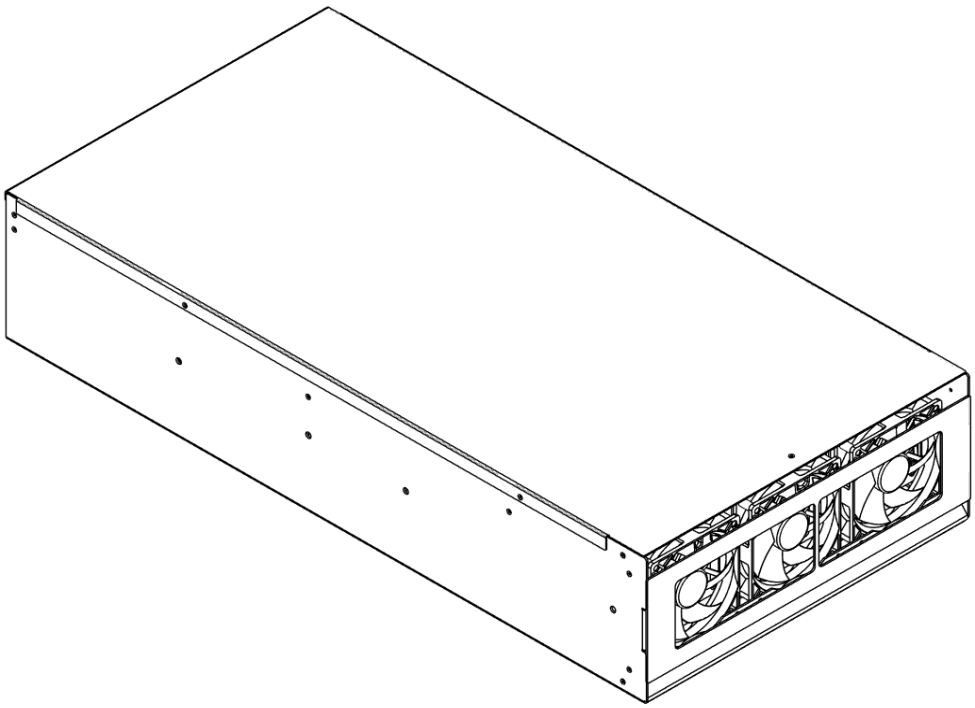
HAKOFORGE

HakoCore 4U Server Chassis User Manual

Version 1.0 December 2024



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WELCOME TO THE FORGE!

Thank you for supporting HakoForge! Please read this user manual carefully before use. It will explain the installation and usage of the HakoCore chassis components and products. If the HakoCore was purchased as a kit, it will come pre-assembled and ready for use. The HakoCore will be an ongoing project. As new cages or PCBs are made, this manual may be updated or changed. All versions and other documentation can be referenced on our GitHub. For any questions and support, contact us at help@hakoforge.com

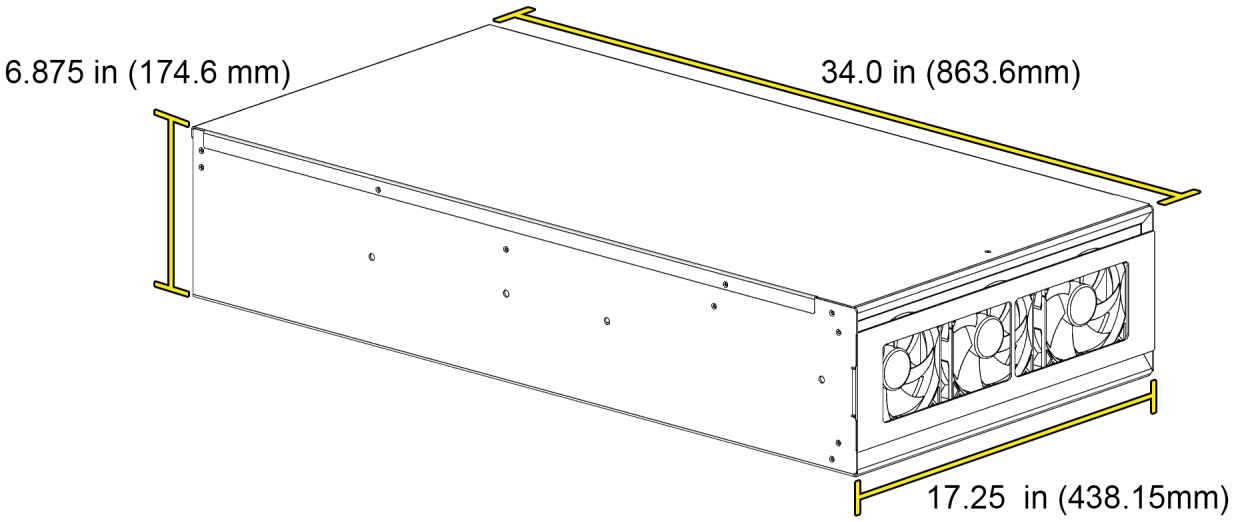
CAUTIONS

The HakoCore includes a powerboard that will be connected to an ATX power supply. Refer to page 5 to understand its usage.

