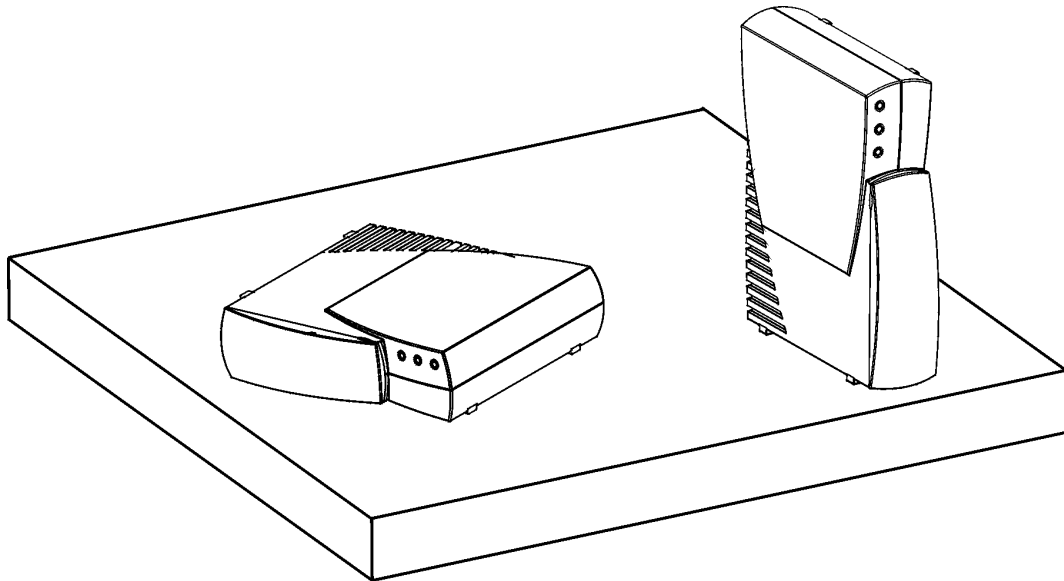


**APC<sup>®</sup>** **BroadBand**  
www.apc.com  
**Desktop PowerShield**

**User Manual**



990-1193A 10/2004



## Chapter 1 General Information

The Desktop PowerShield provides power source housing for broadband telephony applications.

This unit is designed for vertical or horizontal desktop applications or as a wall mount unit.

### Important Safety Instructions – Save These Instructions

This Safety Guide contains important instructions that should be followed during installation and maintenance of the APC equipment and batteries. It is intended for APC customers who setup, install, relocate, or maintain APC equipment.

**Changes and modifications to this unit not expressly approved by APC could void the warranty.**

**Failure to observe these warnings may result in serious injury, death or damage to the equipment.**

#### **Electrical Warnings**

Do not work alone under hazardous conditions.

Servicing this equipment may require working with protective covers removed and utility power connected. Use extreme caution during these procedures.

Check that the power cord(s), plug(s), and sockets are in good condition.

Replacement of fuses or other parts must be with identical types and ratings. Substitution of nonidentical parts may cause safety and fire hazards.

#### **Battery Warnings**

Danger of explosion if battery is incorrectly connected or replaced. Use only APC replacement batteries.

## Specifications

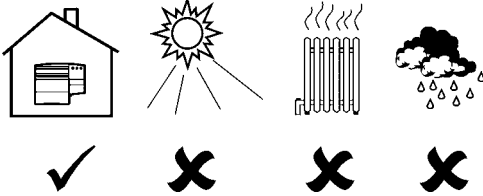
<i>Model Number</i>	<i>Input</i>	<i>Output</i>	<i>Max Signal Voltage</i>	<i>Max Signal Current</i>	<i>Battery Type Same for all Models</i>
CP24D12	100-240 V 0/60 Hz 1.0 A	12 VDC 24 W	30 V	5 mA	12 V 8.2 AHr Spill-Proof, Maintenance-Free Sealed Lead Acid

