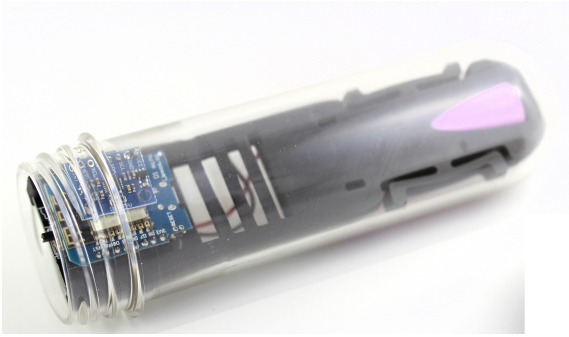
DIY ISpindel-soldering-guide



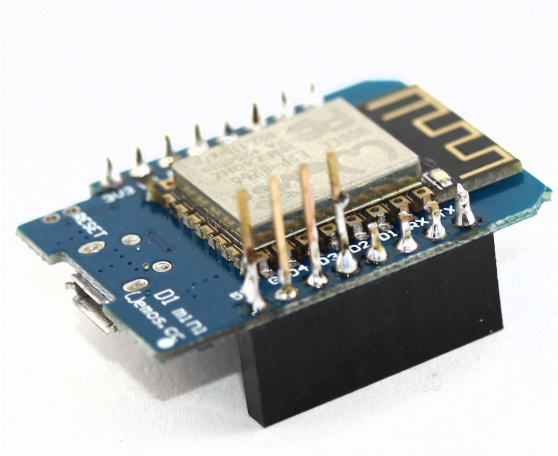
1 General Notes

Please check that all parts are included in the delivery before assembly.
If this is not the case, please contact shop@3D-mechatronics.de, then the missing part will be sent to you as soon as possible.

If you have problems assembling the set, please contact shop@3D-mechatronics.de.

We hope you enjoy soldering the ISpindel.

2 Microcontroller unit



Solder the short connector on the left side and the long connector strip on the right side.
Shorten the pins between "D2" and "RX".

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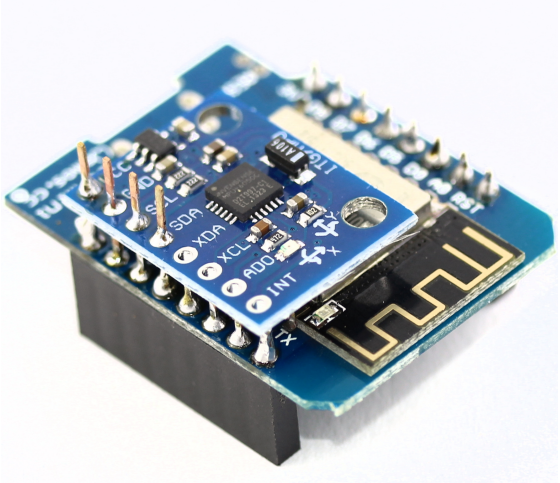
Solder the MPU6050 to the remaining four pins (5V, GND, D4, D3).



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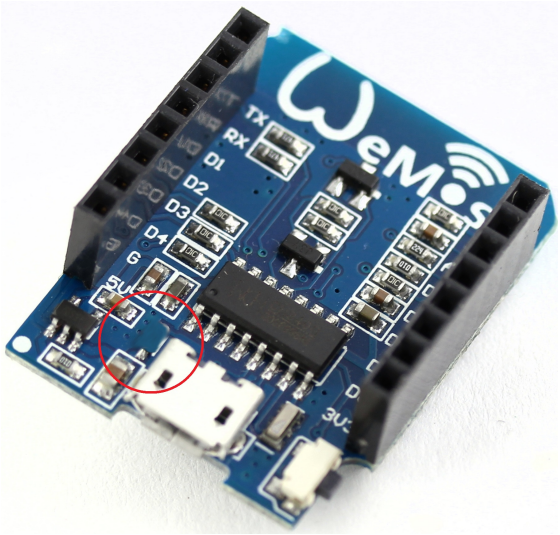
Remove the capacitor from the board.
We recommend to use the soldering iron to remove it, so the conductors will not be loaded if you slip.



