



## USB-C 4-Port Hub

w/Power Delivery & 15KV ESD Surge Protection USB 3.2 Gen1

Model Number: *CG-UC31PD4H*

### Installation Guide

Coolgear, Inc.

Version: 1.0

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## Revision History

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Revision	Date	Comments
1.0	05/06/2024	First Release

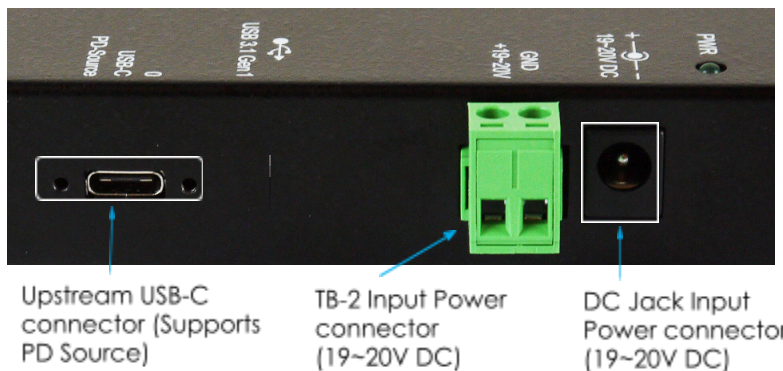
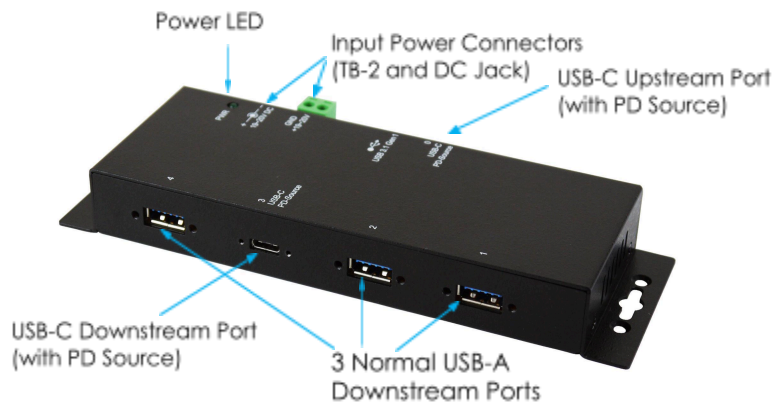
## 1. Introduction

Thank you for purchasing Coolgear's USB-C 4-Port Hub .Thank you for purchasing this Super-speed 4-port USB3.1 Gen 1 Type-C PD metal hub. It provides an ideal solution for a USB-C upstream port (with PD) to expand 4 USB3,1 ports (1 USB-C with PD and 3 normal USB-A connectors). It provides a self power input (19~20V DC from 2-pin Terminal Blocks or the DC Jack) to provide enough power on USB3.1 downstream facing ports.

### Features:

- ✓ Compliant with USB3.1 Gen 1 Specifications
- ✓ Rigid Wall and DIN RAIL Mountable Metal Case
- ✓ Provides 1 USB-C Upstream Facing Port with PD(Source)
- ✓ Provides 4 (1 USB-C PD Source and 3 USB-A) Downstream Facing Ports  
PD Source Supports 4 PDOs: 20V/5A, 14.5V/2A, 12V/3A and 5V/3A
- ✓ Supports 5Gbps (Super-speed), 480Mbps (High-speed), 12Mbps Full-speed) and 1.5Mbps (Low-speed) Speed
- ✓ Supports 15KV ESD Surge Protection
- ✓ Multi Transaction Translators (TT) per Hub
- ✓ Support USB Battery Charging: CDP and DCP modes

