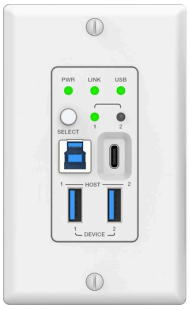
USB 3.2 Gen 1 Wall Plate Extender Kit, USB-C & USB-B Inputs, 100m — Wall Plate TX + Box RX

5Gbps USB from the Wall to the Room's Cameras and Devices over One CAT6a





Puts SuperSpeed USB peripherals up to 100m from the computers that drive them, and lets two hosts share them from one Decora opening. The kit pairs a US 1-Gang Decora wall-plate transmitter with a compact metal box receiver over a single CAT6a F/FTP cable, carrying USB 3.2 Gen 1 at up to 5Gbps. Bi-directional 24V PoC lets one supply power both units from whichever end has an outlet. At the receiver, one USB-C and three USB-A device ports serve the camera, microphone, touch display and storage. It is the right choice for UC rooms, teaching spaces, courtrooms and vision cells where shared hosts, control-system integration and a single power drop matter more than carrying video on the same run.

The wall plate takes a USB-B host on HOST 1 and a USB-C host on HOST 2. It switches automatically when it detects a host's USB 5V, or manually from the SELECT button. RS-232 pass-through and an API let a control system select the host, toggle auto-switching, set power on each device port and read back system status. Hardware acceleration for isochronous and bulk transfers handles USB cameras, USB microphones and storage, and the link stays backwards compatible with USB 2.0 and USB 1.1. FSYNC GPIO pass-through carries an industrial camera trigger over the same cable. The kit is plug-and-play with no host drivers, and firmware loads through a USB-C service port. The strongest differentiator is the second host input at the plate: a room PC and a guest laptop share one set of peripherals with no separate USB switch in the rack.

Surge Protection Recommended — This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, or lightning strikes. Use of surge protection systems is highly recommended.

TABLE OF CONTENTS

1. Features 2
2. Package Contents 2
3. Specifications 2
4. Before you start 4
5. Cabling 4
6. Introduction 4
7. Features 5
8. Specifications 5
Technical 5
Connection: Transmitter 5
Connection: Receiver 5
Physical 5
Power 6
Environmental 6
9. Operation Controls and Functions (Panel descriptions) 6
4.1 Transmitter Panel 9
4.2 Receiver Panel 10
Front Panel 10
Rear Panel 10
10. API Commands 11

continued

11. Connection Diagram 13
12. Troubleshooting 14

1. Features

- ✓ US 1-Gang standard Decora wall-plate transmitter and box receiver
- ✓ Extends USB 3.2 Gen 1 up to 100m (328ft) over CAT6a cable
- ✓ USB 3.2 Gen 1 connectivity with data transfer rates up to 5Gbps
- ✓ Backwards compatible with USB 2.0 and USB 1.1
- ✓ Hardware acceleration for isochronous and bulk transfers
- ✓ Transmitter with one USB-B and one USB-C selectable host input
- ✓ Auto-switching and manual switching between hosts
- ✓ RS-232 pass-through and API control
- ✓ Firmware upgrade through the USB-C service port
- ✓ FSYNC GPIO pass-through for industrial camera applications
- ✓ Receiver with four USB device ports, one USB-C and three USB-A: USB DEVICES 1–2 supply 5V/1A each, USB DEVICES 3–4 supply 5V/1.5A each
- ✓ Plug-and-play, with no drivers or software to install
- ✓ Bi-directional 24V PoC: with either the transmitter or the receiver powered, the other unit needs no external power supply

2. Package Contents

- ✓ 1× USB 3.2 Gen 1 Wall-Plate Extender
- ✓ 1× USB 3.2 Gen 1 Box Extender
- ✓ 1× 24V/3.75A Power Supply
- ✓ 1× 2-pin 3.5mm Phoenix Connector (male)
- ✓ 2× 4-pin 3.5mm Phoenix Connector (male)
- ✓ 2× Mounting Ear
- ✓ 4× Machine Screw (KM3x4)
- ✓ 2× Machine Screw (6#-32 x ¾)
- ✓ 1× Top Panel

3. Specifications

TECHNICAL	
USB Protocol	USB 3.2 Gen 1; backwards compatible with USB 2.0 and USB 1.1
Transmission Rate	Up to 5Gbps
Transmission Distance	100m (328ft) via CAT6a F/FTP cable; 1.5m (4.9ft) via USB cable
Transfer Modes	Hardware acceleration for isochronous and bulk transfers
Cable Type	CAT6a F/FTP 23AWG, straight-through, T568B colour order at both ends
ESD Protection	IEC 61000-4-2: ±8kV (air-gap discharge), ±4kV (contact discharge)
TRANSMITTER CONNECTIONS	
Host Inputs	1× HOST 1 (USB Type-B, 9-pin female); 1× HOST 2 (USB Type-C, 24-pin female)
Device Outputs	2× USB-A DEVICE (USB Type-A, 9-pin female), 5V/1A each

