

# Dell Storage Center SC9000 Storage System Getting Started Guide

Regulatory Model: E31S  
Regulatory Type: E31S001



# Notes, Cautions, and Warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your computer.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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# Setting Up the Storage System

Consider the following best practices before setting up your SC9000 storage system.

- Dell recommends that you use a dedicated SAN network for data transmission when using a Fibre Channel or iSCSI storage system.
- Always configure redundant data paths to provide alternate paths to and from the host server should one of the data paths become disabled.
- Before connecting any cables between the storage system and host server or expansion enclosure, physically label each port and connector.
- Always follow proper power-up and power-down procedures when cycling power across the network. Verify that critical network components are on separate power circuits.

 **NOTE:** This product is intended for restricted access locations, such as a dedicated equipment room or equipment closet.

 **WARNING:** If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>) specified by the manufacturer.

## Safety Warnings

The following information only applies to Fibre Channel storage systems.

### Laser Radiation for Fibre Channel Storage Systems



**CAUTION:** Class I laser radiation when open, avoid exposure to beam.



**WARNING:** Laser radiation, avoid direct exposure to beam.


The unit is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class I (1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC 60825-1:2007.

Class I laser products are not considered to be hazardous. The laser system and unit are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance or prescribed service condition.

## Locating Your Service Tag


Your storage system is identified by a unique Service Tag and Express Service Code.

The Service Tag and Express Service Code are found on the front of the system by pulling out the information tag. Alternatively, the information may be on a sticker on the back of the storage system chassis. This information is used by Dell to route support calls to the appropriate personnel.

 **NOTE:** The Quick Resource Locator (QRL) code on the information tag is unique to your system. Scan the QRL to get immediate access to your system information using your smart phone or tablet.

## Other Information You May Need

To install the storage system, you may need the following additional information.

 **NOTE:** See the safety and regulatory information that shipped with your Storage Center components. Warranty information is included as a separate document.

- The *Dell Storage Center System Manager Administrator's Guide* describes how to use the Storage Center System Manager to manage a Storage Center.
- The *Dell Enterprise Manager Administrator's Guide* describes how to use Dell Enterprise Manager to manage multiple Storage Center systems.

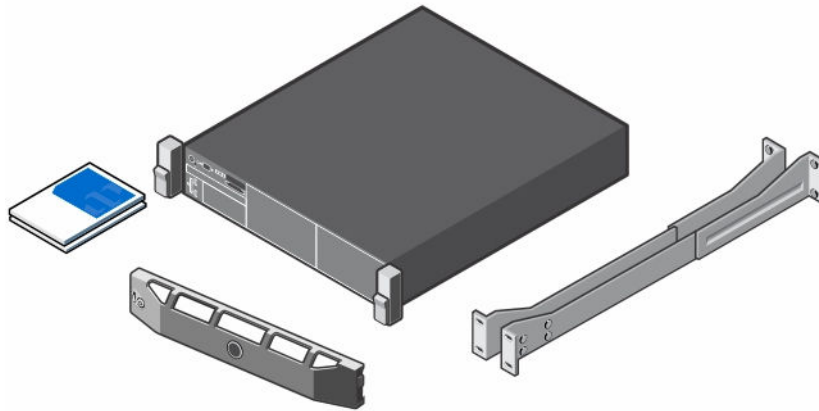
## Installation and Configuration

Before you begin installation, make sure that the site where you plan to install the storage system has standard power from an independent source or a rack power distribution unit with a UPS.

In addition, verify that there is space in the rack to install the storage system.

### Unpacking Storage Center Equipment

Unpack the storage system and identify the items in your shipment.




**Figure 1. SC9000 Storage System Components**

- Documentation
- Storage system
- Rack rails
- Front bezel
- Power and network cables (not shown)

## Installing the SC9000 Storage System in a Rack

Install the storage system and other Storage Center components in a rack.

-  **NOTE:** Mount the storage system in a manner that allows for expansion in the rack and prevents the rack from becoming top-heavy.

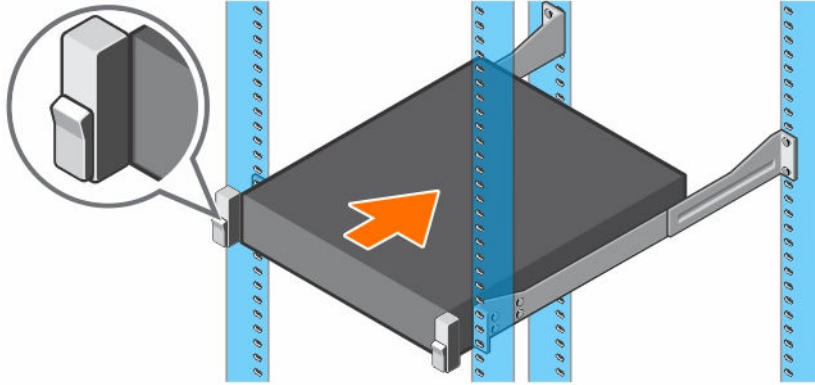


Figure 2. Install the Storage System in a Rack

## Installing the Front Bezel

Install the bezel on the front of the storage system.

