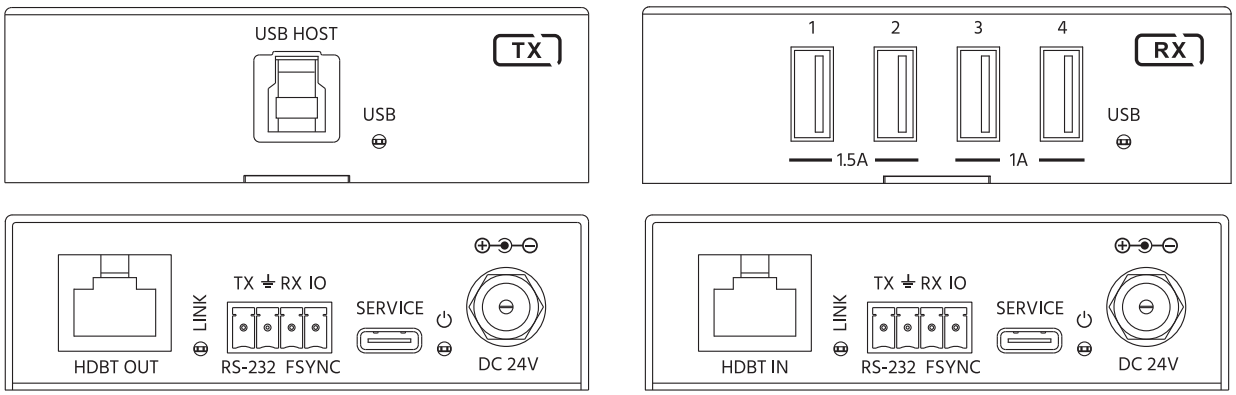
USER MANUAL



4-Port USB 3.0 Extender over CAT6a, up to 100m

P/N **48166**

Thank You for Purchasing This Product

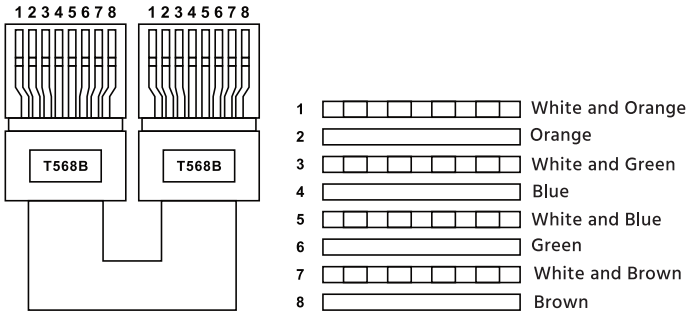
For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge Protection Device Recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shook, lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Caution

The product requires the use of UTP connectors. Please connect in direct interconnection method and do not cross connect.



Direct Interconnection Method

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1. Introduction

The USB 3.0 Extender can extend USB signal to a distance up to 100m/328ft via a single CAT6a cable. Transmitter features with one USB 3.0 Type B input, one FSYSNC GPIO input and one RS-232 pass-through. Receiver features with four USB 3.0 Type A outputs, one FSYSNC GPIO output and one RS-232 pass-through. Bi-directional 24V PoC is also supported. The product can be widely used for long distance signal transmission between a PC and USB devices.

2. Features

- Extension of USB 3.0 is up to 100m/328ft over CAT6a cable
- USB 3.0 connectivity with data transfer rate up to 5Gbps
- Backwards compatible with USB 2.0 and 1.1
- Hardware acceleration for isochronous and bulk transfer
- USB-A port 1 and 2 support 5V/1.5A, port 3 and 4 support 5V/1A on the Receiver
- Support RS-232 pass-through and FSYNC GPIO pass-through (for industry camera use)
- Support bi-directional 24V PoC
- Simple plug and play, no driver and setting installation required

3. Package Contents

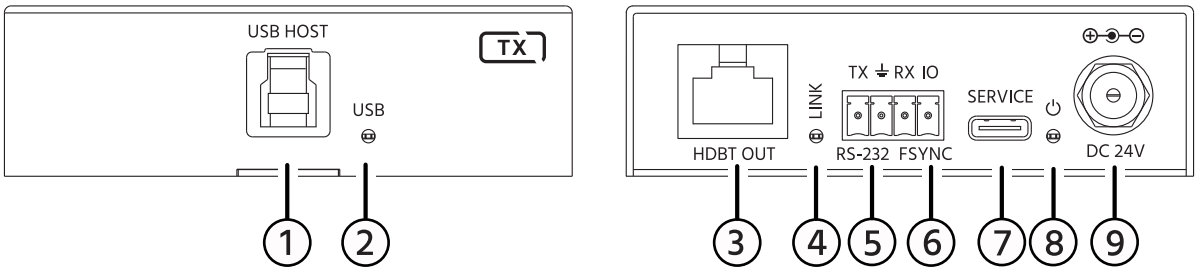
- 1 × USB 3.0 Extender (Transmitter)
- 1 × USB 3.0 Extender (Receiver)
- 1 × 24V/2A Locking Power Supply
- 2 × 4-pin 3.5mm Phoenix Connector (Male)
- 4 × Mounting Ear
- 8 × Machine Screw (KM3*4)
- 1 × User Manual

