



# User Manual

## C Type Wall Mount Power Filter

Model: C2/C2-CN



---

Entire contents copyright 2006 American Power Conversion Corporation. All rights reserved. Reproduction in whole or in part without permission is prohibited. APC, the APC logo, and TRADE MARK NAMES are trademarks of American Power Conversion Corporation.

All other trademarks, product names, and corporate names are the property of their respective owners and are used for informational purposes only.

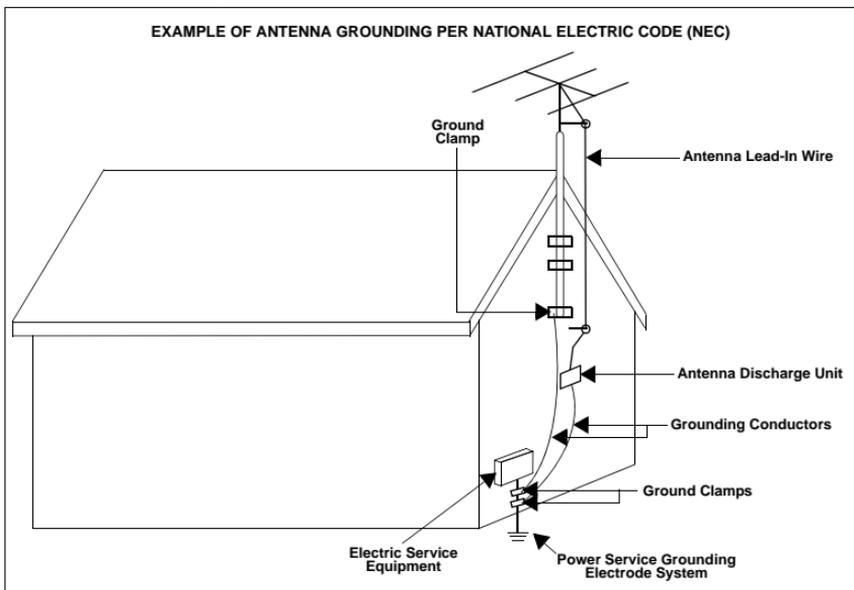
This manual is subject to change without notice.

## Safety Information

1. **Read this manual** - Read all of the safety and operating instructions before installing and operating this device.
2. **Keep this manual** - Retain this manual, and all of the safety information that came with this device.
3. **Warnings** - Comply with all warnings presented in this manual, as well as any found on the device.
4. **Follow Instructions** - Follow all operating and use instruction.
5. **Cleaning** - Unplug this device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a soft damp cloth for cleaning.  
**Note:** A product that is meant for uninterrupted service and for some specific reason, such as the possibility of the loss of an authorization code for a cable TV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging this device.
6. **Water and Moisture** - Do not use this product near any source of water, or in an environment where the relative humidity may exceed 95% (non-condensing).
7. **Placement** - Do not install this device on any unsteady surface. Do not install this device on any heat source.
8. **Power** - Ensure this device is connected to a properly grounded AC power source. Further ensure the device is plugged into a source providing the required 120 Vac. Do not use a plug adapter which defeats the ground pin of the AC plug.
9. **Polarization** - This device has a polarized AC line plug having one blade wider than the other. This plug will only fit into the wall outlet in one orientation. This is a safety feature. Do not remove the round grounding pin, or use an adapter that defeats this safety feature.
10. **Power Cord** - Ensure power cords are routed in a manner that will preclude them being pinched, frayed, or stepped on. After connecting other devices to this device, do not push the rear of the device up against any surface (wall or shelving unit), as this may create an undesired bend in the power cords which may break the wire strands of the cord.
11. **Antenna Grounding** - Although this device provides protection against electrical surges, when connecting an outside antenna or cable system to devices connected to this device, ensure the antenna or cable system is grounded so as to provide additional protection against voltage surges and static charges in accordance with Section 810 of the National Electric Code, ANSI/NFPA No.70 (see illustration - next page).
12. **Lightning** - This device employs Metal Oxide Varistors (MOVs), and other circuitry to protect against lightning and other sources of voltage surges and sags. It is not necessary to turn this device or the devices connected to this device, off during a lighting storm.