## Environmental Specifications

<i>Operating Temperature</i>	32° F to 104° F (0° C to 45° C)
<i>Operating Humidity</i>	0 to 95% noncondensing within enclosure
<i>Operating Elevation</i>	0 to 3,000 m (10,000 ft)
<i>Storage Temperature</i>	5° F to 113° F (-15° C to 45° C)

## Physical Specifications

<i>Characteristic</i>	<i>Specification</i>
<i>Height x Width x Depth</i>	9.5 x 9.5 x 2.75 in (24.1 x24.1 x 7 cm)
<i>Weight</i>	8 lbs (3.6 kg)



Install the UPS in a protected area that is free of excessive dust and has adequate airflow.

Do not operate the power supply where the temperature and humidity are outside the specified limits. Refer to *Specifications* in this manual.

## Unpacking

Inspect the unit upon receipt. Notify the shipping carrier or product supplier if there is damage.

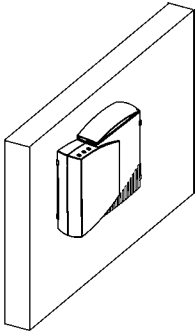
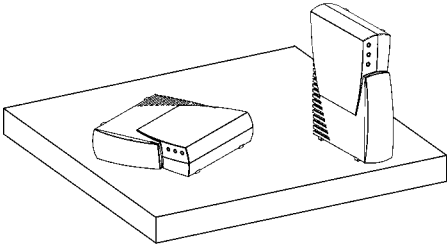
The packaging is recyclable; save it for reuse or dispose of it properly.

Check the package contents. The package contains the enclosure, the battery (to be installed), one power cord, one seven-pin connector, and product documentation.

# Chapter 2 Installation

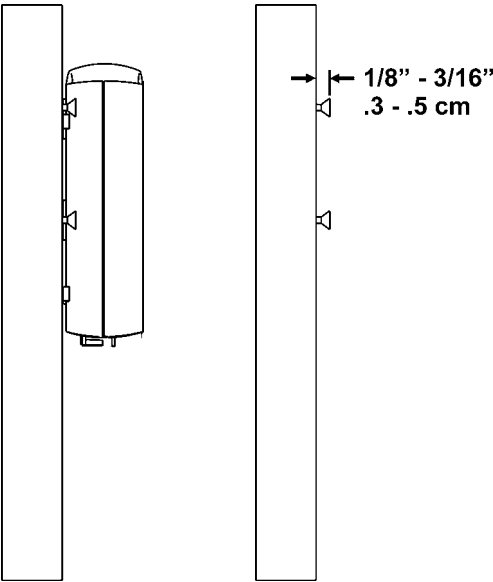
## Enclosure Installation

### Mounting Options



### Wall Mount Installation

Use screws that are appropriate for the weight of this unit and the mounting surface material. Refer to *Specifications* in this manual.



