HQ-Box Mounting

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1. Preface

This manual describes each of the HQ-Box mounting options – the bill of material, assembly instructions and dimensional drawings.
Please pay attention to the notes and warnings in the manual.

The HQ-Box offers 3 mounting options

1. Desktop mount – DMT
2. Wall mount – WMT
3. Vibration mount – VMT

Additional mount can be designed to answer client specification and demand.

2. Safety instructions for mounting

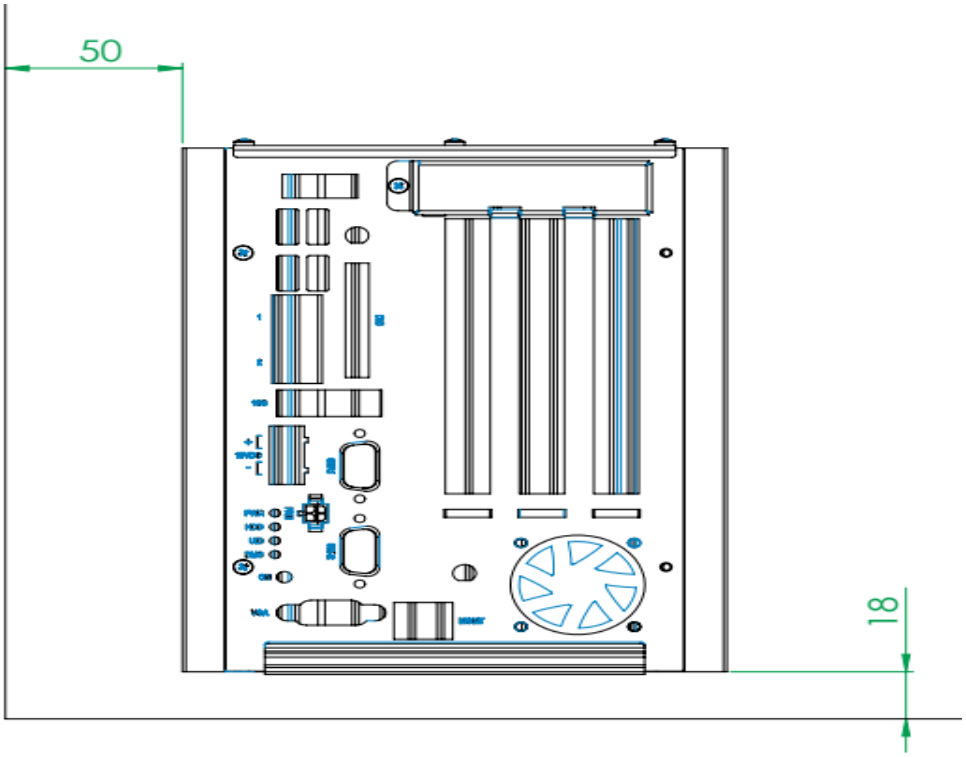
There are not enough words to describe the importance of safety. Please invest the time to read the instructions below, compiled for your own safety.

Disclaimer: Failure to follow the safety instructions can lead to injuries and/or damage of property. Heptagon Systems is not liable should safety instructions not be followed. Please refer to the Heptagon Systems Sales and Warranty terms and conditions for further information.

- As the product weight is above 2Kg, exercise caution when moving and installing. Failure to properly mount can cause incidental falls and subsequent injuries.
- Dot not work barefoot and/or without proper protective measures when drilling holes and mounting the HQ-Box.
- Please review the full Safety chapter in the HQ-Box user manual before powering the product.

3. Air gap requirements

Image 3.1



As with any other fanless system, the HQ-Box requires a minimum air gap to enable heat exchange.

The above drawing shows the minimal recommended air gap.

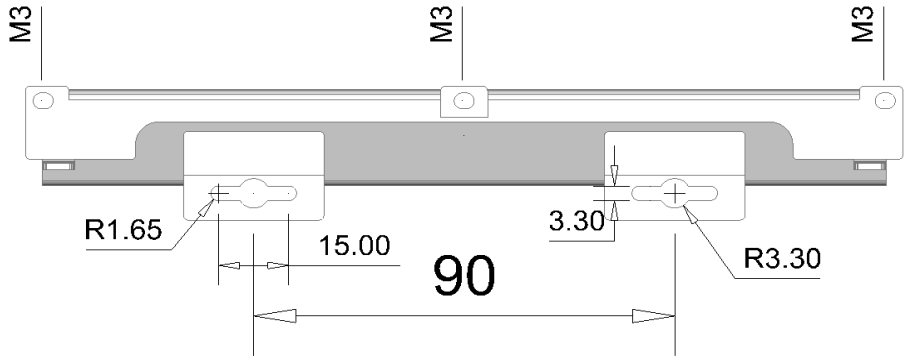
If you are designing your own mount, please follow these requirements.

