



# Serial Controlled A/C Power Strips Operation Manual

## Overview

The CP-8xx and CP-4xx series are Code controlled, multi-outlet, remote AC power switches. The following models are covered in this manual.

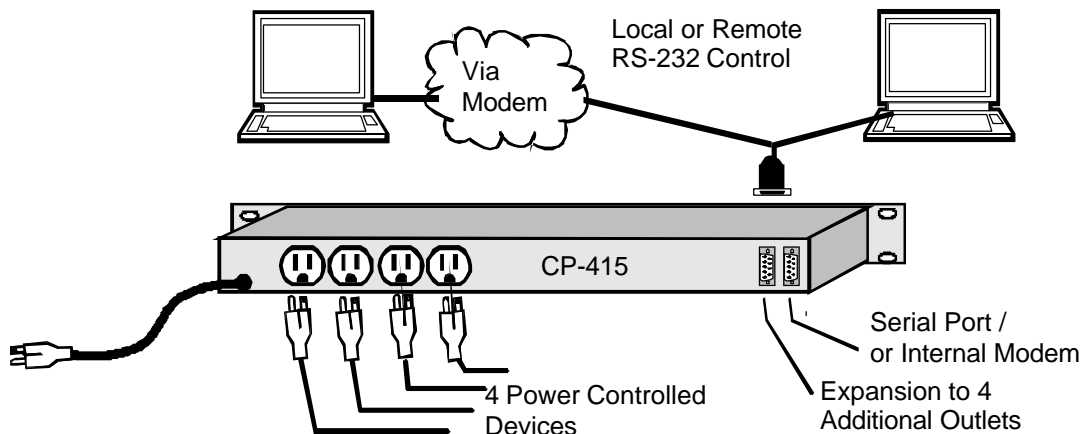
CP-820	8 switched outlets, for use on 115 VAC, 20 Amp Service – NEMA N5-20
CP-420	4 switched outlets, for use on 115 VAC, 20 Amp Service – NEMA N5-20
CP-815	8 switched outlets, for use on 115 VAC, 15 Amp Service – NEMA N5-15
CP-415	4 switched outlets, for use on 115 VAC, 15 Amp Service – NEMA N5-15
CP-810	8 switched outlets, for use on 115/230 VAC, 12 /10 Amp International – IEC 320
CP-410	4 switched outlets, for use on 115/230 VAC, 12 /10 Amp International – IEC 320

“-M” suffix designations in the model name indicate models equipped with an internal modem.

**Throughout this manual the CP-815 will be used to represent for all units, except where a distinct reference is made.**

The Remote Controlled Power Strip, model CP-815 allows control of up to eight A/C power outlets using a serial interface. The CP-815 is controlled using menu commands or ASCII codes sent from a computer. Each of the eight outlets on the CP-815 can be independently turned on, off or pulsed for power-on reset (reboot). The 4 Port models, CP-420, CP-415 and CP-410 can each be expanded to control four additional outlets by adding an expansion unit, models K-420, K-415, or K410.

The CP-815 incorporates a positive feedback feature, allowing the true status, power on or off, to be reported based on actual conditions, rather than control commands. Should a discrepancy arise, an error message is reported.



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Website: www.dataprobe.com Email: tech@dataprobe.com

## Important Safety Instructions

When using this product, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

1. Read and understand all instructions.
2. Follow all warnings and marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product in an outdoor environment or near water, for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in this product and the back or bottom are provided for ventilation to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on the bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.
8. This product is equipped with a three wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug. Do not use a 3-to-2 prong adapter at the receptacle; use of this type adapter may result in risk of electrical shock and/or damage to this product.
9. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
10. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
11. Never push objects of any kind into this product through slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock. Never spill liquid of any kind on the product.
12. To reduce the risk of electrical shock, do not disassemble this product, but take it to a qualified serviceman when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect re-assembly can cause electric shock when the appliance is subsequently used.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - a) When the power supply cord or plug is damaged or frayed.
  - b) If liquid has been spilled into the product.
  - c) If the product has been exposed to rain or water.
  - d) If the product does not operate normally by following the operating instructions. Adjust only those controls, that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
  - e) If the product has been dropped or has been damaged.
  - f) If the product exhibits a distinct change in performance.
14. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
15. Do not use the telephone to report a gas leak in the vicinity of the leak.
16. Do not exceed the maximum output rating of the auxiliary power receptacle.

