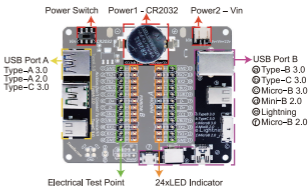


USB Cable Tester Manual



1. USB Ports



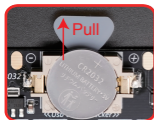
2. USB Cable Tester Pinouts

Pinrow B	Name	Description
B1	GND	Ground
B2	TX2+	SuperSpeed differential pair 3 TX
B3	TX2-	SuperSpeed differential pair 3 TX
B4	VBUS	Bus power
B5	CC2	Configuration channel
B6	D+	USB Data Positive
B7	D-	USB Data Minus
B8	SBU2	Side Band Use (SBU)
B9	VBUS	Bus power
B10	RX1-	Super Speed differential pair 2, RX
B11	RX1+	Super Speed differential pair 2, RX
B12	GND	Ground

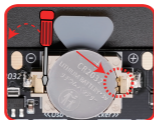
Pinrow A	Name	Description
A12	GND	Ground
A11	RX2+	Super Speed differential pair 4, RX
A10	RX2-	Super Speed differential pair 4, RX
A9	VBUS	Bus power
A8	SBU1	Side Band Use (SBU)
A7	D-	USB Data Minus
A6	D+	USB Data Positive
A5	CC1	Configuration channel
A4	VBUS	Bus power
A3	TX1-	SuperSpeed differential pair 1 TX
A2	TX1+	SuperSpeed differential pair 1 TX
A1	GND	Ground

3. Battery Usage Instruction

1. Pull out the plastic tab by the battery(3-1)
2. If you want to remove the battery, please follow the picture and use a tool to take out the battery.(3-2)
3. Insert the battery into the battery holder at a 45-degree angle, and switch the toggle to 'CR2032.' Be careful not to insert the battery vertically, as this will push the positive terminal of the battery holder (the two yellow metal points on the right) below the battery, causing the test board to not function properly.(3-2)



3-1

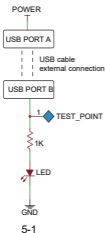


3-2

4. Instructions for Use:

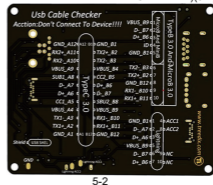
1. Measurement Types: Type-B 3.0, Type-B 2.0, Type-C 3.0, Micro-B 3.0, Micro-B 2.0, Mini-B 2.0, Lightning.
Because the pins of TypeC 3.0 are the same as those of TypeC 3.1 and TypeC 3.2, they are compatible with TypeC 3.1 and TypeC 3.2.
2. Insert a CR2032 button battery or connect Vin ($3V < V_{in} < 12V$). Ensure the power switch is set correctly based on the connected power source.
3. Connect the USB cable to be tested. The LED on the corresponding pin will illuminate. (Please note that short-circuited pins, diodes, active electronics, or other cable faults may lead to inaccurate results.)

5. PCB Board Design Principles

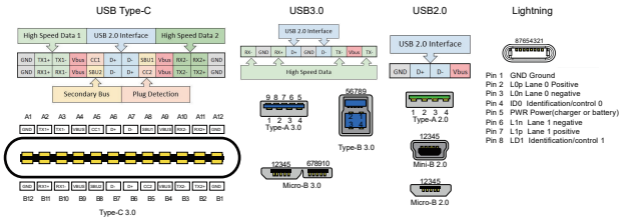


1.The connection schematic for each LED is as shown on the left. Each pin of the A-end connector is connected to the power source, while each pin of the B-end connector is individually wired to the LEDs.(5-1)

2. See the silkscreen on the back of the PCB for specific wiring. (Because non-3.0 cables do not utilize all LED indicators, the detection pins for TypeB 3.0, TypeB 2.0, MicroB 3.0, MicroB 2.0, MiniB 2.0, and Lightning are all connected to the LED indicators on PINROW B side.)(5-2)



6. USB Pinouts



7. The Reference of Different Cables to Different Lights



When GND and VBUS lights are on, it indicates that the USB data cable only has charging functionality.



When GND, VBUS, D+, and D- lights are on, it indicates that the USB data cable has both charging and data transmission capabilities.



When GND, TX2+, TX2-, RX2+, RX2-, VBUS, CC2, D+, and D- lights are on, it indicates that the USB data cable has both charging and high-speed data transmission capabilities. It is a USB 3.0, 3.1 or 3.2 cable.



When all the lights are on (except for one D+ and one D-), it indicates that the USB data cable supports comprehensive functionality, including charging, data transmission, audio, and video transmission.



Lightning data cable detection schematic.
USB Type C 3.0 to Lightning

Because there are various types of USB cables, we are only showing a partial representation in the image, but the method for identifying USB data cables remains the same. Please refer to the image description for guidance. Thank you for your understanding!

Email: treedix@outlook.com

Notice: Do not connect to any other device!