



# PS4-24

## OWNERS MANUAL

24 VAC  
90 WATT  
WALL MOUNTED  
CCTV POWER SUPPLY

7320 Ashcroft, Suite 104  
Houston, Texas 77081  
p: 713-772-1404  
f: 713-772-7360  
e: [info@juicegoose.com](mailto:info@juicegoose.com)  
[www.juicegoose.com](http://www.juicegoose.com)

## **CONGRATULATIONS**

You have purchased a practical source for CCTV power. The Juice Goose PS4-24 is a wall mountable 24 VAC power distribution module that features a pre-attached power cord for easy installation.

## **FEATURES SUMMARY**

PS4 features include:

<p>WALL MOUNT NEMA 1 ENCLOSURE POWERING UP TO 4 CAMERAS 3.75 AMPS @ 24VAC INDIVIDUAL FUSES FOR EACH POWER CONNECTION 7 FOOT POWER CORD</p>
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## **SAFETY PRECAUTIONS**

The PS4 is designed to operate with 120VAC, 60 Hz input. Operation with 220 or 240 volts will damage the unit and possibly cause personal injury.

## **CAUTIONS**

1. The PS4 should always be grounded. Defeating the unit's grounding capability could create a hazard.
2. There are no user serviceable parts inside the PS4. Do not attempt service yourself. Contact Juice Goose as directed in this manual if service is required.
3. Do not expose the PS4 to moisture. Avoid severe physical impacts to the unit.

## **DISCLAIMER**

Juice Goose shall under no circumstances be held responsible for any loss, damage or injury resulting from the use of the PS4 in a manner inconsistent with any of the procedures outlined in this document. The user is responsible for determining whether this product is appropriate for the intended application.

Juice Goose is not responsible for any indirect, secondary or ancillary loss or damage, including personal injury, loss of or damage to property or loss of income resulting from the operation or failure of this unit.

## **FEATURES DETAIL**

### **FRONT PANEL**

Four screws hold the front cover in place. This cover should be removed only for installation and fuse replacement.

### **MAIN ENCLOSURE**

This metal enclosure houses the power transformer as well as the power supply circuit board.

## CIRCUIT BOARD

**Camera Power Terminals** – The PS4 has two sets of 4 terminals, labeled “Fused Power Outputs” and “Common Power Outputs”. Each terminal pair, designated 1 – 4 should be attached only to a single camera.

**Power Input Terminals** – The high voltage transformer leads are connected to the power cord. If desired, a qualified electrician may disconnect this power cord and hard wire these leads directly to a 120 VAC power source. (See installation instructions for additional information.)

**Camera Power Fuses** – These fuses provide excess current protection for each low voltage connection. These fuses should be rated at 2 amps (48 watt load).

**Main Power Fuse** – This fuse should be rated at 4 amps (96 watt load).

**On / Off Switch** – Allows power output to be turned off for installation and fuse replacement.

**Power Indicator LED** – Lights to show the power supply is operational.

## POWER CORD

The PS4 connects to utility power with a grounded 7 foot long power cord with a NEMA 5-15P plug, secured with a strain relief. This power cord may be removed if hardwiring the power supply is desired. This task should only be performed by a certified electrician.

## INSTALLATION

1. Make sure the PS4 is unplugged when installing it and making connections with cameras. Turn the power switch to “Off”.
2. If the PS4 is to be hardwired by a qualified electrician, he may remove the power cord and prepare the transformer input wires for attachment to utility power.
3. Remove desired “knock out” to route camera power leads into the enclosure. Mount the PS4 in the desired location using the four screw holes on the mounting bracket.
4. Connect cameras to the screw terminals on the PS4 circuit board. Both leads from a single camera should be connected to the same terminal bank (e.g. both to position 1, 2, 3...).
5. Plug the PS4 power cord into a grounded 120 VAC utility receptacle (unless hardwired). Power will be supplied to connected equipment as soon as the power switch is turned on. The power indicator LED will light when power is present.
6. Replace front panel and secure with the 4 screws provided.
7. **Fuse Replacement** – Always turn off power to the PS4 before replacing fuses. Always use the same amperage value as the fuse being replaced.

DIMENSIONS (INCHES)	10.0 x 8.0 x 4.0
WEIGHT (LBS)	10
POWER INPUT	120 VAC, 60Hz
POWER OUTLETS	2 BANKS OF 4 POSITION BARRIER STRIPS
CURRENT CAPACITY	.75 Amps @ 120 VAC 3.75 AMPS @ 24 VAC
POWER CORD	7 FOOT, 18/3 SJT OR GREATER
CURRENT OVERLOAD PROTECTION	4 AMP MASTER CIRCUIT
CHASSIS DESIGN	NEMA 1 METAL ENCLOSURE
CHASSIS FINISH	POWDER COAT ENAMEL – TAN

## SPECIFICATIONS

### TROUBLE SHOOTING

Before trouble shooting this power supply disconnect the power. If power is not reaching some cameras check the fuse(s) and camera power line connection(s). If power is reaching no cameras check that the LED on the PS4 circuit board is lit. Check the master circuit fuse. Do not exceed the specified current limits of the PS4. Check the main source of power to the PS4.

