

# TESmert TESmart

# User Manual

2x2 USB-C Dual  
Monitor KVM Switch



CKS202 Prime 23

To Enjoy Smart

CKS202 Prime 23

English



**TESmert TESmart**

**English**



## **Preface**

It's our great honor that you have chosen the KVM Switch produced by our company, Tesla Elec Technology Co.,Ltd. In this user manual, you will learn how to operate and use this product. Please read this user manual comprehensively before use. If you have any questions, comments or suggestions, please contact us via the following email:

support@tesmart.com.

## **Copyright Notice**

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## **Product Information**

For more information about TESmart products and how they can help you to enjoy your job, please visit the following TESmart website or contact an TESmart Authorized Reseller.

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**[www.tesmart.com](http://www.tesmart.com)**

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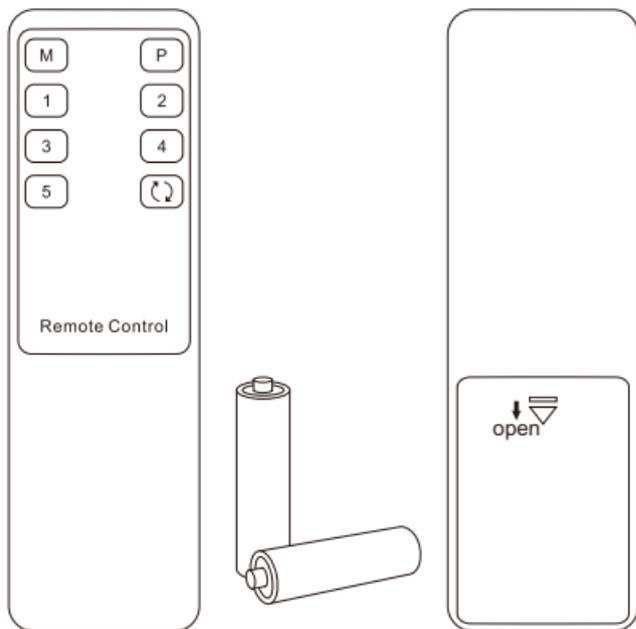
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## 1. Safety Tips and Warnings

**Tips:** Please read the safety tips and warnings for USB-C KVM Switch comprehensively before use. Use this produce in accordance with its instructions, safety tips and warnings to prevent unnecessary damage to the product and potential dangers to users.

- ⚠ Keep the product away from water.
- ⚠ Clean the product with dry cloth.
- ⚠ Use the product in accordance with its instructions and do not block its vents.
- ⚠ Keep the product away from ignition sources, such as heat sinks, heat accumulators, stovepipes and other heat production settings (including audio amplifiers).
- ⚠ Do not touch the product and the power cord with wet hands so as to lower the risk of electric shock and damage to the product. Do not let the product get wet or become damp.
- ⚠ Unplug the power supply of this product in thunderstorm days or when it has been not used for a long time.
- ⚠ Do not expose this product and its battery to open fire or overheating environment. Dispose the waste battery in accordance with instructions.
- ⚠ Users shall not remove and repair the product without authorization.

## 2. Battery Description



**Tips:** By default, the remote control is not equipped with batteries, due to the safety requirements of some express companies. Install AAA dry cells before use.

**Caution:** Improper disposal of the lithium battery may cause an explosion. Do not throw the battery into fire. Keep the battery away from children. Dispose the waste battery in accordance with local regulations.

### 3. Warranty Information

We warrant this product as free of defects in material and workmanship for a period of one (1) year from the date of shipment. If during the period of warranty this product proves defective under normal use, we will repair or replace this product, provided that this product has not been subjected to mechanical, electrical, or other abuse or modifications. If it fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for six (6) months from the day of reshipment to the buyer.

## 4. Preface

Dear Users,

USB-C Dual Monitor KVM Switch can easily integrate cross-platform computer devices and greatly simplify the devices management. Support managing a dual-display multimedia workstation. Support MST mode, connect a Type-C cable from PC to the KVM Switch have the same effect as connecting the PC directly to 2 displays. The KVM also support displaying different PCs on 2 monitors.

This KVM support USB 3.0 ports with superspeed data transfer rate. With a high-power supply that allows you to charge your laptops that are connected to the KVM directly and securely. With 1 USB-A charge port on the front panel, support BC 1.2 protocol to charge devices like mobile phones and tablets. Support wired network connection, 2 PCs connected to KVM can access to the network with only one network cable. At the same time, with EDID emulators in each input port, it can keep PCs always having correct display information.