continued

Link	1× HDBT-USB3 (RJ45, 24V PoC)
Control	1× RS-232 / FSYNC (4-pin 3.5mm Phoenix: RS-232 TX, ground, RX + FSYNC IO); 1× SERVICE (USB Type-C, firmware update)
Power Input	DC 24V/3.75A
Buttons	SELECT (toggles between HOST 1 and HOST 2)
Indicators	PWR LED, LINK LED, USB LED, HOST 1/2 LEDs
RECEIVER CONNECTIONS	
Link	1× HDBT-USB3 (RJ45, 24V PoC)
Device Outputs	1× USB-C DEVICE (USB Type-C, 24-pin female); 3× USB-A DEVICE (USB Type-A, 9-pin female)
Device Port Power	USB DEVICES 1–2: 5V/1A each; USB DEVICES 3–4: 5V/1.5A each
Control	1× RS-232 / FSYNC (4-pin 3.5mm Phoenix: RS-232 TX, ground, RX + FSYNC IO); 1× SERVICE (USB Type-C, firmware update)
Power Input	DC 24V/3.75A
Indicators	Power LED, LINK LEDs (front and rear), USB LED
CONTROL	
Host Selection	Auto-switching by USB 5V detection (default on); manual via SELECT button or API
RS-232 (Phoenix)	4800, 9600, 19200, 38400, 57600 or 115200 baud (default 115200); 8 data bits, 1 stop bit, no parity
Service Port (USB-C)	Virtual RS-232, fixed 115200 baud; 8 data bits, 1 stop bit, no parity
API Functions	Host input select; auto-switching on/off; front-panel button lock; per-port device power (force off, follow host, force on); baud rate; host 5V status; system status; firmware version; reboot; reset to KanexPro defaults
Command Termination	<CR><LF>
FSYNC	GPIO pass-through, transmitter to receiver; default level range 0–5V
POWER	
Power Supply	Input: AC 100–240V, 50/60Hz; Output: DC 24V/3.75A
Power Consumption	62W (max)
Power over Cable	Bi-directional 24V PoC; power either unit
PHYSICAL	
Housing	Transmitter: plastic front panel, metal enclosure; Receiver: metal enclosure
Color	Transmitter: white and black; Receiver: black
Mounting (Transmitter)	US 1-Gang Decora
Dimensions (Transmitter)	1.77 x 1.65 x 4.07 in, W x D x H (45 x 42 x 103.5 mm)
Dimensions (Receiver)	5.51 x 2.95 x 0.91 in, W x D x H (140 x 75 x 23 mm)
Weight (Transmitter)	0.25 lbs (115 g)
Weight (Receiver)	0.70 lbs (318 g)
ENVIRONMENTAL	

continued

Operating Temperature	32°F to 104°F (0°C to 40°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Operating Humidity	20% to 80% RH, non-condensing
Storage Humidity	10% to 90% RH, non-condensing

4. Before you start

This product contains sensitive electronic components. Electrical spikes, surges, electric shock and lightning strikes can damage them. Install surge protection on the power feeding this equipment to protect it and extend its life. Read these instructions fully before you connect, operate or adjust the product.

5. Cabling

Use CAT6A F/FTP 23AWG cable between the transmitter and the receiver. Wire both ends straight through, never crossed, with the conductors in this order at each end:

ORDER	CONDUCTOR
1	White and Orange
2	Orange
3	White and Green
4	Blue
5	White and Blue
6	Green
7	White and Brown
8	Brown

This is the standard T568B colour order.

6. Introduction

The WP-EXTUSB3100 sends a USB 3.2 Gen 1 signal at up to 5Gbps as far as 100m (328ft) over a single CAT6a cable.

The transmitter is a US 1-Gang Decora wall plate. It has two selectable host inputs, one USB-C and one USB-B, and two USB-A device ports for local devices. The receiver is a box with one USB-C and three USB-A device ports.

Power over Cable (PoC) at 24V works in both directions. You only need to power the transmitter or the receiver, and the other unit takes its power over the CAT6a cable.

You can choose the active host in two ways. Press the SELECT button on the wall plate, or turn on auto-switching, which selects a host when it detects that host's USB 5V.

Typical uses are long USB runs between a computer and webcams, PTZ cameras, keyboards, mice, USB microphones, flash drives, printers, scanners, touch-panel displays and other USB devices.

7. Features

- US 1-Gang standard Decora wall plate (transmitter) and box (receiver)
- Extends USB 3.2 Gen 1 up to 100m/328ft over CAT6a cable
- USB 3.2 Gen 1 connectivity with data transfer rates up to 5Gbps
- Backwards compatible with USB 2.0 and USB 1.1
- Hardware acceleration for isochronous and bulk transfer
- The transmitter has one USB-B and one USB-C selectable input port
- Supports auto-switching and manual switching
- Supports RS-232 pass-through and API control
- Supports firmware upgrade through the USB-C service port
- Supports FSYNC GPIO pass-through for industrial camera use
- The receiver has one USB-C and three USB-A output ports.
- Plug-and-play, with no drivers or software to download
- Bi-directional 24V PoC (Power over Cable): when either the transmitter or the receiver is powered, the other unit needs no external power supply

