SC&T

HDMI Switcher Series

User Manual

Model : HUS03-4K6G

4K60 3x1 HDMI/USB-C Presentation Switcher

Introduction

HUS03-4K6G is a 3-in-1-out 4K@60Hz 4:4:4 video switcher designed to provide a user-friendly and intuitive operation for presenters to have their thoughts well-delivered during a meeting. The switcher supports HDMI and USB Type-C interfaces which can connect with most electronic devices and fulfill the BYOD need.

Features

- Resolution up to 4K@60Hz 4:4:4 and 1080p@120Hz.
- Built-in 2 HDMI and 1 USB-C input ports.
- Built-in contact closure for an external control keypad, 2-CH audio output, and relay for projector screen control.
- USB Type-C supports PD (Power Delivery) for device charging.
- Supports auto sensing and switching for HDMI and USB-C input.
- Support EDID management.
- Controllable via panel buttons, IR remote, RS232 command and external control keypad.

Diagram
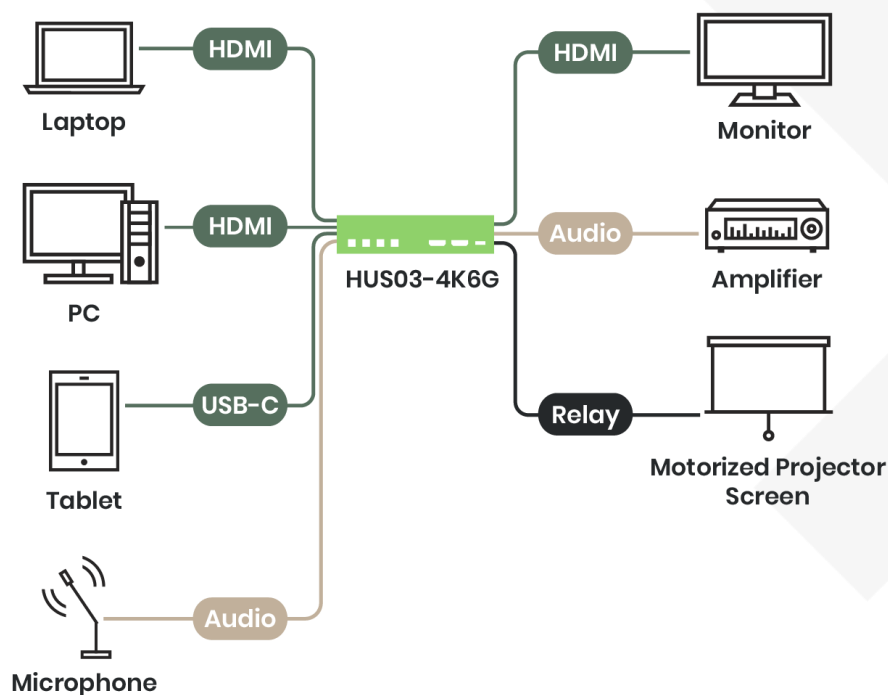
Panel View
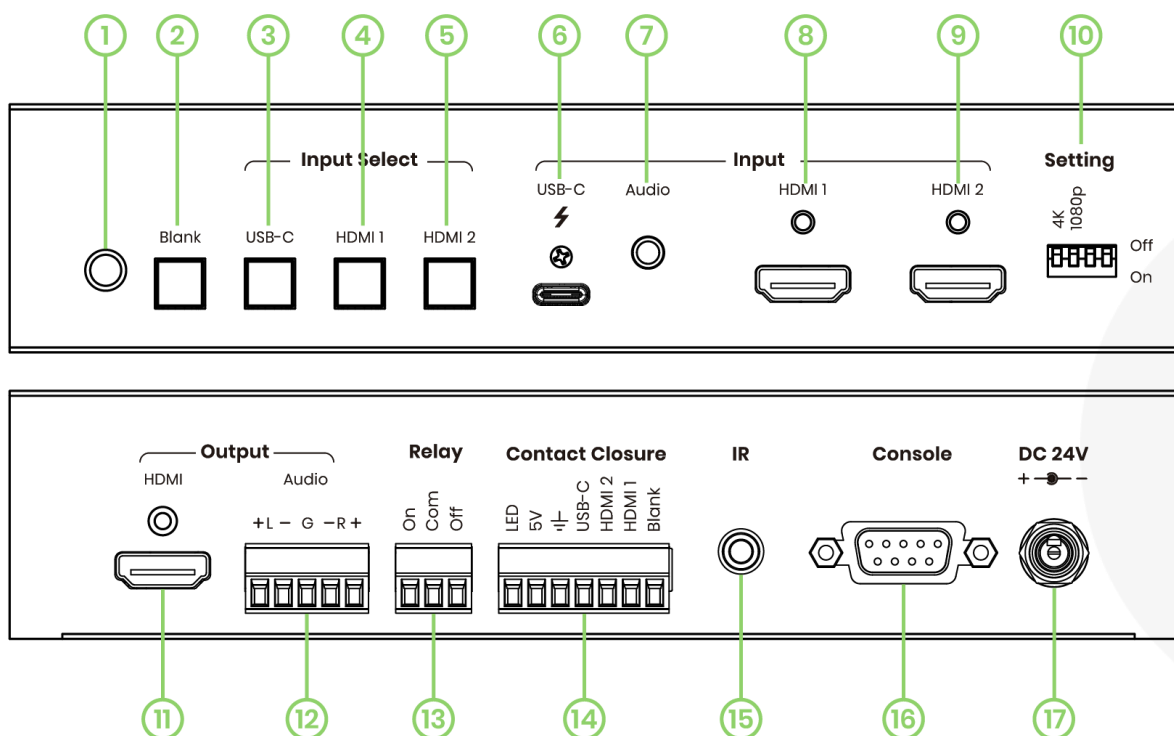
No	Interface/ Port	Description
1	Internal IR Receiver	To receive IR signal from IR remote, carrier frequency at 38KHz.
2	Blank LED Button	To turn on/off the video display, auto-sensing, and default to factory settings (Please refer to Description 7).
3	USB-C LED Button	To select USB Type-C DP Alternate Mode as the video source.
4	HDMI 1 LED Button	To select HDMI 1 as the video source
5	HDMI 2 LED Button	To select HDMI 2 as the video source
6	USB-C input Port	To use a USB-C cable to connect with a video/ audio source, can also charge the connected device (Please refer to Description 2).
7	Audio Input	To use a 3.5mm audio cable to connect with a DVD player or a microphone.
8	HDMI 1 Input Port	To use an HDMI cable to connect with an HDMI source (Please refer to Description 2).
9	HDMI 2 Input Port	To use an HDMI cable to connect with an HDMI source (Please refer to Description 2).
10	DIP Switch	To set up the EDID function (Please refer to Description 3)
11	HDMI Output Port	To use an HDMI cable to connect with a HDMI display, such as a monitor or a projector.