1. Hook the right end of the bezel onto the storage system.

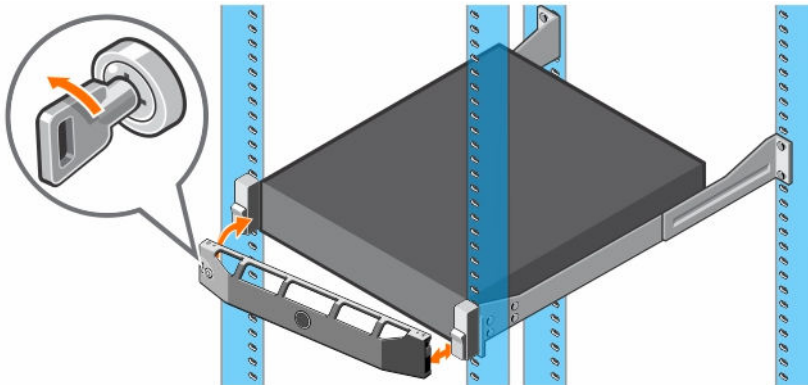


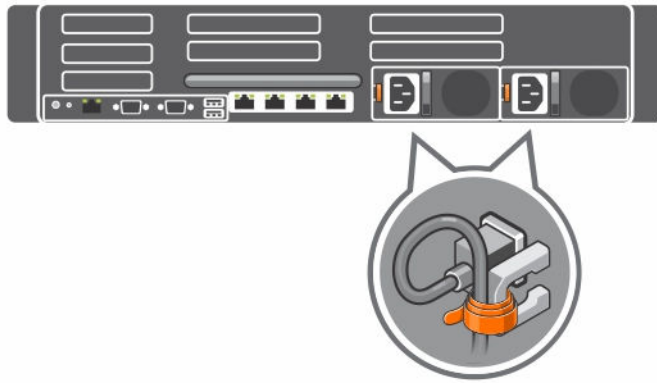
Figure 3. Front Bezel

2. Insert the left end of the bezel into the securing slot until the release latch snaps into place.
3. Secure the bezel with the keylock.

## Connecting the Power Cables

Connect the power cables to the storage system.

1. Before connecting the power cables, make sure that the power switches on the storage system are in the OFF position.
2. Connect the power cables to the power supplies in the storage system chassis.



**Figure 4. Power Cables**

3. Secure each power cable to the storage system chassis using the strain relief fasteners.
4. Plug the other end of the power cables into a grounded electrical outlet or a separate power source such as an uninterruptible power supply (UPS) or a power distribution unit (PDU).

## NOM Information (Mexico Only)

The following information is provided on the device described in this document in compliance with the requirements of the official Mexican standards (NOM):

Importer:	Dell Inc. de México, S.A. de C.V Paseo de la Reforma 2620-11 ° Piso Col. Lomas Atlas 11950 México, D.F.
Model number:	E31S
Supply voltage:	100–240 VAC
Frequency:	50/60 Hz
Current consumption:	12 A–6.5 A

## Technical Specifications

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### Processor

Processor type	Two Intel Xeon processor E5-2600 v3 product family
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### Power


AC power supply unit (PSU) per power supply

Wattage	1100 W
Heat dissipation	4100 BTU/hr maximum (1100 W PSU)

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**Power**

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 **NOTE:** Heat dissipation is calculated using the power supply unit wattage rating.

Voltage 100–240 V AC, autoranging, 50/60 Hz

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**Expansion Bus**

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Bus type PCI Express Generation 3

Expansion slots using riser card:

Riser 1	(Slot 1) One half-height, low-profile x8 link (Slot 2) One half-height, low-profile x8 link (Slot 3) One half-height, low-profile x8 link
Riser 2	(Slot 4) One full-height, full-length x16 link (Slot 5) One full-height, full-length x8 link
Riser 3	(Slot 6) One full-height, full-length x8 link (Slot 7) One full-height, full-length x8 link

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**Memory**

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Architecture	2133 MT/s DDR4 registered, load-reduced Error Correcting Code (ECC) DIMMs
Minimum RAM	128 GB with a single processor
Maximum RAM	256 GB with dual processors

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**Connectors**

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**Back**

NIC	Two 1 Gbps plus two 10 Gbps
Serial	9-pin, DTE, 16550-compatible
USB	Two 4-pin, USB 3.0-compliant
Video	15-pin VGA

**Front**

USB	One 4-pin, USB 2.0-compliant One USB management port/iDRAC Direct
Video	15-pin VGA
External vFlash card	One flash memory card slot with iDRAC8 Enterprise card

**Internal**

<b>Connectors</b>	
USB	One 4-pin, USB 3.0-compliant

<b>Physical</b>	
Height	8.73 cm (3.44 inch)
Width	48.2 cm (18.98 inch)
Depth	75.58 cm (29.75 inch)
Maximum configuration weight	44 lb

**Environmental**

For additional information about environmental measurements for specific storage system configurations, see [dell.com/environmental\\_datasheets](http://dell.com/environmental_datasheets).

