Pi-Box Pro 4 and Rack Fronts for Raspberry Pi4

MP004561

MP004562

Description

The Pi-Box Pro 4 is a rugged industrial enclosure kit for the Raspberry Pi4. By utilising our Micro HDMI Pi4 extender board we can turn the power and Micro HDMI connectors through 90° so the they are on the same plane as the Ethernet and USB connectors.

The rear panel is made from 3mm acrylic and allows for communication via Bluetooth and Wi-Fi signals from the Pi4.

The standard version allows for access to the SD Card from the assembled enclosure.

Available in silver or black as standard.

The Pi-Box Pro 4 with heatsink kit comes with:

- Extender Board
- Carrier Plate
- E-Case B Extrusion
- Aluminium End Plate
- Acrylic End Plate (For WiFi & Bluetooth)
- Screws & Fixings
- Pi-Box Pro 4 heatsink kit also includes: Heat Blocks, Heat Transfer Pads & Screws

Heatsink

With the release of the Raspberry Pi4 the temperature of the processor under 100% usage has become an issue. When the processor gets too hot it throttles back which could compromise the application that the Pi is being used to perform.

As a solution we have developed a Heat Sinking Kit that consists of 2 aluminium blocks and adhesive pads that transfer the heat from the processor and the Ram chip to the aluminium carrier plate and then out to the enclosure, making the whole assembly a heat sink.

Temperature Test bench Test

We tested the Raspberry Pi4 running at 100% over a 10-minute period to register the temperature rise of the processor. The tests were performed with a bare board, one housed in a Raspberry Pi Foundation plastic enclosure, one in a Pi-Box Pro 4 silver housing and one in a Pi-Box Pro 4 black housing.

We saw a 19°C drop in operating temperature from 82°C in the bare board and plastic enclosure compared with the 63°C when housed in the Pi-Box Pro 4 aluminium enclosure and heat kit.

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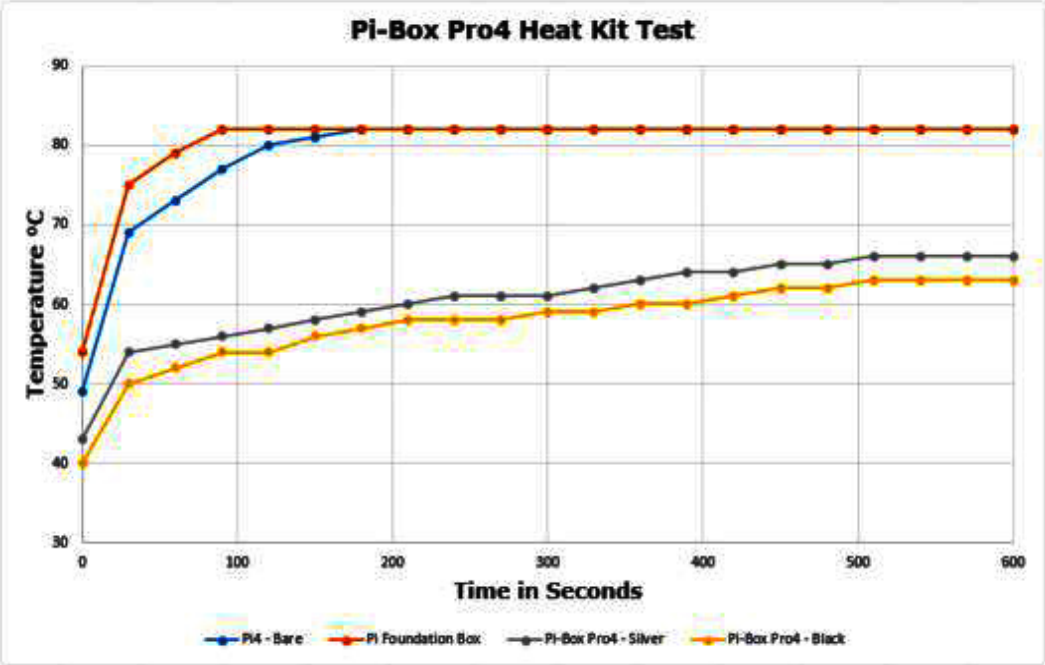
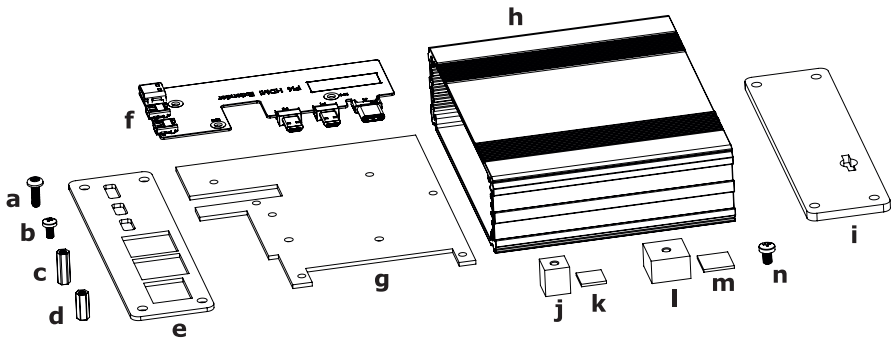


