

Technical Datasheet: USB-C PD Trigger Module (100W)

Product Overview

The Delinx USB-C PD Trigger Module is a compact power negotiation board designed for hardware developers and makers. By connecting to any USB Power Delivery (PD 2.0/3.0) charger, it enables fixed DC voltage output selection without additional circuitry, making it ideal for powering non-USB devices, DIY electronics projects, and legacy hardware conversion.

Technical Specifications

Specification	Value
Input Protocol	USB Power Delivery (PD) 2.0 / 3.0
Output Voltages	5V, 9V, 12V, 15V, 20V (Selectable via solder pads)
Maximum Output Power	100W (20V @ 5A)
Maximum Current	5A
Static Power Consumption	Less than 4mA
Dimensions	19mm (L) x 10mm (W) x 4.3mm (H)
Connector Type	USB Type-C Receptacle (Input)
Compatible Devices	Laptops, tablets, cellular phones, DIY projects

Note: Operating temperature range is not specified by the manufacturer.

Pinout and Wiring Interface

Input:

USB Type-C receptacle — connect to a PD 2.0/3.0-compliant charger or power bank.

Output:

- V+ pad: DC positive output

- GND pad: Common ground / negative return

Voltage Selection Pads:

Three small solderable pads on the PCB body, used to configure the trigger IC to request a specific voltage from the PD charger. Bridge the appropriate pad(s) with solder to lock the output voltage.

Voltage Selection Guide (Solder Bridge Logic)

Output voltage is set by bridging specific configuration pads on the PCB:

Target Voltage	Pad Configuration
20V (Default)	All three pads left OPEN (no solder bridge)
15V	Bridge TOP pad only
12V	Bridge MIDDLE pad only
9V	Bridge BOTTOM pad only
5V	Bridge MIDDLE and BOTTOM pads simultaneously

Trigger Fallback Logic: The module negotiates and outputs the highest voltage the connected charger supports that is less than or equal to the configured target. Example: if set to 15V but the charger only supports 5V/9V/20V, the actual output will be 9V.

Important Operational Notes

1. PD Charger Required: This module requires a PD 2.0/3.0-compliant power supply. Standard 5V-only USB chargers will not allow voltage negotiation beyond 5V.
2. Verify Before Connecting Load: Always measure the output voltage and polarity with a multimeter before connecting sensitive devices. Incorrect voltage can permanently damage equipment.
3. High-Power Wiring: For applications near 100W (20V/5A), use appropriately rated cables and ensure output pad solder joints are robust to minimize resistance and heat generation.
4. ESD Precautions: Handle the bare PCB with ESD precautions to avoid damage to the onboard trigger IC.