

MaticBox

-1- MaticBox is a feature rich enclosure for single board computers. It supports Raspberry Pi 4 Model B.

Some of its key features are:

- Ability to stack multiple enclosures
- Built-in support for 25*25mm fans (fan not included)
- Low profile
- Automation friendly – plenty of space to host extension modules, relays, contactors and other elements
- Can be easily mounted on a wall, attached to poles, support beams, pipes, or mounted on an industrial DIN rail

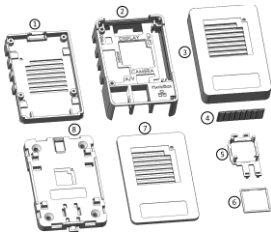
“MaticBox” is designed and patented by LeapMatic LLC, USA

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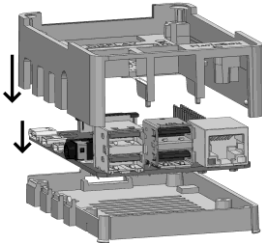
It is manufactured in the European Union (Bulgaria) from high quality ABS material.

-2- MaticBox components:



1-Base; 2-Case Body; 3-Automation Cover; 4-Automation Screen; 5-Fan Adapter; 6-Fan Spacer; 7-Low-Profile Cover; 8-Universal Mounting Base

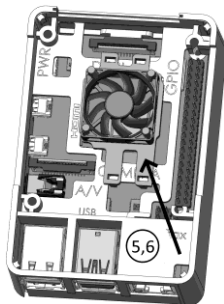
-3- Enclosing the computer board



The design of MaticBox allows you to install Raspberry Pi easily. If Raspberry Pi is already connected to power, HDMI, USB or others, you do not need to disconnect the cables.

Place the computer board on the base. If the SD card is already inserted, make sure it goes through the provided opening. Then carefully align and snap the case body on top. Please make sure to use the enclosure on flat surfaces, which will keep the ventilation slots at the bottom of the base unobstructed.

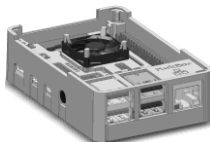
-4- Adding a 25*25mm fan using the fan adapter



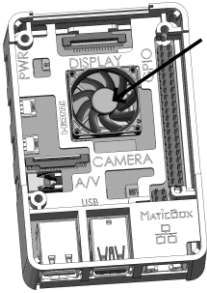
MaticBox supports 25*25mm fans with heights from 5mm to 10mm.

Snap the provided fan support adapter onto the body and then slide the fan into the adapter pins.

The picture shows adapter orientation for Raspberry Pi boards. Use the provided fan spacer in case the fan is too low and interferes with the processor heatsink.

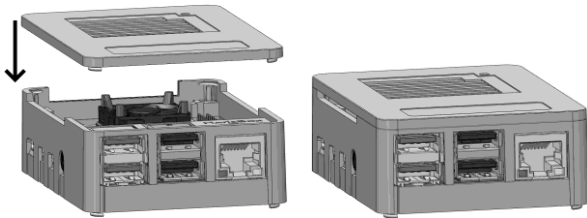


-5- Adding a 25*25mm fan directly into the case body



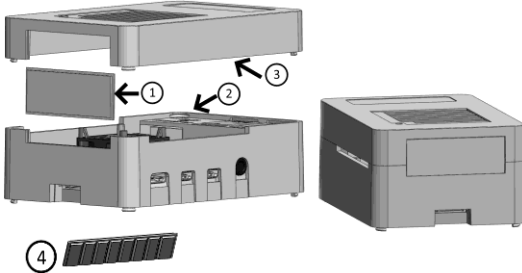
Most fans can also be attached directly into the case body. Just click the fan into the space above the board's processor. Note that this option leaves enough space for an add-on board above the fan. This is applicable when there is a hat or automation board on top.

-6- Low Profile Cover:



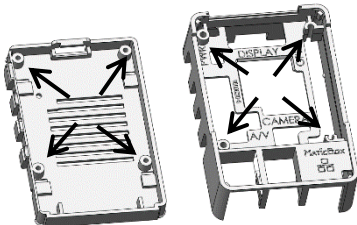
Use the low-profile cover to achieve a minimum overall height. It still provides space for a thin add-on board and a fan. Ventilation slots at the top ensure great air circulation.

-7- Automation cover and removable automation screen



The automation cover provides plenty of space within the enclosure (2) to host add-on boards with large elements – relays, connectors etc. There is a large opening on the side, which provides access to relay terminals and space for larger cables. If not needed, the space can be covered with the provided automation screen (4). The opening size is large enough for 8 standard terminals, or anything else of the same size. Note the notches on the inside of the screen which make it easy to break away sections so that only part of the space is covered. This provides a nice clean look to the case.

-8- Bolting components together



Due to its well thought-out design, MaticBox components snap together well and hold the Raspberry Pi board securely in typical use case scenarios. Still, in applications where you might expect strong vibrations or pulling forces applied to the case, you can further secure the entire assembly with screws through the provided holes in the four corners of the body.

