Dell EMC PowerSwitch Z9332F-ON

Setup Guide

October 2019

DELL EMC

Notes, cautions, and warnings

NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

2019 - 10

Rev. A00

Contents

1

About this guide

This guide provides site preparation recommendations, step-by-step procedures for rack mounting and desk mounting, inserting modules, and connecting to a power source.

CAUTION: To avoid electrostatic discharge (ESD) damage, wear grounding wrist straps when handling this equipment.

NOTE: Only trained and qualified personnel can install this equipment. Read this guide before you install and power up this equipment. This equipment contains two power cables. Disconnect both power cables before servicing.

NOTE: This equipment contains optical transceivers, which comply with the limits of Class 1 laser radiation.

Figure 1. Class 1 laser product tag

NOTE: When no cable is connected, visible and invisible laser radiation may be emitted from the aperture of the optical transceiver ports. Avoid exposure to laser radiation and do not stare into open apertures.

Regulatory

Marketing model Z9332F-ON is represented by the regulatory model E49W and the regulatory type E49W001.

Topics:

Related documents

For more information about the Z9332F-ON switch, see the following documents:

- *OS10 Enterprise Edition Release Notes*
- *OS10 Enterprise Edition User Guide*
- *Dell EMC PowerSwitch Z9332F-ON Installation Guide*
- *Dell EMC PowerSwitch Z9332F-ON Release Notes*

NOTE: To access product documentation and resources that might be helpful to install, configure, and troubleshoot the specific Dell EMC PowerSwitch, see the Dell EMC Networking OS10 Info Hub. For all other resources, see Dell EMC support: www.dell.com/support.

Information symbols

This book uses the following information symbols:

NOTE: The Note icon signals important operational information.

CAUTION: The Caution icon signals information about situations that could result in equipment damage or loss of data.

NOTE: **The Warning icon signals information about hardware handling that could result in injury.**

NOTE: **The ESD Warning icon requires that you take electrostatic precautions when handling the device.**

2

Site preparations

The Z9332F-ON switch is suitable for installation as part of a common bond network (CBN).

You can install the switch in:

- Network telecommunication facilities
- Data centers
- Other locations where the National Electric Code (NEC) applies

For more information about the Z9332F-ON switch specifications, see Specifications.

NOTE: Install the switch into a rack or cabinet before installing any additional components such as cables or optics.

Topics:

Site selection

Install your equipment in restricted access areas. A restricted access area is one where service personnel can only gain access using a special tool, lock, key, or other means of security. The authority responsible for the location controls access to the restricted area.

Ensure that the area where you install your switch meets the following safety requirements:

- Near an adequate power source. Connect the switch to the appropriate branch circuit protection according to your local electrical codes.
- Environmental—switch location—continuous temperature range is from 0°C to 45°C (32°F to 113°F).
- Operating humidity is from 5 to 85 percent noncondensing, continuous.
- In a dry, clean, well-ventilated, and temperature-controlled room, away from heat sources such as hot cooling vents or direct sunlight
- Away from sources of severe electromagnetic noise
- Positioned in a rack or cabinet, or on a desktop with adequate space in the front, back, and sides for proper ventilation and access
- Install the switch in information technology rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.

For more information about switch storage and environmental temperatures, see Specifications.

Cabinet placement

Install the Z9332F-ON switch only in indoor cabinets designed for use in a controlled environment.

Do not install the switch in outside cabinets. For cabinet placement requirements, see Site selection.

The cabinet must meet minimum size requirements. Airflow must be in accordance with the Electronic Industries Alliance (EIA) standard. Ensure that there is a minimum of 5 inches (12.7 cm) between the intake and exhaust vents and the cabinet wall.

Rack mount

When you prepare your equipment rack, ensure that the rack is grounded. Ground the equipment rack to the same ground point the power service in your area uses. The ground path must be permanent.

Switch ground

Dell EMC recommends grounding your switch. Use the Z9332F-ON switch in a CBN.

Fans and airflow

Fan installation is completed as part of the Factory Install based on the stock keeping unit (SKU) type. The Z9332F-ON switch supports AC airflow from the I/O to the PSU or from the PSU to the I/O.

The fans ship preinstalled with airflow from the I/O to the PSU. Optionally, you can order and install fans with airflow from the PSU to the I/O.

- Fan airflow from the I/O to the PSU—normal
- Fan airflow from the PSU to the I/O—reverse

NOTE: Use a single type of airflow fan in your switch. Do not mix reverse and normal airflows in a single switch.

