



# Replacing a Power Supply in Base System

## StorNext QD7000

Firmware 8.40.xx.xx



Replacing a Power Supply in Base System, 6-68672-01 Rev A, March 2018 Product of USA.

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Quantum specifications are subject to change.



# Preface

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**Note:** The 8.40.xx.xx firmware (Madrid) is used in the QD7000 (E5600, Titan RAID controller, only). Refer to the [NetApp to Quantum Naming Decoder](#) section for additional information.

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This section provides the following information:

- [Audience](#)
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## Audience

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This manual is intended for storage customers and technicians.

## Prerequisites

Prerequisites for installing and using this product include knowledge of:




- Servers and computer networks
- Network administration
- Storage system installation and configuration
- Storage area network (SAN) management and direct attach storage (DAS)
- Fibre Channel (FC) and Ethernet protocols



## NetApp to Quantum Naming Decoder

Use [Table 1](#) to correlate the NetApp product nomenclature to the equivalent Quantum-storage naming conventions.

Table 1 Product Nomenclature

<b>E-Series NetApp Product</b>	<b>Quantum-Storage</b>	<b>Description</b>
Controller-Drive Tray	Base System	Quantum uses Base System when referring to a drive tray with the RAID controllers.
Drive Tray	Expansion Unit	Quantum uses Expansion Unit when referring to a drive tray with the environmental services modules (ESMs).
E5600 (Code Name: Titan)	RAID Controller	Four 16Gb/s FC SFP+ host ports
E5500 (Code Name: Soyuz)	RAID Controller	Four 16Gb/s FC SFP+ host ports
E5400 (Code Name: Pikes Peak)	RAID Controller	Four 8Gb/s FC SFP+ host ports
DE6600 (Code Name: Wembley)	4U 60-drive enclosure	Sixty 3.5 inch disk drives

E-Series NetApp Product	Quantum-Storage	Description
<p>E5660</p> <ul style="list-style-type: none"> <li>• DE6600 4U drive enclosure</li> <li>• With E5600 RAID controllers (Titan)</li> </ul>	<p>Quantum StorNext QD7000</p>	
<p>E5560</p> <ul style="list-style-type: none"> <li>• DE6600 4U drive enclosure</li> <li>• With E5500 RAID controllers (Soyuz)</li> </ul>	<p>Quantum StorNext QD7000</p>	
<p>E5460</p> <ul style="list-style-type: none"> <li>• DE6600 4U drive enclosure</li> <li>• With E5400 RAID controllers (Pikes Peak)</li> </ul>	<p>Quantum StorNext QD6000</p>	

E-Series NetApp Product	Quantum-Storage	Description
<p>E5424</p> <ul style="list-style-type: none"> <li>• DE5600 24-drive 2U drive enclosure</li> <li>• Code Name: Camden</li> <li>• With E5400 RAID controllers (Pikes Peak)</li> </ul>	<p>Quantum StorNext QS2400</p>	
<p>E5412</p> <ul style="list-style-type: none"> <li>• DE1600 12-drive 2U drive enclosure</li> <li>• Code Name: Ebbets</li> <li>• With E5400 RAID controllers (Pikes Peak)</li> </ul>	<p>Quantum StorNext QS1200</p>	

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This unit is engineered and manufactured to meet all safety and regulatory requirements. Be aware that improper use may result in bodily injury, damage to the equipment, or interference with other equipment.

**WARNING:** Before operating this product, read all instructions and warnings in this document and in the system, safety, and regulatory guide.

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**ADVERSAL** Læs alle instruktioner og advarsler i dette dokument og i *Vejledning om system-sikkerheds- og lovgivningsoplysninger*, før produktet betjenes.

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**AVERTISSEMENT** Avant d'utiliser ce produit, lisez la totalité des instructions et avertissements de ce document et du *Guide d'informations sur le système, la sécurité et la réglementation*.

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**HINWEIS** Lesen Sie vor der Verwendung dieses Produkts alle Anweisungen und Warnhinweise in diesem Dokument und im System, Safety, and Regulatory Information Guide (Info-Handbuch: System, Sicherheit und Richtlinien).

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**ADVERTENCIA**

Antes de utilizar este producto, lea todas las instrucciones y advertencias en este documento y en la Guía informativa sobre sistema, seguridad y normas.

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**WARNING**

Läs alla anvisningar och varningar i detta dokument och i *System, säkerhet och krav från myndigheter - Informationshandbok* innan denna produkt tas i bruk.

