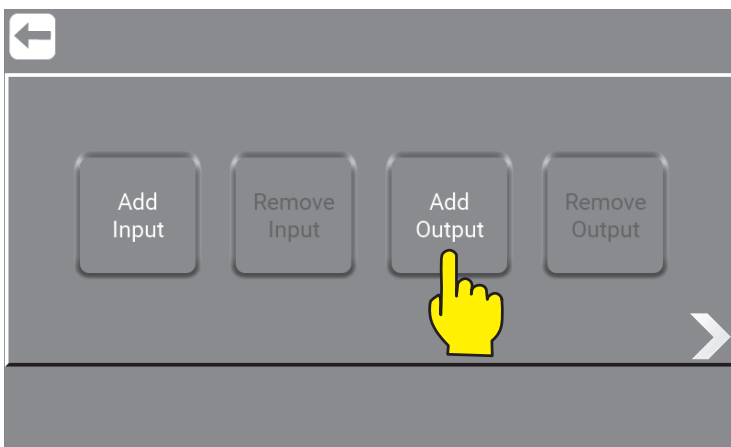
To set the required time go to Settings, here the Delayed Start menu point appears then the function is selected, and a port is assigned. The delay time can be set between 1 to 10 seconds.

### 8.3.4. Add Output - How to add Output signals.

To add functionality to the Display Module, Outputs is needed.

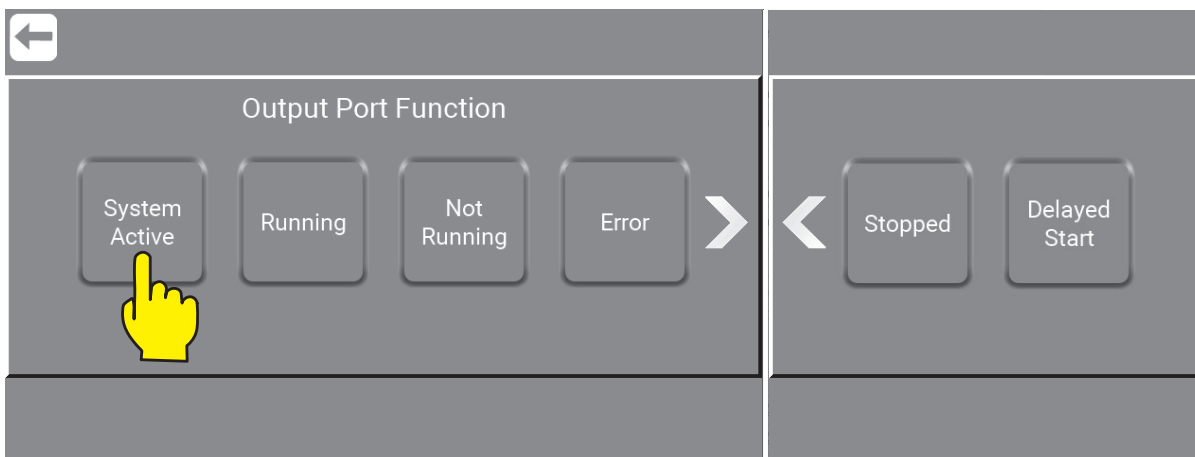
Go to \Mainmenu\ManagerOrService\PIN\Menu\PortFunction\

Press the "Add Output" button.



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\...

Press the output required e.g. "System Active" button.



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\...

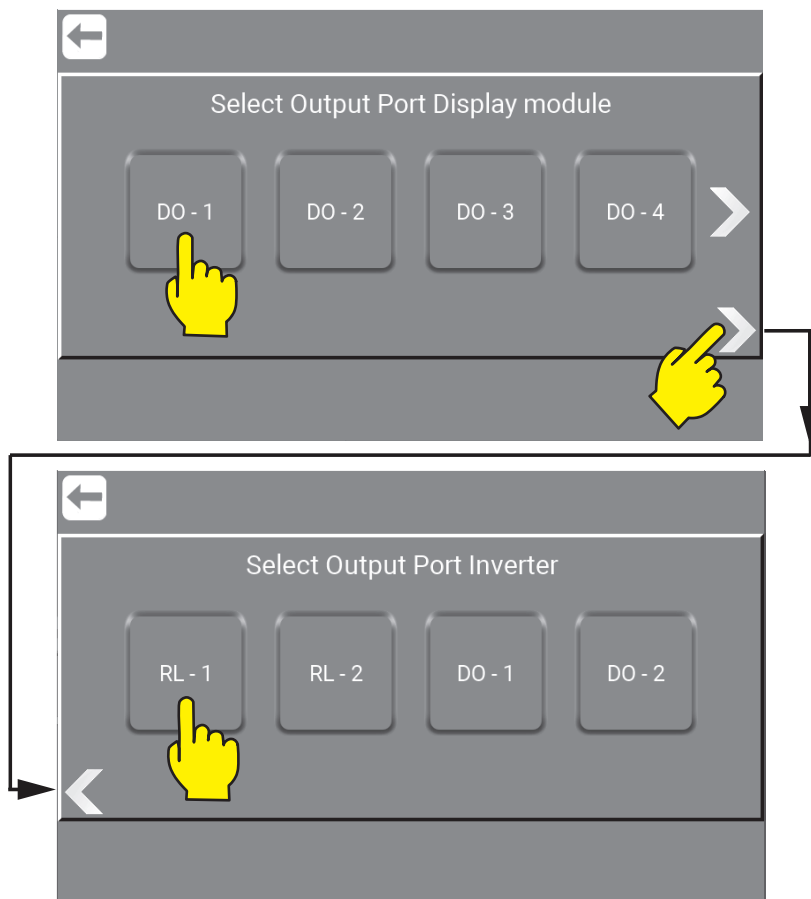
Press the required port for output.

DO : Direct Outputs (9 is Located in the Display Module).

RL : Relays (2 is located in the Display Module).

RL: Relays (2 is located in the Inverter).

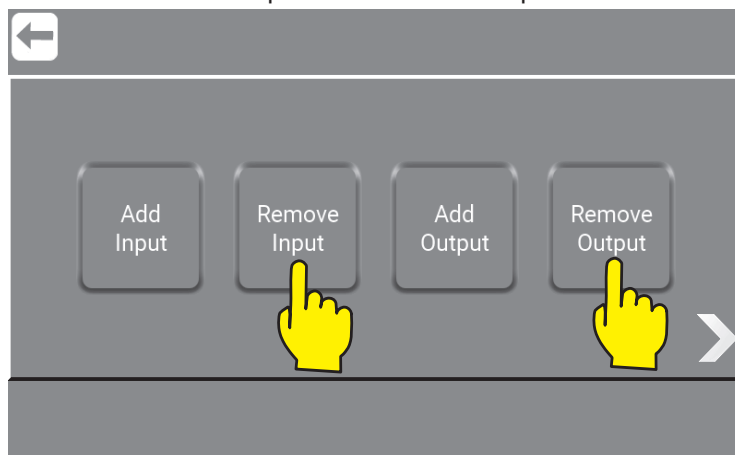
DO : Direct Outputs (2 is Located in the Inverter).



\\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\AddOutput...

### 8.3.5. Remove Input / Output signals

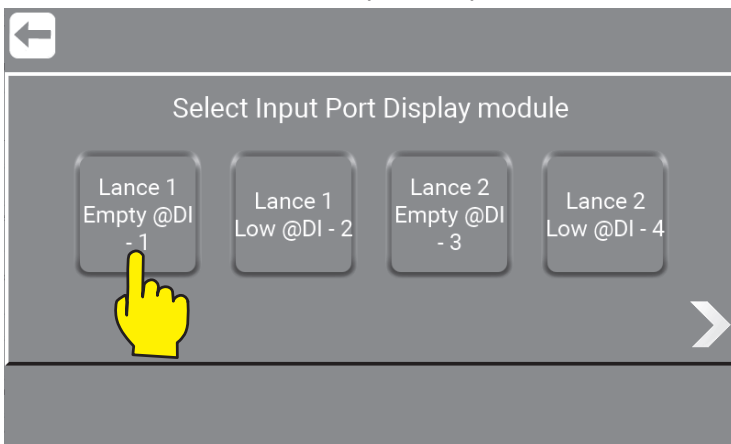
Press the "Remove Input" or "Remove Output" button.



\\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions...

**Note :** The "Remove Input" and "Remove Output" will only be active when a input or output has been added.

Press on the button with the Input / Output to remove.

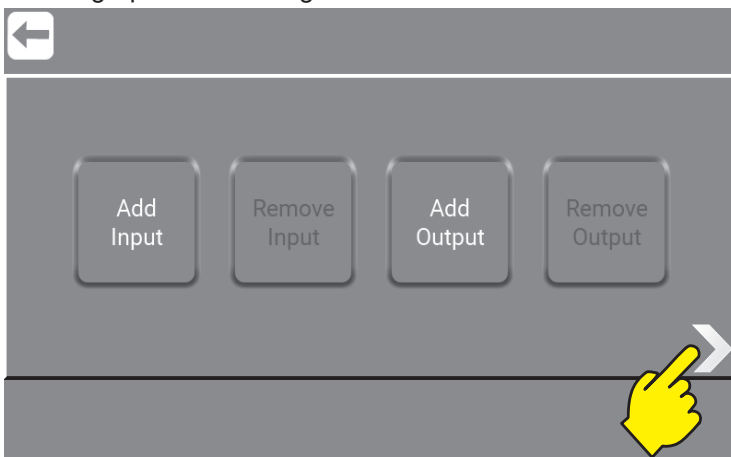


\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RemoveInPutOrOutput\...

### 8.3.6. Show I/O's connected or in use

Af graphical overview of which I/Os are connected to the Display Module and in use, can be shown by pressing "Right Arrow" in this subscreen \Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\.

To see graphic overview go to :



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\...

When clicking the "Right Arrow" a sequel of subscreens acure with an overview of inputs ("DI - 1" means Direct Input no.1) and outputs ("DO - 1" means Direct Output no.1) in use or active is marked with a green diode. The subscreens will apperer in this order:

#### 8.3.7.7. Tank Control

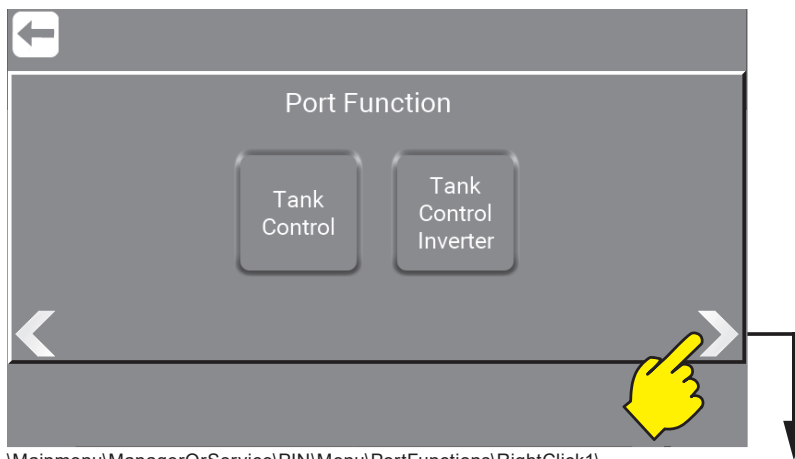
Press this when the inputs and outputs are used in the Display Module.

#### 8.3.8.8. Tank Control Inverter

Press this when the inputs and outputs are used in the Inverter

This will setup all the needed inputs and outputs to use when working with tank control.

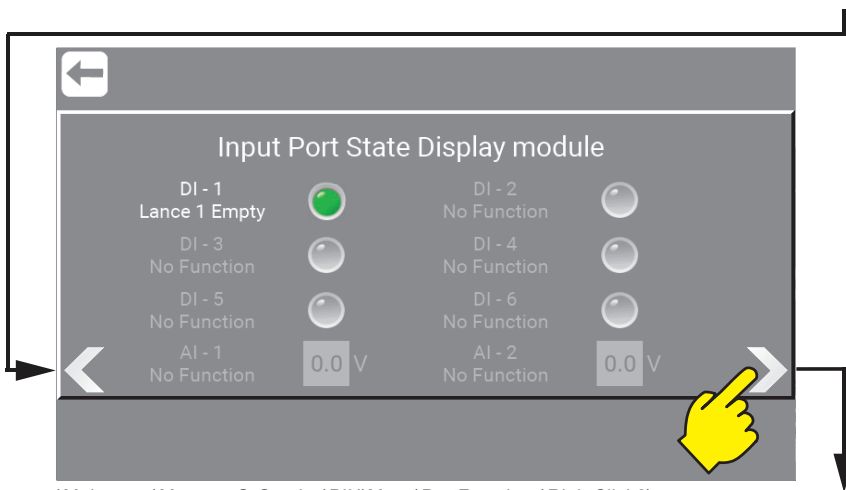




\\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick1\...

### 8.3.9.9. Input Port State Controller

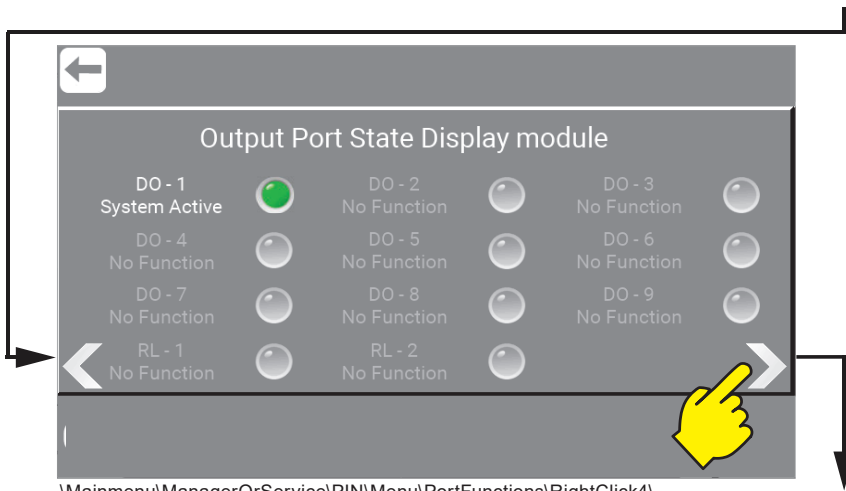
This is the 6 inputs (1-6) in Display Module.  
And the 2 Analog inputs (1-2) in Display Module.



