SC6100 Installation Guide

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Revision History

This section lists the summary of changes corresponding to each release.

Release	Date	Change Summary
1.0.0	3/2024	New document
2.0.0	8/2024	Complete revision of entire document
2.1.0	9/2024	Minor cleanup and adjustments
2.1.1	9/2024	Corrected publishing issues
2.2.0	12/2024	▪ Added Revision History ▪ Minor error corrections ▪ Added table of authorized processor SKUs to Central Processing Unit (CPU)
2.2.1	2/2025	Made a correction to the PSU connector from C-14 to C-20.
2.2.2	3/2025	Removed AMD 9534 CPU until testing is completed.

SC6100 Installation Guide

This reference document provides important legal disclaimers and notices for SC6100 products.

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Preface

Document Scope

This document provides a detailed overview of the SC6100 storage controller's design features and offers guidance on its use.

Intended Audiences

- System architects
- Firmware engineers
- System application engineers

Document Conventions

The following table describes various types of notes used within this installation guide.

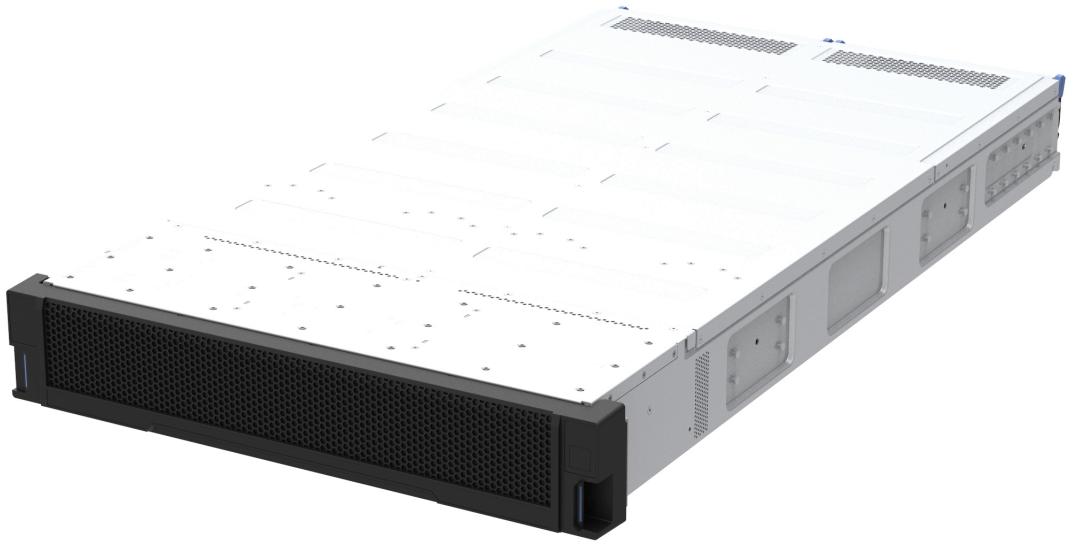
Type	Generalized Definition
ⓘ NOTE:	Provides supplemental information.
⚠ CAUTION:	Indicates a situation that if not avoided, may result in equipment damage or minor to moderate injury.
ⓟ TIP:	Indicates information that helps you make better use of your system.
⚠ WARNING:	Indicates a hazardous situation that if not avoided, could result in data loss or serious injury.
ⓘ DANGER:	Indicates a hazardous situation that if not avoided, will result in death or serious injury.

Product Overview

This document describes the installation process of the SC6100 storage controller.

The SC6100 is a high-performance dual-node PCIe® Gen 5.0 storage controller powered by two AMD EPYC 9004 CPUs accommodating up to 24 U.2 solid-state drives (SSD). Designed for high availability and low latency, the SC6100 provides an optimal balance between performance, scalability, and cost-effectiveness, addressing the needs of the most demanding enterprise workloads.

Figure 1. SC6100



The Celestica SC6100 is an ideal platform for:

- High-performance with low latency for demanding storage AI/ML workloads
- Scalability and flexibility to meet emerging workloads
- Data protection and availability provides efficient management of data redundancy and recovery
- Simplified control reduces complexity for easier management and administration

Features:

- Two redundant, hot-swap server nodes each with an AMD Embedded EPYC 9004 CPU (SP5 socket)
- Up to 12 DDR5 memory modules per controller
- Up to 24 dual-port U.2 PCIe® Gen 5.0 NVMe™ SSDs delivering up to 720TB (30TB SSD)
- Flexible IO options up to 400GbE
- Two PCIe® Gen 5.0 x16 HHHL and Two PCIe® Gen 5.0 x8 half height, half length (HHHL) slots
- Host swappable, high-efficiency Titanium class PSUs
- 19" industry standard rack compatible
- BBU assures data availability in the event of AC power loss

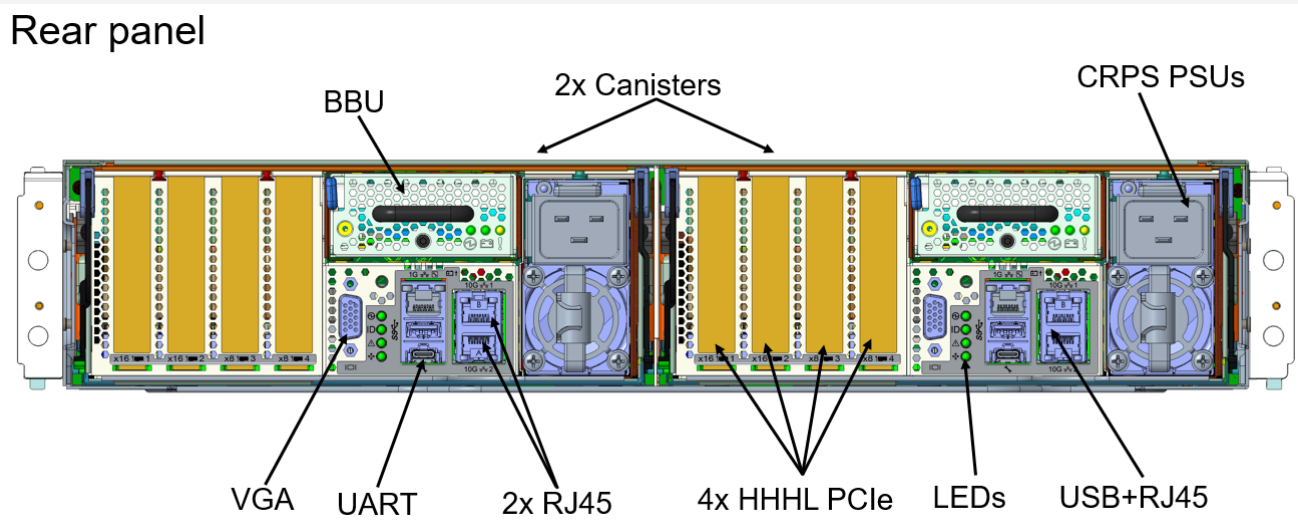
Product Specifications

Type	SC6100
Depth	874 mm
Height	87 mm
Width	446 mm
Weight	40 Kg (without rail kit)
Power Input (VAC)	200 ~ 240 VAC (47-63Hz)
Power Consumption (W)	2400 W
Operating Temperature (airflow front to back)	5º - 35 º C
Operating Relative Humidity	8% - 80%
Regulatory - EMC:	EN 55032 Class A, EN55035, EN 61000-3-2 EN 61000-3-3, FCC part 15 Class A, VCCI Class A ICES-003 Class A, GB/T9254 Class A
Regulatory - Safety:	IEC/EN/UL/CSA 62368-1, GB4943

Type	SC6100
Regulatory - Environment	RoHS, REACH, WEEE, ERP Lot9X

Figure 2. Front View with bezel

Figure 3. Rear View

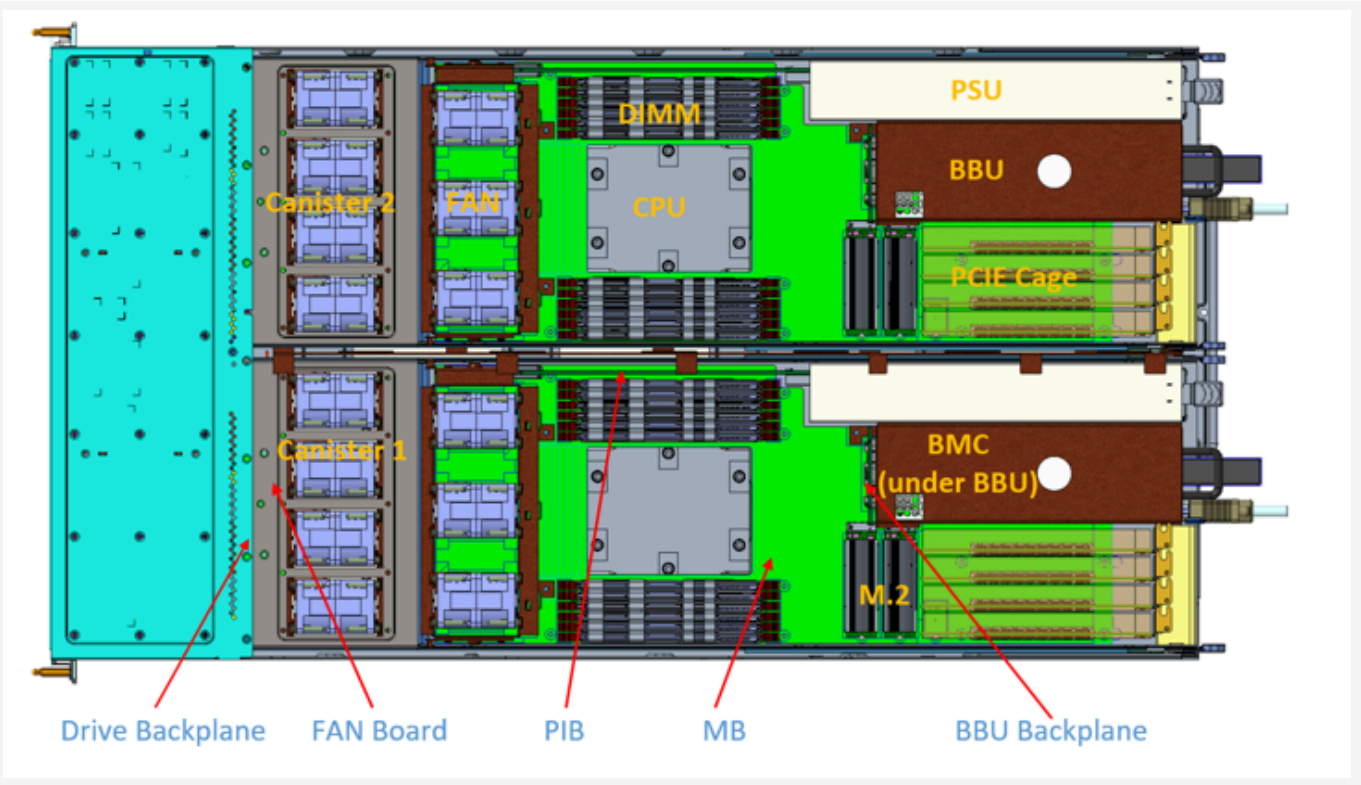


For information on specific LEDs, see: System LEDs.

Chassis Overview

This section provides a comprehensive overview of the SC6100

Figure 4. SC6100 **Internal View (without chassis or controller covers)**



Thermal Specification

Data shows that the cooling solution can maintain all components below their maximum operating temperatures when using an AMD EPYC™ Embedded 9004 Series "Genoa" CPU at 290W or less. (refer to the table below.)

AMD Model	AMD OPN (Orderable Part Number)	Description	Support(Yes/No)
9354P	100-000000920	AMD Genoa 1P,32C,280W	Yes
9454P	100-000000919	AMD Genoa 1P,48C,290W	Yes
9124	100-000000916	AMD Genoa	Yes

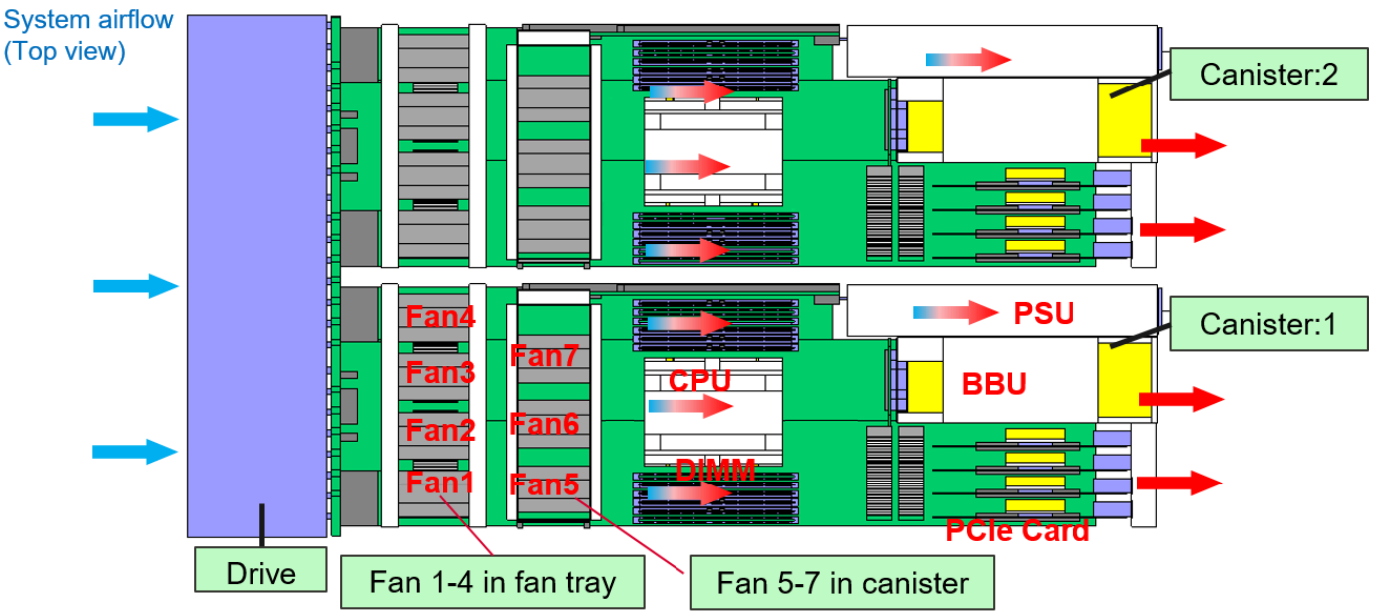
AMD Model	AMD OPN (Orderable Part Number)	Description	Support(Yes/No)
		2P,16C,200W	
9254	100-000000915	AMD Genoa 2P,24C,200W	Yes
9354	100-000000914	AMD Genoa 2P,32C,280W	Yes
9454	100-000000913	AMD Genoa 2P,48C,290W	Yes

Airflow Management

The SC6100 uses seven (7) fans per controller, totaling fourteen (14) fans per chassis for system cooling. Cold air enters from the front of the chassis, cooling the SSDs, mid plane, and controllers. The air is directed within each controller to the CPU and DIMMs via air ducts then moves on to cool the PCIe cards, BBU and PSU. Finally, the hot air leaves the chassis from the rear.

Airflow management design system:

- N+1 cooling redundancy allows for minimal impact on thermal performance in the event of a single fan failure.
- An Over Temperature Protection (OTP) mechanism protects the system by throttling CPU and memory if critical temperatures are exceeded.
- The system employs an adaptive cooling strategy to optimize power usage and reduce noise.

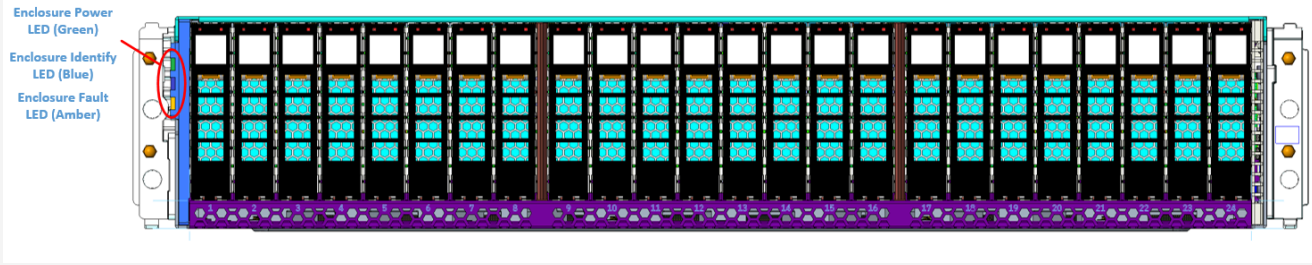


Below are the SC6100 cooling specifications:

- The cooling system's thermal solution maintains the components within thermal limits up to 35°C at 900m altitude.
- N+1 cooling redundancy allows for minimal impact on thermal performance in the event of a single fan failure.
- An Over Temperature Protection (OTP) mechanism protects the system by throttling CPU and memory if critical temperatures are exceeded.
- The system will support N+1 cooling redundancy. When any one system fan motor fails, thermal throttle and fan speed boost is allowed to minimize the effects of the failure, the remaining fans should still maintain all the key components within their thermal specification limits. Fan fail case is represented as any one fan motor fail.
- Over temperature protection (OTP) mechanism is enabled to protect the system. If warning sensor threshold is violated, the system will send out the warning information to the user. If critical sensor threshold is violated, CPU and memory will be throttled to lower power consumption to prevent components temperature going up further.
- Provide adaptive cooling strategy to save cooling power and reduce acoustic noise emission.

System LEDs

SC6100 LEDs



Enclosure Power LED

Enclosure Power LED Valid States: OFF, SOLID

- **OFF** – Enclosure power is off
- **SOLID** – Enclosure power on, controlled by BMC via CPLD

Enclosure Identifier LED

Enclosure Identifier LED Valid States: OFF, SOLID

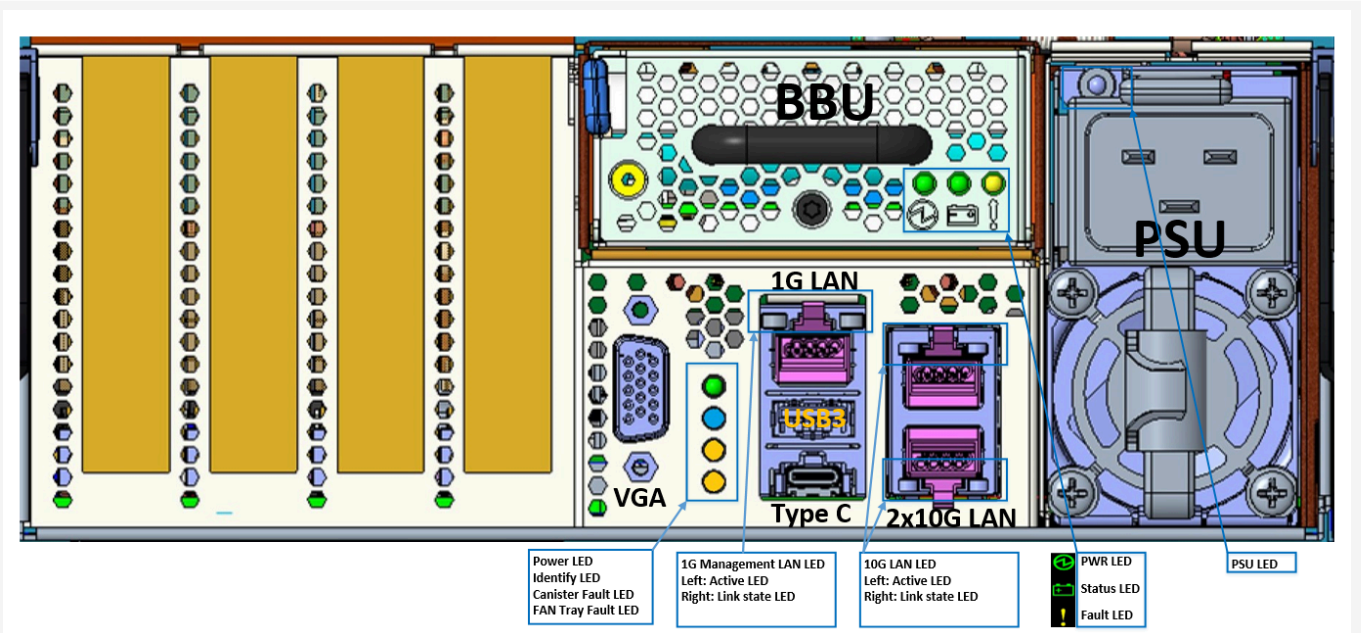
- **OFF** – Normal operation
- **SOLID** – Enclosure identifier, controlled by BMC via CPLD

Enclosure Fault LED

Enclosure Fault LED Valid States: OFF, SOLID

- **OFF** – Normal operation with no enclosure faults
- **SOLID** – Fault conditions exist in enclosure

Controller LEDs



Controller Power LED Valid States: OFF, SOLID

1. **OFF** – Controller power if off
2. **SOLID** – Controller power is on, controlled by CPLD

Controller Identifier LED

Controller Identifier LED Valid States: OFF, SOLID

Table 1.Controller LED Indicators

LED Type	Description	Valid States
Controller Power LED	Indicates the power status of the controller	OFF, SOLID
Controller Identifier LED	Used to Identifier the controller in a multi-controller setup	OFF, SOLID
Controller Fault LED	Indicates a fault condition on the local controller	OFF, SOLID

- **OFF** – Normal operation
- **SOLID** – Controller Identifier, controlled by BMC via CPLD

Controller Fault LED Valid States: OFF, SOLID

- **OFF** – No fault conditions present on local controller

- **SOLID** – Fault conditions present on the local controller

Fan Tray Fault LED

Fantray fault LED valid states: OFF, SOLID

- **OFF** – No fault condition present on fan tray
- **SOLID** – Fault condition present on fan tray

Table 2.Fan Tray Fault LED States

LED State	Description
OFF	No fault condition present on fan tray
SOLID	Fault condition present on fan tray

BBU Power LED

BBU Power LED Valid States: OFF, BLINK, SOLID

- **OFF** – Indicates that the auxiliary power device is NOT in use
- **SOLID** – The Battery Module has DC input power or is providing power to the system during a backup/destage event

BBU Status LED Valid States: OFF, BLINK, SOLID

- **OFF** – Output is off or out of tolerance, unable to supply power to volatile cache memory and/or de-staging function.
- **BLINK** – Indicates the auxiliary power device is charging
- **SOLID** – Indicates the auxiliary power device is fully charged

Table 3.BBU LED States

LED Type	Description	Valid States
BBU Power LED	Indicates that the auxiliary power device is NOT in use	OFF
BBU Power LED	The Battery Module is providing power to hold up components in the system during standby power (Note: For this state is not implemented)	BLINK

LED Type	Description	Valid States
BBU Power LED	The Battery Module has DC input power or is providing power to the system during a backup/destage event	SOLID
BBU Status LED	Output is off or out of tolerance, unable to supply power to volatile cache memory and/or de-staging function.	OFF
BBU Status LED	Indicates the auxiliary power device is charging	BLINK
BBU Status LED	Indicates the auxiliary power device is fully charged	SOLID

BBU Fault LED

BBU Fault LED Valid States: OFF, BLINK, SOLID

- OFF – There have been NO isolated faults or conditions detected by the battery module with the auxiliary power device that can be serviced using service indicators.
- BLINK – The APD has been identified.
- SOLID – There has been a fault condition detected with the auxiliary power device that can be serviced using service indicators. The auxiliary power device is in a condition that permits repair or replacement activity if removable.

PSU LED

The power supply uses a bi-color LED; Amber & Green. Below are table showing the LED states for each power supply operating state and the LED's wavelength characteristics.

Table 4.PSU LED States

Power Supply Condition	LED State
Output ON and PSU Okay	GREEN

Power Supply Condition	LED State
No AC power to all power supplies	OFF
PSU standby state: AC present / Only 12Vsb ON	1Hz Blinking GREEN
AC Cord unplugged or AC power lost: second PSU in parallel still has AC input power	AMBER
PSU critical event causing a shutdown: failure, over current, over voltage, short circuit, fan shutdown	AMBER
PSU warning event where PSU continues to operate: high temp, high power, high current, slow fan	1Hz Blinking AMBER
Power supply firmware (FW) updating	2HZ Blinking GREEN

Management Port LED

Each controller features a 1GbE management port with two LEDs. The left LED shows activity, while the right LED displays the link speed.

