



# 7 Port USB 3.1 Gen1 Metal Hub w/15KV ESD Surge Protection and Power Adapter

## Product Manual



Coolgear, Inc.

Version 1.1

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Model Number: CG-7PU31HB

## Revision History

Revision	Date	Author	Comments
1.0	02/23/2018	Coolgear	New Manual

## About this document

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This product manual outlines installation and features of the CG-7PU31HB 7 Port USB 3.1 Gen1 Metal Hub w/15KV ESD Surge Protection and Power Adapter.

## Scope

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The scope of this manual is to give the user of the product an understanding of its use with detailed diagrams and verbiage. The manual allows the users to apply the product to their application.

## Intended Audience

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This product is intended for use in numerous industries including but not limited to applications such as; Data Centers, Machine Equipment, Kiosk, Office, and others.

## Product Support

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[support@coolgear.com](mailto:support@coolgear.com)

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## 1. Introduction

The CG-7PU31HB supports up to 5Gbps of data transfer through each port with this USB 3.1 metal hub. Set up a flat surface mount and make your connections. To power all ports, the hub is self-powered with an external 7~24V DC power adapter. It is backward compatible with legacy USB 2.0/1.1/1.0 speeds and can be horizontally surface mounted to secure a stationary mount. This USB 3.1 hub is in compliance with USB battery charging for CDP and DCP modes. The hub supports 1.5A per port with a safety of 2A Thermal Shutdown protection.

WEIGHT	.687 lbs
DIMENSIONS	6.03 in(L)(7.14 w/ears) x 2.34 in(W) x 1.05 in(h)
UPC	045079159648
WARRANTY	1 year from date of purchase
COLOR	Black
DOWNSTREAM PORTS	7 USB 3.1 Type-A Ports
UPSTREAM PORTS	1 USB 3.1 Type-B Port

### 1.1 Features

<ul style="list-style-type: none"> <li>Compliant with USB 3.1 Gen1 Specifications</li> <li>Rigid Wall-Mountable Metal Case</li> <li>1 USB-B Upstream and 7 USB-A Downstream USB 3.1 Gen1 Facing Ports</li> <li>Supports 5Gbps (Super-speed), 480Mbps (High-speed), 12Mbps (Full-speed) and 1.5Mbps (Low-speed) Speed</li> </ul>	<ul style="list-style-type: none"> <li>Supports 15KV ESD Surge Protection for Each Port</li> <li>Multi Transaction Translators (TT) per Hub</li> <li>Support USB Battery Charging: CDP and DCP Modes</li> <li>Supports Surface Mounting</li> <li>1.5A per USB port with thermal shutdown at 2A per port</li> </ul>
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## 1.2 Connector Layout

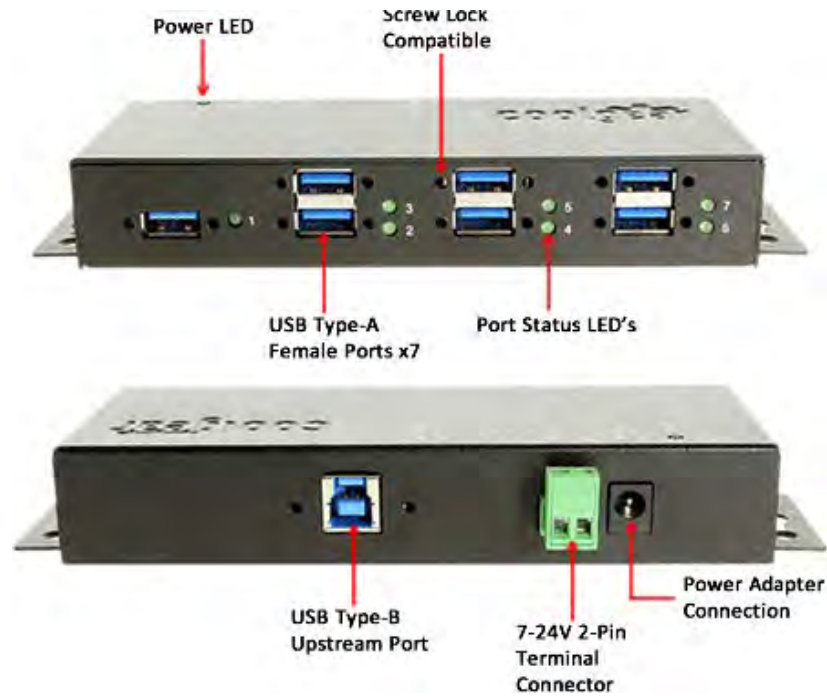


Figure 1

**Power LED:** Indicates the hub is powered either by Bus-Power or Self-Power.

**Self Power Input Connector:** This 2-pin (one pin is + voltage and the other is GND) terminal block connector is used to connect a wide range power source to self-power the hub. The voltage can be in the range from +7V to 24V DC.

USB-B Upstream Port	USB Downstream Port	Self-Power
The Type-B connector from upstream USB 3.1 port is connected from the host or another USB 3.1 Hub's downstream facing port.	The downstream facing port connectors are USB 3.1 Gen1 compliant able to transfer up to 5Gbps of data.	Using the included power supply the hub can be self powered via its barrel connector, Can also be powered through the 7-24V 2-pin terminal block connection.

## 1.3 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 +7V to 24V) to the 2-pin Terminal Block Connector.** The hub is self-powered by the upstream USB port (USB-B connector), This terminal block connector is to add power to ensure enough power for the 4 downstream ports.
3. **Connecting USB Host cables:** The host cable could be either a standard B to A or B to C USB 3.1 cable (depends on the host port's connector type). Please connect the Type-A end connector of the cable to your PC's host USB 3.0 port, then insert the type-B 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.
4. **Connect the USB Devices to the downstream ports of this hub.**
5. **Mount your hub on a flat surface such as a wall or tabletop if required.**

## 1.4 Checking the Hub Installation

To check the USB hub installation in Windows device manager, please follow the following steps:


<ol style="list-style-type: none"> <li>1. Click <b>Start</b></li> <li>2. Click <b>Control Panel</b></li> <li>3. Click <b>System</b></li> <li>4. Click <b>Device Manager</b> button</li> <li>5. Double Click <b>Universal Serial Bus Controller</b></li> <li>6. Double click <b>Generic USB Hub</b>, the message will show that this device is working properly</li> </ol>	
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Figure 2

## 1.5 Environmental Specifications

Specification	Data
Operating Temperature:	0-55°C (32 to 131°F)
Operating Humidity:	5 to 95% RH

## 2. Notes, Tips, and Warnings

### Note

In some cases, during hardware installation, you will see an error message said that the USB Hub caused the USB bus power over the current limit, please ignore this message since the hub is hot plug and its power capacitor will cause a very short period of current. It will NOT affect your USB function. Reference Section 1.2 Hardware Installation.

### Tip

N/A

### Warning

Please make sure the polarity of the input power should be correctly matched with the terminal block pins to function properly.

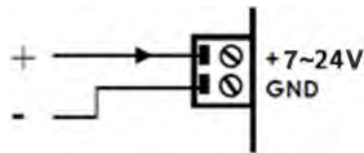


Figure 3

### Safety

- Read the entire Product Manual before implementing this product for your application. This manual 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](mailto:support@coolgear.com).

### 3. Supporting References

Document	Link
Website Product Page	<a href="https://www.coolgear.com/product/7-port-usb-31-gen1-metal-hub-15kv-esd-surge-protection-power-adapter">https://www.coolgear.com/product/7-port-usb-31-gen1-metal-hub-15kv-esd-surge-protection-power-adapter</a>

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