Badger 2040 Enclosure

Info

A minimalist, 3D-printable enclosure designed for the Badger 2040. Protect and mount your programmable E-Ink badge with this easy-to-print, two-part design. It features smart cable routing, optional magnetic mounting for versatile projects, and maintains full access to all connections and buttons.

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Project Overview

A 3D printable enclosure for the Badger 2040. A hackable, programmable badge with E-Ink® display powered by the Raspberry Pi RP2040. This exceptionally affordable badge is sold by Pimoroni: Badger 2040

The enclosure consists of only two plastic parts which are easily printable without support on any 3D printer. In addition to the plastic parts, you only need four 2 mm (pointed) screws with a length of 10 mm and optionally two magnets, each with a diameter of 10 mm and a thickness of 2 mm.

All connections are still accessible. Any cables you might want to connect can be routed to the centre of the back of the badge. This way you have one place where all the cables come out. In combination with the magnets, the badge can be used as a display for all kinds of projects. Of course, you can still use the badge as a badge, because the hole for the strap is also there. I especially like the barely visible buttons on the front of the badge.

STL-Files are hosted on printables

2 mm screws, which you can also use for other projects, can be found here: M2 self-tapping screws

Magnets are available here: 10x2 mm Neodym Mini Magnets

Overall Required Parts & Materials

Qty	Part Name	Links & Steps
2 x	**10 mm x 2 mm Neodym Magnets**	Amazon 1
1 x	**BadgerCase-Bottom-V3.2.stl**	Printables 1

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Qty	Part Name	Links & Steps
1 x	**BadgerCase-Top-V3.stl**	Printables 2
5 x	**BadgerCase-Button-V3.stl (optional)**	Printables 2
1 x	**BadgerCase-HoleFillingPart-V3.stl**	Printables 3
1 x	**Badger 2040**	Pimoroni 3
4 x	**2 mm x 10 mm pointed screws**	Amazon 3

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Instructions

1 Bottom part

Glue the two magnets into the bottom part.
(Note: This picture shows a previous version with no filler piece for the lanyard holder)

USED IN THIS STEP:

- 2 x 10 mm x 2 mm Neodym Magnets
- 1 x BadgerCase-Bottom-V3.2.stl

2 Top part

Glue the buttons onto the tabs. This is not absolutely necessary, but it enlarges the button area so that the buttons may be easier to touch.

USED IN THIS STEP:

- 1 x BadgerCase-Top-V3.stl
- 5 x BadgerCase-Button-V3.stl (optional)

3 Assembly

- Insert the Badger 2040 into the upper half of the housing.
- Close the housing with the lower part.
- Use the four screws to screw the housing parts together.
- Put in the filling part if you want to.

USED IN THIS STEP:

- 1 x Badger 2040
- 4 x 2 mm x 10 mm pointed screws
- 1 x BadgerCase-HoleFillingPart-V3.stl

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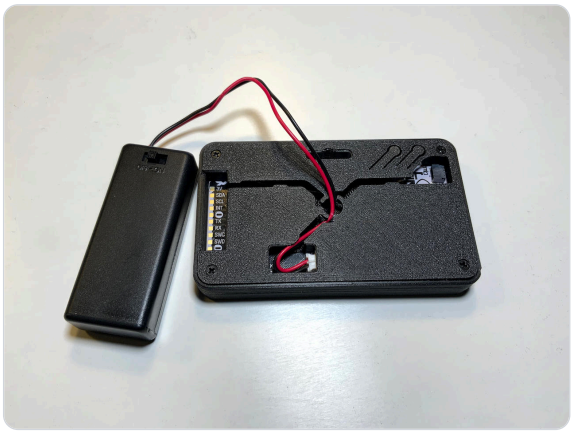
4 Cables

Insert the battery cables into the cut-outs.



5 Battery

(Note: This picture and the picture in step 4 show a previous version with no filler piece for the lanyard holder)

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