**Tips:** If you need to control more computers or conduct more complex and professional switching, you can also choose other products of our company. For more details, please visit our official website: [www.tesmart.com](http://www.tesmart.com).

## 5. Features

- Using 2 monitors, 1 set of keyboard and mouse to control 2 computers
- Support resolution up to 3840x2160@60Hz 4:4:4
- Support MST(Multi-Stream Transport) mode
- Support 2 display modes
- Support Unix/Windows/ Debian/ Ubuntu/Fedora/ MacOS X/ Raspbian/ Ubuntu for Raspberry Pi and other Linux based systems
- Support wired network connection, 2 PCs connected to KVM can access to the network with only one network cable
- With EDID emulators in each input port, it can keep PCs always having correct display information
- Support USB 3.0 port with super-speed data transfer rate
- Support IR signals, front panel button and keyboard hot keys to control the KVM to switch input ports
- Support keyboard and mouse pass through mode to improve mouse and keyboard compatibility
- Support charging the devices connected to corresponding group
- Support connecting mobile device to the front panel USB port to charge

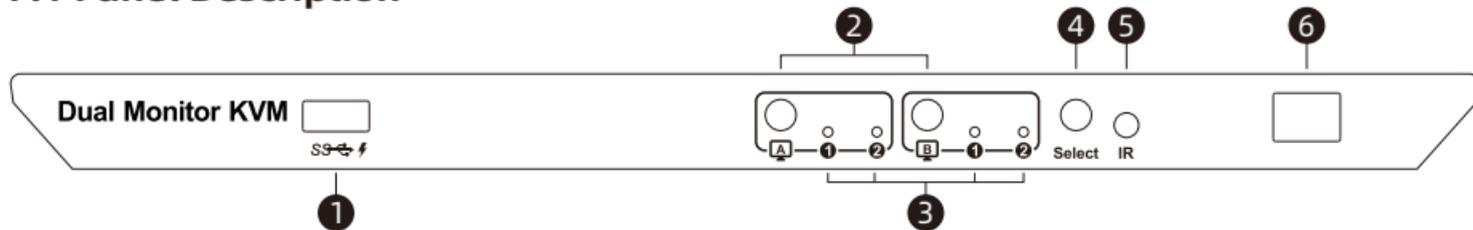
## 6. Packing List

- 1 \* 2x2 USB-C KVM Switch
- 4 \* USB-C Cables
- 1 \* IR Remote Control
- 1 \* DC 20V Power Adapter
- 1 \* User Manual

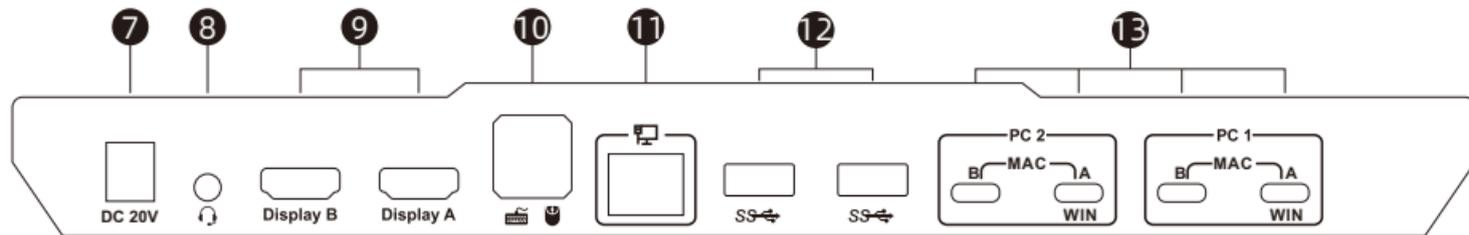
**Tips:** After receipt of the product, please check the packing list carefully to make sure that no components have been lost and no damage to the product has been caused during transportation. If you have any problem, please contact us at any time.

