Installation and Operation Manual

EUROMATIK.NET

Swimming pool controller with Internet connection and energy savings feature

Connectable pumps

230V alternating-pump
(rated current max. 8A)

400V three-phase pump
(rated current max.8A)

Speck ECO-Touch pump

Speck ECO-Touch-Pro pump

Speck Badu-90-ECO-VS pump

Speck Badu-90-ECO-Motion pump

Pentair IntelliFlo pump

Pentair SuperFlo pump

Zodiac FloPro VS pump

UWE PMM pump

Technical Specifications of the Controller

Dimensions:		365mm x 320mm x 144mm
Operating voltage:		400V/50Hz
Power consumption of the controller:		approx.15VA
Contact rating:	Pump:	max. 3,0 kW (AC3)
	Heater:	max. 0,4 kW (AC1)
	Dosing equipment:	max. 0,4 kW (AC1)
	Supplementary output:	max. 3A (AC1)
Protection class:		IP 40
Ambient conditions:		0-40°C, max. 95% r.H. non condensing
Level sensors		12V AC

Technical Specifications of the Servo Drive (Option)

Dimensions:	220mm x 110mm x 115mm
Operating voltage:	24V/50Hz
Protection class:	IP 54
6-way valves that can be used: ✳	Praher 1½" and 2"
	Speck 1½" and 2"
	Midas 1½" and 2"
	Hayward 1½"
	Astral 1½"
With an appropriate adapter	Astral 2“
Static water pressure:	max.0,3 bar
Water column above the valve:	max. 3,0 m

The specified valve variants are guides values. Since the design and geometry of the valves can change and these sometimes show significant sample variations, compatibility with the EUROTRONIK may need to be requested from the valve manufacturer.

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Installation

With the OSF EUROMATIK.net you have purchased a high-class swimming pool controller. It is an accurate and sensitive system that needs to be treated gently at all times. The membrane at the front should not come into contact with chemicals. The controller is cleaned with a soft cloth and some water, if required.

At the time of installation, the regulations and provisions applicable at the place of installation must be complied with.

Mounting

The housing is fixed vertically and permanently to a solid wall with adequate load-bearing capacity. The place of installation must be dust-free and protected against water in order to ensure that the device works properly. The ambient temperature should lie between 0° C and + 40° C and should be as constant as possible. The relative humidity must not exceed 95% and no condensation may occur. Direct incidence of heat or sunlight on the device must be avoided. The control unit and the external touch panel are not suitable for outdoor installation.

Installation when using a swimming pool cover

The display of the EUROMATIK.net contains, among others, switches for operating the swimming pool cover. These switches are inactive or off at the time of delivery. The switches can be activated or enabled while the controller is being commissioned by selecting a swimming pool cover in the relevant menu. **The EUROMATIK.net with the switches for the swimming pool cover enabled should be installed only at a place from where it is possible to have an unrestricted view of the entire swimming pool. The switches meant for the "Swimming pool cover" should not be activated at locations from which unrestricted view of the entire pool is not available! The emergency stop switch must be installed on-site.**

Electrical Connection

The control device must be fixed at a location where it is protected against moisture in accordance with its class of protection. The power supply to the device must be fed via an all-pin main switch with contact opening width of at least 3 mm and a residual current circuit breaker (RCCB) with $I_{FN} \leq$ 30 mA. When using frequency inverters and pumps having speed control, the residual current circuit breakers specified for this must be used and appropriate regulations must be observed and followed. **Before opening the housing, it is absolutely necessary to de-energize the device electrically. The electrical connection as well as the work of adjustment and servicing should be carried out only by an approved electrician! The connection diagrams enclosed and the relevant safety provisions applicable must be observed and followed.**

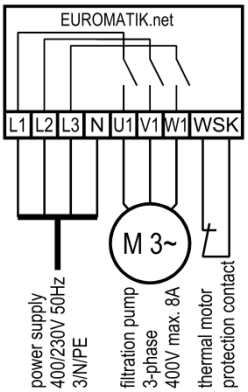
Low-voltage cables

Low-voltage cables should not be laid along with three-phase or AC cables in the same cable duct. In general, laying low-voltage cables near three-phase or AC cables must be avoided.

Wiring diagrams

As the EUROMATIK may be combined with different types of filtration pumps, the connection of the pump and the power supply has to be made according to the appropriate wiring diagram for the actually used pump.

Mains connection when using a 400 V 3-phase pump

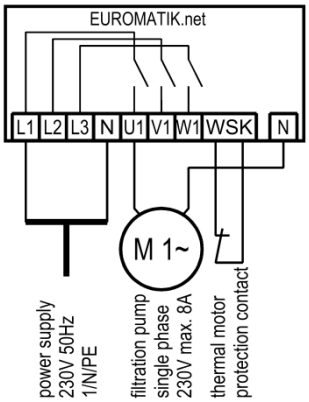


Three-phase power supply is fed from the mains. The filter pump is connected to the terminals U1, V1 and W1.

If the pump has a thermal motor protection switch it is connected to the WSK terminals, otherwise a jumper must be connected to these terminals.

The filter pump is monitored by the electronic motor protection in the controller for over-current and phase failure.

Mains connection when using a 230 V AC pump

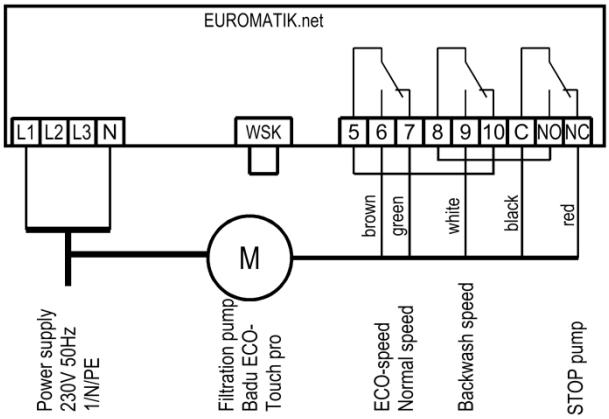


Single-phase AC supply is fed to the terminals L1 and N. The filter pump is connected to the terminals U1 and N.

If the pump has a thermal motor protection switch it is connected to the WSK terminals, otherwise a jumper must be connected to these terminals.

The filter pump is monitored by the electronic motor protection in the controller for over-current.

Mains connections when using a Speck ECO touch pro pump



A Speck ECO touch pump can be controlled directly by the EUROMATIK.net. The speed controller is connected to the terminals 6, 7, 9, C and NC.

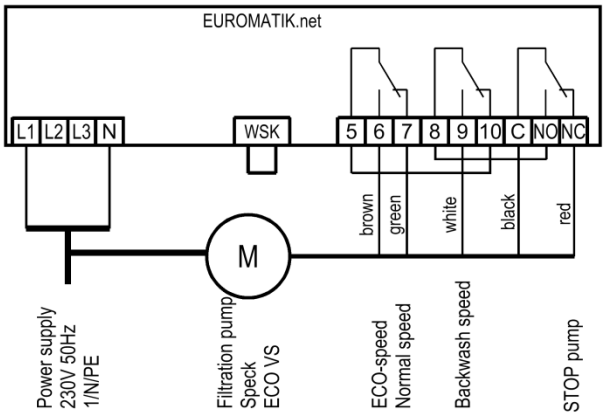
Jumpers must be inserted between the terminals 5 and 10 and between 8 and NO.

A jumper must be inserted between the two "WSK" terminals.

The power supply for the pump must be fed independently from the mains supply and cannot be provided by the EUROMATIK.net.

The operation manual of the pump must necessarily be observed and followed!

Mains connections when using a Speck ECO-VS pump

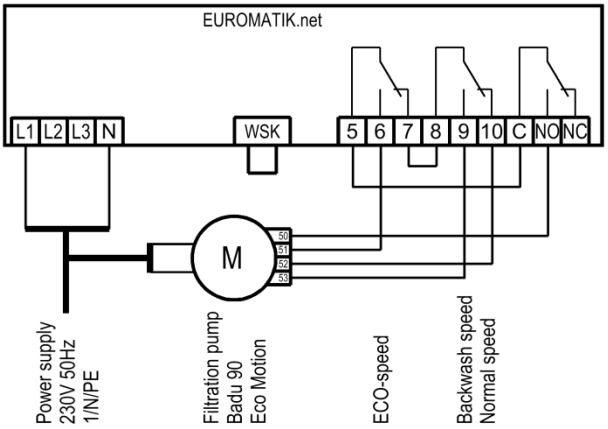


A Speck ECO touch pump can be controlled directly by the EUROMATIK.net. The speed controller is connected to the terminals 6, 7, 9, C and NC. Jumpers must be inserted between the terminals 5 and 10 and between 8 and NO. A jumper must be inserted between the two "WSK" terminals. The power supply for the pump must be fed independently from the mains supply and cannot be provided by the EUROMATIK.net.

The operation manual of the pump must necessarily be observed and followed!

In the Setup menu on the pump, the digital inputs must be set to „dI“.

Mains connections when using a Speck Badu 90 ECO-Motion pump



A Speck Badu 90 ECO-Motion pump can be controlled directly by the EUROMATIK.net. The speed controller is connected to the terminals 6, 9, 10 and NO.

Jumpers must be inserted between the terminals 5 and C and between 7 and 8.

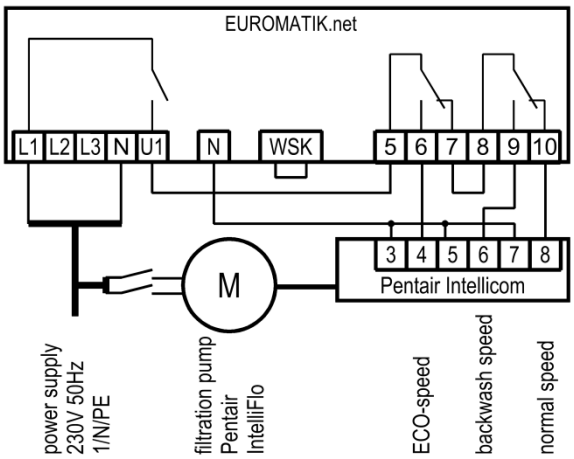
A jumper must be inserted between the two "WSK" terminals.

The power supply for the pump must be fed independently from the mains supply and cannot be provided by the EUROMATIK.net.

The operation manual of the pump must necessarily be observed and followed!

In the Setup menu on the pump, the external control must be enabled for "digital fixed speeds" with the signal type "continuous signal". The speeds required for ECO mode, normal mode and backwash mode must be set for the speeds N1, N2 and N3.

Mains connections when using a Pentair IntelliFlo pump



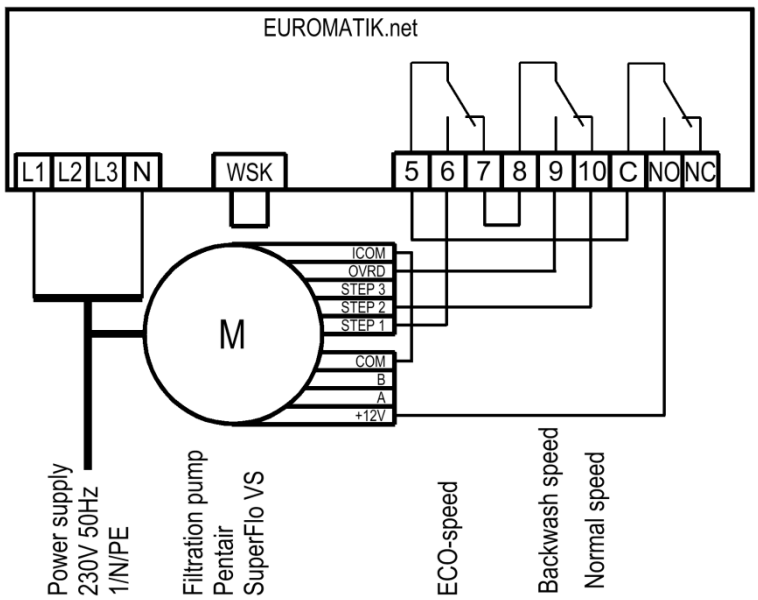
An IntelliFlo pump can be controlled with the help of the Pentair Intellicom controller by the EUROMATIK.net.

The power supply for the pump must be fed independently from the mains supply and cannot be provided by the EUROMATIK.net.

A jumper must be inserted between the two "WSK" terminals.

The operation manual of the pump must necessarily be observed and followed!

Mains connections when using a Pentair SuperFlo VS pump



A SuperFlo VS pump can be controlled directly by the EUROMATIK.net. The speed controller is connected to the terminals 6, 9, 10 and NO.

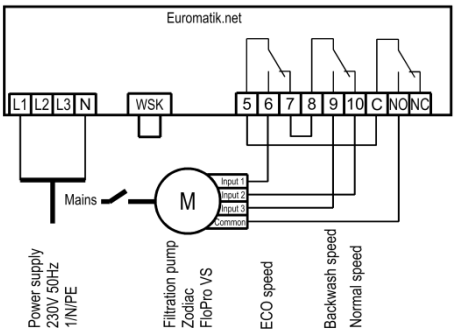
Jumpers must be inserted between the terminals 5 and C and between 7 and 8.

A jumper must be inserted between the two "WSK" terminals.

The power supply for the pump must be fed independently from the mains supply and cannot be provided by the EUROMATIK.net.

The operation manual of the pump must necessarily be observed and followed!

Mains connections when using a Zodiac FloPro VS pump



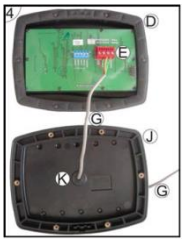
A Zodiac FloPro VS pump can be controlled directly by the EUROMATIK.net.

