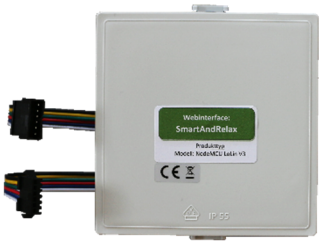
The WLAN module for your whirlpool

Board: NodeMCU Lua Lolin V3

With ambient temperature sensor



Assembly and installation instructions

www.mk-innovations.de

Smart And Relax

Version 2.0

Suitable for the following Pump models:

- **Pump ahead 2021**
  Compatibility check necessary.
  Please contact me
  Just do this before purchasing.

- **S100101**
  - Miami AirJet™
  - Paris AirJet™
  - Ibiza AirJet™
  - Bahamas AirJet™
  - Hollywood AirJet™
  - Honolulu AirJet™
  - Milan AirJet™
  - Zurich AirJet™
  - St. Lucia AirJet™
  - St. Moritz AirJet™
  - Grenada AirJet™
  - Bali AirJet™
  - Helsinki AirJet™
  - Havana AirJet™

- **S200102**
  - Hawaii HydroJet Pro™
  - Maldives HydroJet Pro™
  - Palma HydroJet Pro™
  - Santorini HydroJet Pro™
  - Majorca HydroJet Pro™

Please read the instructions for use and the following information carefully, before you mount the WLAN module and put it into operation.

Safety notice

When handling electrical products, the applicable VDE regulations must be observed, in particular VDE 0100, VDE 0550/0551, VDE 0700, VDE 0711 and VDE 0860.
Before opening a housing, ensure that the device is switched off.
Make sure the power plug is unplugged. Components, assemblies or devices may only be put into operation if they have first been placed in a housing that is safe from contact were installed. They must be de-energized during installation.
The device may only be operated at the specified voltage (5V DC).
The installation may only be carried out by an electrician or electrician.

Intended Use

These modules were developed as experimental and learning boards for the hobby sector. The buyer is responsible for compliance with the technical regulations. The person who completes a kit or makes an assembly ready for operation by expanding or installing a housing is considered a manufacturer according to DIN VDE 0869 and is obliged to provide all accompanying documents and also to state his name and address when passing on the device. Devices that are assembled from kits should be viewed as an industrial product from a safety perspective.

Liability

It is not the manufacturer but the operator who is responsible for all personal injury and property damage resulting from improper use. Please note that operating and connection errors are beyond my control. Understandably, I cannot accept any liability for any damage resulting from this. Unless otherwise stated, all parts of the module are "non-CE approved" components and are designed for installation in devices or housings. When using it, CE standards must be adhered to. The buyer is responsible for this.

Loss of warranty

The warranty will be voided if the housing or components are opened. For possible I will not accept any claims against third-party manufacturers as a result of this loss of warranty Liability.

Scope of delivery: WLAN-Module; 2 x Cable ties (for S100101 and S200102); 2 x screws 3,9x19mm (for pumps before 2021)

What is needed for assembly and installation:

- WiFi enabled device (Smartphone, PC, Tablet, etc.) with Browser (Firefox, Chrome, etc.)
- Router (Optionally VPN capable for remote access)
- Phillips screwdriver (medium size)
- Side cutters (for cable ties)

Section 1: Disconnect power

The pump must be disconnected from the power supply before installation. To do this, the power cable must be disconnected from the socket.

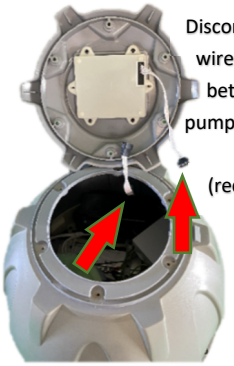
The pump casing must never be placed under existing ones

Power supply must be opened!

Section 2: Open pump housing

Pumps before 2021 (Egg Shaped)

Loosen 6 Phillips screws



Disconnect the 6-wire connector between the pump and display unit (red arrows).

S100101 (Airjet)

Loosen 6 Phillips screws

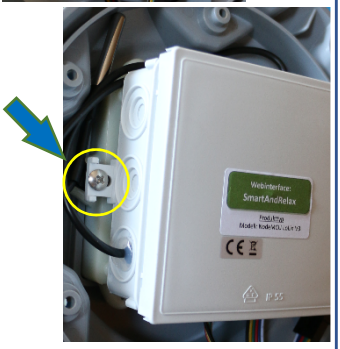
S200102 (Airjet + Hydrojets)

Loosen 7 Phillips screws

Section 3: Mount and connect the WLAN module

Pumps before 2021 (Egg Shaped)

Mount the WLAN module as shown in the pictures using the two M4x20 screws provided (yellow arrows).

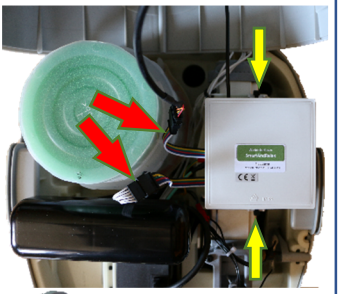


With ambient temperature sensor:
Simply fasten the temperature sensor between the display and the module at the cable clamp hole using the screws (blue arrow).

