4. UPM3 FLEX AS

This circulator is for either external PWM profile A signal control or speed selection. You can define the maximum curve of the pump operation range. With PWM signal, the circulator runs at the corresponding speed. **Without PWM signal, the circulator runs at maximum speed.**

The user interface is designed with a single push button, one red/green LED and four yellow LEDs.

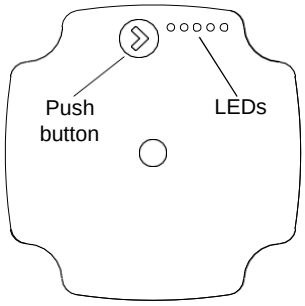

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Fig. 17 User interface with one push button and five LEDs

4.1 User interface

The user interface shows:

- performance view (during operation)
  - operation status
  - alarm status
- Selected setting view (after pressing the button).

During operation, the display shows the performance view. If you press the button, the user interface switches the view or runs in the setting selection mode.

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Fig. 18 Indication of performance or selected setting

4.2 Performance view

The performance view shows either the operation status or the alarm status.

4.2.1 Operation status

– When the circulator is running, LED 1 is green. The four yellow LEDs indicate the current power consumption (P1) as shown in the table below. See fig. 19.

– When the operation mode is active, all active LEDs are constantly on in order to differentiate this mode from the select setting mode.

– If the circulator is stopped by an external signal, LED 1 flashes green.

Display	Indication	Performance in % of P1 MAX
One green LED (flashing)	Standby (only externally controlled)	0
One green LED + one yellow LED	Low performance	0-25
One green LED + two yellow LED	Medium low performance	25-50
One green LED + three yellow LED	Medium high performance	50-75
One green LED + four yellow LED	High performance	75-100

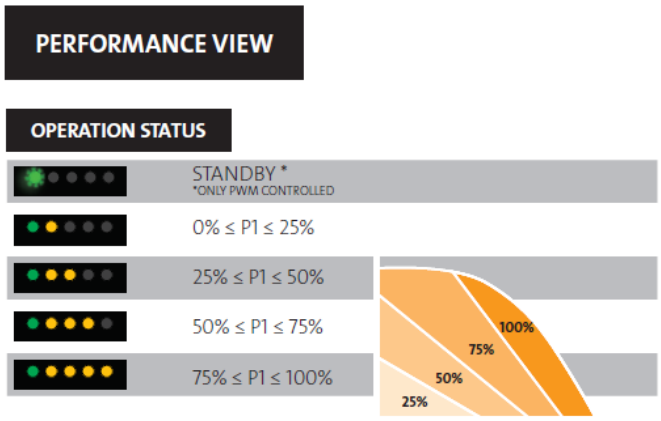

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Fig. 19 Operation area according to performance load

4.2.2 Alarm status

If the circulator has detected one or more alarms, the bi-colored LED 1 switches from green to red. When an alarm is active, the LEDs indicate the alarm type as defined in the table below. If multiple alarms are active at the same time, the LEDs only show the error with the highest priority. The priority is defined by the sequence of the table.

When there is no active alarm anymore, the user interface switches back to operation mode.

Display	Priority	Indication	Pump operation	Counter action
One red LED + one yellow LED (LED 5)	1	Rotor is blocked.	Trying to start again every 1.33 Seconds.	Wait or deblock the shaft.
One red LED + one yellow LED (LED 4)	2	Supply voltage too Low.	Only warning, pump runs.	Control the supply Voltage.
One red LED + one yellow LED (LED 3)	3	Electrical error.	Pump is stopped because of low supply voltage or serious failure.	Control the supply voltage or replace the pump.

