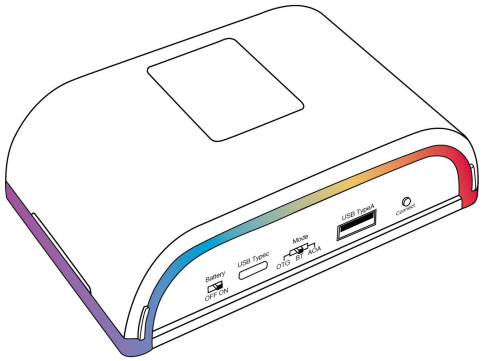
BTC24K Series – Bluetooth Adapter User Manual (V1.8)



1. Product introduction：

The BTC24K Bluetooth Adapter converts mechanical physical switch signals into HID input (like a keyboard or mouse).It can be configured using the ElfKey software to change its output functions.Commonly used in industrial control, office, gaming assistance, and DIY projects.

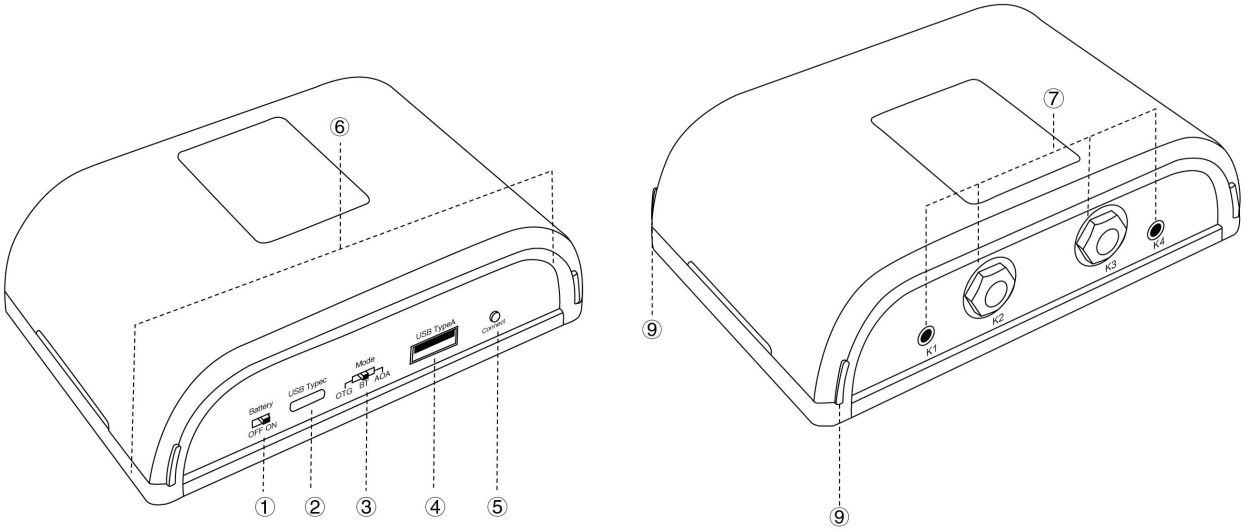
Like standard HID devices, the BTC24K works with phones, tablets, computers, and supports: Windows, macOS, Linux, Android, iOS, HarmonyOS.

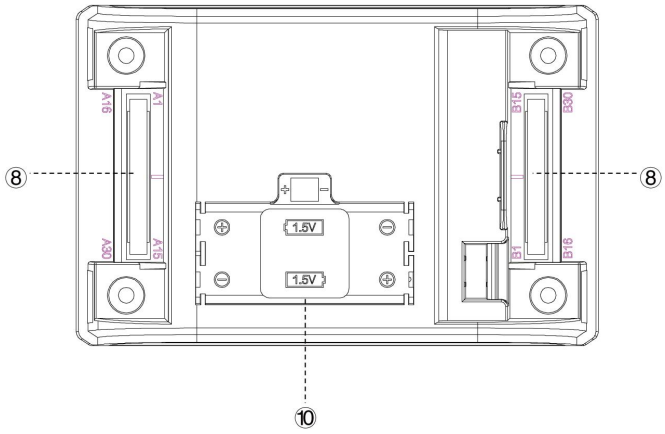
Once configured with ElfKey, the device works independently (no need to keep the software running).You can reprogram it as many times as you like.

Multiple BTC24K units can connect to the same computer at the same time without interfering with your regular keyboard or mouse.When using multiple devices with ElfKey, select each one individually to configure.

ElfKey download:：www.software.pcsensor.com

2. Getting to know your BTC234K:





①**Battery switch** – OFF / ON

②**USB Type-C port** – OTG mode: configure, charge, or connect devices. BT/AOA mode: charge only.

③**Mode switch** – OTG / BT (Bluetooth) / AOA

④**USB Type-A port** – AOA mode: connect to HarmonyOS or Android phone/tablet

⑤**Connect button** – Bluetooth mode: press and hold to enter pairing

⑥**Charge / status LED** – Charging: breathing effect. Fully charged: solid on.

⑥**Bluetooth mode LED (red)** – Fast flash (1s): reconnecting. Slow flash (2s): pairing. Connected: slow flash (3s) – customizable in ElfKey.