## Safety Information (Continued)

13. **Power Lines** - Do not locate outside antenna systems near overhead power lines, or other electric light or power circuits, or where it may fall or otherwise come in contact with these power sources. Do not allow the ladder being used, or the antenna itself to come into contact with these power sources, and such contact may be fatal.
14. **Overloading** - Do not overload the wall outlet where this device is being connected. Do not overload this device. Ensure the total load to this device does not exceed that which is listed in the Specifications section of this manual.
15. **Servicing** - There are no user-serviceable components within this device. Removal of any cover from this device may present a shock hazard, and/or void the warranty.
16. **Damage Requiring Service** - If any type of damage occurs to this device, immediately disconnect it from the wall outlet. Do not use the Power switch or line cord into the rear of the device to disconnect power. Notify APC Technical Support or Customer Service at once.
17. **Replacement Parts** - There are no components within this device that can or should be removed/replaced unless it is by an APC-qualified technician.
18. **Periodic Inspection** - Inspect the line cords, telephone/data cords, or DSS/Cable TV coaxial cables connected to this device to ensure they remain fully pushed in or attached, and that they are not frayed or otherwise damaged.



## Protect Your Investment

Congratulations and thank you for selecting and investing in APC's Model C2/C2-CN Wall Mount Power Filter. At APC, we know you have made an intelligent choice sure to reward you for many years. To ensure you receive all the benefits and protection that accompany your purchase, please take a few minutes to fill out and mail the enclosed Warranty Registration Card, or complete the online form at: [www.apc.com](http://www.apc.com).

**Note:** Under California law, failure to register your purchase may not exclude you from provisions of the Warranty and Equipment Protection Policy.

The benefits of warranty registration are outlined below.

### Registration

By registering your purchase now, it guarantees you will receive all the information and special offers you qualify for as the owner of this product.

### Verification

By registering your purchase now, it confirms your right to maximum protection under the terms and conditions of the Warranty, and Equipment Protection Policy.

### Confirmation

By registering your purchase now, you have a way to confirm yourself as the owner of the product in the event of fire, theft or loss.

## Safety Symbols



This "bolt of lightning" indicates uninsulated material within your unit that may cause an electrical shock. For the safety of everyone in your home, please do not remove the product cover.



This "exclamation point" calls attention to features for which you should read about in this Manual to prevent operating and maintenance problems.

## Warnings, Cautions and Notes

### Warnings

Warnings provide information about a procedure that, if not performed exactly as stated, may result in injury or death.

### Cautions

Cautions provide information about a procedure that, if not performed exactly as stated, may result in equipment damage.

### Notes

Notes provide information that is essential to highlight.

## Class B Labeling and Instruction Manual Requirements

Devices subject to Certification must be labeled with an FCC Identifier. Devices subject to Verification or Certification must be labeled with the following compliance statement:

**This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.**

In addition, for a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

***Warning:* Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

***NOTE:* This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the CC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiated radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:**

**Reorient or relocate the receiving antenna.**

- Increase the separation between the equipment and receiver.**
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- Consult the dealer or an experienced audio TV technician for help.**

If shielded cables or other specialized accessories are necessary for the unit to achieve compliance, a statement similar to the following should be added:

**Shielded cables must be used with this unit to ensure compliance with the Class B FCC limits.**

# Table of Contents

<b>Safety Information</b>	<b>i</b>
<b>Protect Your Investment</b>	<b>iii</b>
<b>Class B Labeling and Instruction Manual Requirements</b>	<b>iv</b>
<b>Introduction</b>	<b>1</b>
Proven Expertise...Proven Reliability	1
Safety Precautions	2
Package Checklist	2
Unit Power Capacity	2
<b>Features</b>	<b>3</b>
Surge Protection	3
Isolated Noise Filter Banks	3
Full Outlet Coverage	3
<b>Side Panel Indicators</b>	<b>4</b>
<b>Outlet Panel</b>	<b>6</b>
<b>Installation</b>	<b>7</b>
Apply Power	7
Making Connections	7
FCC Compliance Information	7
<b>Technical Specifications</b>	<b>8</b>
<b>Troubleshooting</b>	<b>9</b>
<b>APC Technical Support</b>	<b>10</b>



## Introduction

Congratulations on purchasing APC's C2/C2-CN Wall Mount Power Filter, shown in Figure 1.

The C2/C2-CN is designed for the unique mounting requirements of flat panel displays such as plasma displays, LCDs and projectors, and will protect your high performance audio and video (AV) equipment from damage caused by power surges, spikes and lightning. Protection is guaranteed.

Isolated noise filter bank (INFB) technology eliminates electromagnetic interference and radio frequency interference (EMI/RFI) as sources of audio and video signal degradation, and data line surge protection jacks stop surges from traveling over phone lines.



**Figure 1. C2/C2-CN Wall Mount Power Filter - Front View**

## Proven Expertise... Proven Reliability

From corporate data centers to home offices, APC is regarded as an innovator, designer and manufacturer of high quality power protection solutions. With a proven reputation for Legendary Reliability™, leading companies depend on APC every day to protect and support many of the most critical networks in the

world. Over the last 20 years, APC has been a pioneer in the development of new power protection technologies that have resulted in countless industry awards, patents, and an installed-base numbering in the tens of millions of units. Multiple R&D centers, along with APC-owned and controlled factories ensure APC solutions are the safest, most advanced and reliable products available. When you buy APC, you buy “peace of mind.”

