Hybrid 7

MH42, BH4, BH7
MP42, BP4
BF4, BF8
BF16, BF24, BF32
MA2, MA3, MA2M, MA3M, MA2I, MA3I, MA2IM, MA3IM
SA2IM, SA3IM, SA2I, SA3I

Software Manual
for Display Module

Available manuals for these units:

110009418 / 110009419	Direction for use - Hybrid 7 MH42 / BH4 / BH7 / MP42 / BP4
110009443 / 110009445	Direction for use - Hybrid 7 BF4 / BF8
110009564 / 110009567	Direction for use - Hybrid 7 BF16 / BF24 / BF36
110009190 / 110009193	Direction for use - Hybrid 7 Foamatic MA / SA
110009500 / 110009499	Userguide - Hybrid 7 MH42 / BH4 / BH7 / MP42 / BP4 / BF4 / BF8
110009191 / 110009194	Userguide - Hybrid 7 Foamatic MA/SA
110009737	Software manual - Hybrid 7 MH / BH / MP / BP / BF / MA / SA

Where to find them :

Direction for use and Userguides will be enclosed as physical paper manuals with the units.

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

Installation manual Hybrid 7 Foamatic I/O Extension module will be enclosed as physical paper manuals with the extension module purchased as an accessory.

110009305 Installation manual Hybrid 7 Foamatic I/O Extension module (Accessory)

At any given time, all manuals and software can be obtained online at www.nilfiskfood.com.

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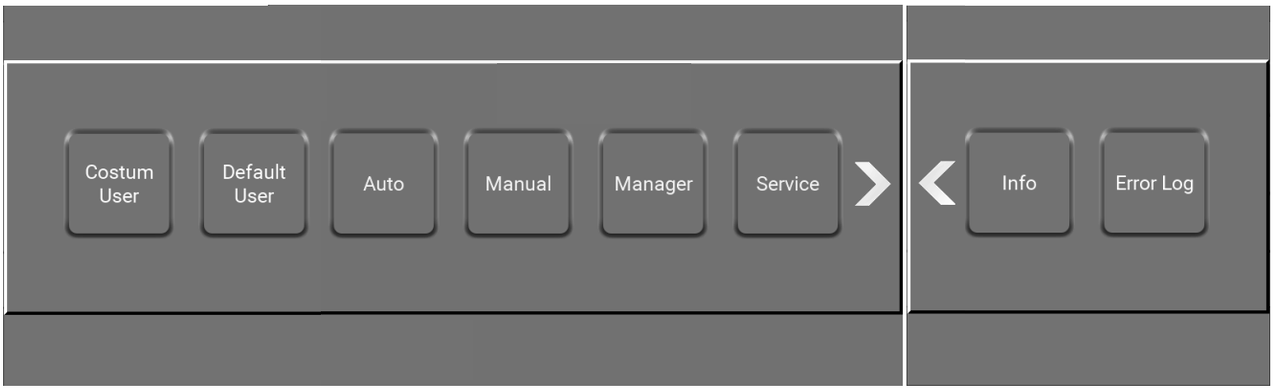
2. Description

This Software manual describes the operation of the Display Module and its User Interface (GUI).

2.1. Main menu

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



Custom User (page 20) **:** Press Custom User (Must be added) to start the unit. (Not on Foamatic)

Default User (page 36) **:** Press Default User to start the unit. (Not Foamatic)

Auto (page 40) **:** Press Auto to choose wash program / automatic cleaning. (Only Foamatic)

Manual (page 66) **:** Press Manual to start manual cleaning (Only Foamatic)

Manager (page 72) : Press Manager to set up time, date, parameters and unit variables.

Service (page 78) : Press Service to set up time, date, settings, software upgrades, connections etc.

Info (page 120) : Press Info to see machine type, software version, run time and installation time.

Error Log (page 126) : Press error log to see the latest errors / warnings (up to 200 logs)

2.2. Navigation

The navigation goes through a series of screens and sub screens 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. How to find the specific screen or sub screen

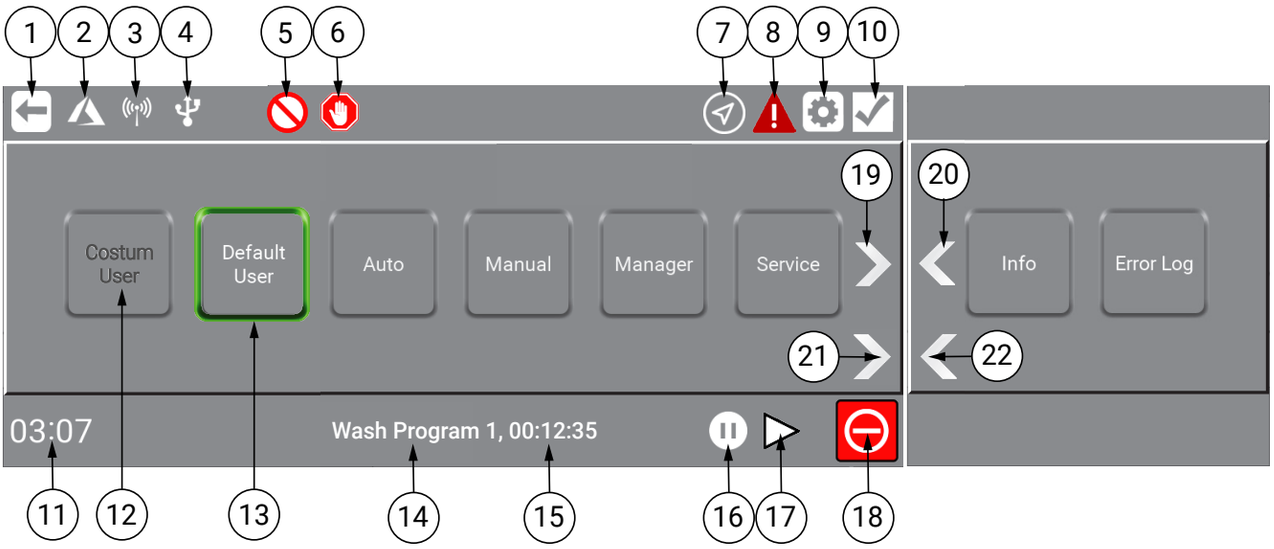
Below each picture in this software manual there is a path like in Windows Explorer to the specific screen or sub screen. It could look like this :

\Main menu\Manager\Menu\Settings\RightClick6\...

Main menu\	is the first main menu on the Display Module.
Manager\	is the button in the main menu.
Menu\	is a button on the 1 level sub screen.
Settings\	is a button on the 2 level sub screen.
RightClick6\	press right arrow 6 times to see this sub screen.
...	something is shown in the illustration e.g it is active, change something etc.

3. Symbols, buttons and icons

This is an introduction to the symbols, buttons and icons, that the user will encounter while using this unit.



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. **Navigator** - The unit is connected to the Navigator app.
8. **Error indicator** - Error on one of the pumps on a multi booster unit. (Only BF16 / BF24 / BF32)
9. **Settings** - Go to the settings menu.
10. **Confirm** - A choice, value etc
11. **Current time** - Clock / CET.
12. **Disabled button** - The button is inactive.
13. **Green light frame** - The unit is active / program is running.
14. **Program name -** On active program. (Only Foamatic)
15. **Countdown time** - On active program. (Only Foamatic)
16. **Pause** - The unit / program. (Only Foamatic)
17. **Start** - The unit / program after a pause. (Only Foamatic)
18. **Stop** - The unit / program.
19. **Right arrow** - Through menus with more than 4 buttons.
20. **Left arrow** - Through menus with more than 4 buttons.
21. **Right arrow** - Through more option menus with e.g more settings.
22. **Left arrow** - Through **more option** menus with e.g more settings.

3.1. Symbols in regards to wash steps (Only Foamatic)

Here a view of the symbols used in wash steps are shown.
For a guide how to use it See : "10.2.2. Wash Step / as Service" on page 102

\Main menu\Manager\PIN\Menu\Foamatic\WashStep\AddStep\RightClick1\Add\

Activate Output:
Is used to let the wash step/program activate an output of the Display Module, it could for example be a zone valve, active signal etc. When pressing this symbol a list of available output functions will appear.

Deactivate Output:
Is used to let the wash step / program deactivate an output. Always make sure outputs activated by previous symbol also is deactivated. The same list as for activating output will appear.

Area valve feedback:
Is used when a wash step / program should wait for a given signal before continuing. It could be a feedback signal from a zone valve telling that the zone is actually open or closed.

Wait Time:
Is used to place an adjustable pause in a wash step; the period of the pause is set when creating a wash program. An example could be the time between opening and closing a valve.

Action Pause:
Is a pause defined in the wash step; it could e.g be a short pause waiting for a valve to close.

4. Password protection

The units has different kinds of password levels.
To enable / disable or change PIN code protection, see permissions and how to make changes here below.

4.1. PIN Code for Custom User / as Manager

Log in as manager (By default: 6802) is required to enable / disable or change the "Custom Users" PIN codes.

Custom User function / button is not available on Foamatic Units.

The PIN code protection for the "Custom User" is optional to change it.

Go to : "5.1.2. Add Pin Code to Custom User / as Manager" on page 22

4.2. PIN Code for Custom User / as Service

Log in here as Service is required to change the "Custom User" PIN Code.

This is done the same way as : "4.1. PIN Code for Custom User / as Manager" on page 14

For "Service" password, please contact your supplier.

4.3. PIN Code for Default User / Not possible

Default User function / button is not available on Foamatic Units.

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

4.4. PIN Code for Auto / as Manager

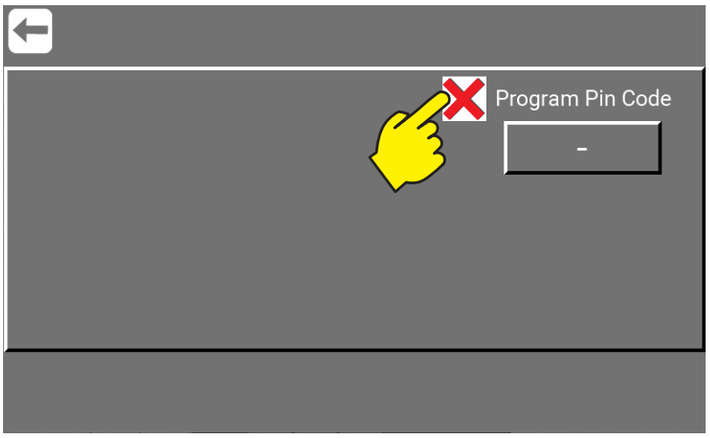
Log in here as Manager (By default : 6802) is required to change the "Auto" PIN code.

Auto function / button is only available on Foamatic Units.

The password protection for the Auto / Automatic Cleaning button is optional.

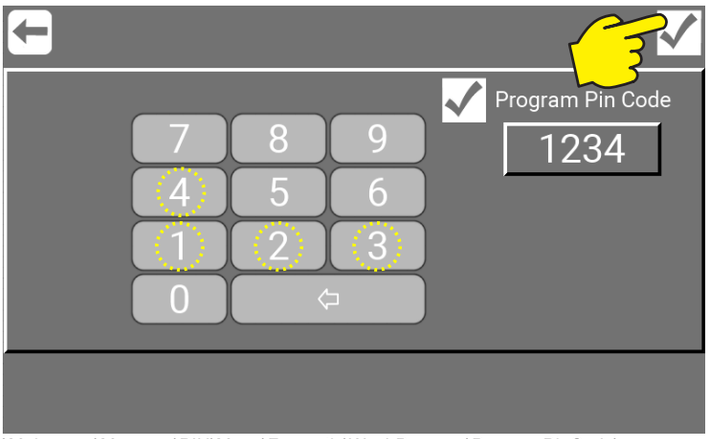
And as Manager it is possible to enable / disable or change the "Auto" password here :

Press “X” to enable password protection.



\Mainmenu\Manager\PIN\Menu\Foamatic\WashProgram\ProgramPinCode\

Enter a 4 digits code.



\Mainmenu\Manager\PIN\Menu\Foamatic\WashProgram\ProgramPinCode\...

Always remember to confirm password change with "✓" before pressing "Return".

4.5. PIN Code for Auto / as Service

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

The password protection for the Auto / Automatic Cleaning button is optional.

For "Service" password, please contact your supplier.

This is done the same way as : "4.4. PIN Code for Auto / as Manager" on page 14

4.6. PIN Code for Manual / Not possible

Manual function / button is only available on Foamatic Units with manual outlet.

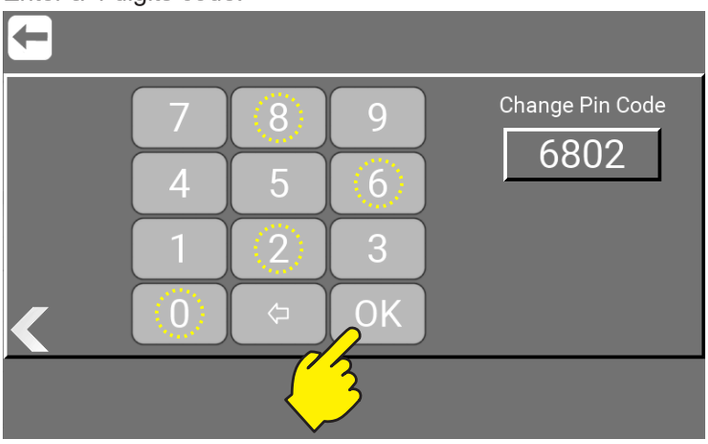
Password protection is not an options for "Manual".

4.7. PIN Code for Manager / as Manager

Log in here as manager is required to change the Manager PIN code (By default : 6802).

The password protection for the Manager button is required and cannot be disabled.

Enter a 4 digits code.



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

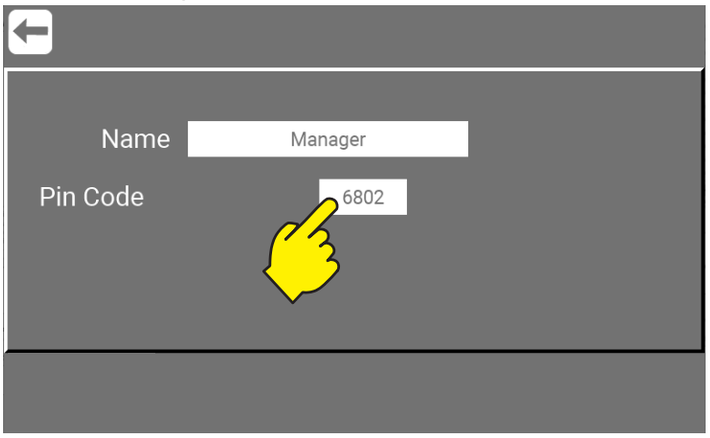
To save selected settings, always remember to press "OK", before "Return".

4.8. PIN Code for Manager / as Service

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

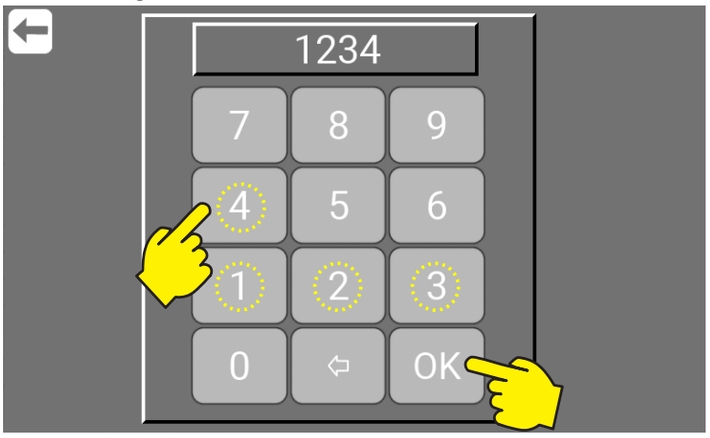
For "Service" password, please contact your supplier.

Edit PIN code / password.



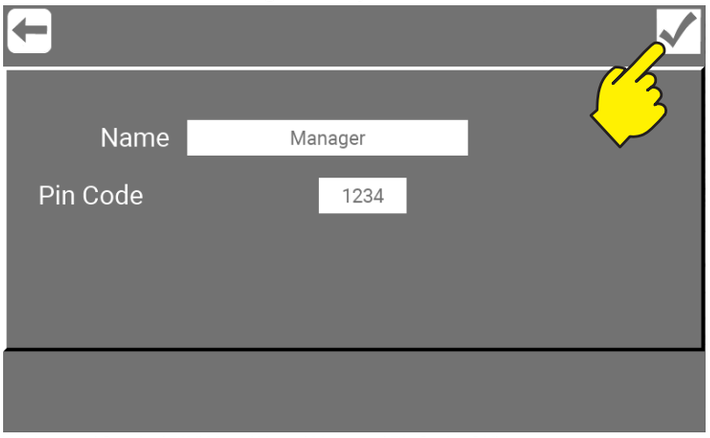
\Mainmenu\Service\PIN\Menu\Users\Manager\...

Enter a 4 digits code.



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

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



\Mainmenu\Service\PIN\Menu\Users\Manager\PinCode-OK\...

Always remember to confirm password change with "✓" before pressing "Return".

4.9. PIN Code for Service (Change not possible)

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

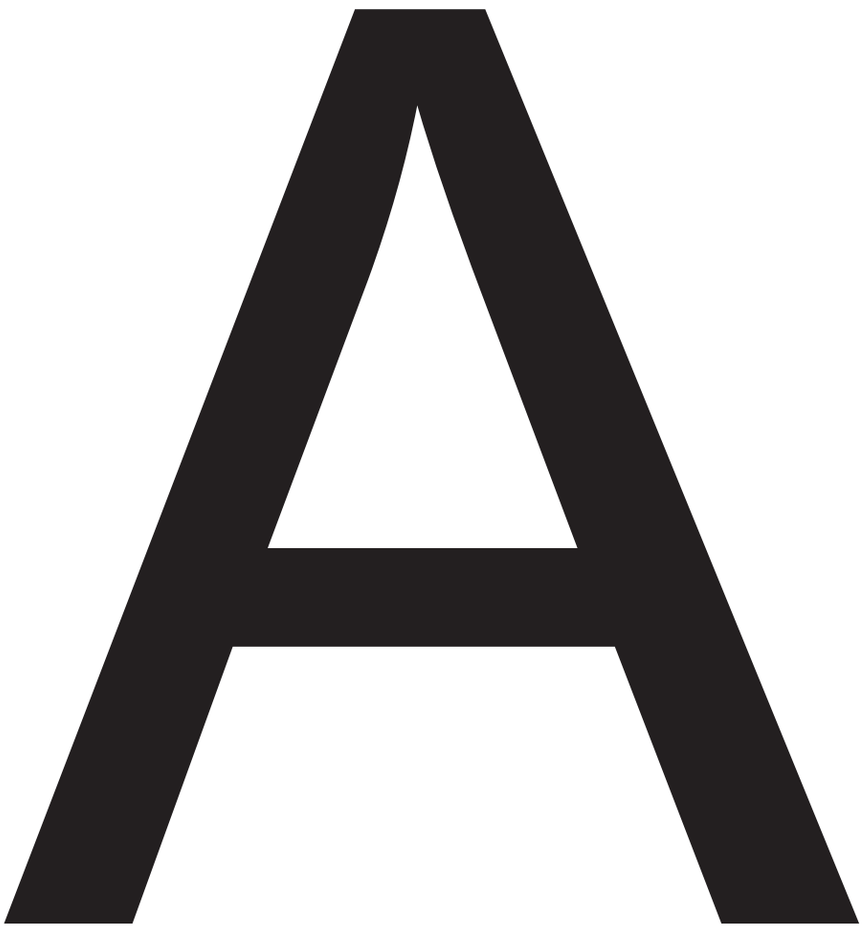
If "Service" password is required, please contact your supplier.

4.10. PIN Code for Info (Not possible)

Info is available for all, password protection for the Info button is not an option.

4.11. PIN Code for Error Log (Not possible)

Error Log is available for all. Password protection for the Error Log button is not an option.



Custom User

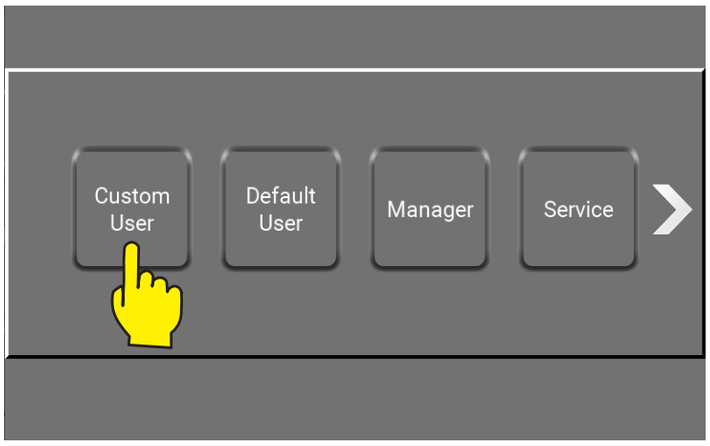
5. Custom User

Info : Custom User function / button is **not** an option on Foamatic Units.

If a “Custom User or Users” are added, they will be located before the Default User button in the main menu 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 as it will be anonymized.

Press "Custom User"



\Mainmenu\...

5.1. Add a Custom User / as Manager

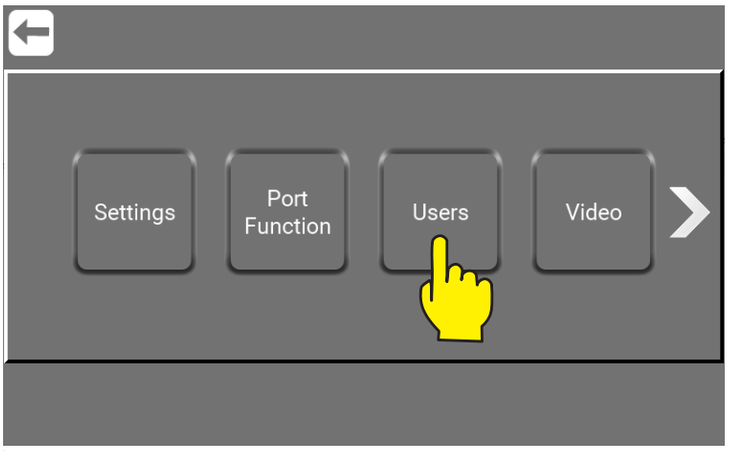
Log in here as Manager is required. (By default : 6802).

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.

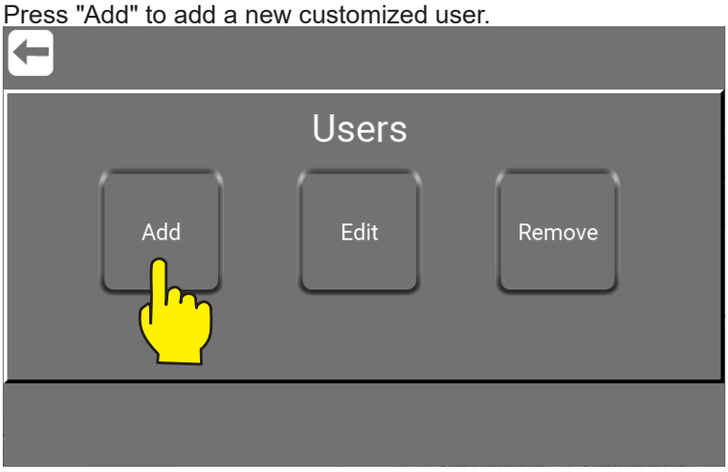
It is possible to add up 6 custom users, which could be assigned different rights to change system settings, or to see operation parameters directly linked to the cleaning process.

Press the "Users" button.



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

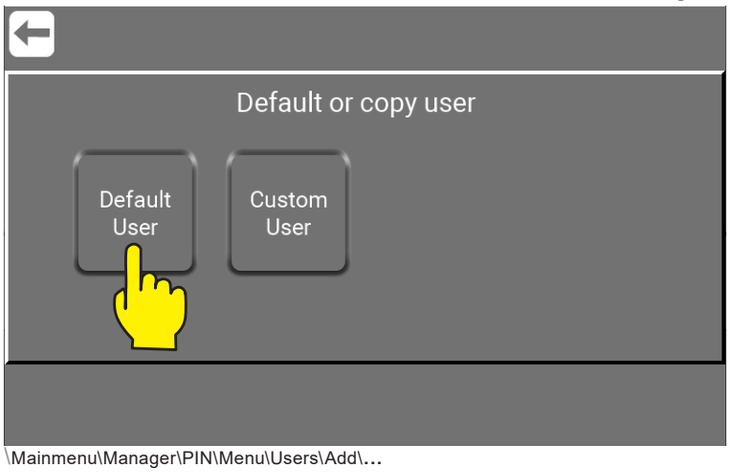
Press "Add" to add a new customized user.



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

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

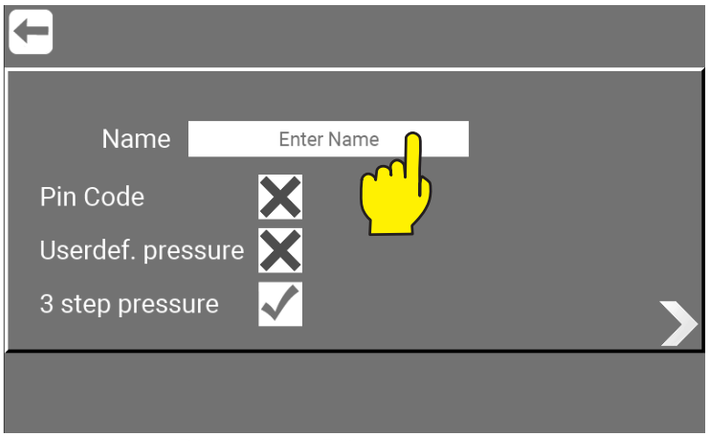
Press **"Default User"** to add a new user.
Press **"Custom User"** to add a new user with similar settings to eg. "Custom User".



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

5.1.1. Add a Customized Users name / as Manager

Press "Enter Name".

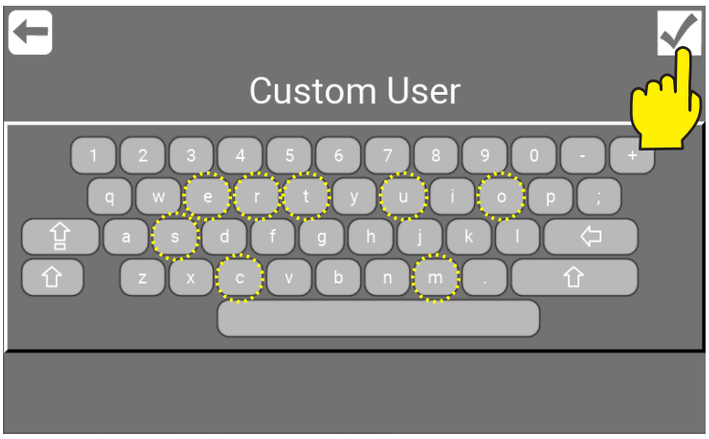


\Mainmenu\Manager\PIN\Menu\Users\Edit\...

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

Info : The "Custom Users" name cannot be changed after they have been added. If a different name / user is

required, a new user must be created and a possibly unwanted user be removed.

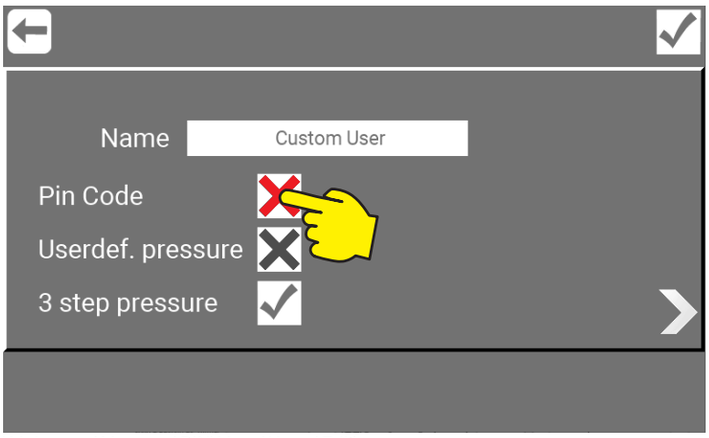


\Mainmenu\Manager\PIN\Menu\Users\Edit\...

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

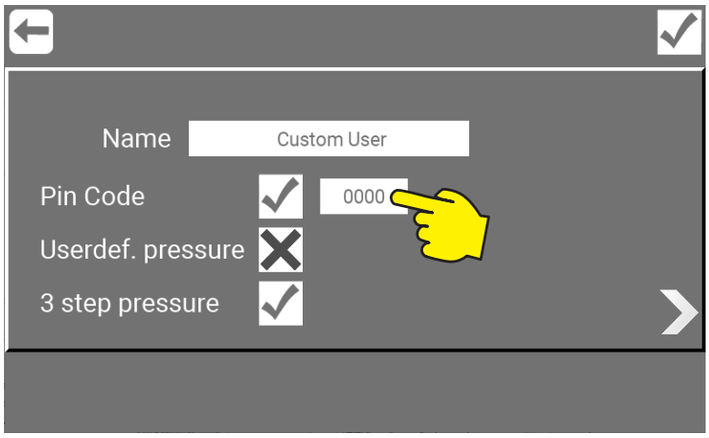
5.1.2. Add Pin Code to Custom User / as Manager

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



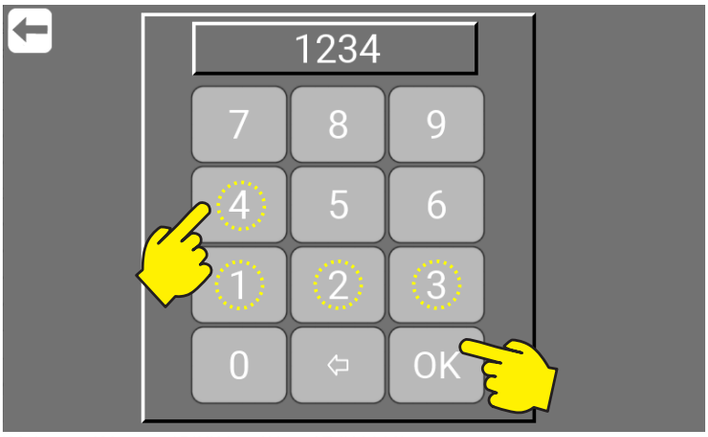
\Mainmenu\Manager\PIN\Menu\Users\Edit\...

Add PIN code / password.



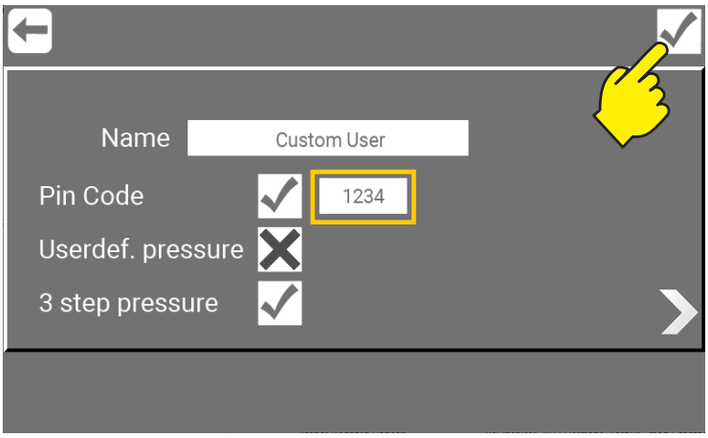
\Mainmenu\Manager\PIN\Menu\Users\Edit\...

Enter a new 4 digits code.



\Mainmenu\Manager\PIN\Menu\Users\Edit\0000\...

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

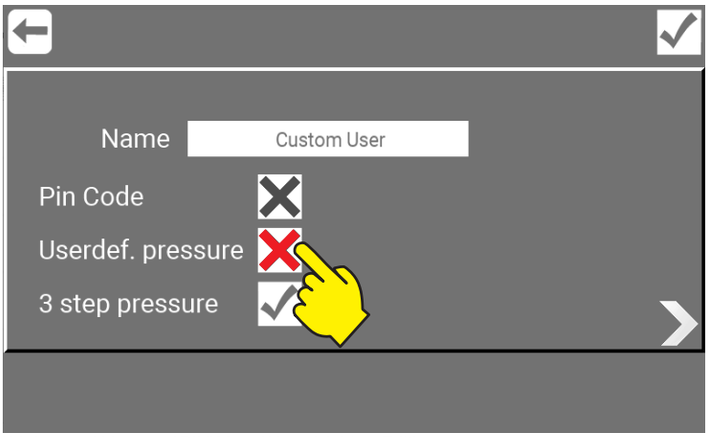


\Mainmenu\Manager\PIN\Menu\Users\Edit\...

Always remember to confirm Pin Code change with "✓" before "Return".

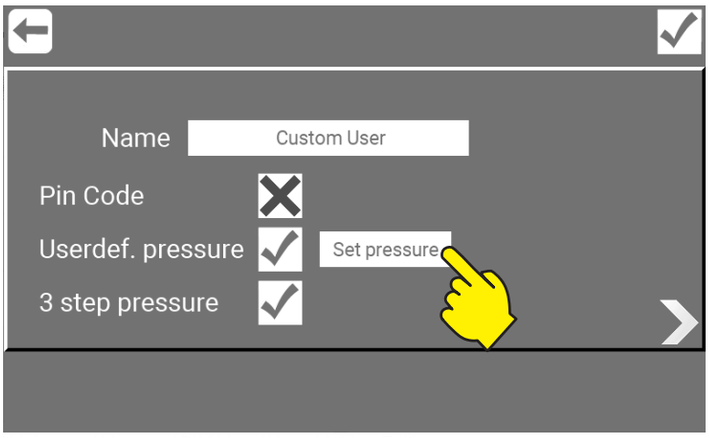
5.1.3. Add User defined pressure / as Manager

Log in here as Manager is required. (By default : 6802).
Userdef. Pressure makes it possible to set 3 specific pressure settings for this Custom User, these settings will be unique for this user. Press "✕" to enable user defined pressure adjustments.



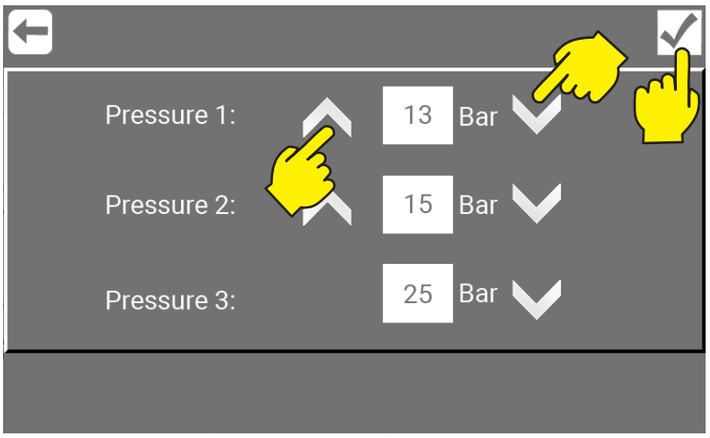
\Mainmenu\Manager\PIN\Menu\Users\Add or Edit\...

Press "Set pressure"



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

Set pressure by pressing up or down for Pressure 1, Pressure 2 and Pressure 3.
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 "Return".

5.1.4. 3 Step pressure / as Manager

Log in here as Manager is required. (By default : 6802).

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

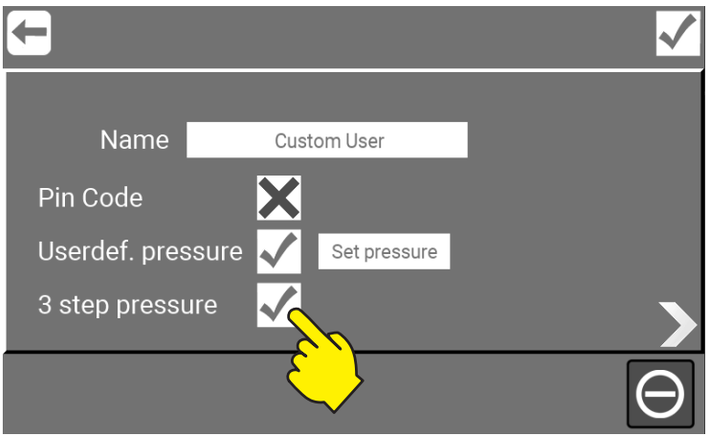
Note : If Userdef. Pressure is enabled, it will show this preset e.g. Pressure 1.

P1 = Pressure 1

P2 = Pressure 2

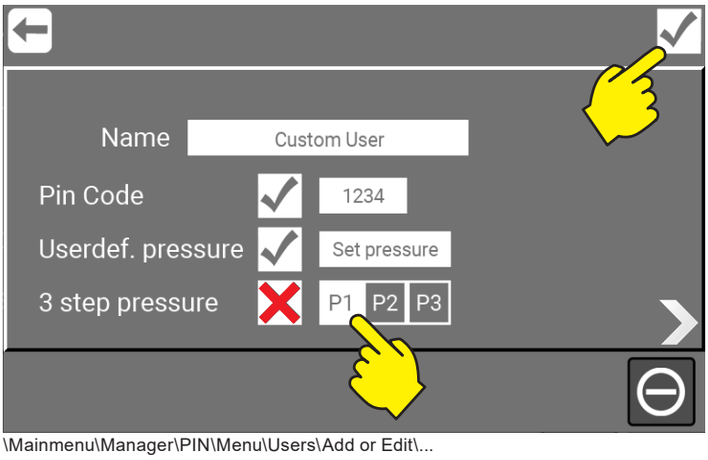
P3 = Pressure 3

Press "√"



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

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

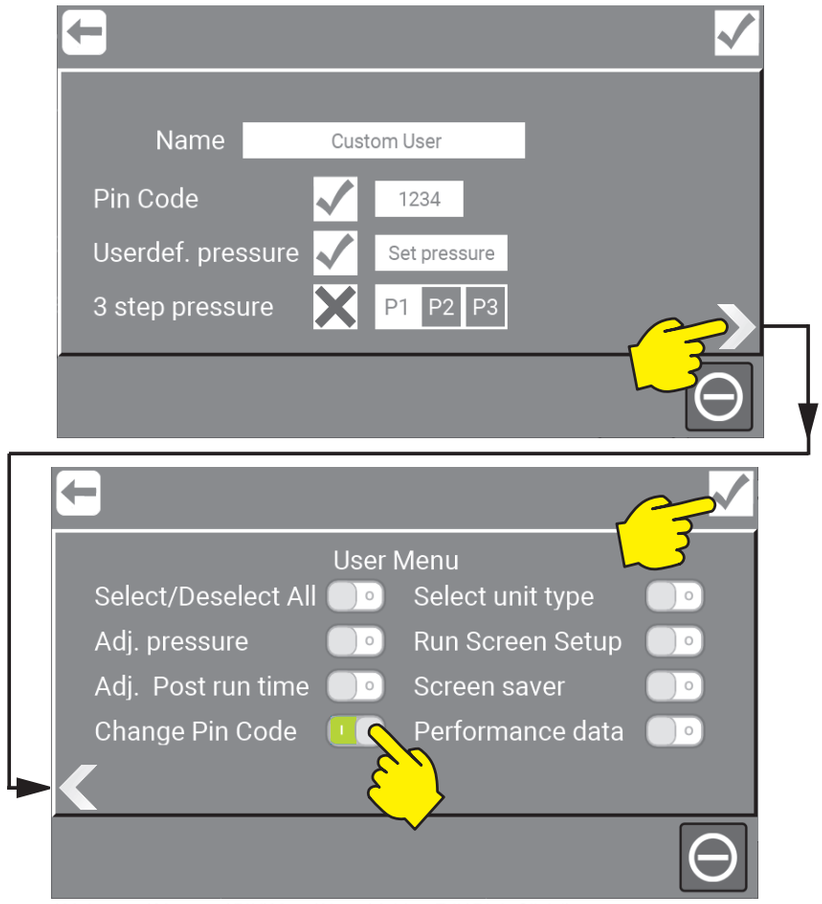


\Mainmenu\Manager\PIN\Menu\Users\Add or Edit\...

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

5.2. Add privileges to Custom User / as Manager

Log in here as Manager is required. (By default : 6802).
When setting up a custom user account, it is possible to allow the custom user extended options like, change of pressure, post run time, screen appearance and monitoring 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\...

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

5.2.1. Select / Deselect All

Will give or remove the user all the privileges below for this Custom User only.

See more : "5.3. How to use the optional privileges / as Custom User" on page 28

5.2.2. Adj. pressure

Makes it possible for the Custom User to adjust their own preset pressure buttons. Min. 3 Bar and Max 25 Bar.

See more : "5.3.1. Adjust pressure / as Custom User" on page 28

5.2.3. Adj. Post run time

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

See more : "5.3.2. Adjust post run time / as Custom User" on page 29

5.2.4. Change Pin Code

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

See more : "5.3.3. Change Pin code for Custom User / as Custom User" on page 29

5.2.5. Select unit type

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

See more : "5.3.4. Select unit type / as Customized User" on page 29

5.2.6. Run Screen Setup

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

See more : "5.3.5. Run the Screen Setup / as Customized User" on page 30

5.2.7. Screen saver

Make it possible for the user to change their screen saver.

See more : "5.3.6. Change screen saver / as Customized User" on page 31

5.2.8. Performance data

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

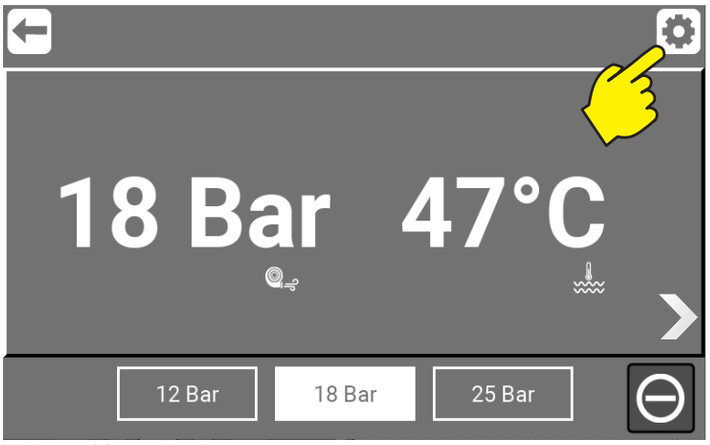
See more : "5.3.7. Performance data / as Customized User" on page 32

5.3. How to use the optional privileges / as Custom User

Settings / privileges available are managed by "Manager" or "Service".
See : "5.2. Add privileges to Custom User / as Manager" on page 26

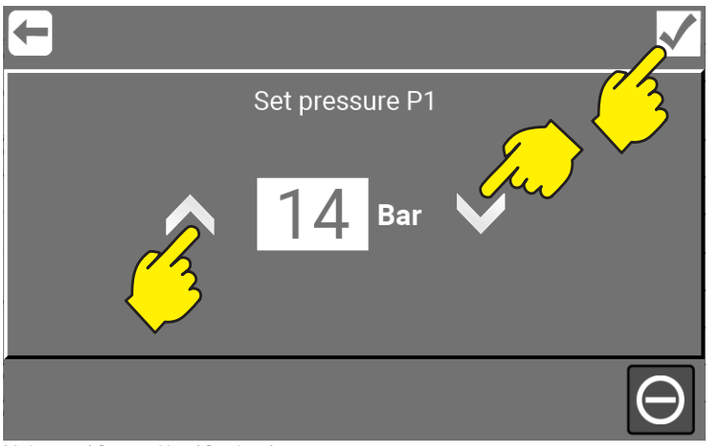
5.3.1. Adjust pressure / as Custom User

Press "Settings"



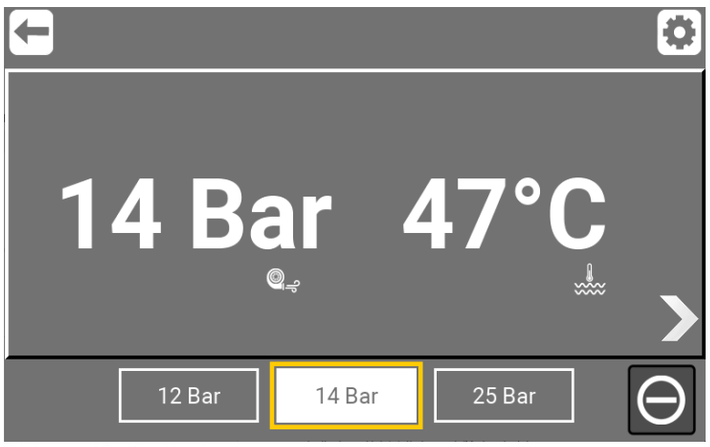
\Mainmenu\CustomUser\...

Press up or down arrow until the desired pressure is reached.
Minimum 3 Bar and maximum 25 Bar.



Mainmenu\CustomUser\Settings\...

