Replacing a Power-Fan CRU in the ST2500 M2 Array Module

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Revision History

Version and Date	Description of Changes
51349-00, Rev. A May 2011	Initial release of the document.

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Replacing a Power-Fan CRU in the ST2500 M2 Array Module

Use one of these procedures to replace a failed power-fan CRUin the ST2500 M2 array module. If your storage array uses AC power, use the procedure on page 1. If your storage array uses DC power, use the procedure on page 4.

Replacing an AC Power-Fan CRU in the ST2500 M2 Array Module

In this procedure, you will replace a failed AC power-fan CRU with a new AC power-fan CRU.

Before you start to replace the power-fan CRU in the array module, gather antistatic protection and a replacement AC power-fan CRU.

ATTENTION **Possible equipment damage** – You must replace the power-fan CRU within three minutes after removing the failed power-fan CRU to prevent the possibility of overheating the equipment.

You can determine whether you have a failed power-fan CRU in two ways:

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

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

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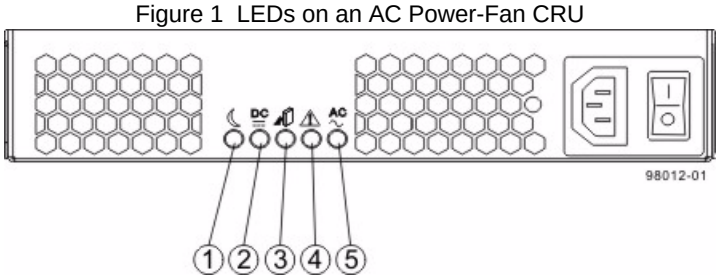
1. If possible, use the storage management software to create, save, and print a new storage array profile.
2. Did the Recovery Guru direct you to replace a failed power-fan CRU?
   - **Yes** – Go to step 3.
   - **No** – Run the Recovery Guru to identify the failed component, and go to step 3.
3. Put on antistatic protection.
4. Unpack the new power-fan CRU.
   a. Set the new power-fan CRU on a flat, static-free surface near the array module.
   b. Save all the packing materials in case you need to return the power-fan CRU.
5. Make sure that the Power switch on the new power-fan CRU is turned off.

6 Check the Power-Fan Service Action Required LEDs on the array modules to locate the failed power-fan CRU.

Figure 1 LEDs on an AC Power-Fan CRU



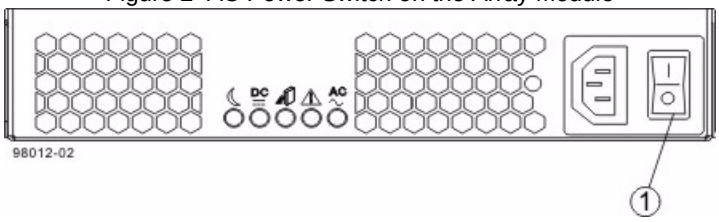
1 Standby Power LED (Green)
2 Power-Fan Output DC Power LED (Green)
3 Power-Fan Service Action Allowed LED (Blue)
4 Power-Fan Service Action Required LED (Amber)
5 Power-Fan Input AC Power LED (Green)

If a fault is detected, the amber Power-Fan Service Action Required LED is on. If you can safely remove the power-fan CRU, the blue Power-Fan Service Action Allowed LED is on.

WARNING (W02) **Risk of electrical shock** – Before removing or installing a power supply, turn off the power switch, and unplug the power cord.

