Dell Networking
W-7010 Controller
Installation Guide

DELL

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Contents

Preface

This document describes the hardware features of the Dell Networking W-7010 Controller. It provides a detailed overview of the physical and performance characteristics of the controller, and explains how to install the controller and its accessories.

Guide Overview

- Chapter 1, "W-7010 Controller" on page 7 provides a detailed hardware overview of the W-7010 controller and each of its components.
- Chapter 2, "Installation" on page 17 describes how to install the W-7010 controller in a number of ways and how to install each its components.
- Chapter 3, "Specifications, Safety, and Compliance" on page 25 lists the W-7010 controller's technical specifications, and safety and regulatory compliance information.

Related Documentation

Refer to the latest *Dell Networking W-Series ArubaOS User Guide* and *Dell Networking W-Series ArubaOS CLI Reference Guide* for complete management of the W-7010 controller. The documents are available at **dell.com/support/manuals**.

Contacting Dell

Table 1 *Contact Information*

Web Site Support	
Main Website	**dell.com**
Contact Information	**dell.com/contactdell**
Support Website	**dell.com/support**
Documentation Website	**dell.com/support/manuals**

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W-7010 Controller

The Dell Networking W-7010 Controller is a wireless LAN controller that connects, controls, and intelligently integrates wireless Access Points (APs) and Air Monitors (AMs) into a wired LAN system.

There are two models of the W-7010 controller that do not differ physically or functionally from each other.

- W-7010-US: For the United States of America
- W-7010-RW: For the rest of the world

The W-7010 controller has the following port configuration:

Table 3 *W-7010 Controller Port Configuration*

Model	Access Port	Uplink Port	Number of APs Supported	Number of Users Supported
W-7010	16 x 10/100/1000BASE-T (12 x PoE/PoE+ and 4 x non-PoE)	2 x 1000BASE-X	32	2048

Package Checklist

NOTE: Inform supplier if there are any incorrect, missing, or damaged parts. If possible, retain the carton, including the original packing materials (see Table 4). Use these materials to repack and return the unit to the supplier if needed.

Table 4 *Package Contents*

Item	Quantity
W-7010 Controller	1
Mounting Brackets	2
M6 x 15 mm Phillips Pan Head Screws	4
M4 x 8 mm Phillips Flat Head Screws	8
M6 x 7 mm Grounding Screws	2
M6 Cage Nut	4
M6 Clip Nut	4
AC Power Cord Retaining Clip	1
Power Cable	1
USB Console Cable	1
Rubber Feet	4
Installation Guide (this document, printed)	1
Quick Start Guide (printed)	1
Dell Software License Agreement (printed)	1

Table 4 *Package Contents (Continued)*

Item	Quantity
Dell Safety, Environmental, and Regulatory Information (printed)	1
Dell Warranty and Support Information (printed)	1

✏️ NOTE: Optional accessories are available for use with the W-7010 controller, and are sold separately. Contact your Dell sales representative for details and assistance.

W-7010 Components

This section introduces the different components and its location in the W-7010 controller.

Figure 1 shows the front panel of the W-7010 controller and Figure 2 shows the back panel of the W-7010 controller.

Figure 1 *Front Panel of the W-7010 Controller*
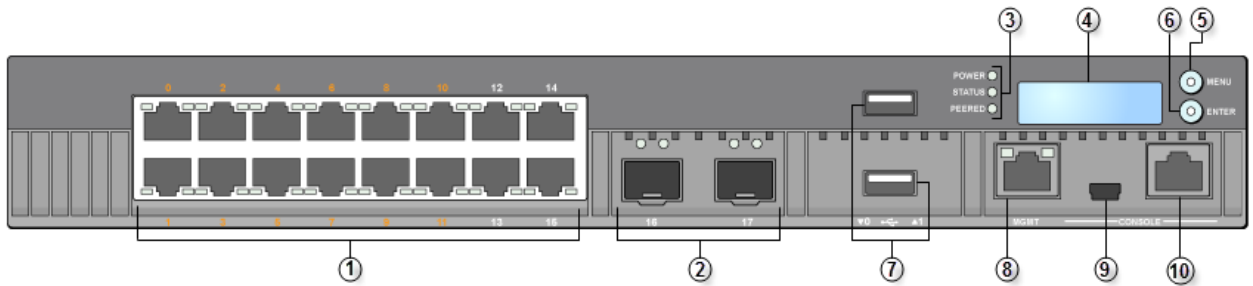
Figure 2 *Back Panel of the W-7010 Controller*
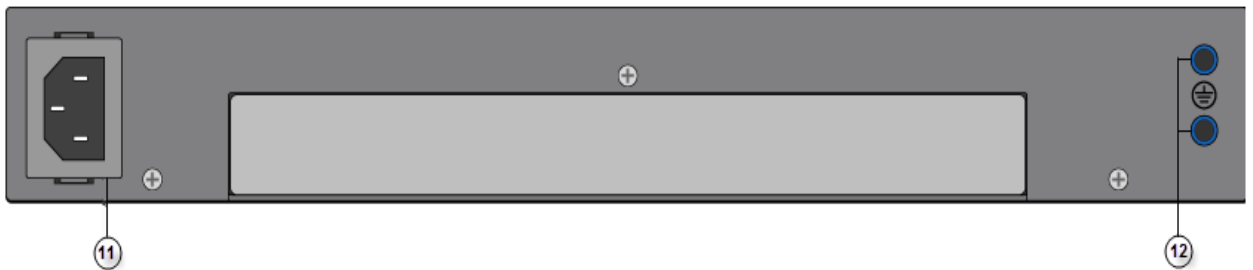
The following table lists the components of the W-7010 controller:

Table 5 *W-7010 Controller Components*

Callout	Component	Description
1	Access Ports	16 x10/100/1000BASE-T Ethernet ports ● Orange numbering: Indicates that the port supports PoE/PoE+ ● Gray numbering: Indicates that the port does not support PoE/PoE+
2	Uplink Ports	2 x 1000BASE-X ports
3	Power, Status, and Peered LEDs	Provides basic monitoring of the controller
4	LCD	Allows configuration of LCD behavior and other basic operations
5	Menu Button	Allows selection of the LCD screen menu

Table 5 *W-7010 Controller Components (Continued)*

Callout	Component	Description
6	Enter Button	Allows execution of actions on the LCD Screen
7	USB Interface	2 x USB 2.0, USB storage device can be used to save and upload configurations
8	Management Port	Allows connection to a separate management network
9	Mini-USB Console Port	Provides console access for direct local access
10	Console Port	RJ-45 serial console access port
11	AC in	AC power connector
12	Grounding Points	Provided for attaching the grounding screws

Access Ports (Ethernet Ports)

The W-7010 controller is equipped with sixteen 10/100/1000BASE-T Gigabit Ethernet ports (0 to 15). Gigabit Ethernet uses all eight wires and each pair is bi-directional, which means, the same pair is used for both data transmission and data reception. Figure 3 illustrates the Gigabit Ethernet port pin-out for an RJ-45 connector. The pins paired on a 10/100/1000BASE-T Gigabit Ethernet port are: 1/2, 3/6, 4/5, and 7/8.

