



EdgeSwitch[®] 16 **150W**

Managed PoE+ Gigabit Switch
with SFP

Model: ES-16-150W

QUICK START GUIDE

Introduction

Thank you for purchasing the Ubiquiti Networks® EdgeSwitch®. This Quick Start Guide is designed to guide you through the installation and also includes the warranty terms.

Package Contents



EdgeSwitch ES-16-150W



Power Cord



Mount Brackets
(Qty. 2)



Bracket Screws
(Qty. 8)



Mounting Screws
(Qty. 4)



Cage Nuts
(Qty. 4)



Rubber Feet
(Qty. 4)

TERMS OF USE: All Ethernet cabling runs must use CAT5 (or above). It is the professional installer's responsibility to follow local country regulations, including operation within legal frequency channels, output power, indoor cabling requirements, and Dynamic Frequency Selection (DFS) requirements.

Installation Requirements

- Phillips screwdriver (for rack or wall mounting)
- Standard-sized, 19" wide rack with a minimum of 1U height available (for rack mounting)
- For indoor applications, use Category 5 (or above) UTP cabling approved for indoor use.
- For outdoor applications, shielded Category 5 (or above) cabling should be used for all wired Ethernet connections and should be grounded through the AC ground of the power supply.

We recommend that you protect your networks from harmful outdoor environments and destructive ESD events with industrial-grade, shielded Ethernet cable from Ubiquiti Networks. For more details, visit www.ubnt.com/toughcable



WARNING: To reduce the risk of fire or electric shock, do not expose the switch to rain or moisture.



Note: Although the cabling can be located outdoors, the EdgeSwitch itself should be housed inside a protective enclosure.

Hardware Overview

Front Panel Ports



Port	Description
RJ45 1-16	RJ45 ports support 10/100/1000 Ethernet connections.
SFP 1-2	Hot-swappable SFP ports support 1 Gbps connections.

Front Panel LEDs



System

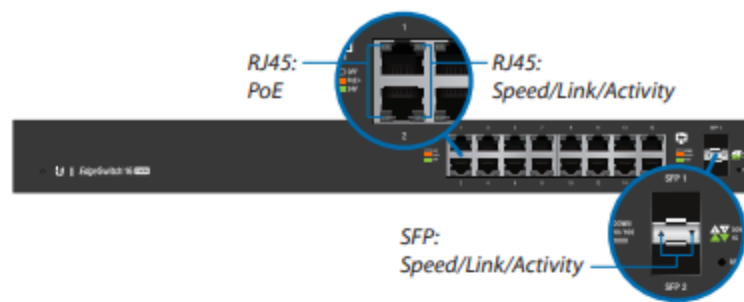
System LED



Note: The System LED functionality has been updated with firmware v1.8.0. We recommend that you update the EdgeSwitch to the latest firmware.

State	Status
Flashing White	Bootup in progress.
White	Ready for use, not connected to Ubiquiti® Network Management System (UNMS™).
Blue	Ready for use, connected to UNMS.
Steady Blue with Occasional Flashing	Ready for use, unable to connect to UNMS, check connection to UNMS server.
Quickly Flashing Blue	Used to locate a device in UNMS.
Alternating Blue/White	Firmware upgrade in progress.

You can use the EdgeSwitch Configuration Interface or UNMS to manage your device. UNMS lets you configure, monitor, upgrade, and back up your devices using a single application. Get started at www.unms.com



RJ45 LEDs

LED	State	Status
PoE	Off	No PoE
	Amber	IEEE 802.3af/802.3at
	Green	24V Passive
Speed/ Link/ Activity	Off	No Link
	Amber	Link Established at 10/100 Mbps
	Amber Flashing	Link Activity at 10/100 Mbps
	Green	Link Established at 1000 Mbps (1 Gbps)
	Green Flashing	Link Activity at 1000 Mbps (1 Gbps)

SFP LEDs

LED	State	Status
Speed/ Link/ Activity	Off	No Link
	Green	Link Established at 1 Gbps
	Green Flashing	Link Activity at 1 Gbps

Front Panel Button



Button	Description
Reset	<p>There are two methods to reset the EdgeSwitch to factory defaults:</p> <p>Runtime Reset (Recommended)</p> <p>The EdgeSwitch should be running after bootup is complete, and the <i>System</i> LED is white. Press and hold the Reset button. The EdgeSwitch will reboot, and the <i>System</i> LED becomes blue after three seconds. Continue to hold the Reset button for about 15 seconds until the <i>System</i> LED flashes blue for two seconds. This indicates that the EdgeSwitch has reset to its factory defaults.</p> <p>Power-on Reset</p> <ol style="list-style-type: none">1. Disconnect the <i>Power Cord</i> from the EdgeSwitch.2. While connecting the <i>Power Cord</i> to the EdgeSwitch, hold the Reset button for about 15 seconds until the <i>System</i> LED flashes blue for two seconds. This indicates that the EdgeSwitch has reset to its factory defaults.

