

TESmert **TE**Smart

User **120m** HDMI KVM
Extender
Manual   

HKE12MMA20

English

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English



Preface

It's our great honor that you have chosen the HDMI KVM Extender 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

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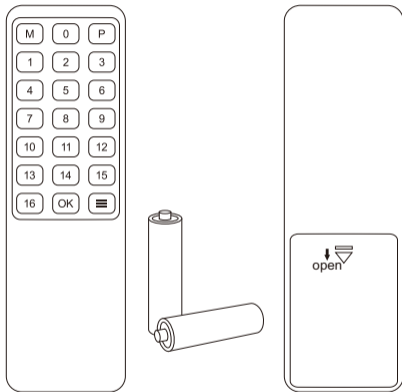
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1. Safety Tips and Warnings

Tips: Read the safety tips and warnings for HDMI KVM Extender 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,

HDMI KVM Extender can transmit HD video signal over long distances. With IR pass through, the playback device can be remotely controlled at the receiving end. Uses single UTP/FTP cable CAT5e/6 to substitute HDMI cable to achieve longer transmission distance. The transmission distance of our HDMI KVM Extender can extend up to 120 meters for 1920x1080@60Hz. Support IR pass through. When you need to control remotely, you can use the remote control provided with the input source to remotely control the input source through infrared. The router or switch is accessed over a standard TCP/IP network via Cat 5e/6 cable that allows point-to-point, point-to-multipoint, multipoint-to-point, and multipoint-to-multipoint administration.

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

- Use single UTP/FTP cable (CAT5e/6, should follow EIA/TIA 568B standard) to substitute HDMI cable to extend longer transmission distance
- Support 1920x1080@60Hz resolution transmission via UTP/FTP cable up to 120 meters
- With IR pass through, the playback device can be remotely controlled at the receiving end via UTP/FTP cable
- By transmitting keyboard and mouse data via UTP/FTP cable, it is easy to control PC remotely
- Support point-to-point, point-to-multipoint, multipoint-to-point, and multipoint-to-multipoint administration
- Via router or network switch, it is available to send data from up to 16 transmitters to 253 receivers

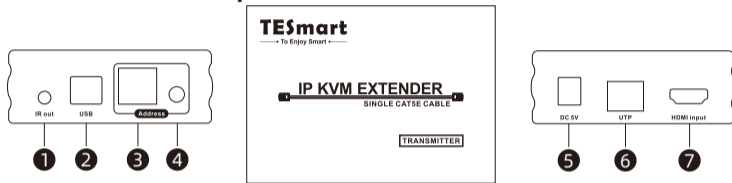
6. Packing List

- 1 * Transmitter
- 1 * Receiver
- 1 * IR Transmitter Cable
- 1 * IR Receiver Cable
- 2 * DC 5V Power Adapter
- 1 * IR Remote Control
- 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.

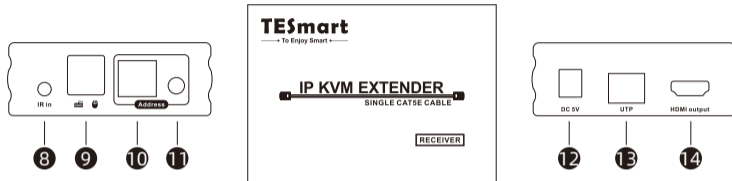
7. Panel Description

7.1 Transmitter Panel Description



ID	Name	Function	ID	Name	Function
1	IR transmitter port	Using IR transmitter cable to connect to send IR signal to input device for remote control.	2	USB Connection port	Using USB Type-A to Type-B cable to connect to the input device for USB data signal input.
3	Digital display	Indicate the current communication ID of the Transmitter.	4	ID switch button	Switch the Transmitter communication ID.
5	DC 5V	DC 5V power supply.	6	RJ45 port	Connect to UTP/FTP cable.
7	HDMI input port	Connect to HDMI source device.			