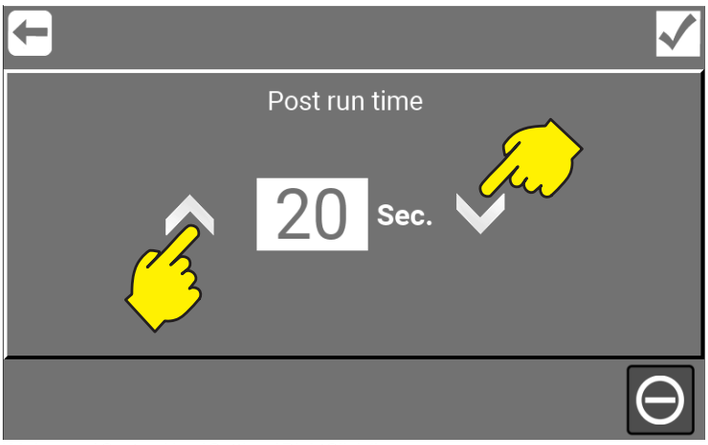
To save selected settings, always remember to confirm with "✓" before "Return" to mainpage.



\Mainmenu\CustomUser\...

5.3.2. Adjust post run time / as Custom User

Press up or down arrow until the desired setting is reached.
Min. 5 sec. and max. 60 sec.

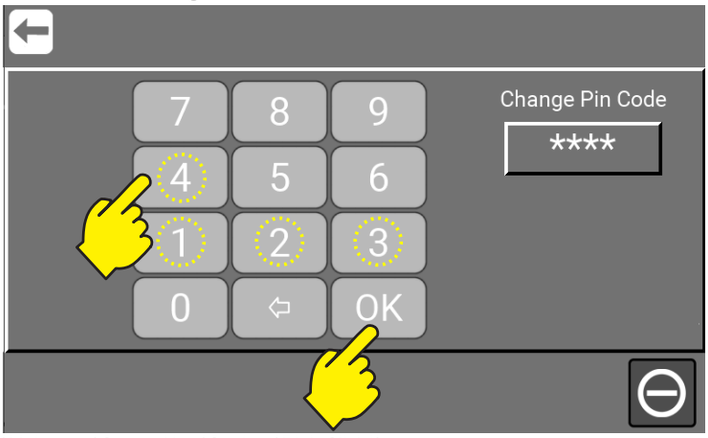


\Mainmenu\CustomUser\Settings\RightClick1\...

To save selected settings, always remember to confirm with "✓" before "Return" to mainpage.

5.3.3. Change Pin code for Custom User / as Custom User

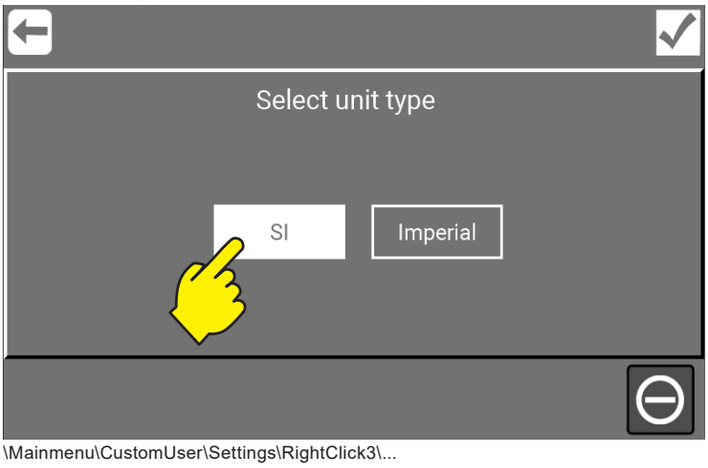
Enter a new 4 digits code.



\Mainmenu\CustomUser\Settings\RightClick2\...

5.3.4. Select unit type / as Customized User

Select unit type for Pressure and temperature. **SI** Metric - Bars / Celcius or **Imperial** Gallons / Fahrenheit.



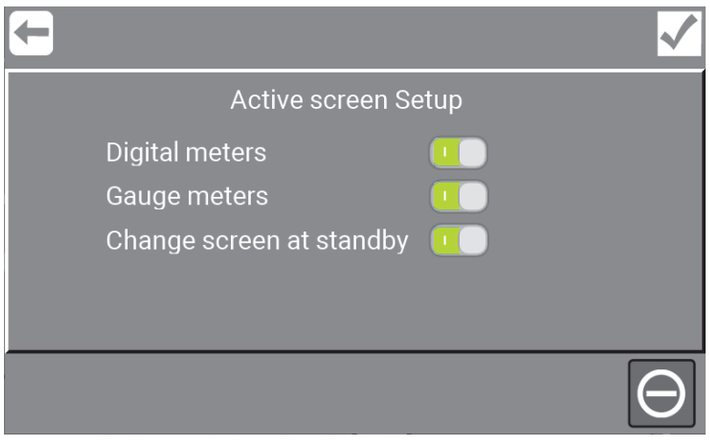
\Mainmenu\CustomUser\Settings\RightClick3\...

To save selected settings, always remember to confirm with "✓" before "Return" to mainpage.

5.3.5. 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.

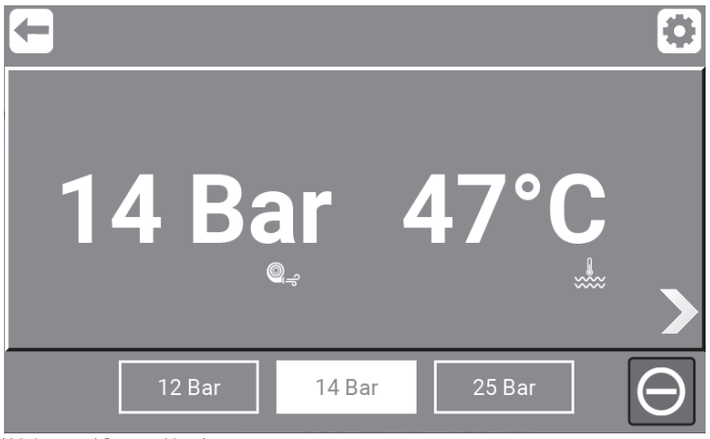


\Mainmenu\CustomUser\Settings\RightClick4\...

To save selected settings, always remember to confirm with "✓" before "Return" to mainpage.

5.3.5.1. Digital meters

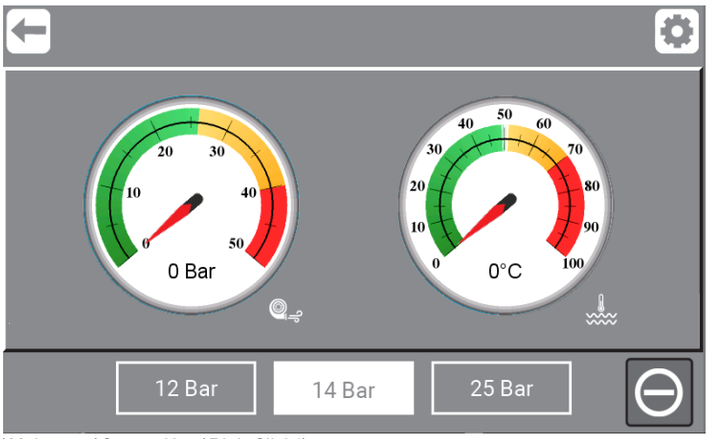
Is the first screen with digital meters shown when the unit is activated by "Custom User" or "Default User".



\Mainmenu\CustomUser\

5.3.5.2. Gauge meters

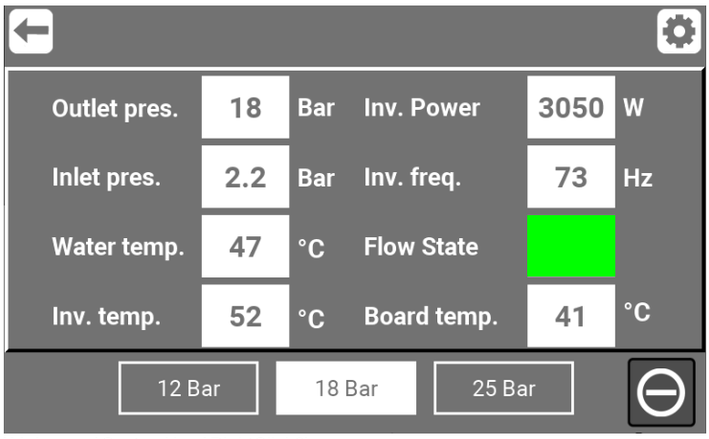
Is the second screen (Right Click) Gauge digital meters shown when the unit is activated by "Custom User".



\Mainmenu\CustomUser\RightClick1\...

5.3.5.3. Graphic overview (Always visible)

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



\Mainmenu\CustomUser\RightClick2\...

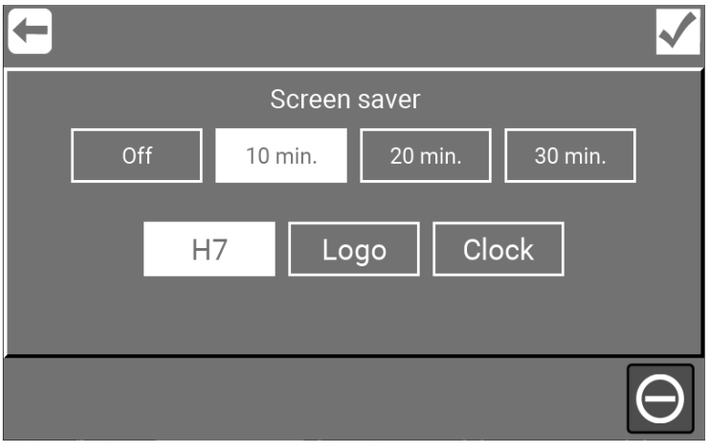
5.3.5.4. Change screen at standby

It shows session data when the pump stops running and the unit is activated by "Custom User".
When the pump starts again it will switch back. Session data will be stored between start and stop of the unit.

\Mainmenu\CustomUser\RightClick2\"Popup"\...

5.3.6. 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.

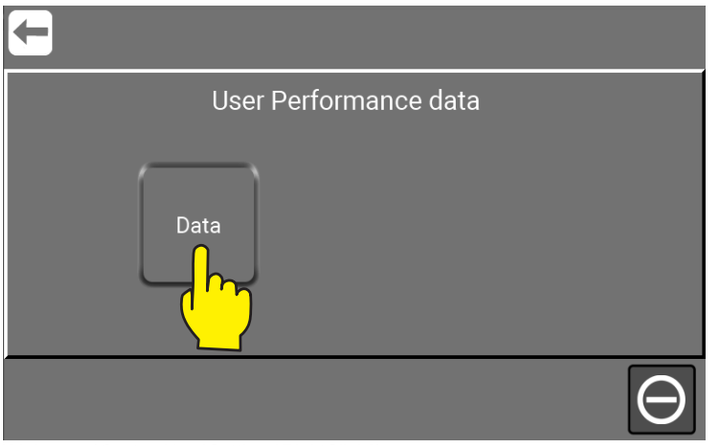


\Mainmenu\CustomUser\Settings\RightClick5\...

5.3.7. Performance data / as Customized User

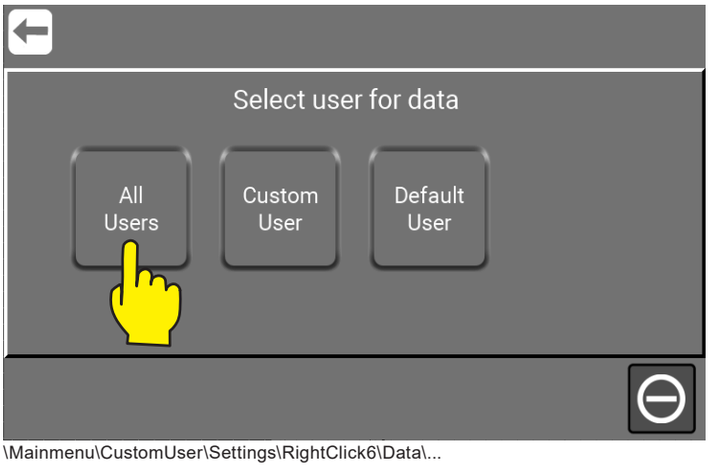
Performance Data can either be displayed as totals for the unit or for the individual user who has logged in. Manager will have access to all Performance Data, while as an individual User the access will be limited to see the data that has been logged while been logged in, i.e., Users own data.

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



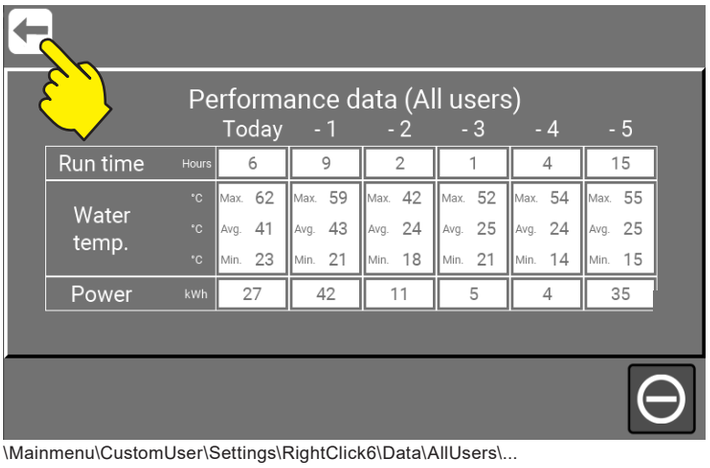
\Mainmenu\CustomUser\Settings\RightClick6\...

Press e.g. "All Users"



\Mainmenu\CustomUser\Settings\RightClick6\Data\...

Read data



		Today	- 1	- 2	- 3	- 4	- 5
Run time	Hours	6	9	2	1	4	15
Water temp.	°C	Max. 62	Max. 59	Max. 42	Max. 52	Max. 54	Max. 55
	°C	Avg. 41	Avg. 43	Avg. 24	Avg. 25	Avg. 24	Avg. 25
	°C	Min. 23	Min. 21	Min. 18	Min. 21	Min. 14	Min. 15
Power	kWh	27	42	11	5	4	35

\Mainmenu\CustomUser\Settings\RightClick6\Data\AllUsers\...

Press "Return" to go back to Mainmenu.

B

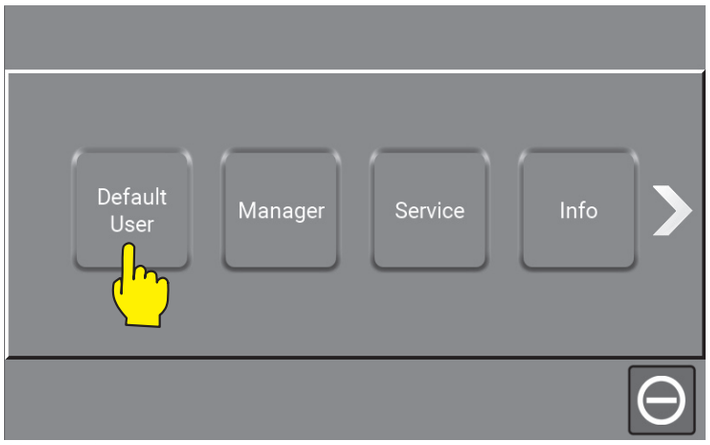
Default User

6. Default User (Not Foamatic)

Default User is the lowest level of user, it secures that the unit is always ready for use. So it has no password and the user cannot change any settings only run the unit.

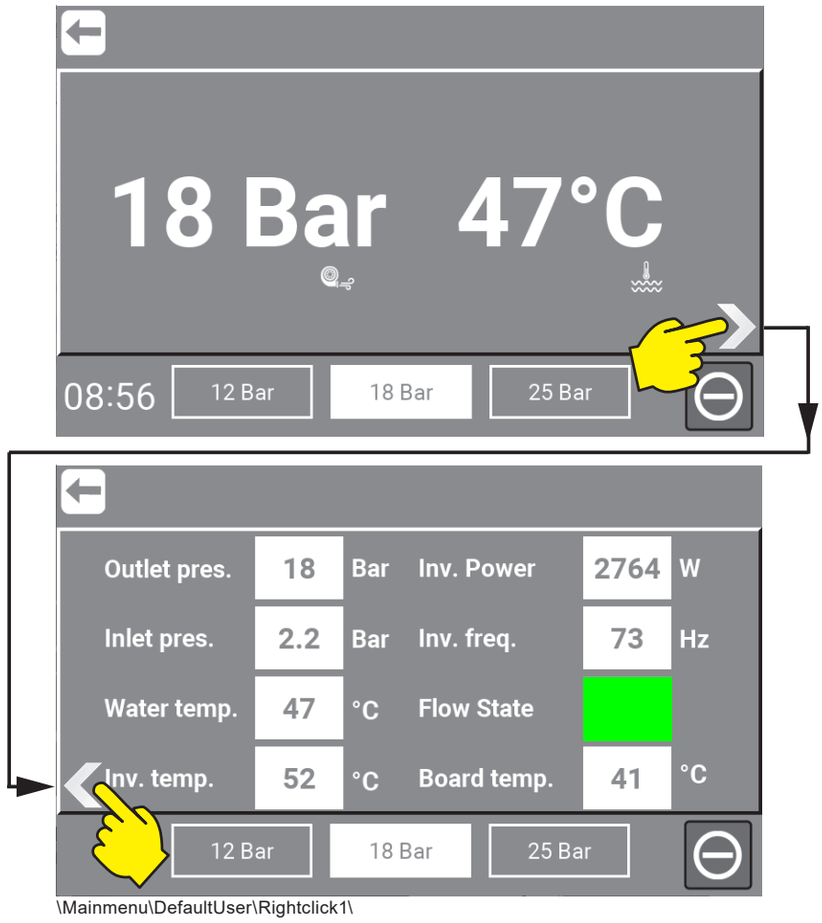
6.1. Start the unit

To start the unit and / or enable manual cleaning.
Press “Default User” button in main menu.



\Mainmenu\

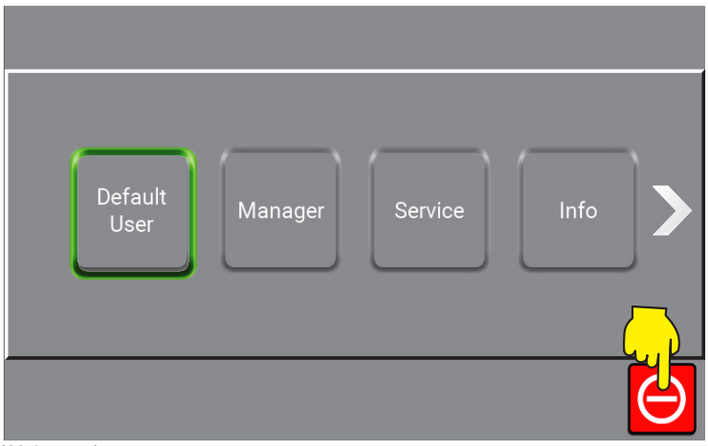
Manual cleaning is now active and will start running when there is flow.
The unit can use either "Startup Method (Flow)" on page 80 or "Startup Method (Pressure)" on page 80
To see more data on the running unit, press "right arrow".



\Mainmenu\DefaultUser\Rightclick1\

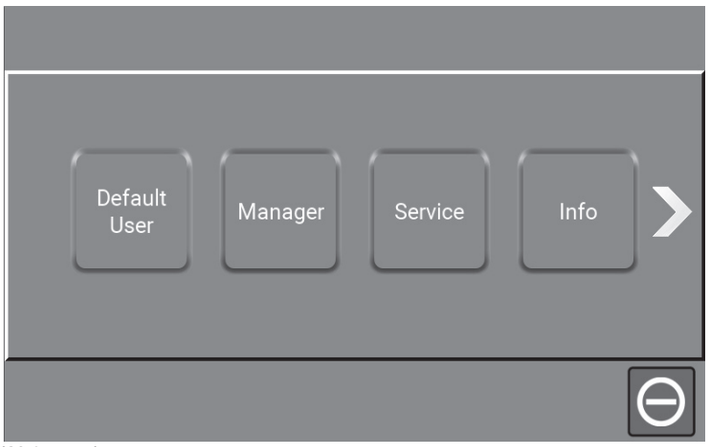
6.2. Stop the unit

To stop the unit, press stop.



\Mainmenu\

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



\Mainmenu\

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

C

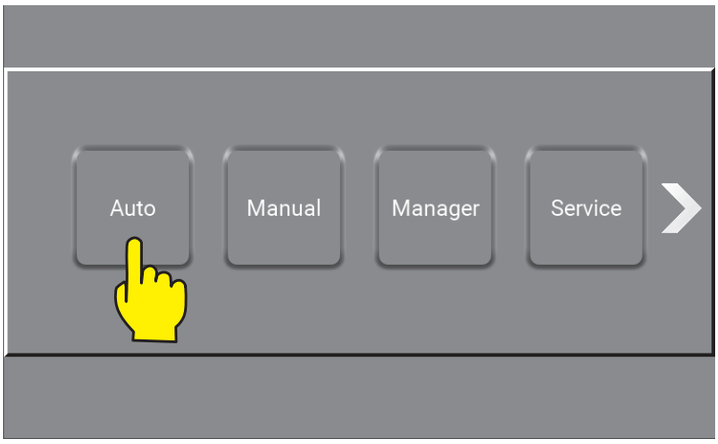
Auto

7. Auto - Automatic Cleaning (Only Foamatic)

Start and stop of automatic cleaning wash programs.

7.1. Start a wash program

Press “Auto” in main menu.



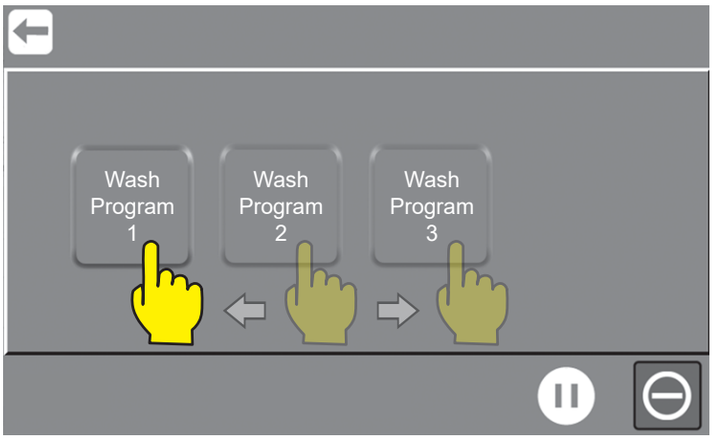
\Mainmenu\

The Auto button in main window can be password protected. If so, a numeric keypad will appear.
To enable / disable or change the "Auto" PIN Code see : "4.4. PIN Code for Auto / as Manager" on page 14

Enter the correct code.

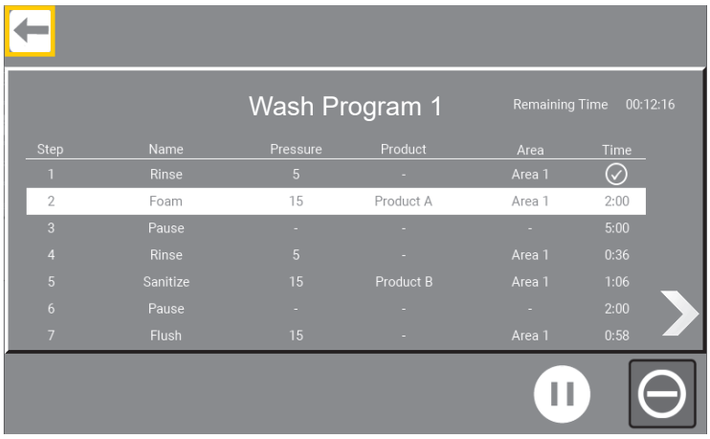
\Mainmenu\Auto\...

Press button, for the required automatic wash program and it will start running right away.



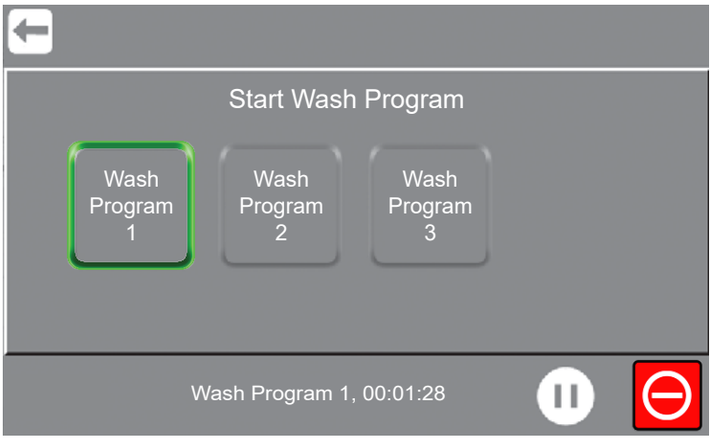
\Mainmenu\Auto\PIN\...

Together with the name of the active wash program, pressure, product, area and remaining time is shown in the white bar. When the first wash step is done, the next step will automatically start up. This will continue until the entire wash program has been completed or until the pause or stop button is activated or an error.



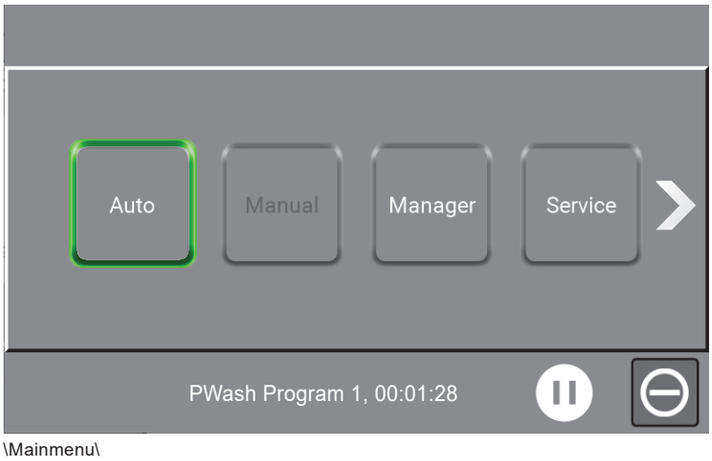
\Mainmenu\Auto\PIN\WashProgram1\...

When you press the return button the active wash program will light up green until the program is done.
The information text below will display: which program is running.



\Mainmenu\Auto\PIN\...

When you press the return button again Auto will light up green until the program is done.

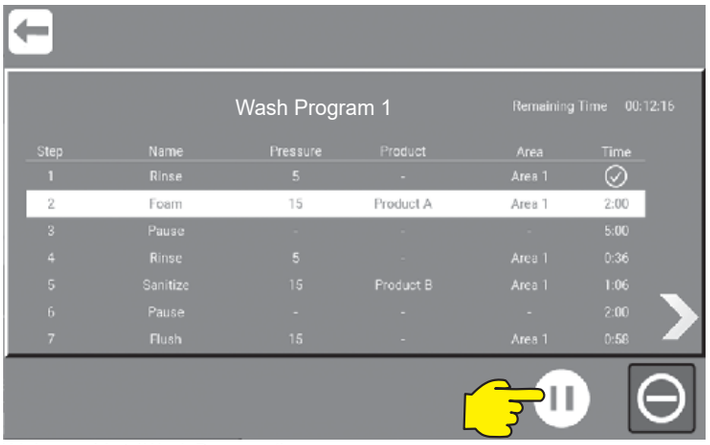


\Mainmenu\

7.2. Pause a wash program

Manual Cleaning is inactive until automatic wash program is done. Pause a wash program
When a wash program is active the screen will look like this.

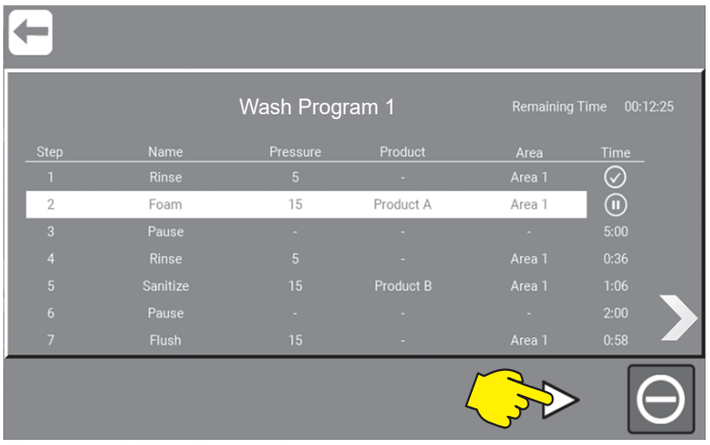
To pause a program press the pause button, the start button will appear to indicate that the unit is on pause. All valves are closed and the pause time out initiated. This time out as default set to 10 minutes, but can be adjusted, see "10.2.1.3. Set Program Pause Time" on page 101



\Mainmenu\Auto\Wash Program 1\...

To restart the program - press the start button.

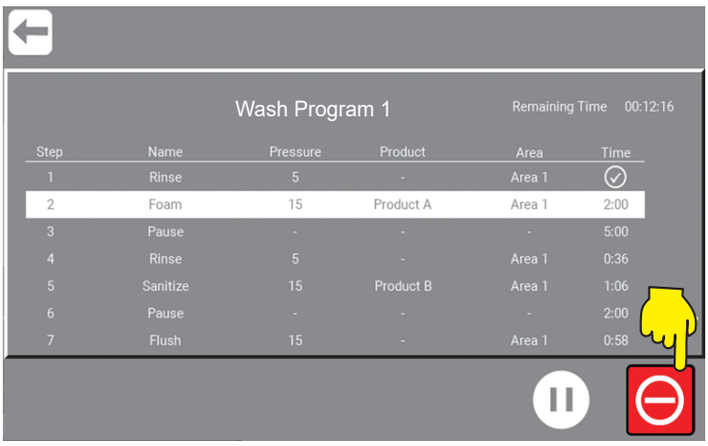
The pause button will re-appear, and the program will continue from the washstep where it was paused.



/Mainmenu\Auto\Wash Program 1\...

7.3. Stop a wash program

To stop an ongoing wash program press the stop button.



\Mainmenu\Auto\Wash Program 1\...

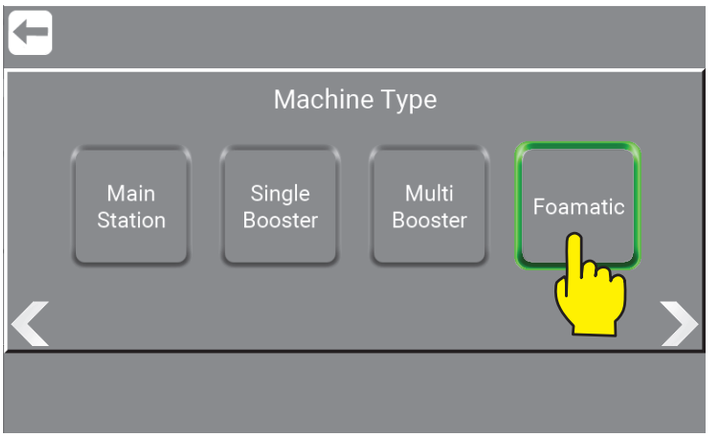
After pressing the stop button, the green indication will disappear.
It is now possible to select another program or reactivate the same program again.

7.4. Setup - Quick guide / as Service (Only Foamatic)

Below is a quick guide for "Service" to setup the new Foamatic unit.

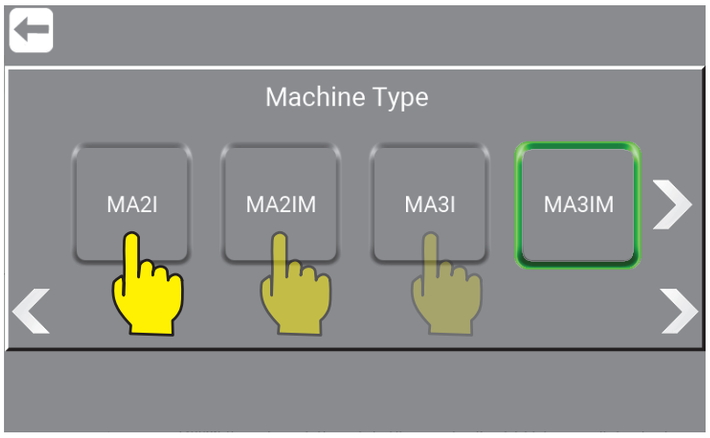
7.4.1. Select Machine Type

Press "Foamatic"



\Mainmenu\Service\PIN\Menul\Settings\RightClick6\

And then the right arrow to see all the machine types available.



\Mainmenu\Service\PIN\Menul\Settings\RightClick6\

Machine type are defined on the identification plate.
More about this in the Direction for Use manual 110009190 / 110009193.

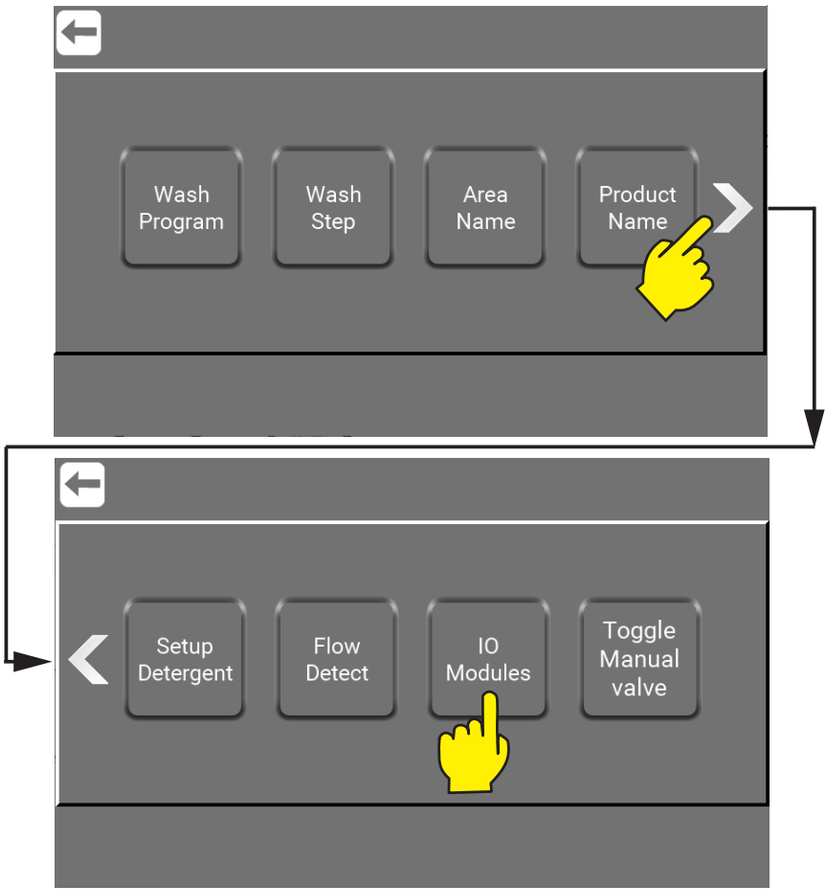
M/S:	**M:** Mainstation / **S:** Satellite
A:	Automatic
2/3:	Number of products
I:	I/O Modules
M:	Manual Block

The selected machine type is highlighted with a green frame.

7.4.2. Add external I/O Modules (Only Foamatic Accessory / Add on)

If external I/O Modules have been purchased, they need connection to the Display Module.
Log in here as Service is required.

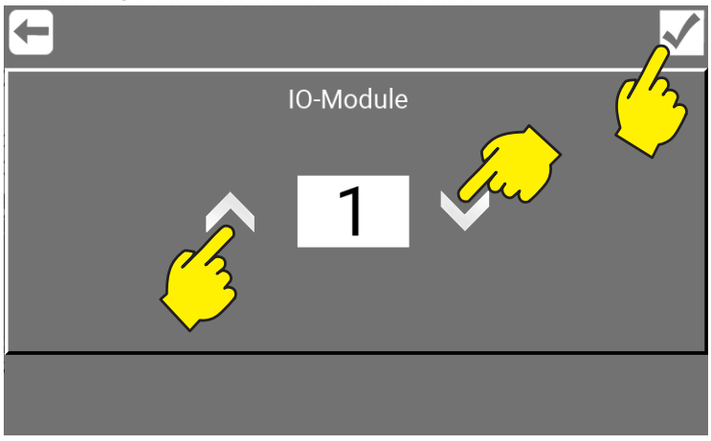
Press the "IO Module" button.



\Mainmenu\Service\PIN\Menu\Foamatic\

Press the arrow up to add 1 or 2 external I/O Moduls.

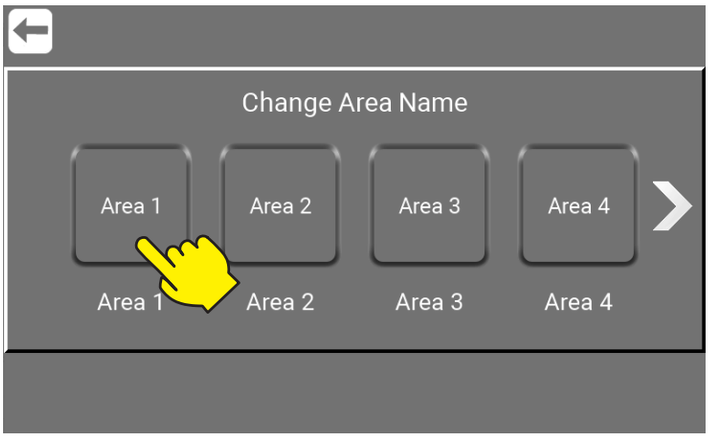
And then Confirm the number of modules.



\Mainmenu\Service\PIN\Menu\Foamatic\IOModules\...

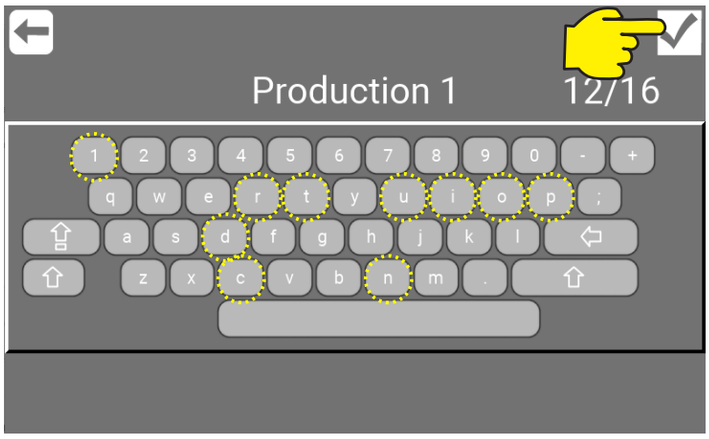
7.4.3. Area Name - Setup

Naming, the different areas connected to the unit. (Min. 1 Max. 32 Areas).



\Mainmenu\Service\PIN\Menu\Foamatic\AreaName\

Enter the new name e.g. "Production 1" and Confirm. (Character limit 1/16).



\Mainmenu\Service\PIN\Menu\Foamatic\AreaName\

7.4.4. What is Inputs, Inputs available and their functionality

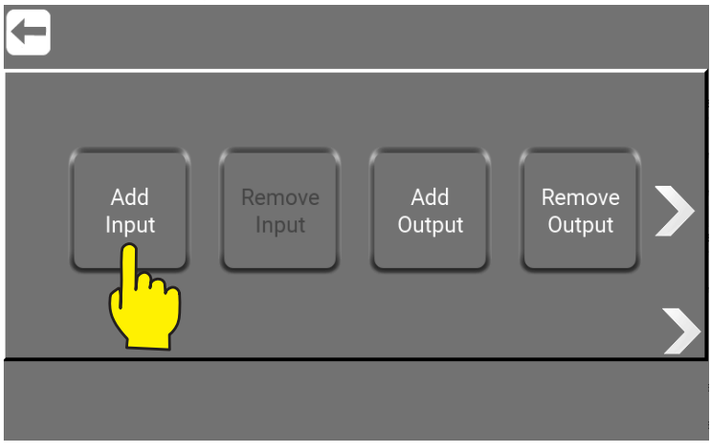
Input signals are in general electrical signals given to the unit to achieve a given behaviour, for example, start wash program, warning or error. For more about the different kinds of inputs and how to make them follow the next steps. Maximum number of Input is 48 (Standard 1 x IO and 2 x IO modules added.(Accessories)

See : "10.1.2.2. What is Inputs, Inputs available and their functionality" on page 88

7.4.5. Add Input - How to add Input signals

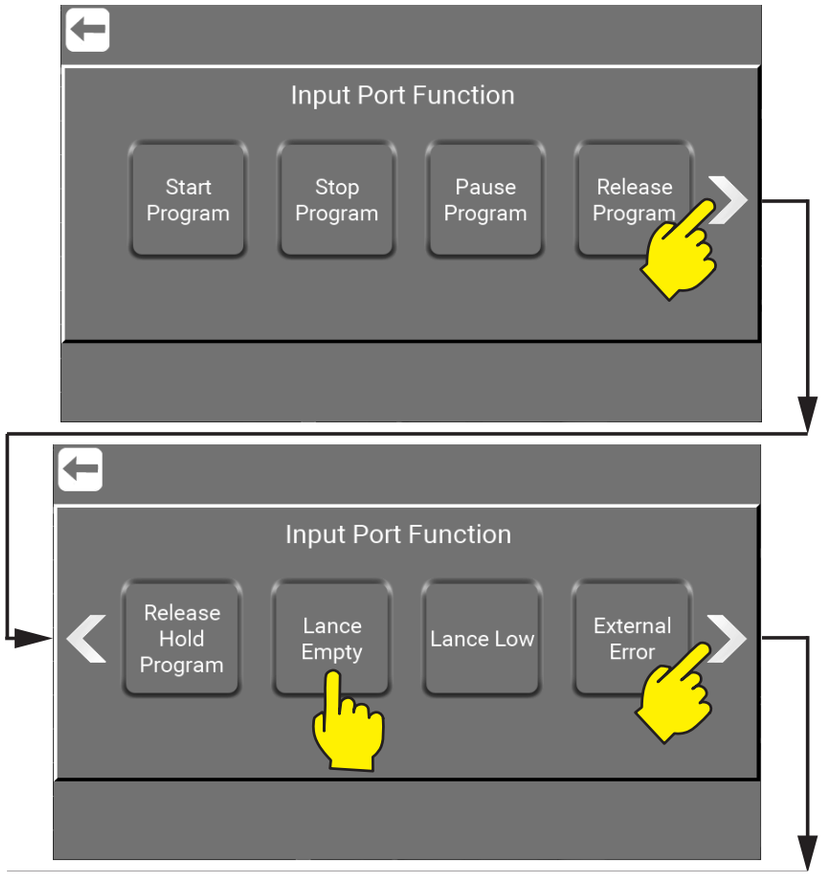
To add functionality to the Display Module, inputs are needed.

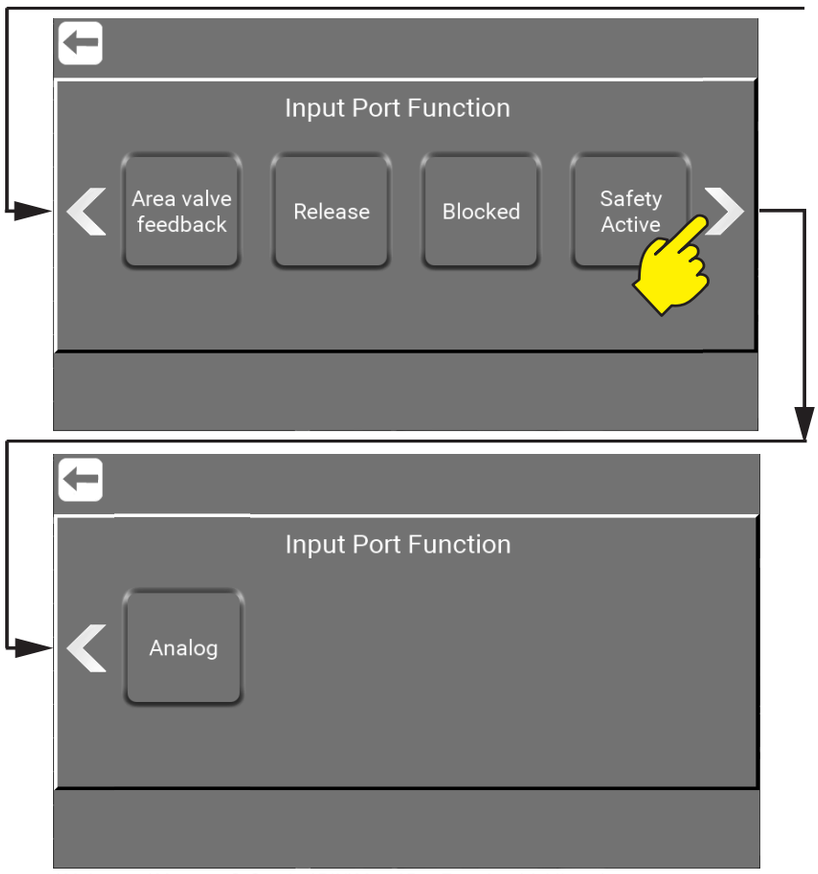
Press the "Add Input" button.



