



USB-C to USB-B PD Adapter

Model Number: *CG-UCUSBPDB*

Installation Guide

Coolgear, Inc.

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Revision History

Revision	Date	Comments
1.0	04/02/2024	First Release

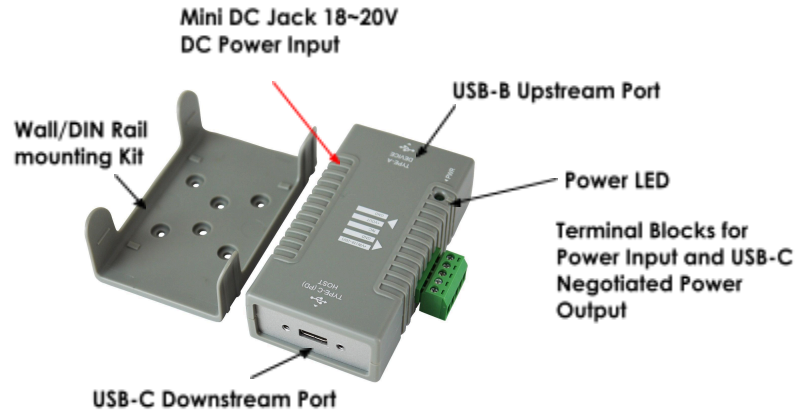
1. Introduction

Thank you for purchasing Coolgear's CG-UCUSBPDB. The Product complies with the USB3.1 Gen1 (compatible with Gen 2), USB2.0/1.1 and acts as a PD source for its downstream USB-C port. It provides an upstream facing port with standard USB-B connector which works with USB3.1 hosts and backward compatible with USB2.0/1.1 hosts. The USB-C downstream port is fully compliant with USB3.1 Gen 1 (compatible with Gen 2) and USB PD capable devices.

Features:

- ✓ Compliant with USB3.1 Gen 1 (and compatible with Gen 2)
- ✓ One Downstream Type-C Connector Supports PD Capable Devices
- ✓ One Upstream Type-B USB3.1 Gen 1 Connector for Host
- ✓ Supports USB PD (Power Delivery), works as a Source
- ✓ Detachable Mounting Kit for Wall or DIN Rail Mounting Options
- ✓ Supports Type-C and Type-B Screw Lock USB Cables
- ✓ DC Power Input: 18~20V DC, from DC Jack or Terminal Blocks
- ✓ Provides Negotiated Power Output to Terminal Blocks
- ✓ Detect USB Cable Plug Attach, Orientation and Role Detection
- ✓ Assign CC and VCONN Pins
- ✓ Supports Source PDOs (Power Data Object): 20V/5A, 14.5V/2A, 12V/3A and 5V/3A