Jumpers must be inserted between the terminals 5 and C and between 7 and 8.

A jumper must be inserted between the two "WSK" terminals.

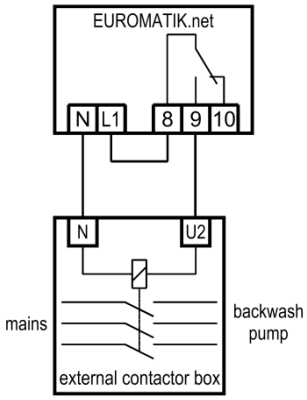
The power supply for the pump must be fed independently from the mains supply and cannot be provided by the EUROMATIK.net.

The operation manual of the pump must necessarily be observed and followed!



At the pump, the speed controller must be connected to the designated terminals on the back of the user interface. The speeds required for ECO mode (level 1), normal mode (level 2) and backwash mode (level 3) must be assigned to speed levels 1 to 3.

Connecting a backwash pump

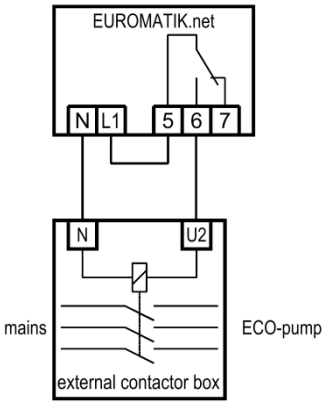


A backwash pump or a blower can be connected to the terminals 8 and 9 if no speed-controlled filter pump is used.

The potential-free contact between the terminals 8 and 9 is closed during the backwash operation.

The contact can be used to drive a 230 V 3A load. If pumps with larger values of power are used, an OSF additional terminal box (Item no.: 3002400000) must be connected in between.

Connection of an additional filter pump (ECO pump)

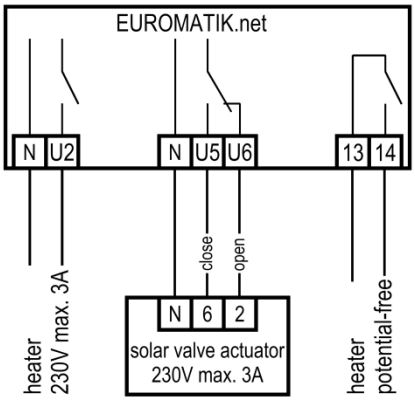


An additional pump with lower power rating can be connected for the ECO mode, if no speed-controlled filter pump is used.

The potential-free contact between the terminals 5 and 6 is closed while the ECO pump is being controlled.

The contact can be used to drive a 230 V 3A load. If pumps with larger values of power are used, an OSF additional terminal box (Item no.: 3002400000) must be connected in between.

Connecting the heater



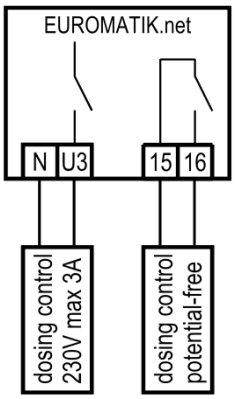
The circulation pump of the heater can be connected to the terminals U2 and N.

For the operation of the solar heater, a 230 V OSF solar servo drive can be connected to the U5 and U6 terminals. In the solar mode of operation, the U5 terminal has the mains voltage and the U6 terminal is at zero potential. If the solar heater is not controlled, the U5 terminal is at zero potential and the U6 terminal has the mains voltage.

If there is no air heat pump present, the potential-free contact between the terminals between 13 and 14 can be used for controlling the boiler of the calorific heater.

If a swimming pool air heat pump is available, this contact is used to switch the heat pump on.

Connecting the dosing equipment

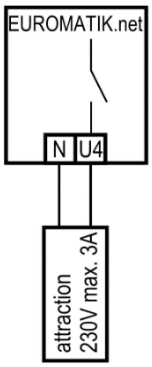


An additional 230 V device (e.g. dosing equipment or UV sterilization system) can be connected that is switched on simultaneously with the filter pump in the filtration mode.

A potential-free contact is available in the control device between the terminals 15 and 16. This can be used to control the dosing equipment. It is closed during the filtration operation.

The contact can be used to drive a maximum load of 230 V 4 A.

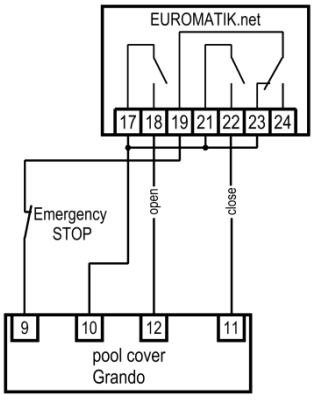
Connecting the attraction output



An additional 230 V device (e.g. underwater floodlight) can be connected to the terminal U4 that can be switched on and off as desired with a button on the front panel (or in the external control panel).

The icon for this button can be selected in the menu.

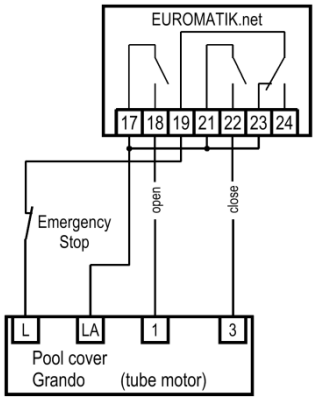
Connecting a Grando swimming pool cover



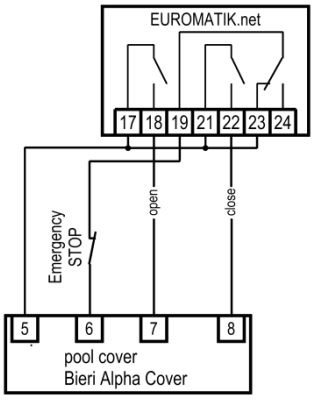
A swimming pool cover of Grando make can be connected to the terminals 17-24.

This plan represents only a connection example. The applicability of this plan for the actually used version of the Cover control must be assessed against the operating instructions for the cover manufacturer.

The contacts can be used to drive a maximum load of 230 V 1 A.



Connecting a Bieri swimming pool cover

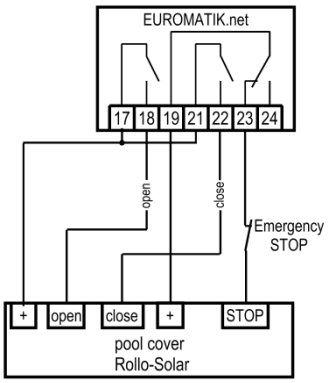


A swimming pool cover of Bieri make can be connected to the terminals 17-24.

This plan represents only a connection example. The applicability of this plan for the actually used version of the Cover control must be assessed against the operating instructions for the cover manufacturer.

The contacts can be used to drive a maximum load of 230 V 1 A.

Connecting a Rollo Solar swimming pool cover

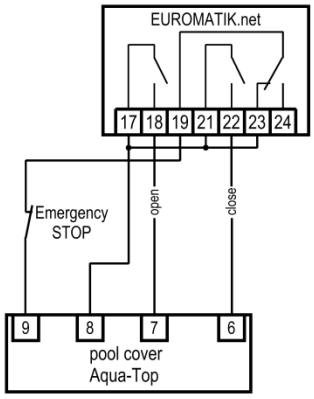


A swimming pool cover of Rollo Solar make can be connected to the terminals 17-24.

This plan represents only a connection example. The applicability of this plan for the actually used version of the Cover control must be assessed against the operating instructions for the cover manufacturer.

The contacts can be used to drive a maximum load of 230 V 1 A.

Connecting an Aqua Top swimming pool cover

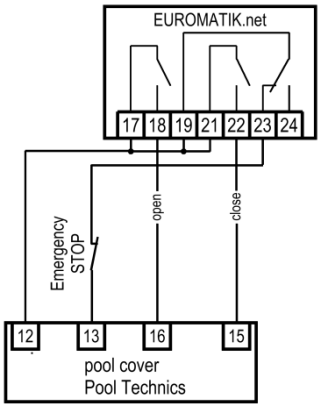


A swimming pool cover of Aqua Top make can be connected to the terminals 17-24.

This plan represents only a connection example. The applicability of this plan for the actually used version of the Cover control must be assessed against the operating instructions for the cover manufacturer.

The contacts can be used to drive a maximum load of 230 V 1 A.

Connecting a Pool-Technics swimming pool cover

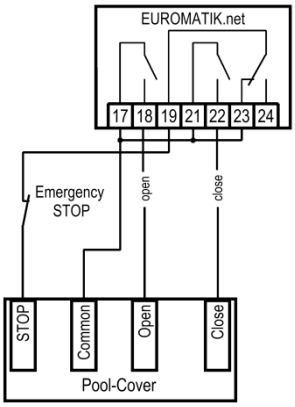


A swimming pool cover of Pool Technics make can be connected to the terminals 17-24.

This plan represents only a connection example. The applicability of this plan for the actually used version of the Cover control must be assessed against the operating instructions for the cover manufacturer.

The contacts can be used to drive a maximum load of 230 V 1 A.

Connecting a different swimming pool cover



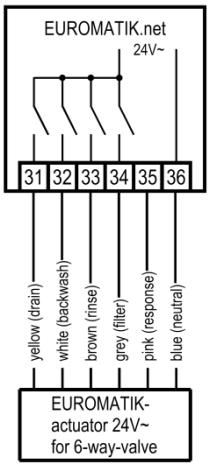
A swimming pool cover can be connected to the terminals 17-24.

The EUROMATIK can, depending on the configuration, optionally generate pulse signals (pushbutton mode) or static signals (switch operation).

This plan represents only a connection example. The applicability of this plan for the actually used version of the Cover control must be assessed against the operating instructions for the cover manufacturer.

The contacts can be used to drive a maximum load of 230 V 1 A.

Connecting the EUROMATIK drive for the 6-way valve

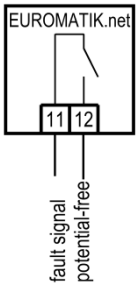


The 6-core connecting cable with plug provided must be used for connecting the servo drive. The wires should not be interchanged when connecting the cable to the control device!

This cable must be ordered out separately with the designation "EUROMATIK connecting cable" and the item no. 202.160.0420.

For the backwashing and rinsing, you can use **either** plunger valves **or** a EUROTMATIK drive for a 6-way valve.

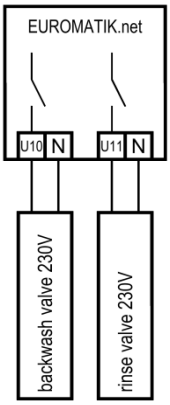
Fault indication output



A signal for external fault indication can be tapped at the terminals 11 and 12.

The response of this output can be configured in the service menu under "Alarm settings".

Connecting plunger valves for backwashing



A 230 V plunger valve can be connected to the terminals U10 and N for backwashing.

A 230 V plunger valve can be connected to the terminals U11 and N for rinsing.

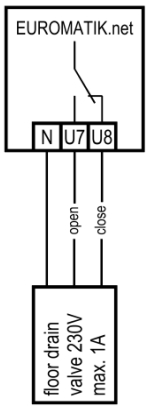
Both valves are controlled by the internal backwashing controller.

During backwashing, the backwashing pump (terminals 8 and 9) is also activated.

The heater and dosing equipment are blocked during the backwashing and rinsing operations.

For backwashing and rinsing, you can use **either** plunger valves **or** a EUROTMATIK drive for a 6-way valve.

Connecting floor drainage motorized valve



If the stock of water in the collection tank is inadequate, you have the option of taking the water directly from the swimming pool through the floor drain.

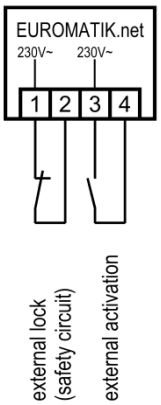
A motorized valve that gives access to the floor drainage system can be connected to the terminals U7 and U8.

During the backwashing and rinsing operation, this valve is opened, and otherwise it is closed.

The contact can be used to drive a 230 V 1A load.

Optionally, this valve can also be used to drain off the overflow gutter in the ECO mode of operation.

Connecting remote switches



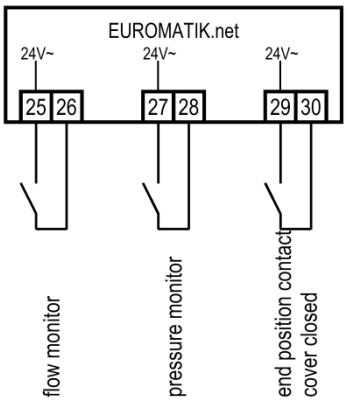
Two remote switches can be connected to the terminals 1, 2, 3 and 4.

These terminals are live and carry the mains voltage!

Opening the contact between the terminals *1* and *2* causes the filter pump, dosing equipment and heater to be shut down immediately.

Closing the contact between the terminals *3* and *4* switches the filtration system on.

Additional input signals



Flow monitor

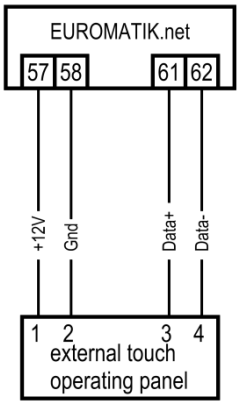
Instead of the jumper connected across the terminals 25 and 26 at the factory, a flow rate monitor or a pressure monitor can be connected in order to protect the pump additionally against dry running. Its contact must be closed at the latest 10 seconds after the filter pump has started up, otherwise the filter pump gets switched off and the fault indication lamp lights up. This contact is not sensed in the backwashing mode of operation.