Figure 3 *Gigabit Ethernet Port Pin-Out*
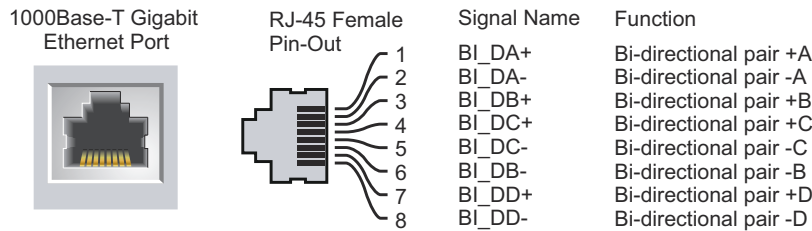
All Power over Ethernet (PoE) capable ports support IEEE 802.3af PoE, providing up to 15.4 W of DC power, and IEEE 802.3at Power over Ethernet Plus (PoE+), supplying up to 30.0 W of DC power to connected devices, but the power per port is subject to the total PoE power (150W) available in the chassis.

Ethernet Port LEDs

Each 10/100/1000BASE-T Ethernet port is equipped with two LEDs that allow basic monitoring of link/port status and activity.

- **LINK/ACT**: Placed on the left side of the port, this LED displays the link status and activity of the port.
- **STATUS**: Placed on the right side of the port, this LED displays the status of the port. The information displayed by this LED changes based on the LCD mode.

The following table describes the LED behavior for each LCD mode:

Table 6 *10/100/1000BASE-T Ethernet Port LEDs*

LED	Function	LCD Mode	Indicator	Status
LINK/ACT	Link status	N/A	Green (Solid)	Link has been established
			Green (Blinking)	Port is transmitting or receiving data
			Off	No link on port

Table 6 *10/100/1000BASE-T Ethernet Port LEDs (Continued)*

LED	Function	LCD Mode	Indicator	Status
STATUS	Port status	Administrative	Green (Solid)	Port enabled
			Off	Port Administratively disabled
		Duplex	Green (Solid)	Full-duplex
			Off	Half-duplex
		PoE	Green (Solid)	PoE enabled
			Green (Blinking)	Power enabled, but power denied due to unavailability
			Off	PoE not enabled
		Speed	Green (Solid)	1000 Mbps
			Off	10/100 Mbps

Uplink Ports

The W-7010 controller includes two 1000BASE-X uplink ports (16 and 17). See Figure 4. It is recommended to use Dell supported SFP transceivers in these ports.

Figure 4 *Ports, LEDs, and LCD Panel*
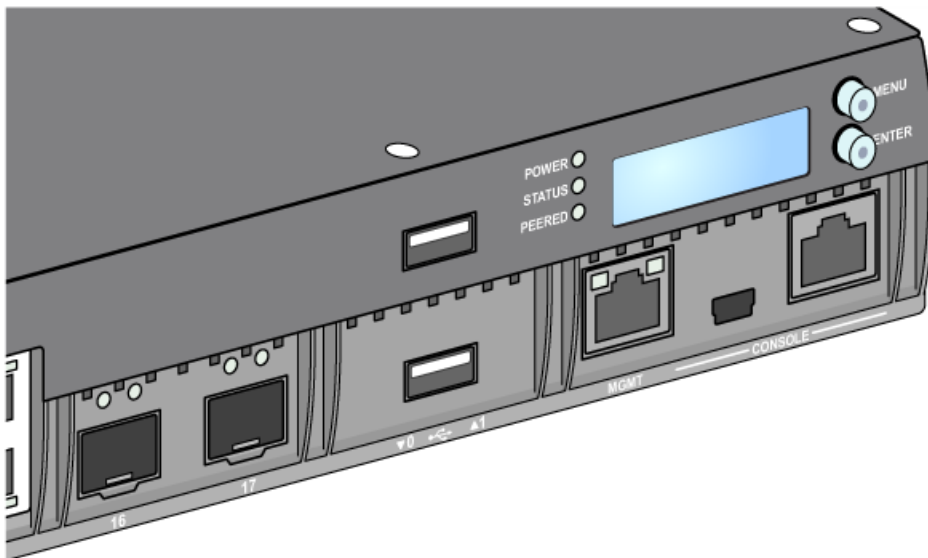
NOTE: Dell tests and supports Dell optics within Dell controller systems. Third party optics are not tested or supported; therefore, Dell does not guarantee proper functionality of third party optics when used in a Dell system.

Each uplink port has two LEDs that allow basic monitoring of link/port status and activity.

Table 7 *Uplink Port LEDs*

Label	Function	LCD Mode	Indicator	Status
LINK/ACT	Link status	NA	Green (solid)	Link has been established
			Green (blinking)	Port is transmitting or receiving data
			Off	No link on port
STATUS	Port status	Administrative	Green (solid)	Port enabled
			Off	Port disabled
		Duplex	Green (solid)	Full-duplex
			Off	N/A
		PoE	Off	N/A
		Speed	Green (solid)	1 Gbps
			Off	N/A

Power, Status, and Peered LEDs

The front panel also includes Power, Status, and Peered LEDs that provide basic monitoring of the overall status of the W-7010 controller. See Figure 4 on page 10.

