# **EPICa**

## EP-4643S1/D1-S6S6 EP-4643S1/D1-F8S6

4U 6Gb SAS - 6Gb SAS / 8Gb FC - 6Gb SAS Redundant RAID Subsystem



**vm**ware<sup>\*</sup>



The EP-4643 series RAID subsystem features 6Gb SAS or 8Gb FC-AL host performance to increase system efficiency and performance. It features high capacity expansion, with 64 hotswappable SAS2/SATA3 hard disk drive bays in a 19-inch 4U rackmount unit, scaling to a maximum storage capacity in the terabyte range. The EP-4643D1 series also supports dual controllers which provide better fault tolerance and higher reliability of system operation.

### **Exceptional Manageability**

- The firmware-embedded Web Browser-based RAID manager allows local or remote management and configuration
- The firmware-embedded SMTP manager monitors all system events and user notification automatically
- The firmware-embedded SNMP agent allows remote to monitor events via LAN with no SNMP agent required
- Menu-driven front panel display
- Innovative Modular architecture

#### **Feature**

- Supports RAID levels 0, 1, 10(1E), 3, 5, 6, 30, 50, 60 and JBOD
- Supports online Array roaming
- Online RAID level/stripe size migration
- Online capacity expansion and RAID level migration simultaneously
- Support global and dedicated hot spare
- Online Volume Set Expansion
- Support multiple array enclosures per host connection
- Greater than 2TB per volume set (64-bit LBA support)
- Greater than 2TB per disk drive
- Supports 4K bytes/sector for Windows up to 16TB per volume set
- Disk scrubbing/ array verify scheduling for automatic repair of all configured RAID sets
- Login record in the event log with IP address and service (http, telnet and serial)
- Support intelligent power management to save energy and extend service life
- Support NTP protocol to synchronize RAID controller clock over the on-board LAN port
- Max 128 LUNs (volume set) per controller
- Transparent data protection for all popular operating systems
- Instant availability and background initialization
- Multi-path & load-balancing support (Microsoft MPIO)
- Automatic synchronization of firmware version in the dual-active mode
- Supports S.M.A.R.T, NCQ and OOB Staggered Spin-up capable drives
- Supports hot spare and automatic hot rebuild
- Local audible event notification alarm
- Redundant flash image for high availability
- Real time clock support



