

# Installation Manual

## **ENFORCER**<sup>®</sup>



- EVP-1SD2P4UL** (4 Outputs @ 6/12/24VDC, 2 Amps\*)
- EVP-1SD4P9UL** (9 Outputs @ 6/12/24VDC, 4 Amps\*)
- EVP-1SD6P16UL** (16 Outputs @ 6/12/24VDC, 6 Amps\*)

### DC-Power Supplies for CCTV Cameras and Accessories

\* Total max. supply current at 12VDC, each channel output is fused at 1.1 Amp.

#### Specifications:

- Adjustable VDC outputs:
  - Output voltage adjustable with potentiometer to compensate for voltage drop.
  - Each output individually fused (PTC\*\* -type fuses)
  - Output fuses rated 1.1 Amps @ 250VAC
  - Individual red status indicator LED for each output
  - Main power switch to turn on/off power to outputs
- Power:
  - Input: 120VAC, 60Hz ; Output: 6/12/24VDC
  - Main fuse rated 5.0 Amps @ 250VAC ( 3.0 Amps for EVP-1SD2P4UL)
  - Spare fuse included
  - 6-foot power cord included



EVP-1SD4P9UL Shown

- Enclosure:
  - Heavy-duty steel case to protect the power connections
  - Removable steel cover for easy access to power connections
  - Ventilation holes to prevent heat build-up
  - Dimensions - 10" x 7.75" x 3.5" (254 x 196 x 89 mm) [12.15" x 12.25" x 3.6" (308 x 311 x 91 mm) for EVP-1SD6P16UL.]
  - Knock-out on the cover for optional cam lock

\*\*Positive Temperature Coefficient

#### What it is:

This ENFORCER CCTV power supply centralizes the power sources for multiple DC-powered CCTV cameras and/or CCTV accessories. The power input, power transformer, DC regulator, and all independently-fused power outputs are enclosed in one heavy-duty, easy-to-install enclosure.

#### Note before installation:

The ENFORCER CCTV power supply is not waterproof or weatherproof. Therefore, it must be mounted indoors where it cannot be exposed to rain or other moisture. Installation must be done by qualified personnel, and should conform to all local codes.

#### Installation:

1. Find a good location for the enclosure - The enclosure should be mounted where it is out of sight and protected from moisture and the weather, but where an authorized person can have access for servicing in the future.

**NOTE:** Make sure the space where the enclosure is to be mounted has adequate ventilation. Otherwise, heat buildup inside the enclosure could damage the electronic parts or cause the PTC fuses to trip needlessly.

2. Locate the enclosure mounting holes. Using these holes as a template, mark the location of the 4 screws on the wall with a pencil. First fasten the two 5/32" x 1" (4 x 26mm) upper screws (not included) until the gap between the wall and the screw head is approximately 1/4" (6mm). Hang the enclosure into the 2 screw using the enclosure's upper screw holes and adjust the proper location of the enclosure. Then securely fasten the upper and lower screws.

**NOTE:** For concrete walls, first drill four holes on the concrete wall in the location of the screws. Then insert a "plastic anchor" in each of the holes first before fastening the screws.

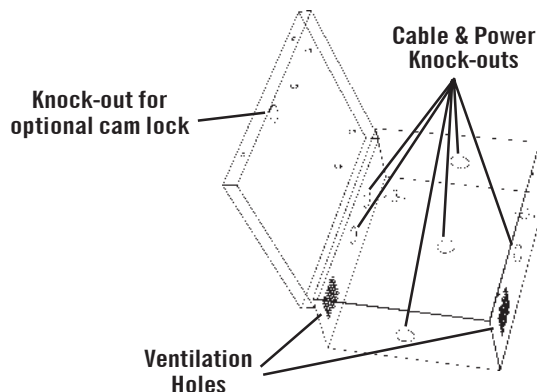
3. Determine how the main power line and power cables to the CCTV cameras will be run - The enclosure has knock-outs on the sides, top, bottom, and rear panels for running cables. Knock out the appropriate knock-outs. See fig. 1.

**NOTE:** If cables are run out of the side, top, or bottom panels, they should be protected by an electrical conduit of not more than 1" outside diameter. Wires running inside the electrical conduit must not be too tight.

4. To connect the main power cord to the small white terminal block, follow the wire color indicated on the "NEA" label that is placed beside the terminal block. (i.e. white wire on top, green wire to the middle and black wire to the bottom of the terminal block, See Fig. 2).

Use the provided nut and cable clamp to fasten the power cord onto the metal enclosure in the location shown on Fig. 2 if necessary. A plastic snap bushing is also provided for the power cord hole.

**FIG. 1: Knockouts for running cables**



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5. Connect the power input wires of the CCTV cameras or accessories to the PCB marked 173-001 (see fig. 2). Observe correct polarity. The terminals marked "P" are for positive wires, and "N" are for negative wires. Each output consists of one "P" terminal and one "N" terminal.

Run wire pairs from the 173-001 PCB through or along the wall to where the CCTV cameras and/or accessories are mounted.

**NOTE:** For best results and to minimize voltage drop, these wires should be a minimum of 18-gauge in thickness.

6. Turn the main switch ON. The green LED on the 173-001 PCB will light to show that power is present. The four, nine or sixteen red LEDs on the printed circuit board will light to show the status of each terminal pair, with ON meaning that the terminal pair is working correctly.