1GbE management link active state LED: OFF, BLINK

- **OFF** – No Ethernet link
- **BLINK** – Have Ethernet link, and with data transmission

1GbE management link speed state LED: OFF, SOLID

- **Green SOLID** – Ethernet link at 1Gbps
- **Orange SOLID** – Ethernet link at 100Mbps or 10Mbps
- **OFF**

10GbE Port LED

Each controller has two 10GbE ports . The left green LED indicates the active state. The right bi-color green/amber LED indicates the link speed state.

10GbE link active state LED: OFF, BLINK

- **OFF** – No Ethernet link or have link but without data transmission

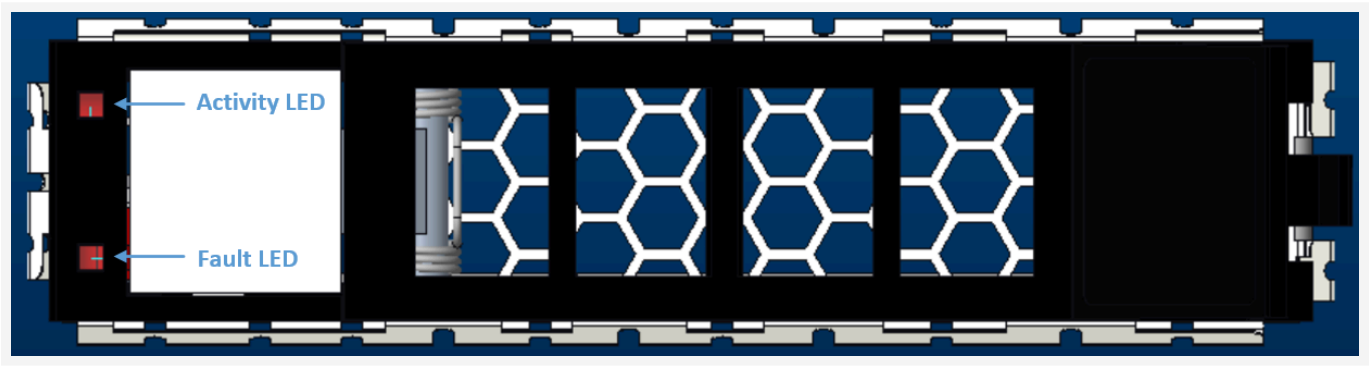
- **BLINK** – Have Ethernet link, and with data transmission

10G LAN link speed state LED: OFF, SOLID

- **Green SOLID** – Ethernet link at 10Gbps
- **Amber SOLID** – Ethernet link at 1Gbps
- **OFF** – No Ethernet link

SSD Activity LED

> ⓘ **NOTE:** SSD Activity LED is controlled by directly by the drive.



SSD Fault LED Valid States: OFF, SLOW BLINK, FAST BLINK, SOLID

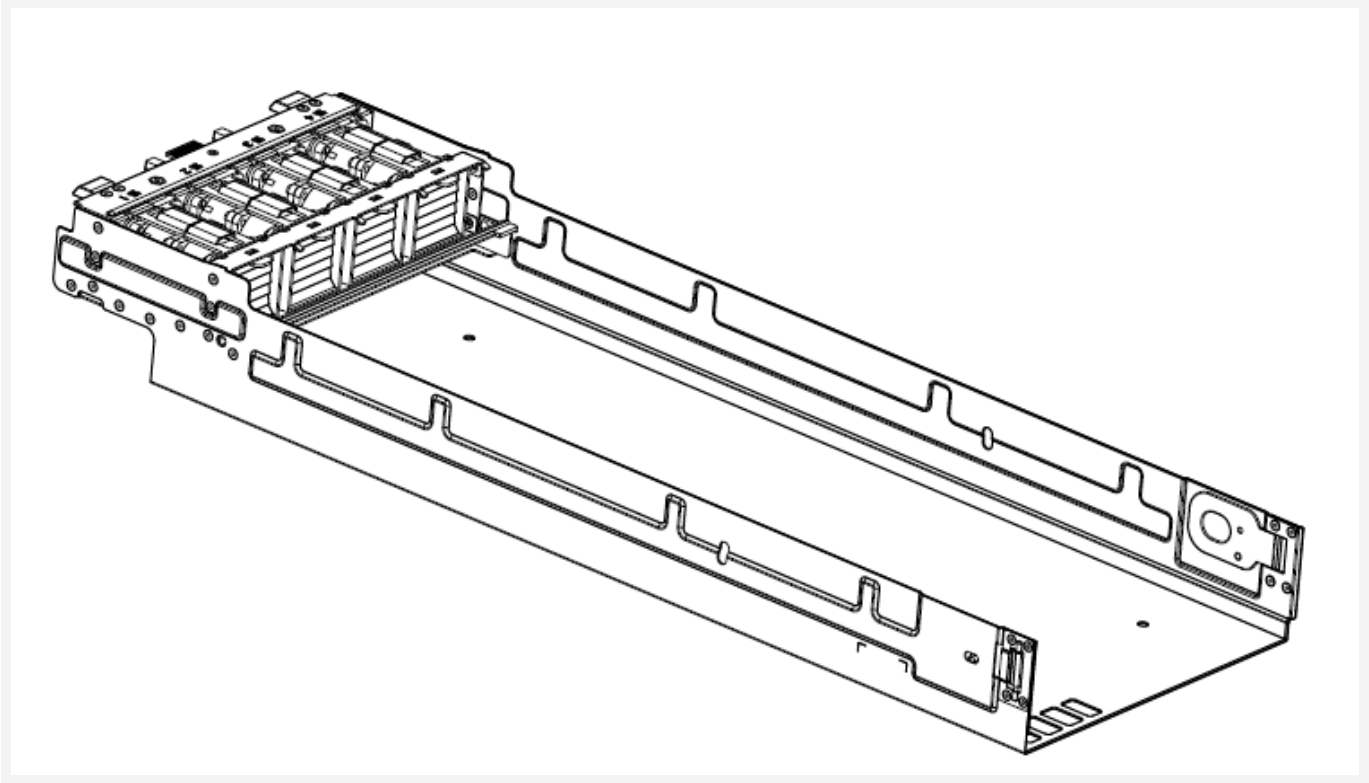
- **OFF** – Normal operation
- **SLOW BLINK** – Rebuild
- **FAST BLINK** – Locate
- **SOLID** – Drive fault

Fan Modules

The SC6100 features a total of fourteen 40x56mm fans for optimal cooling. For guidance on removing or installing fans at various locations, please refer to: Chassis Fans or Controller Fans.

Fan Tray

SC6100 contains two removable fan trays, one per side. Nested inside each fan tray is a single controller (not shown).

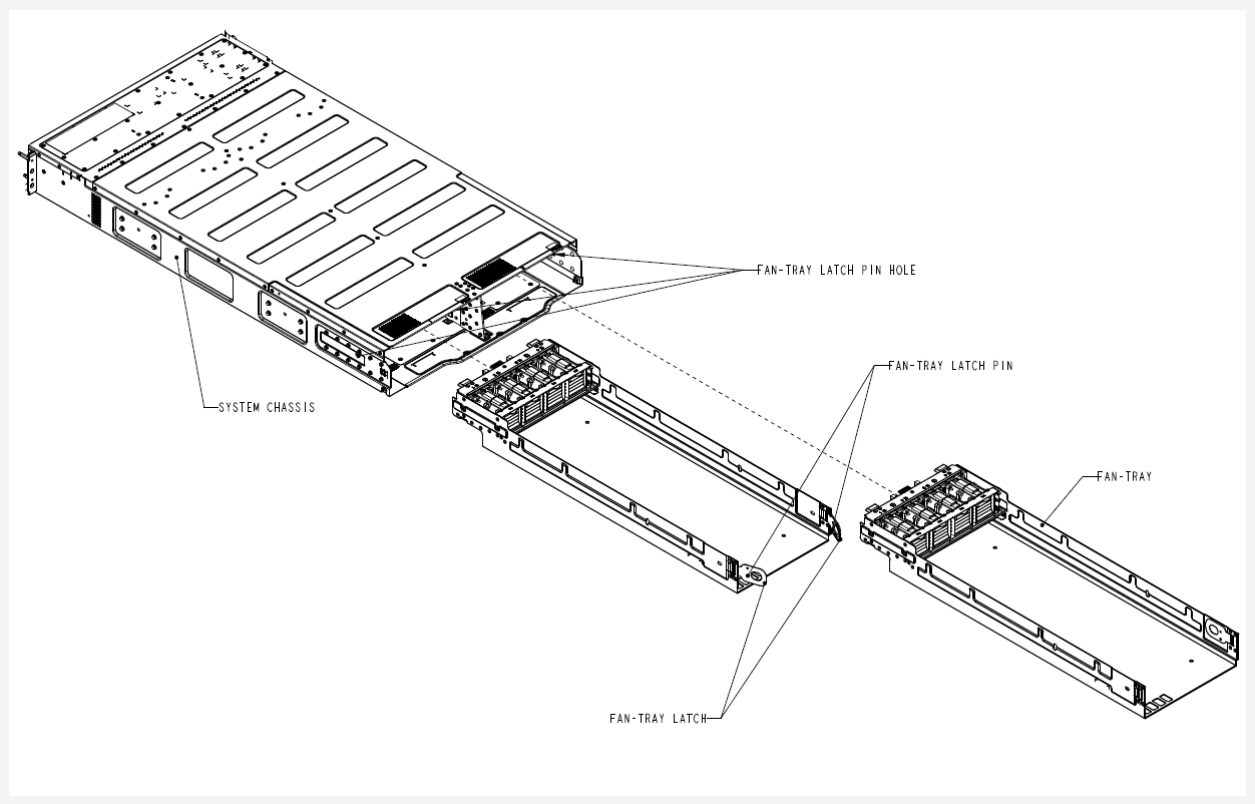


Fan Tray Removal from Chassis

Procedure

1. Release the fan-tray latch to disengage locking mechanism.

> ⓘ NOTE: To remove a fan tray from the system the nested controller must first be removed. See: Controller Removal

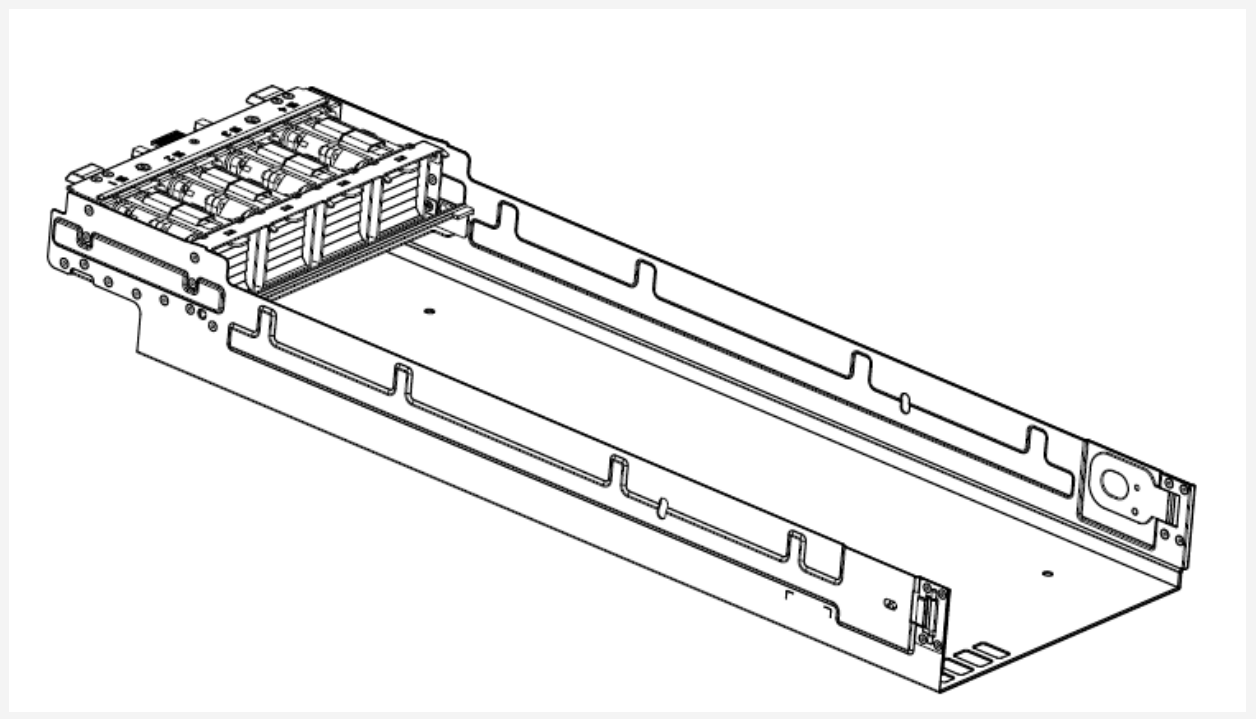


2 Hold the latch and pull fan-tray from chassis.

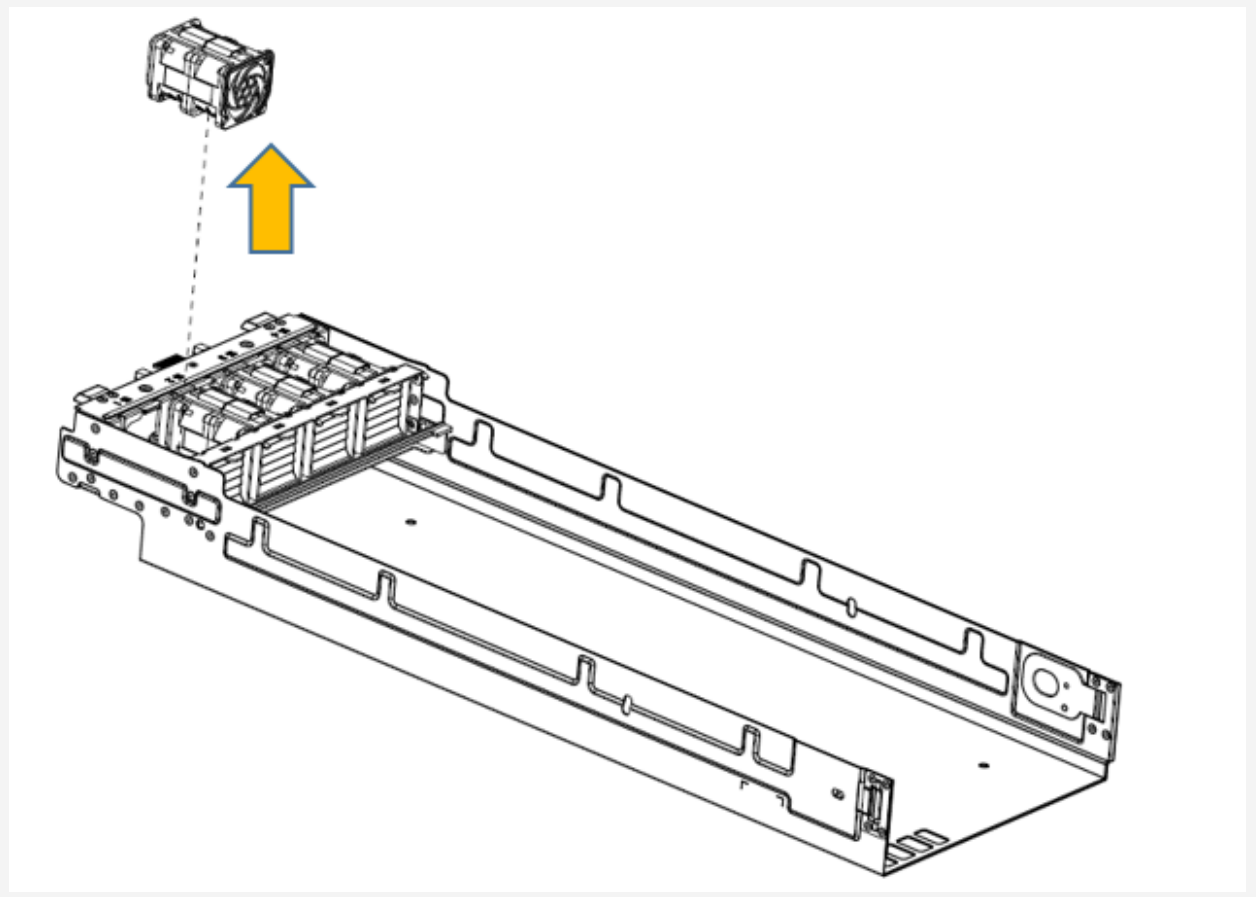
Fan Removal from Fan Tray

Procedure

1 Fan Assembled in Fan Tray



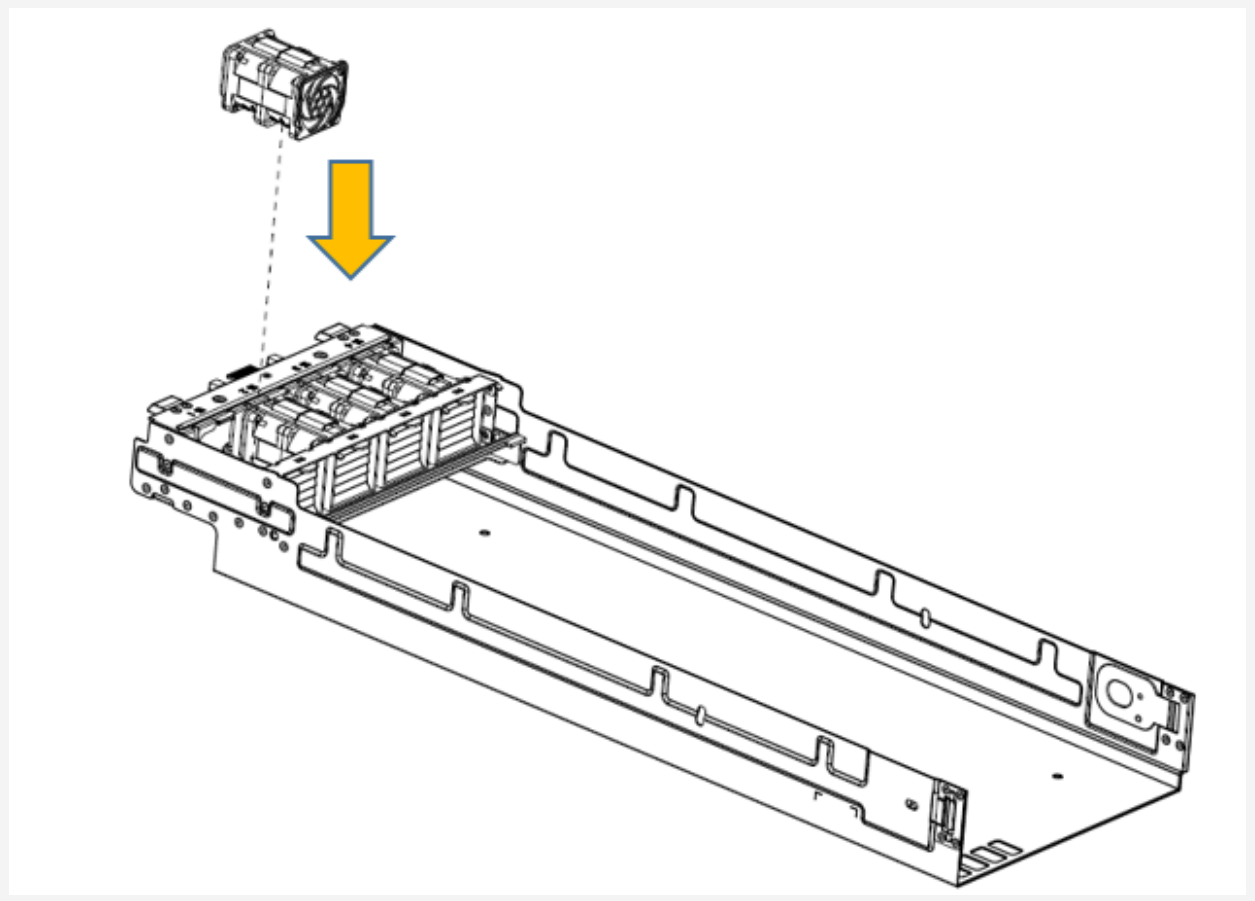
2 Pull and lift up to remove fan from the tray.



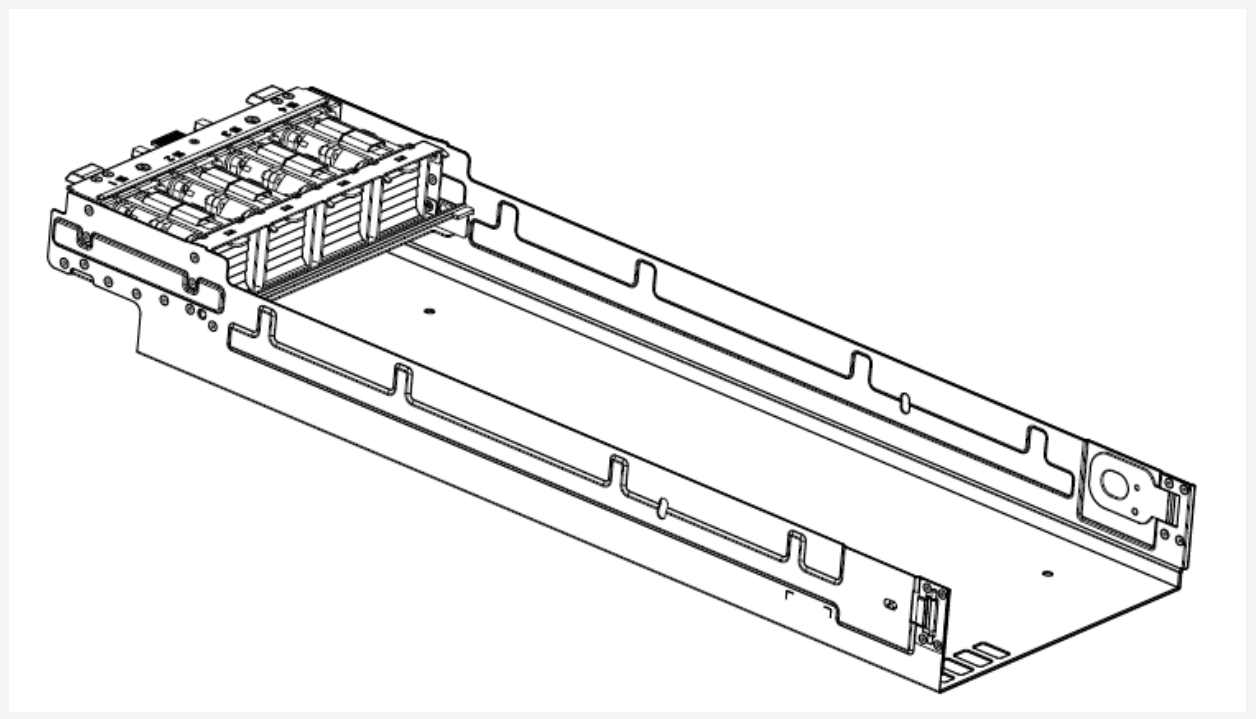
Fan Installation into Fan Tray

Procedure

1. Ensure the fan is oriented in correct direction, then lower it into position.



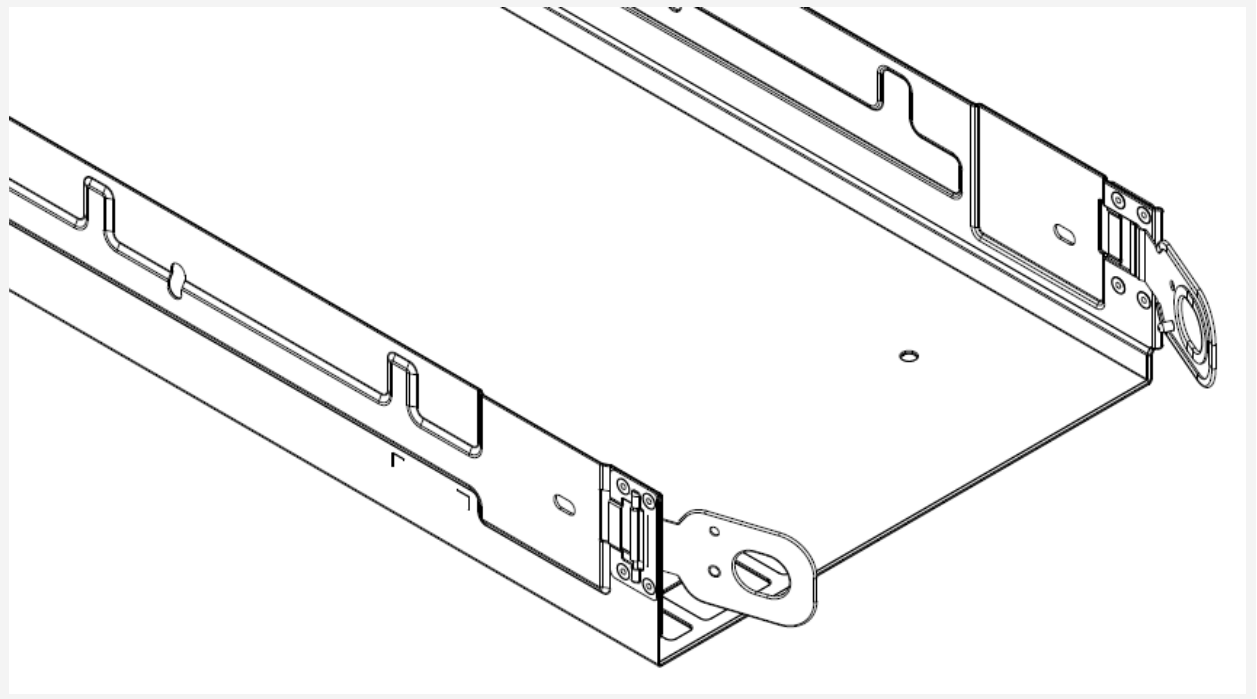
2. an is installed in fan tray



Fan Tray Installation into Chassis

Procedure

1. Hold the fan-tray latch and insert fan module into system chassis.



2 Move latch pin into latch pin hole to lock fan module in position.

Controller

The SC6100 uses two (2) controllers, each having its own discrete server. The server consists of multiple FRUs (Field Replaceable Units), including a CPU, DIMMs, and various other components.

