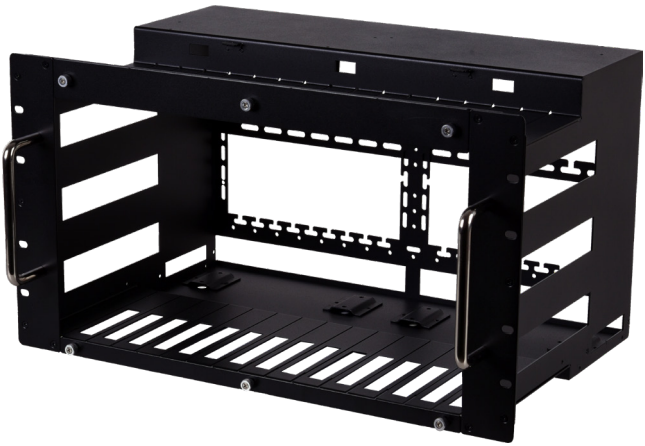
# CSR-G6400

**6U Rack Chassis (Black)**

# CSR-G6400-W

**6U Rack Chassis (White)**



## Operation Manual

## DISCLAIMERS

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## SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.
- Please completely disconnect the power when the unit is not in use to avoid wasting electricity.

## VERSION HISTORY

| REV. | DATE | SUMMARY OF CHANGE |
|---|---|---|
| **RDV1** | 2020/06/23 | Preliminary release |

# CONTENTS

## 1. INTRODUCTION

This flexible rack-mounting system offers the ability to efficiently house up to 15 professional AV products and is available as a 6U rack chassis. This storage unit is suitable for customers who require the efficient integration and mounting of multiple units into a relatively small rack space along with optional cooling fans and intelligent power control. Each rack chassis is a standard 19 inches wide. The system allows for the optional inclusion of up to 2 power supply units, multiple cooling fan units, cable management frames, and a network switch tray.

## 2. APPLICATIONS

- Efficient storage of multiple low-profile audio/video units

## 3. PACKAGE CONTENTS

- 1× 6U Rack Chassis (Black or White)
- 8× M5 Rack Screw
- 4× M3 Screw
- 5× Cable Management Clip
- 1× Cable Management Frame
- 1× Operation Manual

## 4. SYSTEM REQUIREMENTS

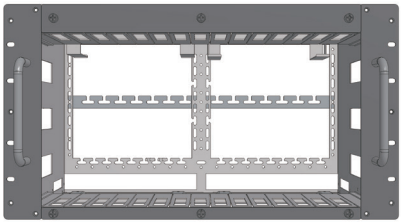
- The 6U rack chassis requires a minimum of 266.7mm (10.5in) contiguous free space in the rack for mounting. If the optional Network Switch Tray has been attached, 7U (311.15mm, 12.25in) is required.
- If the Cooling Fan System is installed, an additional 1U space above the chassis should be left empty to provide space for air to flow freely.

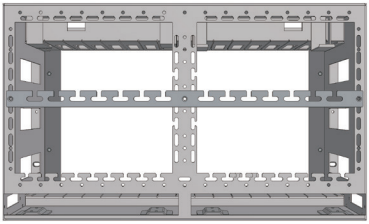
## 5. FEATURES

- Rack chassis with 19 inch width, 6U height, designed for installation into standard rack cabinets
- A maximum of 15 individual audio/video units may be installed in a single chassis
- Optional accessories include: DC Power Manager units, Cooling Fan System, Cable Management Frame, and the Network Switch Tray
- Each optional DC Power Manager unit provides power (5v, 12v, 24v or 48v), remote power control, and power state monitoring for up to 8 devices plus up to 2 fans. Up so two DC Power Manager units can be installed.
- The dual fans within the optional Cooling Fan System can be temperature controlled to automatically turn the fan on or off as needed
- Optional Cable Management Frame provides additional options to help manage audio, video and power cabling from installed units
- Optional Network Switch Tray provides a convenient mounting location for ancillary equipment such as a network switch or router

