

DNS 1200 Setup Guide

DataOn Storage

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Safety Measures

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous. Follow these guidelines to avoid damage to the DNS 1200 or injury to yourself.

- Always disconnect power when carrying out work inside the unit.
- If possible, wear a grounded wrist strap when carrying out work inside the unit. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress the circuit board.
- Leave all components inside the static-proof packaging until you are ready to install the component.

Equipment Location




This equipment should only be accessed by SERVICE PERSONNEL or by USERS who have been instructed about the reasons for the restrictions applied to the location. Access is through the use of a TOOL or lock and key, or other means of security, and is controlled by the authority responsible for the location.

About this Guide

This guide describes how to setup and power on the DNS 1200 system. This guide is intended for trained personnel only.

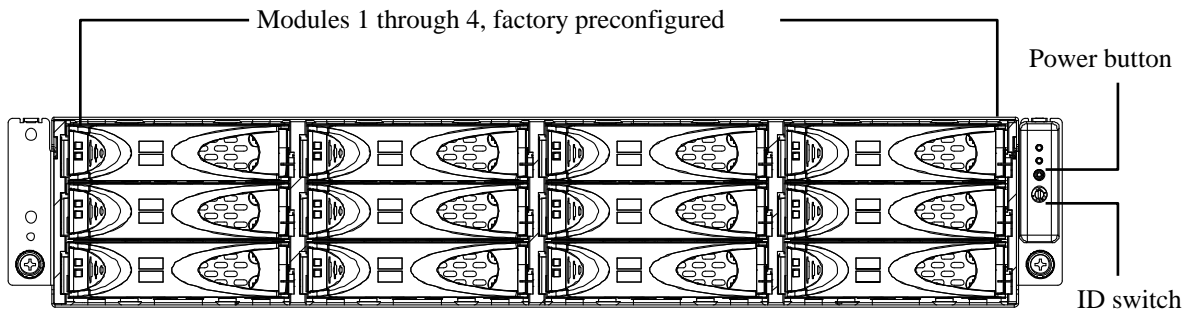
ACCESSORY

Check that these items are included in the package:

Items	Picture
SAS cable x2	 A black SAS cable with two L-shaped connectors at the ends, coiled in a loose circle.
Power cord x2	 A black power cord with a three-pronged AC power plug on one end and a smaller connector on the other, coiled in a loose circle.
CD x1	 A standard compact disc (CD) with its characteristic rainbow-colored reflective surface.