Wall Mounting Template

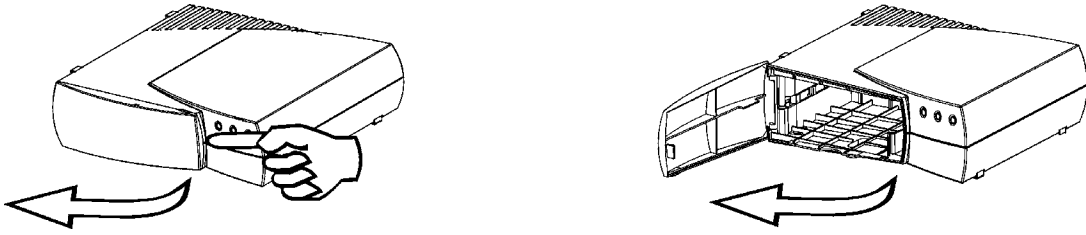


3 3/8"  
8.6 cm

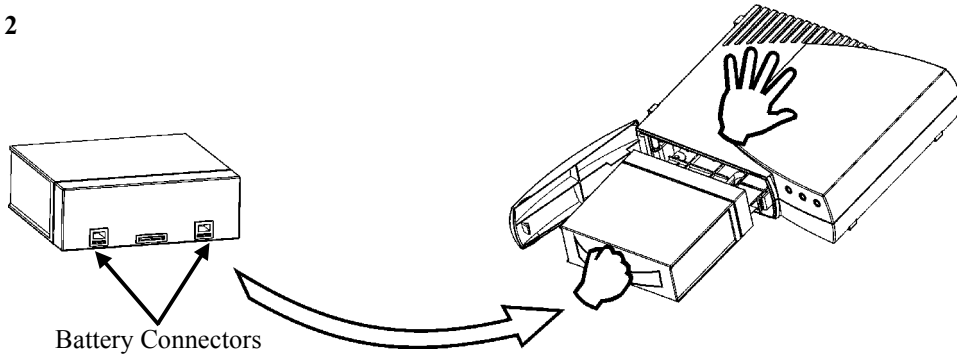


## Battery Installation

### Step 1

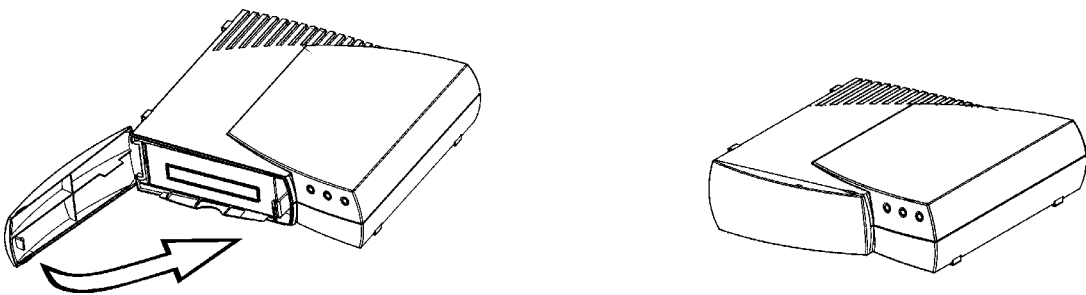


### Step 2



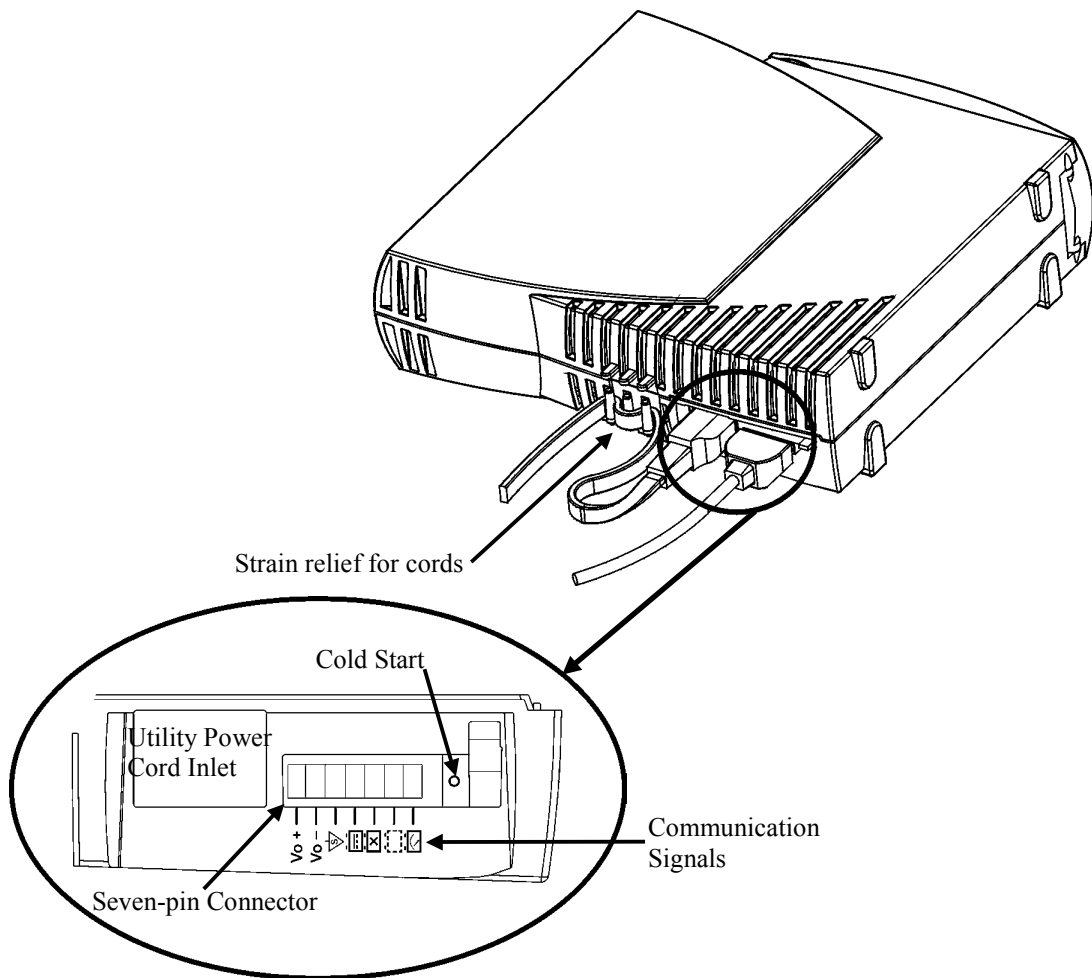
Grasp the battery handle and slide the battery into the battery compartment with the connectors entering the compartment first. A slight push will be required to seat the battery properly.

