

Quick Guide for software version v190508-M1 (7.5.0)



PoolManager® / Analyt

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Please note:

This document refers to all BAYROL Technik PoolManager® and Analyt swimming pool controllers of the 5th generation (sold from 2012). It also refers to the private label versions of this controller generation.

Below, the name "PoolManager®" is used to represent the entire controller family.

1 Overview

The software version v190508-M1 (7.5.0), released in May 2019, introduces several new functions and a few changes compared to previous software versions. The following list gives an overview of all changes. The following chapters describe the new functions in more detail.

1.1 New features and functions

New options for universal switch outputs

„Universal 1“...„Universal 10“

- The function „External switch or push button“ in previous software versions has been significantly extended and is now called „Switching program“.
- In addition to the previously existing functions „**On/off switch**“ and „**Push button**“, you can now also select the following functions:
 - „**Other output**“: The universal switch output is switched on or off depending on the current state of another switch output
 - „**Combined Cl (UV system)**“: The universal switch output is activated, if the level of combined chlorine exceeds a certain limit. This function can be used to control a UV system. It is only available, if the option „Total chlorine measurement“ has been installed in the controller.
 - „**Free chlorine (extra pump)**“: The universal switch output is activated, if the free chlorine level drops below a certain limit. This function can be used to control an extra chlorine pump, e.g. in combination with salt electrolysis.
- For a better overview in the menu, the different blocking options for the universal switch outputs „Universal 1“...„Universal 10“ have been combined in separate sub menus called „Blocking options“. The available blocking options remain unchanged:
 - Blocking by filter pump operation mode
 - Blocking by input
 - Blocking by another output
- The universal switch outputs „Universal 1“...„Universal 10“ can now be configured to generate an approx. 1s switching pulse when they switch on (there is no switching pulse, when they switch off). Sub menu Basic configuration > Advanced settings > Type of contact = Switching pulse (1s).
 - In the standard configuration, the relay output is permanently switched on as in previous software versions: Sub menu Basic configuration > Advanced settings > Type of contact = Permanent contact
- The function „Salt electrolysis“ has been removed from the Add-on functions because it proved to be not relevant in practice. Instead, the control of a salt electrolysis system can be done with the normal chlorine or redox control and the corresponding output „Dos. disinf.“ (terminal [20]).
- The function „Eco mode“ has been removed from the Add-on functions because it proved to be not relevant in practice. The intended function to switch between overflow and floor drain can be done with any of the universal switch outputs „Universal 1“...„Universal 10“.
- The option has been added to output the total chlorine reading on a 4-20mA current output. This can be used to control a UV system. The configuration is done in the menu Communication & interfaces > 4-20 mA current loop outputs. This function is only

available, if the options „Total chlorine measurement and „Current outputs 4-20 mA“ are installed.

- New background image “BAYROL Technik” has been introduced. The background image “Beach” isn’t available anymore in the new software version.
- Adjustment of some default settings in the French default set:
 - Background image “BAYROL-Technik”
 - Icon style 3
 - Transparent style
 - For PoolManager® PRO: Pump configuration chlorine and pH 3 l/h each
- Adjustment of some default settings in the Spanish default set:
 - Background image “BAYROL-Technik”
 - Icon style 3
 - Transparent style
- Output of some additional readings via Modbus/TCP and XML data protocol:
 - Total chlorine (ID 4106)
 - Combined chlorine (ID 4108)
 - Active chlorine (ID 4109)

1.2 Other improvements

- Help information has been added for several menus and parameters.
- Some missing text in the Portuguese language has been added.
- Export of measurement graphs into pdf files is now improved.