**SAVE THESE INSTRUCTIONS**

## OPERATION

### *Accessing the CP-815*

The CP-815 is controlled via RS-232 menu selections or escape code sequences. Connection to CP-815 can be made directly via ASCII terminal or PC running terminal emulation software. Remote terminals can communicate with CP-815 through a modem link. CP-815 supports external modems as well as several internal modem options. The CP-815 is configured as a DTE device for direct connection to a modem. A null modem adapter is required for direct connection to a terminal device. See page 8 for installation and connection of modem or terminal.

The factory default parameters for communication are:

**9600 Bits per Second , 8 Data Bits , No Parity, 1 Stop Bit (9600,8,n,1)**

Once the connection is made, Menu Control and Escape Code Control are possible.

To invoke the menu, press the Enter Key.

### *Menu Control*

When the Enter Key is detected CP-815 will respond the Security Login Prompt:

<b>Remote Power Strip &lt;location name&gt;      Rev: 1.xx</b>
<b>Please Enter The Password &gt;</b>

Enter the Password. The default Password is **PASS** When the correct code is entered, the Main Menu appears:

**Main Menu**

<Location Name>		
	Status	Feedback
1. SWITCH1	ON	OK
2. SWITCH2	OFF	OK
3. SWITCH3	OFF	OK
4. SWITCH4	ON	OK
5. SWITCH5	ON	OK
6. SWITCH6	ON	OK
7. SWITCH7	ON	OK
8. SWITCH8	ON	OK
# - Select Outlet to Toggle		
C# - Cycle Outlet		
S - Setup		
X - Exit		
Enter >		

The menu displays the Location Name, and the name, status and feedback condition of each outlet.

To toggle the outlet, simply enter the relay number, followed by Enter.

The outlet can also be Power-On-Reset (cycled) by entering C plus the number. (i.e. C1 to reset outlet number 1) The length of time the outlet resets is preset through the programming menu. While the outlet is resetting, a message will be displayed.

To access CP-815's setup screens, select **S- Setup**. To terminate the current session, select **X- Exit**. In dial-up systems, CP-815 will terminate the modem link and a new call will be required. In directly connected systems, send an Enter key to obtain a new Login prompt.

**S. Setup**

Setup	
1. Outlet Names	
2. Location Name	- <location Name>
3. Number of Outlets 4/8	- 8
4. Password	
5. Cycle Time	- 10
6. Baud Rate	- 9600
X. Return to the Main Menu	
Enter >	

### Setup 1. Outlet Names

This selection allows setup of the names of each outlet, with the option of changing any or all names.

```
Edit Outlet Names

1. Name1
2. Name2
3. Name3
4. Name4
5. Name5
6. Name6
7. Name7
8. Name8

#. Select the Outlet Name to edit
X. Return to the Setup Menu

Enter >
```

When an outlet number is selected, a setup screen is displayed for that outlet:

```
The current name for Outlet 1 is: Name1

Enter the new name (20 char max) >
```

Enter the new name at the prompt, or Enter alone to keep the name. Names can be up to 20 characters.

### Setup 2. Location Name

With this menu, you can change the location name of the device for easy identification. Location names can be up to 20 characters.

### Setup 3. Number of Outlets

This setting selects whether the menu displays 4 or 8 outlets. 8 Outlet versions should be kept at the default setting of 8. 4 outlet versions have a default setting of 4. Change this to 8 when adding the expansion unit K-415 or similar, or any single outlet power modules such as the K-12A. Each time Setup option 3 is selected, the setting will change between 4 and 8.

**Setup 4. Password.**

The password is used for login to the menu system and in every escape sequence. **The factory default is PASS (all caps).** The security code may be 1 to 10 characters. These characters can be any ASCII character except NULL (00 hex). To change the password, the current password must be reentered. Then a prompt for a new password, then a confirmation of the new password.

```
Change the Password
Enter the Current Password > PASS
Enter the New Password> * * * * *
Re-enter New Password > * * * * *
```

**Setup 5. Cycle Time**

Sets the length of time in a power cycle (reboot) command. This time is set once for all power outlets controlled. Selection of from 1 to 99 seconds are valid.

**Setup 6. Baud Rate**

CP-815 is capable of operation from at 2400, 9600 and 19200 BPS. Making selection 6 from the setup menu will cycle through the available choices. It is necessary to power cycle the CP-815 for the new Baud Rate to take effect.