4. Specifications

Technical	
USB Protocol	USB 3.0
Transmission Rate	Up to 5Gbps
Transmission Distance	100m/328ft over CAT6a (F/FTP) cable
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge), ±4kV (Contact discharge)
Connections	
Transmitter	Input: 1 × USB HOST [USB-B, 9pin Female] Output: 1 × HDBT OUT [RJ45, Female] Control: 1 × RS-232 [3pin-3.5mm Phoenix Connector] 1 × FSYNC [1pin-3.5mm Phoenix Connector] 1 × SERVICE [USB-C, Update Port]
Receiver	Input: 1 × HDBT IN [RJ45, Female] Output: 4 × USB Devices [USB-A, 9pin Female] Control: 1 × RS-232 [3pin-3.5mm Phoenix Connector] 1 × FSYNC [1pin-3.5mm Phoenix Connector] 1 × SERVICE [USB-C, Update Port]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter/Receiver: 85mm [W] × 100mm [D] × 25.5mm [H]
Weight	Transmitter: 253g, Receiver: 260g
Power Supply	Input: AC 100 ~ 240V 50/60Hz Output: DC 24V/2A
Power Consumption	PoC Power Supply: 40W (Max)
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Operating Humidity	20% ~ 80% relative humidity, non-condensing
Storage Humidity	10% ~ 90% relative humidity, non-condensing