### Step 3



## Chapter 3 Operation

### Connect Equipment and Power

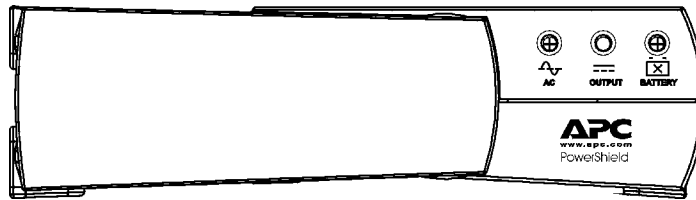


The Desktop PowerShield battery charges when it is connected to utility power. The battery charges fully during the first eight hours of normal operation. **Do not** expect full battery run capability during this initial charge period.

1. Connect equipment to the UPS via the seven-pin connector (included), or use an APC custom data cable, (must be ordered separately).
2. Plug the UPS power cord into the utility power cord inlet and then into the wall outlet.

## Status Indicators

### UPS Front View



Green indicates the UPS is on utility power. Yellow indicates the UPS is on battery power.



DC output power is provided by the battery or utility power.



Replace the battery. Refer to *Battery Replacement* below.

## Communication Signals

The Desktop PowerShield communication signals are isolated from its internal circuitry via open collector opto-coupled transistors. The connection labeled “Signal Return” is a common return point for all communication signals. In the typical application, the attached equipment digital ground connects to Signal Return, and pull-up resistors turn the open collector signals into logic levels.

Vo + —  
Vo - —

+ Voltage output  
— Voltage output

SIG RTN  —


Signal return.

ON BATT  —

Low when operating from utility line. Open when operating from battery.

REPLACE BATT  —

Low when battery is charged. Open when battery fails the Self Test.

BATT MISSING  —

Low when battery is present. Open when battery is missing.

LOW BATT  —



Low when battery is near full charge capacity. Open when operating from a battery with < 20% capacity.