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

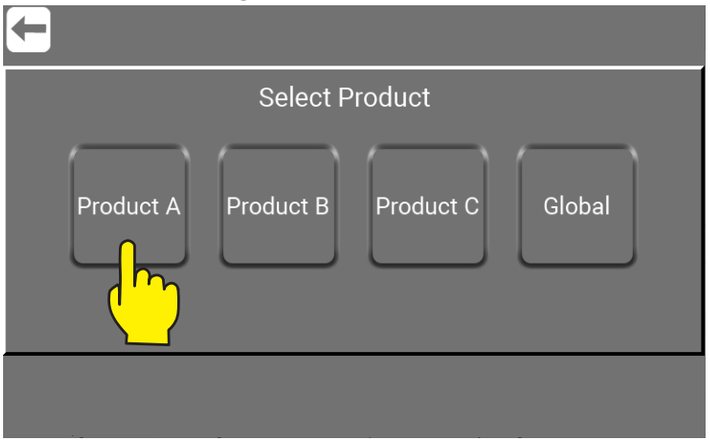
Press the input required e.g. "Lance Empty" button. .





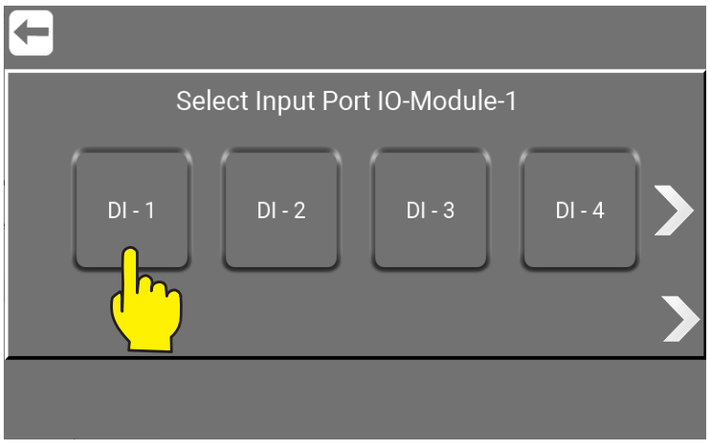
\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\AddInput\...

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



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

Press the required port for input.



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

Select Input e.g. Port Module -1 by pressing the one of your choice.
("DI - 1" means Digital Input no.1) and outputs ("DO - 1" means Digital Output no.1)
The standard unit has input port 1 and up to 16.

To add more ports 2 external IO Modules can added. (Accessory) Each external module will add 16 more ports.

7.4.6. What is Outputs, Outputs available and their functionality

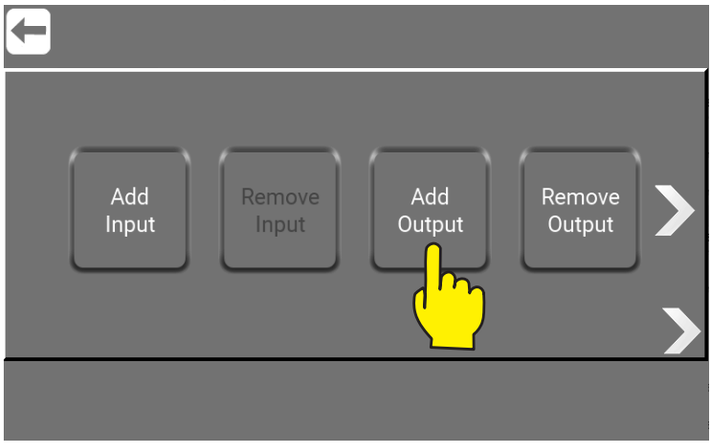
Output signals is used to indicate a given behaviour or state, to another control, light tower etc. could for eg. be system active or program finished.

See : "10.1.2.17. What is Outputs, Outputs avalible and their functionalty" on page 92

7.4.7. Add Output - How to add Output signals.

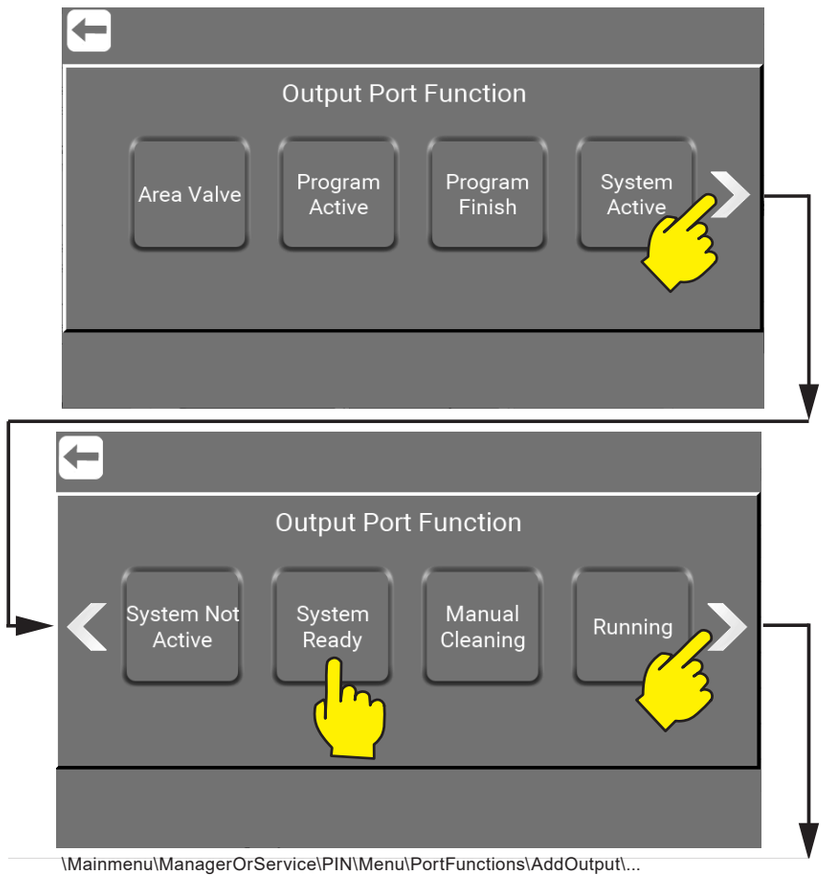
To add functionality to the Display Module, Outputs is needed.

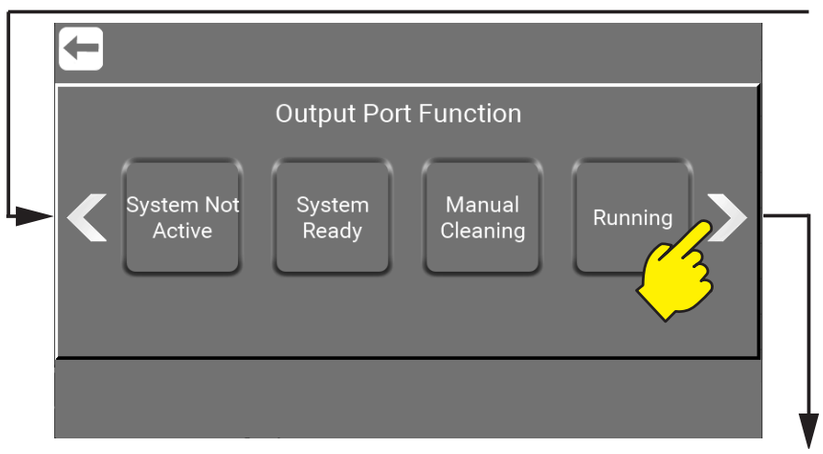
Press the "Add Output" button.

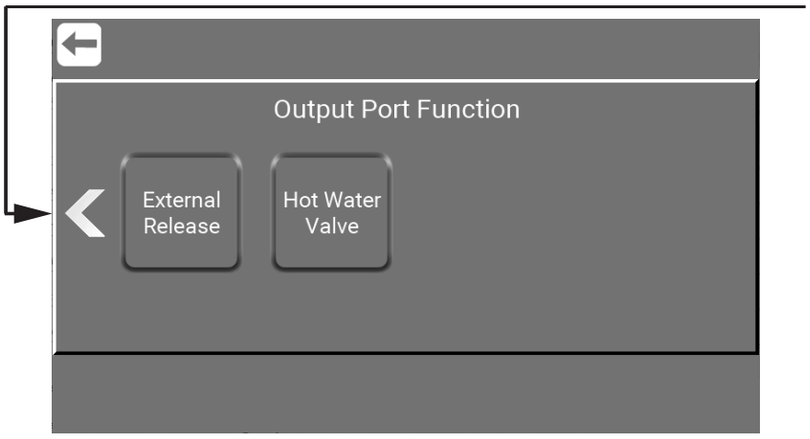


\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\...

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

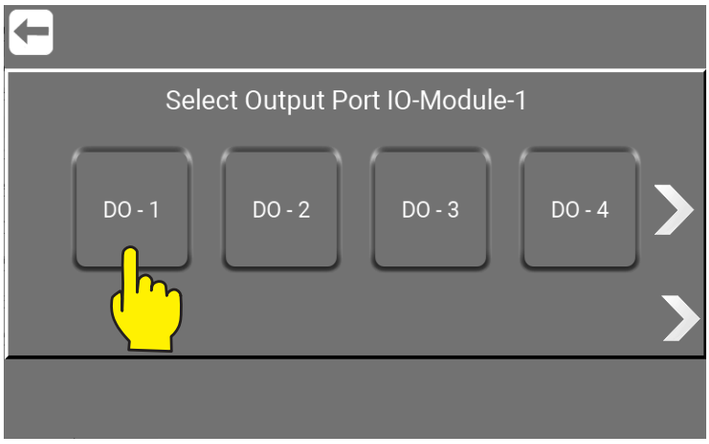

Output Port Function
Area Valve
Program Active
Program Finish
System Active
Output Port Function
System Not Active
System Ready
Manual Cleaning
Running
\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\AddOutput\...


Output Port Function
System Not Active
System Ready
Manual Cleaning
Running



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\AddOutput\...

Press the required port for output.



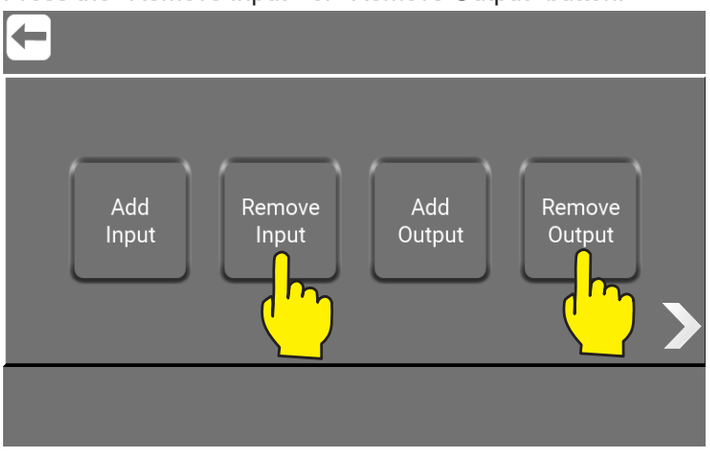
\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\AddOutput\...

Select Output e.g. Port Module -1 by pressing the one of your choice.
("DI - 1" means Digital Input no.1) and outputs ("DO - 1" means Digital Output no.1)

The standard unit has input port 1 and up to 16.
To add more ports 2 external IO Modules can added. (Accessory) Each external module will add editional 16.

7.4.8. Remove Input or Output signals

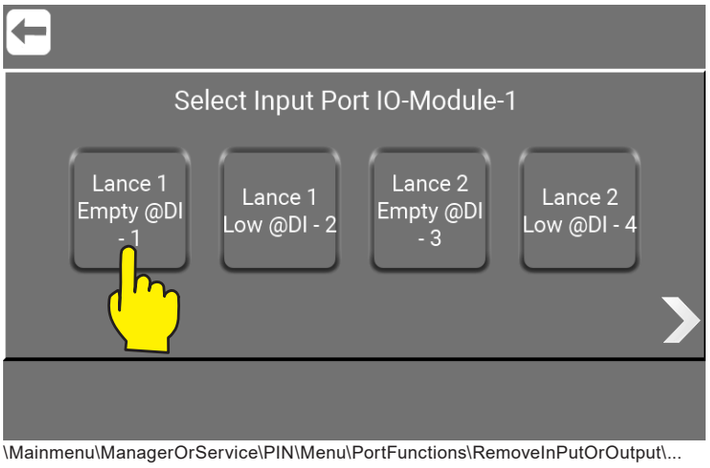
Press the "Remove Input" or "Remove Output" button.



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

Note : The **"Remove Input"** and **"Remove Output"** will only be visible when a input or output had been added. (Here marked with yellow boxes.)

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

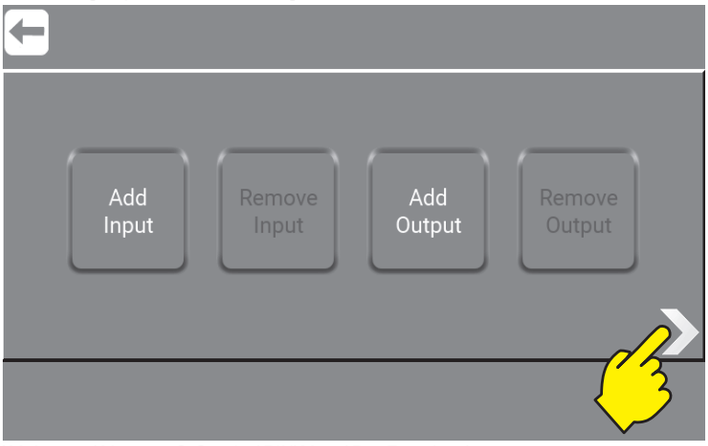


\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RemoveInPutOrOutput\...

7.4.8.1. Show I/O´s connected or in use (Foamatic)

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 :

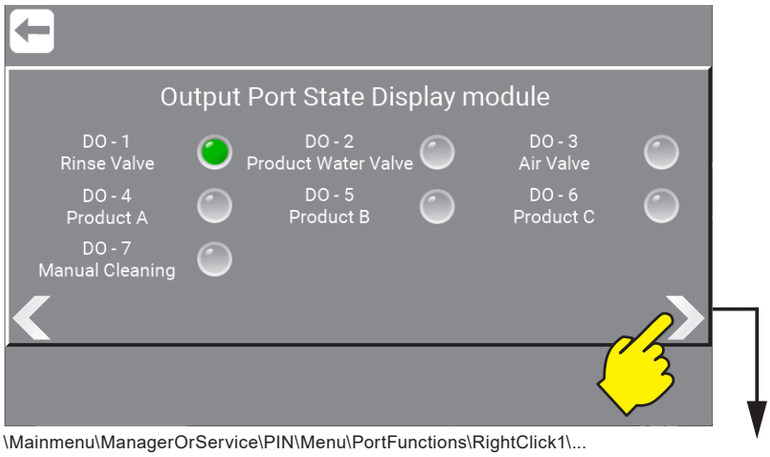


\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\...

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

7.4.8.1.1. Output Port State Display module,

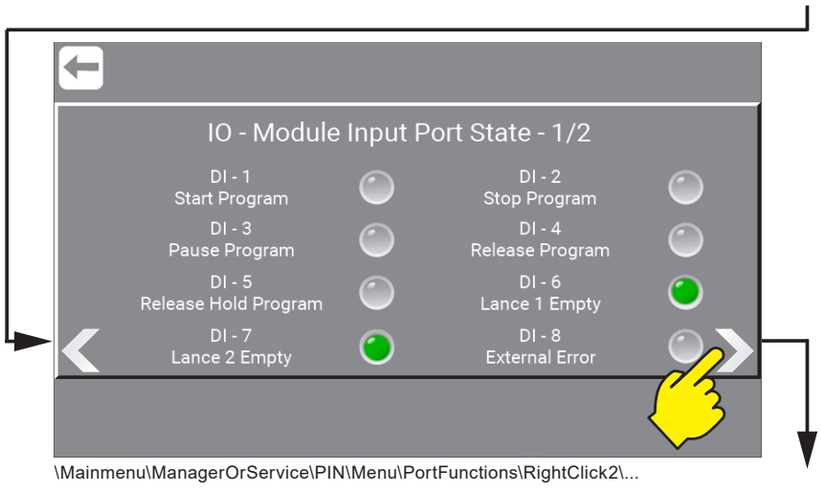
This is the standard outputs.



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

7.4.8.1.2. IO - Module Input Port State - 1/2,

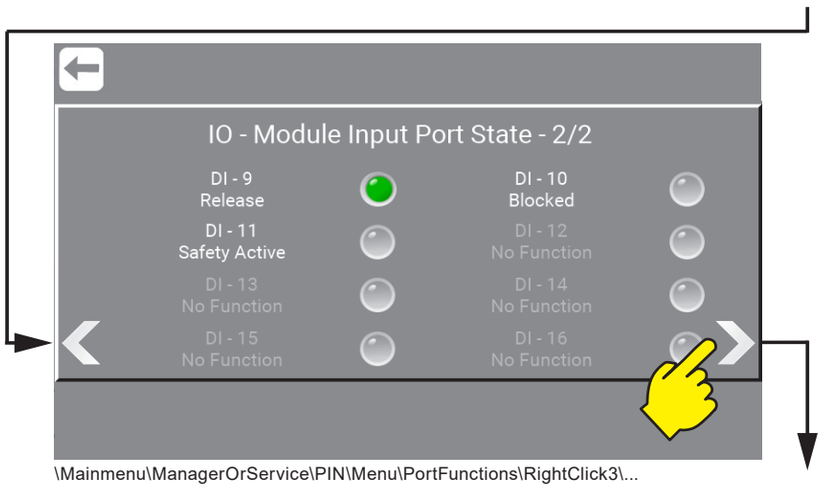
This is the first 8 inputs (1-8) from the internal IO Module.



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

7.4.8.1.3. IO - Module Input Port State - 2/2,

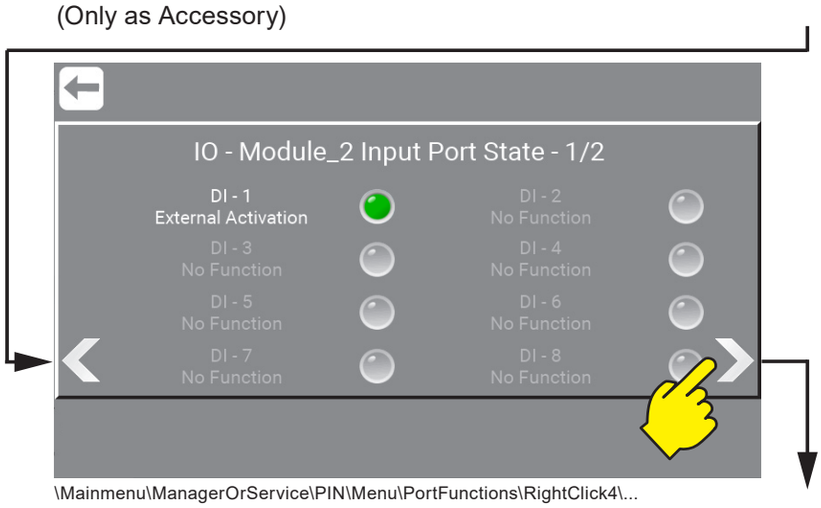
This is the last 8 inputs (9-16) from the internal IO Module.



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick3\...

7.4.8.1.4. IO - Module_2 Input Port State - 1/2,

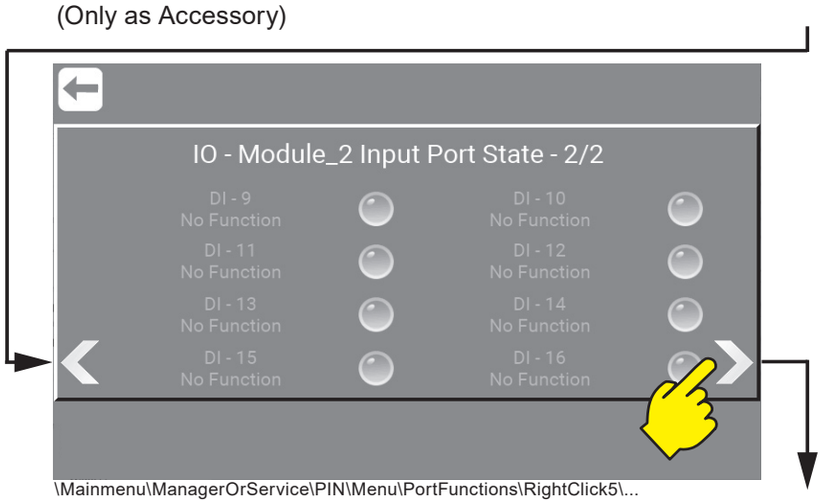
This is the first 8 inputs (1-8) from the external IO Module.
(Only as Accessory)



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

7.4.8.1.5. IO - Module_2 Input Port State - 2/2,

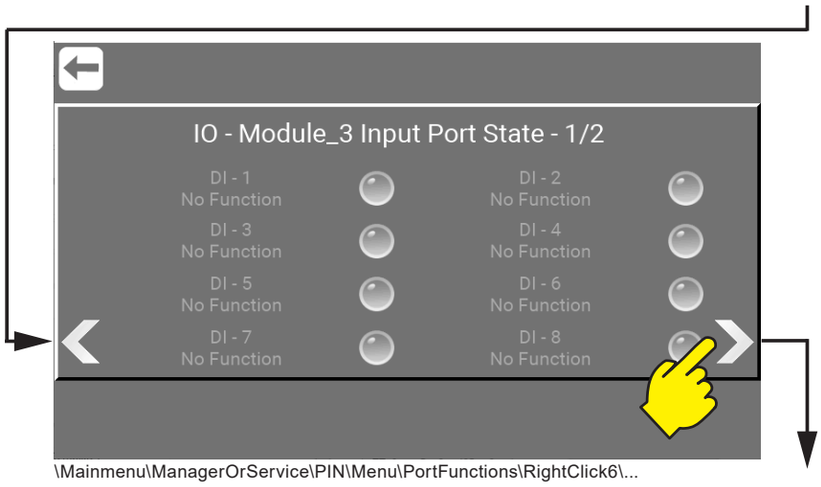
This is the last 8 inputs (9-16) from the external IO Module.
(Only as Accessory)



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick5\...

7.4.8.1.6. IO - Module_3 Input Port State - 1/2,

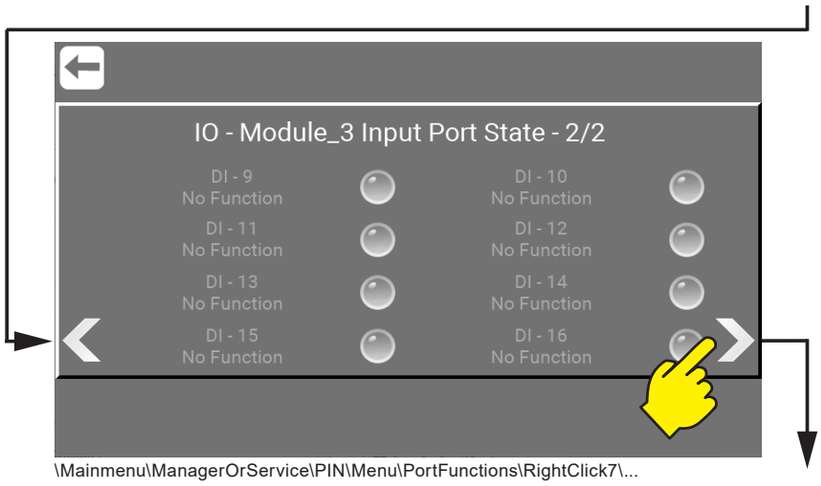
This is the first 8 inputs (1-8) from the external IO Module.
(Only as Accessory)



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick6\...

7.4.8.1.7. IO - Module_3 Input Port State - 2/2,

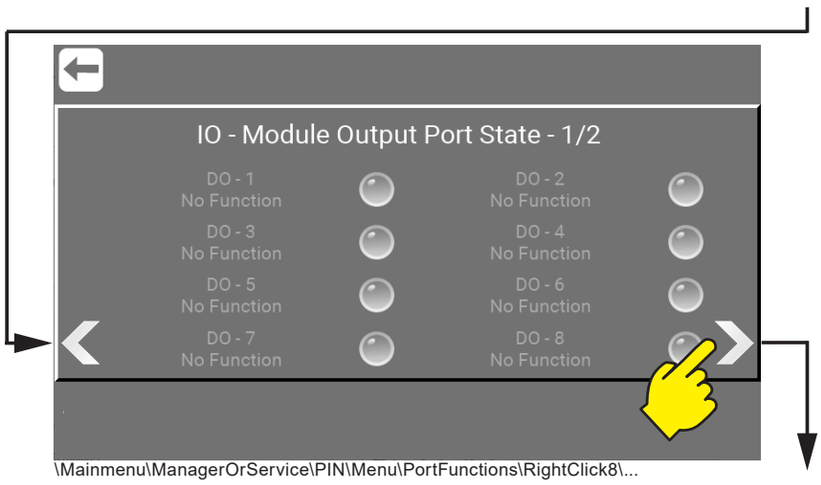
This is the last 8 inputs (9-16) from the external IO Module.
(Only as Accessory)



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick7\...

7.4.8.1.8. IO - Module Output Port State - 1/2,

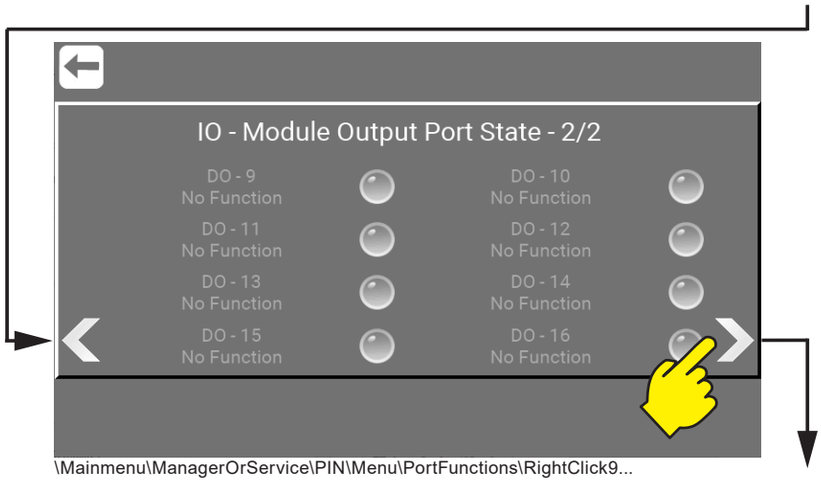
This is the first 8 outputs (1-8) from the internal IO Module.
(Only as Accessory)



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick8\...

7.4.8.1.9. IO - Module Output Port State - 2/2,

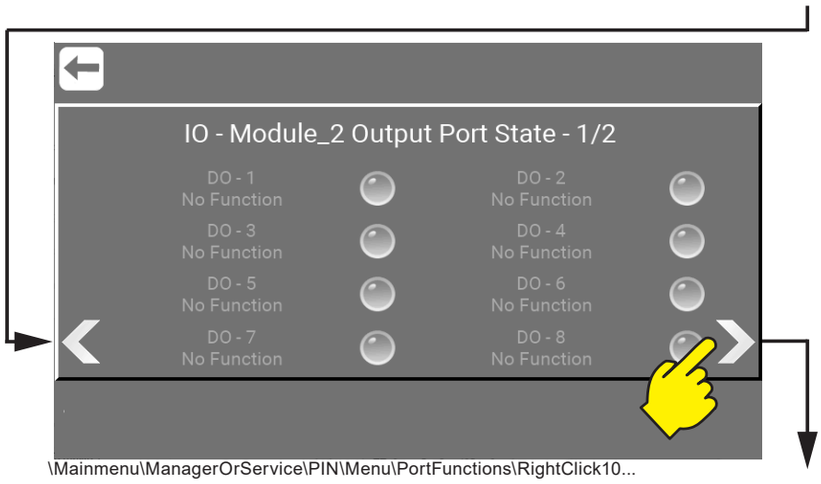
This is the last 8 outputs (9-16) from the internal IO Module.



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick9...

7.4.8.1.10. IO - Module_2 Output Port State - 1/2,

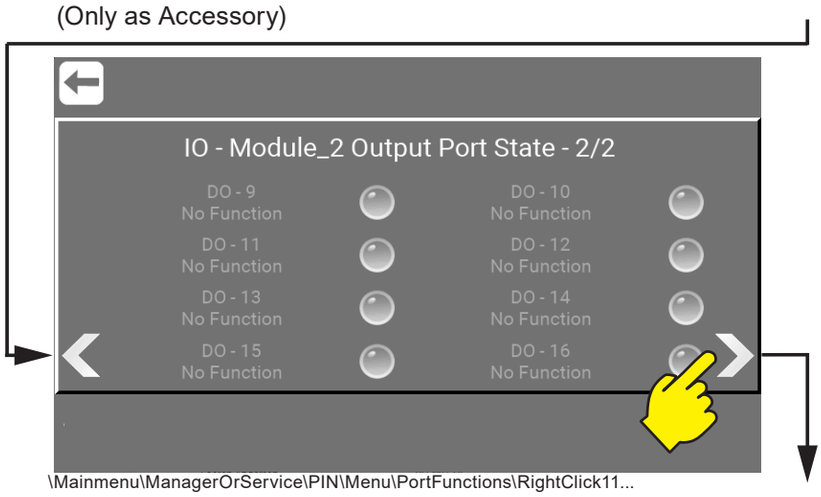
This is the first 8 outputs (1-8) from the external IO Module.
(Only as Accessory)



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick10...

7.4.8.1.11. IO - Module_2 Output Port State - 2/2,

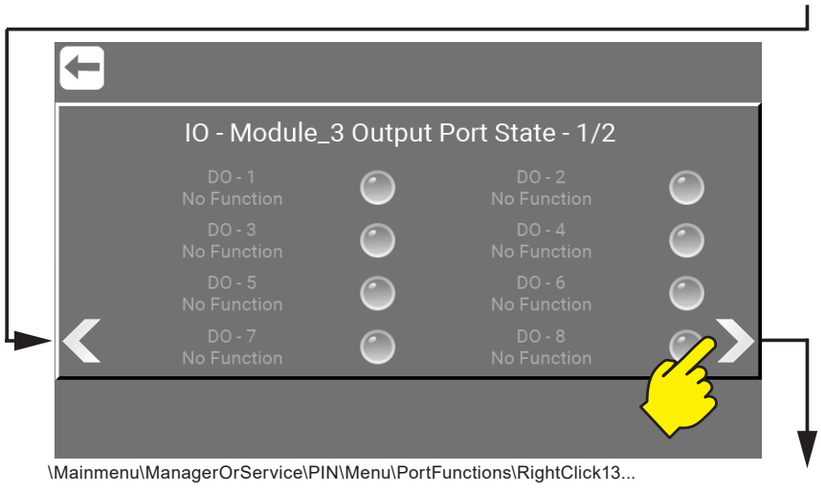
This is the last 8 outputs (9-16) from the external IO Module.
(Only as Accessory)



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick11...

7.4.8.1.12. IO - Module_3 Output Port State - 1/2,

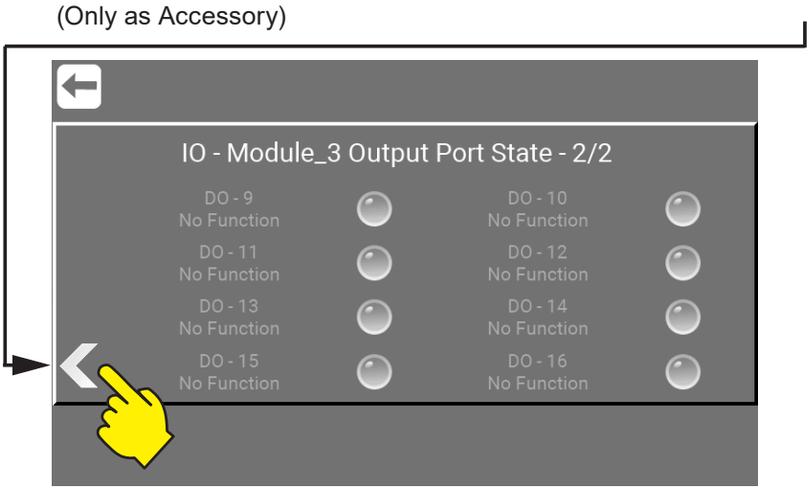
This is the first 8 outputs (1-8) from the external IO Module.
(Only as Accessory)



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick13...

7.4.8.1.13. IO - Module_3 Output Port State - 2/2,

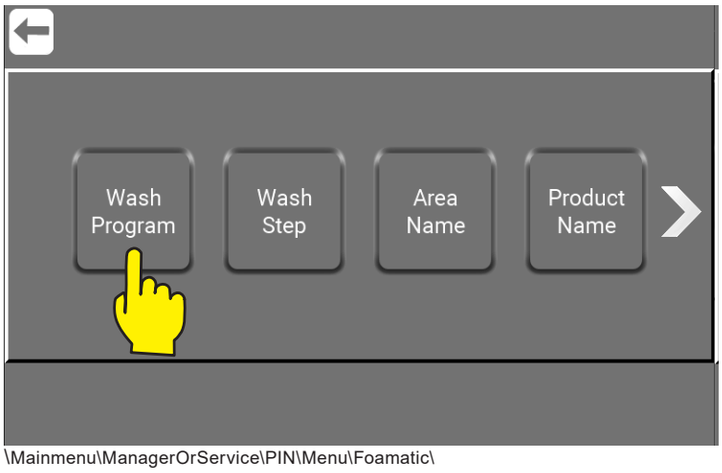
This is the last 8 outputs (9-16) from the external IO Module.
(Only as Accessory)



\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick13...

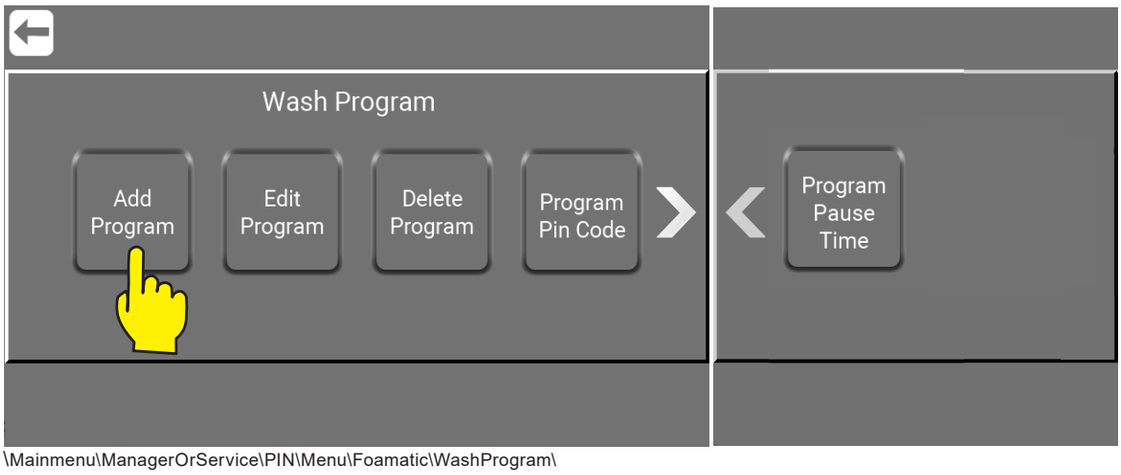
7.4.9. Create wash program

Press the "Wash Program".



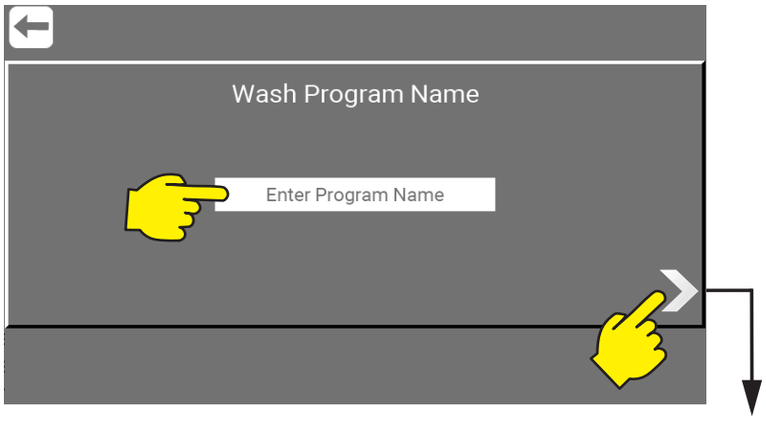
\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\

Press the "Add Program" button.



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\WashProgram\

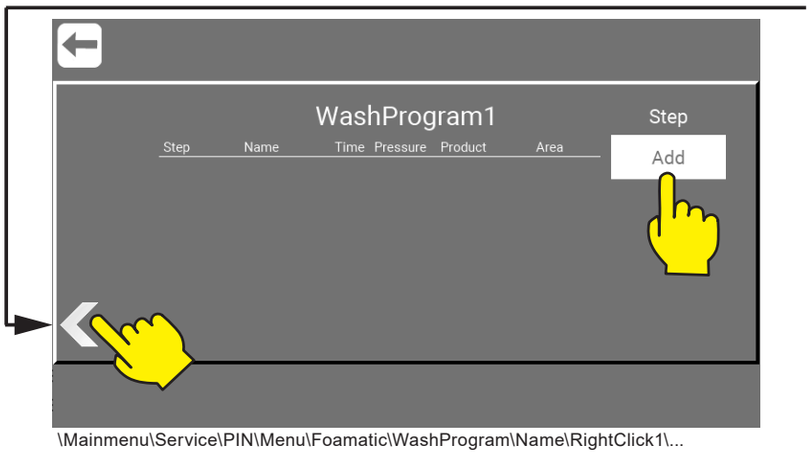
Press the "Enter Name" field.



Type in the desired name in for the wash program. Only standard characters and numbers are accepted for the name. It is required for a wash program to have a name, so this field cannot be left blank. The program name can hold a maximum of 16 characters. When done press right arrow.

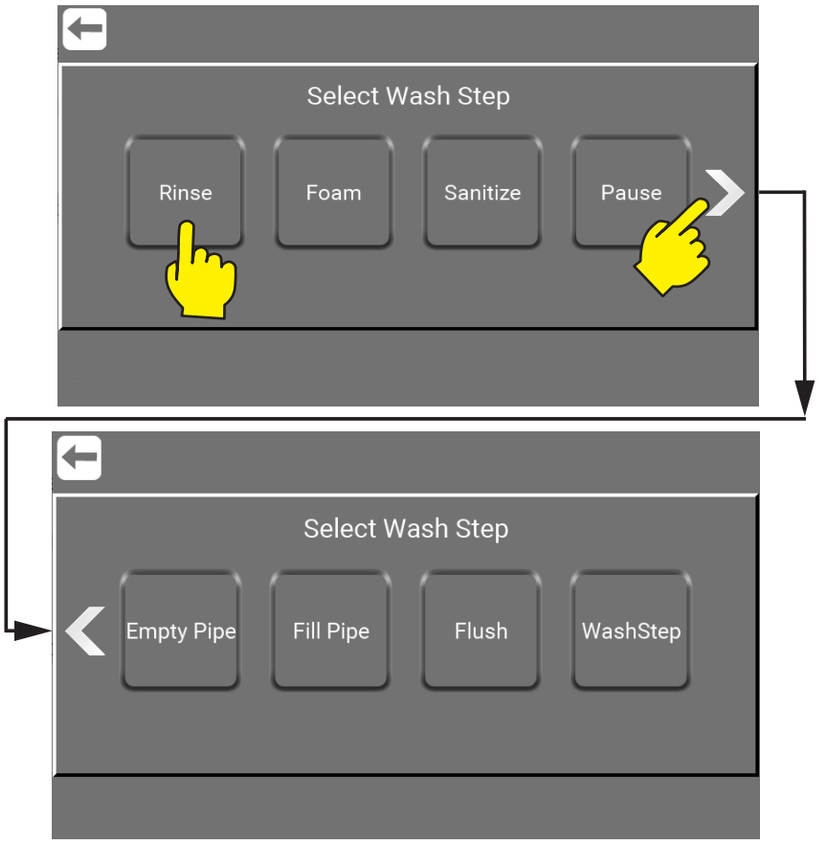
7.4.10. Add Wash step

Press the "Add" (Wash Step).



\Mainmenu\Service\PIN\Menu\Foamatic\WashProgram\Name\RightClick1\...

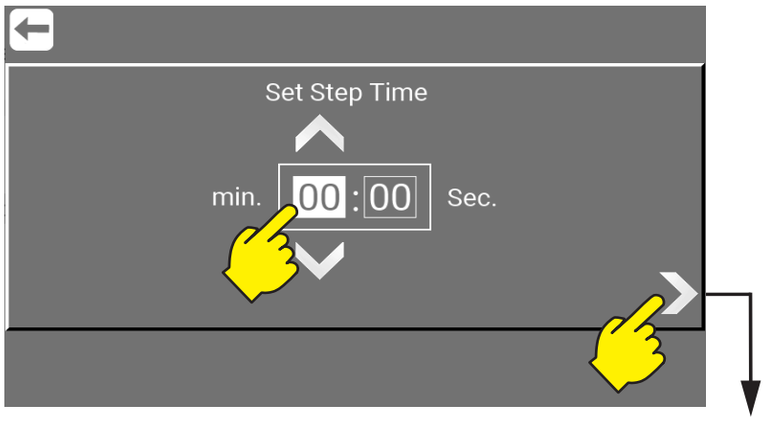
Select Wash Step eg. "Rinse" to add it to the wash program.



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

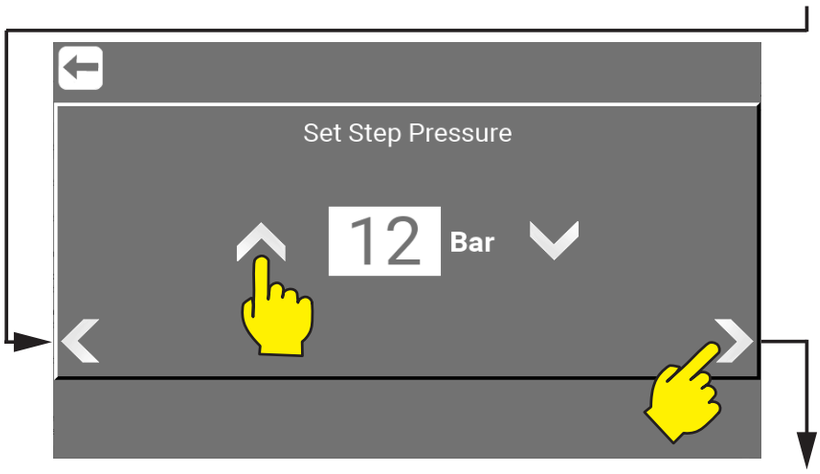
Press time field and press arrow up / down to Set Step Time.

Set Step Time: is the time for wait step time in wash step setup, normally the time the wash step will run. For example the time for rinsing, the maximum time is 166 minutes and 36 sec (9999 sec).



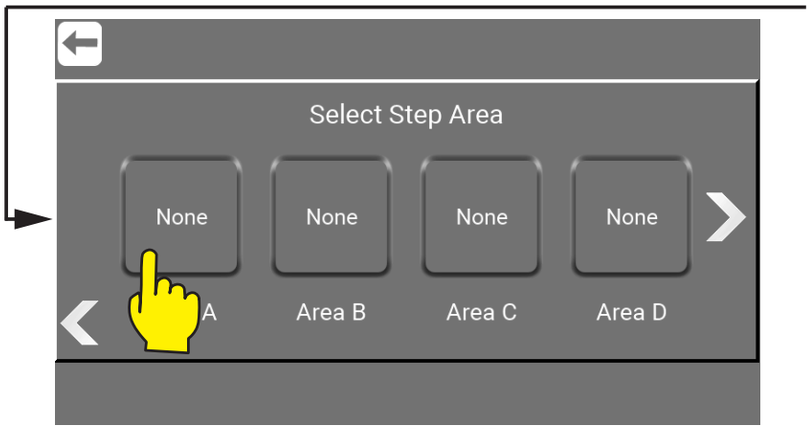
Press arrow up / down to set Step Pressure.

Pressure: Select the desired pressure for the current wash step. Pressure is only visible if the wash step support pressure control, and do not include an activate/deactivate product valve step action, under these circumstance, pressure is set to max (15 bar), for optimal function of the injector



Select Step Area: select which areas that will be activated during wash step. Only enabled if wash step includes an activate / deactivate Area valve action. Only one of the five needs to be set but all five can be set.