To protect yourself and other electronic components

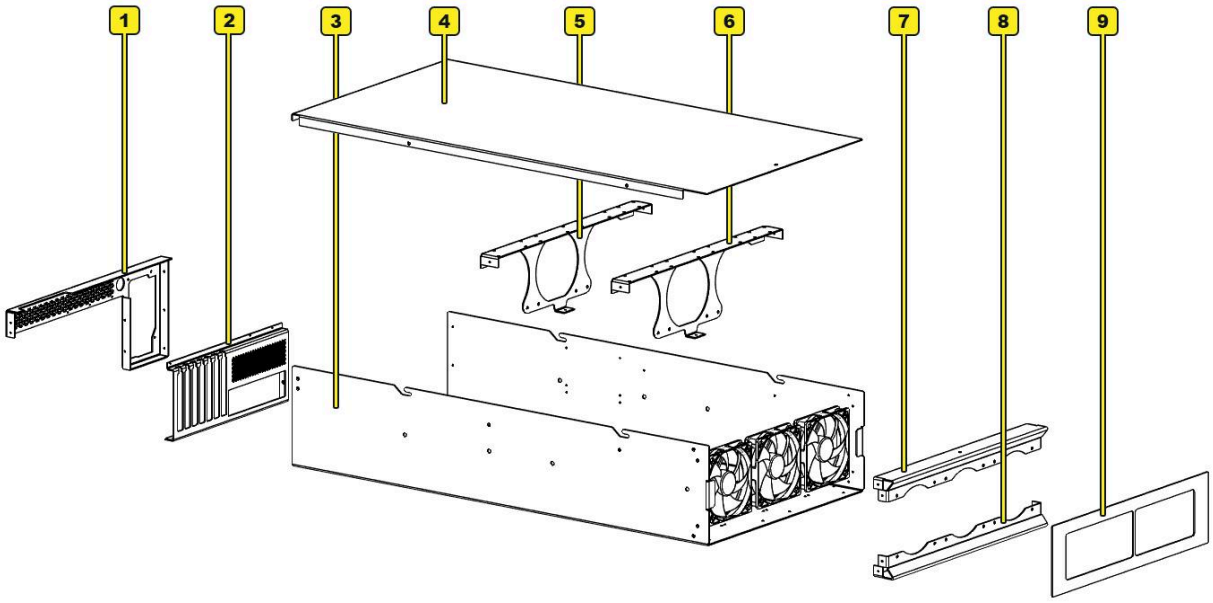
- Keep unused connectors clear from contacting other surfaces
- Ensure the proper PSU connectors are used (referring to quick start guide)

DIMENSIONS AND SPECIFICATIONS



Weight	With 3 fans, 3 Cages & PCBs, no drives: **20 lbs**
	With 3 fans, 9 Cages & PCBs, no drives: **25 lbs**
	With 3 fans, 9 Cages & PCBS, 42 HDD, 6 SSD: **~35lbs to ~90 lbs depending on drives used**
Materials	Powder Coated Aluminum
Dimensions	34" x 17.25" x 6.875"
Drive Power Capability	1 Powerboard: 600 Watts 2 Powerboards: 1200 Watts
Motherboard Support	Mini-ITX, Micro ATX, ATX, EATX
PSU Support	ATX up to 200mm in length
Fans	3 included fans with up to 6 additional fans

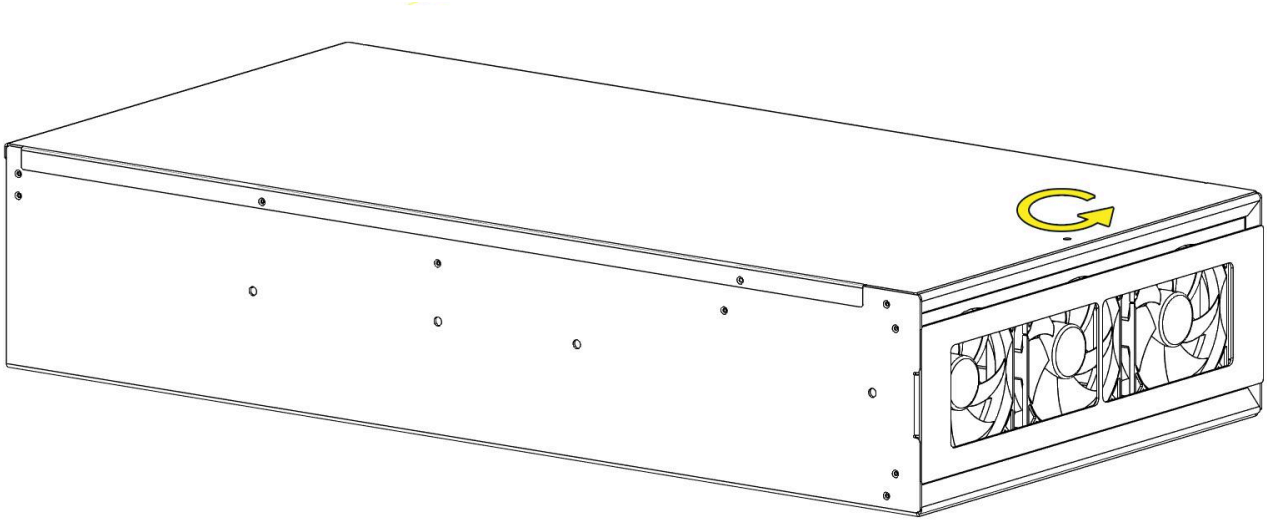
EXPLODED VIEW



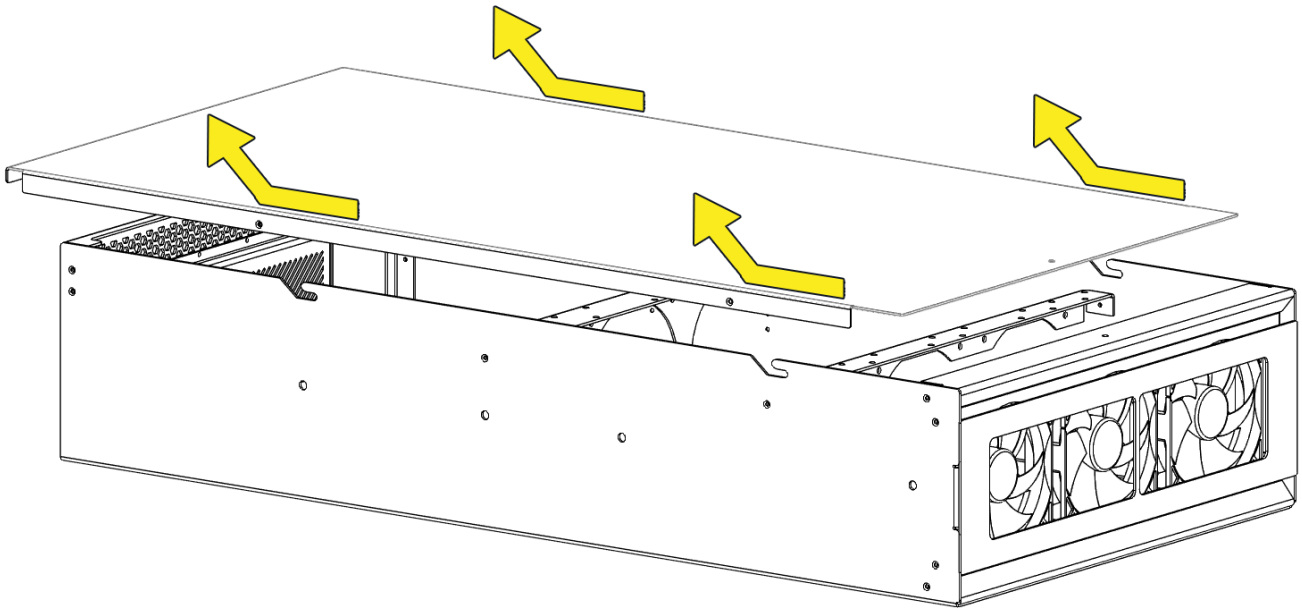
1	PSU Bracket
2	PCIE I/O Bracket
3	Chassis Body
4	Chassis Lid
5	Rear Cage Bracket
6	Middle Cage Bracket
7	Top Front Fan Bracket
8	Bottom Front Fan Bracket
9	Front Panel

