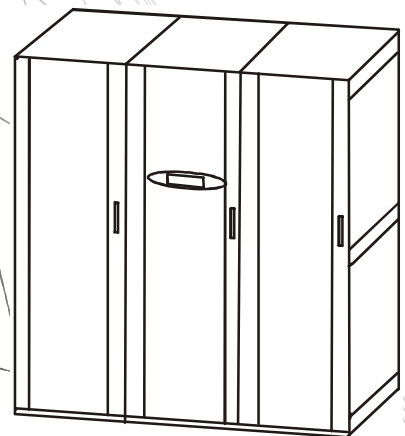


Operation

Symmetra[®] PX UPS, Power Distribution Unit, and XR Battery Enclosure 160 kW 400 V

**SY160K160H
PDUM160H-B
SYCFXR9**



About this Manual

This manual is for the 160 kW Symmetra[®] PX UPS, Power Distribution Unit (PDU-XR), and XR Battery enclosure. It refers to important safety warnings and instructions, gives an introduction to the display interface, and provides information on operation and troubleshooting.

Companion manuals

For additional information, refer to the following Symmetra PX manuals:

- Receiving and unpacking (990-3013)
- Safety (990-2984)
- Installation (990-3017)
- Power module replacement (990-3025)
- Battery module replacement (990-2958)

Updates to this manual

Check for updates at the APC Web site www.apc.com. Look for the latest letter version of the manual.

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Safety



Warning: All safety instructions in the Safety sheet (990-2984) should be read, understood, and followed prior to handling the system. Failure to do so could result in equipment damage, serious injury, or death.

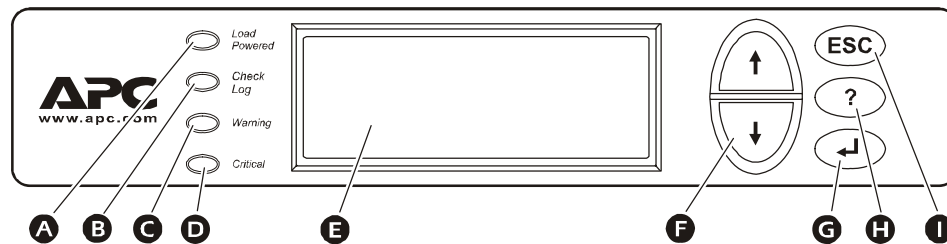
For safety reasons, only the following parts are replacable. If other components of the system require maintenance, contact APC Customer Support using the phone numbers on the back cover of this manual.

- power distribution module
- power modules
- batteries
- intelligence modules (MIM/RIM)
- peripheral cards

Overview

User Interface

Interface area



A	LOAD POWERED LED	When green, power to the load is on. When flashing yellow, the load is supplied through the batteries or the unit is in bypass.
B	CHECK LOG LED	When green, a new event has been added to the event log.
C	WARNING LED	When yellow, there are one or more warning alarms in the system.
D	CRITICAL LED	When red, there are one or more critical alarms in the system.
E	LCD SCREEN	Displays alarms, status data, instructional help, and configuration items.
F	UP AND DOWN KEYS	Scrolls through menu items.
G	ENTER	Opens menu items and confirms changes to system parameters.
H	HELP	Opens context-sensitive help.
I	ESC	Returns to previous screen.

Display interface

Overview screens. When the system is running, the display will scroll through screens showing information about the system, and any active alarms.



Note: The data values shown are for example only.

```
No Active Alarms

System Date/Time:
28-Mar-2007 10:37:01
```

```
Volts Out  Volts In
L1: 230    L1: 230
L2: 230    L2: 230
L3: 230    L3: 230
```

```
Out Amps kW   %kW
L1: 162  37.3  70
L2: 151  34.7  65
L3: 144  33.1  62
```

```
Symmetra PX 160 kW
Runtime: 1hr 1-min
Capacity 100%
UPS Load: 70%
```

```
System Bypass State:
UPS Operation
UPS State:
On Line
```



Note: Press ENTER to go from any overview screen to the main menu screen.

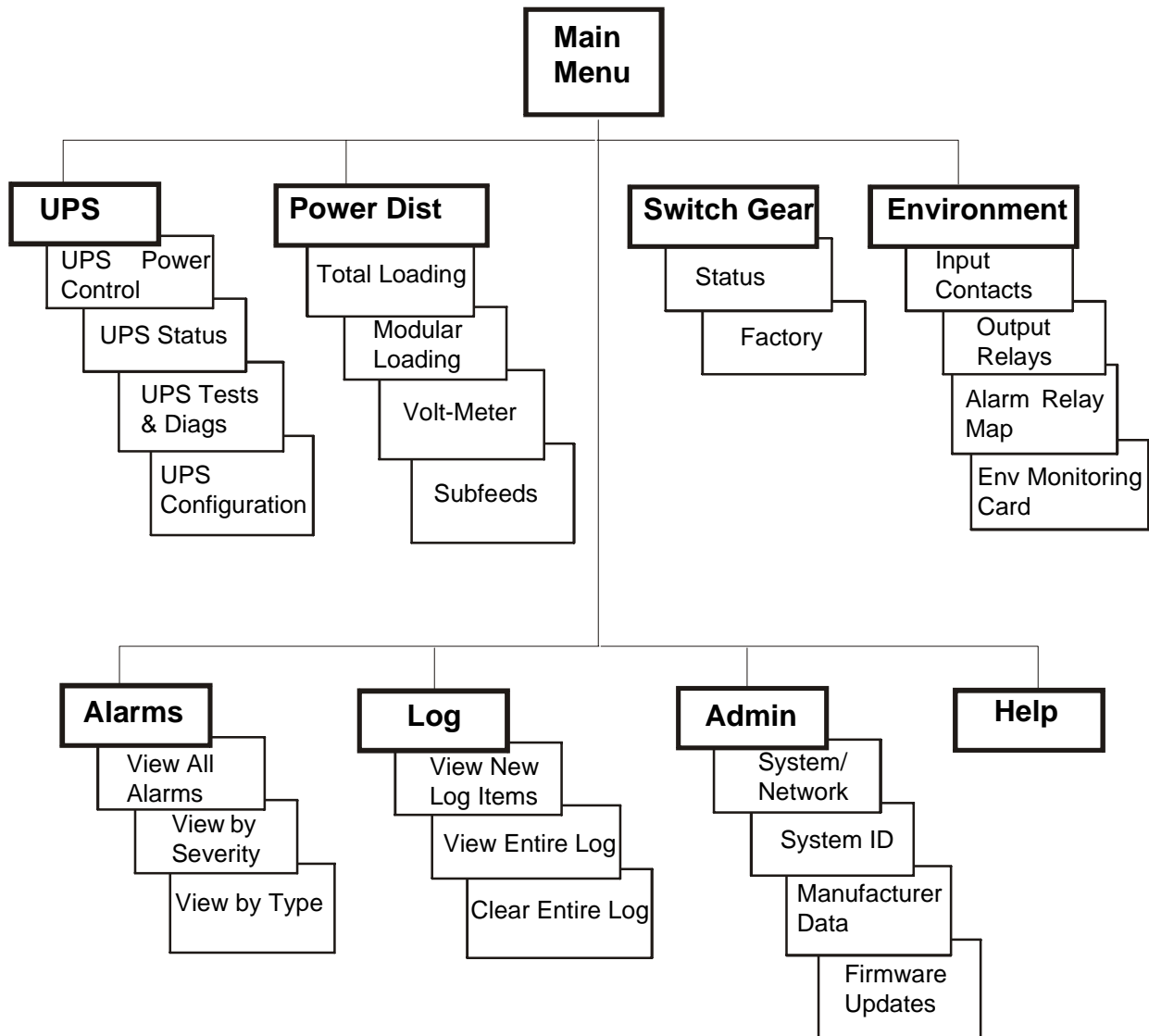
Main menu screen. Use the main menu screen to configure and monitor the system using the **UPS**, **Power Dist**, **Switch Gear**, **Environment**, **Alarms**, **Log**, **Admin**, and **Help** menu screens. Use the UP and DOWN arrow keys to navigate through the menu screens.