Back Panel Console Port



Port	Description
Console	<p>RJ45 serial console port for Command Line Interface (CLI) management. Use an RJ45-to-DB9, serial console cable, also known as a rollover cable, to connect the <i>Console</i> port to your computer. Then configure the following settings as needed:</p> <ul style="list-style-type: none">• <i>Baud rate</i> 115200• <i>Data bits</i> 8• <i>Parity</i> NONE• <i>Stop bits</i> 1• <i>Flow control</i> NONE

Hardware Installation

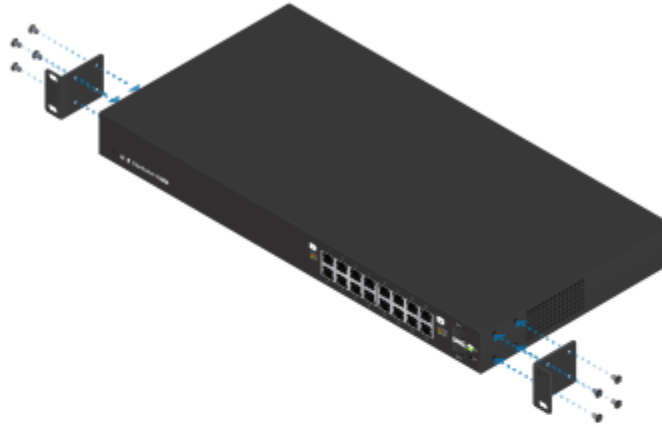
The EdgeSwitch can be placed on a horizontal surface, mounted in a rack, or mounted on a wall.

! **WARNING:** FAILURE TO PROVIDE PROPER VENTILATION MAY CAUSE FIRE HAZARD. KEEP AT LEAST 20 MM OF CLEARANCE NEXT TO THE VENTILATION HOLES FOR ADEQUATE AIRFLOW.

Place the *Rubber Feet* on the bottom of the EdgeSwitch if you do not plan to mount it. For rack or wall mounting, follow the appropriate steps:

Rack Mounting

1. Attach the *Mount Brackets* to the EdgeSwitch using the eight *Bracket Screws*, positioning the brackets as shown below.

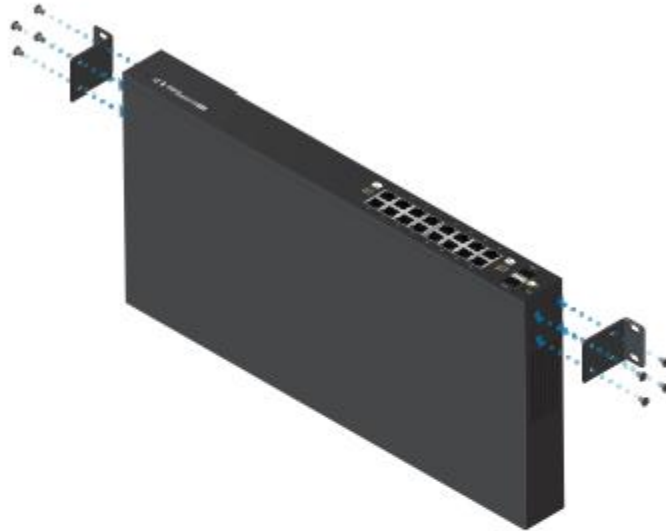


2. Attach the EdgeSwitch to the rack using the four *Mounting Screws*. (If the rack has square slots, then use the *Cage Nuts* with the *Mounting Screws*.)

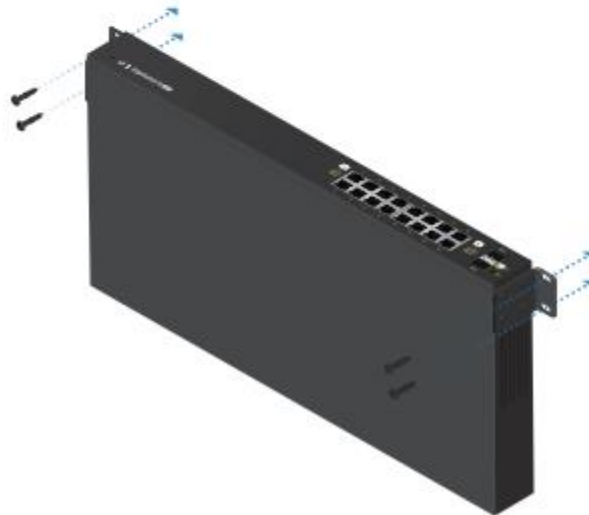


Wall Mounting

1. Attach the *Mount Brackets* to the EdgeSwitch using the eight *Bracket Screws*, positioning the brackets as shown below.