PANEL REMOVAL

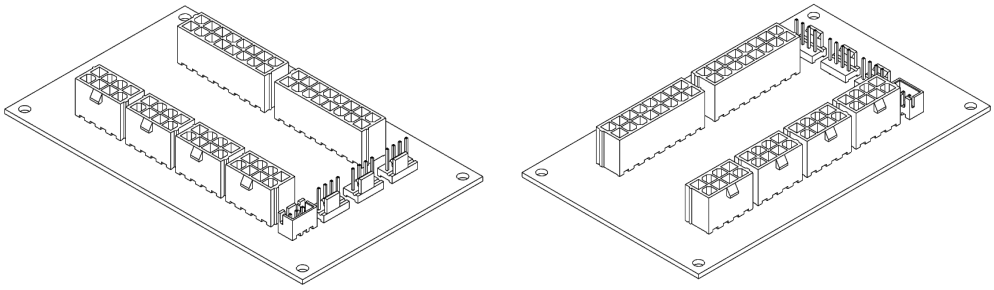
1. Remove the screw on the lid.



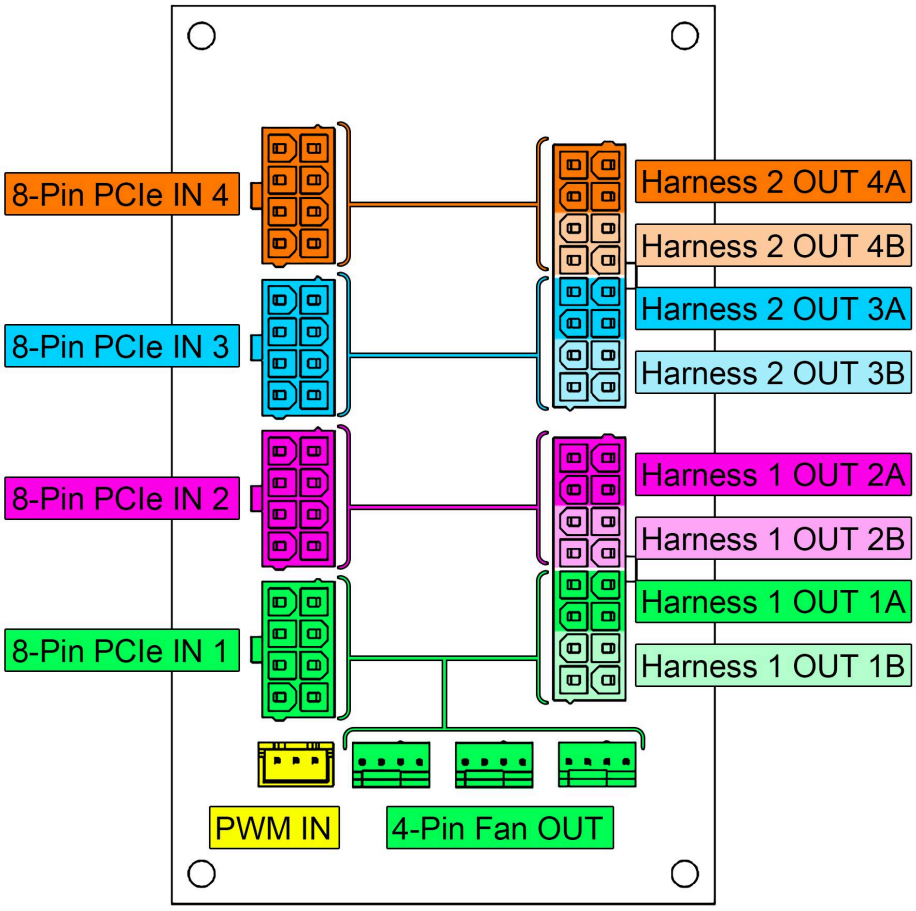
2. Slide the lid back, then lift up.