## Series Technical Specifications

Access	EP-4643S1/D1-S6S6	EP-4643S1/D1-F8S6
Host Interface	6Gb SAS – 6Gb SAS	8Gb FC – 6Gb SAS
Disk Interface	Single or Redundant	Single or Redundant
Description	Two / Four 6Gb/s SAS (SFF-8088)	Four / Eight FC-AL (8 Gb/s)
Direct Attached	6Gb/s SAS, 6Gb/s SATA	6Gb/s SAS, 6Gb/s SATA
Direct Attached	One / Two 6Gb/s SAS (SFF-8088)	One / Two 6Gb/s SAS (SFF-8088)
Expansion		
South   2 Dual Core RAID-On-Chip processor   South	64 Disks	64 Disks
TGB ~ 8GB / 2GB ~ 16GB DDR3-1333	Up to 256 Disks	Up to 256 Disks
ECC SDRAM	800MHz Dual Core RAID-On-Chip processor	800MHz Dual Core RAID-On-Chip process
ECC SDRAM	1GB ~ 8GB / 2GB ~ 16GB DDR3-1333	1GB ~ 8GB / 2GB ~ 16GB DDR3-1333
Management Port Support   Yes   Yes   Yes	ECC SDRAM	ECC SDRAM
Monitor Port Support   Yes   Yes   Yes   Yes   AID Features	Optional	Optional
AND Features  AND level	Yes	Yes
RAID level	Yes	Yes
Array Group		
Array Group	0, 1,10(1E), 3, 5, 6, 30, 50, 60 and JBOD	0, 1,10(1E), 3, 5, 6, 30, 50, 60 and JBOD
Up to 128		
Ves	Up to 128	Up to 128
Yes	Yes	Yes
Ves	Yes	Yes
Part	Yes	Yes
Part	Yes	Yes
Part	Yes	Yes
Yes   Yes		
Ves	Yes	Yes
Part	Yes	Yes
SMTP manager and SNMP agent         Yes         Yes           Redundant Flash image         Yes         Yes           Instant availability and background initialization         Yes         Yes           S.M.A.R.T. support         Yes         Yes           MAID 2.0         Yes         Yes           Bad block auto-remapping         Yes         Yes           Platform         Rackmount         Rackmount           Form Factor         4U         4U           4f of Hot Swap Trays         64         64           Tray Lock         Yes         Yes           Disk Status Indicator         Access / Fail LED         Access / Fail LED           Backplane         SAS2 / SATA3         SAS2 / SATA3         SAS2 / SATA3           4f of PS / Fan Modules         1100W x 2 w/PFC         1100W x 2 w/PFC           4f of Fans         15         15         15           Power Requirements         AC 90V ~ 254V Full Range, 50Hz~60Hz         AC 90V ~ 254V Full Range, 50Hz~60Hz         AC 90V ~ 254V Full Range, 50Hz~60Hz           Cefault Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")         Environmental           Relative Humidity         10% ~ 85% Non-condensing         10% ~ 40°C (50°F ~ 104°F)         10°C ~ 40°C (50°F ~		
Redundant Flash image         Yes         Yes           Instant availability and background initialization         Yes         Yes           S.M.A.R.T. support         Yes         Yes           MAID 2.0         Yes         Yes           Bad block auto-remapping         Yes         Yes           Enclosure         Platform         Rackmount         Rackmount           Form Factor         4U         4U         4U           # of Hot Swap Trays         64         64         64           Tray Lock         Yes         Yes           Disk Status Indicator         Access / Fail LED         Access / Fail LED           Backplane         SAS2 / SATA3         SAS2 / SATA3         SAS2 / SATA3           # of Fans         15         15         15           Power Requirements         AC 90V ~ 254V Full Range, 50Hz~60Hz         AC 90V ~ 254V Full Range, 50Hz~60Hz         AC 90V ~ 254V Full Range, 50Hz~60Hz           Default Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")         Provision Post 104°F)         10°C ~ 40°C (50°F ~ 104°F)         10°C ~ 40°C (50°F ~ 104°F)           Polysical Dimension         880(L) x 482.6(W) x 177(H) mm         880(L) x 482.6(W) x 177(H) mm         880(L) x 482.6(W) x 177(H) mm		
Nestant availability and   Pes   P		
Yes   Yes		
Yes	Yes	Yes
WAID 2.0         Yes         Yes           Bad block auto-remapping         Yes         Yes           Enclosure         Platform         Rackmount         Rackmount           Form Factor         4U         4U           # of Hot Swap Trays         64         64           Disk Status Indicator         Access / Fail LED         Access / Fail LED           Backplane         SAS2 / SATA3         SAS2 / SATA3           # of PS / Fan Modules         1100W x 2 w/PFC         1100W x 2 w/PFC           # of Fans         15         15           Power Requirements         AC 90V ~ 254V Full Range, 50Hz~60Hz         AC 90V ~ 254V Full Range, 50Hz~60Hz           Default Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")           Environmental         Relative Humidity         10% ~ 85% Non-condensing         10% ~ 85% Non-condensing           Operating Temperature         10°C ~ 40°C (50°F ~ 104°F)         10°C ~ 40°C (50°F ~ 104°F)           Physical Dimension         880(L) x 482.6(W) x 177(H) mm         880(L) x 482.6(W) x 177(H) mm	Yes	Yes
Section   Sect		
Platform Rackmount Rackmount  Form Factor 4U 4U  For Hot Swap Trays 64 64  Fray Lock Yes Yes  Disk Status Indicator Access / Fail LED Access / Fail LED  Backplane SAS2 / SATA3 SAS2 / SATA3  For PS / Fan Modules 1100W x 2 w/PFC 1100W x 2 w/PFC  For Fans 15 15  Power Requirements AC 90V ~ 254V Full Range, 50Hz~60Hz AC 90V ~ 254V Full Range, 50Hz~60H  Default Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")  Environmental  Relative Humidity 10% ~ 85% Non-condensing 10% ~ 85% Non-condensing  Operating Temperature 10°C ~ 40°C (50°F ~ 104°F) 10°C ~ 40°C (50°F ~ 104°F)  Physical Dimension 880(L) x 482.6(W) x 177(H) mm  Residence ACC 40°C (50°F ~ 104°F) 880(L) x 482.6(W) x 177(H) mm		
