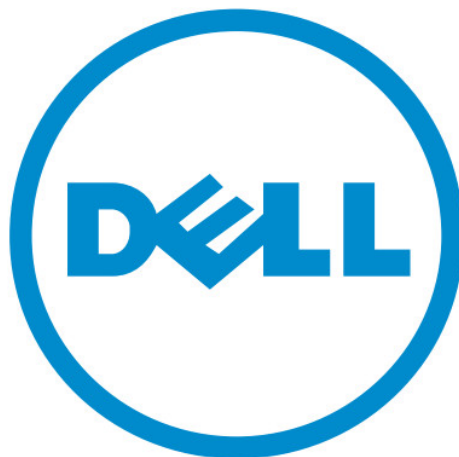




DELL PowerVault MD3400 12Gb SAS SAN Storage Array User Guide

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**Dell PowerVault MD3400/3420/3800i/3820i/
3800f/3820f Storage Arrays
Getting Started Guide**

Regulatory Model: E03J and E04J Series
Regulatory Type: E03J001 and E04J001

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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.

Installation and Configuration



WARNING: Before performing the following procedure, review the safety instructions that came with the system.

Unpacking A Rack System

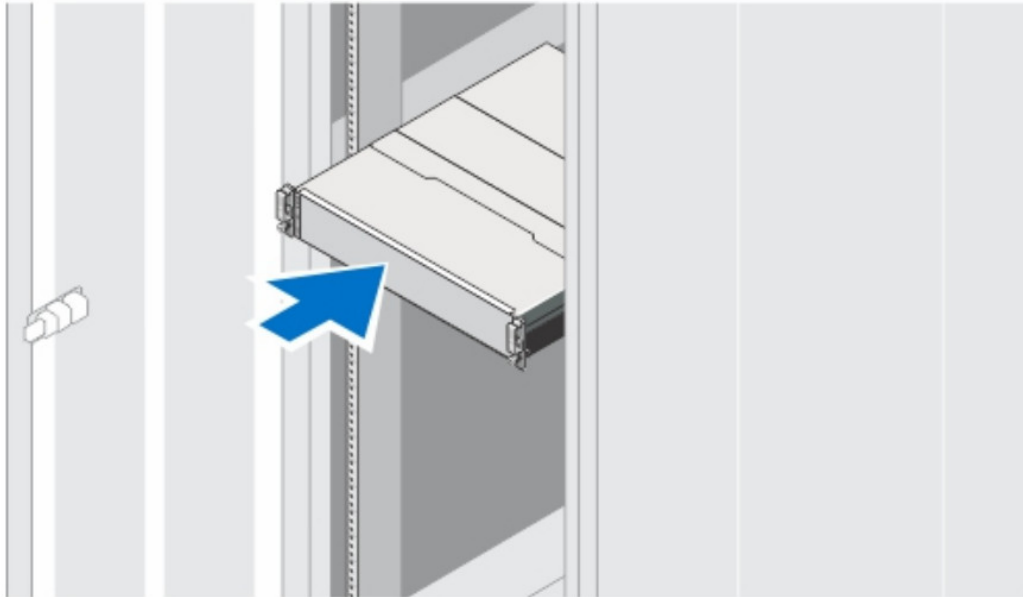


Figure 1. Installing the System in a Rack

Unpack your system and identify each item.

Assemble the rails and install the system in the rack following the safety instructions and the rack installation instructions provided with your system.

Connecting The Power Cable(s)

