



DisplayPort Extender Series

User Manual

Model : DP02U-4K6G

4K 60Hz DisplayPort KVM Extender with USB 2.0



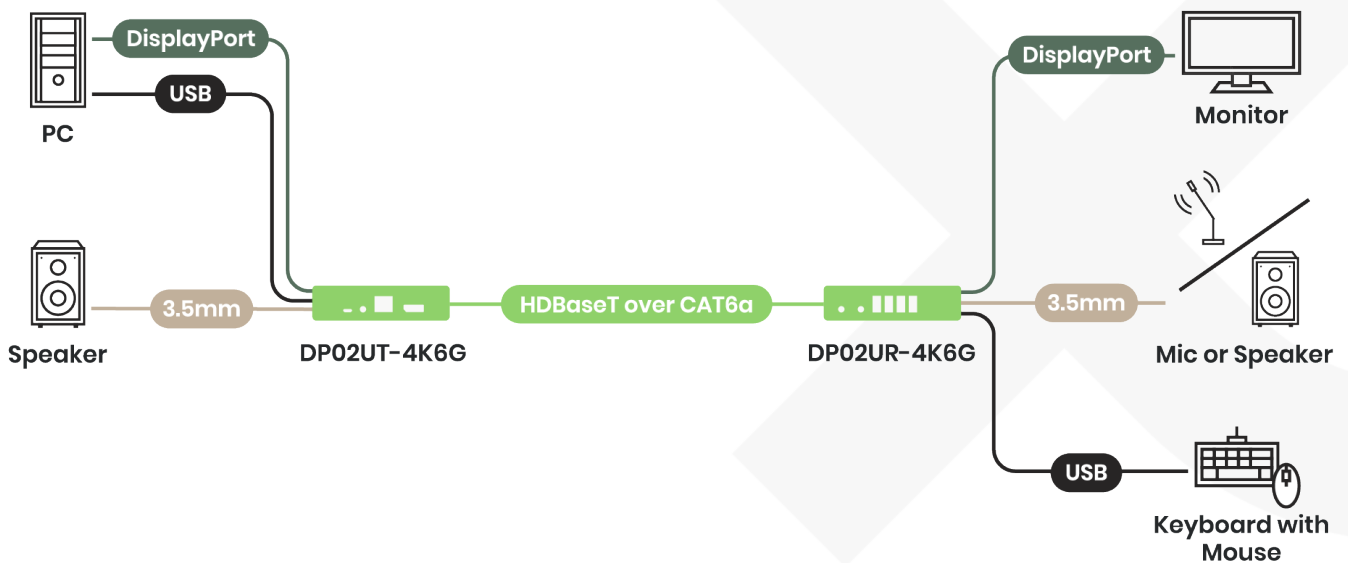
Overview

DP02U-4K6G is a DisplayPort over HDBaseT KVM Extender which is able to send uncompressed video, digital & analog audio, RS232, and USB signals, with resolution up to 4096/ 3840 x2160 @60Hz 4:4:4 and transmission distance up to 100M. It uses the Valens Stello VS3000 chipset, which is the only solution for long-range distribution of uncompressed video, with zero latency. The 4 built-in USB ports at the RX unit can connect multiple USB 2.0 devices, such as keyboards, mice, flash drives, USB cameras, and touch panels.