Plug in the cables of the
Then connect the WLAN module between the pump and display unit.

S100101 (Airjet)

Disconnect the 6-wire connector between the pump and display unit (red arrows).
Fix the WLAN module as shown in the pictures with the two cable ties provided (yellow arrows).

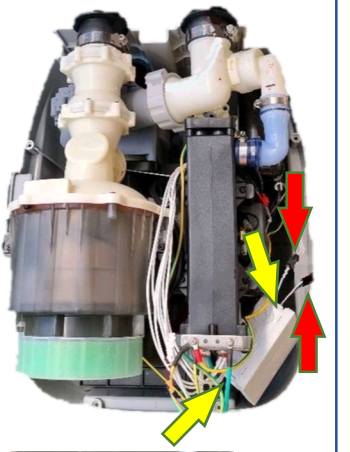


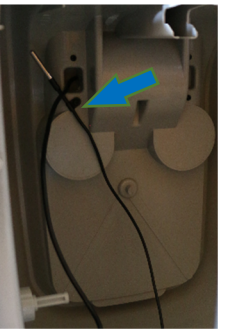
With ambient temperature sensor:
Attach the temperature sensor to the housing cover of the pump as shown above. To do this, loosen the black screw and reattach the sensor to the cable clamp hole with the screw (blue arrow).

Plug in the cables of the
Then connect the WLAN module between the pump and display unit.

S200102 (Airjet + Hydrojets)

Disconnect the 6-wire connector between the pump and display unit (red arrows).
Fix the WLAN module as shown in the pictures with the two cable ties provided (yellow arrows).





With ambient temperature sensor:
Attach the temperature sensor to the housing cover of the pump as shown above. To do this, loosen the black screw and reattach the sensor to the cable clamp hole with the screw (blue arrow).

Plug in the cables of the
Then connect the WLAN module between the pump and display unit.

Section 4: Reassemble pump in reverse order

Put the upper pump housing back on correctly and then close it with all Phillips screws.

Section 5: Restore Power to the Pump

Put the plug back into the socket and
then press the orange “RESET” button from the
Press the pump safety device.

Attention: Never connect the device to the power supply with the housing open!

The pump display will only work again once the WLAN module has been integrated into the home network and the correct pump model has been selected in the “Hardware Configuration” menu!

Section 6: Integrate the WLAN module into the home network

Simply search for a WLAN (access point) called “Lay-Z-Spa Module” (1.) using your smartphone, tablet or PC. After the WLAN has been selected, the “WiFi Configuration Manager” opens automatically (if not, simply repeat this process).
Then click on “Configure WiFi” (2.).

Password for the access point:

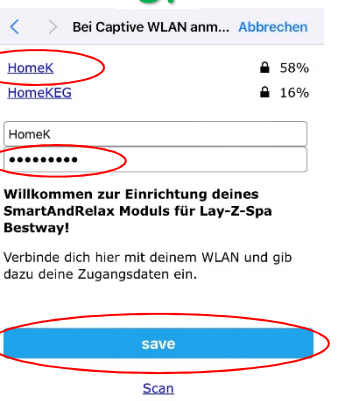
Password = Password is set for specific modules (see included instructions)

Now you have to enter your access data for your WiFi network (3.). Then click on “save”

1.

2.

3.



Section 7: Initial setup of the WLAN module via the web interface

If all data was entered correctly, the “Lay-Z-Spa Module” access point should no longer be visible in the WiFi network and the module could then successfully connect to the router.

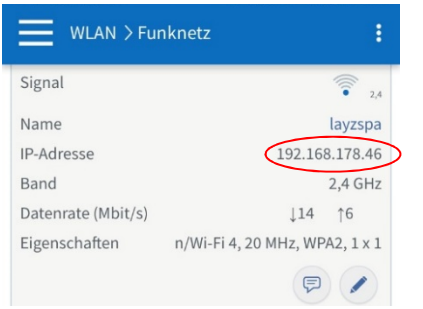
ATTENTION: THE PUMP MUST NOW BE RESTARTED

BE (DISCONNECT POWER FOR approx. 5 SECONDS)!

Only then can you access the module.

So that the module can be accessed via the browser can, must find the assigned IP address of the module be made.

To do this, simply log in to your router and go to WiFi devices. In the list of connected Devices should have a name “Lay-Z-Spa Module” or “esp-...” appear with the required IP address.