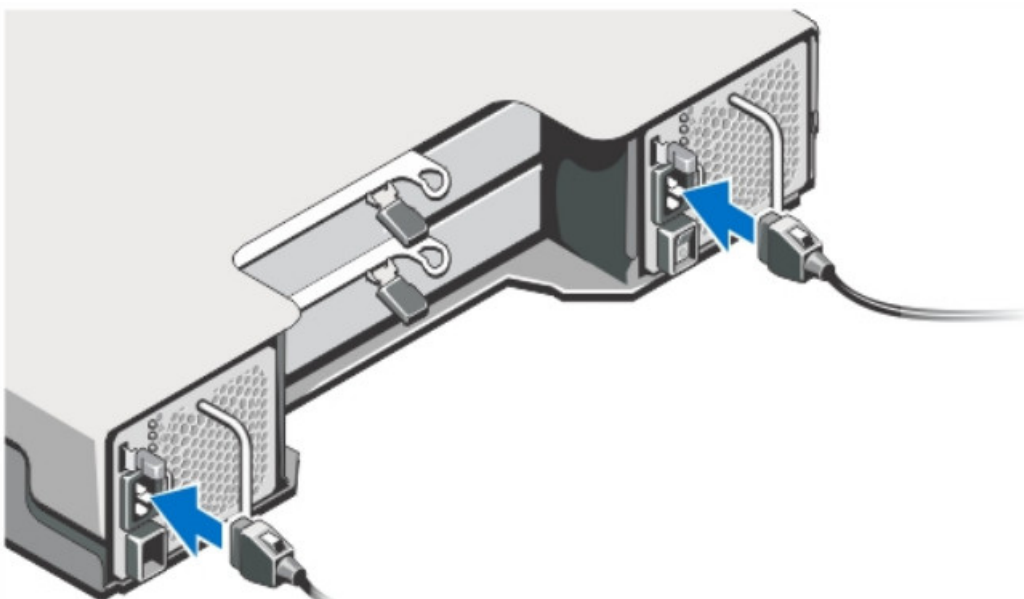


Figure 2. Connecting the Power Cable(s)

Connect the system's power cable(s) to the system.

Securing The Power Cable(s)

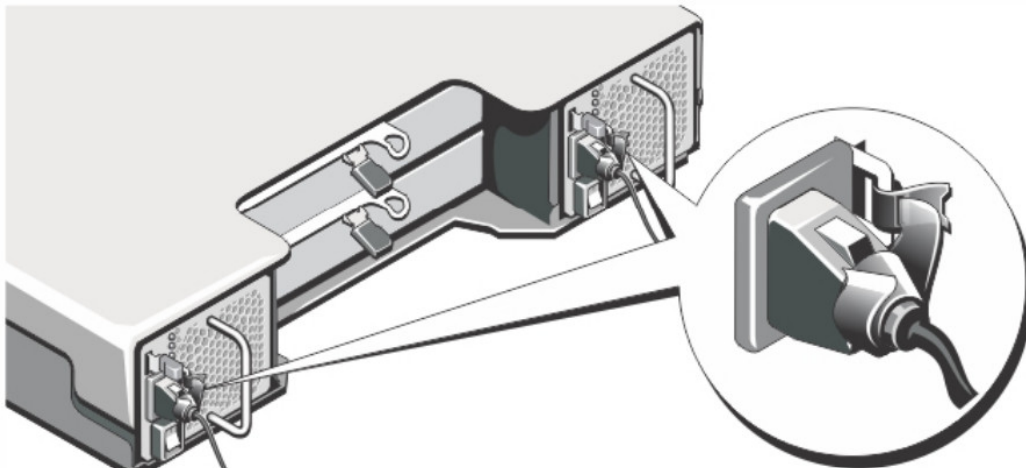


Figure 3. Securing the Power Cable(s)

Open the cable retention bracket by pulling the tabs on its sides, insert the cable, and secure the system power cable, as shown in the illustration.

Plug the other end of the power cable(s) into a grounded electrical outlet or a separate power source such as an uninterruptible power supply (UPS) or a power distribution unit (PDU).

