Drive shelf

Install and maintain

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Drive shelf

Overview of shelf maintenance - NX224 shelves

You can take the following actions to maintain your NX224 shelf:

- Hot-add a drive
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Hot-add a drive - NX224 shelves

You can add new drives to a powered-on shelf non-disruptively, even during I/O operations.

Use the NetApp Knowledge Base article Best practices for adding disks to an existing shelf or cluster.

Monitor drive shelf LEDs - NX224 shelves

You can monitor the health of your shelf by understanding the location and status conditions of the LEDs on your drive shelf components.

- The location (blue) LEDs, on a shelf's operator display panel (ODP) and both NVMe shelf modules (NSMs), can be activated to aid in physically locating the shelf that needs servicing: `storage shelf location-led modify -shelf-name` *`shelf_name`* `-led-status on`

  If you do not know the *`shelf_name`* of the affected shelf, run the `storage shelf show` command.

  Location LEDs remain illuminated for 30 minutes. You can turn them off by entering the same command, but using the `off` option.

- An LED state can be:
  - "On": The LED illumination is solid/steady
  - "Off": The LED is not illuminated
  - "Blink": The LED turns on and off at varying intervals depending on the FRU status
  - "Any state": The LED can be "On", "Off", or "Blink"

Operator display panel LEDs

The LEDs on the drive shelf front operator display panel (ODP) indicate whether your drive shelf is functioning normally or there are problems with the hardware.

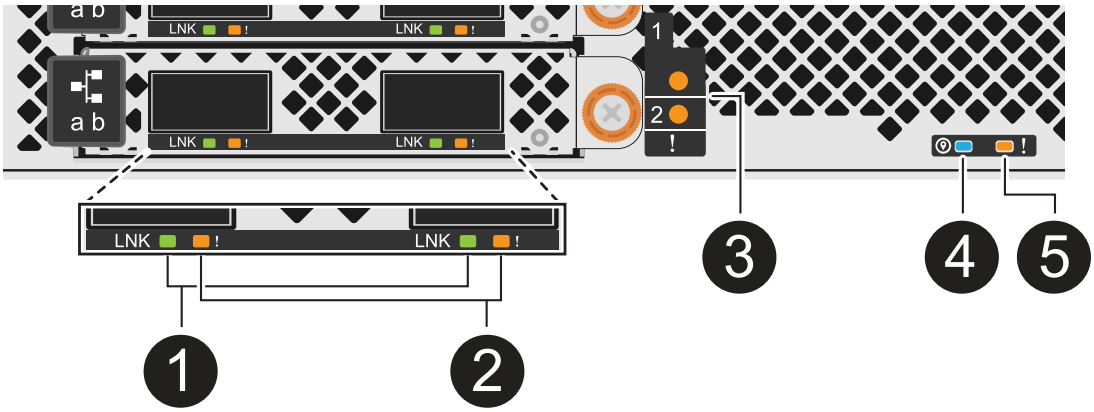
The following illustration and table describes the three LEDs on the ODP:

LED icon	LED name & color	State	Description
	Power (Green)	On	One or more power supplies are supplying power to the drive shelf.
!	Attention (Amber)	On	• An error occurred with the function of one of more shelf FRUs. Check event messages to determine corrective action to take. • If the two-digit shelf ID is also blinking, the shelf ID is in a pending state. Power cycle the drive shelf for the shelf ID to take affect.
	Location (Blue)	On	The system administrator activated this LED function.

NSM LEDs

The LEDs on an NSM indicate whether the module is functioning normally, whether it is ready for I/O traffic, and whether there are any problems with the hardware.

The following illustration and tables describe NSM LEDs associated with the function of a module and the function of each NVMe port on a module.



Call out	LED icon	Color	Description
1	LNK	Green	NVMe port/link: status
2	!	Amber	NVMe port/link: attention
3	!	Amber	I/O module: attention
4	⊙	Blue	NSM: Location
5	!	Amber	NSM: Attention

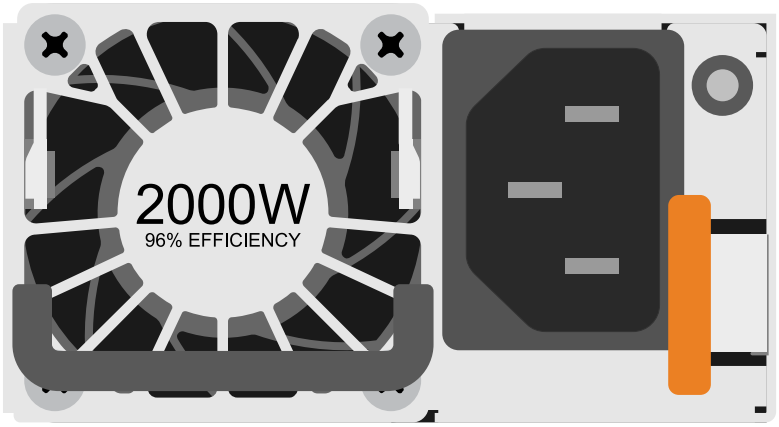
Status	NSM Attention (Amber)	Port LNK (Green)	Port Attention (Amber)	I/O Module Attention
NSM normal	Off	Any state	Off	Off
NSM fault	On	Any state	Any state	Off
NSM VPD Error	On	Any state	Any state	Off
No host port connection	Any state	Off	Off	Off
Host port connection link active	Any state	On/Blinks with activity	Any state	Off
Host port connection w/ fault	On	On/Off if all lanes are faulted	On	Off
BIOS boot from BIOS image after power up	Blink	Any state	Any state	Off

Status	NSM Attention (Amber)	Port LNK (Green)	Port Attention (Amber)	I/O Module Attention
I/O Module is missing	On	N/A	N/A	On

Power supply LEDs

The LEDs on an AC power supply (PSU) indicate whether the PSU is functioning normally or there are hardware problems.

The following illustration and tables describe the LED on a PSU.



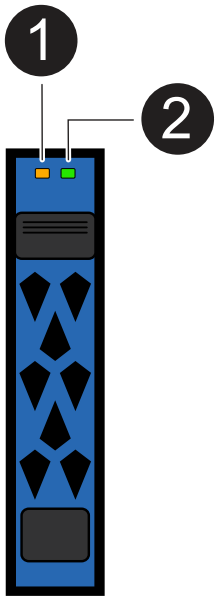
Call out	Description
1	The bi-color LED indicates power/activity when green and a fault when red.

Status	Power/activity (Green)	Attention (Red)
No AC power to the enclosure	Off	Off
No AC power to the PSU	Off	On
AC power on, but PSU not in enclosure	Blink	Off
PSU operating correctly	On	Off
PSU failure	Off	On
Fan failure	Off	On
Firmware update mode	Blink	Off

Drive LEDs

The LEDs on an NVMe drive indicates whether it is functioning normally or there are problems with the hardware.

The following illustration and tables describe the two LEDs on an NVMe drive:



Call out	LED name	Color
1	Attention	Amber
2	Power/activity	Green

Status	Power/Activity (Green)	Attention (Amber)	Associated ODP LED
Drive installed and operational	On/Blinks with activity	Any state	N/A
Drive failure	On/Blinks with activity	On	Attention (Amber)
SES device identify set	On/Blinks with activity	Blinks	Attention (Amber) is off
SES device fault bit set	On/Blinks with activity	On	Attention (Amber)
Power control circuit failure	Off	Any state	Attention (Amber)

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