Simply Better Connections

UCE33100

4-Port USB 3.2 Gen 1 Cat 6A Extender (up to 100 m)

User Manual

Compliance Statements

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

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 his own expense.

The 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.

FCC Caution

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

Warning

Operation of this equipment in a residential environment could cause radio interference.

Achtung

Der Gebrauch dieses Geräts in Wohnumgebung kann Funkstörungen verursachen.

Industry Canada Statement

This Class A digital apparatus complies with Canadian ICES-003.

CAN ICES (A) / NMB (A)

RoHS

This product is RoHS compliant.

User Information

Online Registration

Be sure to register your product at our online support center:

International	http://eservice.aten.com

Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-400-810-0-810
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988 1-949-428-1111

User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

Product Information

For information about all ATEN products and how they can help you connect without limits, visit ATEN on the Web or contact an ATEN Authorized Reseller. Visit ATEN on the Web for a list of locations and telephone numbers:

International	http://www.aten.com
North America	http://www.aten-usa.com

Package Contents

Check to make sure that all the components are in working order. If you encounter any problem, please contact your dealer.

1 UCE33100 local and remote units

1 USB 3.2 Gen 1 Type-A to USB Type-B cable

2 4-pin terminal blocks

4 mounting kit

1 power adapter

1 user instructions

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About this Manual

This user manual is provided to help you get the most from the UCE33100 unit. It covers all aspects of installation, configuration, and operation. An overview of the information found in the manual is provided below.

Chapter 1, Introduction introduces you to the UCE33100 4-Port USB 3.2 Gen 1 Cat 6A Extender (up to 100 m). Its purpose, features, and panel components are presented and described.

Chapter 2, Hardware Setup describes the steps that are necessary to quickly and safely set up your installation.

Chapter 3, Operation explains the LED behaviors of the UCE33100 units.

Appendix provides a list of safety instructions and precautions, contact information for ATEN technical support, product specifications, and other technical information.

Note:

- Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit or any connected devices.
- The product may be updated, with features and functions added, improved or removed since the release of this manual. For an up-to-date UCE33100 documentation, visit http://www.aten.com/global/en/

Conventions

This manual uses the following conventions:

`Monospaced`	Indicates text that you should key in.
[ ]	Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
1.	Numbered lists represent procedures with sequential steps.
♦	Bullet lists provide information, but do not involve sequential steps.
>	Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start > Run means to open the *Start* menu, and then select *Run*.
	Indicates critical information.

Chapter 1
Introduction

Overview

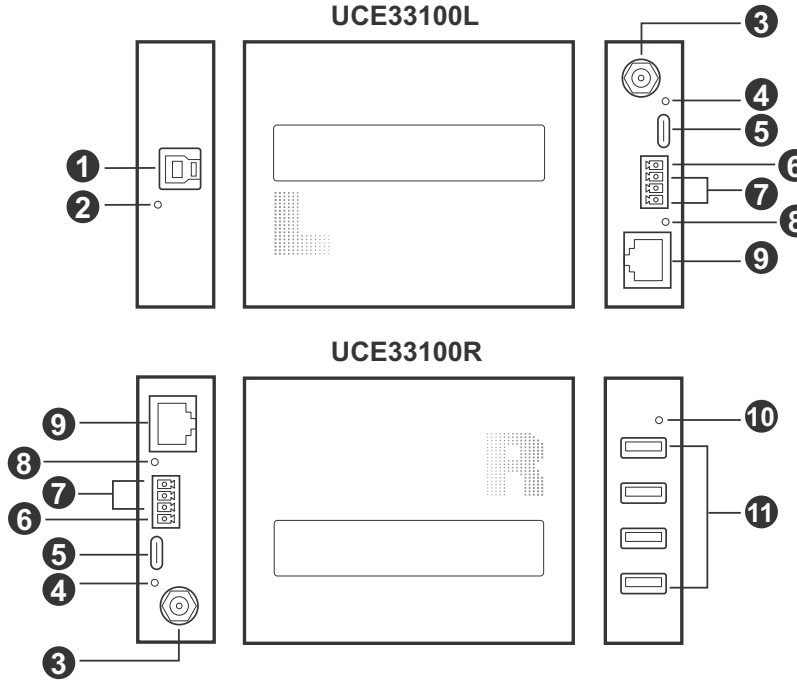
The UCE33100 is a two-piece extension kit that transmits uncompressed USB 3.2 data at up to 5Gbps over 100m via a Cat 6A cable. With four USB Type-A ports built on the remote unit, the connection to multiple USB peripherals, from flash drives, keyboards, mice, and webcams to interactive whiteboards, is made easy. The support for bi-directional RS-232 pass-through facilitates integration into control systems, and apart from that, the Frame Synchronization (FSYNC) GPIO pass-through ports allow bi-directional commands to be sent when it comes to industrial camera implementations. The bi-directional 24V power over cable function eliminates the need for an additional power adapter when either of the local or remote unit receives power.