## 7. Panel Description

### 7.1 Panel Description



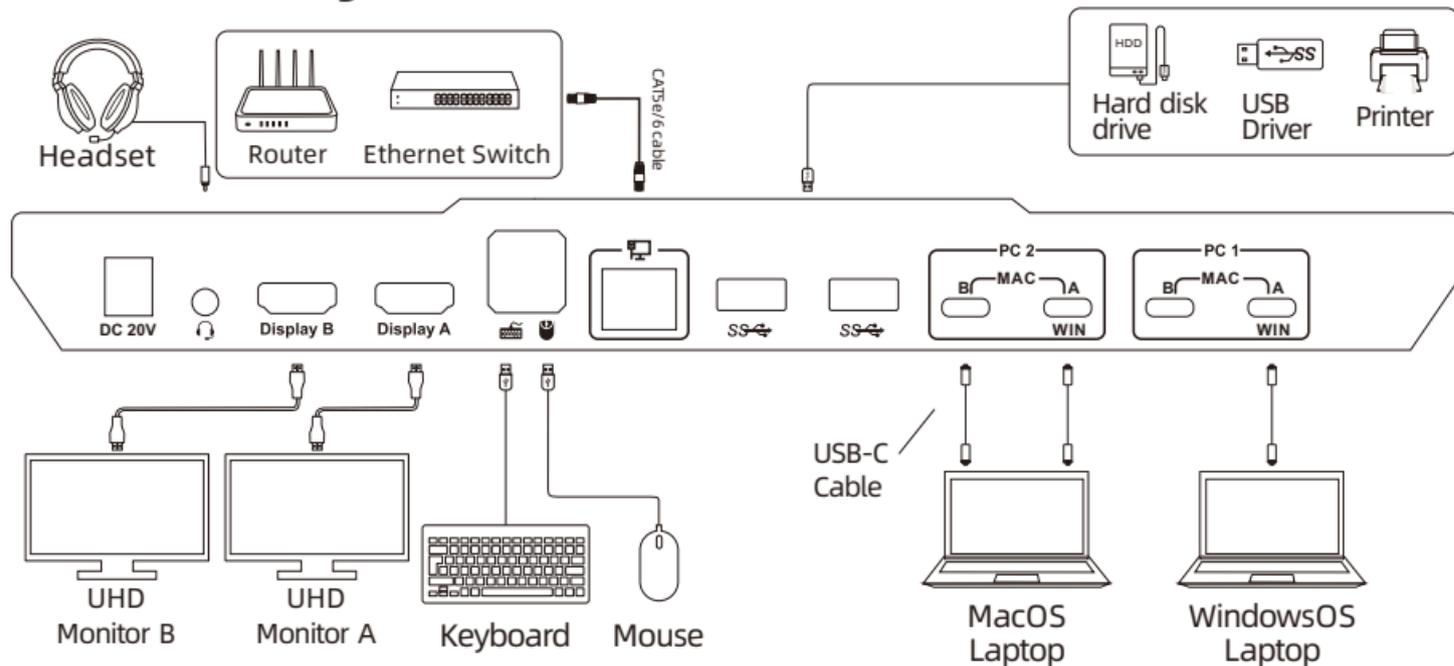
ID	Name	Function	ID	Name	Function
1	Data transfer and charging port	Can be used to transfer data and charge your mobile devices.	2	Separate switch button	Switch images on each display separately (i.e. display mode 2).
3	Input selection status indicators	The corresponding LEDs will be lit to indicate the current selected computer on each display.	4	Input selection button	Select input sources (i.e. display mode 1).
5	IR receiver	Receive IR remote signal.	6	Power switch	Turn on or turn off power supply.



ID	Name	Function
7	DC 20V	20V DC power supply.
8	Audio integration port	Integrated microphone and L/R audio output.
9	HDMI outputs	Connect to 2 HDMI displays for video output.
10	Keyboard and mouse input	For USB keyboard and mouse input.
11	LAN port	Insert the network cable into this port to let the 2 input PCs to connect to the local network area
12	USB 3.0 ports	Connect to USB 3.0 devices.
13	KVM input port group	Each group contains 2 data ports for signal input.

## 8. Connection Description

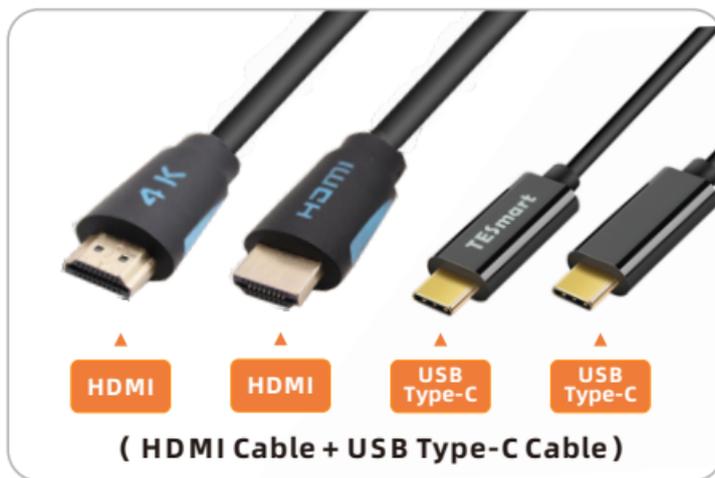
### 8.1 Connection Diagram



**Tips:** Please refer to Page 11~12 for how to connect different PCs running different operating systems.

## 8.2 Connection Preparation

- Take into consideration all devices required to be connected and prepare a workbench large enough before the connection.
- Lay out the cables properly to facilitate the layout of power supply as a lot of power sockets and plug boards will be adopted in connection.
- Prepare different sticker labels to mark cables as a lot of cables will be adopted in connection.