4. Desktop Mount (DMT)

Kit Content

Quantity	P/N	Description
2	291A10061	DMT bracket
6	380J54030	Screw, M3x0.5, 4mmL, Din 7985, Pan head, Philips, Stainless Steel

Floor Mounting diagram



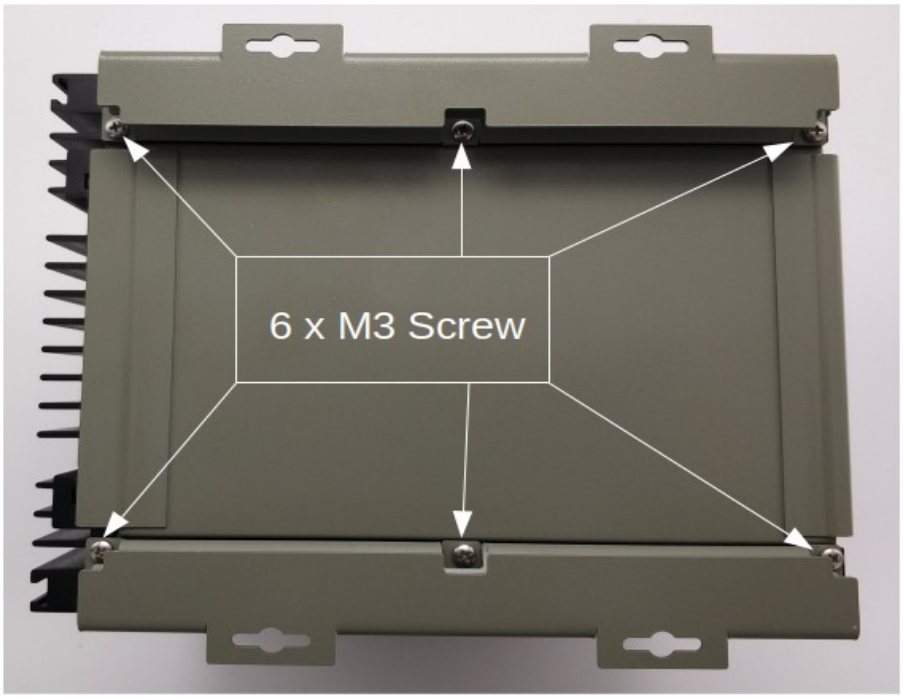
Each mounting bracket has 2 mounting holes. These holes enable a selection between M3/M4/M5 screws.

Assembly

1. Slide each of the brackets into the rails at the side of the enclosure.

2. Assemble 6x M3x0.5 4mm Screws.

Highly recommended for vibration prone conditions: Attach a drop of thread locker glue on each screw before assembly. Use Loctite 222 or similar.



5. Wall Mount (WMT)

The Wall mount kit enables mounting of the enclosure from it’s side to a wall.

Image 5.1

Image 5.2

Kit Content

Quantity	PN	Description
2	291A10071	WMT bracket
6	380J55050	Screw, M4x0.7, 6mmL, Din7985, Pan head, Philips, Stainless Steel, A2
6	381Q55000	Nut, M4x0.7, Square 6.8x6.8mm, 2mm thick, -0/+0.2mm, class 4

Assembly

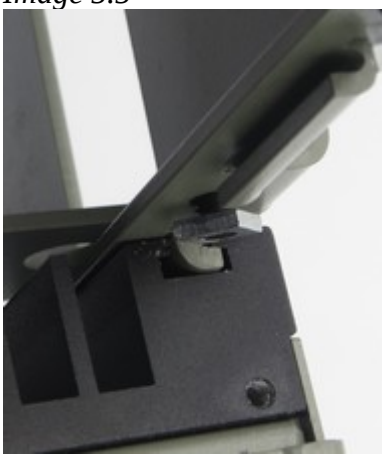
1. Insert the screws into the mounting holes and assemble the nuts. Do not tighten the nut, leaving a 2mm gap, as shown in image 5.3:

Image 5.3:

2. slide the WMT into the T-slot groove at the side of the HQ-Box, as in image 5.4. Use a long nose plier to align the nut into the groove.