The UCE33100 supports plug-and-play operation to work flawlessly with all operating systems, assuring hassle-free installation with no extra driver or software required. Flexibility is further enhanced due to the extender's compact, wall-mountable enclosure, which also helps save space.

Features

- A two-piece extension kit that transmits USB signals over a Cat 6A cable
- Long distance USB 3.2 data transmission at up to 5Gbps across 100 m
- Backward compatible with USB 2.0 / 1.1 specifications
- 4x USB Type-A ports built on the remote unit for connection to multiple USB peripherals (flash drives, keyboards, mice, webcams, interactive whiteboards, and any other USB-based devices)
- Supports bi-directional RS-232 pass-through for integration into control systems
- Supports bi-directional Frame Synchronization (FSYNC) GPIO pass-through for industrial camera applications
- Bi-directional 24V power over cable eliminates the need for an additional power adapter when either of the local or remote unit receives power
- Plug-and-play with no driver / software required to work with all operating systems
- Compact, wall-mountable enclosure elevates installation flexibility and helps save space

Components



No.	Component	Description
1	USB 3.2 Gen 1 Type-B port (host)	Receives a USB Type-B male to Type-A male cable that connects the UCE33100L to the computer in your setup.
2	USB Type-B LED (host)	◆ On: To indicate that there is USB signal detected from the host PC. ◆ Off: To indicate that there is not USB signal detected from the host PC.
3	DC power jack	Receives the power adapter. Once the power adapter is connected and powered up, the power is delivered to the other unit through its RJ-45 port (link).
4	power LED	◆ On: To indicate that the power is being supplied to the unit. ◆ Off: To indicate that there is no power being supplied to the unit.

No.	Component	Description
5	USB-C port (firmware upgrade)	This port is for firmware upgrade. If you would like to do a firmware upgrade yourself, please contact our ATEN Technical Support for details. **Note:** Please do not connect the RJ-45 ports (link) to any other devices via an Ethernet cable. For UCE33100, it is only allowed for point-to-point installation.
6	FSYNC port (industrial camera)	Connects to a Frame Synchronization (FSYNC) GPIO supported industrial camera for control purposes.
7	RS-232 serial port	Connects to a RS-232 supported device to bypass RS-232 signals for control purposes.
8	link LED	◆ On: To indicate that the USB connection between the UCE33100L and the UCE33100R is established and stable. ◆ Blink: To indicate that the USB connection between the UCE33100L and the UCE33100R is off due to USB low power mode. ◆ Off: To indicate there is no USB connection between the UCE33100L and the UCE33100R.
9	RJ-45 port (link)	Receives an Ethernet cable that sends and transmits data between the UCE33100L and the UCE33100R.
10	USB Type-A LED (peripheral)	◆ On: To indicate that there is USB signal detected from the connected peripherals. ◆ Off: To indicate that there is not USB signal detected from the connected peripherals.
11	USB Type-A ports (peripheral)	Receive USB cables to connect to USB peripherals you wish to access from the computer in your setup.

Chapter 2
Hardware Setup

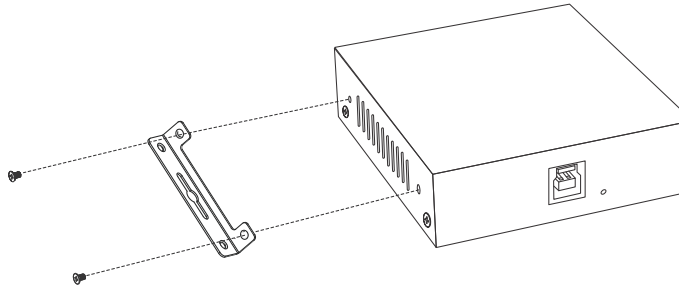
Please review the safety information regarding the placement of this device in *Safety Instructions*, page 11.

Mounting the UCE33100 Units

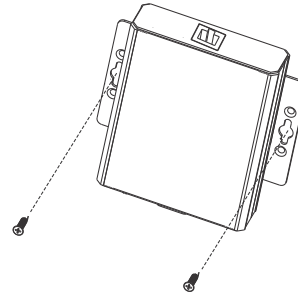
You can mount the UCE33100 units to the wall. Before you begin to mount the units, you will need to mount the brackets into the sides of the UCE33100 units.

