

TESmert **TE**Smart

User **3x1** USB Type-C KVM Switch Manual

CKS0301A1U

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Preface

It's our great honor that you have chosen the 3x1 USB Type-C 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, you can contact us via the following email:
support@tesmart.com.

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Address of Manufacture

Tesla Elec Technology Co.,Ltd
2F, Building C, Xingzhisheng Industrial Park,
No.12, Xiawei Industrial Zone, Zhangkengjing
Road, Guanlan Street,
Longhua District, Shenzhen City, Guangdong
Province, China

Contents

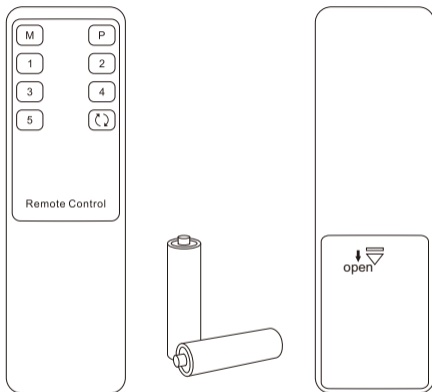
1. Safety Tips and Warnings.....	01	9. USB Type-C PD Charge.....	16
2. Battery Description.....	02	9.1 Description	
3. Warranty Information.....	03	9.2 Operation method	
4. Preface.....	04	10. Switching Method.....	18
5. Features.....	05	10.1 Front Panel Button	
6. Packing List.....	06	10.2 IR Remote Control	
7. Panel Description.....	07	10.3 Keyboard Hot Keys	
7.1 Front Panel Description		10.4 Mouse Gesture Mode	
7.2 Rear Panel Description		11. Change Hot Key Combinations.....	25
8. Connection Description.....	10	12. Pass through mode.....	26
8.1 Connection Diagram		12.1 Introduction of Pass through mode	
8.2 Connection Preparation		12.2 Supported keyboard and mouse categories	
8.3 Connection Steps		12.3 Keyboard and mouse compatible model list	
8.4 KVM Workbench			

1. Safety Tips and Warnings

Tips: Read the safety tips and warnings for USB Type-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 the 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 that this product will be free of defects in material and workmanship for a period of one (1) year from the date of shipment. If within the period of warranty this product proves defective under normal use, we will repair or replace this product, provided that the product has not been subjected to mechanical and electrical damage, or other abuse or modifications. If it fails under conditions other than those covered, its repair will be charged in accordance with 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:

KVM Switch can greatly facilitate your management of audio-video devices. 3×1 USB Type-C KVM Switch can easily integrate cross-platform computer devices. Thus, you can easily control 3 computer devices with only 1 HDMI display.

This switch supports the use of USB hubs and USB keyboard and mouse. You can connect printer, USB drive, bar code scanner or other USB 2.0 devices to this KVM. This product also supports several other switching modes. You can switch input ports with front panel buttons, IR signals, keyboard hot keys and mouse gestures (fast switching mode). At the same time, with EDID emulators in each input port, it can keep PCs always having correct display information. With a USB Type-C PD charge port, support use USB Type-C PD charger to charge the devices connected to input port 1.

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, you can visit our official website: www.tesmart.com.

5. Features

- Control 3 computer devices with only 1 set of keyboard, mouse and monitor
- Support resolution up to 3840*2160@60Hz 4:4:4
- HDCP 2.2 compliant
- Support HDR 10 and Dolby Vision
- Support Unix/Windows/Debian/Ubuntu/Fedora/Mac OS X /Raspbian/ Ubuntu for Raspberry Pi based system
- Support L/R audio output
- With USB 2.0 hub port, it is possible to connect bar code scanner, USB drive or other USB devices to KVM
- With EDID emulators in each input port, the accuracy of the display information of PCs will be secured
- Support IR signals, front panel buttons, keyboard hot keys and mouse gesture to control KVM to switch input ports
- Support hot-plug and the devices connected to the KVM can be added or removed at any time without turning off the computers
- Support auto switching to monitor computers in a specified time interval
- Available to use keyboard and mouse without any delay after switching input ports
- Support keyboard and mouse pass through mode to improve mouse and keyboard compatibility
- Support use USB Type-C PD charger to charge the devices connected to input port 1

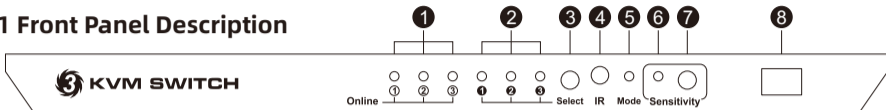
6. Packing List

- 1 * 3x1 USB Type-C KVM Switch
- 1 * DC 5V Power Adapter
- 1 * IR Remote Control
- 1 * User Manual
- 3 * USB Type-C cables

Tips: After received the product, you should 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 problems, you can contact with us.