## Cold Start

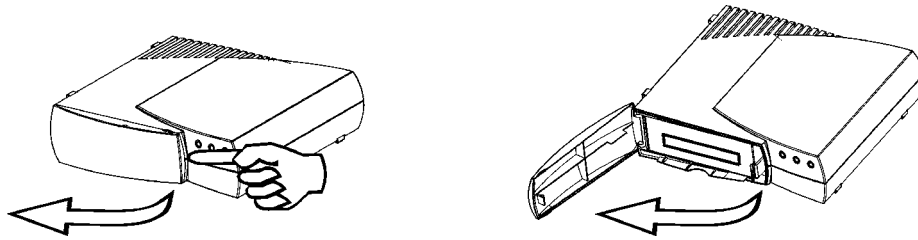
Use the cold start feature to apply power to the UPS and connected equipment when the UPS is off and there is no utility power. The battery must be charged for the cold start feature to work. To utilize the cold start feature, use a small pointed object to press the recessed cold start button.

## Battery Replacement

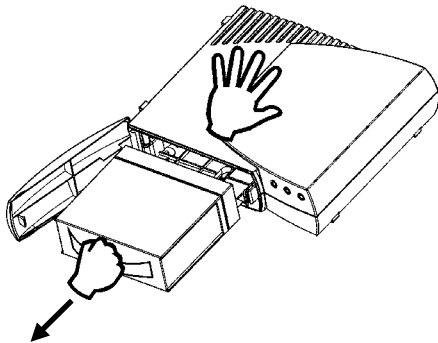
This UPS has an easy to replace, hot-swappable battery. Replacement is a safe procedure, isolated from electrical hazards. You may leave the UPS and connected equipment on for this procedure. See your dealer or refer to the APC Web site, [www.apc.com/support](http://www.apc.com/support) for information on replacement battery modules.

	<b>Once the battery is disconnected, the connected equipment is not protected from power outages.</b>
	<b>Be sure to deliver spent batteries to a recycling facility or ship to the manufacturer in the replacement battery packing material.</b>

### Step 1



### Step 2



Refer to *Battery Installation* in this manual for details on reinstalling the battery.

## Chapter 4 Service, Contact and Warranty Information

### Service

APC makes every effort to ensure parts and equipment arrive in working condition. Occasionally, it may be necessary to return parts or equipment that are not in working condition.

If the unit requires service do not return it to the dealer. Follow these steps:

1. Contact APC Customer Support through the APC Web site, [www.apc.com/support](http://www.apc.com/support).
  - Note the product model number, the serial number, and the date purchased. If you call APC Customer Support, a technician will ask you to describe the problem and try to solve it over the phone. If this is not possible the technician will issue a Returned Material Authorization Number (RMA#).
  - If the product is under warranty, repairs are free. If not, there is a repair charge.
  - Procedures for servicing or returning products may vary internationally. Refer to the APC Web site. Select the appropriate country from the country selection field. Select *Support* from the tab at the top of the web page.
2. Pack the product in its original packaging. If the original packing is not available, refer to the APC Web site for information on obtaining appropriate packing materials.
  - Pack the unit properly to avoid damage in transit. Never use Styrofoam beads for packaging. Damage sustained in transit is not covered under warranty.
3. Mark the RMA# on the outside of the package.
4. Return the unit by insured, prepaid carrier to the address given to you by Customer Support.

### How to Contact APC

In the USA ...	Outside the USA ...
Refer to the APC Web site, <a href="http://www.apc.com/support">www.apc.com/support</a> .	Refer to the APC Web site, <a href="http://www.apc.com">www.apc.com</a> . Select the appropriate country from the country selection field. Select the <i>Support</i> tab at the top of the web page.

## Limited Warranty

American Power Conversion (APC) warrants its products to be free from defects in materials and workmanship for a period of two years from the date of purchase. Its obligation under this warranty is limited to repairing or replacing, at its own sole option, any such defective products. To obtain service under warranty you must obtain a Returned Material Authorization (RMA) number from customer support. Products must be returned with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment that has been damaged by accident, negligence, or misapplication or has been altered or modified in any way. This warranty applies only to the original purchaser who must have properly registered the product within 10 days of purchase.

