USB-C Limit Switch

1.1 Description

A roller-lever switch for detecting when a moving part reaches a stop.



Assembly view

1.2 Device specifications

Parameter	Specification
Switch	Normally closed roller-lever contact
Host interface	Web Serial contact input (CTS), 9600 baud
Lever clearance	Approximately 14.8 mm above PCB in the modeled position. Allow room for travel.
PCB dimensions	24 × 30 mm
Mounting holes	4 × Ø2.2 mm for M2 screws; 19 × 25 mm center spacing

1.3 Using the board

Choose **Add device** → **Limit switch**. Press the lever until it clicks, then release it. Place the stop so it trips the lever before the end of travel. The normally closed contact changes the sense of CTS compared with the pushbutton.

Device guide

2 Protocol reference

USB contact input. Read the clear-to-send signal (CTS) to get the switch state.

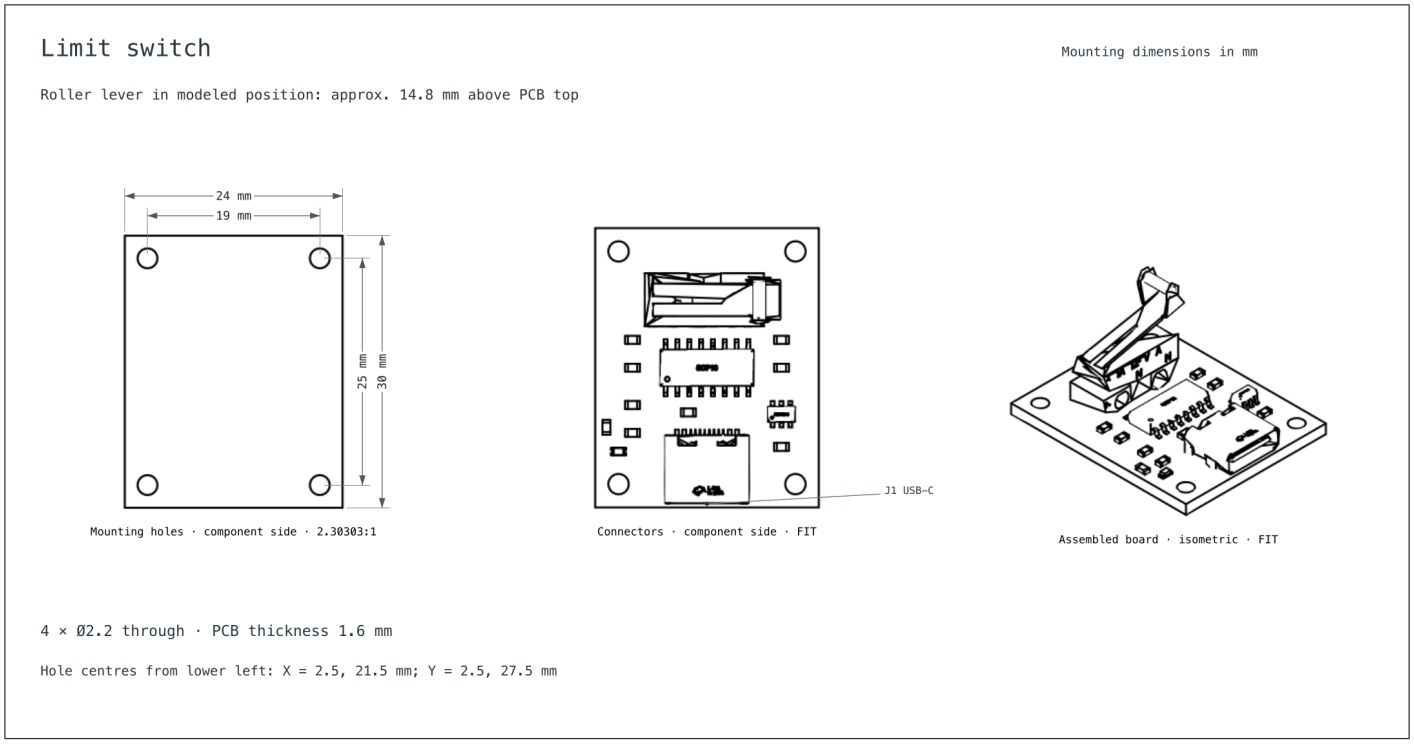
Operation	Request or signal	Result
Open with Web Serial	`port.open({baudRate: 9600, flowControl: "none"})`	Opens the port for polling.
Set DTR low	`port.setSignals({dataTerminalReady: false})`	Configures the serial control line.
Read with Web Serial	`(await port.getSignals()).clearToSend`	`true` = **Released**, `false` = **Pressed**.
Read with WebUSB	Vendor IN request to the device: `0x95`, value `0x0706`, index `0`, length `2`.	Bit 0 of byte 0: `0` = **Released**, `1` = **Pressed**.

Use either the Web Serial or WebUSB path. The console polls every 10 ms and displays a change after 20 ms of stable readings.

Protocol implementation

3 Mechanical information

3.1 Assembly and mounting



Component-side plan and isometric assembly. Dimensions in millimeters.

3.2 Installation dimensions

The PCB measures **24 × 30 mm**, with **4 × Ø2.2 mm** clearance holes for M2 screws. The centre-to-centre spacing is **19 × 25 mm**. Orient the component side with the **J1 USB-C port at the bottom**. Measure right and up from the **lower-left corner of the PCB** in the component-side view. The hole centres are at X = 2.5, 21.5 mm and Y = 2.5, 27.5 mm.

3.3 Design resources

Device guide · **Full-size mounting drawing** · **Drawing TSX** · **PCB source**