Features

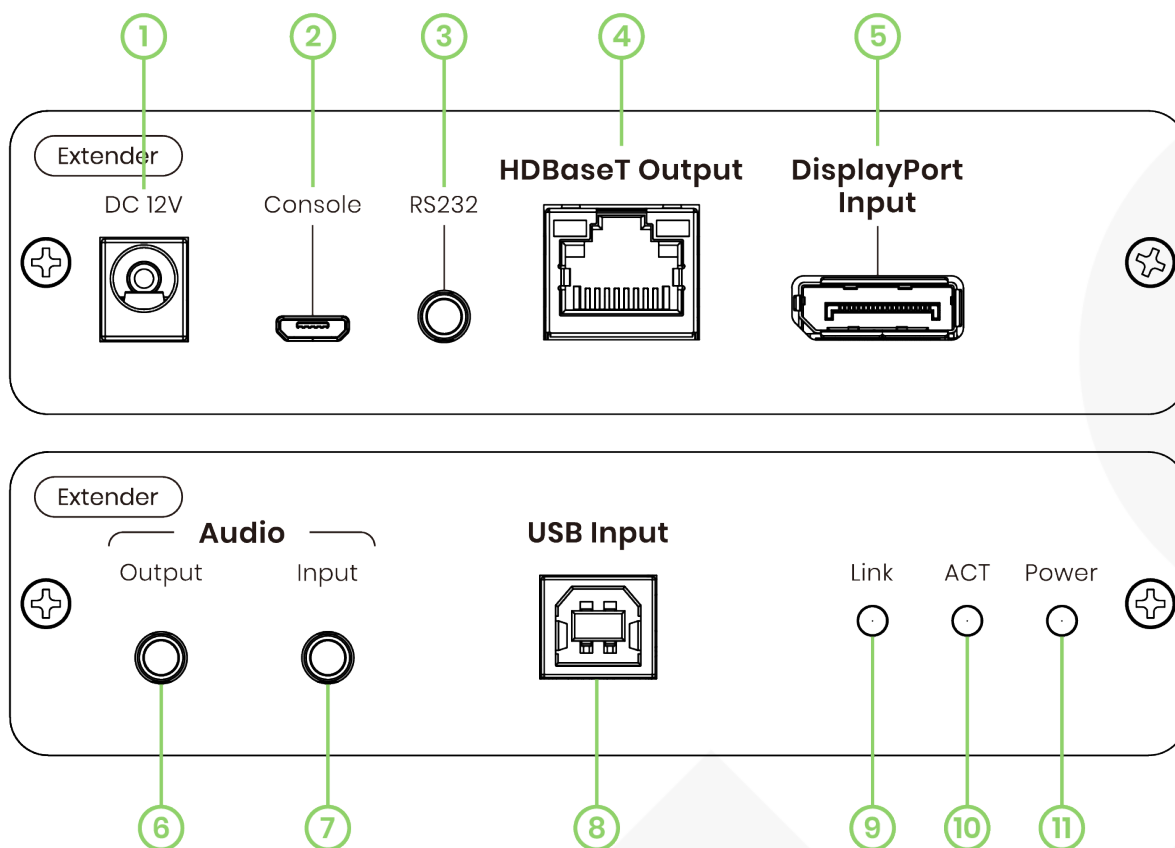
- Resolution up to 4096/ 3840 x2160@60Hz 4:4:4.
- HDBaseT for transmission of uncompressed UHD video at almost zero latency.
- Signal extension up to 100m for 4096 x 2160@60Hz.
- Built-in 4 ports USB2.0 at the RX unit for USB cameras, flash drives, keyboards/mouses, etc.
- Supports bi-directional RS232 transmission.
- Supports DisplayPort audio and 3.5mm input/output at Tx or Rx. (For more information, see the Audio Transmission, P5.)
- HDCP compliant.