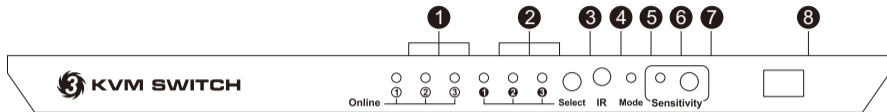
7. Panel Description

7.1 Front Panel Description



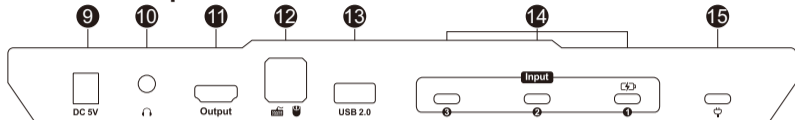
ID	Name	Function
1	USB connection status indicators	LEDs will be lit (blue) if the KVM's USB Type-C ports are connected to the computers' USB ports.
2	Input selection status indicators	The LEDs will be lit (blue) to indicate the current selected computer device.
3	Input selection button	Select input sources.
4	IR receiver	IR receiver
5	Keyboard and mouse pass through mode status	LED will be lit if keyboard and mouse pass through mode is activated.

7.1 Front Panel Description



ID	Name	Function
6	Sensitivity adjust indicator (Mouse gesture mode)	The LED will be lit if the sensitivity of the mouse is adjusted (under fast switching mode). The flicker times will correspond to current sensitivity level (once for level 1, twice for level 2, and so on).
7	Sensitivity adjust button (Mouse gesture mode)	Adjust the sensitivity of the mouse under fast switching mode. Total: 5 sensitivity levels. Factory setting: level 2. Adjusting: cyclically (low-high). Press this button once to adjust the sensitivity to the next level.
8	Power switch	Turn on or turn off power supply.

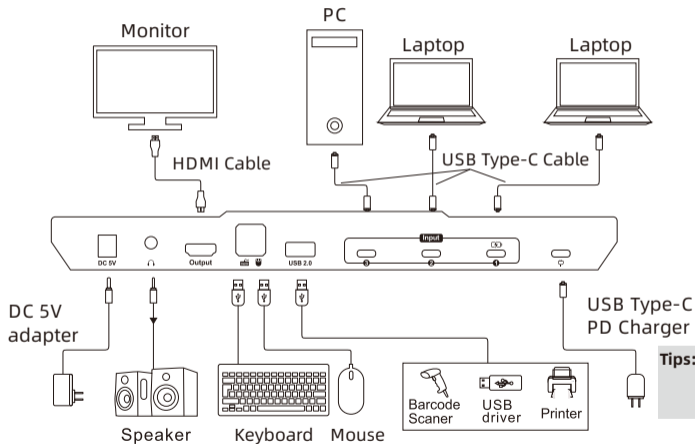
7.2 Rear Panel Description



ID	Name	Function
9	DC 5 V	5 V DC power supply
10	L/R out	Connect to audio or L/R output devices.
11	HDMI output	Connect to HDMI display for video output.
12	Keyboard and mouse input	For USB keyboard and mouse input, including wireless keyboard and mouse.
13	Standard USB 2.0 port	Connect to USB 2.0 device.
14	USB Type-C input	Connect to USB Type-C input devices.
15	USB Type-C charging port	Connect to USB Type-C PD charger to charge the device connected to input port 1

8. Connection Description

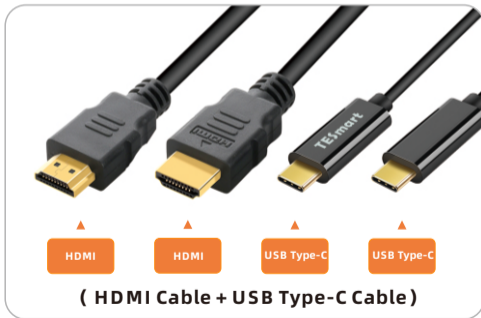
8.1 Connection Diagram



Tips: Please refer to Chapter 9 for how to use the USB Type-C PD Charger.