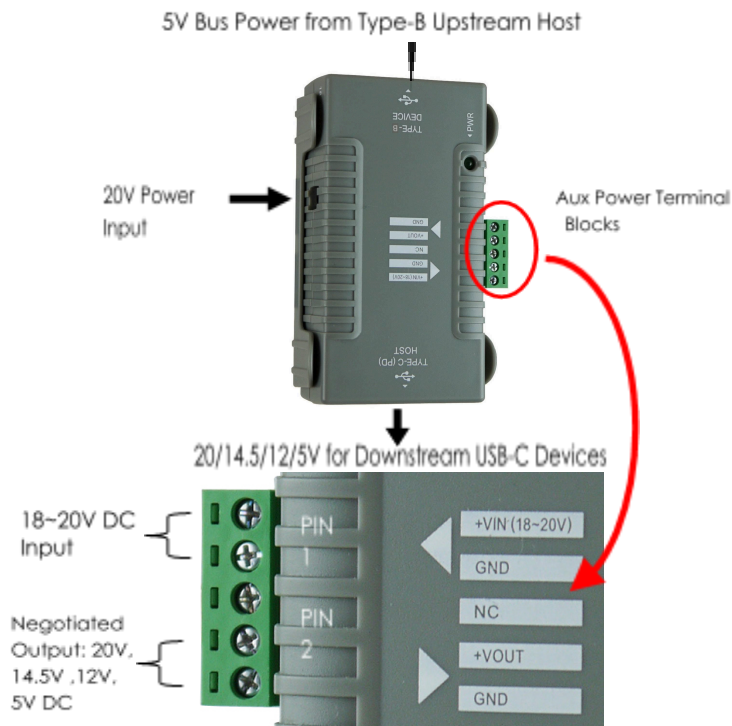
2. Connector Layout



3. Input and Output Power

The required input power for the Product is 18~20V DC. It can be connected to either the DC Jack or Terminal Blocks (but not simultaneously). If the Product comes with the 20V/3.25A (65W) standard power supply, it must be connected to the DC Jack.

The Product generates the required power for PD source power (20V, 14.5V, 12V or 5V depending on which PDO is requested and granted by the PD sink) for the USB-C downstream devices. The following diagrams show the power connections:



4. Installing the Product

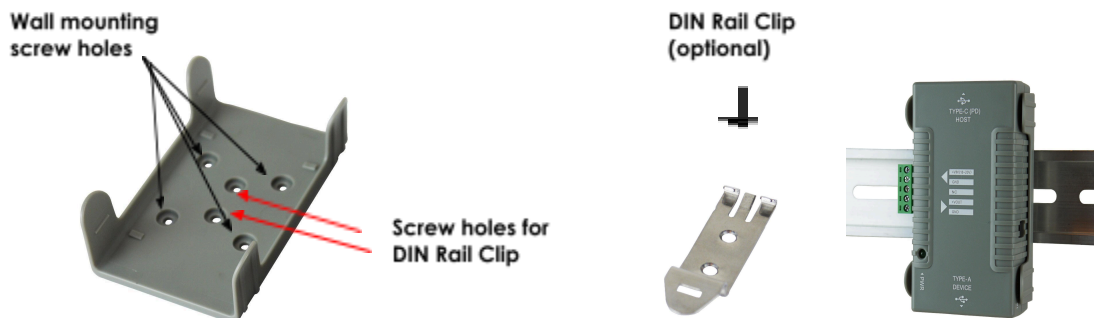


NOTE: If the supplied power supply along with the Product is 65W (20V/3.25A), then the maximum power output to the USB-C PD port is 65W instead of 100W. The Product needs a 100W supply if the PD sink really needs 100W.

1. Connect 18~20V DC Power to the DC Jack or Terminal Blocks (PIN 1 is positive (+) and PIN 2 is negative(-)).
If the Product comes with a 20V/3.25A power supply, please connect it to the Product's DC Jack.
2. Connect the Product's USB-C port to the USB device with a C-to-C USB cable. The cable orientation is less important because the Product can detect the cable attach automatically.
3. Connecting the Upstream USB-B connector to the Host by a USB cable.
4. Power Up the system, the Product will negotiate with the USB device via the CC logic pins and applies the correct power accordingly. The data lines from USB host will be correctly mapped to the USB device which is ready for the host accessing

5. Mounting the product

The included detachable mount kit can be used to mount the Product on a wall surface or a DIN Rail with an optional DIN Rail clip. Please see the following pictures.



6. Specifications

Type	Specifications
Connectors	Downstream: Type-C USB3.1 Gen 1/2.0/1.1 Upstream: Type-B USB3.1 Gen 1/2.0/1.1
Speed	USB3.1 Gen 1 at 5Gbps
USB Signals	SSRX+/-, SSTX+/-, D+/-
Input Power	18~20V DC
Supported Power PDOs	20V/5A(3A), 14.5V/2A, 12V/3A and 5V/3A.
Operating Temperature	0 to 55°C (32 to 131°F)
Operating Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

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Safety

- Read the entire Installation Guide before implementing this product for your application. This guide contains important information about electrical connections that must be followed for safe and proper operation.
- Inspect the product closely for visual defects before putting it to use.
- Keep away from areas where moisture builds, this product contains electrical components that can be damaged by moisture build up, this can adversely affect your equipment connected to it.
- Do not disassemble the product. Handling the product's internal components can expose it to ESD (Electro-Static Discharge) hazards that can affect the function of the device.
- If this product is not functioning properly, email our support team at support@coolgear.com.

