

Type-C PD Trigger Decoy Module

Model: PDSink (303PDSink01)

IC: CH224K PD Controller

Doc Rev: 1.0 | Aug 2026

Adjustable Voltage Fast Charge Power Board (5V / 9V / 12V / 15V / 20V)

1. GENERAL DESCRIPTION

The **Type-C PD Trigger Decoy Module** (Model PDSink / CH224K) is a compact hardware power negotiation board designed to trigger specific fixed voltage profiles (5V, 9V, 12V, 15V, or 20V) from USB Power Delivery (PD 3.0/2.0), Quick Charge (QC 3.0/2.0), and BC1.2 compatible fast chargers or power banks.

Featuring an onboard 3-position DIP switch and a heavy-duty screw terminal block, this module easily converts standard USB-C PD power adapters into versatile high-power benchtop power supplies delivering up to **100W (20V @ 5A)**.

2. KEY FEATURES

- **Protocol Compatibility:** Supports USB PD 3.0/2.0, QC 3.0/2.0, BC 1.2 fast charging protocols.
- **Hardware DIP Switch Control:** Onboard 3-bit dial switch allows direct voltage selection without microcontroller programming.
- **High Power Output:** Delivers up to 100W power rating (up to 5A maximum current).
- **Dual Output Terminals:** Equipped with a 2-pin screw terminal block (VBUS & GND) for easy wire connection and direct PCB solder pads.
- **Reversible Plug Detection:** Built-in automatic orientation detection for USB Type-C forward and reverse plug orientation.
- **Ultra-Compact Footprint:** Measuring just 25.7 mm × 11 mm × 27 mm.

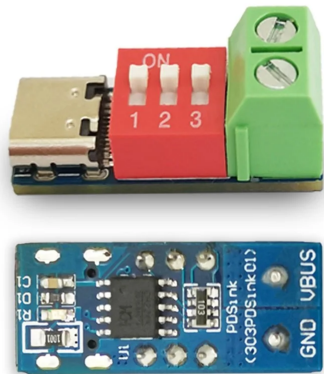


Figure 1: Module Top View & Bottom PCB Layout (CH224K Chip)

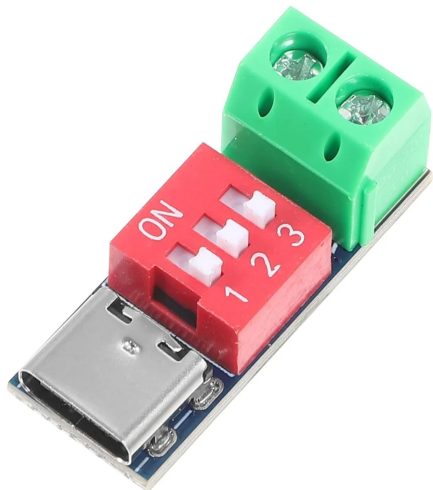


Figure 2: Perspective View showing Type-C, DIP Switch & Terminal Block

3. TECHNICAL SPECIFICATIONS

Parameter	Specification / Range	Note / Condition
Input Voltage Range	4.0V to 22.0V DC	From USB Type-C PD/QC Power Supply
Configurable Output Voltages	5V, 9V, 12V, 15V, 20V DC	Selected via onboard 3-bit DIP switch
Maximum Power Output	Up to 100W	Requires 100W (20V/5A) rated PD adapter & E-Marker cable
Maximum Output Current	5.0A Max	Dependent on power supply capability
Supported Fast-Charge Protocols	PD 3.0/2.0, QC 3.0/2.0, BC 1.2	Automatic protocol handshaking
Input Interface	USB Type-C Female Port	Supports reverse plug insertion
Output Interface	2-Pin Screw Terminal Block + Solder Pads	Labeled VBUS (+) and GND (-)

Dimensions (L × W × H)	25.7 mm × 11.0 mm × 27.0 mm	1.01 in × 0.43 in × 1.06 in
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4. DIP SWITCH VOLTAGE CONFIGURATION TABLE

Set the 3-position red DIP switch according to the truth table below to request the desired voltage output from your PD supply:

Target Output Voltage	Switch 1	Switch 2	Switch 3	State Mode
5V (Default)	OFF / 0	OFF / 0	OFF / 0	Standard USB VBUS
9V	ON / 1	OFF / 0	OFF / 0	Fast Charge 9V Profile
12V	ON / 1	ON / 1	OFF / 0	Fast Charge 12V Profile
15V	OFF / 0	ON / 1	ON / 1	Fast Charge 15V Profile
20V	OFF / 0	OFF / 0	ON / 1	Maximum 20V / 100W Profile

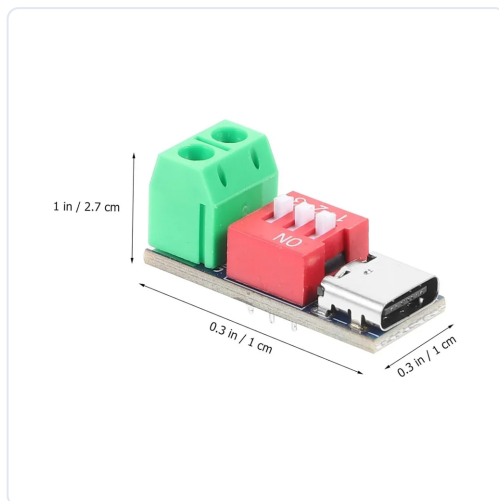


Figure 3: Module Mechanical Dimensions

5. PINOUT & APPLICATIONS

Terminal Block Pinouts:

- **VBUS (+):** DC Output Positive Voltage Terminal.
- **GND (-):** Common Ground Negative Terminal.

Typical Applications:

- Converting Type-C chargers into adjustable DC benchtop power sources.
- Powering DIY electronics, microcontrollers (ESP32, Arduino), router/modem units.
- Powering 12V/19V/20V soldering irons, LED strips, and laptop charging boards.
- Mobile phone charging system testing and power supply prototyping.

Important Usage Safety Note: The module functions as a protocol decoy trigger. The actual output voltage depends on whether the connected USB Type-C charger/power bank supports the requested PD voltage profile. If the charger does not support the selected voltage, it will default to the highest available lower profile or 5V. Always check target load voltage tolerance before connecting equipment.