**Setup X. Return to the Main Menu**

Exits the programming menu and returns to the Main Menu

## Escape Code Control

CP-815 allows direct computer control using simple ASCII strings. To access CP-815 for code control, enter the commands as shown below. The syntax for all commands use the following:

$E_{Sc}$             The Escape Character (Decimal 27 Hex 1B)  
 <Sec>            The Security Code (Default = PASS)  
 <n>                The Outlet Number  
 <Enter>          The Enter Key (Decimal 13 Hex D)

Turn On                     $E_{Sc}<Sec><n>ON<Enter>$   
 Turn Off                    $E_{Sc}<Sec><n>OFF<Enter>$   
 Cycle Outlet               $E_{Sc}<Sec><n>C<Enter>$   
 Query Status               $E_{Sc}<Sec>?<Enter>$

### Escape Code Responses

CP-815 will confirm receipt of switching commands. The CP-815 will report back:

**n <status>**                    Indicating the outlet (number 'n') has been changed. <status> will be ON, OFF, CYCLE or NONE. None indicates no outlet present (outlets 5-8 of the CP-415).

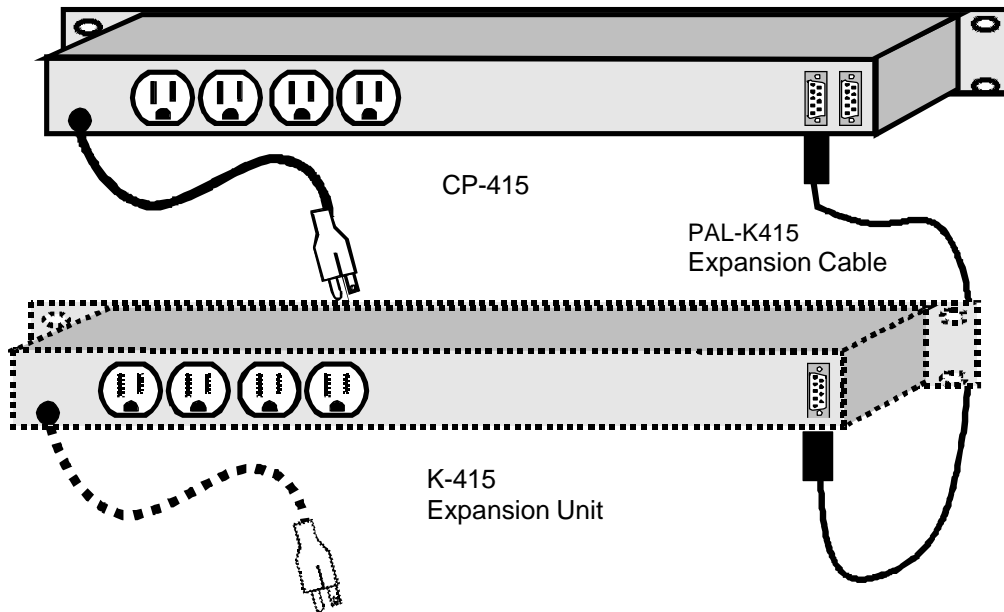
The Query command returns the status of all 8 outlets:

1 ON  
 2 OFF  
 3 CYCLE  
 4 ON  
 5 NONE  
 6 NONE  
 7 NONE  
 8 NONE

### Escape Code Examples

Send Command	CP-815 Action	CP-815 Response
$E_{Sc}PASS1ON<enter>$	Turn On Outlet 1	1 ON
$E_{Sc}PASS3C<enter>$	Reset Outlet 3	3 OFF CYCLE
$E_{Sc}PASS?<enter>$	Query Status	1 ON 2 ON 3 OFF 4 ON 5 ON 6 OFF 7 ON 8 ON

# INSTALLATION

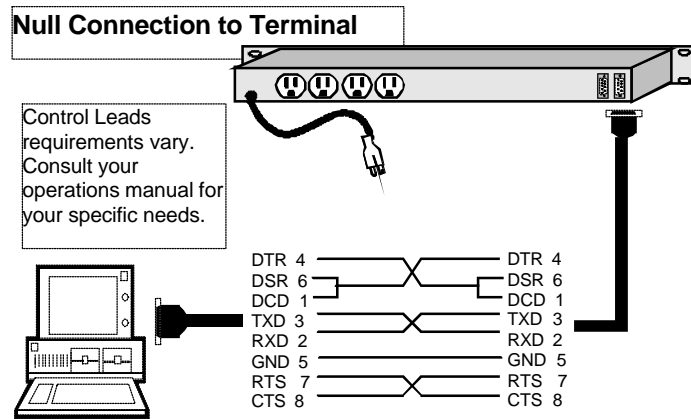


## Control Port

Connection to CP-815's control port is made using 9 pin D Subminiature connector. CP-815 only requires Pins 2, 3, 5 and 1 when connected to an external modem. RTS/CTS and DSR/DTR are jumpered together internally.