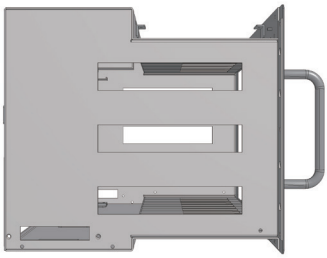
# 6. OPERATION CONTROLS AND FUNCTIONS

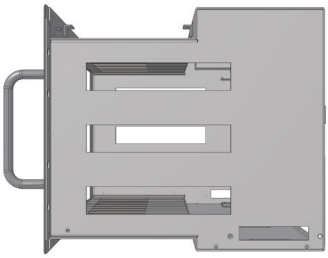
## 6.1 Front and Rear Panels



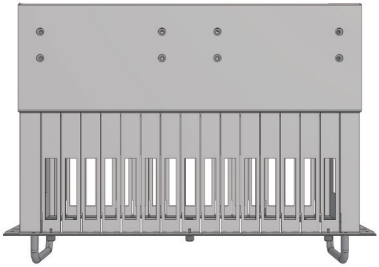


## 6.2 Left and Right Panels





## 6.3 Top and Bottom Panels



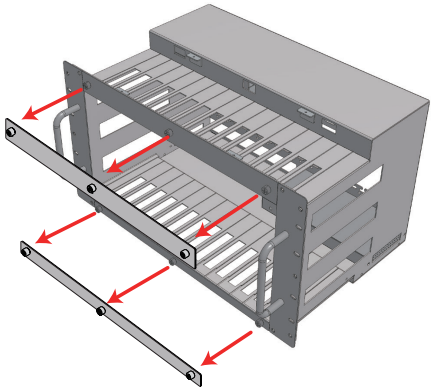
## 6.4 Installation Instructions

Each rack chassis is shipped fully assembled. Installation of compatible units only requires the removal of the 2 front locking panels and can be performed while the chassis is installed in a rack. Installation of the Network Switch Tray, Cooling Fan System, and DC Power Manager units can be performed without any disassembly, however access to the top, bottom, and sides of the rack chassis is required in order to secure them in place so it is recommended to do so prior to placement within a rack.

### 6.4.1 Full/Half-Length Unit Installation

**STEP 1**

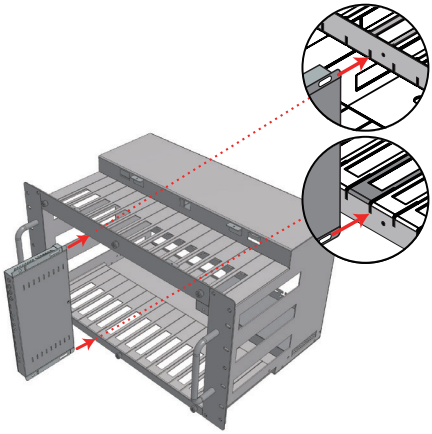
Unscrew the 3 thumbscrews holding the top locking panel in place, and remove the panel from the front of the chassis. Unscrew the 3 thumbscrews holding the bottom locking panel in place, and remove the panel from the front of the chassis.



*Note: The thumbscrews are connected to the locking panels with a retention mechanism and will not come completely free when they have been unscrewed from the chassis.*

**STEP 2**

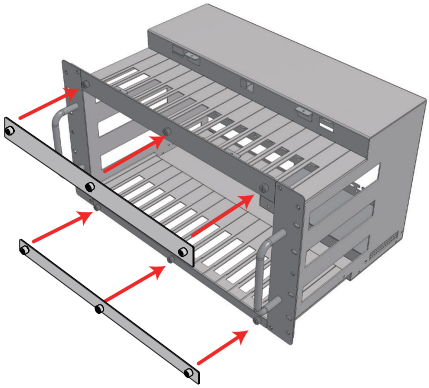
Align and then carefully slide a full or half-length compatible audio/video unit into the top/bottom grooves of a free slot. Half-length units are designed with a notch to prevent them from sliding all the way to the back of the rack chassis. Repeat this step until all units have been installed.