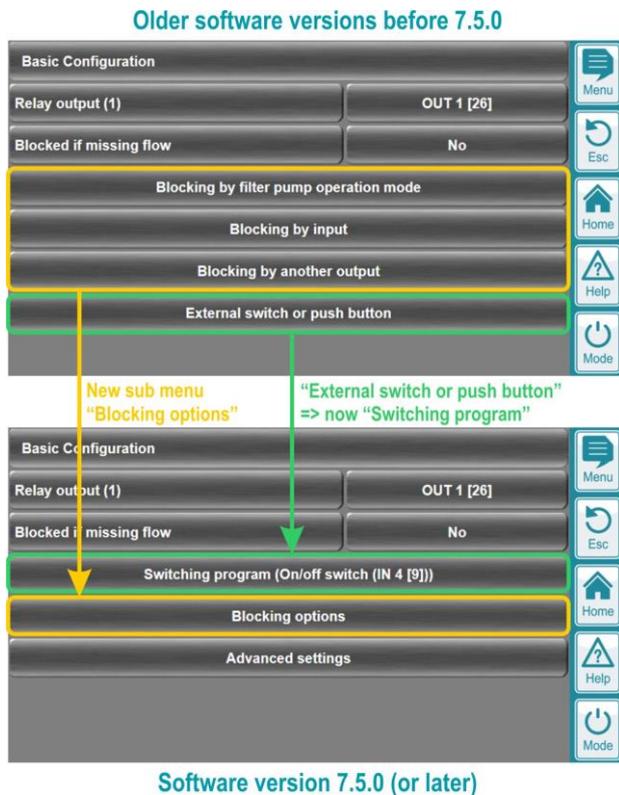
2 Switching program for universal switch outputs “Universal 1”...”Universal 10” (replaces “External switch or push button”)

The function “External switch or push button” in the “Basic Configuration” of a universal switch output allows to control the output with a switch or push button connected to one of the universal inputs IN1/2/3/4.

More options to control a universal switch output have been added in the version 7.5.0. Therefore “External switch or push button” has been renamed to “Switching program”.

For a better overview in the menu, the various blocking options have been moved into a separate sub-menu called “Blocking options”.

The following screenshots compare the old and new versions of the “Basic configuration” menu of the universal switch outputs:



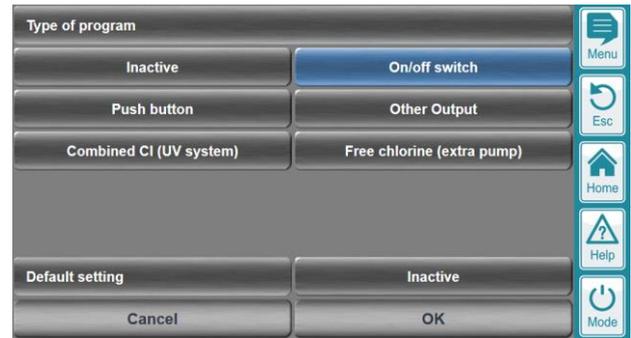
2.1 Automatic transfer of configurations from “External switch or push button”

Function programmed in the “External switch or push button” menu of a previous software version are automatically transferred to the new “Switching program” menu.

There is no need to re-configure any settings after updating the software to version 7.5.0 or later!

2.2 Available switching program types

The following screenshot shows the available switching program types:



- “Inactive” – Switching program is not used
- “On/off switch” - Use an external switch connected to IN1/2/3/4 to control the universal output. This option was taken over unchanged from “External switch or push button”.
- “Push button” - Use an external push button connected to IN1/2/3/4 to switch the universal output on or off or start a timer. This option was taken over unchanged from “External switch or push button”.
- „Other output“: The universal switch output is switched on or off depending on the current state of another switch output
 - See chapter 4 for more details
- „Combined Cl (UV system)“: The universal switch output is activated, if the level of combined chlorine exceeds a certain limit. This function can be used to control a UV system. It is only available, if the option „Total chlorine measurement“ has been installed in the controller.
 - See chapter 5 for more details
- „Free chlorine (extra pump)“: The universal switch output is activated, if the free chlorine level drops below a certain limit. This function can be used to control an extra chlorine pump, e.g. in combination with salt electrolysis.
 - See chapter 6 for more details

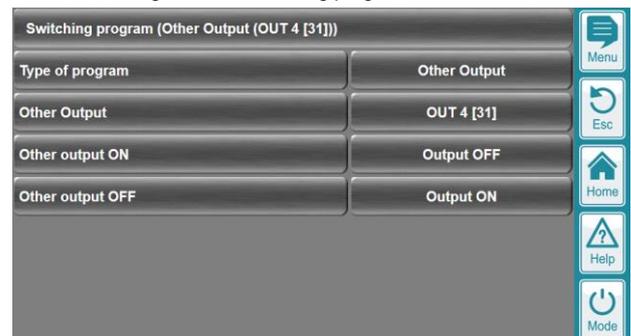
2.3 Priorities

- The switching program has a higher priority compared to the “Programmable clock timer” and the “Timer function” in the menu.
- The various blocking options always have the highest priority, also higher than the switching program.