POWERBOARD

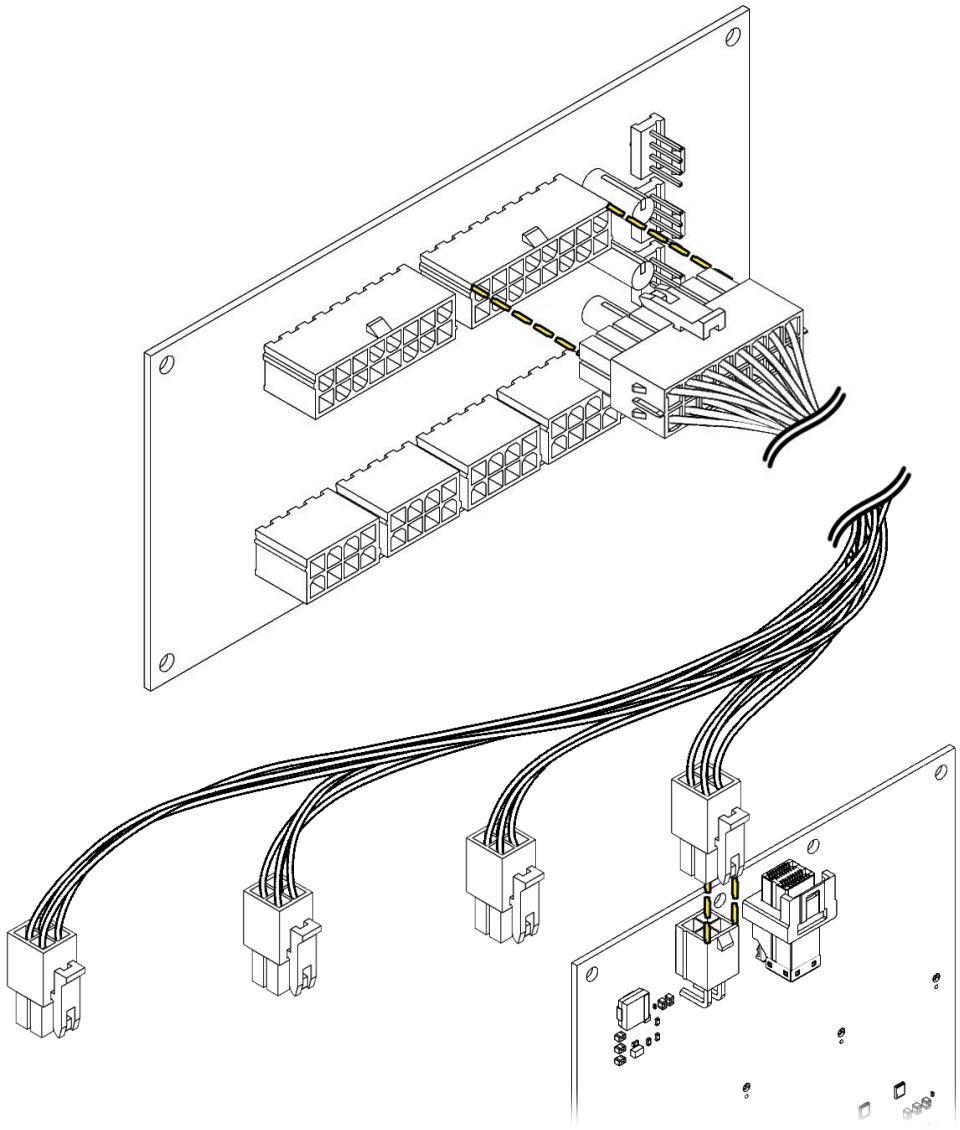


The powerboard uses the 8-pin PCIe wires from the power supply to break out into the HakoCore power harness that goes to each PCB. Note that each *8-pin PCIE IN* connector corresponds to a set of pins on the 24-pin connector. The *4-Pin Fan OUTs* are powered with the *8-Pin PCIe IN 1*. The use of that input should be prioritized for fan operation.



POWER HARNESS

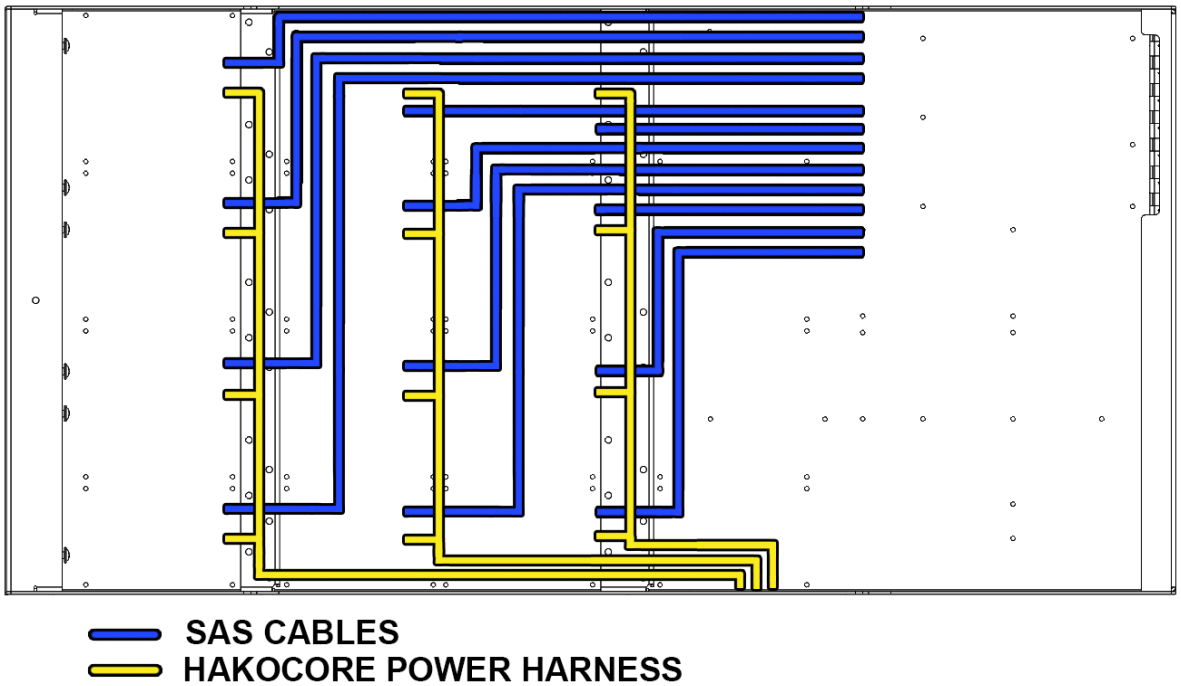
The HakoCore power harness distributes cables from the powerboard to the individual PCBs. The 16-pin connector terminates into four 4-pin connectors. There are two variants of the power harness that are different lengths. Use the longer variant for the furthest 2 rows from the powerboard and the shorter variant for all other rows near the powerboard.



