



cnMatrix EX3K Switch Basic Configuration Guide



Thank you for choosing the cnMatrix switch, a Cambium Networks communications device. Before you begin installing the switch, **verify** you have all the package contents available, and a PC with SSH client, such as PuTTY or OpenSSH SSH Client.

Package Contents

Rack mount ears (2x) with screws (8x). Rack mount ears are included with the EX3028R-P and EX3052R-P models.
(Spare rack mount ears: **MX-EXTXFULLA-0**)



cnMatrix EX3K Switch

EX3028R-P model:





EX3052RR-P model:



Product Overview

The cnMatrix EX3K switch SKUs:

| Model Name / Part Number | Number of Ports | Power over Ethernet | Throughput | Switch |
|-------------------------------------|-----------------|---------------------|------------|--|
| cnMatrix EX3028R-P / MXEX3028GxPA10 | 28 | Yes | 128 Gbps |  |
| cnMatrix EX3052R-P / MXEX3052GxPA10 | 52 | Yes | 176 Gbps |  |

Powering Up

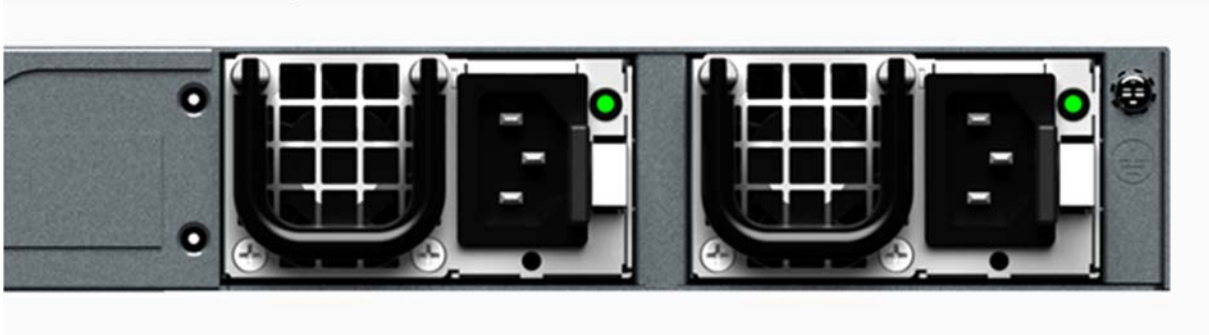
The cnMatrix EX3K switches are powered by removable power supplies (CRPS), **sold as a separate accessory**. The CRPS are available in AC or DC input options. The EX3K switch supports up to two CRPS for redundancy and/or additional PoE power budget.



Install one or two CRPS units into the power supply slot in the rear of the switch. If only one CRPS is used, it can be installed in either power supply slot. If using two CRPS, any combination of AC and/or DC versions can be used. For both the EX3028R-P and EX3052R-P switches, only one installed CRPS is valid to operate the switch.



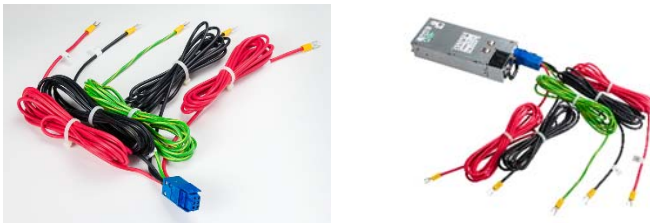
Ensure that the CRPS is installed in the correct orientation. The handle will be located on the left, while the latching tab will be located on the right side of the CRPS.



Connect the power cord (separate accessory) to the CRPS power inlet, and then plug the power cord into a wall socket:



For the DC CRPS, the mating connector/cable assembly is included with the power supply. The DC cable must be connected or spliced into the on-site DC input source. The blue connector end of the cable assembly attaches to the DC CRPS.



Connect the grounding lug, located on the rear of the chassis, to an appropriate grounding source. A grounding wire of minimum 10 AWG must be used.



Please purchase an approved power supply (CRPS) through an authorized dealer.

Example:

Model: ZRE-1AB0K2 Cambium p/n: MXCRPSAC1200A0



When the switch is booting up, the illuminated Cambium Networks logo will be blinking blue. When the switch is fully up and running, the illuminated Cambium Networks logo is solid blue.

Default Configuration

IP address 192.168.0.1 is automatically configured on the Out-Of-Band Management Port (MGMT). There is no default IP address on the In-Band Network Ports.



