ArduiBox ESP
Version 1.x
construction manual

<table>
<thead>
<tr>
<th>Rev.</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2018-01-04</td>
<td>First release (ArduiBox NodeMCU)</td>
</tr>
<tr>
<td>B</td>
<td>2020-02-05</td>
<td>Changed to ArduiBox ESP</td>
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</tbody>
</table>
Tools:

ageregulated soldering iron
(25..40W) with small tip

a wet sponge to clean the tip

thin solder wire

Side cutting pliers
Needle nose pliers

Medium cross slot screwdriver
## Parts Basic Version:

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x</td>
<td>2pole terminal block (K1, K2, K3, K4)</td>
</tr>
<tr>
<td>2x</td>
<td>2x20pole female header</td>
</tr>
<tr>
<td>1x</td>
<td>Schottky diode SB260 (D2)</td>
</tr>
<tr>
<td>2x</td>
<td>self-tapping screws</td>
</tr>
</tbody>
</table>

![2pole terminal block](image1.png) ![2x20pole female header](image2.png) ![Schottky diode SB260 (D2)](image3.png)
1.) **Prepare the terminal blocks**

*Find the terminal blocks, they’re grey or blue and come in 2-pin shapes. We’ll need to slide three 2-pin blocks together:*

![Image of terminal blocks]

2.) **Place and solder terminal blocks**

*We’ve to put the blocks into the proto plate. Make sure you place them so that the open ends are facing out as shown:*

![Image of proto plate with terminal blocks soldered]
3.) Preparation of the female headers

Depending from the ESP module of your choice you have to cut the both female centipede headers to the right length:

*Wemos D1 mini:*

*ESP32 (NodeMCU-32S):*
4.) Assemble and solder the female headers

*Wemos D1 Mini:*

*ESP32 (NodeMCU-32S):*
5.) *Place and solder the schottky diode D2*

6.) *Set the jumper wire (basic kit only)*

**Attention:** Please set this jumper in the basic version only! You can supply the ESP module with 5V DC directly from the terminal K4 now.

**Perform the next steps only if you have the standard kit (includes the parts of the voltage regulator and USB socket). Otherwise continue with step 12.**
### Additional parts of Standard Version:

<table>
<thead>
<tr>
<th>Component Type</th>
<th>Model/Part Number</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductor</td>
<td>100uH/1.4A (L1)</td>
<td>No polarity</td>
</tr>
<tr>
<td>Schottky diode</td>
<td>SB260 (D3)</td>
<td></td>
</tr>
<tr>
<td>Overvoltage limiting diode</td>
<td>P6KE36CA (D1)</td>
<td></td>
</tr>
<tr>
<td>Voltage regulator</td>
<td>TL2576-5 (IC1)</td>
<td></td>
</tr>
<tr>
<td>Electrolytic capacitor</td>
<td>100...220uF/35V (C1)</td>
<td></td>
</tr>
<tr>
<td>Electrolytic capacitor</td>
<td>1000uF/16V (C2)</td>
<td></td>
</tr>
</tbody>
</table>
Power supply circuit:

Placement:
7.) **Assemble Diode D1 and D3**

*Pls Note: D1 has no polarity!*

8.) **Assemble the capacitors C1 and C2**
9.) Assemble the inductance L1

10.) Assemble the voltage regulator IC1
11.) Test of voltage regulator

You have to measure a voltage between 4.9 – 5.1V!
12.) Mount the pcb into the bottom shell

13.) Plug the ESP modules

Wemos D1 mini

NodeMCU-32S
14.) Open the terminal covers

Depending on the used terminals you have to remove the terminal covers of the top shell. These covers comes with rated break points. You can remove it with a screw driver and a

15.) Mount the top shell!

Milling on top side (for USB socket)

Finish!