ⓘ NOTE: This system should only be serviced by a trained technician.

ⓘ NOTE: Do not attempt to use controller without cover in place. The cover must be used to ensure proper airflow and cooling.

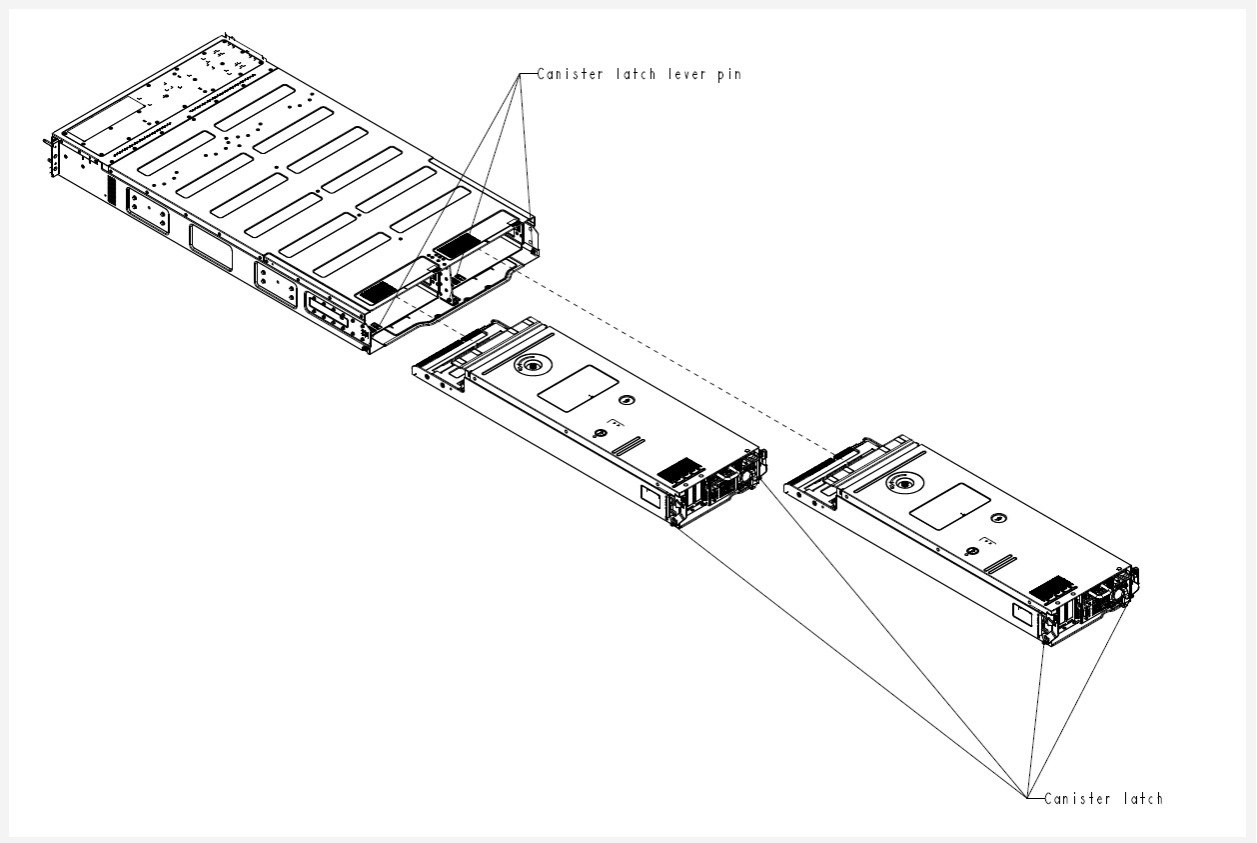
⚠ CAUTION: Each controller is equipped with a battery backup unit (BBU). When a controller is unseated, a data save cycle is initiated. This cycle can last from three to five minutes. For safety, partially unseat the controller and wait until the data save cycle has concluded, indicated by the cessation of all LED activity, before fully removing the controller from chassis.

⚠ WARNING: Do not remove the controller cover until all rear panel LEDs are off. Failure to do so may result in system damage, or shock.

Controller Removal

Procedure

1. Press the controller (canister) latch to release controller.



2 Pull out to remove controller from chassis.

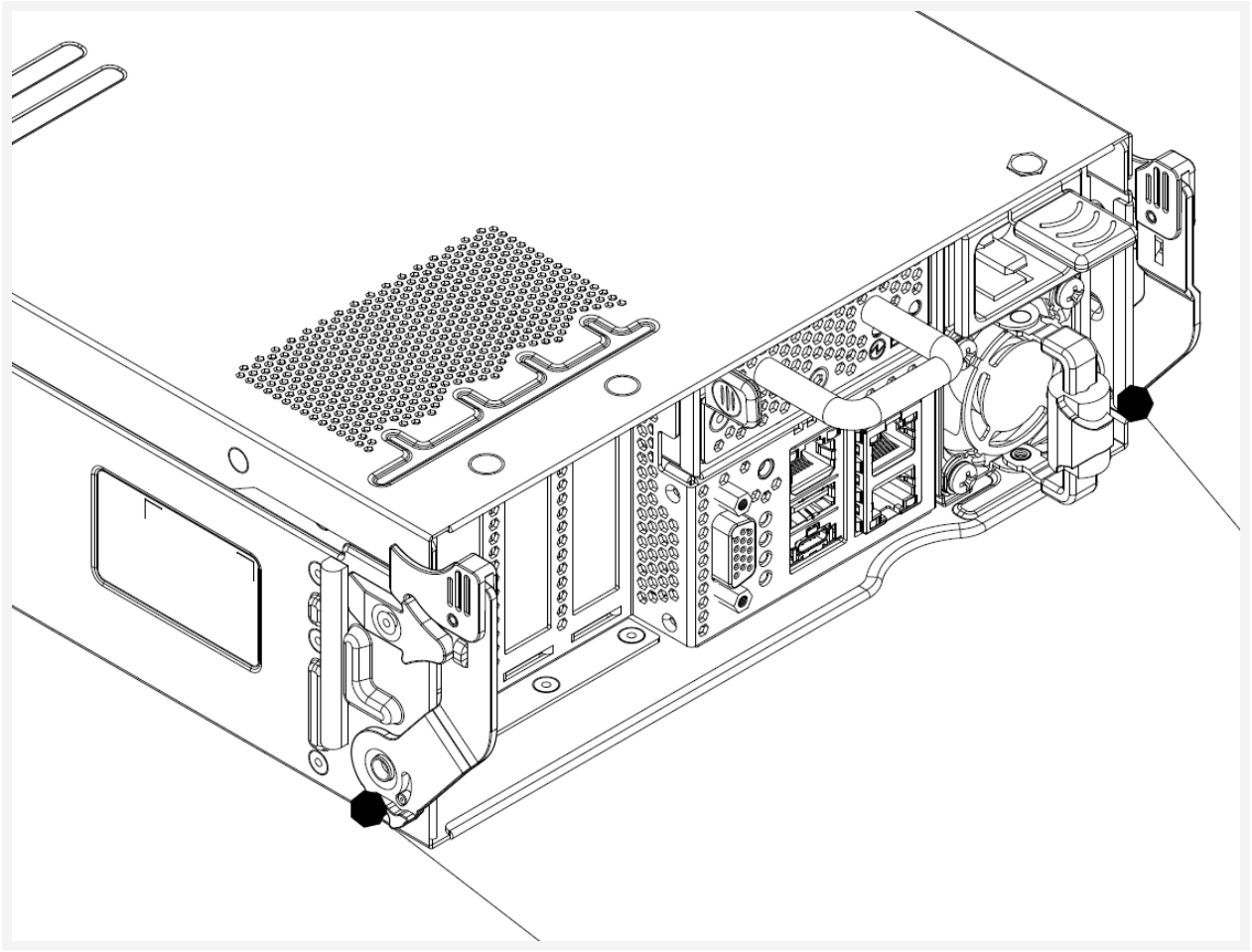
> ⚠ CAUTION: When a controller is unseated from the system, the system will continue to operate via the PSU supplied in the remaining controller and its power cord. Use caution not to disturb the remaining controller and power cord.

Controller Installation

Procedure

1 Insert the controller and carefully slide it into system chassis.

2 Carefully slide the controller latch to lock on lever pin.



Battery Backup Unit (BBU)

⚠ WARNING: The BBU contains enough power and current to exceed 240VA.

ⓘ NOTE: To prevent electrical shock, the BBU is designed to ensure its pins are turned off when it is disconnected from the system.

BBU Design

The BBU provides power when loss of the main 12V is detected and operates through a series of modes as the BBU is working to preserve system operation and data integrity. These modes are: 5 second Ride Thru, 1 second Power Shedding, 180-second fire hose dump (data backup) (FHD). These 3 modes are defined as:

Ride-Thru (5 seconds): The BBU is design to support 5 seconds (from AC fail to OK_PWR_REDUCE asserted) of the normal canister operation before the Canister needs to

initiate power shedding and the FHD operation. During the 5 second, the Drive Bays could be off-line and maintain the full operation. The CPU will detect the drives are off-line and hold any pending transactions, per the software/firmware architecture.

If main power returns within this 5-seconds period, the system will allow the drives to spin-up (come back online) again, and normal operation will resume without doing the FHD cycle.

If the system fails to signal power reduction (no OK_PWR_REDUCE asserted) and the CPLD's 20-second countdown elapses, the system will enter shutdown mode without initiating the fire hose dump (FHD) backup cycle.

Power Shedding (1 second): After the above 1seconds have elapsed, the application SW will force the CPU to transition to a lower power mode and shuts down all un-necessary I/O (PCIe, etc.) traffic. It will then notify the CPLD, that it can remove power from the devices not needed during the Data Backup operation.

Data Backup (180 seconds): The application SW now has the CPU copying data from DRAM to the SSD Flash Module. It is estimated that copying 70GB to SSD may take up to 180 seconds. Backup Complete: Once the CPU has completed the Data Backup, the System SW will notify the Complex Programmable Logic Device (CPLD) and power down.

> ⓘ NOTE: After the initial 5-second Ride-Thru period, the system will proceed with the full data backup cycle, regardless of whether the main power is restored before the cycle's completion.

> ⓘ NOTE: If the main power is restored after the 5-second Ride-Thru but before the fire hose dump (FHD) backup is complete, the system will switch back to using the main 12V power rail to finish the FHD backup, conserving BBU energy. Once the FHD backup is finished, the system will reboot, restore the saved data, and return to operational status.

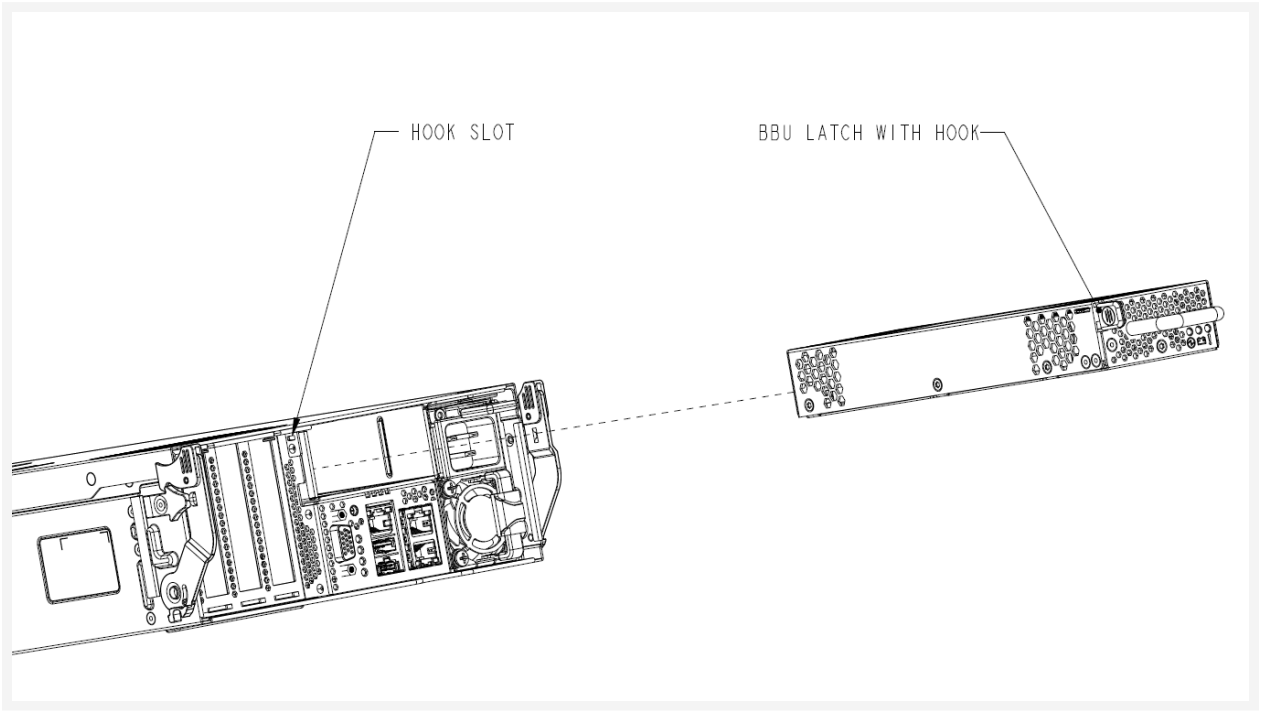
- BBU power capability: Single BBU supports 562W/6s, then 325W/180S for two cycles
- Life cycle: Two (2) years shelf life + five (5) years operation
- Operating temperature range: 13°C - 50°C (45°C above 1829m[1])
- Charger: Internal Bi-direction Buck-boost Charger with normal and fast charge capability
- Calibration: Self discharge (Power resistor or Bi-direction Buck-boost) for BBU calibration
- EPOW from PSU to get 1ms overlap time for BBU taking over
- Support Hot Plug in/out
- Agency: UL2054, IEC62133, UL60950, IEC 62368, CB, BSMI
- Environmental: ROHS, REACH, WEEE

BBU Removal

1. Above 1829m the maximum air temperature is de-rated by 1°C per additional 175m. Temperatures above 45°C may reduce life of pack.

Procedure

1. Press BBU latch to the right to release the hook.

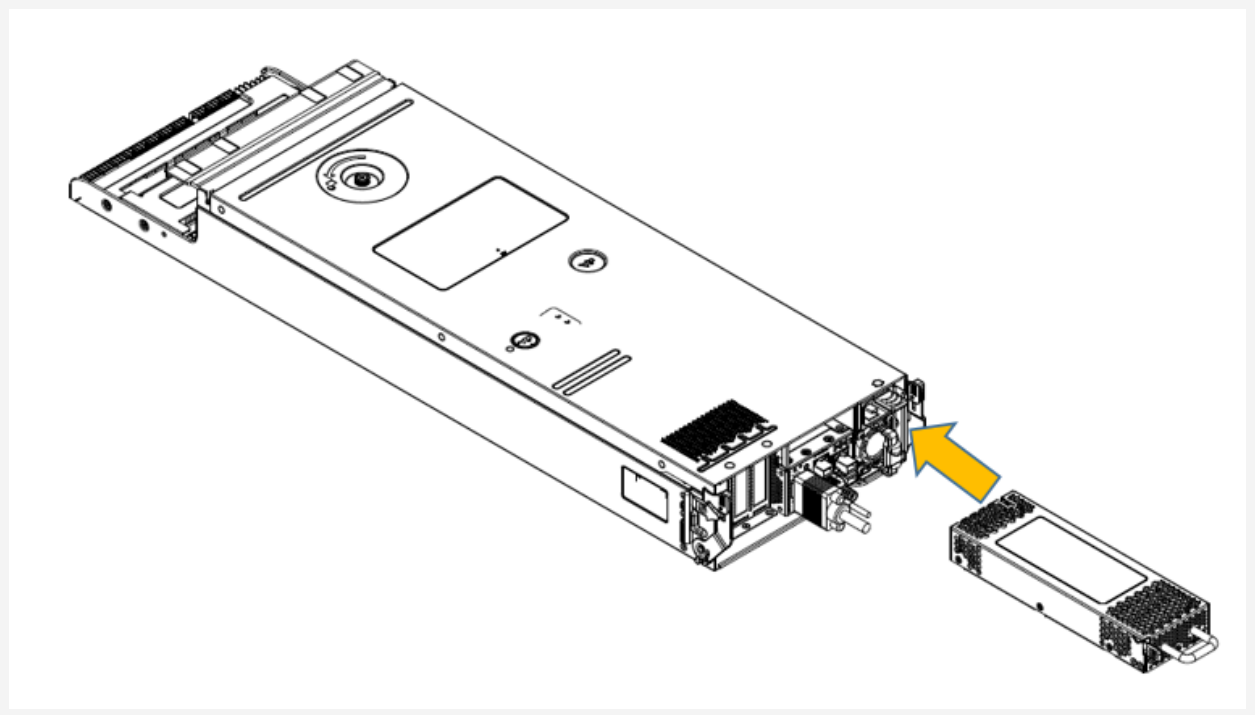


2. Pull the BBU out of the canister.

BBU Installation

Procedure

1. Insert the BBU into the canister.



2 Ensure the latch is engaged to complete installation.

Dual In-line Memory Module (DIMM)

> ⓘ NOTE: The SC6100 uses Dual In-line Memory Modules (DIMMs).All slots must be filled, either with actual DIMMs or "dummy" DIMMs.

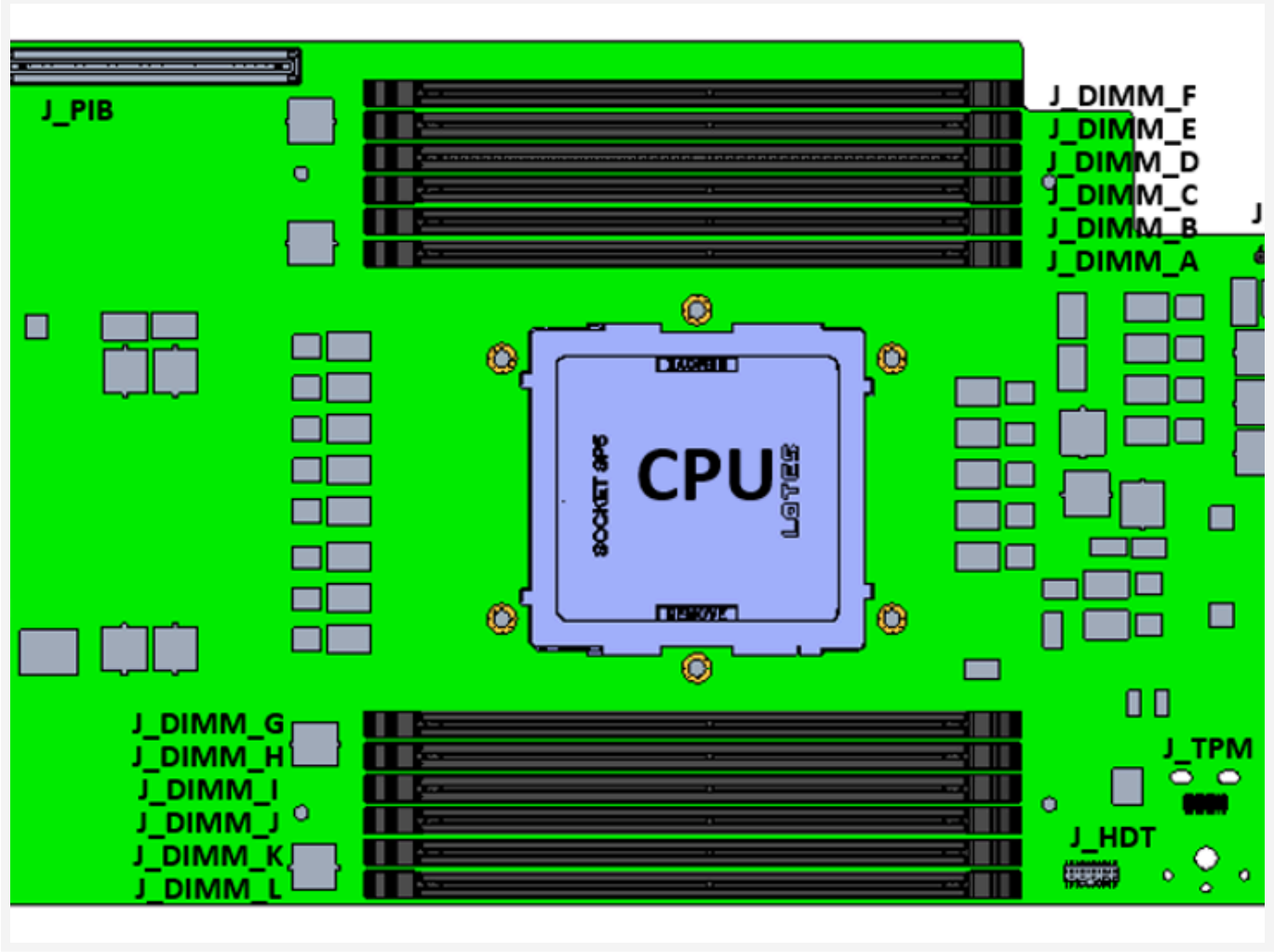
The SC6100 CPU board supports up to 12x DDR5 DIMMs total per CPU socket.

For optimal performance and balance, it is advisable to populate each DIMM socket with identical DIMM modules. Refer to the table below for the preferred DIMM population guidelines. If all DIMM slots are not utilized, insert dummy DIMMs to maintain proper thermal conditions.

