

# Installation- and Operating Instructions



## PC-400-ES

Art.No.3002700105

### 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:

- a) switch on and off the functioning of the unit. **Attention, the control system is thus not disconnected from the mains supply at all poles!**
- b) 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 plug-in electronic temperature control. During interruptions of the filtering process, the heating is automatically switched off by the internal locking device. A connection facility for a safety temperature limiter of a flow governor ensures additional protection of the heating against overheating. The requested temperature of the pool water may be chosen or the heating may be switched off by an adjuster on the front plate.

Connection terminals for an electronic level control **OSI**-NR-12-TRS-2 (Art.No. 3030000020) 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-1 (potential-free model, Art.No. 3104800200) ensure an enlargement of the filter control to an automatic filter- and re-flushing control.

A further terminal connection enables the connection of supplementary instruments, e.g. dosage system. The terminals D/D are potential-free and can therefore be individually used. During the filtering times, the relay point between the terminals D/D is closed, out of the filtering times, this relay contact point is open. This contact can be loaded with a tension of a maximum of 230V and a power of a maximum of 400W ( $\cos \varphi=1$ ).

The connection terminals for the winding earthing contact (WSK 'Wicklungsschutzkontakt') ensure connection of a winding earthed 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 automatically the heating and dosage system are switched off. As soon as the winding earthing contact closes after cooling-down of the motor winding, the units are automatically re-activated. Manual re-setting is not necessary. The connection terminals „WSK“ are supplied with 230V.

Operation of the filter pump and the heating are displayed by the control lamps in the front cover - thus, a control is possible at any time.

The filter pump is protected against overloading by a plug-in electronic protective motor switch (power supply can be continuously adjusted up to 8A).

## Technical Data:

Dimensions:	220mm x 219mm x 100mm	
Operating voltage:	400V/50Hz	
Power consumption of the control system:	abt. 1,5VA	
Capacity:	Pump:	max. 3,0 kW (AC3)
	Heating:	max. 0,4 kW (AC1)
	Additional output:	max. 0,4 kW (AC1)
Type of protection:	IP 40	

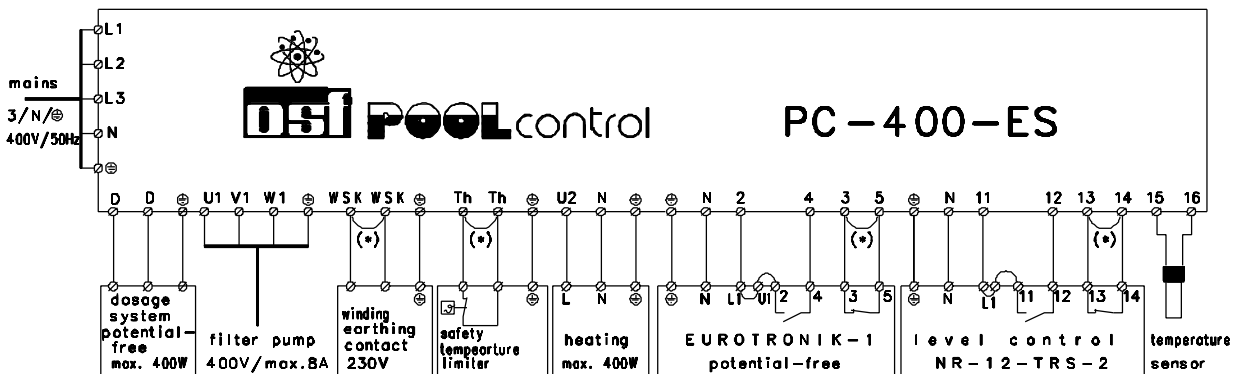
## Installation:

For installation, the control unit has to be protected against humidity, according to its type of protection. The power supply of the unit has to be effected by an all-pole main switch with a contact gap width of a minimum of 3mm. **Before opening the housing, the unit has to be switched free of electrical tension by all means.**

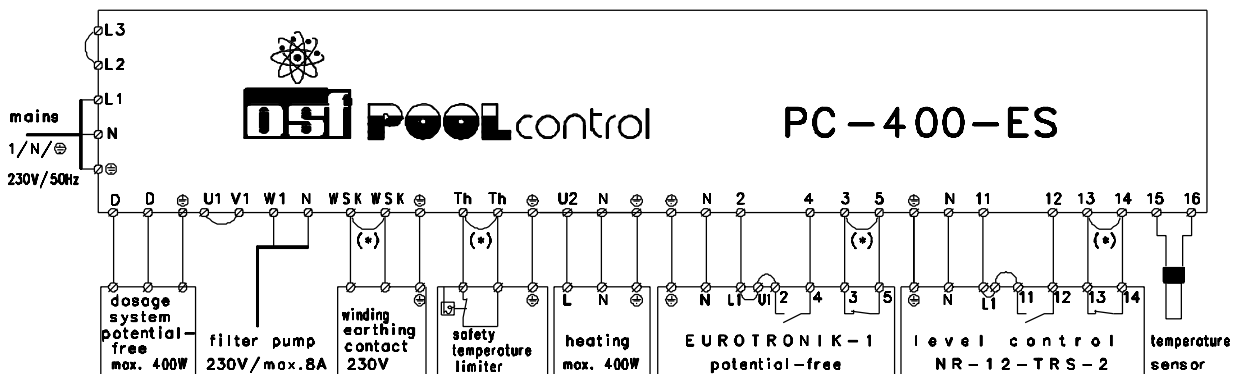
## Electrical connection:

The electrical connection as well as alignment- and service works shall only be carried out by a qualified specialist electrician! The following cable arrangement and the corresponding safety instructions in force shall be observed.