## 8.3 Connection Steps

- If your PCs are running Windows OS:

Connect 2 PCs to the Input ports marked 'A' of each input group of the KVM with 2 USB-C cable to enable the MST mode. Connect 2 PCs to the Input 'A' & 'B' or only Input ports marked 'B' of each input group to disable the MST mode (As shown below).



**Tips:** Please refer to Page 17 for the detailed information about the MST mode.

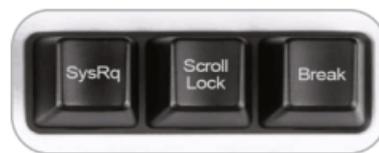


- If your PCs are running MacOS:

Connect 2 PCs to the Input 'A' & 'B' ports of each input group of the KVM with 4 USB-C cable.



2. Connect external mouse and keyboard to KVM's keyboard and mouse input port.



**Tips:** For the normal service of hotkeys, we recommend you use the full-key external keyboard with a separate [Scroll Lock] key (as shown above).

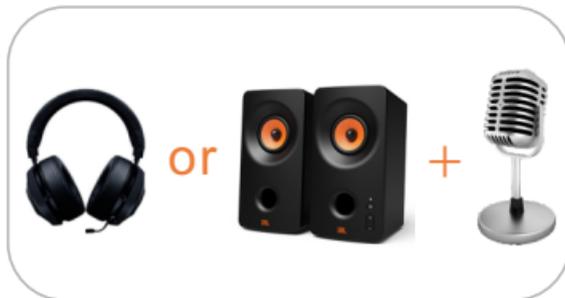
3. Connect USB 3.0 devices to KVM's standard USB 3.0 ports.



4. Connect KVM's HDMI output ports to 2 HDMI displays with 2 HDMI cables.



5. Connect external audio device to KVM's L/R out port.



6. Use the network cable to connect the LAN port on the KVM Switch to a router or local area network switch.



7. Connect the power cable to KVM's DC 20V port and plug it to a power socket.



8. By now, the connection has been completed. Turn on the power supply and the KVM Switch will begin to work.

**Tips:** 1. Please refer to Page 23 for how to use the front panel charging port.  
2. Please refer to Page 22 for the detailed information about the LAN port.

## 8.4 KVM Workbench

A workbench with 2x2 USB-C KVM Switch successfully connected is shown as below:



## 9. Function Description

### 9.1 MST Mode Description

The traditional dual monitor KVM switch needs to connect two cables to each input device for the normal use of the dual monitor function. But our USB-C dual monitor KVM Switch support Multi-Stream Transport(MST) mode allowing dual HDMI displays from a single USB-C source.

- **Multi-Stream Transport mode:**

If your Windows OS PC with USB-C port and is DisplayPort 1.2 compliant, you can adopt two console displays from it. Support extend mode and duplicate mode at resolutions up to 4K for multitasking across two displays.

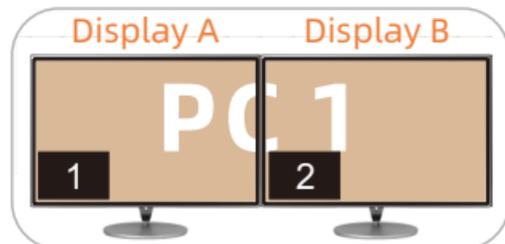
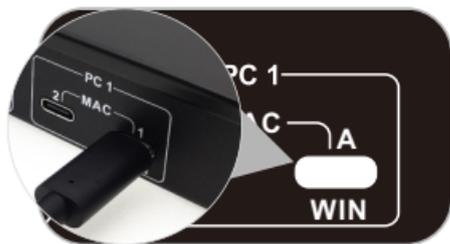
- **Operation method**

Connect USB-C input devices and 2 UHD monitors according to the pictures in next page, the display mode will enable MST mode automatically.