8. Specifications

TECHNICAL

SPECIFICATION	VALUE
USB Protocol	USB 3.2 Gen 1
Transmission Rate	Up to 5Gbps
Transmission Distance	100m/328ft via CAT6a (F/FTP) cable; 1.5m/4.9ft via USB cable
ESD Protection	IEC 61000-4-2: ±8kV (air-gap discharge), ±4kV (contact discharge)

CONNECTION: TRANSMITTER

SPECIFICATION	VALUE
Input	1× HOST 1 [USB Type-B, 9-pin female]; 1× HOST 2 [USB Type-C, 24-pin female] ⚠ see Flags
Output	2× USB-A DEVICE [USB Type-A, 9-pin female]; 1× HDBT-USB3 [RJ45 connector, 24V PoC]
Control	1× RS-232 / FSYNC [4-pin 3.5mm Phoenix connector: RS-232 TX, ground, RX + FSYNC IO]; 1× SERVICE [USB Type-C, firmware update port]

CONNECTION: RECEIVER

SPECIFICATION	VALUE
Input	1× HDBT-USB3 [RJ45 connector, 24V PoC]
Output	3× USB-A DEVICE [USB Type-A, 9-pin female]; 1× USB-C DEVICE [USB Type-C, 24-pin female]
Control	1× RS-232 / FSYNC [4-pin 3.5mm Phoenix connector: RS-232 TX, ground, RX + FSYNC IO]; 1× SERVICE [USB Type-C, firmware update port]

PHYSICAL

SPECIFICATION	VALUE
Housing	Transmitter: plastic front panel + metal enclosure; Receiver: metal enclosure
Color	Transmitter: white + black; Receiver: black
Dimensions (Transmitter)	1.77" (W) x 1.65" (D) x 4.07" (H) (45 x 42 x 103.5mm)
Dimensions (Receiver)	5.51" (W) x 2.95" (D) x 0.91" (H) (140 x 75 x 23mm)
Weight (Transmitter)	0.25 lbs (0.115kg)
Weight (Receiver)	0.70 lbs (0.318kg)

