



# Power and cabling requirements

## FlexPod

NetApp  
June 04, 2021

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# Power and cabling requirements

This section describes the power and minimum cabling requirements for a FlexPod Express design.

## Power requirements

The power requirements are based on U.S. specifications and assume the use of AC power. Other countries might have different power requirements. Direct current (DC) power options are also available for most components. For additional data about the maximum power required as well as other detailed power information, consult the detailed technical specifications for each hardware component.

For detailed Cisco UCS power data, see the [Cisco UCS Power Calculator](#).

The following table lists the power ports required per device.

<b>Cisco Nexus switches</b>	<b>Power cables required</b>
Cisco Nexus 3048	2x C13/C14 power cables for each Cisco Nexus 3000 series switch
Cisco Nexus 3524	2x C13/C14 power cables for each Cisco Nexus 3000 series switch
Cisco Nexus 9396	2x C13/C14 power cables for each Cisco Nexus 9000 series switch

<b>Cisco UCS chassis</b>	<b>Power cables required</b>
Cisco UCS 5108	2 CAB-US515P-C19-US/CAB-US520-C19-US for each Cisco UCS chassis

<b>Cisco UCS B-Series servers</b>	<b>Power cables required</b>
Cisco UCS B200 M4	N/A; blade server is powered by chassis
Cisco UCS B420 M4	N/A; blade server is powered by chassis
Cisco UCS B200 M5	N/A; blade server is powered by chassis
Cisco UCS B480 M5	N/A; blade server is powered by chassis

<b>Cisco UCS C-Series servers</b>	<b>Power ports required</b>
Cisco UCS C220 M4	2 x C13/C14 power cables for each Cisco UCS server
Cisco UCS C240 M4	
Cisco UCS C460 M4	
Cisco UCS C220 M5	
Cisco UCS C240 M5 Cisco UCS C480 M5	

<b>NetApp FAS controllers</b>	<b>Power ports required (per HA pair)</b>
FAS2554	2 x C13/C14

<b>NetApp FAS controllers</b>	<b>Power ports required (per HA pair)</b>
FAS2552	2 x C13/C14
FAS2520	2 x C13/C14
FAS8020	2 x C13/C14

<b>E-Series controllers</b>	<b>Power ports required (per HA pair)</b>
E2824	2 x C14/C20

<b>NetApp FAS disk shelves</b>	<b>Power ports required</b>
DS212C	2 x C13/C14
DS224C	2 x C13/C14
DS460C	2 x C13/C14
DS2246	2 x C13/C14
DS4246	4 x C13/C14

<b>E-Series disk shelves</b>	<b>Power ports required</b>
DE460C	2 x C14/C20
DE224C	2 x C14/C20
DE212C	2 x C14/C20

## Minimum cable requirements

This section describes the minimum cable requirements for a FlexPod Express design. Most FlexPod implementations require additional cables, but the number varies based on the deployment size and scope.

The following table lists the minimum number of cables required for each device.

<b>Cisco Nexus 3000 Series switches</b>	<b>Cables required</b>
Cisco Nexus 31108	At least two 10GbE fiber or Twinax cables per switch
Cisco Nexus 3172PQ	
Cisco Nexus 3048	
Cisco Nexus 3524	
Cisco Nexus 9396	
DS212C	Number of SAS cables depends on specific configuration of disk shelves
DS2246	
DS460C	
DS224C	
DS4246	

Cisco Nexus 3000 Series switches	Cables required
E2800	<ul style="list-style-type: none"> <li>• At least one Gigabit Ethernet (1GbE) cable for management per controller</li> <li>• At least two 10GbE cables per controller (for iSCSI) or two FC cables matching speed requirements</li> </ul>
DE460C	2 x mini-SAS HD cables per disk shelf
DE224C	2 x mini-SAS HD cables per disk shelf
DE212C	2 x mini-SAS HD cables per disk shelf

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