Installation View



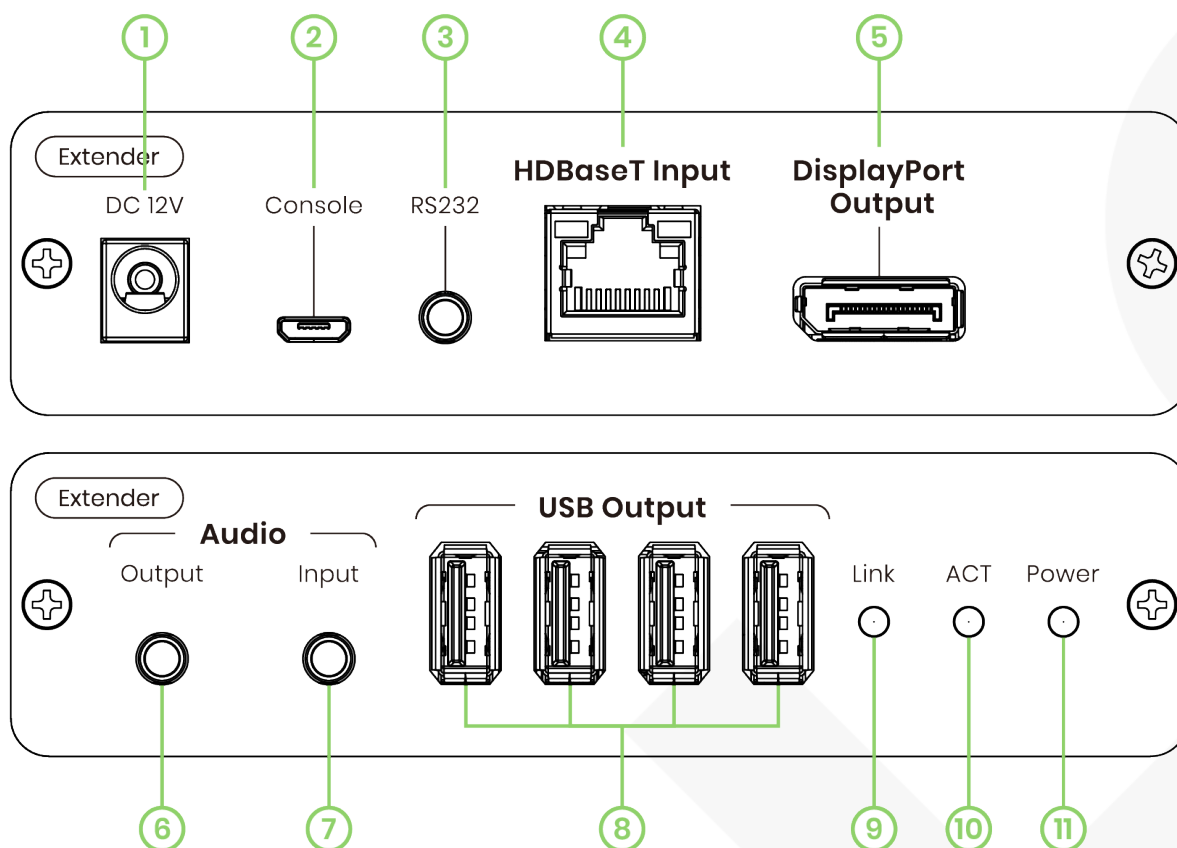
Panel View

DP02UT-4K6G (Transmitter)



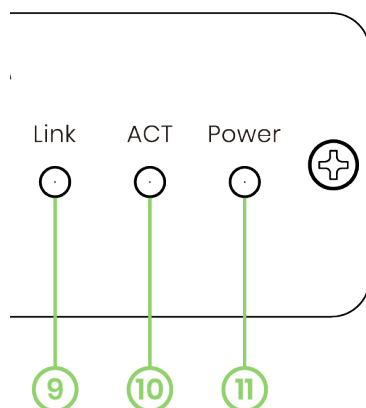
No	Interface	Description
1	Power Input	To input 12V 1.5A power
2	USB Micro-B	Firmware Upgrade
3	3.5mm Jack RS232	RS232 for control signals extension
4	HDBaseT Output	To connect a CAT6a for transmission up to 100M
5	DisplayPort Input	Video Input up to 4096*2160@60Hz
6	3.5mm Jack Audio Output	Analog audio line out
7	3.5mm Jack Audio Input	Analog audio line in
8	USB Type-B	USB2.0 for host connection
9	Link LED Indicator	LED for visual link indicator
10	Activity LED Indicator	LED for visual data transfer indicator
11	Power LED Indicator	LED for visual power indicator

DP02UR-4K6G (Receiver)



No	Interface	Description
1	Power Input	To input 12V 1.5A power
2	USB Micro-B	Firmware Upgrade
3	3.5mm Jack RS232	RS232 for control signals extension
4	HDBaseT Input	To connect a CAT6a for transmission up to 100M
5	DisplayPort Output	Video Output up to 4096 x 2160@60Hz
6	3.5mm Jack Audio Output	Analog audio line out
7	3.5mm Jack Audio Input	Analog audio line in
8	USB Type-A	USB2.0 for device connection
9	Link LED Indicator	LED for visual link indicator
10	Activity LED Indicator	LED for visual data transfer indicator
11	Power LED Indicator	LED for visual power indicator

LED Indication



LED	LED Light	Status
Power	Green/Off	Power on/off
LINK	Blue/Off	Connected/Disconnected
ACT	Blue/Off	Transmitting data/Standby

Resolution and Distance

Resolution

DP02U-4K6G transmits Displayport KVM and USB2.0 signals at up to 4096/ 3840 x2160@60Hz resolution and can extend the distance for a maximum of 100m at a lower resolution. For the detailed transmission distances, see the next chapter.

Transmission Distance

Table of Distance

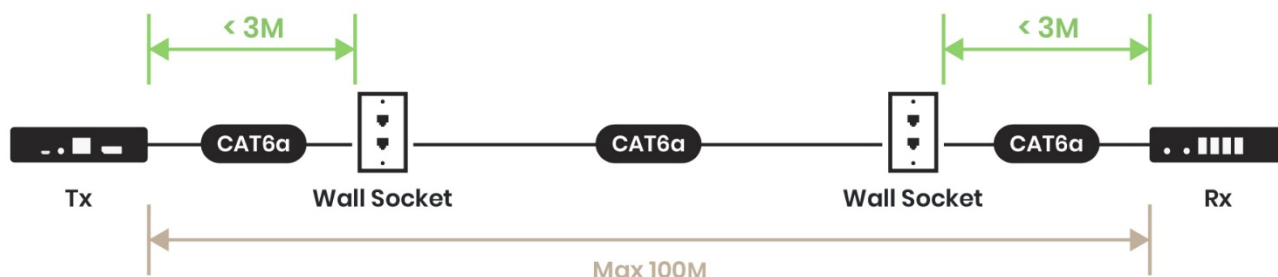
At 4096x2160@60Hz 4:4:4, using an HDBaseT 3 certified CAT6a cable can extend the signal for 100m and a COMMSCOPE CAT6a cable for 80m, after tests. See the table below for information about the transmission distance.

