Triple Expansion Chassis
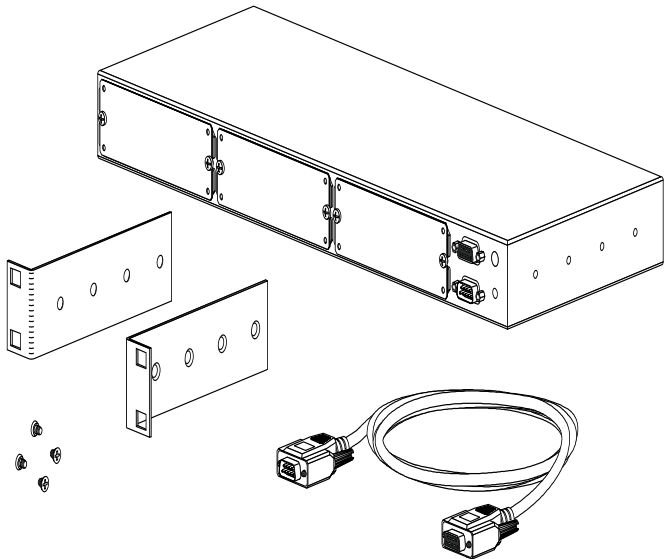
AP9604

Installation Manual

APC®

Contents

Introduction

The APC® Triple Expansion Chassis is a 3-slot chassis designed to accommodate APC management cards. The Triple Chassis allows you to:

- Use cards with APC UPSs that are not equipped with a card slot but do have an advanced Computer Interface Port
- Add cards to UPSs that have an existing card slot
- Use cards such as the Environmental Monitoring Card in a stand-alone configuration

Hardware

- Three card slots
- 9-pin male port for connecting the Triple Chassis to the computer interface port of the UPS
- Power input connector for optional power adapter
- 9-pin female UPS monitoring port that duplicates the functions of the computer interface port on the UPS
- Status indicator (LED)
- Mounting enclosure hardware

Installation

The Triple Chassis can connect to any APC device equipped with an advanced type computer interface port. This includes certain Smart-UPS and Matrix-UPS products, and any other management card that duplicates the functions of the UPSs computer interface port, such as the Share-UPS.
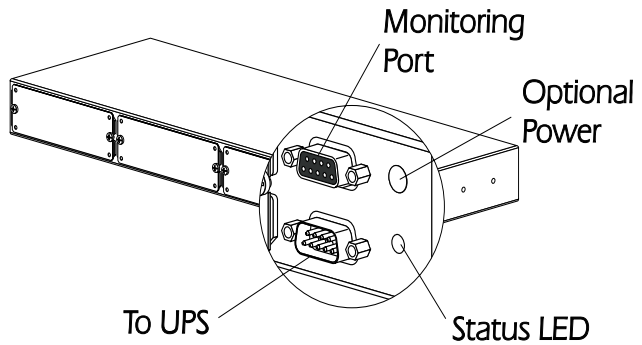
Configurations

- Stand-alone desktop unit
- Mounted in a NetShelter (EIA-310-D) 19-inch enclosure

Desktop installation

The Triple Chassis is equipped with rubber feet for desktop use and can be set up wherever space permits.
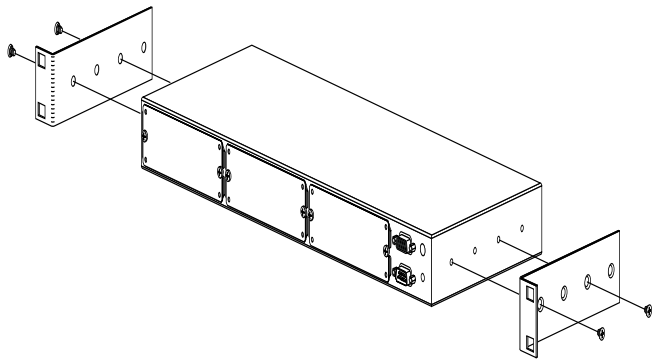
1. Place the Triple Chassis in its permanent location. It should be located within 10 ft. (3.3 m) of the UPS. Make sure that the front of the unit is accessible.

2. Connect the female end of the cable (940-1000A) to the 9-pin male connector labeled "To UPS" on the front of the Triple Chassis.