WIRE ROUTING

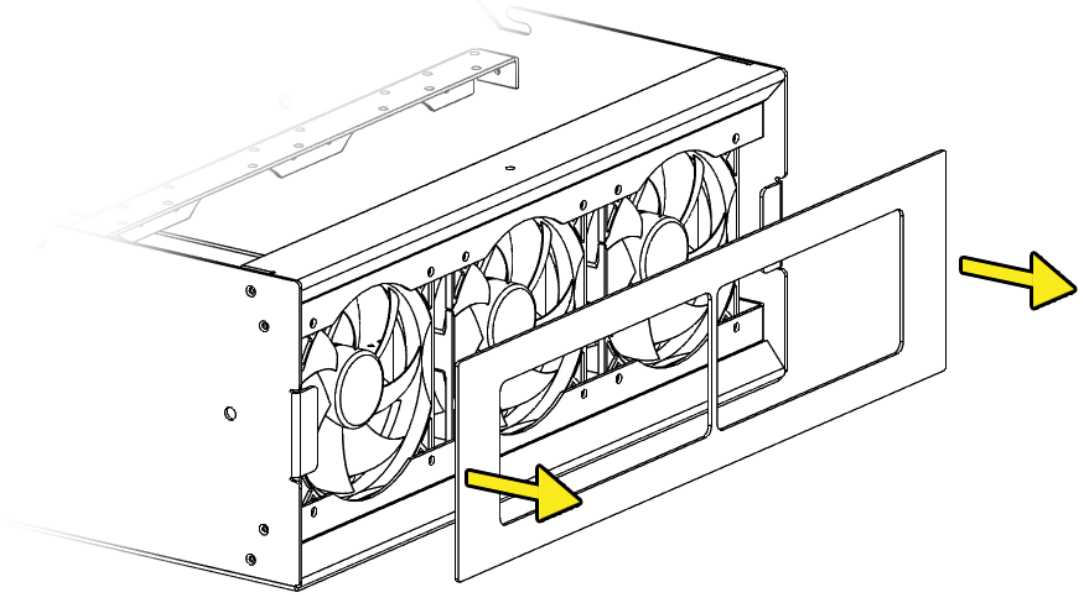
The HakoCore, when purchased with the PCB kits, will come pre-assembled and cable managed. There will be zip-tie locations along the standoffs of the PCBs. When managing cables yourself, we recommend the following practices.

- Route longer cables along the outer edge of the case. This will take up more slack and reduce any tangling that may occur.
- Route the HakoCore power harness towards the powerboard side of the case.
- Route SAS cables away from the powerboard side of the case, or straight across the PCBs.
- Use the zip-tie locations to secure cables and avoid collision with the PCB connectors.

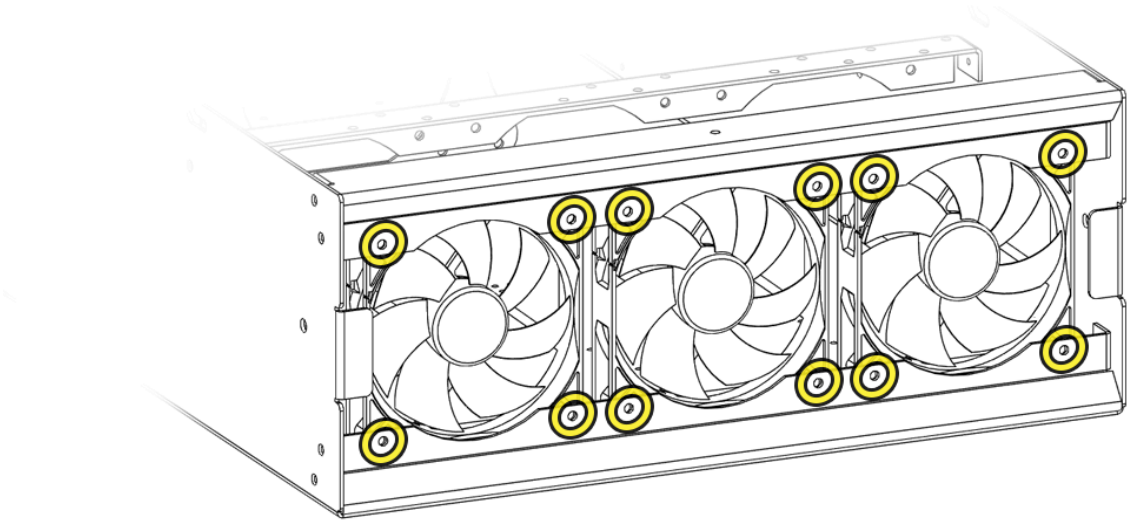


FAN INSTALLATION

1. Remove the magnetic front panel.

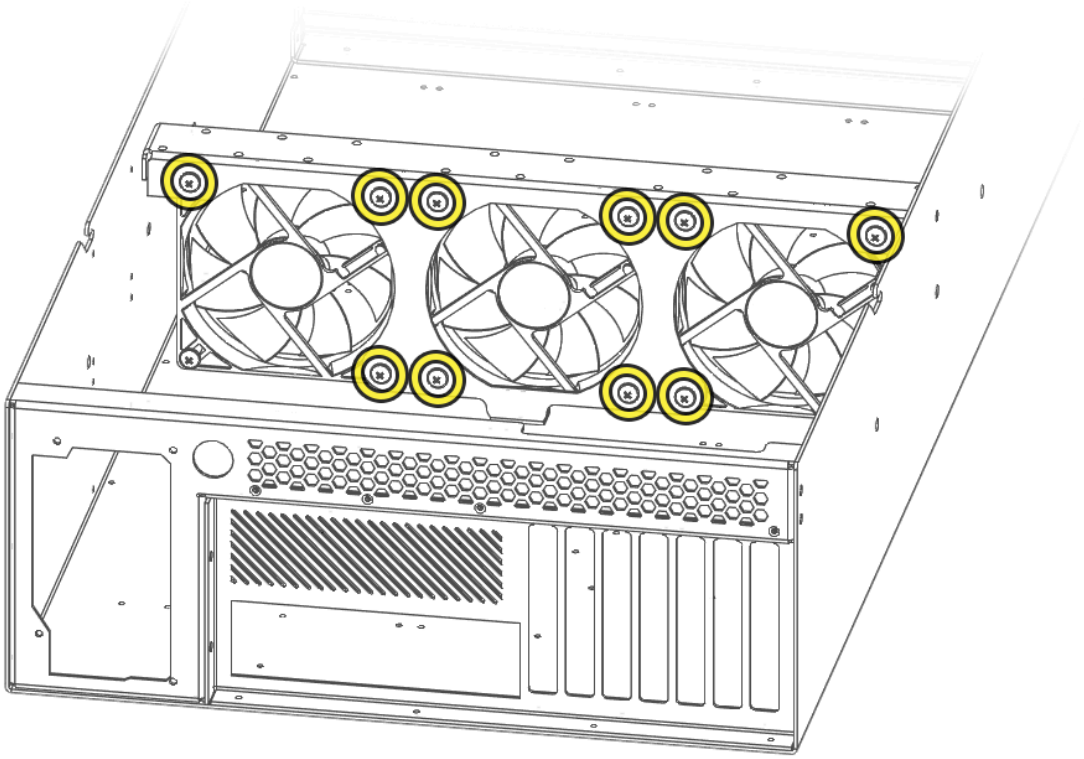


2. Use screws to secure the fans on the mounting locations. Note that there must be no cages installed in the first row for fan access.