Table 8 *Power, Status, and Peered LEDs*

LED	Function	Indicator	Status
Power	System Power	Green (Solid)	Power On
		Off	Power Off
Status	System Status	Green (Solid)	Operational
		Green (Blinking)	Device is loading software
		Amber (Blinking)	Major alarm
		Amber (Solid)	Critical alarm
		Off	No power
Peered	Reserved for future use	N/A	N/A

LCD Panel

The W-7010 controller is equipped with an LCD panel (see Figure 4 on page 10.) that displays information about the controller's status, and provides a menu that allows basic operations, such as initial setup and reboot. The LCD panel displays two lines of text with a maximum of 16 characters per line. When using the LCD panel, the active line is indicated by an arrow next to the first letter.

The LCD panel is operated using the two navigation buttons to the right of the screen.

- **Menu**: Allows navigation through the menus of the LCD panel.
- **Enter**: Confirms and executes the action currently displayed on the LCD panel.

LCD Mode Menu

The LCD mode menu includes four modes as shown in the following table.

Table 9 *LCD Panel Mode*

LCD Mode	Function	Displayed Status/Command	Description
Boot	Displays the controller boot up status.	"Booting ArubaOS...	Boot status of the controller.
LED	Displays the mode of the STATUS LED. The LED mode menu allows to choose what information is communicated by the STATUS LEDs on each port. See Table 6 on page 9 for descriptions of the LED behavior of each mode.	LED mode: ADM	Administrative– Displays whether the port is administratively enabled or disabled.
		LED mode: DPX	Duplex– Displays the duplex mode of the port.
		LED mode: POE	PoE– Displays if port is taking PoE power or not
		LED mode: SPD	Speed– Displays the speed of the port.
		Exit	Exit LED menu.
Status	Displays the ArubaOS version.	OS Version	ArubaOS version.
		Exit	Exit Status menu.
Maintenance	Allows execution of some basic operations of the W-7010 controller such as uploading an image or rebooting the system.	Upgrade Image [Partition 0 [Y|N]	Partiion 1 [Y|N]]	Upgrade the software image on the selected partition from a predefined location on an attached USB flash device.
		Upload config [Y	N]	Upload the controller's current configuration to a predefined location on the attached USB flash device.
		Factory Default [Y|N]	Reset the device to factory default settings.
		Media Eject [Y| N]	Complete the reading or writing of the attached USB device.
		Reload system [Y|N]	Reboot the device.
		Halt system [Y|N]	Halt the device.
		Exit	Exit Maintenance menu.

Disabling the LCD Screen

By default, the LCD screen is enabled. However, if the W-7010 controller is deployed in a location without physical security, the LCD screen can be disabled through the CLI. When disabled, pushing one of the navigation buttons will only illuminate the LCD screen and display the slot, role, device name, and any alarms.

Additionally, it is possible to disable only the maintenance menu. This allows to change the LED behavior and view the device status but prevent upgrades and configuration changes.

To disable the LCD screen, enter the Enable mode and use the following CLI commands:

```
(host) #configure terminal
(host) (config) #lcd-menu
(host) (lcd-menu) #disable menu
```

To disable only the Maintenance menu or one of its sub-menus, enter the Enable mode and use the following CLI commands:

```
(host) #configure terminal
(host) (config) #lcd
(host) (lcd-menu) #disable menu maintenance ?
  factory-default
  halt-system
  media-eject
  reload-system
  upgrade-image
  upload-config
(host) (lcd-menu) #disable menu maintenance upgrade-image ?
  partition0
  partition1
```

USB Interface

The W-7010 controller is equipped with a USB 2.0 interface. See Figure 4 on page 10. A USB storage device can be used to save and upload configurations to the controller. USB functions are controlled through the LCD panel on the front of the controller. For more information on the LCD panel and its functions, see "LCD Panel" on page 11.

Management Port

The W-7010 controller is equipped with a 10/100/1000BASE-T Gigabit Management (RJ-45) port. See Figure 4 on page 10.

The management port provides 10/100/1000 Mbps Ethernet access to the W-7010 controller CLI, SNMP, and Web interface for complete system management and troubleshooting. It can also be used to connect to a separate management network.

The management port has a LINK/ACT LED on its left side and SPEED LED on its right side. During operation, these LEDs provide status information as shown in the following table:

Table 10 *10/100/1000BASE-T (RJ-45) Management Port*

LED	Function	Indicator	Status
LINK/ACT	Link Status Information	Green (Solid)	Link has been established
		Green (Blinking)	Link activity
		Off	No link on port
SPEED	Interface Speed	Green (Solid)	1000Mbps
		Off	10/100Mbps

Mini-USB Console Connector

The W-7010 controller is equipped with one Mini-USB (type B) connector that provides console access for direct local access. See Figure 4 on page 10. If both Mini-USB and RJ-45 Console ports are connected, the Mini-USB connection takes precedence over the RJ-45 Console connection.

Mini-USB Driver

To use the Mini-USB console port, install the Dell Mini-USB driver on the computer that will manage the controller. The driver is available on **download.dell-pcw.com** under Tools & Resources.

Console Port

Use the serial Console port to allow direct local management. See . This port is an RJ-45 female connector that accepts an RS-232 serial cable with a male connector.

Figure 5 *Serial Console Port Pin-Out*
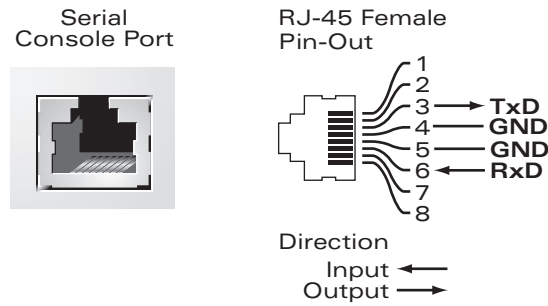
The communication settings for the Console port is shown in the following table:

Table 11 *Console Terminal Settings*

Baud Rate	Data Bits	Parity	Stop Bits	Flow Control
9600	8	None	1	None

⚠ **CAUTION:** The Console port is compatible only with RS-232 devices. Non-RS-232 devices, such as APs, are not supported.
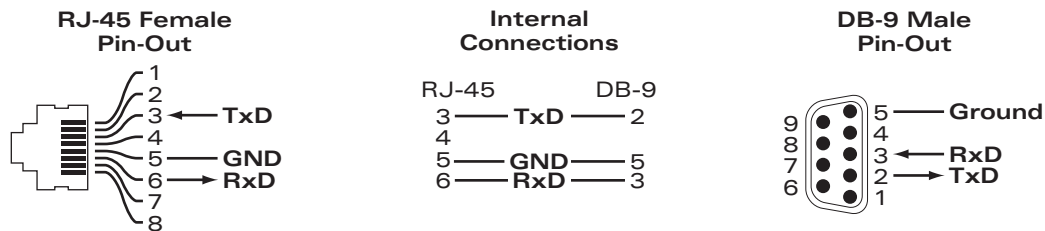
⚠ **CAUTION:** Do not connect the Console port to an Ethernet switch or a PoE power source. This may damage the controller.