Platform         Rackmount         Rackmount           Form Factor         4U         4U           # of Hot Swap Trays         64         64           Tray Lock         Yes         Yes           Disk Status Indicator         Access / Fail LED         Access / Fail LED           Backplane         SAS2 / SATA3         SAS2 / SATA3           # of PS / Fan Modules         1100W x 2 w/PFC         1100W x 2 w/PFC           # of Fans         15         15           Power Requirements         AC 90V ~ 254V Full Range, 50Hz~60Hz         AC 90V ~ 254V Full Range, 50Hz~60Hz           Default Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")         Environmental           Relative Humidity         10% ~ 85% Non-condensing         10% ~ 85% Non-condensing           Operating Temperature         10°C ~ 40°C (50°F ~ 104°F)         10°C ~ 40°C (50°F ~ 104°F)           Physical Dimension         880(L) x 482.6(W) x 177(H) mm         880(L) x 482.6(W) x 177(H) mm		
Form Factor 4U 4U  # of Hot Swap Trays 64 64  Fray Lock Yes Yes  Disk Status Indicator Access / Fail LED Access / Fail LED  Backplane SAS2 / SATA3 SAS2 / SATA3  # of PS / Fan Modules 1100W x 2 w/PFC 1100W x 2 w/PFC  # of Fans 15 15  Power Requirements AC 90V ~ 254V Full Range, 50Hz~60Hz AC 90V ~ 254V Full Range, 50Hz~60H  Default Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")  Environmental  Relative Humidity 10% ~ 85% Non-condensing 10% ~ 85% Non-condensing  Operating Temperature 10°C ~ 40°C (50°F ~ 104°F)  Physical Dimension 880(L) x 482.6(W) x 177(H) mm 880(L) x 482.6(W) x 177(H) mm	Rackmount	Rackmount
# of Hot Swap Trays 64    Fray Lock   Yes   Yes   Yes		
Tray Lock         Yes         Yes           Disk Status Indicator         Access / Fail LED         Access / Fail LED           Backplane         SAS2 / SATA3         SAS2 / SATA3           # of PS / Fan Modules         1100W x 2 w/PFC         1100W x 2 w/PFC           # of Fans         15         15           Power Requirements         AC 90V ~ 254V Full Range, 50Hz~60Hz         AC 90V ~ 254V Full Range, 50Hz~60Hz           Default Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")         Environmental           Relative Humidity         10% ~ 85% Non-condensing         10% ~ 85% Non-condensing           Operating Temperature         10°C ~ 40°C (50°F ~ 104°F)         10°C ~ 40°C (50°F ~ 104°F)           Physical Dimension         880(L) x 482.6(W) x 177(H) mm         880(L) x 482.6(W) x 177(H) mm		
Disk Status Indicator         Access / Fail LED         Access / Fail LED           Backplane         SAS2 / SATA3         SAS2 / SATA3           # of PS / Fan Modules         1100W x 2 w/PFC         1100W x 2 w/PFC           # of Fans         15         15           Power Requirements         AC 90V ~ 254V Full Range, 50Hz~60Hz         AC 90V ~ 254V Full Range, 50Hz~60Hz           Default Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")         Environmental           Relative Humidity         10% ~ 85% Non-condensing         10% ~ 85% Non-condensing           Operating Temperature         10°C ~ 40°C (50°F ~ 104°F)         10°C ~ 40°C (50°F ~ 104°F)           Physical Dimension         880(L) x 482.6(W) x 177(H) mm         880(L) x 482.6(W) x 177(H) mm		
Backplane         SAS2 / SATA3         SAS2 / SATA3           # of PS / Fan Modules         1100W x 2 w/PFC         1100W x 2 w/PFC           # of Fans         15         15           Power Requirements         AC 90V ~ 254V Full Range, 50Hz~60Hz         AC 90V ~ 254V Full Range, 50Hz~60H           Default Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")         Environmental           Relative Humidity         10% ~ 85% Non-condensing         10% ~ 85% Non-condensing           Operating Temperature         10°C ~ 40°C (50°F ~ 104°F)         10°C ~ 40°C (50°F ~ 104°F)           Physical Dimension         880(L) x 482.6(W) x 177(H) mm         880(L) x 482.6(W) x 177(H) mm		
# of PS / Fan Modules  1100W x 2 w/PFC  1100W x 2 w/PFC  15  15  Power Requirements  AC 90V ~ 254V Full Range, 50Hz~60Hz  Default Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")  Environmental  Relative Humidity  10% ~ 85% Non-condensing  10% ~ 85% Non-condensing  Departing Temperature  10°C ~ 40°C (50°F ~ 104°F)  Physical Dimension  880(L) x 482.6(W) x 177(H) mm  880(L) x 482.6(W) x 177(H) mm		
# of Fans 15 15  Power Requirements AC 90V ~ 254V Full Range, 50Hz~60Hz AC 90V ~ 254V Full Range, 50Hz~60H  Default Slide Rail: Post to Post 800mm~1090mm (32"~42") / Option: Post to Post 750mm~900mm (29"~35")  Environmental  Relative Humidity 10% ~ 85% Non-condensing 10% ~ 85% Non-condensing  Operating Temperature 10°C ~ 40°C (50°F ~ 104°F) 10°C ~ 40°C (50°F ~ 104°F)  Physical Dimension 880(L) x 482.6(W) x 177(H) mm 880(L) x 482.6(W) x 177(H) mm		
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Operating Temperature         10°C ~ 40°C (50°F ~ 104°F)         10°C ~ 40°C (50°F ~ 104°F)           Physical Dimension         880(L) x 482.6(W) x 177(H) mm         880(L) x 482.6(W) x 177(H) mm	10% ~ 85% Non condensing	100/ - 950/ Non condensing
<b>Physical Dimension</b> 880(L) x 482.6(W) x 177(H) mm 880(L) x 482.6(W) x 177(H) mm		
	· , ,	
Weight (Without Disk) 43.5/45Kg 43.5/45Kg		
Weight (Without Disk)		6Gb SAS – 6Gb SAS Single or Redundant Two / Four 6Gb/s SAS (SFF-8088) 6Gb/s SAS, 6Gb/s SATA One / Two 6Gb/s SAS (SFF-8088)  64 Disks Up to 256 Disks 800MHz Dual Core RAID-On-Chip processor 1GB ~ 8GB / 2GB ~ 16GB DDR3-1333 ECC SDRAM Optional Yes Yes Yes  1

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UNIFOSA CORP.

Tel:886-2-2914-8001(Rep.) Fax:886-2-2914-7975
http://www.proware.com.tw