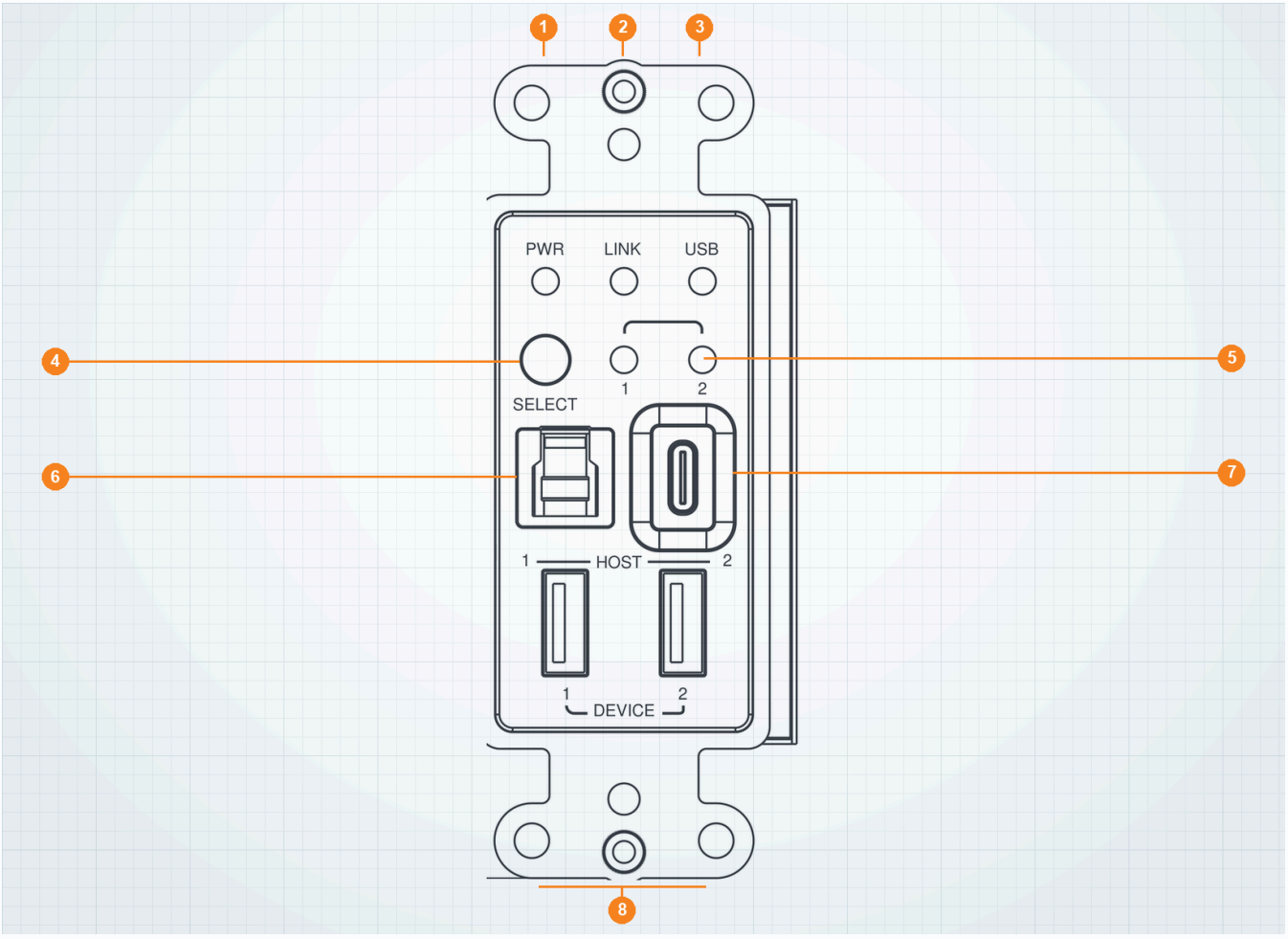
POWER

SPECIFICATION	VALUE
Power Supply	Input: AC 100–240V 50/60Hz; Output: DC 24V/3.75A
Power Consumption	62W (max)
Power over Cable	Bi-directional 24V PoC. Power either unit.