Cable Type	Maximum Distance	Resolution
CAT6a (HDBaseT3 Certified)	100m	4096/ 3840 x2160 60Hz
CAT6a (COMMSCOPE)	100m	4096/ 3840 x2160 30Hz 1920x1080 60Hz
	80m	4096/ 3840 x2160 60Hz
CAT5e	40m	4096/ 3840 x2160 30Hz 1920x1080 60Hz

Setting up

Wall socket

If the Ethernet cable passes through the wall socket, the length of the cable between DP02U and Wall Jack must be fewer than 3 meters as connection diagram shown below:



Cable used

We recommend using high-quality CAT6a, CAT7 UTP/STP, or FTP cables to connect DP02UT-4K6G and DP02UR-4K6G. Poor quality cables and any improper connection will cause video or audio disruptions and picture noise.

We **strongly recommend** using the following HDBaseT Alliance certified cables for optimal transmission. You can also click [here](#) for other certified cables.

	Item No.	Length (m)
Teldor Cables & System Ltd.	83G02HD105 CAT 6A 22AWG	100
	CAT 6A 83G0204139 23AWG	100
	83G0204139 23AWG	90
	83G02HD105 CAT 6A 22AWG	90
	83G0204139 23AWG	80
	83G0204139 23AWG	75
	83G0204139 23AWG/Tiger S/FTP 11801	70+5+5
	83G0204139 23AWG/TopX patch	70+5+5
	CAT_6A 83G0204139 23AWG / Panduit Patch	70+5+5
	CAT 6A 83G0204139 23AWG/ CAT 6A 83G0204139 23AWG	80+5+5
	CAT_6A 83G0204139 23AWG / Panduit Patch	80+5+5

	83G0204139 23AWG/Tiger S/FTP 11801	80+5+5
	83G02HD105 CAT 6A 22AWG/Panduit Patch	90+5+5
	83G02HD105 CAT 6A 22AWG/83G02HD105 CAT 6A 22AWG	90+5+5
	83G02HD105 CAT 6A 22AWG/TIGER CAT_6A S/STP PATCH CABLE	90+5+5
	CAT 6A 83G0204139 23AWG	90+5+5
	83G0204139 23AWG	100
Extron Electronics	S/FTP 23AWG E197502-12	100
	S/FTP 23AWG E197502-12	90
PADUIT CORP.	TX6A 10GIG PUFR6X04 CAT 6A 23AWG	90
	TX6A 10GIG PUFR6X04 CAT 6A 23AWG / Panduit Patch	80+5+5
MaXXam	MaXXam XX6A0001Z CAT 6A 23AWG	100
Nienyi	Nienyi A0120J231I CAT 6A 23AWG **Not in production	100
	Nienyi A0120J231I CAT 6A	90+5+5
	Nienyi A0120J231I CAT 6A 23AWG / Panduit Patch	90+5+5
Structured Cable Products	10GBASE-T 600MHZ U/FTP 23AWG EN50575	100

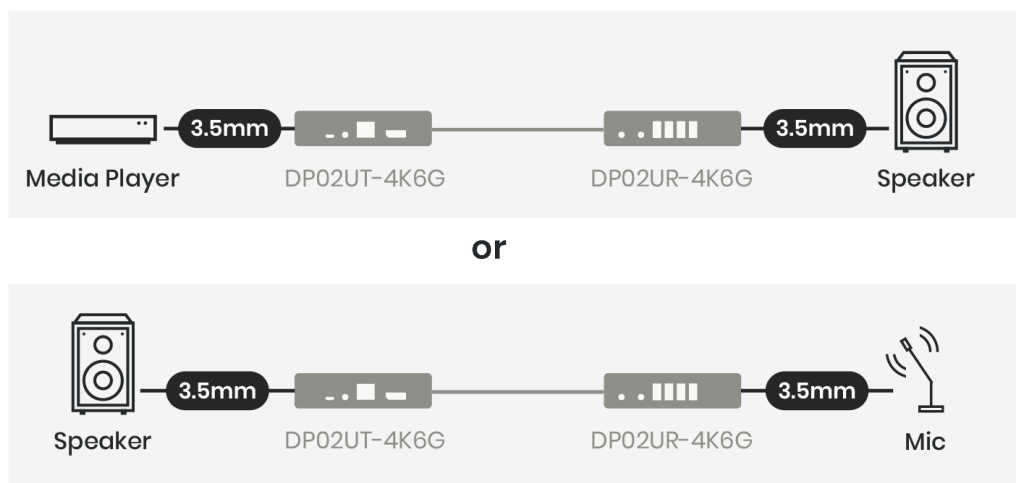
Audio Transmission

DP Audio

DP02U-4K6G transmits DP audio. DP audio input can only be played from DP output.

Sound Channel

DP02U-4K6G has an independent 3.5mm sound channel at the transmitter and receiver, which can be connected to a microphone or speaker. Tx 3.5mm audio input can only be played at Rx output. Rx 3.5mm audio input can only be played at Tx output.