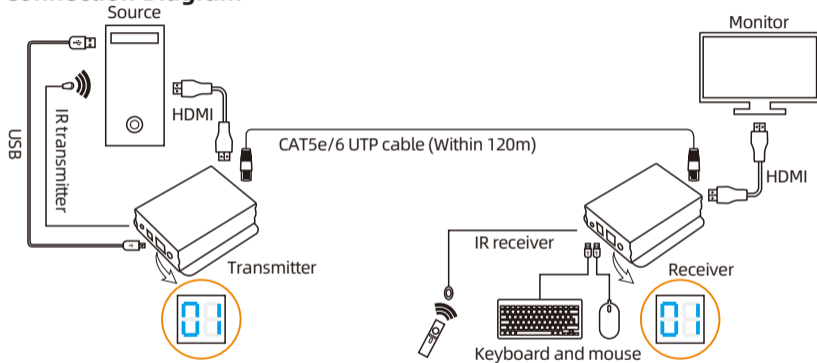
7.2 Receiver Panel Description



ID	Name	Function	ID	Name	Function
8	IR receiver port	Using IR receiver cable to connect to receive IR signal.	9	Keyboard and mouse input	For USB keyboard and mouse input.
10	Digital display	Indicate the current communication ID of the Receiver.	11	ID switch button	Switch the Receiver communication ID.
12	DC 5V	DC 5V power supply.	13	RJ45 port	Connect to UTP/FTP cable.
14	HDMI output port	Connection HDMI display for video output.			

8. Connection Description

8.1 Connection Diagram



- Tips:**
1. 'Source' here represents general input devices like DVD player, STB, PC, etc.
 2. Please refer to Chapter 9.1 for the details about the connection diagram of multipoint-to-multipoint.
 3. Please refer to Chapter 9.2 for the details about IR pass through.

8.2 Connection Steps

1. Connect a PC to the Transmitter with one HDMI cable and one USB Type-A to Type-B cable. Connect the type-B end of the USB cable to Transmitter's USB connection port, and the type-A end to PC (as shown below).



2. Connect IR transmitter cable to the IR transmitter port.



Tips: The transmitter should be placed as close as possible to the input device's infrared receiver. Please refer to Chapter 9.2 in detail.

3. Connect one end of UTP/FTP cable to Transmitter's RJ45 port.



4. Connect the power cable to Transmitter's DC 5V port and plug it to a power socket.



5. Press the ID switch button to set the communication ID for the Transmitter, and the ID code will be displayed on the digital display (take 01 as an example). The Transmitter is now connected.



6. Connect Receiver's HDMI output port to a display with one HDMI cable.



7. Connect external mouse and keyboard to Receiver's keyboard and mouse input port.



8. Connect IR receiver cable to the IR receiver port.



9. Connect the other end of the UTP/FTP cable to receiver's RJ45 port.



10. Connect the power cable to receiver's DC 5V port and plug it to a power socket.



11. Press the ID switch button to switch the ID code displayed by the digital display to the same number with the Transmitter (take 01 as an example). The Receiver is now connected.



12. By now, all the connection has been completed. The Extender will begin to work if the PC is turned on.

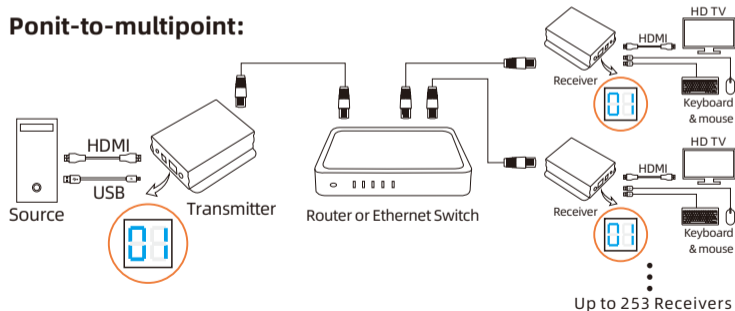
Tips: 1. Please refer to Chapter 10 for detailed information about how to use the HDMI Extender.
2. By default, the HDMI cables and Ethernet cables are not included in the package.