For use of a 400V threephase pump:



For use of a 230V A.C. pump:



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 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 *3* and *5* has to be removed, if an EUROTRONIK-1 is connected. If an EUROTRONIK-1 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. **Attention: Only the EUROTRONIK-1 potential-free model (from 1994 on) shall be used!**

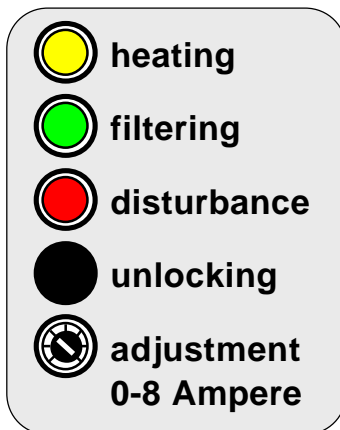
The bridge which is installed by the manufacturer between the terminals designated as *WSK* has to be removed when connecting the winding earthing contact. If this contact is not connected, it has to remain in place.

Opening of one of the contacts between the terminals *13* and *14* or *3* and *5* involves an immediate disconnection of the filter pump, the dosage system and the heating.

Closing of one of the contacts between the terminals *2* and *4* or *11* and *12* involves a forced connection of the filter pump.

The electronic control together with the EUROTRONIK-1, the heating and the level control system are protected by a 3,15A fine-wire-fuse inside the unit.

### **Electronic motor protection:**

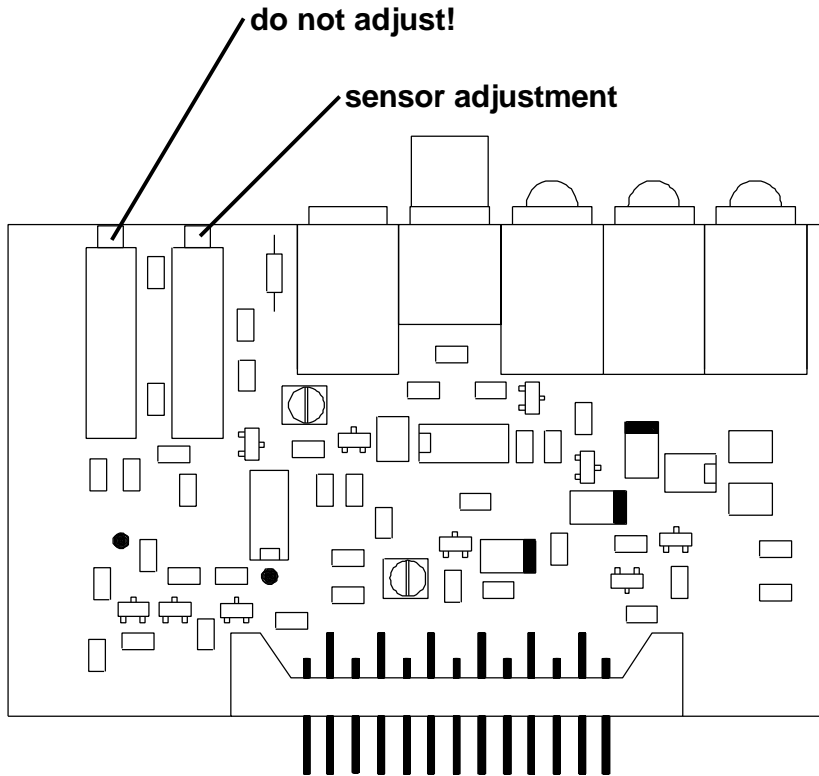


The threephase filter pump is protected against overloading by a plug-in electronic motor protection. For this purpose, the motor protection has to be set to the nominal current of the filter pump (see type plate of the pump). If the nominal current of the filter pump is not known, the motor protection can be set according to the following procedure:

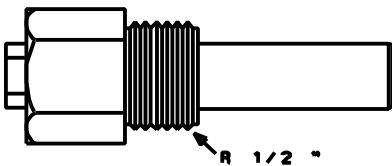
1. Turn adjusting screw of the motor protection clockwise to the stop point.
2. Switch on the pump.
3. Turn adjusting screw slowly anticlockwise until the motor protection is triggered and the red trouble signal is flashing.
4. Turn adjusting screw by a few angular degrees (abt. 10%) clockwise.
5. Unlock motor protection by the black key - trouble signal goes out and the filter pump is running.

## Temperature Control:

The plug-in electronic temperature governor and the temperature sensor are matched and should only both be replaced in case of repair. If, however, a sensor or temperature governor are individually replaced, a new alignment has to be carried out by a potentiometer on the insert card. If, due to an unfavourable location of the temperature sensor, the water temperature does not correspond to the requested temperature, it can be re-aligned by the same potentiometer.



In the standard version, the temperature sensor is available with a line length of 1m. If required, it can be prolonged up to a maximum of 20m with a shielded line (cross section min. 0.34mm<sup>2</sup>). The shielding has to be connected to the terminal 15. Installation of the sensor line near supply mains has to be avoided to rule out possible disturbing influences.



Since an exact temperature control can only be ensured if there is a smooth heat transmission between the temperature sensor and the pool water, an osf immersion shell R 1/2 " (Art.No.3200200001) has to be installed in the piping system.

***We wish you much joy and recreation in your pool.***