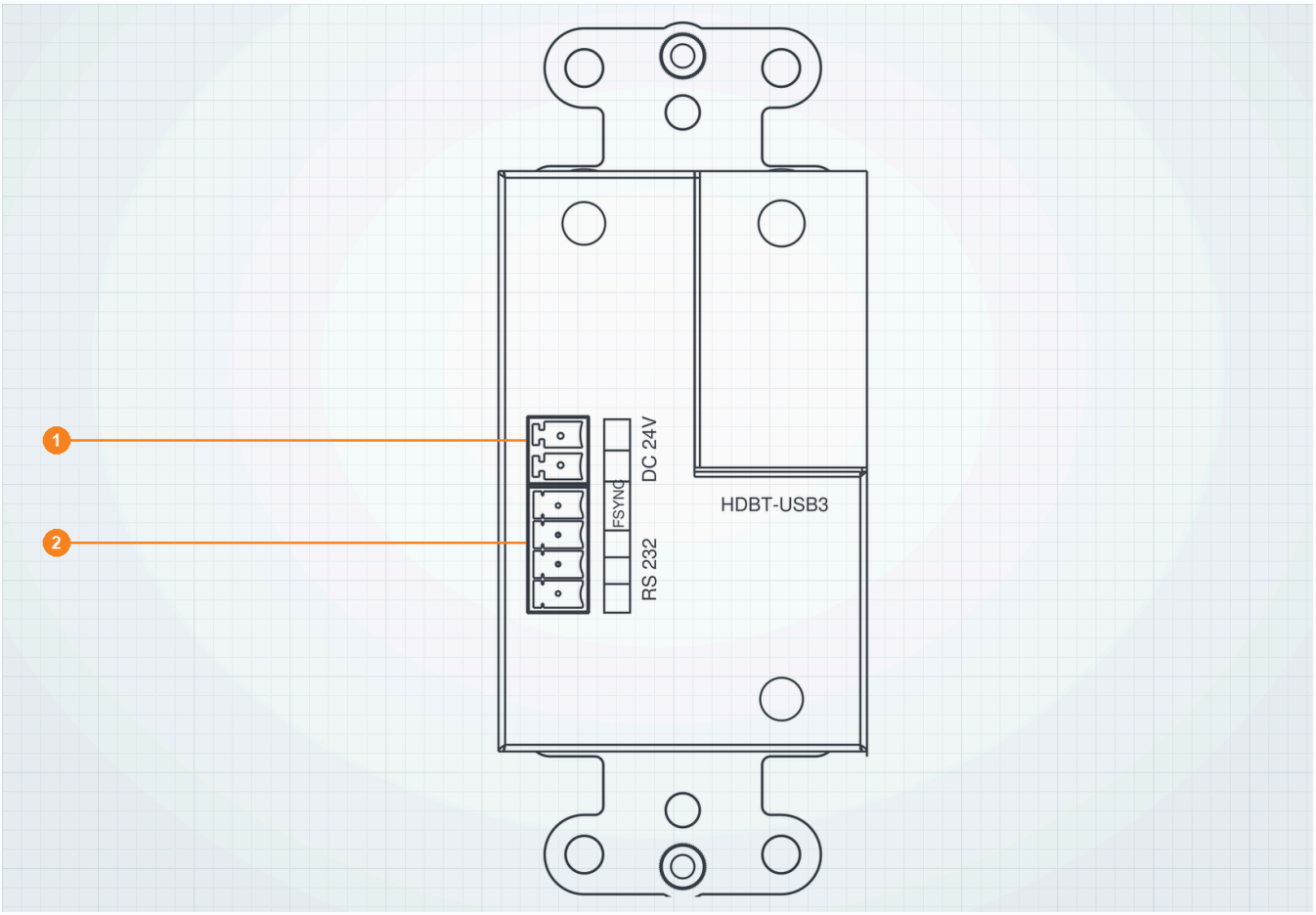
ENVIRONMENTAL

SPECIFICATION	VALUE
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

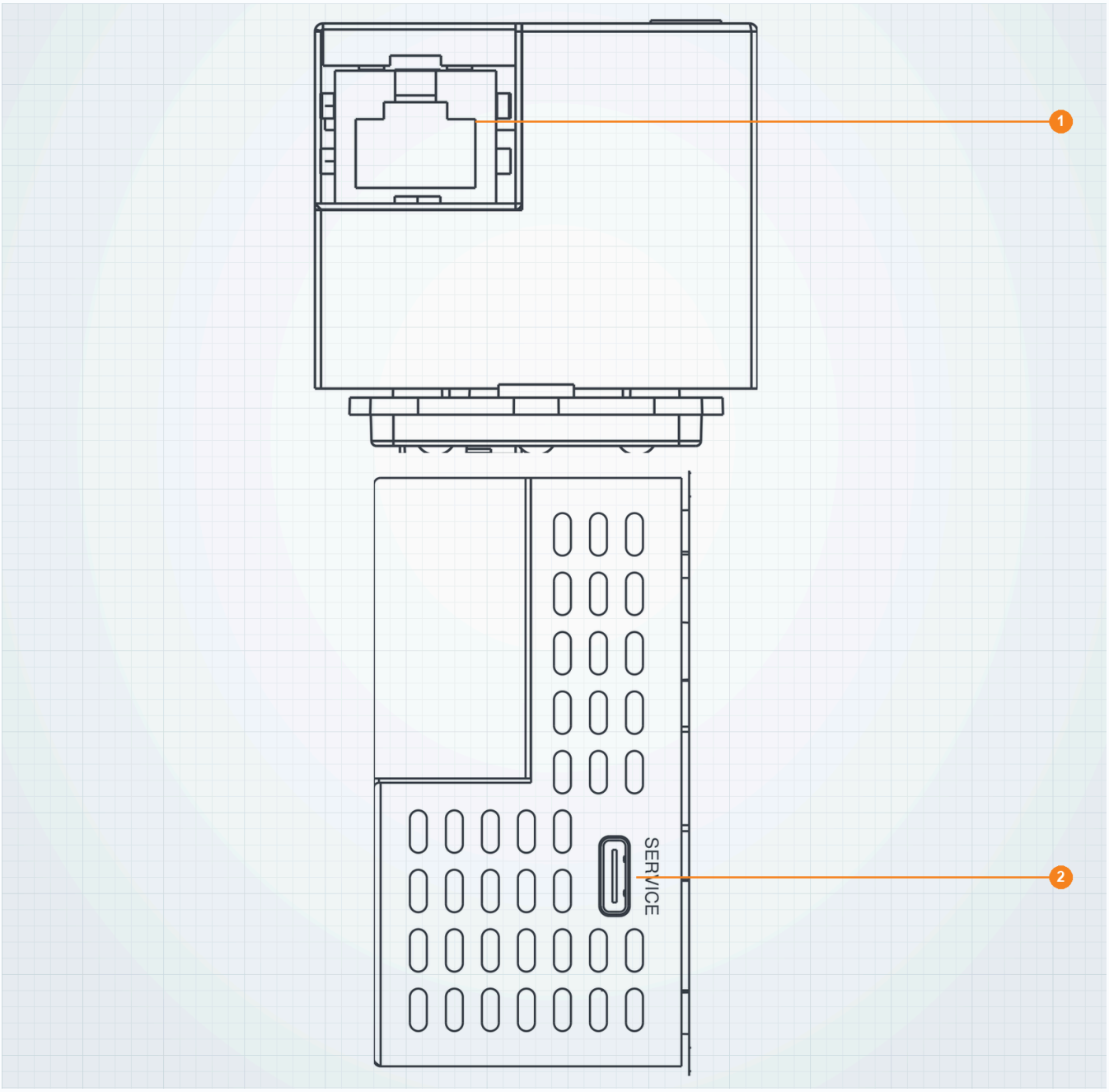
9. Operation Controls and Functions (Panel descriptions)