*Note: If fewer than 15 units are being mounted it is strongly suggested to leave empty space between units that get particularly warm to improve airflow and heat dissipation.*

**STEP 3**

Reattach the top and bottom locking panels by screwing in the 3 thumbscrews on each until they are tight and secure.

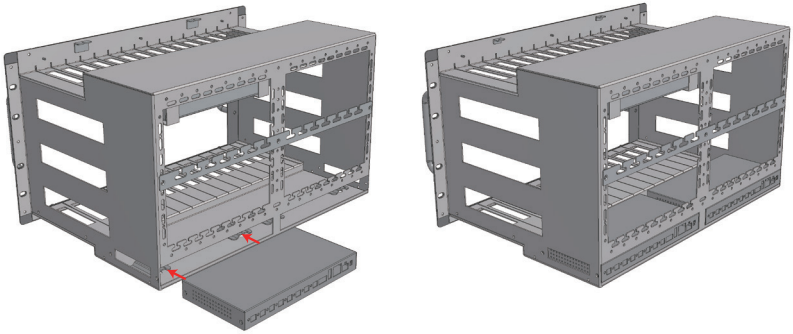


*Note: Be careful to not overtighten the thumbscrews as this could damage the screw threads.*

### 6.4.2 DC Power Manager Unit Installation

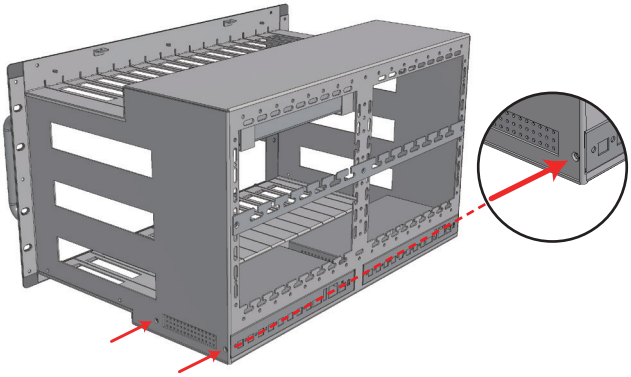
**STEP 1**

From the back of the rack chassis, slide the DC Power Manager into one of two mounting locations and on top of one set of raised mounting brackets. Make sure that the screw holes on the side of the DC Power Manager align with the 2 screw holes on the side of the chassis.



**STEP 2**

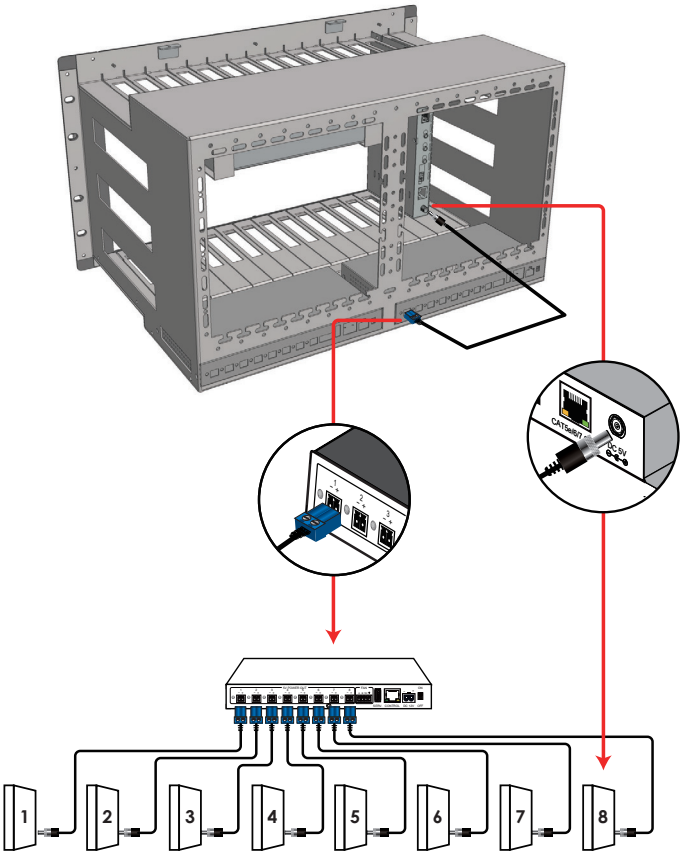
From the side of the rack chassis, attach the DC Power Manager to the rack chassis using two of the M3 screws supplied with the chassis.