Figure 5. DIMM Socket Population

Memory Channel / Number of DIMM Used	J_DIMM_A	J_DIMM_B	J_DIMM_C	J_DIMM_D	J_DIMM_E	J_DIMM_F	J_DIMM_G	J_DIMM_H	J_DIMM_I	J_DIMM_J	J_DIMM_K	J_DIMM_L
12	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM
10	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	Dummy DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	Dummy DIMM
8	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	Dummy DIMM	DRR5 DIMM	Dummy DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	Dummy DIMM	DRR5 DIMM	Dummy DIMM
6	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	DRR5 DIMM	DRR5 DIMM	DRR5 DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM
4	DRR5 DIMM	Dummy DIMM	DRR5 DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	DRR5 DIMM	Dummy DIMM	DRR5 DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM
2	DRR5 DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	DRR5 DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM
1	DRR5 DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM	Dummy DIMM

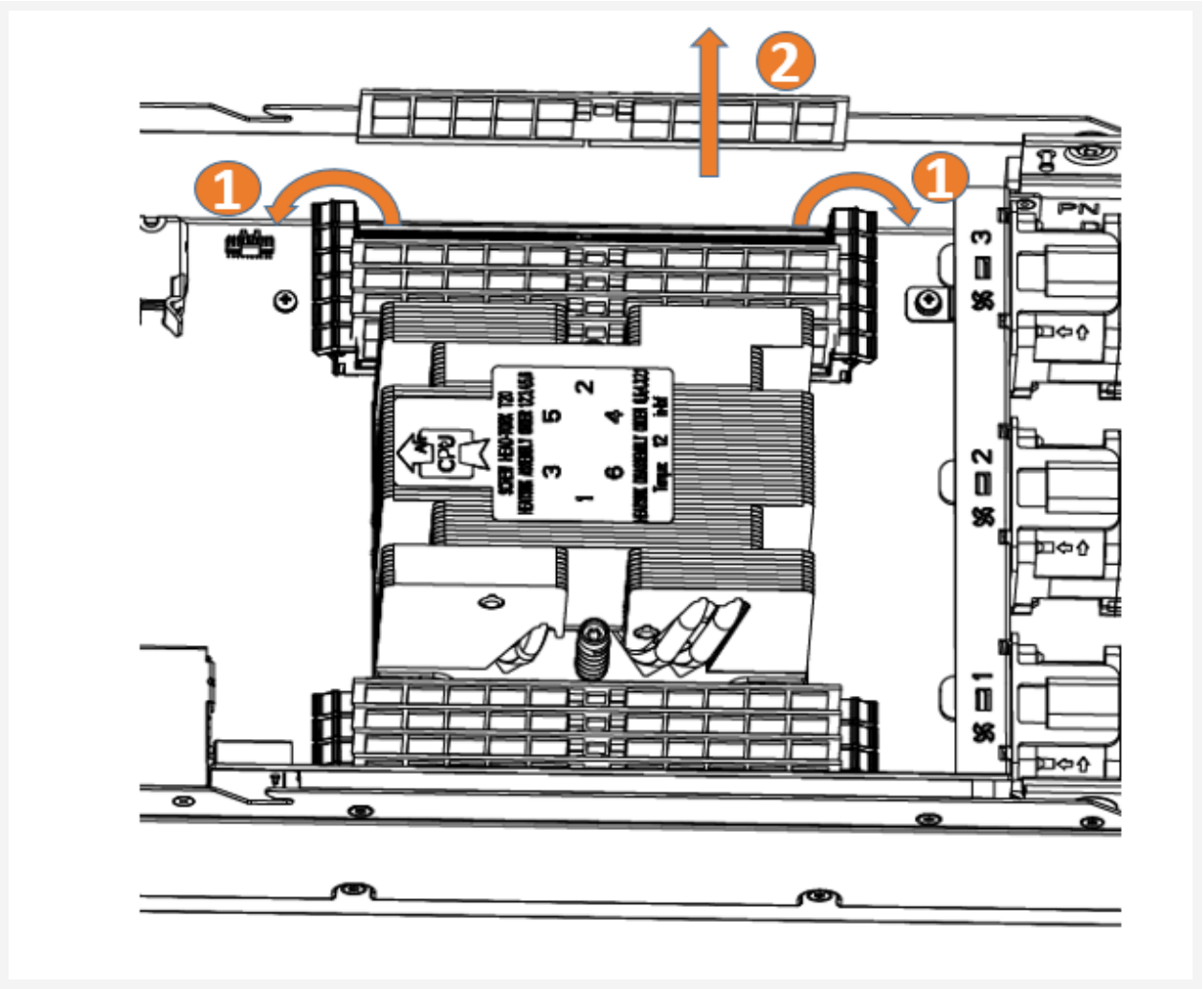
Figure 6. DIMM Socket Identification



DIMM Removal

Procedure

1. Open the DIMM handles on both ends.

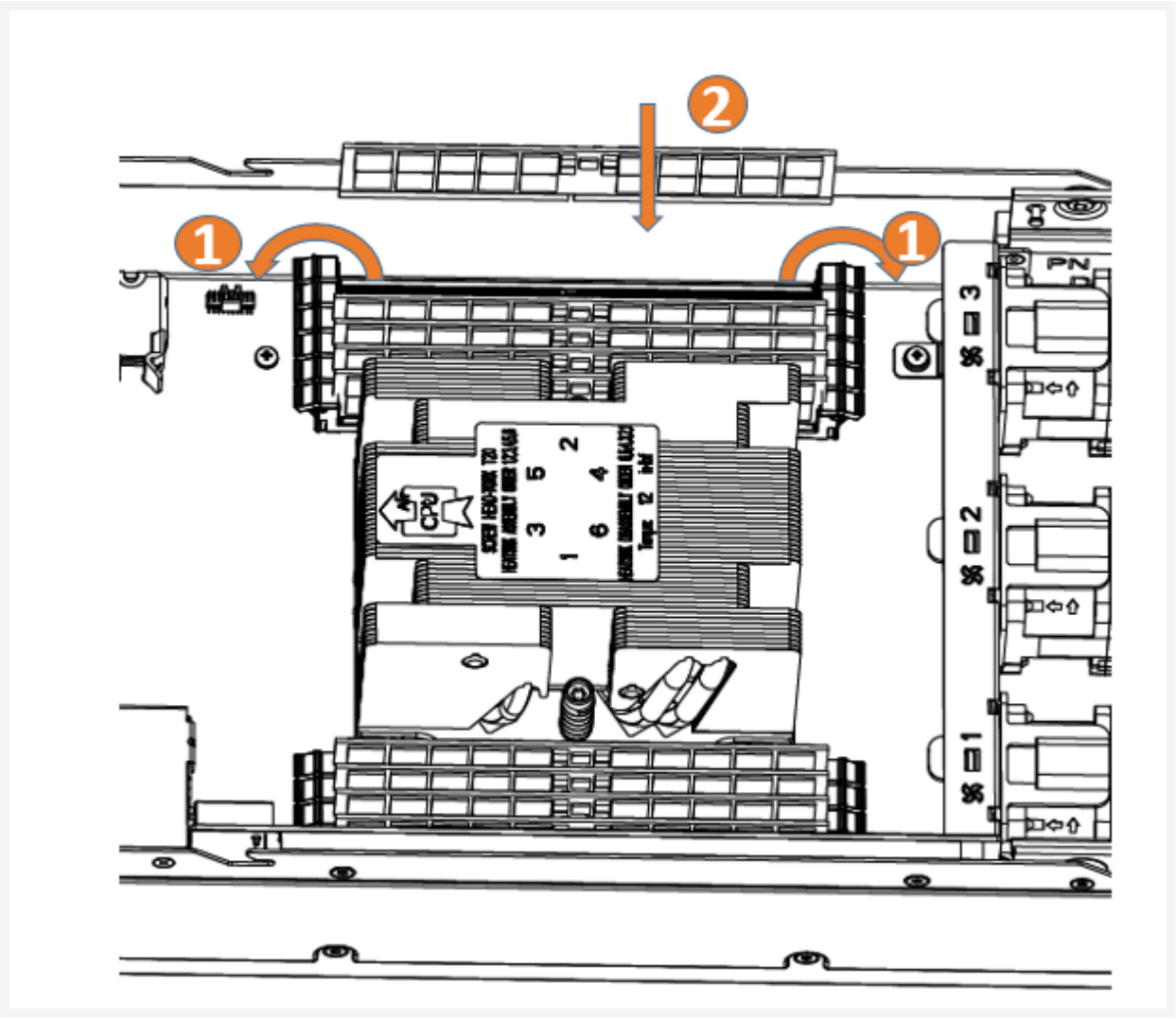


2 Carefully pull the DIMM straight up and out of the slot.

DIMM-Installation

Procedure

1 Open the DIMM handles on both ends.



2 Push DIMM down into slot.

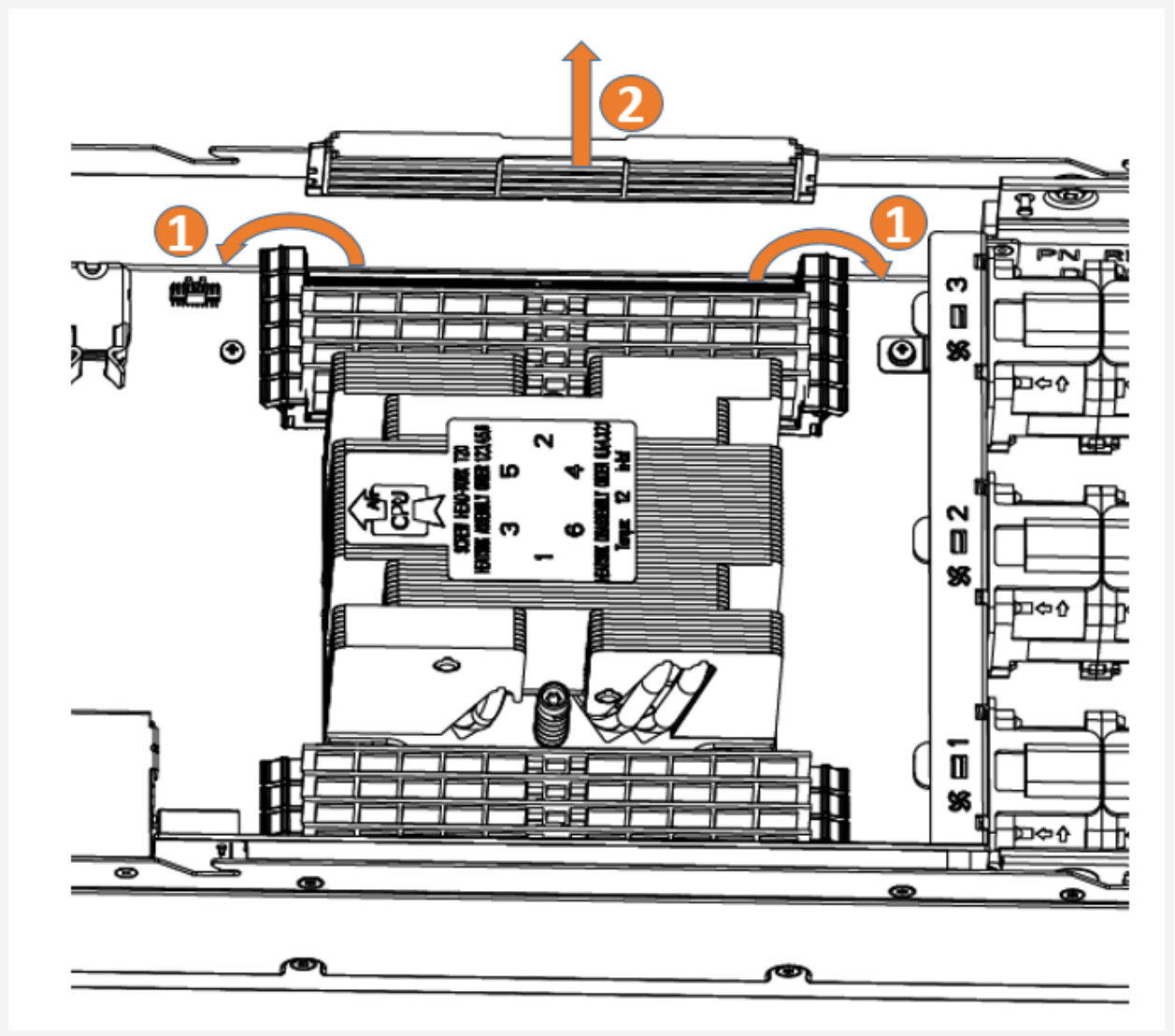
> ⓘ NOTE: Doing so will automatically engage the DIMM handles towards the locked position.

3 Ensure the DIMM handles on both ends are fully closed in their upright positions.

Dummy DIMM Removal

Procedure

1 Open the DIMM handles on both ends.

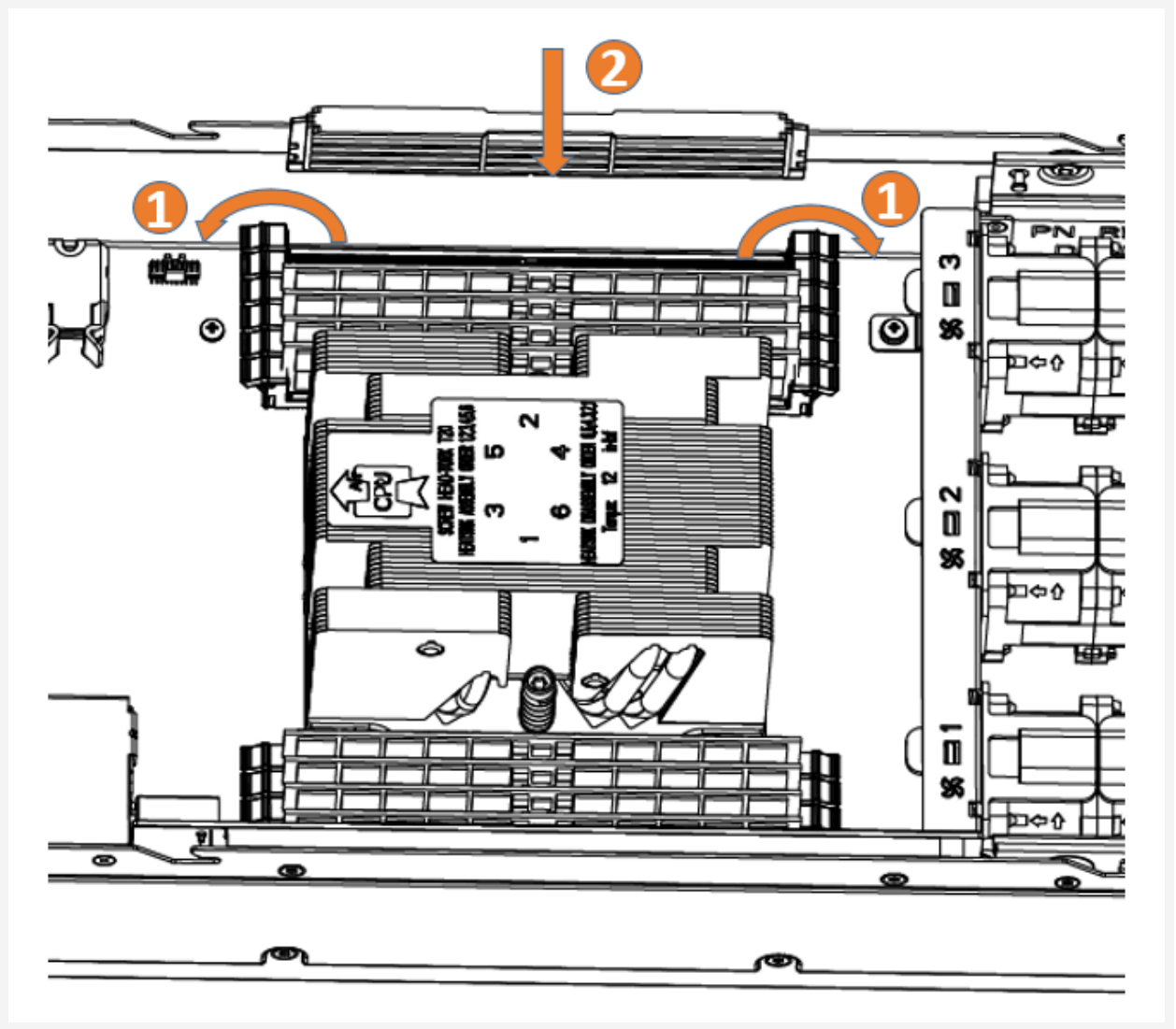


2 Carefully pull the dummy DIMM straight up and out of the slot.

Dummy DIMM Installation

Procedure

1 Open the DIMM handles on both ends.



2 Push dummy DIMM down into slot.

> ⓘ NOTE: Doing so will automatically engage the DIMM handles towards the locked position.

3 Ensure the DIMM handles on both ends are fully closed in their upright positions.

Central Processing Unit (CPU)

The SC6100 uses AMD EPYC™ **Embedded** 9004 Series "Genoa" processors. Specifically, selected models with a Thermal Design Power (TDP) up to 290W.

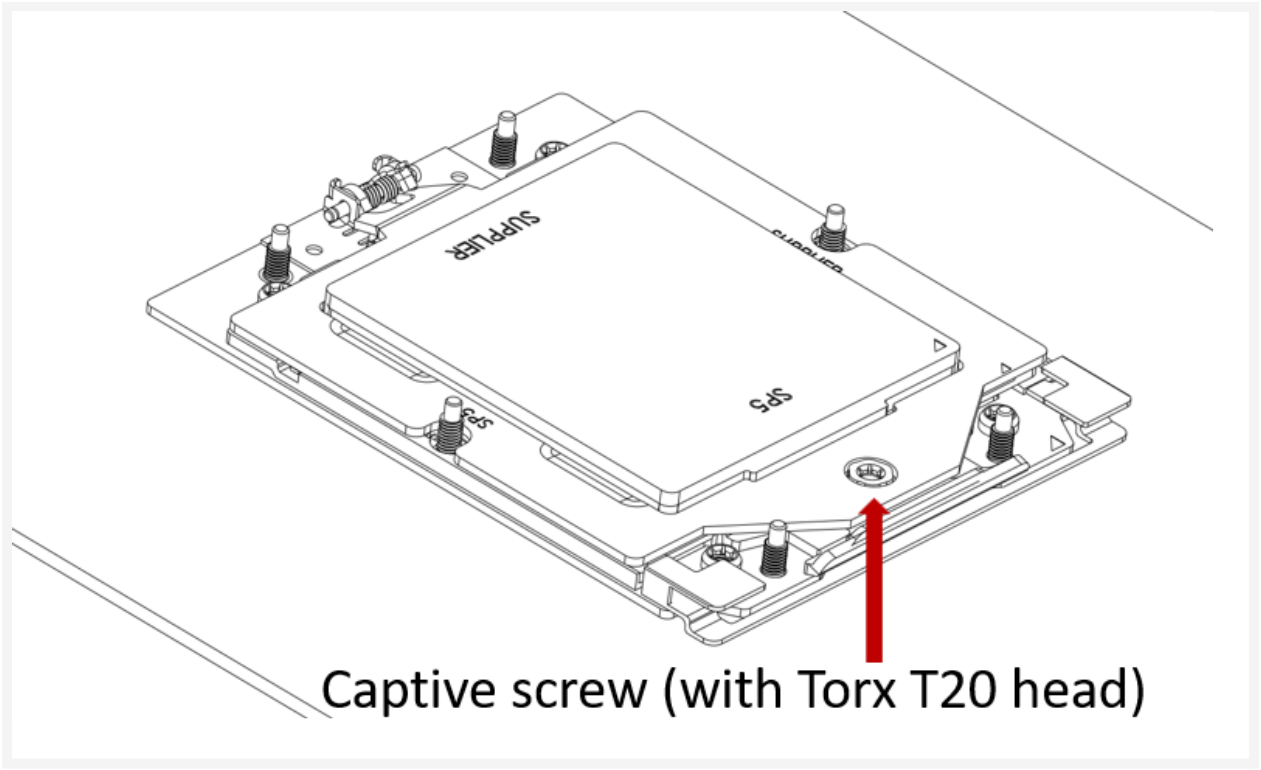
SC6100 supports the following Genoa SKUs:

Model	Embedded OPN	2P/1P	Cores	Nominal TDP
9454	100-000000913	2P/1P	48	290W
9354	100-000000914	2P/1P	32	280W
9254	100-000000915	2P/1P	24	200W
9124	100-000000916	2P/1P	16	200W
9454P	100-000000919	1P	48	290W
9354P	100-000000920	1P	32	280W

CPU Installation

Procedure

1. Unscrew the captive screw to open the CPU socket frame.

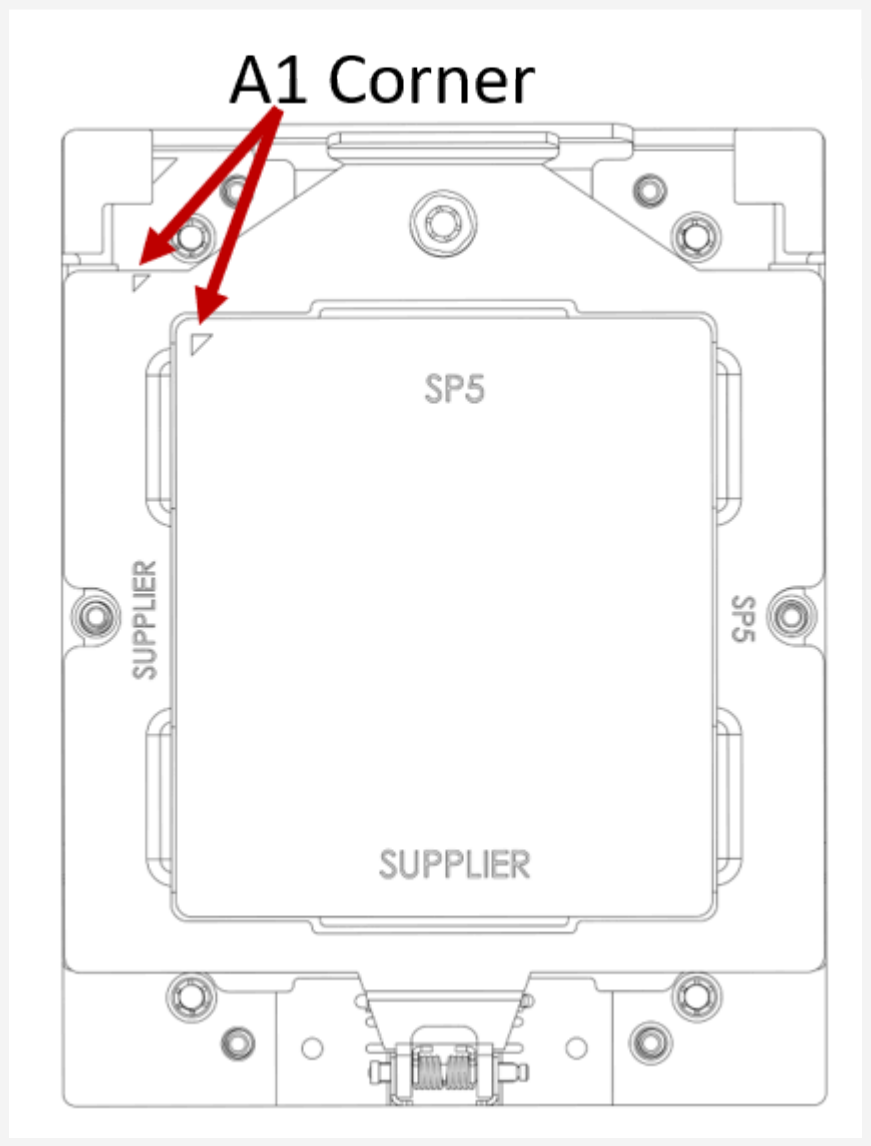


> ⓘ NOTE: The CPU backplate and CPU socket are pre-installed and are not removable parts.

2. Remove the pre-installed plastic cover.
3. Insert CPU into CPU socket by aligning the A1 corner of the CPU with the A1 corner of the socket.

> ⚠ WARNING: The pins of the CPU are extremely fragile. Be very careful when installing.