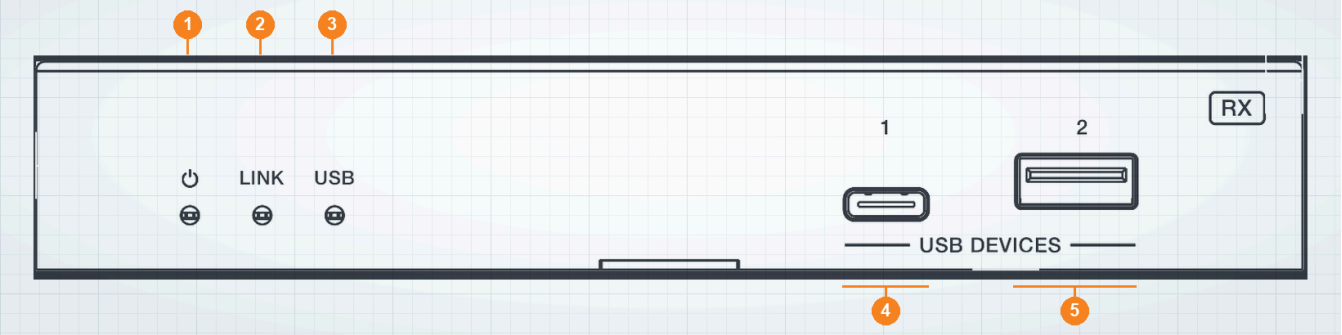
Transmitter Front



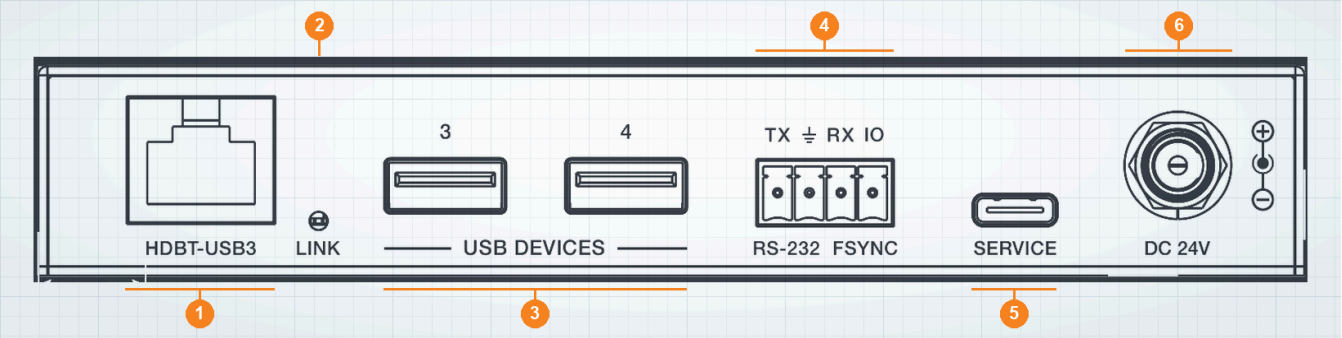
Transmitter Rear



Transmitter Top & Side



Receiver Front



Receiver Rear

4.1 TRANSMITTER PANEL

No.	Name	Description
1	**PWR LED**	The green LED lights when the unit is powered on.
2	**LINK LED**	The green LED lights when the transmitter and receiver have connected.
3	**HOST 1**	USB-B host port. Connect a PC or other USB host here.
4	**DEVICE 1/2**	USB-A device ports for USB devices such as flash drives or hard drives. Each supplies up to 5V/1A.
5	**SELECT button**	Press to switch between HOST 1 and HOST 2 in turn.
6	**USB LED**	USB signal indicator. On: a USB 3.0 signal is detected. Blinking: a USB 2.0 signal is detected. Off: no USB signal is detected.
7	**HOST LED 1/2**	The LED for whichever host (HOST 1 or HOST 2) is selected as the input lights.
8	**HOST 2**	USB-C host port. Connect a PC or other USB host here.
9	**HDBT-USB3**	Connect this to the HDBT-USB3 port on the receiver with CAT6a cable.
10	**DC 24V**	DC 24V/3.75A power input.

continued

No.	Name	Description
11	FSYNC	The IO pin of the 4-pin RS-232 / FSYNC block. It passes a signal level from the transmitter to the receiver so you can synchronise external devices. The default level range is 0–5V.
12	RS-232 / FSYNC	One 4-pin 3.5mm Phoenix block shared by RS-232 (TX, ground, RX) and FSYNC (IO). Connect a PC or control system to TX, ground and RX for RS-232 command pass-through.
13	SERVICE	USB-C port for firmware updates.

4.2 RECEIVER PANEL

FRONT PANEL

No.	Name	Description
1	Power LED	The LED lights when the receiver is powered on.
2	LINK LED	Connection indicator. On: the transmitter and receiver are connected and linked. Off: they are not connected.
3	USB LED	USB signal indicator. On: a USB 3.0 signal is detected. Blinking: a USB 2.0 signal is detected. Off: no USB signal is detected.
4	USB DEVICES 1	USB-C port for USB devices such as flash drives or hard drives. Supplies up to 5V/1A.
5	USB DEVICES 2	USB-A port for USB devices such as flash drives or hard drives. Supplies up to 5V/1A.

REAR PANEL

No.	Name	Description
6	HDBT-USB3	Connect this to the HDBT-USB3 port on the transmitter with CAT6a cable.
7	LINK LED	Connection indicator. On: the transmitter and receiver are connected and linked. Off: they are not connected.
8	USB DEVICE (3~4)	USB-A ports for USB devices such as flash drives or hard drives. Each supplies up to 5V/1.5A.
9	RS-232 / FSYNC	One 4-pin 3.5mm Phoenix block shared by RS-232 (TX, ground, RX) and FSYNC (IO). Connect a PC or control system to TX, ground and RX for RS-232 command pass-through. The IO pin passes the FSYNC signal level from the transmitter so you can synchronise external devices; the default level range is 0–5V.
10	SERVICE	USB-C port for firmware updates.
11	DC 24V	DC 24V/3.75A power input.

continued

No.	Name	Description
? (10 – 12)	FSYNC	FSYNC port. It passes a signal level from the transmitter to the receiver so you can synchronise external devices. The default level range is 0–5V.

10. API Commands

You can control the product with API commands. Connect the SERVICE port or the RS-232 port to a PC, open a serial command tool on the PC, and send the commands below.