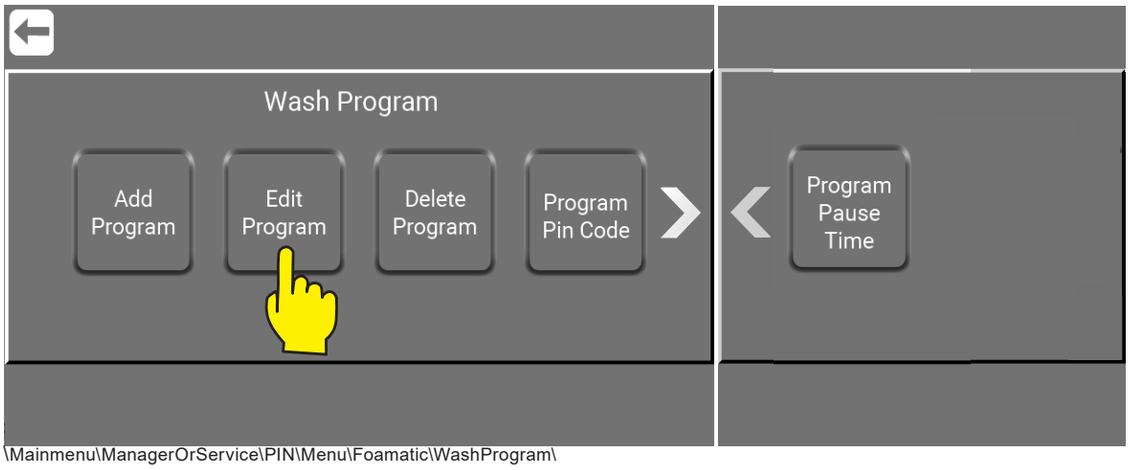
More about area go to :
"10.1.2.11.11. Area Valve Feedback (Only Foamatic)" on page 88



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\RightClick1\

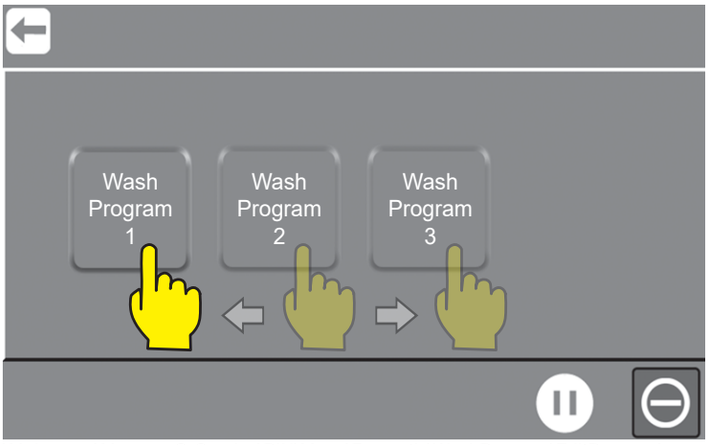
7.4.11. Edit wash program

Press the "Edit Program" button.



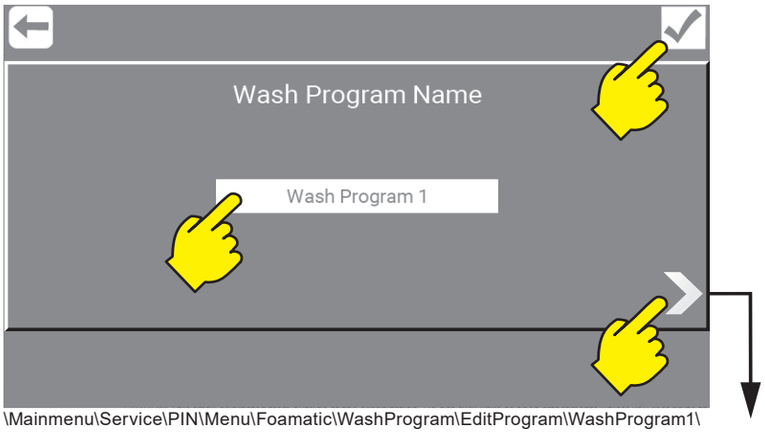
\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\WashProgram\

Press the wash program needed to be edited.



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\WashProgram\EditProgram\

Select Wash Step e.g. "Rinse" to add it to the wash program.

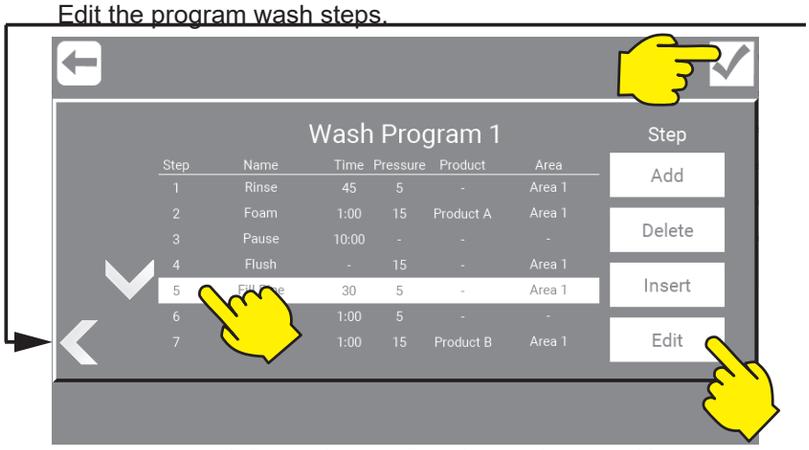


\Mainmenu\Service\PIN\Menu\Foamatic\WashProgram\EditProgram\WashProgram1\

Press "Wash Program" to change name.

Confirm changes "✓"

Edit the program wash steps.

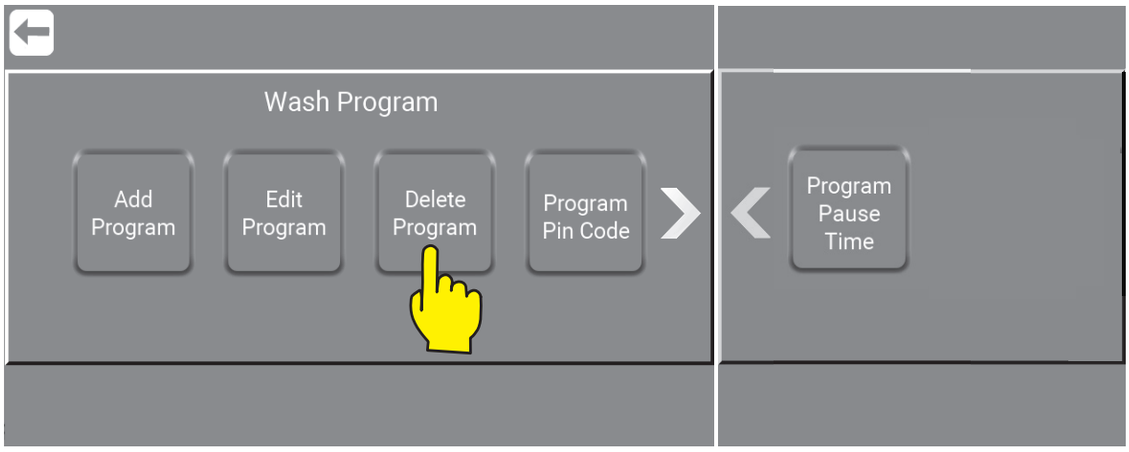


\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\WashProgram\EditProgram\
WashProgram1\RightClick1\

Press the Wash Step that need editing.
Add, Delete, Insert or Edit wash step.
Confirm changes "✓".

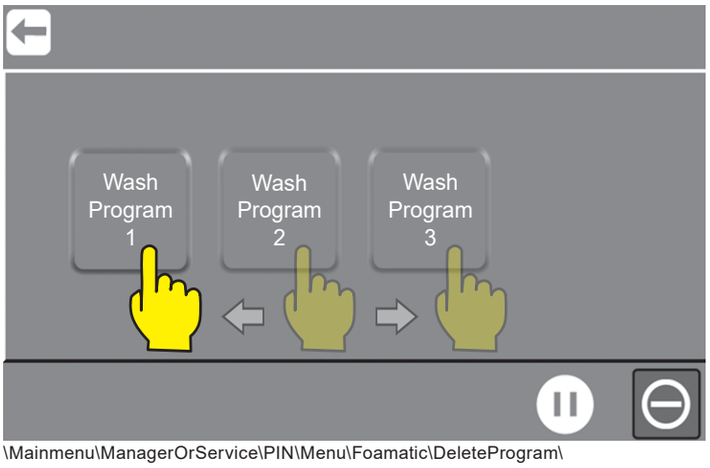
7.4.12. Delete wash program

Press the "Edit Program" button.



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\WashProgram\

Press the wash program needed to be deleted.
By pressing e.g. "Wash Program 1" button, it will be deleted immediately.



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\DeleteProgram\

D

Manual

8. Manual - Manual cleaning (Only Foamatic)

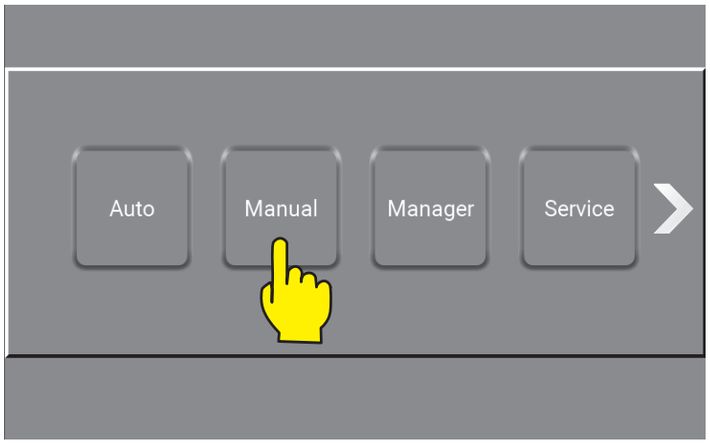
The Managers test mode (Manual) is a place to test if the units setup is as required.
Manager has access to the settings button in all sub screen in here.

8.1. Start manual cleaning

To enable manual cleaning, using a manual block or a mainstation / satellite, press the Manual button.

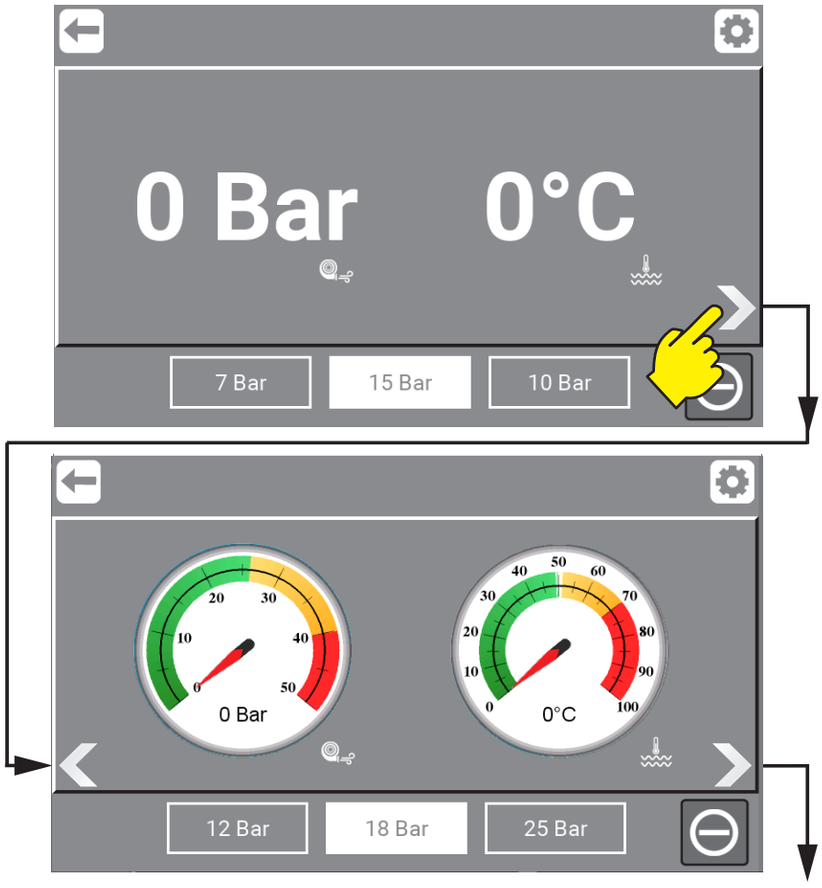
Info: If the unit is without a manual block, the manual button will not be visible, and activation of the manual function not possible. If a washprogram are running the manual function is inactive until the program is done.

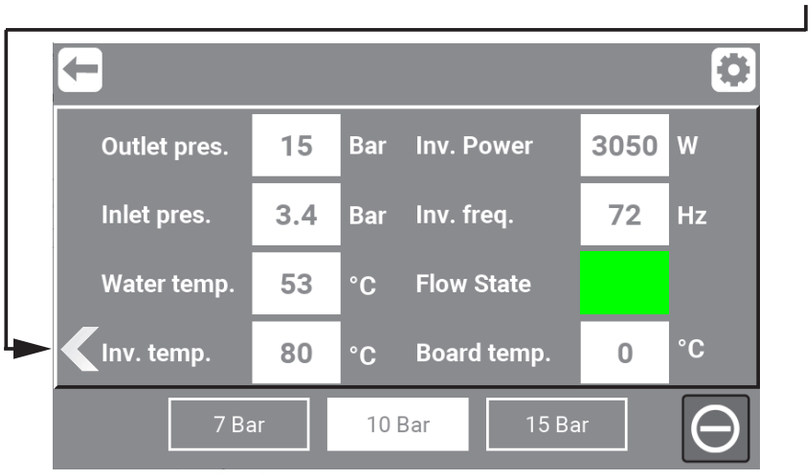
Press “Manual” button in home menu. Manual cleaning is now active and will start running when there is flow.



\Mainmenu\

"Return" will send user back to the main menu.

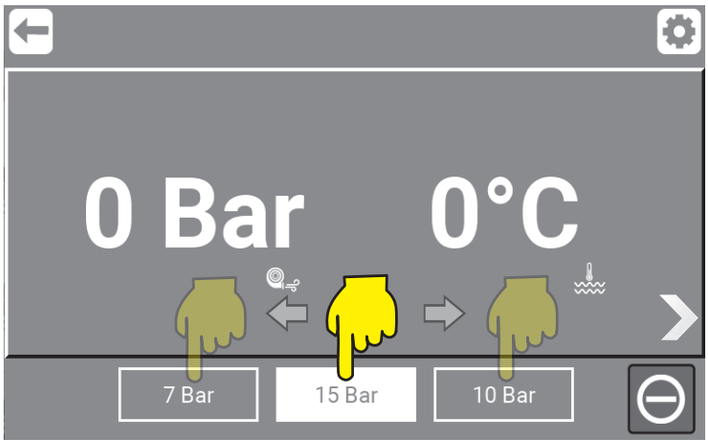




\Mainmenu\Manual\RightClick...

8.2. Preset pressure buttons

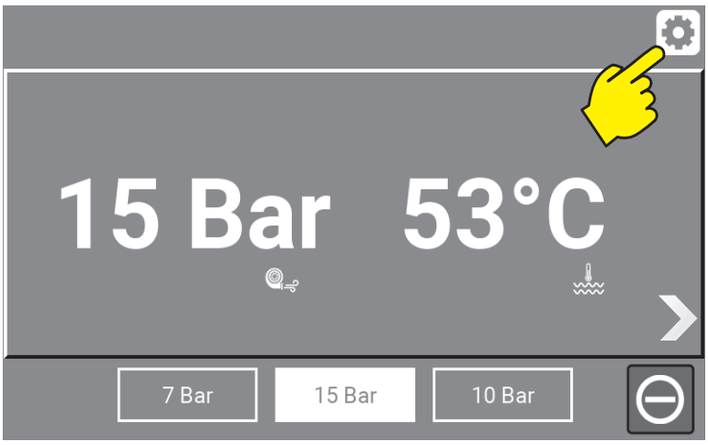
Press the required preset pressure button e.g. "15 Bar" to set required pressure.



\Mainmenu\Manual\...

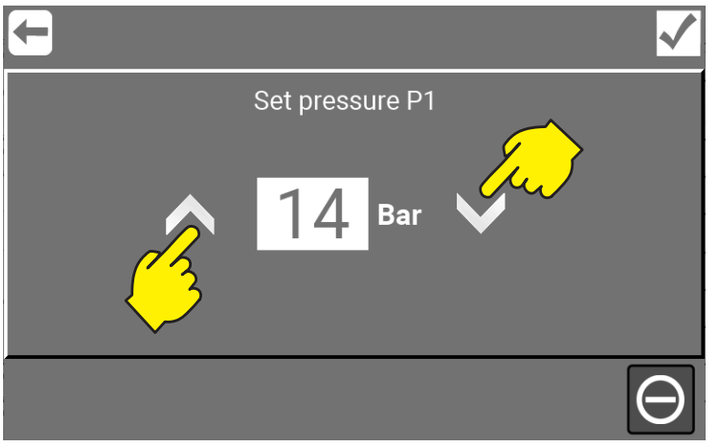
8.3. Change preset pressure buttons

These 3 preset buttons can be adjusted.
Press required button to change the preset pressure and then press Settings.



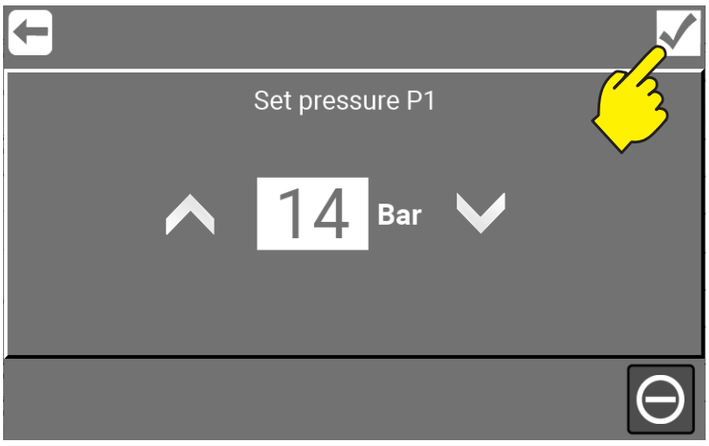
\Mainmenu\Manual\15Bar\...

Press up or down arrow until the desired setting is reached. Minimum 7 Bar and Maximum 15 Bar.



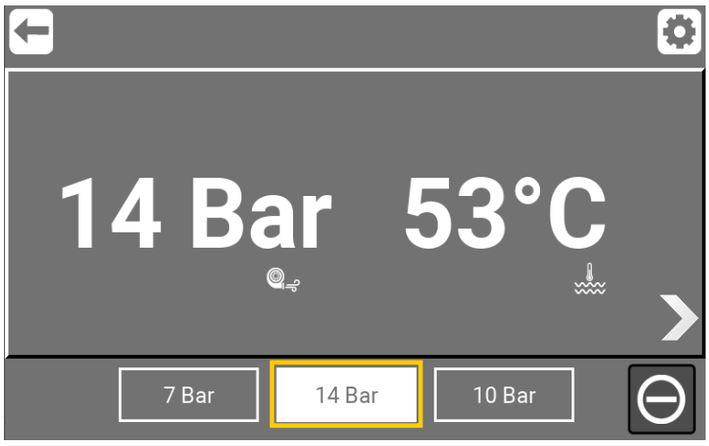
\Mainmenu\Manual\15Bar\Settings\...

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



\Mainmenu\Manual\15Bar\Settings\...

The adjusted pressure will be stored for the next manual cleaning and on all user levels.

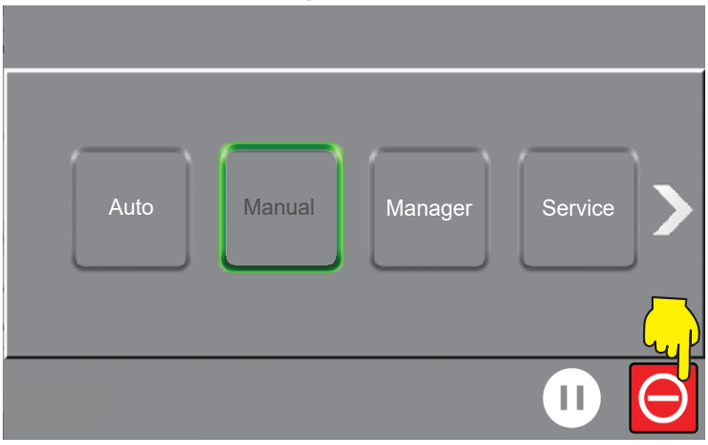


\Mainmenu\Manual\15Bar\Settings\Confirm\...

Return will send user back to the main menu.

8.4. Stop manual cleaning

Press the stop button and green indication will disappear.



\Mainmenu\

It is now possible to select another function or reactivate the same function again.

E

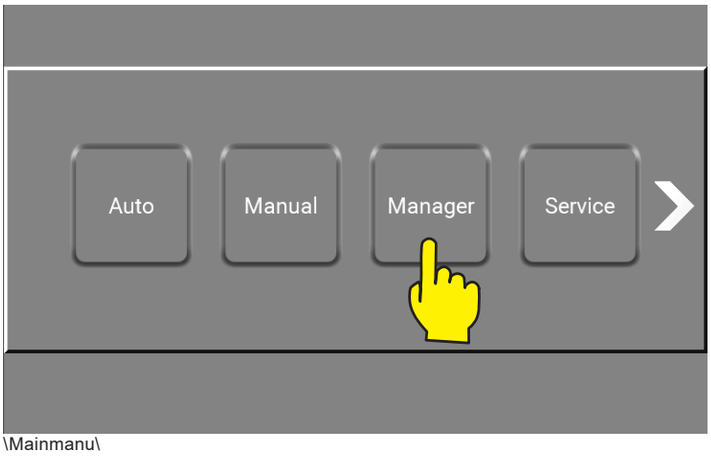
Manager

9. Manager

The Manager function has permissions to make functional changes and adjustments for Customized Users, Performance settings and other settings for Users and Manager itself.

For setup of the entire system, network updates and software changes e.g. then Service access is needed, for this go to "10. Service" on page 78

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



\Mainmanu\

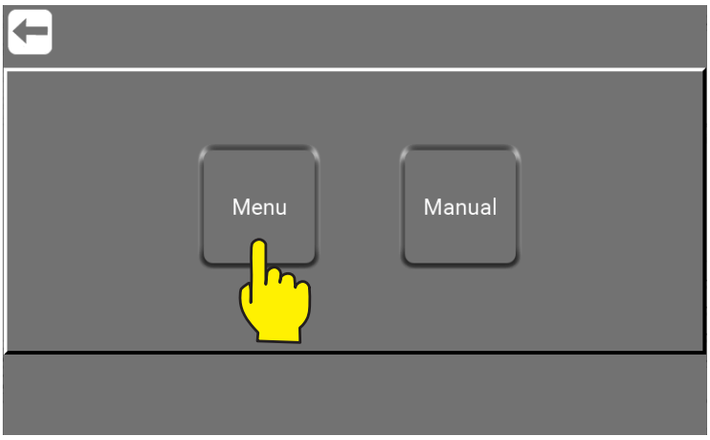
The "Manager" button in main menu is password protected and a numeric keypad will show up.
This password can be changed, see : "4. Password protection" on page 14

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

\Mainmenu\Manager\

9.1. Menu / as Manager

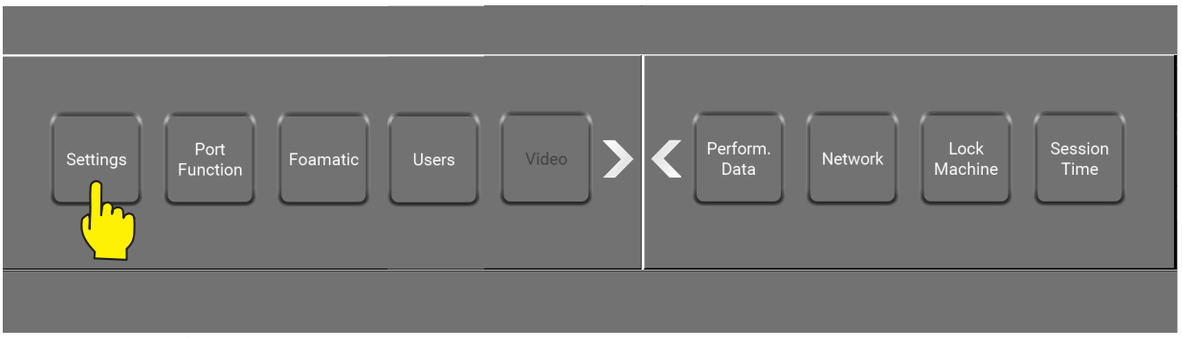
Press "Menu" button.



\Mainmenu\Manager\PIN\

For use of "Manual" as Manager go to : "10.10. Manual / as Service" on page 116

Press e.g. "Settings".



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

9.1.1. Settings / as Manager

Settings logged in as manager, is very similar to Settings logged in as Service.

To se complete menu and how to use it go to "10.1.1. Settings / as Service" on page 79

9.1.2. Port Function / as Manager

Port Function logged in as manager, is very similar to Port Function logged in as Service.

To se complete menu and how to use it go to "10.1.2. Port Function / as Service" on page 86

9.1.3. Foamatic / as Manager (Only Foamatic Units)

Foamatic logged in as manager, is very similar to Foamatic logged in as Service.

To se complete menu and how to use it go to "10.2. Foamatic / as Service" on page 101

9.1.4. Users / as Manager (Not Foamatic Units)

The Users where add, edit and change of users are made are all very similar to Users as Service.

To se complete menu and how to use it go to : "10.3. Users / as Service" on page 107

9.1.5. Video / As Manager (Coming up)

Video instructions to come - not yet available.

9.1.6. Perform. Data / as Manager

Performance Data logged in as manager, is very similar to Performance Data logged in as Service.

More and how to use it go to : "5.3.7. Performance data / as Customized User" on page 32

9.1.7. Network / as Manager

Network menu for the manager, is very similar to Network as Service.

For more and how to use it go to "10.7. Network / as Service" on page 112

9.1.8. Lock Machine

Lock Machine logged in as manager, is very similar to Lock Machine logged in as Service.

To se complete menu and how to use it go to "10.8. Lock Machine" on page 113

9.1.9. Session Time Interval

Session Time Interval logged in as manager, is very similar to Session Time Interval logged in as Service.

To se complete menu and how to use it go to "10.9. Session Time Interval" on page 114

9.2. Manual / as Manager

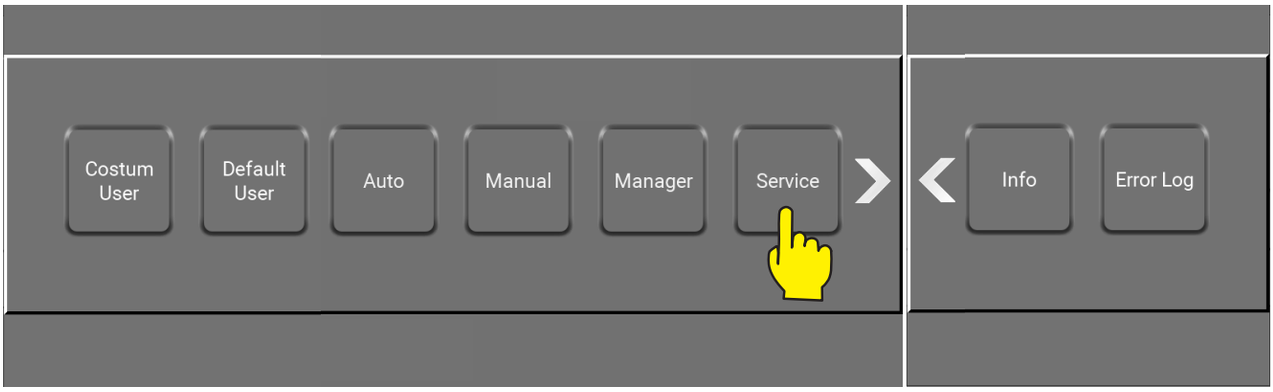
The Manager test mode (Manual) is a place to test if the setup of the unit is as required.

For more and how to use it go to "10.10. Manual / as Service" on page 116

Service

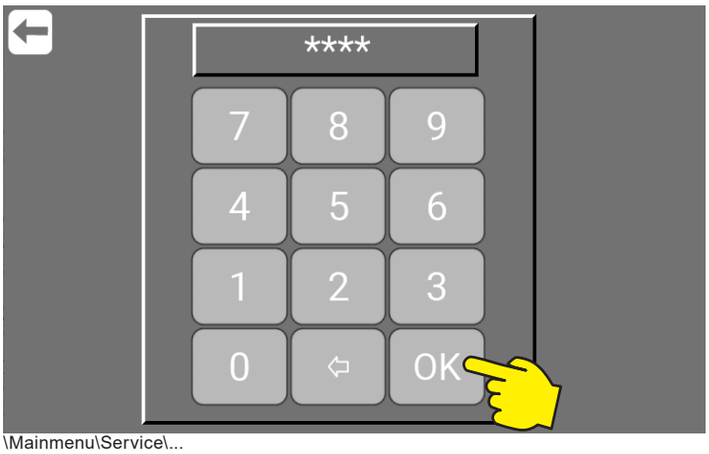
10. Service

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, can impact the functionality. Thorough training is required.



\Mainmenu\

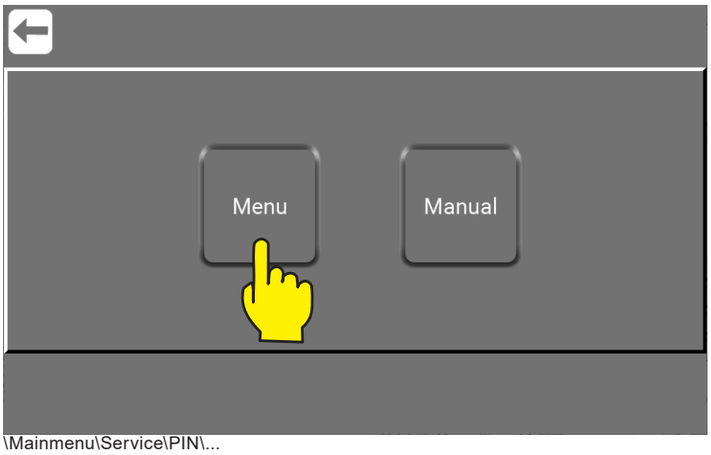
The Service button in main menu is password protected, see more : "4. Password protection" on page 14
Enter the correct Service code and complete with OK.



\Mainmenu\Service\...

10.1. Menu / as Service

Press "Menu"



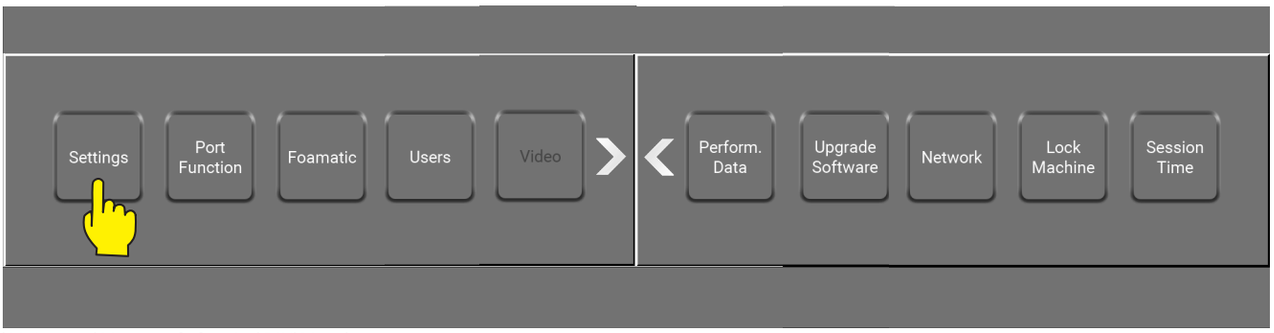
\Mainmenu\Service\PIN\...

How to use "Manual" see : "10.10. Manual / as Service" on page 116

10.1.1. Settings / as Service

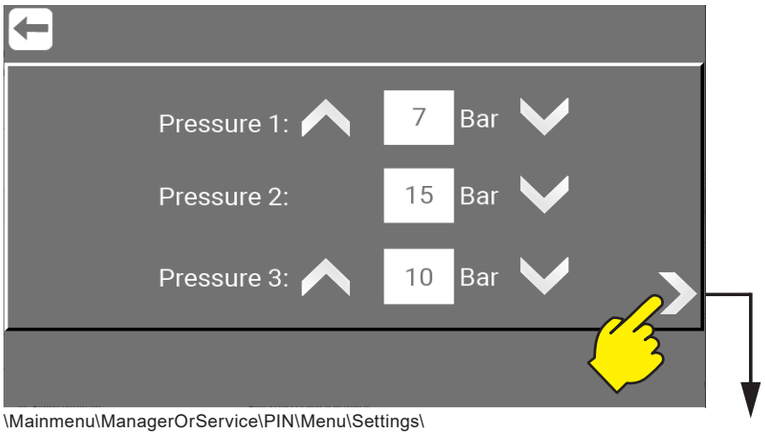
"Settings / as Service" menu is almost the same as "Settings / as Manager". All pictures are the same except for the last 3 pictures which is only visible and edible when logged in as Service.

Press the "Settings" button.



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

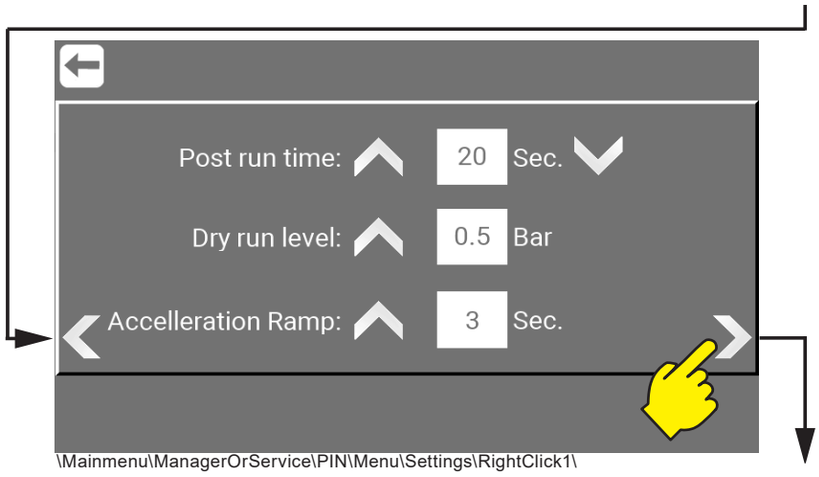
In the "Settings" menu for service a long range of settings can be adjusted in order to change the behaviour of the unit. Navigation through the settings menu is done using the right and left arrows.



\Mainmenu\ManagerOrService\PIN\Menu\Settings\

10.1.1.1. 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\RightClick1\

10.1.1.2. Post run time

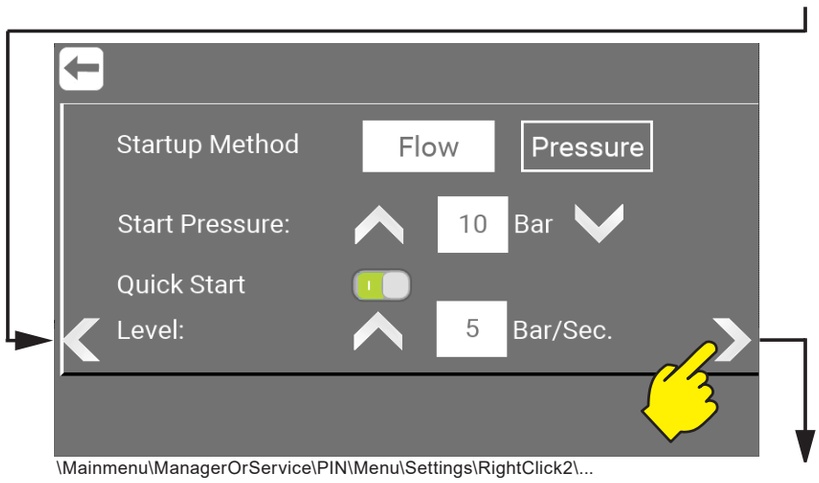
This time interval is the time from the flow switch detects no flow until the pump stops. Min. 5 sec. and Max. 60 sec.

10.1.1.3. Dry run level

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

10.1.1.4. Accelleration 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.



\Mainmenu\ManagerOrService\PIN\Menu\Settings\RightClick2\...

10.1.1.5. Startup Method (Flow)

As standard, the units factory setting for Startup method is Flow. For Startup method "Pressure" see: "10.1.1.6. Startup Method (Pressure)" on page 80

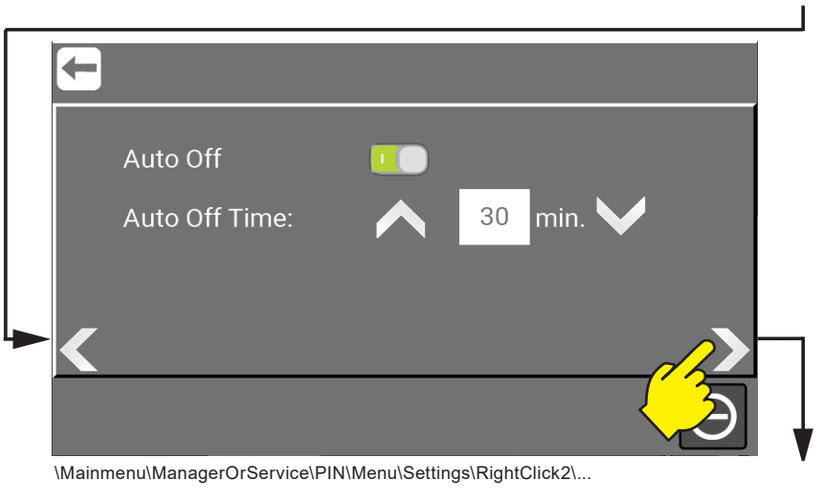
FLOW start**,** the pump will start as soon as the flowswitch detects a steady flow above: 2 L/min (Factory default setting), through the pipe system. The pump will then run until the flow is cut off or gets below 1.5 l/min. It is possible to set a postrun time, that allows the pump to continue to run 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 postrun time, see: "10.1.1.2. Post run time" on page 80

10.1.1.6. 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 start pressure using the arrows up or down – the value can be set between 3 and 15 bar.

10.1.1.7. 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 eg. Level: 5 bar/second.



\Mainmenu\ManagerOrService\PIN\Menu\Settings\RightClick2\...

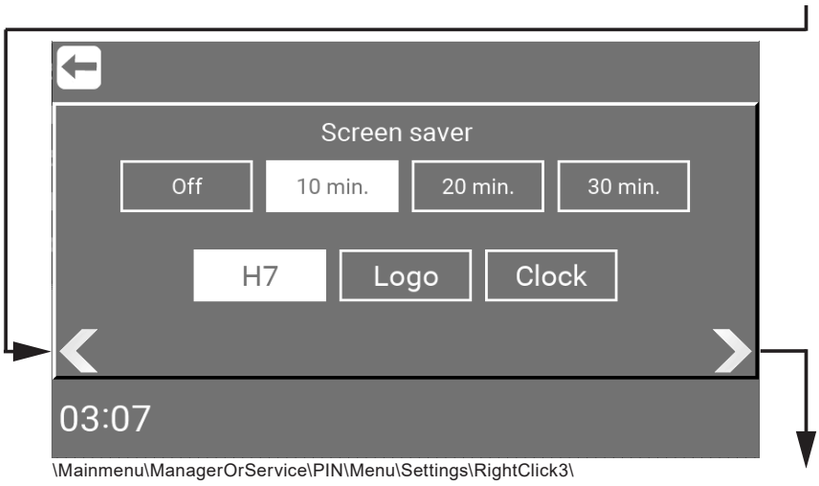
10.1.1.8. Auto Off

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.

10.1.1.9. Auto Off Time

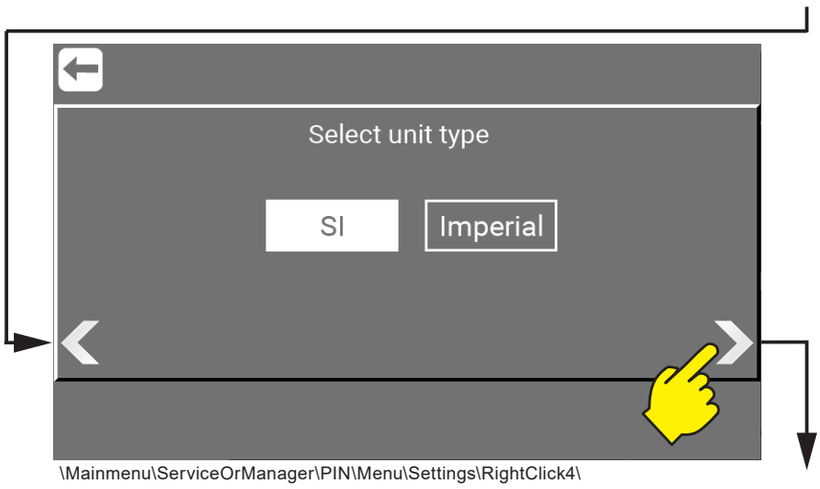
If Auto Off is disabled, the system will remain in Standby mode and can be started at any given time. In this mode, Pin code will have no effect unless the stop button is pressed.



\Mainmenu\ManagerOrService\PIN\Menu\Settings\RightClick3\

10.1.1.10. Screen saver

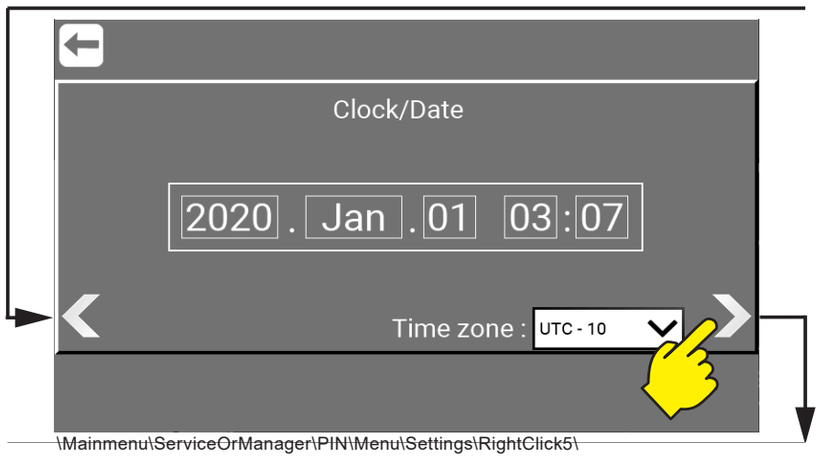
Set time for the screen saver.
And choose if the screen saver should show H7 (Robot), Logo or Clock when activated.



\Mainmenu\ServiceOrManager\PIN\Menu\Settings\RightClick4\

10.1.1.11. Select unit type (Metric / Imperial)

Select unit type of measure. Pressure and temperature.
SI Metric - Bars / Celcius or **Imperial** Gallons / Fahrenheit.



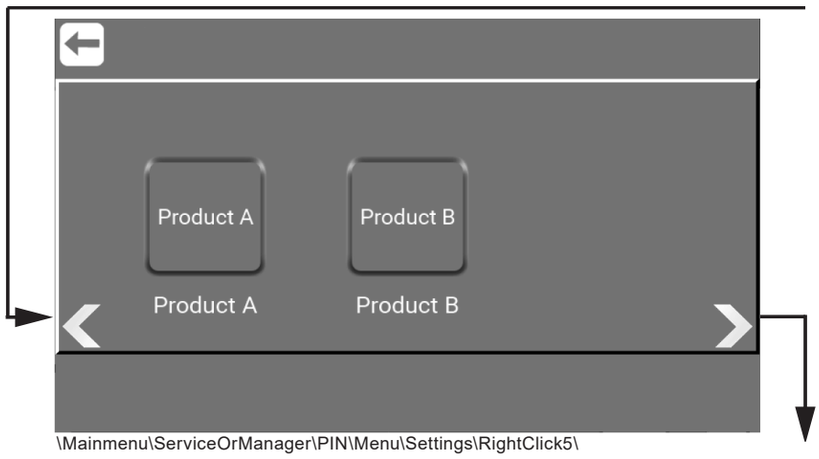
\Mainmenu\ServiceOrManager\PIN\Menu\Settings\RightClick5\

10.1.1.12. Clock / Date

Select Clock and date by pressing

10.1.1.13. Time zone

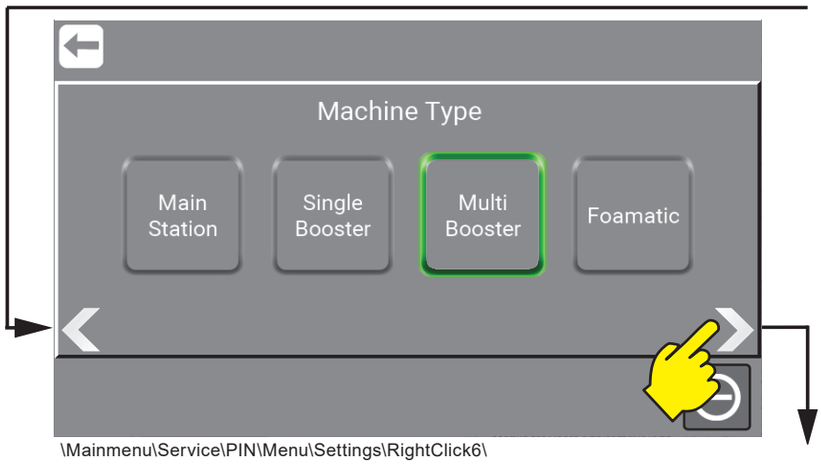
Select the units time zone.
.



\Mainmenu\ServiceOrManager\PIN\Menu\Settings\RightClick5\

10.1.1.14. Name of products. (Only units with manual outlet)

Select product eg. "Product A" to change it. Write the new name and confirm.



