Smart pool project

We used some Smart Relays to control different features of a small swimming pool. The owner can control the fountain, the jacuzzi Jets and bubbles and also the lights from the App, PC, Alexa, Google assistant.... So, I thought that 5 Shelly 1 would do the trick.

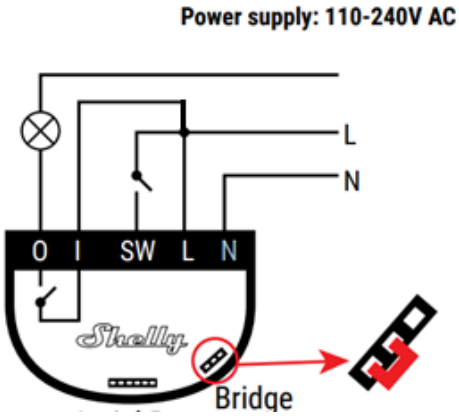
I choose the Shelly 1 because it has a free of voltage relay and is very stable. Most versatile device on the market and incredible price.

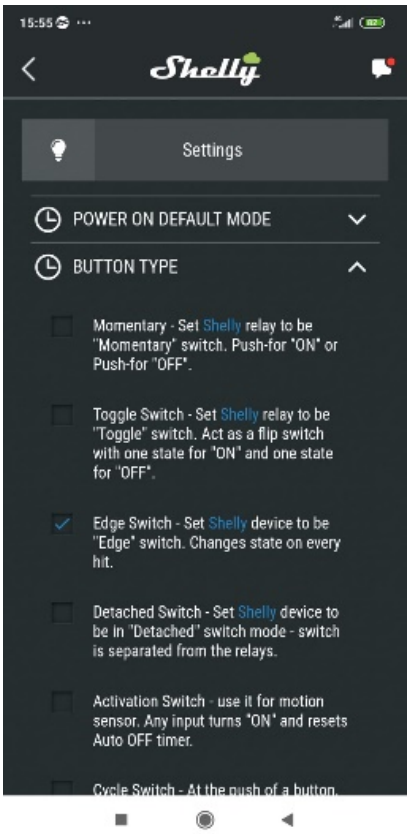
The requirements:

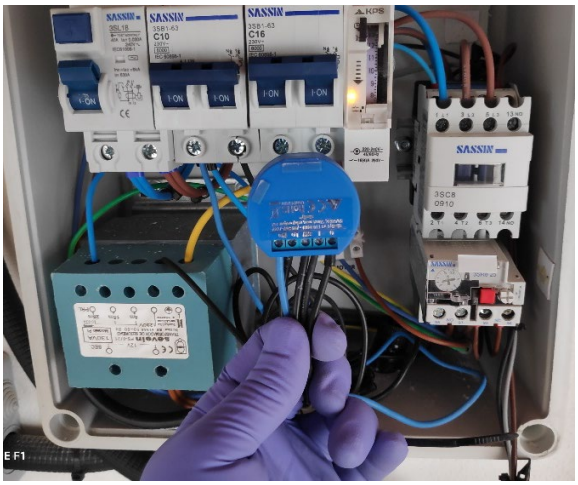
1. The main requirement is to set an auto-off timer to avoid over consumption and overheating problems in the components.

1.1 The light

The light has a physical on/off switch which is connected to one of the shelly as in the diagram below. Instead of controlling directly the pool spots it switches on and off the security pool transformer. The button type is “Edge switch” in this case. The power on default mode is “OFF”, so if there’s a power failure the light will stay off when reestablished. I also set an "Auto-off " 2hour timer in order to minimize consumption if the light is forgotten on. Of course, schedules can be programed in the shelly app.