The selector arrow is controlled by the UP and DOWN keys. Press ENTER to open the menu marked by the arrow.



```
➔ UPS           Alarms
Power Dist     Log
Switch Gear    Admin
Environment    Help
```

Menu tree



Caution: Do not make changes to any screens that are not described in this manual without the assistance of APC Customer Support. For APC World-Wide Customer Support telephone numbers, see the back cover of this manual.

Operation

Operation Modes

In an installation without a maintenance bypass panel, the UPS has four different operation modes. If the installation includes a PDU-XR or an external maintenance bypass panel, wrap-around maintenance bypass mode will also be available.

Normal operation

During normal operation, the UPS converts mains/utility power to conditioned power for the connected loads.

Battery operation

During battery operation, the UPS provides power to the connected loads from its external batteries for a finite period. The UPS transfers to battery operation if the supply of mains/utility power fails, or is outside pre-defined limits.

Bypass operation

Bypass is a feature that keeps the load supplied with mains/utility power during maintenance of the UPS power sections. In bypass, mains/utility power is sent directly to the connected load bypassing all internal UPS functions and filters. Battery back up is not available in bypass operation.

Wrap-around maintenance bypass (optional)

The UPS can be connected to a PDU-XR or an optional external maintenance bypass panel. When activated, this panel bypasses the UPS, feeding mains/utility power directly to the load. An activated wrap-around maintenance bypass panel completely isolates the UPS and allows maintenance to be performed - including a replacement of the entire UPS.

Operation Procedures

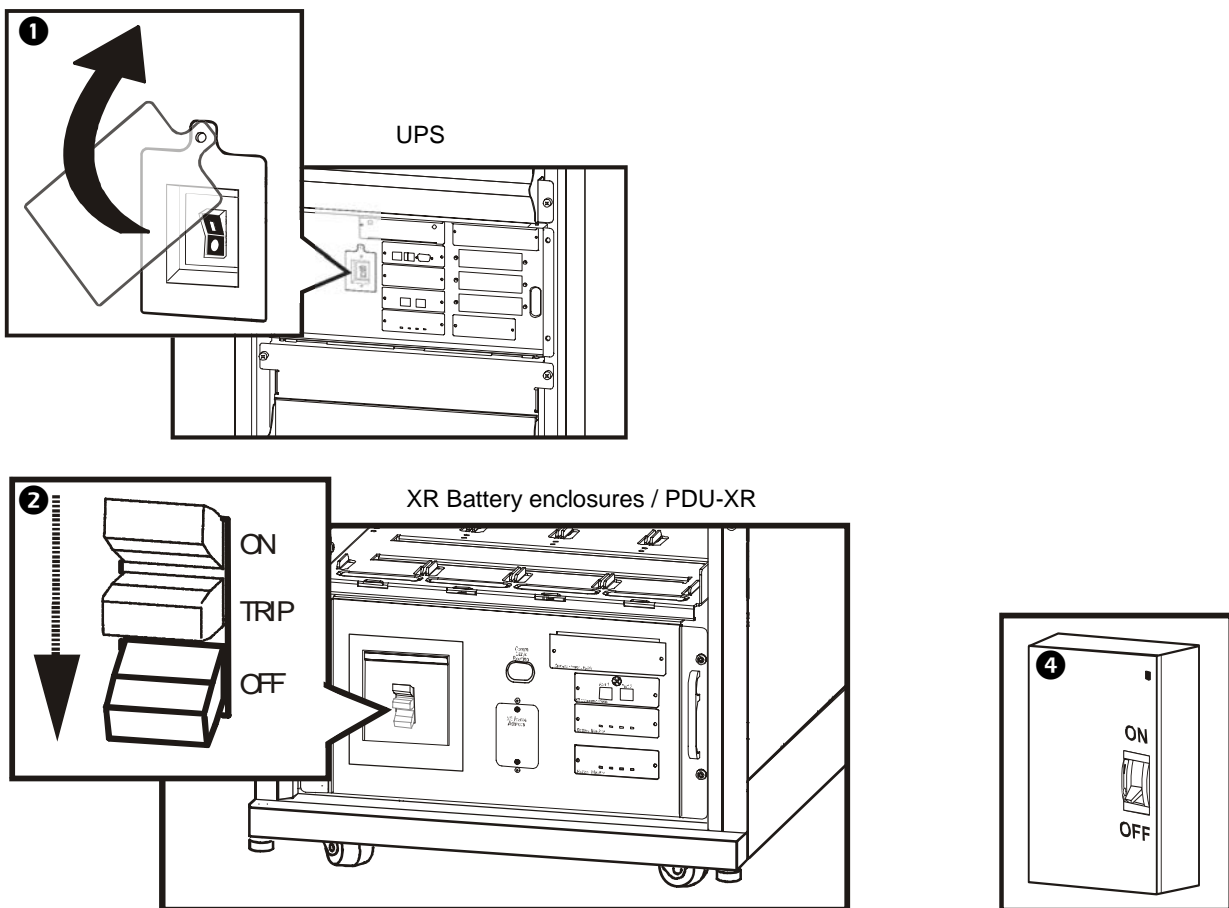


Note: If the system does not contain a PDU-XR, the Q1, Q2, Q3, and Q5 switches are located on an optional external maintenance bypass panel. Refer to the documentation included with the maintenance bypass panel for additional information.