Serial Console Port Adaptor

A modular adaptor can be used to convert the female RJ-45 connector to a male DB9 connector. See Figure 6 for complete details.

Figure 6 *RJ-45 (Female) to DB9 (Male) Modular Adapter Conversion*

Power Supply

The W-7010 controller is equipped with an integrated AC power supply of 225W. The integrated power supply supports 75W of system power and 150W of PoE power.

PoE

The W-7010 controller supports PoE (802.3af) and PoE+ (802.3at) to provide power to connected devices. PoE/PoE+ is enabled by default to provide plug and play capability for PoE capable devices. The W-7010 controller supports PoE management in Dynamic mode.

In dynamic mode, the per port power budgeted from the total power supplied from the PSUs is equal the amount of power consumed by the port.

Grounding Point

To meet safety and electromagnetic interference (EMI) requirements and to ensure proper operation, the controller must be adequately grounded before power is connected. Connect a grounding cable to earth ground and then attach it to the chassis grounding point using two screws.

Comply with electrical grounding standards during all phases of installation and operation of the product. Do not allow the controller's chassis, network ports, power supply, or mounting brackets to contact any device, cable, object, or person attached to a different electrical ground. Also, never connect the device to external storm grounding sources.

SFP Modules

SFP Modules, also known as mini-GBICs, are hot-swappable Gigabit Ethernet transceivers that provide optical or copper connections to other devices.

NOTE: Dell tests and supports Dell approved optics within Dell controller systems. Non-approved third party optics are not tested or supported; therefore, Dell does not guarantee proper functionality of non-approved third party optics when used in a Dell system. For a complete list of Dell approved optics, contact a Dell sales representative.

Table 12 *Supported SFPs*

SFP	Description
SFP-SX	Dell SFP, 1000BASE-SX, LC Connector; 850nm pluggable GbE optic; up to 300 meters over multi-mode fiber (Type OM2).
SFP-LX	Dell SFP, 1000BASE-LX, LC Connector; 310nm pluggable GbE optic; up to 10,000 meters over single-mode fiber.
SFP-TX	Dell SFP, 1000BASE-T SFP; copper GbE pluggable; RJ45 connector; up to 100 meters over Category-5, 5e, 6 and 6a unshielded twisted pair cable.

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⚠ CAUTION: Installation of the device should be performed by a trained installation professional.

This chapter describes how to install a W-7010 controller using the different mounting options available. The W-7010 controller ships with an accessory kit that includes the equipment needed to install the controller in standard, 19-inch telco rack or on a wall.

CAUTION: Only use the included or Dell specified cables, power cords, AC power supplies, and batteries. The power cord should not be used with other electric equipment than what is specified by Dell.

⚠

CAUTION: 接続ケーブル、電源コード、AC アダプタ、バッテリーなどの部品は、必ず添付品または指定品をご使用ください。また、電源ケーブルは弊社が指定する製品以外の電気機器には使用できないためご注意ください。

Precautions

- Ensure that the rack is correctly and securely installed to prevent it from falling or becoming unstable.
- Dangerous voltage above 240VAC is always present while the Dell Power Supply Module is plugged into an electrical outlet. Remove all rings, jewelry, and other potentially conductive material before working with this device.
- Never insert foreign objects into the chassis, power supply, or any other component, even when the power supply is turned Off, unplugged, or removed.
- Ensure that the main power is fully disconnected from the controller by unplugging all power cords from their outlets. For safety, verify that the power outlets and plugs are easily reachable by the operator.
- Do not handle electrical cables which are not insulated. This also includes network cables.
- Keep water and other fluids away from the controller to minimize electrical hazards.
- Comply with electrical grounding standards during all phases of installation and operation of the product. Do not allow the controller's chassis, network ports, power supply, or mounting brackets to contact any device, cable, object, or person attached to a different electrical ground. Also, never connect the device to external storm grounding sources.
- Perform installation or removal of the chassis or any module in a static-free environment. Proper use of anti-static body straps and mats is strongly recommended.
- Modules must be kept in anti-static packaging when not installed in the chassis.

- Do not ship or store this product near strong electromagnetic, electrostatic, magnetic, or radioactive fields.
- Do not disassemble the chassis.

Selecting a Location

The W-7010 controller, like other network and computing devices, requires the following "electronic-friendly" environment:

- Reliable power
  - Verify that the electrical outlet is compatible with the W-7010 controller power supply.
- Cool, non-condensing ventilation
  - For proper operation, the W-7010 controller requires an environment with an ambient air temperature between 0º C and 40º C (32º F and 104º F). Humidity must be kept at non-condensing levels, between 5% and 95%.
  - Where a large number of electrical devices are working in the same area, additional air conditioning or air circulation equipment may be required.
- Ample space
  - For proper air circulation, leave at least 10 cm (4 inches) clearance all around the chassis.
  - Leave additional space in front and rear side of the chassis to access power cords, network cables, and indicator LEDs.
- Limited electromagnetic interference
  - For best operation, keep the W-7010 controller and all cords and cables at least 0.7 meters (2 feet) from fluorescent lighting fixtures, and 2 meters (6 feet) from photocopiers, radio transmitters, electric generators, and other sources of strong electromagnetic interference.

Rack Mounting - Standard

This mounting option allows mounting the W-7010 controller in a two-post 19-inch Telco rack.

⚠ CAUTION: Each W-7010 controller must have its own mounting equipment. Do not place other networking equipment directly on top of a mounted W-7010 controller. Failure to do so can damage the controller.