7 Turn off the Power switch on the power-fan CRU that has failed.

Figure 2 AC Power Switch on the Array Module



1 AC Power Switch

8 Remove the plastic strain relief from the power cord.

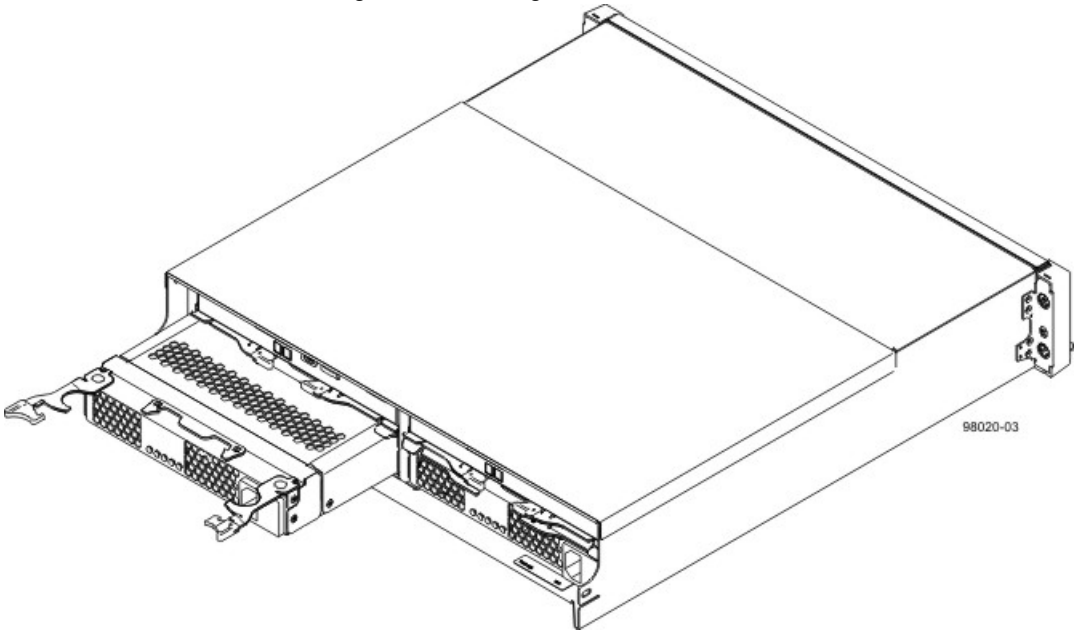
9 Unplug the power cord from the failed power-fan CRU.

10 Remove the power-fan CRU from the array module.

a Rotate the latches to disengage the power-fan CRU.

b Use the latches as handles to pull the power-fan CRU out of the array module.

Figure 3 Removing a Power-Fan CRU



11 Make sure that the Power switch on the replacement power-fan CRU is turned off, and plug in the power cord.

12 Slide the replacement power-fan CRU all the way into the array module. Rotate the latches towards the center to lock the power-fan CRU into place.

13 Attach the plastic strain relief to the power cord, and make sure that it fits snugly up against the power-fan CRU.

14 Turn on the Power switch on the new power-fan CRU.

15 Check the Power-Fan Output DC Power LED, the Power-Fan Input AC Power LED, and the Power-Fan Service Action Required LED on the new power-fan CRU (see step 6 on page 2).

16 Based on the LED status, perform one of these actions:

- **The Power-Fan Output DC Power LED and the Power-Fan Input AC Power LED are on *and* the Power-Fan Service Action Required LED is off** – Go to 18.
- **The Power-Fan Output DC Power LED and the Power-Fan Input AC Power LED are off *or* the Power-Fan Service Action Required LED is on** – Check that the power-fan CRU is installed correctly. Reinstall the power-fan CRU. Go to step 17.

17 Did this action correct the problem?

- **Yes** – Go to step 18.
- **No** – If the problem is not resolved, contact your Customer and Technical Support representative.

18 Complete any remaining Recovery Guru procedures, if needed.

19 Using the LEDs and the storage management software, check the status of all of the modules in the storage array.

20 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 is not resolved, contact your Customer and Technical Support representative.
- **No** – Go to step 21.

21 Remove the antistatic protection.

22 Create, save, and print a new storage array profile.

Replacing a DC Power-Fan CRU in the CDE2600 Array Module

In this procedure, you will replace a failed DC power-fan CRU with a new DC power-fan CRU.

Before you start to replace the power-fan CRU in the array module, gather antistatic protection and a replacement DC power-fan CRU.

ATTENTION **Possible equipment damage** – You must replace the power-fan CRU within three minutes after removing the failed power-fan CRU to prevent the possibility of overheating the equipment.

You can determine whether you have a failed power-fan CRU in two ways:

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

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

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1 If possible, use the storage management software to create, save, and print a new storage array profile.

2 Did the Recovery Guru direct you to replace a failed power-fan CRU?

- **Yes** – Go to step 3.
- **No** – Run the Recovery Guru to identify the failed component, and go to step 3.