**Tips:** Up to now, devices running Apple's Mac OS, Ubuntu and other operating systems do not support MST mode.

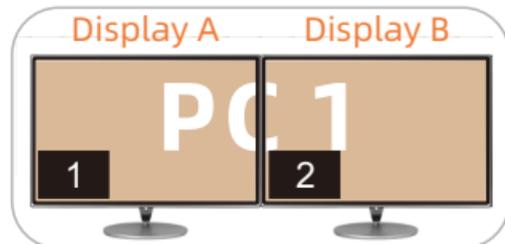
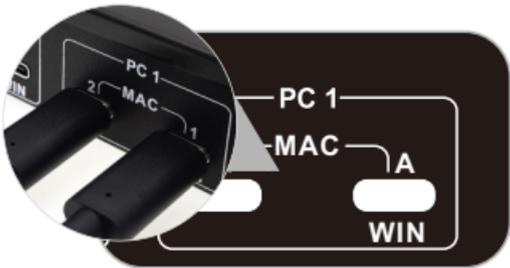
- **Enable MST mode**

Connect the PC to the input port marked 'A' on the KVM with a single USB-C cable. The other PC is the same.



**Tips:** 1. Only the port marked 'A' supports the MST mode.

2. As shown below, if your PC is not Windows OS and has 2 USB-C ports supporting video output, connecting them to the input port group will also enable dual monitor displays.



## 9.2 Display Mode Description

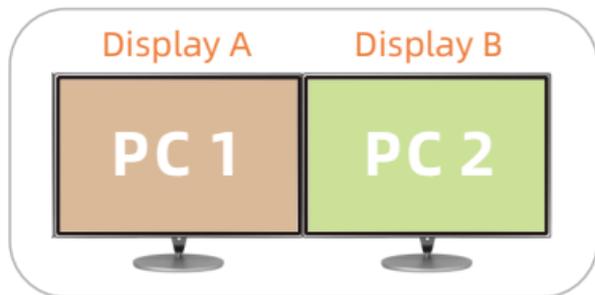
The USB-C dual monitor KVM Switch support 2 display mode. You can choose to implement 2-screen extended display or duplicate display or display different PCs on 2 monitors.

### Display Mode 1: Display the same PC



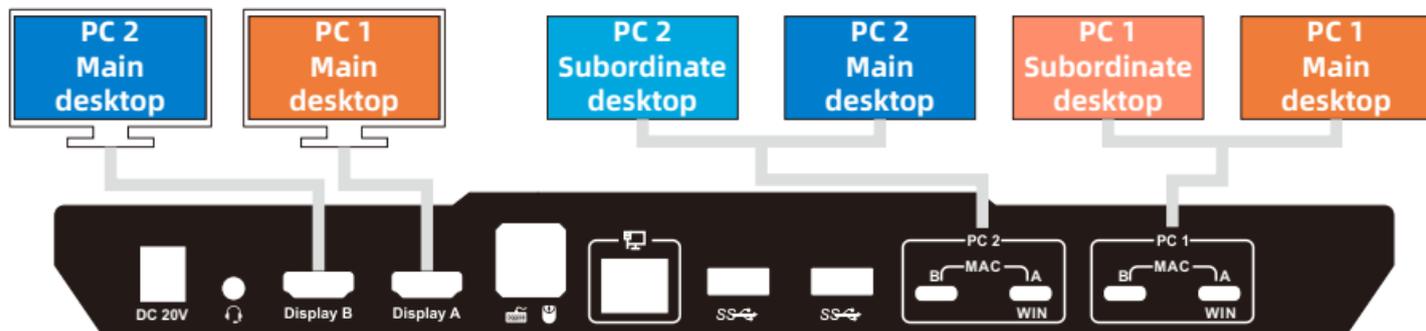
**Tips:** You can set the duplicate or extend displays in the Display Settings of the current selected PC.

## Display Mode 2: Display the different PCs

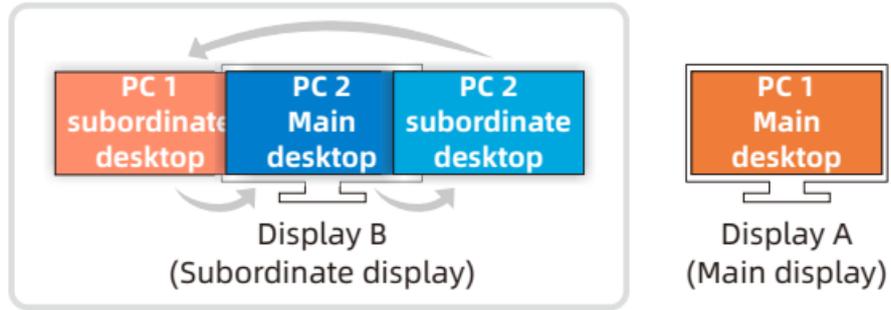


Once the connection is complete, you can switch between images on any of your 2 monitors. When you view one of the monitors as the main monitor, you can use hot key command to switch the images on the subordinate monitor. We will use a schematic diagram below to illustrate this function.

