

Installation- and Operating Instructions



PC-400-ES

Art. No.: 3002700105

Not suitable for filter pumps with speed control

Functioning:

The **OSI** filter control system PC-400-ES enables time-controlled connection and disconnection of a 400V A.C. filter pump. Setting of the daytime and the individual response times can be noted from the corresponding operating instructions of the automatic switch which is enclosed. By means of the selector switch in the front cover it is possible to:

- Switch on and off the functioning of the unit. **Attention, the control system is thus not disconnected from the mains supply at all poles!**
- to switch the unit to permanent operation or automatic operation (automatic switch) of the filter pump.

Also during the working time of the filter pump, the heating of the pool is regulated by the electronic temperature control. During interruptions of the filtering process, the heating is automatically switched off by the internal locking device. The requested temperature of the pool water may be chosen or the heating may be switched off by an adjuster on the front plate.

Operation of the filter pump and the heating is displayed by indicator lamps in the front cover - controlling is therefore possible at any time.

Connection terminals for an electronic level control **OSI**-NR-12-TRS-2 or NR-12-TRS-3 ensure a comfortable automatic control of the water level in the pool. Additionally, the filter pump is protected against damage which may arise due to operation of the filter unit without water.

Connection terminals for an **OSI**-EUROTRONIK-10 (Art.No. 3104800201) ensure an enlargement of the filter control to an automatic filter- and re-flushing control.

Another terminal connection enables the connection of additional devices, e.g. dosing technology. The terminals D/D are potential-free and can therefore be used individually. The relay contact between terminals D/D is closed during the filter times; this relay contact is open outside of the filter times. This contact can be used with a maximum voltage of 230V and a maximum load of 400W ($\cos \varphi = 1$).

The connection terminals for the winding protection contact (WSK) enable the connection of a winding protection contact switch, which is integrated in the motor winding of the filter pump. If this contact opens, e.g. due to excessive heating of the motor winding, the filter pump and with it the heating and dosing technology are automatically switched off. As soon as the winding protection contact closes after the motor winding has cooled down, the units switches on again automatically. A manual reset is not required. The "WSK" connection terminals carry 230V.

Operation of the filter pump and the heating is displayed by indicator lamps in the front cover - controlling is therefore possible at any time.

The filter pump is protected against overload by an electronic motor protection (current range continuously adjustable up to 8A).

Technical Data:

Dimensions:	220mm x 220mm x 100mm	
Operating voltage:	400V/50Hz	
Power consumption of the control system:	abt.1,5VA	
Not suitable for filter pumps with speed control		
Capacity:	Pump:	max. 3,0 kW (AC3)
	Heating:	max. 0,4 kW (AC1)
Type of protection:	IP 40	

Installation:

The control unit must be mounted such that it is protected from moisture in accordance with its degree of protection. The ambient temperature must lie between 0°C and + 40°C and should vary as little as possible. The relative humidity at the installation position must not exceed 95% and there must not be any condensation. Avoid exposing the unit to direct heat or sunlight.

The swimming pool is to be constructed in such a way that a possible technical defect, a power failure or a defective control cannot cause any consequential damage.

Electrical connection:

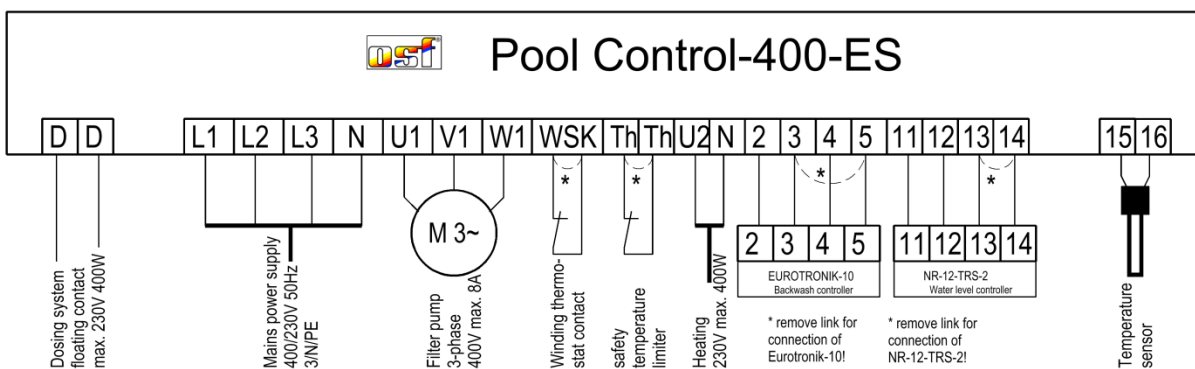
The power supply for the unit must be provided via an all-pole disconnection switch with a minimum contact gap of 3mm and via a residual-current circuit breaker with a fault current $IFN \leq 30mA$.