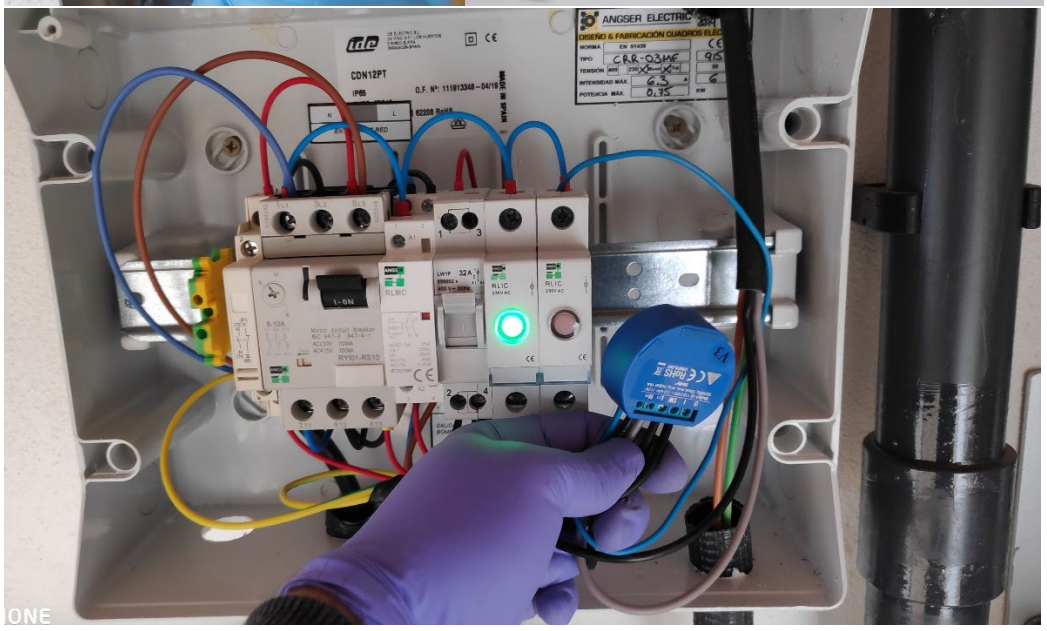




1.2 Jets, Bubble and Fountain


The pool is equipped with a 5 sitter jacuzzi with air nozzles and water jets nozzles. It also has a “water fall”. These are 3 safety pneumatic 230V switches to control these 3 features. They used to act directly over the contactors. Now they are connected to the 3 shellys switches. The "dry" relay manages the power contactors. The button type is Edge. Timer set to 10 minutes auto-off. Power on default mode “OFF”.

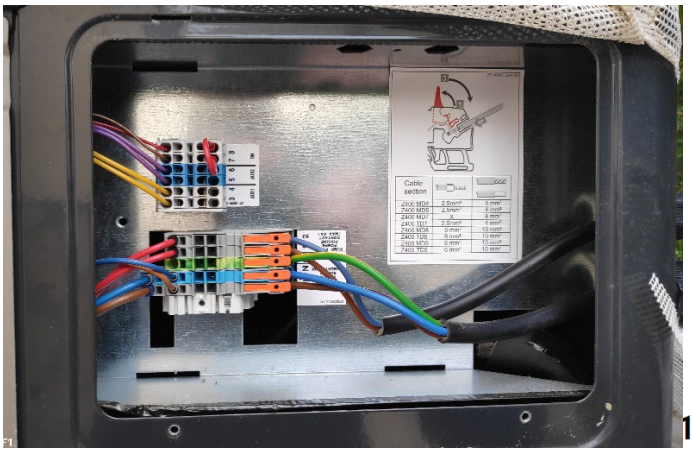


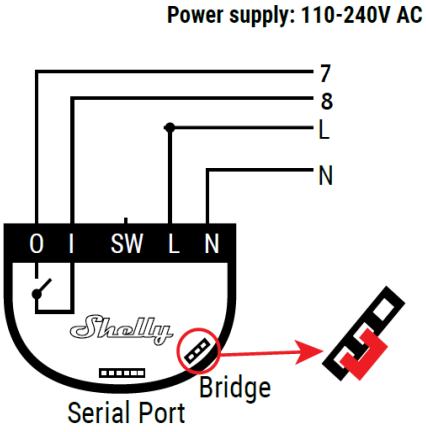


2. Second requirement. Heating pump control

This pool can also be used in winter. Since this is a vacation house and the heat pump is capable of increasing 3-4 degrees a day, for a weekend use is a must starting the heater 3-4 days before actually using it. The house also has a small solar power system, so the idea is to make the heater work during the production hours.

After some investigation I found out that the pump has a couple of protection sensors (water pressure and temp) serial connected. The line is bridged as you can see in the picture bellow between 7 and 8 terminals.





The power supply terminals are also in the same case so it was a piece of cake integrating a Shelly 1. So bridge removed, 7 and 8 connected to the “I“ and “O” of the shelly, temperature set from the heat pump and ready to go!

Unfortunately, I have no pictures of the final install. As the encase is metal and the router is inside the house, the Wifi signal wasn't too good, but after moving the shelly under a plastic cover the connection was consistent.

I hope this could be helpful and if you need more details get in touch.

The client successfully uses the Shelly cloud app for to control the swimming pool, and google assistant to show-off in front of his friends.

Mission accomplished!