\Mainmenu\Service\PIN\Menu\Settings\RightClick6\

10.1.1.15. 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 these units:" on page 2
Change booster type will reset unit to factory settings.
This may take a few minutes. Press OK to Confirm or Cancel to reject.

First choose the series and then the specific unit, found on your identification plate. **It is important that they always match !**
The selected machine type is highlighted with a green frame.

Mainstation :

M:	**M:** Mainstation
H/P:	**H:** Hybrid / **P:** Pegasus
4:	**4 =** Number of Users
2:	**2 =** Number of products

Single Booster :

B:	**B:** Booster
H/P/F:	**H:** Hybrid / **P:** Pegasus / **F:** Floor
4/7/8:	**4 =** Number of Users

Multi Booster :

B:	**B:** Booster
F:	**F:** Floor
16/24/32:	**16 =** Number of Users

Foamatic :

M/S:	**M:** Mainstation / **S:** Satellite
A:	**A:** Automatic
2/3:	**2:** Number of products
I:	**I:** I/O Moduls
M:	**M:**Manual Block

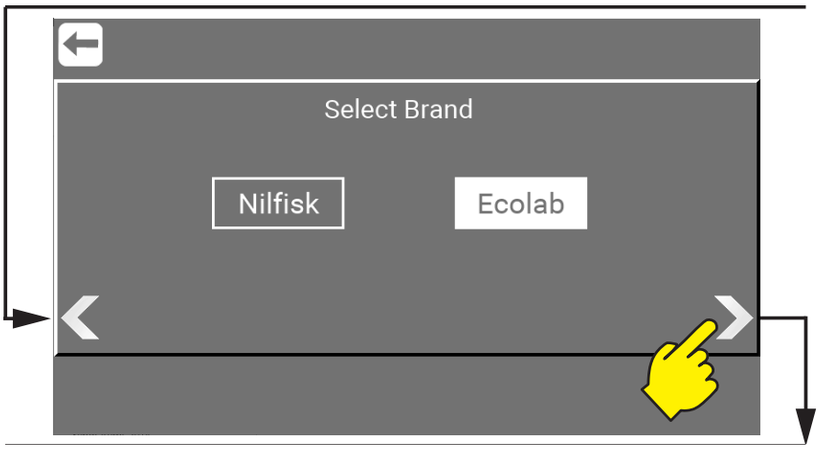
To change it:

Press **Mainstation:**
To choose one of the mainstation units available.
MH42, MP42

Press **Single Booster :**
To choose one of the single booster units available.
BH4, BH7, BP4, BF4, BF8

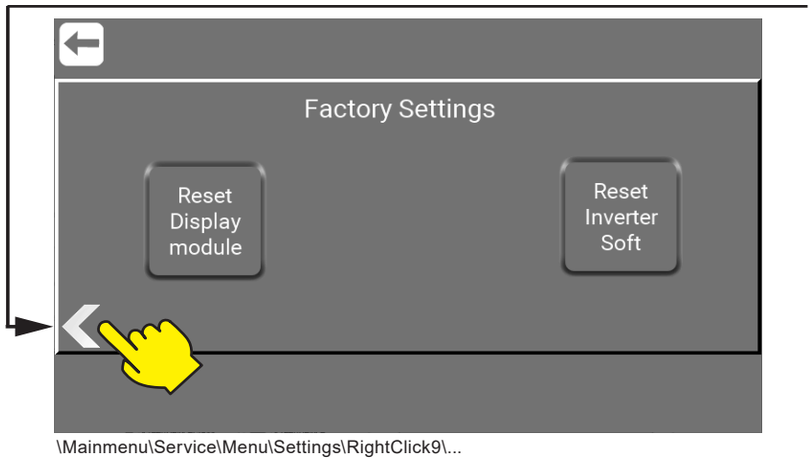
Press **Multi Booster :**
To choose one of the multi booster units available.
BF16, BF24, BF32

Press **Foamatic :**
To choose one of the Foamatic units available.
MA2, MA3, MA2M, MA3M, MA2I, MA3I, MA2IM, MA3IM
SA2I, SA3I, SA2IM, SA3IM,



10.1.1.16. Select Brand (Only as Service)

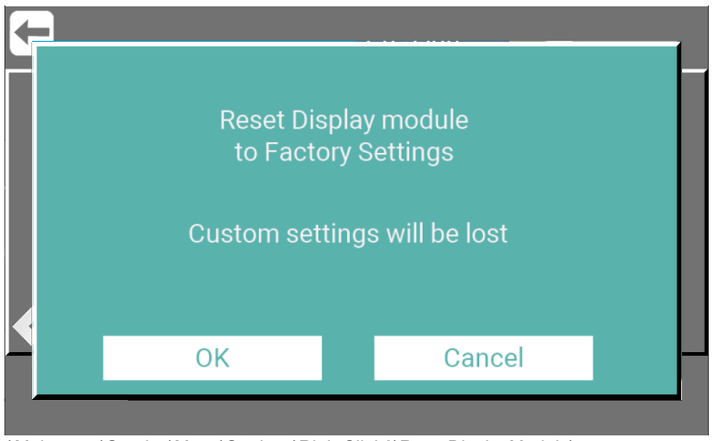
As "Service" it is possible to switch the graphic user interface (GUI) between Nilfisk or Ecolab.



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

10.1.1.17. Factory Settings (Only as Service)

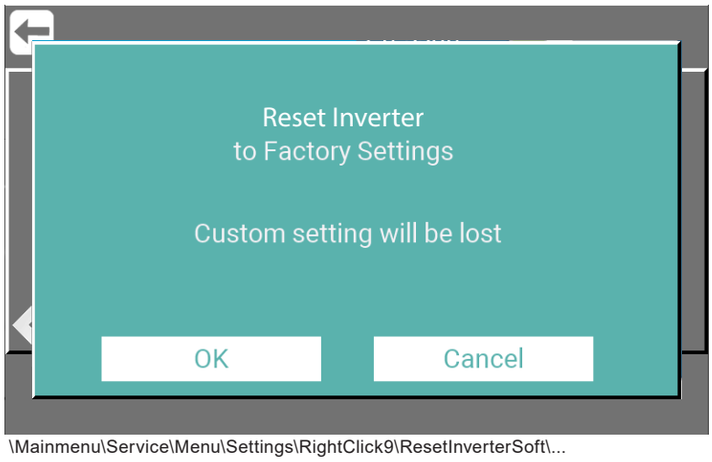
All customer settings will be lost when a reset is completed, so when pressing this button a pop-up will appear and ask you to confirm this reset.



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

10.1.1.17.1. Reset Display module

Reset of the Display Module Software.



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

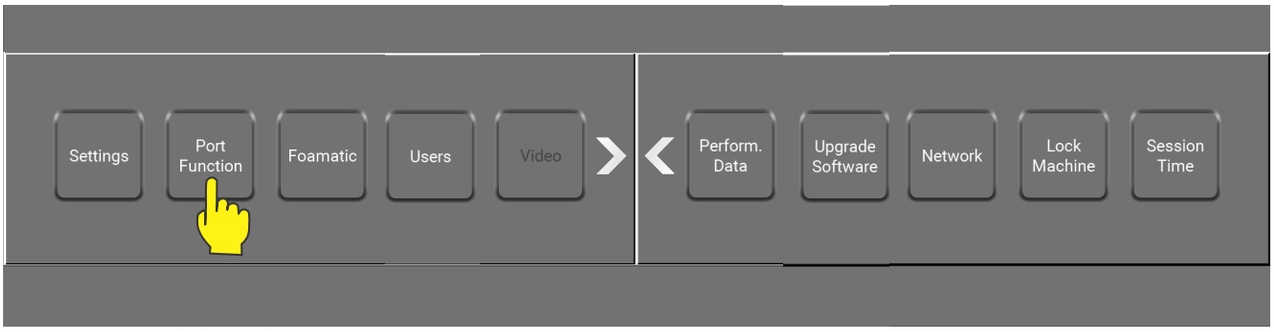
10.1.1.17.2. Reset Inverter Soft :

Reset of the Inverter Software Manual / as Service

10.1.2. Port Function / as Service

In the Port function area it is possible to Add, Remove I/O's and select predefined functions, to manage ports and monitor and the status of all I/O's (Input / Output). And make it possible to interact with 3rd. part equipment.

Press the "Port Functions" button.

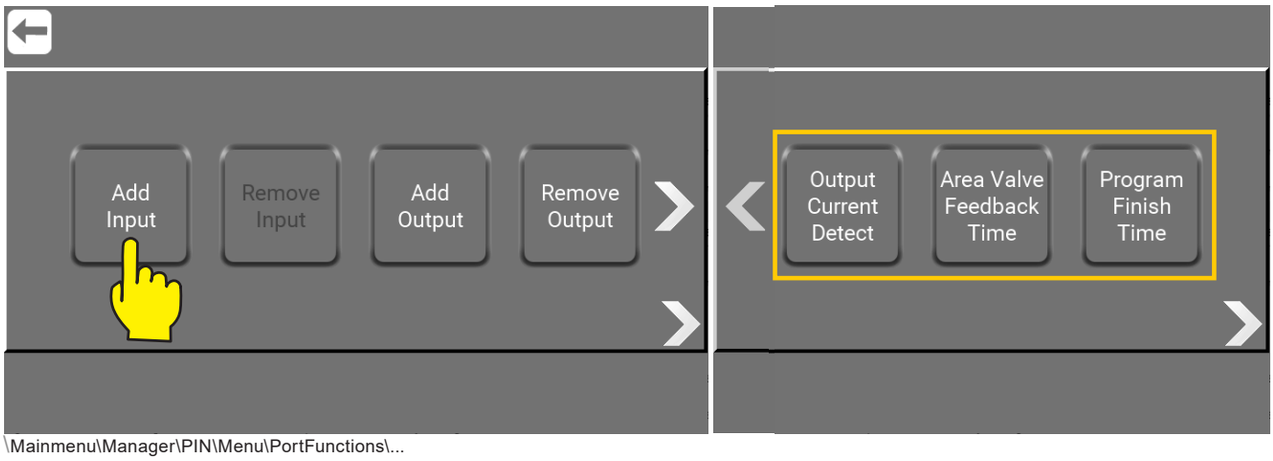


\Mainmenu\ManagerOrService\PIN\Menu\...

10.1.2.1. Add Input - How to add Input signals

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

Press the "Add Input".



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

Info : Only avalible on Foamatic Units are :

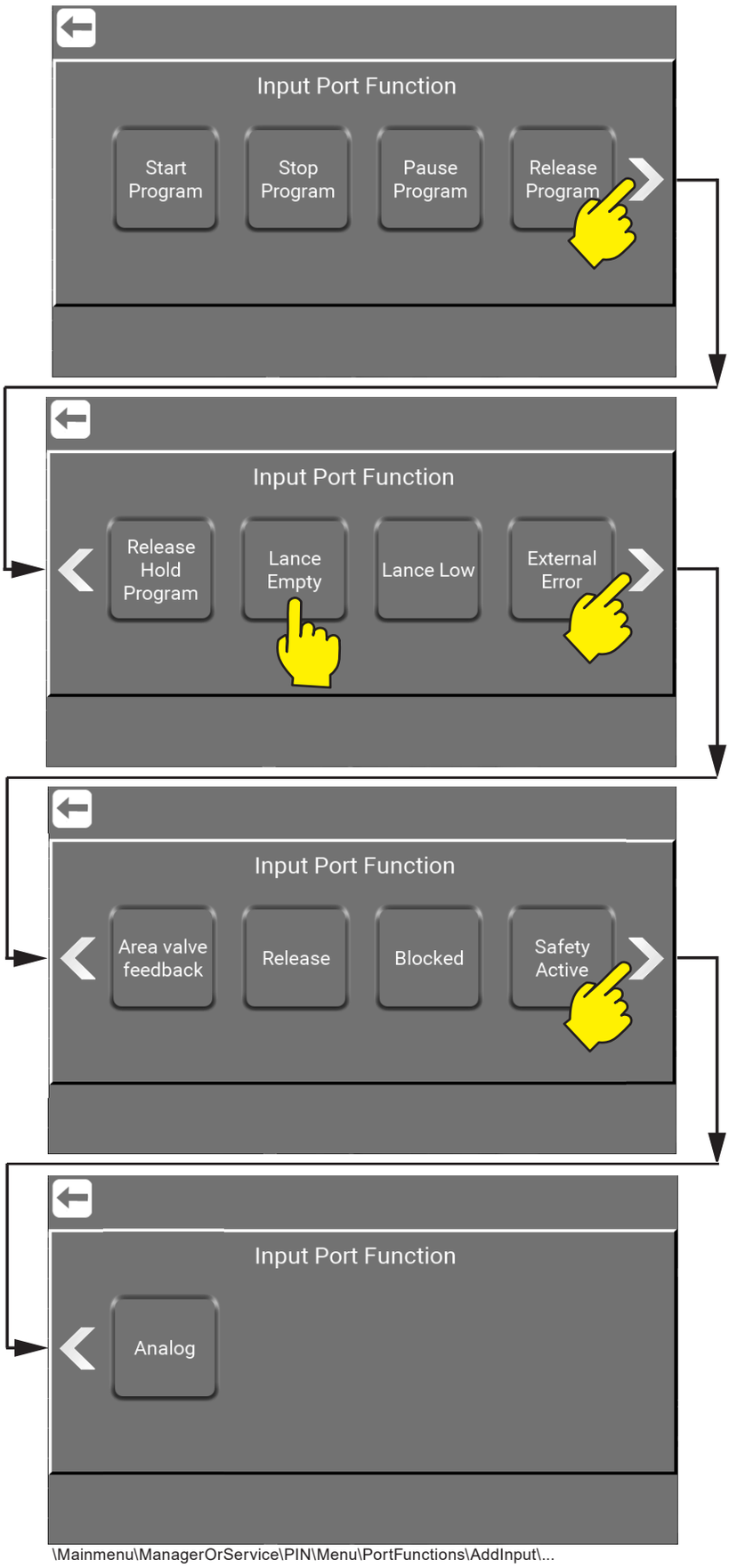
Output Current Detect see : "10.1.2.34. Output Current Detect / as Service" on page 94

Area Valve Time see : "10.1.2.36. Area Valve Feedback Time / as Service" on page 97

Program Finish Time see : "10.1.2.37. Program Finish Time / as Service" on page 98

10.1.2.1.1. Input Port Function

Press the input required eg. "Lance Empty" button.



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

10.1.2.2. What is Inputs, Inputs available and their functionality

Inputs are in general electrical signals given to the unit to achieve a given behaviour, eg. Start wash program, a warning or an error.

10.1.2.3.3. Start Program (Only Foamatic)

The Wash Program attached to this function will start when input is activated.

10.1.2.4.4. Stop Program (Only Foamatic)

When this input function is activated, the Wash Program(s) attached to this function will stop.

10.1.2.5.5. Pause Program (Only Foamatic)

When this input function is activated, the Wash Program(s) attached to this function will be paused. If wash program is not started again within the pause time out, the wash program will stop.

10.1.2.6.6. Release Program (Only Foamatic)

When this input function is activated, This signal must be there for the wash program to start, it can be removed again after the start without the wash program stopping.

10.1.2.7.7. Release Hold Program (Only Foamatic)

If this input is activated, The wash program(s) can only start if the input is active. If input signal is removed during wash program run, the wash program will stop.

10.1.2.8.8. 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 mean that it don't pay attention to which can is empty. Must be connected to a level switch.

10.1.2.9.9. 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.

10.1.2.10.10. External Error (Only Foamatic)

Function to let an external source generate an error, for example a booster error signal.

10.1.2.11.11. Area Valve Feedback (Only Foamatic)

Input if used in a wash step. If this feedback signal does not arrive within the time set in "Area valve feedback time", an error occurs.

10.1.2.12.12. 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.

10.1.2.13.13. Blocked

If this input is activated, the unit is blocked all the time the signal are there and the unit will not run until the signal are gone.

10.1.2.14.14. Safety active (Only Foamatic)

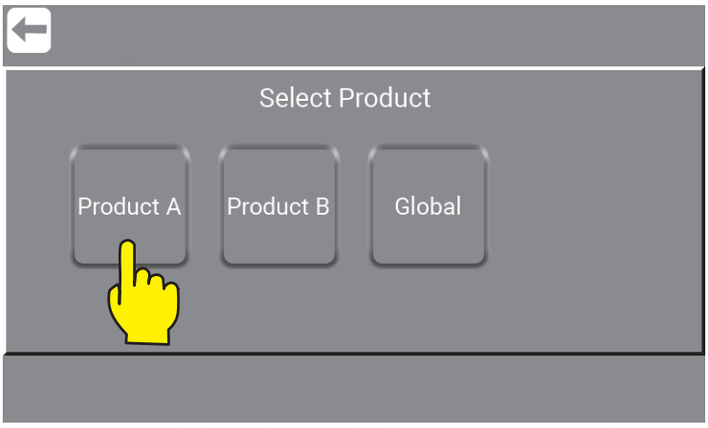
Could be used to indicate a safety error, coming from an external component.

10.1.2.15.15. Analog (Not Foamatic)

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

If "Lance Empty" eg. is chosen, then follow the steps to make the setup as preferred.

Press the required product eg. "Product A" button or "Global" if the unit should monitor all lances / products.

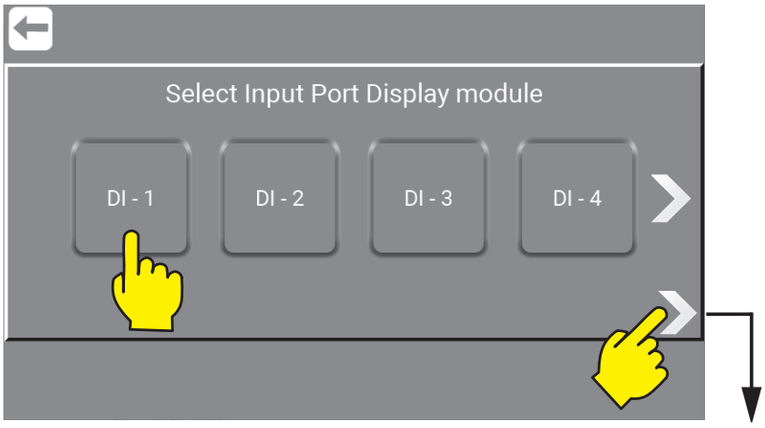


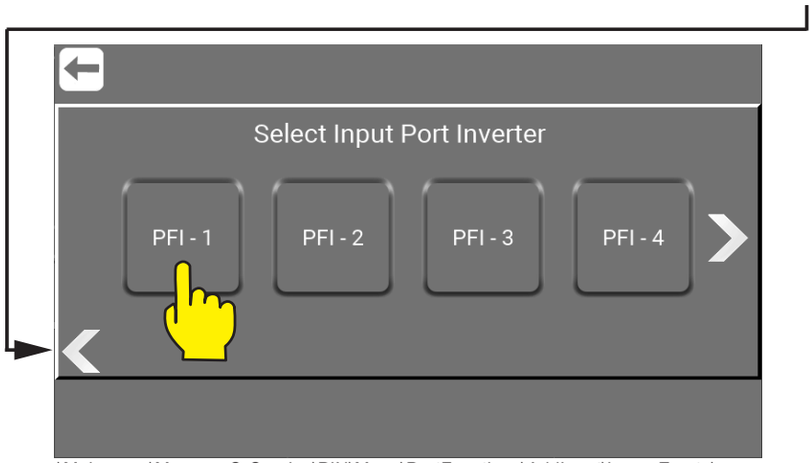
\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\AddInput\LanceEmpty\...

Press the required port for input.

Info: Foamatic has up to 48 inputs (Standard 1 x IO (16) + 2 x IO (16+16) modules if added.(Accessories)

DI : Digital Inputs (6 is Located in the Display Module).
AI : Analog Input (2 is Located in the Display Module and 1 is located in the Inverter)
PFI : Potential Free Input (4 is located in the Inverter).
GPI : General Purpose Input (4 is located in the Inverter).



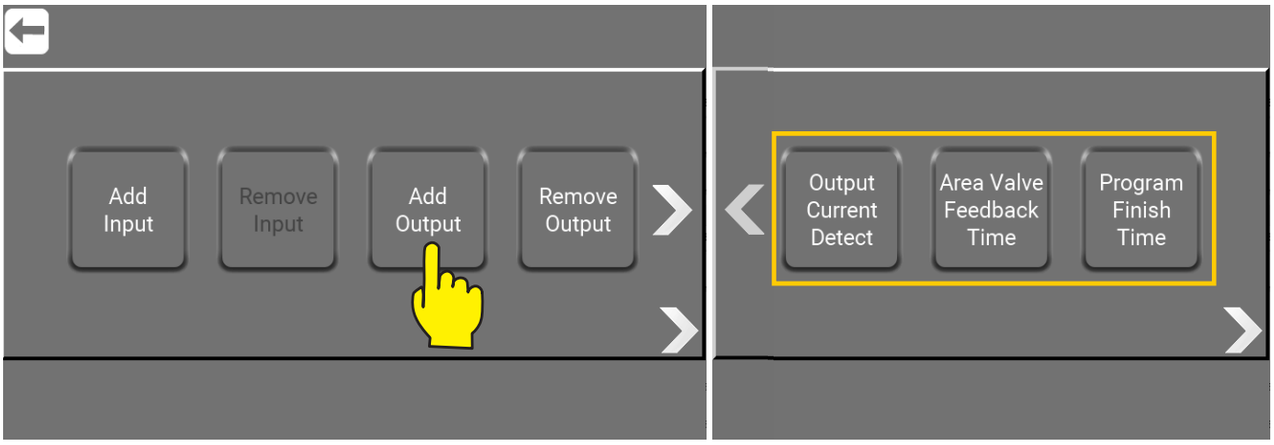


\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\AddInput\LanceEmpty\...

10.1.2.16. Add Output - How to add Output signals.

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

Press the "Add Output" button.



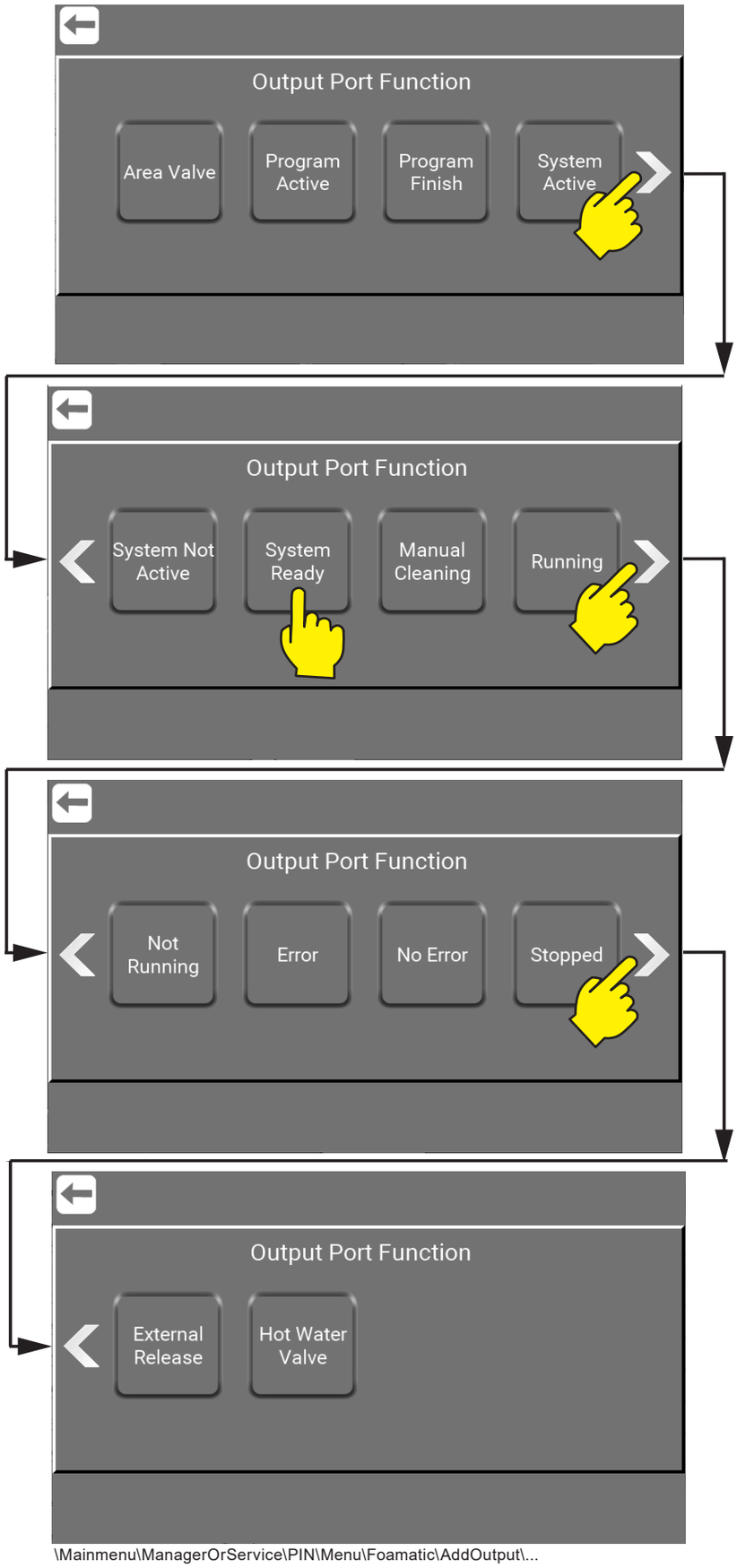
\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\...

Output Current Detect see : "10.1.2.34. Output Current Detect / as Service" on page 94

Area Valve Time see : "10.1.2.36. Area Valve Feedback Time / as Service" on page 97

Program Finish Time see : "10.1.2.37. Program Finish Time / as Service" on page 98

Press the output required eg. "System Ready" button.



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\AddOutput\...

10.1.2.17. What is Outputs, Outputs avalible and their functionalty

Output signals is used to indicate a given behaviour or state, to another control, light tower etc. could for eg. Be system active or program finished.

10.1.2.18.18. Area Valve (Only Foamatic)

Used for adding Area valves to the installation.

10.1.2.19.19. Program Active (Only Foamatic)

Output activated when the related wash program(s) is running.

10.1.2.20.20. Program Finish (Only Foamatic)

Activated when the related wash program(s) is ended.
If a program is stopped when running, this signal will not be activated.

10.1.2.21.21. System Active

Output activated when the unit is running or standby.

10.1.2.22.22. System Not Active (Only Foamatic)

Output indicates that the system is Not Active, not running or in standby and no wash program is active.

10.1.2.23.23. System Ready (Only Foamatic)

Output indicates that the system is ready to run, no errors is currently pending.

10.1.2.24.24. Manual Cleaning (Only Foamatic)

Activated when manual cleaning is activated.

10.1.2.25.25. Running

Activated when pump is running.

10.1.2.26.26. Not Running

Activated when pump is NOT running.

10.1.2.27.27. Error

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

10.1.2.28.28. No Error (Only Foamatic)

Output signal activated when there is no error detected in the system.

10.1.2.29.29. Stopped

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

10.1.2.30.30. External Release (Only Foamatic)

Ouput activated when the related program is released via the release input function. This to indicate to an external source that the program may/can be started.

10.1.2.31.31. Hot Water Valve (Only Foamatic)

Hot water valve enables the use of both hot and cold water. To use this function a valve for switching between hot and cold water, must be installed.

10.1.2.32.32. Delayed Start

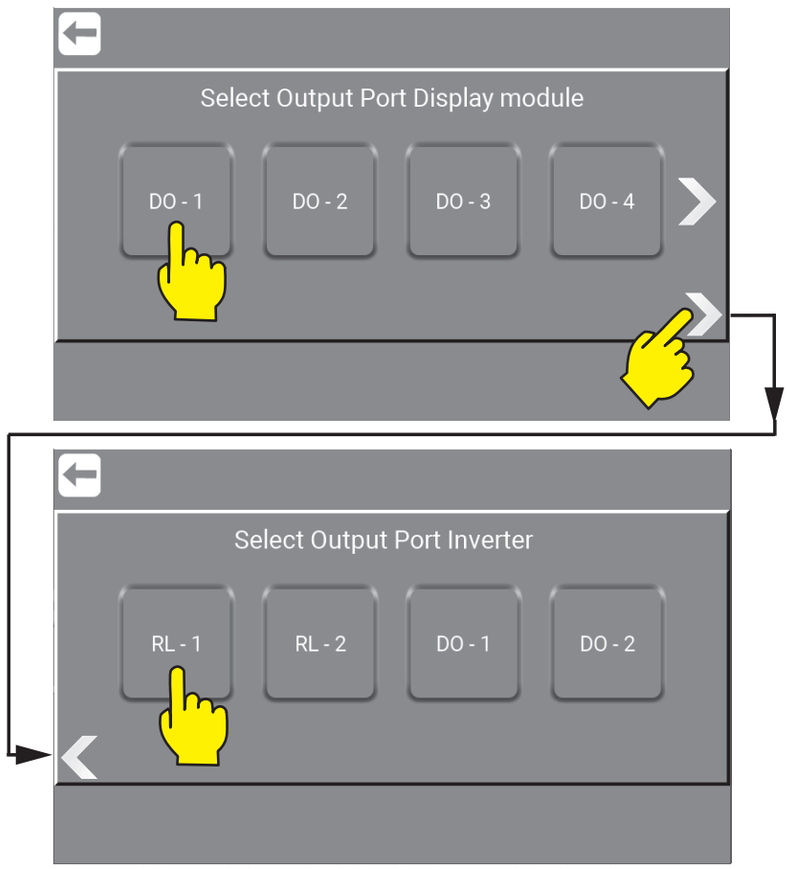
Delayed Start is typically used when the startup of the pump needs to be delayed allowing e.g., a pre-pressure pump to start, before the unit itself starts up. Select Delayed Start and select the desired output port DO 1 to 9 or RL 1 or 2 using the terminal blocks on the PCB at the Display Module. To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

Info: Foamatic has up to 48 Outputs (Standard 1 x IO (16) + 2 x IO (16+16) modules if added.(Accessories)

Press the required port for output.

DO : Digital Outputs (9 is Located in the Display Module).
RL : Relays (2 is located in the Display Module).

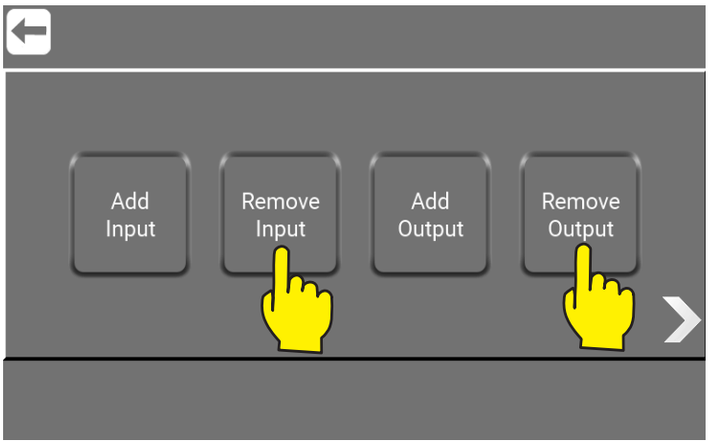
DO : Digital Outputs (2 is Located in the Inverter).
RL: Relays (2 is located in the Inverter).



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

10.1.2.33. Remove Input / Output signals

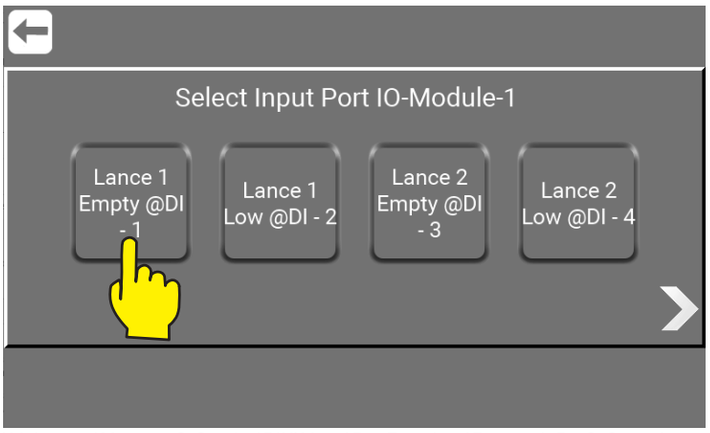
Press the "Remove Input" or "Remove Output" button.



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

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

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

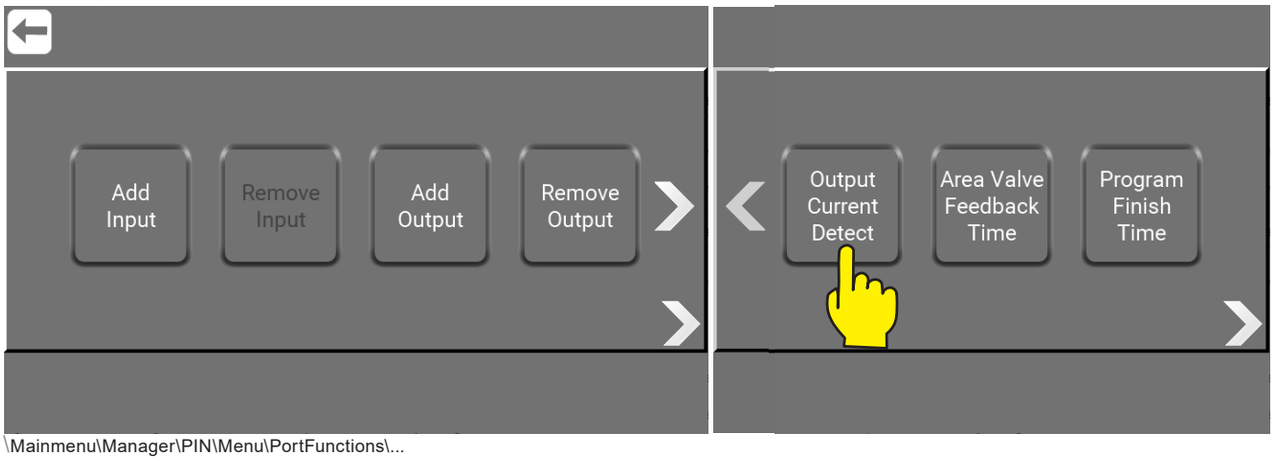


\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RemoveInPutOrOutput\...

10.1.2.34. Output Current Detect / as Service

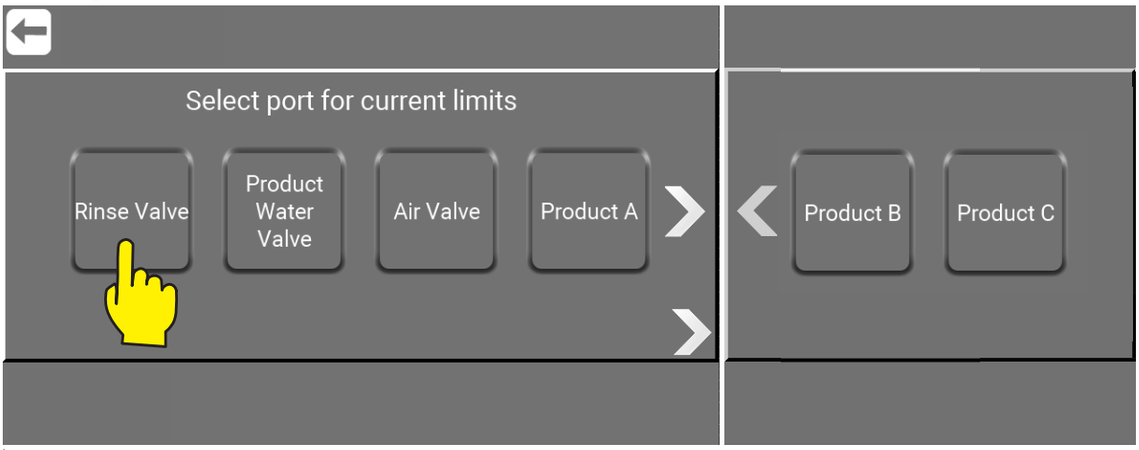
The function measures a current consumption of an output eg. Rinse Valve. And if the current is below or above the specified preset range, an error occurs.

Press eg. "Output Current Detect" button.



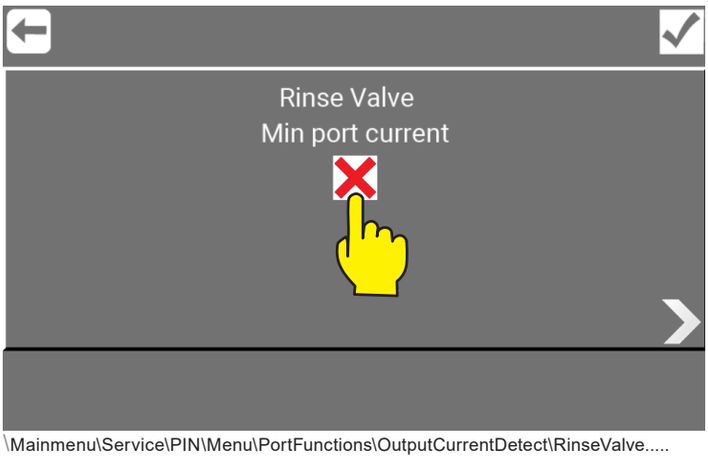
\Mainmenu\Manager\PIN\Menu\PortFunctions\...

Press eg. "Rinse Valve" button.

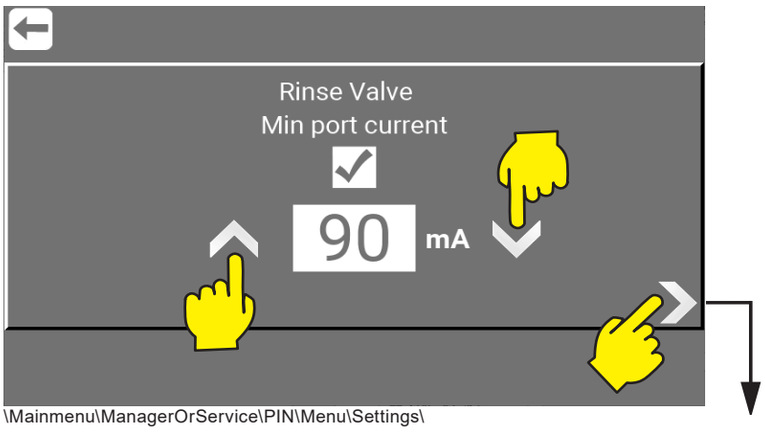


\Mainmenu\Service\PIN\Menu\PortFunctions\OutputCurrentDetect\...

Press the "X" button to set minimum current.

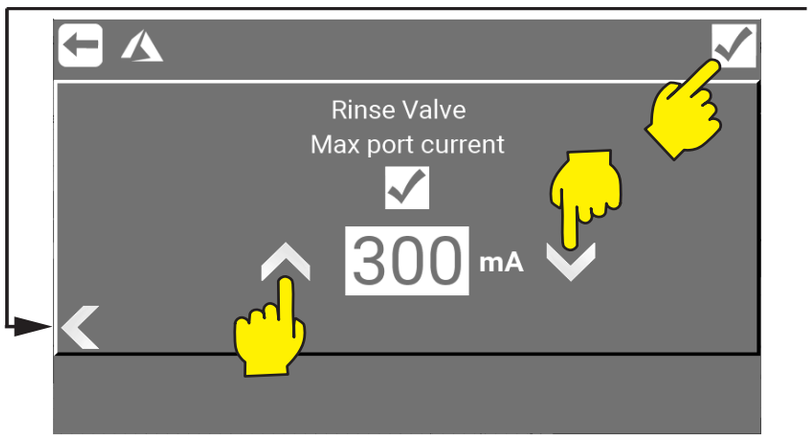


\Mainmenu\Service\PIN\Menu\PortFunctions\OutputCurrentDetect\RinseValve.....



\Mainmenu\ManagerOrService\PIN\Menu\Settings\

Press up or down arrow until the desired minimum settings is reached. Minimum 10 mA and maximum. 700 mA.



\Service\Menu\Foamatic\

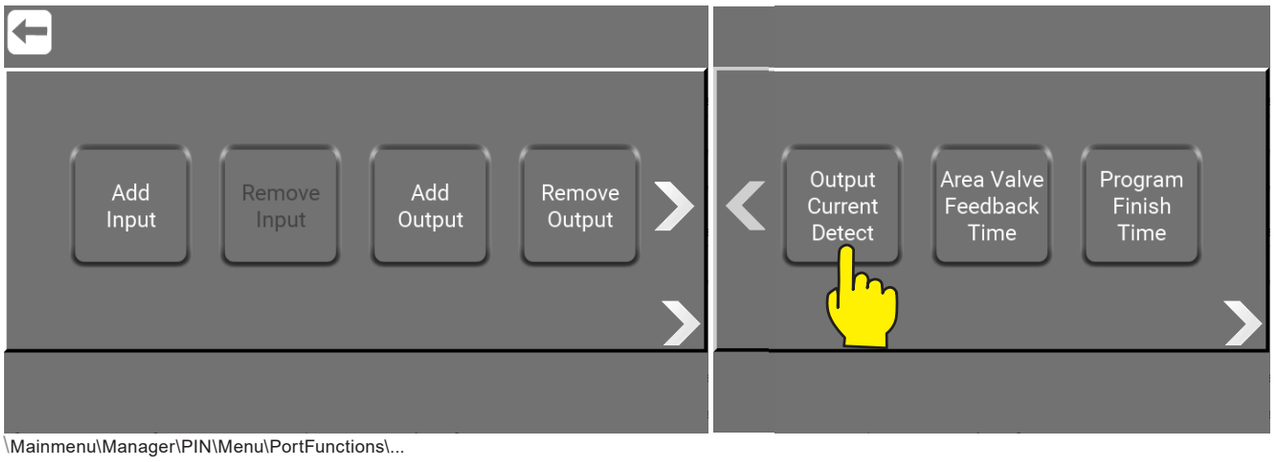
Press "X"
Press up or down arrow until the desired setting is reached.
Min. 50 mA and max 800 mA.

Press "Confirm" to approve and store.

10.1.2.35.35. Port current detection delay / as Service

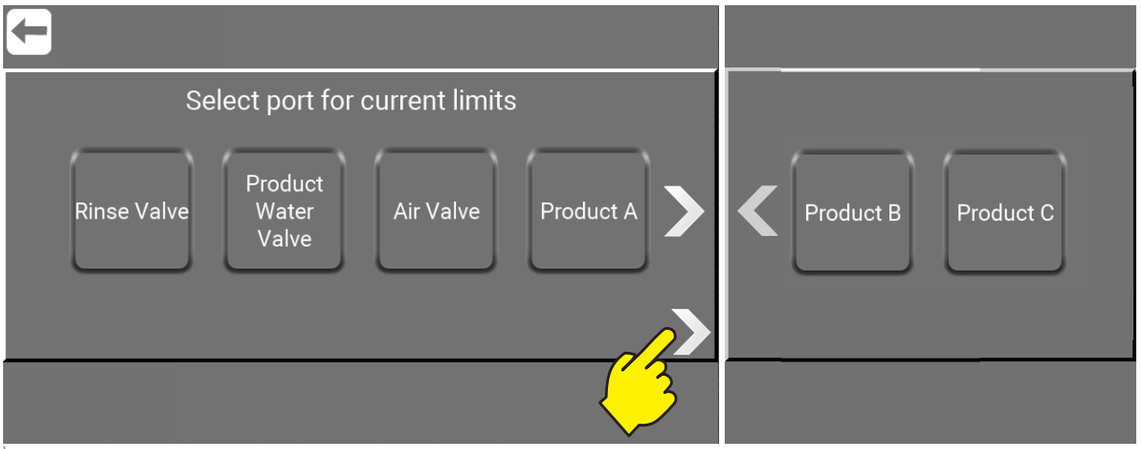
This function is a specific time delay that the system must wait before it measures minimum / maximum Current set in Output Current Detect. Is used to prevent the peek at startup.

Press eg. "Output Current Detect" button.



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

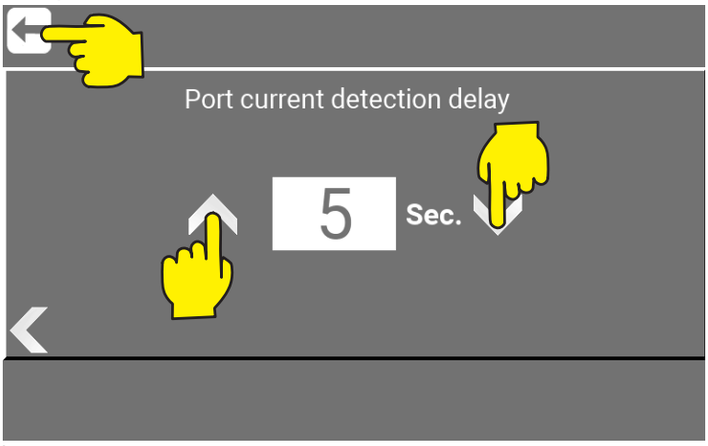
Press arrow below to set port current deception delay.



\Mainmenu\Service\PIN\Menu\PortFunctions\OutputCurrentDetect\...