2. Secure the EdgePower to the wall using the appropriate fasteners and anchors (not included) for the wall.



Connecting Ethernet

1. Connect an Ethernet cable from your computer or host system to any Ethernet port on the EdgeSwitch.



2. Connect Ethernet cables from your devices to the other Ethernet ports on the EdgeSwitch.



Using SFP Ports

To use an *SFP* port:

1. Remove the protective plug covering the *SFP* port.
2. Plug a compatible fiber module into the *SFP* port.



3. Connect the fiber optic cable to the fiber module. Then connect the other end of the cable to another fiber device.




For information about compatible fiber SFP modules, visit:
www.ubnt.com/download/edgemax


Specifications


ES-16-150W	
Dimensions	443 x 43 x 221 mm (17.44 x 1.69 x 8.70")
Weight	2.80 kg (6.17 lb)
With Mount Brackets	2.89 kg (6.37 lb)
Total Non-Blocking Line Rate	18 Gbps
Max. Power Consumption	150W
Power Method	100-240VAC/50-60 Hz, Universal Input
Power Supply	AC/DC, Internal, 150W DC
Shock and Vibration	ETSI300-019-1.4 Standard
LEDs Per Port	
RJ45 Data Ports	PoE, Speed/Link/Activity
SFP Data Ports	Speed/Link/Activity
Networking Interfaces	(16) 10/100/1000 Mbps RJ45 Ports (2) 1 Gbps SFP Ports
Management Interface	UART Console Out-of-Band, Ethernet In-Band
PoE Interfaces	PoE+ IEEE 802.3af/at (pins 1, 2+; 3, 6-) 24VDC Passive PoE (pins 4, 5+; 7, 8-)
Voltage Range	
802.3at Mode	50-57V
24V Passive PoE	20-27V
Max. Wattage per Port	
PoE+	34.2W
Passive PoE	17W
Rack-Mount	Yes, 1U High
Operating Temperature	-5 to 40° C (23 to 104° F)
Operating Humidity	5 to 95% Noncondensing
Certifications	CE, FCC, IC


Safety Notices

1. Read, follow, and keep these instructions.
2. Heed all warnings.
3. Only use attachments/accessories specified by the manufacturer.

 **WARNING:** Failure to provide proper ventilation may cause fire hazard. Keep at least 20mm of clearance next to the ventilation holes for adequate airflow.

 **WARNING:** To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

 **WARNING:** Do not use this product in location that can be submerged by water.

 **WARNING:** Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.

Electrical Safety Information

1. Compliance is required with respect to voltage, frequency, and current requirements indicated on the manufacturer's label. Connection to a different power source than those specified may result in improper operation, damage to the equipment or pose a fire hazard if the limitations are not followed.
2. There are no operator serviceable parts inside this equipment. Service should be provided only by a qualified service technician.
3. This equipment is provided with a detachable power cord which has an integral safety ground wire intended for connection to a grounded safety outlet.
 - a. Do not substitute the power cord with one that is not the provided approved type. Never use an adapter plug to connect to a 2-wire outlet as this will defeat the continuity of the grounding wire.
 - b. The equipment requires the use of the ground wire as a part of the safety certification, modification or misuse can provide a shock hazard that can result in serious injury or death.
 - c. Contact a qualified electrician or the manufacturer if there are questions about the installation prior to connecting the equipment.
 - d. Protective earthing is provided by Listed AC adapter. Building installation shall provide appropriate short-circuit backup protection.
 - e. Protective bonding must be installed in accordance with local national wiring rules and regulations.

Limited Warranty

www.ubnt.com/support/warranty/

The limited warranty requires the use of arbitration to resolve disputes on an individual basis, and, where applicable, specify arbitration instead of jury trials or class actions.

Compliance

FCC

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

This device 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.

NOTE: 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. Operations 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 his own expense.

ISED Canada

CAN ICES-3(A)/NMB-3(A)

This Class A digital apparatus complies with Canadian CAN ICES-3(A).

CAN ICES-3(A)/NMB-3(A)

Cet appareil numérique de la classe A est conforme à la norme NMB-3(A) Canada.

Australia and New Zealand



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.

CE Marking

CE marking on this product represents the product is in compliance with all directives that are applicable to it.



RoHS/WEEE Compliance Statement



English

European Directive 2012/19/EU requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about the disposal of your old equipment, please contact your local authorities, waste disposal service, or the shop where you purchased the product.

Deutsch

Die Europäische Richtlinie 2012/19/EU verlangt, dass technische Ausrüstung, die direkt am Gerät und/oder an der Verpackung mit diesem Symbol versehen ist, nicht zusammen mit unsortiertem Gemeindeabfall entsorgt werden darf. Das Symbol weist darauf hin, dass das Produkt von regulärem Haushaltsmüll getrennt entsorgt werden sollte. Es liegt in Ihrer Verantwortung, dieses Gerät und andere elektrische und elektronische Geräte über die dafür zuständigen und von der Regierung oder örtlichen Behörden dazu bestimmten Sammelstellen zu entsorgen. Ordnungsgemäßes Entsorgen und Recyceln trägt dazu bei, potentielle negative Folgen für Umwelt und die menschliche Gesundheit zu vermeiden. Wenn Sie weitere Informationen zur Entsorgung Ihrer Altgeräte benötigen, wenden Sie sich bitte an die örtlichen Behörden oder städtischen Entsorgungsdienste oder an den Händler, bei dem Sie das Produkt erworben haben.