Turning On The System

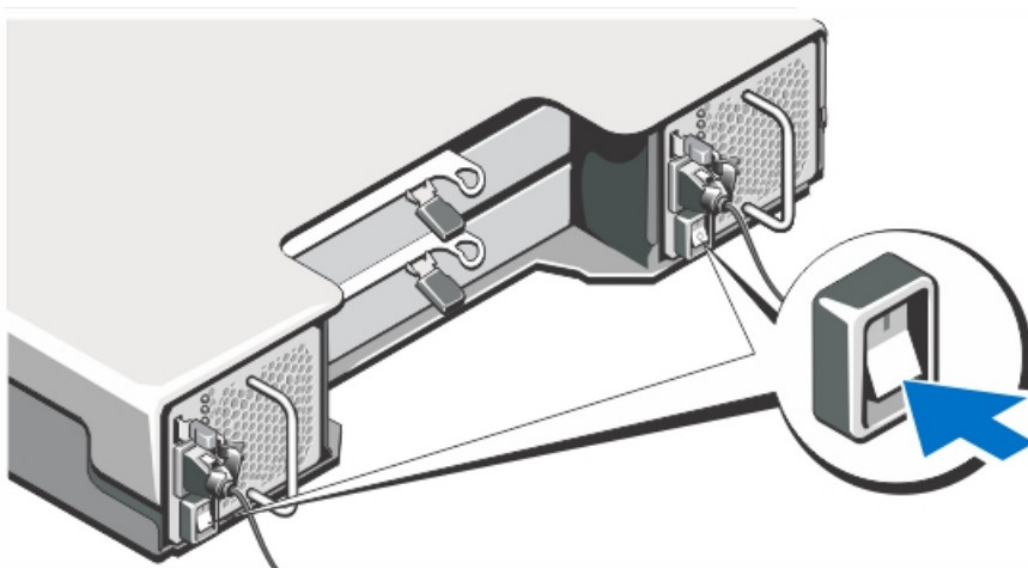


Figure 4. Turning on the System

Turn the power switch on the back of the system to the On position. The power LED will turn on.

Installing The Bezel

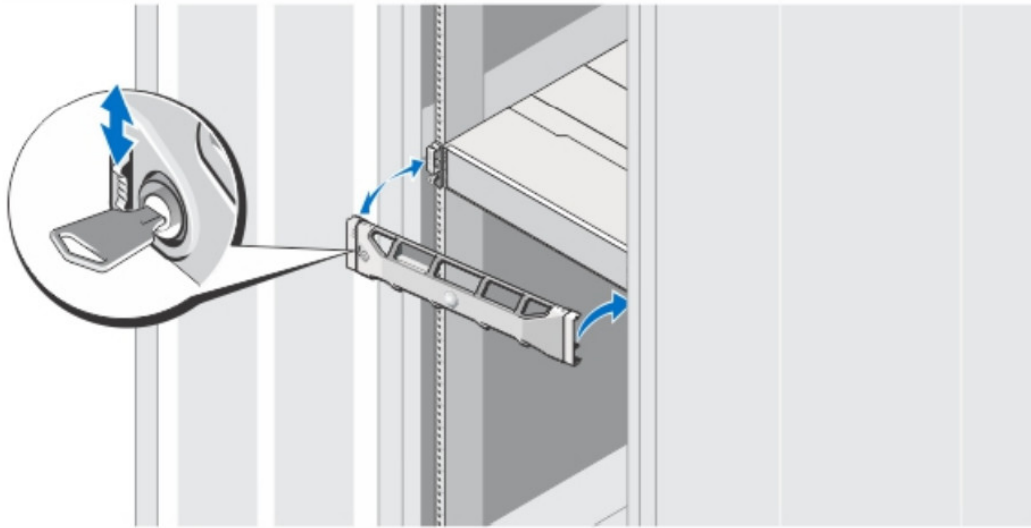


Figure 5. Installing the Bezel

Install the bezel as shown in the figure.

Dell Software License Agreement

Before using your system, read the Dell Software License Agreement that came with your system. You must consider any media of Dell-installed software as BACKUP copies of the software installed on your system's hard drive. If you do not accept the terms of the agreement, call the customer assistance telephone number. For customers in the United States, call 800-WWW-DELL (800-999-3355). For customers outside the United States, see dell.com/support and select your country or region from the top left of the page.

Other Information You May Need

⚠ WARNING: See the safety and regulatory information that shipped with your system. Warranty information may be included within this document or as a separate document.

- The Owner's Manual provides information about system hardware features and describes how to troubleshoot the system and install or replace system components. This document is available online at dell.com/support/manuals.
- The Administrator's Guide provides information about Modular Disk Storage Manager software features and describes how to configure and manage your modular disk system. This document is available online at dell.com/support/manuals.
- The Deployment Guide provides information about cabling your system and the installation and initial configuration of the Modular Disk Storage Manager software. This document is available online at dell.com/support/manuals.
- For videos and other resources on PowerVault MD series, see dell.com/PVresources.
- The rack documentation included with your rack solution describes how to install your system into a rack, if required.
- Any media that ships with your system that provides documentation and tools for configuring and managing your system, including those pertaining to the operating system, system management software, system updates, and system components that you purchased with your system.



NOTE: Always check for updates on dell.com/support/manuals and read the updates first because they often supersede information in other documents.