Total Power Off procedure



Warning: Before electrical installation begins, verify that the UPS is in the Total Power Off mode by following this procedure.



- 1** Set the SYSTEM ENABLE switch to the the OFF position.
- 2** Set the DC DISCONNECT switch on all XR Battery enclosures and on the back of the PDU-XR to the OFF position.
- 3** Disconnect all battery units by removing them or pulling them out to the red disconnect line.



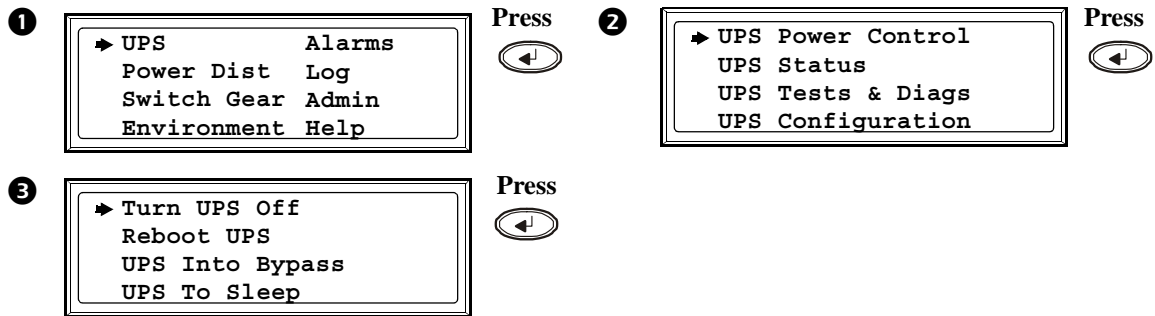
Caution: To ensure the enclosure does not tip, do not pull the battery units out beyond the red disconnect line unless you completely remove them from the enclosure.

- 4 Set the upstream mains power to the OFF or LOCKED OUT position. If the UPS has a dual mains supply, set both supplies to the OFF or LOCKED OUT position.



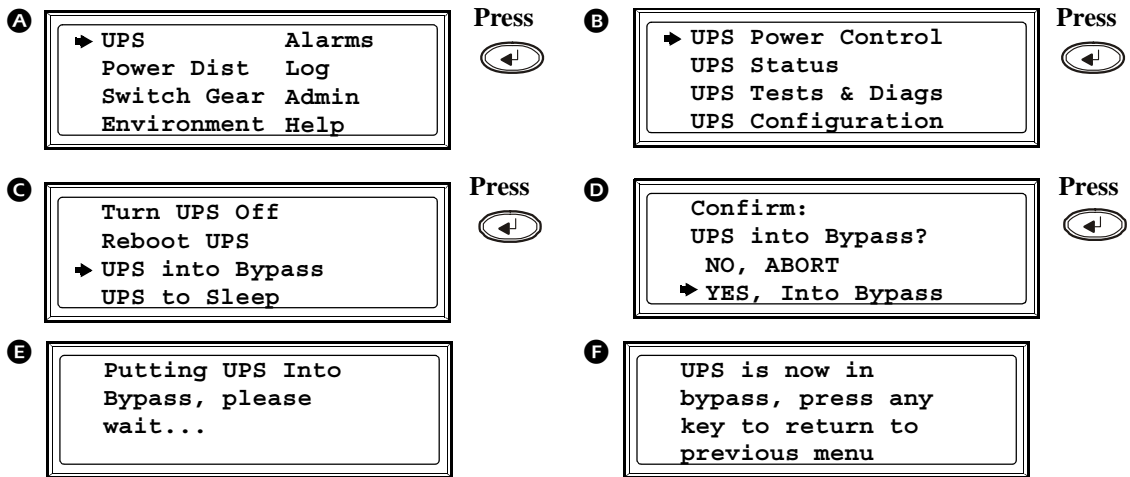
Electrical Hazard: Follow proper Lockout/Tagout procedures to remove access to the unit and physically label the unit as intentionally out of service.

How to turn the load on/off using the display interface



How to put the UPS in maintenance bypass operation

- 1 Use the display to put the UPS into bypass.



Confirm the transfer into bypass is complete.



Note: The H3 LED next to the Q3 switch on the PDU-XR will illuminate, indicating that it is safe to operate the Q3 switch.

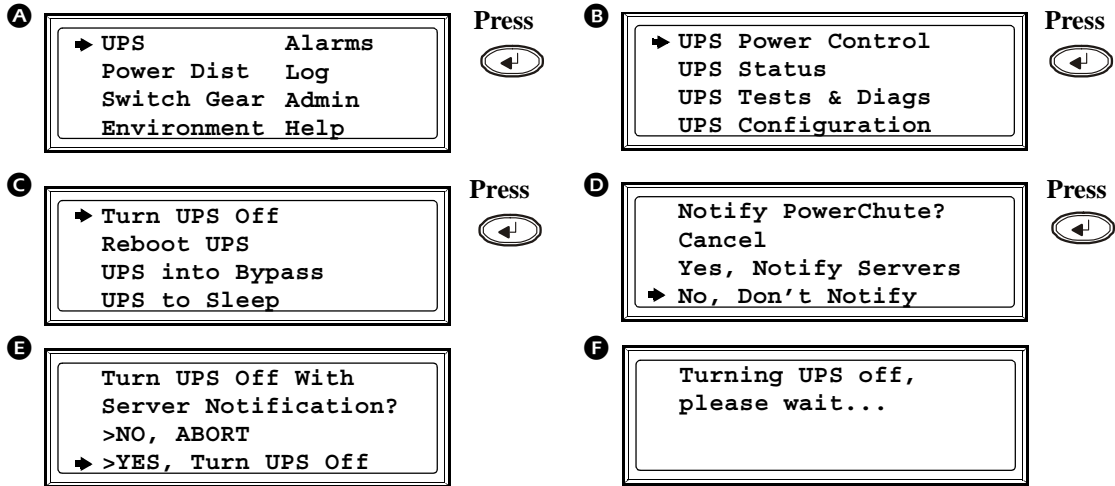
- 2 Set the Q3 switch on the PDU-XR to the ON position.