<b>Temperature</b>	
Storage	-40° to 65°C (-40° to 149°F)
Continuous operation (for altitude less than 950 m or 3117 ft)	10°C to 35°C with no direct sunlight on the equipment.

Fresh air For information about fresh air, see Expanded Operating Temperature.

Maximum temperature gradient (operating and storage) 20°C/h (36°F/h)

<b>Relative humidity</b>	
Storage	5% to 95% with 33°C (91°F) maximum dew point. Atmosphere must be non-condensing at all times.
Operating	10% to 80% with 29°C (84.2°F) maximum dew point

<b>Maximum vibration</b>	
Operating	0.26 G <sub>rms</sub> at 5 Hz to 350 Hz (all operation orientations).
Storage	1.88 G <sub>rms</sub> at 10Hz to 500 Hz for 15 min (all six sides tested).

<b>Maximum shock</b>	
Operating	Six consecutively executed shock pulses in the positive and negative x, y, and z axes of 40 G for up to 2.3 ms.
Storage	Six consecutively executed shock pulses in the positive and negative x, y, and z axes (one pulse on each side of the system) of 71 G for up to 2 ms.

<b>Maximum altitude</b>	
Operating	3,048 m (10,000 ft)
Storage	12,000 m (39,370 ft)

**Operating temperature de-rating**




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**Environmental**


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Up to 35 °C (95 °F)	Maximum temperature is reduced by 1°C/300 m (1°F/547 ft) above 950 m (3,117 ft).
35 °C to 40 °C (95 °F to 104 °F)	Maximum temperature is reduced by 1°C/175 m (1°F/319 ft) above 950 m (3,117 ft).
40 °C to 45 °C (104 °F to 113 °F)	Maximum temperature is reduced by 1°C/125 m (1°F/228 ft) above 950 m (3,117 ft).


**Particulate contamination**

 **NOTE:** This section defines the limits to help avoid IT equipment damage and/or failure from particulates and gaseous contamination. If it is determined that levels of particulates or gaseous pollution are beyond the limits specified below and are the reason for the damage or failures to your equipment, it may be necessary for you to re-mediate the environmental conditions that are causing the damage or failures. Re-mediation of environmental conditions will be the responsibility of the customer.

Air filtration                      Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit.


 **NOTE:** Applies to data center environments only. Air filtration requirements do not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor.

Conductive dust                      Air must be free of conductive dust, zinc whiskers, or other conductive particles.


 **NOTE:** Applies to data center and non-data center environments.

Corrosive dust                      

- Air must be free of corrosive dust.
- Residual dust present in the air must have a deliquescent point less than 60% relative humidity.

 **NOTE:** Applies to data center and non-data center environments.

**Gaseous contamination**

 **NOTE:** Maximum corrosive contaminant levels measured at ≤50% relative humidity.

Copper coupon corrosion rate                      <300 Å/month per ClassG1 as defined by ANSI/ISA71.04-1985.


Silver coupon corrosion rate                      <200 Å/month as defined by AHSRAE TC9.9.

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**Expanded operating temperature**

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 **NOTE:** When operating in the expanded temperature range, system performance may be impacted.


 **NOTE:** When operating in the expanded temperature range, ambient temperature warnings may be reported on the LCD and in the system event log.

Continuous operation    5°C to 40°C at 5% to 85% RH with 29°C dew point.

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## Expanded operating temperature


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 **NOTE:** Outside the standard operating temperature (10°C to 35°C), the system can operate continuously down to 5°C or as high as 40°C.

For temperatures between 35°C and 40°C, de-rate maximum allowable temperature by 1°C per 175m above 950 m (1°F per 319 ft).

≤ 1% of annual operating hours

–5°C to 45°C at 5% to 90% RH with 29°C dew point.

 **NOTE:** Outside the standard operating temperature (10°C to 35°C), the system can operate down to –5°C or up to 45°C for a maximum of 1% of its annual operating hours.

For temperatures between 40°C and 45°C, de-rate maximum allowable temperature by 1°C per 125 m above 950 m (1°F per 228 ft).

Expanded operating temperature restrictions

- Do not perform a cold startup below 5°C.
- The operating temperature specified is for a maximum altitude of 3050 m (10,000 ft).
- Redundant power supplies are required.
- Peripheral cards that are not Dell-qualified are not supported.
- Peripheral cards greater than 25 W are not supported.