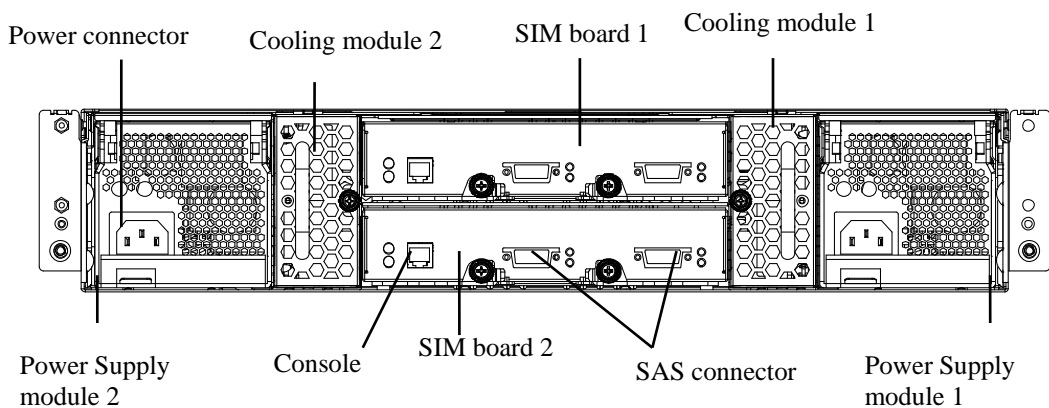
IDENTIFYING THE PARTS

DNS 1200 Front View



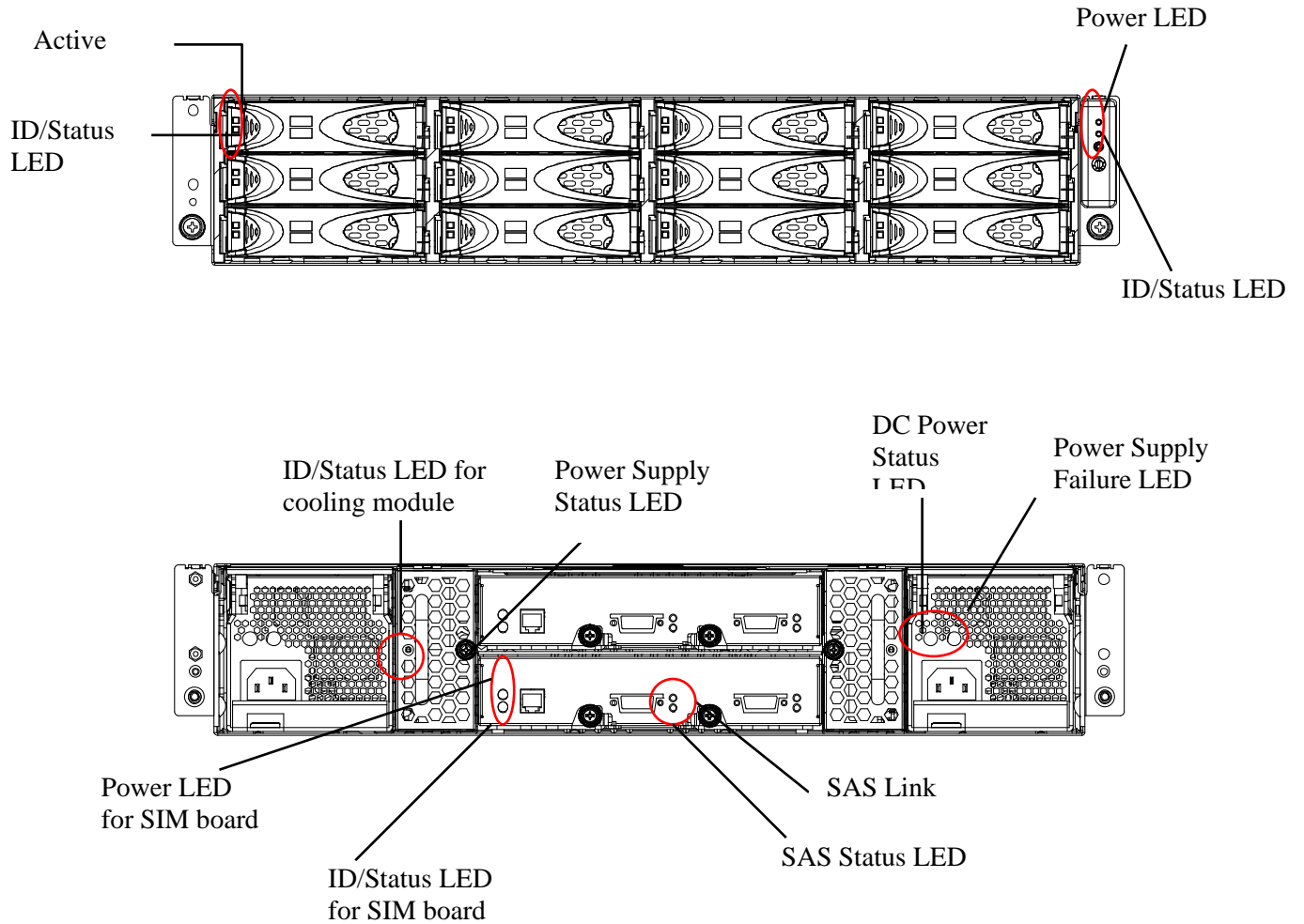
Important: DISK MODULES ARE INSTALLED IN SLOTS 1 THROUGH 4 AT THE FACTORY. THESE DISKS ARE PRE-CONFIGURED ACCORDING TO THEIR SLOT ASSIGNMENT TO PROVIDE MIRRORED BOOT AND RECOVERY CAPABILITY. DO NOT MOVE THE MODULES FROM THEIR ASSIGNED SLOTS AS SHOWN ABOVE. IF YOU NEED TO REPLACE A DISK DUE TO FAILURE, BE SURE THE REPLACEMENT DISK IS THE CORRECT CONFIGURATION FOR THE SLOT.

DNS 1200 Rear View



Important: NOTE THE DIRECTION OF THE POWER SUPPLY UNIT. INSERT THE POWER SUPPLY WITH THE LABELLED SIDE AT THE TOP, OR PLACE THE SIDE WHERE GOLD FINGER IS AT THE TOP.