Note: The H2 LED beside the Q2 switch will illuminate, indicating that it is safe to operate the Q2 switch.

3 Set the Q2 switch on the PDU-XR to the OFF position.

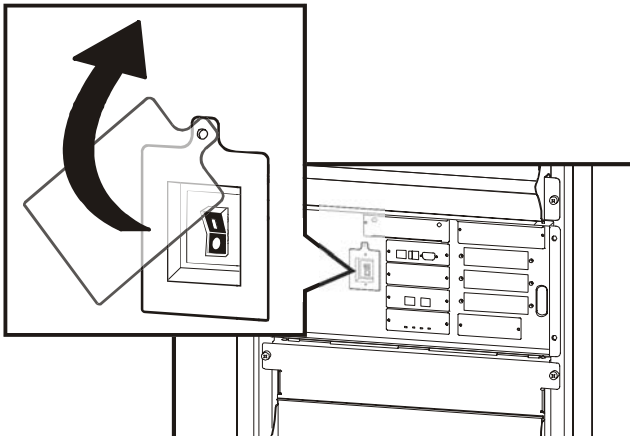
4 Turn the UPS off using the display.



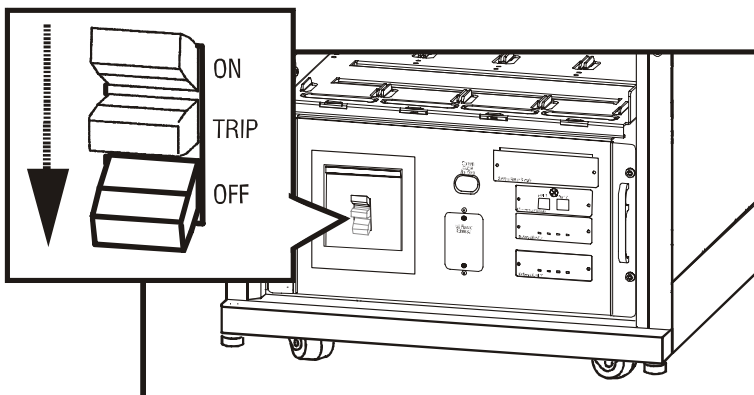
5 Set the Q1 switch on the PDU-XR to the OFF position.

6 Set the Q5 switch on the PDU-XR to the OFF position.

7 Set the UPS SYSTEM ENABLE switch to the OFF position.

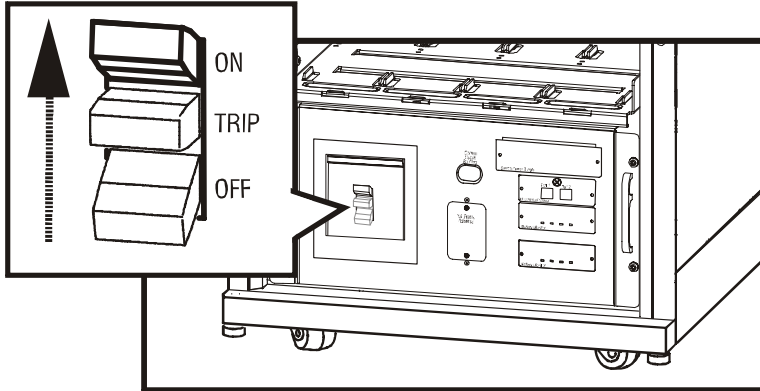


8 Set the DC DISCONNECT switch on all of the XR Battery enclosures and the PDU-XR to the OFF position.

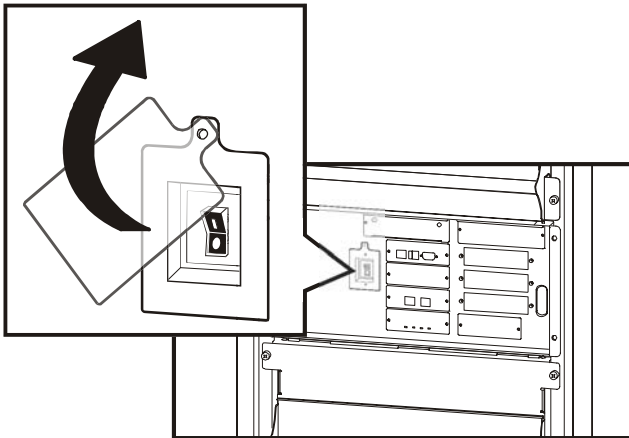


How to return to normal operation

- 1 Set the DC DISCONNECT switch on all of the XR Battery enclosures and the PDU-XR to the ON position.



- 2 Set the Q1 switch on the PDU-XR or external maintenance bypass panel to the ON position.
- 3 Set the Q5 switch on the PDU-XR or external maintenance bypass panel to the ON position.
- 4 Set the SYSTEM ENABLE switch on the UPS to the ON position.



Note: Wait approximately 30 seconds for system to start.

Using the display interface, select the following:

- | | |
|--|--|
| <p>5</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>→ UPS Alarms
 Power Dist Log
 Switch Gear Admin
 Environment Help</p> </div> <p>Press </p> | <p>6</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>→ UPS Control
 UPS Status
 UPS Tests & Diags
 UPS Configuration</p> </div> <p>Press </p> |
| <p>7</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Turn UPS On
 → UPS On Into Bypass</p> </div> <p>Press </p> | <p>8</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>UPS Load is ON.</p> </div> <p>Press </p> |

- 9 Press ESC to go back to the **UPS Control** screen and select **UPS into Bypass**.



Note: The H2 LED next to the Q2 switch will illuminate, indicating that it is safe to operate the Q2 switch.

- 10 Set the Q2 switch on the PDU-XR or external maintenance bypass panel to the ON position.



Note: The H3 LED next to the Q3 switch will illuminate, indicating that it is safe to operate the Q3 switch.

- 11 Set the Q3 switch on the PDU-XR or external maintenance bypass panel on the PDU-XR to the OFF position. As soon as the Q3 switch is in the OFF position, the UPS will automatically return from maintenance bypass operation to normal operation.

The UPS is now in normal operation. Verify that the Load Powered LED is lit and the system is not displaying any alarms.

How to view the Status screens

Use the main menu screen to access information for each component of the system. A status screen is available for each component, this example uses the UPS.

1 Press

3 Press

2 Press

Use the UP and DOWN arrow keys to navigate through the Status screens.