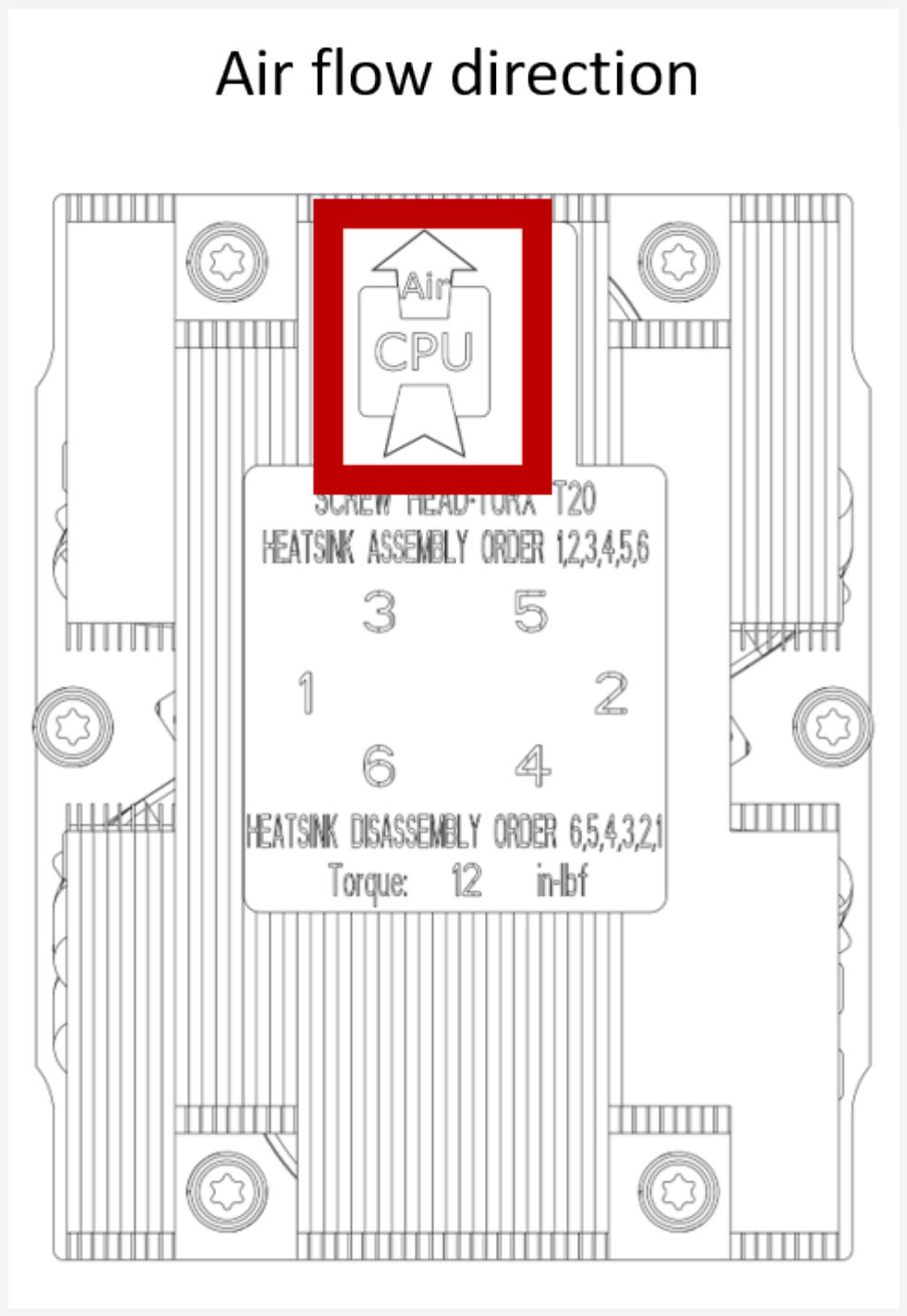
Figure 7.



4. Close the CPU socket frame and torque captive screw to 13.8 kgf-cm (12 in-lbf).
5. Remove plastic protective cover from bottom of heatsink.
6. Ensure the thermal grease is evenly spread across the base of the heat sink.
7. Align the CPU heatsink over the CPU socket and set it in place.

> ⚠ CAUTION: Be sure the heatsink is aligned properly with the system airflow. Failure to do so may cause system to overheat, possibly causing system damage.

Figure 8.



8 Insert all six screws and carefully engage the threads. Do not torque to final specifications until all six screws are started.

9 Using a Torx T20 bit driver, adjust the screwdriver torque setting to 12.5~15.0 kgf-cm (10.8~13.0 in-lbf).

Follow the torque pattern shown in above image (numbers 1-6).

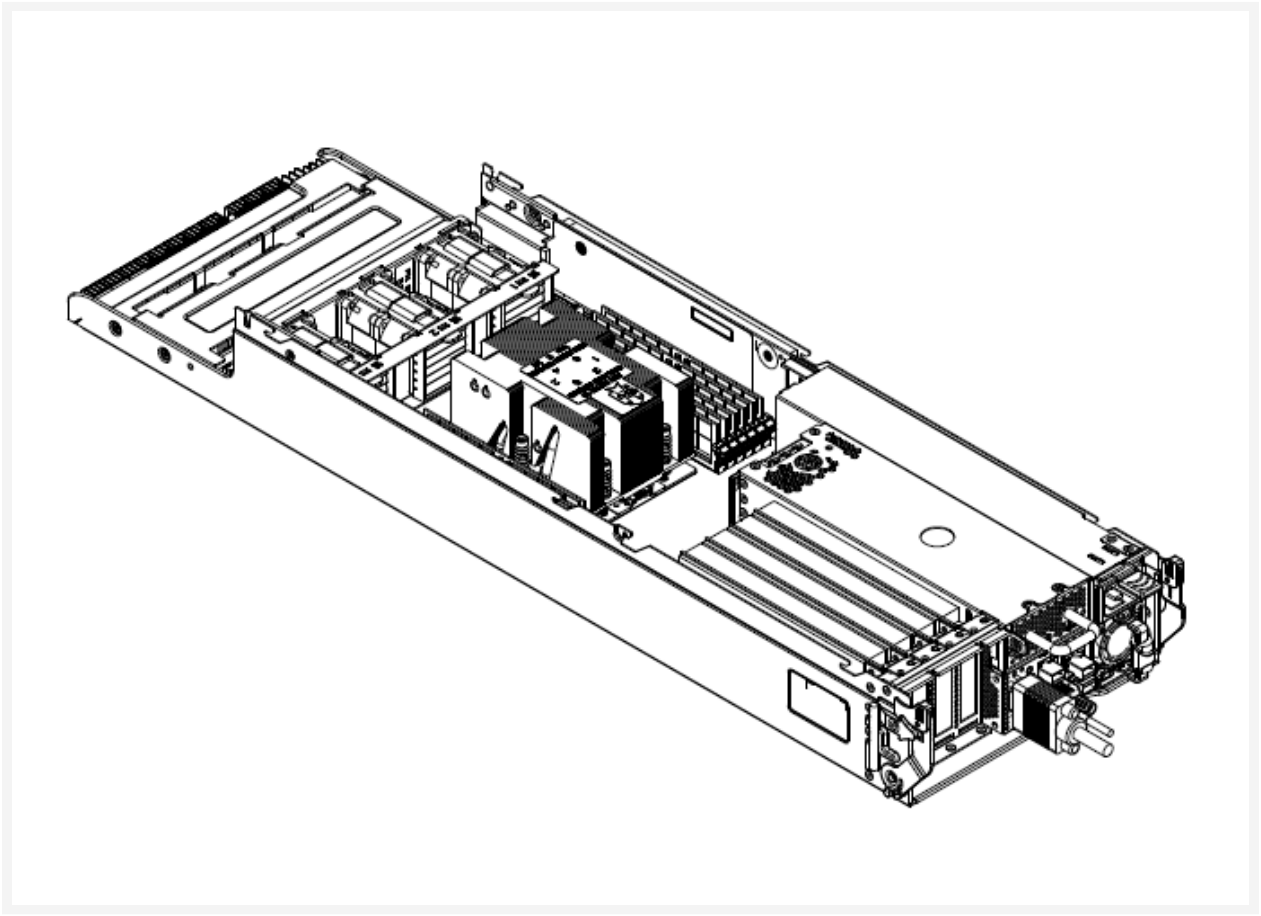
Fan Modules

The SC6100 features a total of fourteen 40x56mm fans for optimal cooling. For guidance on removing or installing fans at various locations, please refer to: Chassis Fans or Controller Fans.

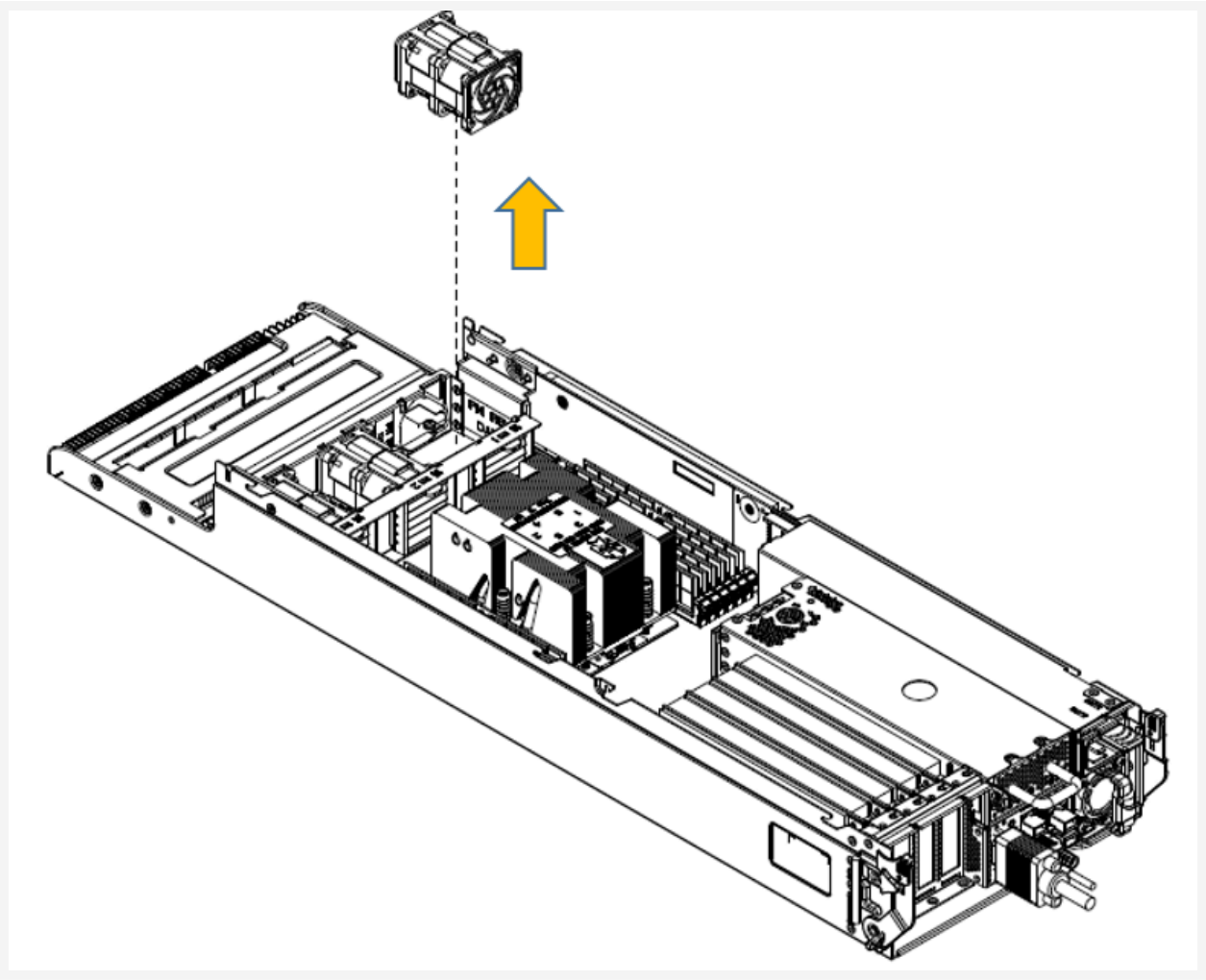
Fan Removal from Controller

Procedure

1. Fan installed in Controller



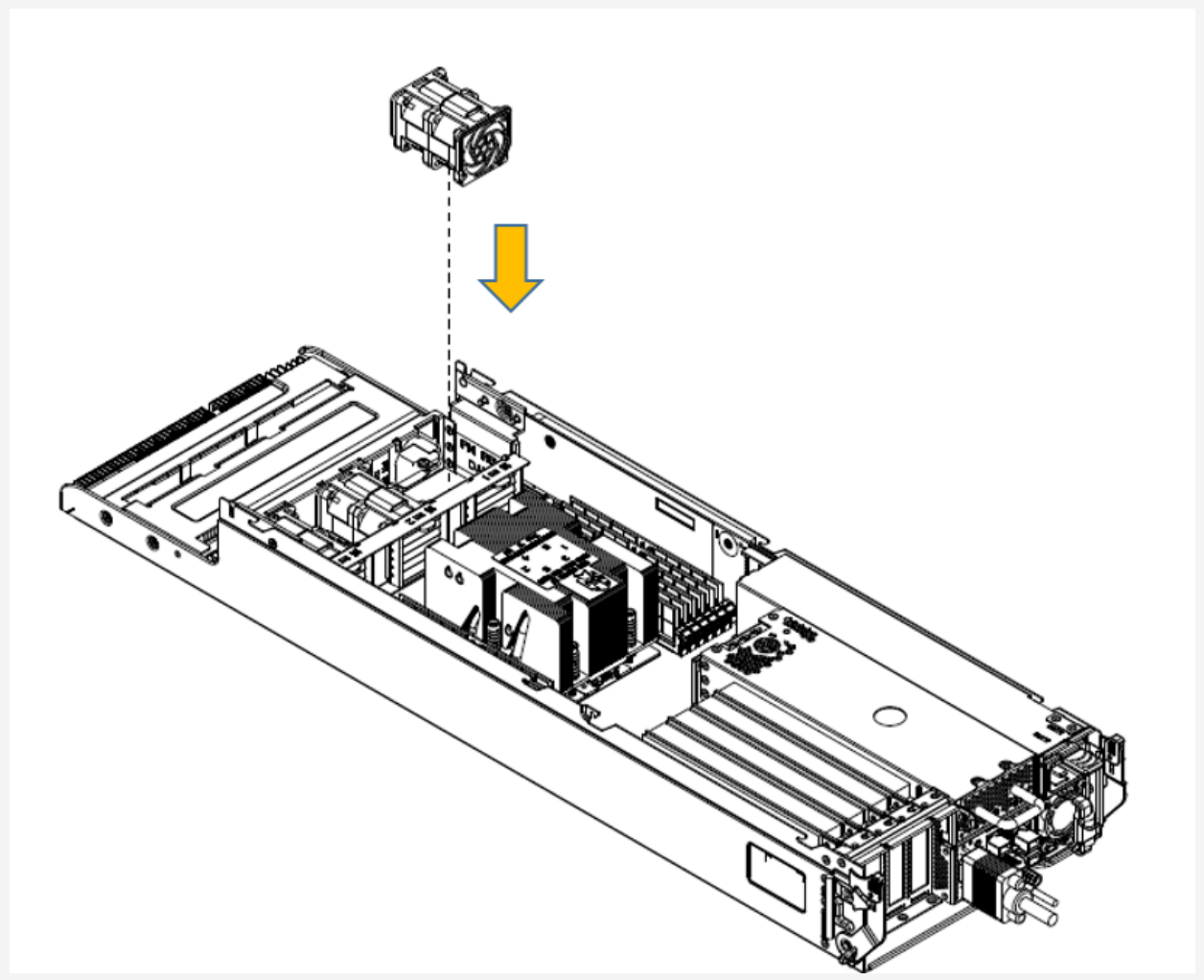
2. Pull and lift up to remove fan from the controller.



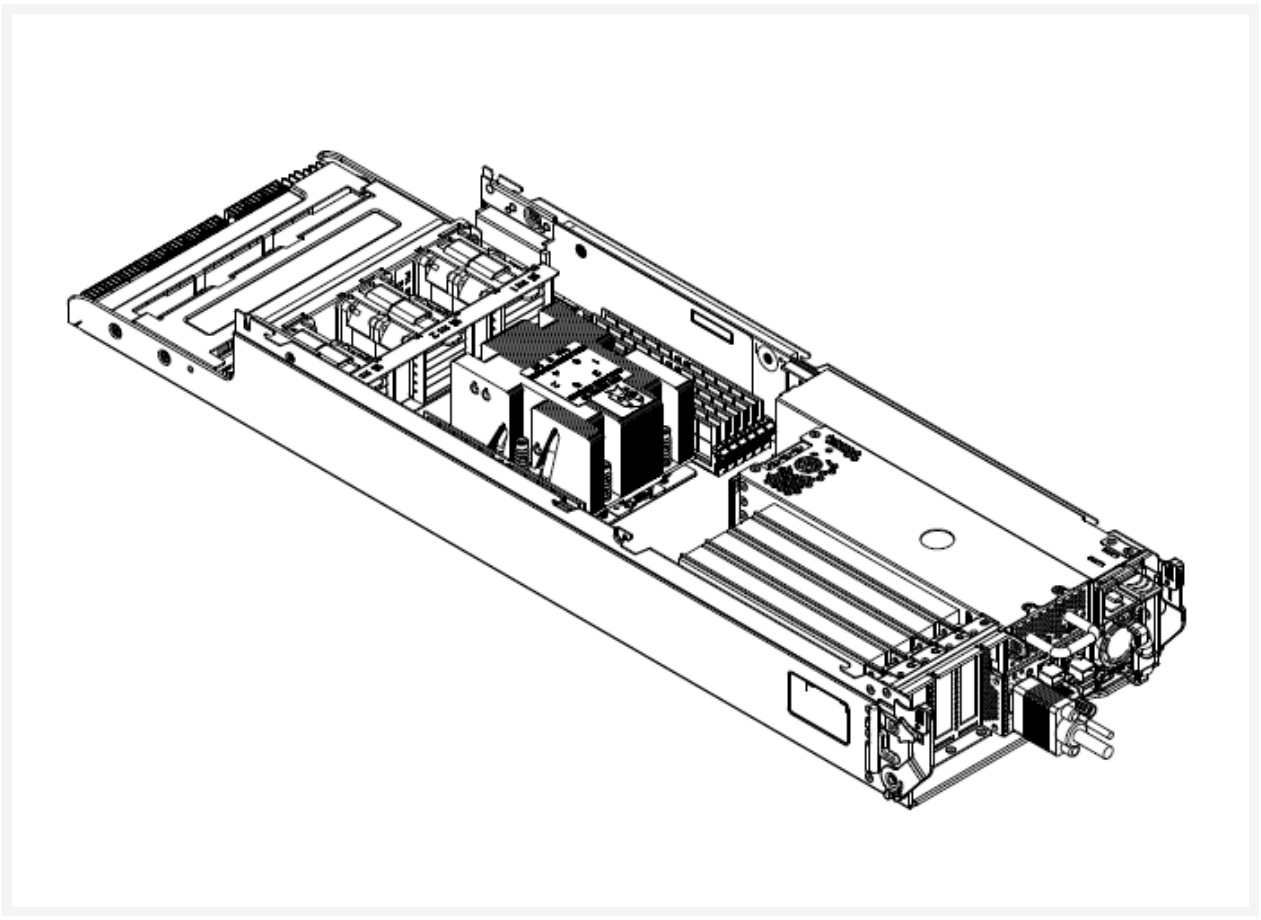
Fan Installation - Controller

Procedure

1. Lower the fan into controller and place it in position.



2. Fan is installed in controller.

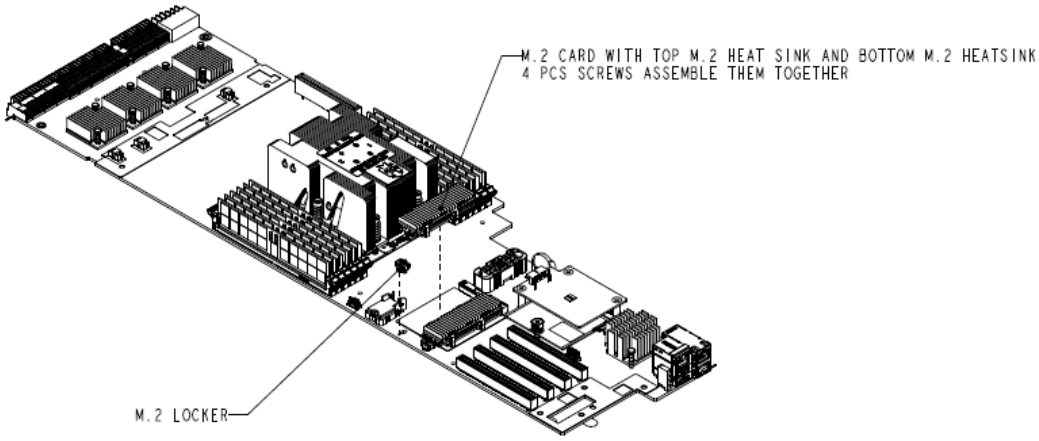


M.2 Card

SC6100 is configured with two M.2 2280 sockets for either SATA or PCIe® Gen 4.0 boot solid state drives. The system will automatically detect and use the interface of the inserted M.2 card.

Procedure

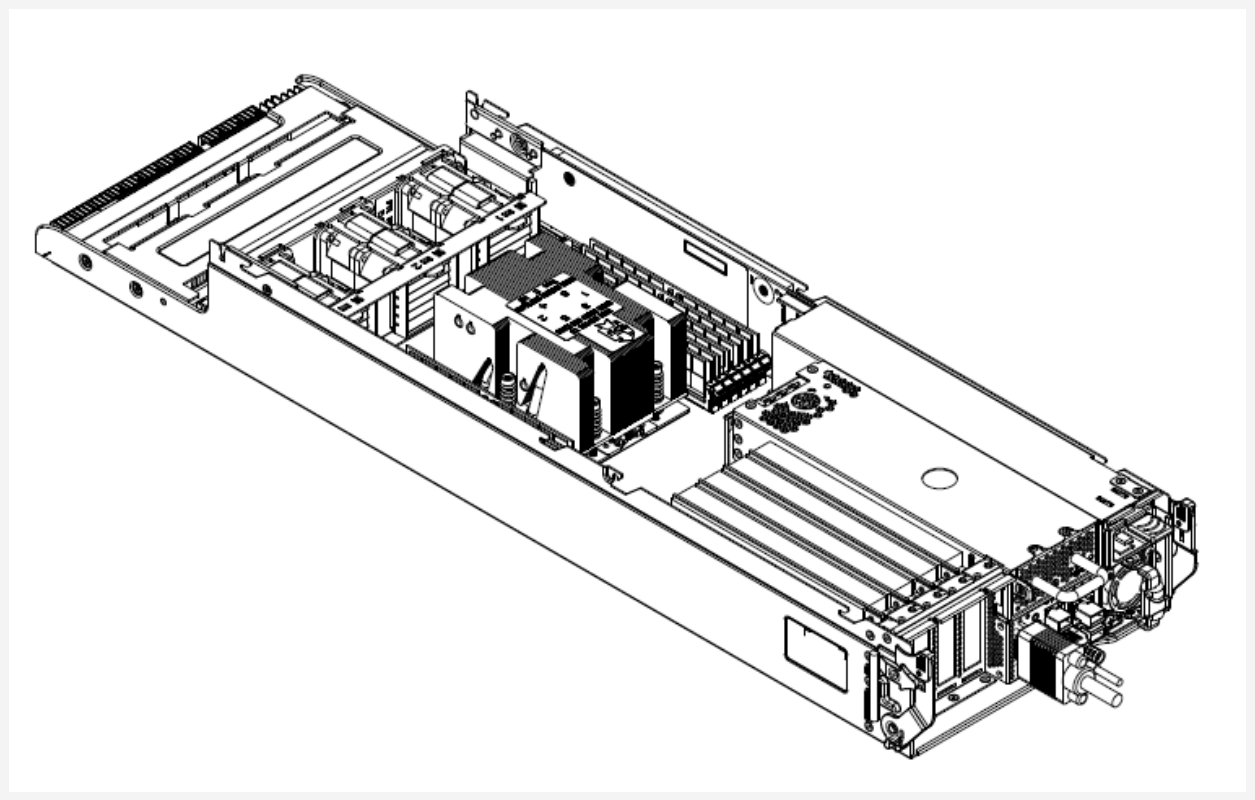
1. Assemble M.2 top heatsink and M.2 bottom heatsink on PCIe® card.
2. Attach M.2 locker to the controller PCBA.
3. Assemble M.2 card (with top/bottom heatsink) on the controller PCBA.