Wall Mounting the UCE33100 Units

1. Using the screws removed from both sides of the unit, secure the supplied mounting brackets to the unit.

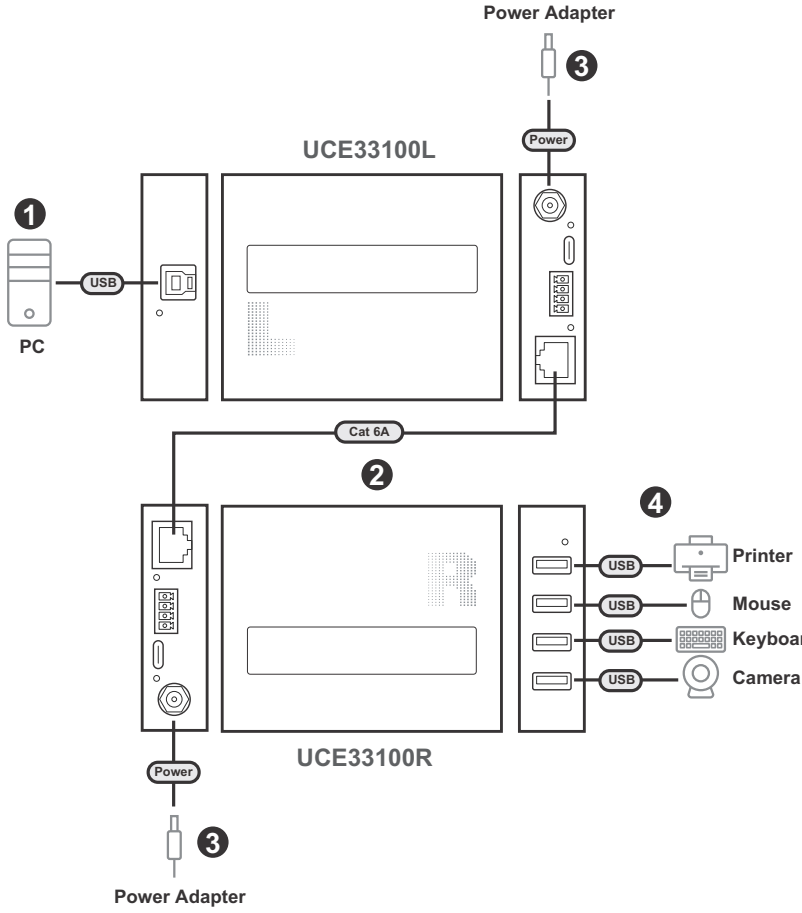


2. Through the mounting brackets, secure the unit to a selected location such as wall or ceiling using self-supplied screws.



Connecting the UCE33100 Unit

Follow the steps below to connect the UCE33100 units.



1. Connect the UCE33100L's USB Type-B port (host) to a USB port on a computer using a USB 3.2 Gen 1 cable.
2. Using a Cat 6A Ethernet cable (with a length up to 100 m), connect the local and remote unit's RJ-45 ports (link).

Note: 1. We recommend using our 2L-29330 Cable for a better transmission. Please contact your ATEN dealer for product information.

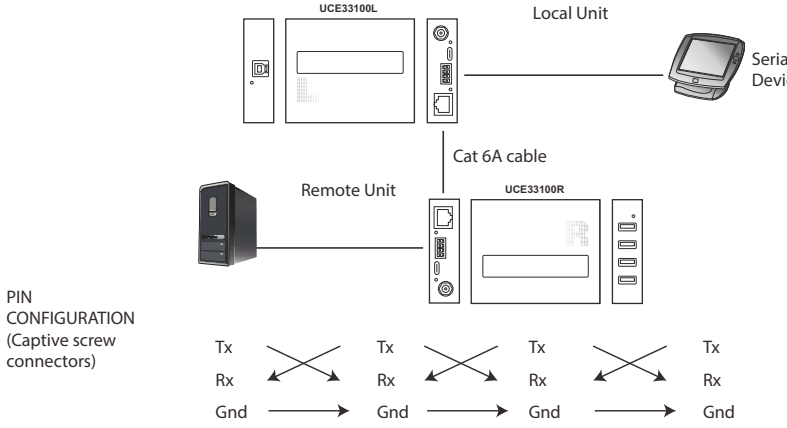
2. Please do not connect the RJ-45 ports (link) to any other devices via an Ethernet cable. For UCE33100, it is only allowed for point-to-point installation.