EXCEPT AS PROVIDED HEREIN, AMERICAN POWER CONVERSION MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

EXCEPT AS PROVIDED ABOVE, IN NO EVENT WILL APC BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS PRODUCT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. Specifically, APC is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise.

## Regulatory Approval



This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Shielded signal cables must be used with this product to ensure compliance with the Class A FCC limits

EC Declaration of Conformity		2002																		
We, the undersigned, declare under our sole responsibility that the equipment specified below conforms to the following standards and directives:																				
<b>Standards to Which Conformity Declared:</b>	EN55022; EN61000-3-2; EN60950-1; IEC60950																			
<b>Application of Council Directives:</b>	73/23/EEC; 89/336/EEC; 93/68/EEC; 93/51/EEC																			
<b>Type of Equipment:</b>	Power Supply																			
<b>Model Numbers:</b>	CP24D12																			
<b>Manufacturers:</b>	<table border="0"> <tr> <td>American Power Conversion Bullybrien Business Park Galway, Ireland</td> <td>American Power Conversion 2nd Street PEZA, Cavite Economic Zone Rosario, Cavite Philippines</td> <td>APC (Suzhou) UPS Co., Ltd 339 Shaohong Zhong Lu Suzhou Industrial Park Suzhou Jiangsu 215021 P. R. China</td> </tr> <tr> <td>American Power Conversion Breaffy Rd. Castletar Co Mayo, Ireland</td> <td>American Power Conversion Lot 10, Block 16, Phase 4 PEZA, Rosario, Cavite Philippines</td> <td>APC Brasil LTDA. Al. Xingtu, 850 Baurer Alphaville/Sao Paulo 06455-030 Brazil</td> </tr> <tr> <td>American Power Conversion 132 Fairgrounds Rd. West Kingston, RI 02892 USA</td> <td>American Power Conversion Let 3, Block 14, Phase 3 PEZA, Rosario, Cavite Philippines</td> <td></td> </tr> <tr> <td>American Power Conversion 1609 Division Rd. West Warwick, RI 02892 USA</td> <td></td> <td></td> </tr> <tr> <td>American Power Conversion 40 Catamore Blvd. East Providence, RI 02914 USA</td> <td></td> <td></td> </tr> <tr> <td>APC India Pvt. Ltd. 187A, 188/3, Jigani Industrial Area, Jigani Bangalore, 562106 Karnataka India</td> <td></td> <td></td> </tr> </table>		American Power Conversion Bullybrien Business Park Galway, Ireland	American Power Conversion 2nd Street PEZA, Cavite Economic Zone Rosario, Cavite Philippines	APC (Suzhou) UPS Co., Ltd 339 Shaohong Zhong Lu Suzhou Industrial Park Suzhou Jiangsu 215021 P. R. China	American Power Conversion Breaffy Rd. Castletar Co Mayo, Ireland	American Power Conversion Lot 10, Block 16, Phase 4 PEZA, Rosario, Cavite Philippines	APC Brasil LTDA. Al. Xingtu, 850 Baurer Alphaville/Sao Paulo 06455-030 Brazil	American Power Conversion 132 Fairgrounds Rd. West Kingston, RI 02892 USA	American Power Conversion Let 3, Block 14, Phase 3 PEZA, Rosario, Cavite Philippines		American Power Conversion 1609 Division Rd. West Warwick, RI 02892 USA			American Power Conversion 40 Catamore Blvd. East Providence, RI 02914 USA			APC India Pvt. Ltd. 187A, 188/3, Jigani Industrial Area, Jigani Bangalore, 562106 Karnataka India		
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<b>Importer:</b>	American Power Conversion (A. P. C.) b. v. Bullybrien Business Park Galway, Ireland																			
<b>Place:</b>	Galway, Ireland	Ray S. Ballard, Managing Director, Europe 5 Jan 02																		
<b>Place:</b>	N. Billerica, MA U.S.A.	Richard J. Everett, Sr. Regulatory Compliance Engineer 5 Jan 02																		

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