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# Replacing a Failed Power Canister in the E5660 Controller-Drive Tray

To access this product, go to the NetApp® Support Site at [mysupport.netapp.com](http://mysupport.netapp.com)

Before you replace the power canister in the E5660 controller-drive tray, gather antistatic protection and a replacement power canister.

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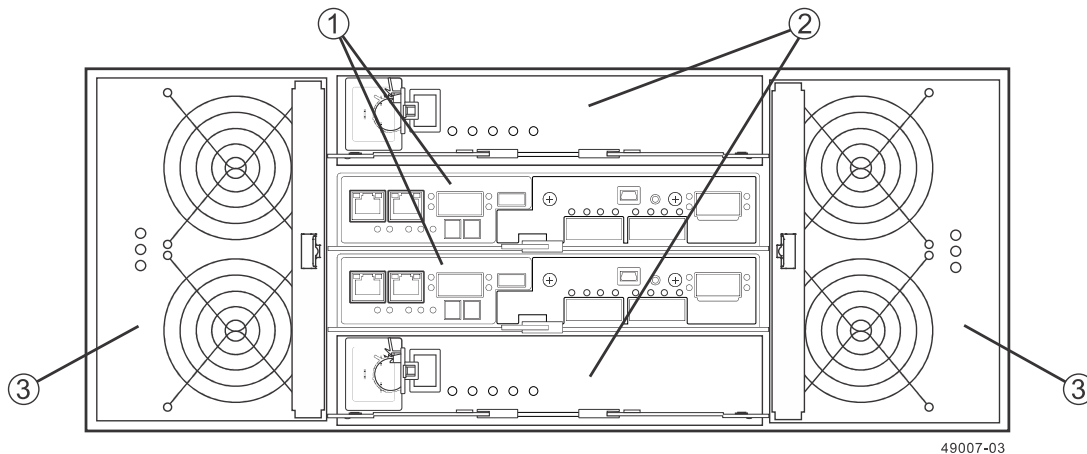
**ATTENTION Possible equipment damage** – If you perform this procedure with the power turned on, you must complete it within 15 minutes to prevent the possibility of overheating the equipment.

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You can determine whether you have a failed power canister in two ways:

- The Recovery Guru directs you to replace a failed power canister.
- You locate the failed power canister by checking the Power Service Action Required LED.

**Figure 1. E5660 Enclosure**



1. Controller Canister
2. Power Canister
3. Fan Canister

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**ATTENTION Possible hardware damage** – To prevent electrostatic discharge damage to the tray, use proper antistatic protection when handling tray components.

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## Removing a Power Canister in the E5660 Controller-Drive Tray

1. Gather support data about your storage array by using one of these methods:

- Use the storage management software to collect and save a support bundle of your storage array. From the Array Management Window toolbar, select **Monitor > Health > Collect Support Data Manually**. Then name and specify a location on your system where you want to store the support bundle.
- Use the command line interface (CLI) to run the `save storageArray supportData` command to gather comprehensive support data about the storage array. For more information about this command, refer to *Command Line Interface and Script Commands Programming Guide*.

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**NOTE** Gathering support data can temporarily impact performance on your storage array.

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2. Did the Recovery Guru direct you to replace a failed power canister?

- **Yes** – Go to step [4](#).
- **No** – Run the Recovery Guru to identify the failed component, and go to step [3](#).

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**ATTENTION Possible equipment damage** – To avoid taking the wrong power canister offline, contact your Technical Support Representative before performing step [3](#).

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3. If the Recovery Guru has directed you to replace the power canister and the blue Power Service Action Allowed LED is not on, use one of these methods to prepare the power canister for removal.

- On the GUI, click the image of the tray that contains the power canister you want to replace. From the Array Management Window toolbar, select **Hardware > Prepare for Removal**.
- On the command line, type this command and press Enter:

```
SMcli <ctrl_IP1> <ctrl_IP2> -c "Set tray [trayID] [powerCanister [left|right] service Allowed Indicator=on;"
```

In this command:

- `<ctrl_IP1>` `<ctrl_IP2>` are the identifiers of the controllers in the controller-drive tray.
- `[trayID]` is the identifier of the controller-drive tray that contains the power canister you want to replace. Controller-drive tray ID values are 0 to 99. Be sure to type the square brackets around the identifier.
- `[left|right]` is the identifier of the power canister you want to replace. Valid values are `left` or `right`. Be sure to type the square brackets around the value.