For proper ventilation, position the switch in an equipment rack or cabinet with a minimum of 5 inches (12.7 cm) of clearance around the exhaust vents. The fan speed varies based on internal temperature monitoring. The switch never intentionally turns off the fans.

Power

To connect the switch to the applicable power source, use the appropriate power cable. An AC power cable is included with the switch.

NOTE: DC power is not supported in the initial release of the Z9332F-ON switch.

NOTE: AC power requires HighLine 200 VAC to 240 VAC support. You cannot use 120 VAC.

When installing AC or DC switches, follow the requirements of the National Electrical Code ANSI/NFPA 70, where applicable.

The switch is powered-up when the power cable is connected between the switch and the power source.

CAUTION: Always disconnect the power cable before you service the power supply slots. The switch has multiple power cables. Before servicing, ensure that all power cables are disconnected.

CAUTION: On the AC switch, use the power supply cable as the main disconnect device. Ensure that the socket-outlet is located/installed near the equipment and is easily accessible.

NOTE: PSU airflow must match the airflow direction of the fans. The fans ship preinstalled with airflow from the I/O to the PSU. Optionally, you can order and install fans with airflow from the PSU to the I/O.

NOTE: Module power is software that is controlled. You do not see module LEDs when the switch powers up in the open network install environment (ONIE).

Storing components

If you do not install your Z9332F-ON switch and components immediately, properly store the switch and all components following these guidelines:

- Storage location temperature must remain constant. The storage range is from -40° to 70°C (-40° to 158°F).
- Store on a dry surface or floor, away from direct sunlight, heat, and air conditioning ducts.
- Store in a dust-free environment.

NOTE: ESD damage can occur when components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the switch and its accessories. After you remove the original packaging, place the Z9332F-ON switch and its components on an anti-static surface.

3

Z9332F-ON Installation

To install the Z9332F-ON switch, complete the installation procedures in the order presented in this section.

Always handle the switch and its components with care. Avoid dropping the switch or any field replaceable units (FRUs).

NOTE: ESD damage can occur if components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the switch and its components. As with all electrical devices of this type, take all the necessary safety precautions to prevent injury when installing this switch.

Topics:

Unpack

NOTE: Before unpacking the switch, inspect the container and immediately report any evidence of damage.

When unpacking the switch, ensure that the following items are included:

- One Z9332F-ON switch
- Two sets of rail kits, no tools needed
- One RJ-45 to DB-9 female cable
- Two hot-swappable PSUs
- Seven hot-swappable fan units
- Two country- and region-specific AC power cables
- *Dell EMC PowerSwitch Z9332F-ON Set-up Guide*
- *Safety and Regulatory Information*
- *Warranty and Support Information*

1. Place the container on a clean, flat surface and cut all straps securing the container.
2. Open the container, or remove the container top.
3. Carefully remove the switch from the container and place it on a secure and clean surface.
4. Remove all packing material.
5. Inspect the product and accessories for damage.

Ground cable

To attach a ground cable to the switch, use the included M4 screws.

NOTE: For an AC-powered switch, although the third conductor of the AC power cable provides a ground path, Dell EMC recommends grounding your switch with a dedicated ground wire.

The ground cable and ground lug are not included. The grounding lugs must be a UL-recognized, crimp-type lug.

CAUTION: Grounding conductors *must* be made of copper. Do not use aluminum conductors.

NOTE: Coat the one-hole lug with an anti-oxidant compound before crimping. Also, bring any unplated mating surfaces to a shiny finish and coat with an anti-oxidant before mating. Plated mating surfaces must be clean and free from contamination.

NOTE: The rack installation ears are not suitable for grounding.

To connect the ground cable to the switch:

1. Cut the user-supplied ground cable to the wanted length.
   The cable length must facilitate proper operation of the fault interrupt circuits. Use the shortest cable route allowable.
2. Crimp the ground cable inside the user-supplied ground lug.
3. Attach the other end of the ground cable to a suitable ground point such as the rack or cabinet.
   The rack installation ears are not a suitable grounding point.

Rack or cabinet installation

You may either place the switch on a rack shelf or mount the switch directly into a 19" wide, EIA-310- E-compliant rack. Rack mounting for the Z9332F-ON switch includes four-post, two-post, round threaded holes, or square holes. The rails system is provided for 1U front-rack and two-post installations.