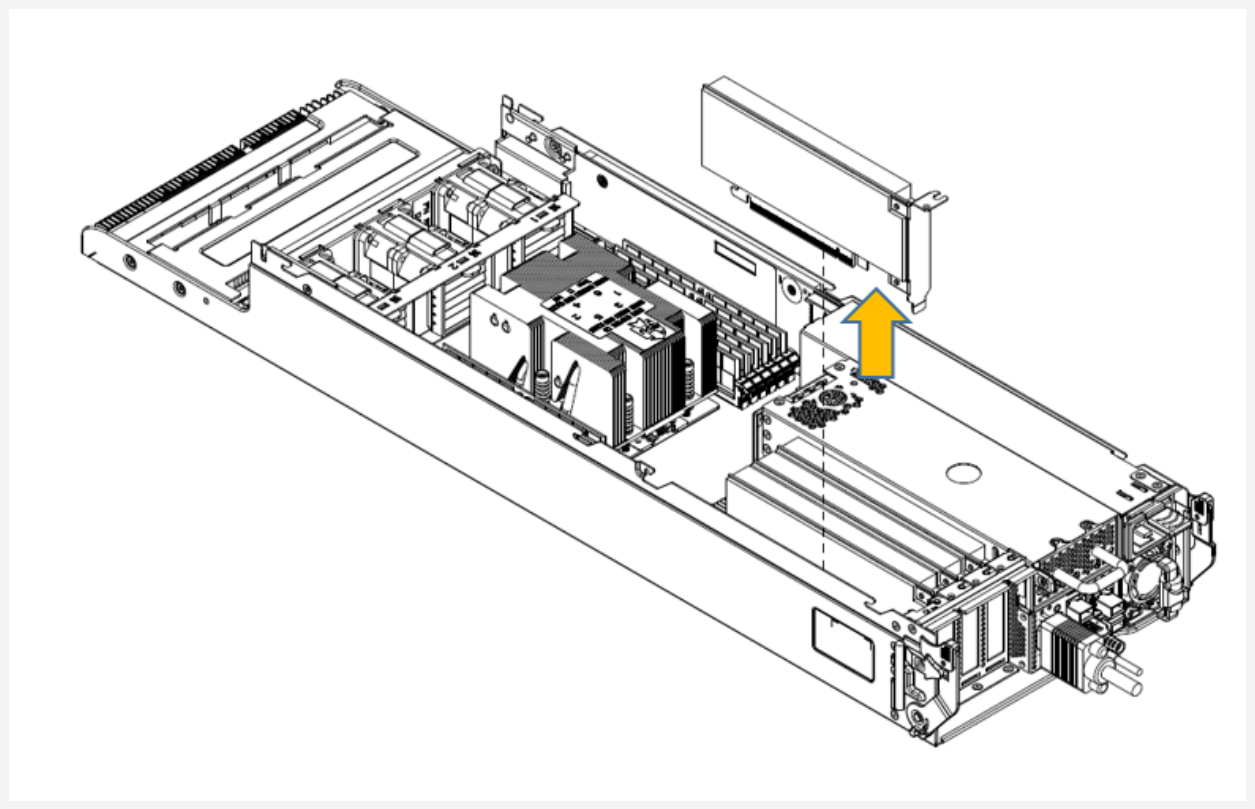
Peripheral Component Interconnect Express (PCIe®)

Procedure

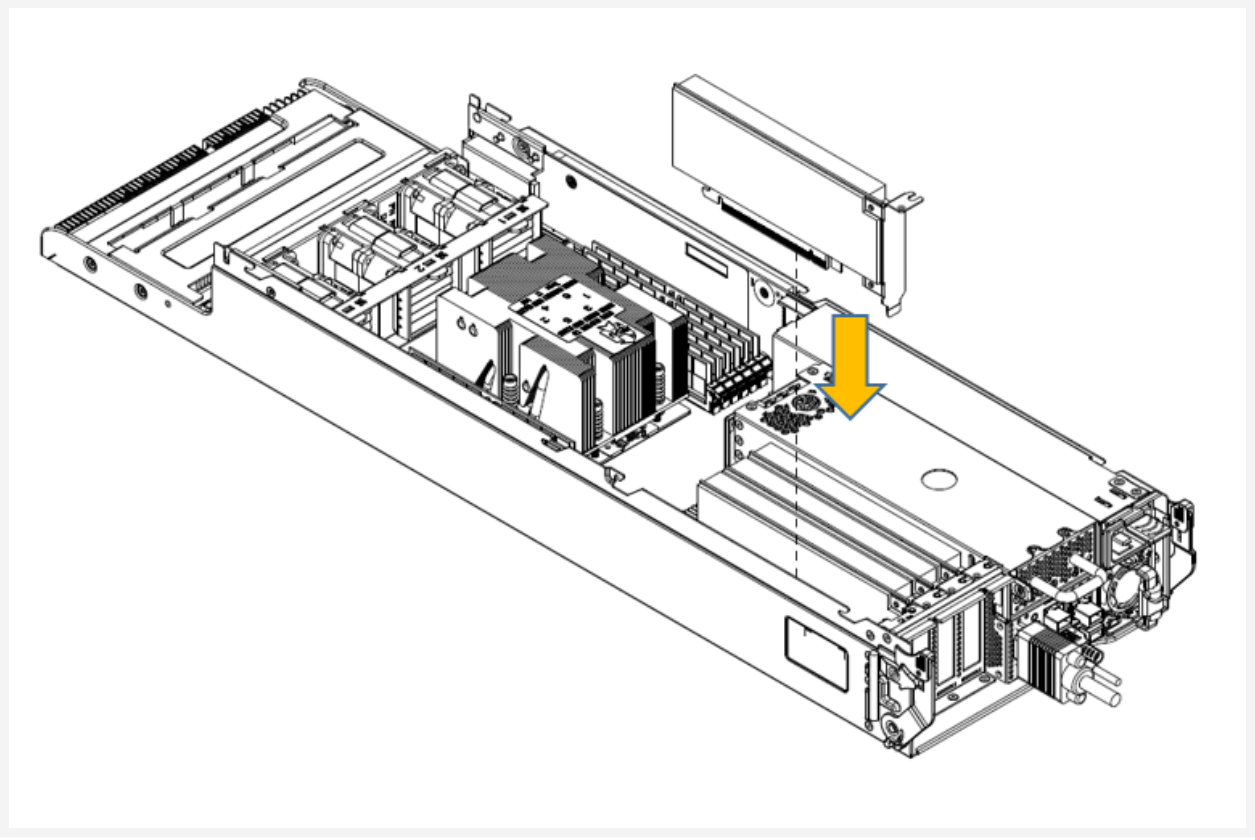
1. PCIe® installed position



2. To uninstall, remove the PCIe card from the slot.



3 Slide and install the PCIE card.

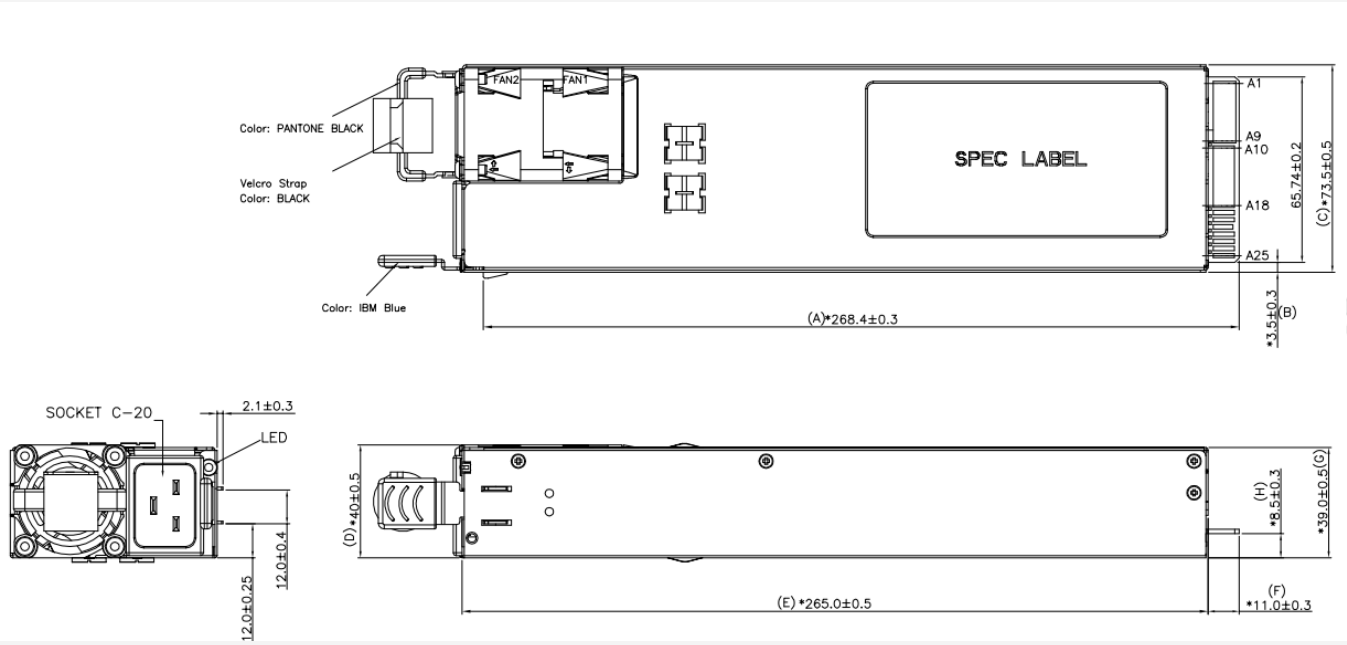


Power Supply Unit (PSU)

Overview

The SC6100 storage controller is powered by two (2) redundant 1+1 power supply units (PSU) allowing full operations to continue in the event should one fail. A failed PSU should be left in the system until a replacement part is available to be used.

- Input: 200-240VAC nominal via IEC 320C-20 power inlet, this inlet is rated for 10A/250VAC
- 1+1 Redundant 2400W CRPS PSU
- 80plus Titanium efficiency
- Hot-pluggable
- 40mm (H) × 265mm (D) × 73.5mm (W)



⚠ CAUTION: When a controller is unseated from the system, the system will continue to operate via the PSU supplied in the remaining controller and its power cord. Use caution not to disturb the remaining controller and power cord.

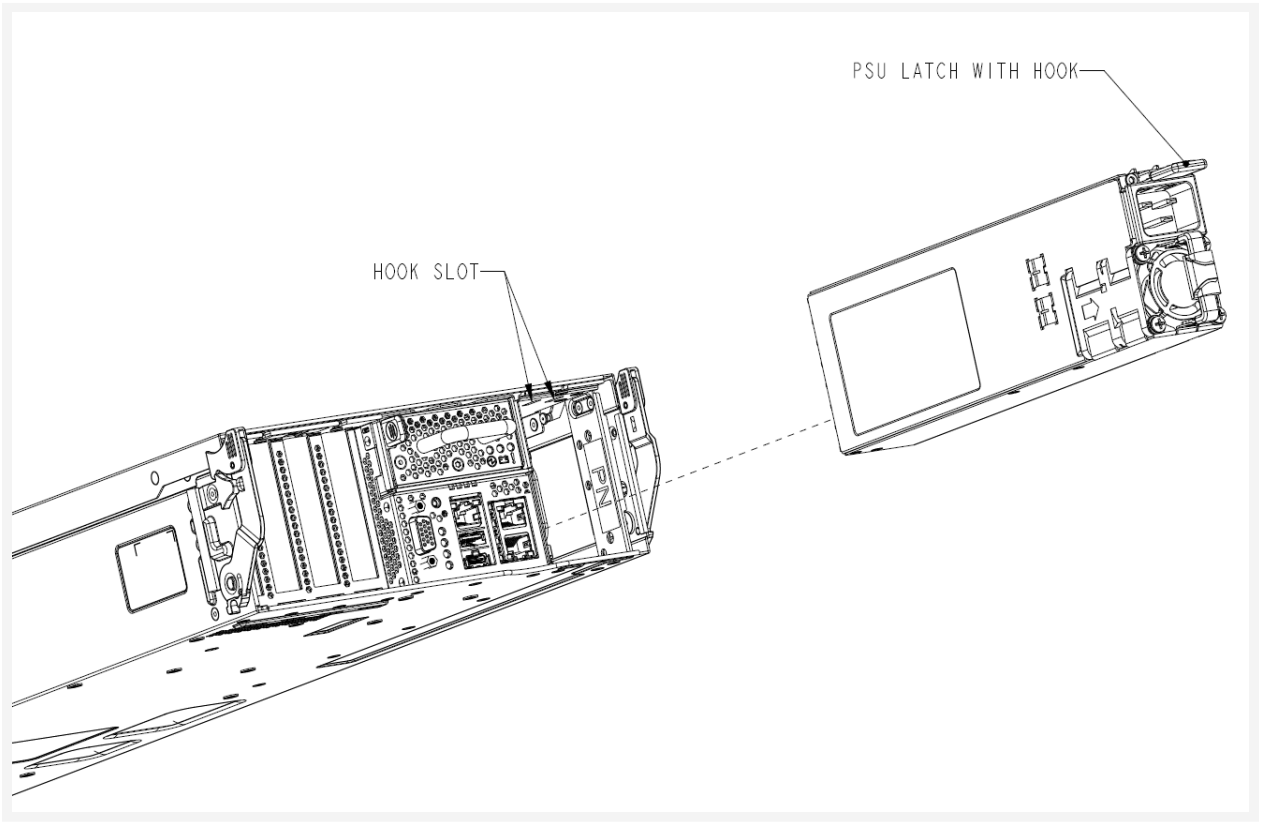
⚠ CAUTION: Only use PSUs with identical part numbers. Failure to do so will cause a system error.

⚠ CAUTION: In the event of a PSU failure, do not remove it until ready to install an identical replacement.

PSU Removal

Procedure

1. Press down on the latch to release PSU from the canister.

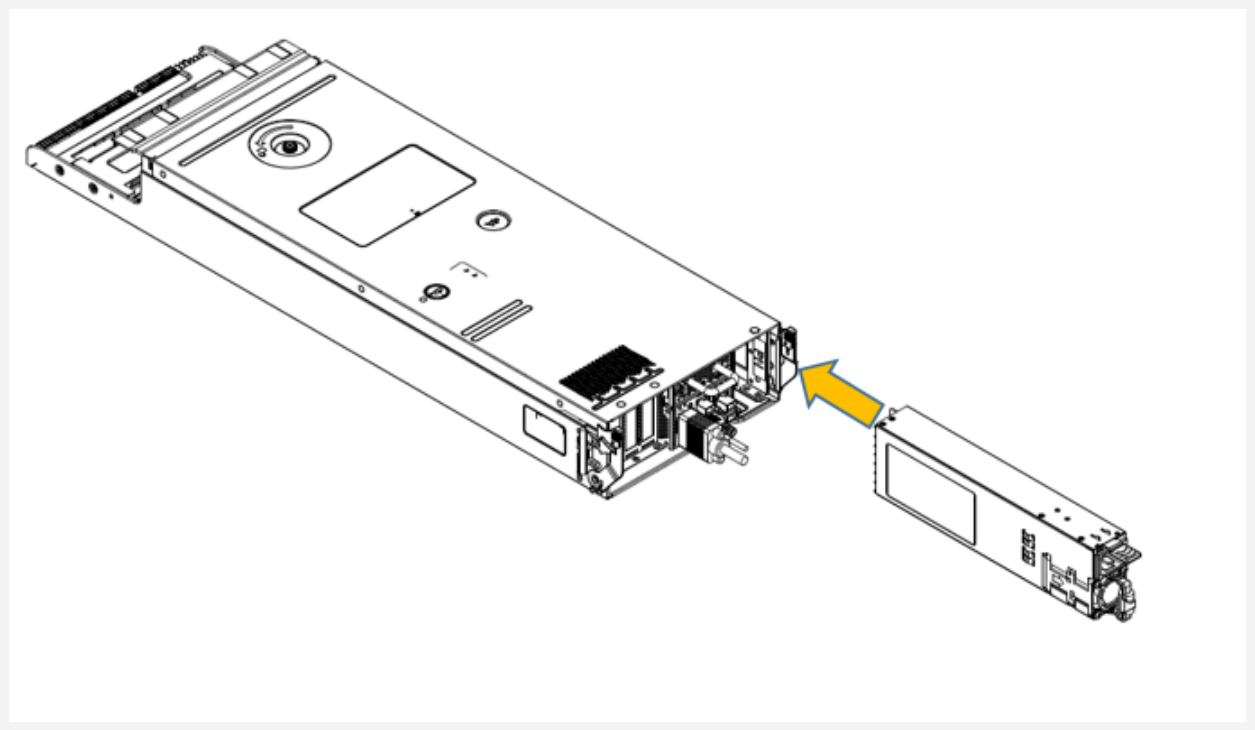


2. While pressing latch, use handle to pull PSU from chassis.

PSU Installation

Procedure

1. Align the PSU and slide it directly into the canister.



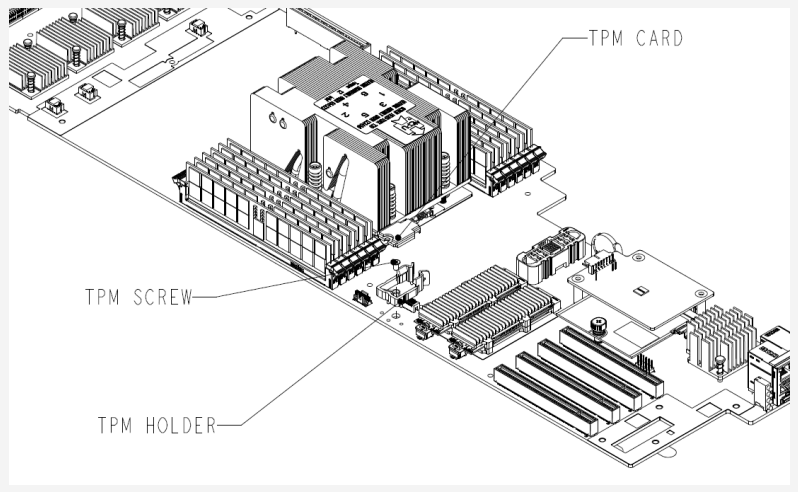
2 Ensure the latch is engaged to complete installation.

Trusted Platform Module (TPM)

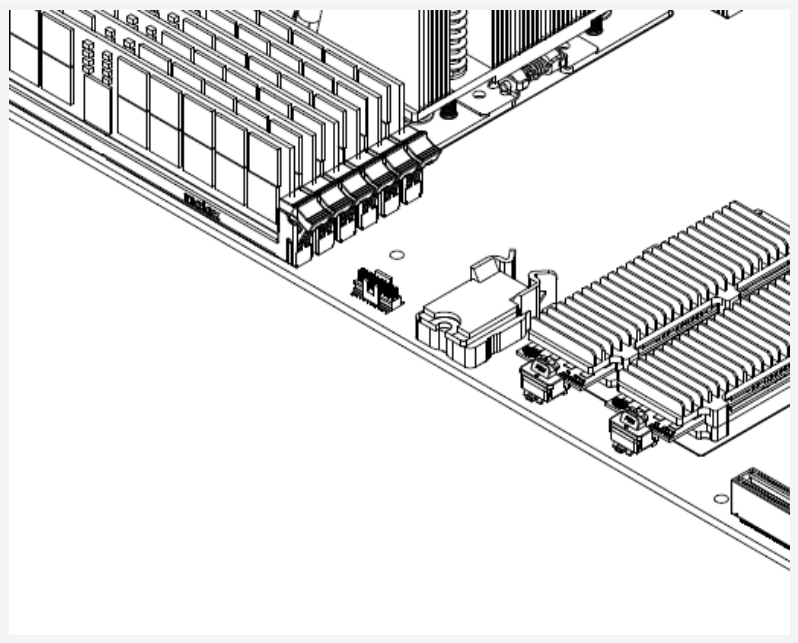
Trusted Platform Module is an optional feature on SC6100. The Celestica TPM optional module supports TPM 2.0 specifications.

Procedure

1. To remove, pull TPM card out then unfasten the TPM holder screw.



2. To install, assemble TPM holder to PCBA, fasten TPM holder screw and assemble TPM card.



Rail Kit Installation

This topic provides detailed instructions for installing the rail kit into various types of rack posts, ensuring compatibility and stability.

Prerequisites

Ensure you have the following tools and components before starting:

- Adjustable wrench
- Accessory screw bag (included)
- Measuring tape

Technical Specifications

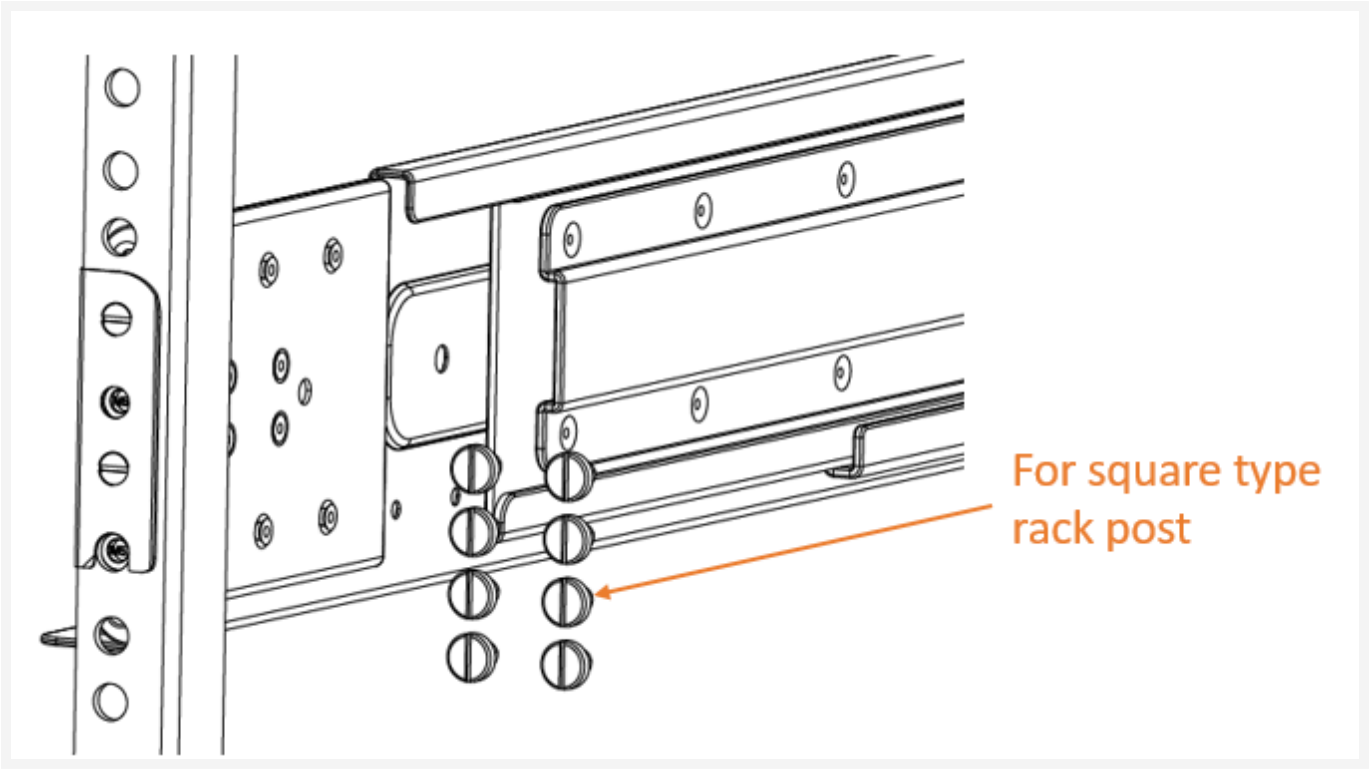
Component	Specification
Rail Kit Standard Length	670mm
Rail Kit Extended Length	870mm

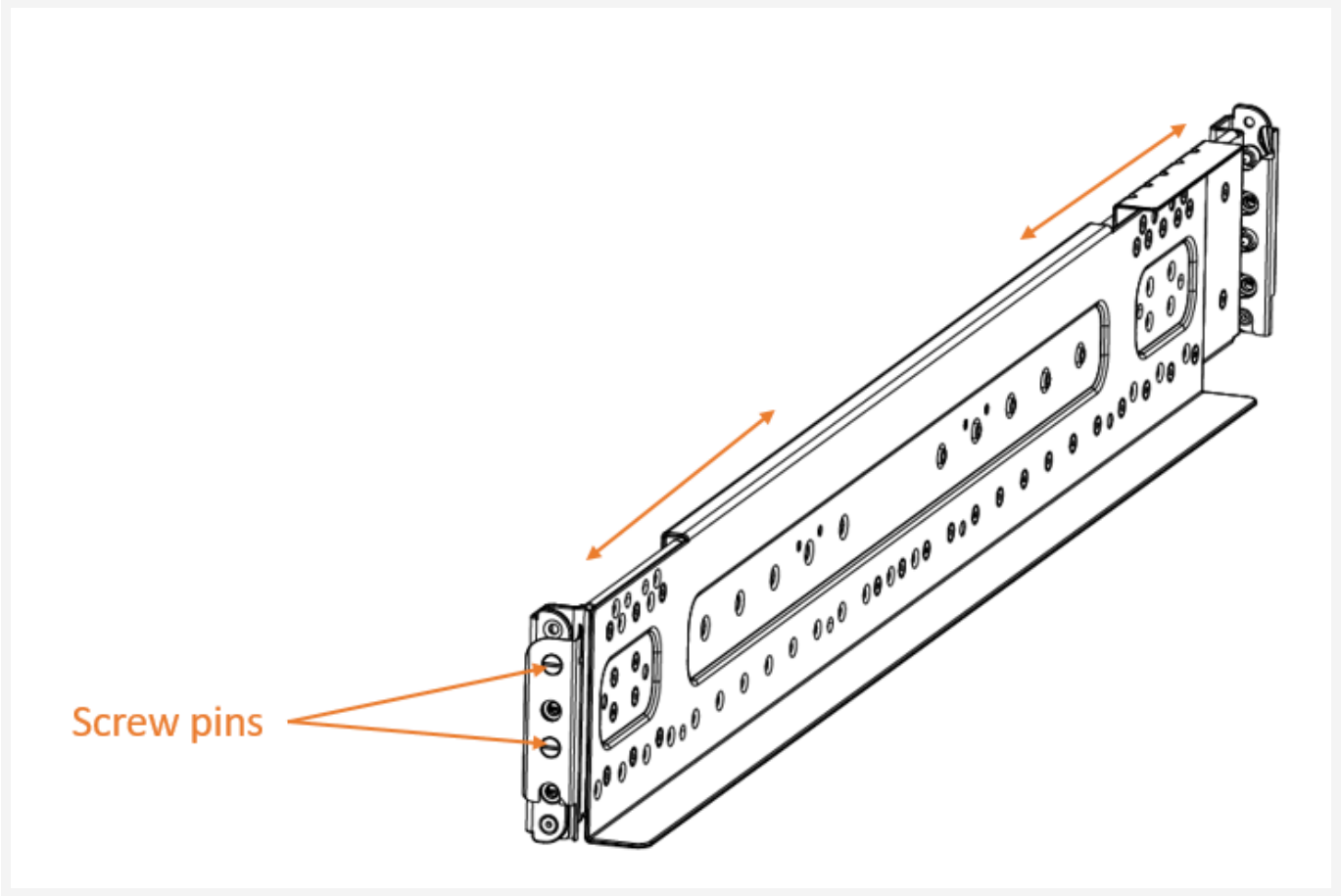
Installation Confirmation

After installation, ensure the rail kit is securely fastened and level. If you encounter any issues, refer to the troubleshooting guide or contact support.