3 Put on antistatic protection.

4 Unpack the new power-fan CRU.

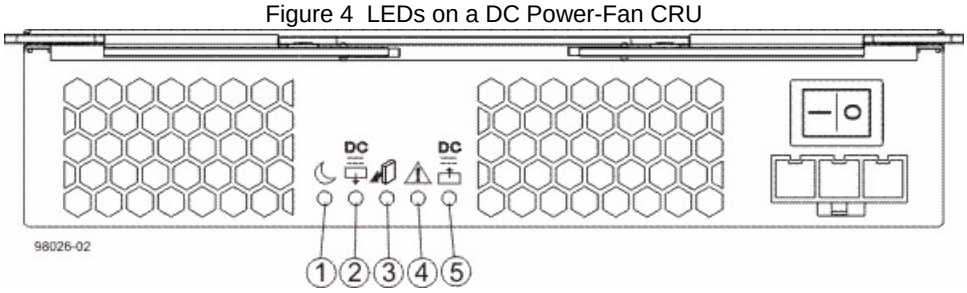
a Set the new power-fan CRU on a flat, anti-static surface near the array module.

b Save all the packing materials in case you need to return the power-fan CRU.

5 Make sure that the Power switch on the new power-fan CRU is turned off.

6 Check the Power-Fan Service Action Required LEDs on the array modules to locate the failed power-fan CRU.

Figure 4 LEDs on a DC Power-Fan CRU



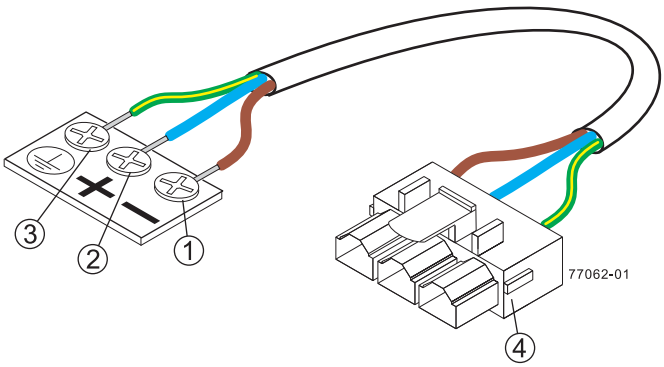
1 Standby Power LED (Green)
2 Power-Fan Output DC Power LED (Green)
3 Power-Fan Service Action Allowed LED (Blue)
4 Power-Fan Service Action Required LED (Amber)
5 Power-Fan Input DC Power LED (Green)

WARNING (W02) **Risk of electrical shock** – Before removing or installing a power supply, turn off the power switch, and unplug the power cord.

If a fault is detected, the amber Power-Fan Service Action Required LED is on. If you can safely remove the power-fan CRU, the blue Power-Fan Service Action Allowed LED is on.

7 Turn off the Power switch on the DC power-fan CRU that has failed.

WARNING (W12) **Risk of electrical shock** – This unit has more than one power source. To remove all power from the unit, all DC MAINS must be disconnected by removing all power connectors (item 4 below) from the power supplies.



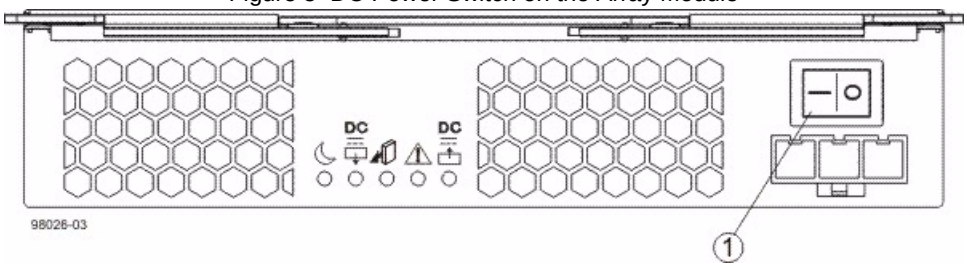
1 Supply (Negative), Brown Wire, –48 VDC
2 Return (Positive), Blue Wire
3 Ground, Green and Yellow Wire
4 DC Power Connector

CAUTION (C05) **Electrical grounding hazard** – This equipment is designed to permit the connection of the DC supply circuit to the earthing conductor at the equipment.