3. Connect the male end of the cable to the 9-pin female Computer Interface Port on the rear of the UPS.

4. If UPS monitoring is to be used, connect the required cable (940-0024, not supplied) from the 9-pin monitoring port on the front of the Triple Chassis to an appropriate serial port on your computer, or to another card.

5. If additional power is needed (see "Power Considerations" on page 5), connect the optional power adapter output to the front of the Triple Chassis.

Monitoring
Port

Optional
Power

To UPS

Status LED

Rackmount installation

The Triple Chassis is designed to mount in a NetShelter enclosure (or other 19-inch EIA-310-D) using the hardware included with the Triple Chassis. The Triple Chassis can be installed in the enclosure by following these steps:

1. Peel the rubber feet from the bottom of the Triple Chassis.

2. Attach a mounting bracket to each side of the Triple Chassis using 2 small flat-head screws (supplied) and a #2 Phillips screwdriver.

The mounting brackets can be attached at various positions along the side of the Triple Chassis using the holes provided. Choose a position that will not cause the mounted Triple Chassis or the attached cables to interfere with closing the cabinet door or to otherwise protrude from the cabinet. If more than two mounting holes are aligned, choose the pair that are farthest apart.

3. Mount the Triple Chassis into the NetShelter enclosure with 4 caged nuts and machine screws (not supplied).

If the Triple Chassis is being installed in a enclosure other than a NetShelter, use the hardware that is appropriate for the enclosure.

4. Connect the female end of the included cable to the 9-pin male connector labeled "To UPS" on the front of the Triple Chassis.

5. Connect the male end of the cable to the 9-pin female computer interface port on the rear of the UPS.

6. If UPS monitoring is to be used, connect the required cable (940-0024, not supplied) from the 9-pin monitoring port on the front of the Triple Chassis to an appropriate serial port on a computer, or to another card.

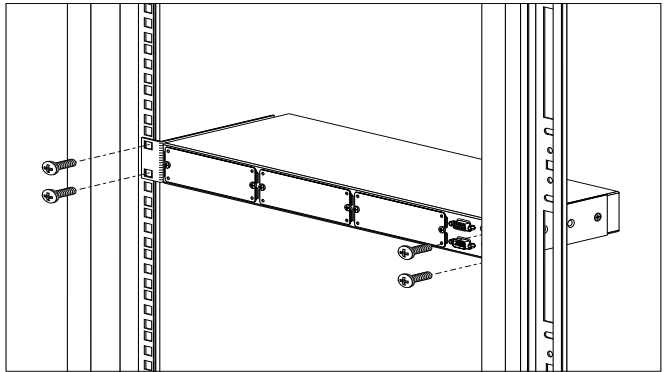7. If additional power is needed (see "Power Considerations" on page 5), connect the optional power adapter output to the power port on the front of the Triple Chassis.

Power Considerations

The power required for the operation of the card is normally provided to the Triple Chassis by the UPS. There is a limit to the amount of power available, and the total power required by all the cards installed in the Triple Chassis must not exceed this limit. If this limit is exceeded, it is likely that the management product will cease to operate properly. The limits are:

- Smart-UPS — 200 mA
- Matrix-UPS — 200 mA

To determine the total amount of power required, add the individual power requirements for each of the management products to be installed in the Triple Chassis, as well as the power requirements for the Triple Chassis itself. The power requirements for each individual card can be obtained from the documentation included with that card.

Optional power adapter
In cases where the power requirements exceed 200 mA, APC's optional 24VDC (AP9505, not supplied) adapter may be used to supplement the UPS power by providing an additional 400 mA. The power adapter is also required under the following conditions:

- Smart-UPS models:
  - Serial number prior to S9405
  - Serial number starting with the letter W
  - All Smart-UPS 250 models
- Matrix-UPS models:
  - When remote turn-on of the UPS is required

    The optional power adapter is used with 100/120 VAC power only. AP9505I is also available for universal power input, but requires a customer-supplied line cord.

If you need to obtain a power adapter, contact APC Customer Service at a telephone number on the back cover.

Operations

Status indicator   The Triple Chassis status LED indicates the following states:

State	Indication
Bright	The Triple Chassis has power and at least one management card is installed.
Dim	The Triple Chassis has power and no management card is installed.
Off	The Triple Chassis has no power.