How to view the Log screen

1 Press

3 Press

2 Press

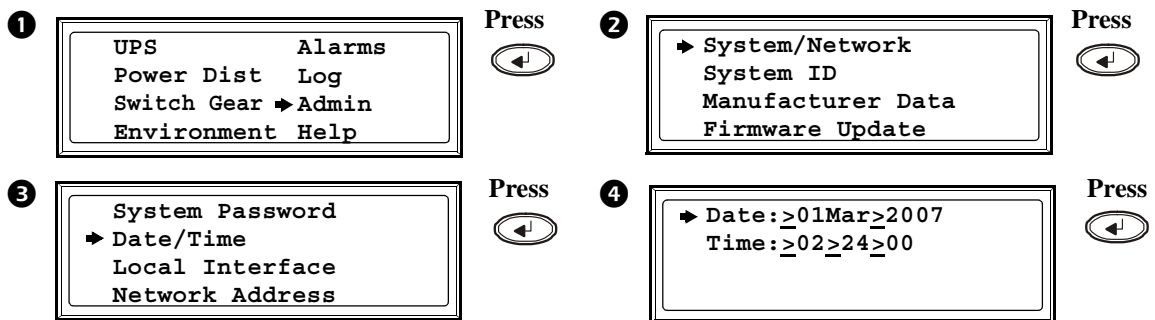
Use the UP and DOWN arrow keys to navigate through the Log screens.

Configuration

System Settings

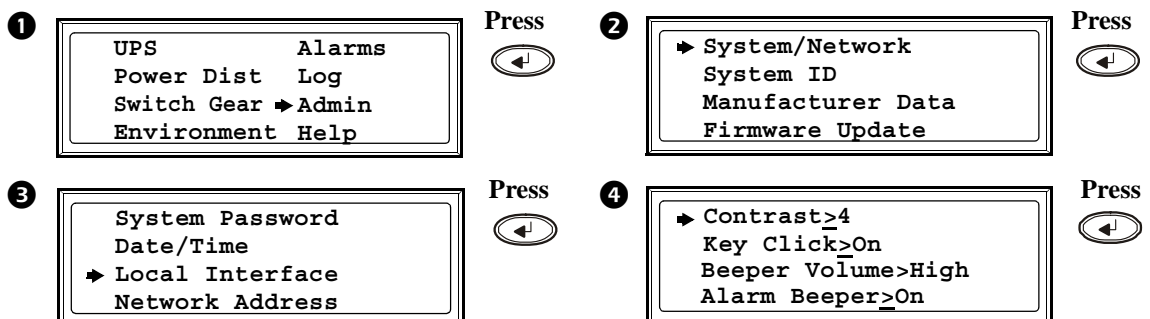
How to change the date and time

Use the UP and DOWN arrow keys to navigate through the menu screens. To change a setting, press ENTER and use the UP and DOWN arrow keys to change the selection. Press ENTER to save the changes.



How to change the settings

Use the arrow keys to navigate through the menu screens. To change a setting, press ENTER and use the UP and DOWN arrow keys to change the selection. Press ENTER to save the changes.



Maintenance

Parts Replacement

How to determine if you need a replacement part

To determine if you need a replacement part, contact APC Customer Support and follow the procedure below so that the APC Customer Support representative can assist you promptly:

1. In the event of a module failure, the display interface may show additional “fault list” screens. Press any key to scroll through these fault lists, record the information, and provide it to the representative.
2. Write down the serial number of the unit so that you will have it easily accessible when you contact APC Customer Support.
3. If possible, call APC Customer Support from a telephone that is within reach of the UPS display interface so that you can gather and report additional information to the representative.
4. Be prepared to provide a detailed description of the problem. A representative will help you solve the problem over the telephone, if possible, or will assign a return material authorization (RMA) number to you. If a module is returned to APC, this RMA number must be clearly printed on the outside of the package.
5. If the unit is within the warranty period, repairs or replacements will be performed free of charge. If it is not within the warranty period, there will be a charge.
6. If the unit is covered by an APC service contract, have the contract available to provide information to the representative.

How to return parts to APC

Call APC Customer Support to obtain an RMA number.

To return a failed module to APC, pack the module in the original shipping materials, and return it by insured, prepaid carrier. The APC Customer Support representative will provide the destination address. If you no longer have the original shipping materials, ask the representative about obtaining a new set. Pack the module properly to avoid damage in transit. Never use styrofoam beads or other loose packaging materials when shipping a module. The module may settle in transit and become damaged. Enclose a letter in the package with your name, RMA number, address, a copy of the sales receipt, description of the problem, a phone number, and a check as payment (if necessary).



Note: Damages sustained in transit are not covered under warranty.

Replacement parts

Part	APC Part No.
16 kW power module	SYPM10K16H
Battery module	SYBT9-B4
Intelligence Module (MIM)	OG-SYMIM16
APC SS Call-UPS II Accessory card	AP9608
Smartslot relay I/O Module	AP9610
UPS Network Management card	AP9617
UPS Network Management card with Environmental Monitoring and Out of Band Management card	AP9618
UPS Network Management card with Environmental Monitoring	AP9619
Modbus/Jbus Interface card	AP9622
Power Distribution Module	Go to www.apc.com for a complete list of breaker modules.



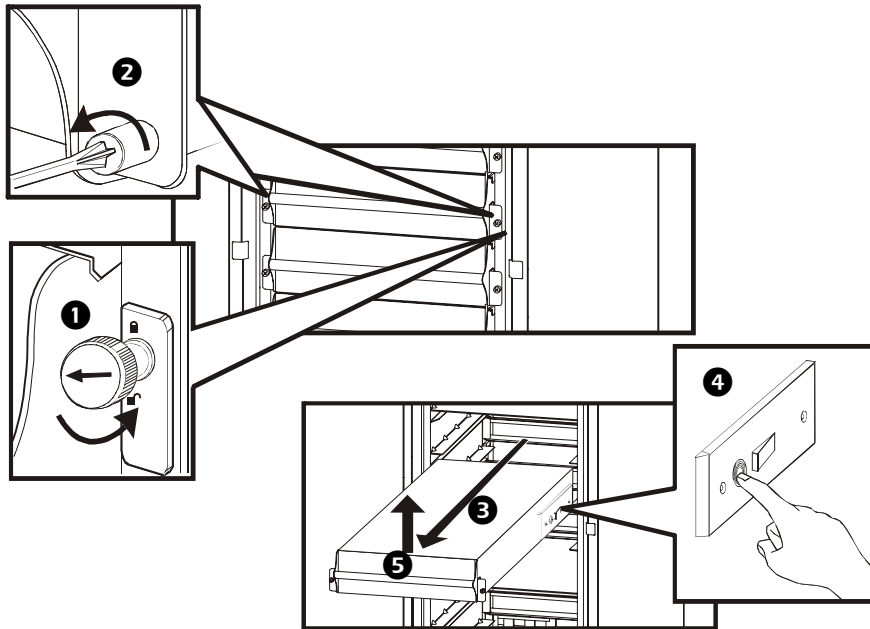
Warning: Only trained persons familiar with the construction and operation of the equipment, as well as the electrical and mechanical hazards involved, may install and remove system components.