7. Test the voltage output at the end of each wire pair to see if there is significant voltage drop. The voltage output for all wire pairs should be about the same unless a voltage drop occurred on a certain wire pair. When running wires from the DC power supply, voltage drop can occur for one of three reasons:

- The wire is too thin. That is why 18-gauge wire is recommended.
- The wire has run a long distance. If a wire pair is showing significant voltage drop compared to the others, either shorten the length of the voltage drop affected wire pair, or lengthen the other wire pairs to have a similar voltage output reading on all wire pairs.
- A large number of CCTV cameras and/or accessories connected to the 173-001 PCB is causing excessive power drain across all the outputs.

8. Adjust the voltage output if needed - If the voltage output reading at the end of the wire pair where it is connected to the camera or accessory falls below the minimum voltage required by those devices, use a screwdriver

to carefully turn the potentiometer located on the ST-2406 PCB to the right. (See Fig. 2 and Table 1) This will increase the total voltage output from the 173-001 PCB to compensate for the voltage drop.

**NOTE:** Adjusting the potentiometer affects the voltage output of all the output terminals on the 173-001 PCB. Using a voltage output in excess of the specified voltage level of a camera may cause damage.

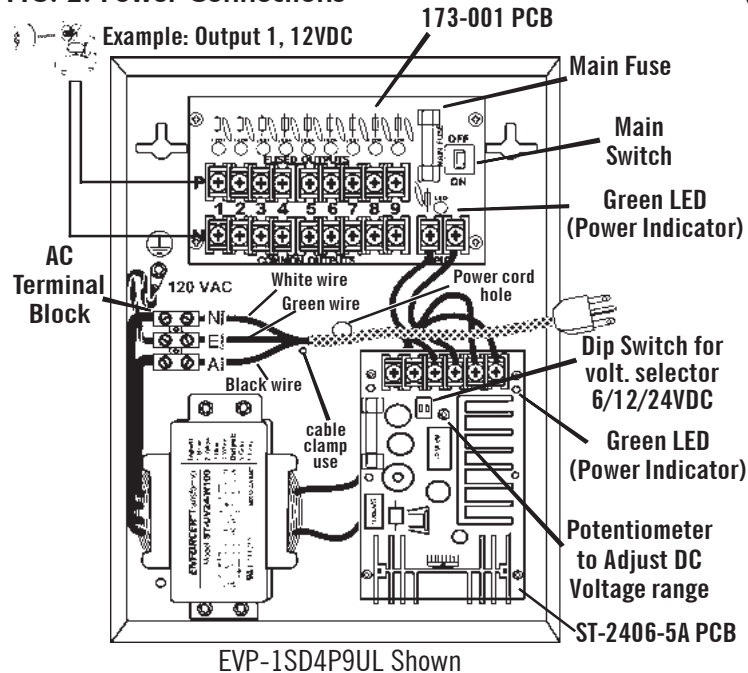
- Once the desired voltage output range of each wire pair is achieved, turn the main switch OFF.
- Connect all the power input wire pairs to their respective CCTV cameras or accessories. Double-check the specified operating voltage of each device before connecting it to a wire pair.

**NOTE:**

- Connect a maximum of four devices (EVP-1SD2P4UL), nine devices (EVP-1SD4P9UL) or 16 devices (EVP-1SD6P16UL) to the 173-001 PCB.
- The CCTV cameras and accessories connected to the printed circuit board must be capable of working with 6V/12V/24VDC power. These power supplies are preset at 12 VDC output. For 6VDC and 24VDC operation, adjust the dip switch of the ST-2406-5A PCB according to the chart printed on its side (see Fig. 2).
- Maximum total current connected to all terminals must not exceed the power supply's total current capacity (2 Amp for EVP-1SD2P4UL, 4 Amp for EVP-1SD4P9UL and 6 Amp for EVP-1SD6P16UL). For 24VDC operation please refer to Table 2.

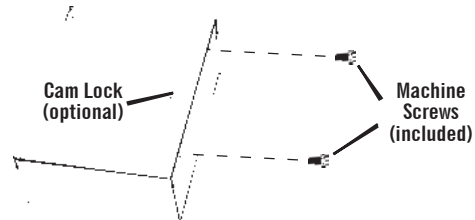
- Turn the main switch ON.
- Close the steel door of the enclosure and secure it with either the provided machine screws or an optional cam lock (see fig. 3).

**FIG. 2: Power Connections**



**FIG. 3: Securing the Enclosure:**

Close the cover, then secure with included machine screws or optional cam lock.



**Table 1: DC Voltage Output Dip Switch Settings**

Voltage	Dip SW1	Dip SW2	Voltage range @ no load
6V	ON	OFF	5.9~8.9
12V	OFF	OFF	12.4~14.7
24V	OFF	ON	27.6~30

**Table 2: Max. supply current chart**

Model	Max. supply current at 6VDC	Max. supply current at 12VDC	Max. supply current at 24VDC
EVP-1SD2P4UL	2 Amp.	2 Amp.	1 Amp.
EVP-1SD4P9UL	4 Amp.	4 Amp.	2 Amp.
EVP-1SD6P16UL	6 Amp.	6 Amp.	3 Amp.

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