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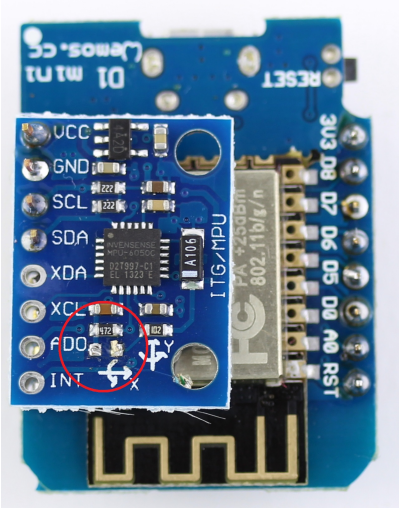
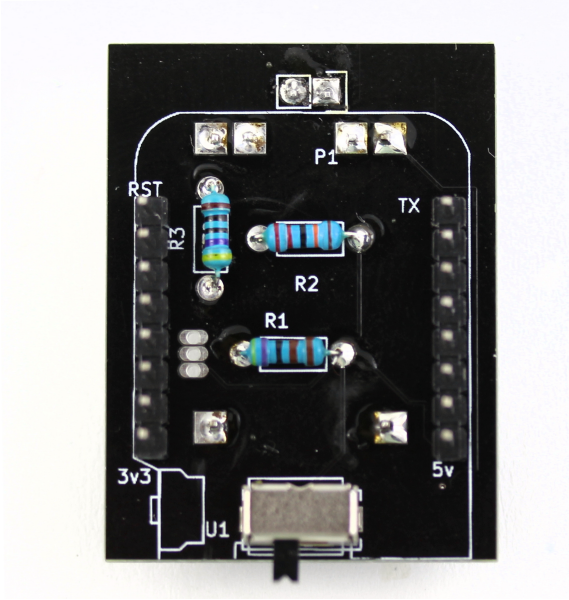


Remove the LED from the board.

3 Motherboard



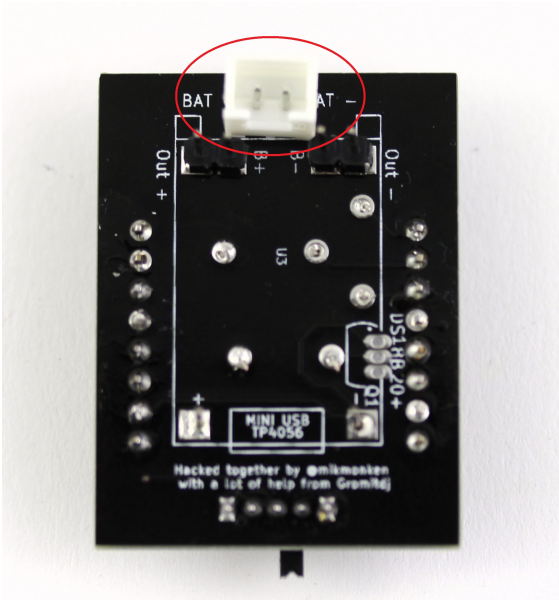
Start soldering the resistors.

Color code of the resistors:

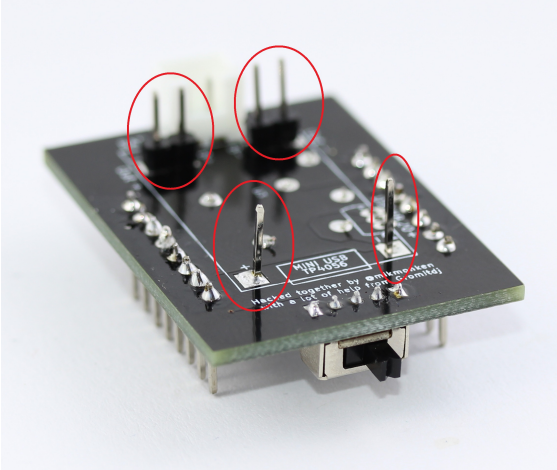
Caption	Value	Colors
R1	4,7k	yellow, violet, black, brown
R2	220k	red, red, black
R3	470	yellow, violet, black, black

Then solder the changeover switch and the pin strips.

When soldering the back, please pay attention to the correct polarity of the battery socket. The opening must point towards the switch. Check the correct seat of the socket by inserting the battery cable into the socket. The black wire has to arrive on the side with the minus.



To prepare the charger, solder the remaining headers of the MPU6050 perpendicular to the larger holes.
In the rear four holes, contiguous pins can be used.