9. Function Description

9.1 Multipoint-to-multipoint administration

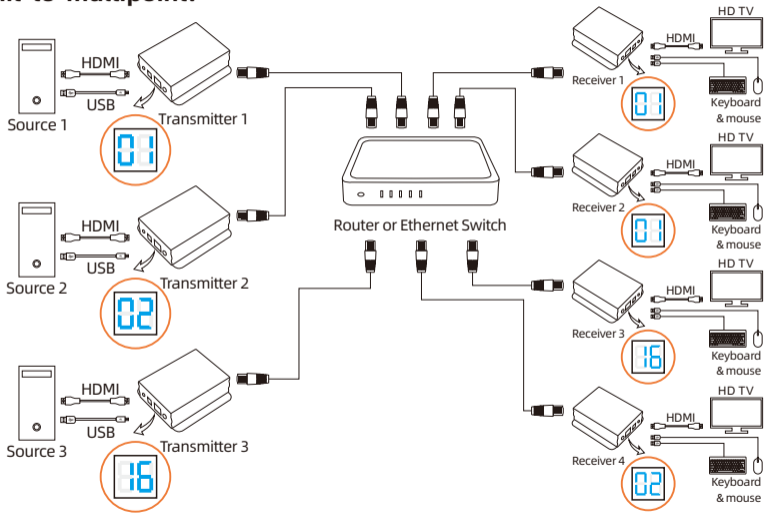
Point-to-multipoint and multipoint-to-multipoint administration can be achieved by connecting multiple Transmitters and Receivers through Ethernet switch or router. You can achieve multipoint-to-multipoint administration by setting the same communication ID for each group of Transmitter and Receiver. You can set the communication ID to any value from 1~16.

Ponit-to-multipoint:



Multipoint-to-multipoint:

••• Up to 16 Transmitters



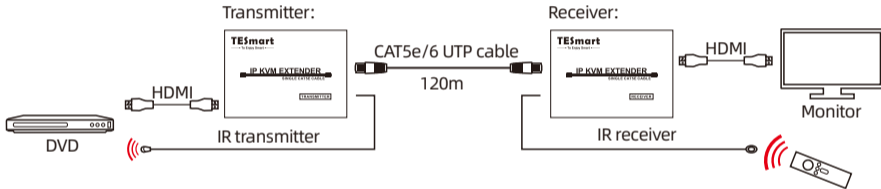
••• Up to 253 Receivers

Support up to 16 Transmitters (communication ID: 1~16) in one local area network. Set the Receivers' communication ID to the same as the Transmitter which the Receiver wants to connect to.

- Tips:**
1. When a Transmitter is set to have the same communication ID as multiple Receivers, these Receivers can control the input source connected to the Transmitter at the same time.
 2. When using multiple Transmitters, please do not set the Transmitters to the same communication ID, this will cause usage problems.
 3. For normal use, it is necessary to disable the IGMP when connecting to an Ethernet switch.

9.2 IR Pass Through Description

Our 120m HDMI KVM Extender support use the included IR cables to control a HDMI video input device like DVD player, Set-top box and streaming box from the remote display end. You can get the same effect as if you were using the remote control directly from the input.



- Tips:**
1. To use the IR pass through function, please use the remote control corresponding to the input device you connect to the Extender to control the input device. The remote control provided by this product can only control the Receiver to switch the communication ID.
 2. In the case of multipoint-to-multipoint management, any Receiver with the same communication ID as the Transmitter can use infrared remote control to remotely control the input source connected to the Transmitter.

10. Operation Method

10.1 Panel Button Switching Method

Press the button of the Transmitter to set the communication ID of the Transmitter, and press the button of the Receiver to set the communication ID of the Receiver to be the same as that of the Transmitter to output audio and video, use the keyboard and mouse, and IR pass through.



10.2 IR Remote Control



Press 1~16 to switch the communication ID of the Receiver (applicable to multipoint-to-point, multipoint-to-multipoint administration)

- Tips:**
1. Unspecified buttons at above are non-functional.
 2. Before using the IR remote control, please connect the IR receiver cable to the 'IR in' port on Receiver.

10.3 Keyboard Hot Keys

- Use external keyboard hot keys to switch communication ID for Receiver.

Tips: The keyboard hot keys can only work with external keyboard correctly connected to the keyboard and mouse input port of the Receiver. Keyboard hotkey operation is suitable for multipoint-to-point, multipoint-to-multipoint administration.

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

Switch communication ID 1~9:
[Right-Ctrl]→**[Right-Ctrl]**→**[1~9]**



Switch communication ID 10~16:
[Right-Ctrl]→**[Right-Ctrl]**→**[1]**→**[0~6]**



Tips: When switching the communication ID to 1, there will be a delay of about 1s, because it is necessary to determine whether you need to press other numeric keys to switch to ID 10~16.

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