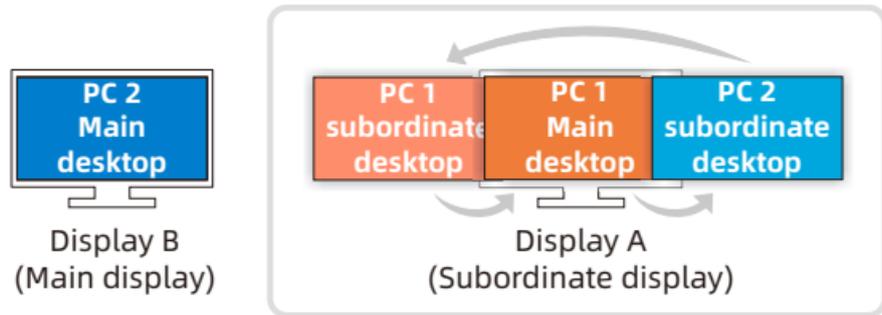
**Tips:** When different PCs are displayed on different monitors, you can double-click the **Right-[Alt]** on the keyboard connected to the KVM to switch the focus between different PCs.



If you think of Display A as the main display, use the following hot key command to switch images on the Display B:



If you think of Display B as the main display, use the following hot key command to switch images on the Display A:

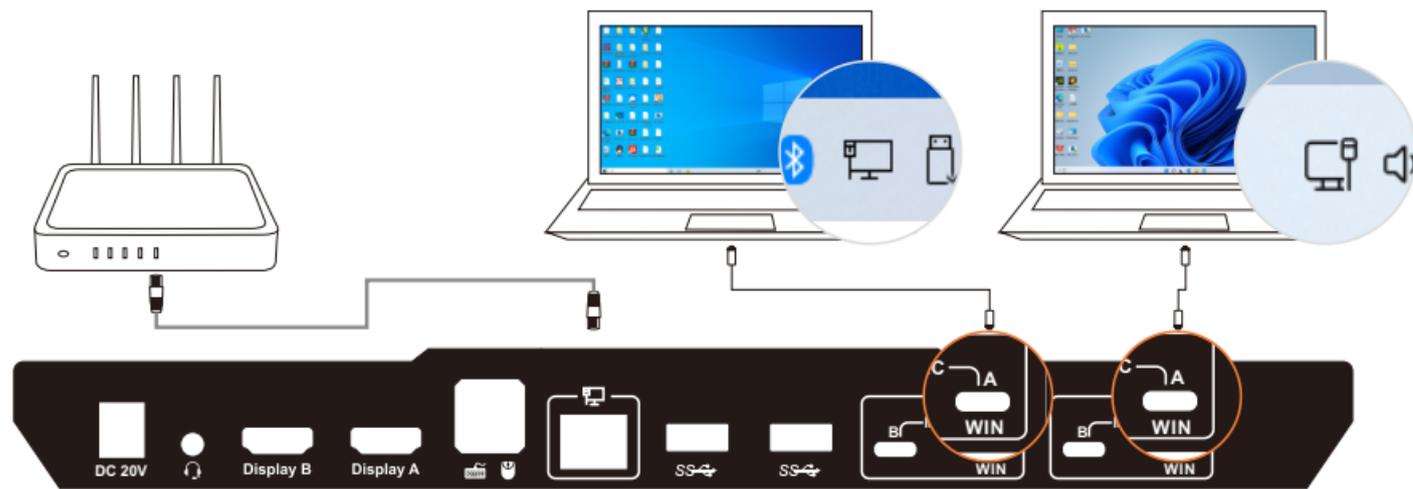


**Tips:** 1. The image currently displayed on the main monitor will not be displayed on the subordinate monitor after switching.