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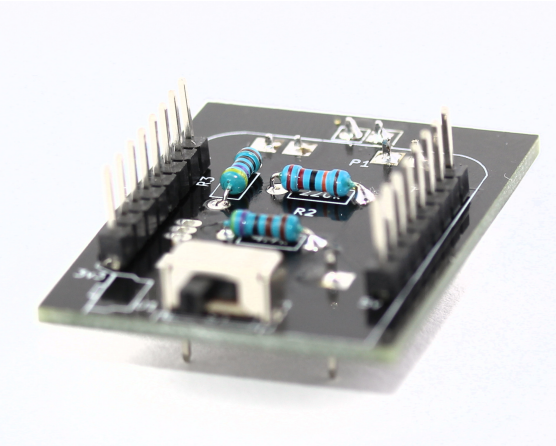
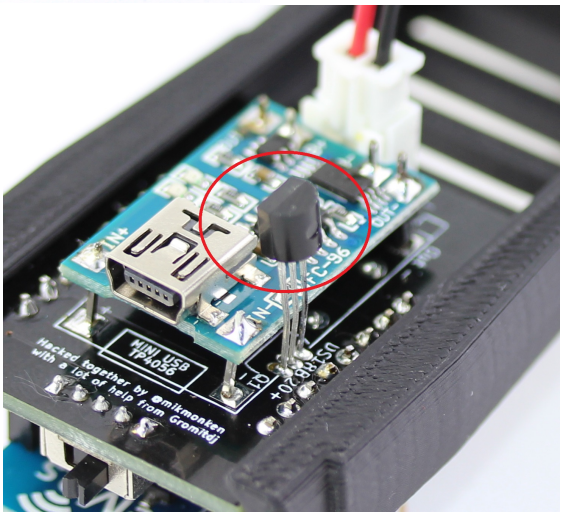


The fully soldered PCB should look like this.

Then the charger and the temperature sensor must be soldered. You will find The direction of the charger on the circuit board. Please make sure you properly solder the IC, as it would be a destroyed charger.

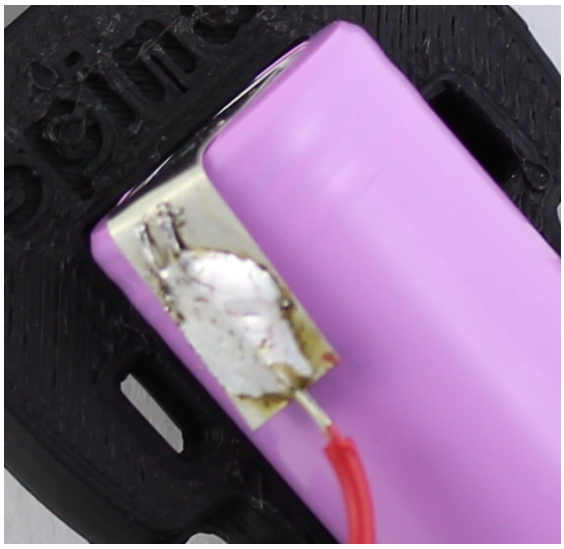


4 Accu

When soldering the battery, ensure that the polarity is correct. The wrong connection leads to the destruction of the charger.

Figure 1: Correct polarity of the battery

To solder the battery, solder the soldering lugs and the strands, then join them together.



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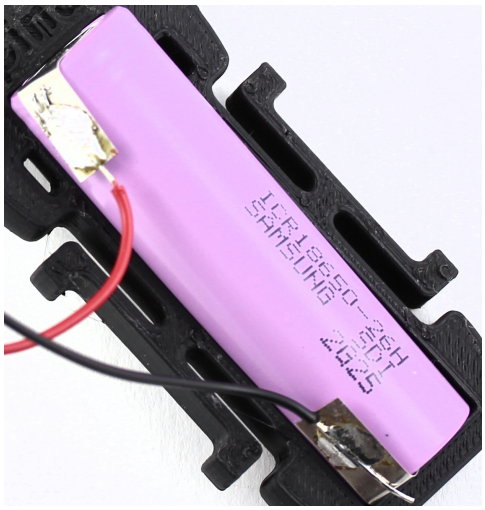
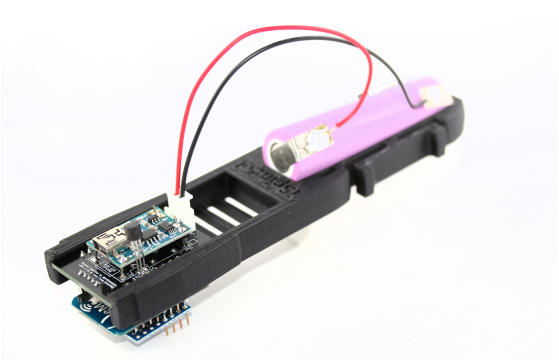


The battery is fixed with the enclosed cable connector. To do so, pull the cable ties through the tabs.