## 2. Connector Layout



- **Power LED:** Turns on indicates the hub was powered by either the Bus-Power or the Self-Power.
- **USB-C Upstream Facing Port Connector:** The Type-C connector upstream USB3.1 Gen 1 port. It is connected from the host or another USB3.1 hub's downstream facing port. This port supports PD source which can supply DC power (4 possible PDOs 5V, 12V, 14.5V or 20V upon the request of the Host PC, Notebook or Tablet PCs)
- **USB-C Downstream Facing Port Connector:** This small 24-pin USB-C connector is a fully reversible-plug connector for USB devices and USB cabling. The port also supports PD source which can supply 4 possible PDOs (5V, 12V, 14.5V and 20V) requested by the connected PD capable devices.
- **USB-A Downstream Facing Port Connectors:** There are 3 USB-A connectors for standard USB3.1 and Legacy USB2.0/1.1 devices.
- **Self Power Input Connector:** This 2-pin (one pin plus voltage and the other pin is GND) terminal blocks is used to connect a wide range power source to self-power the hub, the voltage can be in the range from +19V to 20V DC.



## Warning!!

Please make sure the polarity of the input power should be correctly match the terminal block pins



## 3. Hardware Installation

### 1. Use static electricity discharge precautions.

Remove possible static discharge potential from any objects that the hub may come in contact with before installation. This can be accomplished by touching a bare metal chassis rail after you have turned off the power.

### 2. Apply DC power (range from +19V to 20V) to the DC Jack or the 2-pin Terminal Block Connector.

The hub was bus-powered by the DC Jack connector or the terminal block connector. To provide correct PD PDOs (Power Data Objects), a 19~20V power supply is required.

### 3. Connecting USB Host cable:

The host cable can be a standard C-to-A or C-C USB3.1 cable (depends on the host port's connector type). Please connect the type-A (or Type-C) end connector of the cable to your USB host port, then connect the type-C end connector to this hub. Since the USB hub is plug-and-play, you don't have to turn off your host computer when installing the hub.



**Note:** Per the USB-C PD specifications, if your cable is not C-to-C type, then the PD will not be supported due to the power negotiation being done through the CC pins. An A-to-C or C-to-B conversion cable does not provide CC connection between the two ports.

### 4. Connect the USB devices to the downstream ports of this hub.

### 5. Mount your hub on the wall or DIN RAIL if required.

## 4. Checking the Hub Installation

To check the USB3.1 Gen 1 hub installation in Windows device manager, please follow the following steps:

1. Click **Start** □ **Control Panel** □ **System** □ **Device Manager** button
2. Double click **Universal Serial Bus Controller**
3. Double click **Generic USB Hub**, the message will show that this device is working properly.

Here is your USB3.1 Gen 1 Hub

- Generic USB Hub
- Intel(R) ICH10 Family USB Enhanced Host Controller - 3A3A
- Intel(R) ICH10 Family USB Enhanced Host Controller - 3A3C
- Intel(R) ICH10 Family USB Universal Host Controller - 3A34
- Intel(R) ICH10 Family USB Universal Host Controller - 3A35
- Intel(R) ICH10 Family USB Universal Host Controller - 3A36
- Intel(R) ICH10 Family USB Universal Host Controller - 3A37
- Intel(R) ICH10 Family USB Universal Host Controller - 3A38
- Intel(R) ICH10 Family USB Universal Host Controller - 3A39
- Renesas Electronics USB 3.0 Host Controller
- Renesas Electronics USB 3.0 Hub
- Renesas Electronics USB 3.0 Root Hub
- USB Root Hub
- USB Root Hub

## 5. Environmental Specifications

**Operating temp.:** 0 to 55°C (32 to 131°F)

**Operating humidity:** 5 to 95% RH

**Dimensions (LxWxH):** 5.98”(L)x2.35”(W)x0.93”(H)  
(15.20 x 5.96 x 2.35 cm)

### Contact Us:

Coolgear Inc.  
5120 110th Avenue North  
Clearwater, Florida 33760 U.S.A.

**Toll Free:** 1 888-688-2188  
**Local:** 1 727-209-1300  
**Fax:** 1 727-209-1302

<b>Safety</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Inspect the product closely for visual defects before putting it to use.</li> <li>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.</li> <li>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.</li> <li>If this product is not functioning properly, email our support team at support@coolgear.com.</li> </ul>
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## 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](http://coolgear.com/support) for support tickets, downloads, and other support resources. For the latest drivers, please visit [coolgear.com/download](http://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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