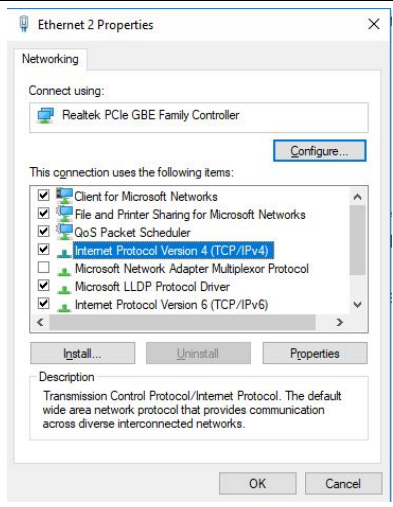
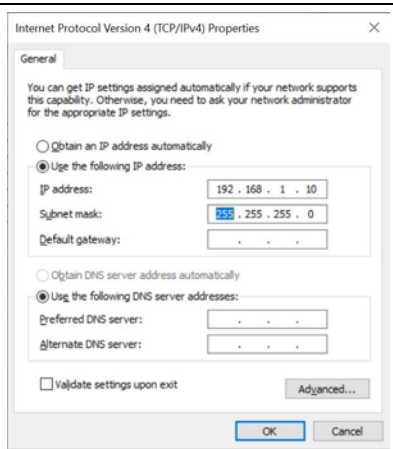
Note: DHCP is enabled by default on In Band Ports (VLAN1).

Default login information:

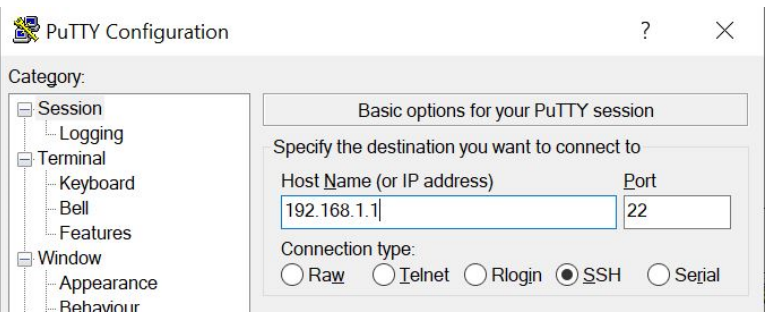
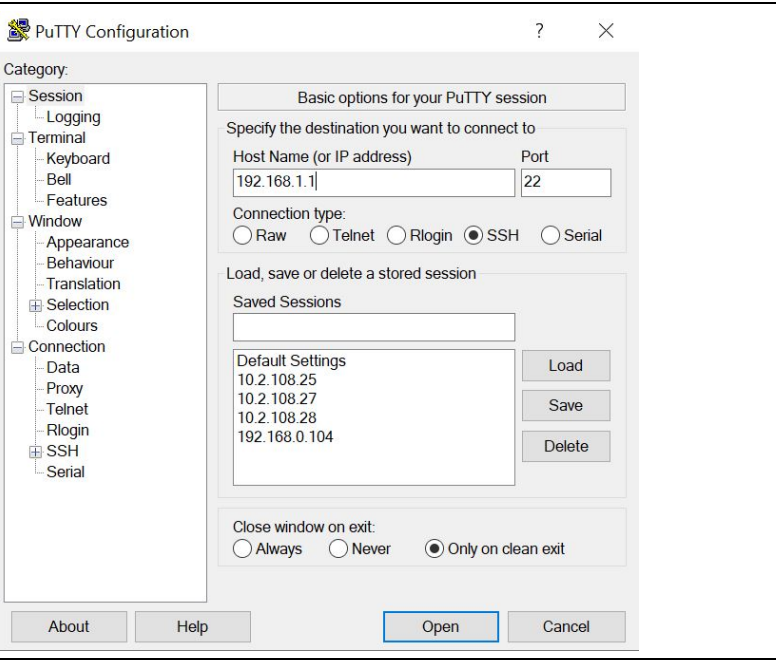
Username: **admin**

Password: **admin**

Configure Management PC

| | | |
|---|---|---|
| 1 | For Windows operating system, open the Control Panel window. |  |
| 2 | In the Control Panel window, select the View network status and tasks option. The Network and Sharing Center window is displayed. | |
| 3 | Click the Change adapter settings option. The Network Connections window is displayed. | |
| 4 | Double-click the interface connected to the switch. The interface Properties window is displayed. | |
| 5 | Double click on the Internet Protocol Version 4 (TCP/IPv4) option. | |
| 6 | The Internet Protocol Version 4 (TCP/IPv4) Properties is displayed. Select Use the following IP address. Set The IP address of the interface to 192.168.1.10 and the Subnet mask to 255.255.255.0 |  |

Logging in to the switch

| | | |
|---|--|---|
| 1 | Use PuTTY SSH client. |  |
| 2 | On the PuTTY Configuration window, in the Host Name field, enter 192.168.1.1 IP address and in the Port field, enter the 22 value. | |
| 3 | Click Open. The login prompt is displayed. |  |
| 4 | In the cnMatrix login prompt enter the default username: admin | |
| 5 | In the Password prompt enter the default login password: admin | |

Hardware Overview

Power LED

cnMatrix Logo (Power) LED is continuously blue – the switch is operational.

cnMatrix Logo (Power) LED is blinking blue – the switch is initializing.

Management Port

Used for Managing the switch. It provides out of band network connectivity for management of the switch.

Console

RJ45 connection for console access.

USB

File management and/or storage.



cnMaestro LED

Blinking blue: Connecting to cnMaestro.
Solid blue: Connected to cnMaestro.

Reset button

Simple reboot:
Press and release within 10 seconds.