Pin	Designation
3	Transmit Data
2	Receive Data
7	Request to Send
8	Clear to Send
6	Data Set Ready
5	Signal Ground
1	Data Carrier Detect
4	Data Terminal Ready
9	Ring Indicator

The Control port is wired as a DTE, for direct connection to a modem or other DCE device. To directly connect a terminal device to the Control Port, a Null cable is required. Refer to Figure 3



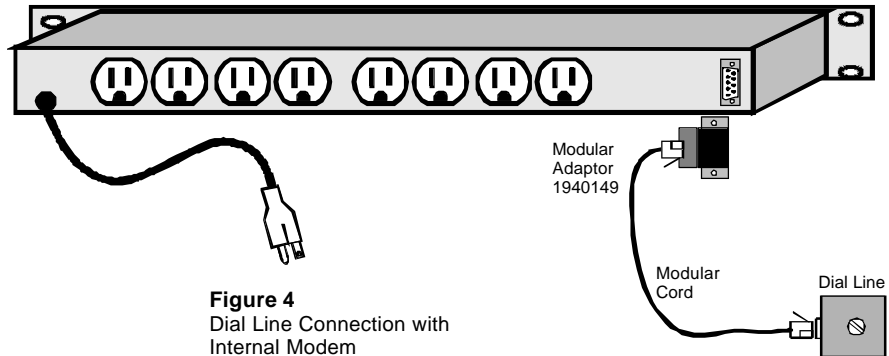
**Figure 3**  
Null Modem Connection

**Internal Modem Option**

Dataprobe offers the following internal modem options with CP-815

MOD-56 56Kbps Modem

These modem options, when ordered with the CP-815 are supplied factory installed. They can also be ordered separately for field installation. Information on field installation is supplied with the modem.



**Figure 4**  
Dial Line Connection with Internal Modem

“M” suffix designations in the model name indicate models equipped with an internal modem.

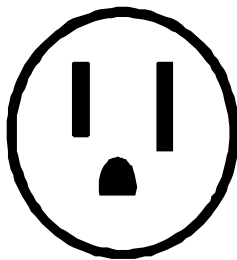
Connection to the dial line is made using a RS-232 to Modular Adapter, **Model 1940149**, supplied with the modem. This adapter connects to the Master Port and to an RJ11 Modular Jack. The modem’s FCC registration and AT command set are available online at <http://www.dataprobe.com/files/56k.pdf>.

**A/C Power Connections**

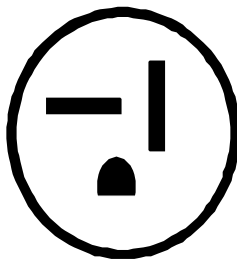
The CP-820 & CP-420 provide a linecord for connection to a 20 Amp 115VAC service. The total maximum current load for all outlets on the CP-820 or CP-420 cannot exceed 16 Amps.

The CP-815 & CP-815 provide a linecord for connection to a 15 Amp 115VAC service. The total maximum current load for all outlets on the CP-815 or CP-815 cannot exceed 12 Amps.

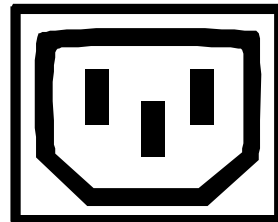
The CP-810 & CP-410 are for international applications and can be set for use on 115V or 230VAC. The CP-810 & CP-410 provide an IEC 320 style universal inlet for connecting a detachable power cord. A standard IEC to NEMA 5-15 cord set is supplied with the unit for use on 15 Amp 115VAC service. The total maximum current load for all outlets cannot exceed 12 Amps at 115VAC or 10 Amps when used at 230VAC.