Assembly Instructions - Pi-Box Pro 4

Kit Contains

No.	Description	Qty.
(a)	M3x10 Taptite Screws	8
(b)	M2.5x5 Screws	14
(c)	12mm Standoffs	4
(d)	8mm Standoffs	3
(e)	Aluminium End Plate	1
(f)	HDMI Extender PCB	
(g)	Aluminium Carrier Plate	
(h)	Aluminium Extrusion	
(I)	Acrylic End Plate	
(j)	Small Heat Block	
(k)	Small Heat Pad	
(l)	Large Heat Block	
(m)	Large Heat Pad	
(n)	M3x5 Screws	2



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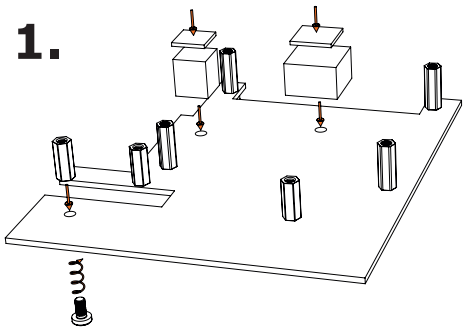

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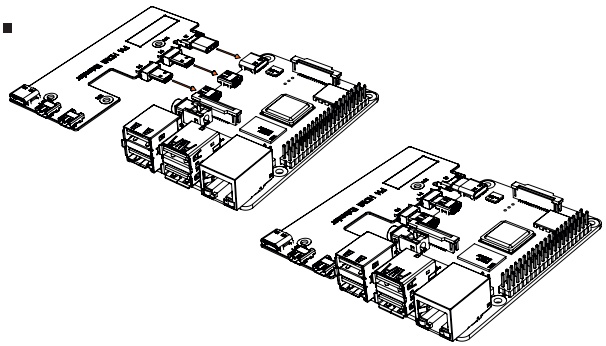

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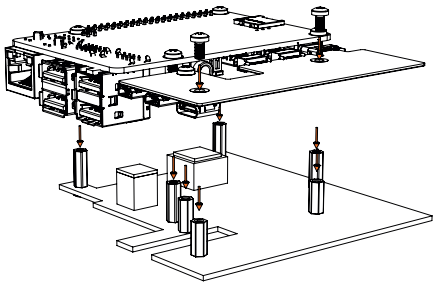

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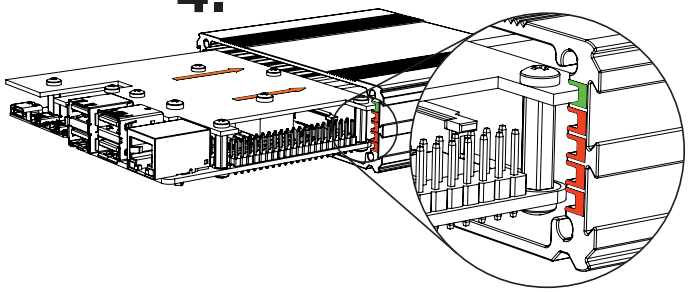

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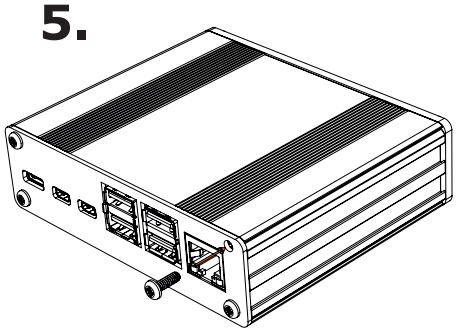

1. Take carrier plate (g) & attach standoffs (c) & (d) with screws (b). Attach small heat block (j) and large heat block (l) to carrier plate (g) with screws (n) as shown. Peel backing paper from small heat pad (k) & stick to small heat block (j). Do the same for large heat pad (m) & large heat block (l). Now remove remaining backing paper.
2. Plug extender board (f) into the HDMI & USB connectors on the Raspberry Pi board.
3. Place Raspberry Pi & extender on carrier plate assembly & secure with screws (b) as shown.
4. Turn board assembly over so carrier plate is on top & slide into top slot of extrusion (h) as shown.
5. Attach aluminium (e) & acrylic (i) end plates to extrusion (h) with screws (a).

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Rack Fronts

MP007511

MP007512

MP007513

Description

- A 1U 19” extruded aluminium rack panel milled to fit a removable PI-Box Pro 4 unit(s).
- Available in 1, 2 or 3 unit versions.
- Panels are available in black anodise with a brushed finish.
- A heatsink kit has been developed and can be order as an option if required.

Extrusion

Material : Aluminium 6063 T6 (HE9)
Finish : Silver anodised 5µm or black anodised 10µm

Front End Plate

Material : Aluminium 5005 sheet
Finish : Black anodised 10µm
Thickness : 1.5mm

Available in silver or black as standard.

Rear End Plate

Material : Acrylic
Finish : Black
Thickness : 3mm

Features

- 1, 2 or 3 units wide
- Removable units
- Black anodised with brushed finish

Part Number Table

Description	Part Number
Pi-Box Pro 4 with Heatsink kit, RPI4, Silver	MP004561
Pi-Box Pro 4 with Heatsink kit, RPI4, Black	MP004562
Rack Front, Black, 1 Cutout + 1 PIBS4-HK	MP007511
Rack Front, Black, 2 Cutout + 2 PIBS4-HK	MP007512
Rack Front, Black, 3 Cutout + 3 PIBS4-HK	MP007513