\\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick2\...

### 8.3.10.10. Output Port State Controller

This is the 6 Outputs (1-9) in Display Module.  
And the 2 relays (1-2) in Display Module.



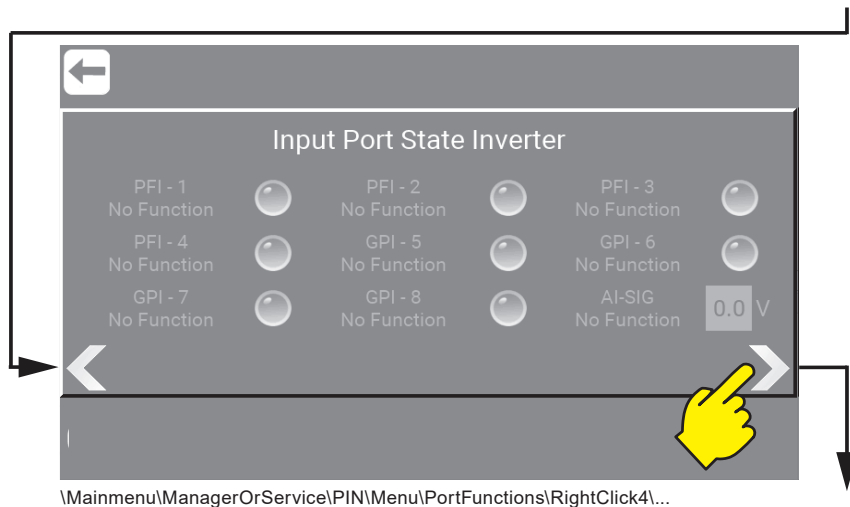
\\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick4\...

### 8.3.11.11. Input Port State Inverter

This is the 4 Potential Free Input (1-4) in the Inverter

This is the 4 General Purpose Input (5-8) in the Inverter

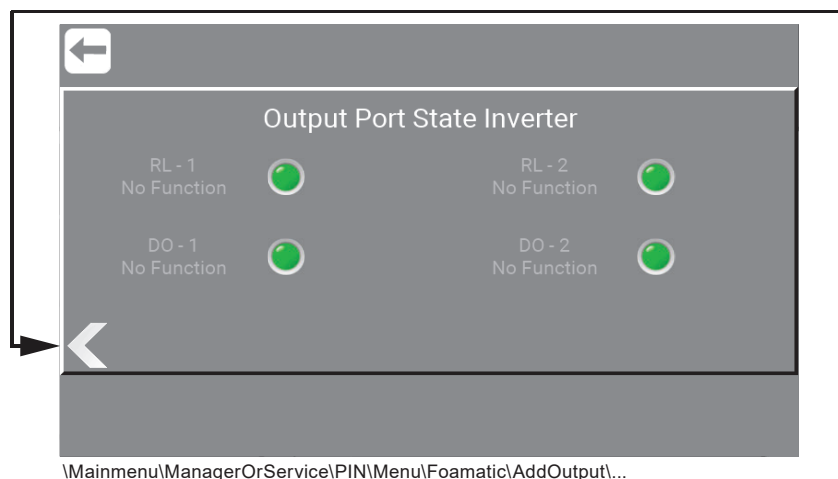
And 1 Analog Signal in the Inverter.



### 8.3.12.12. Output Port State Inverter

This is the 2 relays (1-2) in the Inverter

And the 2 Direct Outputs in the Inverter.



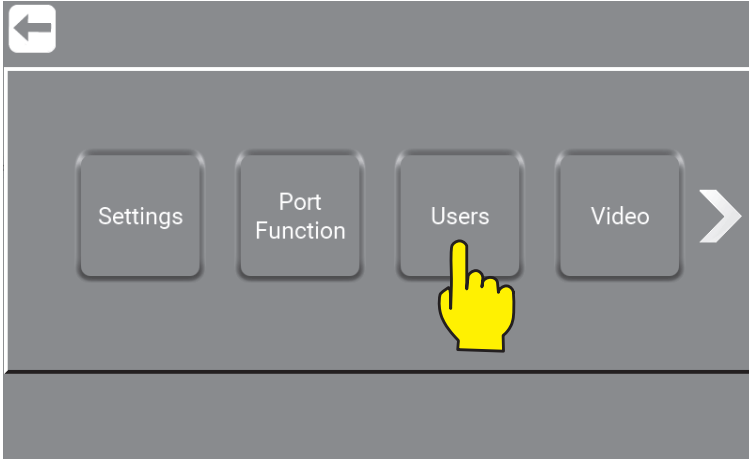
## 8.4. Users / as Service

The "Users / as Service" menu is almost the same as "Users / as Manager", all pictures are the same. For more and how to use it - go to : "6.1. Add a Customized User / as Manager" on page 16

### 8.4.1. Edit Manager / As Service

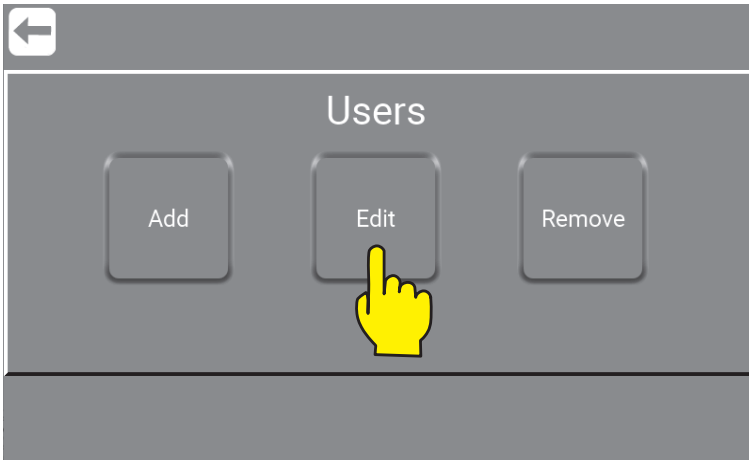
Only difference is that "Service" can edit the Manager.s settings. To do so follow these steps :

Press the "Users" button.

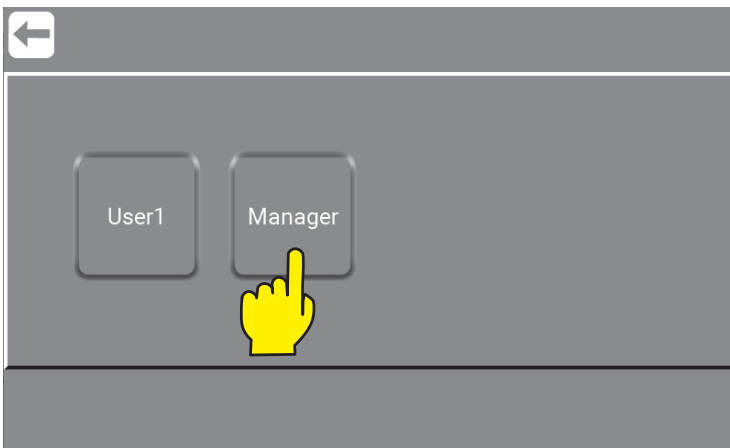


Mainmenu\Service\PIN\Menu\...

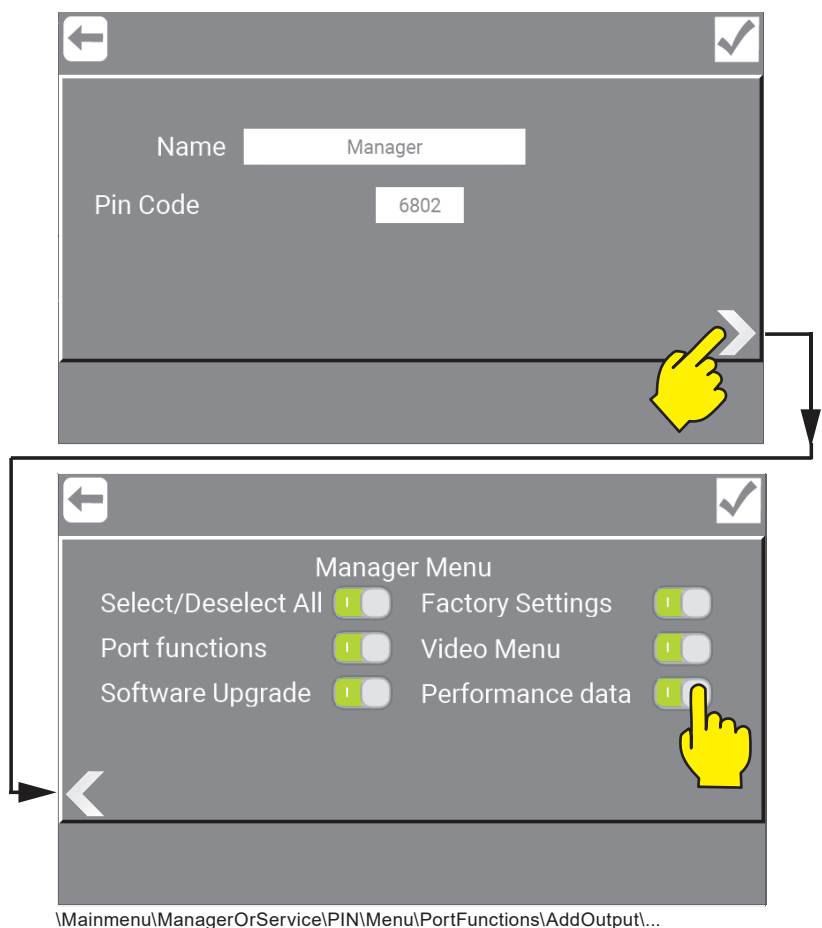
Press the "Edit" button to edit the Manager settings and previliges.



Mainmenu\Service\PIN\Menu\Users\

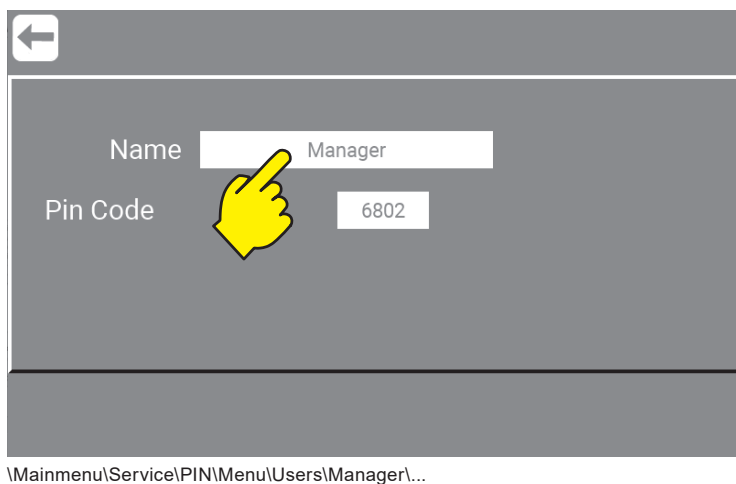


Mainmenu\Service\PIN\Menu\Users\Edit\...

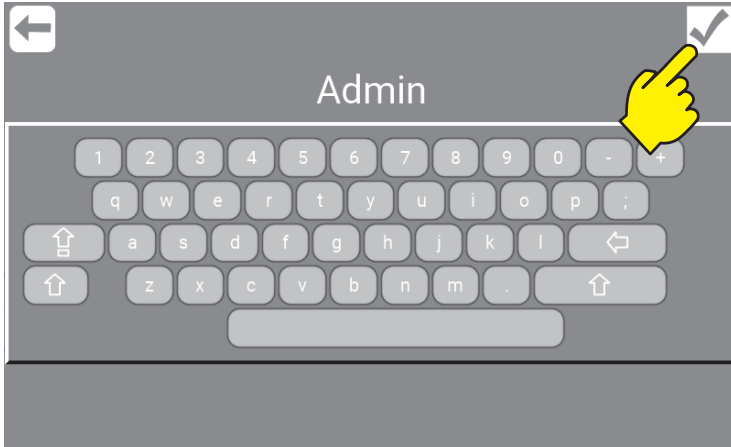


### 8.4.2. Change Manager name / as Service

Press field with Name.

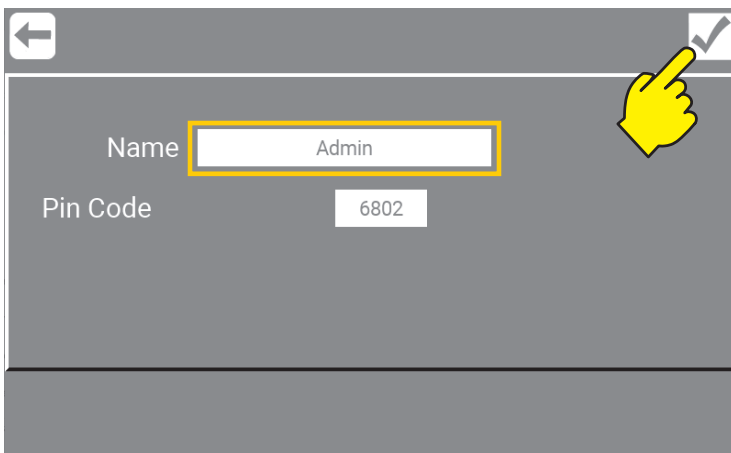


Enter new name and press confirm.