**15 Amp Service**  
CP-415 / CP-815



**20 Amp Service**  
CP-420 / CP-820



**10-15 Amp Service**  
CP-410 / CP-810

**Expansion Port 5- 8**

This connection provides expansion of circuits 5-8 to Dataprobe’s K-415 four outlet power strip. Use cable # 1940052, supplied with the K-415. For connection to other devices, consult Dataprobe.

## SPECIFICATIONS

### Physical

19" wide x 6.25" deep x 1.75" high, EIA Rack Mount -1RU



### Power

Model CP-820 & CP-420	110 -120VAC 60 Hz, 16A Max
Model CP-815 & CP-815	110 -120VAC 60 Hz, 12A Max
Model CP-810 & CP-410	Switch Selectable ;110-120VAC 50-60Hz, 12A Max 210-240VAC 50-60 Hz, 10A Max

### Communications

Speed: 2400, 9600, 19200 bps.  
 Character Format: 8 data, no parity.  
 Interface: RS-232 Asynchronous , 9 pin D Subminiature, Male. Pins Supported: 2, 3, 5, 1

### Factory Default Setting:

9600 Bits per Second , 8 Data Bits , No Parity, 1 Stop Bit (9600,8,n,1)

### Power Connections

#### CP-820 & CP-420

Main Power Input: NEMA 5-20 Plug on 6 foot 12/3 line cord  
 Output Circuits: Standard NEMA 5-15 Receptacle  
 Current Maximums: 12 Amps per Receptacle  
 16 Amps combined total of all receptacles

#### CP-815 & CP-815

Main Power Input: Standard NEMA 5-15 Plug on 6 foot 14/3 line cord - 120VAC  
 Output Circuits: Standard NEMA 5-15 Receptacle  
 Current Maximums: 12 Amps per Receptacle  
 12 Amps combined total of all receptacles

#### CP-810 & CP-410

**Select the proper voltage, 115V or 230 V, using the selector switch on the side of the unit before making power connection**

Main Power Input: IEC 320 C14 Power Input Connector - 115/230 VAC Selectable  
 Output Circuits: IEC 320 C13 Receptacle  
 Current Maximums: 12 Amps per Receptacle @ 115VAC  
 10 Amps per Receptacle @ 230VAC  
 12 Amps combined total of all receptacles @ 115VAC  
 10 Amps combined total of all receptacles @ 230VAC

## TECHNICAL SUPPORT, RETURNS & WARRANTY

Dataprobe Technical Support is available 8:30AM to 5:30PM ET to assist you in the installation and operation of this product. To obtain Technical Support call our Tech Support Hotline at 201-967-8788, or Email us at tech@dataprobe.com. Please have the following information available when you call:

- Model of Product
- Serial Number
- Date of Purchase
- Name of Seller (if other than Dataprobe)

If you purchased this product through an **Authorized Dataprobe Reseller**, you should contact them first, as they may have information about the application that can more quickly answer your questions.

### WARRANTY

Seller warrants this product, if used in accordance with all applicable instructions, to be free from original defects in material and workmanship for a period of One Year from the date of initial purchase. If the product should prove defective within that period, Seller will repair or replace the product, at its sole discretion.

Service under this Warranty is obtained by shipping the product (with all charges prepaid) to the address below. Seller will pay return shipping charges. Call Dataprobe Technical Service at (201) 967-8788 to receive a Return Materials Authorization (RMA) Number prior to sending any equipment back for repair. Include all cables, power supplies and proof of purchase with shipment.

THIS WARRANTY DOES NOT APPLY TO NORMAL WEAR OR TO DAMAGE RESULTING FROM ACCIDENT, MISUSE, ABUSE OR NEGLIGENCE. SELLER MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY EXPRESSLY SET FORTH HEREIN. EXCEPT TO THE EXTENT PROHIBITED BY LAW, ALL IMPLIED WARRANTIES, INCLUDING ALL WARRANTIES OF MERCHANT ABILITY OR FITNESS FOR ANY PURPOSE ARE LIMITED TO THE WARRANTY PERIOD SET FORTH ABOVE; AND THIS WARRANTY EXPRESSLY EXCLUDES ALL INCIDENTAL AND CONSEQUENTIAL DAMAGES.

Some states do not allow limitations on how long an implied warranty lasts, and some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from jurisdictions to jurisdiction.

**WARNING:** The individual user should take care to determine prior to use whether this device is suitable, adequate or safe for the use intended. Since individual applications are subject to great variation, the manufacturer makes no representation or warranty as to the suitability of fitness for any specific application.

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