12	Audio Output Interface	To use an audio cable to connect with speakers or an amplifier (Please refer to Description 4).
13	Relay Interface	To connect with a projector screen to adjust the screen position (Please refer to Description 5)
14	Contact Closure	To connect with an external control keypad.
15	External IR Interface	To use a 3.5mm IR cable to connect with an external IR receiver (carrier frequency at 38KHz).
16	RS232 Interface	To connect with a PC for firmware upgrade or RS232 control (Please refer to Description 7).
17	Power Interface	To connect with a lockable power supply (Suggest using at least DC 24V 3A power adapter).

Description 1 – LED Indications

LED Color	LED Status	USB-C / HDMI 1 / HDMI 2	Blank
No Color	Off	No Video	On
Blue	Blinking	Detecting	-
Blue	On	Video Display	Off

Description 2 – Recommended Cables & Connections

1. The USB-C port only delivers video/ audio and power, but doesn't support data transfer.
2. Some USB-C cables do not support video/audio transfer, please use cables with e-mark and compliant with USB3.2.
3. Frequently switching the device may cause impediments to detect video inputs, which needs to unplug and re-plug the device again to work.
4. We recommend using premium and certified cables
   - Using an HDMI cable within 5M is recommended.
   - Using a USB Type-C cable within 2M is recommended.
5. Bad quality cables, connectors, inappropriate connections may cause unstable signal transmission.

Description 3 - EDID

Mode & Configuration

| EDID Mode	Switch 1	Switch 2	Description
Pass Through Mode	OFF ↑	OFF ↑	Refer to the connected monitor EDID (audio supports 192KHz)
4K Mode	ON ↓	OFF ↑	Resolution at 4K (Audio supports 2CH@48KHz)
1080p Mode	Any	ON ↓	Resolution at 1080p(Audio supports 2CH@48KHz)

※ After finishing the setting, make sure to turn the product off and turn it on again.

Description 4 – Audio

1. Connect Audio out to a balanced stereo audio speakers
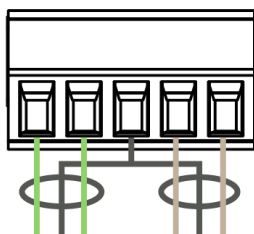
   Audio

2. Connect Audio out to an unbalanced stereo audio speakers

   Audio
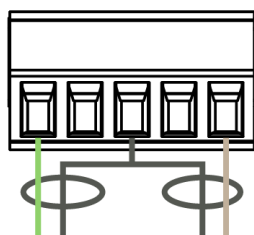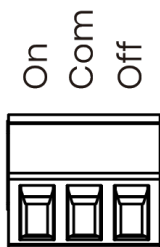

※ The surround sound will output only through 2 channels

Description 5 – Relay

Relay

Interface	Description
On	Normally Open
Com	Common Contact
Off	Normally Closed

Contact Rating

Load Type	
Max. Allowable Voltage	AC 120V
	DC 24V
Max. Allowable Current	AC 1A

Description 6 – Contact Closure

Please pay attention to the electrical wiring, wrong wiring may damage the product.