Installing the Rail Kit

> ⚠ ATTENTION:
>
> The default screw pins supplied with the rail kit are intended for round rack posts. For square rack posts, use the alternative screws (Pan M5 X10, D=9.2mm, 8 pcs) included in the accessory pack.

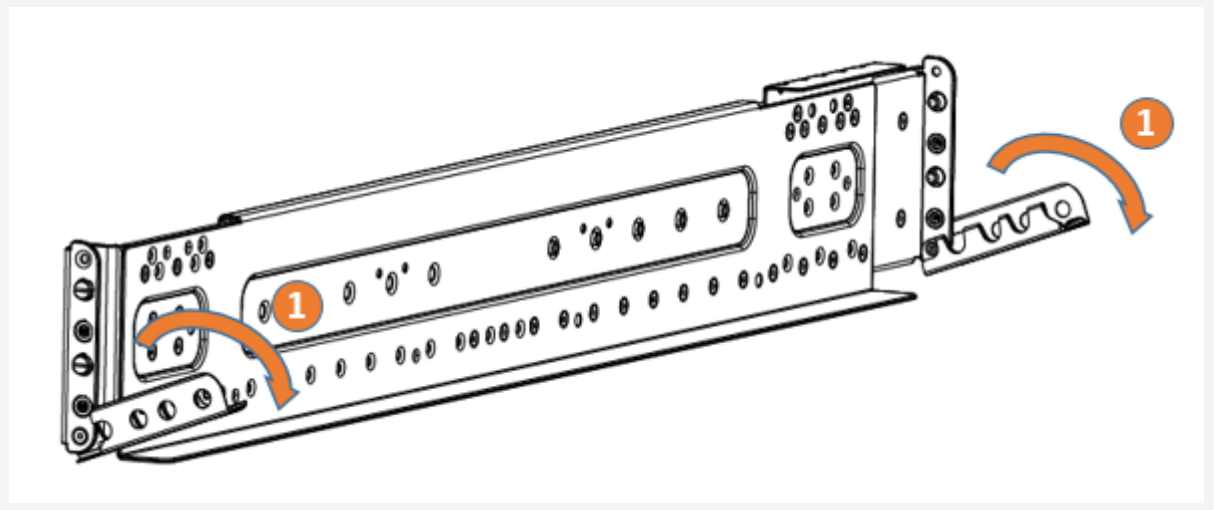

For square type
rack post


Screw pins

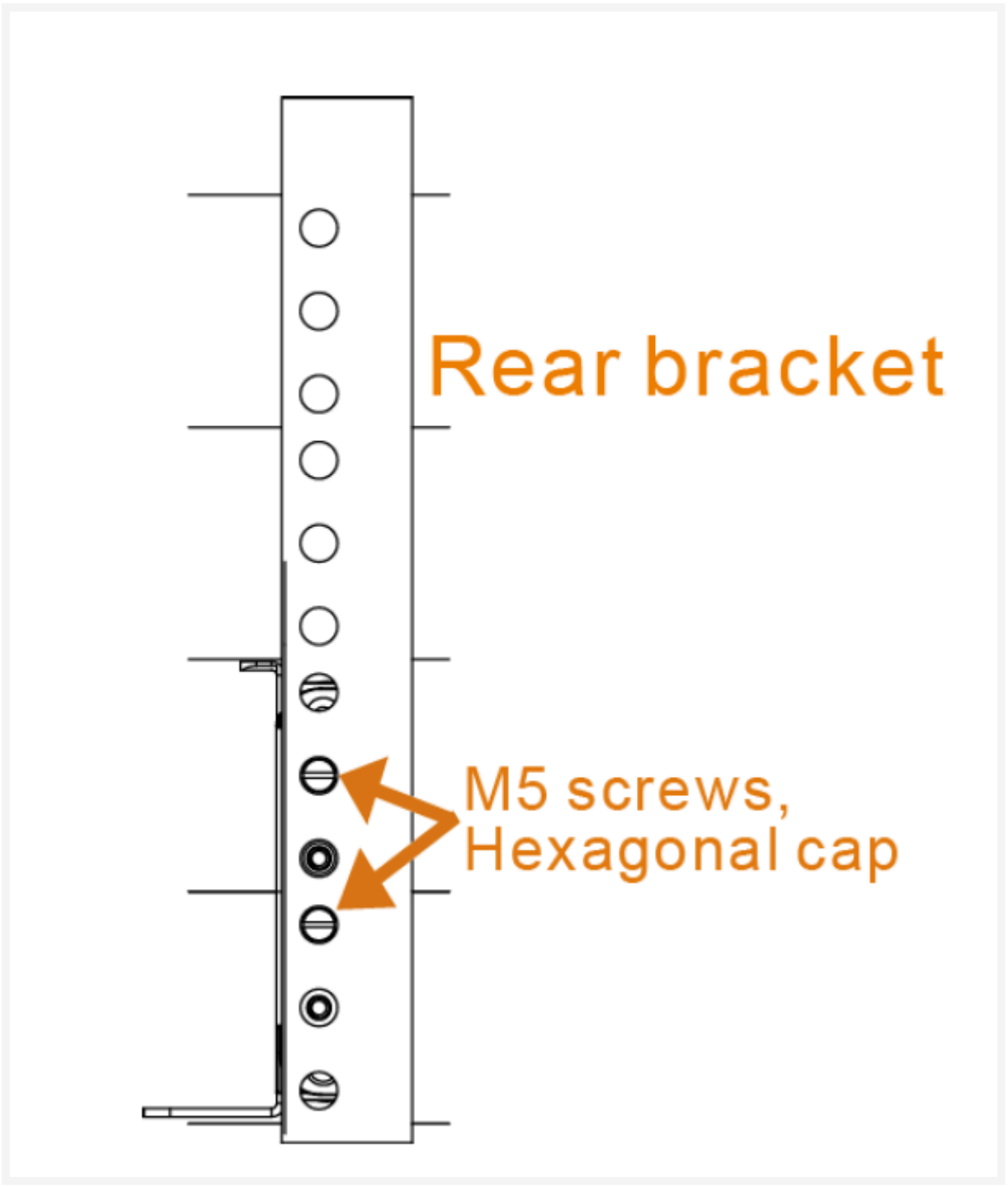
Mounting Bracket Installation

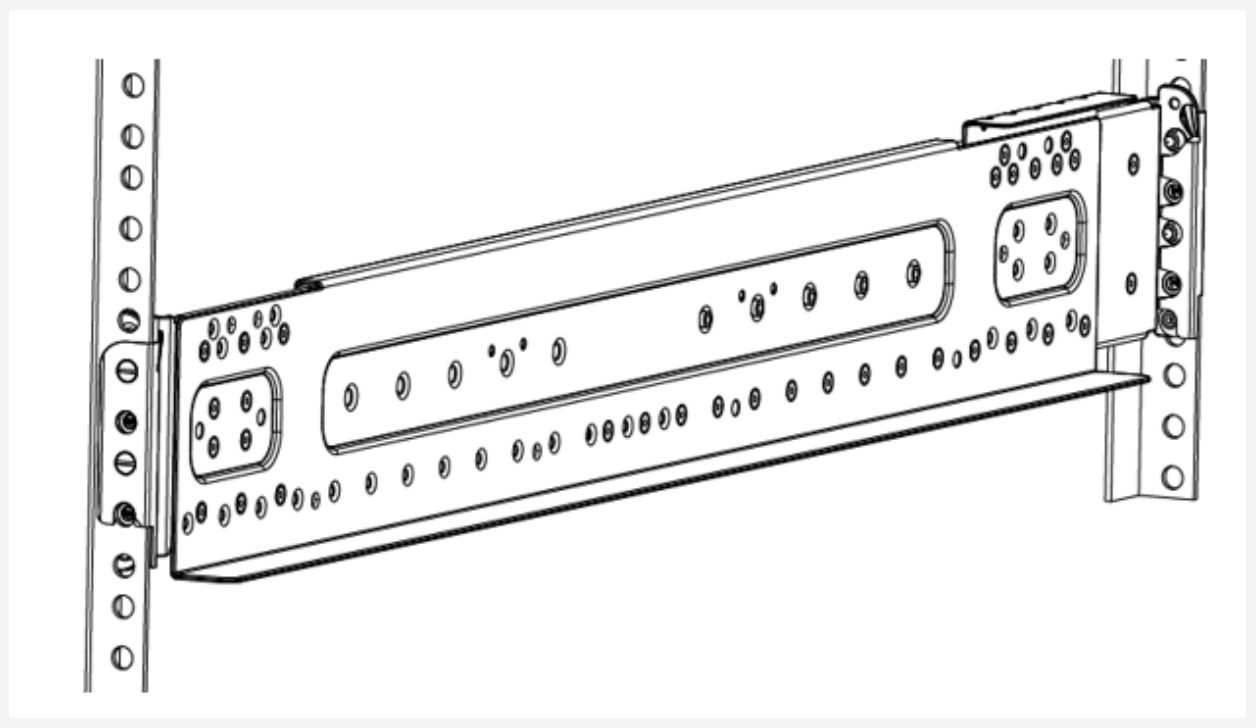
Procedure

1. On the mounting bracket, rotate the bars to open position.



2. Adjust bracket length to fit flush within the rack.
3. Rotate bars back to closed position to secure mounting bracket to the rack.


Rear bracket
M5 screws,
Hexagonal cap



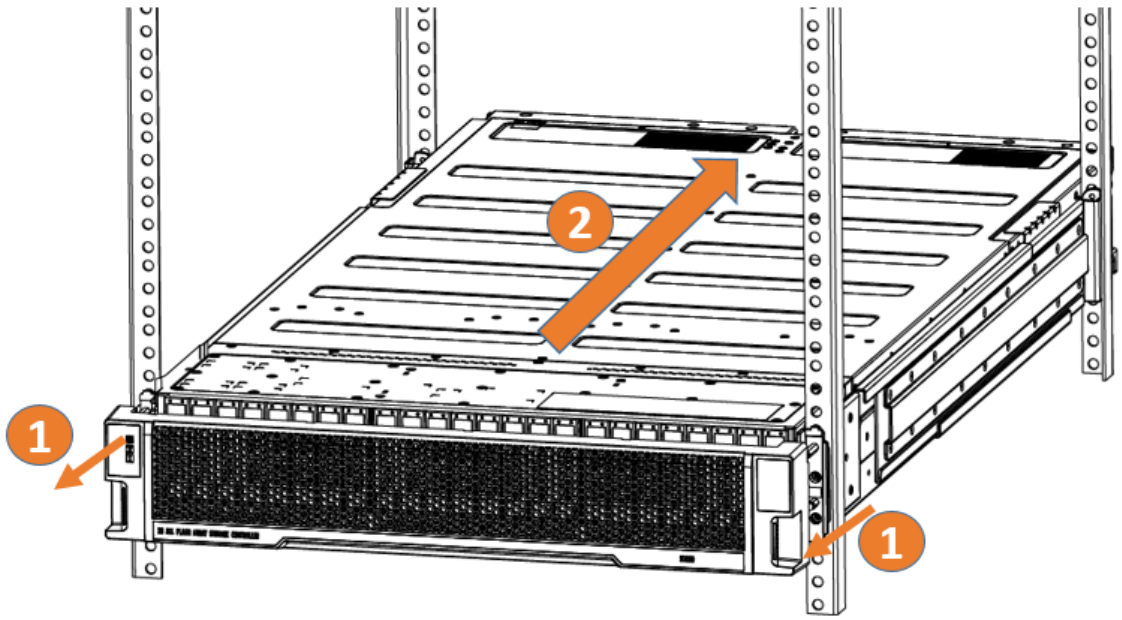
4 Repeat steps 1-3 on for the other mounting bracket.

Installing Chassis into Rack

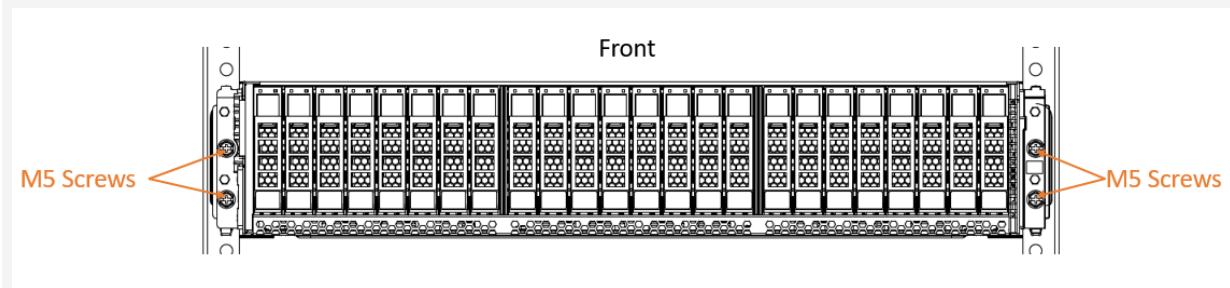
Follow these steps to install the chassis into a rack, including preparation and securing procedures.

Procedure

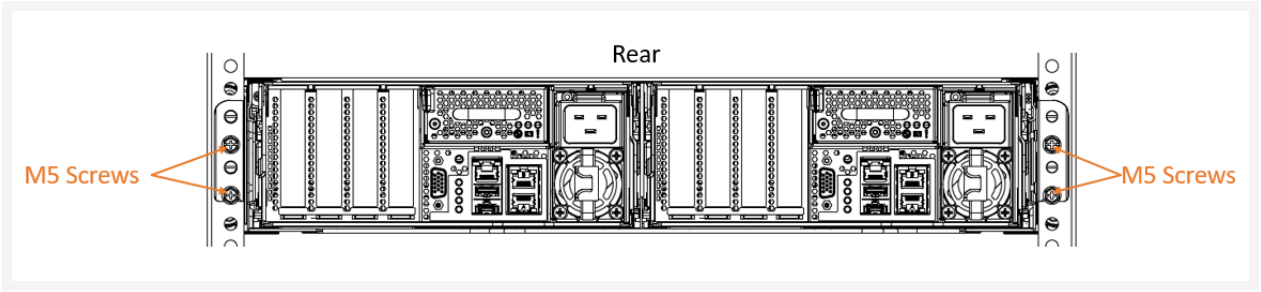
1. Remove the front ear bezels from the chassis before installing the chassis into the rack.



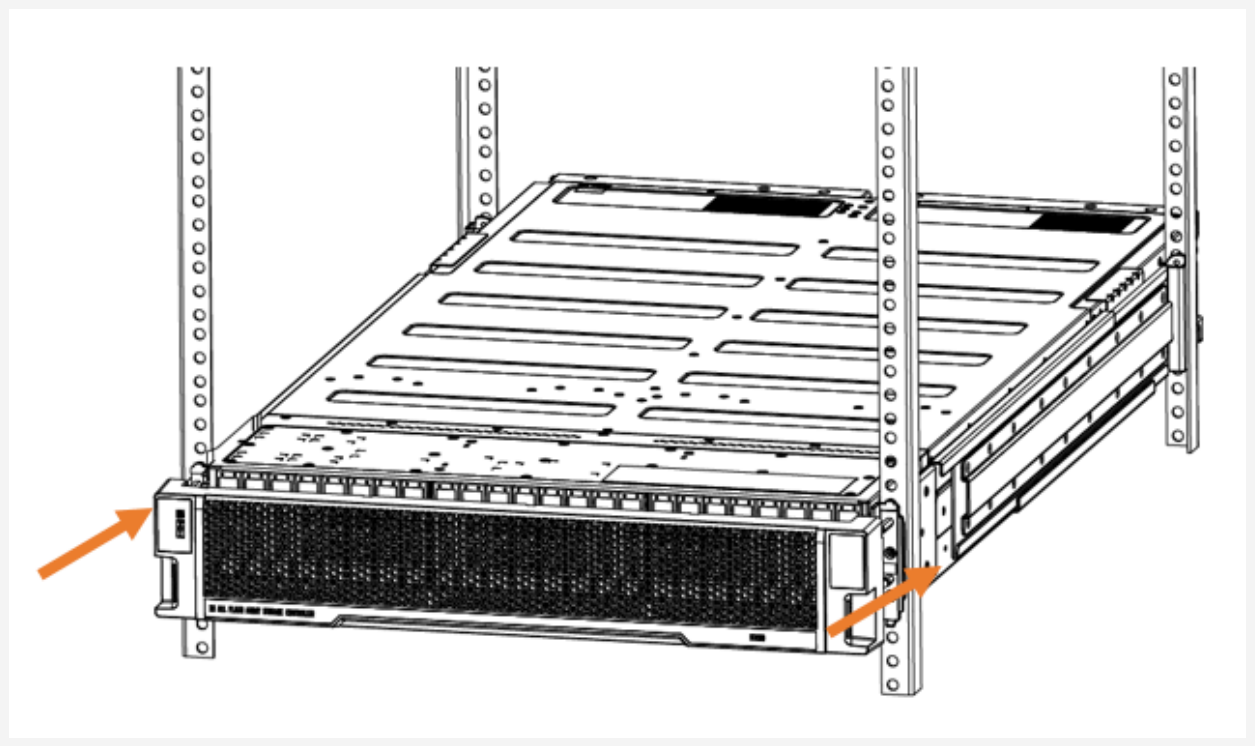
2. Align the chassis to the rail and push it into the rack.
3. Tighten two M5 black screws (provided in the accessory bag) to secure the chassis to the front of the rack.

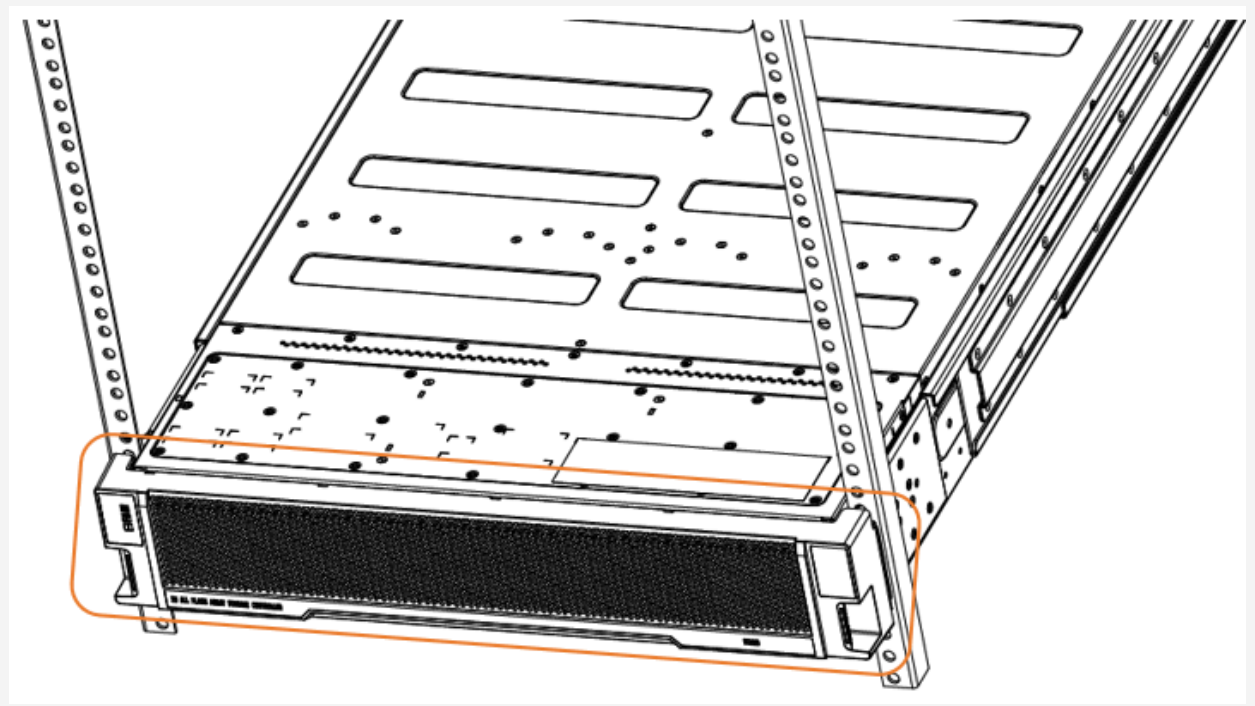


4. Tighten two M5 black screws (provided in the accessory bag) to secure the rear rail to the rack.



5 Reinstall the bezel.





Result

After completing these steps, the chassis should be securely installed in the rack with all necessary components reattached.

Drive Overview

Prior to Installation

The SC6100 accommodates up to twenty four (24) U.2 form factor solid state drives (SSD). The system comes with all necessary hardware for installation of the SSDs.

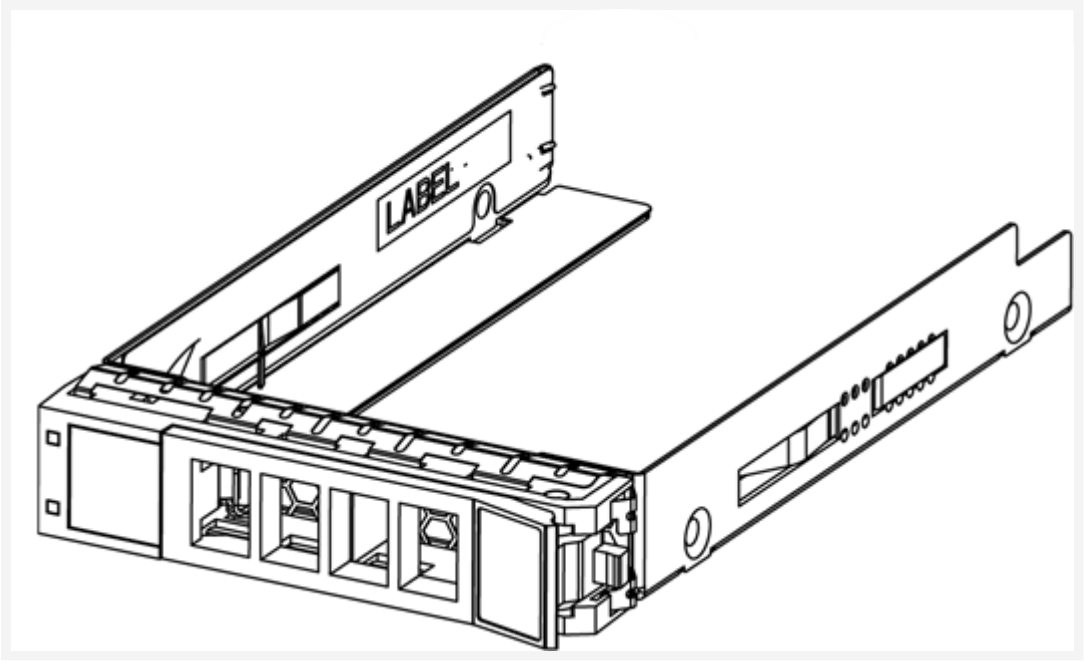
⚠ CAUTION: For product and user safety, drives should be installed after the chassis is securely installed within its rack.