Pressure switch

A pressure switch that is installed in the pressure gauge connection of the central valve can be connected to the terminals 27 and 28. The back-flushing operation commences if the potential-free contact of the pressure switch is closed for at least 10 seconds.

End position switch for the cover

A potential-free end position switch can be connected to the terminals 29 and 30, with which the system switches to ECO mode automatically when the cover is closed.



External touch-screen operating panel

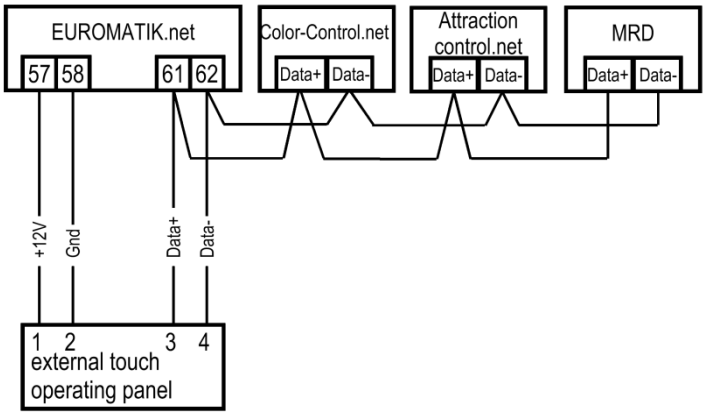
An external touch-screen operating panel (Item no. 310.000.0700) can be connected to the terminals 57, 58, 61 and 62. A 4-wire cable, 4 x 0.5 mm² (e.g. J-Y(St)Y 2 x 2 x 0.8, item no. 102.000.1012) with a maximum length of 50 m is used for this connection.

Laying the connecting cable near power cables must be avoided in order to rule out the possibility of interferences.

-Bus system

An "Color Control" and an "Attraction Control" can be connected to the terminals 61 and 62. A 2-core cable, 2 x 0.5 mm² with a maximum length of 50 m is used for connection to the EUROMATIK.

An WATERFRIEND MRD-1, MRD-2, or MRD-3 can be also connected to the terminals 61 and 62. A 2-core cable, 2 x 0.5 mm² with a maximum length of 50 m is used for this connection, too.



RGB colour light

With the help of the additional "Colour Control.net" (Item no.: 330.083.0000) the EUROMATIK.net can also control the RGB floodlight using the DMX bus. The controller of the colour light is operated off the external touch operating panel of the EUROMATIK.net, which is mandatory in this case. The RGB colour light cannot be controlled on the internal display of the EUROMATIK.net.

Additional attractions

With the help of the additional "Attraction Control.net" (Item no.: 310.610.0000) up to 6 additional attractions can be controlled, using the external touch operating panel of the EUROMATIK.net, which is mandatory in this case. The attractions cannot be controlled on the internal display of the EUROMATIK.net.

WATERFRIEND dosing system

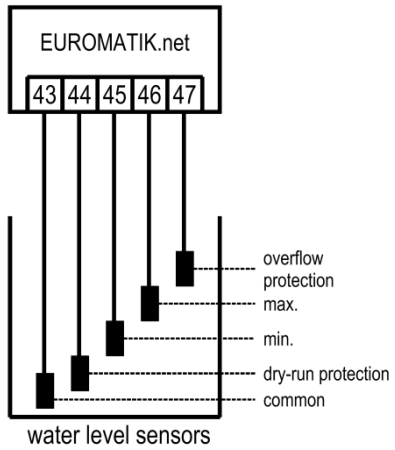
The measurement, control and dosing systems WATERFRIEND MRD-1, MRD-2, MRD-3 can be connected with the help of the bus system to the EUROMATIK.net. The dosing system can optionally be operated off the external operating panel of EUROMATIK.net. The WATERFRIEND cannot be controlled on the internal display of the EUROMATIK.net.

Level control

The integrated level control is suitable for swimming pools with an overflow gutter as well as those with a skimmer basin. The variant that is being used must be specified at the time of commissioning the controller.

Swimming pools with overflow gutter

Immersion electrodes must be used as sensors. The tensile strength of the cable is adequate to suspend the electrodes with the help of this special cable in the overflow collection container, whereby the individual electrodes may touch one another completely. The electrodes are fastened above the container with the help of the electrode holder. The special cables are routed together in a junction box to be installed on-site. One cable (e.g. NYM-0 5 x 1.5 mm²) is laid from this junction box up to the control device. The cable length should not exceed 50 m.

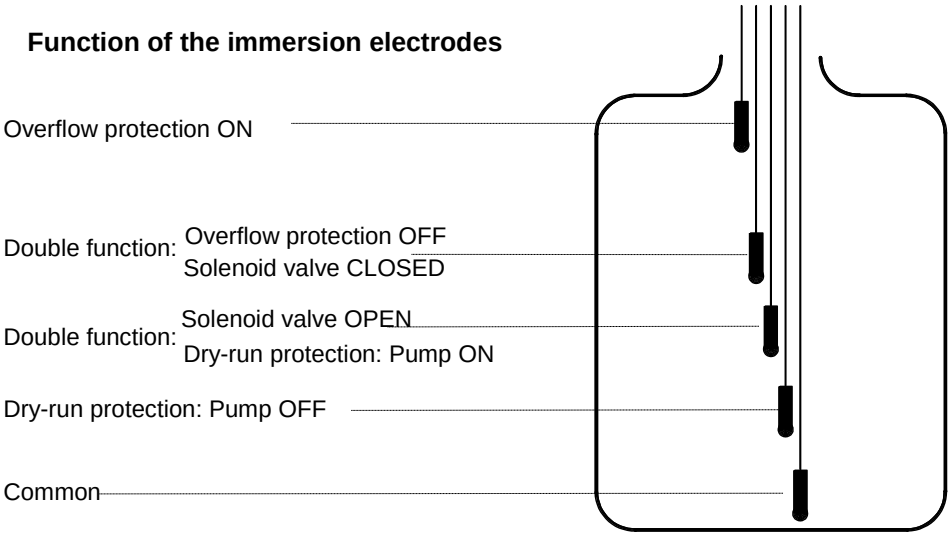


When connecting the immersion electrodes, special attention must be paid to ensure that the sequence is not interchanged, since doing so inevitably lead to malfunctions of the system.

Use for outdoor pools

Depending on the design of the swimming pool facility, it may happen in open-air pools that rainwater raises the water level and then activates the "Overflow protection (Forced run)" feature. If this response is not desirable, the electrode "Overflow protection" (Terminal 47) can be disconnected from the terminal. All other immersion electrodes are necessary for the controller to work and cannot be omitted, or should not be bypassed. Other options for the settings are given under: *"Configuring the level controller".*

Function of the immersion electrodes



In normal mode of operation, the water level oscillates between the electrodes "Solenoid valve CLOSED" and "Solenoid valve OPEN"

The difference in height depends on the specific conditions in the pool. In order to achieve adequate time gaps between the switching operations, a minimum of 5 cm must be ensured.

Functional information for the level controller for the collection tank

The level controller for the collection tank has the following functions:

a) Controlling the water level.

If, as a result of loss of water in the swimming pool, for example, by evaporation or back-flushing, the water level drops to below the immersion electrode "Solenoid valve OPEN" (Terminal 45), the solenoid valve (Terminal U9) opens and the fresh water flowing in leads to the water level being raised. As soon as the rising water level reaches the position of the immersion electrode "Solenoid valve CLOSED" (Terminal 46) and touches the appropriate electrode, the solenoid valve closed the supply of fresh water.

b) Dry running protection of the filter pump.

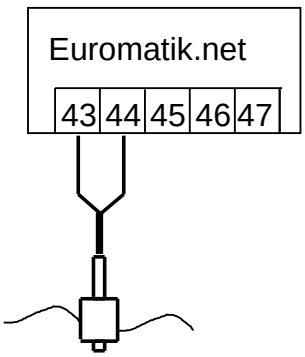
If the loss of water in the collection tank, for example, by back-flushing, drops the water level down to below the immersion electrode "Dry run protection, pump OFF" (Terminal 44), the level controller switches the filter pump off so that it does not get damaged as a result of water shortage. As soon as the water level once again rises to the height of the electrode "Dry run protection, pump ON" (Terminal 45) and touches the said electrode, the level controller switches the filter controller on automatically.

c) Overflow protection (forced run operation).

If as a result of water penetration in the swimming pool the water level in the collection tank rises and touches the immersion electrode "Overflow protection ON" (Terminal 47), the level controller switches the filter pump on automatically. Now, the water is pumped back into the swimming pool and thus, unnecessary loss of precious water is avoided. The immersion electrode "*Overflow protection* ON" should be placed a few cm below the overflow level.

Other options for the settings are given under: *"Configuring the level controller".*

Swimming pools with skimmer



Float switch

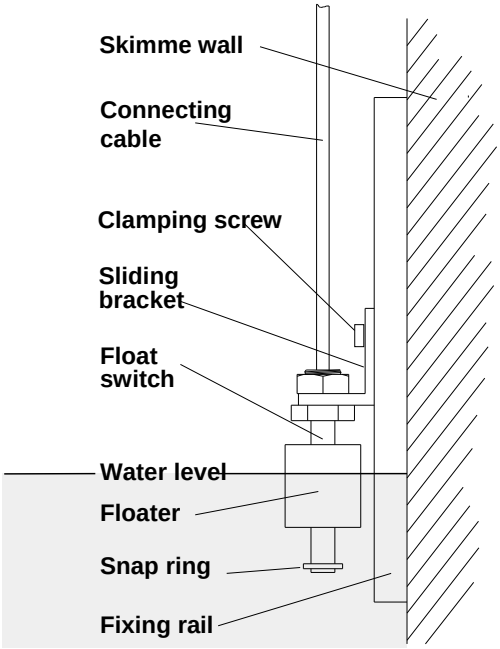
A mini float switch must be used as the sensor. The cable of the float switch can be extended to a maximum length of 50 m with a cable provided on-site (2 x 0.75 mm²). Please note that the connection must be made so that it is water-tight. The connecting cable of the float switch should not be laid along with other power lines.

In this operating mode, time monitoring is automatically active in conjunction with the mini float switch. This adjustable minimum time interval prevents frequent switching operations as a consequence of wave movements in the swimming pool water. Other options for the settings are given under: *"Configuring the level controller".*

The mini float switch is installed on the sliding bracket. Next, the fixing rail is fastened on the skimmer wall vertically at about the height of the desired water level.

You can choose the water level by pushing the sliding bracket in the rail. The sliding bracket is fixed by turning the clamping screw.

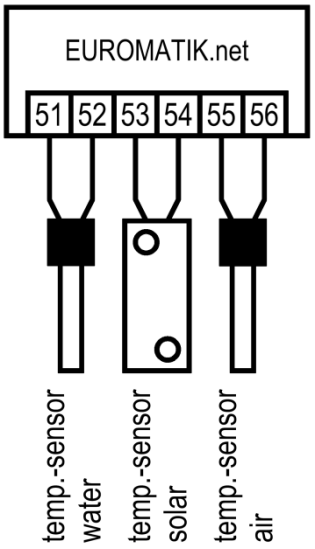
All parts fit into one another easily so that it is not necessary to use any force.



Solenoid valve for replenishing water

A normally closed solenoid valve must be used for the water supply. This is connected to the U9 terminal of the controller. A solenoid valve (R½") can be purchased under the item no. 109.000.5804 from the osf product range.

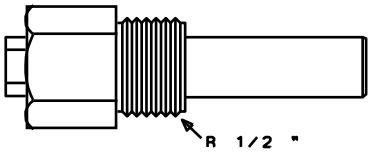
Temperature sensors



Swimming pool temperature sensor

The temperature sensor for the swimming pool is connected to the terminals 51 and 52. The temperature sensor is supplied with a default cable length of 1.5 m. If needed, this can be extended with the help of 2-core wire (minimum cross-section 0.5 mm²) up to a maximum length of 20 m. The polarity of the sensor is irrelevant. **Laying the sensor cable near power cables must be avoided in order to rule out the possibility of interferences.**

osf-Immersion sleeve



Since accurate temperature control takes place only with proper heat transfer between the temperature sensor and the water in the swimming pool, an osf immersion casing R 1/2 " (Item no. 320.020.0003) should be installed in the pipe system.

Solar temperature sensor

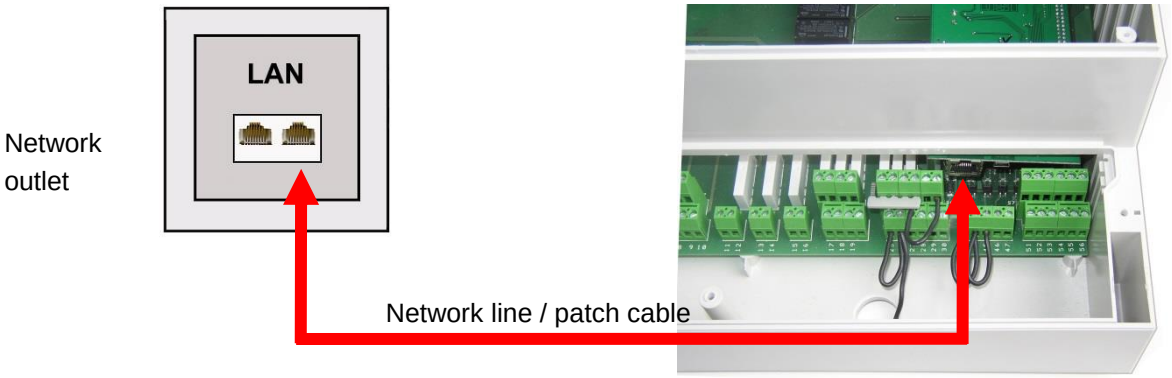
A solar temperature sensor (Item no. 3100000033) can also be connected to the terminals 53 and 54. The temperature sensor is supplied with a default cable length of 20m. If needed, this can be extended with the help of 2-core wire (minimum cross-section 0.5 mm²) up to a maximum length of 50m. The polarity of the sensor is irrelevant. **Laying the sensor cable near power cables must be avoided in order to rule out the possibility of interferences**. The solar temperature sensor must be fixed at the output of the solar absorber and must have good thermal contact to the water flowing back. The temperature at the place of installation of the temperature sensor must not exceed 80°C.