Contact Closure

Pin	Function
LED	To enable LED indications on the control keypad
5V	To provide 5V for the control keypad
GND	To connect a ground wire for the control keypad
USB-C	Connect a control keypad module to trigger USB-C button
HDMI 1	Connect a control keypad module to trigger HDMI 1 button
HDMI 2	Connect a control keypad module to trigger HDMI 2 button
Blank	Connect a control keypad module to trigger Blank button

Description 7 – Console

- Please use a male to female RS232 cable to connect the console port (Female) with a PC (Male).
- Pinout

Console
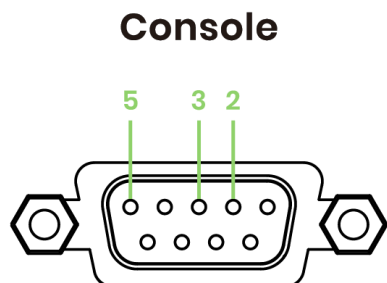
Position	Pin Definition
Pin 2	TX
Pin 3	RX
Pin 5	GND

Description 8 – Switching Mode

Manual Mode

1. The priority of manual switching is over than auto-switching.
2. When multiple inputs are connected, manually switching the video inputs will turn off the auto-switch function for 20 secs.
3. When the auto-switch function is disabled, you can only switch the video inputs from the panel buttons, IR remote or using RS232 commands.

Auto Mode

1. HUS03-4K6G will auto-detect the USB-C, HDMI 1, and HDMI 2 input and display the corresponding video.
2. Auto mode priority

Priority	Input
1	Last Displayed/ Connected Video
2	USB Type-C
3	HDMI 1
4	HDMI 2

3. When current display input is removed, HUS03-4K6G will auto-detect and switch to the next available source after 6 seconds.
4. HUS03-4K6G will automatically switch to the channel when a new source is plugged in.

Caution

※ When switch between video inputs, HUS03-4K6G requires 5~8 seconds before display.

※ Audio will only output from either HDMI output or contact closure.

Turn On/ Off Auto Mode

1. Press and hold the "Blank" button for 3 secs to turn on/ off the auto mode.
2. Connect a PC with the console port and use RS232 command to turn on/ off the auto mode (Please refer to the RS232 command chart)
3. LED indications for Auto mode status
   a. Auto Mode: On
      a. LED Indications: USB-C, HDMI 1, HDMI 2 will blink 6 times (About 5 secs) after turning on HUS03-4K6G. And the LED of connected inputs will stay on.
   b. Auto Mode: Off
      a. LED Indications: USB-C, HDMI 1, HDMI 2 will blink 2 times (About 5 secs) after turning on HUS03-4K6G. And the LED of connected inputs will stay on.

Description 9 – IR Remote

Configuration

If you use the IR remote for the first time or just replace the battery, please set up the IR remote ID as 0 by pressing ⏻ and ⦷ , which will match the remote ID with that of HUS03-4K6G.

Buttons & Functions

Button	Function
⏻	Blank ON/ OFF
▽	To the previous video
◁	To the previous video
△	To the next video
▷	To the next video
ENTER	Reserved
MENU	Reserved

①	Select USB-Type C as the video source
②	Select HDMI 1 as the video source
③	Select HDMI 2 as the video source
④	Select USB Type-C/ HDMI 1/ HDMI 2 as the audio input source
⑦	Select 3.5mm as the audio input source
⑤	RELAY OFF
⑧	RELAY ON
⑥	Select HDMI audio as the audio output
⑨	Select 3.5mm as the audio output
⓪	Mute/ unmute the audio
Ⓐ	Reserved
Ⓑ	Reserved
✳	Reserved
#	Reserved
# + ✳	Press and hold both buttons for 5 seconds to default all settings

Description 10 – RS232 Configuration & Commands

- Serial Configuration: 8-N-1, Baud Rate at 115200.
- All commands (Non-case sensitive) are shown below:

Command	Function	Remark
BLANK△ 1/0	BLANK ON/OFF	1: OFF 0: ON
BLANK△ ?	Get BLANK status	
POWER△ 1/0	POWER ON/ OFF	1: ON 0: OFF
POWER△ ?	Get POWER status	
PORT△1/2/3	Switch to HDMI 1/ HDMI 2/ USB Type-C	1: USB Type-C
		2: HDMI 1
		3: HDMI 2
NEXT	To next port	
PREV	To previous port	
AUDIO△ 1/0	Switch Input audio source	0: Input Source 1: 3.5mm
AUDIO△ ?	Get input audio source status	
SPEAKER△ 1/0	Switch output audio source	0: HDMI 1: External Audio Output
SPEAKER△ ?	Get output audio source status	
AUDIOMUTE△ 1/0	Unmute/ mute output audio	0: unmute 1: mute
AUDIOMUTE△ ?	Get output audio mute status	
RELAY△ 1/0	RELAY ON/ OFF	0: OFF 1: ON
RELAY△ ?	Get RELAY status	
RESET	Reset the Device	
VERSION	Get firmware version	
AUTO△1/0	Auto Mode ON/ OFF	0: OFF 1: ON
AUTO△?	Get Auto Mode status	
DEFAULT	Default to Factory & Reset	
HELP	Show all commands	
?		