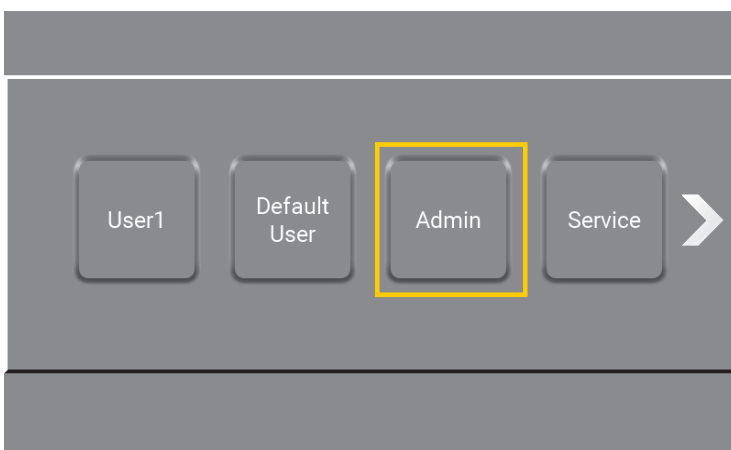
\\Mainmenu\Service\PIN\Menu\Users\Manager\...

Confirm the name change.



\\Mainmenu\Service\PIN\Menu\Users\Manager\...

Manager button in mainmenu is now changed to "Admin".



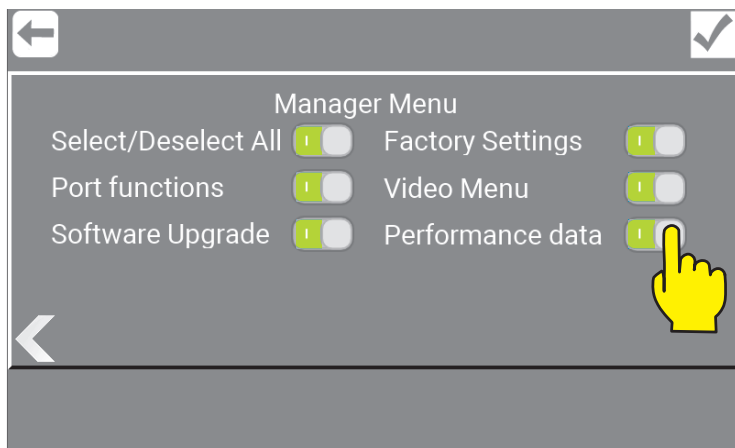
\\Mainmenu\...

### 8.4.3. Change Pin Code Manager / as Service

See : "4.4. PIN Code for Manager / as Service" on page 12

#### 8.4.4. Add privileges to Manager / As Service

When editing Manager, it is possible to allow the Manager extended options like, setting of port functions, software upgrade e.g. As Service, it is possible to select all or to select individual functions and features for the Manager.



\\Mainmenu\Service\PIN\Menu\Users\Manager\...

#### 8.4.5. Select / Deselect All

Will give the Manager all the privileges below for their user only.

See more : "6.3. How to use the optional privileges / as Customized user" on page 23

#### 8.4.6. Port functions

Make it possible for the Manager to use Port Functions.

See more : "7.3. Port Function / as Manager" on page 31

#### 8.4.7. Software Upgrade

Make it possible for the Manager to make Software Upgrades.

See more : "11. Software Upgrade" on page 70

#### 8.4.8. Factory Settings

Make it possible for the Manager to set factory settings like.

#### 8.4.9. Video Menu (Coming up)

Make it possible for the Manager to use the video area.

#### 8.4.10. Run Screen Setup

Make it possible for the user to change their screen setup and view.

See more : "6.3.5. Run the Screen Setup / as Customized User" on page 26

#### 8.4.11. Performance data

Make it possible for the user to see the performance for All users, a specific customized User or Default User.

See more : "6.3.7. Performance data / as Customized User" on page 28

### 8.5. Video / as Service (Coming up)

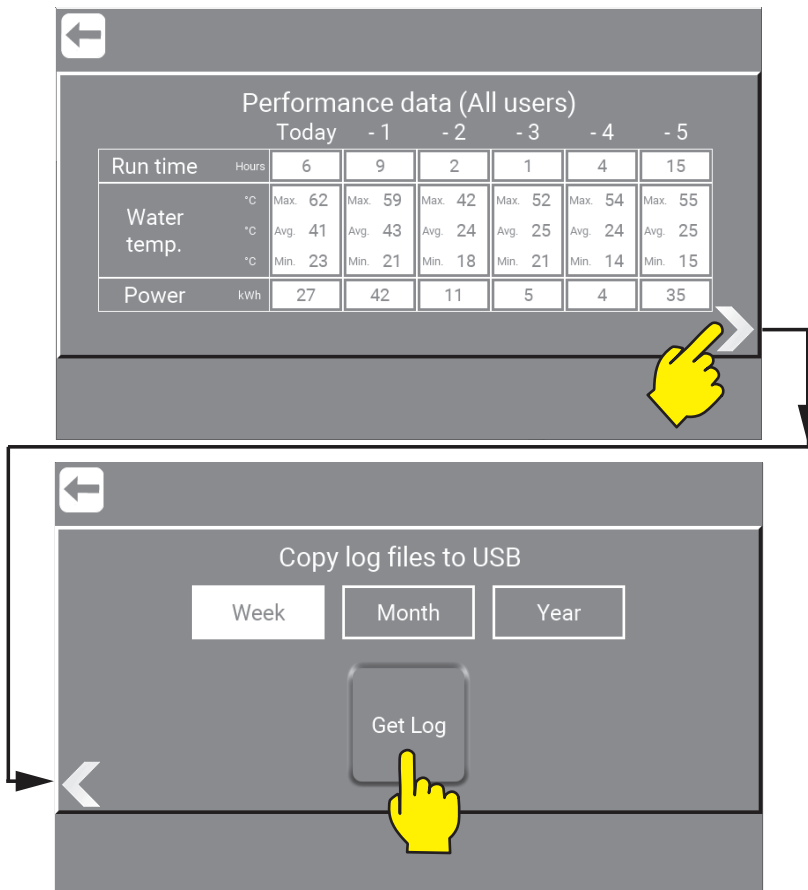
Instruction videos to come - not yet available.

## 8.6. Performance Data / as Service

Performance Data can either be displayed as totals for the unit or for the individual user who has logged in. Service will have access to all Performance Data and can Copy log files to a USB with the perf. Data.

The system shows Run time, Water Temperature and Power consumption.

More and how to use it go to : "6.3.7. Performance data / as Customized User" on page 28



\\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\AddOutput\...

### 8.6.1. Copy log files to USB / as Service

It is possible to download and create a log file with the "Performance data", like In- and output pressure, Temperature etc. It is possible to retrieve data via USB. To copy log files a USB Flash Drive is needed. Where and how to connected it see: "11.1. Software Upgrade Display Local with USB Flash Drive" on page 70

Use the predefined period last- "Week", "Month", "Year" or get "All" data. Select the required period and press "Get Log" and follow the instructions shown in the dialog box.

NB! During data transfer, the display will be turned off and will get back on, when transfer is done!

## 8.7. Upgrade Software / as Service

For instructions for how to Upgrade Software go to "11. Software Upgrade" on page 70

## 8.8. Network / as Service

The network area is for upgrade of the units software, by Azura or by Wifi.

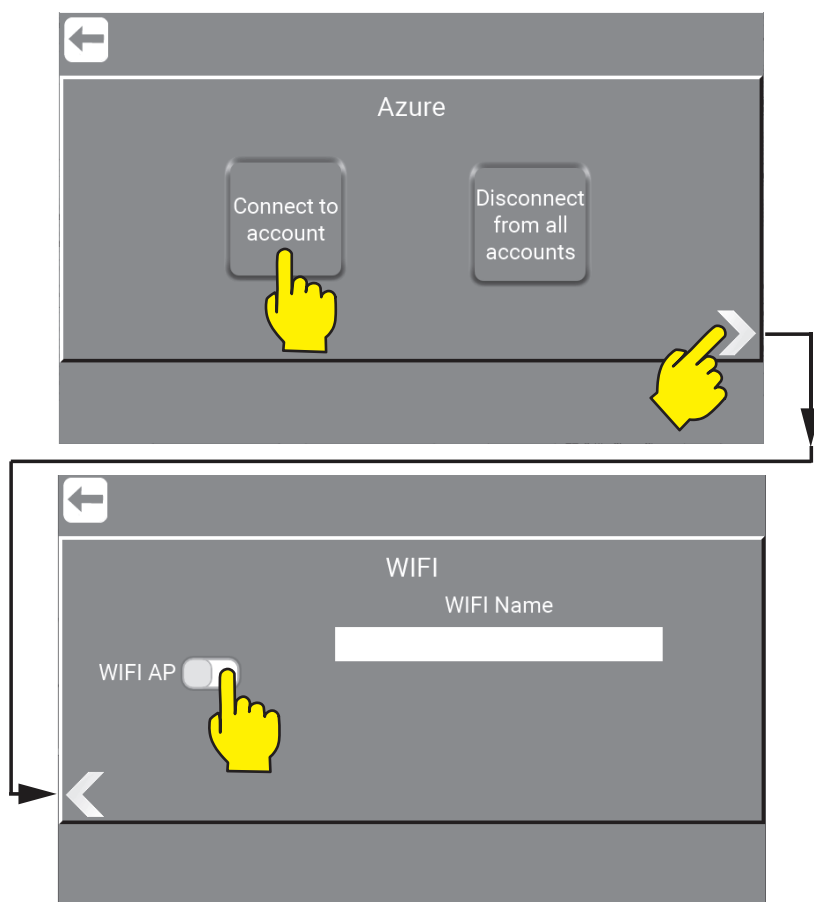
For instructions and how to use "Network" go to :

"12. Connect the unit to Hybrid 7 app" on page 86

"11.3. Software Upgrade using Wifi" on page 77

First screen is for Connect or Disconnect to Azura.

Right click and the screen will give access to wifi connection.



Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\AddOutput...



## 8.9. Lock Machine / as Service

For instructions for how to use Lock Machine go to "7.8. Lock Machine" on page 34

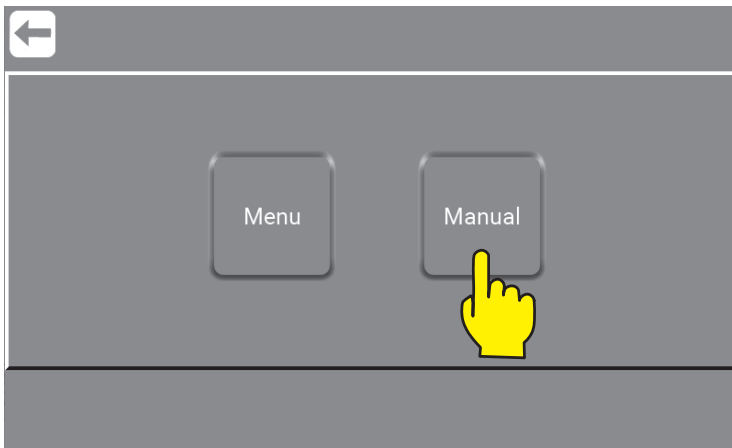
## 8.10. Session Time / as Service

For instructions for how to use Session Time go to "7.9. Session Time Interval" on page 35

## 8.11. Manual / as Service

The Services test mode (Manual) is a place to test if the units setup is as required. Service has access to the settings button in all subscreens.

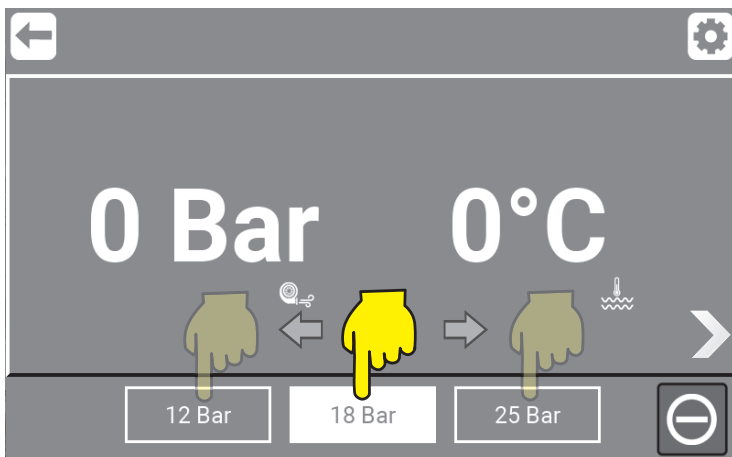
Press the "Manual" button.



Mainmenu\ManagerOrService\PIN\

Press the required preset pressure button to activate the unit.

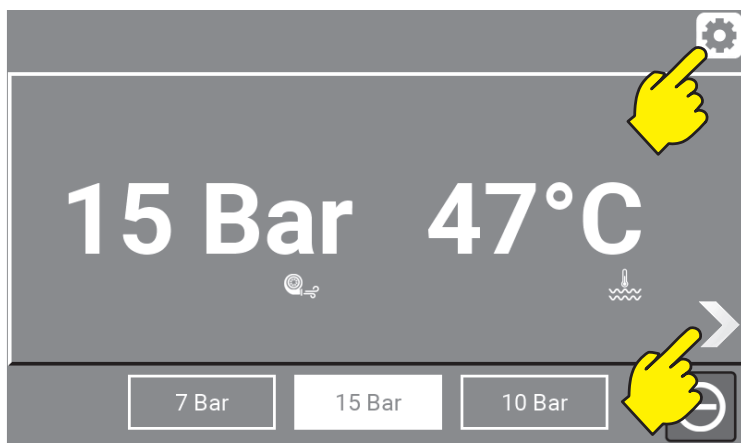
Manual cleaning is now active and will start running when there is flow.