Factory default:
Press and hold for > 10 seconds

Ports

Data ports used for traffic forwarding. Orange border ports indicate PoE+ up to 30W. (802.3af/at)
Green border ports indicate PoE+ up to 60W. (802.3af/at/bt)

Fiber Ports

1 Gig/10 Gig fiber ports (SFP+).

Specifications

| cnMatrix Models | EX3028R-P | EX3052R-P |
|---------------------------------|---|---|
| MTBF (hours) | 547,054 | 471,517 |
| Max Switch Power (with traffic) | 61W | 82.5W |
| Power Supply | 1 CRPS (removable) | 2 CRPS (removable) |
| Max PoE/Port | Ports 1-12: 60W/port (54VDC, 1.11A max) Ports 13-24: 30W/port (54VDC, 0.55A max) | Ports 1-24: 60W/port (54VDC, 1.11A max) Ports 25-48: 30W/port (54VDC, 0.55A max) |
| Max Total PoE Power | CRPS dependent See datasheet for details | CRPS dependent See datasheet for details 100-240 Vac, 47-63 Hz, 15-8 A (x2) Max.1745 W 170-240 Vac, 47-63 Hz, 15-8 A (x2) Max.2160 W |
| Weight | 3.68 kg (8.11 lb) | 4.90 kg (10.81 lb) |
| Dimensions | 44 x 4.4 x 28 cm (17.3 x 1.73 x 11.02 in) | 44 x 4.4 x 39.4 cm (17.3 x 1.73 x 15.51 in) |
| LEDs per port | Link/Activity, PoE | Link/Activity, PoE |
| Rack mountable | Yes, 1U | Yes, 1U |
| Operating Temperature | 0°C to +50°C (32°F to +122°F) | 0°C to +50°C (32°F to +122°F) |
| Operating humidity | +55° at 95% RH | +55° at 95% RH |
| Storage temperature | -40°C to +70°C (-40°F to +158°F) | -40°C to +70°C (-40°F to +158°F) |

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@version 3.0 (December 2000)

Optimised ANSI C code for the Rijndael cipher (now AES)

@author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
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Version 2.1, February 1999

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Ty Coon, President of Vice

That's all there is to it!

Hardware Warranty

Cambium provides standard warranty as per Cambium's standard warranty policy for applicable warranty period for each product type. For details, regarding Cambium's warranty policy, warranty terms and conditions and applicable warranty periods, please click <https://www.cambiumnetworks.com/support/standard-warranty/>.

Electrical Safety Information

This switch is designed to be operated with a removable power supply with a power inlet with an integrated ground. A power cord from the switch shall be connected to a power outlet with ground connection.



The EX3K models can use redundant power sources. If using more than one CRPS, please ensure to disconnect all the power cords before servicing.



To prevent loss of life or physical injury, observe the following safety guidelines. In no event shall Cambium Networks be liable for any injury or damage caused during the installation of the switch.

The equipment is designed for indoor installation and not intended to be connected to exposed (outside) networks.

Equipment intended for installation in Information Technology Equipment Rooms. "Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75."

To avoid a shock hazard:

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- Connect power cord to a properly wired and grounded electrical outlet.
- Connect the grounding lug, located on the rear of the switch, with a minimum 14 AWG wire. Ground wire color will be dictated by local requirements.
- Connect to properly wired outlets any equipment that will be attached to this product.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.

There are no serviceable parts inside this equipment. Service should be provided only by a qualified service technician.

Le switch est conçu avec une prise de courant possédant une connexion à la terre. Un cordon d'alimentation devra être connecté à la prise de courant possédant une connexion à la terre.

L'équipement est prévu pour des installations en intérieur et n'est pas prévu pour être installé à l'extérieur.

ATTENTION: Unité est alimentée par des cordons d'alimentation multiples. Pour déconnecter toutes les sources d'alimentation de l'unité. débranchez tous les cordons d'alimentation

CAUTION: The SFP/SFP+ ports should use UL listed Optical Transceiver product, Rated Laser Class 1. 3.3Vdc.

Si le transceiver optique n'est pas livré avec l'appareil, le manuel d'utilisation doit comporter la description ci-dessous ou son équivalent : « Ce produit est destiné à être utilisé avec un transceiver optique homologué UL, tension DC3.3V, classe laser I.

FCC Compliance

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.
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 it is not installed and used in accordance with the instruction manual, it 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 his own expense.

Modifications: Any modifications made to this device that are not approved by Sun Microsystems, Inc. may void the authority granted to the user by the FCC to operate this equipment.

この装置は、クラスA機器です。この装置を住宅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

RoHS/WEEE Compliance

Caring for the Environment: RoHS/WEEE

European Directive 2002/96/EC 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.

Europe- EU Declaration of Conformity

Hereby, CAMBIUM NETWORKS, Inc. declares that the equipment type [EX30xx] is in compliance with Directive 2014/30/EU. The full text of the EU declaration of conformity is available at the following internet address: <https://www.cambiumnetworks.com/>

Online Resources

User Guides: <https://www.cambiumnetworks.com/guides>

Technical Training: <https://learning.cambiumnetworks.com>

Cambium Networks Support Centre: <https://support.cambiumnetworks.com>

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