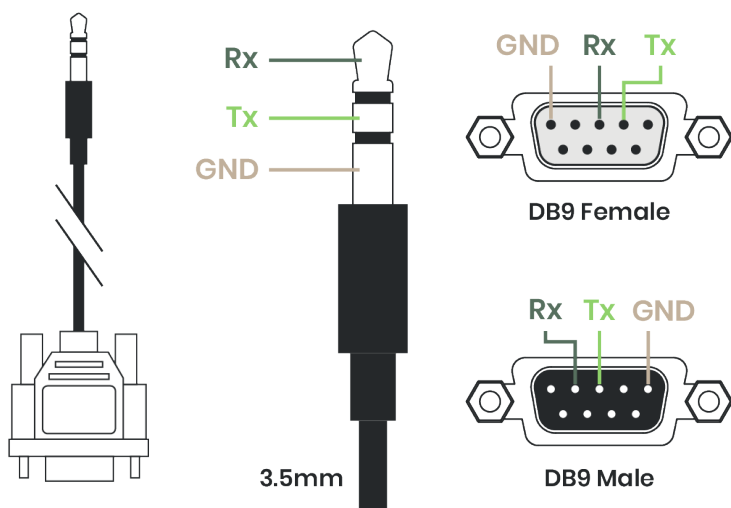
Independent 3.5mm sound channel which can be connected to a microphone or speaker at either Tx or Rx.

RS232 Transmission

DP02U-4K6G supports RS232 transmission via a 3.5mm connector. If your RS232 device uses a DB9 connector, you will need a DB9 to 3.5mm adapter cable to connect the device to Tx and Rx.

RS232 Definition

DP02U-4K6G has 3.5mm for RS232 transmission. See the pictures and tables below for detailed connections.



RS232(DB9 Female)		3.5 mm Phone Jack	
Pin	Definition	Pin	Definition
Pin 2	TX	Pin 1	RX
Pin 3	RX	Pin 2	TX
Pin 5	GND	Pin 3	GND

RS232(DB9 Male)		3.5 mm Phone Jack	
Pin	Definition	Pin	Definition
Pin 2	RX	Pin 1	RX
Pin 3	TX	Pin 2	TX
Pin 5	GND	Pin 3	GND



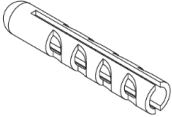

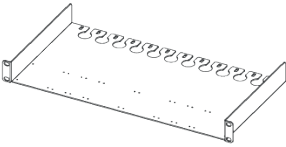
Package Includes

Item	Amount
DP02UT-4K6G (Transmitter Unit)	1 pc
DP02UR-4K6G (Receiver Unit)	1 pc
DC12V 1.5A Power Adapter	2 pcs
USB A/B Cable	1 pc
Mounting Screw pack	1 bag

Specification

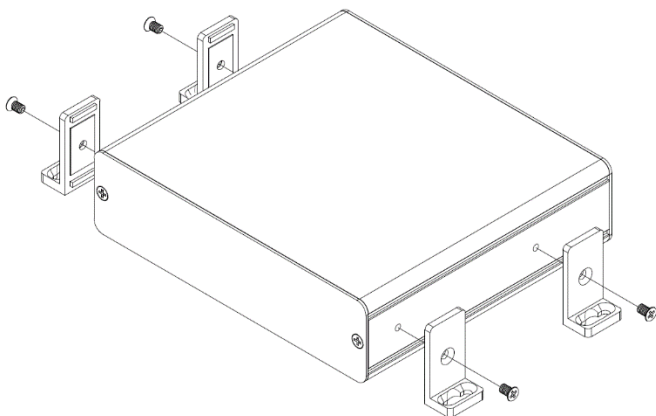
Model	DP02UT-4K6G	DP02UR-4K6G
Compliance		
Standard	DP1.2 HDCP1.3 USB2.0	
Video Resolution	4K@60Hz 4:4:4	
Transmission Distance	100M (HDBaseT3 certified CAT6a U/FTP cable)	
RS232 Baud Rate	115200 bps/Full Duplex	
Ports & Interfaces		
Video Input	1 x DisplayPort	1 x HDBaseT
Video Output	1 x HDBaseT	1 x DisplayPort
Audio Input	1 x (3.5mm) Phone Jack	1 x (3.5mm) Phone Jack
Audio Output	1 x (3.5mm) Phone Jack	1 x (3.5mm) Phone Jack
USB Connector	1 x USB Type-B	4 x USB Type-A
RS232	1 x (3.5mm) Phone Jack	1 x (3.5mm) Phone Jack
Console (Firmware Upgrade)	1 x USB Micro-B	1 x USB Micro-B
LED Indicators	3-LED Status: PWR / HDBaseT Link / HDBaseT Activity	3-LED Status: PWR / HDBaseT Link / HDBaseT Activity
Power		
Power Supply	12V 1.5A	12V 1.5A
Power Consumption	<10W	<10W
Ambient Temperature		
Operation	0 to 45°C	
Storage	-40 to 85°C	
Operating Altitude	2000m	
Humidity	Up to 95%	
Physical Characteristics		
Dimension	125 x 123 x 32mm	123 x 125 x 32mm
Weight	338g	343g