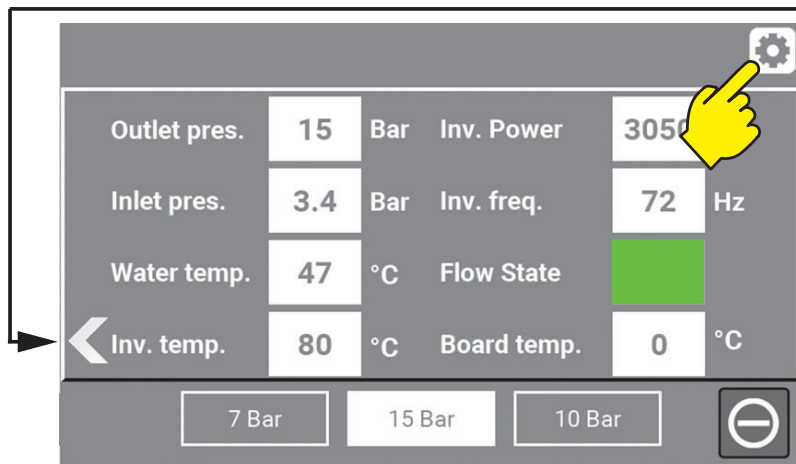
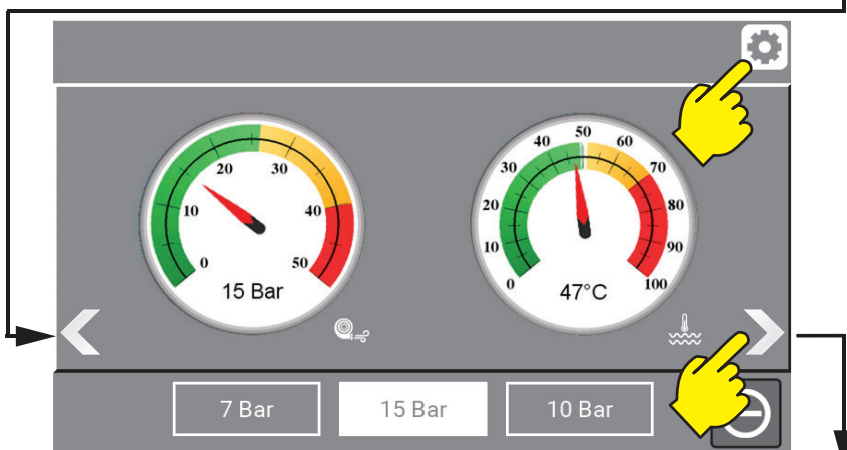
Mainmenu\ManagerOrService\PIN\Manual\

### 8.11.1. Manual mode graphic overview

When pressing "Right Arrow" you will find a graphic overview with data from the running unit. In here Service- and Manager can check data and make changes by pressing "Settings" anytime wanted.



\Mainmenu\ManagerOrService\PIN\Manual\PresetButton\Rightclick1\



\Mainmenu\ManagerOrService\PIN\Manual\PresetButton\Rightclick2-3\

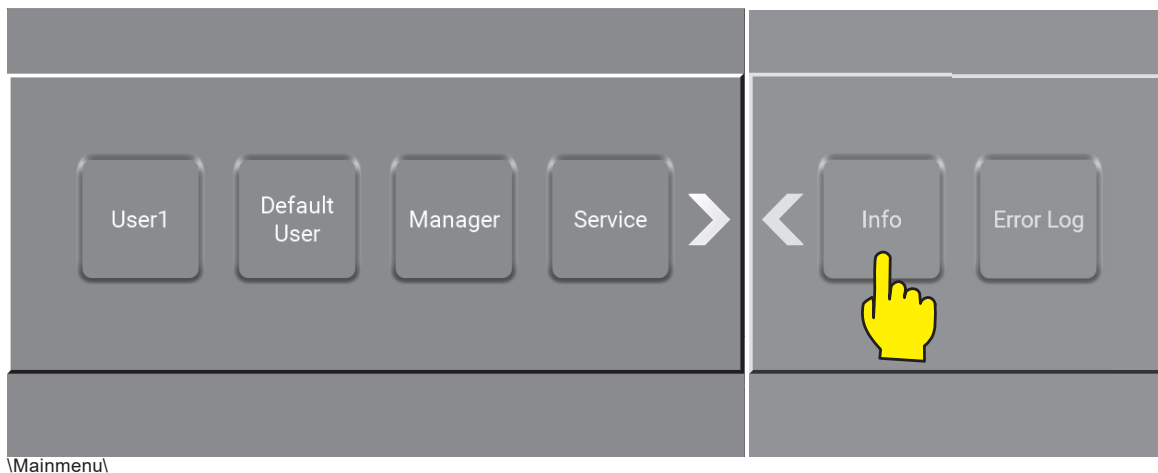


## 9. Info

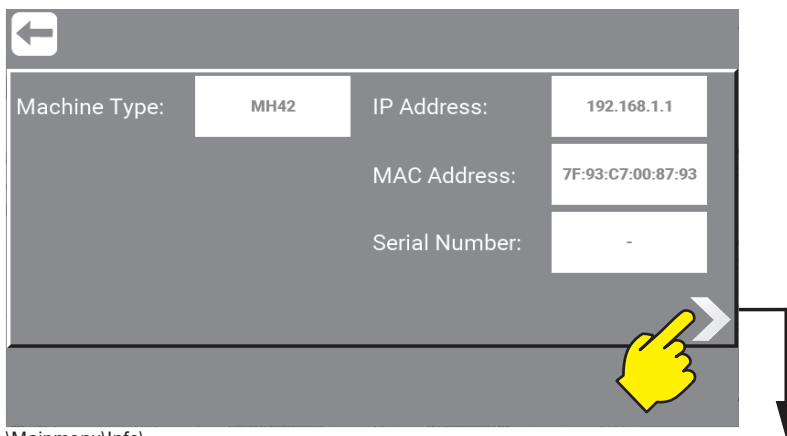
Info about the units data like machine type, software versions, installation date and different kind of time parameters regarding performance. All data will always automatically be stored / logged.

### 9.1. Where to find "Info" menu

From the main menu, press the option "Info".



#### 9.1.1. What kind of data to find in "Info".



#### 9.1.2.2. Machine type

Machine type is defined on the identification plate.  
More about this in Direction for Use manual.

**M/B:** M: Mainstation / B: Booster  
**H/P/F:** H: Hybrid / P: Pegaus / F: Floor  
**4/7/8:** 4 = Number of Users  
**2:** 2 = Number of products

#### 9.1.3.3. IP Address

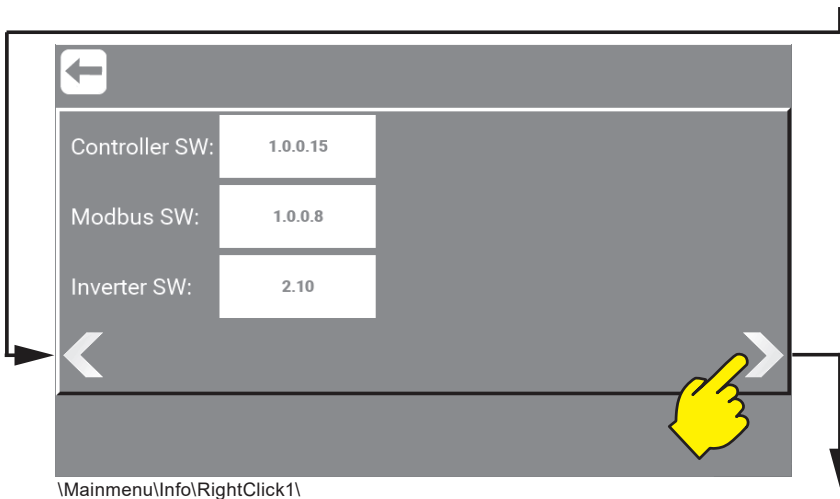
IP Adress, for this unit.

#### 9.1.4.4. MAC Adress

MAC Adress, for this unit.

#### 9.1.5.5. Serial Number

Serial Number, for this unit.



### 9.1.6.6. Controller SW version

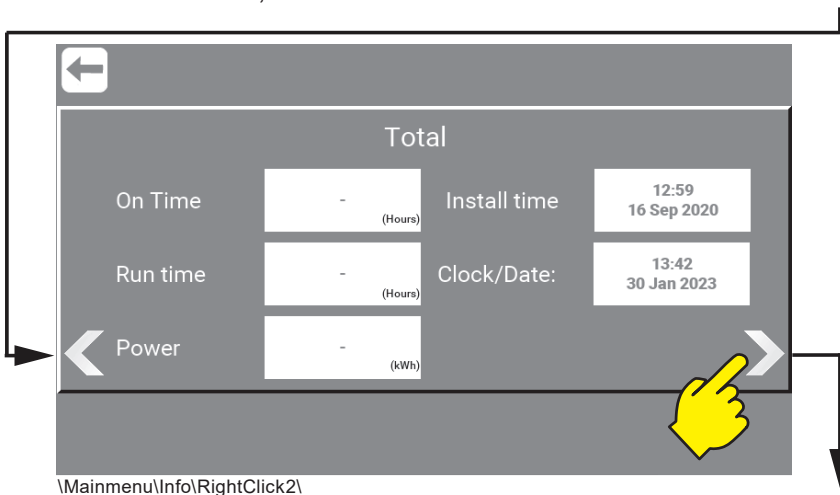
Display Module software, this is the current version.

### 9.1.7.7. Modbus SW version

Modbus software, this is the current version.

### 9.1.8.8. Inverter SW version

Inverter software, this is the current version.



### 9.1.9.9. On Time

The total amount of hours the unit has been turned on.

### 9.1.10.10. Run Time

The total amount of hours the unit has been running.

### 9.1.11.11. Power

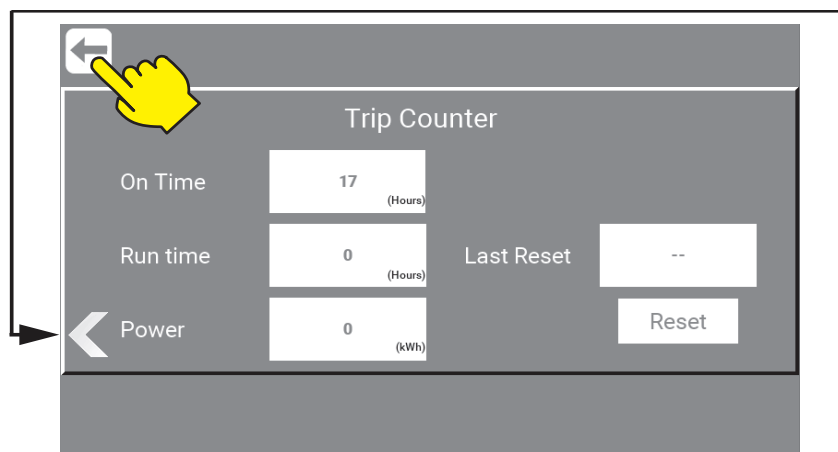
The total amount kWh used in the units lift time.

### 9.1.12.12. Install time

The time, date and year for the units installation.

### 9.1.13.13. Clock/Date

The current time, date and year.



\\Mainmenu\Info\RightClick3\

#### 9.1.14.14. On Time

The number of hours the unit has been turned on since last reset.

#### 9.1.15.15. Run Time

The total number of hours running since last reset.

#### 9.1.16.16. Power

The total amount kWh used since last reset.

#### 9.1.17.17. Last Reset

The time, date and year when the last reset took place.

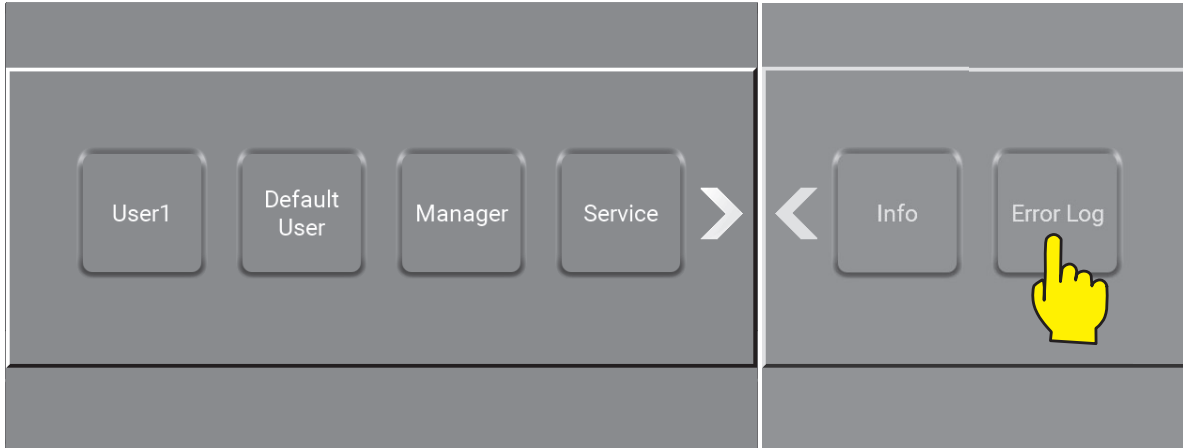
#### 9.1.18.18. Reset button

This button will reset trip counter.