USB CHARGING & CONNECTIVITY EXPERTS

Within Every Great Machine

For over 20 years our rugged, off-the-shelf USB hubs, chargers, and serial products are ready to go for your next project. Based in the US, Coolgear has successfully engineered and deployed millions of connectivity solutions into industrial, medical, automotive, commercial, and aerospace industries.

We understand the importance of reliability, build quality, & consider all our customers' applications as critical, wanting to ensure long-lasting event-free integrations.

Compliance Statement

View compliance within the product's respective Technical Data Sheet, found on the product's online listing.

Technical Support

When you reach out to Coolgear support, you'll find yourself in the hands of a solution-oriented and knowledgeable expert ready to answer whatever question you throw at them. If you ever need help with your product, visit coolgear.com/support for support tickets, downloads, and other support resources. For the latest drivers, please visit coolgear.com/download.

Product Standard Warranty

One (1) Year Warranty from Date of Purchase Invoice. Coolgear will repair or replace any Product determined to be defective and which has been returned, at your risk and expense, to Coolgear. Where Coolgear determines in its sole judgment that repair or replacement of such Product is not reasonable, Coolgear will keep the non-conforming Product and refund to you the amount you paid for such Product. Returned Products shall be subject to the balance of the Warranty Period otherwise applicable. Any reconditioned parts used by Coolgear shall be subject to all the same provisions as otherwise applicable to new parts. THE FOREGOING DESCRIBES COOLGEAR'S SOLE LIABILITY, AND YOUR SOLE REMEDY, FOR ANY BREACH OF WARRANTY. IF YOU DO NOT AGREE WITH THE TERMS OF THIS LIMITED WARRANTY, YOU MUST RETURN THE PRODUCTS UNUSED AND IN THEIR ORIGINAL CONTAINERS TO YOUR ORIGIN OF PURCHASE.

Limitation of Liability

This Limited Warranty does not cover: (i) defects or damages resulting from natural causes, casualty, accident, misuse or abuse, neglect, alterations, service or repair by other than Coolgear, including without limitation by you; (ii) improper installation or de-installation, operation or maintenance, improper connections with peripherals or other causes not arising out of defects in the materials or workmanship of Products; (iii) any Product for which the warranty sticker has been removed, modified or defaced; (iv) normal wear and tear; (v) damage to or loss of repaired or replaced Products during shipping by Coolgear except when such damage or loss is caused by poor or inadequate packaging by Coolgear; or (vi) Products purchased outside the United States. UNDER NO CIRCUMSTANCES WILL COOLGEAR BE LIABLE FOR ANY LOSS OF USE, INTERRUPTION OF BUSINESS OR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY KIND (INCLUDING LOST PROFITS) REGARDLESS OF THE FORM OF ACTION WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT PRODUCT LIABILITY OR OTHERWISE, EVEN IF COOLGEAR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL THE TOTAL LIABILITY OF COOLGEAR HEREUNDER EXCEED THE GREATER OF \$50.00 OR THE AMOUNT YOU ACTUALLY PAID FOR THE PRODUCT GIVING RISE TO SUCH LIABILITY, REGARDLESS OF THE CAUSE OF ACTION, IN CONTRACT, TORT, STRICT LIABILITY OR OTHERWISE. NOT ALL JURISDICTIONS ALLOW SUCH LIMITATIONS OF DAMAGES SO THE FOREGOING LIMITATIONS MAY NOT APPLY TO YOU.

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