Atmospheric temperature sensor

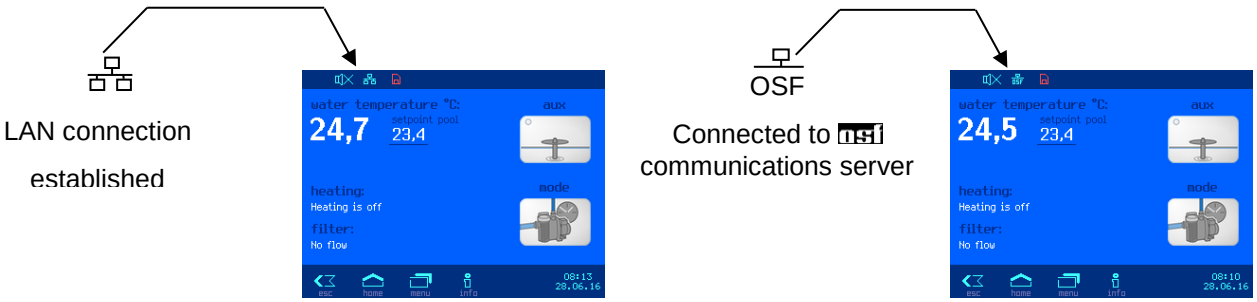
An atmospheric temperature sensor can continue to be connected to the terminals 55 and 56. This sensor is used to control the automatic frost protection feature. Moreover, this sensor can be used when operating a swimming pool air heat pump to shut the heat pump down if the air temperature is too low. Either a water temperature sensor (Item. no. 310.000.0001 (1,5m) or 310.000.0005 (5m), rsp.) or a solar sensor (item no. 310.000.0033) can be used for this purpose.

Connecting to the computer network

Connection to the Internet is carried out by the OSF communication server. The WATERFRIEND MRD-3 is connected using a standard Ethernet patch cable into the network wall outlet, the powerline adapter, the wireless LAN access point or other suitable facilities.



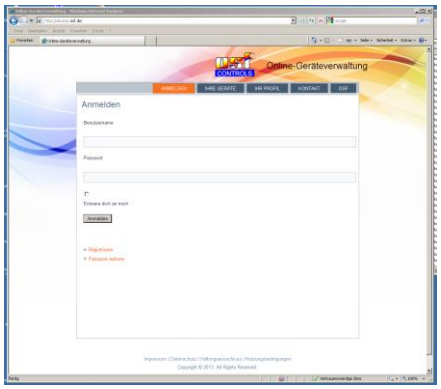
After the EUROMATIK was connected to an active network outlet, the power supply can be turned on. The web server in EUROMATIK now searches autonomously for the communication server and logs on to the database.



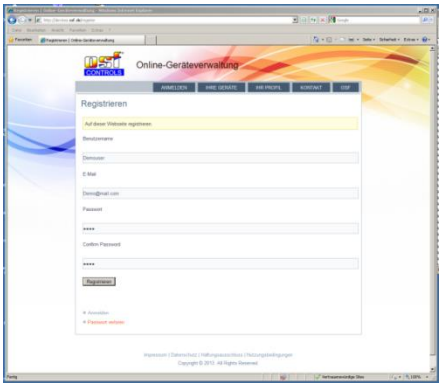
If the "OSF" icon in the monitor is visible (see chart), the EUROMATIK has logged on to the OSF communication server.

Using the -communication server

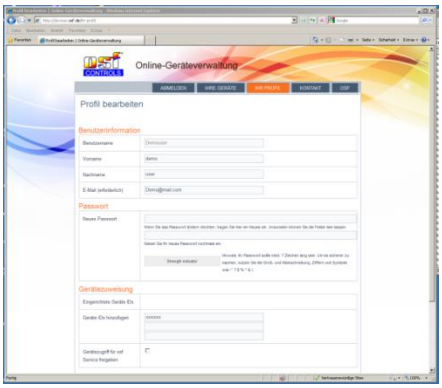
You can reach the -communication server at the address http://devices.osf.de



As a new user, you must register first:

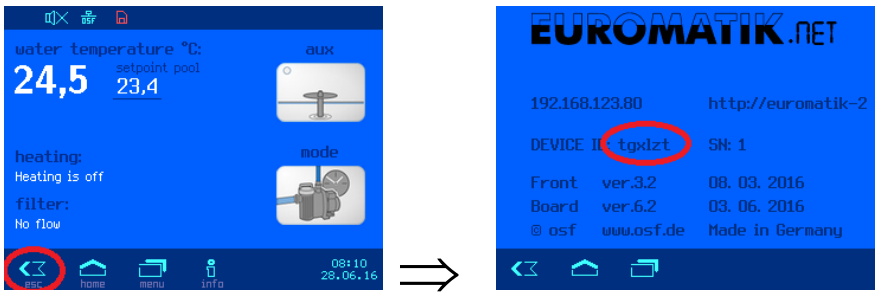


After registering, you can log in and then add a new device to your user profile by entering the device ID of the EUROMATIK in the appropriate field:

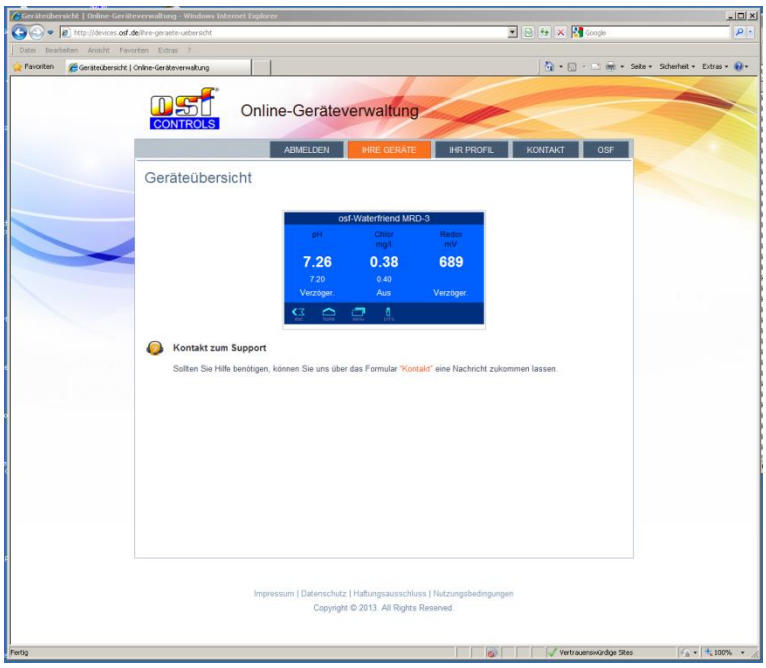


Finding the device ID on the display of the EUROMATIK

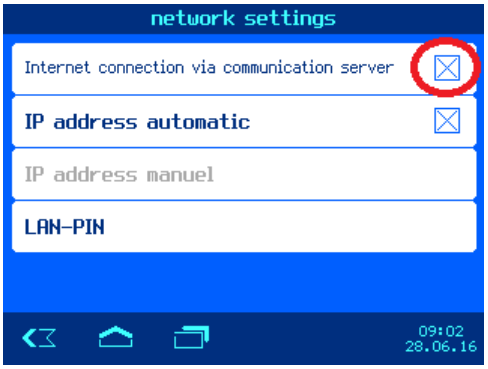
The DEVICE ID of your device is shown on the device information page on the control panel of the device.



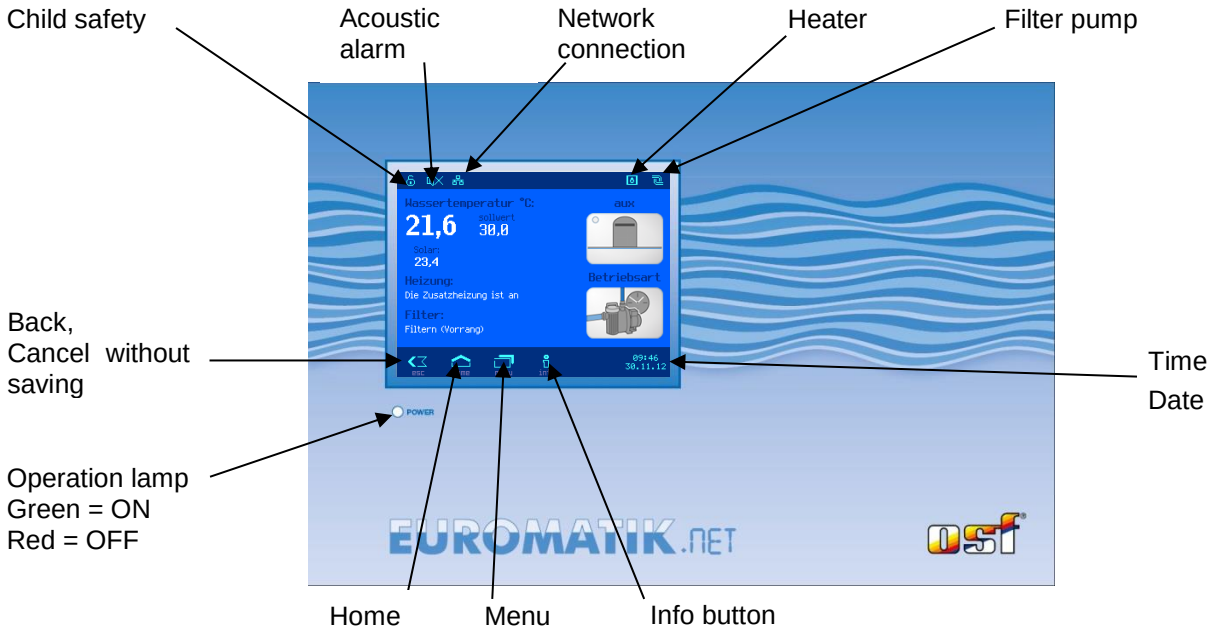
After that, your device will appear in your device overview and can be operated using the communication server:



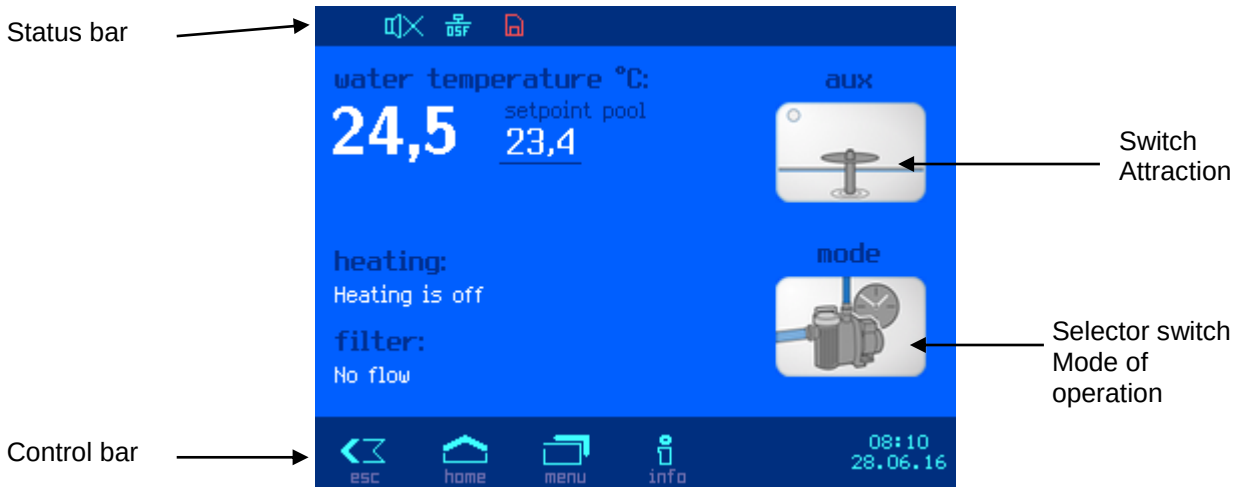
For the use of the communication server, the Internet connection via the communication server must be enabled (Factory setting).



Display



Operation



Switching the EUROMATIK.net on

When the EUROMATIK.net is switched off, the operation lamp lights up in *red colour*. To switch it on, press anywhere on the display for at least 3 seconds.

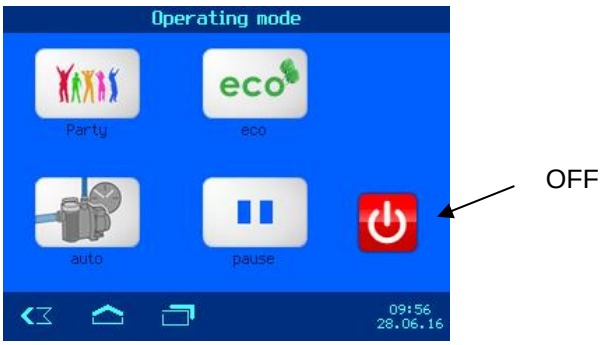
Switching the EUROMATIK.net off

The button to switch the controller off is located in the screen titled *"Operating mode".*

Press the *"Operating mode"* button.

