



POWEREDGE RAID CONTROLLER H840

The Dell EMC PowerEdge RAID Controller (PERC) H840 is an eight-port (2-x4 connectors) external 12Gb/s SAS solution for performance-hungry external storage environments supporting up to 192 SAS hard-disk drives or solid-state drives.

As storage demands expand and processing loads grow, it becomes increasingly more difficult for administrators to achieve maximum performance and scale from their applications. The newest line of Dell EMC PERC cards, built on the LSI 3508 dual-core ARM A15 RAID-On-Chip (ROC), offer unmatched I/O performance for database applications and streaming digital media environments.

The PERC H840, with eight external ports (2- x4 connectors), delivers two high performance ARM A15 processor cores and integrates a 72-bit, DDR4-2133 DRAM interface that drives 8GB non-volatile cache memory.¹ This controller is ideal for configuring external storage enclosures that drives high-performance SAS hard drives and application-accelerating solid state drives. The PERC H840 exploits the potential of 12Gb/s SAS SSDs for unsurpassed performance and enterprise-class reliability.

Enterprise data protection

Standard support for the most popular RAID levels, including RAID 5 and RAID 6, further strengthen the data protection capabilities of the PERC H840. Dell EMC's Flash Backed Cache or NV Cache technology allows protection of the cache for a nearly unlimited period of time.

Sophisticated DAS topologies

The PERC H840 can easily be connected and deployed within new 12Gb/s SAS environments to further simplify direct attached storage (DAS) scale management and reduce single point of failures common in expanded DAS environments. The PERC H840 is unique in that it offers higher levels of connectivity, simplified management and features and benefits typically available only in higher-end storage network configurations.

Intuitive RAID management

Managing the PERC H840 is easy using the integrated Dell Remote Access Controller 9 (iDRAC9) with Lifecycle Controller. Without having to deploy an agent, IT admins can configure, deploy, update, and monitor the PERC H840, via the GUI or through Dell EMC's CLI known as RACADM. Additionally, Dell EMC's one-to-many OpenManage console allows the user to perform storage operations across multiple servers, including the RAID controllers as well as the physical disks in the PowerEdge system and external enclosures. Benefits include:

- iDRAC creates and executes jobs for each storage configuration operation.
- Customer can do it Real-Time or schedule reboot for a later date.
- PERC H840 supports real-time RAID monitoring and hardware inventory.

Customers can also use Dell EMC OpenManage™ Server Administrator/ Storage Services (OMSS) tools to efficiently manage PERC products, including a pre-boot setup utilities and a full spectrum of online RAID management utilities. This suite of applications allow administrators to adjust SAS topology views from the system host down to the logical and physical drive level. Extending to enterprise deployments, these tools can scale to easily configure, monitor and manage RAID and JBOD volumes locally or over the LAN network.

PowerEdge PERC H840

Features	Technical Specification	
Solution provided	Eight-port (2- x4) external SAS solution for performance-hungry external storage environments	
Physical dimensions	167.6mm (6.6in) x 64.4mm (2.5in) (low profile)	
Connectors	Two mini-SAS HD external SFF8644	
Host bus type	8-lane, PCI Express 3.1 compliant	
Data transfer rates	Up to 12Gb/s per port	
SAS controller	LSISAS 3508 Dual Core ARM A15 Processor - ROC (RAID-On-Chip)	
Cache size	1MB Shared L2 Cache. 6MB On Chip Memory	
Key RAID & data protection features	RAID levels 0, 1, 5, 6 RAID spans 10, 50, 60 Online Capacity Expansion (OCE) Online RAID Level Migration (RLM) Auto resume on rebuild or reconstruction Single controller multi-pathing Load balancing Fast initialization for quick array setup Consistency Check for background data integrity Configurable Stripe size up to 1MB SED drive support Physical disk power management (Dimmer Switch™)	4K native sector support Up to 64 Virtual Disks Patrol Read for media scanning and repair Support UNMAP command S.M.A.R.T. support Global and dedicated hot-spare with Revertible Hot-Spare support <ul style="list-style-type: none"> • Automatic rebuild of hot-spare drives • Enclosure affinity NVRAM "Wipe" feature- protects proprietary data once card is decommissioned 6Gb/s & 12Gb/s SAS SSD support
RAID management	Dell EMC OpenManage™ Server Administrator/Storage Services iDRAC9 PERC CLI	Additional management: UEFI (HII) CEM
Operating temperature	Maximum ambient temperature: 60°C	
Operating voltage	+3.3V, +12V and +3.3V_Aux	
Operating systems	Microsoft® Windows Server® 2012 Microsoft® Windows Server® 2016 Red Hat® Enterprise Linux® 6.5 Red Hat® Enterprise Linux® 7.0 or later SUSE® Linux Enterprise Server 12 Virtualization options: VMware® 6.5	
Warranty	3-Year Standard Warranty. Up to five-year warranty available for controller & battery with extended warranty.	

1 H840 will ship with matching 8GB DRAM & NV Cache. 4GB will be enabled at launch with the additional 4GB enabled through a firmware release post launch.

Learn more at Dell.com/PowerEdge

Recommended services

ProSupport Plus with SupportAssist provides proactive and predictive support for critical systems. ProSupport provides comprehensive hardware and software support. Get more from your technology starting on day one with ProDeploy Enterprise Suite deployment offers. For more information, visit Dell.com/itlifecycleservices.

End-to-end technology solutions

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