Before removing any power modules, make sure that the remaining power modules can support the load.

How to remove a power module



Use two people to lift components weighing between 18–32 kg/40–70 lb.



- ❶ Turn the locking latch down until the arrow points down.
- ❷ Unscrew the spring-activated knobs on both sides of the module.
- ❸ Pull the module out of the enclosure as far as the lock mechanism will allow.
- ❹ Release the lock by pushing the black plastic tab on each side of the module.
- ❺ Pull the module up and out of the enclosure.

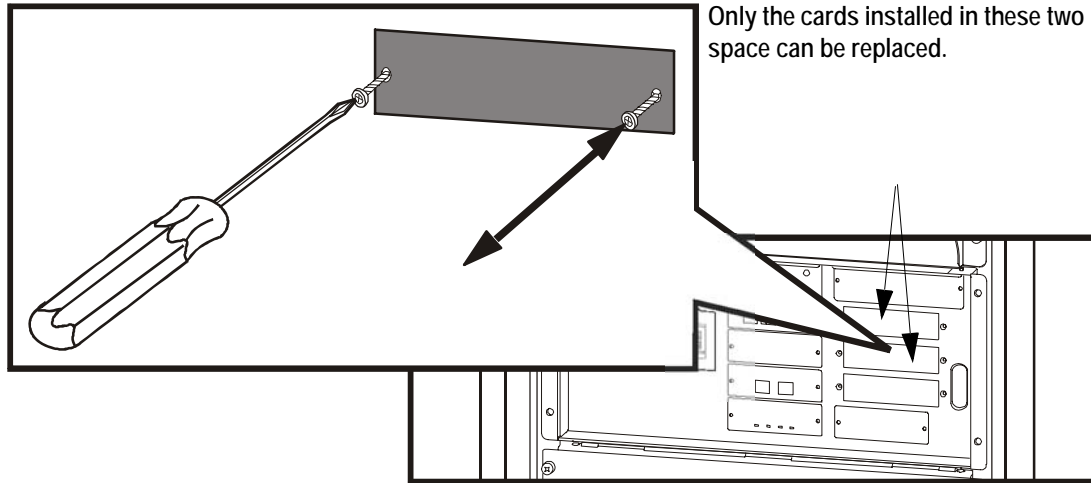
How to install a power module

Reverse the procedure for installation of the replacement module. The display interface will indicate that the system has recognized a new module.



Caution: Secure the locking latch before tightening the spring-activated knobs on the module to ensure that the module makes proper contact in the unit. The power module will not operate unless the locking latch is locked.

How to replace a power management peripheral

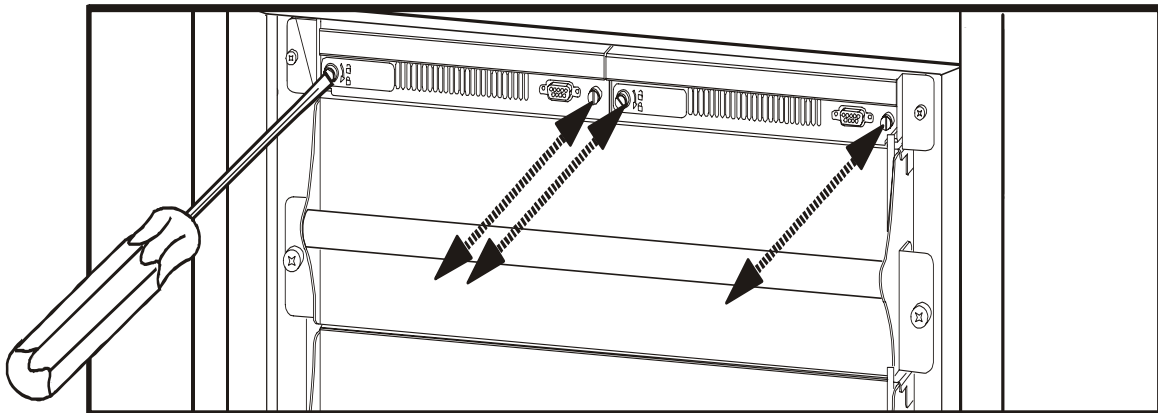


Loosen the two Phillips screws on both sides of the card and carefully pull it out of the enclosure.



Note: Reverse the procedure to install a replacement card. The display interface will show a message when it has registered a new card.

How to replace an intelligence module (MIM/RIM)



Loosen the two Phillips screws on both sides of the module. When the screw on left side is loose, the module will be de-activated. The display interface will show a message that the number of modules has decreased. Reverse this procedure to install replacement modules.

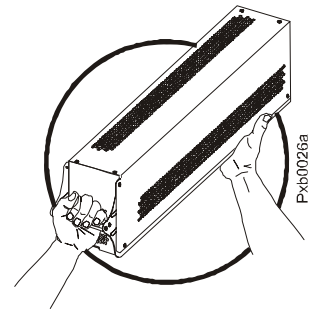
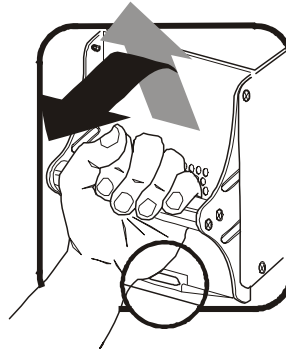
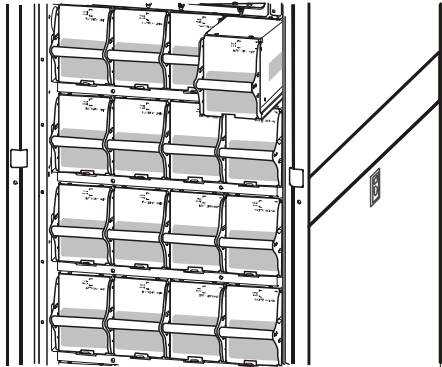


Note: If two intelligence modules are functioning, one can be replaced without interrupting the UPS.