Always disconnect the unit from the power supply before opening the case. All electrical wiring and calibration and servicing work must be performed solely by an approved electrician. The attached wiring diagrams and all applicable safety regulations must be observed.

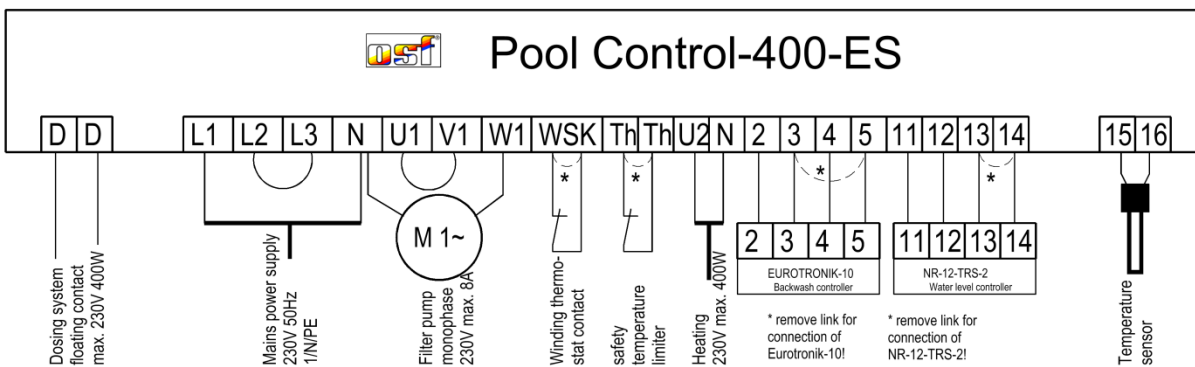
Low voltage lines:

Low-voltage lines must not be laid along with three-phase or AC power cables in the same cable conduit. In general, always avoid routing low-voltage lines close to three-phase or AC power cables.

When using a 400V three-phase pump:



When using a 230V AC pump:



This control is not suitable for connecting a filter pump with speed control. We have other controls in our delivery program for such pumps.

The bridge which is installed by the manufacturer between the two terminals designated as *Th* has to be removed if a safety temperature limiter is connected. If the latter is not connected, the bridge has to remain in place.

The bridge which is installed by the manufacturer between the terminals 13 and 14 has to be removed if a level control unit **tesa** NR-12-TRS-2 is connected. If a level control unit is not connected, the bridge has to remain bolted between these terminals. In this case, the terminals 11 and 12 shall not be used.

The bridge which is installed by the manufacturer between the terminals 5 and 3 has to be removed, if an **tesa** EUROTRONIK-10 is connected. If an EUROTRONIK-10 is not connected, the bridge between these terminals has to remain in place. In this case, the terminals 2 and 4 shall not be used.