Description 11 – Factory Default

Use Blank Button

- Step 1 - Push and hold the "Blank" button when power off.
- Step 2 - Immediately turn on the power and push and hold the "Blank" button for 5 secs until 4 LEDs being on.
- Step 3 - Wait for the device to reboot.

Use IR Remote

- Step 1 - Push and hold the * and # for 5 secs.
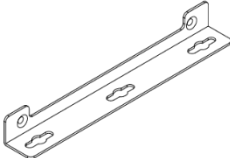- Step 2 - Wait for the device to reboot.

Description 12 – Setting Memorizing

The product will memorize the last settings before power off.

Specification

Item No	HUS03-4K6G
Support	
Compliance	HDMI 2.0、HDCP 1.4/2.3、HDR10、DP1.3
Max. Video Resolution	4096 x 2160@60Hz
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0
Color Space	RGB, YCbCr
Color Depth	8-bit, 10-bit, 12-bit, 16-bit
Audio Format	LPCM 7.1 @ 192KHz / Dolby TrueHD / DTS-HD MA
Ports & Interfaces	
Video Input	1 x USB Type-C, 2 x HDMI Type-A
Contact Closure	1 x 7-pin Terminal Block
Relay	1 x 3-pin Terminal Block
Audio Input	1 x 5-pin Terminal Block
Console	1 x RS232 for firmware upgrade and RS232 command
Audio Output	1 x (3.5mm) Phone Jack
IR Interface	1 x Internal receiver, 1 x 3.5mm Phone Jack (38KHz / θ 45 deg / 6M)
Power	
Power Supply	DC24V 5A (120W)
Power Consumption	Max 21.6W (900mA), Low Power 4.8W (200mA)
USB-C Power Delivery	DC5V 3A(15W), DC9V 3A(27W), DC15V 3A(45W), DC20V 3A(60W)
Ambient Temperature	
Operation Temperature	-20 ~ 70℃
Storage Temperature	-25 ~ 85℃
Humidity	Up to 90%
Physical Characteristics	
Dimension	190 x 131.5 x 40mm
Weight	605g

RoHS CE

Installation Guide

Accessory			
A	Corner Iron		x 2
B	SMF Screw (Machine Screw)		x 4
C	SWT Screw (Self-drilled Screw)		x 4
D	Rubber Pads		x 4

Fix on a Table

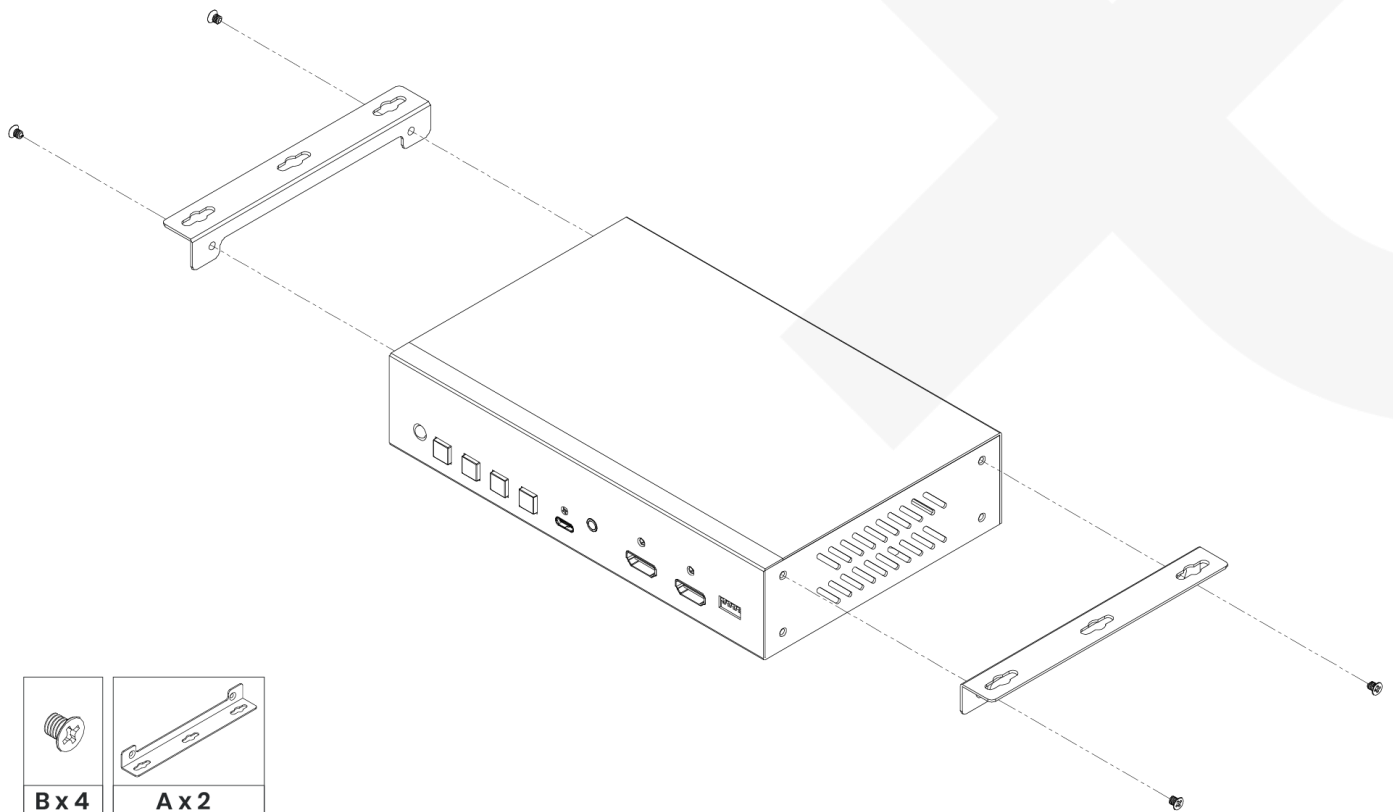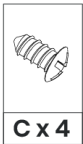Step 1 - Evenly install 2 SMF screws and 1 corner iron on each side of HUS03-4K6G.