*Note: Be careful to not overtighten the screws as this could damage the screw threads.*

**STEP 3**

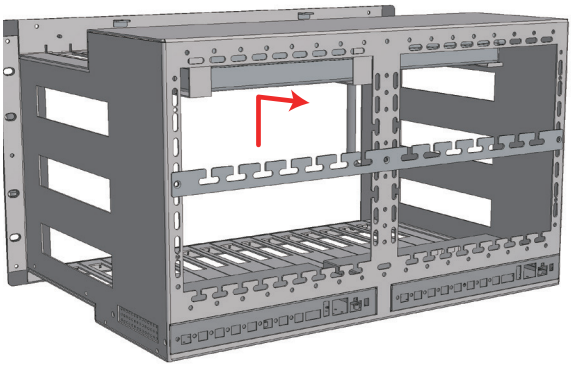
Attach all required power connections between the DC Power Manager and any installed units, and the Cooling Fan System if present, using power cables supplied with the DC Power Manager unit.




*Note: Pay special attention to the voltage level (5v, 12v, 24v, or 48v) provided by the installed DC Power Manager(s) and the power requirements of the installed units. Attempting to power a unit with the incorrect voltage could cause permanent damage to a unit and will void the warranty.*

**STEP 4**

Slide the DC Power Manager's power supply onto the designated shelf at the top of the chassis, directly above the installed DC Power Manager and connect it to the unit.



*Note: The power supply's shelf has a small lip on the front to hold the power supply in place, once seated.*

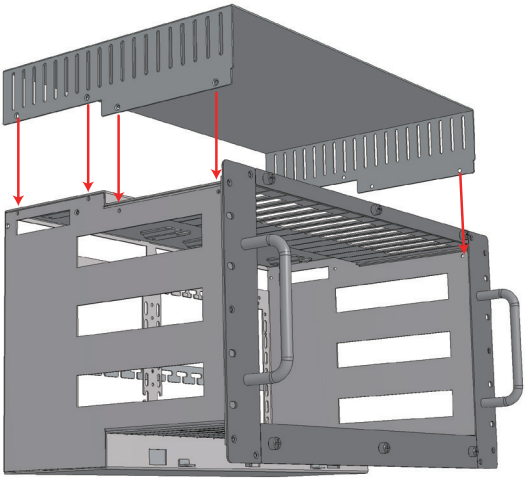
### 6.4.3 Network Switch Tray Installation

The Network Switch Tray provides a convenient mounting location for 1U ancillary equipment such as a network switch or router. After the tray has been installed any preferred device(s) may be placed on it. Optionally, the devices may be secured to the side of the tray by using the tray's side vent slots.

*Note: The method of securing devices to the tray will vary depending on the design of the individual device.*