DNS 1200 Front and Rear LED Descriptions



BEFORE YOU BEGIN

Important: BEFORE YOU SET UP THE DNS 1200 SYSTEM, BE SURE YOUR FACILITY MEETS THE FOLLOWING CONDITIONS.

- Confirm that there is adequate power at your facility. To support the high-availability features of the system, each power connector on the DNS 1200 must be connected to a different power circuit.
- Connect SAS cables before inserting the SIM board. Separate each hotplug/unplug SIM operation for at least 5 minutes.
- If necessary, install host bus adapters (HBAs) in any hosts (also referred to as servers) that have data access to the DNS 1200 system. Refer to the documentations ship with the HBA for hardware and driver installation instructions.

SETTING UP THE DNS 1200 SYSTEM

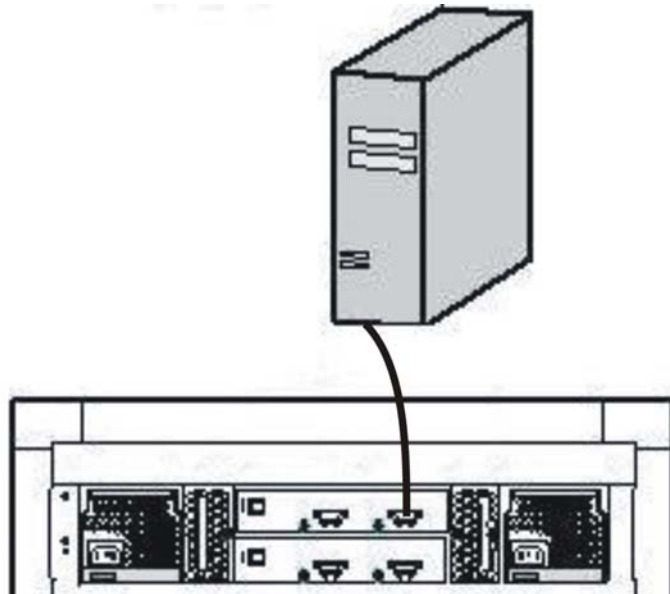
This section shows you how to set up the DNS 1200 system in two ways:

Connection type 1

Connect DNS 1200 to one/two Server

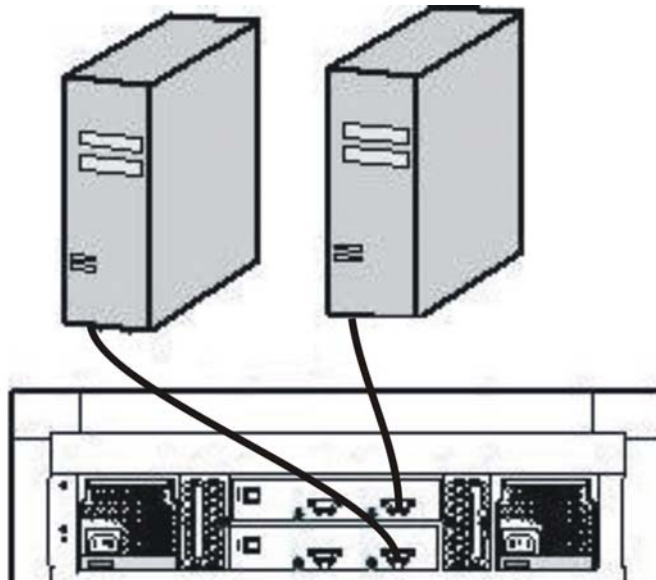
One host

This illustration shows one host with a dual-port HBA connected to the DNS 1200.



Two hosts

This illustration shows two hosts with a dual/single port HBA connected to the DNS 1200.