The rails system includes two separately packaged rail assemblies. To begin installation, separate each rail assembly by sliding the inside rail out of the outside rail.

WARNING: This guide is a condensed reference. Read the safety instructions in your *Safety, Environmental, and Regulatory* information booklet before you begin.

NOTE: The figures in this section are not intended to represent a specific switch.

NOTE: Do not the use the mounted rails as a shelf or a workplace.

Rack mount safety considerations

- Rack loading—Overloading or uneven loading of racks may result in shelf or rack failure, possibly damaging the equipment and causing personal injury. Stabilize racks in a permanent location before loading begins. Mount the components starting at the bottom of the rack, and then work to the top. Do not exceed the load rating of your rack.
- Power considerations—Connect only to the power source specified on the unit. When you install multiple electrical components in a rack, ensure that the total component power ratings do not exceed the circuit capabilities. Overloaded power sources and extension cables are fire and shock hazards.
- Elevated ambient temperature—If you install the switch in a closed rack assembly, the operating temperature of the rack environment may be greater than the room ambient temperature. Use care not to exceed the 45°C (113°F) maximum ambient temperature of the switch.
- Reduced airflow—Do not compromise the amount of airflow that is needed for safe operation of the equipment. Install the equipment in the rack so that the equipment constantly has the correct amount of airflow surrounding it.
- Reliable earthing—Maintain reliable earthing of rack-mounted equipment. Pay particular attention to the supply connections other than the direct connections to the branch circuit, for example: use of power strips.
- Do not mount the equipment with the fan panel facing in the downward position.

Z9332F-ON switch installation

Rail installation

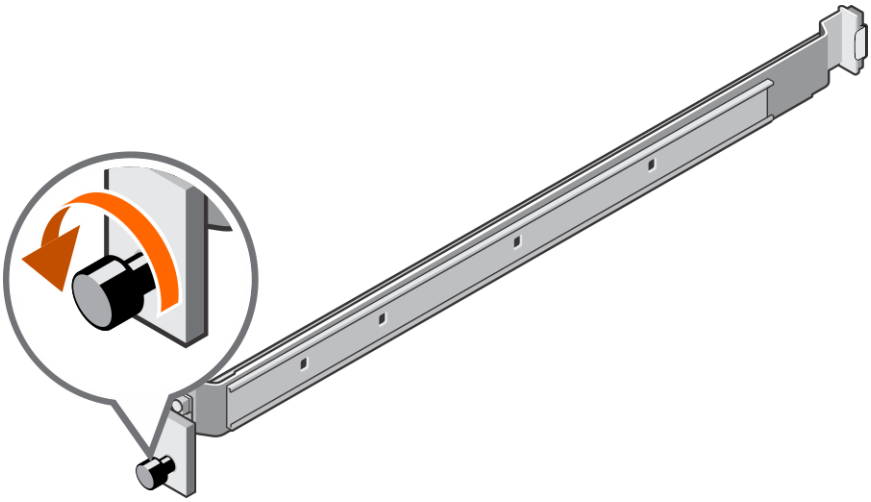
Complete the switch installation in the following order:

1. Attach the inner rails to the switch.
2. Attach the outer rails to the two-post rack.
3. Slide the switch into the rack.

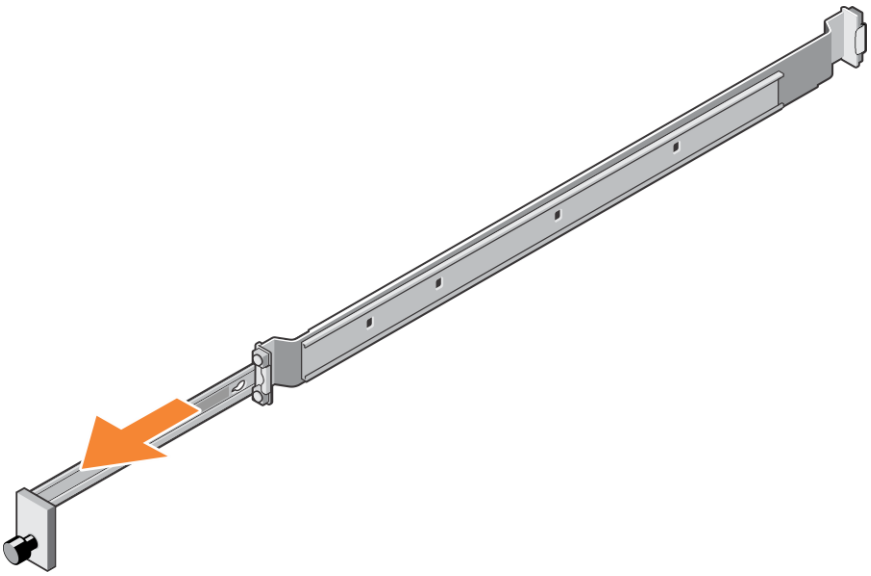
To install the switch:

1. Remove the rails from the shipping container.

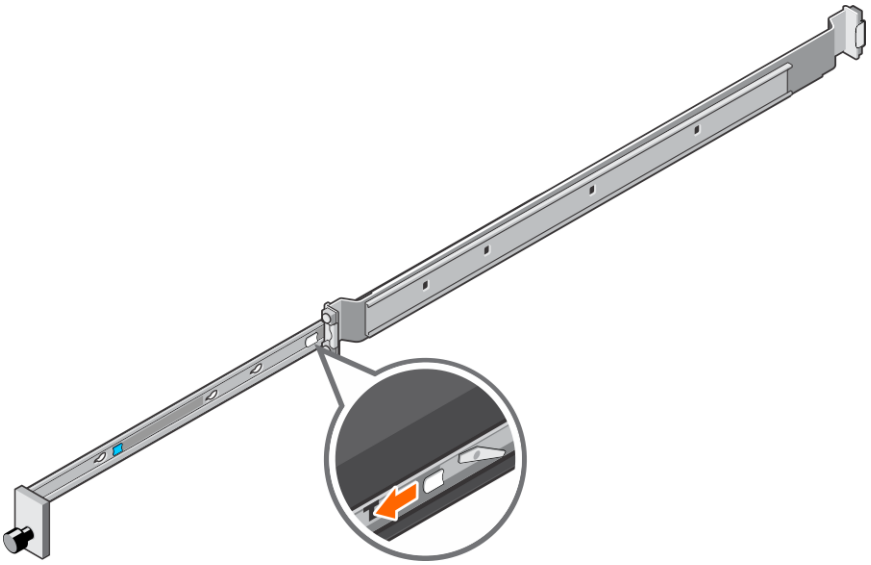
2. Loosen the thumbscrew at the front of the rail assembly.



3. Pull the inner rail out of the rail assembly.

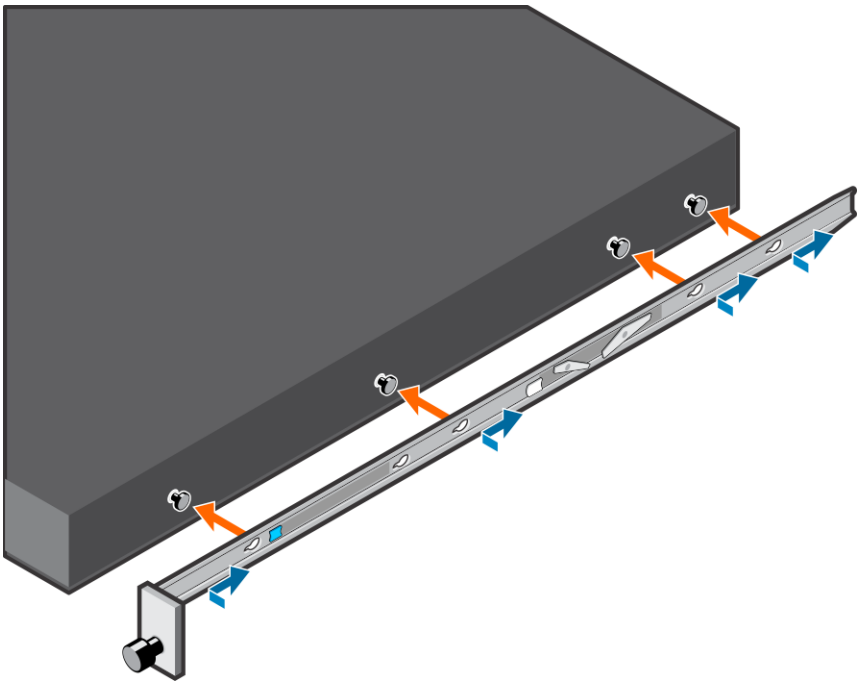


4. Slide the white-plastic lever towards the thumbscrew to separate the inner and outer rails.
   The lever is marked with a directional arrow.