8 Disconnect the two-pole 30-amp circuit breaker.

9 Turn off both of the DC Power switches on all DC-powered modules in the storage array.

Figure 5 DC Power Switch on the Array Module



1 DC Power Switch

10 Remove the plastic strain relief from the DC power connector.

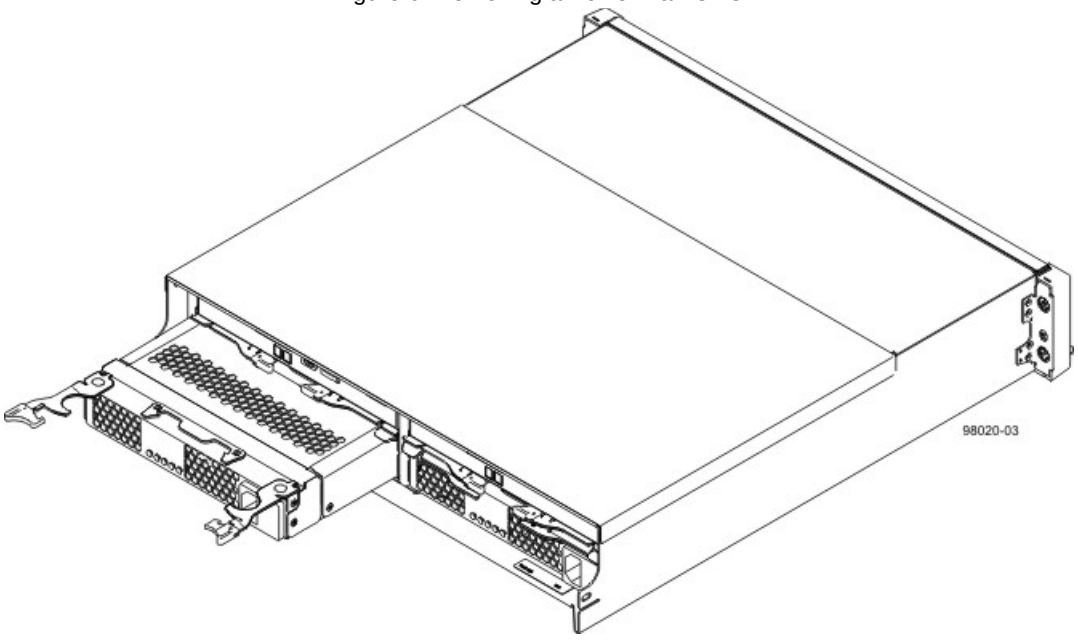
11 Unplug the DC power connector from the failed DC power-fan CRU.

12 Remove the power-fan CRU from the array module.

a Rotate the latches to disengage the power-fan CRU.

b Use the latches as handles to pull the power-fan CRU out of the array module.

Figure 6 Removing a Power-Fan CRU



13 Slide the replacement power-fan CRU all the way into the array module. Rotate the latches towards the center to lock the power-fan CRU into place.

14 Make sure that the Power switch on the replacement power-fan CRU is turned off, and plug in the DC power connector.

15 Attach the plastic strain relief to the DC power connector, and make sure that it fits snugly up against the CRU.

16 Connect the two-pole 30-amp DC circuit breaker.

17 Turn on both of the power switches on all of the DC-powered array modules in the storage array.

18 Check the Power-Fan Input DC Power LED, the Power-Fan Output DC Power LED, and the Power-Fan Service Action Required LED on the new power-fan CRU (see step 6 on page 5).

19 Based on the LED status, perform one of these actions:

- **The Power-Fan Input DC Power LED and the Power-Fan Output DC Power LED are on *and* the Power-Fan Service Action Required LED is off** – Go to step 21.
- **The Power-Fan Input DC Power LED and the Power-Fan Output DC Power LED are off *and* the Power-Fan Service Action Required LED is on** – Check that the power-fan CRU has been installed correctly. Reinstall the power-fan CRU if necessary. Go to step 20.

20 Did this action correct the problem?

- **Yes** – Go to step 21.
- **No** – If the problem is not resolved, contact your Customer and Technical Support representative.

21 Complete any remaining Recovery Guru procedures, if needed.

22 Using the LEDs and the storage management software, check the status of all of the modules in the storage array.

23 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 is not resolved, contact your Customer and Technical Support representative.
- **No** – Go to step 24.

24 Remove the antistatic protection.

25 Create, save, and print a new storage array profile.

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