3. Connect the power adapter to either one of the unit's power jack to power the unit. Once a unit is powered up, the power is delivered to the other unit through its RJ-45 port (link).
4. Connect up to four USB peripheral devices to UCE33100R's USB Type-A ports (peripheral).

Note: Please refer to your USB video device's user manual for its compatibility and declaration.

RS-232 Channel Transmission

You can manage the connected devices via RS-232 serial devices, such as computers or bar code scanners. The RS-232 signal transmission flow can be illustrated as follows:



The general concept here is that a RS-232 signal can be transmitted (Tx) to the receiving (Rx) end of a unit. The received signal can then be transmitted (Tx) to the receiving (Rx) end of another unit. The RS-232 signals can be transmitted back the other way.

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Chapter 3
Operation



Please review the safety information regarding the placement of this device in *Safety Instructions*, page 11.

LED Behavior

UCE33100L

LED Behavior	Status	
USB Type-B LED (host)	Off	There is no USB signal detected.
	On	There is USB signal detected.
Power LED	Off	The unit is powered off.
	On	The unit is powered on.
Link LED	Off	There is no link established.
	On	The link is established with the remote unit.
	Flash	The link is off due to USB low power mode.

UCE33100R

LED Behavior	Status	
USB Type-A LED (peripheral)	Off	There is no USB signal detected.
	On	There is USB signal detected.
Power LED	Off	The unit is powered off.
	On	The unit is powered on.
Link LED	Off	There is no link established.
	On	The link is established with the local unit.
	Flash	The link is off due to USB low power mode.

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Appendix

Safety Instructions

General

- This product is for indoor use only.
- Read all of these instructions. Save them for future reference.
- Follow all warnings and instructions marked on the device.
- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, radiators or heat registers.
- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- To prevent damage to your installation it is important that all devices are properly grounded.
- Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.
- Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.

- If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
  - The power cord or plug has become damaged or frayed.
  - Liquid has been spilled into the device.
  - The device has been exposed to rain or water.
  - The device has been dropped, or the cabinet has been damaged.
  - The device exhibits a distinct change in performance, indicating a need for service.
  - The device does not operate normally when the operating instructions are followed.
- Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

Technical Support

International

- For online technical support – including troubleshooting, documentation, and software updates: http://support.aten.com
- For telephone support, see *Telephone Support*, page iii:

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	http://www.aten-usa.com/support
Telephone Support		1-888-999-ATEN ext 4988 1-949-428-1111

When you contact us, please have the following information ready beforehand:

- Product model number, serial number, and date of purchase
- Your computer configuration, including operating system, revision level, expansion cards, and software
- Any error messages displayed at the time the error occurred
- The sequence of operations that led up to the error
- Any other information you feel may be of help

Specifications

Function		UCE33100
Local Unit	Upstream Port	1 x USB Type-B Female
	Downstream Port	1 x RJ-45 Female 1 x USB-C Female (Firmware Upgrade) 1 x 3-pin Terminal Block (RS-232) 1 x 1-pin Terminal Block (FSYNC) **Note:** The USB-C port is for firmware upgrade only. Please do not connect any other devices during regular use.
	Power	1 x DC Jack
Remote Unit	Upstream Port	1 x RJ-45 Female
	Downstream Port	4 x USB Type-A Female 1 x USB-C Female (Firmware Upgrade) 1 x 3-pin Terminal Block (RS-232) 1 x 1-pin Terminal Block (FSYNC) **Note:** The USB-C port is for firmware upgrade only. Please do not connect any other devices during regular use.
	Power	1 x DC Jack
USB Specification		USB 3.2 Gen 1
Cable Type		Cat 6A Ethernet Cable
Signal Range		100 m
LEDs	Status	3 x LEDs
Power Consumption		UCE33100L: DC24V:1.92W UCE33100R: DC24V:2.64W **Note:** ◆ The measurement in Watts indicates the typical power consumption of the device with no external loading.
Environmental	Operating Temperature	0 – 40°C
	Storage Temperature	-20 – 60°C
	Humidity	20% – 90% RH, Non-condensing
Physical Properties	Weight	260 g (0.57lb)
	Housing	Metal Enclosure
	Dimensions (L x W x H)	10.75 x 8.50 x 2.55 cm (4.23 x 3.35 x 1.00 in)

ATEN Warranty Policy

The warranty policy may vary by product category and region of purchase. For details, please visit ATEN's official website, select your purchase counties/ regions and then go to the Support Center, or contact your local ATEN sales representative for further assistance.

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