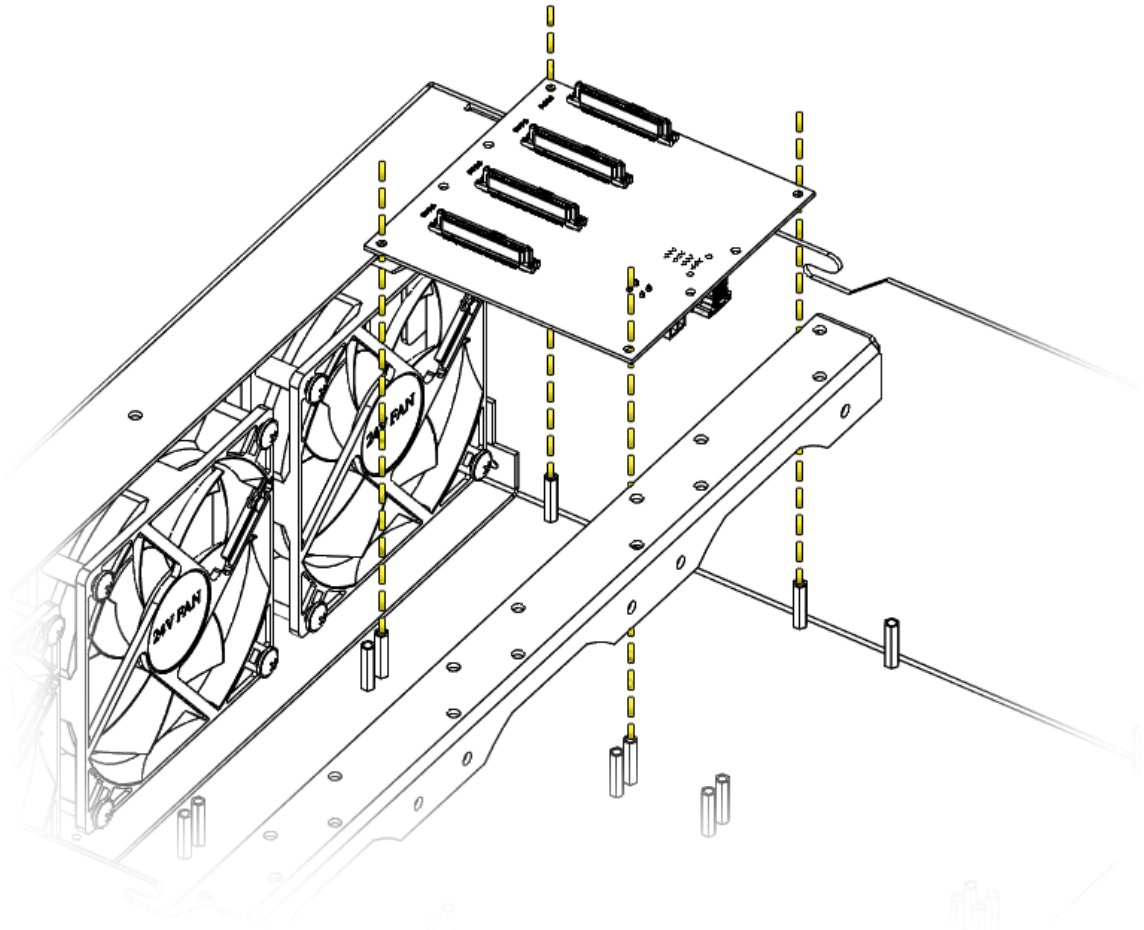
FAN INSTALLATION (CONTINUED)

3. The rear cage bracket and middle cage bracket has mounting locations for up to 6 additional fans. Note that there must be no cages around the respective rows for fan access.