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 control of power supply as a lot of power sockets and plug boards will be adopted in connection.
- Use different colors marked cables as a lot of cables will be adopted in connections.



8.3 Connection Steps

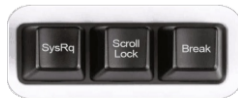
1. Connect PC 1 with one USB Type-C cable.



2. Connect PC 2, PC 3 in the same way as shown above.
3. 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 below).



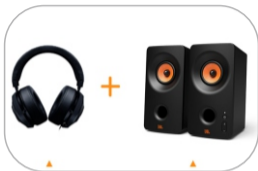
4. Connect an USB 2.0 device to KVM's corresponding USB data port.



5. Connect KVM's HDMI output port to a display with one HDMI cable.



6. Connect KVM's L/R out port to external audio device with one audio cable.



7. Connect the power cable to KVM's DC 5V port and plug it to a power socket with stable DC.



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

8.4 KVM Workbench

A workbench with 3x1 USB Type-C KVM successfully connected is shown as below:



9. USB Type-C PD Charge

9.1 Description

USB Type-C KVM switch has a built-in charging module, which is compatible with PD fast charging protocol, and is able to select voltage and current automatically based on the specifications of charging devices. This feature can make your charging safely and avoid damage. You may connect devices to be charged to input port 1 of KVM switch for fast charging.

We recommend you to connect the following types of devices to Input Port 1 of KVM switch:

- A. Devices that use the same USB Type-C port for charging and connecting an external display.
- B. Devices that require power supply to USB Type-C port and then output audio and video.

Tips: You can connect device that do not support video output to input port 1 for fast charging, but there will be no signal on the display when the KVM Switch selected the input port 1. Switching to other input devices will not interrupt charging for devices connected to input port 1.

9.2 Operation method

Please insert one end of the original USB Type-C cable of a device to the charging port of KVM, and insert the other end to PD fast charging adapter. Plug the fast charging adapter into a power outlet with stable DC, and use a USB Type-C cable to connect the device to be charged to input port 1. Turn on KVM switch to start charging for devices connected to the port.



- Tips:**
1. Only input port 1 supports charging.
 2. A fast charging adapter can't replace a 5V adapter to supply power to KVM switch. Please be sure to use the 5V adapter included in the package.
 3. Charging ports do not support connecting input devices.

10. Switching Method

10.1 Front Panel Button

Your 3x1 USB Type-C KVM Switch is now activated and you can switch to any input devices at any time with front panel keypad, IR remote control, keyboard hot keys and mouse gesture mode. You can choose your favorite switching method according to your personal needs and habits.

- Switch the input devices by pressing the button [Select] on the front panel of the USB Type-C KVM Switch.



Tips: The LEDs ❶, ❷, ❸, ❹ on the front panel will be lit, if you switch to input device 1. The video signal of input device 1 is now output by the display.

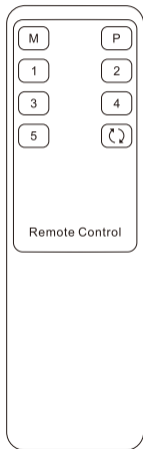
→ Press the button [Select] again to switch to input device 2.



Tips: The LEDs ①, ②, ③, ② on the front panel will be lit, if you switch to input device 2. The video signal of input device 2 is now output by the display.

10.2 IR Remote Control

- Use IR remote to switch the input devices.



[1]-Switch to input port 1

[2]-Switch to input port 2

[3]-Switch to input port 3

Tips: Unspecified buttons at above are non-functional.

10.3 Keyboard Hot Keys

- Use external keyboard hot keys to switch the input devices.

Tips: The keyboard hot keys can only normally work with the external keyboard correctly connected to the keyboard and mouse input port of the KVM. For the normal service of hot keys, we recommend you use external keyboard with a separate [Scroll Lock] key.

First, press [Scroll Lock] key twice within 2 seconds and you can begin to switch the input devices after the buzzer beep once. Second, enter following hot key commands within 3 seconds and the KVM will execute the corresponding commands.