Installation Guide

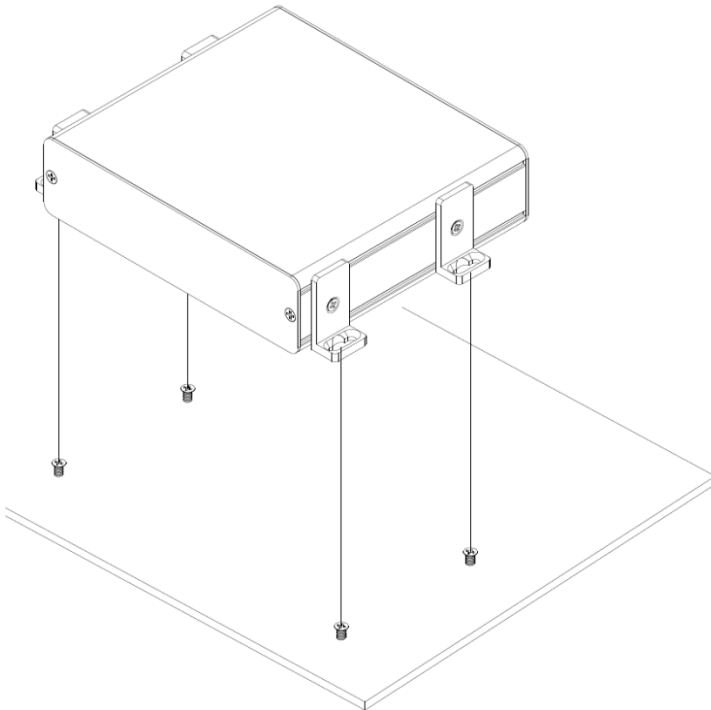
Accessory		
A	Machine Screw	
B	Self-drilling Screw	
C	Screw Plug	
D	Angle Bracket	
E	Accessory set 1U Rack	

Installed on a Platform

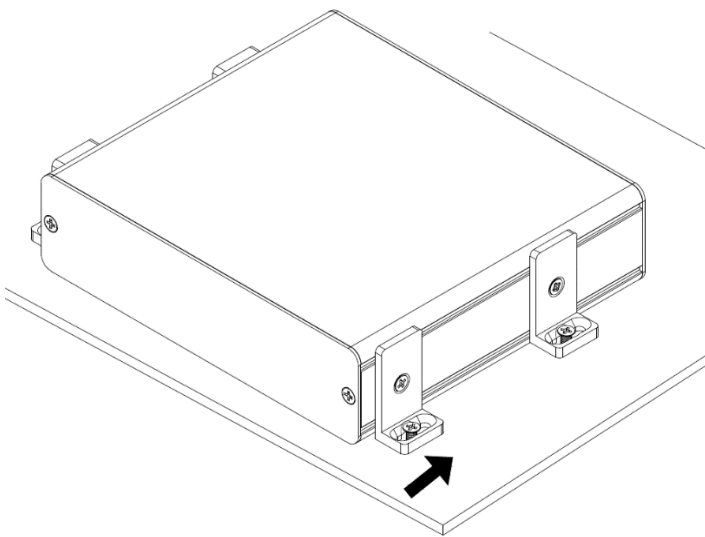
Step 1 Use machine screws to fix angle brackets on both sides of your product



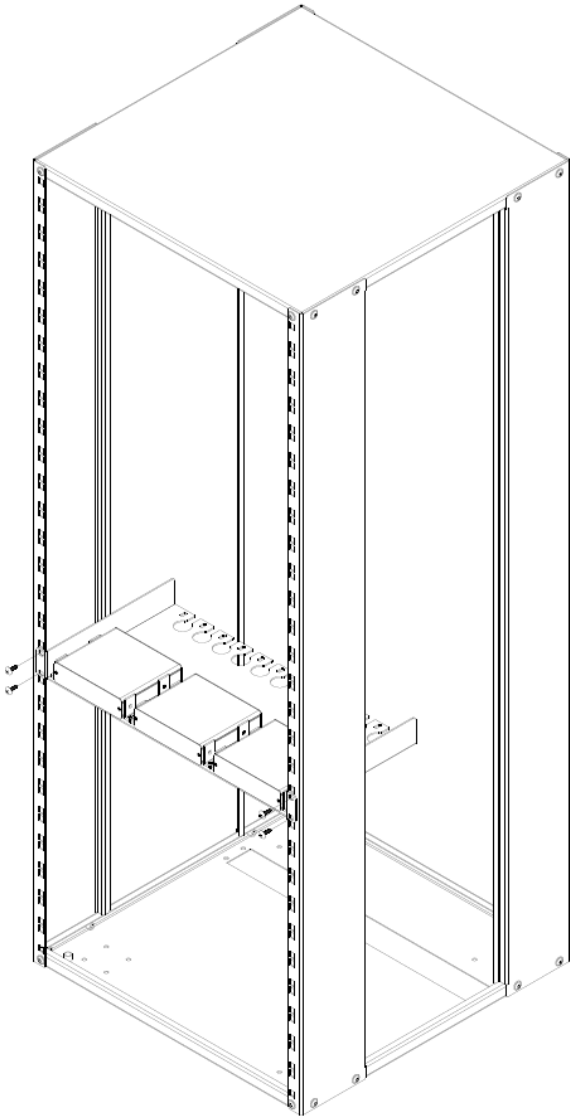
Step 2 Use self-drilling screws to fix the product on a platform