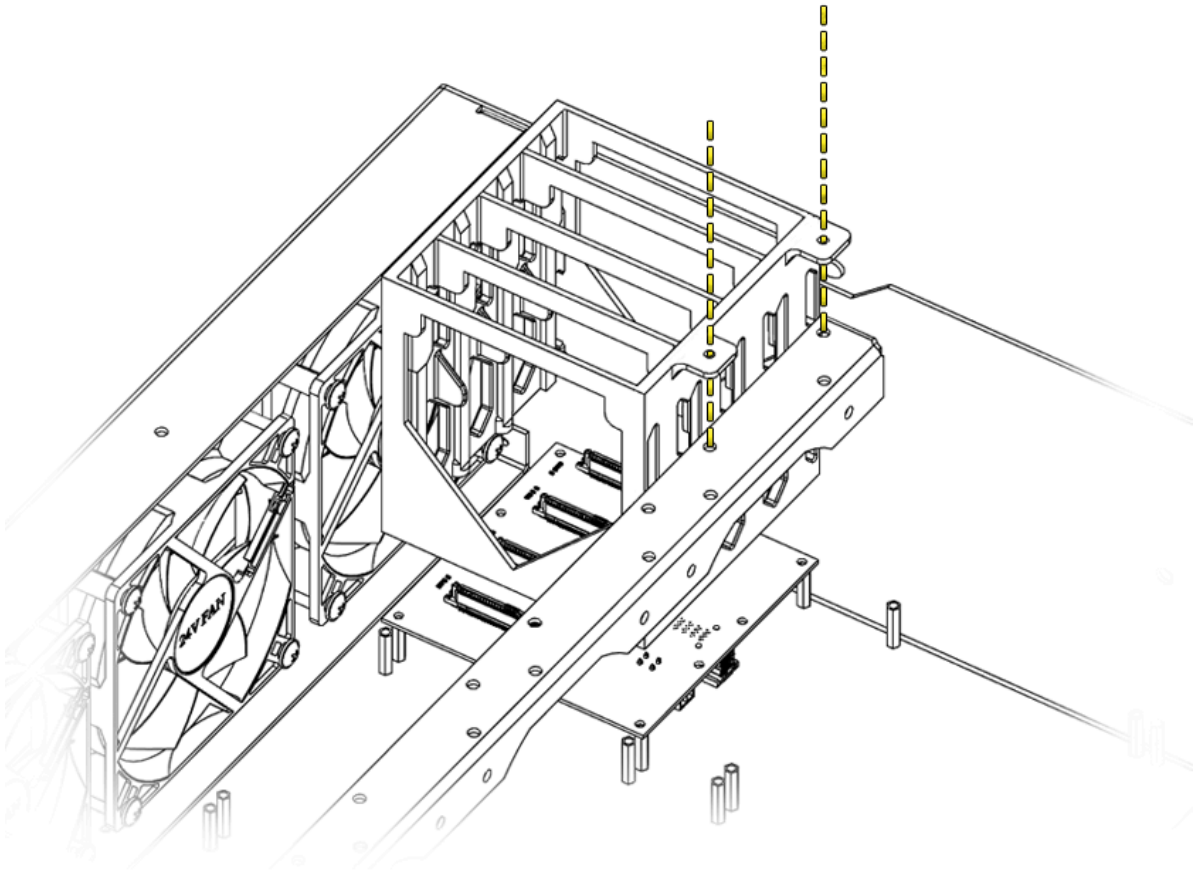
PCB INSTALLATION

1. Use screws to mount the corners of the PCB on the respective stand offs



CAGE INSTALLATION

1. Use thumb screws to secure the cage tabs onto the cage bracket.



WARRANTY

All HakoForge products come with a 90-day limited warranty. Contact us at help@hakoforge.com for warranty support.

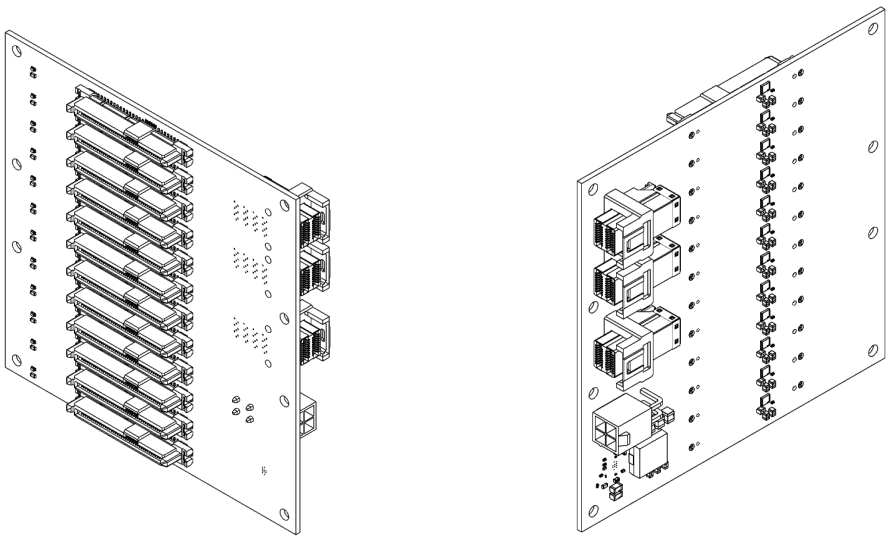
This warranty is limited to the original purchaser and warrants that the product is free from manufacturing defects for the specified time period.

This warranty does not cover damage or problems caused by, but not limited to:

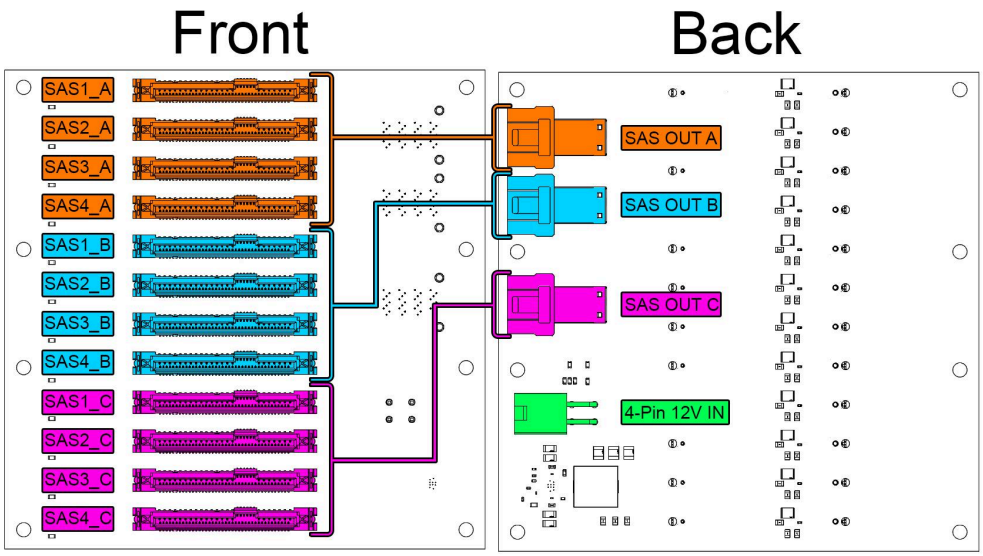
- Wear and tear from normal use
- Any improper use that does not follow procedures described in the manual
- Any accidents or modifications
- Incorrect use with a power supply

HakoForge recommends regular backups and proper data storage practices. HakoForge is not responsible for any data loss that may occur.