3 Switch universal output depending on another output

3.1 Usage

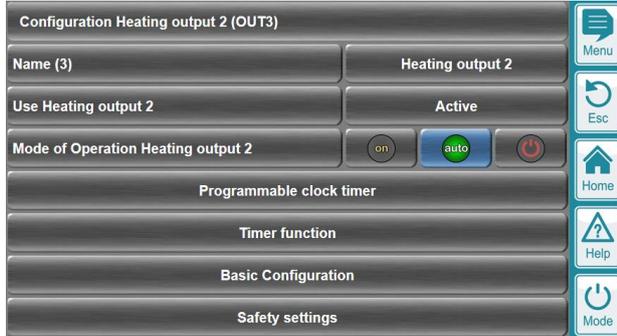
- Menu > Add-on functions
- Select one of the Universal outputs 1...10
- Basic Configuration > Switching program



- Type of program = “Other output”

Switch universal output depending on

- Select another output which should have an effect on this universal switch output
- Define the desired state (on/off/auto) of this output depending on the state of the other output
- In the example above, the universal switch output will switch OFF, if the other output OUT 4 [31] is ON and it will switch ON, if the other output OUT 4 [31] is OFF.
- Name the selected output according to your preferences, e.g. "Heating output 2", if this output depends on the "other output" of the heating function
- Set the function "Active" and select "auto" mode of operation



4 Switch universal output depending on combined chlorine level

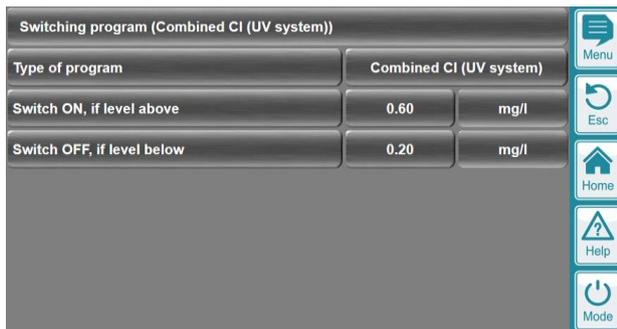
4.1 Prerequisites

This function is only available for Analyt and if the controller is equipped with total chlorine measurement:

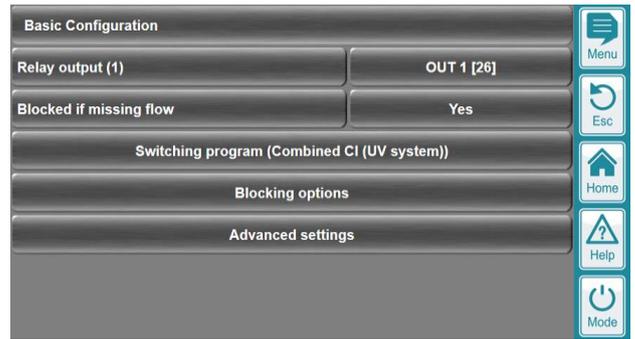
Current input 4-20mA with connected total chlorine sensor: PM5-mA-IN2 plug-in module (item No. 127026)

4.2 Usage

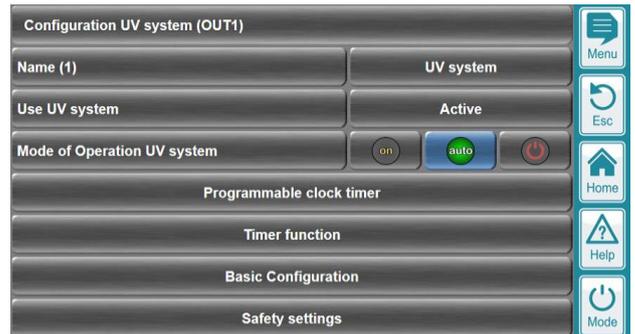
- Menu > Add-on functions
- Select one of the Universal outputs 1...10
- Basic Configuration > Switching program