Required Tools and Equipment

The following tools and equipment are required for installing a W-7010 controller:

- Mounting Brackets (x2); Do not use for table or shelf installation
- Screws for the mounting brackets (x8): M4 x 8 mm Phillips Flat Head Screws
- Screws for system rack mount (x4): M6 x 15 mm Phillips Pan Head Screws
- M6 cage nut (x4): Optional
- M6 clip nut (x4): Optional
- Suitable Screwdrivers for all screw types (not included in the package)

✎ NOTE: Some racks require screws that differ from those included with the W-7010 controller. Ensure to have the correct screws before installing the W-7010 controller.

Installation Steps

To install a W-7010 controller in a two-post 19-inch Telco rack:

1. Place the mounting brackets over the mounting holes on the controller (see Figure 7).

2. Secure the brackets to the controller using the eight screws for the mounting bracket (four per bracket) and a suitable screwdriver.

Figure 7 *Attaching the Mounting Brackets for Rack Mounting*
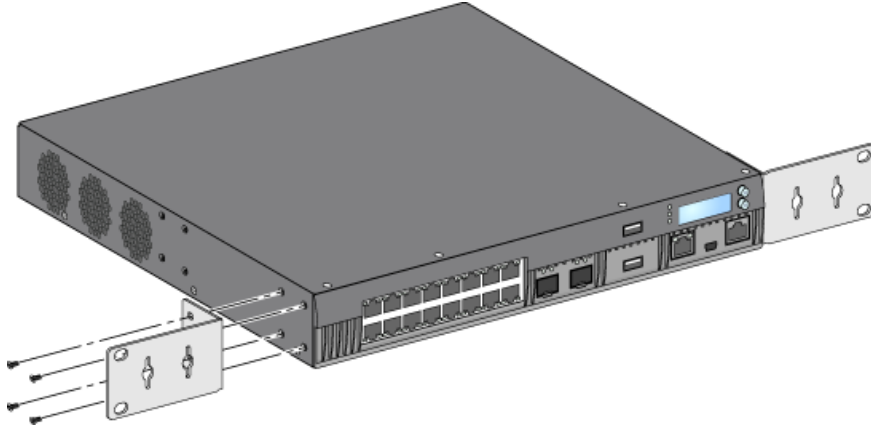
3. In the desired rack system, if the rack requires cage nut or clip nut, insert it on the front rails (two per rail, aligned horizontally).

4. Mount the controller in the desired rack system using the four screws for system rack mount (two per bracket) and a suitable screwdriver (see Figure 8).

Figure 8 *Rack Mounting*
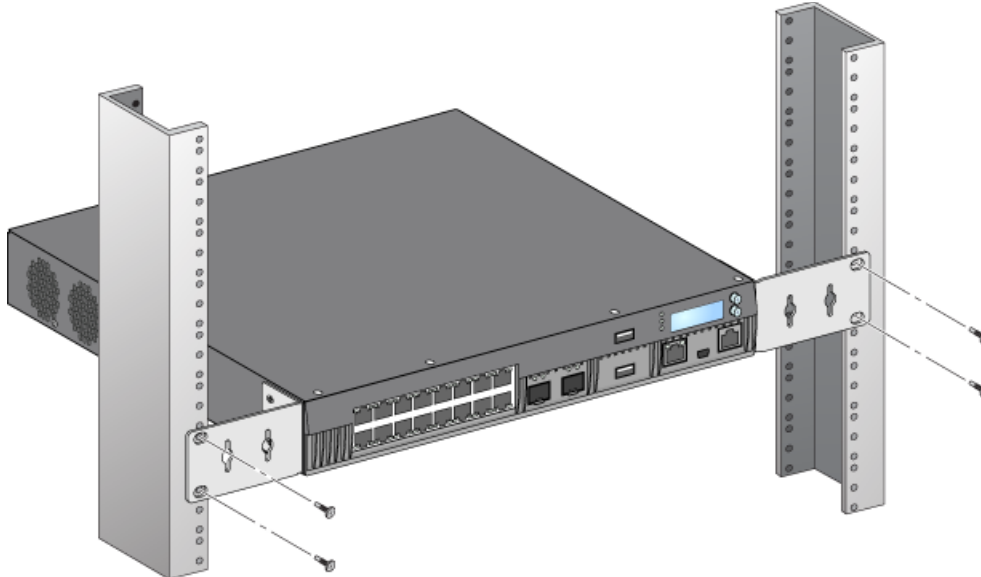
NOTE: Leave a minimum of 10 cm (4 inches) of space on the left and right side of the controller for proper air flow and ventilation. Leave additional space in the front and the back of the controller to access network cables, LED status indicators, and power cord.
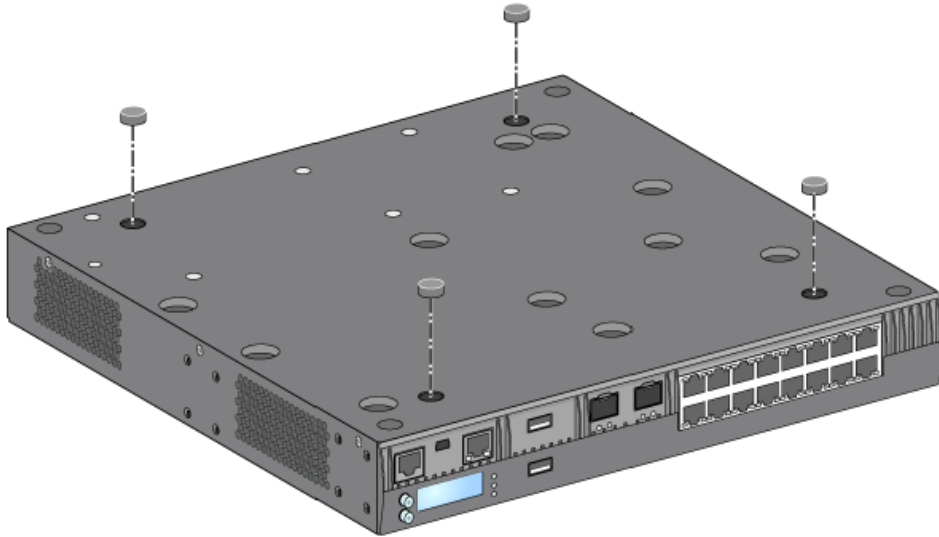
Table or Shelf Installation

Required Tools and Equipment

- Rubber Feet

Installation Steps

1. Attach the rubber feet to the bottom of the controller (see Figure 9).

Figure 9 *Attaching Rubber Feet*

2. Place the controller on the desired flat table or shelf.

Wall Mounting

The mounting brackets can also be used for wall mounting the W-7010 controller.