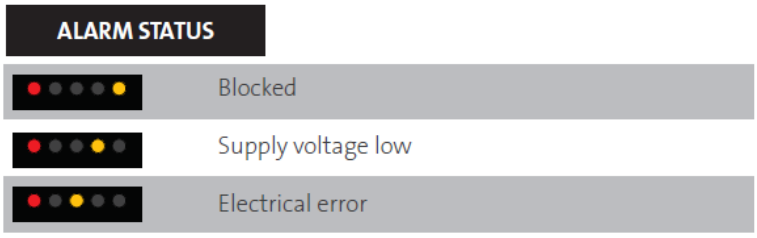

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Fig. 20 Alarm status

4.3 Selected Setting view

You can switch from the performance view to the selected settings view by pressing the push button. The LEDs indicate the actual setting. The settings view shows which mode controls the circulator. You cannot change settings at this stage. After 2 seconds, the display switches back to performance view.

If LED 1 is green, it indicates operation or internal control. If LED 1 is red, it indicates alarm or external control. LED 2 and 3 indicate the different control modes and LED 4 and 5 indicate the different curves.

	LED 1	LED 2	LED 3	LED 4	LED 5
PWM A profile	Red	●			
Curve 1					
Curve 2				●	
Curve 3				●	●

Note: ● = The LED is yellow.

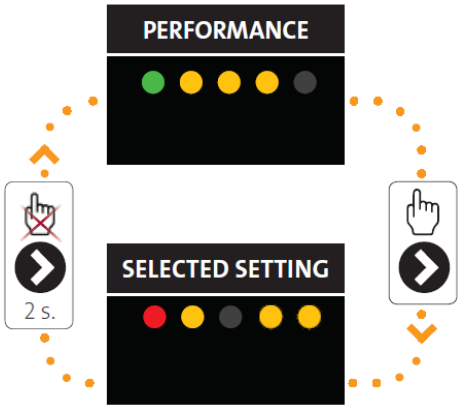

Fig. 21 Selected setting

Note:

As appears in fig. 21, the example of "performance" and "selected setting" shows:

- "performance" - medium/high performance 50 % ≦ P1 ≦ 75%
- "selected setting"- PWM A profile

4.4Control modes

4.4.1 Setting the control mode

If you press the button for 2 to 10 seconds, the user interface switches to "setting menu" if the user interface is unlocked.

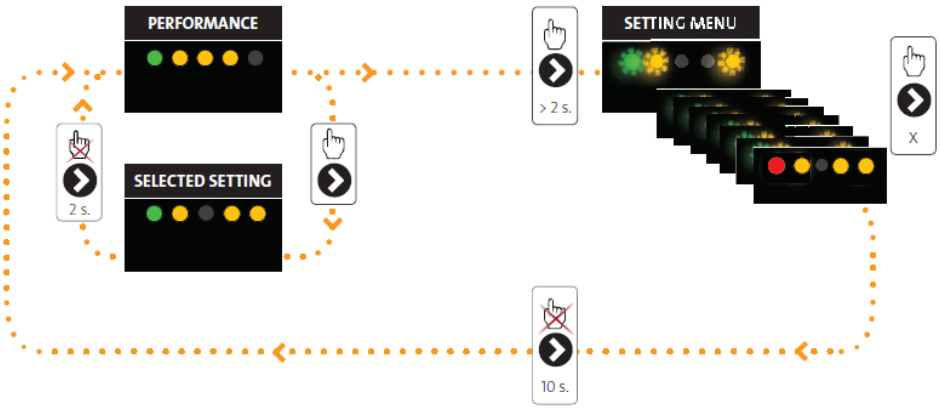

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Fig. 22 setting the control mode

You can change the settings as they appear. The settings appear in a particular order in a closed loop. When you release the button for more than 10 sec., the user interface switches back to the performance view and the last setting is stored.