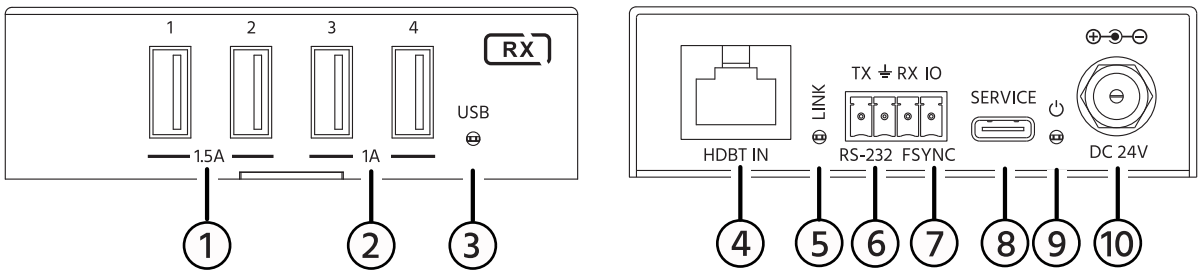
5. Operation Controls and Functions

5.1 Transmitter Panel



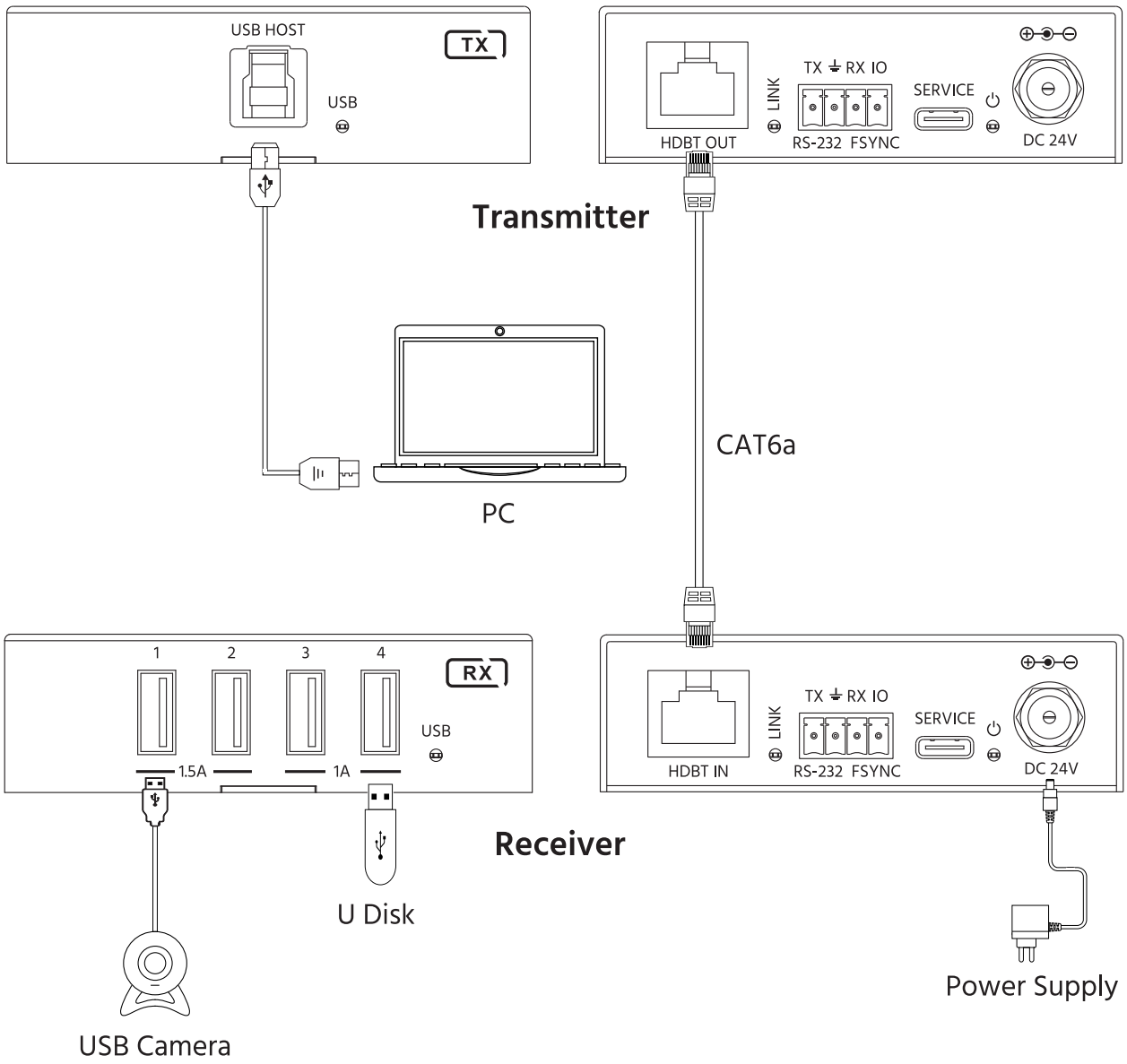
No.	Name	Function Description
1	USB HOST	Host port, supporting USB 3.2 Gen 1. Connects to a PC or host.
2	USB LED	USB signal indicator. ▪ **On:** USB 3.0 signal is detected. ▪ **Blinking:** USB 2.0 signal is detected. ▪ **Off:** There is no USB signal.
3	HDBT OUT	Connects to the HDBT IN port on Receiver with CAT cable.
4	LINK LED	Connection signal indicator. ▪ **On:** Transmitter and Receiver are connected and linked. ▪ **Blinking:** Transmitter and Receiver link is off due to low power mode. ▪ **Off:** Transmitter and Receiver are not connected.
5	RS-232	3-pin phoenix connector, connected to a PC or control system for RS-232 command pass-through.
6	FSYNC	FSYNC port, used for level pass-through to the Receiver, and synchronizing the external devices. The default level is 5V.
7	SERVICE	Firmware update port.
8	POWER LED	The LED will be on when the Transmitter is powered on.
9	DC 24V	DC 24V/2A power input port.

5.2 Receiver Panel



No.	Name	Function Description
1	USB 1/2	Connect to USB devices, and max output power is up to 5V/1.5A.
2	USB 3/4	Connect to USB devices, and max output power is up to 5V/1A.
3	USB LED	USB signal indicator. ▪ **On:** USB 3.0 signal is detected. ▪ **Blinking:** USB 2.0 signal is detected. ▪ **Off:** There is no USB signal.
4	HDBT IN	Connects to the HDBT OUT port on Transmitter with CAT cable.
5	LINK LED	Connection signal indicator. ▪ **On:** Transmitter and Receiver are connected and linked. ▪ **Blinking:** Transmitter and Receiver link is off due to low power mode. ▪ **Off:** Transmitter and Receiver are not connected.
6	RS-232	3-pin phoenix connector, connected to a PC or control system for RS-232 command pass-through.
7	FSYNC	FSYNC port, receiving level pass-through from the Transmitter, and synchronizing the external devices. Default level is 5V.
8	SERVICE	Firmware update port.
9	POWER LED	The LED will be on when the Receiver is powered on.
10	DC 24V	DC 24V/2A power input port.

6. Application Example



Notice for FCC

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Modifying the equipment without Manufacturer's authorization may result in the equipment no longer complying with FCC requirements for Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.