Image 5.4

Image 5.5

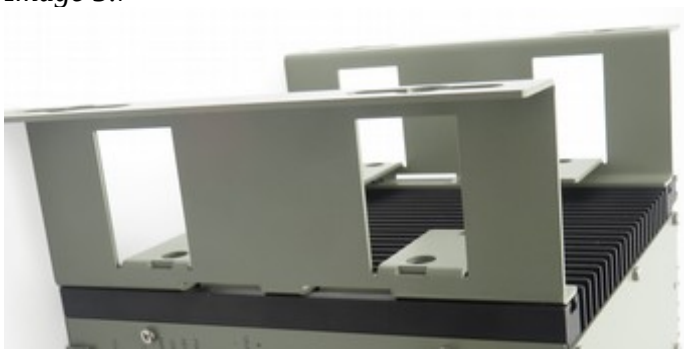


3. Keep sliding until all 3 nuts are in the groove. Align the WMT with the HQ-Box and tighten the screw. See image 5.6 below:

Image 5.6

4. Assemble the second WMT:

Image 5.7



WMT insertion tool (P/N 395S10010)

Image 5.8

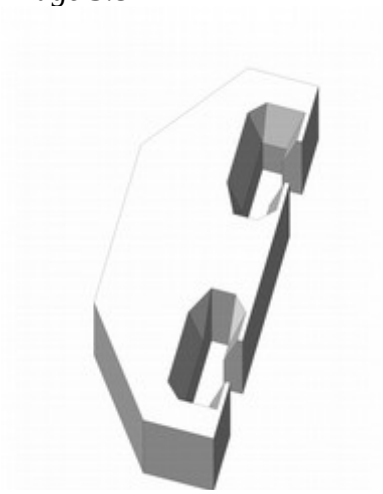


Image 5.9

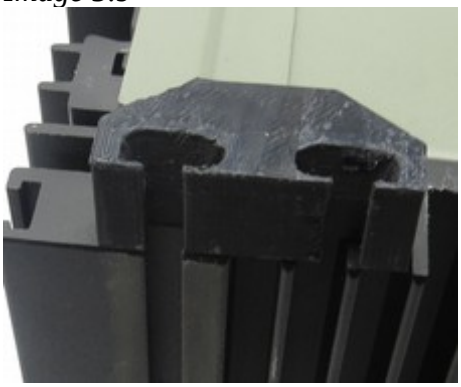


Image 5.10

The WMT insertion tool was designed for quick insertion of WMT. It aligns the square nut into the groove.

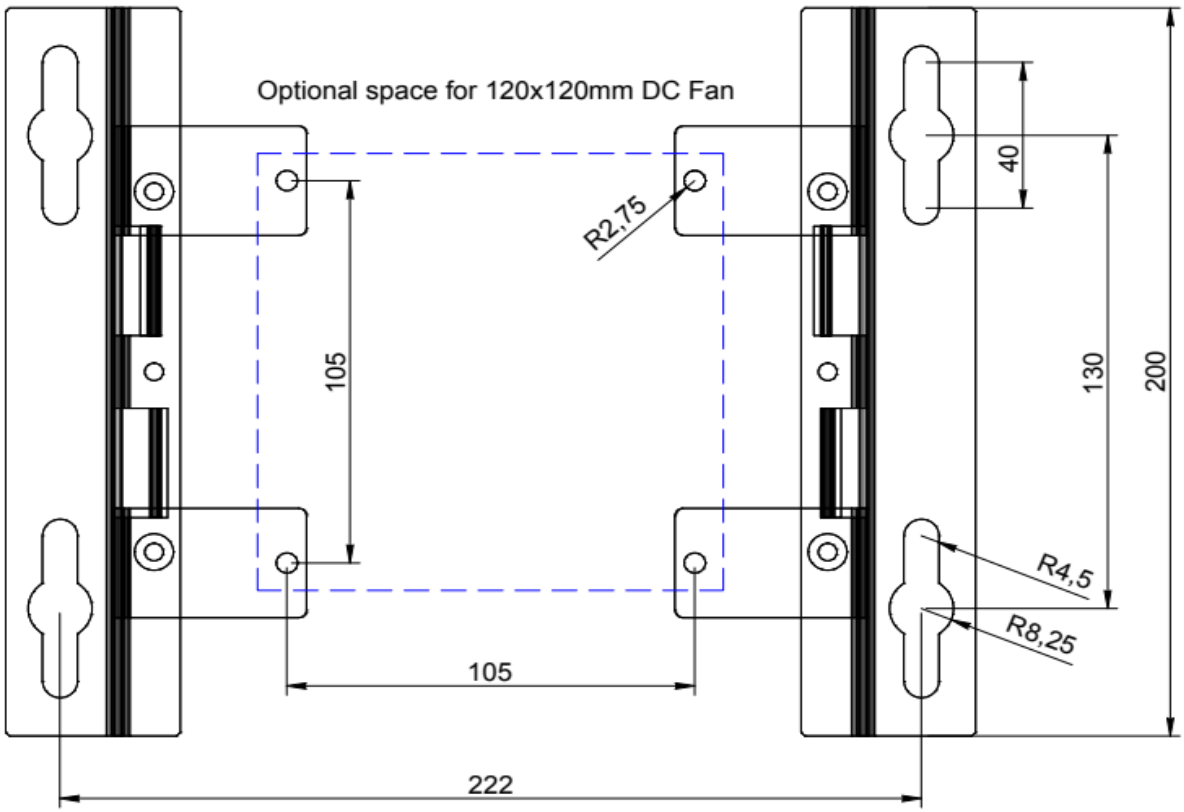
1. Turn the HQ-Box upside down.
2. Insert the tool
3. Slide in the WMT. If stuck, gently shake the WMT left/right until the nut aligns.