Select previous input port:

[Scroll Lock] → [Scroll Lock] → [PgUp]



Select next input port:

[Scroll Lock] → [Scroll Lock] → [PgDn]



Select port by port number:

[Scroll Lock] → [Scroll Lock] → [1]~[3]



Tips: Select port by port number in accordance with the operation order presented above;

Enable or disable buzzer sound:
[Scroll Lock]→[Scroll Lock]→[F11]



Tips: Disable buzzer sound as shown above; Repeat this step to enable the buzzer sound; Your operation on the KVM will make buzzer no sound.

Increase or decrease auto switching time interval:
[Scroll Lock]→[Scroll Lock]→[+] / [-]



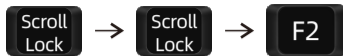
Tips: This hot key command can only work while the auto switching mode is activated. Press [Scroll Lock] key twice and keep pressing [+] / [-] key to continuously adjust the time interval. Increase or decrease 1 second at one time. The maximum time interval is 250 seconds.

Turn on auto switching mode:
[Scroll Lock]→[Scroll Lock]→[Space]



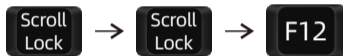
Tips: Enter auto switching mode by following the operation order shown above. The default auto switching time interval is 6 seconds. You can change the time interval by following the step presented below. Press [Esc] key to exit the auto switching mode.

Turn on or turn off pass through mode:
[Scroll Lock]→[Scroll Lock]→[F2]



Tips: Pass through mode is on by default. Turn on or turn off pass through mode by following the operation order above. Read chapter 12 for more information about pass through mode.

Turn on or turn off fast switching mode:
[Scroll Lock]→[Scroll Lock]→[F12]



Tips: Turn on fast switching mode by following the operation order above. Repeat this step to turn off the fast switching mode. Read next chapter for more information about fast switching mode.

10.4 Mouse Gesture Mode

The fast switching mode is not activated under standard settings. You need to follow the hot key command in page 23 to turn on the fast switching mode.

- Use your mouse to touch the left edge of your monitor twice within 1 second and the KVM will switch to the previous input port.
- Use your mouse to touch the right edge of your monitor twice within 1 second and the KVM will switch to the next input port.



11. Change Hot Key Combinations

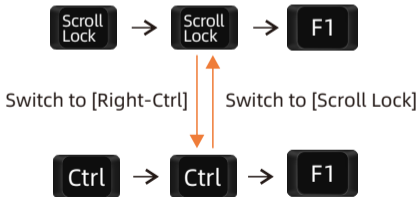
There are two kinds of trigger hot keys in this product, the default is [Scroll Lock] key, and the alternative is the [Right-Ctrl] key. If [Scroll Lock] Key has been used for other functions, you can switch the hot key to [Right-Ctrl] by :

Method 1:

- Press and keep holding the [Select] button on the front panel until you hear the buzzer is beeping, then restart KVM.

Method 2:

- Press [Scroll Lock] → [Scroll Lock] → [F1], and you will switch the control hot key to [Right-Ctrl].



- Vice verse, Press [Right-Ctrl] → [Right-Ctrl] → [F1], and you will switch the control hot key to [Scroll Lock].

12. Pass through mode

12.1 Introduction of Pass through mode

Pass through mode is a new function, which is can better improve keyboard and mouse compatibility and enhance user experience. After using keyboard hotkeys Scroll Lock → Scroll Lock → F2 to turn on 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 ordinary KVM.

12.2 Supported keyboard and mouse categories

→ a. Multimedia keyboard

Multimedia keyboard means that adds multimedia keys, based on normal keyboard. Multimedia buttons generally refer to play, pause, last song, next song, fast forward, fast backward, open email, open browser and so on.

→ b. The game keyboard and mouse

Game keyboard and mouse generally refer to mechanical keyboard, keyboard with custom macro keys, mouse with custom function keys.

Tips: There are two ways to set a custom key:

1. Use the software provided by the original keyboard and mouse factory and controlled by the computer side to edit the function keys;
 2. Use the keyboard to enter the key editing mode to edit the function keys.
- The current version of KVM does not support the control software of the original keyboard and mouse, so the function keys can only be edited by the second way.

→ c. Wireless keyboard and mouse

Support the use of 2.4 GHz USB dongle wireless keyboard and mouse

12.3 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.

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

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