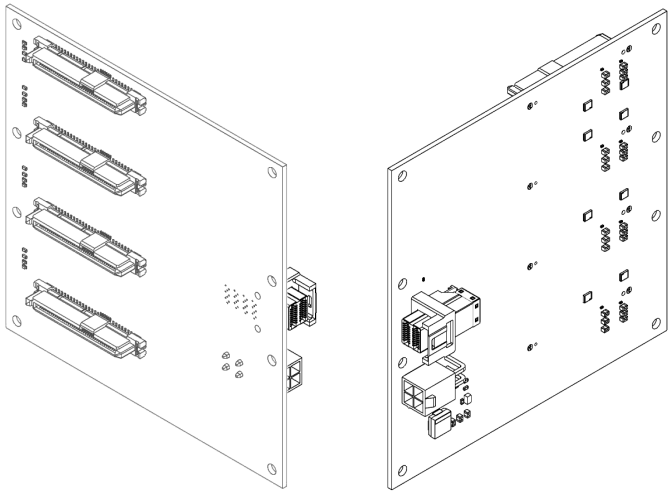
Standard 12-SSD Backplane



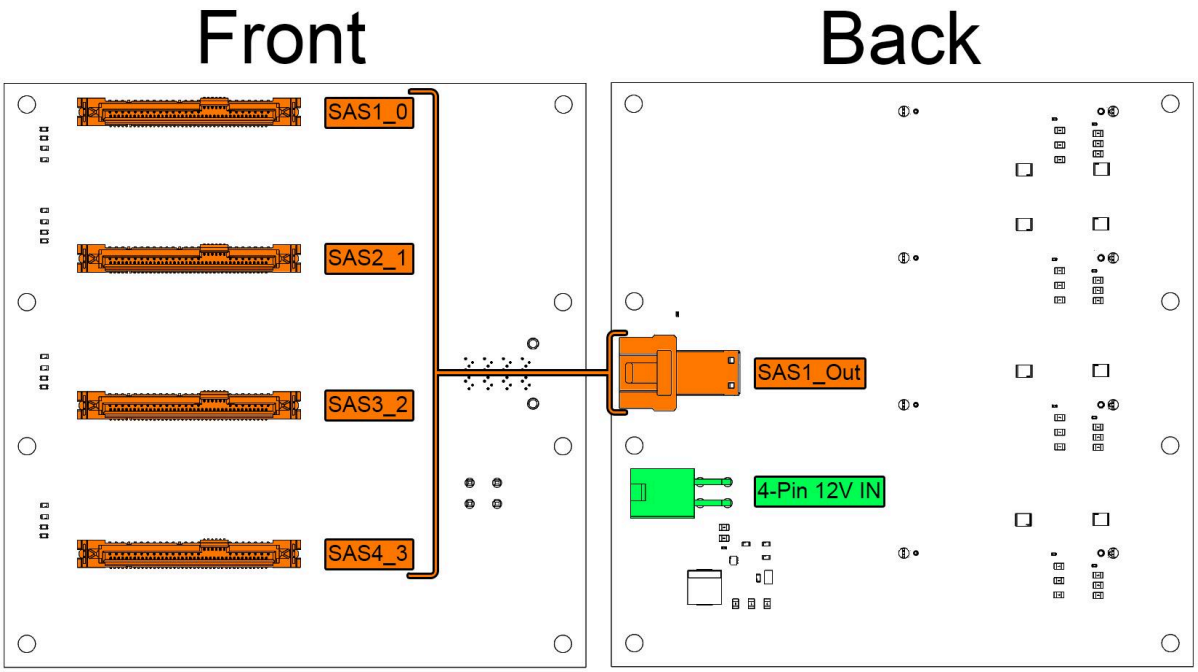
Specifications	
Connectivity	12 SATA/SAS 2.5” Drive Connectors 3 SAS Out Connectors
Input	12V
Output	5V (25A Max)
Max Power Consumption	84 Watts



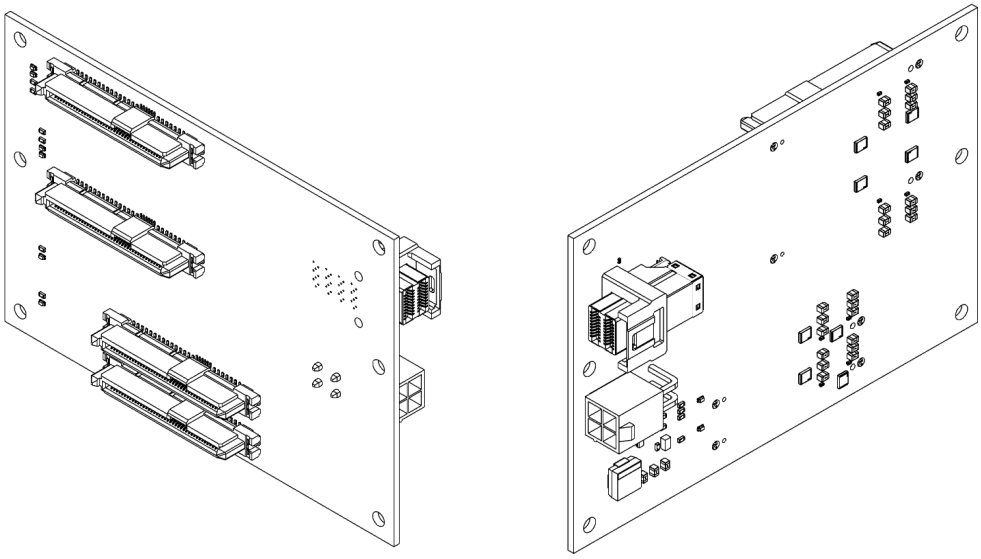
Standard 4-HDD Backplane



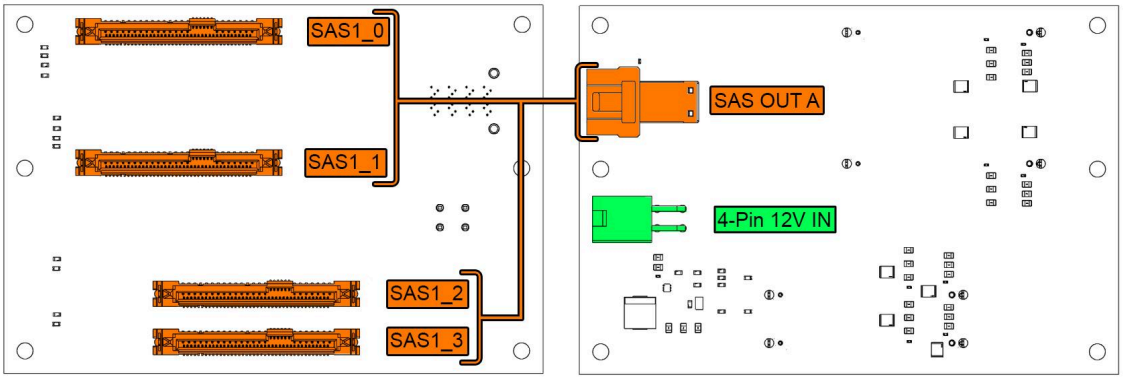
Specifications	
Connectivity	4 SATA/SAS 3.5” Drive Connectors 1 SAS Out Connector
Input	12V
Output	12V, 5V (5A Max)
Max Power Consumption	53 Watts



Mixed 4-Bay Backplane



Specifications	
Connectivity	2 SATA/SAS 2.5” Drive Connectors 2 SATA/SAS 3.5” Drive Connectors 1 SAS Out Connector
Input	12V
Output	12V, 5V (5A Max)
Max Power Consumption	40 Watts

Front

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