- The setting "Switch ON, if level above" must be higher than "Switch OFF, if level below". If the users enters invalid settings, a warning message appears and the user input is not accepted.
- The selected Universal output will now switch ON or OFF depending on the calculated level of combined chlorine (= total chlorine – free chlorine)
- Set "Blocked if missing flow" = "Yes" in the "Basic Configuration"



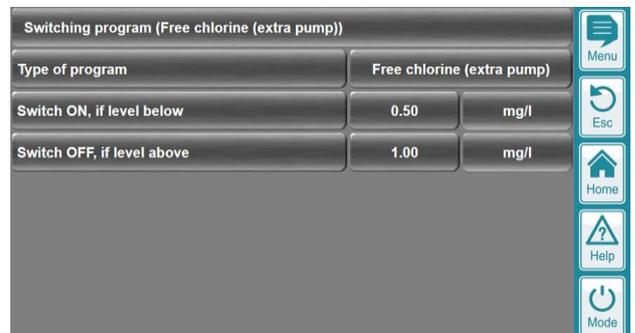
- Name the selected output according to your preferences, e.g. "UV system"
- Set the function "Active" and select "auto" mode of operation



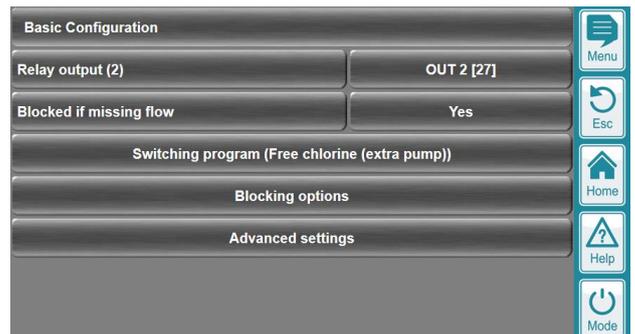
5 Additional 2nd dosing output for chlorine

5.1 Usage

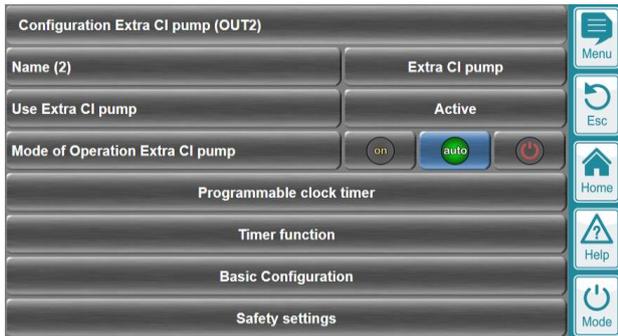
- Menu > Add-on functions
- Select one of the Universal outputs 1...10
- Basic Configuration > Switching program



- The setting "Switch OFF, if level above" must be higher than "Switch ON, if level below". If the users enters invalid settings, a warning message appears and the user input is not accepted.
- The selected Universal output will now switch ON or OFF depending on the measured free chlorine level
- Set "Blocked if missing flow" = "Yes" in the "Basic Configuration"



- Name the selected output according to your preferences, e.g. "Extra Cl pump"
- Set the function "Active" and select "auto" mode of operation



6 Output of combined chlorine via 4-20mA

The current level of combined chlorine can be output as a 4-20mA current signal. Some UV systems, e.g. from UV Germi, provide a 4-20mA current input, which can be used to activate the UV system, if the level of combined chlorine exceeds a given limit, which can be set at the UV system.