B x 4	A x 2
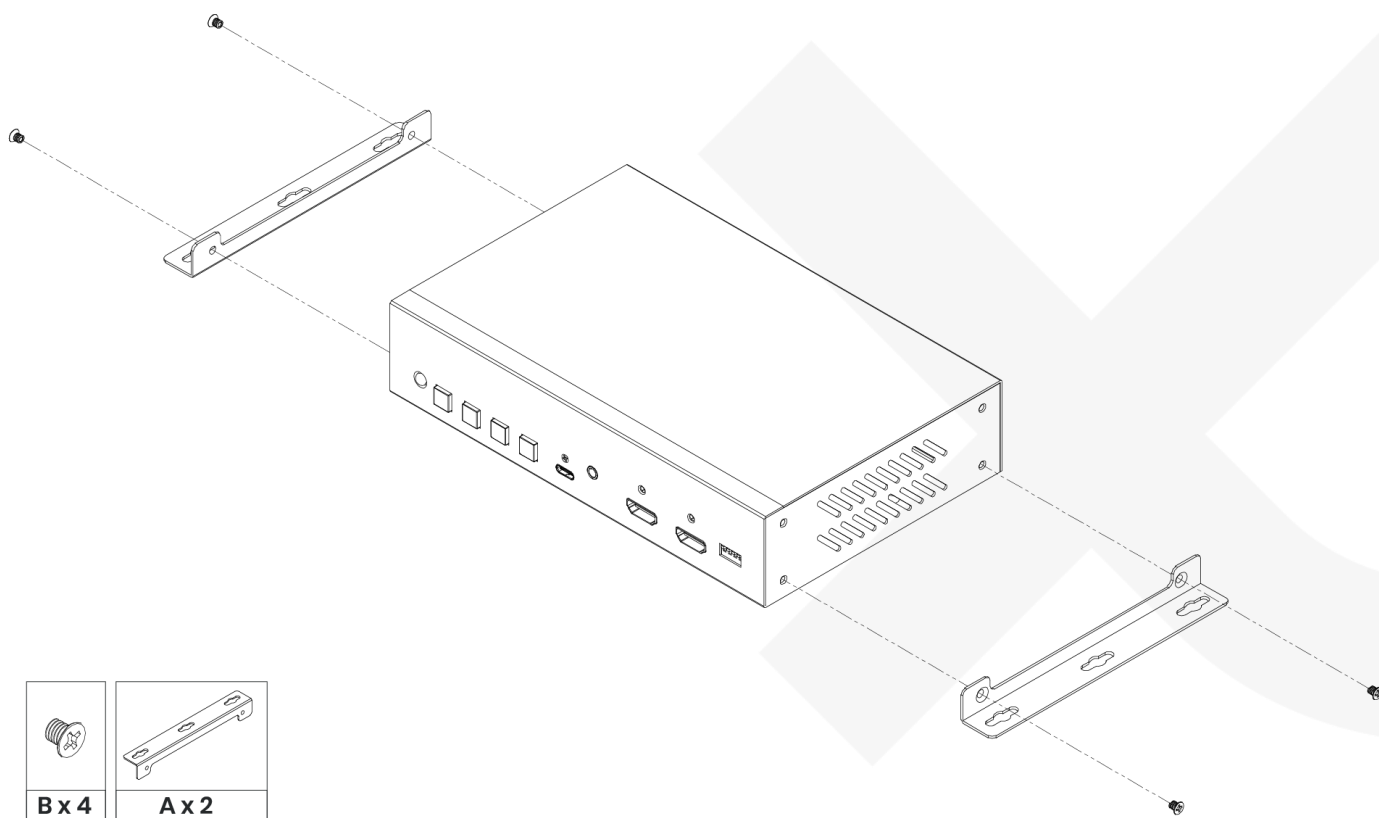
Step 2 - Use 4 SWT screws to firmly fix HUS03-4K6G on a table.
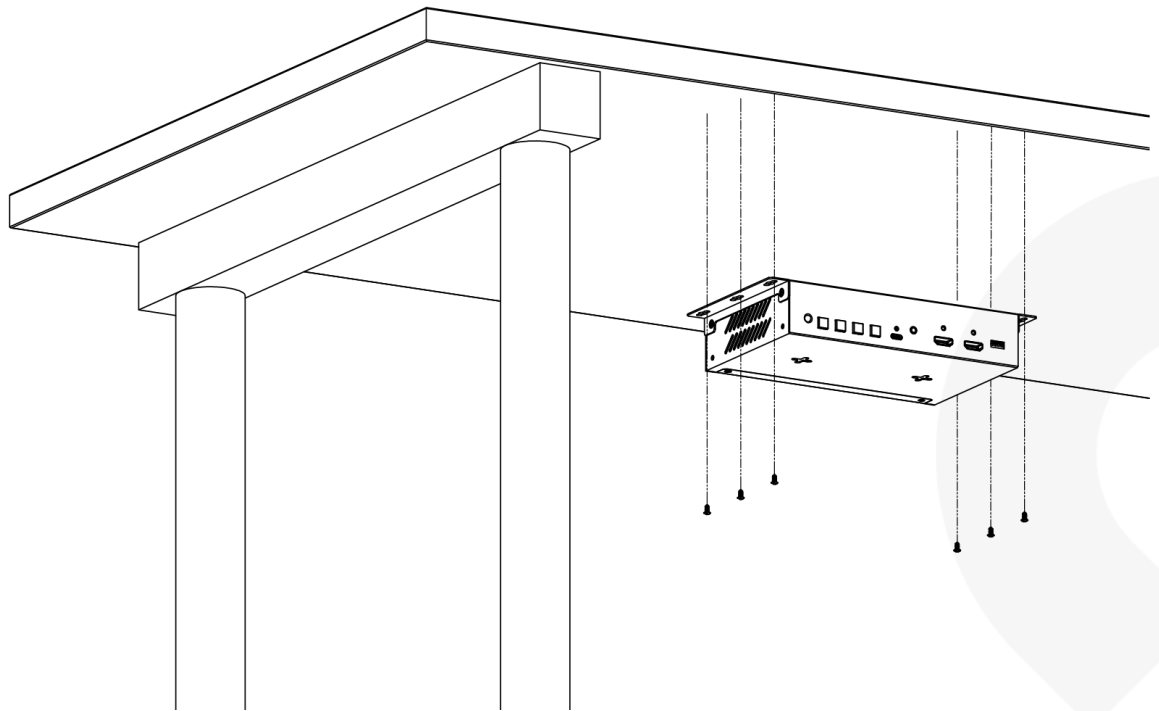