Step 3 Move the product to get fixed and then lock the screws

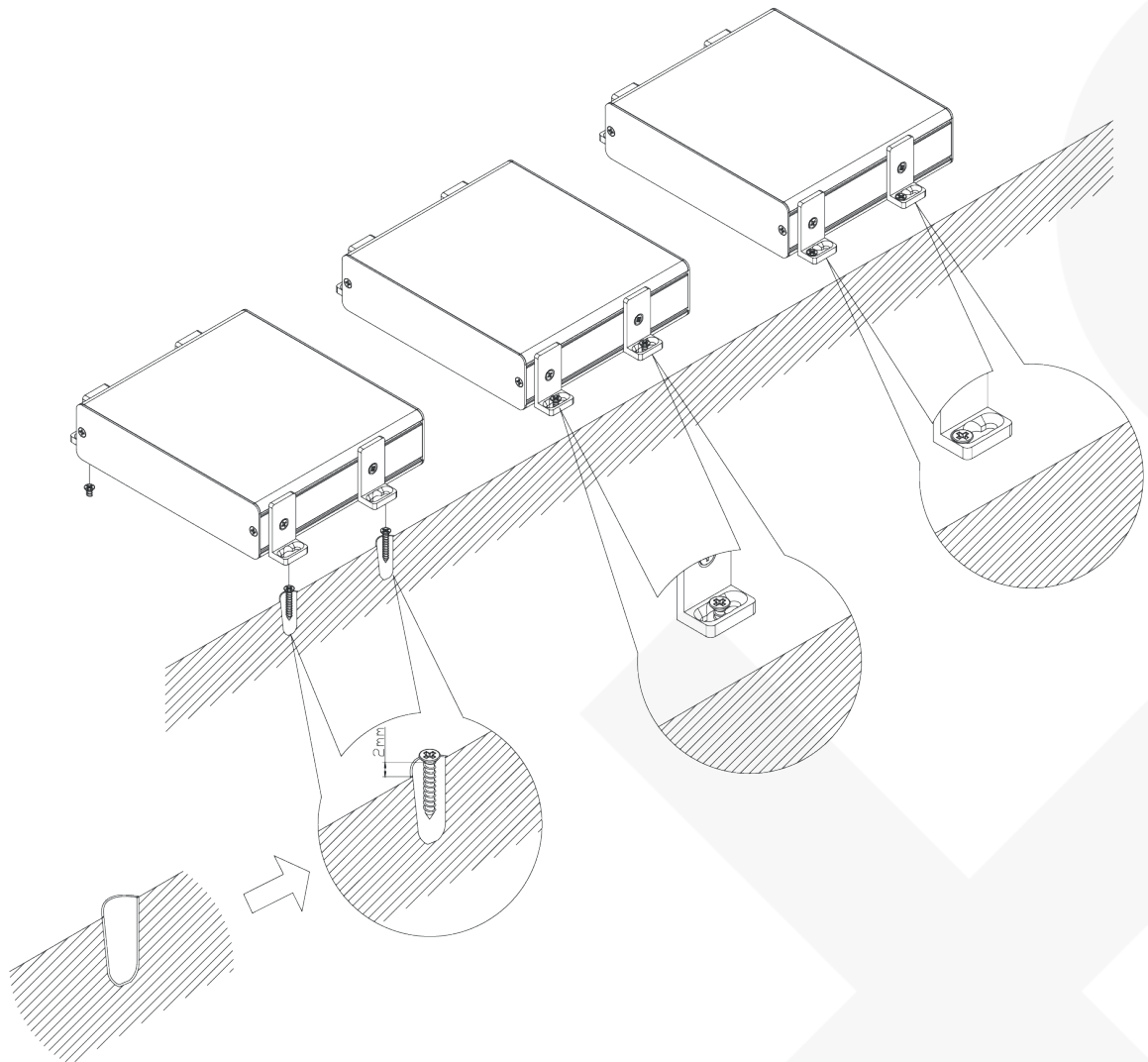


Step 4 Install the rack in the cabinet



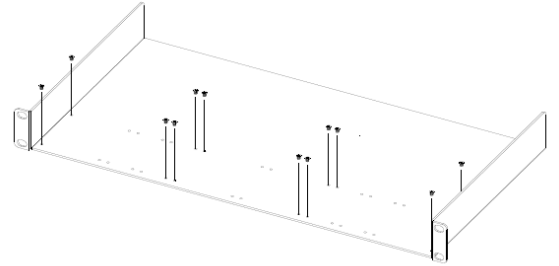
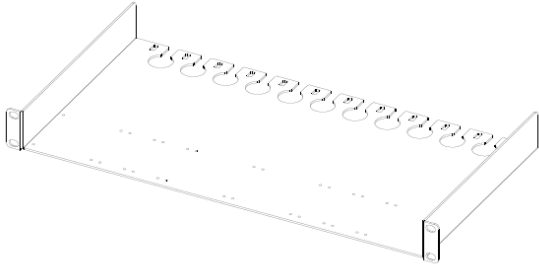
Installed on Wall

Same way as “**Installed on a Platform**”, but need to put screw plugs into the pilot hole before