4. Put on antistatic protection.

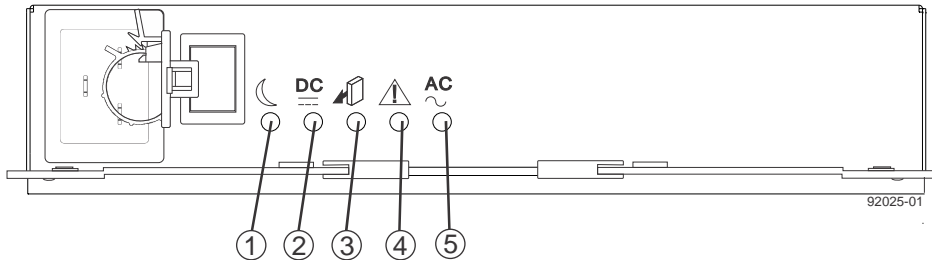
5. Unpack the new power canister.

- a. Set the new power canister on a flat, static-free surface near the controller-drive tray.
- b. Save all the packing materials in case you need to return the power canister.

6. Check the Power Service Action Required LED to locate the failed power canister.

If a fault is detected, the amber Power Service Action Required LED is on. Before you can safely remove the power canister, the blue Power Service Action Allowed LED must be on.

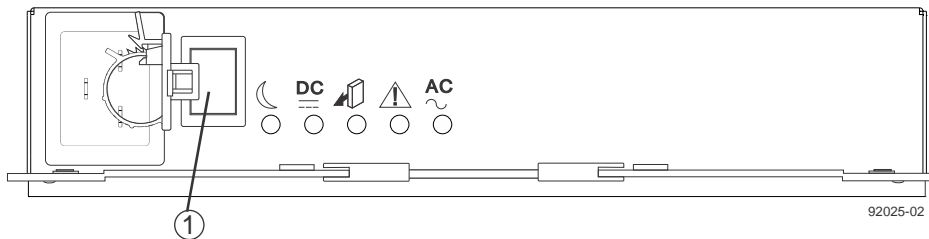
**Figure 2. LEDs on a Power Canister**



1. Standby LED (Green)
2. Output DC Power LED (Green)
3. Power Service Action Allowed LED (Blue)
4. Power Service Action Required LED (Amber)
5. Input AC Power LED (Green)

7. Turn off the Power switch on the power canister that has failed.

**Figure 3. Power Switch on the E2760 Controller-Drive Tray**

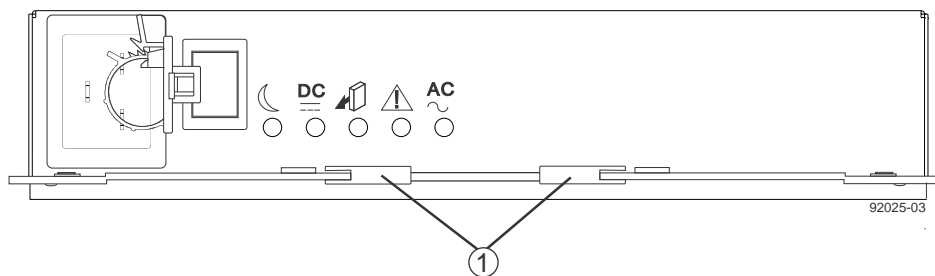


1. Power Switch

8. Remove the plastic strain relief from the power cord.
9. Unplug the power cord from the failed power canister.
10. Remove the power canister from the controller-drive tray.
  - a. Rotate the power canister latches outward to disengage the power canister.
  - b. Use the power canister latches as handles to pull the power canister out of the drive tray.

While removing the power canister, you might notice an increase in fan speed. The fan speed returns to normal after you have replaced the power canister.

**Figure 4. Removing a Power Canister**



1. Power Canister Latches

## Installing a Power Canister in the E5660 Controller-Drive Tray

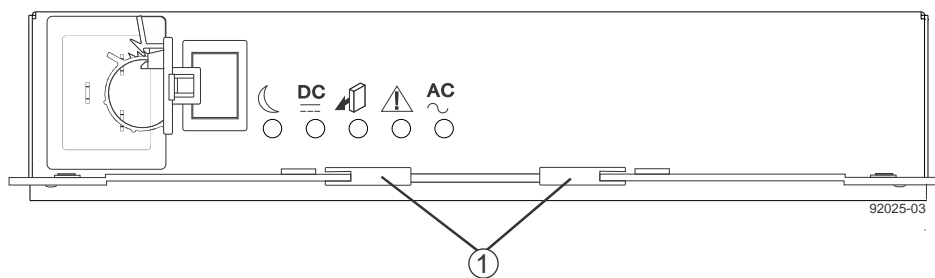
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**ATTENTION Possible hardware damage** – To prevent electrostatic discharge damage to the tray, use proper antistatic protection when handling tray components.

