

# Technical Specifications




**Table 8. Physical Disks**

Physical disks	Up to sixty 3.5 inch or 2.5 inch SAS or nearline SAS physical disks or 2.5 inch SAS SSDs
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**Table 9. RAID Controller Modules**





RAID controller modules	Two hot-swappable modules with temperature sensors 4 GB or 8 GB of cache per controller
Dell PowerVault MD3460 storage arrays	Provides host-to-controller 12 Gbps SAS connection

**Table 10. Expansion Modules**



Dell PowerVault MD3060e expansion enclosures	Supports 120 physical disks, in addition to 60 physical disks in the RAID enclosure Redundant path connectivity provides redundant data paths to each hard drive   <b>NOTE:</b> Support for 180 physical disks is a premium feature and requires activation. The maximum number of physical disks supported without using the premium feature is 120.
SAS connectors	Two SAS IN ports to connect hosts One SAS OUT port for expansion to an additional PowerVault MD3060e expansion enclosure   <b>NOTE:</b> SAS connectors are SFF-80644 compliant.
Serial connector (debug port)	Six pin port   <b>NOTE:</b> For technical support use only.

**Table 11. Back-Panel Connectors (Per RAID Controller Module)**


SAS connectors	Four SAS IN ports to connect hosts   <b>NOTE:</b> SAS and connections to the same host is not supported.
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	 <b>NOTE:</b> SAS and connections to the same host is not supported.
	Two SAS OUT ports, it is recommended that you use the first port for expansion to an additional PowerVault MD3060e expansion enclosure. Only one expansion port is supported at any given time.
	 <b>NOTE:</b> SAS connectors are SFF-8644 compliant.
Serial connector (debug port)	One 6-pin mini serial port
	 <b>NOTE:</b> For technical support use only.
Management Ethernet connector	One 100/1000 Mbps Ethernet connection for out-of-band management of the enclosure and the second Ethernet port is reserved.
	 <b>NOTE:</b> Directly attaching to the FC ports is not supported. The host connection must use a FC switch.

**Table 12. Power**

AC power supply (per power supply)	
Wattage	1755 W
Heat dissipation (maximum)	5988 BTU/hr
	 <b>NOTE:</b> 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	220 V AC, autoranging, 50 Hz/60 Hz
	 <b>NOTE:</b> 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


**Table 13. Environmental**

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

**Temperature**

Operating	Continuous operation: 10 °C to 35 °C (50 °F to 95 °F) at 20% to 80% relative humidity (RH), with 26 °C
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maximum dew point. De-rate maximum allowable dry bulb temperature at 1 °C/300 m (1 °F per 550 ft) above 900 m (2952.75 ft).

 **NOTE:** For information on supported expanded operating temperature range and configurations, see the Owner's Manual at [dell.com/support/manuals](https://dell.com/support/manuals).

Storage	-40 °C to 65 °C (-40 °F to 149 °F) with a maximum temperature gradation of 20 °C per hour
<b>Relative humidity</b>	
Operating	20% to 80% (noncondensing) with maximum humidity gradation of 10% per hour
Storage	5% to 95% at a maximum wet bulb temperature of 38 °C (100.4 °F)
<b>Maximum vibration</b>	
Operating	0.26 G <sub>rms</sub> at 5 Hz to 350 Hz in operational orientation
Storage	1.88 G <sub>rms</sub> at 10 Hz to 500 Hz for 15 minutes (all six sides tested)
<b>Maximum shock</b>	
Operating	One shock pulse in the positive z axis of the system at 31 G for 2.6 ms 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) at 71 G for up to 2 ms Six consecutively executed shock pulses in the positive and negative x, y, and z axes (one pulse on each side of the system) of 22 G faired square wave pulse with velocity change at 200 inches/second (508 centimeters/second)
<b>Altitude</b>	
Operating	Maximum 3000 m (9,842 ft)
Storage	Maximum 12192 m (40,000 ft)
<b>Airborne contaminant level</b>	
Class	G1 as defined by ISA-S71.04-1985