## 10. Error Log

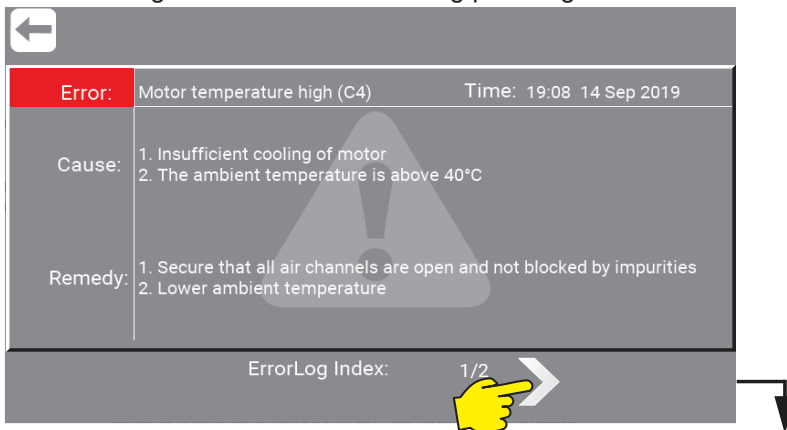
In the Error log menu it is possible to see the latest errors and warnings (up to 200 logs). All data will always automatically be stored / logged.

From the main menu, press the "Error Log" button..



\\Mainmenu\

When entering the Error Log menu, the errors and warnings will be shown in chronological order. New ones first. To go to next error or warning press right arrow.

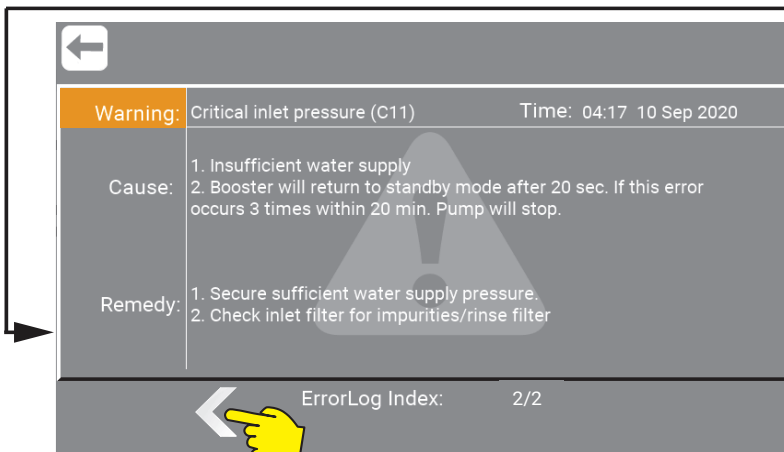


The type of error or warning will be shown in top. In this case:

Error (Red) : "Motor temperature high (C4)" and  
Warning (Orange) : Critical inlet pressure (C11).

A complete list of error and warning codes as.

Can be found here. "10.1. Error / Cause / Remedy" on page 64.



\\Mainmenu\ErrorLog\RightClick\...

## 10.1. Error / Cause / Remedy

This is a complete list of all Error and Warning codes.

Column 1 : Show the identification code. Below there is a "E" if it is a error or a "W" if it is a Warning.

Column 2 : Show the description of the error or warning.

Column 3 : Show the cause of the error or warning.

Column 4 : Show what can be done to resolve the error or warning.

Code	Error or Warning	Cause	Remedy
<b>C2</b> <b>W</b>	Low Supply Pressure	Insufficient water supply	1. Secure sufficient water supply pressure. 2. Check inlet filter for impurities/ rinse filter 3. Reduce water consumption or reduce water pressure
<b>C3</b> <b>E</b>	Water temperature high	1. Water pump top temperature is above 70°C 2. Water consumption is too low (pump column has been over-heated) 3. Flowswitch might be out of adjustment	1. Lower the inlet water temp. (max 70°C) 2. Secure sufficient water consumption 3. Check if flow-switch is on (green light i on) without any water is flowing.
<b>C4</b> <b>E</b>	Motor temperature high	1. Insufficient cooling of motor 2. The ambient temperature is above 40°C	1. Secure that all air channels are open and not blocked by impurities 2. Lower ambient temperature
<b>C7</b> <b>E</b>	No Communication	1. No Communication between Display and Inverter.	1. Check cables between display and inverter 2. Power unit off and on, wait 1 minute and power on again
<b>C8</b> <b>E</b>	Low Tank Level	1. Insufficient water supply 2. Water supply valve not open	1. Check correct water supply 2. Secure sufficient air supply to valve.
<b>C9</b> <b>W</b>	High Tank Level	1. Water supply valve not closed.	Secure sufficient air supply to valve
<b>C11</b> <b>W</b>	Critical inlet pressure	1. Insufficient water supply 2. Booster will return to standby mode after 20 sec. If this error occurs 3 times within 20 min. Pump will stop.	1. Secure sufficient water supply pressure. 2. Check inlet filter for impurities/ rinse filter 3. Reduce water consumption or reduce water pressure
<b>C13</b> <b>W</b>	Inlet Pressure Low	Insufficient water supply. The machine will keep on working, but the maximum speed of the pump will be reduced until sufficient inlet pressure is present	1. Secure sufficient water supply pressure. 2. Check inlet filter for impurities/ rinse filter. 3. Reduce water consumption or reduce water pressure
<b>C14</b> <b>W</b>	Leakage start	1. Booster start condition changed to flow, due to leakage in pipe	1. Check for leakage in pipe system 2. Press "OK" button, and restart



<b>C16 W</b>	Inlet sensor load low	Current consumption from inlet sensor low	1. Check cable and connection to sensor 2. Change sensor
<b>C17 E</b>	Water temperatur low	1. Water supply temperatur is below limit.	1. Secure higher temperatur for supply water. 2. Lower water consumption or reduce water pressure.
<b>C18 E</b>	Suction Lance B, empty	Level of product in chemistry canister for product B is insufficient	1. Replace chemistry canister and ensure level of product is above min. limit
<b>C19 E</b>	Low Outlet Pressure	1. Water Consumption is too high 2. Inverter is running max.	1. Reduce water consumption or reduce water pressure
<b>C20 W</b>	Low Sensor Signal Outlet Sensor	1. Pressure signal from outlet sensor, out of range	1. Check cable connection to outlet sensor 2. Check outlet sensor 3. Press "OK" button, and restart
<b>C22 W</b>	Low Sensor Signal Inlet sensor	1. Pressure signal from inlet sensor, out of range	1. Check cable connection to inlet sensor 2. Check inlet sensor 3. Press "OK" button, and restart
<b>C26 W</b>	Outlet sensor load low	Current consumption from Outlet sensor low	1. Check cable and connection to sensor 2. Change sensor
<b>C27 W</b>	Flowswitch Load Low	Flowswitch current consumption is below limit	1. Check cable and connection to sensor 2. Change sensor
<b>C28 W</b>	Suction Lance A, Low	Level of product in chemistry canister for product A is low	1. Replace chemistry canister for product A
<b>C29 W</b>	Suction Lance B, Low	Level of product in chemistry canister for product B is low	1. Replace chemistry canister for product B
<b>C40 W</b>	Sensor Load High Outlet Sensor	1. Outlet sensor using too much current	1. Press "OK" button, and restart 2. Change Outlet sensor
<b>C41 E</b>	Sensor Load High Inlet Sensor	1. Inlet sensor using too much current	1. Press "OK" button, and restart 2. Change Inlet sensor
<b>C43 W</b>	Flowswitch load high	1. Flowswitch using too much current	1. Press "OK" button, and restart 2. Change flowswitch
<b>C44 E</b>	Suction Lance A, empty	1. Level of product in chemistry canister for product A is insufficient	1. Replace chemistry canister and ensure level of product is above min. limit
<b>C45 W</b>	Inverter Module Temperature too high.	1. Water consumption too high. 2. Ambient temperature too high.	1. Lower the load for inverter. 2. Lower the ambient temperature.
<b>C46 W</b>	Inverter Board Temperature high.	1. Water consumption too high. 2. Ambient temperature too high. 3. Load at board high.	1. Lower the load for inverter. 2. Lower the ambient temperature. 3. Lower the load at board.

<b>C50 E</b>	Current phase 1,	Too high current on motor phase 1	1. Control power on all 3 phases\n2. Reduce motor load
<b>C51 E</b>	Current phase 2,	Too high current on motor phase 2	1. Control power on all 3 phases\n2. Reduce motor load
<b>C52 E</b>	Current phase 3,	Too high current on motor phase 3	1. Control power on all 3 phases\n2. Reduce motor load
<b>C53 E</b>	Motor sum current too high	1. In-balance between motor-currents. 2. Current leaking to Earth, Ground Fault.	1. Check Motor and Cable.
<b>C54 E</b>	Supply Low Weak Supply.	1. Power to inverter too low 2. Missing a phase	1. Secure stable power supply.
<b>C55 E</b>	Supply to high	1. Supply out of range.	1. Secure stable power supply.
<b>C56 E</b>	Current to high	Short circuit between motor-current cable and earth or other motor-current cable.	1. Check Motor and Cables.
<b>C57 E</b>	Safe Torque off	1. Emergency circuit has been opened / broken.	1. Check all emergency switches and cables.
<b>C58 E</b>	Inverter Module Temperature too high.	1. Water consumption too high. 2. Ambient temperature too high.	1. Lower the load for inverter. 2. Lower the ambient temperature.
<b>C59 E</b>	Serial no. or Rev. no. not correct	1. No.'s has not been read correct 2. No. not written to memory	1. Repower unit 2. Call service technician
<b>C60 E</b>	Suction Lance A, empty (Inverter)	Level of product in chemistry canister for product A is insufficient.	1. Replace chemistry canister for product A and ensure that min. level of product is above min. limit.
<b>C61 E</b>	Suction Lance B, empty (Inverter)	Level of product in chemistry canister for product B is insufficient.	1. Replace chemistry canister for product B and ensure that min. level of product is above min. limit.
<b>C62 W</b>	Suction Lance A, Low (Inverter)	Level of product in chemistry canister for product A is low	1. Replace chemistry canister for product A
<b>C63 W</b>	Suction Lance B, Low (Inverter)	Level of product in chemistry canister for product B is low	1. Replace chemistry canister for product B
<b>C64 W</b>	High Tank Level (Inverter)	1. Water supply valve not closed.	Secure sufficient air supply to valve
<b>C65 E</b>	Tank Empty (Inverter)	1. Insufficient water supply 2. Water supply valve not open	1. Check correct water supply 2. Secure sufficient air supply to valve
<b>C66 E</b>	Suction Lance C, empty (Inverter)	Level of product in chemistry canister for product C is insufficient.	1. Replace chemistry canister for product C and ensure that min. level of product is above min. limit.
<b>C67 W</b>	Suction Lance C, Low (Inverter)	Level of product in chemistry canister for product C is low	1. Replace chemistry canister for product C
<b>C68 W</b>	Suction Lance C, low	Level of product in chemistry canister for product C is low	1. Replace chemistry canister for product C

<b>C69 E</b>	Suction Lance C, Empty	1. Level of product in chemistry canister for product C is insufficient.	1. Replace chemistry canister for product C and ensure that level is above min. limit.
<b>C70 E</b>	Suction Lance Global, empty	Level of product in any chemistry canister is insufficient	1. Replace chemistry canister and ensure level of product is above min. limit
<b>C71 W</b>	Suction Lance Global, low	Level of product in any chemistry canister is low	1. Control and Replace chemistry canisters
<b>C72 W</b>	Wash program not released	Release signal not present when starting wash program	Ensure correct signal at input for release wash program
<b>C73 W</b>	No release hold for washprogram	Release hold signal removed during running wash program	Ensure correct signal at input for release hold of wash program
<b>C74 E</b>	External Error	1. Error input signal coming from external device.	1. Reset signal from external device.
<b>C75 E</b>	Safety Active	Input signal indicating safety circuit is activated	1. Remove cause of safety error 2. Reset Error
<b>C76 E</b>	USB Setup file invalid	1. Content of setup file at USB invalid 2. USB defective	1. Copy backup file to USB 2. Replace USB flash with new incl. correct setup file
<b>C77 W</b>	USB Setup file reset to last known valid state.	Content of setup file at USB invalid.	1. Restart Foamatic unit 2. Verify washprograms and port settings
<b>C78 W</b>	USB Setup file reset to default state	Content of setup file at USB invalid and no known setup in memory	1. Restart unit.
<b>C79 E</b>	No Communication to IO module-1	1. No power to IO module 2. Com. cable to IO module not mounted 3. Dip switch setting not correct.	1. Remove lit and verify light in LED 24V and 3V3 2. Ensure com cable is connected correct in both ends 3. Verify dip switch position (1:OFF / 2:OFF)
<b>C80 E</b>	No Communication to IO module-2	1. No power to IO module 2. Com. cable to IO module not mounted 3. Dip switch setting not correct.	1. Remove lit and verify light in LED 24V and 3V3 2. Ensure com cable is connected correct in both ends 3. Verify dip switch position (1:OFF / 2:OFF)
<b>C81 E</b>	No Communication to IO module-3	1. No power to IO module 2. Com. cable to IO module not mounted 3. Dip switch setting not correct.	1. Remove lit and verify light in LED 24V and 3V3 2. Ensure com cable is connected correct in both ends 3. Verify dip switch position (1:OFF / 2:OFF)
<b>C82 E</b>	Area valve feedback timeout	1.Area valve not activated 2. Feedback signal from area valve not connected.	1.Verify that all signals are connected. 2.Control area valve are opening as expected. 3.Measure feedback signal from area valve.

<b>C83 E</b>	Release signal is not activated	Unit can not run due to one or more Release function inputs are not activated	1. Control all inputs causing Release machine is present. 2. Restart unit.
<b>C84 E</b>	Blocked signal is activated	Unit can not run due to one or more blocked function inputs are activated	1. Control all inputs causing Blocked machine is no longer present. 2. Restart unit
<b>C85 E</b>	No Flow detected	Unit does not detect flow in running wash program.	1. Ensure flow switch is working 2. Ensure all valves opens as expected.
<b>C86 W</b>	Pause time cut	Program has been paused, for more then max. pause time, program must be restarted.	Increase max pause time Activated program before timeout
<b>C88 E</b>	Port Current above limit	Valve connected to port does not open Valve blocked.	Open valve manually Exchange valve
<b>C89 E</b>	Machine is locked, between 12.00 - 12.00	Machine is setup to be locked in a given period	Changed locked time interval for Machine Remove settings for lock machine.