The insertion tool can be made with a 3D printer. A step and stl model can be downloaded from Heptagon Systems web site. Alternatively, the tool can be purchased (please state P/N 395S10010)

Image 5.11

Wall installation

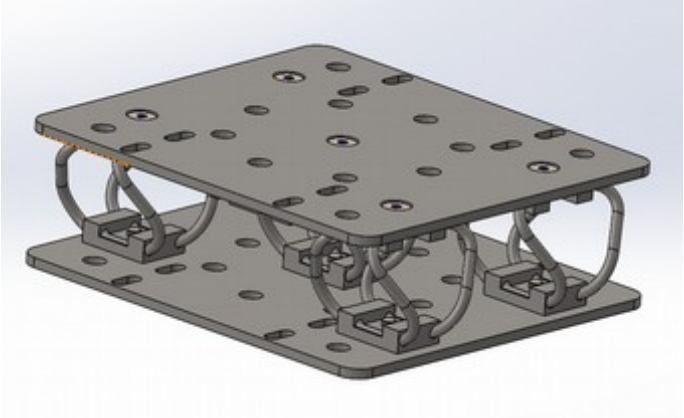
The below drawing shows the hole dimensions as well as the area where WMT meets the wall.



Warning: Wall anchors should match the wall type/material and the weight. Use at least 7kg or more anchors. Mounting screws should be 8mm diameter (M8 if using metric).

Warning: The WMT was designed for static applications. It is not suitable for Transportation applications (air, ground,sea), or any application which involves vibration and shock. For such applications please use the VMT (Vibration mount).

6. Vibration Mount (VMT)



The vibration mount standard configuration has four springs and as such was certified for ETSI standard ETS 300 019-1-5, 5M2 profile. The design has provision for a fifth spring (in the center) to answer additional scenarios with tougher profiles.