Press the button for switching off at least 3 seconds in order to switch the EUROMATIK.net off.

When the EUROMATIK.net is switched off the operation lamp lights up in *red*.



Selecting the mode of operation

Press the selector switch for the mode of operation. The following modes of operation are available:

	Automatic mode. The filtration system is time-controlled (timer). However, the filter pump that is switched off can be forced to switch on by the solar controller, back-flushing or level controller.
	Pause. The filtration system is switched off although the timer has been switched on. However, the filter pump that is switched off can be forced to switch on by the solar controller, back-flushing or level controller.
	Eco mode (Energy savings mode). Depending on the configuration of the EUROMATIK.net, the filter pump is operated at low speed, the small filter pump is running, the overflow gutter is run dry or the water temperature is reduced.
	Party mode (Continuous mode). The filtration system is switched on although the timer has been switched on. Based on the configuration of the EUROMATIK.net the party mode possibly switches off again depending on the time.

Child safety

The icon in the top left corner of the main screen indicates the status of the child safety feature.

OFF (no icon)

ON

The child safety feature is switched off at the time of delivery.

Switching the child safety feature on: Touch this area in the display briefly with your finger.

Switching the child safety feature off: Press the key icon with your finger for 3 seconds.

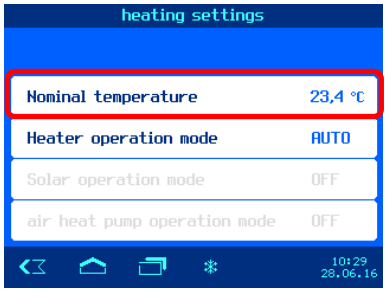
If the child safety feature is switched on, all buttons are blocked!

Heater settings

Press the "*Menu*" button in the control bar.

Press the "*Pool*" button.

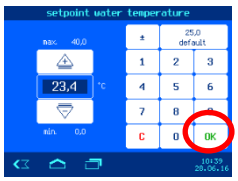
Press the "*Heater settings*" button.

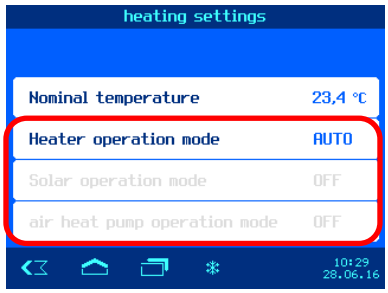


Setting the water temperature

Set the water temperature as desired.

Finally, press the "*OK*" button to save the desired temperature.



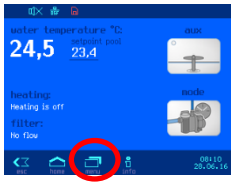


Switching the heater on / off

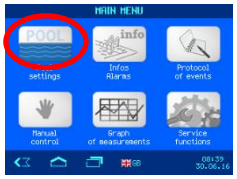
Choose the mode of operation, heater *"OFF"* or *"AUTO"* (Automatic) (picture on the left) for the different heating systems.

Functions that are displayed in grey are disabled because the corresponding heating system is not configured.

Frost protection

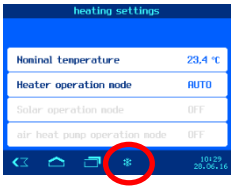


Press the "*Menu*" button in the control bar.

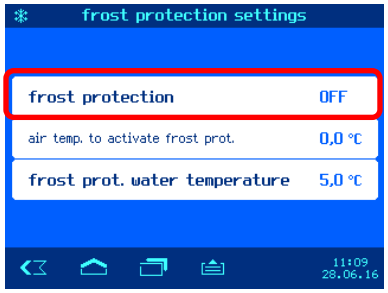


Press the "*Pool*" button.

Press the "*Heater settings*" button.



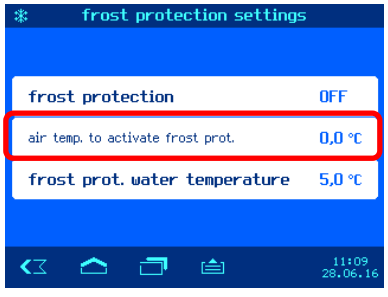
Press the "*Frost*" button.



If there is no air temperature sensor connected to the EUROMATIK, these functions are disabled and greyed out.

Enabling / Disabling the frost protection

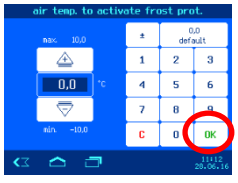
Select the operating mode “OFF” or “AUTO” for the frost protection function.

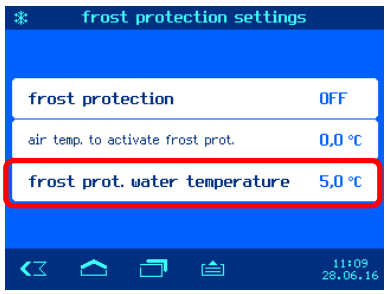


Selecting the activation temperature

Select the outdoor air temperature for starting the frost protection function.

Finally, press the "*OK*" button to save the setting.

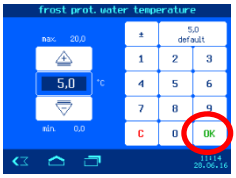




Selecting the water temperature

Select the desired water temperature during frost protection operation.

Finally, press the "*OK*" button to save the setting.

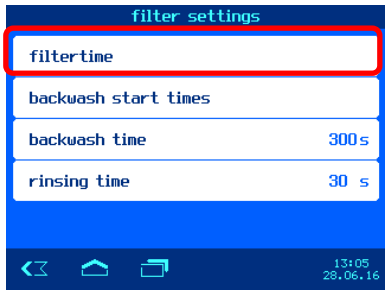


Settings for the filtration system

Press the "*Menu*" button in the control bar.

Press the "*Pool*" button.

Press the "*filter settings*" button.



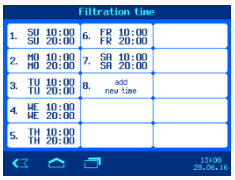
Setting / Deleting the filtration times

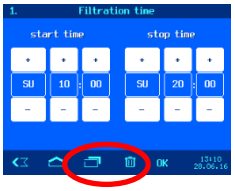
You can set or modify the switching operation times on respective days of the week by pressing the various fields displayed on the screen.

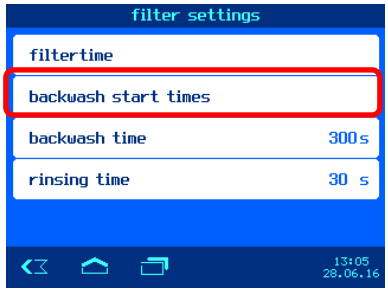
DL means daily. => The operations are carried out each day at the specified times.

Finally, press the "*OK*" button to save the switching operation time.

The switching operation time is deleted by pressing the garbage box icon. (Picture on the right).







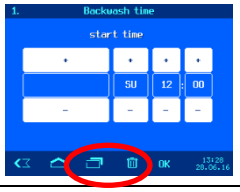
Setting / Deleting the backwash operation times

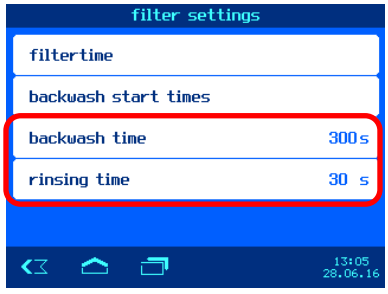
You can set or modify the operation times on respective days of the week by pressing the various fields displayed on the screen.

DL means daily. => The backwash operations are carried out each day at the specified time.

Finally, press the "*OK*" button to save the switching operation time (picture on the right).

The operation time is deleted by pressing the garbage box icon.

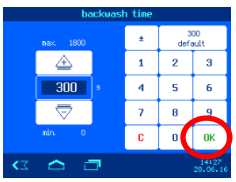




Setting the duration of backwashing / rinsing

The durations of backwashing and rinsing can be set independently.

Finally, press the "*OK*" button to save the setting.

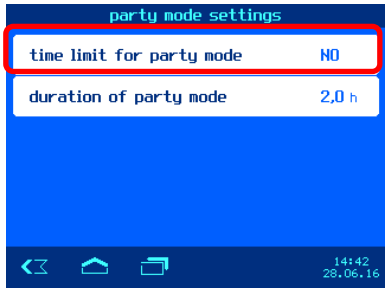


Settings for party mode

Press the "*Menu*" button in the control bar.

Press the "*Pool*" button.

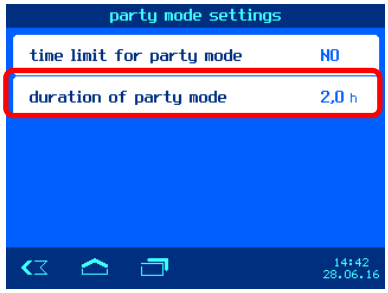
Press the "*party mode settings*" button.



Activation / deactivation of time limitation

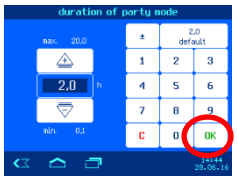
In the *"Party mode"* the filtration system runs continuously.

In order to terminate this continuous operation automatically after the expiry of a certain time, the time limit for party mode must be activated.



Setting the time limit

You can program the max. duration of the party mode, after which it is terminated automatically. Finally, press the "*OK*" button to save the setting.

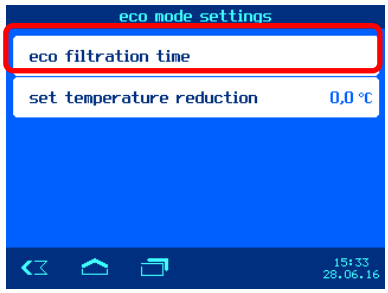


Settings for eco mode

Press the "*Menu*" button in the control bar.

Press the "*Pool*" button.

Press the "*ECO settings*" button.



Setting / Deleting the switching times for eco mode

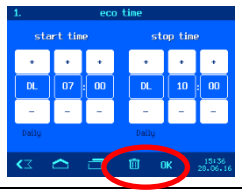
In the *"Eco mode"* the filtration system runs in the energy savings mode.

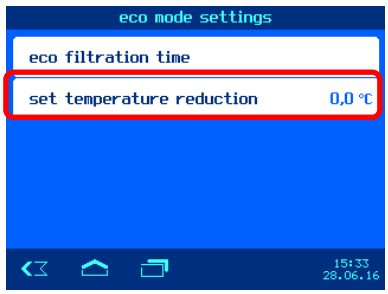
The timer for automatic operations for the timer switching on and off can be programmed by pressing the *"Eco filtration times"* button.

DL means daily. => The operations are carried out each day at the specified times.

Finally, press the *"OK"* button to save the setting.

The switching operation time can be deleted by pressing the garbage box icon. (Picture on the right).

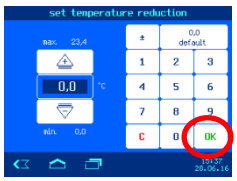




Temperature reduction

The drop in the water temperature can be programmed by pressing the *"Set temperature reduction"* button.

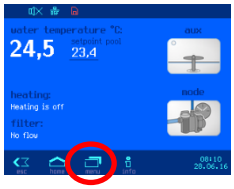
Finally, press the *"OK"* button to save the setting.



Eco mode and speed-controlled filter pump

When using a pump with speed control, the speed for the eco mode must be set in such a manner that the flow rate is adequate for any dosing system that is connected.

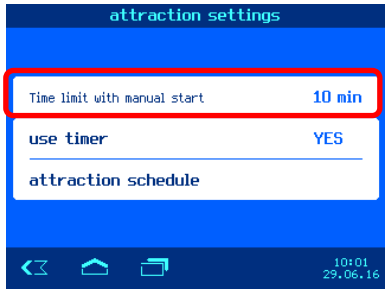
Settings for the attraction output



Press the "*Menu*" button in the control bar.

Press the "*Pool*" button.

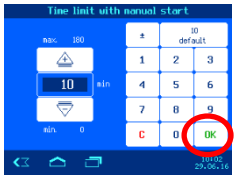
Press the "*attraction settings*" button.

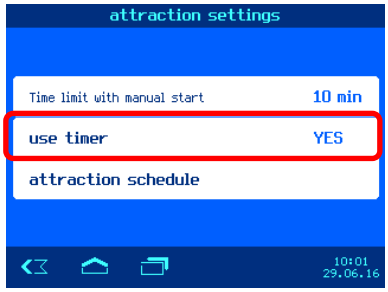


Time limit

For the attraction output a runtime limitation can be set to switch the output off after a period of time, if it had been switched on manually. If the limit is set to 0, the output will not be switched off automatically.

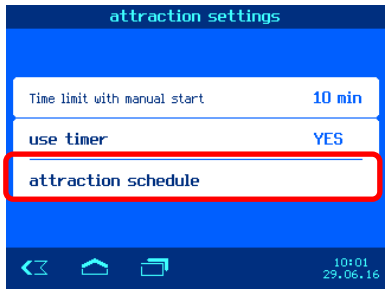
Finally, press the *"OK"* button to save the setting.





Selecting / deselecting timer control

If the attraction is to be controlled by the integrated timer, the function “use timer” has to be set to “yes”.