Required Tools and Equipment

The following tools and equipment are required for installing an W-7010 controller on a wall:

- Mounting Brackets (x2)
- Screws for the mounting bracket (x8): M4 x 8 mm Phillips Flat Head Screws
- Wall Anchors: Optional accessory (not included in the package)
- Wall Mounting Screws: The type of screw depends on the installation surface (not included in the package)
- Suitable Screwdrivers for all screw types (not included in the package)
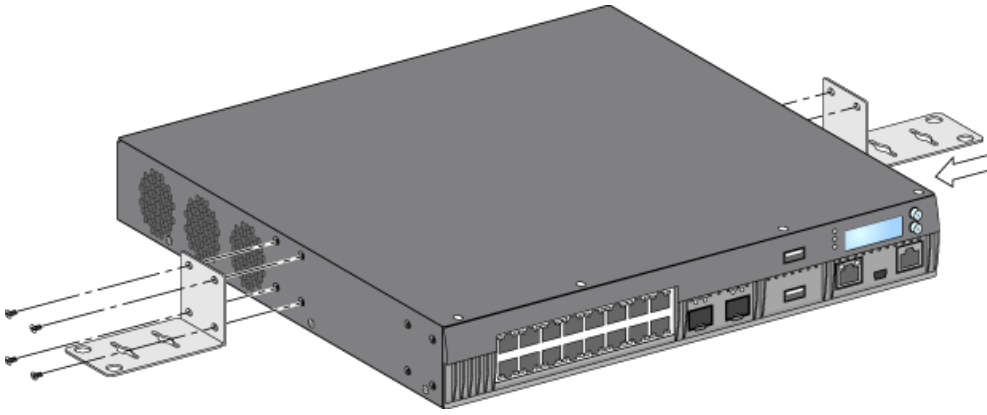
Installation Steps

To install a W-7010 controller on a wall:

NOTE: Ensure that the Ethernet ports are facing down when installing the W-7010 controller on a wall.

1. Fasten the mounting brackets over the mounting holes on the sides of the W-7010 controller using the eight screws for the mounting brackets (four per bracket) and a suitable screwdriver (see Figure 10).

Figure 10 *Attaching the Mounting Brackets for Wall Mounting*

2. After choosing a mounting location, mark the locations on the wall for the mounting holes.

3. Create the holes and insert wall anchors if the installation requires them.

4. Align the mounting bracket holes with the holes created in the wall (see Figure 11).

5. Use appropriate screws to secure the W-7010 controller.

Figure 11 *Wall Mounting*
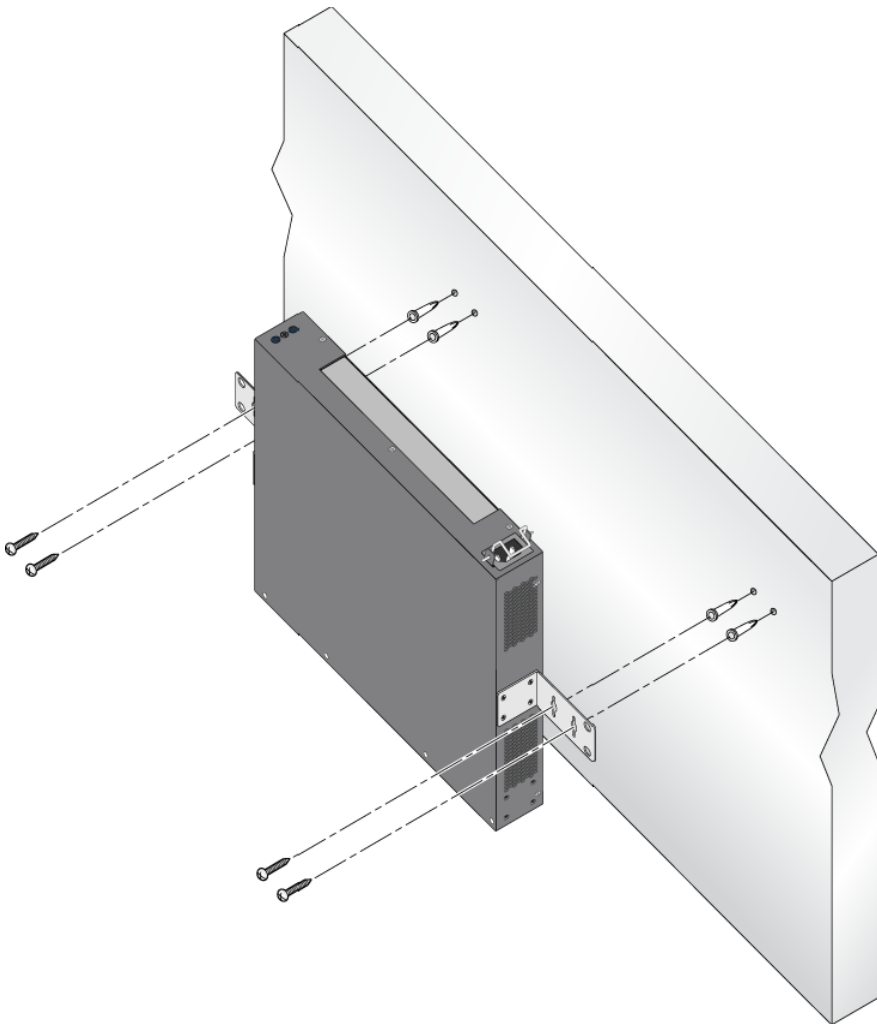
Connecting and Disconnecting the AC Power Cord

Once the controller is installed, it is ready to be powered on. The W-7010 controller is not equipped with an On/Off switch. The device will power on when the AC power cord is connected to the power supply and an AC power outlet.