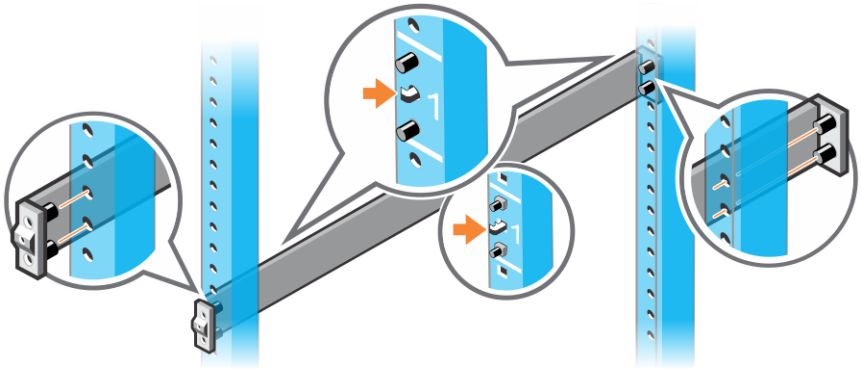


5. Line up the inner rail with the mounting heads on the switch and attach the rail to the switch.

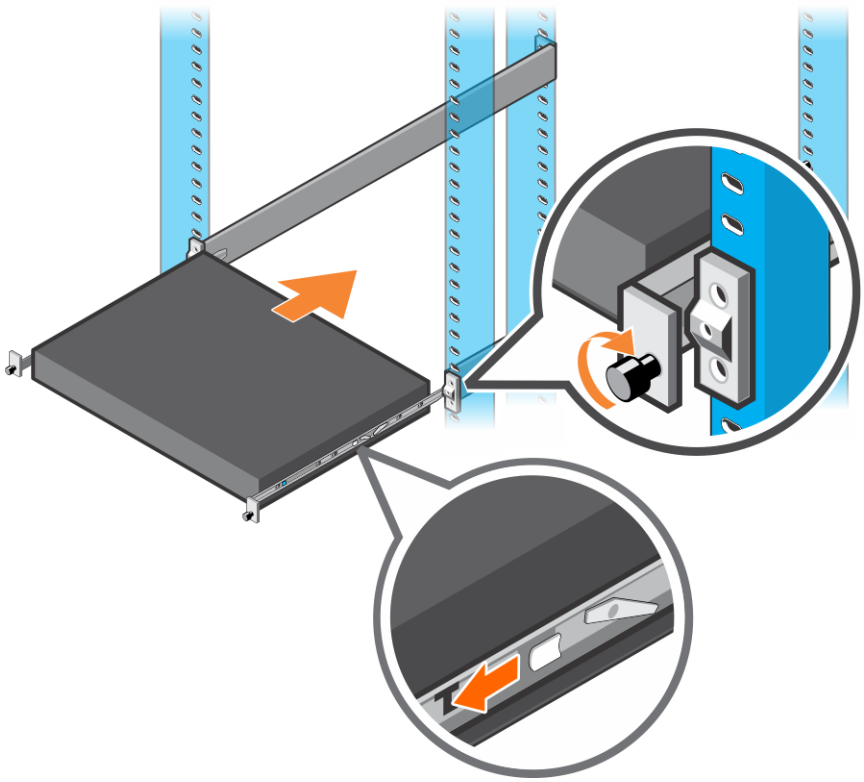
Slide the rail back until it locks into place.



6. Repeat with the second rail.
7. Align the two outer-rail rear tabs with two rear rackmount slots.
8. Pull the outer rail forward until the rear tabs snap into the rack.
9. Align the two outer-rail front tabs with two front rackmount slots and snap the outer rail into the rack.



10. Slide the switch inner rails into the rack outer rails.
11. Slide the blue-plastic lever towards the rear of the rack to fully insert the switch in the rack.
    You can pull or push the blue-plastic lever as it is bi-directional.



12. Tighten the front thumbscrew on each rail.

To remove the switch, loosen the thumbscrews, lift the rail latch, and slide the switch forward. After the switch is almost removed, slide the white-plastic lever towards the thumbscrews to unlock and remove the switch.

Optics installation

WARNING: When working with optical fibers, follow all warning labels and always wear eye protection. Never look directly into the end of a terminated or unterminated fiber or connector as it may cause eye damage.