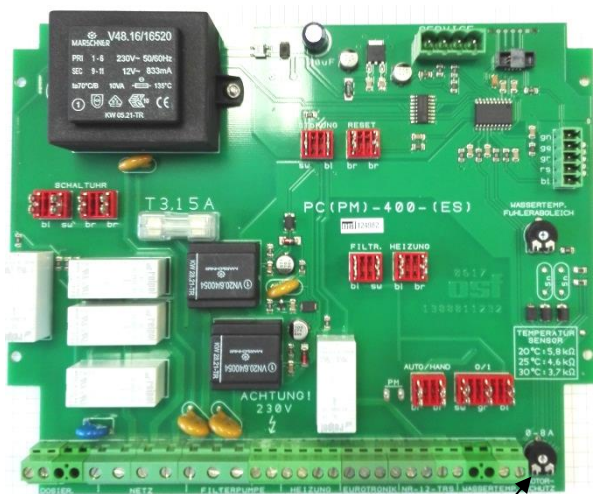
The factory-fitted bridge between the two terminals marked WSK must be removed when connecting a winding protection contact. If no winding protection contact is available, it must remain screwed in.

Opening one of the contacts between terminals 13 and 14 or 3 and 5 causes the filter pump, dosing technology and heating to be switched off immediately.

Closing one of the contacts between terminals 2 and 4 or 11 and 12 forces the filter pump to be switched on.

The electronic control is protected together with the EUROTRONIK-10, the level control and the heating by a 3.15A fine-wire fuse inside the device.

Electronic motor protection:

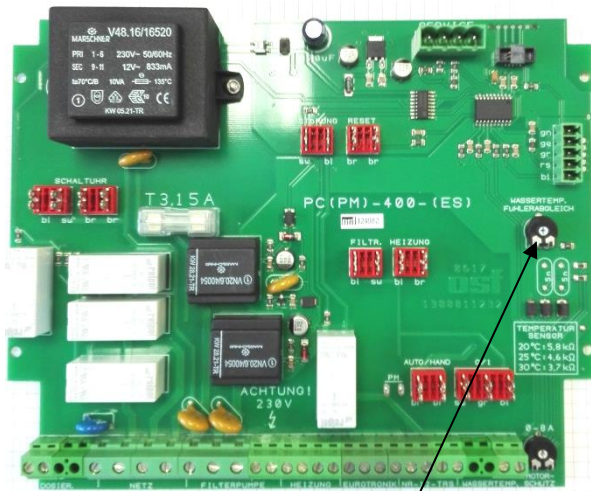


Adjust motor protection

The 3-phase filter pump is protected from damage resulting from overload by an electronic motor protection. To do so the motor protection needs to be set to the nominal current of the filter pump (see name plate of the pump). If the nominal current of the filter pump is not known, the motor protection can be set using the following procedure:

1. Turn the adjustment screw of the motor protection in the terminal box clockwise up to the stop.
2. Switch the pump on
3. Turn the adjustment screw slowly counter clockwise until the motor protection trips and the red fault message comes on.
4. Turn the adjustment screw clockwise by some degrees (approx. 10%).
5. Release the motor protection with the black key: the fault message goes off and the filter pump runs.

Temperature control:



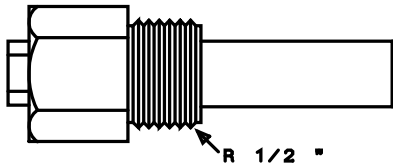
Adjust temperature sensor

The electronic temperature control and the temperature detector have been aligned to each other at the factory. If the detector is replaced, a new alignment can be made using a potentiometer inside the equipment. If, due to an unsuitable installation position of the temperature detector, the water temperature does not match the desired temperature, this can also be adjusted using the same potentiometer.

The table below can be used to check the temperature sensor.

Resistance values of the temperature sensor:	
Temperature	Resistance
20°C	5800 Ohms
25°C	4600 Ohms
30°C	3700 Ohms