C x 4
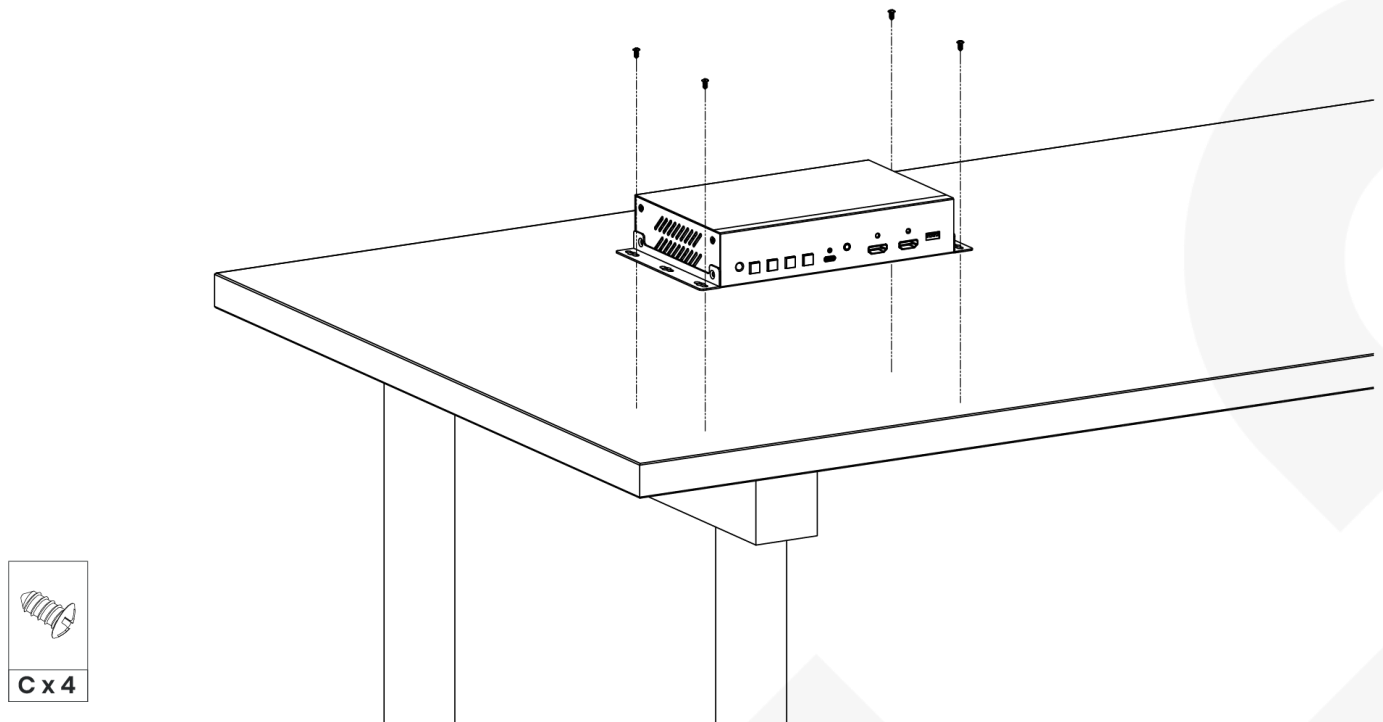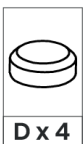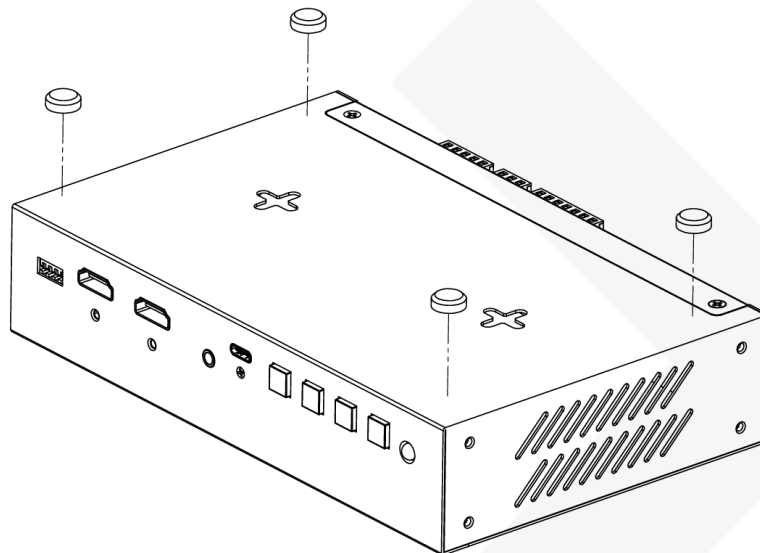
Fix beneath a table

