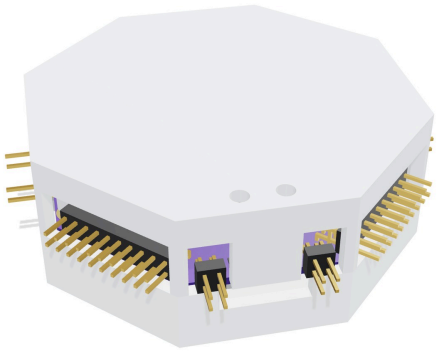
3D-PRINTED ENCLOSURE · IRONBCI-32

IronBCI-32 Enclosure

Two-part PLA case for the IronBCI-32 32-channel EEG board



FITS **IronBCI-32 (70 mm octagon)**	MATERIAL **PLA, non-conductive**
SIZE **≈ 76 × 76 × 29 mm**	FIXING **4 × M2.5 × 16 mm**
ACCESS **Headers, USB, buttons**	WEIGHT **≈ 30–40 g**

Overview

A two-part 3D-printed PLA case for the IronBCI-32 board. The board sits on six posts in the bottom tray, the lid closes over it, and four screws from underneath hold everything together. All four electrode headers and both Micro-USB ports stay reachable from the sides.

Key Features

Made for the IronBCI-32 octagon
Six posts sit exactly under the board's six mounting holes, and the board's top ends level with the tray rim.

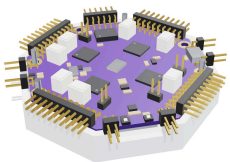
Everything reachable with the lid on
The lid leaves the four header sides and the two USB corners open; headers stick out about 3 mm.

Button access
Two small holes in the lid line up with the board's push-buttons.

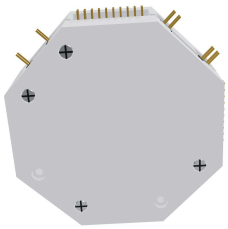
One screw holds all three parts
Each screw passes up through a tray post and the board into the lid.

Open-source and repairable
Printed in non-conductive PLA; the STL files are on Thingiverse.

Views



Board on the six posts



Screws from underneath



The two printed parts

Technical Specifications

Compatible board	IronBCI-32 (70 × 70 mm regular octagon, 1.6 mm PCB)
Material	PLA (non-conductive), FDM 3D printed
Printed parts	2 — bottom tray and lid
Bottom tray	76.4 × 76.4 × 12.2 mm
Lid	76.4 × 76.4 × 16.6 mm
Assembled size	≈ 76 × 76 × 29 mm; header pins stick out ≈ 3 mm per side
Board mounting	6 posts on a Ø 66.9 mm circle, matching the board's 6 mounting holes
Fixing	4 × M2.5 × 16 mm pan-head screws from underneath (2 spare holes)
Openings	4 electrode header sides, 2 Micro-USB (Power, Data Stream), 2 button holes
Weight	≈ 30–40 g (estimate; depends on infill)
Operating temperature	Up to about 50 °C (PLA)

All dimensions are measured from the released STL files. For drawings, fastener details and assembly, see **IRB32-ENC-MD-002** — Mechanical Drawing & Assembly Guide.

Package Contents

1× **Bottom tray** — PLA, six posts matching the board's mounting holes, recessed screw holes underneath

1× **Lid** — PLA, open sides for the four electrode headers and both Micro-USB ports, two button holes

4× **M2.5 × 16 mm pan-head screws** — Phillips, ISO 7045 / DIN 7985

Required for Operation (not included)

- IronBCI-32 board
- Small Phillips screwdriver (PH0 / PH1)
- Two Micro-USB cables: one for power, one full data cable
- 5 V USB battery power bank and a laptop running on battery (mandatory during human recording)

Ordering Information

ITEM	SKU	NOTES
IronBCI-32 Enclosure	TBD	Board sold separately. Lab / university orders of 5+ units: 10–20 % discount, PO and pro-forma invoice available.

Material & Care

PLA is stiff, non-conductive and fine at room and body temperature. It softens at around 55–60 °C, so don't leave the case in a hot car, on a heater or in direct summer sun. Clean with a dry or slightly damp cloth; avoid acetone and strong solvents.

Safety note. IronBCI-32 is an open-source research and education device, not a medical device, and has no isolation circuitry. The case is a mechanical cover only. Power the board from a 5 V USB battery and run the laptop on its own battery while electrodes are on a person.