# ESPLux

Hi HAD crew,

Thank you for taking the time to judge my product, ESPLux. Thank you for running the prize, it has encouraged me to delve far deeper into the world of electronics than ever before, and the journey has been great. I have learnt a lot, both from my own investigations as well as from others input from the IO community. This is a hobby that I have greatly enjoyed learning from, and hope that this can be the beginning of something very fruitful. My project is intentionally simple. Not only does it fill a gap in the market, it can be broken up into little silos that I could test on in the initial stages of my learning and development. You can see this journey in my project logs.

Here are a few things you'll probably want to know about ESPLux.

## Package contents

Hopefully I have included everything you need to test out the functionality of the units. The only thing I couldn't get a hold of is a US power cable. I supplied power bricks with IEC sockets on them, so hopefully you have a few floating around.

* 3x ESPLux units
* 3x Getting Started guides
* 3x 12vDC power supplies. I tried to source 110v 12vAC units that wouldn't cost a fortune to ship, and couldn’t find anything appropriate, so these ones are what I could get a hold of. If you have an iron core 12vAC transformer floating around feel free to plug it in.
* 3x Misc parts boxes
  + Flat blade screwdriver for tightening terminals
  + Short LED strip terminated to a cable, can be used as a demo output
  + Short 2.1mm barrel jack fly lead, these allow you to connect the PSU in

## Known issues

As this is my first real electronics project, I am learning a whole bunch of stuff along the way. This has lead to a few restrictions in this version that will be resolved in the next revision. I was hoping to get the next version to you, but I have been focusing on other parts of the project, such as the firmware and case first. I don't anticipate any of the following being an issue by the end of the prize.

* The hole cut for wifi reset in the laser cut case is in the wrong location. It is off 180 degrees from where it should be. By the time I noticed this, there was no remaining time to get a new revision to you. The source files have been updated and are ready to send off to Ponoko.
* The regulator puts off a bunch more heat than I was anticipating. Thanks to the advice from a HAD reader, I've been learning about more efficient ways of rectifying a signal, and will be implementing this in the next revision of the board. This means you should probably try limit the output to about 20w at 12v.
* The latest version of NodeMCU has resolved a few sticking points for me in my firmware, but it has introduced a bug at the last minute where in some instances wifi won't connect (the error was ‘Incorrect Password, even though it was set correctly). I have only had this issue on my iPhone 5, my older iPad and laptop connected perfectly fine.

## Improvements and new functionality

There are a few things that I would like to improve or add before the end of the prize.

* A new rectifier. There are three reasons why I would like to replace this part. First and foremost, an improved maximum load. The second is to reduce the units thermal output, making it more efficient. The third is to find something that is a little more DFM, I am aiming to replace it with SMD parts instead.
* OpenHAB support. I have the API sorted out on the ESPLux itself, but have yet to implement any of this into OpenHAB. This is still coming, and will be something I would like sorted before the end of the prize.
* An SMD MOSFET. Again, this is to allow for a pick and place machine to place the part rather than a human. Through this process I have learnt a lot about manufacturing boards, and now understand the importance of SMD parts in the manufacturing process.

## Where to next?

Please grab the Getting Started guide and have a browse through, this should everything you need to know about the unit. Thanks again for your time and for hosting the prize. There are some amazing projects out there, I feel privileged to have my little box sitting next to them! Thanks again for the opportunity to participate in the prize. It has been an amazing experience.

Regards,

Matt Fanning  
ESPLux

Project/contact details

**Project ID:** 4731

**Website:** esplux.info (redirects to my IO project page)

**Email:** [me@mattfanning.com](mailto:me@mattfanning.com)

**Phone:** +61457522103

**Address:** 26 Southview Ave  
 Stanwell Tops  
 NSW 2508  
 Australia