NOTE: When upgrading your system, it is recommended that you download and install the systems management firmware on your system from dell.com/support.

Obtaining Technical Assistance

If you do not understand a procedure in this guide or if the system does not perform as expected, see your system Owner's Manual. Dell offers comprehensive hardware training and certification. See dell.com/training for more

information. This service may not be offered in all locations.

Technical Specifications



NOTE: The following specifications are only those required by law to ship with your system. For a complete and current listing of the specifications for your system, go to dell.com/support.

Power	
AC power supply (per power supply)	
Wattage	600 W
Heat dissipation (maximum)	100 W
 NOTE: Heat dissipation is calculated using the power supply wattage rating. The heat dissipation values are for the entire system which includes chassis and two controllers.	
Voltage	100–240 V AC (8.6 A–4.3 A)
 NOTE: This system is also designed to be connected to IT power systems with a phase to phase voltage not exceeding 230 V.	
Battery	6.6 V DC, 1100 mAh, 7.26 W Lithium Ion Battery
Physical	
PowerVault MD3400/MD3800f/MD3800i	
Height	8.68 cm (3.41 inches)
Width	44.63 cm (17.57 inches)
Depth	60.20 cm (23.70 inches)
Weight (maximum configuration)	29.30 kg (64.6 lb)
Weight (empty)	8.84 kg (19.5 lb)
PowerVault MD3420/MD3820f/MD3820i	
Height	8.68 cm (3.41 inches)
Width	44.63 cm (17.57 inches)
Physical	
Depth	54.90 cm (21.61 inches)
Weight (maximum configuration)	24.22 kg (53.4 lb)
Weight (empty)	8.61 kg (19 lb)
Environmental	
 NOTE: For additional information about environmental measurements for specific system configurations, see dell.com/environmental_datasheets .	
Temperature	

Maximum Temperature Gradient (Operating and Storage)	20 °C/hour (36 °F/hour)
Storage Temperature Limits	-40 °C to 65 °C (-40 °F to 149 °F)
Temperature (Continuous Operation)	
Temperature Ranges (for altitude less than 950 m or 3117 ft)	10 °C to 35 °C (50 °F to 95 °F) with no direct sunlight on the equipment  NOTE: For information on supported expanded operating temperature range and configurations, see the Owner's Manual dell.com/support/manuals.
Humidity Percentage Range	10% to 80% Relative Humidity with 26 °C (78.8 °F) maximum dew point.
Relative humidity	
Storage	5% to 95% RH with 33 °C (91 °F) maximum dew point. Atmosphere must be non-condensing at all times
Maximum vibration	
Operating	0.26 Grms at 5 Hz to 350 Hz in operational orientation
Storage	1.88 Grms at 10 Hz to 500 Hz for 15 minutes (all six sides tested)
Maximum shock	
Operating	One shock pulse in the positive z axis (one pulse on each side of the system) of 31 G for 2.6 m in the operational orientation.
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 m.
Altitude	
Operating	–30.5 m to 3048 m (–50 to 10,000 ft).  NOTE: For altitudes above 2950 ft, the maximum operating temperature is derated 1.8 °F/1000 ft.
Storage	Up to 12,000 m (39,370 ft).
Operating Altitude De-rating	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 and/or failures to your equipment it may be necessary for you to remediate the environmental conditions that are causing the damage and/or failures. Remediation of environmental conditions will be the responsibility of the customer.

Air Filtration

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

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

 **NOTE:** Air entering the data center must have MERV11 or MERV13 filtration.

Conductive Dust

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

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

Corrosive Dust

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

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

Gaseous Contamination

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

Copper Coupon Corrosion Rate

<300 Å/month per Class G1 as defined by ANSI/ISA71.04-1 985.

Silver Coupon Corrosion Rate

<200 Å/month as defined by AHSRAE TC9.9.

Documents / Resources

	DELL PowerVault MD3400 12Gb SAS SAN Storage Array [pdf] User Guide PowerVault MD3400 12Gb SAS SAN Storage Array, PowerVault MD3400, 12Gb SAS SAN Storage Array, Storage Array
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References

-  [Product Safety, EMC and Environmental Datasheets | Dell](#)
-  [Support | Dell US](#)
-  [Support | Dell US](#)
-  [Manuals | Dell US](#)
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