Kit content

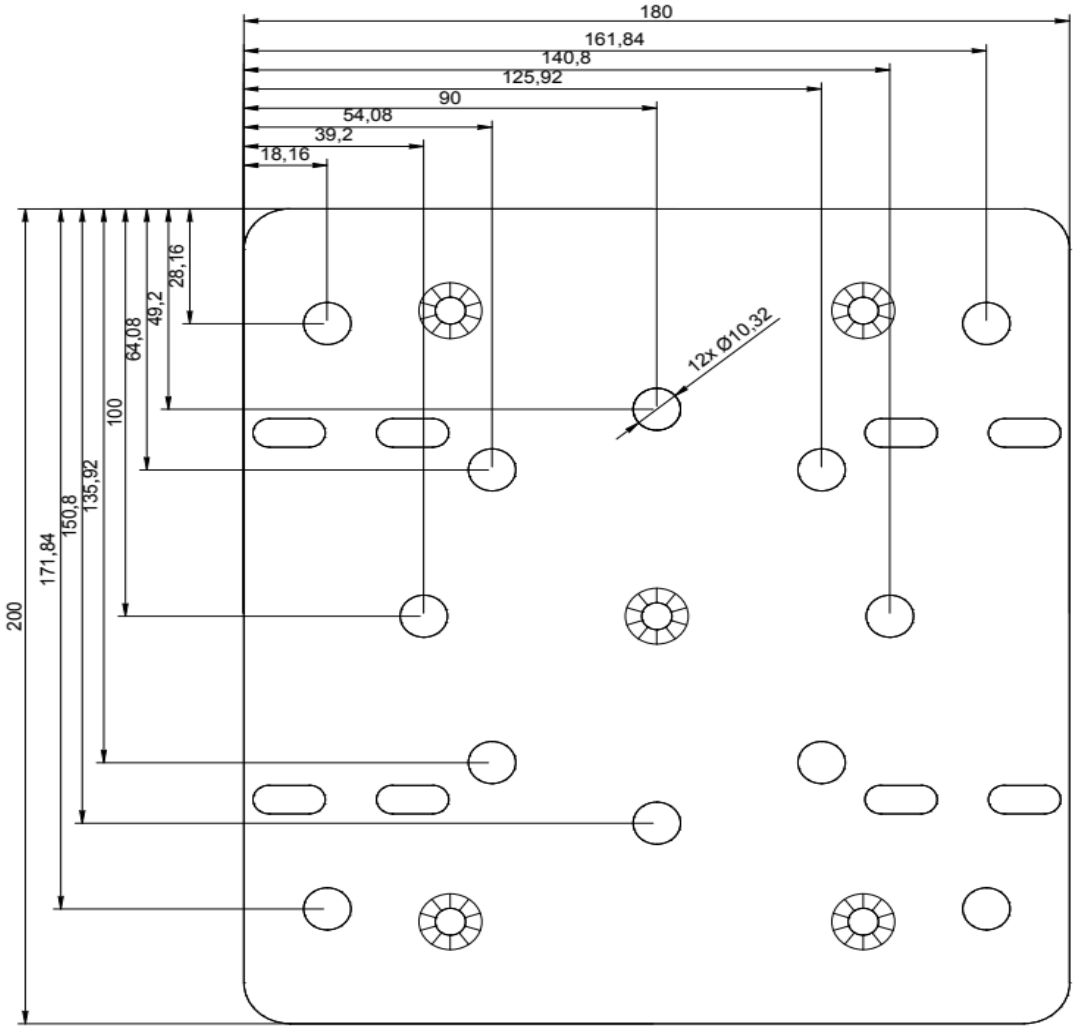
Quantity	PN	Description
1	VMT	Vibration mount. Pre assembled
1	DMT	Desktop mount (to be purchased separately).
4	380B57120	Screw, M6x1.0, 20mmL, Din933, Hex head, Stainless steel
4	382A57000	Washer, Flat DIN125, M6, A2 Stainless Steel
8	382D57000	Washer, Spring lock DIN127, M6, Stainless steel
4	381B57000	Nut, M6x1.0, Lock nut, DIN985 Stainless steel with Nylon insert (Or use a plain nut with loctite 222)

The VMT is mounted using M8 screws + Nord-Lock washers. Screw length and whether a nut is used is implementation dependent. These are not part of the kit.

Warning - Do not put Loctite 222 over nuts with nylon insert. This glue has corrosive effect on some types of plastics / nylon. It should be applied on metal only.

Assembly

1. Mount the VMT to the selected surface. The VMT has 12 mounting holes. Four on the perimeter and 8 in an internal circle. Screws should be used according to the application.



2. Mount the DMT to the HQ-Box.
3. Place the HQ-Box with DMT on the VMT and align on the oval holes. There are two sets of oval holes to match the VMT to the two width dimension of the HQ-Box.
4. Assemble the screws in the following order
    1. For each screw, assemble the 382D57000 spring washer and then 382A57000 Flat washer.
    2. Insert the screw with the two washers into the DMT mounting holes.
    3. Assemble 382D57000 spring washer and then 381B57000 M6 Nut. Do not tighten the nuts.
5. After all screws and nuts are assembled, tighten the nuts.

Note: The VMT hole structure was designed to match a vibration/shock tester at the certification laboratory. Heptagon Systems can design a VMT with different hole pattern to match the client needs.

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