Setting / deleting switching times for the attraction

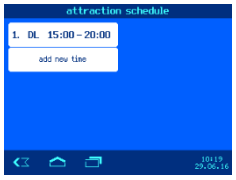
The attraction output can be controlled by an integrated timer on a weekly basis.

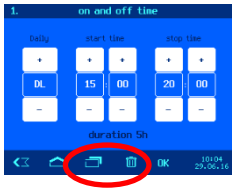
Up to 10 operating periods can be programmed by pressing the appropriate field in the schedule.

DL means daily. => The operations are carried out each day at the specified times.

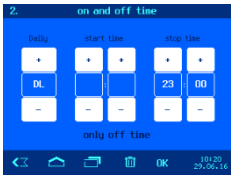
Finally, press the *"OK"* button to save the setting.

The switching operation time can be deleted by pressing the garbage box icon. (Picture on the right).





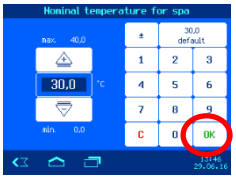
Alternatively it is possible to program only a stop time to generally turn off the output at a certain time.



Temperature setpoint for spa

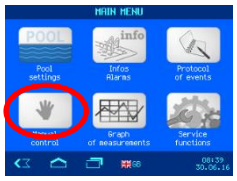
If the attractions output is configured for swimming pool / whirlpool switch, the water temperature for whirlpool operation can be selected here.

Finally, press the *"OK"* button to save the setting.

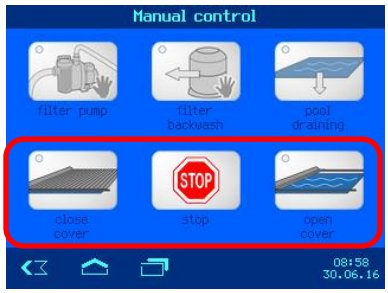


Manual control (manual operation)

Press the "*Menu"* button in the control bar.



Press the "*Manual control"* button.



Operating the swimming pool cover

Before operating these switches the swimming pool must be inspected visually. Only if it has been ensured that there is nobody in the swimming pool and that no hazardous situation can arise by moving the swimming pool cover, should the swimming pool cover be moved.

Starting the filter pump manually

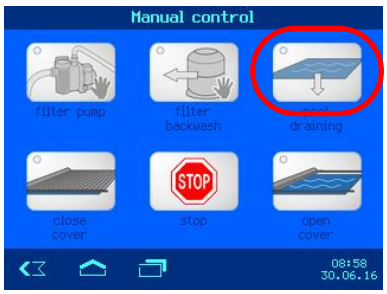
In order to switch the filter pump on beyond the filter operating times that have been programmed, press the *"Filter pump"* (Manual control) switch in the menu.

In this mode, speed-controlled pumps are switched automatically between filter speed and eco speed.

Starting the backwashing operation manually

In order to initiate the back-flushing operation manually, independent of the programmed times, you need to press the *"Filter backwash"* button.

In this mode, speed-controlled pumps are automatically switched to backwash speed.



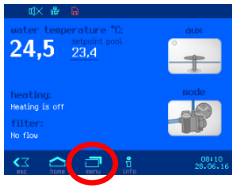
Draining the swimming pool

In order to drain the swimming pool, press the *"pool draining"* button in the menu (Manual control) for at least 5 seconds.

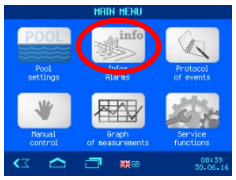
The filter pump is switched off automatically, but it can be switched on again manually. (Attention, be aware of the possibility of dry running of the pump).

The 6-way valve moves to the "Drain" position. The floor drainage valve opens.

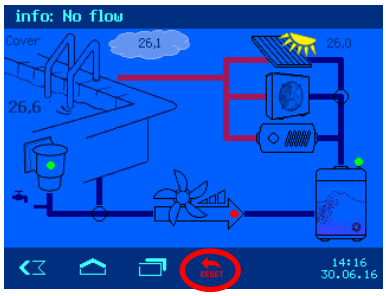
Info page (system overview)



Press the "*Menu"* button in the control bar.



Press the "*Infos / Alarms"* button.



On the Info page of the operating state of the entire filter system with all measured values and possible error messages is displayed graphically.

Error message "Pump locked"

It is possible that a fuse on the motherboard is defective.

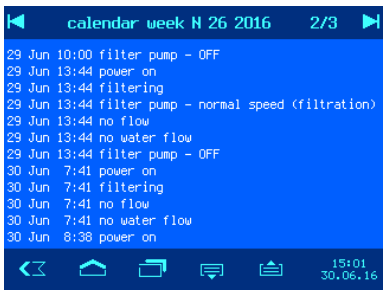
Resetting error messages

By pressing the "RESET" icon, error messages, for example after activation of the electronic motor protection, can be acknowledged to restart normal operation of the system.

Operating protocol

Press the "*Menu"* button in the control bar.

Press the "*Protocol of events"* button.



In operation log all important events are listed on a weekly basis.

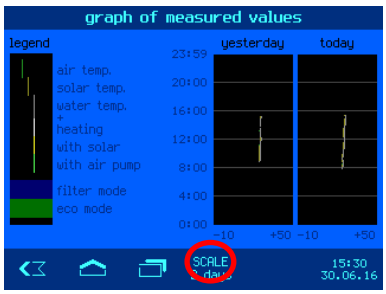
The buttons and are used for flipping pages within the weekly protocol.

By pressing the keys and you can change the calendar week to be displayed.

Temperature charts

Press the "*Menu"* button in the control bar.

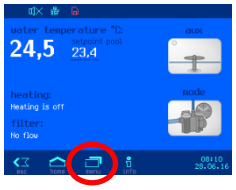
Press the "*Graph of measurements"* button.



The measured temperature curves in the swimming pool can be displayed graphically.

With the "Scale" button you can select the number of days to be displayed simultaneously.

Language selection



Press the "*Menu*" button in the control bar.

Press the "*Flag*" icon.

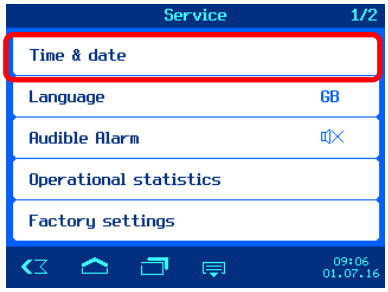
For display on the touch panel different languages can be selected.

Service functions

In the service functions, additional settings can be made for the operating system of the controller.

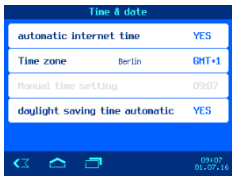
Press the "*Menu*" button in the control bar.

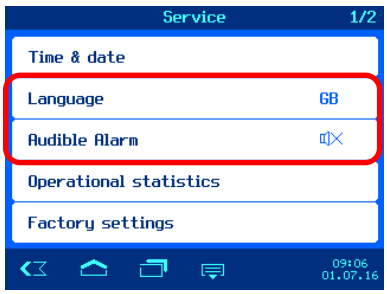
Press the "*Service functions*" button.



Settings for time and date

The controller can automatically synchronize the built-in real time clock with NTP time servers on the Internet, if the function "automatic internet time" is activated. In this case, the local time zone must be set correctly for correct time indication. Further, the controller can optionally automatically switch to daylight saving time in summer. If the time is not synchronized with the Internet, the clock must be set manually.



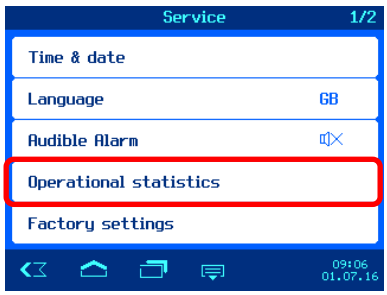


Selecting the language

For display on the touch panel different languages can be selected.

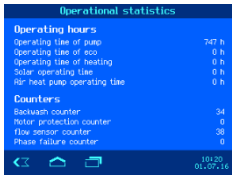
Acoustic alarm signal

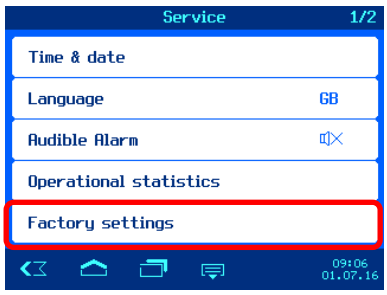
The acoustic alarm signal can be enabled or disabled on this page.



Operational statistics

The "Operational statistics" button takes you to a display of the operating hours and event counters.



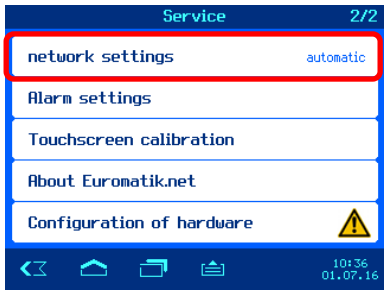


Factory settings

With the "factory settings" button, the factory default settings of the operating parameters are restored.

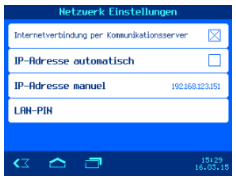
This feature is only available in expert mode (see below).

To perform this function, a security prompt must be confirmed.



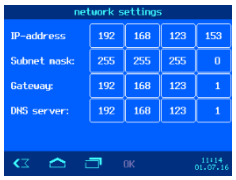
Network settings

The connection with the -communication server can be deactivated in this menu.



You can also determine, whether the device automatically obtains its IP settings from the network (DHCP).

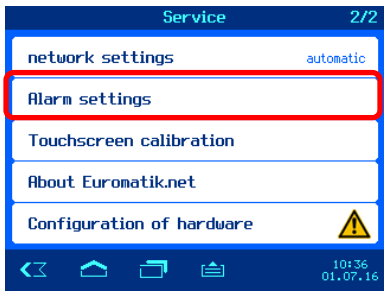
On this page, the IP addresses of the device can be set manually, if they are not to be automatically obtained from the DHCP server.



On this page, the PIN numbers for users and service technicians can be changed. If "0000" is set as the PIN, no login with PIN entry is required.

Factory defaults of PIN numbers

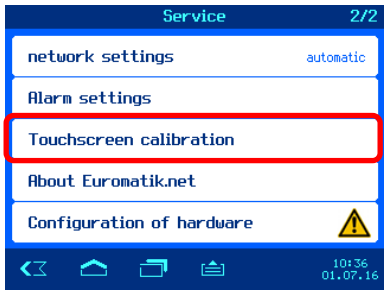
User-PIN=1234, Service-PIN=5678



Alarm settings

In this menu you can choose, which fault conditions are signalized as acoustic alarm, by email, or by means of the potential-free relay contact. There are 3 menu pages with possible alarm conditions.

To adjust the appropriate fault condition in the list is touched with a finger. In the thereupon opening window, the implementation of the alarm can be

	selected. Finally, press the "*OK*" button to save the setting. With the key on the bottom right you can reset the alarm settings to factory defaults.
	**Touchscreen calibration** If the touch screen responds incorrectly to activities and calls unintended functions, it can be recalibrated under this menu item. Here the step by step instructions on the screen have to be followed.

Professional mode (Expert level)

The EUROMATIK.net provides a protection function against undesirable modification of important operational parameters.

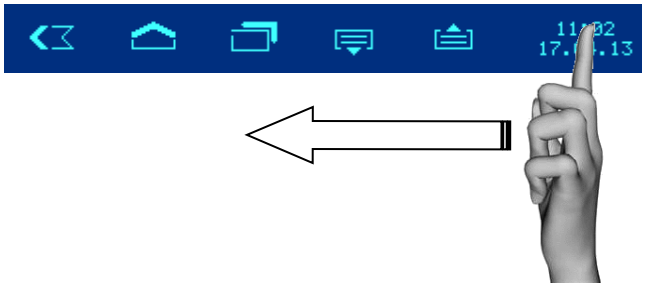
This protection function is enabled at the time of delivery. All functions shown in grey colour on the display are then blocked.

Protective function ON *(no icon)*

Protective function OFF

To switch off the protective function, touch the button line with your finger and move it from the right to the left over this line.

(Observe the symbol at the top left in the symbol line)

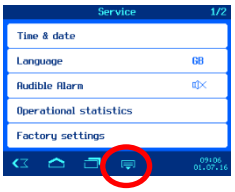
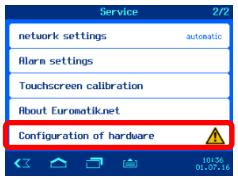


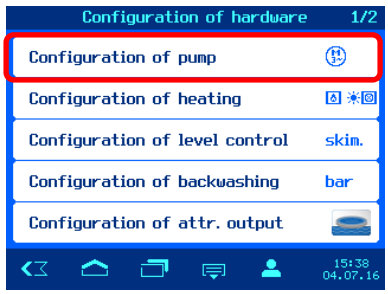
To switch on the protective function, touch the button line with your finger and move it from the right to the left over this line. (*Observe the symbol at the top left in the symbol line).*

One hour after the previous operation of a button, the protective function is switched on again automatically.

Configuration of the controller

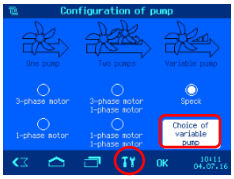
During the installation the controller must be configured for each pool to ensure proper function. To protect the configuration from inadvertent adjustment, these settings can be operated only in Expert Mode.

			
Press the "*Menu"* button in the control bar.	Press the "*Service functions"* button.	Press the "*Next page"* button.	Press the "*Configuration of hardware"* button.