Press up or down arrow until the desired time / sec. For the delay is reached.

And press "Return".

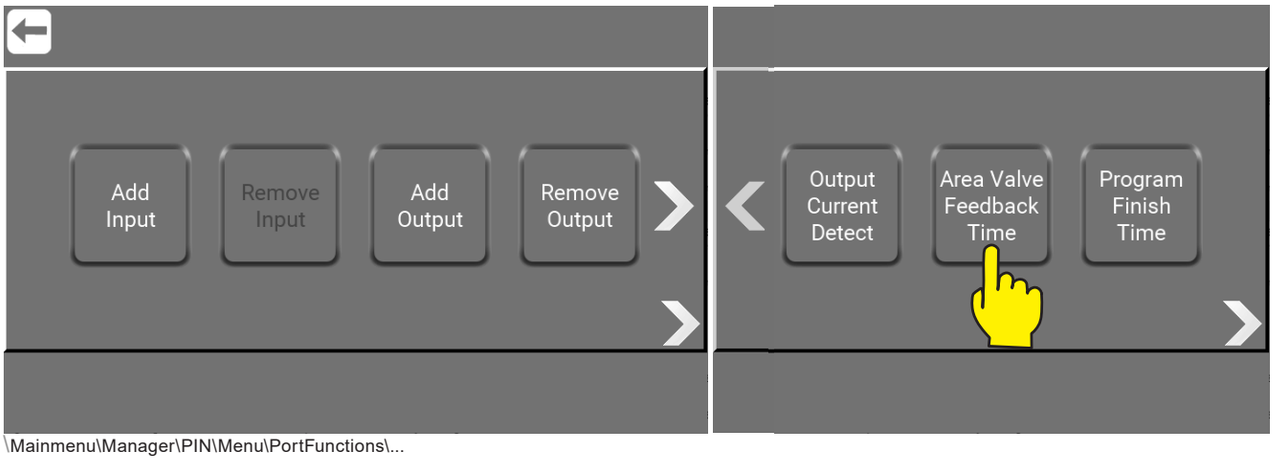


\Mainmenu\Service\PIN\Menu\PortFunctions\OutputCurrentDetect\RightClick1...

10.1.2.36. Area Valve Feedback Time / as Service

Used if in a washstep you use the function called "Area valve feedback", if this feedback signal does not arrive within the time set in "Area valve feedback time", an error occurs.

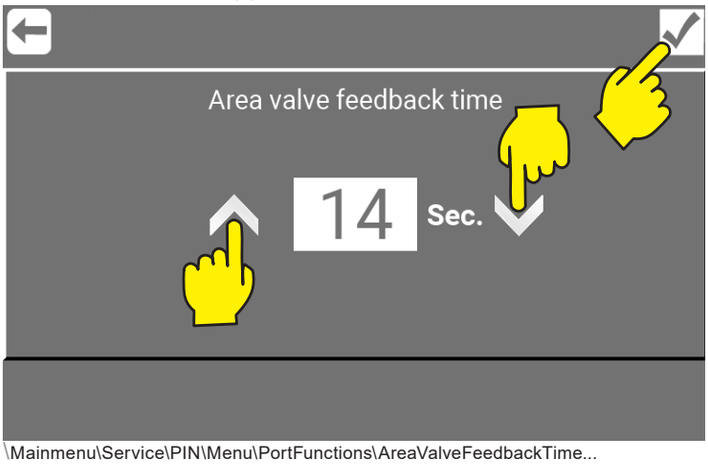
Press "Area Valve Feedback Time" button.



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

Press up or down arrow until the desired amount of sec. For the feedback time is reached.
Min. 3 - Max. 30 Sec.

Press "Confirm" to approve and store.

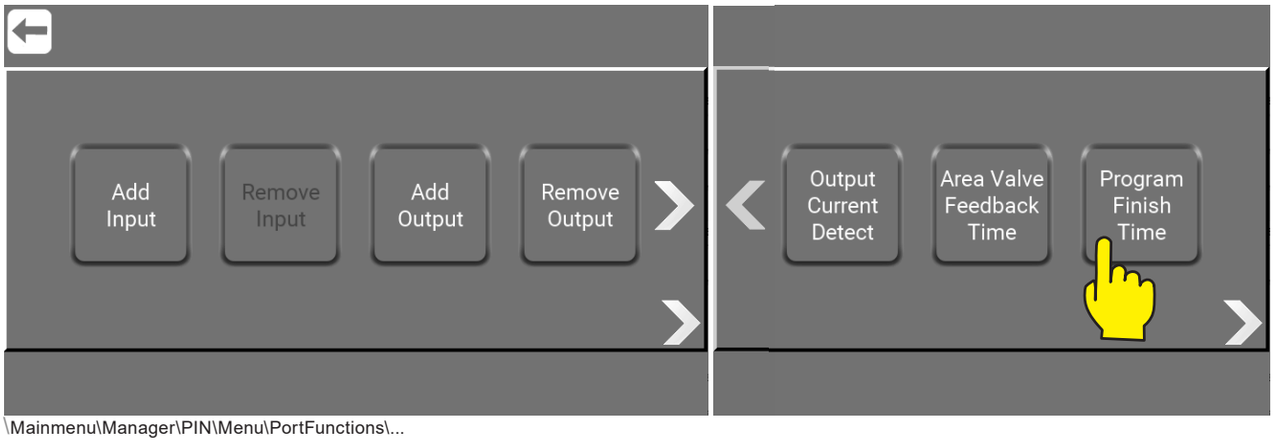


\Mainmenu\Service\PIN\Menu\PortFunctions\AreaValveFeedbackTime...

10.1.2.37. Program Finish Time / as Service

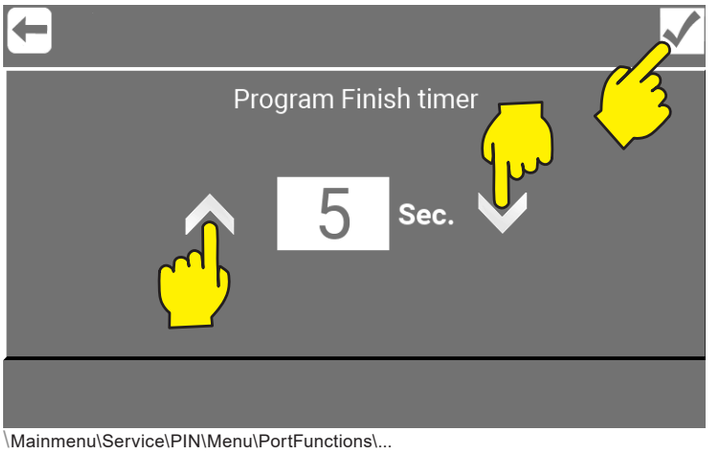
If an output is set to "program finish" port output remains high until a new program is started, unless "program finish time" is activated, then it will be high for the period set.
Min. 1 - Max. 10 Sec, after which it will go low again

Press "Area Valve Feedback Time" button.



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

Press up or down arrow until the desired amount of seconds are reached.
Press "Confirm" to approve and store.

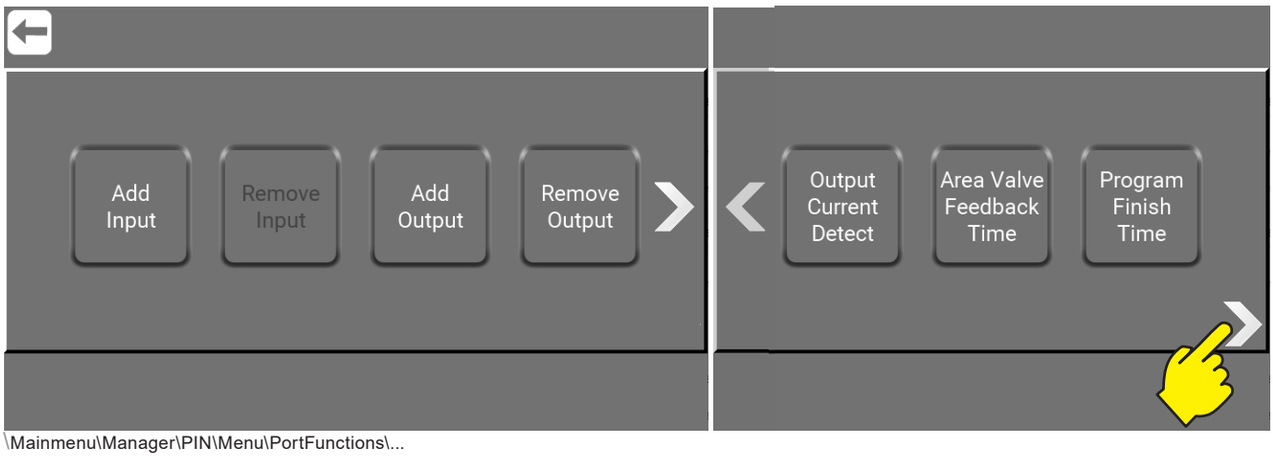


\Mainmenu\Service\PIN\Menu\PortFunctions\...

10.1.3. Show I/O´s connected or in use

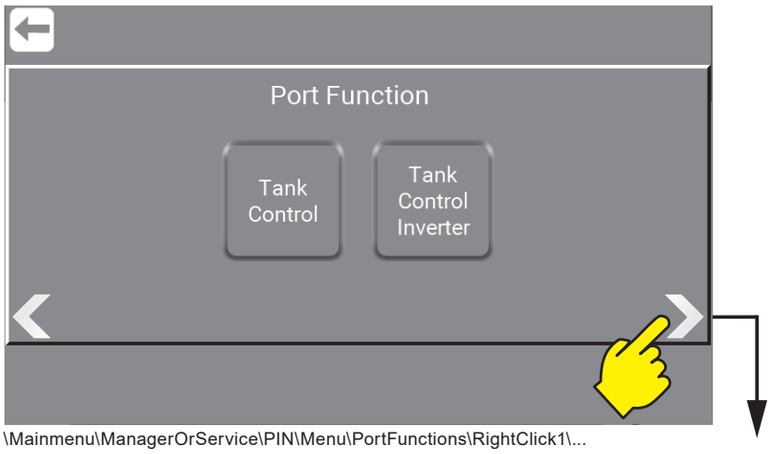
Af graphical overview of which I/Os are connected to the Display Module and in use, can be shown by pressing "Right Arrow" in this subscreen \Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\.

To see graphic overview go to :



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

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



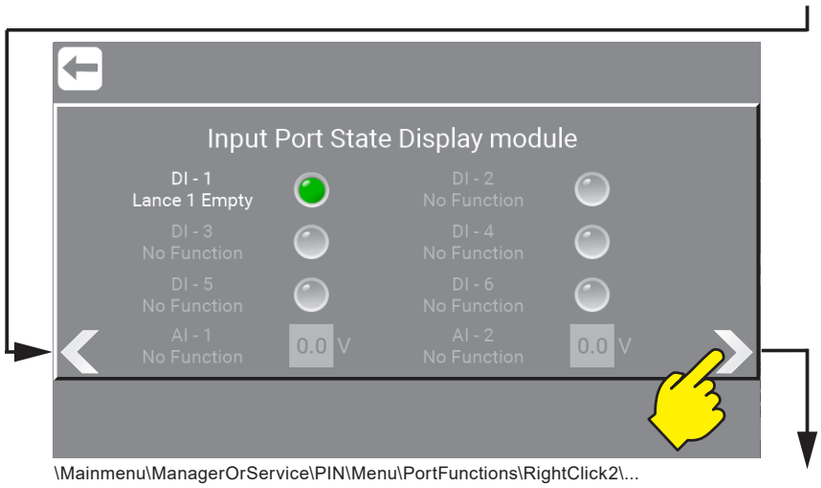
\Mainmenu\ManagerOrService\PIN\Menu\PortFunctions\RightClick1\...

10.1.3.1. Tank Control (Not Foamatic)

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

10.1.3.2. Tank Control Inverter (Not Foamatic)

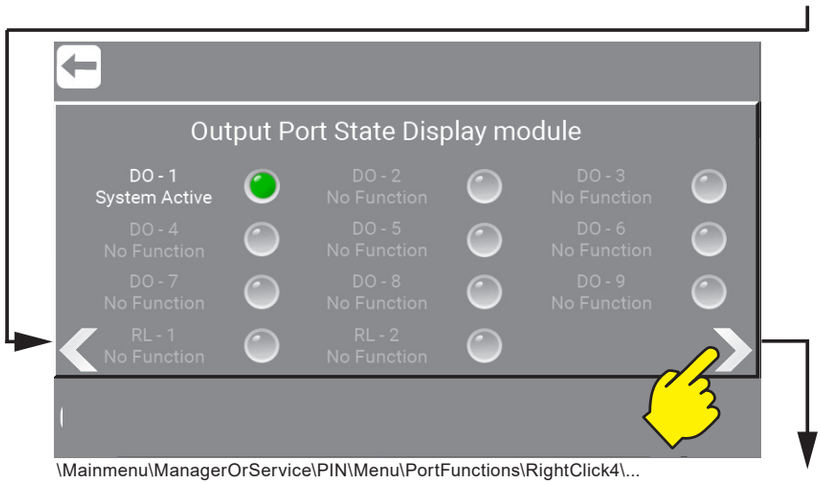
Press this when the inputs and outputs are used in the Inverter
This will setup all the needed inputs and outputs to use when working with tank control.



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

10.1.3.3. Input Port Display module

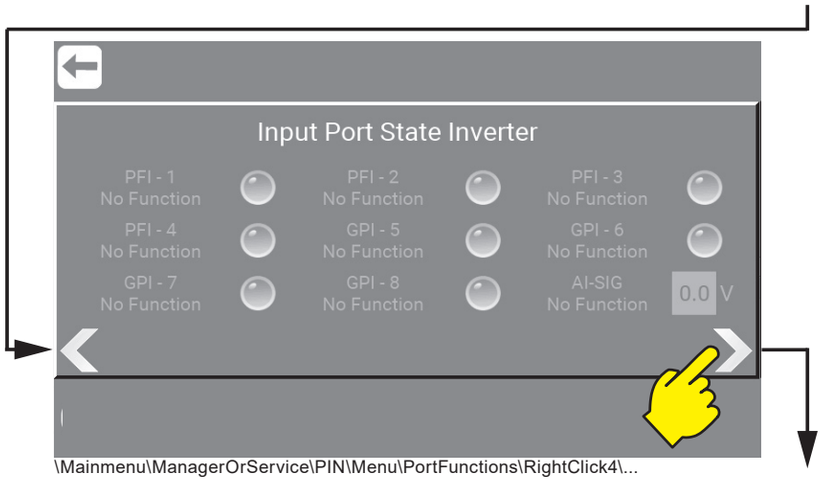
This is the 6 inputs (1-6) in Display Module.
And the 2 Analog inputs (1-2) in Display Module.



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

10.1.3.4. Output Port Display module

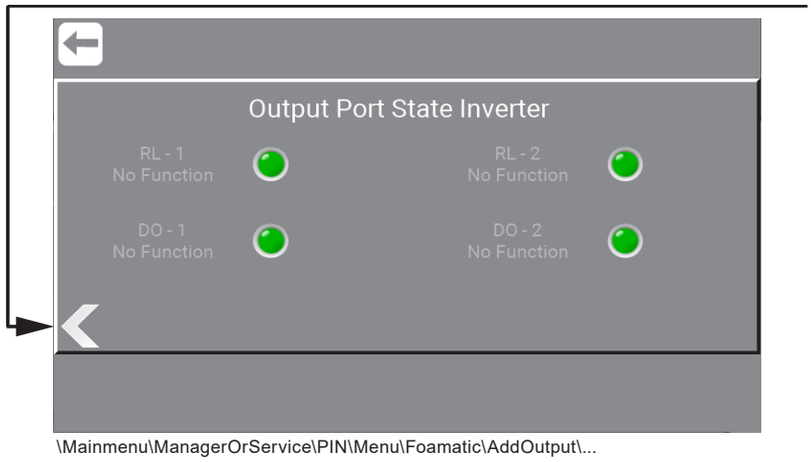
This is the 6 Outputs (1-9) in Display Module.
And the 2 relays (1-2) in Display Module.



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

10.1.3.5. 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.



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\AddOutput\...

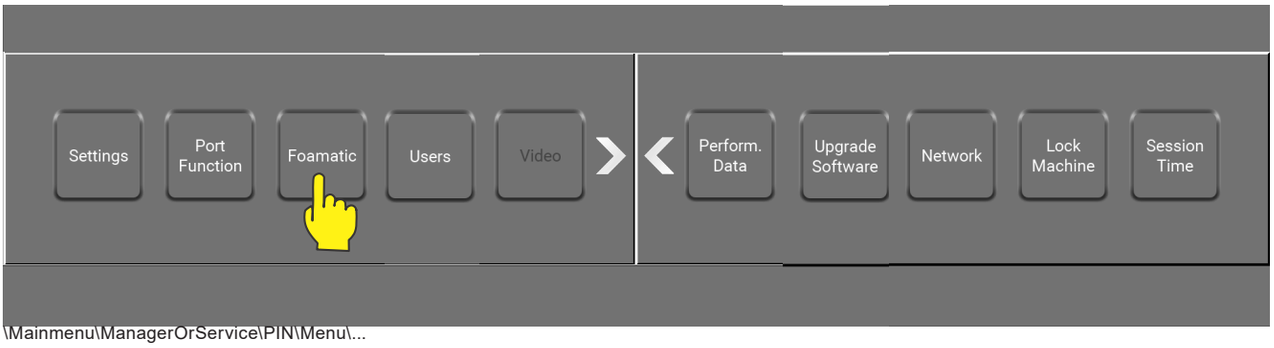
10.1.3.6. Output Port State Inverter

This is the 2 relays (1-2) in the Inverter
And the 2 Direct Outputs in the Inverter.

10.2. Foamatic / as Service

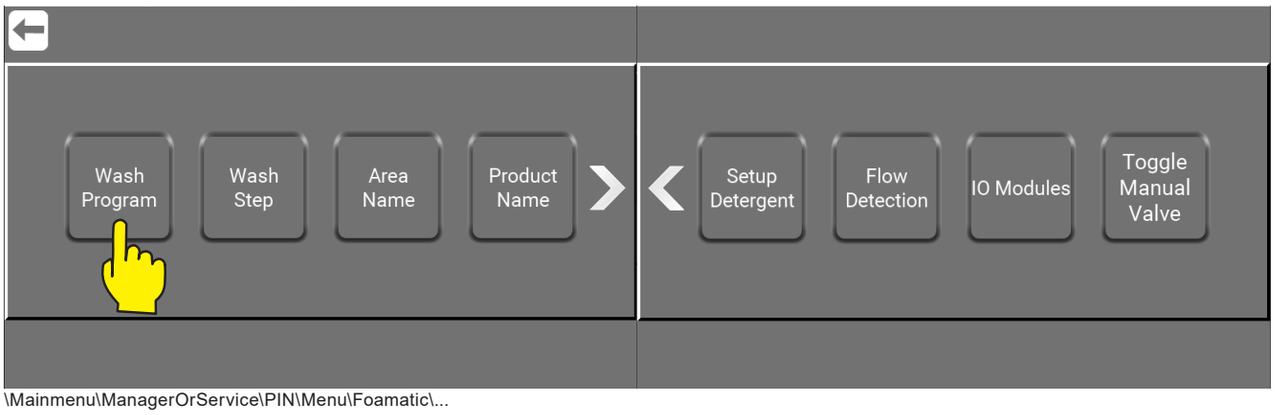
The Foamatic area is where the automatic system can be set and changed.
Wash Programs, Wash Steps, Areas, Adding additional IO Modules etc.

Press the "Foamatic" button.



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

Press the e.g "Wash Program" button.



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

Note : "IO-Module" and "Toggle Manual" Valve is only available as "Service", not as "Manager

10.2.1. Wash Programs

Wash programs are used for automatic cleaning. They consists of wash steps, up to 100 steps in each program.
This menu describes how to make up to 16 wash programs and how to edit or delete the wash programs.
The wash programs can be created in two ways. In the display module as shown here below or in the Nilfisk FOOD Foamatic App see"14. Connect the unit to Hybrid 7 app" on page 148.

IMPORTANT! : Wash programs created in Nilfisk FOOD Foamatic App must always be named **washprg.jso** for the display Module to be able to recognize it.

10.2.1.1. Create wash program

Go to :"7.4.9. Create wash program" on page 57

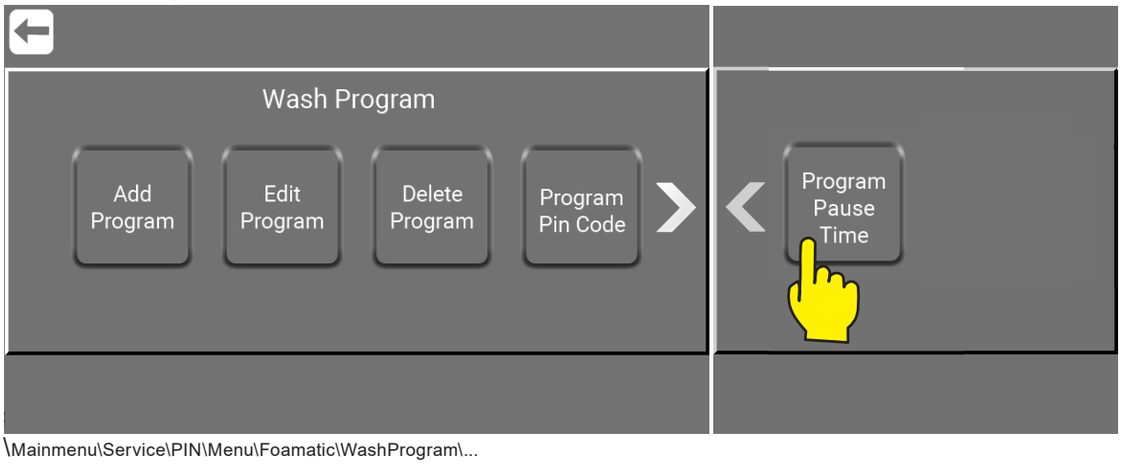
10.2.1.2. Program PIN Code

Go to : "4.4. PIN Code for Auto / as Manager" on page 14
Go to : "4.5. PIN Code for Auto / as Service" on page 15

10.2.1.3. Set Program Pause Time

Set the time the unit can be in pause before it automatically will change from pause to stop, unless it is activated again. Minimum 1 minute, maximum 10 minutes.

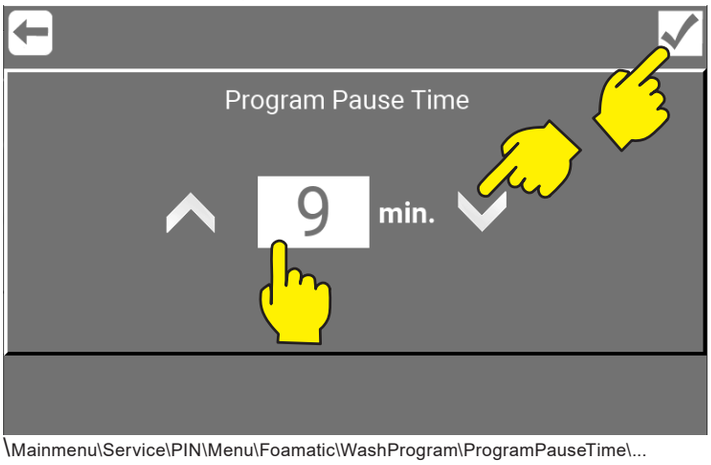
Press the "Program Pause Time" button.



\Mainmenu\Service\PIN\Menu\Foamatic\WashProgram\...

Set the time the unit can be in pause before it automatically will change from pause until stop, unless it is activated again.

Minimum one minute, maximum 10 minutes.



\Mainmenu\Service\PIN\Menu\Foamatic\WashProgram\ProgramPauseTime\...

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

10.2.2. Wash Step / as Service

Go to "7.4.10. Add Wash step" on page 58

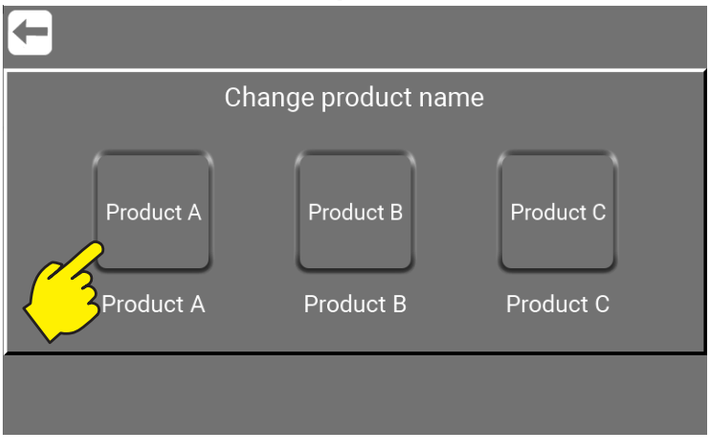
10.2.3. Area Names / as Service

Go to "10.2.3. Area Names / as Service" on page 102

10.2.4. Product Names / as Service

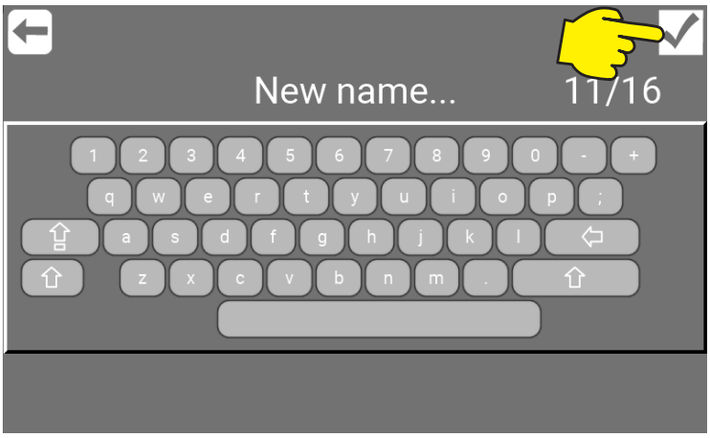
Area to change names of products connected to the unit.

Press the required product e.g "Product A" button.



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\ProductName\

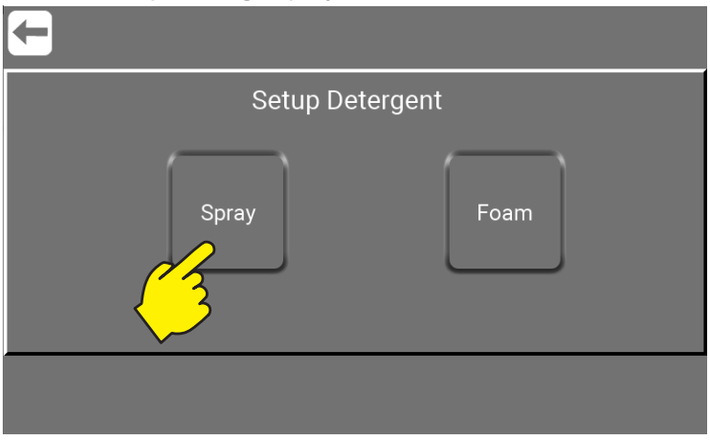
Enter new name of product and Confirm.



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\ProductName\ProductA\

10.2.5. Setup Detergent / as Service

Press the required e.g "Spray" button.

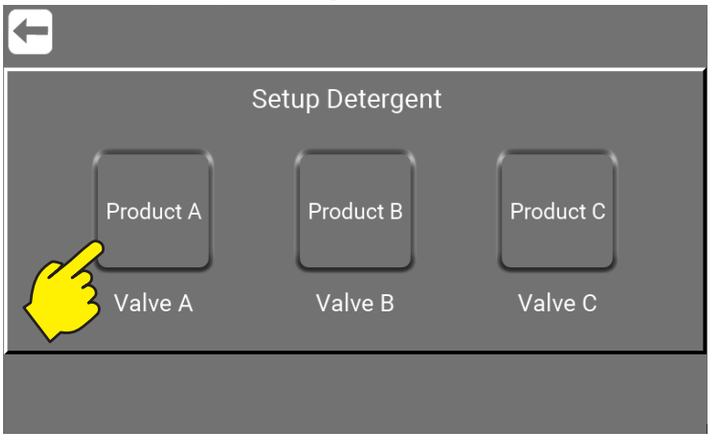


\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\SetupDetergent\

Spray : is for controlling/adjusting concentration of chemistry in water.

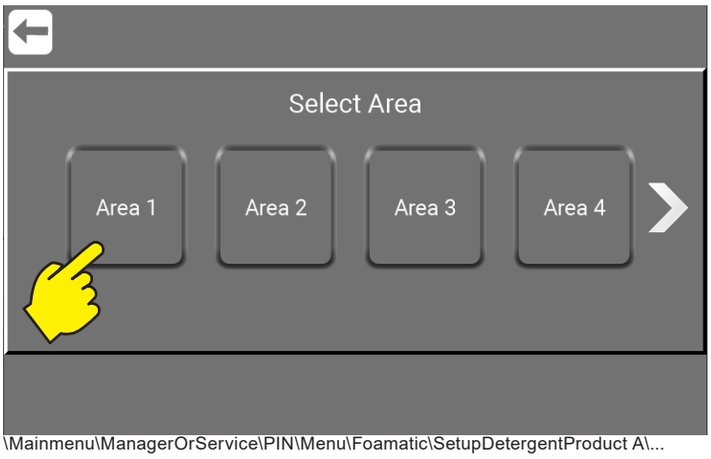
Foam : is for controlling foam quality.

Press the required product eg. "Product A" button.

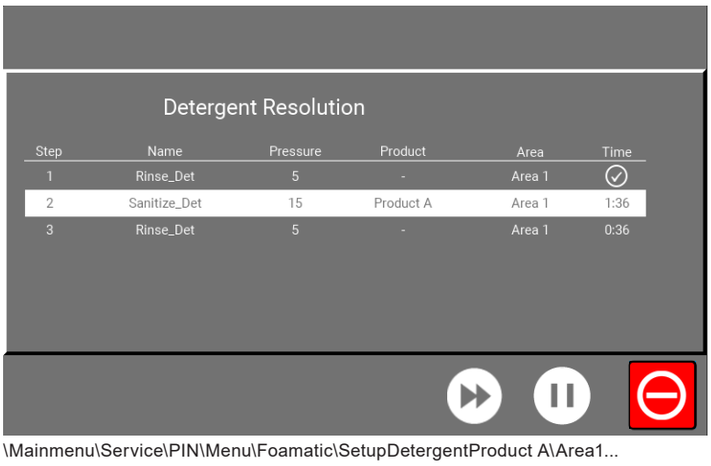


\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\SetupDetergent\Spray\...

Press the required Area e.g "Area A" button.



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\SetupDetergentProduct A\...

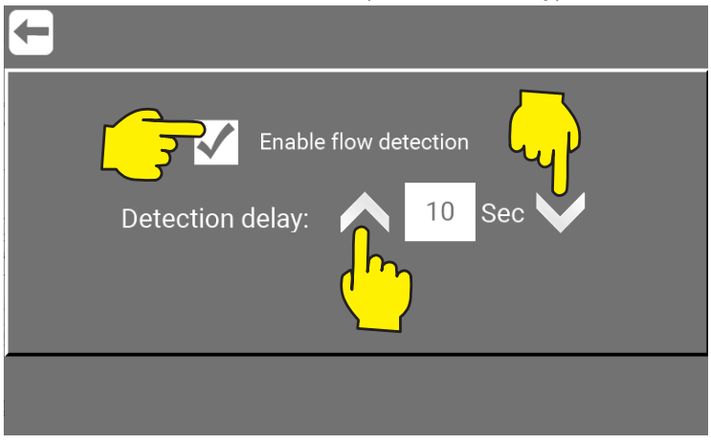


\Mainmenu\Service\PIN\Menu\Foamatic\SetupDetergentProduct A\Area1...

10.2.6. Flow Detect

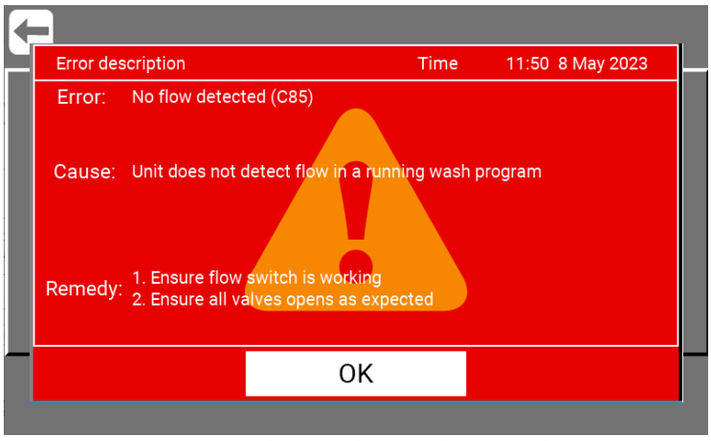
The time for the unit to detect flow in a washprogram, if valves that creates flow are opened, if no flow is detected an error will occur.

Press to disable "flow detection" or to enable when disabled.
Set the required "Detection Delay" by pressing arrow up or down.
Min. value 3 sec., max. 30 sec. (mainstation only).



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\RightClick2\FlowDetect\...

Error that occurs when running a program and no flow is detected.
And "Flow detection" is enabled.



\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\\RightClick2\FlowDetect\...

10.2.7. IO Modules / as Service

Go to: ""7.4.2. Add external I/O Modules (Only Foamatic Accessory / Add on)" on page 45

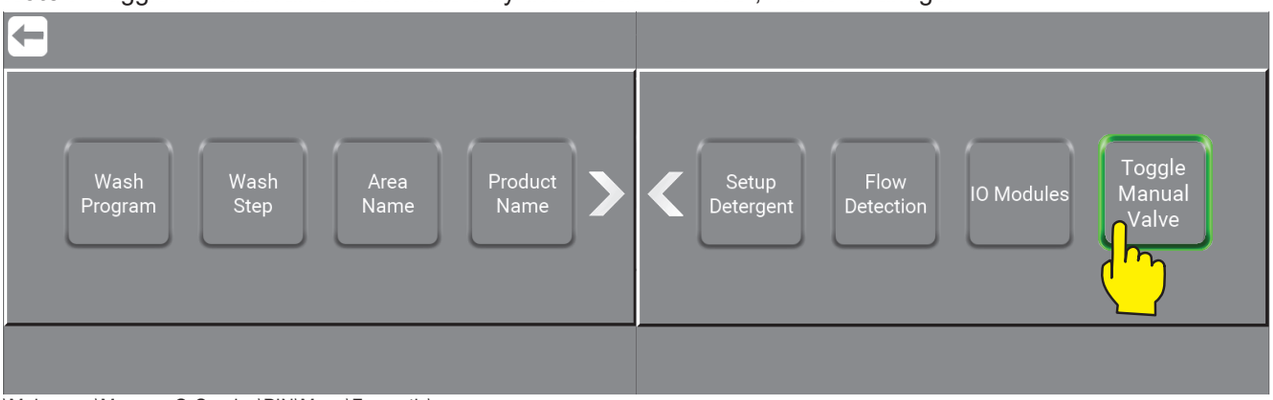
10.2.8. Toggle Manual Valve / as Service

The "Toggle Manual Valve" button is for adjusting the flowswitch located on the manual outlet.
(Button is only available on units with manual outlet) The flowswitch is adjusted from the factory, so this is only for service situations afterwards where adjustment is necessary. (Only available on units with manual outlet).

10.2.8.1. Adjust the flowswitch on manual outlet

Press the "Toggle Manual Valve" and the button will light up green. Valve will open but not start the machine.

Note : "Toggle Manual Valve" button are only avalible as "Service", not as "Manager"

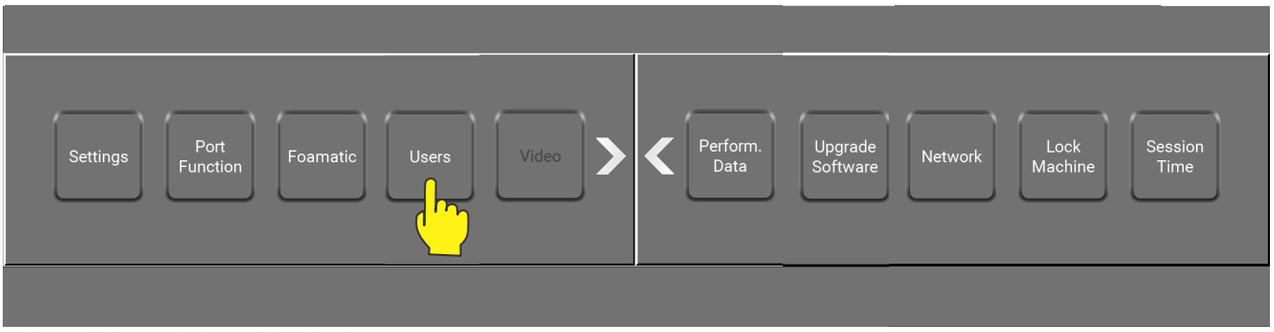


\Mainmenu\ManagerOrService\PIN\Menu\Foamatic\...

10.3. Users / as Service

The " Users / as Manager" menu is almost the same as "Users / as Service", all pictures are the same.

Press the "Users" button.



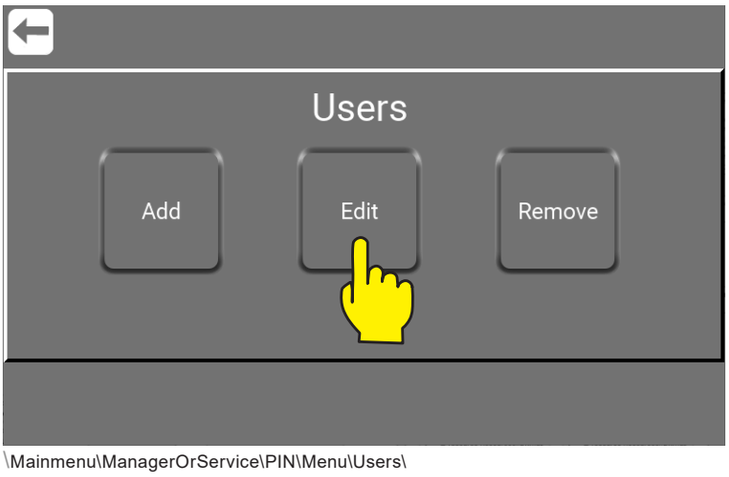
\Mainmenu\ManagerOrService\PIN\Menu\...

10.3.1. Edit Manager or Custom User / As Service

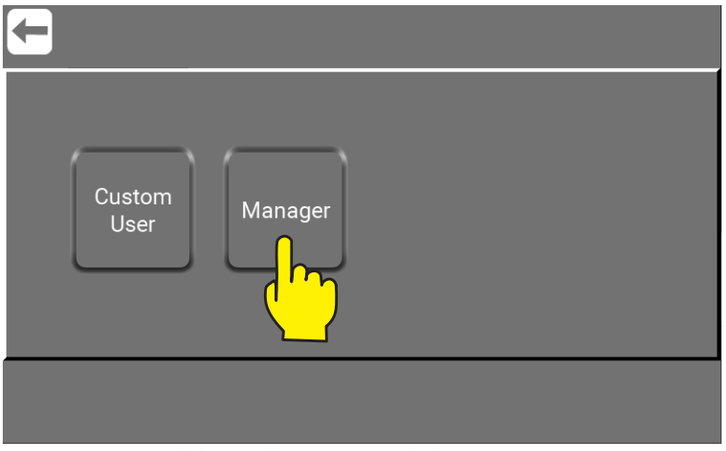
Only difference between "Manager" and "Service" is that "Service" can edit the Managers settings.

To do so follow these steps :

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

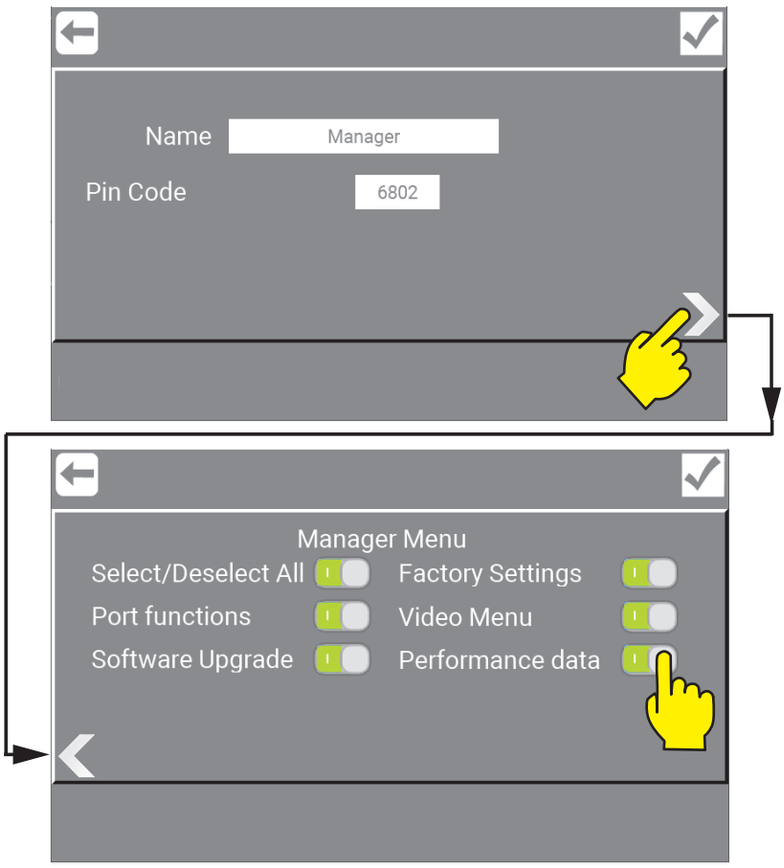


\Mainmenu\ManagerOrService\PIN\Menu\Users\



\Mainmenu\ManagerOrService\PIN\Menu\Users\Edit\...

Right click to add privileges to"Manager" or a "Custom User".



\Mainmenu\ManagerOrService\PIN\Menu\Users\Edit\...

Press "Confirm" to approve and store.

10.3.2. 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 eg. As Service, it is possible to select all or to select individual functions and features for the Manager.

10.3.2.1. Select / Deselect All

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

See more : "5.3. How to use the optional privileges / as Custom User" on page 28

10.3.2.2. Port functions

Make it possible for the Manager to use Port Functions.

See more : "9.1.2. Port Function / as Manager" on page 73

10.3.2.3. Software Upgrade

Make it possible for the Manager to make Software Upgrades.

See more : "13. Upgrade Software" on page 132

10.3.2.4. Factory Settings

Make it possible for the Manager to reset the unit to factory settings.

10.3.2.5. Video Menu (Coming up)

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

10.3.2.6. Run Screen Setup

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

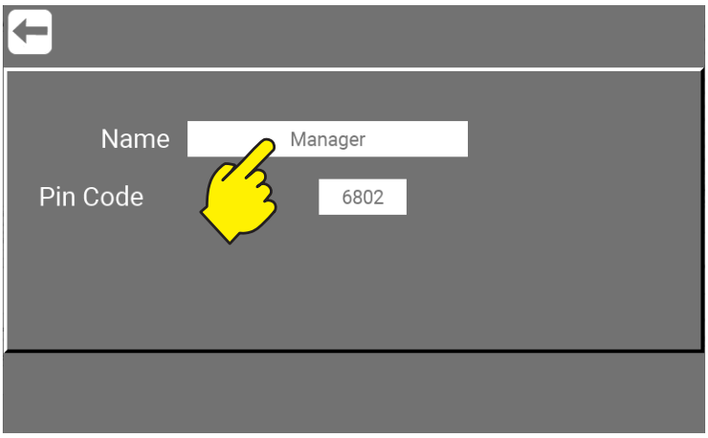
See more : "5.3.5. Run the Screen Setup / as Customized User" on page 30

10.3.2.7. Performance data

Make it possible for the user to see the performance for All users, a specific customized User or Default 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.
See more : "5.3.7. Performance data / as Customized User" on page 32

10.3.3. Change Manager name / as Service

Press field with Name.

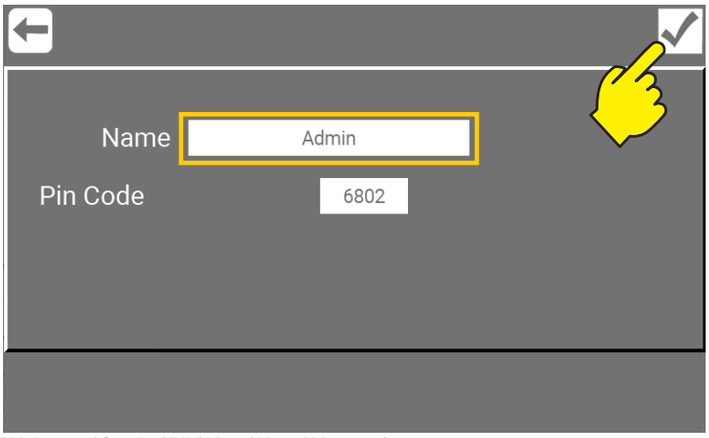


\Mainmenu\Service\PIN\Menu\Users\Manager\...

Enter new name...