2. The PCs will keep the connections that are not displayed when switching in this mode.

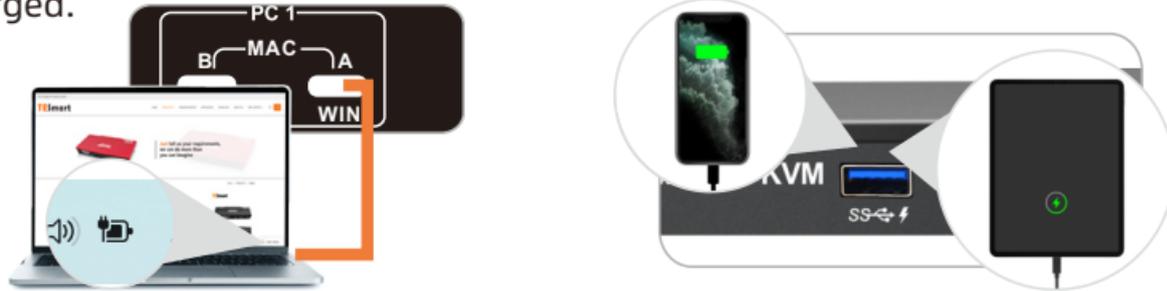
### 9.3 Built-in Network Switch

USB-C dual monitor KVM Switch have a built-in USB Ethernet Adapter, which adds a standard RJ45 port to your Ultrabook, notebook that is connected to the KVM and allows you to connect your computer or tablet to a router or network switch for wired network connection. Full 100Mbps Ethernet for fast, stable data transfer, more reliable than most wireless connections. Only one network cable can provide wired network connection for your 2 PCs at the same time.



## 9.4 Built-in charging module

The USB-C dual monitor KVM Switch comes with a powerful built-in charging module that allows you to charge your laptops, phone, tablet and other devices via the PD protocol while you use it. Connect the laptops to the rear Type-C video port of the KVM and they will be charged.



Use the USB-A port on the front panel of the KVM can support data transmission while charging. The USB-A port support BC 1.2 protocol, and is able to match voltage and current automatically based on the specifications of charging devices. It makes your charging safe and avoid damage.

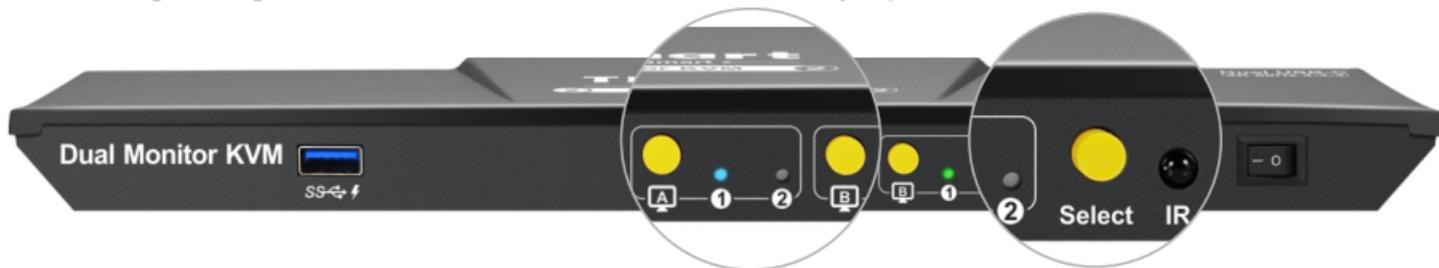
- Tips:**
1. The USB-C port on the laptop needs to support the charging protocol to be able to charge.
  2. Only by connecting the device to the port marked 'A' can it be charged. When the laptop is connected to both the KVM and the original charger, the charger will give priority to charge it.

## 10. Operation Method

### 10.1 Front Panel Button Switching Method

The 2x2 HDMI Dual Monitor KVM Switch can switch to any input devices at any time with front panel keypad, IR remote control and keyboard hot keys. You can choose your favorite switching method according to your personal needs and habits.

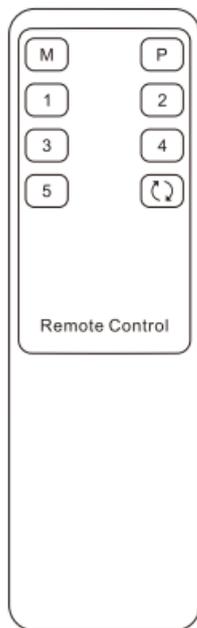
- Press **[Select]** button to switch between PCs on display mode 1.



- Press **[A]/[B]** button to switch between PCs on corresponding monitor on display mode 2.

The indicator lights blue means the current PC's main desktop is displayed on the marked monitor, it lights green means the current PC's subordinate desktop is displayed on the marked monitor.

## 10.2 IR Remote Control



**M** — Switch images on the Display A

**P** — Switch images on the Display B

**1** — Switch both monitor to display PC 1

**2** — Switch both monitor to display PC 2

**Tips:** Unspecified buttons at above are non-functional.

## 10.3 Keyboard Hot Keys

→ Use external keyboard hot keys to switch the input source or set up some other functions..

**Tips:** The keyboard hot keys can only work with external keyboard correctly connected to the keyboard and mouse input port of the KVM.

After press **[Right-Ctrl]** key twice within 2 seconds then please enter the commands within 3 seconds and the KVM will execute the corresponding commands.