**STEP 1**

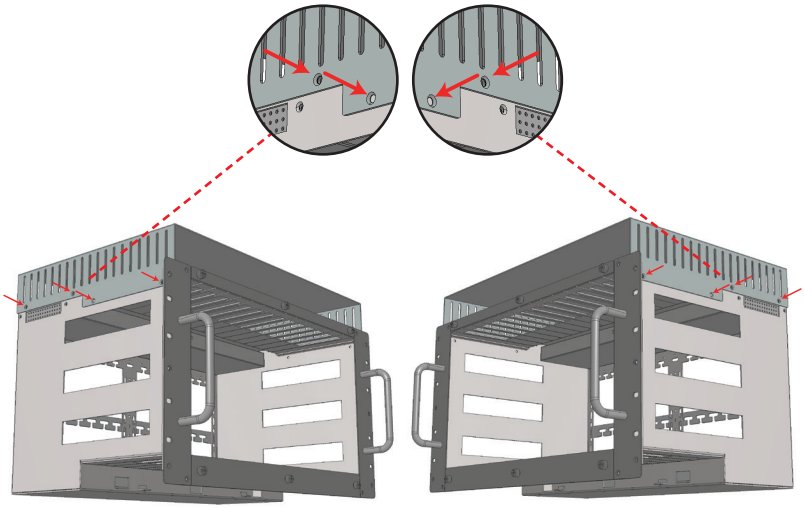
Flip the rack chassis so that it is upside down and place it on a stable, flat workspace. Align the Network Switch Tray, with the raised portion towards the front of the chassis, and the slide it into place. Ensure that all 4 screw holes on each side align with the screw holes in the chassis.



*Note: While this can be done with the chassis right-side-up, the alignment and attachment process is generally easier while the chassis is upside down.*

**STEP 2**

While holding the Network Tray Switch in place, screw in all 8 screws that were included with the network tray (4 on each side) so that the tray is held securely in place.



*Note: Be careful to not overtighten the screws as this could damage the screw threads.*

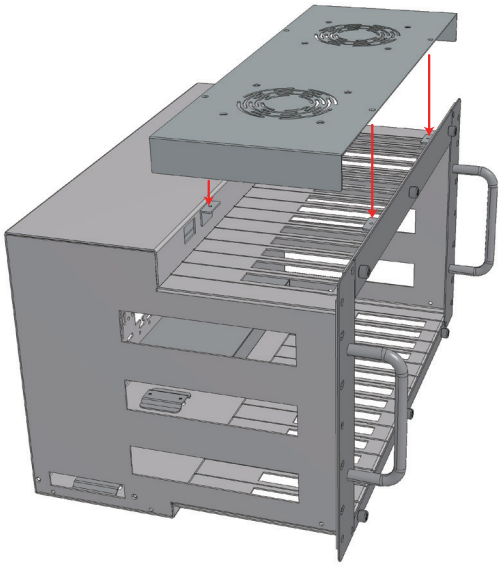
### 6.4.4 Cooling Fan System Installation

The Cooling Fan System has been specially designed to provide adequate additional cooling to units placed within the 6U Rack Chassis. It comes with 2 low noise fans pre-installed which must be attached to a DC Power Manager for power and control.

*Note: The fans are configured to pull hot air out of the chassis, so it is a good idea to leave at least 1U of empty space above it for the exhaust.*

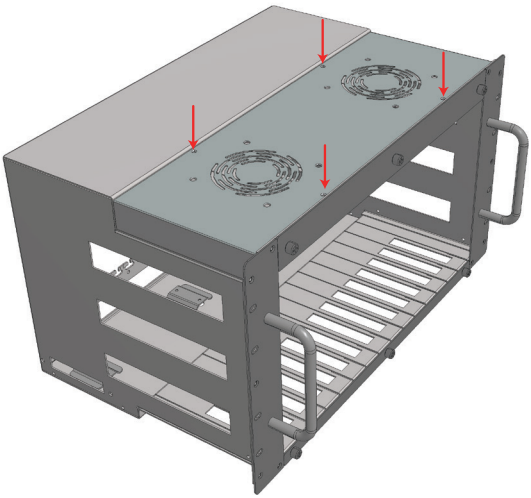
**STEP 1**

Make sure that the 4 screw holes in the Cooling Fan System align with all 4 L-bracket screw holes on the top of the chassis and gently seat the fan system into the designated cutout space.



**STEP 2**

While holding the Cooling Fan System steady, screw in all 4 screws that were included with the fan system so that it is held securely in place.