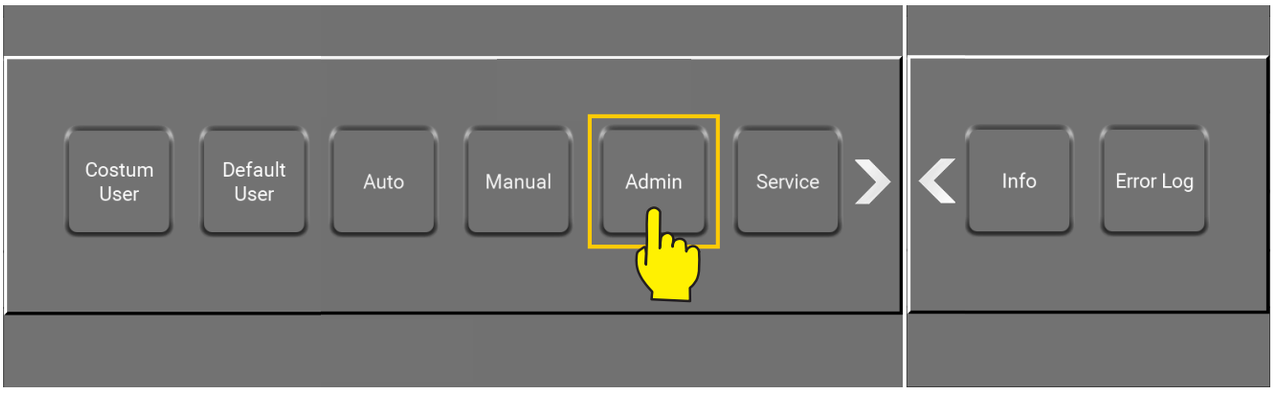
\Mainmenu\Service\PIN\Menu\Users\Manager\...

Confirm name change with "✓" before "Return".



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

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



\Mainmenu\

10.3.4. Change Pin Code Manager / as Service

See : "4.8. PIN Code for Manager / as Service" on page 16

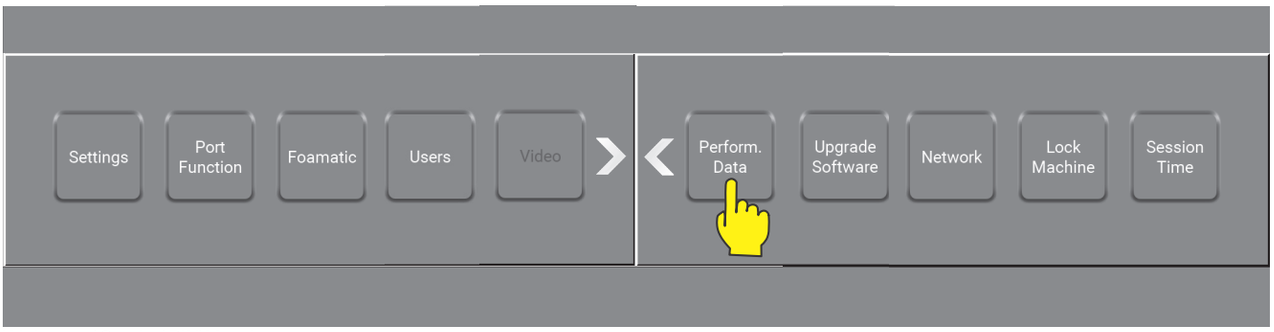
10.4. Video / as Service (Coming up)

Instruction videos to come - not yet available.

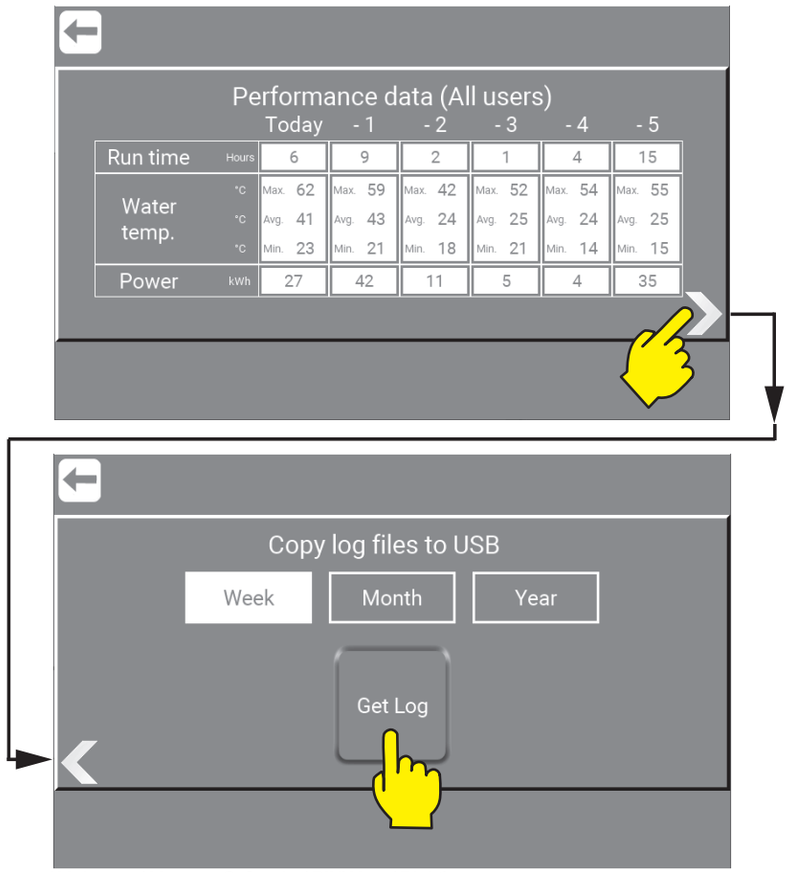
10.5. Performance Data / as Service

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.
See : "5.3.7. Performance data / as Customized User" on page 32

Press the "Performance Data" button.



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



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

10.5.1. 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 conneted it see: "13.1. Software Upgrade Display Local with USB Flash Drive" on page 132
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!

10.6. Upgrade Software / as Service

Go to "13. Upgrade Software" on page 132

10.7. Network / as Service

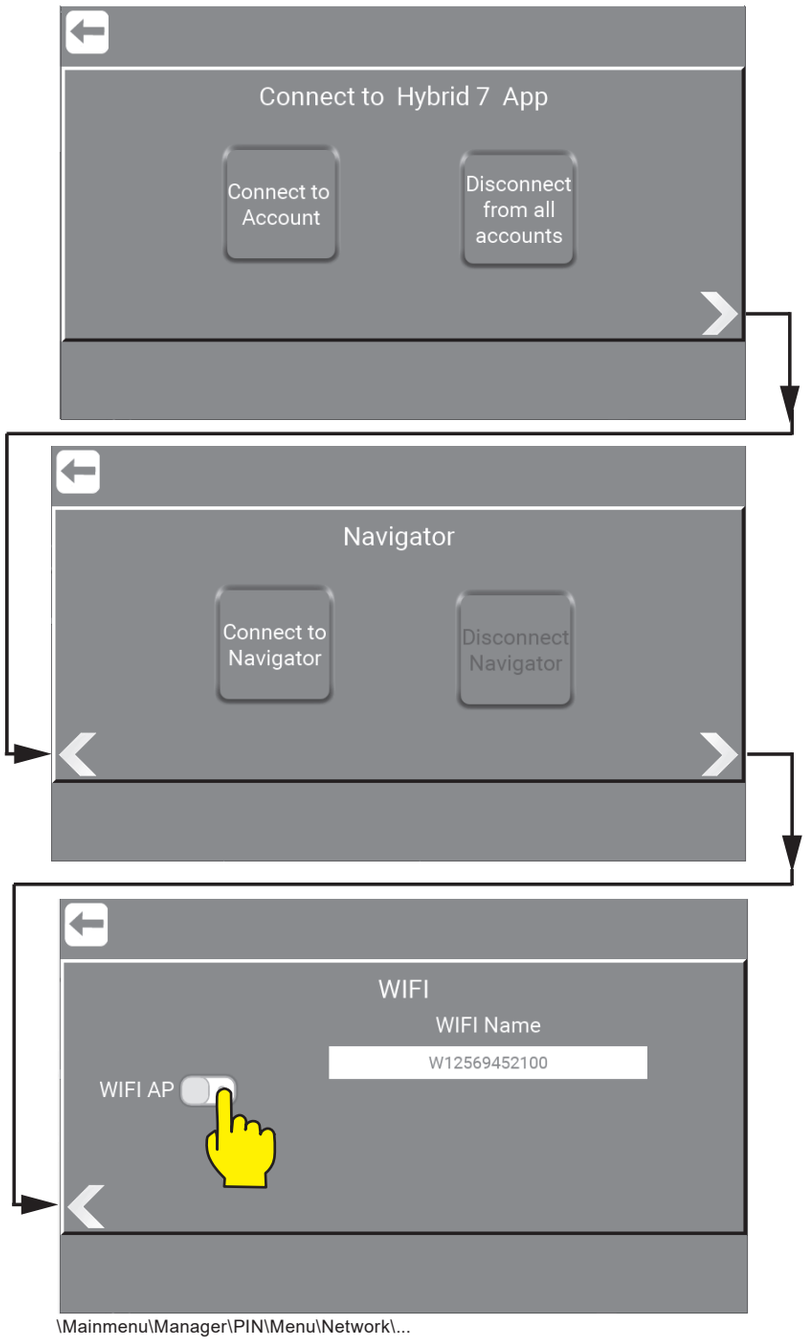
The network area is for upgrade of the units software, by Azura or by Wifi.

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

"14. Connect the unit to Hybrid 7 app" on page 148

"13.3. Software Upgrade using Wifi AP (Access point)" on page 139

First screen is for Connect or Disconnect to the Hybrid 7 App.
Right click and the screen will give access to Navigator and wifi (Acces Point).

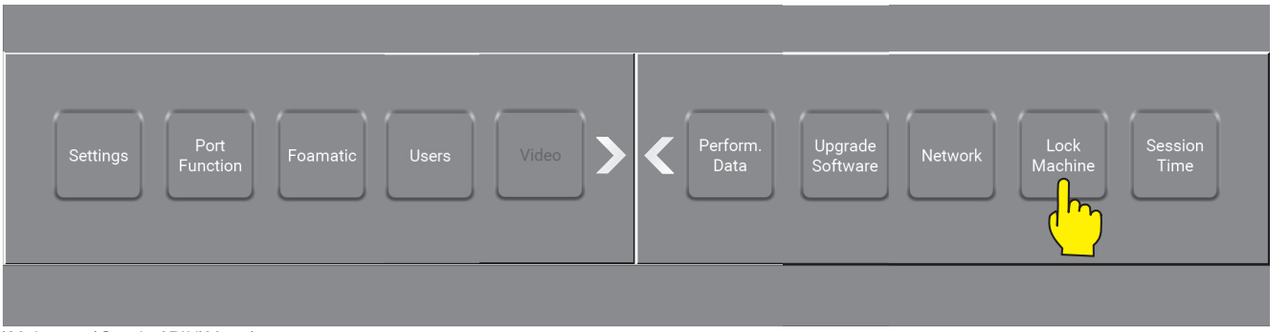


\Mainmenu\Manager\PIN\Menu\Network\...

10.8. Lock Machine

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

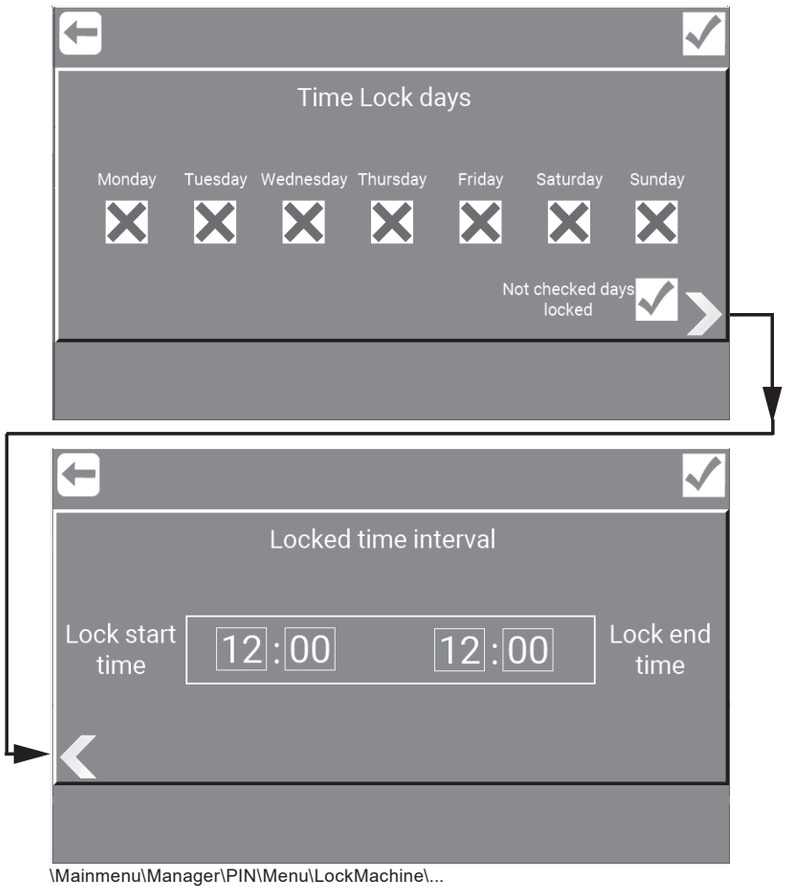
Press the "Lock Machine" button.



\Mainmenu\Service\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.

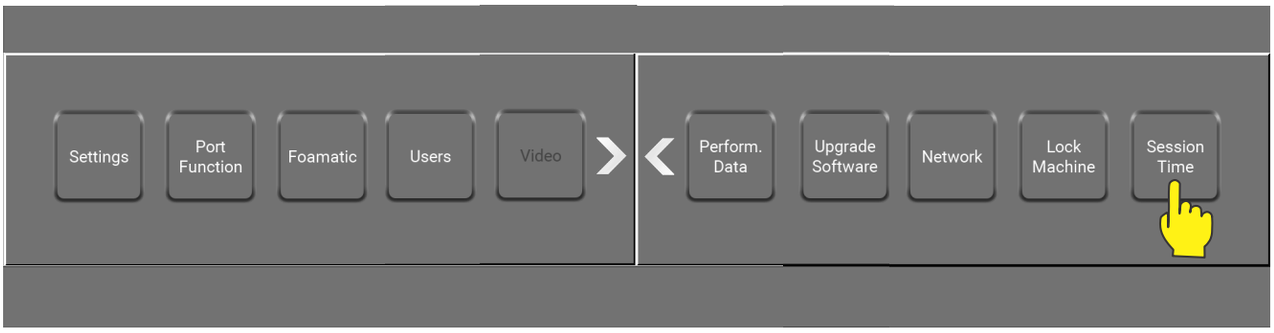


\Mainmenu\Manager\PIN\Menu\LockMachine\...

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

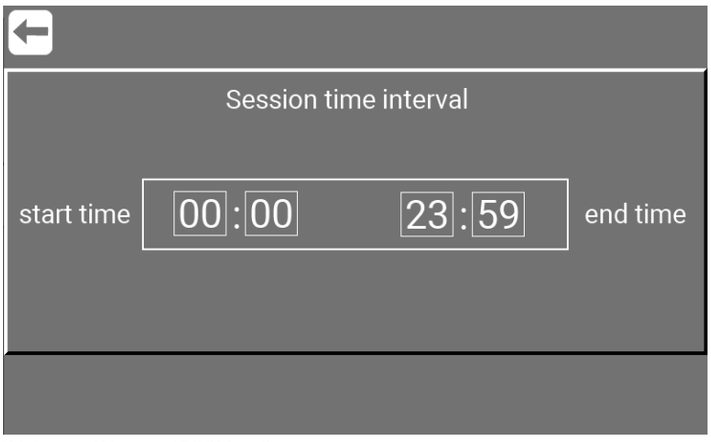
10.9. Session Time Interval

Press the "Session Time" button.



\Mainmenu\Service\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\\...

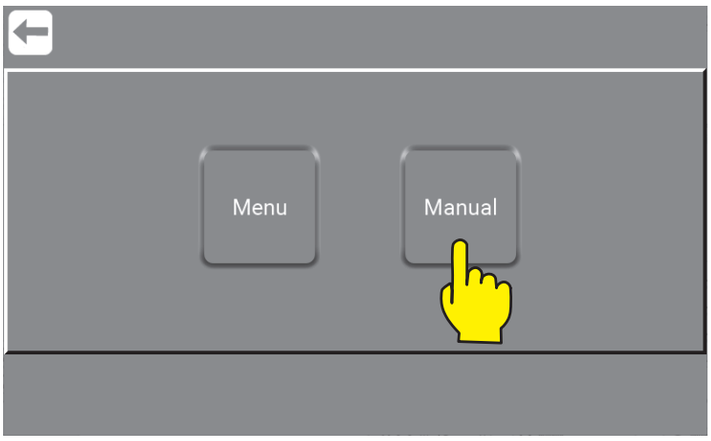
To save selected settings, always remember to press "OK", before "Return".

10.10. Manual / as Service

"Manual / as Manager" menu is the same as "Manual / as Service".
The test mode (Manual) is a place to test if the units setup is as required.
Service has access to the settings button in all sub screens which Manager is more limitied.
Services test mode (Manual) is a place to test if the unit setup is as required.

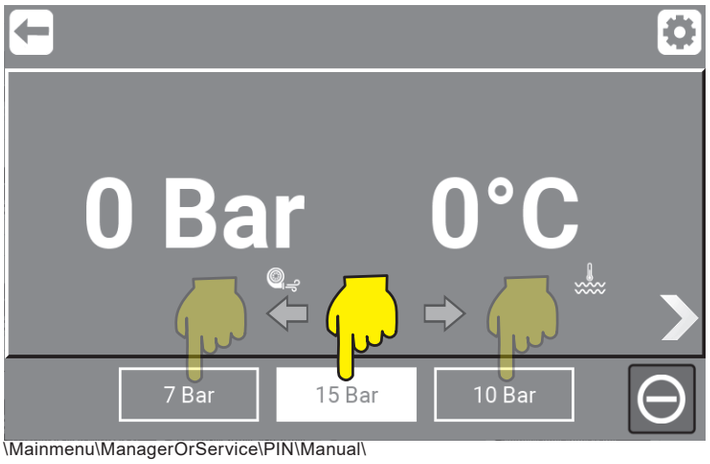
In here Service can check data and make changes by pressing "Settings" anytime wanted.

Press the "Manual" button.



\Mainmenu\ManagerOrService\PIN\

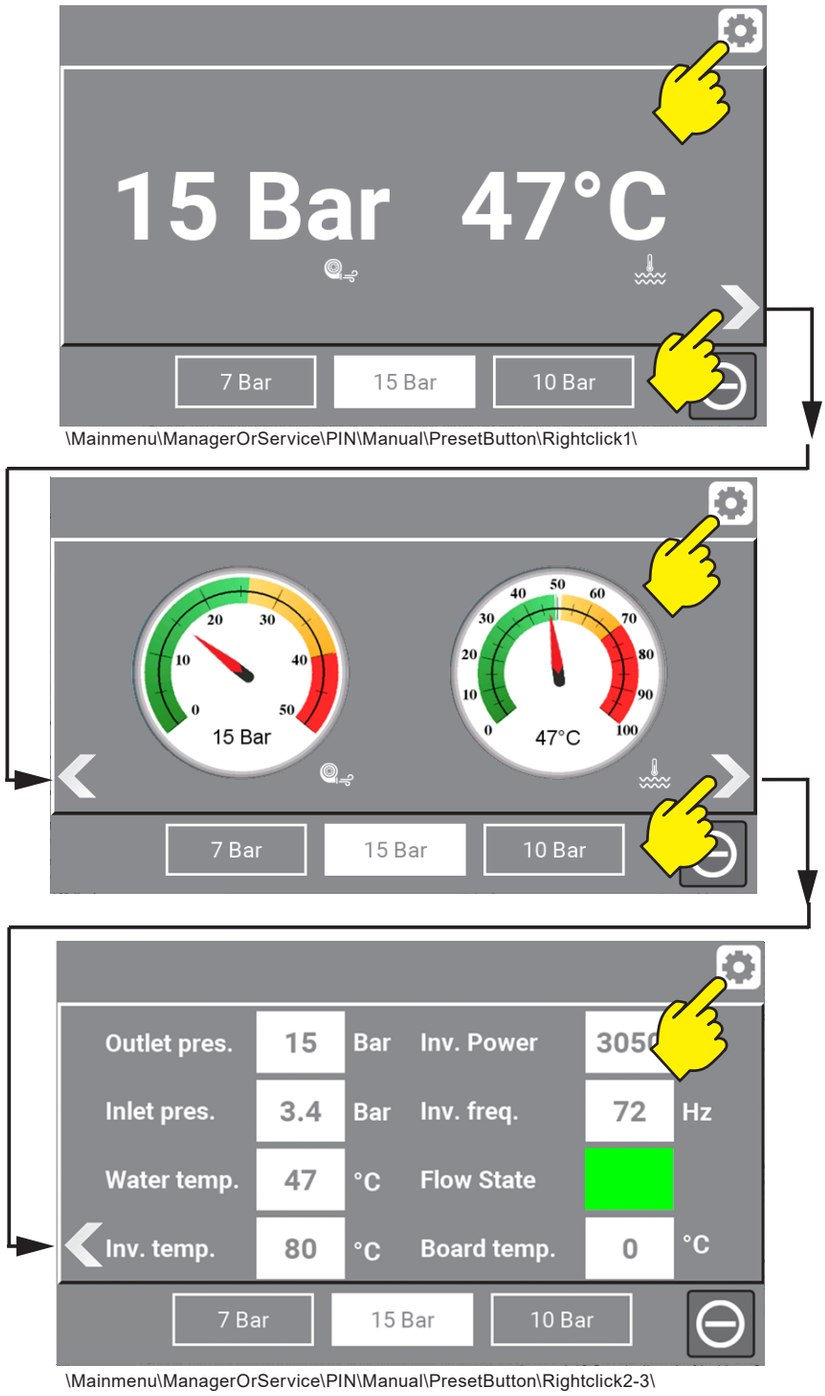
Press the required preset pressure button to activate the unit.
Manual cleaning is now active and will start running when there is flow.



\Mainmenu\ManagerOrService\PIN\Manual\

10.10.1. 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.



G

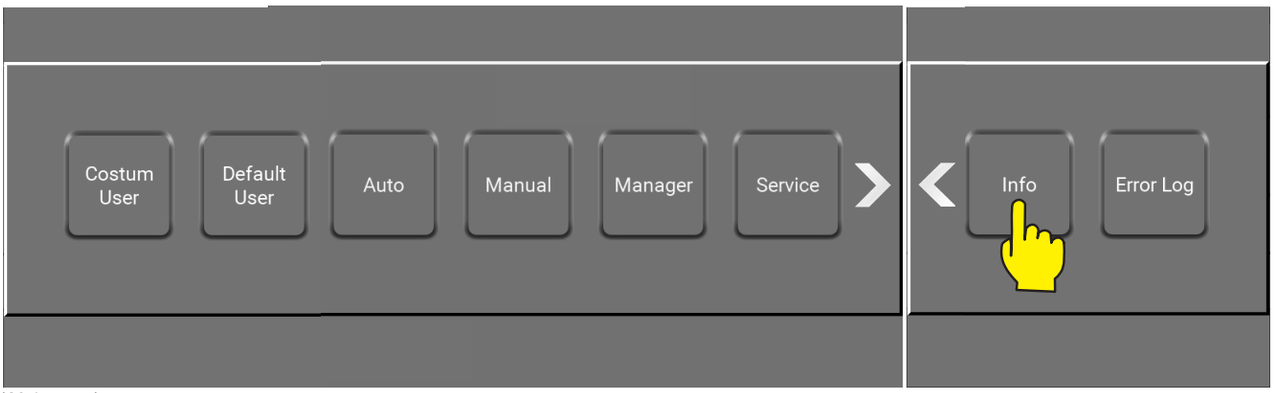
Info

11. 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.

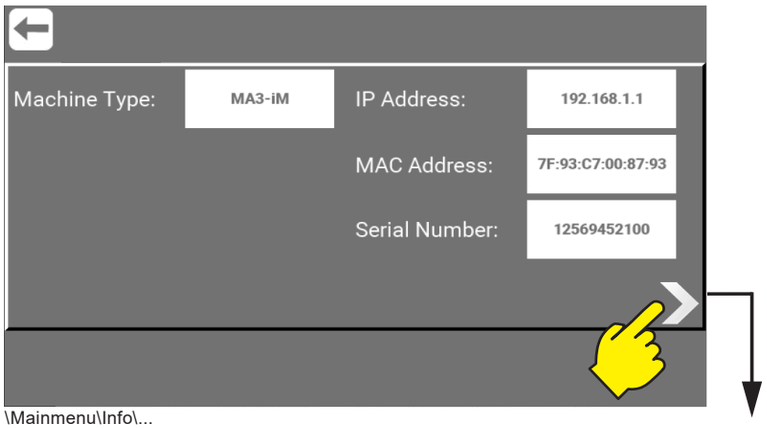
11.1. Where to find "Info" menu

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



\Mainmenu\

11.1.1. What kind of data to find in "Info"



\Mainmenu\Info\...

11.1.1.1. Machine type

Machine type is defined on the identification plate.
More about this in Direction for Use manual.
And about machine type see :
"10.1.1.15. Machine type (Only as Service)" on page 83

11.1.1.2. IP Address

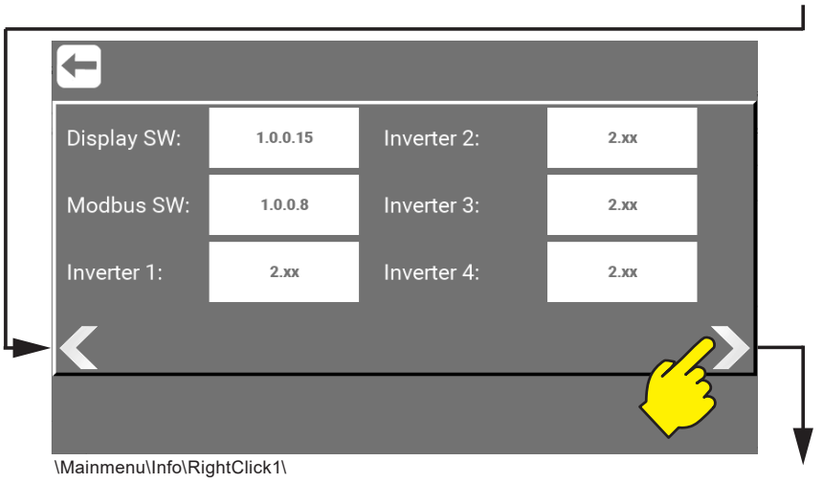
IP Adress, for this unit.

11.1.1.3. MAC Adress

MAC Adress, for this unit.

11.1.1.4. Serial Number

Serial Number, for this unit.



\Mainmenu\Info\RightClick1\

11.1.1.5. Controller SW version

Display Module software, this is the current version.

11.1.1.6. Modbus SW version

Modbus software, this is the current version.

11.1.1.7. Inverter SW version (MH / MP / BH / BP / BF4 / BF8)

Inverter software, this is the current version.

11.1.1.8. Inverter 1 version (BF16 / BF24 / BF32)

Inverter software, this is the current version.

11.1.1.9. Inverter 2 version (BF16 / BF24 / BF32)

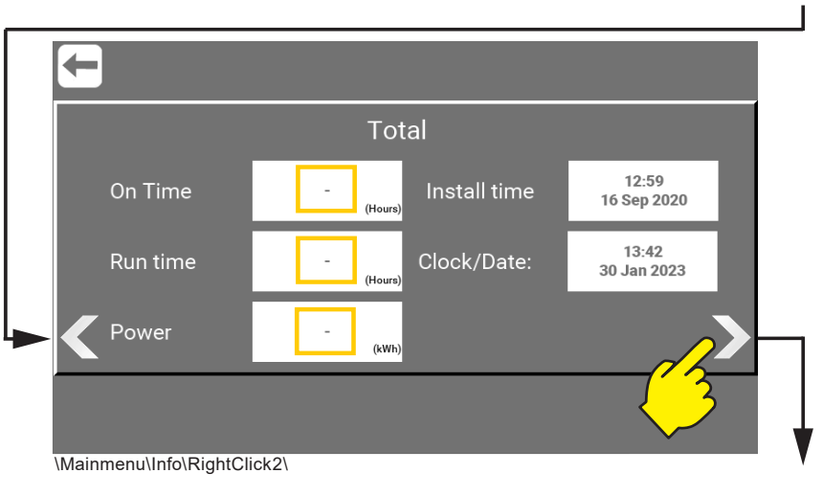
Inverter software, this is the current version.

11.1.1.10. Inverter 3 version (BF24 / BF32)

Inverter software, this is the current version.

11.1.1.11. Inverter 4 version (BF32)

Inverter software, this is the current version.



\Mainmenu\Info\RightClick2\

11.1.1.12. On Time

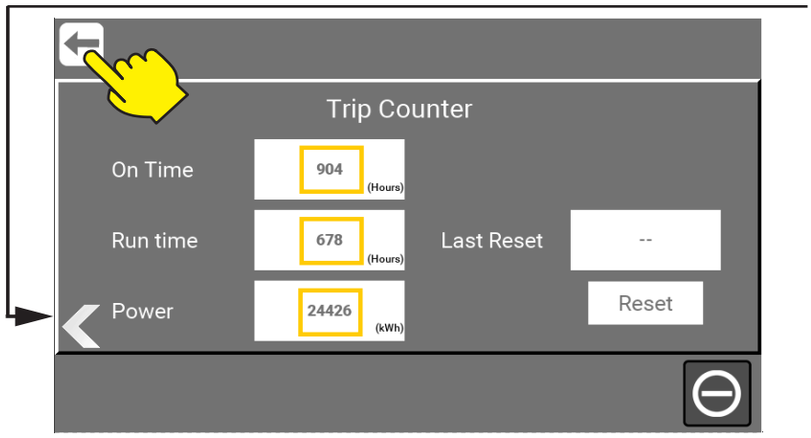
The total amount of hours the unit has been turned on.
Important : If the unit has more then one pump, press the space indicated by yellow box and see data for each pump (BF16 - 32).

11.1.1.13. Run Time
The total amount of hours the unit has been running.
Important : If the unit has more then one pump, press the space indicated by yellow box and see data for each pump. (BF16 - 32)

11.1.1.14. Power
The total amount kWh used in the units lift time.
Important : If the unit has more then one pump, press the space indicated by yellow box and see data for each pump. (BF16 - 32)

11.1.1.15. Install time
The time, date and year for the units installation.

11.1.1.16. Clock/Date
The current time, date and year.



\Mainmenu\Info\RightClick3\

11.1.1.17. On Time
The number of hours the unit has been turned on since last reset.
Important : If the unit has more then one pump, press the space indicated by yellow box and see data for each pump. (BF16 - 32)

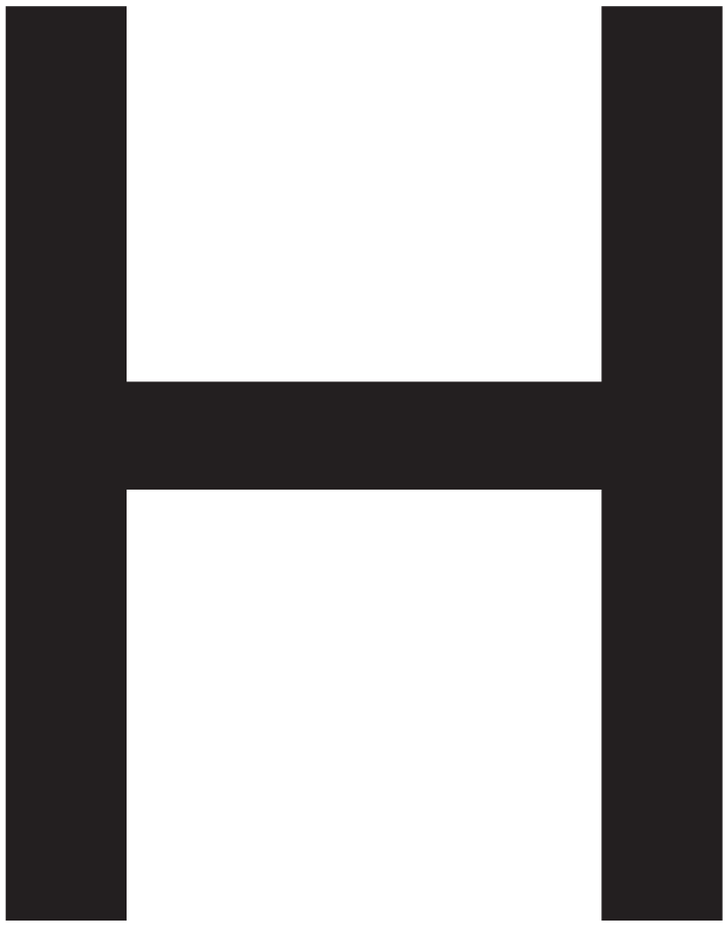
11.1.1.18. Run Time
The total number of hours running since last reset.
Important : If the unit has more then one pump, press the space indicated by yellow box and see data for each pump. (BF16 - 32)

11.1.1.19. Power
The total amount kWh used since last reset.
Important : If the unit has more then one pump, press the space indicated by yellow box and see data for each pump. (BF16 - 32)

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

11.1.1.21. Reset button
This button will reset trip counter.

Press "return" to go back to the Main menu.

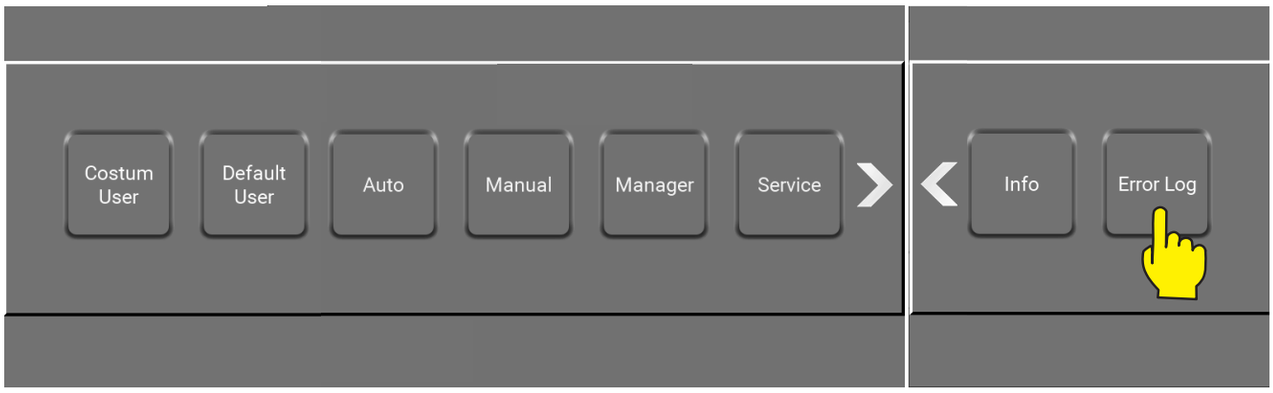


Error Log

12. Error Log

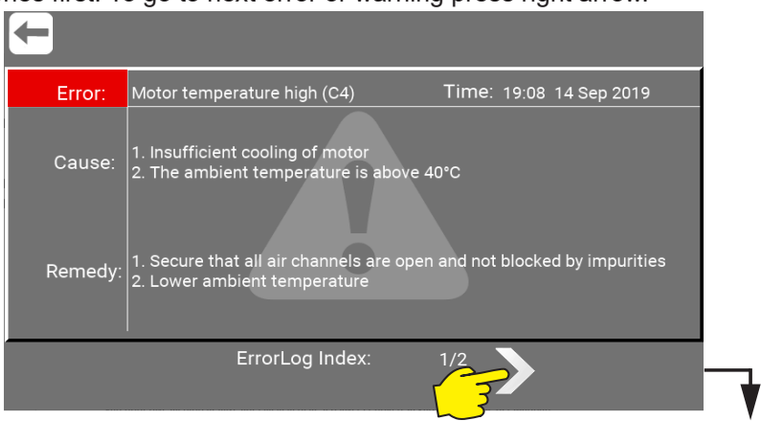
In the Error log menu it is possible to see the latest errors and warnings (up to 200 logs).
All data will allways automatically be stored / logged.

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

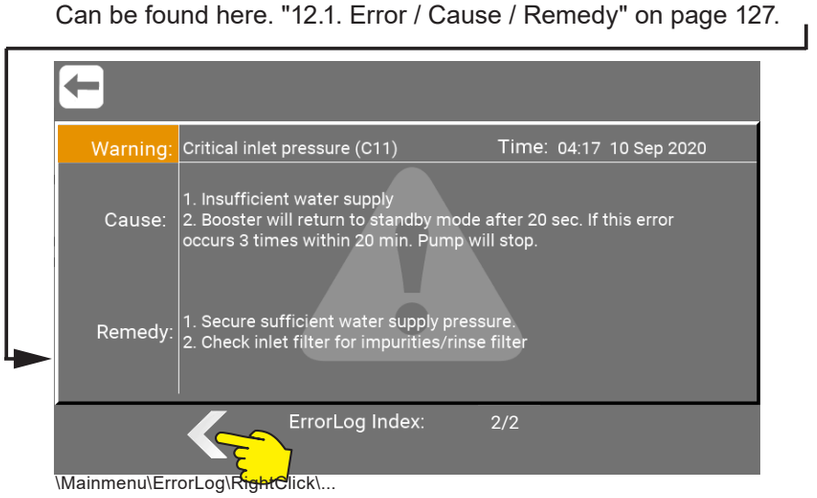


\Mainmenu\

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. "12.1. Error / Cause / Remedy" on page 127.



\ \Mainmenu\ErrorLog\RightClick\...

12.1. Error / Cause / Remedy

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

Columme 1 : Show the identification code. Below there is a "E" if it is a error or a "W" if it is a Warning.
Columme 2 : Show the describtion of the error or warning.
Columme 3 : Show the cause of the error or warning.
Columme 4 : Show what can be done to resolve the error or warning.

Code	Error or Warning	Cause	Remedy
C2 W	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
C3 E	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 consump-tion 3. Check if flow-switch is on (green light i on) without any water is flow-ing.
C4 E	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
C7 E	No Communication	1. No Communication between Display and Inverter.	1. Check cables between display and inverter 2.Power unit off and on, wait 1 min-ute and power on again
C8 E	Low Tank Level	1.Insufficient water supply 2.Water supply valve not open	1.Check correct water supply 2. Secure sufficent air supply to valve.
C9 W	High Tank Level	1.Water supply valve not closed.	Secure sufficient air supply to valve
C11 W	Critical inlet pressure	1. Insufficient water supply 2. Booster will return to standby mode after 20 sec. If this error oc-curs 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
C13 W	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

C14 W	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
C16 W	Inlet sensor load low	Current consumption from inlet sensor low	1. Check cable and connection to sensor 2.Change sensor
C17 E	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.
C18 E	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
C19 E	Low Outlet Pressure	1.Water Consumption is too high 2.Inverter is running max.	1. Reduce water consumption or reduce water pressure
C20 W	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
C22 W	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
C26 W	Outlet sensor load low	Current consumption from Outlet sensor low	1. Check cable and connection to sensor 2.Change sensor
C27 W	Flowswitch Load Low	Flowswitch current consumption is below limit	1. Check cable and connection to sensor 2.Change sensor
C28 W	Suction Lance A, Low	Level of product in chemistry canister for product A is low	1. Replace chemistry canister for product A
C29 W	Suction Lance B, Low	Level of product in chemistry canister for product B is low	1. Replace chemistry canister for product B
C40 W	Sensor Load High Outlet Sensor	1. Outlet sensor using too much current	1. Press “OK” button, and restart 2. Change Outlet sensor
C41 E	Sensor Load High Inlet Sensor	1. Inlet sensor using too much current	1. Press “OK” button, and restart 2. Change Inlet sensor
C43 W	Flowswitch load high	1. Flowswitch using too much current	1. Press “OK” button, and restart 2. Change flowswitch
C44 E	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
C45 W	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.

C46 W	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.
C50 E	Current phase 1,	Too high current on motor phase 1	1. Control power on all 3 phases\n2. Reduce motor load
C51 E	Current phase 2,	Too high current on motor phase 2	1. Control power on all 3 phases\n2. Reduce motor load
C52 E	Current phase 3,	Too high current on motor phase 3	1. Control power on all 3 phases\n2. Reduce motor load
C53 E	Motor sum current too high	1. In-balance between motor-currents. 2. Current leaking to Earth, Ground Fault.	1. Check Motor and Cable.
C54 E	Supply Low Weak Supply.	1. Power to inverter too low 2. Missing a phase	1. Secure stable power supply.
C55 E	Supply to high	1. Supply out of range.	1. Secure stable power supply.
C56 E	Current to high	Short circuit between motor-current cable and earth or other motor-current cable.	1. Check Motor and Cables.
C57 E	Safe Torque off	1. Emergency circuit has been opened / broken.	1. Check all emergency switches and cables.
C58 E	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.
C59 E	Serial no. or Rev. no. not correct	1. No.'s has not been read correct 2. No. not written to memory	1. Re-power unit 2. Call service technician
C60 E	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.
C61 E	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.
C62 W	Suction Lance A, Low (Inverter)	Level of product in chemistry canister for product A is low	1. Replace chemistry canister for product A
C63 W	Suction Lance B, Low (Inverter)	Level of product in chemistry canister for product B is low	1. Replace chemistry canister for product B
C64 W	High Tank Level (Inverter)	1.Water supply valve not closed.	Secure sufficient air supply to valve
C65 E	Tank Empty (Inverter)	1.Insufficient water supply 2.Water supply valve not open	1.Check corrrect water supply 2.Secure sufficient air supply to valve
C66 E	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.

C67 W	Suction Lance C, Low (Inverter)	Level of product in chemistry canister for product C is low	1. Replace chemistry canister for product C
C68 W	Suction Lance C, low	Level of product in chemistry canister for product C is low	1. Replace chemistry canister for product C
C69 E	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.
C70 E	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
C71 W	Suction Lance Global, low	Level of product in any chemistry canister is low	1. Control and Replace chemistry canisters
C72 W	Wash program not released	Release signal not present when starting wash program	Ensure correct signal at input for release wash program
C73 W	No release hold for washprogram	Release hold signal removed during running wash program	Ensure correct signal at input for release hold of wash program
C74 E	External Error	1. Error input signal comming from external device.	1. Reset signal from external device.
C75 E	Safety Active	Input signal indicating safety circuit is activated	1. Remove cause of safety error 2. Reset Error
C76 E	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
C77 W	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
C78 W	USB Setup file reset to default state	Content of setup file at USB invalid and no known setup in memory	1. Restart unit.
C79 E	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)
C80 E	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)
C81 E	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)

C82 E	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.
C83 E	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.
C84 E	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
C85 E	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.
C86 W	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
C88 E	Port Current above limit	Valve connected to port does not open Valve blocked.	Open valve manually Excange valve
C89 E	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.

13. Upgrade Software

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

13.1. Software Upgrade Display Local with USB Flash Drive

Upgraded with a USB Flash Drive and Wifi AP (Access point) is possible, but we always recommend remote upgrade see "13.2. Upgrade Display Remote" on page 138

13.1.1. 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 it for other purposes.

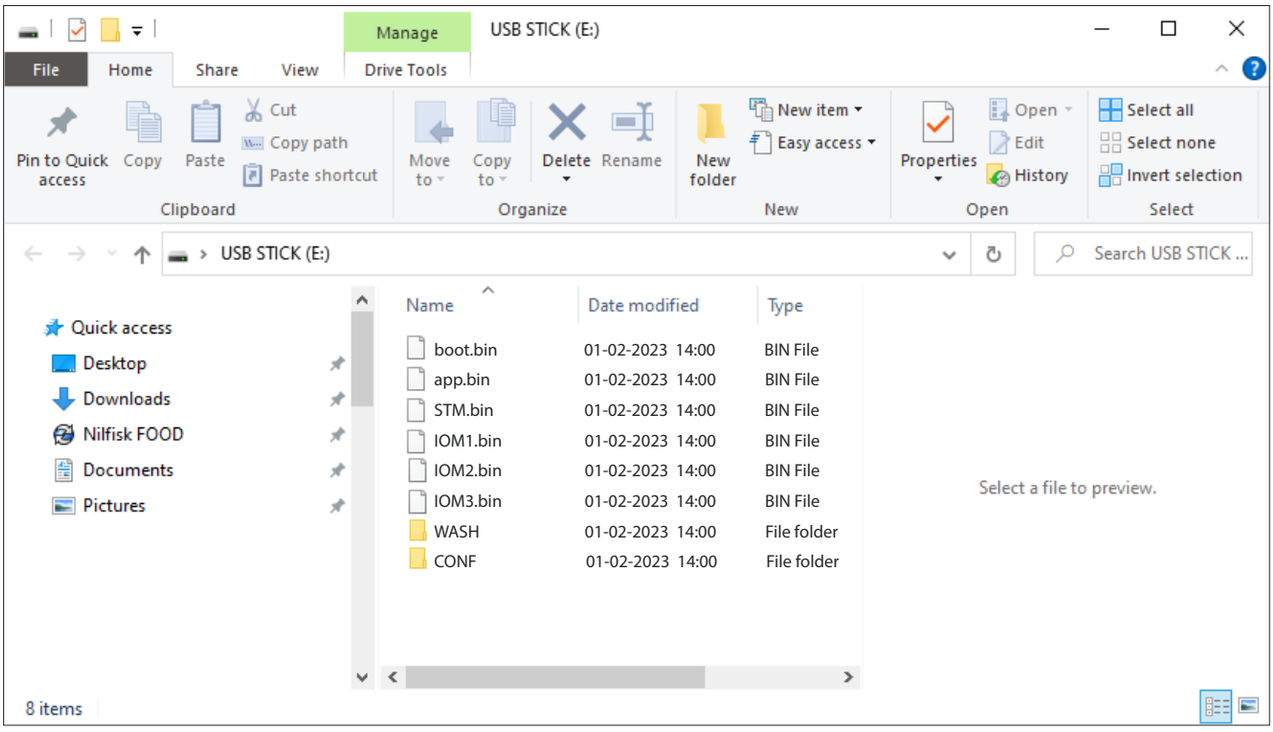
IMPORTANT! The USB flash drive must be formatted in **FAT32** format.