Checking operation

1. After installing the Triple Chassis and before installing the card, confirm that the indicator light is dimly lit.
2. After installation of the card confirm that the indicator light is brightly lit.
3. Confirm the operation of the card. Refer to the documentation that was included with the card for the proper checking procedure.
4. Confirm that previous installed cards and software continue to operate.

Specifications

Item	Specification
Electrical	
Operating voltage:	18 – 30 V
Operating current draw:	30 mA (exclusive of installed card)
Physical	
Size (H × W × D):	For desktop installation, with rubber feet: 2.13 × 17 × 6.5 in 5.4 × 43.18 × 16.51 cm
	For rack-mount installation, with mounting brackets: 1.75 × 17 × 6.5 in 4.4 × 43.18 × 16.51 cm
Weight:	1.5 lb 0.7 kg
Shipping weight:	2 lb 0.9 kg
Environmental	
Operating elevation (storage):	0 to 1000 ft (0 to 50 000 ft) 0 to 3000 m (0 to 15 000 m)
Operating temperature (storage):	–5 to 45 °C (–25 to 65 °C) 23 to 113 °F (–13 to 149 °F)
Approvals	
EMC verification:	FCC Class A, DoC Class A, EN55022 Class A, VCCI, AS/NZS 3548
Electromagnetic immunity:	EN50024 verified

Warranty and Service

Limited warranty

APC warrants the Triple Expansion Chassis 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. 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.

Warranty limitations

Except as provided herein, APC makes no warranties, express or implied, including warranties of merchantability and fitness for a particular purpose. Some jurisdictions 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. This warranty gives you specific legal rights and you may also have other rights, which vary according to jurisdiction.

Obtaining service

To obtain support for problems with your Triple Expansion Chassis:

1. Note the serial number and date of purchase.

2. Contact Customer Support at a phone number on the back cover of this document. A technician will try to help you solve the problem by phone.

3. If you must return the product, the technician will give you a return material authorization (RMA) number. If the warranty expired, you will be charged for repair or replacement.

4. Pack the unit carefully. The warranty does not cover damage sustained in transit. Enclose a letter with your name, address, RMA number and daytime phone number; a copy of the sales receipt; and a check as payment, if applicable.

5. Mark the RMA number clearly on the outside of the shipping carton.

6. Ship by insured, prepaid carrier to the address provided by the Customer Support technician.

Life-Support Policy

General policy　　American Power Conversion (APC) does not recommend the use of any of its products in the following situations:

- In life-support applications where failure or malfunction of the APC product can be reasonably expected to cause failure of the life-support device or to affect significantly its safety or effectiveness.
- In direct patient care.

APC will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to APC that (a) the risks of injury or damage have been minimized, (b) the customer assumes all such risks, and (c) the liability of American Power Conversion is adequately protected under the circumstances.

Examples of life-support devices　　The term *life-support device* includes but is not limited to neonatal oxygen analyzers, nerve stimulators (whether used for anesthesia, pain relief, or other purposes), autotransfusion devices, blood pumps, defibrillators, arrhythmia detectors and alarms, pacemakers, hemodialysis systems, peritoneal dialysis systems, neonatal ventilator incubators, ventilators (for adults and infants), anesthesia ventilators, infusion pumps, and any other devices designated as "critical" by the U.S. FDA.

Hospital-grade wiring devices and leakage current protection may be ordered as options on many APC UPS systems. APC does not claim that units with this modifications are certified or listed as hospital-grade by APC or any other organization. Therefore these units do not meet the requirements for use in direct patient care.

Radio Frequency Interference

⚠ **Warning**

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

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 this user manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference. The user will bear sole responsibility for correcting such interference.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit the APC Web site to find answers to frequently asked questions (FAQs), to access documents in the APC Knowledge Base, and to submit customer support requests.
  - **www.apc.com** (Corporate Headquarters)
    Connect to localized APC Web sites for specific countries, each of which provides customer support information.
  - **www.apc.com/support/**
    Global support with FAQs, knowledge base, and e-support.
- Contact an APC Customer Support center by telephone or e-mail.
  - Regional centers:

APC Headquarters U.S.&Canada	(1) (800) 800-4272 (toll free)
Latin America	(1) (401) 789-5735 (USA)
Europe, Middle East, Africa	(353) (91) 702020 (Ireland)
Japan	(03) 5434-2021 Guidance 3

  - Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.