When in doubt or if error still occurs, please contact your local service technician.



## 11. Software Upgrade

To upgrade software for Display Module and / or Inverter use the following instructions.

### 11.1. Software Upgrade Display Local with USB Flash Drive

Upgraded with a USB Flash Drive and Wifi is possible, but we recomend remote upgrade see page page 76.

#### 11.1.1. Hardware needed to upgrade software

We recommend using a USB flash drive with Min. 1GB and Max. 32GB.

It is also highly recommended to use a separate USB flash drive for the units software upgrade, and not use the usb for other purposes.

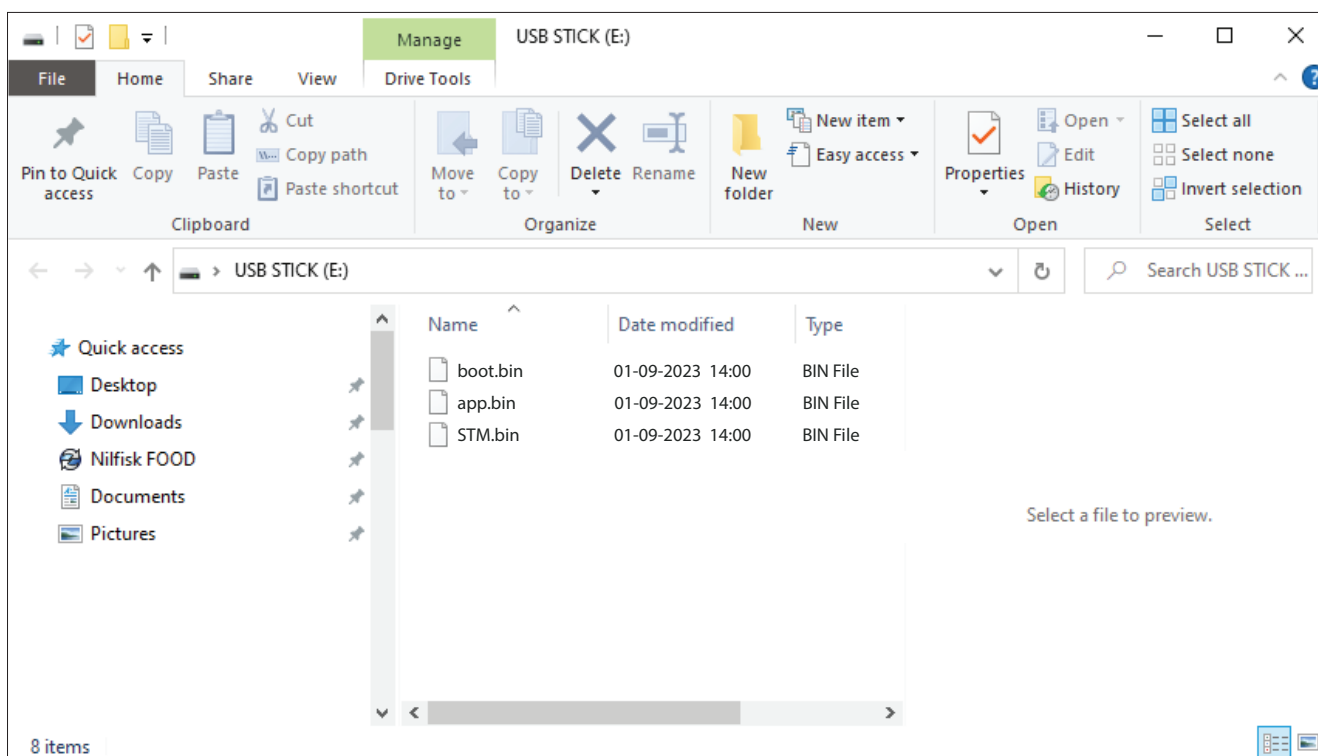
**IMPORTANT !** The USB flash drive must be formatted in **FAT32** format.

#### 11.1.2. Download of software

The software for updating the Display Module can be found at Nilfisk Food website: [www.nilfiskfood.com](http://www.nilfiskfood.com)  
The software for updating the

When the software is located and verified :

1. **Download the zip file to a PC from [www.nilfiskfood.com](http://www.nilfiskfood.com)**
2. **Open and extraxt the zip file.**
3. **Copy the files to a USB Flash Drive.**
4. **The file structure should look like this (No prioriticed order):**



This is the order in which the software / upgrade files should be used.

### 11.1.3. Upgrade files and their functions

Each of the 3 files have functions of their own.  
These functions are specified here:

#### **boot.bin :**

Bootloader for Nilfisk FOOD software upgrades.

#### **app.bin :**

Upgrade file for the Display Module application.  
Upgrade file for the Grafich User interface (GUI)

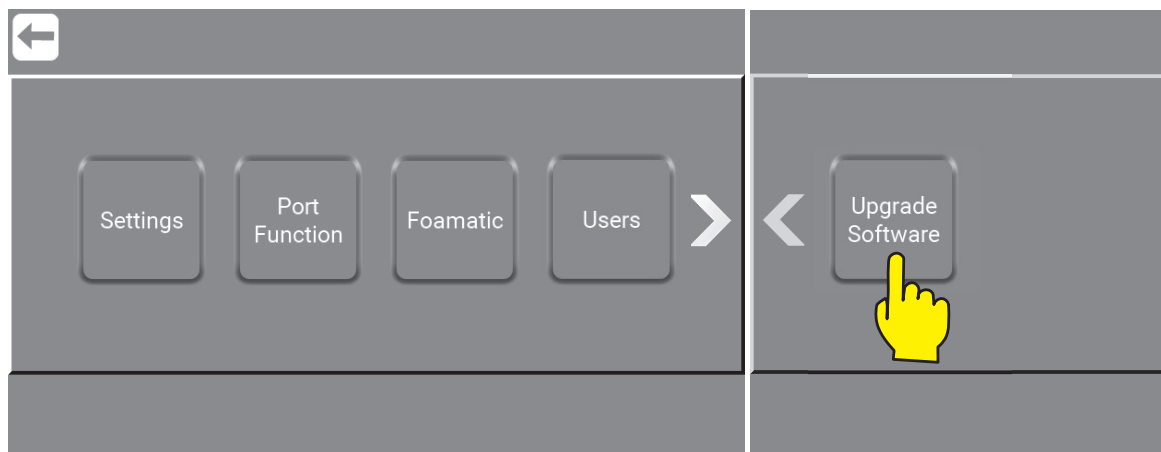
#### **STM.bin :**

Upgrade file for the Inverter communication.  
Upgrade file for the Modbus.

**Important !** The files must always have these names and never be renamed, as they will not be upgraded.  
Note after successful update, the files will be deleted from the flash drive.

### 11.1.4. Installation of the upgrades

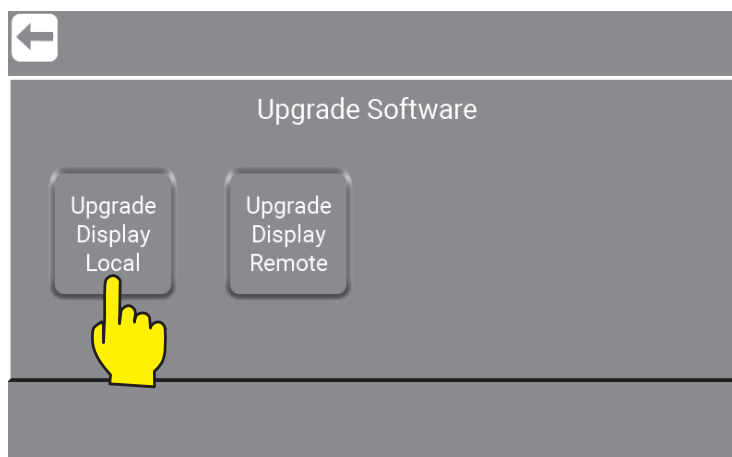
Press "Upgrade Software".



\\Mainmenu\Service\PIN\Menu\

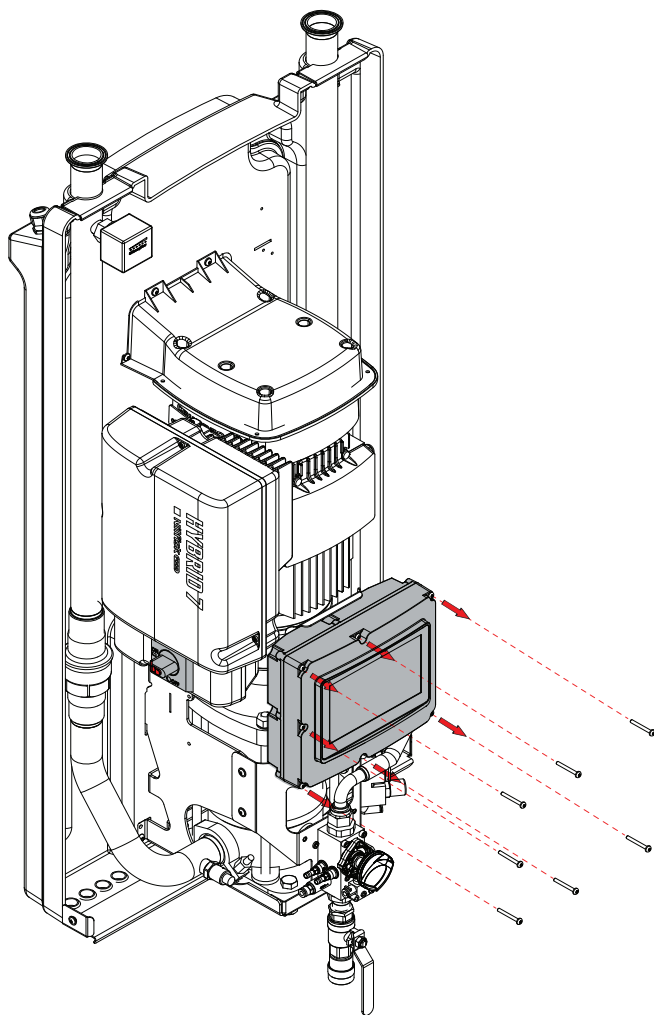
Press "Upgrade Local"

**Info:** To Upgrade Display Remote instead see : "5.1. Start the unit" on page 14

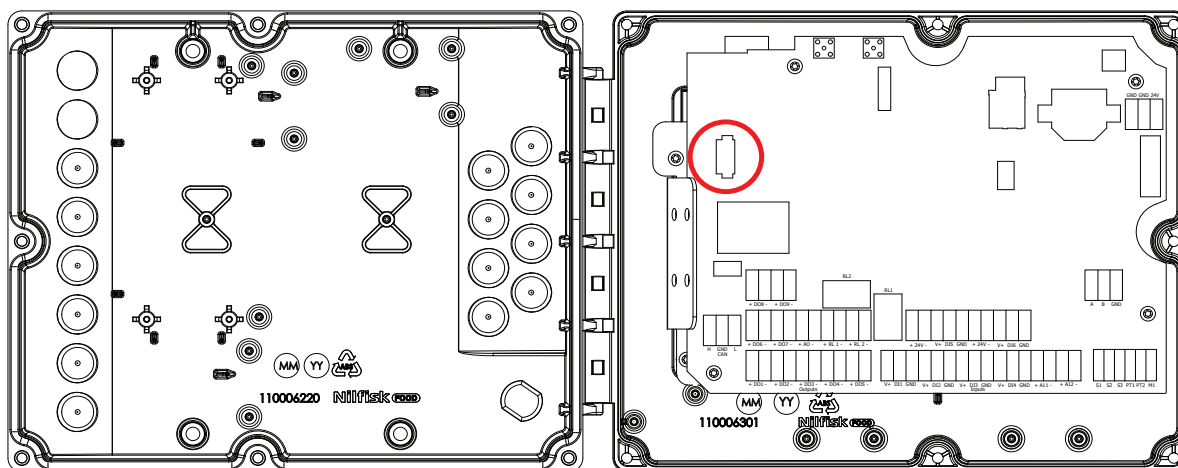


\\Mainmenu\Service\PIN\Menu\UpgradeSoftware\

Remove the 7 screws in front to open the Display Module.



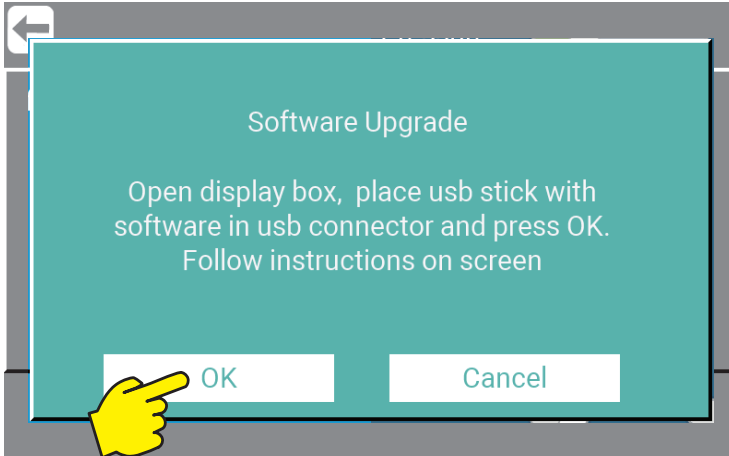
When the Display Module is open you will inside see a USB connection in the right side.



Insert the USB flash drive with the new software in to the USB Connection.