Service port (USB-C virtual RS-232). This port is mainly for service and diagnostics. It runs at a fixed 115200 baud, 8 data bits, 1 stop bit, no parity. End every command with `<CR><LF>`.

Phoenix RS-232 port. Use this port to connect a control system. The baud rate can be set from 4800 to 115200, with 8 data bits, 1 stop bit, no parity. End every command with `<CR><LF>`.

COMMAND	FUNCTION	EXAMPLE	FEEDBACK	DEFAULT
`?`	Get the list of all commands	`?`	List of all commands	—
`help`	Get the list of all commands	`help`	List of all commands	—
`get fw version`	Get firmware version	`get fw version`	`1.0.0`	—
`set reboot`	Reboot the device	`set reboot`	`Reboot… System Initializing... Initialization Finished! FW: 1.0.0`	—
`set reset`	Reset to KanexPro defaults	`set reset`	`Sure to RESET to default settings? Type "Yes" after next prompt to confirm…`	—
`get status`	Get system status	`get status`	See the note below this table	—
`set key on/off`	Turn the front-panel button on or off	`set key on` / `set key off`	`Set key on` / `Set key off`	on
`get key`	Get the front-panel button on/off status	`get key`	`Key on`	—
`set baud x`	Set the RS-232 baud rate to x: 1 = 4800, 2 = 9600, 3 = 19200, 4 = 38400, 5 = 57600, 6 = 115200	`set baud 6`	`Set baud rate 115200`	115200
`get baud`	Get the RS-232 baud rate	`get baud`	`Baud rate 115200`	—
`set input x`	Set the USB host input (x = 1–2): 1 = USB host 1 (USB-B), 2 = USB host 2 (USB-C)	`set input 1`	`Set input USB host 1`	1
`get input`	Get the USB host input	`get input`	`Input USB host 1`	—

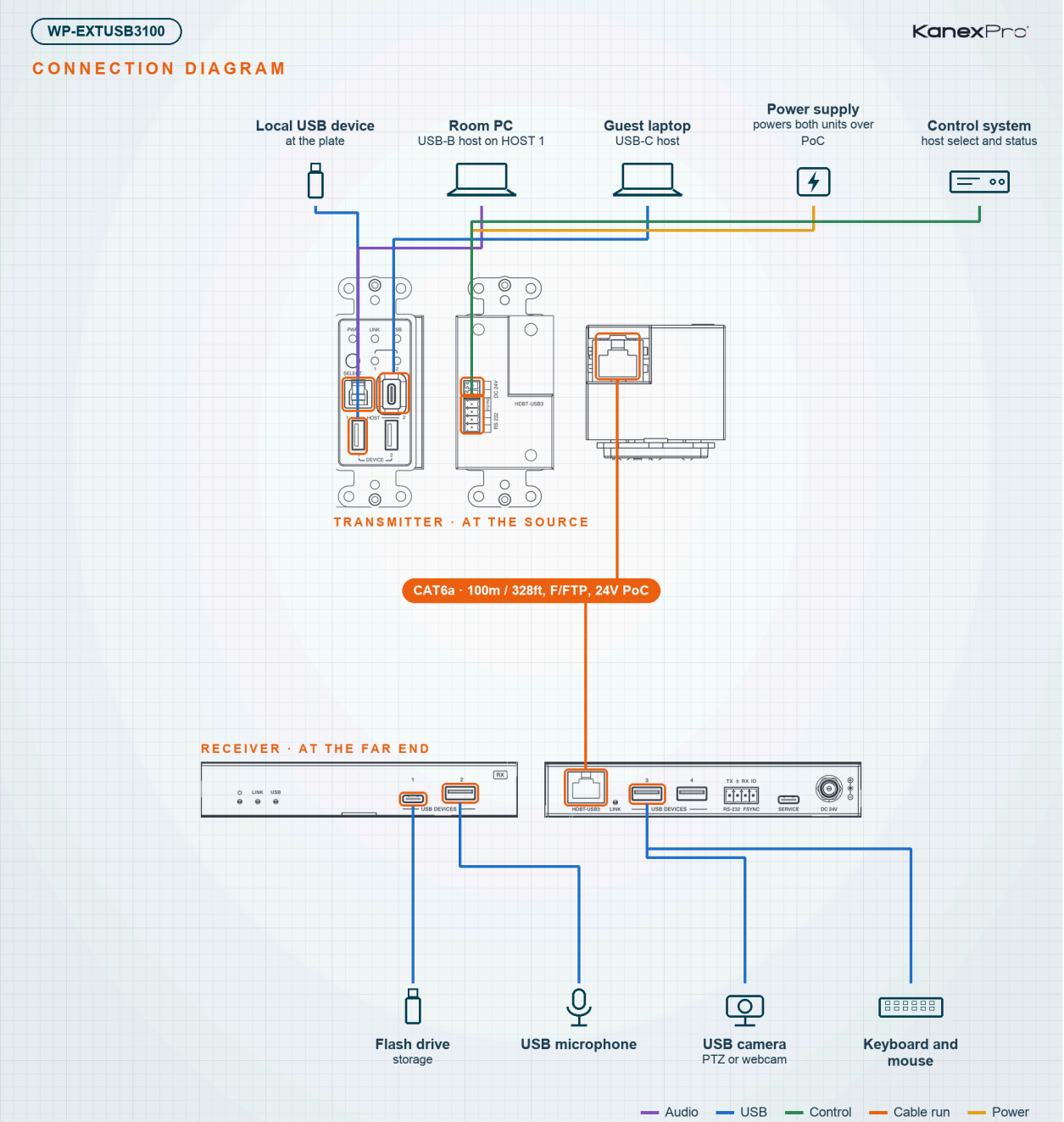
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COMMAND	FUNCTION	EXAMPLE	FEEDBACK	DEFAULT
get usb5v x	Get USB host input 5V status (x = 0–2): 0 = all host inputs, 1 = USB host 1 (USB-B), 2 = USB host 2 (USB-C)	`get usb5v 0`	`USB host 1: 5V USB host 2: none`	—
set autoswitch x	Turn auto-switching (by USB 5V detection) on or off, x = on / off	`set autoswitch on`	`Set autoswitch on`	on
get autoswitch	Get auto-switching status	`get autoswitch`	`Autoswitch on`	—
set tx usbd x power y	Set TX USB device port power. x = 0–2 (0 = all TX device ports, 1 = TX USB device 1 (USB-A), 2 = TX USB device 2 (USB-A)); y = 0–2 (0 = force off, 1 = follow USB host power, 2 = force on)	`set tx usbd 0 power 1`	`Set TX all USB device ports power follow USB host power`	1
get tx usbd x power	Get TX USB device port power status (x as above)	`get tx usbd 0 power`	`TX all USB device ports power follow USB host power`	—
set rx usbd x power y	Set RX USB device port power. x = 0–4 (0 = all RX device ports, 1–4 = RX USB device 1–4); y = 0–2 (0 = force off, 1 = follow USB host power, 2 = force on)	`set rx usbd 0 power 1`	`Set RX all USB device ports power follow USB host power`	1
get rx usbd x power	Get RX USB device port power status (x as above)	`get rx usbd 0 power`	`RX all USB device ports power follow USB host power`	—
set hdbt update	Switch the service port to the HDBT UART for a firmware update	`set hdbt update`	`HDBT update`	—