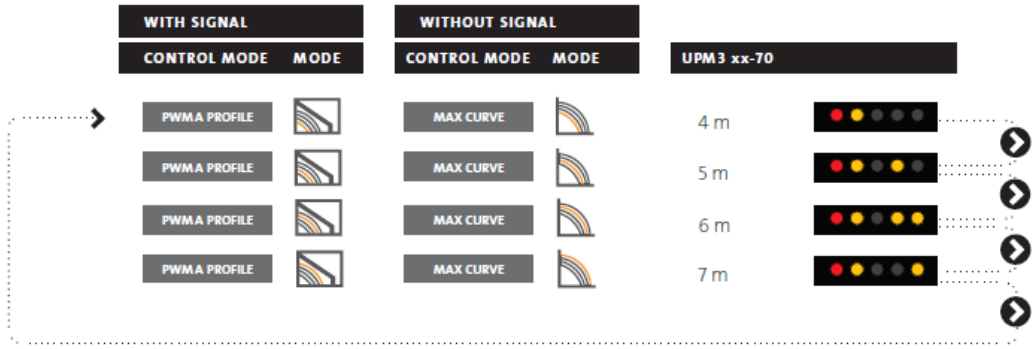

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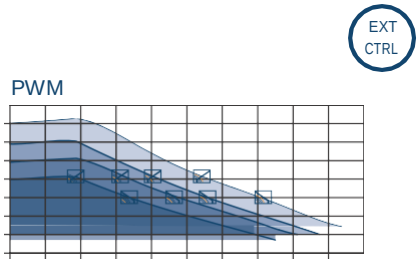
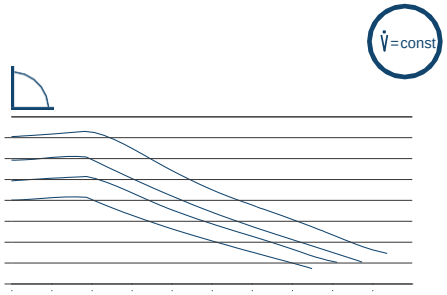
Fig. 23 toggling the settings of UPM3 FLEX AS

4.4.2 Selection of control mode

Note:

PWM: pulse-width modulation

PWM A: externally controlled via PWM profile A

System application	Select this control mode
	PWM
PWM profile A (heating) The circulator runs on constant speed curves depending on the current PWM value. The speed decreases when the PWM value increases. If PWM equals 0, the circulator runs at maximum speed.	
	Constant curve
If an external controller is installed, the pump is able to change from one constant curve to another, depending on the value of the external signal. The pump can also be set to operate according to the maximum or minimum curve, like an uncontrolled pump: • The maximum curve mode can be used in periods in which a maximum flow is required. This operating mode is for instance suitable for hot-water priority. • The minimum curve mode can be used in periods in which a minimum flow is required. This operating mode is for instance suitable for manual night setback if you do not want automatic night setback.	

4.4.3 Toggling the settings of UPM3

When you switch on the circulator, it runs with the factory pre-setting or the last setting. The display shows the current operation status. See fig. 21.

1. Press the button to switch to the setting view. The LEDs show the current setting for 2 seconds.
2. Release the button for more than 2 seconds. The user interface shows the current performance in "operation status".
3. Press the button for more than 2 seconds and the circulator switches to "setting selection". The LEDs flash and show the current setting mode. Please note that if the key lock is disabled, the circulator will not switch to "setting selection". In this case, unlock the key lock by pressing the button for more 10 seconds.
4. During a period of 10 seconds, press shortly on the button and the circulator switches to the next setting.
5. To select between the settings, instantly press the button until you find the setting you want. If you pass a setting, you need to continue until the setting appears again as it is not possible to go back in the settings menu.
6. Release the button for more than 10 seconds and the user interface switches back to the performance view and the last setting is stored.
7. Press the button and the display switches to the setting view and the LEDs show the current setting for 2 seconds.
8. Release the button for more than 2 seconds and the user interface switches back to the performance view.

4.5 Key lock function

The purpose of the key lock function is to avoid accidental change of settings and misuse.

When the key lock function is enabled, all long key presses will be ignored. This prevents the user from entering the "setting" menu and allows the user to see the "selected setting".

If you press the key lock for more than 10 seconds, you can toggle between enabling/disabling the key lock function. When doing so, all LEDs, except for the red LED, will flash for a second indicating that lock is toggled.

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Fig. 24 Key lock function