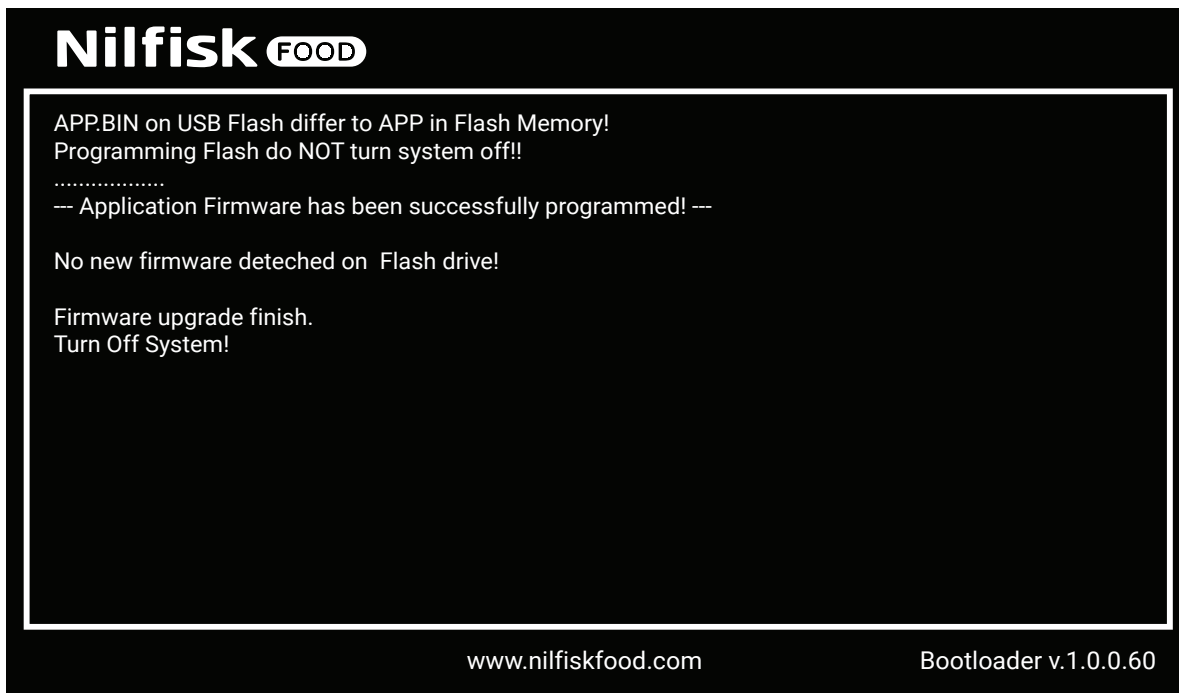


Make sure the USB flash drive is in the USB connector and Press "OK".



\\Mainmenu\Service\PIN\Menu\UpgradeSoftware\UpgradeLocal\

The Display Module will by it self check the USB for new versions of software and firmware. And if found start the upload. See the display for status - example below:



Now the USB Flash Drive can be removed, left or replaced.

#### IMPORTANT !

Be careful that the USB Flash drive is **max. 20 mm long** if left inside the Display Module ! If it is too long it can damage the print and hardware.

Close the Display Module and remount again all the 7 screws.

11. Turn off the power, on the Inverter.

And wait for the display to turn off and then wait for additionally 5-10 sec.



12. Turn on power, on the Inverter.



13. The Display Module will restart automatically.
14. Verify that the software version is correct.  
How to see "9.1.6.6. Controller SW version" on page 61

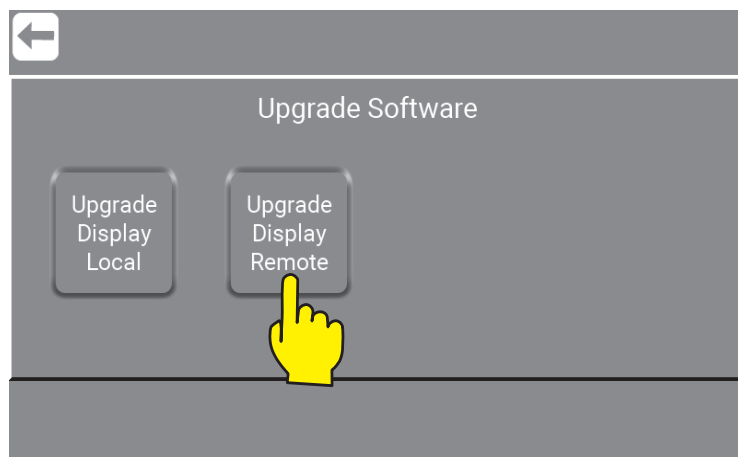


## 11.2. Upgrade Display Remote

Upgrade with remote connection to Nilfisk Food is the easiest way to upgrade this unit.  
Connect the unit to the internet.

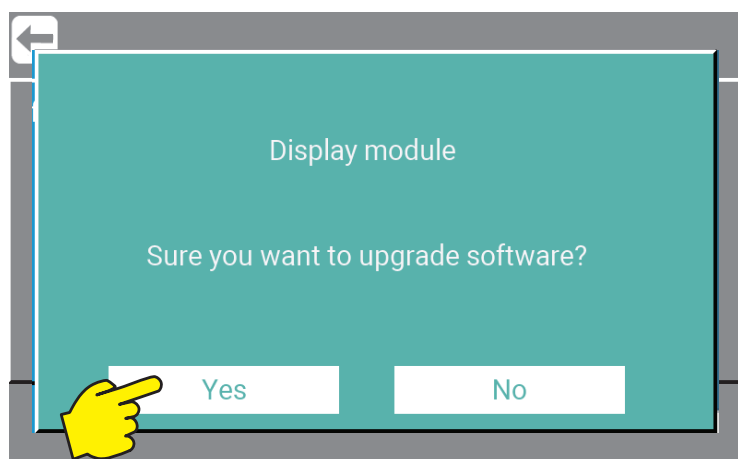
Press "Upgrade Display Remote"

It will now check if there is a newer upgrade available, if so it will start to upgrade automatically.

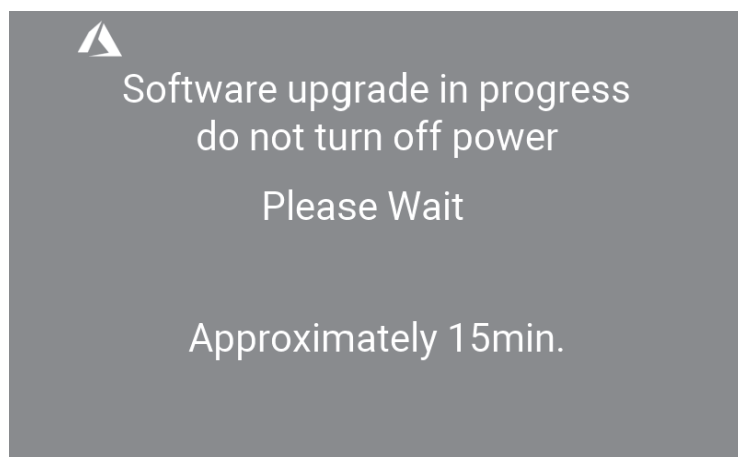


\\Mainmenu\Service\PIN\Menu\UpgradeSoftware\

A warning will appear - to continue press "Yes".



\\Mainmenu\Service\PIN\Menu\UpgradeSoftware\UpgradeDisplayRemote\

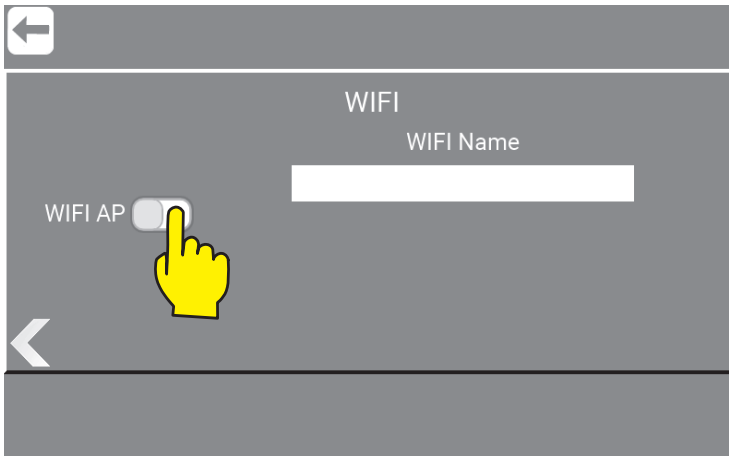


\\Mainmenu\Service\PIN\Menu\UpgradeSoftware\UpgradeDisplayRemote\

We recommend that the software version change is confirmed in "Info" menu after the upgrade are finished.  
How to use info to confirm software version - see : "9. Info" on page 60

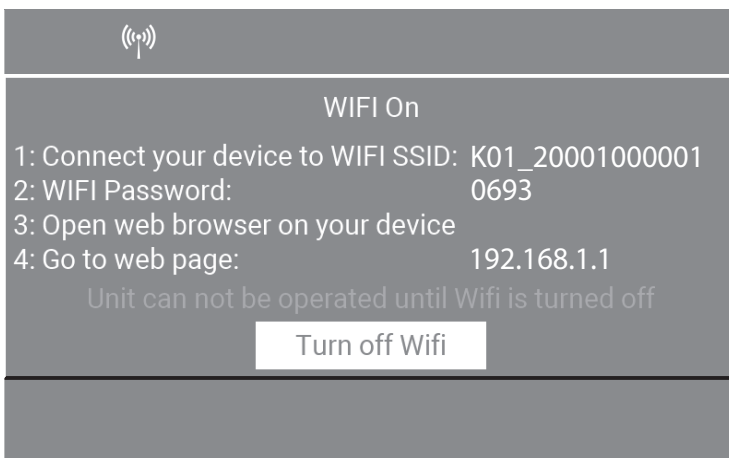
## 11.3. Software Upgrade using Wifi

Enable Wifi AP (Acces Point)



\\Mainmenu\Service\PIN\Menu\UpgradeSoftware\UpgradeDisplayRemote\

- 1: Connect you PC to Wifi in this case **K01\_20001000001** (Machine serial number, can be read GUI)
- 2: Enter Wifi password in this case **0693**.
- 3: Open the web browser on you device.
- 4: Go to web page **192.168.1.1**

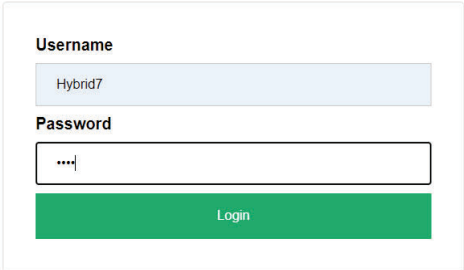


\\Mainmenu\Service\PIN\Menu\UpgradeSoftware\UpgradeDisplayRemote\WifiAP\...

Enter username which is allways : **Hybrid7**

Enter password from GUI screen in this case **0693**

## Login Form




Username  
Hybrid7

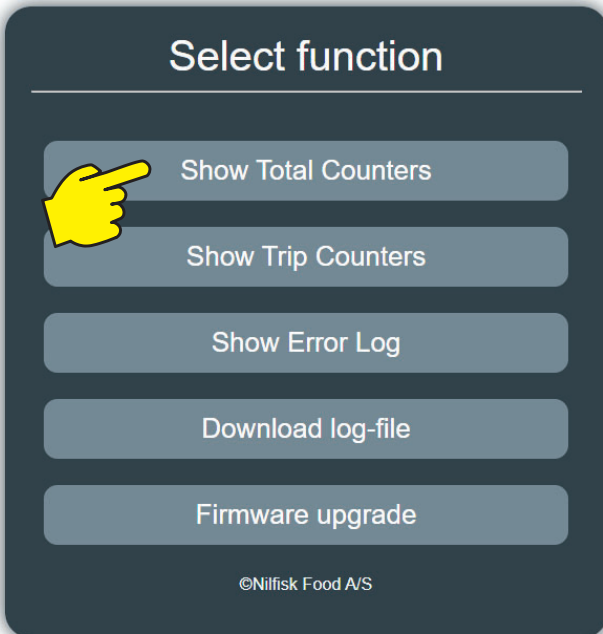
Password  
\*\*\*

Login

©Nilfisk Food A/S




This will open this menu.



Select function

- Show Total Counters
- Show Trip Counters
- Show Error Log
- Download log-file
- Firmware upgrade

©Nilfisk Food A/S



Here below are the functions and data found in this menu.

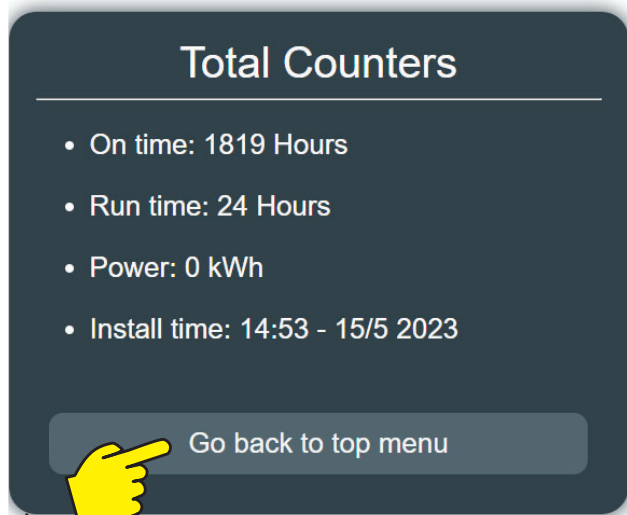
### 11.3.1. Show Total Counters

"On time:" is the time that the unit (Inverter) has been ON. Not used just ON.

"Run time:" is the time the unit (Inverter) has been running in Standby mode.

"Power:" kWh that has been used in Standby mode (Inverter).