Connection Type 2

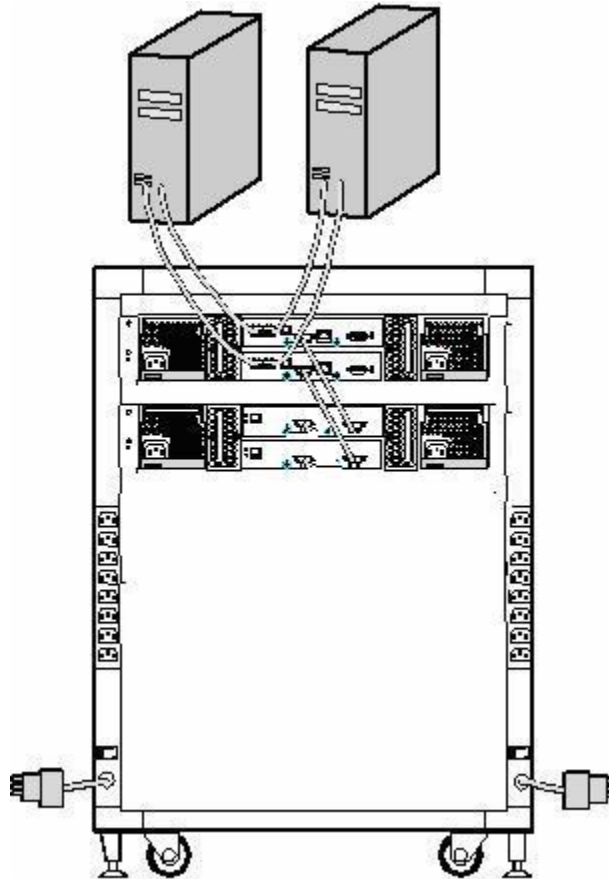
Connect DNS 1200 System to DNS 3110

Note: THE ILLUSTRATION BELOW SHOWS DNS 1200 JBODS CONNECTED TO THE DNS 3110.

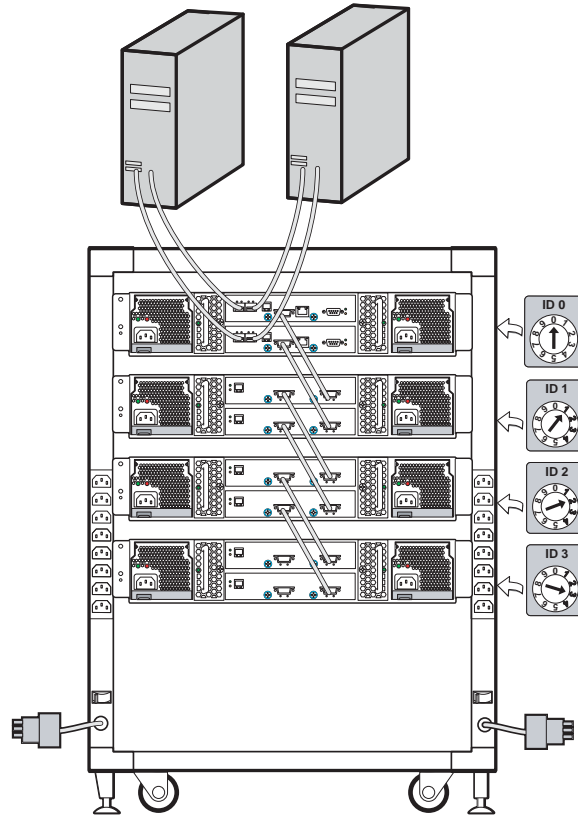
Note the following when verifying the enclosure ID (EID) settings and loop cabling for the DNS 1200 and any JBODs that are connected to it:

- The DNS 1200 supports a 3-GB SAS, back-end loop.
- Separate each hotplug/unplug SAS cable operation or JBOD SIM operation for at least 5 minutes.

Connect DNS 3110 to *one* DNS 1200 from “out” to “In” SAS ports as shown below:



Connect DNS 3110 to *DNS 1200 JBODs* from “out” to “In” SAS ports as shown below:



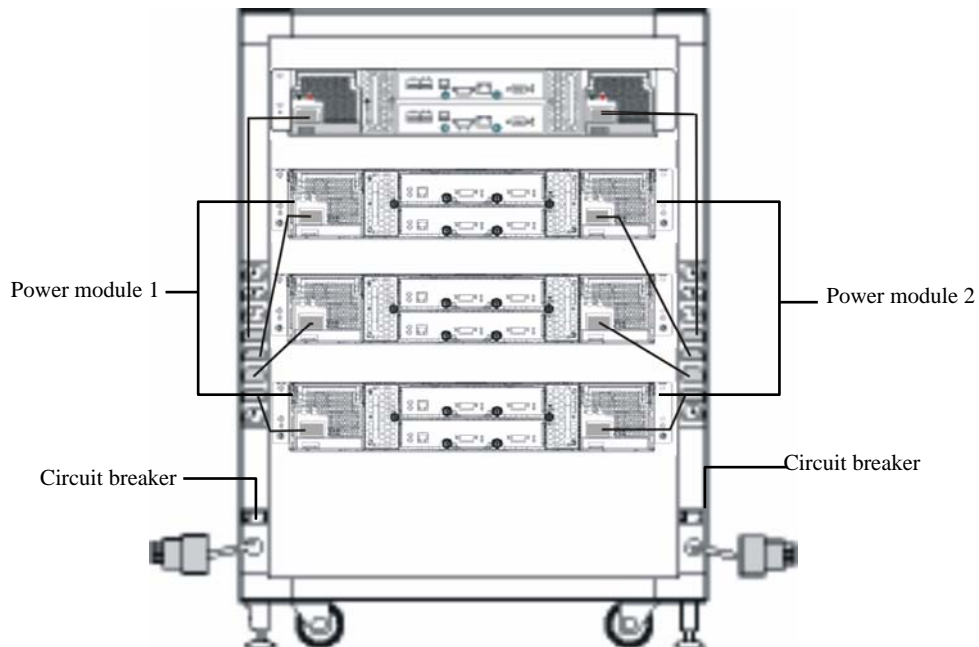
This connection facilitates online extension of JBOD. Use this connection if you wish to extend the number of JBODs in the current system.

