Customizable parametric stable and waterproof electronics ip65 ip67 project box enclosure case housing

pb pb-tec

VIEW IN BROWSER

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Summary

Highly scalable waterproof electronic case for 3D printing. ip65 / ip67 Try it out!

Hobby & Makers   >   Electronics

Tags: parametric box nut case enclosure arduino electronics screw iot esp8266 esp32 esp8266case customizer sealing outdoor openscad pcb electronicsenclosure electronicsbox waterproof watertight highvoltage airtight esp32case cablegland waterproofecase sealingcord openscadcustomizer ip65 dustproof airproof ip67 gland

Stable and waterproof OpenSCAD case V7.3 by pbtec

Highly scalable electronic case for 3D printing. Try it out!
Optimized for Openscad Customizer. Activate it under view/customizer and play around ;-)
Openscad is free opensource software. You can download it here: https://openscad.org/

Fixed version 7.3
It seems that special characters in the code have again led to the code not working properly for some. I apologize for this. **I have now created a new version 7.3** where this is fixed. I would be very interested to know if everything works as expected for you now. Thanks for your feedback in the comments

Enhancements in Version 7.2:

- **Hot melt copper nut support**
- **Screw hole options:** Can be configured to pass through the entire case, with the option to position the nut at the bottom of the case
- **Flexible mounting options:** 1 to 3 holes on all sides for cable glands or switches
- **Improved PCB support:** Now compatible with up to 3 different PCBs holders instead of just one
- **Base bottom mounting holes added** (not recommended if the housing should be highly waterproof)
- **Gasket can now be printed** (TPU).
- **Expanded screw support:** In addition to countersunk screws, round, flat, and hex head screws are now supported

I would love to hear whether you like the new version!

No support needed to print

You don't know Openscad? No problem. Export the stl file from Openscad (F6 then F7). Then Import the stl file into your best known 3d program to make holes for example.
You can also make the holes afterwards with the drilling machine.

Additional Screws (M2,M2.5,M3,M4 or M5), the matching nuts (hex or square) needed.
If you want to protect your electronics from humidity also "silicone sealing cord" is needed. Available at AliExpress or ebay.

For waterproof cases you can use silicone sealing cord with diameters from 1 to 3mm
To use also without sealing cord. The groove and ridge gives the housing a high stability and tightness.
Use of regular nuts or square nuts
Define outer vertical radius of corners

Echo output in console shows inner and outer size and more
Echo output shows the needed length of the screws
Use screws from m2 up to m5
Default are 4 screws at each corner. For large cases add addtional ones in the middle of both x and y sides if needed
Use several predefined wall mount holder, some with multiple mounting holes (up to 3)

Important!
If you use standard or square nuts, you need to pause the printer a certain level to insert the nuts
If you need a stable and waterproof case please print with 100% infill
I'm aware that sometimes, when using too big or too small parameters, there are some rendering issues. To prevent such issues change only one parameter at once and check the result.

I never tested the water proofness of this case. For more information see
https://blog.prusaprinters.org/watertight-3d-printing-part-2_53638/

pbtec / pb-tec.ch
https://www.instagram.com/pbtecch/

For Projects with ESP32, ESP8266, Arduino, Raspberry, Sonoff, Shelly, IoBroker, IoT. In- and outdoor :-)

Let me see your prints, and remakes and pls don't forget to like this print

use https://paypal.me/pbtec if you want to spend me a coold beer. Thanks in advance :-)

If you want to support my project, please use the links below to start your shopping. No additional charges for you, but I get a commission of your purchases

Brass hot melting insert nuts (starter) sets:
https://s.click.aliexpress.com/e/_DezuAlH
https://s.click.aliexpress.com/e/_DeWsPMp

Or individual sizes:
https://s.click.aliexpress.com/e/_DkaQObj
https://s.click.aliexpress.com/e/_DCrO22p

I also recommend using special hot iron to insert the nuts in the right angle:
https://s.click.aliexpress.com/e/_DcHd8Ep

round silicone sealing cord **foam white**
Aliexpress: https://s.click.aliexpress.com/e/_AdVXC6

Ebay: https://www.ebay.com/itm/184394411044?
mkcid=1&mkrid=711-53200-19255-0&siteid=0&campid=5338823684&customid=&to

round silicone sealing cord **foam black**
Aliexpress: https://s.click.aliexpress.com/e/_A32aUQ
Ebay: https://www.ebay.com/itm/353309685702?
mkcid=1&mkrid=711-53200-19255-0&siteid=0&campid=5338823684&customid=&to
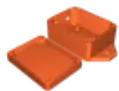
round silicone sealing **solid** cord **white**
Aliexpress: https://s.click.aliexpress.com/e/_A07nM2
Ebay: https://www.ebay.com/itm/133527877200?
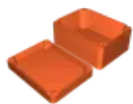mkcid=1&mkrid=711-53200-19255-0&siteid=0&campid=5338823684&customid=&to

Some tags to better find this project:
Electrical Junction, Distribution box, Connection box, Cable Branch box,
Electronic, Housing, ip67, DIY, Project Box, Instrument Case, Wiring socket
box, Sealed, Cable gland, Shell, weatherproof, outdoor, airtight, watertight,
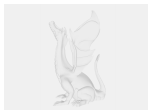dustproof, electronics, pcb, airproof, enclosure, parametric

Model files

sample2-ultimatewaterproofcase_v6.stl

sample1-ultimatewaterproofcase_v6.stl

ultimatewaterproofcase_v61.scad

ultimatewaterproofcase_v73.scad

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