Step 1 - Evenly install 2 SMF screws and 1 corner iron on each side of HUS03-4K6G.

B x 4 **A x 2**

Step 2 - Use 4 SWT screws to firmly fix HUS03-4K6G beneath the table.

C x 4

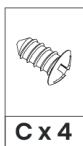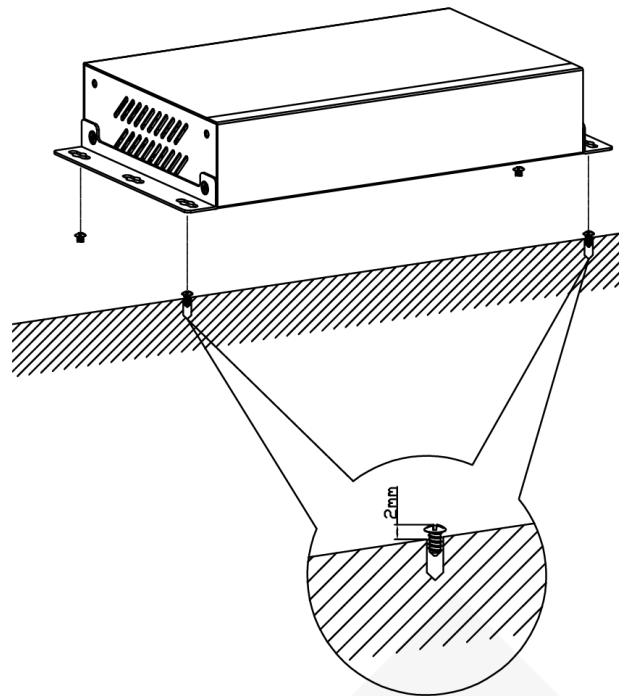**Use rubber pads to prevent the product from slipping down the platform**
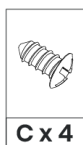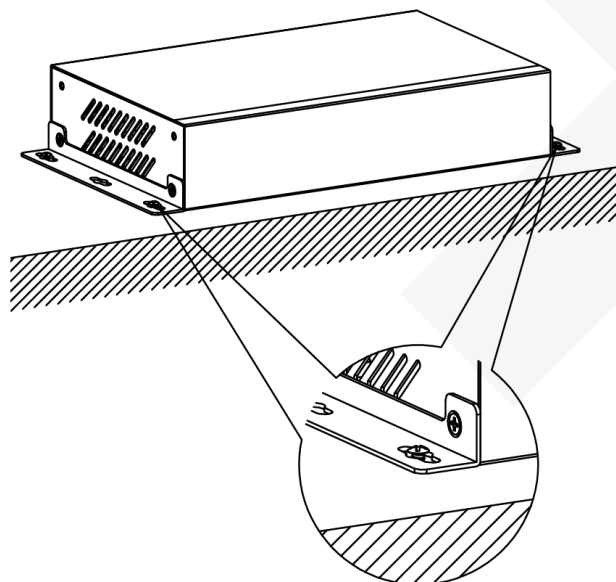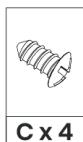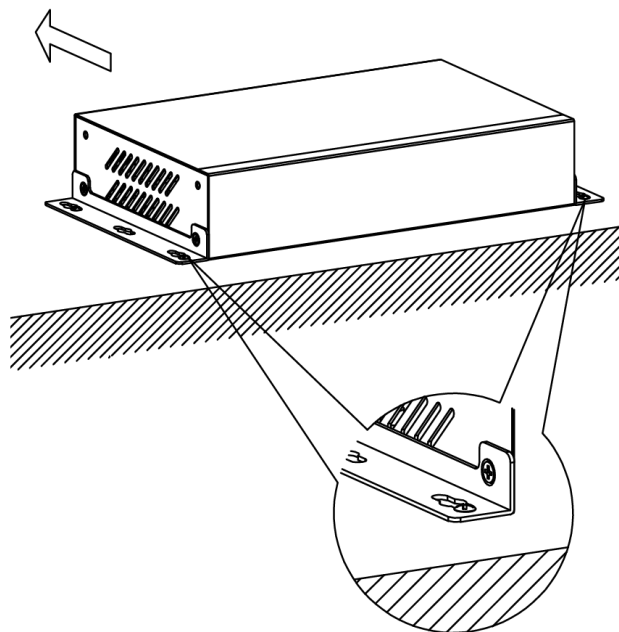
D x 4

Wall Mounting

Step 1: Install the SWT screws on a platform, and leave a 2mm high clearance.

2mm

C x 4

Step 2: Place HUS03-4K6G on the platform and fit its holes in the corresponding screw positions.

C x 4

Step 3: Move HUS03-4K6G in a parallel direction until it gets fixed.

C x 4

Troubleshooting

If no video is shown after connecting all cables and power, please follow the EDID configuration instruction or refer to the charts below to change your TV resolution to supported one.

Resolution

DCI Standard

	Resolution	Refresh Rate (Hz)		
UHD/HD/SD	4096 × 2160p DCI	24	25	30
		50	60	
	3840 × 2160p UHD	24	25	30
		50	60	
	1080p	23.97	24	25
		29.97	30	50
		59.94	60	120
	1080i	50	60	
	720p	50	59.94	60
	576p	50		
	480p	59.94	60	
	480i	60		

VESA Standard

	Resolution	Refresh Rate (Hz)		
VESA	2560 × 1600	60		
	2560 × 1440	60		
	2048 × 1280	60		
	2048 × 1152	60		
	1920 × 1440	60	75	
	1920 × 1200	50	60	
	1920 × 1080	60		
	1856 × 1392	60	75	
	1792 × 1344	60	75	
	1680 × 1050	60		
	1600 × 1200	50	60	65
		70	75	
	1600 × 1024	60		
	1600 × 900	60		
	1440 × 960	72		
	1440 × 900	60	75	85
	1440 × 788	60		
	1400 × 1050	60		
	1400 × 788	60		
	1366 × 768	60		
	1360 × 768	60		
	1280 × 1024	60	75	85
	1280 × 960	60	85	
	1280 × 800	60	75	120
	1280 × 768	60	75	120
	1152 × 870	75		
	1152 × 864	75		
	1024 × 768	60	70	75
	1024 × 576	60		
	852 × 480	60		
	848 × 480	60		
	832 × 624	75		
	800 × 600	56	60	72
		75	85	120
	720 × 400	70	85	
	640 × 480	60	75	85