inserting the screws (leave 2mm space from the platform)

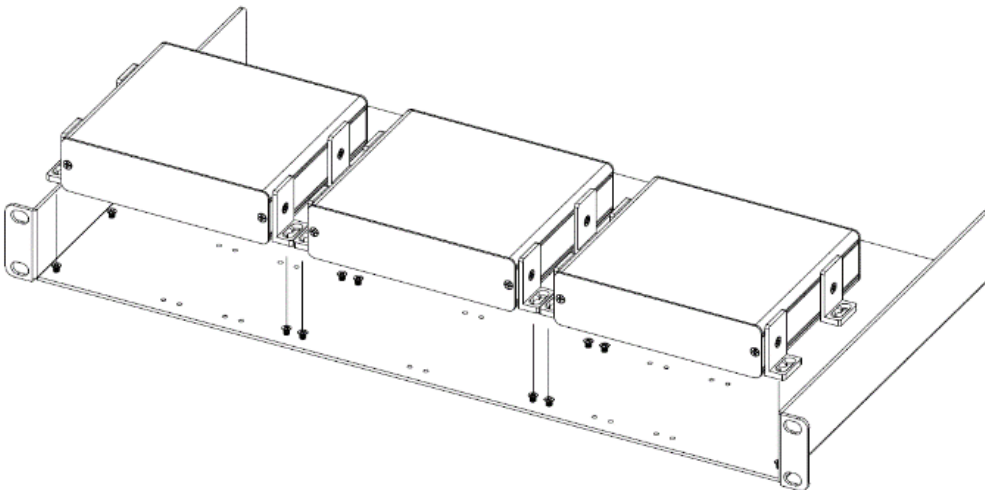


Installed on a Rack

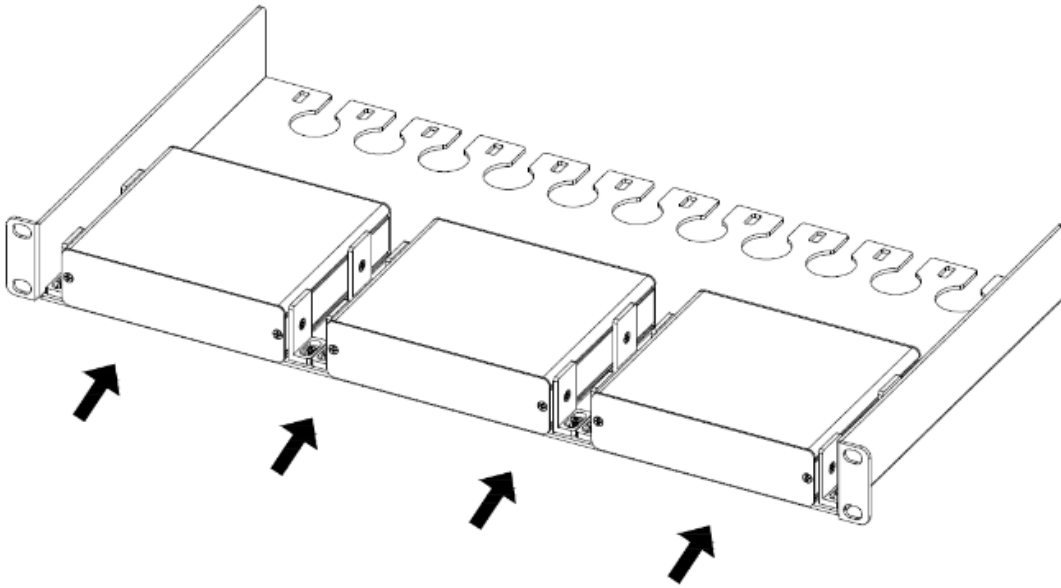
Step 1 Lock machine screws in the rack



Step 2 Put your products on the rack



Step 3 Push the products to the other side of the rack



Step 4 Install the rack in a cabinet