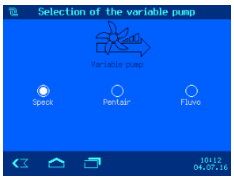
Configuration of the filter pump

Selecting the type of pump



During commissioning the type of filter pump must be selected. The following options are available:

- A three-phase filter pump
- A single-phase filter pump
- 2 pumps, filter pump three-phase, ECO pump single-phase
- 2 pumps, both single-phase
- A variable speed pump



If a variable speed pump is used, the exact type must be defined using the button "Choice of variable pump".

Adjusting the motor protection

You can set the current level for triggering motor protection by pressing the "*Motor overload protection*" button. Finally, press the "*OK*" button to save the setting.

The current consumption of the pump is displayed on the "INFO" page.

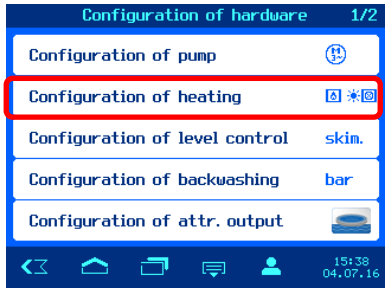
The motor protection feature can be used only if 400 V / 50 Hz or 230 V / 50 Hz filter pumps are used that are connected to the terminals U1/V1/W1. If a pump with a variable speed pump is selected during the configuration, the motor protection feature is not active.

Setting the start-up time of the pump

You can set the delay time that elapses before the flow monitor is sensed after starting the filter pump by pressing the "*Pump starting time*" button. Finally, press the "*OK*" button to save the setting.

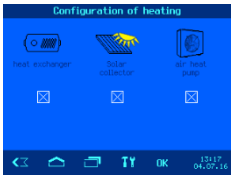
Pump capacity for solar heating

In this line you can select, at which power the filter pump should run during operation of the solar heating.



Configuration of the heating systems

Selecting the heating systems

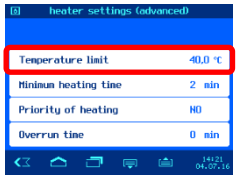


During commissioning you have to define which heating systems are present in the installation.

For the operation of a solar absorber system, a solar temperature sensor must be connected to the terminals 53 and 54.

For the operation of an air heat pump, an outdoor air temperature sensor must be connected to the terminals 55 and 56.

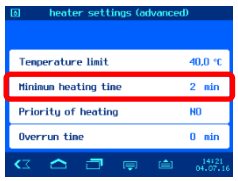
Temperature limit



You can set the upper limit of the temperature controller (maximum user selectable water temperature) by pressing the *"Temperature limit"* button.

Minimum switching interval

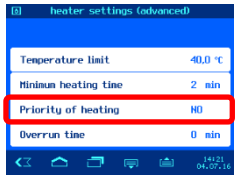
The minimum time interval for switching the heater can be set by pressing the *"Minimum heating time"* button. Too frequent switching operations of the heater can be prevented by doing so.



Priority circuit of the heat exchanger

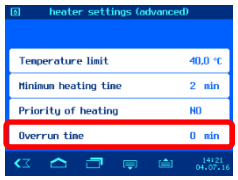
The default factory setting is such that the heater is switched on only if the filter system is working.

By pressing the *"Priority of heating"* you can change the switching priority in such a manner that the heater is switched on even when the filter pump is still switched off. In this case, the filter pump is switched on simultaneously with the heater.



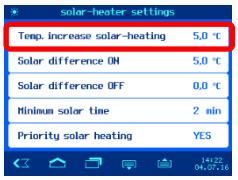
Off delay of the filter pump

By pressing the *"Overrun time"* button you can set the time period for which the filter pump continues to run after the timer has been switched off, in order to cool down the heater, e.g. heat exchanger (dissipate the residual energy).



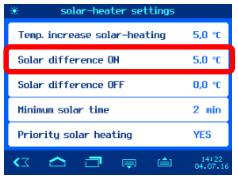
Temperature increase for solar operation

The temperature increase for solar operation defines how far the pool water is heated over the setpoint during operation of the solar heating, to store energy for times without sunlight.



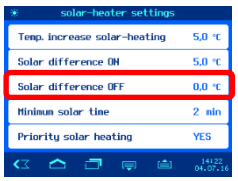
Switch-on temperature difference of solar heating

In this line you can set, at which temperature difference between solar absorber and swimming pool water the solar heating is switched on.



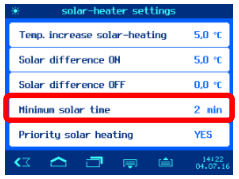
Switch-off temperature difference of solar heating

In this line you can set, at which temperature difference between solar absorber and swimming pool water the solar heating is switched off.



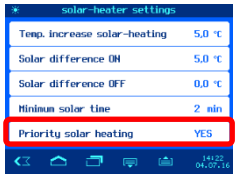
Minimum switching interval for solar heating

The minimum time interval for switching the solar heating can be set by pressing the *"Minimum solar time"* button. Too frequent switching operations of the solar heating can be prevented by doing so.



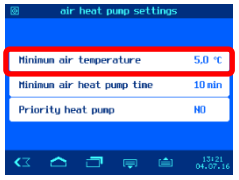
Priority circuit of solar heating

With this button you can select whether the solar temperature control should take precedence over the programmed filter periods. With activated priority (default setting), the filter pump can be switched on beyond the programmed run times by the temperature control.

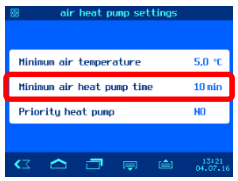


Minimum air temperature for heat pump

With this button, the minimum temperature of the outdoor air for the operation of the air heat pump can be set, to achieve a sufficient efficiency.

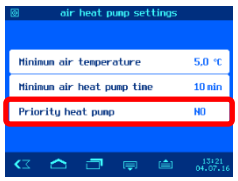


Minimum switching interval for heat pump



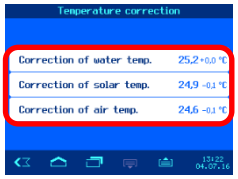
The minimum time interval for switching the air heat pump can be set by pressing the *"Minimum air heat pump time"* button. Too frequent switching operations of the heat pump can be prevented by doing so.

Priority circuit of the air heat pump

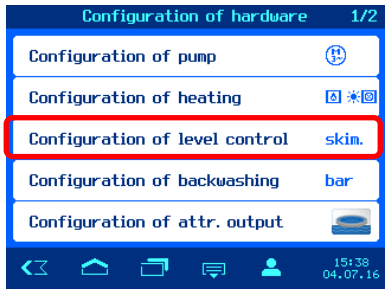


With this button you can select whether the temperature control for the air heat pump should take precedence over the programmed filter periods. Without priority (default setting), the heat pump can only be switched on within the programmed filter periods by the temperature control.

Adjusting the temperature sensors



On this page, the displayed values of the temperature sensor can be adjusted.



Configuration of the water level control

Select the type of level control system

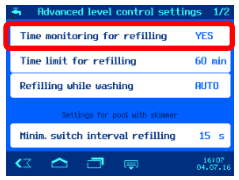
In this menu you must select the appropriate level control system for the pool.

Press the "OK" button to save the setting.

The electrical connection of the sensors must be done according to this setting.

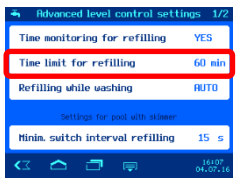
Additional settings can be made after pressing the “Tools” icon.

Time monitoring of water refill



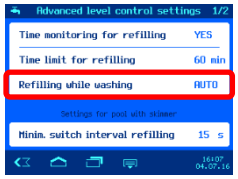
In this line you can select whether the automatic refill is terminated after an adjustable maximum period for safety's sake, to avoid overfilling in case of malfunctions of the water level sensor.

Maximum duration of water refill



In this line the maximum duration of the water refill can be adjusted, which passes until the time monitoring triggers.

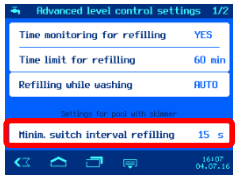
Water refill during backwashing



In this line you can select, if

a. water refill is started generally at the beginning of backwashing, to compensate for the water loss quickly,
b. water refill is blocked during backwashing, to avoid a loss in water pressure, or
c. water is refilled automatically, depending on the current water level.

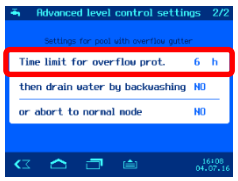
Minimum switching interval of the solenoid valve (for pools with skimmer)



The minimum time interval for switching the solenoid valve can be set by pressing the *"Minim. switch interval refilling"* button. Too frequent switching operations of the valve can be prevented by doing so.

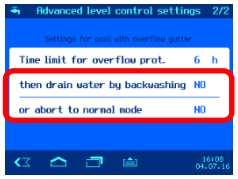
Time limit for overflow protections (Pools with overflow gutter)

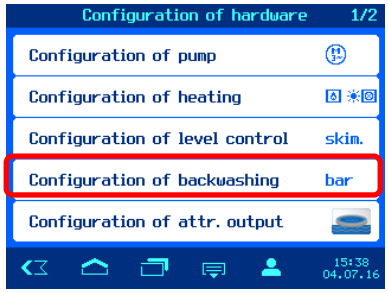
For pools having an overflow gutter, a time limit for the overflow protection (forced switching on) can be set in this line.



Behavior in case of overflowing

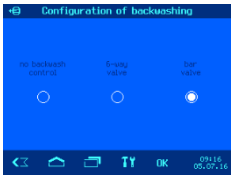
You can configure in this line whether after the expiry of the time limit, back-flushing should be triggered automatically in order to remove excess water from the system, or if the forced switching on operation should be terminated automatically.





Configuration of backwashing

Selecting the type of backwashing



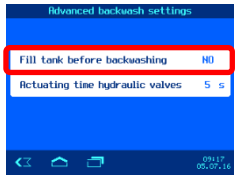
You can choose the type of backwashing suitable for the swimming pool in this menu.

- no backwashing
- 6-way valve
- plunger valves

Next, press the "OK" button to save the setting.

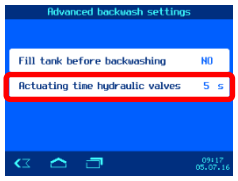
Filling the overflow tank before backwashing

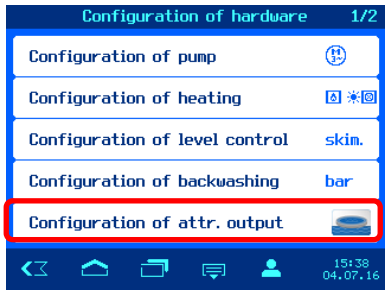
In this line you can select, if the overflow tank is to be filled up to the top electrode before the backwash to provide sufficient water.



Actuating time of plunger valves

For backwashing with plunger valves, you can set the time in this line for which the filter pump is switched off while the valve is moving (if necessary).





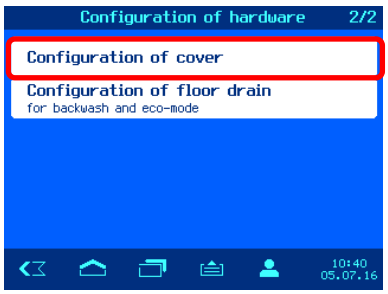
Configuration of the attraction output

Selecting the type of attraction

In this menu item you can choose the symbol of the switch "attraction". There are 15 different symbols available. Alternatively, the output can be configured for switching between swimming pool and spa operation.

Actuating time of valves

For use of the attraction output for swimming pool / spa switchover, you can set in this line, how long the filter pump is switched off for the process of actuating the valves (if necessary).

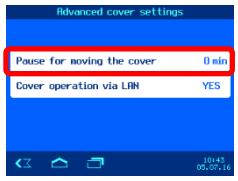


Configuration of the pool cover

Selecting the type of cover

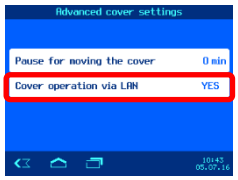
Select the swimming pool cover installed, if any, in this menu. Next, press the "OK" button and save the setting. The electrical connection must be made depending on this setting.

Pause for moving the cover

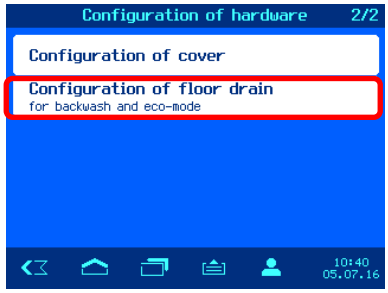


In this line you can set how long the filter pump is switched off in the process of moving the cover (if necessary).

Operating the swimming pool cover via LAN

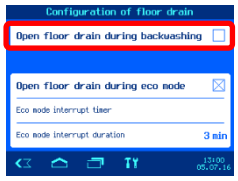


Operating the cover via the Internet is generally blocked for the sake of safety. The operation via LAN is also blocked in the EUROMATIK.net system at the time of delivery. This control option can only be released at site. The option should be released only if the swimming pool can be viewed unrestrictedly from all LAN control devices and visual surveillance of the swimming pool is possible at all times.



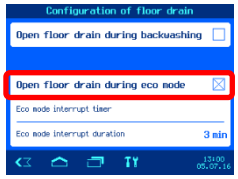
Configuration of the floor drain valve

Opening the floor drain during backwashing



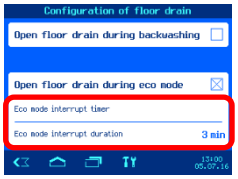
This button can be used to set whether the floor drain valve to be opened during backwashing to provide sufficient water for backwashing.