How to replace a battery module



Use two people to lift components weighing between 18–32 kg/40–70 lb.

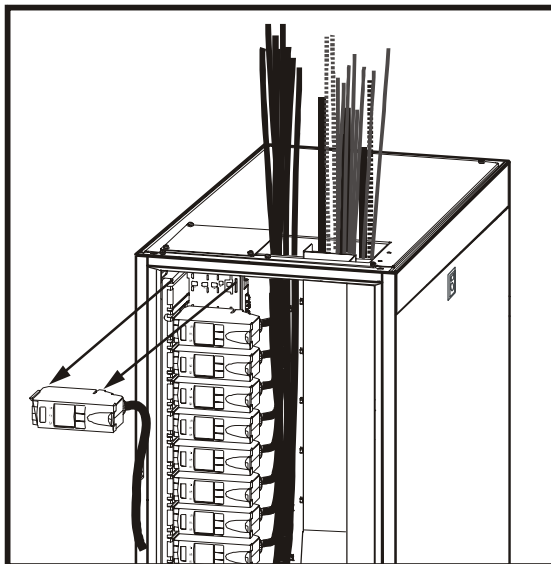


- ❶ Holding the handle, gently lift the battery unit and pull it halfway out. A lock mechanism prevents it from being pulled all the way out.
- ❷ Release the lock by pushing the battery unit upwards and pull the battery unit all the way out while supporting it
- ❸ Take the replacement battery unit and push it into the system.



Note: Allow for a 24-hour recharging period of the batteries after system start-up/battery replacement for battery monitoring data to become fully reliable.

How to replace a power distribution module



- ❶ Disconnect the power cable from the power distribution module from the extension cable.
- ❷ Open the locking latch on the module and gently pull it out of the enclosure.
- ❸ Reverse the procedure to install the new module.

Troubleshooting

UPS Alarms

This section lists all of the alarm and status messages that might be displayed on the display interface. A suggested corrective action is listed with each message to help to troubleshoot the problem.



Note: If a problem is reported, ensure that the system component in question is correctly installed.

Display Message	Meaning	Corrective Action
Battery Charger Fault	The battery charger is not functioning properly.	Contact APC Customer Support.
Battery Fault	A battery module has failed and requires replacement.	See “How to replace a battery module” on page 19.
Battery High Temperature Violation	The temperature of one or more battery units has exceeded system specifications.	Ensure that the ambient temperature meets the specifications of the system. If the ambient temperature is below 40°C (104°F). Initiate a self-test to detect any bad battery units. Replace any bad battery units.
Battery High Voltage Violation	The battery voltage is too high and the charger has been deactivated.	Contact APC Customer Support.
Battery Monitor Card Fault	The battery monitor card has failed.	See “How to replace a power management peripheral” on page 18.
Battery Monitor Card Removed	The battery monitor card has been removed.	If the battery monitor card has not been removed, check that it has been properly inserted.
Bypass Relay Stuck in Bypass Mode	The system is stuck in bypass mode and cannot return to normal operation.	Check the static bypass switch. Contact APC Customer Support.
Bypass Relay Stuck in Online Mode	The system is stuck in online mode and cannot go into bypass.	Check the static bypass switch. Contact APC Customer Support.
Communication Lost While On Battery	Internal communications in the system have failed.	Contact APC Customer Support.
Discharged Battery	The UPS is online and the battery charge is low.	No corrective action necessary. Note: If the input voltage fails, runtime will be limited.
Extended Run Frame Fault	One of the battery frames has failed.	Contact APC Customer Support.

Display Message	Meaning	Corrective Action
External DC Disconnect Switch Open	The external DC DISCONNECT switch tripped. Battery power is not available or the runtime is lower than expected.	Close the external DC DISCONNECT switch. Check the fuse on the XR battery enclosure. If the fuse has blown, contact APC Customer Support.
External Switch Gear Communication Card Fault	The external switch gear communication card has failed.	See “How to replace a power management peripheral” on page 18.
External Switch Gear Communication Card Removed	The system no longer detects an external switch gear communication card.	Option 1: Ensure the external switch gear communication card is installed properly. Option 2: Replace the external switch gear communication card.
Graceful Shutdown Initiated	A graceful shutdown or reboot has been initiated from the display interface or other accessory.	No corrective action necessary.
High Isolation Transformer Temperature	The isolation transformer temperature is too high.	Contact APC Customer Support.
Internal Communications Failed	One of the buses used for the communication between the UPS modules has failed.	Contact APC Customer Support.
In Bypass: Hardware Fault	The system has transferred into bypass because a fault has occurred.	Contact APC Customer Support.
In Bypass: Overload	The system has transferred into bypass because the load has exceeded the power capacity of the system.	Option 1: Decrease the load. Option 2: Add a power module to the system.
In Bypass: User-Initiated	The system has been transferred into bypass due to user action.	Check for any problems with the system. Transfer the system to normal operation.
Input Voltage or Frequency Cannot Support Bypass	The frequency or voltage is out of acceptable range for bypass. This message occurs when the UPS is online, and indicates that the bypass mode may not be available if required.	Correct the input voltage to provide acceptable voltage or frequency.
Intelligence Module Fault	The main intelligence module has failed and requires replacement.	Replace the main intelligence module. See “How to replace an intelligence module (MIM/RIM)” on page 18.
Load (kVA) Alarm Violation	The load has exceeded the user-specified load alarm threshold.	Option 1: Use the display interface to raise the alarm threshold. Option 2: Reduce the load.
Local Management-To-UPS Communication Lost	Internal communications in the system have failed.	Contact APC Customer Support.