Connecting the AC Power Cord

To connect the AC power cord to the W-7010 controller:

1. Lift the power cord retaining clip so that it is not blocking the AC power connector.

2. Insert the coupler end of the AC power cord into the AC power connector on the power supply module.

3. Lower the power cord retaining clip over the AC power cord.

The W-7010 controller should now be receiving power.

Disconnecting the AC Power Cord

To disconnect the AC power cord from the W-7010 controller:

1. Lift the power cord retaining clip off the AC power cord.

2. Pull the AC power cord from the power supply module.

3. The W-7010 controller is now turned Off.
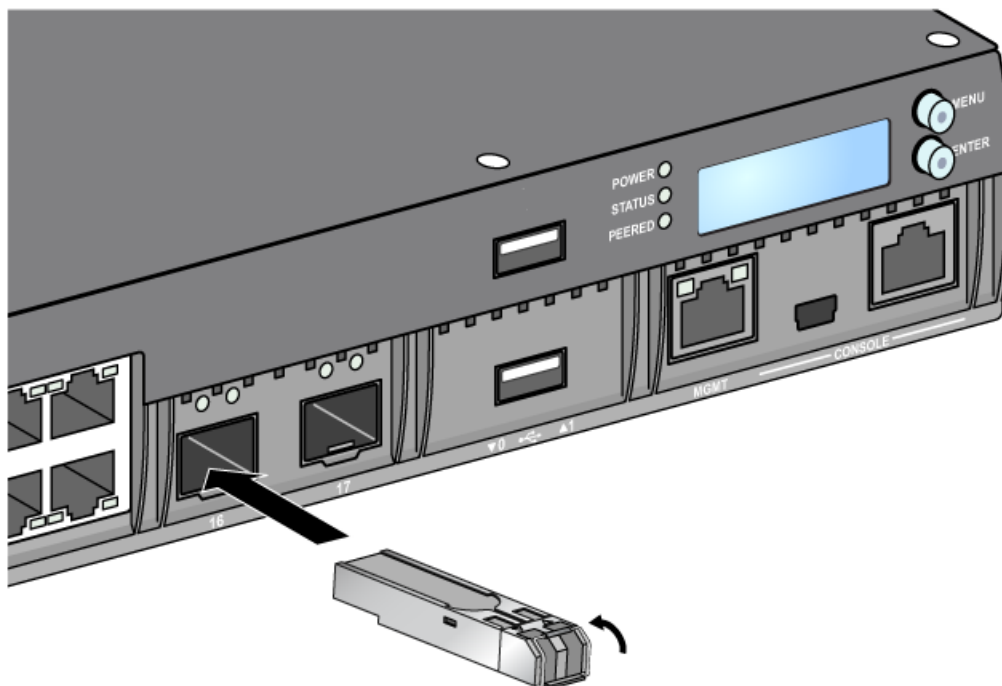
Installing an SFP

NOTE: Use standard ESD precautions when installing or removing an SFP.

To install an SFP module into the W-7010 controller:

1. Slide the SFP module, top side facing upward, into a 1000Base-X port until a connection is made and an audible click is heard (see Figure 12).

Figure 12 *Installing an SFP*

Removing an SFP

To remove an SFP module:

1. Open and release the latch on the SFP module.

2. Pull and remove the module from the port.

Connecting an LC Fiber Optic Cable

To connect an LC fiber optic cable into an SFP-SX or SFP-LX module:

1. Clean the fiber optic cable connector before inserting it into the SFP module.

2. Insert the fiber optic cable into the SFP module. Ensure that the latch on the cable faces the top of the SFP module (see Figure 13).

3. Slide the cable into place until a connection is made and an audible click is heard.

Disconnecting an LC Fiber Optic Cable

To disconnect an LC fiber optic cable from an SFP-SX or SFP-LX module:

1. Depress the transceiver handle to release the latch on the cable and simultaneously pull the cable out of the port.

Figure 13 *Connecting/Disconnecting an LC Fiber Optic Cable*
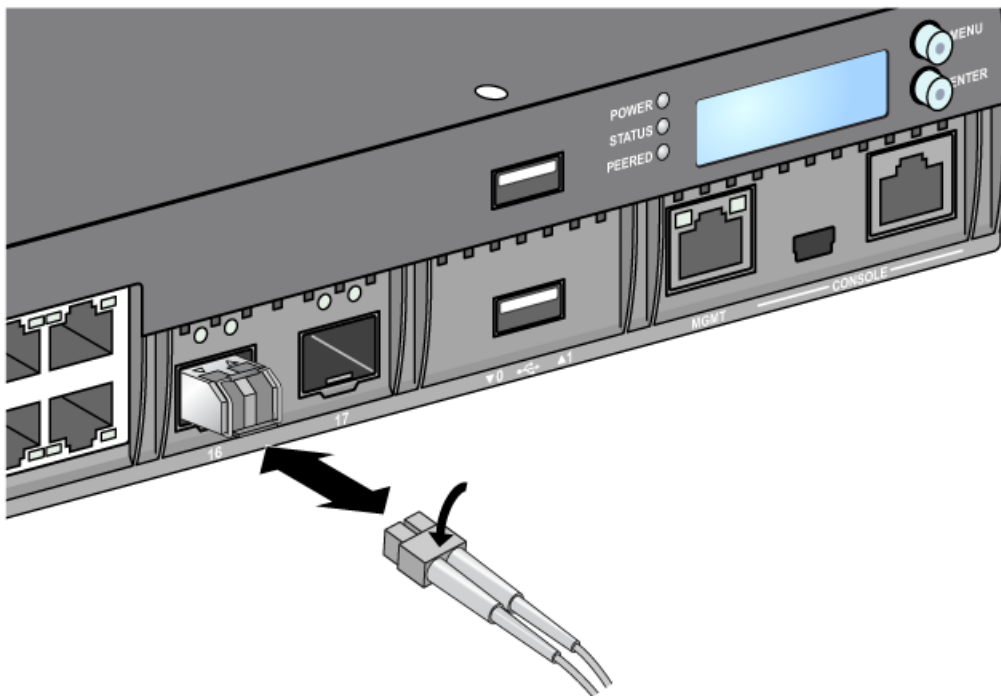
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W-7010 Specifications