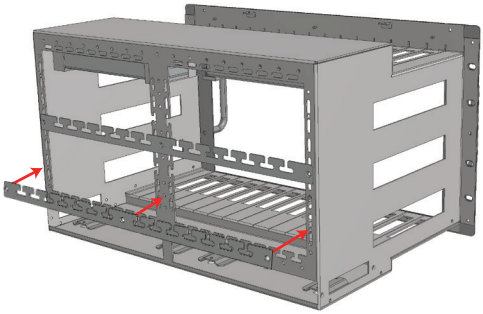
*Note: Be careful to not overtighten the screws as this could damage the screw threads.*

### 6.4.5 Cable Management Frame Installation

Up to 2 additional Cable Management Frames can be added to the back of the chassis to provide more places to manage the various cables used by installed units and power supplies. Route cabling by simply placing the cables in the available slots, or by attaching the included plastic cable management clips and bundling them within them.

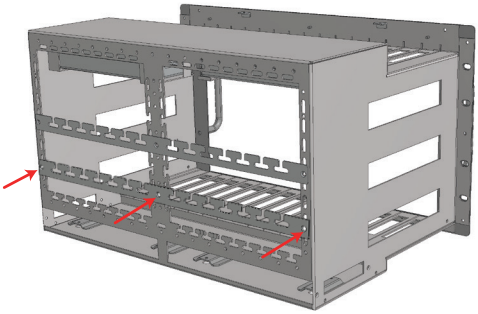
**STEP 1**

Make sure that the 3 screw holes in the Cable Management Frame align with all 3 of the screw holes on the back of the chassis where you wish to attach it.



**STEP 2**

While holding the Cable Management Frame in place, screw in all 3 screws that were included with the frame so that the frame is held securely in place.



*Note: Be careful to not overtighten the screws as this could damage the screw threads.*

# 7. RACK ACCESSORIES (OPTIONAL)

## 7.1 Network Switch Tray

Network Switch Tray

| | |
|---|---|
| **Dimensions (W×H×D)** | 446.5mm×74mm×298mm [All Inclusive] |
| **Weight** | 2100g |
| **Chassis Material** | Metal (Steel) |
| **Chassis Color** | Black or White |

## 7.2 Cooling Fan System

Cooling Fan System

| | |
|---|---|
| **Dimensions (W×H×D)** | 443.5mm×30mm×156mm [All Inclusive] |
| **Weight** | 751g |
| **Chassis Material** | Metal (Steel) |
| **Chassis Color** | Black or White |

## 7.3 Cable Management Frame

Cable Management Frame

| | |
|---|---|
| **Dimensions (W×H×D)** | 433mm×20mm×1.5mm [All Inclusive] |
| **Weight** | 100g |
| **Chassis Material** | Metal (Steel) |
| **Chassis Color** | Black or White |

## 7.4 DC Power Manager Units

| 8-Port 5V DC Power Manager | |
|---|---|
|  | |
| **Output Ports** | 8×5V DC Power (2-pin Terminal Block)<br>1×12V DC Power (4-pin Terminal Block) |
| **Control Ports** | 1×RS-232 (DE-9)<br>1×IP Control (RJ-45) |
| **Service Port** | 1×USB 2.0 (Type-A) |
| **Baud Rate** | 19200 |
| **Power Supply** | 12V/12.5A DC<br>(US/EU standards, CE/FCC/UL certified) |
| **ESD Protection (HBM)** | ±8kV (Air Discharge)<br>±4kV (Contact Discharge) |
| **Dimensions (W×H×D)** | 211.5mm×25mm×116.5mm [Case Only]<br>211.5mm×25mm×117.5mm [All Inclusive] |
| **Weight** | 372g |
| **Chassis Material** | Metal (Aluminum) |
| **Chassis Color** | Black |
| **Operating Temperature** | 0˚C – 40˚C/32˚F – 104˚F |
| **Storage Temperature** | -20˚C – 60˚C/-4˚F – 140˚F |
| **Relative Humidity** | 20 – 90% RH (Non-condensing) |
| **Power Consumption** | 140W |