## Safety Precautions

Please ensure that you have read and understand all of the safety information located in the front of this manual. If you have any questions about the safety information, or are concerned that your home may not be properly wired for this equipment, please contact APC Technical Support, or a qualified and licensed electrician.

## Package Checklist

Check your C2/C2-CN Power Filter package for the following items:

<b>Item No.</b>	<b>Item Description</b>	<b>Quantity Shipped</b>
1.	C2/C2-CN Wall Mount Power Filter	1 ea.
2.	Power Cord	1 ea.
3.	Model C2/C2-CN User Manual	1 ea.
4.	C2/C2-CN Wall Mounting Template	1 ea.
5.	Equipment Protection Policy Sheet	1 ea.
6.	Warranty Registration Card	1 ea.

## **Unit Power Capacity**

The C2/C2-CN is rated for 12 Amps. The C2/C2-CN is capable of supplying the dynamic peak current draws required by any component designed to work on a 15 A circuit. Despite their nameplate power ratings, high performance AV equipment draws much less than their listed power ratings. The C2/C2-CN can inform the user of how much power is still available as each device is connected to the C2/C2-CN unit.

## **Features**

The following paragraphs describe the major features of the Model C2/C2-CN Power Filter.

### **Surge Protection**

The C2/C2-CN Power Filter provides a high level of surge protection for the voltage going into the unit, and thus protects the devices connected to the unit.

### **Isolated Noise Filter Banks**

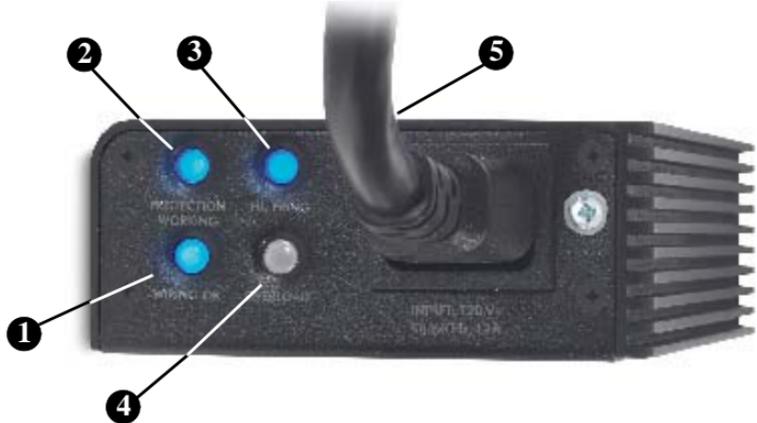
The C2/C2-CN provides isolated noise filter bank (INFB) technology to eliminate electromagnetic (EMI) and radio frequency interference (RFI) that can negatively impact sound and video quality.

### **Full Outlet Coverage**

Surge protection and noise filtering are provided for all of the C2/C2-CN unit's outlets.

# Side Panel Indicators

The following section describes the LED indicators on the C2/C2-CN's side panel. The side panel controls and indicators for the C2/C2-CN Power Filter are detailed in Figure 2. Each numbered callout refers to a corresponding numbered description found immediately below the picture.



**Figure 2. C2/C2-CN Side Panel Indicators**

<b>1</b>	<b>Wiring OK Status Indicator</b> When it is on (lit) it indicates the receptacle the C2/C2-CN is plugged into is live and wired properly. If it is off (not lit), one of three wiring problems exists in the building wiring circuit: <i>missing ground, overloaded neutral, or reversed polarity.</i> An electrician should be consulted to resolve the problem.
<b>2</b>	<b>Protection Working Status Indicator</b> When on (lit), it indicates the C2/C2-CN is functioning properly. If it is off (not lit), the C2/C2-CN has been <i>hit by a surge</i> , and the protection circuitry may be damaged.
<b>3</b>	<b>Filtering Status Indicator</b> When this indicator is on (lit) it indicates that the EMI/RFI <i>noise reduction circuitry</i> is active.

<b>4</b>	<b>Overload Status Indicator</b> If illuminated, this LED indicates the C2/C2-CN is overloaded. Unplug components until the light is extinguished.
<b>5</b>	<b>Detachable AC Input Power Cord</b> connects to the nearest properly rated AC receptacle. The power cord is only two (2) feet long, which makes it easy to hide. The power cord is detachable, which allows it to be easily replaced with an optional longer power cord (sold separately). <b>Note: If it is only a short distance between the TV and the C2/C2-CN Power Filter, and it is a longer distance between the C2/C2-CN and the wall outlet, then the TV's longer power cord can be used to connect from the wall outlet to the C2/C2-CN, and the shorter C2/C2-CN power cord can be used to connect from the TV to the C2/C2-CN.</b>

# Outlet Panel

This section describes outlet panel functionality. The outlet panel for the C2/C2-CN Power Filter is shown in Figure 3. Outlet panel descriptions are provided immediately below Figure 3.