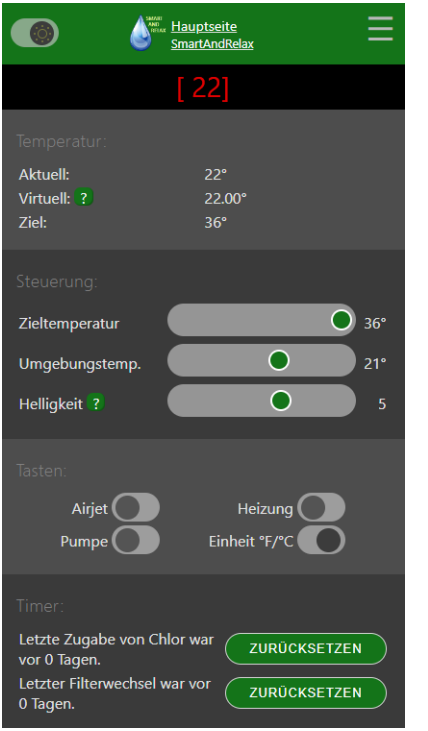


Now you can use your mobile phone, PC or tablet in the browser IP address of the WLAN module must be entered.

http://“ own IP address“

Example:

http://192.168.178.46



Danger:

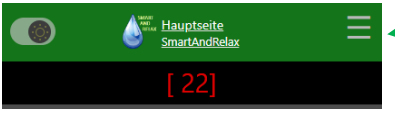
The device (smartphone, tablet, etc.) must be in the on the same WiFi network, otherwise it may occur the web interface cannot be accessed!

Tips for quick access to the web interface:

- Almost all devices now offer the option Browser pages on the home screen/desktop to save.
- Assign your WLAN module a fixed IP address, so that your router doesn't have one after a certain time assigns a different IP address:

To do this, log in to your router and go to WiFi module. Depending on the router type, this command can Example “Always assign the same IP address to this device” be called.

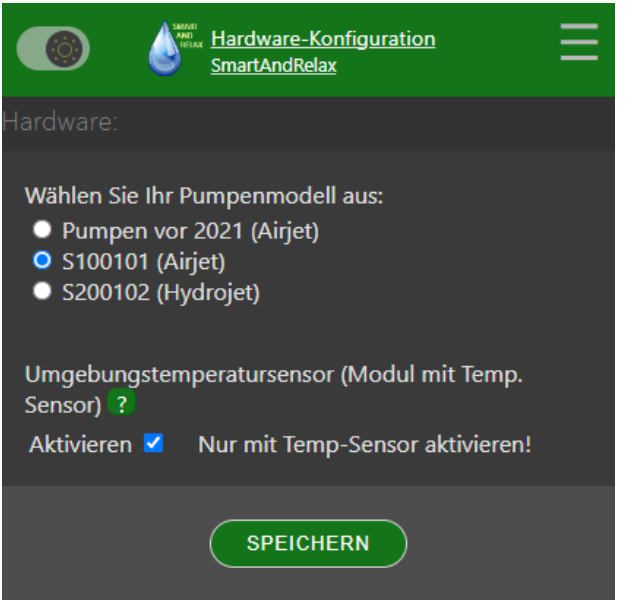
Section 8: The correct pump must be set before initial use, otherwise the control will not work.



Menu selection

The respective pump model must be selected in the **hardware configuration** menu (see below). You must then click on the “Save” button to save and then restart the WLAN module in the main menu. To do this, simply click on menu selection
“Restart SmartAndRelax module”.
After restarting (approx. 5-10 seconds) check whether the settings have been applied.
Only now is the module ready for use and the display switches on again.

Modules with ambient temperature sensors:
The temperature sensor for measuring the ambient temperature. The ambient temperature is continuously updated and no longer needs to be set manually. This means that the virtual water temperature and the resulting heating time up to the desired target temperature of the pool water are calculated more precisely. Please note the calibration in the SPA configuration menu.



FAQ

Example of creating actions/command queues using the integrated logic

The actions can be created in the SPA configuration menu.

e.g. the filter pump should activate from 01:00 a.m. to 09:00 a.m:

FIRST ACTION (The “ON” signal)

- Filter pump: Value ON (1)
- Execution time: Tomorrow's date, 1:00 a.m. (date and time from when the action should start.)
- Interval: 86400sec (24 hours)

SECOND ACTION (The “OFF” signal)

- Filter pump: Value OFF (0)
- Execution time: Tomorrow's date, 9:00 a.m. (date and time from when the action should start.)
- Interval: 86400sec (24 hours)

This means the pump runs every morning from 1:00 a.m. to 9:00 a.m.

Up to 10 actions can be created as desired.

Control your whirlpool on the go:

With a VPN setup in the router (e.g. with a FritzBox), the whirlpool can also be controlled while on the move. There are very good instructions for the respective routers on the Internet.

Tip for module with external antenna: Pay attention to the optimal alignment of the antenna, this can increase the WLAN range significantly.

For this purpose, the “RSSI value” can be used in the main menu (at the bottom). The lower the value, the better the WiFi connection.

Examples:

- There are good values between -50 and -75 dBm, where no interference is to be expected.
- RSSI values between -75 and -90 dBm are reasonably stable, but can lead to connection interruptions.
- At values between -90 and -100 dBm you have to expect serious problems.

This software is based on the project: https://github.com/visualapproach/WiFi-remote-for-Bestway-Lay-Z-SPA

The above software is freely available to users. Trading on the module is only due to the hardware and slight adjustments to the software.

Thank you for purchasing this product and your trust.

And now, have fun relaxing. ☺