### REPAIR

Should your PS4 need service contact Juice Goose for assistance and authorization to return the unit. PLEASE NOTE: a return authorization number is required in order for the service personnel to correctly and promptly identify, repair and return your unit.

You may obtain a Return Authorization Number by calling: 713-772-1404 or sending email to [info@juicegoose.com](mailto:info@juicegoose.com).

## POWER FACTS AND CALCULATIONS

### TERMINOLOGY & RELATIONSHIPS

**Amperage** is a measure of current flow. (Similar to capacity or volume of flow.) A power supply with greater amperage capacity than the current demand of the equipment being powered is **OK**.

**Amps = Watts / Volts** (100 Watts at 24 Volts = 4.17 Amps)

**Current (Amps) = Voltage / Resistance** (Ohms)

**Impedance** in an AC circuit is very similar to resistance in a DC circuit and is often used interchangeably.

**Resistance** is a force that opposes current flow in a circuit.

**Voltage** is a measure of potential electromotive force (similar to pressure).

A power supply with higher voltage than recommended for a camera is **NOT OK**.

**Voltage Drop/100 Feet = .2 x Amperage x 1.26** <sup>(AWG-10)</sup>

**Watts = Volts x Amps** (24 Volts with 4.17 Amps = 100 Watts)

### VOLTAGE DROP

This chart illustrates voltage drop **per 100 feet of paired wire** as a function of wire gauge and load current. By matching load current (Amps) across the top of the chart with wire gauge (AWG) down the left side of the chart, one can determine voltage drop per 100 feet of paired wire run. Note: at 24 volts, 2 amps = 48 watts. For that size load the voltage drop for 100 feet of 18AWG would be 2.64 volts.

	0.5 Amps	1.0 Amps	2.0 Amps	4.0 Amps	10.0 Amps
<b>AWG</b>					
10	.10	.20	.40	.80	2.00
12	.16	.32	.64	1.25	3.2
14	.25	.50	1.0	2.0	5.0
16	.40	.80	1.60	3.20	8.00
18	.64	1.32	2.64	5.28	12.80
20	1.01	2.02	4.04	8.08	20.20
22	1.60	3.20	6.40	12.80	32.00

### MINIMUM WIRE GAUGE FOR MAXIMUM 3.2 VOLT DROP

This table lists the required minimum wire size necessary to complete a paired wire run of the stated length and experience no more than a 3.2 volt drop between the power supply and the camera or other powered device. In the example above, should the cable run have been 200 feet rather than 100, with a 2 amp load, in order to not have a drop in excess of 3.2 volts, the wire size would need to be at least 16 AWG. An alternative solution would be to power the load with an original voltage of 28 VAC.

	0.5	1.0	2.0	4.0	10.0
<b>Distance (Feet)</b>					
25	22	22	22	20	18
50	22	22	20	18	14
100	22	20	18	16	12
200	22	18	16	12	-
300	20	16	14	10	-
400	18	16	12	10	-
500	16	14	12	-	-

<b>JUICE GOOSE CCTV POWER SUPPLIES</b>
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PART NUMBER	DESCRIPTION
<b>RACK MOUNTED</b>	
RPS16-RX-24-12	AC PROTECTION, 24VAC + 12 VDC, 16 CAMERAS
RPS16-RX-24-24	AC PROTECTION, 24VAC + 24VAC, 16 CAMERAS
RPS16-RX-24-0	AC PROTECTION, 24VAC, 8 CAMERAS
RPS16-RX-12-12	AC PROTECTION, 12VDC + 12 VDC, 16 CAMERAS
RPS12-RX-12-0	AC PROTECTION, 12 VDC, 8 CAMERAS
RPS16-0-24-12	24VAC + 12 VDC, 16 CAMERAS
RPS16-0-24-24	24VAC + 24VAC, 16 CAMERAS
RPS16-0-24-0	24VAC, 8 CAMERAS
RPS16-0-12-12	12VDC + 12 VDC, 16 CAMERAS
RPS16-0-12-0	12 VDC, 8 CAMERAS
<b>WALL MOUNTED</b>	
PS1-24	24VAC, 90W, 1 CAMERA.
PS1-24-4	24VAC, 90W, 1 CAMERA, NEMA 4 ENCLOSURE
PS4-24	24VAC, 90W, 4 CAMERAS, INCL. POWER CORD
PS4-24-4	24VAC, 90W, 4 CAMERAS, NEMA 4 ENCLOSURE
PS4-24-300	24 or 28VAC, 300W, 4 CAMERAS, INCL. POWER CORD
PS4-24-300-4	24 or 28 VAC, 300W, 4 CAMERAS, NEMA 4 ENCL.
PS8-24	24VAC, 90W, 8 CAMERAS, INCL. POWER CORD
PS8-24-4	24VAC, 90W, 8 CAMERAS, NEMA 4 ENCLOSURE
PS8-24-300	24 or 28VAC, 300W, 8 CAMERAS, INCL. POWER CORD
PS8-24-300-4	24 or 28VAC, 300W, 8 CAMERAS, NEMA 4 ENCL.

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or call

713.772.1404