13.1.2. Download of software

The software for updating the Display Module can be found at Nilfisk FOOD website: **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**
2. **Open and extract the zip file.**
3. **Copy the files to a USB Flash Drive.**
4. **The file structure should look like this (No prioritized order):**



13.1.3. Upgrade files and their functions

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

Each of the 6 bin files have functions of their own.
These functions are specified here:

boot.bin :
Bootloader for Nilfisk FOOD software updates.
The Bootloader is the first file you need to run as it provides an interface for the user to load the applications.

app.bin :
Update file for the Display Module application.
Update file for the Graphic User interface (GUI)
Update file for the Inverter communication.

STM.bin :
Update file for the Inverter communication.
Update file for the Modbus.

IOM1.bin (Only for Foamatic) :
Update file for the **internal** I/O module application.
Updates for the communication between I/O module 1 and the Display Module.

IOM2.bin (Only for Foamatic) :
Update file for the **external** I/O module application.
Updates for the communication between I/O module 2 and the Display Module.

IOM3.bin (Only for Foamatic) :
Update file for the **external** I/O module application.
Updates for the communication between I/O module 3 and the Display Module.

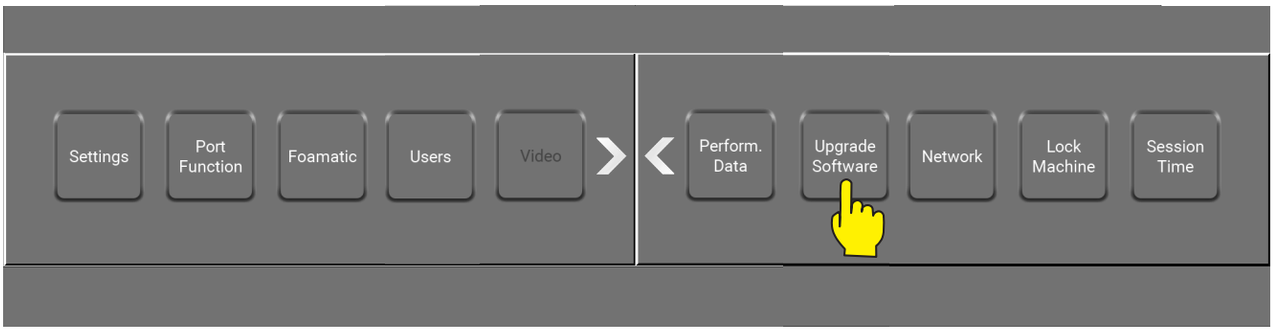
WASH Folder (Only for Foamatic) :
Folder for wash programs for the Foamatic units.

CONF Folder :
Folder for configuration files for the specific unit.

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.

13.1.4. Installation of the upgrades

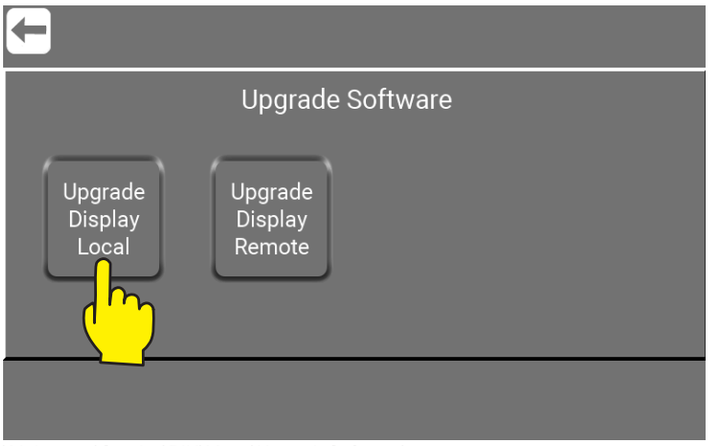
Press "Upgrade Software".



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

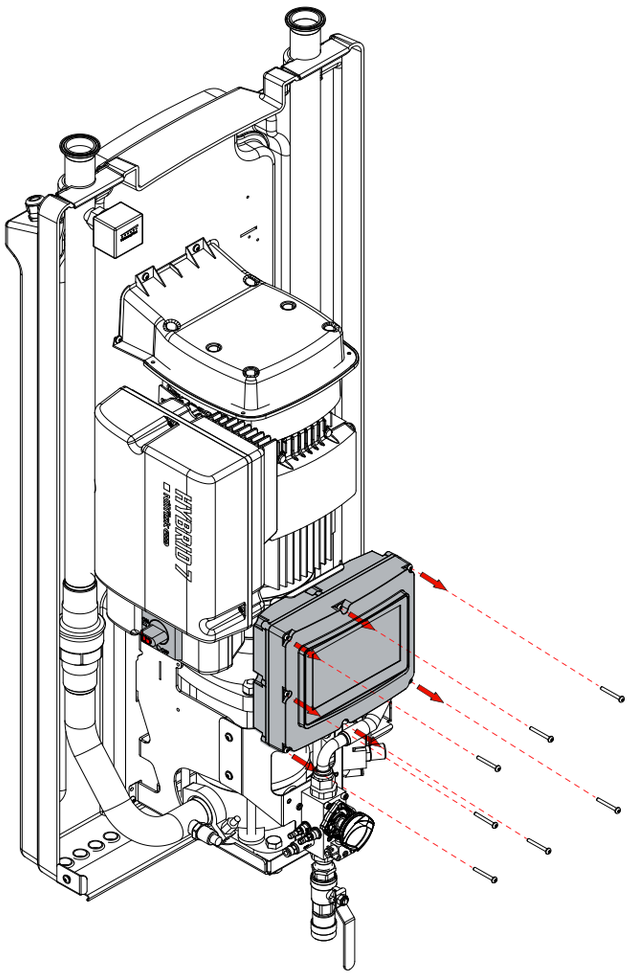
Press "Upgrade Local"

Info: To Upgrade Display Remote instead see : "6.1. Start the unit" on page 36

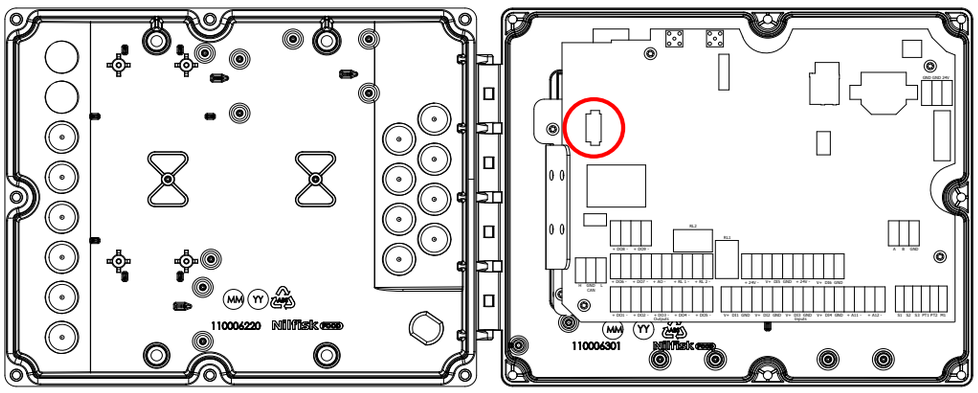


\Mainmenu\Service\PIN\Menu\UpgradeSoftware\

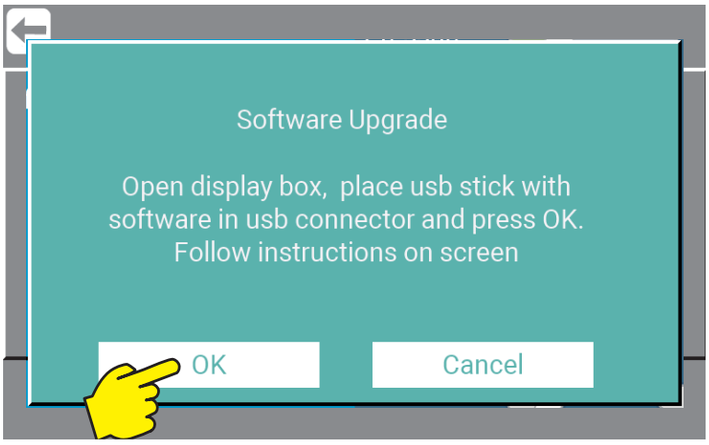
Remove the 7 screws in front to open the Display Module.



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

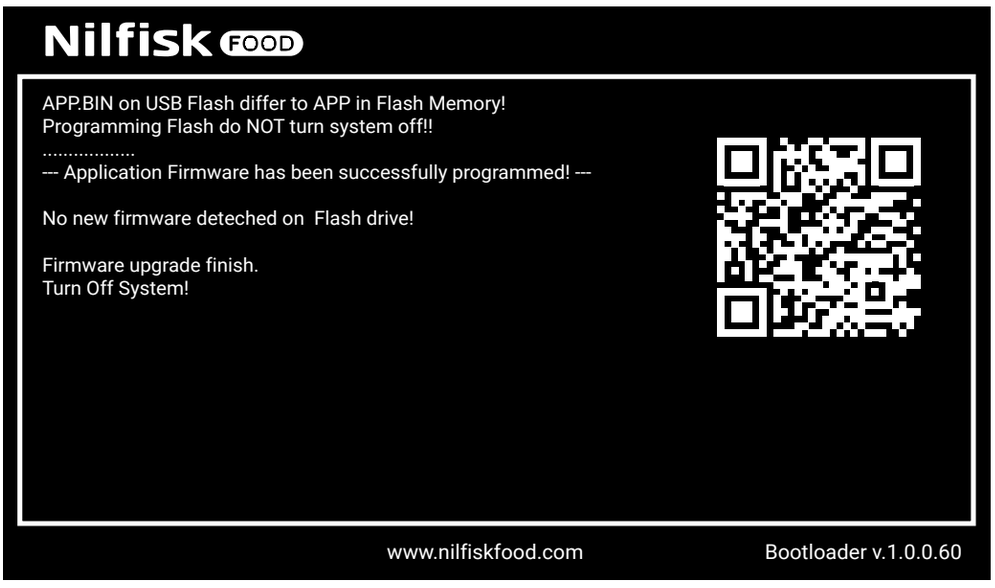


Insert the USB flash drive with the new software in to the USB Connection.
Make sure the USB flash drive is in the USB connector and Press "OK".



\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 more then 20 mm it can damage the print and hardware.
Leave the FlashDrive in if it is used to store washprograms.

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

Turn off the power, on the Inverter.
And wait for the display to turn off and then wait for additionally 5-10 sec.

OFF

Turn on power, on the Inverter.

ON

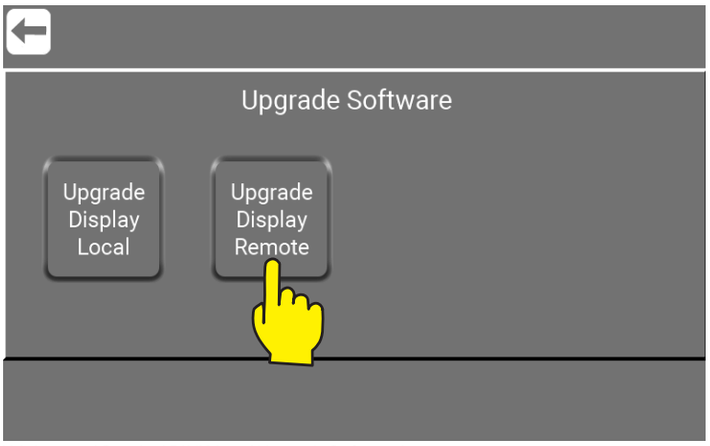
The Display Module will restart automaticlly.

Verify that the software version is correct.
How to see "11.1.1.5. Controller SW version" on page 121

13.2. Upgrade Display Remote

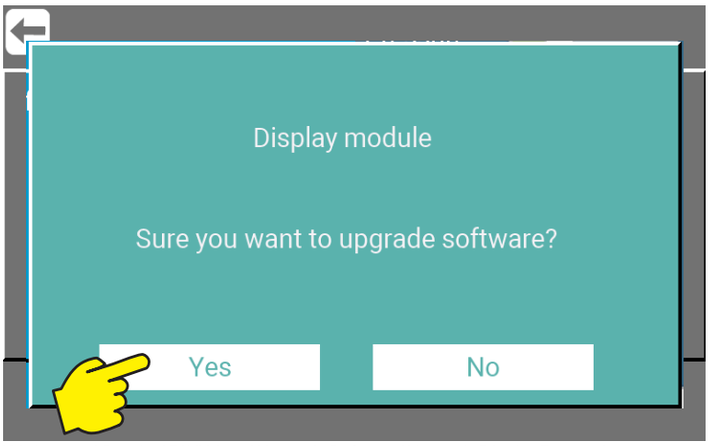
Upgrade with remote connection to Nilfisk Food is the easiest way to upgrade this unit.
Connect the unit to the internet.

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 appar - to continue press "Yes".



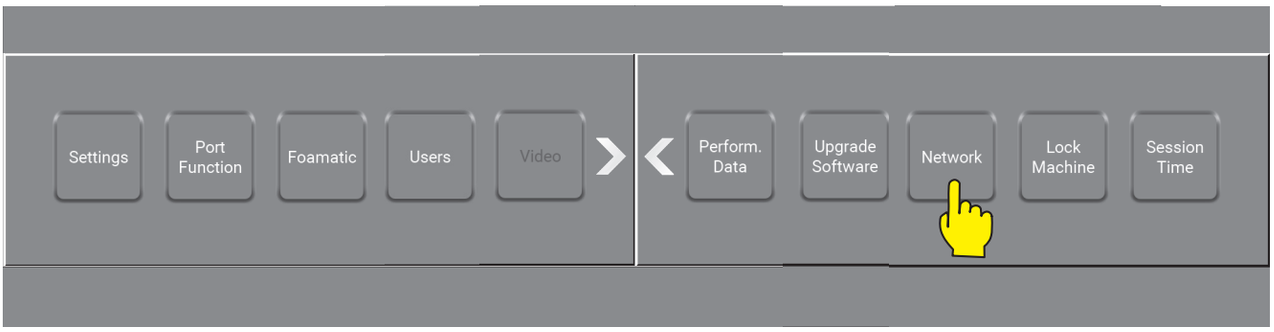
\Mainmenu\Service\PIN\Menu\UpgradeSoftware\UpgradeDisplayRemote\

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

We recommend that the software versions change is confirmed in "Info" menu after the upgrade are finshed.
How to use info to confirm software version - see : "11. Info" on page 120

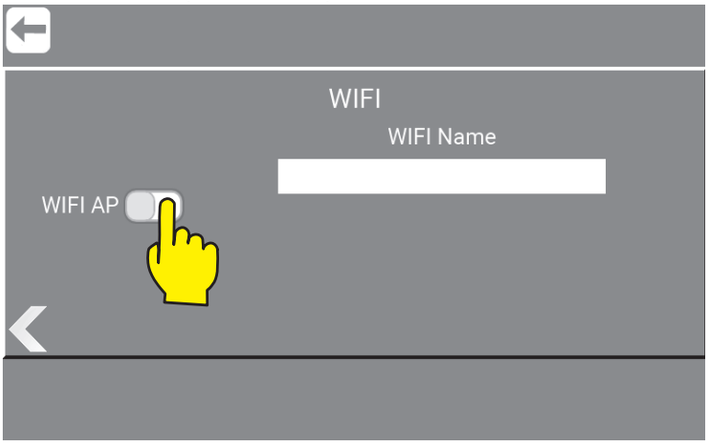
13.3. Software Upgrade using Wifi AP (Access point)

Press "Network".



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

Enable Wifi AP (Acces Point)



\Mainmenu\Service\PIN\Menu\Network\RightClick1\...

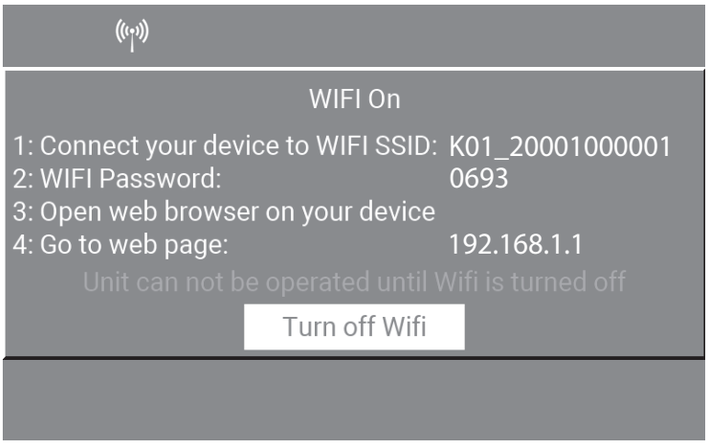
1: Connect you PC to Wifi in this case **K01_20001000001** (Machine serial number)

Machine serial number can be found on the specific units nameplate see more in Direction for Use.

2: Enter Wifi password in this case **0693.**

3: Open the web browser on you device.

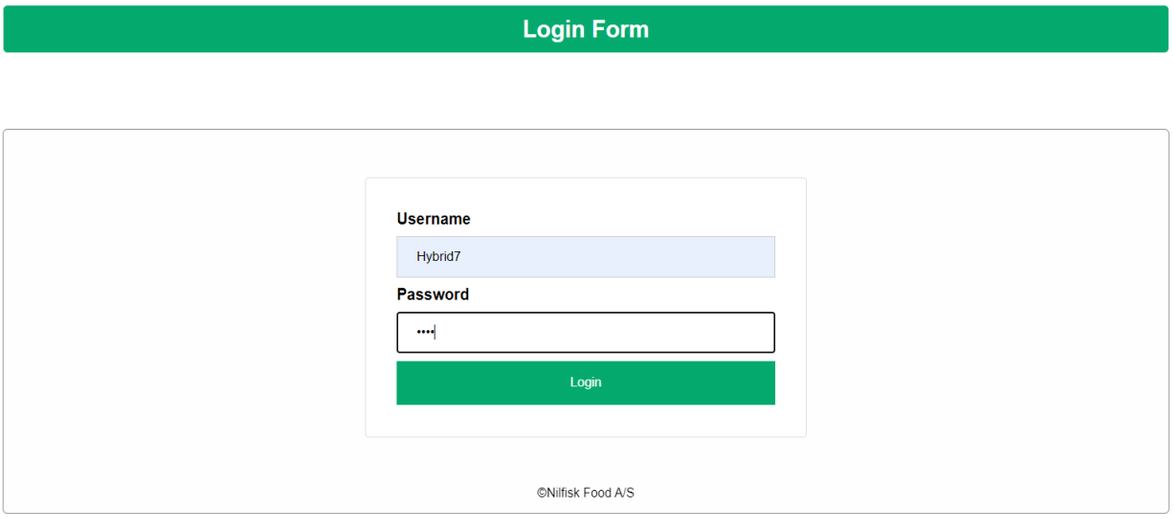
4: Go to web page **192.168.1.1**



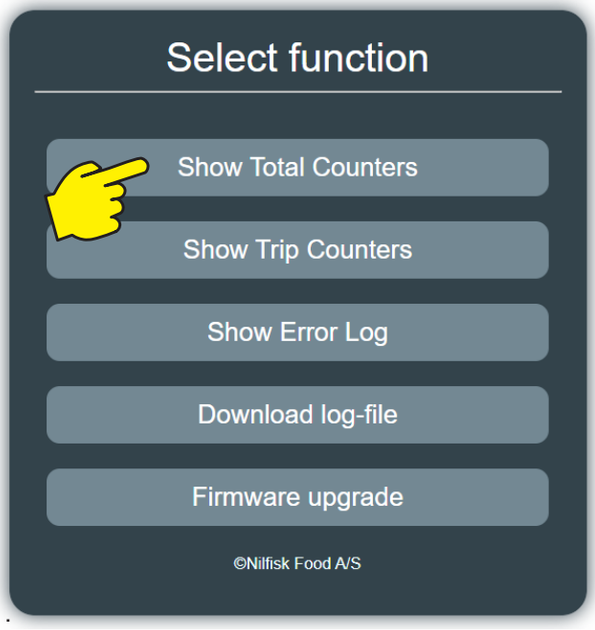
\Mainmenu\Service\PIN\Menu\Network\RightClick1\WifiAP\...

Enter username which is allways : **Hybrid7**

Enter password from Displey module in this case **0693**



This will open this menu.



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

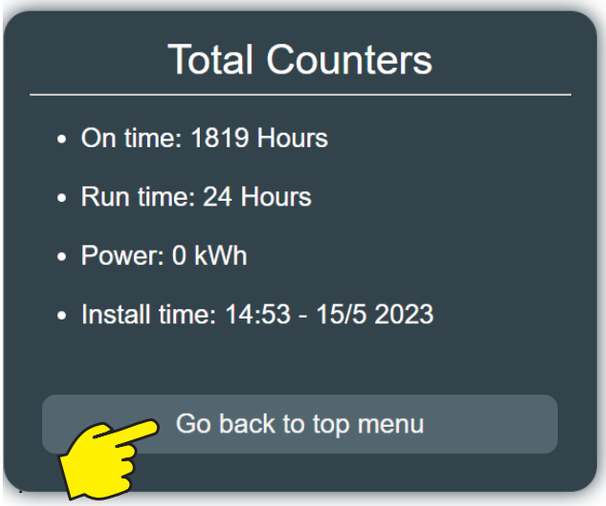
13.3.1. Show Total Counters

“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.

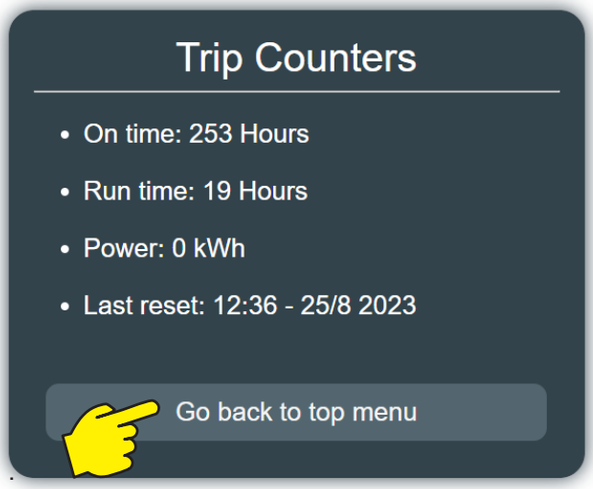
”Power:” KWh that has been used in Standby mode (Inverter).

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



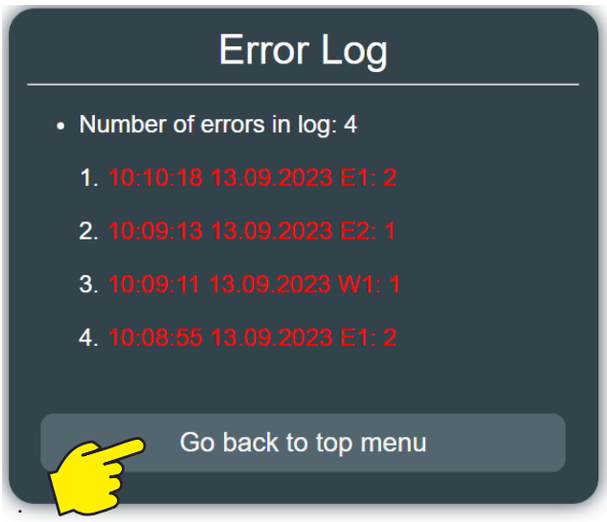
13.3.2. Show Trip Counters

See 13.3.1 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).



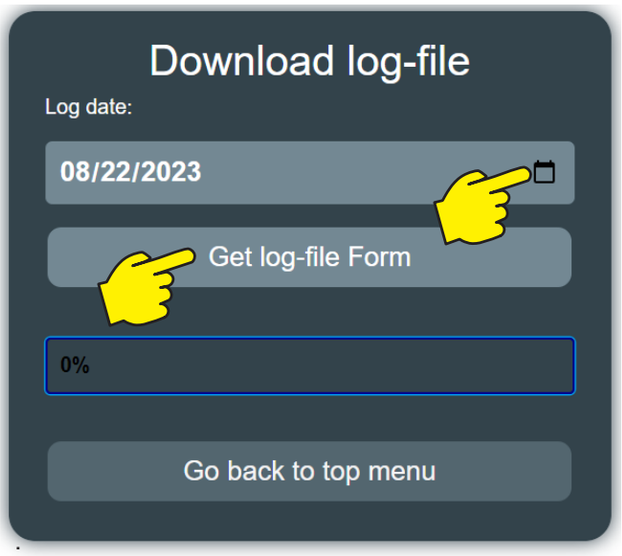
13.3.3. Show Error Log

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



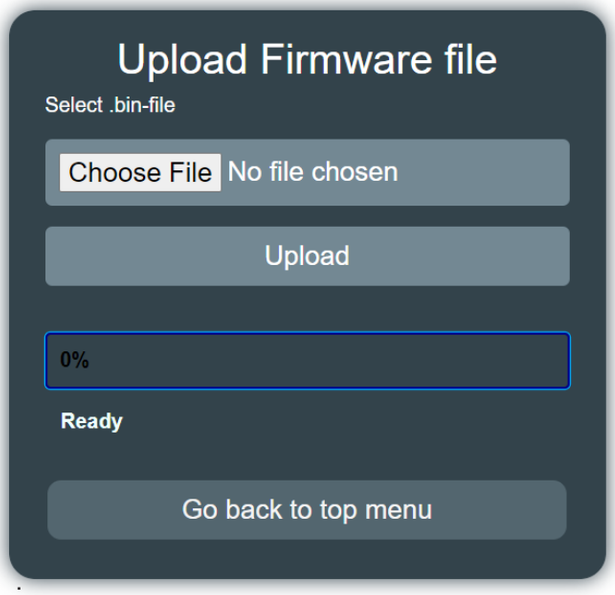
13.3.4. Download Log-file

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



13.3.5. 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 6 files have functions of their own. These functions are specified here:

boot.bin :
Bootloader for Nilfisk FOOD software updates.
The Bootloader is the first file you need to run as it provides an interface for the user to load the applications.

app.bin :
Update file for the Display Module application.
Update file for the Graphic User interface (GUI)
Update file for the Inverter communication.

STM.bin :
Update file for the Inverter communication.
Update file for the Modbus.

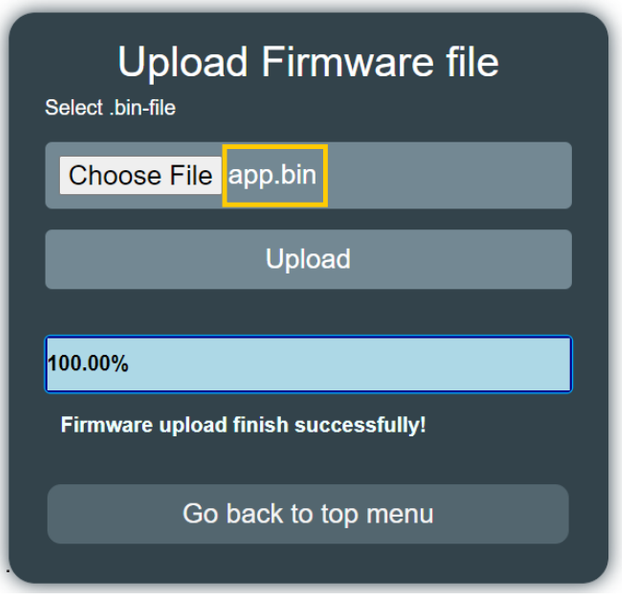
IOM1.bin (Only for Foamatic) :
Update file for the **internal** I/O module application.
Updates for the communication between I/O module 1 and the Display Module.

IOM2.bin (Only for Foamatic) :
Update file for the **external** I/O module application.
Updates for the communication between I/O module 2 and the Display Module.

IOM3.bin (Only for Foamatic) :
Update file for the **external** I/O module application.
Updates for the communication between I/O module 3 and the Display Module.

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.

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 needed / present, these steps have to be repeated as shown in the first picture under "13.3.5. Firmware upgrade" on page 142

Info :
We recommend that the software version change is confirmed after installation and upgrade.
How to see and confirm software version go to : "11. Info" on page 120

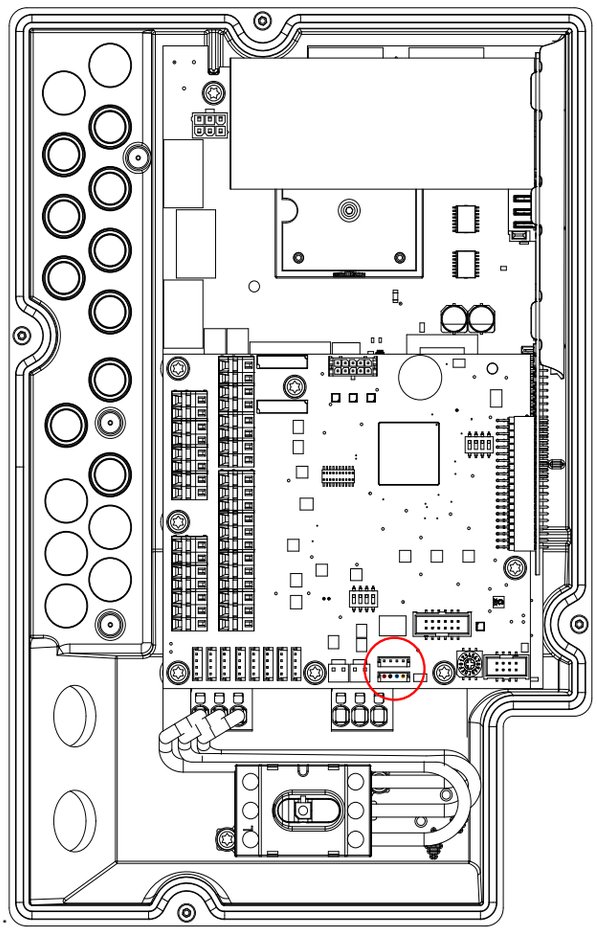
13.4. Upgrade Inverter

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

OFF

Open Inverter box

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

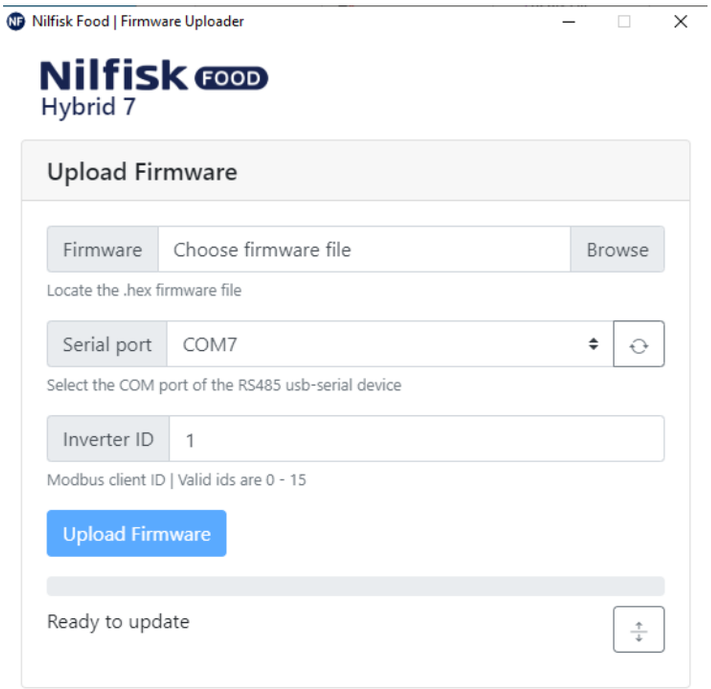


Connect the usb cable (110007947) to either one of the two modbus connectors.
Connect usb cable to PC

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)

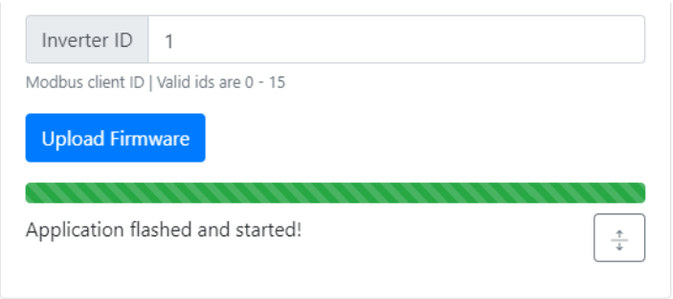


Click browse to select upgrade file *.hex (Downloaded from www.nilfiskfood.com)

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



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

OFF

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.

ON

14. 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.

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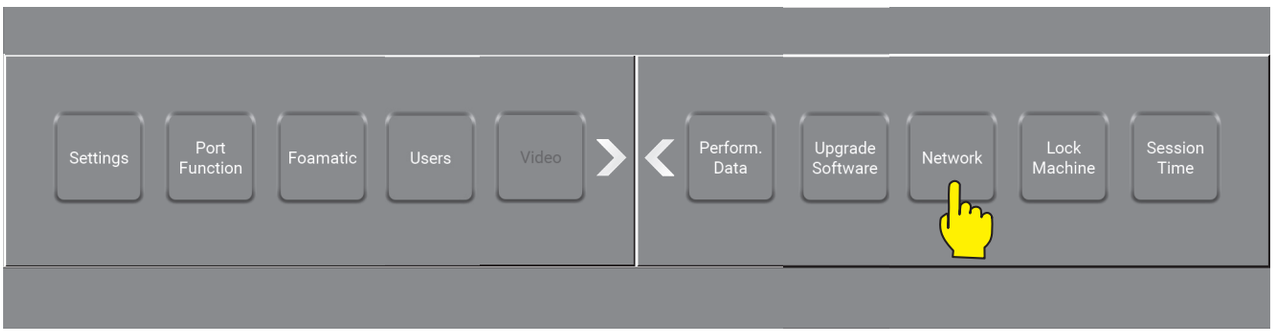
Or search for the " Nilfisk Food Hybrid 7" in Google Play or App Store.

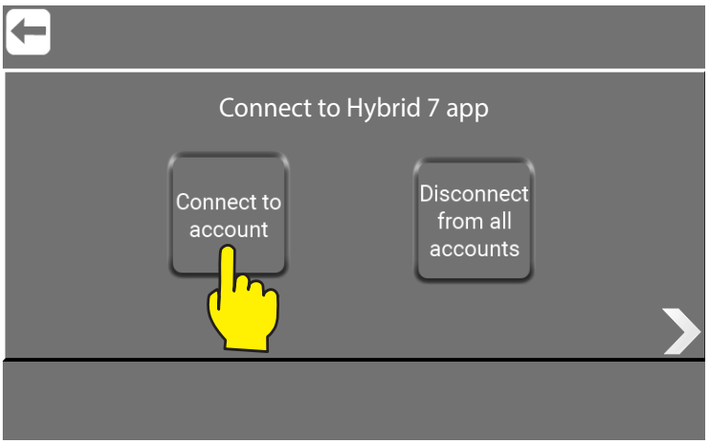
14.1. Connect to account

Press "Network".



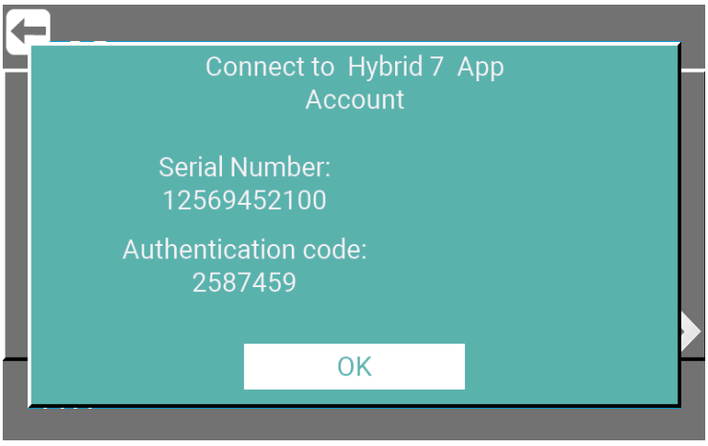
\Mainmenu\Service\PIN\Menu\...

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



\Mainmenu\Service\PIN\Menu\Network\

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

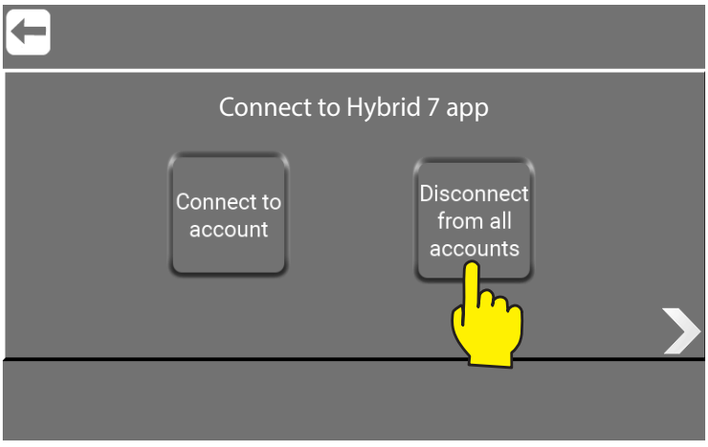


\Mainmenu\Service\PIN\Menu\Network\

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

14.2. 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\PIN\Menu\Network\

15. Connect the unit to Hybrid 7 Navigator

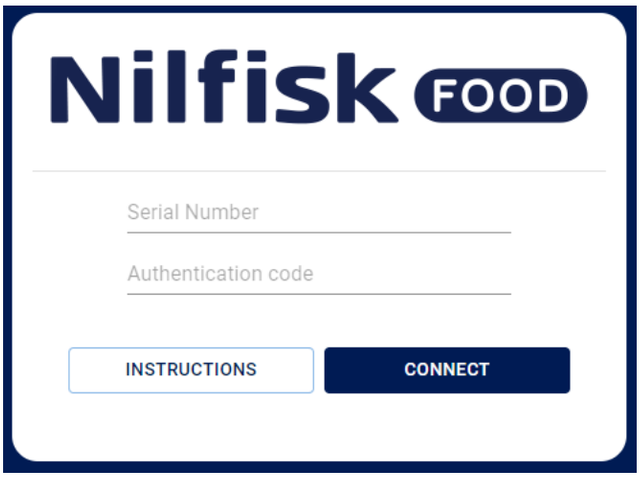
This function makes it possible to connect the unit to the Hybrid 7 Navigator in your browser.
Before connecting to an unit. Get the information and link by visiting

https://nilfiskfood.com/software/

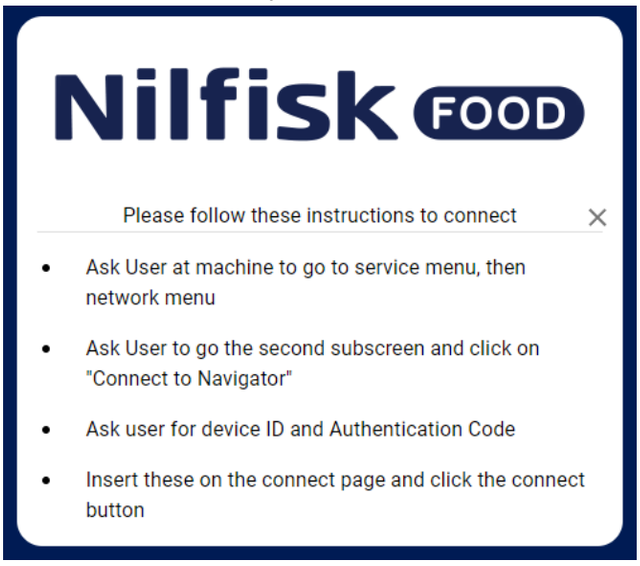
15.1. Connect to account

The Navigator is an internet based app for connecting and monitoring Hybrid 7 units.

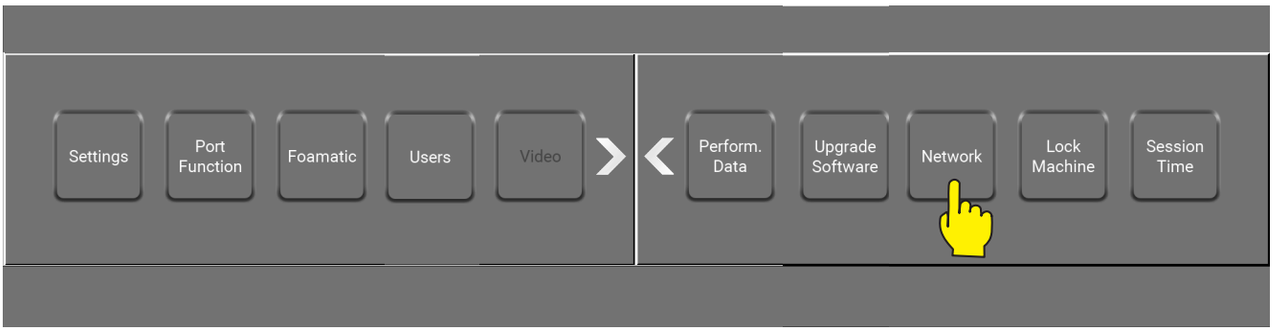
When ready - Open the login page.



For further instructions press "Instructions".

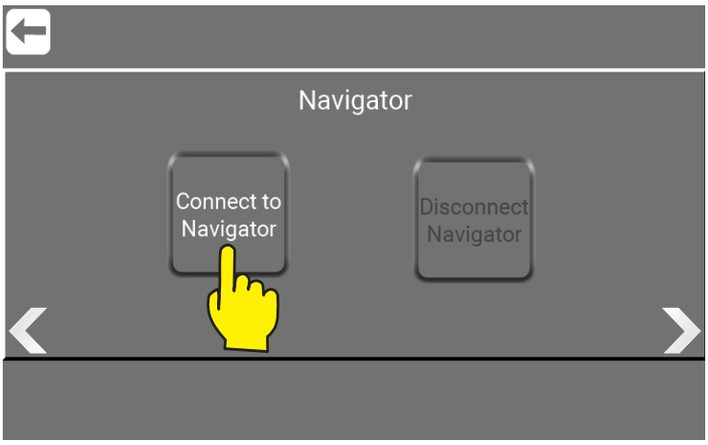


Press "Network" to get "Authentication Code and Pin Code"



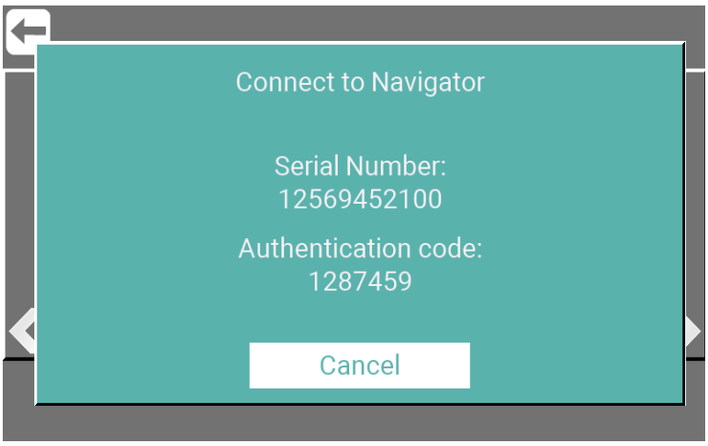
\Mainmenu\Service\PIN\Menu\...

When the login page are ready press "Connect to Navigator"



\Mainmenu\Service\PIN\Menu\Network\RightClick1\...

The unit will now come up with the Authentication code.



\Mainmenu\Service\PIN\Menu\Network\RightClick1\ConnectToNavigator\...

Enter the Serial Number and Authentication code on the login page.

And press "CONNECT"

Serial no.
Hybrid 7 MH42 / 200.01.000XXX
Hybrid 7 MP42 / 201.01.000XXX
Hybrid 7 BH4, BP4, BH7 / 202.01.000XXX
Hybrid 7 BF4, BF8 / 203.01.000XXX
Hybrid 7 Foamatic / 204.01.000XXX
Hybrid 7 BF16 - BF32 / 206.01.000XXX

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