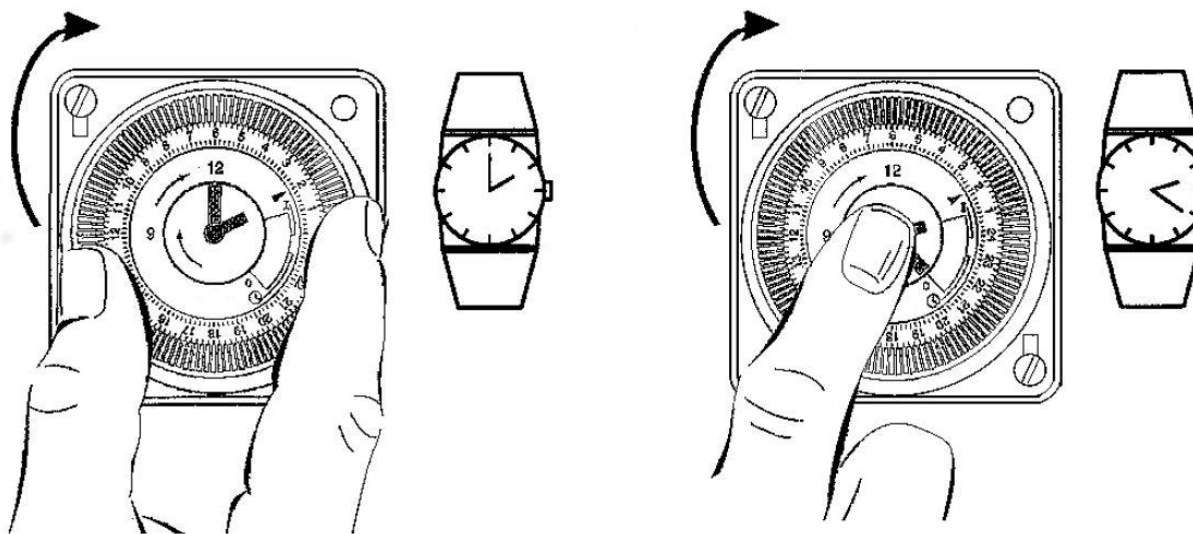
The temperature detector is supplied with a 1.5m cable as standard. If required this can be extended up to 20m. To rule out interference avoid installing the detector cable in the vicinity of supply cables.



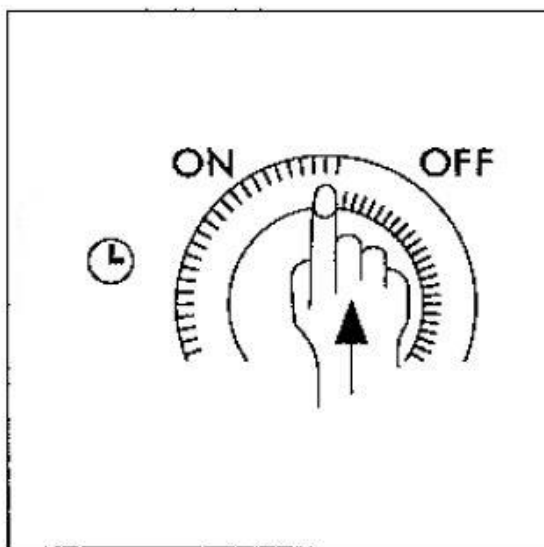
Since an exact temperature control is only performed when there is good heat transfer between temperature detector and swimming pool water, an osf immersion sleeve R 1/2 " (product code 3200200001) must be installed in the pipe system.