1. Position the optic so it is in the correct position.
   The optic has a key that prevents it from being inserted incorrectly.
2. Insert the optic into the port until it gently snaps into place.

   NOTE: When you cable the ports, be sure not to interfere with the airflow from the small vent holes above and below the ports.

Optics removal

Remove an optic by pushing the tab on the optic and sliding the optic from the port.

When removing optics with direct attach cables (DACs) from the port, pull the release tab firmly and steadily. Before pulling the release tab, you may need to gently push the optic into the port to ensure that it is seated properly. Do not jerk or tug repeatedly on the tab.

Switch power-up

Supply power to the Z9332F-ON switch after you mount it in a rack or cabinet.

Reinspect your switch before power up. Verify the following:

- The equipment is properly secured to the rack. Dell EMC recommends properly grounding the switch.
- The ambient temperature around the unit, which may be higher than the room temperature, is within the limits specified for the Z9332F-ON switch, see Specifications.
- There is sufficient airflow around the unit.

- The input circuits are correctly sized for the loads and that you use sufficient overcurrent protection devices.
- All protective covers are in place.

CAUTION: Do not power up the switch if you did not install a fan module.

NOTE: A US AC power cable is included for powering up an AC power supply. You must order all other power cables separately.

NOTE: ESD damage can occur if components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the switch and its components.

Power up sequence

When the switch powers up, the fans immediately come on at high speed. The fan speed slows as the switch continues to boot up.

After switch installation

After you have securely installed and powered on the Z9332F-ON switch:

- If you are using Dell EMC software, see switch documentation at www.dell.com/support.
- If you are using third-party software, see ONIE documentation at www.onie.org.

4

Specifications

This section lists the Z9332F-ON switch specifications.

CAUTION: Operate the product at an ambient temperature not higher than 45°C (113°F).

NOTE: For RoHS information, see Restricted Material Compliance.

Topics:

- Chassis physical design

Chassis physical design

Table 1. Chassis physical design

Parameter	Specifications
Height	1.70 inches (43.1 mm)
Width	17.26 inches (438.5 mm)
Depth	25.88 inches (657.5 mm)
Chassis weight with factory-installed components	31 lbs (14.1 kg)—PSUs and fans
Rack clearance required	Front: 5 inches (12.7 cm) Back: 5 inches (12.7 cm)

Table 2. Environmental parameters

Parameter	Specifications
Operating temperature	0° to 45°C (32°F to 113°F) continuously **NOTE: Reduce maximum temperature by 1°C/125 meters (1°F/228 feet) above 950 meters (3,117 feet).**
Operating humidity	5% to 85% (RH), non-condensing
Storage temperature	–40° to 70°C (–40° to 158°F)
Storage humidity	5% to 90%, non-condensing
Maximum thermal output	635W = 2167 BTU/Hr
Maximum operational altitude	10,000 feet (3,048 meters)
Maximum non-operational altitude	39,370 feet (12,000 meters)
Shock	Dell EMC Spec SV0115

NOTE: AC power requires HighLine 200 VAC to 240 VAC support. You cannot use 120 VAC.

Table 3. AC power requirements

Parameter	Specifications
Power supply	200–240 VAC 50/60 Hz
Maximum current draw per system	8.5A@200VAC

Parameter	Specifications
Maximum power consumption	1244.86 W maximum
Typical power consumption	1004 W typical—Measured @ 45°C, 16 ports with AOC and 16 ports with SR8 optics running snake traffic

5 Support

The support site provides documents and tools to help you effectively use your equipment and mitigate network outages. Through the support site you can obtain technical information, access software upgrades and patches, download available management software, and manage your open cases. The support site provides integrated, secure access to these services.

To access the support site, go to www.dell.com/support/. To display information in your language, scroll down to the bottom of the web page and select your country from the drop-down menu.

- To obtain product-specific information, enter the 7-character service tag, known as a luggage tag, or 11-digit express service code of your switch and click **Submit**.

  To view the chassis service tag or express service code, pull out the tag or enter the `show chassis` command from the CLI.
- To receive more technical support, click **Contact Us**. On the Contact Information web page, click **Technical Support**.

To access product documentation and resources that might be helpful to install, configure, and troubleshoot the specific Dell EMC Networking switch, see the Dell EMC Networking OS10 Info Hub.

To search for drivers and downloads, go to www.dell.com/drivers/.

To participate in community blogs and forums, go to www.dell.com/community.