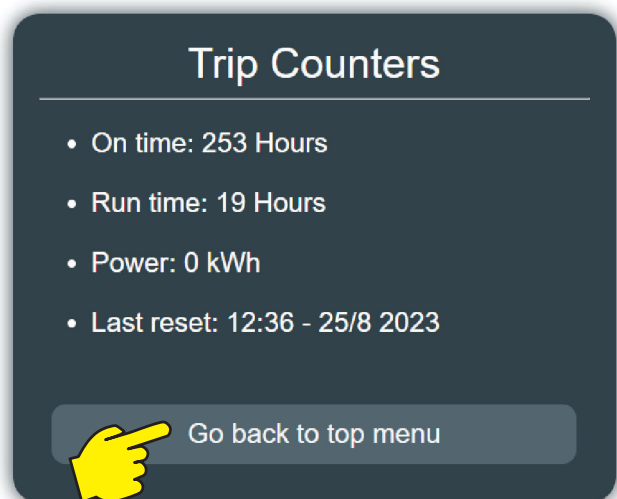
"Install time:" is the time the machine has been running (standby mode) for more than an hour since it left our production.



### 11.3.2. Show Trip Counters

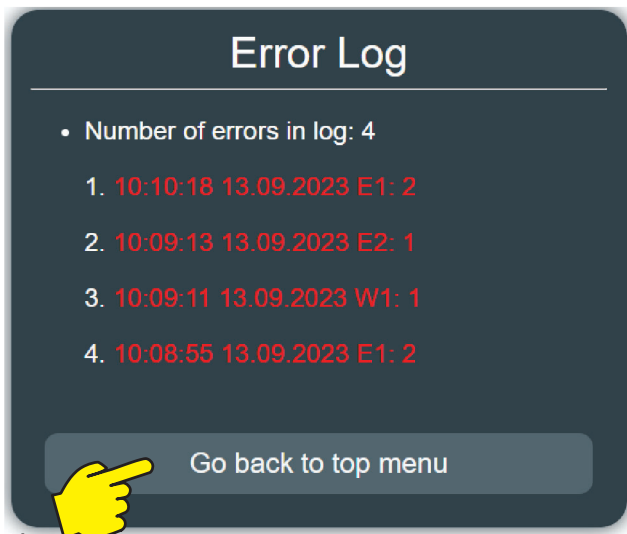
See 11.3.1 just with the difference that it can be reset in the GUI (Graphic User Interface).

The time shows when it was reset in the GUI (Graphic User Interface).



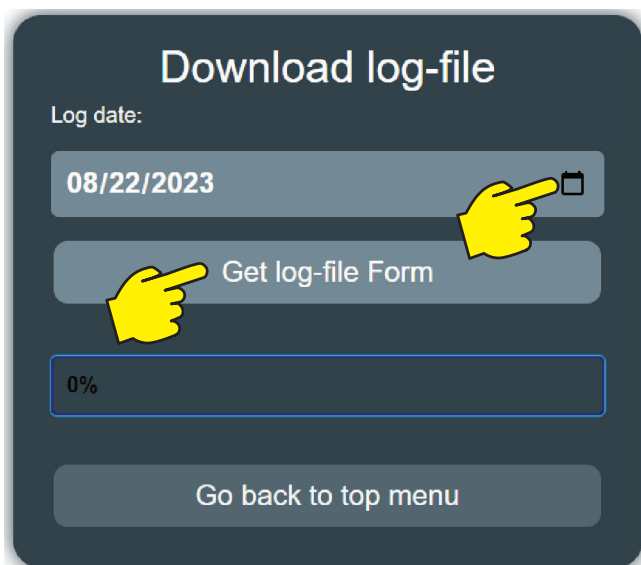
### 11.3.3. Show Error Log

The units Error-log. (Shows up to 200 entries).



### 11.3.4. Download Log-file

Here it is possible to select a date and create a log file to download.





### 11.3.5. Firmware upgrade

Press "Choose File"



Choose one of the .bin files from your laptop location.  
There are no specific order, in which the files should be uploaded.

Each of the 3 files have functions of their own. These functions are specified here:

**boot.bin :**

Bootloader for Nilfisk FOOD software upgrades.

**app.bin :**

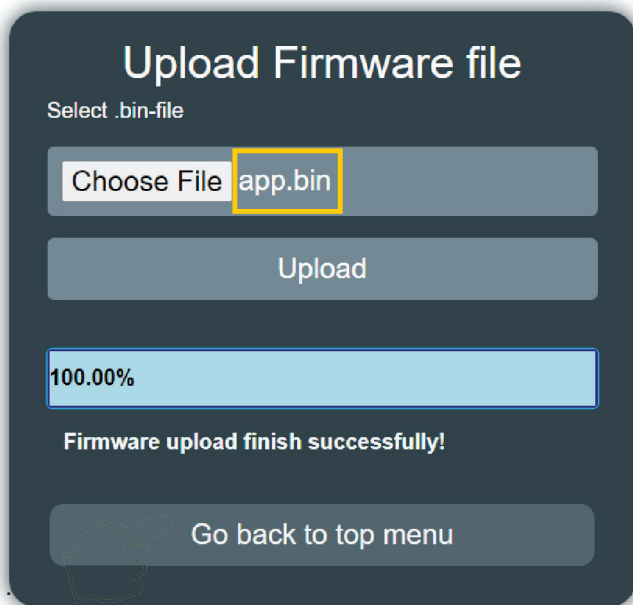
Upgrade file for the Display Module application.  
Upgrade file for the Grafich User interface (GUI)

**STM.bin :**

Upgrade file for the Inverter communication.  
Upgrade file for the Modbus.

**Important !** The files must always have these names and never be renamed, as they will then stop working.

Wait for the bar to reach 100% and the text "Firmware upload finished successfully" appears."



The machine will now restart and update the machine with the software chosen under "Choose File"

If more than one software upgrade file is present these steps have to be repeated as shown in the first picture under 11.3.5

We recommend that the software version change is confirmed in "Info" menu.  
How to use info to confirm software version - see : "9. Info" on page 60

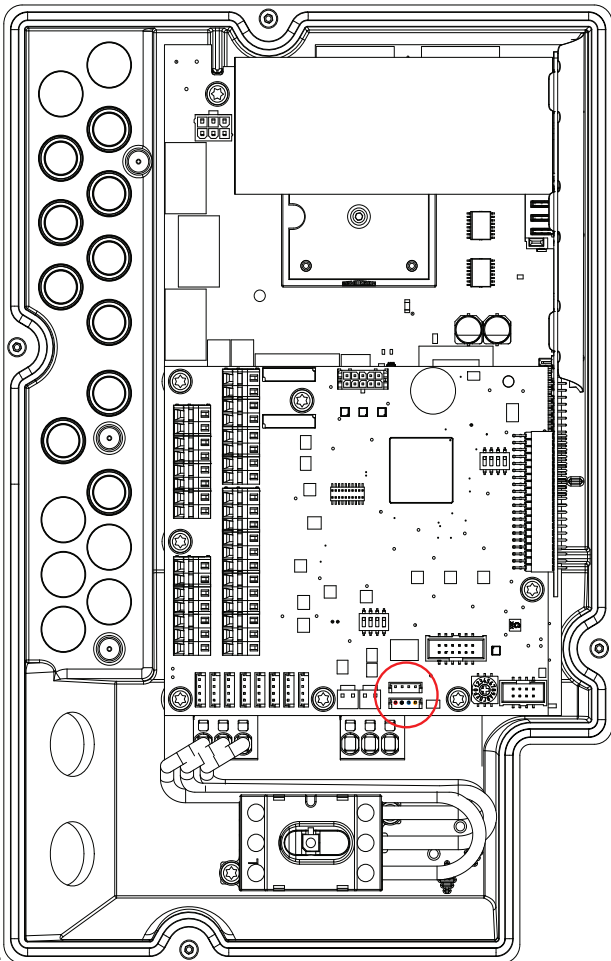
## 11.4. Upgrade Inverter

Power off unit using service switch (wait for unit to discharge approximately 5 min.)



Open Inverter box

Disconnect the Display cable connected to either of the two modbus connectors.



Connect the usb cable ( 110007947 ) to either one of the two modbus connectors.

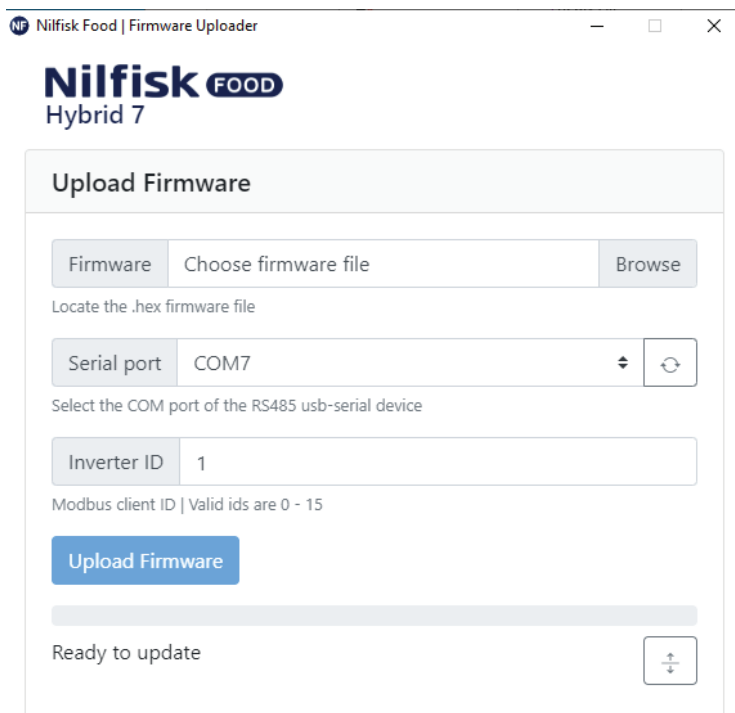
Connect usb cable to PC

Power on inverter by using service switch (BE AWARE OF HIGH VOLTAGE IN INVERTER!)



ON

Start up Firmware upgrade program (Downloaded from [www.nilfiskfood.com](http://www.nilfiskfood.com))



Click browse to select upgrade file \*.hex (Downloaded from [www.nilfiskfood.com](http://www.nilfiskfood.com))

Click in Serial port up/down to select the com port for USB cable, if comport is not showing  
Press "refresh" button

If necessary change inverter ID to match Inverter ID, Default is 1

Press Upload Firmware, and wait for progress bar to reach the end and turn green

Inverter ID 1

Modbus client ID | Valid ids are 0 - 15

Upload Firmware

Application flashed and started!

Turn off the power, on the Inverter. (wait for unit to discharge approximately 5 min.)



Disconnect the usb cable from inverter

Connect the display to modbus connector again

Mount the lid of the inverterbox

Turn ON power, on the Inverter.



## 12. Connect the unit to Hybrid 7 app

This function makes it possible to connect the unit to the Hybrid 7 mobile app.  
Before connecting to a account, download the app from google play or AppStore.

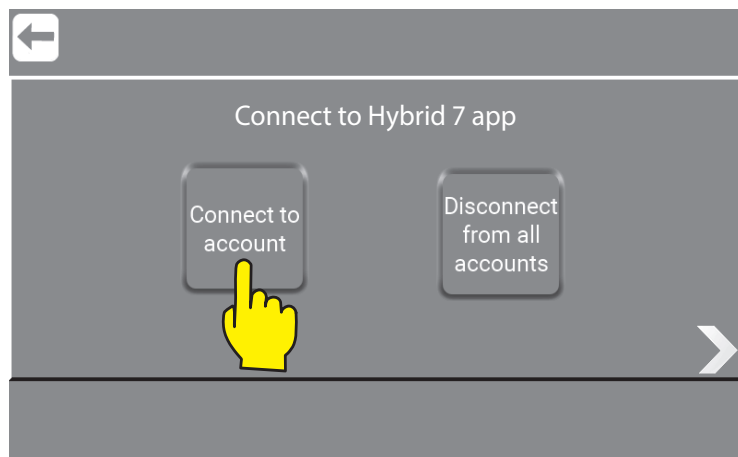
For more information visit <https://nilfiskfood.com/connectivity> or scan the QR code.



Or search for the " Nilfisk Food Hybrid 7" in Google Play or App Store.

### 12.1. Connect to account

When app and account are ready press "Connect to account"

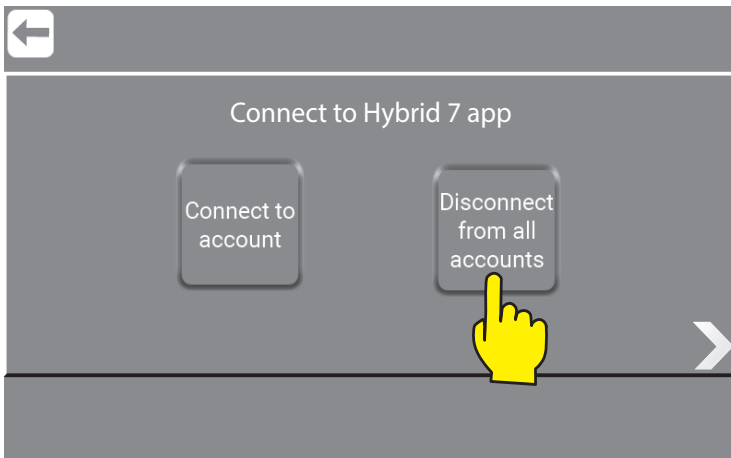


\\Mainmenu\Service\PIN\Menu\UpgradeSoftware\

Important : It is only possible to connect to one account at a time.

## 12.2. Disconnect from accounts

All connection between Hybrid 7 app accounts and the unit is disconnected. To reconnect press "Connect to account" and use your app to scan the QR.



Mainmenu\Service\PINMenu\UpgradeSoftware\

Serial no. 200.01.000XXX / 201.01.000XXX / 202.01.000XXX / 203.01.000XXX  
110009494B / 110009493B  
09/2023