5 Assembly

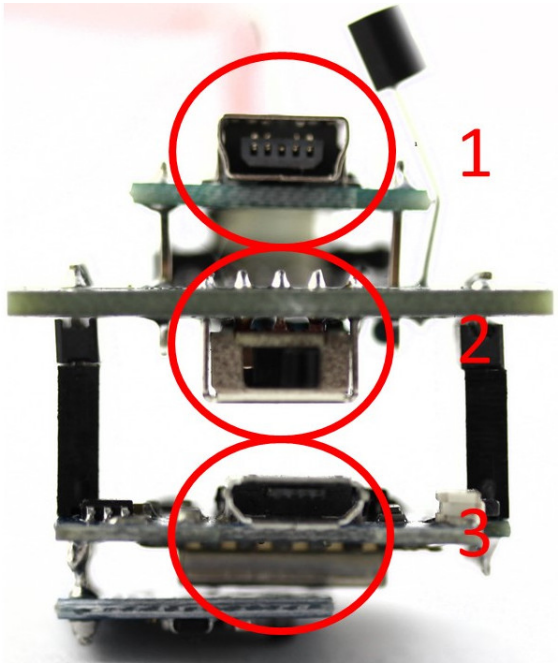
Insert the main board into the carriage.
The microcontroller is plugged into the board (observe alignment).
The battery is inserted into the socket and fixed with the enclosed cable connector.
The slide is now fully assembled and can be pushed into the petling.



Make sure that the switch also completely disappears in the petal, otherwise you will not get the lid off.

6 Operation of the ISpindel

1. Charging socket
2. Off switch
3. programming interface



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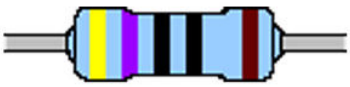
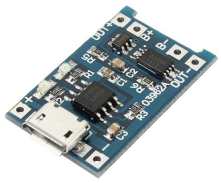
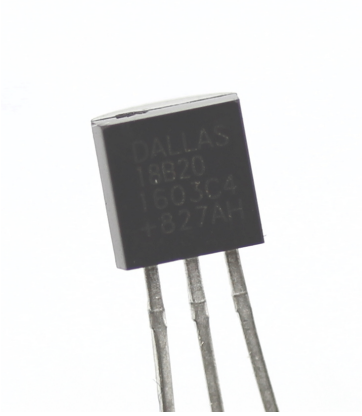
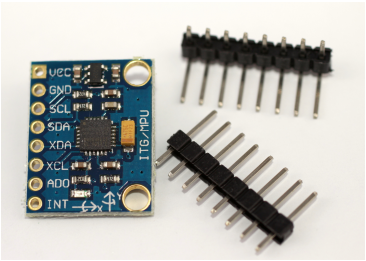
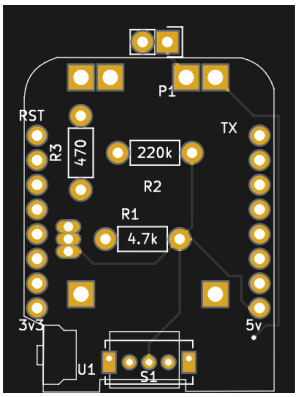
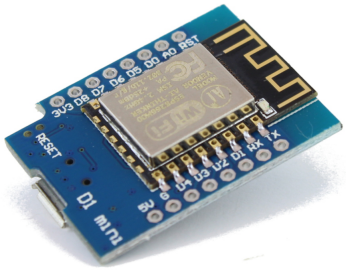
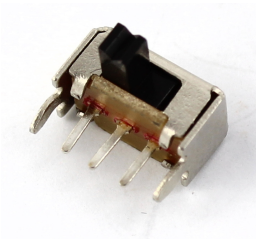
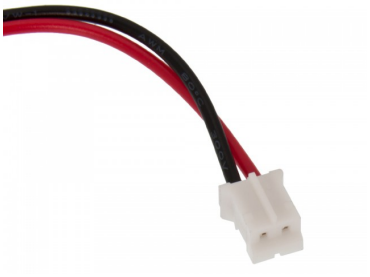
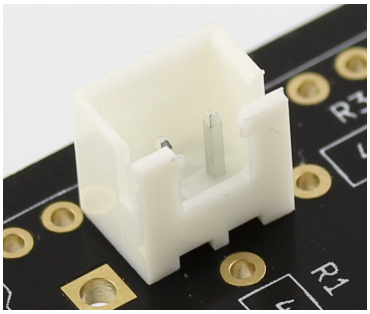
Number	Description	Image
1x	lid of the Petling	
1x	Petling	
1x	Sled	
1x	Resistor 470	
1x	Resistor 4.7k	
1x	Resistor 220	

Number	Description	Image
1x	Charger	
1x	Temperature Sensor	
1x	Position Sensor	
1x	Circuit board	
1x	Microcontroller	
1x	Switch angled	

Number	Description	Image
1x	Accu	
1x	Connector with Wire	
1x	Socket	
1x	Cable ties