- The following conditions must be met for the system to boot and operate:
- Each JBOD must have a unique EID (Enclosure ID).
- The only valid EIDs for a JBOD are 1, 2, or 3.
- The DNS 3110 EID is set to 0 (default value). The first JBOD that connects with the DNS 3110 must have an EID of 1 (because it is the second EID on the loop).
- The second or third JBOD must have EID of 2 or 3 respectively.

Confirm Power Connections and Settings

Important: YOU SHOULD INSTALL THE DNS 3110 AND JBODS IN A CABINET THAT PROVIDES DUAL POWER STRIPS, WITH SEPARATE OUTLETS. FOLLOW THE DOCUMENTATION THAT SHIPS WITH THE CABINET FOR INSTALLATION INSTRUCTIONS.

1. Ensure the cabinet circuit breakers are in the OFF position.
2. Ensure that all power cables are connected correctly and the connections are fully seated. Verify that power modules 1 & 2 are connected to different power strips.



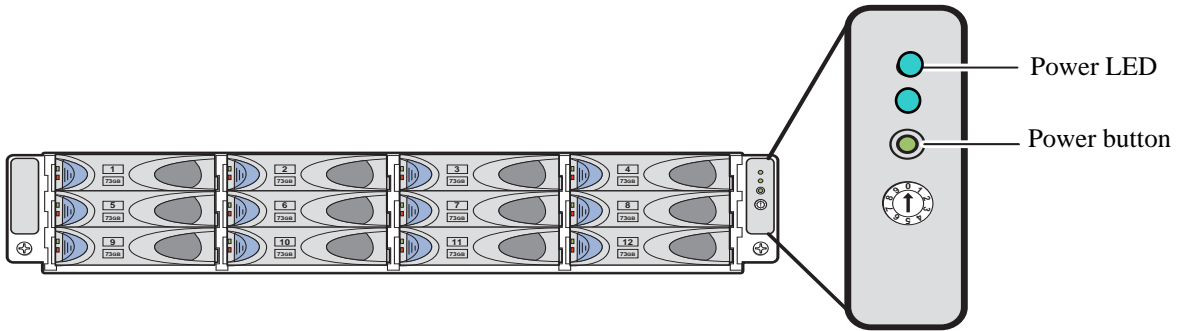
3. Connect the power cables from the cabinet to separate power circuits in your facility.

Note that we do not include cabinet in the package. Only two rails for the cabinet are provided.

Important: TO AVAIL OF THE SYSTEM'S HIGH AVAILABILITY, YOU MUST CONNECT THE CABINET POWER CABLES TO DIFFERENT POWER CIRCUITS. THE TOTAL POWER CONSUMPTION FOR A DNS 3110 AND THREE JBODS IS 1700W.

Power on the DNS 1200 System

1. Make sure the locks screws are locked properly on the power cables before powering on DNS 3110. Then power on JBOD first before powering on DNS 3110.
2. Verify that all connections are correct and then turn on both circuit breakers on the cabinet.



3. When the power LEDs on all JBODs turn blue, press the power button on the DNS 3110. The power button can also be used to turn off the buzzer when the buzzer is on.
4. When the system is ready, the JBOD is in steady blue.