Drive Carrier

The drive carrier was designed for optimized airflow in a compact form factor.

⚠ CAUTION: All drive bays not populated with drives must have blanks installed to ensure proper airflow.

Figure 9. 2.5" Drive Carrier



ⓘ NOTE: The drive carrier supports 2.5 inch drives.

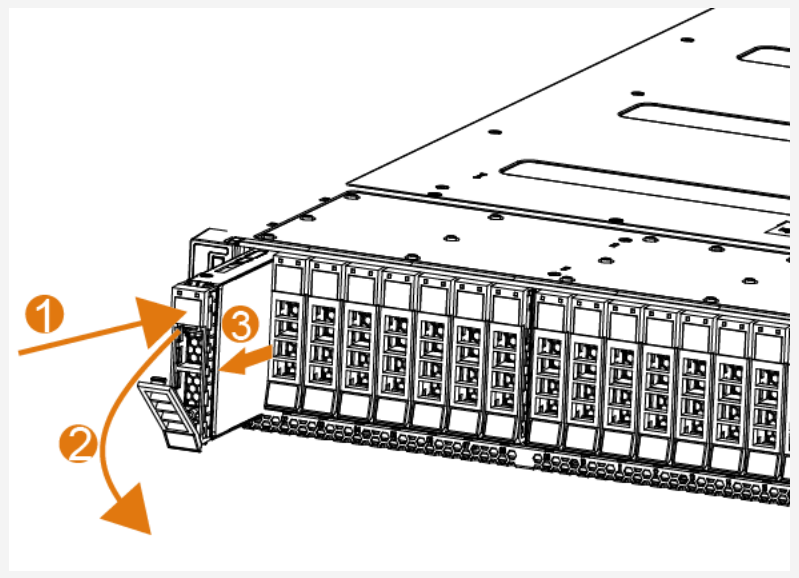
Drive Carrier Removal

Procedure

1. Press the release button. The handle will open automatically.

   ☆ IMPORTANT: Ensure a minimum of a five (5) second delay between removal of a drive and installation of another.

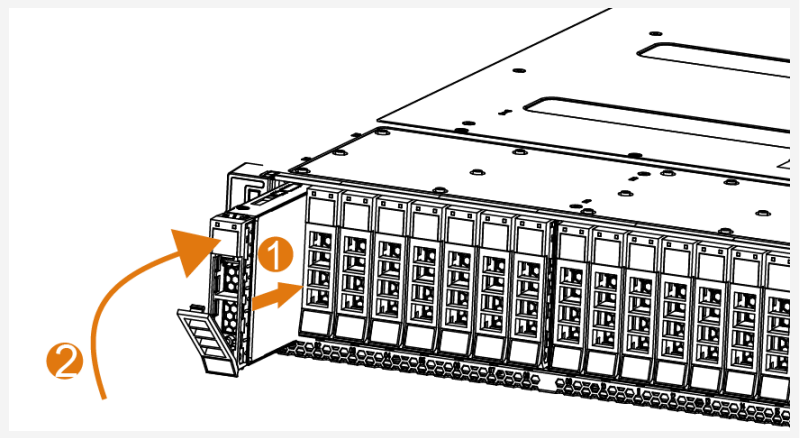
2. Lower handle.



3. Pull drive carrier straight out from chassis.

Drive Carrier Installation

Gently guide the drive into the drive slot on the front panel of the enclosure assembly, then rotate the handle to secure the drive carrier in place.



2.5" Drive Installation

Context

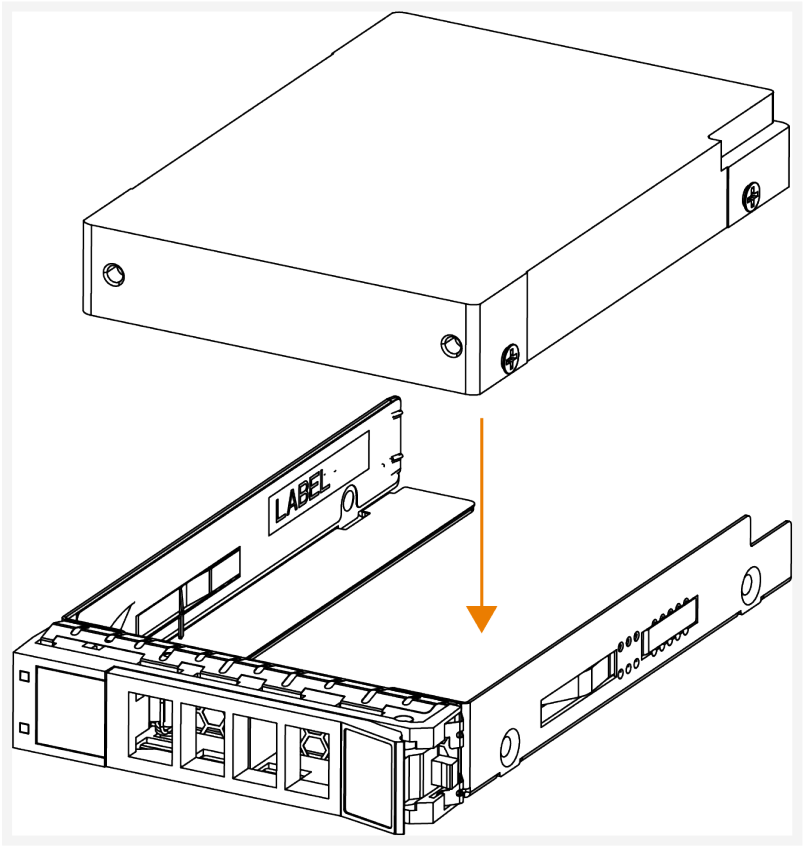
⚠ CAUTION: All drive bays not populated with drives must have blanks installed to ensure proper airflow.

⚠ CAUTION: For product and user safety, drives should be installed after the chassis is securely installed within its rack.

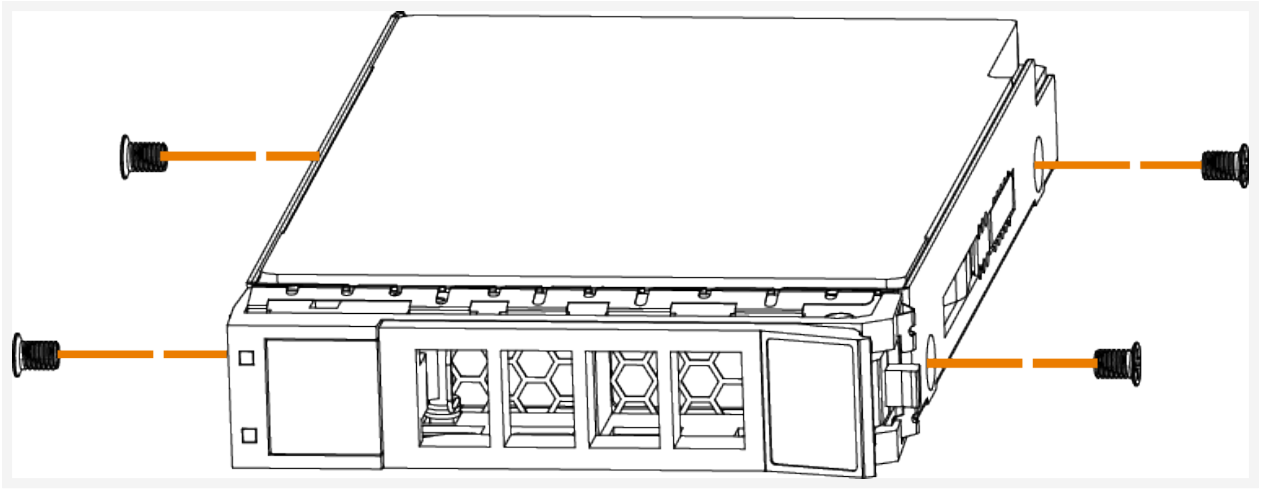
⚠ WARNING: When loading drives into chassis, make sure the rack is secured to the ground to prevent tip over.

Procedure

1. Place SSD into drive carrier.



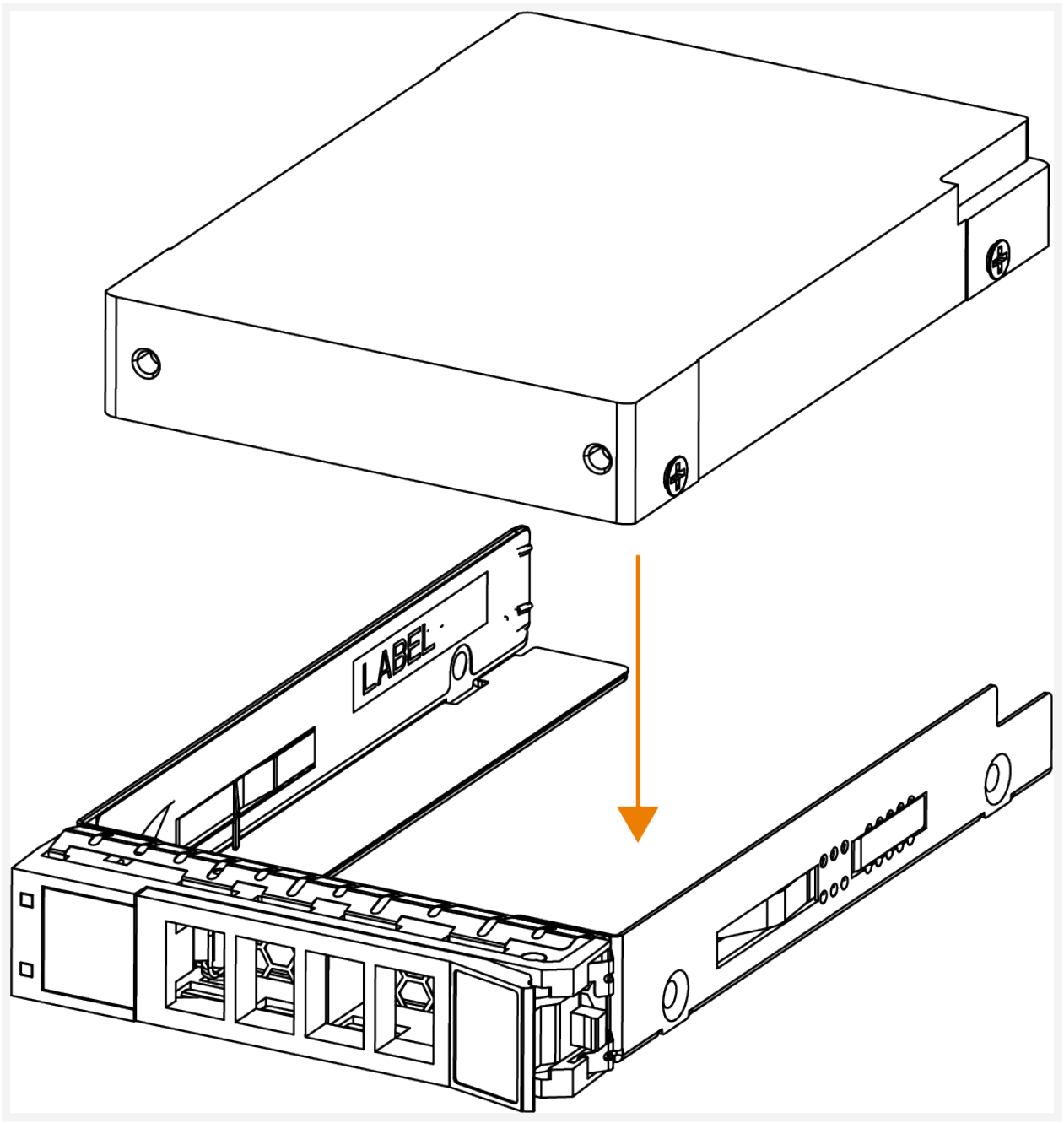
2. Align holes in carrier with screw holes in hard drive.

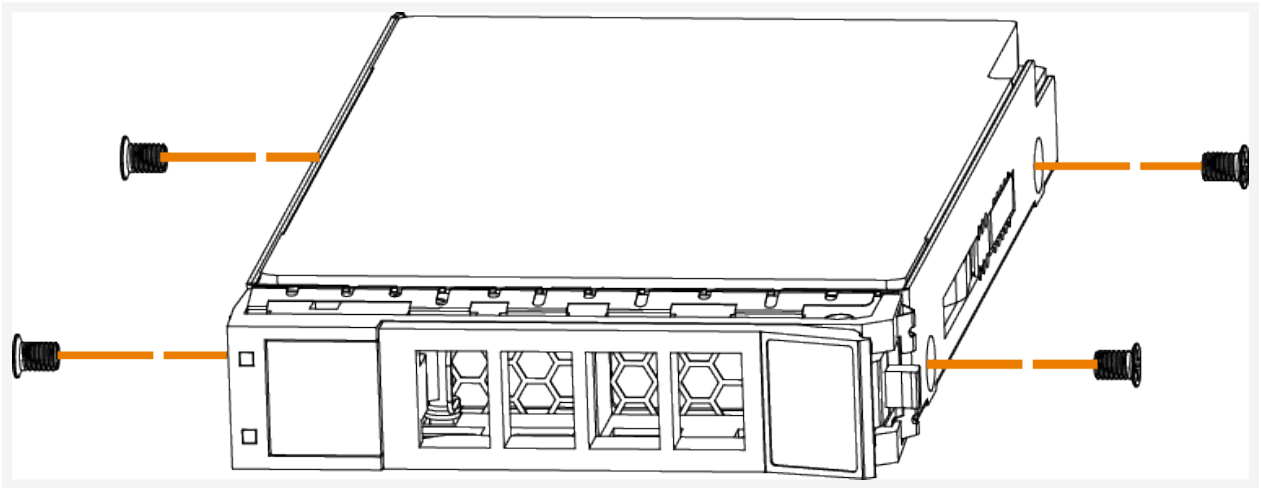


SSD Installation

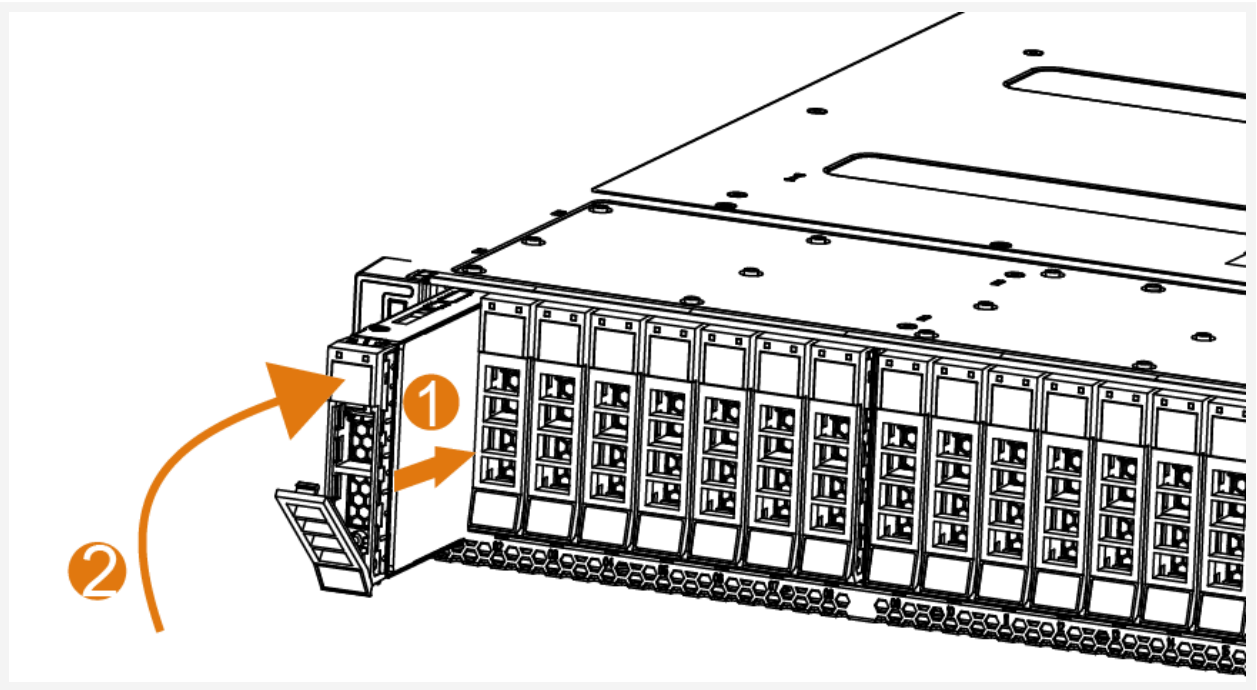
Procedure

1. Put the drive into the carrier. Fasten the screws (Pan Head screw M3 x L4.5. Torque 4 ± 0.5 KGF.CM).


LABEL



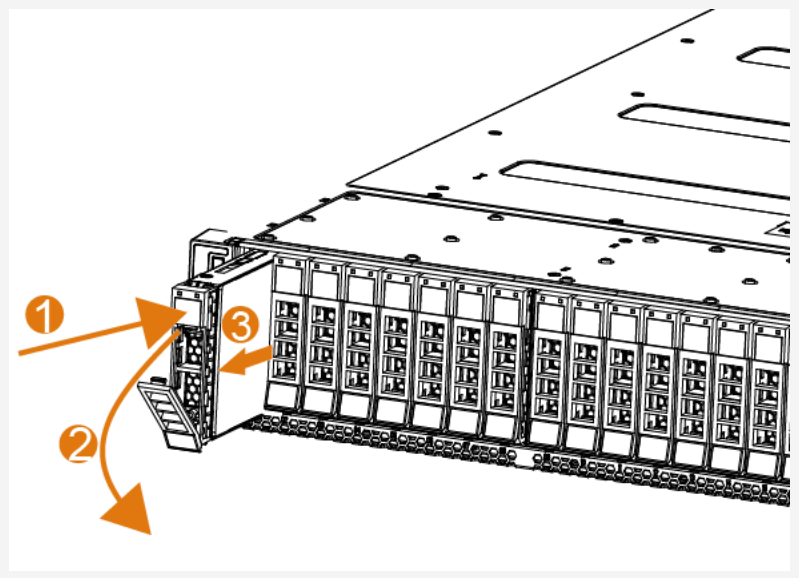
2 Gently guide the drive into the drive slot on the front panel of the enclosure assembly, then rotate the handle to secure the drive carrier in place.



SSD Removal

Procedure

1. Press the release button. The handle will open automatically.
2. Lower handle.



3. Pull drive carrier straight out from chassis.

Safety Precautions

Read this section before beginning any procedure. For your safety and the proper maintenance and operation of the SC6100, please follow these precautions when setting up this device.

- Follow all cautions and instructions marked on the equipment.
- Ensure the voltage and frequency of your power source match the voltage and frequency noted on the system's electrical rating label.
- Never insert any objects through openings in the chassis. Dangerous voltages, and/or moving parts may be present. Conductive external objects could produce a short circuit that could damage the system or cause electric shock, resulting in serious personal injury.
- In order to not exceed operational temperature guidelines, do not block or cover the openings of your system. Never place a product near a radiator or heat register. Failure to follow these guidelines may cause overheating and affect the reliability of the device.
- Do not drop the product or subject it to physical shock.
- Keep liquids away from the system.
- When shipping the product, pack it inside the original or equivalent packaging and ship on a pallet.
- Celestica does not assume any responsibility for problems caused by unauthorized repairs or replacement.
- Keep flammable items away from the product.
- Inspect and maintain the site and the system regularly. Failure to do so may reduce the lifespan of this system and possibly void the warranty.

⚠ CAUTION:

The Celestica SC6100 does not produce or have any laser-related functions. If you connect and install a device that supports laser functions such as an optical transceiver, we recommend that you choose a product certified to the relevant standards as shown below.

- EN 60825-1, 1st Edition
- EN 60825-1 Safety of Laser Products — Part 1: Equipment Classification Requirements and Users' Guide
- EN 60825-2 Safety of Laser Products — Part 2: Safety of Optical Fiber Communication Systems
- FDA Regulation 21CFR 1040.10 and 1040.11

Power

Depending on the type of power system your device has, the following symbols may be used.

On - Connects power to the system. This can be AC or DC power depending on product and model.

Off - Disconnects power to the system.

Standby - The power switch is in standby mode (low power).

⚠ CAUTION: Please check the input to ensure proper grounding of the power supply unit (PSU) before powering on the system.

⚠ CAUTION: Improper power supply system grounding, extreme fluctuation of the input source, and transients (spikes) can result in data errors, or even hardware damage.

⚠ CAUTION: The product may be equipped with multiple power supplies. To remove all hazardous voltages, disconnect all power cords.

⚠ CAUTION: This device is designed to work with power systems having a grounded neutral or a grounded return for direct current (DC) powered products. To reduce the risk of electric shock, do not plug the chassis into any other type of power system. Contact your facilities manager or a qualified electrician if you are not sure what type of power is supplied to your building.

⚠ CAUTION: The system may have more than one power supply cable. To reduce the risk of electrical shock, a trained service technician must disconnect all power supply cables before servicing the system.

ⓘ NOTE:

This symbol  is used when multiple power supplies are installed in a system. This warning label is typically found on the back of the device near the PSU.

Power Connection

Installation of this equipment must comply with local and regional electrical regulations governing the installation of information technology equipment by licensed electricians. For electrical power ratings on options, refer to the power rating label or the user documentation supplied with that option.

⚠ CAUTION: Do not use the power cord provided with your equipment with any other products. Only use the power cord(s) provided with the product to power it. Do not use household extension cords with your product.

ⓘ NOTE: To disconnect power, remove all power cords from unit.

ATTENTION: DÉBRANCHER LES TOUT CORDONS D'ALIMENTATION

POUR DÉCONNECTER L'UNITÉ DU SECTEUR.

WARNUNG: Wenn Sie das Gerät zwecks Wartungsarbeiten vom Netz trennen müssen, müssen Sie beide Netzteile abnehmen.

当心：如要切断电源，请将全部电源线都从机器上拔掉。

當心：如要切斷電源，請將全部電源線都從機器上拔掉

Regulatory Information

FCC (US)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

> ⓘ NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

> ⓘ NOTE: Any modifications made to this device that are not approved by Celestica may void the authority granted to the user by the FCC to operate this equipment.

ICES-003 (Canada)

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

CE (European Community)

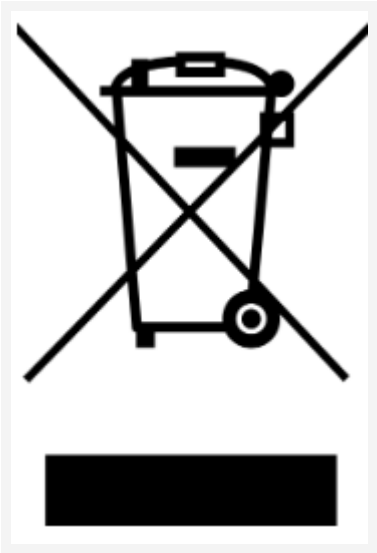
This product conforms to the following European Directive(s) and Standard(s): Application of Council Directive: 2014/35/EU, 2014/30/EU, 2011/65/EU.

Standards to which Conformity is declared: EN55022, EN55024, EN61000-3-2, EN61000-3-3, EN60950-1.

This is a Class A product.

In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Waste Electrical and Electronic Equipment (WEEE)



In accordance with European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE), the presence of the above symbol on the product or on its packaging indicates that this item must not be disposed of in the normal unsorted municipal waste stream. Instead, it is the user's responsibility to dispose of this product by returning it to a collection point designated for the recycling of electrical and electronic equipment waste. Separate collection of this waste helps to optimize the recovery and recycling of any reclaimable materials and also reduces the impact on human health and the environment.

For more information concerning the correct disposal of this product, please contact your local authority or the retailer where this product was purchased.

VCCI (Japan)

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI).

If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

Contact Information

Celestica operates a customer service portal.

- Self-support resources (knowledge base, FAQ, common fixes, new firmware) are available.
- Our support teams are connected to the support portal and can receive notifications for requests.
- The portal also tracks and collects customer inputs for further improvements to our products and services.

Customers can register and request support (as well as search information in the knowledge base) at: https://customersupport.celestica.com/csm
In case there are any questions or issues using the customer portal visit: https://www.celestica.com/contact-us. For immediate questions, please feel free to call your responsible account manager.