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1. Put on antistatic protection.
2. Slide the replacement power canister all the way into the controller-drive tray. Rotate the power canister latches towards the center to lock the power canister into place.

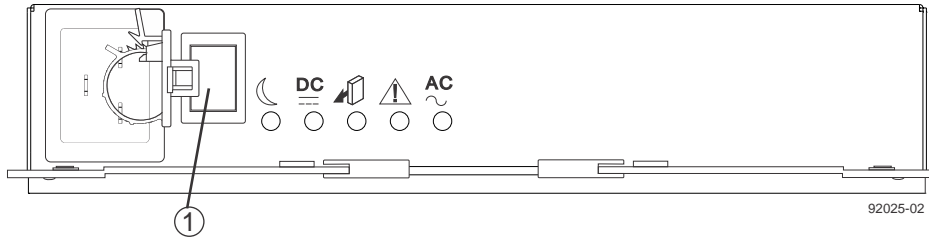
**Figure 5. Replacing a Power Canister**



1. Power Canister Latches

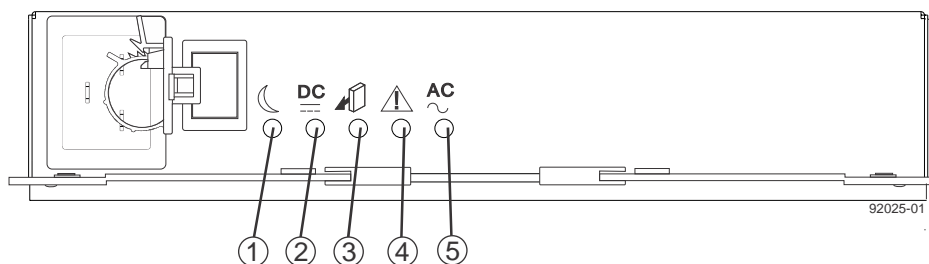
3. Make sure that the Power switch on the replacement power canister is turned off, and then plug in the power cord.

**Figure 6. Power Switch on the E5660 Controller-Drive Tray**



1. Power Switch
4. Attach the plastic strain relief to the power cord, and make sure that it fits snugly up against the power canister.
5. Turn on the Power switch on the replacement power canister.
6. Check the green Input AC Power LED and the amber Power Service Action Required LED on the new power canister.

**Figure 7. LEDs on a Power Canister**



1. Standby LED (Green)
2. Output DC Power LED (Green)
3. Power Service Action Allowed LED (Blue)
4. Power Service Action Required LED (Amber)
5. Input AC Power LED (Green)
7. Based on the LED status, perform one of these actions:
  - **The Input AC Power LED is on, and the Power Service Action Required LED is off** – Go to step [9](#).
  - **The Input AC Power LED is off, or the Power Service Action Required LED is on** – Check that the power canister is installed correctly. Reinstall the power canister. Go to step [8](#).
8. Did this action correct the problem?
  - **Yes** – Go to step [9](#).
  - **No** – If the problem has not been resolved, contact your Technical Support Representative.
9. Check the status of all of the trays in the storage array.
10. Does any component have a Needs Attention status?

- **Yes** – Click the **Recovery Guru** toolbar button in the Array Management Window, and complete the recovery procedure. If the problem has not been resolved, contact your Technical Support Representative.
- **No** – Go to step [11](#).

11. Remove the antistatic protection.

12. Gather support data about your updated storage array by using one of these methods:

- Use the storage management software to collect and save a support bundle of your storage array. From the Array Management Window toolbar, select **Monitor > Health > Collect Support Data Manually**. Then name and specify a location on your system where you want to store the support bundle.
- Use the command line interface (CLI) to run the `save storageArray supportData` command to gather comprehensive support data about the storage array. For more information about this command, refer to *Command Line Interface and Script Commands Programming Guide*.

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**NOTE** Gathering support data can temporarily impact performance on your storage array.

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- Fax: +1 (408) 822-4501
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