⑦**K1–K4 jacks** – K1/K4: 3.5mm audio jack. K2/K3: 6.35mm audio jack. Connect physical switches using 2-core 3.5mm or 6.35mm plugs.

⑧**Expansion Ports A/B：**

Pin mapping:

Pins A2–A14 → K5–K17 (A14)
Pins A17–A29 → K18–K30 (A29)
Pins B2–B14 → K31–K43 (B14)
Pins B17–B29 → K44–K56 (B29)

Power & ground:

Pins A1 and B1 → 3.3V power
Pins A16 and B16 → 5V power (only available when charging)
Pins A15, A30, B15, B30 → GND (ground)

Expansion pin table:

Pin	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15
Function	3.3V	K5 (A2)	K6 (A3)	K7 (A4)	K8 (A5)	K9 (A6)	K10 (A7)	K11 (A8)	K12 (A9)	K13 (A10)	K14 (A11)	K15 (A12)	K16 (A13)	K17 (A14)	GND
Pin	A16	A17	A18	A19	A20	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30
Function	5V	K18 (A17)	K19 (A18)	K20 (A19)	K21 (A20)	K22 (A21)	K23 (A22)	K24 (A23)	K25 (A24)	K26 (A25)	K27 (A26)	K28 (A27)	K29 (A28)	K30 (A29)	GND
Pin	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Function	3.3V	K31 (B2)	K32 (B3)	K33 (B4)	K34 (B5)	K35 (B6)	K36 (B7)	K37 (B8)	K38 (B9)	K39 (B10)	K40 (B11)	K41 (B12)	K42 (B13)	K43 (B14)	GND
Pin	B16	B17	B18	B19	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
Function	5V	K44 (B17)	K45 (B18)	K46 (B19)	K47 (B20)	K48 (B21)	K49 (B22)	K50 (B23)	K51 (B24)	K52 (B25)	K53 (B26)	K54 (B27)	K55 (B28)	K56 (B29)	GND

Wiring for expansion ports (K5–K56)

Connect the corresponding key pin to one end of your physical switch, and a GND pin to the other end.

Example: To use K5 on the expansion port, connect A2 and A15 to your physical switch.

Simple wiring diagram (expansion ports K5–K56)

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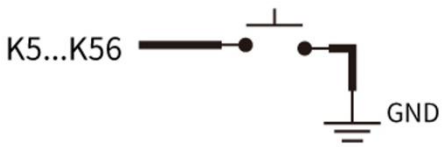

⑨Battery Cover

To open the battery cover, grip the front and rear tabs on one side and pull it outward. The battery compartment⑩ accepts either two 3.7V 10440 rechargeable Li-ion batteries or two 1.5V AAA disposable batteries. Insert the batteries according to the polarity markings (+/-) inside the compartment.

3. How to use：

3.1 Connect physical switches

Connect at least one physical switch to BTC24K via K1–K4 or expansion ports K5–K56.

Example using K4:

Use a 2-core 3.5mm audio plug, connect to a physical switch (or short the two wires to simulate a switch closure).

For a ready-to-use option, use our FS2-3.5 foot switch (3.5mm plug) with K1.

3.2 Configure with ElfKey

- Open software.pcsensor.com and download/install ElfKey (Windows/macOS)
- Connect BTC24K to your computer via USB Type-C
- Set the Mode switch to OTG – ElfKey will auto-detect the device

Follow the setup wizard in ElfKey to assign functions to each key

3.3 OTG Mode

OTG mode is one of the USB modes – used for configuration, charging, or connecting to other devices.

- Switch Mode to OTG
- Connect via USB-C to a computer, HarmonyOS, or Android phone/tablet
- For mobile devices (phone/tablet):

  Use an OTG cable to power the BTC24K from your phone/tablet.

  In OTG mode, the device runs on external power – batteries are optional.

3.4 Bluetooth Mode

- Wireless connection to computer, phone, or tablet.
- Install batteries and turn Battery switch ON
- Set Mode switch to BT：

Press and hold Connect for 3–5 seconds → LED slowly flashes red (pairing)
On your computer/phone, enable Bluetooth and select "BTC24K…" to pair
When connected → LED slowly flashes red every 3 seconds (customizable in ElfKey)
Battery recommendation: Use two identical batteries. Do not mix types.

3.5 AOA Mode

AOA mode lets you use the device while charging your phone/tablet at the same time.
Power BTC24K via USB-C using a 5V charger.
Set Mode switch to AOA.
Connect your phone/tablet to the USB-A port using a data cable.

4. Supported Functions (in ElfKey)

Keyboard & mouse	Any single key, combination, cursor movement, scroll wheel

Text string	Type up to 38 characters with one press
Media control	Volume up/down, play/pause, "My Computer", etc.
Macro	Keyboard + mouse actions with optional delays. Use the recording feature to capture actions

5.Specifications

Item	Details
Product name	BTC24K Bluetooth Adapter
Models	BTC24K04 (4 keys) / BTC24K56 (56 keys)
Bluetooth version	5.4
Bluetooth range	≤10m
Battery	2 × 10440 rechargeable Li-ion (3.7V) **or** 2 × AAA (1.5V)
Battery life	80+ hours (Li-ion) / 100+ hours (AAA)
Dimensions	120 × 80 × 35 mm
Weight	~165 g

Scan the QR code for more information