`get status` reply. The middle lines end with `<LF><CR>` and the last line ends with `<CR><LF>`:

```
`` ================================================================== Status Info 2-Port USB 3.2 Gen 1 Extender TX_FW 1.0.0 RX_FW 1.0.0 Source Key Baud Autoswitch 01 On 115200 On Input USB_Power 01 5V 02 None Output USB_Power TX_01 Follow_Input TX_02 Follow_Input RX_01 Follow_Input RX_02 Follow_Input RX_03 Force_Off RX_04 Force_On
================================================================== ``
```

11. Connection Diagram



How it works: The wall plate takes a USB-B host on HOST 1 and a USB-C host on HOST 2. It switches automatically when it detects a host's USB 5V, or manually from the SELECT button. RS-232 pass-through and an API let a control system select the host, toggle auto-switching, set power on each device port and read back system status. Hardware acceleration for isochronous and bulk transfers handles USB cameras, USB microphones and storage, and the link stays backwards compatible with USB 2.0 and USB 1.1. FSYNC GPIO pass-through carries an industrial camera trigger over the same cable. The kit is plug-and-play with no host drivers, and firmware loads through a USB-C service port. The strongest differentiator is the second host input at the plate: a room PC and a guest laptop share one set of peripherals with no separate USB switch in the rack.

12. Troubleshooting

Q: The LINK LED is off. What should I check?
A: First make sure the PWR LED on the transmitter and the Power LED on the receiver are both lit. Then check that the CAT6a F/FTP cable is wired straight-through with T568B at both ends, is no longer than 100m (328ft), and is plugged into the HDBT-USB3 port on each unit.

Q: The USB LED is blinking instead of steady. What does that mean?
A: Steady means a USB 3.0 signal was detected, blinking means USB 2.0, and off means no USB signal. If you expected USB 3 speed, check that the host computer and the device are both connected through USB 3 ports and cables.

Q: The wrong computer is selected, or pressing SELECT does nothing.
A: The lit HOST LED shows which host is active. If SELECT does nothing, the button may be locked: send "get key" and, if it is off, send "set key on". Also check "get autoswitch", because auto-switching selects whichever host it detects USB 5V on.

Q: A USB device gets no power from its port.
A: Send "get rx usbd 0 power" (or "get tx usbd 0 power" for the wall-plate ports) to check whether the port is set to force off. By default, ports follow host power, so also send "get usb5v 0" to confirm the selected host is supplying 5V. If needed, use "set rx usbd x power 2" to force the port on.

Q: The unit does not respond to RS-232 commands.
A: Check that the control system uses 8 data bits, 1 stop bit, no parity, and ends every command with <CR><LF>. If the baud rate is in doubt, connect to the SERVICE USB-C port, which is fixed at 115200 baud, and send "get baud" to read the Phoenix port's setting.

Need help? — For additional support, visit kanexpro.com/support, or scan the QR code below for the product page.