If you have a HAT, display or other type of automation board on top, you can use longer screws that go through the HAT, the case body, Raspberry Pi board and will screw into the case's base. This will fasten the entire solution together using standard screws: from 2.2mm x 19mm to 2.9mm x 19mm. (standard DIN7981F). The same screws can be used if you want to bolt together only the Raspberry Pi to the body and the base.

Or you can attach only the HAT itself to the MaticBox body. This way, when you detach MaticBox's body from the base, the hat will remain firmly attached to the case. Standard screws can be used: 3.5mm x 6.5mm. (standard DIN7981F)

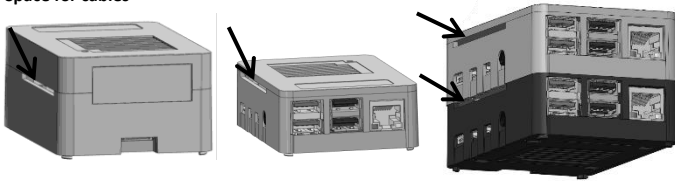
-9- Stacking **MaticBox** enclosures



MaticBox enclosures can be stacked vertically to help you host a cluster of single board computers. Simply remove the cover on one of the boxes and snap the bottom of the other box in its place. It is that easy!

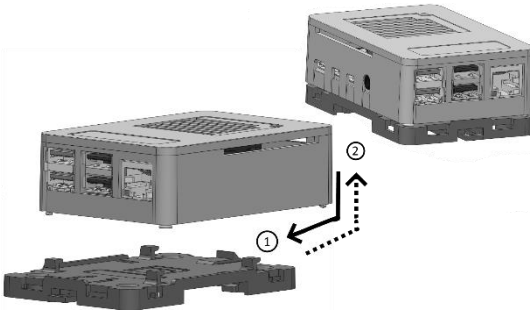
Note that this still provides a space for 25 mm standard fans or blower (centrifugal) fans and then will still be effective at cooling the cluster.

-10- Space for cables



In addition to ventilation, the openings on the three sides of the **MaticBox** are used for routing cables or connecting headers. They have a width of 3 mm which makes them very suitable for variety of applications.

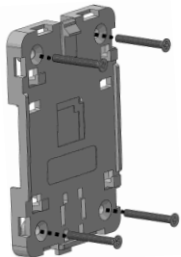
-11- Attaching the universal mounting base



The universal mounting base allows you to securely attach **MaticBox** to walls, poles, support beams, pipes and other objects, as well as to industrial DIN rails.

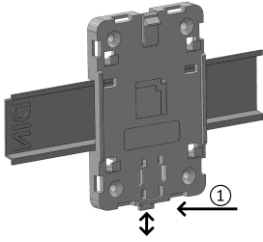
To attach **MaticBox** to the mounting base, align the hooks on the base with the notches on the bottom of the case, then push down and back (1). Reverse the motion to detach **MaticBox** from the base – slide forward and detach (2).

-12- Attaching the universal mounting base to a wall



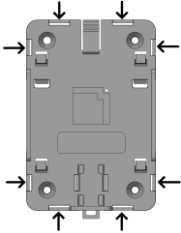
Use screws (not provided) to attach the mounting base to flat surfaces, such as walls.

-13- Attaching the universal mounting base to a DIN rail



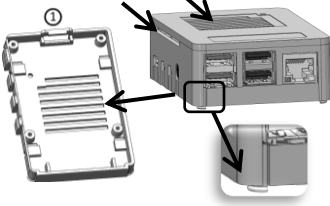
Universal mounting base can be easily attached to a 35mm DIN rail found in equipment racks. Attach the side away from the pin (1) first and then press the other side to snap it into place. To release the base, pull on the pin (1) first.

-14- Attaching the universal mounting base using zip ties



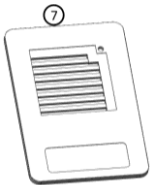
Universal mounting base also comes with slots that can be used to attach it to other objects, such as pipes and poles, using zip ties.

-15- Natural ventilation



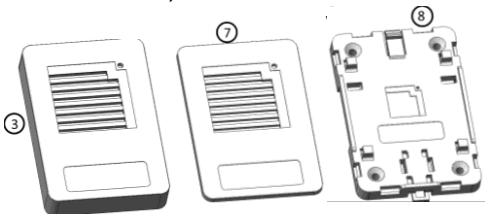
The design of MaticBox allows for good Natural airflow. The openings on the three sides of the body as well as the two grille openings - one on the lid and the second on the base contribute to the good air circulation in the case itself. The feet under the box also play a role in this as they lift the box and air has the opportunity to pass under it and cool the single-board computer underneath.

-16- Place for a light indicator / LED



The round hole on the low and tall covers can provide access to a LED on your extension board. So you can communicate visual status to your users.

-17- Place for stickers, labels and other.



For your convenience, we provided special areas where you can put stickers and project labels. They are indented and there is no danger of your markings falling off or peeling off. The four places are located on the tall and low cover, underneath the base as well as on the multifunctional base.