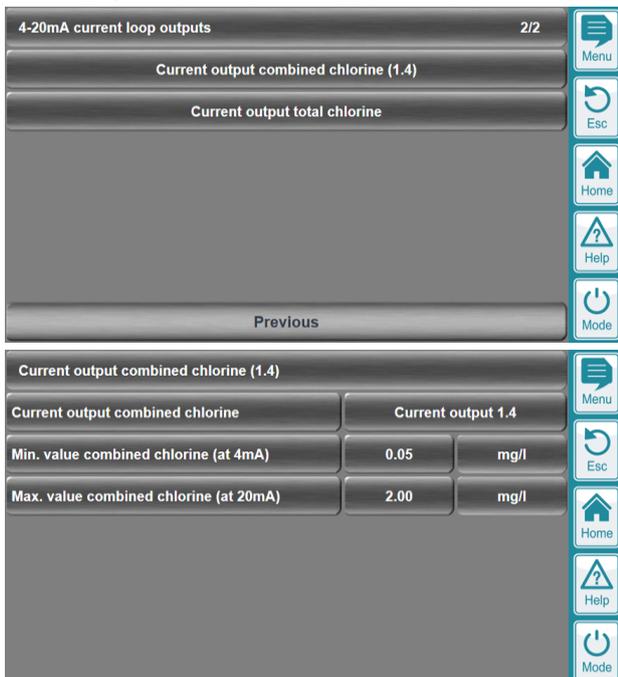
6.1 Prerequisites

This function is only available, if the controller is equipped with total chlorine measurement as well as with 4-20mA current outputs:

- 4x current outputs 4-20mA:
PM5-SA4 Converter 4-20mA (item No. 127011)
- Current input 4-20mA with connected total chlorine sensor:
PM5-mA-IN2 plug-in module (item No. 127026)

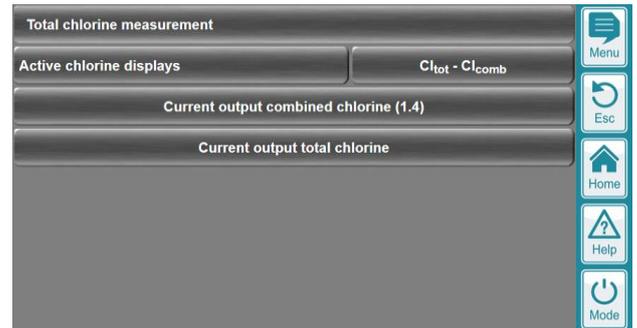
6.2 Usage

- Menu > Communication & Interfaces > 4-20mA current loop outputs
- Next page



6.2.1 Alternative menu for configuration

- Menu > Communication & Interfaces > Total chlorine measurement



6.3 Additional information

- Minimum combined chlorine value (at 4mA)
Default: 0,05mg/l (matching 4-20mA input of UV Germi systems)
- Maximum combined chlorine value (at 20mA)
Default: 2,00mg/l (matching 4-20mA input of UV Germi systems)
- A 4-20mA output for total chlorine can also be configured

7 Total chlorine, combined chlorine and active chlorine added to the Modbus/TCP interface

- Modbus Function 04 (Read Measurement Readings)
- Register Data Addresses:
 - Total chlorine: ID 4106 (unit "mg/l", 2 decimal places)
 - Combined chlorine: ID 4108 (unit "mg/l", 2 decimal places)
 - Active chlorine: ID 4109 (unit "mg/l", 2 decimal places)
- Refer to the Modbus-TCP Protocol Specification for more information

8 Total chlorine, combined chlorine and active chlorine added to the XML protocol

- XML protocol requests (xxx.xxx.xxx.xxx is the IP address of the controller in the local network):
 - Total chlorine:
`http:// xxx.xxx.xxx.xxx /cgi-bin/webgui.fcgi?xmlitem=34.4106`
 - Combined chlorine:
`http:// xxx.xxx.xxx.xxx /cgi-bin/webgui.fcgi?xmlitem=34.4108`
 - Active chlorine:
`http:// xxx.xxx.xxx.xxx /cgi-bin/webgui.fcgi?xmlitem=34.4109`
- Refer to the XML Protocol Specification for more information

9 Adjustment of some default values

9.1 Changes in French default set

The following default values have been adjusted in the French default set:

- Background image "BY TECHNIK.jpg" will be used by default
- Icon style = Icon style 3
- Menu Style = Transparent style



- For PoolManager PRO:
 - Pump config. pH = 3l/h
 - Pump config. chlorine = 3l/h

9.2 Changes in Spanish default set

The following default values have been adjusted in the Spanish default set:

- Background image "BY TECHNIK.jpg" will be used by default
- Icon style = Icon style 3
- Menu Style = Transparent style

10 Pulse mode for Universal outputs

- The universal switch outputs can now be configured to output a ON pulse with a duration of ca. 1s instead of permanently switching ON:
 - Basic Configuration > Advanced settings
 - Type of contact = "Permanent contact" or "Switching pulse (1s)"
- In pulse mode, the 1s pulse will only be generated, when the output switches from OFF to ON.
- There will be no pulse, when the output switches from ON to OFF.