**Figure 3. C2/C2-CN Outlet Panel**

## AC-Powered Outlets

The C2/C2-CN Power Filter provides connections for two (2) AC-powered devices (**TV/MONITOR/AUX**). The isolated noise filter banks (INFBs) eliminate any EMI/RFI that can negatively impact sound and video quality.

## Digital Filtering

The incoming AC power is filtered to protect your sensitive digital devices such as plasma and LCD TVs, projectors, and similar digital devices.

**Note: Any digital device can be plugged into any of the digital outlets (TV/MONITOR/AUX).**

## **Installation**

C2/C2-CN installation consists of the following steps:

1. Apply power
2. Making connections

### **Apply Power**

Prior to connecting equipment to the C2/C2-CN Power Filter, ensure the unit is functioning by connecting the AC Power Cord (provided), shown as **5** in Figure 2. When power is applied to the unit, it will automatically power up, and the side panel LEDs will illuminate, indicating that the unit is receiving power.

### **Making Connections**

Connect the equipment to the two outlets shown in Figure 3.

### **FCC Compliance Information**

This device complies with Part 68 and Part 15 of the Federal Communications Commission (FCC) rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. As required, the bottom of this equipment contains, among other information, the Registration Number and Ringer Equivalence Number (REN) for this equipment. If requested, this information must be provided to the telephone company.

## Technical Specifications

The following table contains the specifications for the C2/C2-CN Power Filters.

Item	Specification
<b>INPUT</b>	
Input Voltage Range for Operation (on utility)	92V to 140V
Nominal Voltage	120 Vac
Allowable Input Frequency for Operation (on utility)	40 to 70 Hz
Rated Input Current	15 Amps
<b>OUTPUT</b>	
Number of Outlets	Two (all outlets are surge protected and conditioned)
Outlet type	NEMA 5-15R
Rated Output Current	12 Amps
<b>SURGE PROTECTION</b>	
Let-Through Voltage Rating	< 40 Volts
Peak Surge Current (NM + CM)	230 kA
<b>MISCELLANEOUS</b>	
EMI/RFI	50 dB @ 150 kHz to 1 MHz 40 dB @ 1 MHz to 30 MHz
Total Surge in Joules	1890 J
Physical Dimensions (H x W x D)	6.6 in. x 3.7 in. x 1.7 in.
Weight: Unpackaged / Shipping	1.5 lbs. / 2.0 lbs.
Safety Agency Approvals	cUL, NOM and FCC Part 68

# Troubleshooting

This section describes possible causes and solutions for the following problems:

- Unit will not turn on.
- **WIRING OK** indicator LED is not illuminated.

## Unit will not turn on

<i><b>Probable Cause:</b></i>	Input power cord is not connected properly.
<i><b>Solution:</b></i>	Ensure the supplied power cord is connected securely at both ends.
<i><b>Probable Cause:</b></i>	No power or insufficient power at wall outlet.
<i><b>Solution:</b></i>	Ensure the wall outlet has good power by checking it with a voltmeter, or by plugging in a known good device.
<b>Note: The unit will not turn on and accept incoming utility power if the power is outside the acceptable range.</b>	
<b>Note: If the problem is not resolved, contact APC Technical Support at 888-88APCAV or visit: <a href="http://www.apcav.com">www.apcav.com</a>.</b>	
<i><b>Probable Cause:</b></i>	Unit is overloaded.
<i><b>Solution:</b></i>	If the <b>Overload</b> LED is illuminated, we recommend that the load be reduced by unplugging the connected devices on at a time.

## **WIRING OK indicator LED is not illuminated**

<b><i>Probable Cause:</i></b>	There are three reasons why the <b>WIRING OK</b> LED would not be illuminated: <ol style="list-style-type: none"><li>1. Reversed polarity exists at the wall outlet.</li><li>2. Neutral wire is overloaded.</li><li>3. Earth ground is missing at the wall outlet.</li></ol>
<b><i>Solution:</i></b>	Operating the unit under these conditions may affect its surge protection performance. Contact an electrician to inspect the building wiring, or your home wiring, to correct the problem.

## **APC Technical Support**

If a problem cannot be resolved contact APC Technical Support.

Telephone **1-888-88APCAV**, or visit: **[www.apcav.com](http://www.apcav.com)**