Opening the floor drain in eco mode



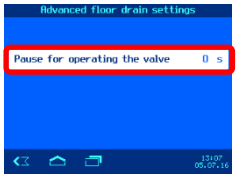
This button can be used to set whether the floor drain valve is to be opened in the ECO mode in order to lay the Spillway dry and to minimize evaporation losses.

Cyclic intermission of eco-mode

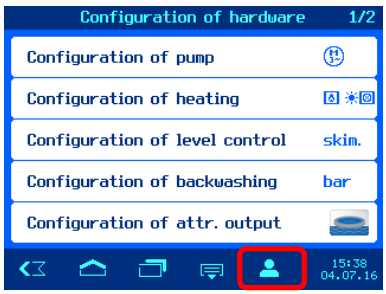


If the floor drain valve is opened in eco mode, a timer can be programmed to interrupt the direct water circulation through the floor drain periodically, to keep the water in the overflow tank conditioned.

Pause for actuating the valve



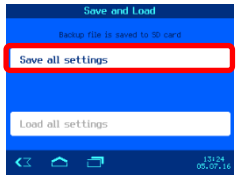
In this line you can set how long the filter pump is switched off in the process of moving the floor drain valve (if necessary).



Backup of user settings

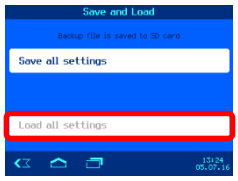
Storing the settings on the SD card

With this button the configuration settings can be saved on the Micro SD card in the device.



Loading settings from the SD card

With this button the previously stored configuration settings can be reloaded from the Micro SD card.



Operating the webserver

After the device has built up a network connection, it can be operated using the embedded Web server. Communication with the server can be done with any web browser. For access from the Internet, the -communication-server can be used. Alternatively, the IP address of the device (see Fig. Configuration menu) can also be entered directly into the browser address bar for local access. If the HMI device is capable of NetBIOS name resolution (as Windows PCs), the NetBIOS name "EUROMATIK" can be used instead of the IP-address (http://EUROMATIK).

Homepage

After opening the device in the web browser, the homepage is displayed first:

Icons in the status bar (top)

The Web server is blocked for access from the LAN. It only displays the current state. To operate the device, the user must first log in by clicking on this icon.

The Web server has been unlocked with service pin for full access.

The solenoid valve for water refill is opened.

A backwash cycle is in progress.

The filtration pump is running.

The heater is operating.

The solar heating system is operating.

Icons in the control bar (bottom)

Navigation to the system information page

Navigation to the home page

Navigation to the main menu

Navigation to the info page

Retrieving online help

User login

On this page the user must login to the embedded webserver using the user-PIN (default: 1234) or the service-PIN (default: 5678) to get access to the device.

System information page

On this page, system information of the device is displayed, e.g. serial number and software version. Furthermore, the logged-in user can read the current IP address for access from the local network and the device ID for access via the -Communication-server here.

Email notification in case of failure

Assigning a name for the device

Using the LAN connection, the EUROMATIK.net can send alarm messages by e-mail. In the adjacent window, the email addresses of the recipient and an optional copy-recipient are entered.

To distinguish between individual pool-facilities, it is possible to give each EUROMATIK.net a unique name.

These settings can only be made via the LAN interface. On the touchscreen monitor of the EUROMATIK.net these settings are not available.

Connection to building management systems

The EUROMATIK.net includes an HTTP web server, which is designed to enable the operation of the controller from any Internet-enabled device using any standard Web browser.

The HTML pages generated by this Web server can also be accessed from the building management system and evaluated, for example, for display on KNX visualization devices.

To control the EUROMATIK.net, the building control system must generate HTTP telegrams, like they would have been generated by a web browser after clicking controls on HTML pages - so the building management system must simulate the behaviour of a Web browser.

As an alternative to direct analysis of our predefined HTML pages intended for display on Web browsers, the user can also store his own control file on the SD card in the EUROMATIK.net that supplies him with the desired information in "customized" form. This makes the connection to the building control system independent of any design changes to our HTML pages.

This control file must be saved as an ASCII text file with the extension ".htm" in "HTML" directory on the SD card. The file name can be up to 8 characters. Despite the extension "HTM" this file does not necessarily have to be a valid HTML file, formatting can be adapted to the requirements of the building control system.

This control file can include variables in the format "$$nnnn", which will be replaced by the current data when the file is delivered by the web server. A list of the available variables can be found at the end of this document.

A control file „VALUES.HTM“ with the following content:

Water temperature: $$0100 °C

Solar temperatur : $$0101 °C

Air temperature: $$0102 °C

$$0015

would upon a call to „http://xxx.xxx.xxx.xxx/values.htm“ be evaluated to:

Water temperature: 24.3 °C

Solar temperatur : 36.8 °C

Air temperature: 22.4 °C

Filtering

With such control files individual data points can also be read selectively, for example, "WTEMP.HTM" with the content

$$0100

provides the output

24.3

To change data in the controller by the building control, the transfer of an HTML form must be simulated by the building control system. This is done through a URL call like "http://xxx.xxx.xxx.xxx/modify?nnnn=data", where “nnnn” is the index of the variable to be changed, and “data” represents the data to be stored.

Before the control system can change variables, it must first log in by transmitting a valid PIN number to the variable 0003:

„http://xxx.xxx.xxx.xxx/modify?0003=dddd“, where “dddd” is the appropriate LAN-PIN for the device.

After a successful login, variables can be set, for example, target temperature set to 28 °C:

„http://xxx.xxx.xxx.xxx/modify?0110=28.3“.

Thereafter, the control should log out again by rewriting the variable 0003 with any invalid value:

„http://xxx.xxx.xxx.xxx/modify?0003=0000“

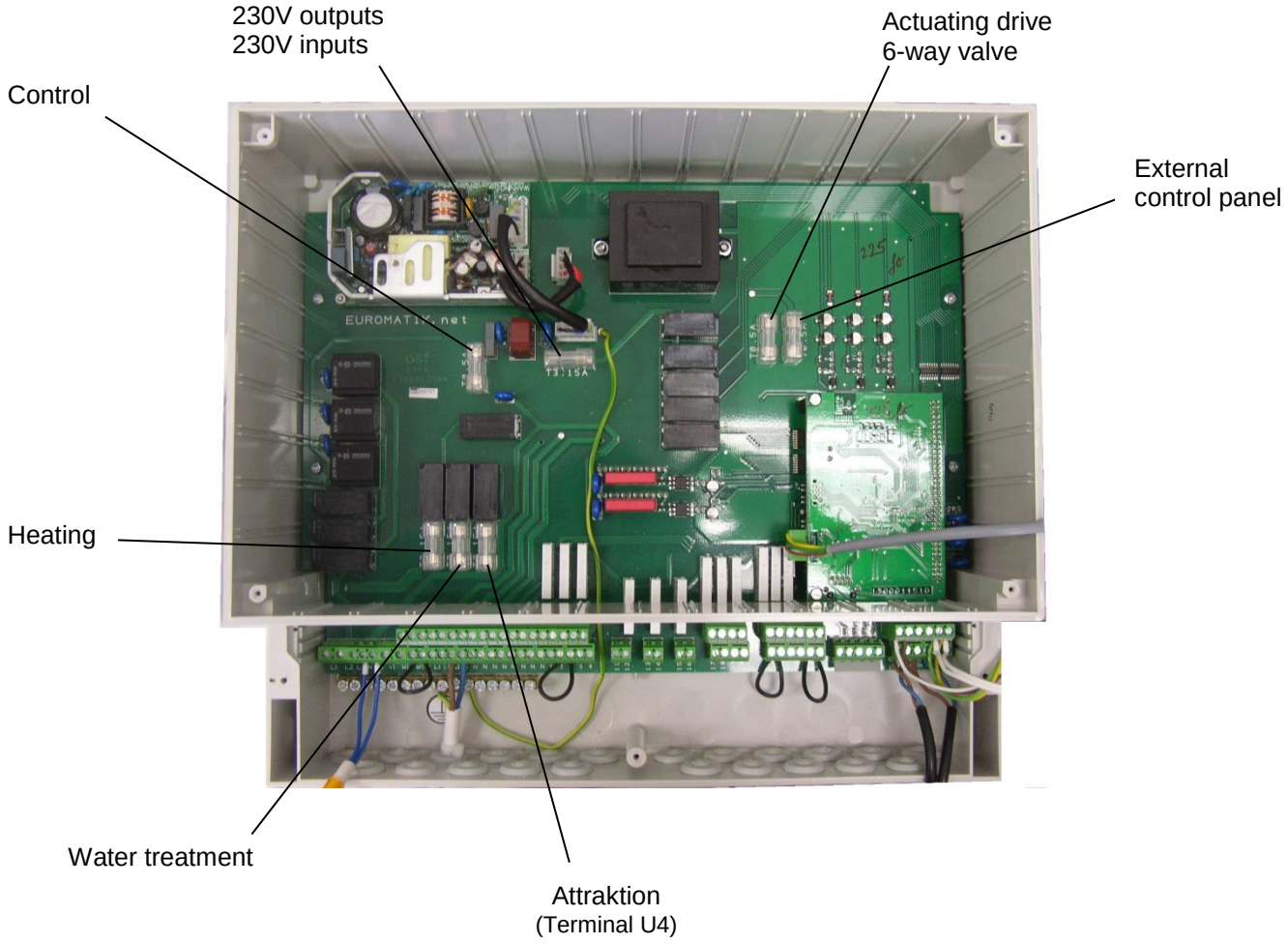
By a similar call sequence, e.g. the attractions output can be switched:

„http://xxx.xxx.xxx.xxx/modify?0003=dddd“	login
„http://xxx.xxx.xxx.xxx/modify?0017=i“	alter output state
„http://xxx.xxx.xxx.xxx/modify?0003=0000“	logout

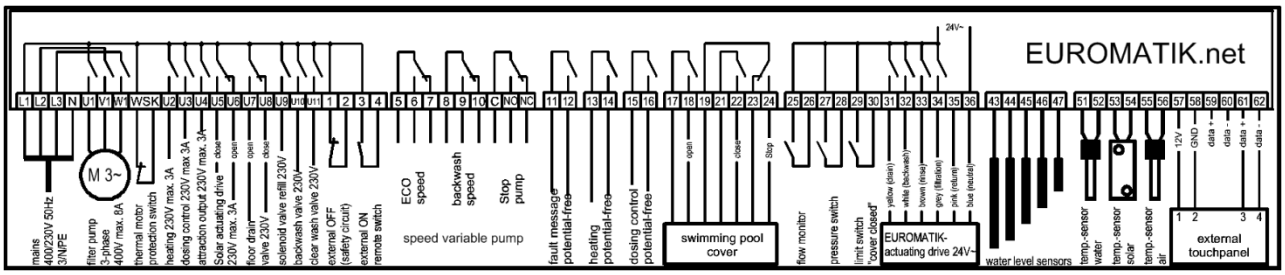
Variables available for communication with the building management system (as of 29/05/2015):

Index	Function	Read/ Write	Format	Value range	Info
0003	LAN-PIN	W	„####“	„0000“ - „9999“	Login
0013	Status text heating system	R	ASCII-Text		
0015	Status text filtration system	R	ASCII-Text		
0017	Control of attraction output	W	ASCII	'0', '1', 'i'	0: switch off 1: switch on i: alter state
0019	Operating mode filter system	W	ASCII	„M1“ - „M4“	„M1“: Pause „M2“: ECO mode „M3“: Automatic mode „M4“: Party mode
0025	Manual mode filter pump	W	ASCII	'0', '1', 'i'	0: switch off 1: switch on i: alter state
0026	Manual mode backwashing	W	ASCII	'0', '1', 'i'	0: switch off 1: switch on i: alter state
0033	Control of pool cover	W	ASCII	'0', '1', '2'	0: Stop cover 1: Close cover 2: Open cover
0100	Water temperature	R	„##.#“		
0101	Solar temperature	R	„##.#“		
0102	Air temperature	R	„##.#“		
0110	Setpoint water temperature	R/W	„##.#“	„00.1“ - „40.0“	
0111	Temperature decrease for eco mode	R/W	„##.#“	„00.0“ - „15.0“	
0112	Temperature increase for solar mode	R/W	„##.#“	„00.0“ - „15.0“	
0123	Frost protection function	W	ASCII	'0', '1', 'i'	0: switch off 1: switch on i: alter state
0124	Activation temperature for frost protection	R/W	„##.#“	„-9.9“ - „10.0“	
0125	Water temperature for frost protection	R/W	„##.#“	„00.0“ - „20.0“	
0160	Setpoint spa temperature	R/W	„##.#“	„00.1“ - „40.0“	Only if swimming pool / spa switchover is enabled
9000	Collective error message	R	'#'	'0' - '1'	'0'=Off, '1'=On
9013	Status heating system	R	'#'	'0' - '3'	'0'=Off '1'=Heat exchanger '2'= Solar heating '3'=Air heat pump
9017	Status attraction output	R	'#'	'0' - '1'	'0'=Aus, '1'=Ein
9019	Status operating mode	R	'#'	'0' - '5'	'0': Controller off '1': Pause '2': ECO mode '3': Automatic mode '4': Party mode '5': Draining pool
9025	Status manual operation	R	'#'	'0' - '1'	'0'=Off, '1'=On
9026	Status backwashing	R	'#'	'0' - '1'	'0'=Off, '1'=On
9123	Status frost protection	R	'#'	'0' - '1'	'0'=Off, '1'=On

Fuses



Wiring diagram



We hope you have a lot of enjoyment and relaxation in your swimming pool

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