| 8-Port 12V DC Power Manager | |
|---|---|
|  | |
| **Output Ports** | 8×12V DC Power (2-pin Terminal Block)<br>1×12V DC Power (4-pin Terminal Block) |
| **Control Ports** | 1×RS-232 (DE-9)<br>1×IP Control (RJ-45) |
| **Service Port** | 1×USB 2.0 (Type-A) |
| **Baud Rate** | 19200 |
| **Power Supply** | 12V/12.5A DC<br>(US/EU standards, CE/FCC/UL certified) |
| **ESD Protection (HBM)** | ±8kV (Air Discharge)<br>±4kV (Contact Discharge) |
| **Dimensions (W×H×D)** | 211.5mm×25mm×116.5mm [Case Only]<br>211.5mm×25mm×117.5mm [All Inclusive] |
| **Weight** | 285g |
| **Chassis Material** | Metal (Aluminum) |
| **Chassis Color** | Black |
| **Operating Temperature** | 0˚C – 40˚C/32˚F – 104˚F |
| **Storage Temperature** | -20˚C – 60˚C/-4˚F – 140˚F |
| **Relative Humidity** | 20 – 90% RH (Non-condensing) |
| **Power Consumption** | 135W |

| 8-Port 24V DC Power Manager | |
|---|---|
|  | |
| **Output Ports** | 8×24V DC Power (2-pin Terminal Block)<br>1×12V DC Power (4-pin Terminal Block) |
| **Control Ports** | 1×RS-232 (DE-9)<br>1×IP Control (RJ-45) |
| **Service Port** | 1×USB 2.0 (Type-A) |
| **Baud Rate** | 19200 |
| **Power Supply** | 24V/6.25A DC<br>(US/EU standards, CE/FCC/UL certified) |
| **ESD Protection (HBM)** | ±8kV (Air Discharge)<br>±4kV (Contact Discharge) |
| **Dimensions (W×H×D)** | 211.5mm×25mm×116.5mm [Case Only]<br>211.5mm×25mm×117mm [All Inclusive] |
| **Weight** | 285g |
| **Chassis Material** | Metal (Aluminum) |
| **Chassis Color** | Black |
| **Operating Temperature** | 0˚C – 40˚C/32˚F – 104˚F |
| **Storage Temperature** | -20˚C – 60˚C/-4˚F – 140˚F |
| **Relative Humidity** | 20 – 90% RH (Non-condensing) |
| **Power Consumption** | 150W |

## 8-Port 48V DC Power Manager

| | |
|---|---|
| **Output Ports** | 8×48V DC Power (2-pin Terminal Block)<br>1×12V DC Power (4-pin Terminal Block) |
| **Control Ports** | 1×RS-232 (DE-9)<br>1×IP Control (RJ-45) |
| **Service Port** | 1×USB 2.0 (Type-A) |
| **Baud Rate** | 19200 |
| **Power Supply** | 48V/3.12A DC<br>(US/EU standards, CE/FCC/UL certified) |
| **ESD Protection (HBM)** | ±8kV (Air Discharge)<br>±4kV (Contact Discharge) |
| **Dimensions (W×H×D)** | 211.5mm×25mm×116.5mm [Case Only]<br>211.5mm×25mm×117mm [All Inclusive] |
| **Weight** | 285g |
| **Chassis Material** | Metal (Aluminum) |
| **Chassis Color** | Black |
| **Operating Temperature** | 0˚C – 40˚C/32˚F – 104˚F |
| **Storage Temperature** | -20˚C – 60˚C/-4˚F – 140˚F |
| **Relative Humidity** | 20 – 90% RH (Non-condensing) |
| **Power Consumption** | 143W |

# 8. SPECIFICATIONS

## 8.1 Technical Specifications

| | |
|---|---|
| **Dimensions (W×H×D)** | 300mm×349mm×264mm [Case Only]<br>483mm×349mm×264mm [All Inclusive] |
| **Weight** | 6800g |
| **Chassis Material** | Metal (Steel) |
| **Chassis Color** | Black or White |

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