Display Message	Meaning	Corrective Action
Low Battery	The UPS is in battery operation and the battery charge is low.	No corrective action necessary. Note: Runtime is limited. Shut down the system and the load equipment or restore incoming voltage.
No Batteries Detected	No battery power is available.	Option 1: Ensure the batteries are installed properly. Option 2: Check if the DC Breaker has been tripped.
No Power Modules Detected	No power modules are available.	Option 1: Ensure that the power modules are properly installed, the two fastening screws are tight, and the locking latch is engaged. Option 2: Check for other communication alarm messages.
Not Synchronized Fault	System cannot synchronize to AC line and bypass mode may not be available.	Option 1: Decrease the sensitivity to input frequency. Option 2: Correct the input voltage to provide acceptable voltage frequency.
Output Voltage Not In Range	The output voltage is not within the specified range.	Evaluate the threshold setting. If necessary, adjust it for your situation. Contact APC Customer Support.
Overload	The load has exceeded the system power capacity.	Option 1: Decrease the load. Option 2: Add a power module to the system.
Power Failure	The input voltage is not acceptable for normal operation.	Contact APC Customer Support.
Power Module Fault	A power module has failed and requires replacement.	See “How to remove a power module” on page 17.
Redundancy Alarm	Actual power module redundancy has fallen below user-specified redundancy alarm threshold. At least one power module has failed or the load has increased.	Option 1: If possible, install additional power modules. See “How to install a power module” on page 17. Option 2: Replace failed modules. See “How to replace a power distribution module” on page 19. Option 3: Reduce the load. Option 4: Change alarm limit.
Redundancy Lost	The UPS no longer detects redundant power modules. One or more power modules have failed, or the load has increased.	Option 1: Install additional power modules. Option 2: Replace failed modules. See “How to remove a power module” on page 17.

Display Message	Meaning	Corrective Action
Redundant Intelligence Module Fault	The redundant intelligence module has failed and requires replacement.	Replace the redundant intelligence module. See “How to replace an intelligence module (MIM/RIM)” on page 18.
Redundant Intelligence Module in Control	The main intelligence module has failed, the redundant intelligence module is functioning as the primary intelligence module.	Replace the main intelligence module. See “How to replace an intelligence module (MIM/RIM)” on page 18.
Replacement Battery Needed	One or more battery units needs to be replaced.	See “How to replace a battery module” on page 19.
Runtime Alarm	The predicted runtime is lower than the user-specified minimum runtime alarm threshold. At least one battery module has failed or the load has increased.	Option 1: Install additional battery modules. Option 2: Replace failed battery modules. Option 3: Reduce the load. Option 4: Change the alarm limit.
Site Wiring Fault	There is a problem with the phase rotation or a phase is missing in the input voltage to the UPS.	Contact APC Customer Support.
Static Bypass Switch Module Fault	The static bypass switch module has failed and requires replacement.	Contact APC Customer Support.
Static Bypass Switch Module Removed	The system no longer detects a static bypass switch module.	Option 1: Ensure the static bypass switch module is installed properly. Option 2: Replace the static bypass switch module.
System ID Card Fault	The system ID card has failed and requires replacement.	See “How to replace a power management peripheral” on page 18.
System ID Card Removed	The system no longer detects a system ID card.	Option 1: Ensure the system ID card is installed properly. Option 2: Replace the system ID card.
System Level Fan Fault	The system level fan has failed and requires replacement.	Contact APC Customer Support.
System Power Supply Card Fault	The system power supply card has failed and requires replacement.	See “How to replace an intelligence module (MIM/RIM)” on page 18.
System Start-Up Configuration Fault	The system configuration download failed. Unable to determine the system voltage or frame size.	Check for other alarms and contact APC Customer Support.
XR Communication Card Fault	The XR communication card has failed and requires replacement.	See “How to replace a power management peripheral” on page 18.
XR Communication Card Removed	The system no longer detects a XR communication card.	Option 1: Ensure card is installed properly. Option 2: Replace the card.

Modular Distribution fault list

The display interface will identify the number of the power distribution module that has caused an alarm or warning.

Display Message	Meaning	Corrective Action
High Module Current	The high module current threshold has been exceeded.	Evaluate the threshold setting. If necessary, adjust it for your situation.
High Subfeed Current	The high subfeed current threshold has been exceeded.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Low Module Current	The low module current threshold has been exceeded.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Low Subfeed Current	The low subfeed current threshold has been exceeded.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Maximum Module Current	The maximum module current threshold has been exceeded.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Maximum Subfeed Current	The maximum subfeed current threshold has been exceeded.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Minimum Module Current	The minimum module current threshold has been exceeded.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Minimum Subfeed Current	The minimum subfeed current threshold has been exceeded.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Modular Distribution Communication	Communication has been lost with the modular distribution breakers.	Check the communication cables to ensure they are properly connected. Contact APC Customer Support.
Module Breaker Open	A modular circuit breaker is open.	Check the modular circuit breakers to see if one has overloaded. Replace if necessary.
Subfeed Breaker Open	A subfeed circuit breaker is open.	Check the subfeed circuit breakers to see if one has been over-loaded.

PDU fault list

Display Message	Meaning	Corrective Action
Maintenance Bypass Alarm	The system is in maintenance bypass: the Q2 switch is open and the Q3 switch is closed.	No corrective action necessary.
Output V <Ln-N> Voltage Under Limit	Phase-to-neutral output voltage for phase <L-N> has dropped below the configured limit.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Output V <Ln-N> Voltage Over Limit	Phase-to-neutral output voltage for phase <L-N> exceeded the configured limit.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Output I L<n> Current Over Limit	Current of output phase <n> exceeded the configured limit.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Output I L<n> Current Under Limit	Current of output phase<n> dropped below the configured limit.	Evaluate the threshold setting. If necessary, adjust it for your situation.
Output FDev Freq Out of Range	Frequency of the output current is above or below the range that is configured as acceptable.	Evaluate the threshold setting. If necessary, adjust it for your situation.
<User Contact Name> Alarm Active	A user-configured contact connected to the system is reporting an alarm condition.	Determined why the alarm has occurred. This is a user-specific alarm setting.
No UPS Input Breaker Q1 Open	The Q1 circuit breaker is open, and the UPS is disconnected from the input voltage.	Close the Q1 switch to re-connect the UPS to utility/mains power.
No Panel Feed Breakers Q2 & Q3 Open	The Q2 & Q3 circuit breakers are open, and the system is not supporting connected equipment.	For safety reasons, ensure the switches were not closed for maintenance purposes. If not, close Q2 for UPS operation, and Q3 for maintenance bypass.
Atypical Bypass Mode Alarm	The system state as set by the Q1, Q2, & Q3 breakers is in a non-typical bypass mode.	Option 1: Resume normal UPS operation. Option 2: Go to maintenance bypass.



APC Worldwide Customer Support

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- Visit the APC Web site to access documents in the APC Knowledge Base and to submit customer support requests.
 - **www.apc.com** (Corporate Headquarters)
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 - **www.apc.com/support/**
Global support searching APC Knowledge Base and using e-support.
- Contact an APC Customer Support center by telephone or e-mail.
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990-3015-001



04/2007