Select previous input port:

**[Right-Ctrl]→[Right-Ctrl]→[PgUp]**



Select next input port:

**[Right-Ctrl]→[Right-Ctrl]→[PgDn]**



Select port by port number(i.e. display mode 1):

**[Right-Ctrl]→[Right-Ctrl]→[1]~[2]**



### Switch to display mode 2:

Think of display A as main display, switch images on display B:

**[Right-Ctrl]→[Right-Ctrl]→[→]**



Think of display B as main display, switch images on display A:

**[Right-Ctrl]→[Right-Ctrl]→[←]**



Switch USB 3.0 device connected to the KVM between 2 PCs on display mode 2:

**[Right-Ctrl]→[Right-Ctrl]→[↑]**



Switch audio focus between 2 PCs:

**[Right-Ctrl]→[Right-Ctrl]→[↓]**



Switch KM focus in display mode 2:

**[Right-Alt]→[Right-Alt]**



## 11. Change Hot Key Combinations

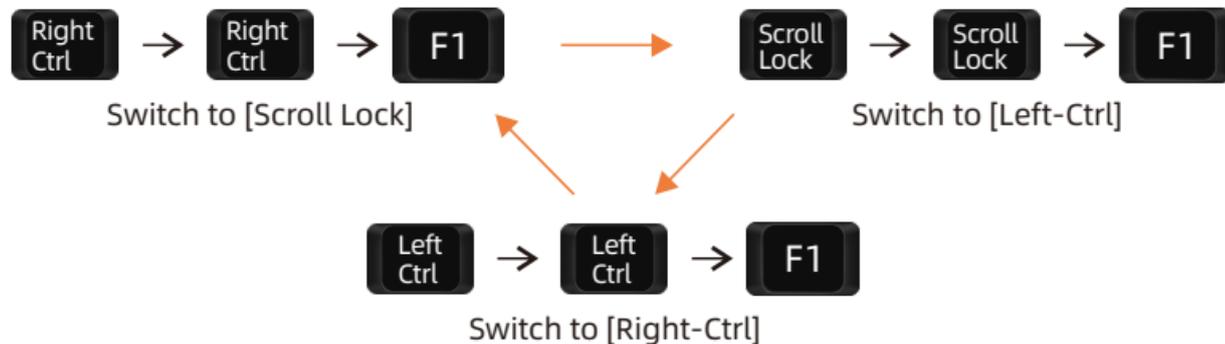
There are three kinds of trigger hot keys in this product, the default is **[Right-Ctrl]** key, and the alternative are the **[Scroll Lock]** and **[Left-Ctrl]** key. You can switch the hot key to others by:

### Method 1:

- 10 seconds after powering on the KVM, press and keep holding the **[Select]** button on the front panel, the control hot key are switched.

### Method 2:

- Press keyboard hot keys to cyclically switch the control hot key.



## 12. Pass Through Mode Description

### 12.1 Introduction of Pass through mode

Pass through mode is a built-in function of KVM, which is able to improve keyboard and mouse compatibility and enhance user experience. In the pass through mode, the keyboard and mouse are equivalent to directly connecting to the computer. At this time, you can use more keyboard and mouse functions and special functions that are not supported by traditional KVM.

**Tips:** The current version does not support keyboard and mouse connection via Bluetooth.

## 12.2 Keyboard and Mouse Compatible Model List

**Tips:** The following list is from the most representative models of keyboard and mouse that have been tested in the laboratory, mainly from manufacturers with a high market share.

<b>Brand</b>	<b>Model</b>	<b>Brand</b>	<b>Model</b>	<b>Brand</b>	<b>Model</b>	<b>Brand</b>	<b>Model</b>
<b>Aigo</b>	WQ-641	<b>Logitech</b>	G510	<b>Logitech</b>	Marble Mouse	<b>RAPOO</b>	X220
<b>Dell</b>	KB212-B	<b>Logitech</b>	G710	<b>Logitech</b>	Mk540	<b>RAZER</b>	RZ01-0145
<b>Dell</b>	KB522	<b>Logitech</b>	G910	<b>Logitech</b>	Mx1100	<b>RAZER</b>	RC30-021203
<b>Logitech</b>	G105	<b>Logitech</b>	K400PLUS	<b>Logitech</b>	Mx518	<b>Corsair</b>	K55
<b>Logitech</b>	G500S	<b>Logitech</b>	K845	<b>Microsoft</b>	Wireless Desktop 2000	<b>Corsair</b>	K70LUX



# TESmert TESmart

# To Enjoy Smart

CKS202 Prime 23

Tesla Elec Technology Co.,Ltd

CE FC   HDCP 

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