FEATURES AND SPECIFICATIONS

DNS 1200 is a high-availability, cost-effective 2U SAS (Serial Attached SCSI) to SAS (Serial Attached SCSI) JBOD, which provides 12 pcs 3.5" hard drive carriers to support various types of hard drive, including 3G SAS hard drive, and 1.5G/3G SATA II hard drive with interposer card. In addition to 12 pcs hard drive carriers, DNS 1200 system supports two 500W Full Redundant Power Supplies, two FAN modules and two SIM modules.

High Reliability: Redundant SIM modules, power supplies and FAN modules design secure "No Single-Point Failure". Active-Active Dual Controller Architecture, hot-swappable hard disk, and dual SAS and SATA II paths with Interposer Card ensure that DNS 1200 has high reliability and achieves 24x7 availability.

High Scalability: Each DNS 1200 system supports a maximum of 12 SAS/SATAII hard disks per system, and up to 48 drives by daisy-chaining JBOD.

High Flexibility: DNS 1200 system supports both SAS and SATA II disks depending on customer's needs. This feature provides the most cost-effective storage pools for different kinds of data and provides a better management for ILM (Information Life Cycle Management) applications.

High Performance: The Active-Active Dual Controller Architecture ensures high system performance.

Features:

- Redundant SIM Modules, Power Supplies and FAN Modules
- Active-Active Dual Controller Architecture
- Support full path fail-over function which provides data redundancy
- Support Drive Auto Detection and Hot Swap
- Support online firmware upgrade via management tool

Connectivity Features:

- Two 3Gb SAS ports in each SIM module provides host connectivity
- Support up to 48 drives by daisy-chaining JBODs.
- Connected and managed by RAID controller
- Connect to SAS Expander
- Support Direct Attach
- Support daisy-chain of JBODs

<p>Host Interface:</p> <ul style="list-style-type: none"> ■ Two 3G SAS ports on each SIM module <p>Hard Disk Interface:</p> <ul style="list-style-type: none"> ■ 12 x dual ported SAS (3Gb/s) or SATAII hard disks with interposer card (1.5Gb/s or 3Gb/s) ■ Up to a maximum of 12 disks per system. ■ By daisy-chaining JBODs, up to 48 disk drives are supported. <p>Redundant, Hot Swappable Components:</p> <ul style="list-style-type: none"> ■ 2 SIM Modules ■ 2 Power Supply Modules ■ 2 FAN Modules ■ up to 12 SAS/SATAII hard disks <p>Form Factor:</p> <ul style="list-style-type: none"> ■ Internal Bays: 12 Hard Disks ■ Rack Mount: 19 inch ■ Dimensions: The chassis dimensions measured at 445 mm (W) X 87.6 mm (H) X 564mm (D) (Sheet metal case only, not including bezel and rear module handle). 	<p>Management Features:</p> <ul style="list-style-type: none"> ■ Online FW upgrade via management tool ■ LED Indicators for SM Modules, Hard Drives, Power Supplies and FAN Modules Status. <p>Disk Drives:</p> <ul style="list-style-type: none"> ■ SAS Hard Disk Capacity: 73GB, 146GB. With Rotational velocity of 15K RPM. ■ 1.5 Gb/3Gb SATAII Hard Disk Drives with Interposer card has Capacity: 160GB, 200GB, 250GB with Rotational velocity of 7.2K RPM ■ 3.5-inch form factor, 1.0-inch height 	<p>AC Power:</p> <ul style="list-style-type: none"> ■ Input Voltage: 88-264 V AC ■ Input Frequency: 47-63Hz ■ Output Power: 500 W <p>Operating Environment:</p> <ul style="list-style-type: none"> ■ Operating Temperature: 0 to 35 degree Celsius ■ Operating Humidity: 20% to 95% (non-condensing) ■ Altitude: -50 to 10,000 feet ■ Shock: 31G @ 2.6ms, ½ sine wave pulse ■ Vibration: 0.25G @ 3Hz to 200Hz <p>Electromagnetic Emissions Standards:</p> <p>FCC- class A under 3dB</p> <p>CE- Specifically requirements in effect July 1, 2001</p> <p>VCCI- for Japan</p> <p>CCC- for China</p> <p>BSMI- for Taiwan/CNS/3438</p> <p>C-TICK- for Australia and New Zealand</p> <p>Safety Standards:</p> <p>UL/CUL: for U.S. with Canada / UL60950-1</p> <p>TUV: for Germany / EN60950-1</p> <p>CB (by TUV): IEC60950-1</p> <p>BSMI: Taiwan / CNS14336</p> <p>CCC: for China</p>
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