Operation of the timer

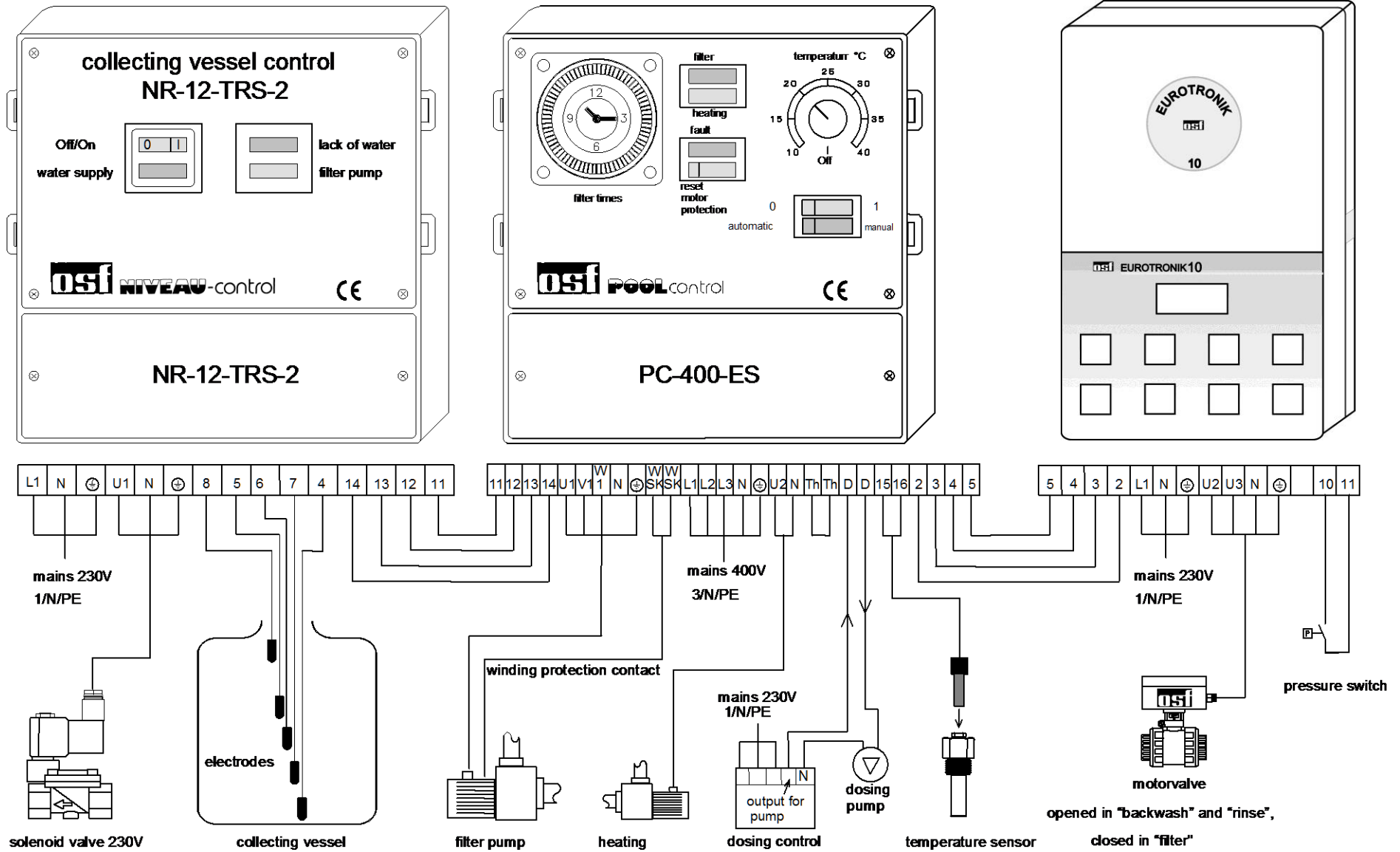
Setting the time



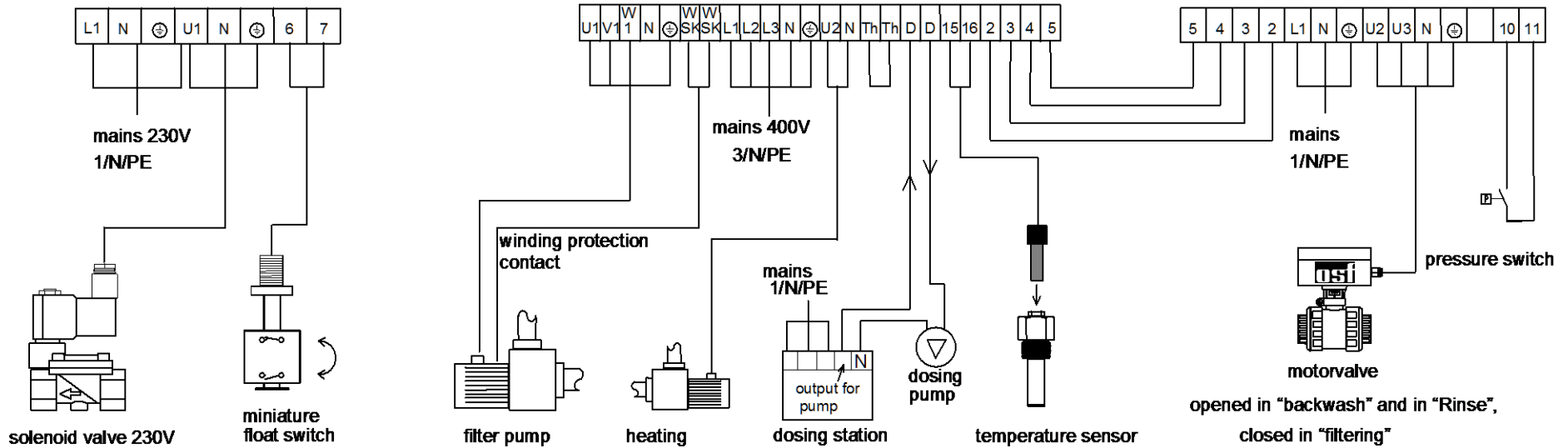
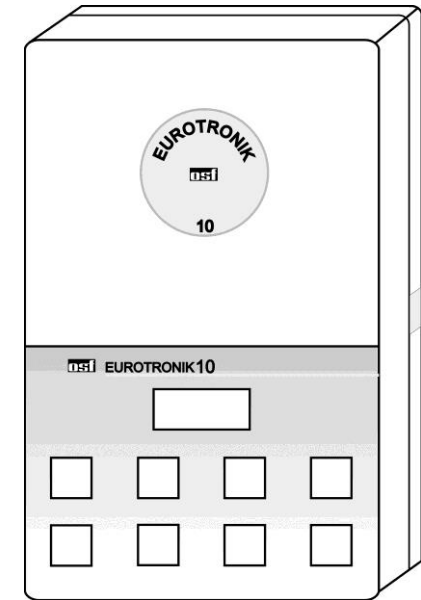
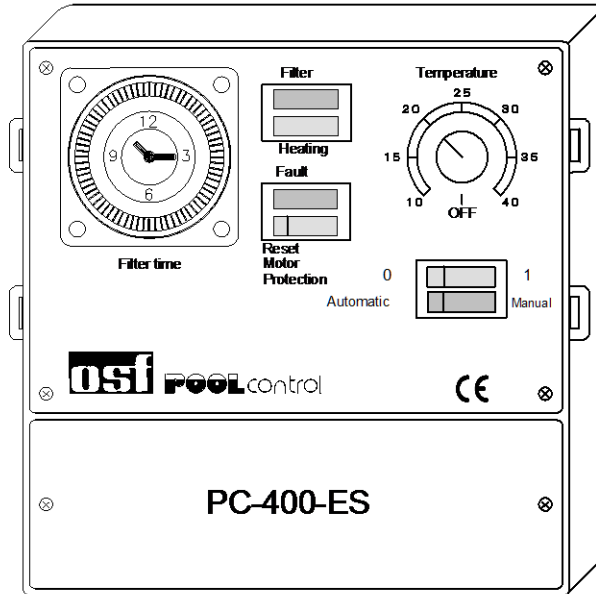
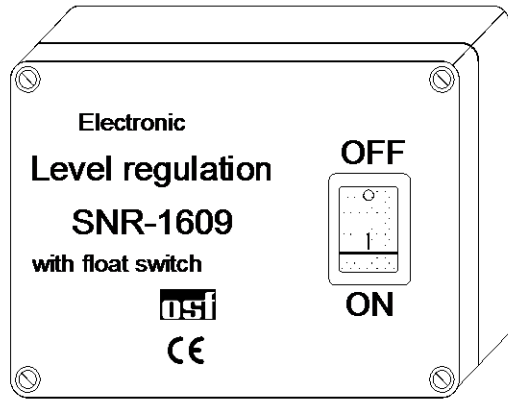
Setting the switching times



Combination PC-400-ES with NR-12-TRS-2 and Eurotronik-10



PC-400-ES with SNR-1609 and Eurotronik-10



Further information can be found on the Internet at the following address: <https://osf.de/download/documents/doclist.php?device=PC-400-ES&subdir=none>



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