Physical
- Device Dimensions (without mounting brackets) (HxWxD): 1.74" x 12.75" x 13.0" (4.42 cm x 31.75 cm x 33.0 cm)
- Device Weight: 7.4 lbs (3.4 kg)

Power Supply Specifications
- 225W AC Power Supply
  - AC Input Voltage: 100 VAC to 240 VAC
  - AC Input Current: 3.5 A max.
  - AC Input Frequency: 50 to 60 Hz

Operating Specifications
- Operating Temperature Range: 0 °C to 40 °C (32 °F to 104 °F)
- Operating Humidity Range: 5% to 95% (RH), non-condensing

Storage Specifications
- Storage Temperature Range: 0 °C to 50 °C (32 °F to 122 °F)
- Storage Humidity Range: 5% to 95% (RH), non-condensing

Safety and Regulatory Compliance

NOTE: For country specific restrictions and additional safety and regulatory information, refer to the multi-language *Dell Networking W-Series Safety, Environmental, and Regulatory Information* document included with this product.

CAUTION: Dell controllers must be installed by a professional installer. The professional installer is responsible for ensuring that grounding is available and it meets applicable local and national electrical codes.

CLASS 1
LASER PRODUCT

CAUTION: Use of controls or adjustments of performance or procedures other than those specified in this manual may result in hazardous radiation exposure.

This product complies with 21 CFR Chapter 1, Subchapter J, Part 1040.10, and IEC 60825-1: 1993, A1: 1997, A2: 2001, IEC 60825-2: 2004+A1.

For continued compliance with the above laser safety standards, only approved Class 1 modules from our approved vendors should be installed in the product.

⚠ CAUTION: Although this controller has been tested up to 1kV per CE immunity requirements, this product requires surge protection to be provided as part of the building installation to protect against unidirectional surges resulting from electrical switching and lightning strikes.

For protection against these surges in an outdoor installation, any exposed wiring must be shielded, and the shield for the wiring must be grounded at both ends

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EU Regulatory Conformance

This product is CE marked according to the provisions of the EMC Directive (2004/108/EC) - CE. Dell, hereby declares that W-7010 controller device models are in compliance with the essential requirements and other relevant provisions of Directive (2004/108/EC) – CE. The Declaration of Conformity made under Directive 1999/5/EC is available for viewing on **dell.com**.

Electromagnetic Interference

United States

FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par le ministère des Communications.

Japan VCCI

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。　VCCI-A

This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI). If this equipment is used in a domestic environment, radio interference may occur, in which case the user may be required to take corrective actions.

Taiwan (BSMI)

警告使用者：

這是甲類的資訊產品，在居住的環境中使用
時，可能會造成射頻干擾，在這種情況下，
使用者會被要求採取某些適當的對策。

Europe

⚠ **WARNING:** This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

This product complies with EN55022 Class A and EN55024 standards.

South Korea

Class A:

이 기기는 업무용(A급) 전자파 적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며,

가정외의 지역에서 사용하는 것을 목적으로 합니다.

Battery Statements

⚠ **CAUTION:** Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.
Remplacer uniquement avec une batterie due même type ou d'un équivalent recommandé par le constructeur.
Mettre au rebut les batteries usagées conformément aux unstruction du fabricant.

⚠ **CAUTION:** The battery supplied with this product may contain perchlorate material. Special handling may apply in California and other certain states. See www.dtsc.ca.gov/hazardouswaste/perchlorate for more information.

⚠ **WARNING:** Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Proper Disposal of Dell Equipment

Waste of Electrical and Electronic Equipment
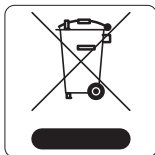
Dell products at end of life are subject to separate collection and treatment in the EU Member States, Norway, and Switzerland and therefore are marked with the symbol shown at the left (crossed-out wheelie bin). The treatment applied at end of life of these products in these countries shall comply with the applicable national laws of countries implementing Directive 2012/19/EU on Waste of Electrical and Electronic Equipment (WEEE).

India RoHS

This product complies with RoHS requirements as prescribed by E-Waste (Management & Handling) Rules, governed by the Ministry of Environment & Forests, Government of India.

European Union RoHS

Dell products also comply with the EU Restriction of Hazardous Substances Directive 2011/65/EU (RoHS). EU RoHS restricts the use of specific hazardous materials in the manufacture of electrical and electronic equipment. Specifically, restricted materials under the RoHS Directive are Lead (including Solder used in printed circuit assemblies), Cadmium, Mercury, Hexavalent Chromium, and Bromine. Some Dell products are subject to the exemptions listed in RoHS Directive Annex 7 (Lead in solder used in printed circuit assemblies). Products and packaging will be marked with the "RoHS" label shown at the left indicating conformance to this Directive.

China RoHS

Dell products also comply with China environmental declaration requirements and are labeled with the "EFUP 50" label shown at the left.

有毒有害物质声明
Hazardous Materials Declaration

部件名称 (Parts)	有毒有害物质或元素（Hazardous Substances)					
	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Chromium VI Compounds (Cr^{6+})	多溴联苯 Polybrominated Biphenyls (PBB)	多溴二苯醚 Polybrominated Diphenyl Ether (PBDE)
电路板 PCA Board	X	O	O	O	O	O
机械组件 Mechanical Subassembly	X	O	O	O	O	O
电源适配器 Power Adaptor	X	O	O	O	O	O
O: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下。 This component does not contain this hazardous substance above the maximum concentration values in homogeneous materials specified in the SJ/T11363-2006 Industry Standard.						
X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。 This component does contain this hazardous substance above the maximum concentration values in homogeneous materials specified in the SJ/T11363-2006 Industry Standard.						
对销售之日的所售产品，本表显示，供应链的电子信息产品可能包含这些物质。 This table shows where these substances may be found in the supply chain of electronic information products, as of the date of sale of the enclosed product.						
此标志为针对所涉及产品的环保使用期标志. 某些零部件会有一个不同的环保使用期(例如, 电池单元模块)贴在其产品上. 此环保使用期限只适用于产品是在产品手册中所规定的条件下工作. The Environment- Friendly Use Period (EFUP) for all enclosed products and their parts are per the symbol shown here. The Environment- Friendly Use Period is valid only when the product is operated under the conditions defined in the product manual.						

Part Number: 0510304-01

0511573-03