

Smart-UPS DP Uninterruptible Power Supply

Models

SUDP4000I, SUDP6000I, SUDP8000I, SUDP10000I

User's Manual



APC[®]
www.apcc.com

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About Your New UPS

This Uninterruptible Power Supply (UPS) prevents blackouts, brownouts, sags and surges from reaching your computer and other valuable electronic equipment, filters out utility line fluctuations, and isolates your equipment from disturbances by actively controlling voltage to loads, and supplying power from its batteries when required.

While running on battery, an internal alarm will sound (periodic beeps). The mute button may be pressed to silence the UPS alarm.

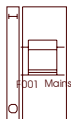
If the utility power does not return, the UPS will continue supplying power to the connected equipment until exhausted. A continuous beeping will sound two minutes before the UPS's final low battery shutdown. If using a computer, you must manually save your files and power down before the UPS turns itself off, unless you are using PowerChute interface software that provides automatic, unattended shutdown.

Installation and Setup

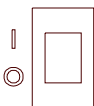
1. Install UPS

- The Smart-UPS DP must be installed by a local authorized electrician.
- National and local electrical regulations must be adhered to during installation and operation.

2. Turn on UPS



- Switch on the mains fuse on the rear of the UPS. The Smart-UPS DP will perform a self-check ending with the LED display showing red/yellow/green, indicating the unit is functioning properly. The unit performs a self-test automatically when turned on, and every two weeks thereafter.



- Turn the on/off switch on the front of the Smart-UPS DP to 1 (up). The acoustic alarm will give a short beep when output power is available.
- The UPS charges its battery whenever it is connected to utility power and the on/off switch on the front of the unit is turned on (1 or up). The battery charges fully during the first 4 hours of normal operation. Do not expect full runtime during this initial charge period.

3. Install PowerChute®

- For additional computer system security, install PowerChute® UPS monitoring software. It provides automatic unattended shutdown capabilities on most major network operating systems. See the **Software Installation: Instruction Sheet** for details.

Troubleshooting

Use the chart below to solve minor UPS installation problems. Contact APC Technical Support Staff for assistance with complex UPS problems. See **APC Contact Information**, page 18, for a location near you.

| Problem and Possible Cause | Solution |
|---|---|
| UPS will not turn on. <ul style="list-style-type: none"> • On/off switch turned to off (0 or down). • Fuse switch turned to off (down). • On/off switch needs to be cycled on and off • UPS not connected to AC power supply. • UPS input circuit breaker tripped. • Very low or no utility voltage. | Turn the switch to 1 (up) to power the UPS and the load. Turn the switch up. Switching the on/off switch to off (0 or down) and on again (1 or up). Check that the power cable from the UPS to the power supply is securely connected at both ends. Reduce the load on the UPS by unplugging equipment and reset the fuse switch (on back of UPS) by switching it up. Check the circuit breakers to the AC power supply. |
| UPS will not turn off. <ul style="list-style-type: none"> • Internal UPS fault. | Have the UPS serviced immediately. |
| UPS operates on-battery although normal line voltage exists. <ul style="list-style-type: none"> • UPS input circuit breaker tripped. • Very high, low, or distorted line voltage. Inexpensive fuel powered generators can distort the voltage. | Reduce the load on the UPS by unplugging equipment and reset the fuse switch (on back of UPS) by switching it up if necessary. Move the UPS to a different circuit. Test the input voltage using PowerChute. |
| UPS beeps occasionally. <ul style="list-style-type: none"> • Normal UPS operation. | None. The UPS is protecting the load. |
| UPS does not provide expected backup time. <ul style="list-style-type: none"> • The UPS's battery is weak due to recent outage or is near the end of its service life. • The UPS is overloaded. | Charge the battery. Batteries require recharging after extended outages. Also, they wear faster when put into service often or when operated at elevated temperatures. If the battery is near the end of its service life, consider replacing the battery. Check the UPS's load using PowerChute. Unplug less needed equipment, such as printers. |
| Front panel indicators off. <ul style="list-style-type: none"> • The UPS has been shut down by remote control. | None. The UPS will restart automatically when utility power returns. |
| All indicators are lit constant red and UPS emits a constant beeping. <ul style="list-style-type: none"> • Overload • Internal UPS fault. | Reduce the load on the UPS by unplugging equipment and reset the fuse switch (on back of UPS) by switching it up if necessary. Have the UPS serviced immediately. |
| All indicators are off and UPS is connected to the AC power. <ul style="list-style-type: none"> • The UPS is shut down and the battery is discharged from an extended outage. | None. The UPS will return to normal operation when the power is restored and the battery has a sufficient charge. |
| All indicators are flashing yellow. <ul style="list-style-type: none"> • Weak batteries. • Replacement batteries not connected properly. | Do another self test to see if it clears Confirm the battery connections. |

Table of Contents

| | |
|--|-----------|
| Safety | 1 |
| Handling Safety..... | 1 |
| Electrical Safety..... | 1 |
| Deenergizing Safety..... | 1 |
| Battery Safety..... | 1 |
| Replacement and Recycling of Batteries..... | 1 |
| Initial Inspection | 2 |
| Inspection..... | 2 |
| Unpacking..... | 2 |
| Placement..... | 3 |
| Installation Instructions | 3 |
| Checking Electrical Data..... | 3 |
| Electrical Connections..... | 3 |
| Mains Connections..... | 4 |
| Rear Views..... | 5 |
| Common Fault..... | 6 |
| Computer Interface Port (Optional)..... | 6 |
| Emergency Power Off (EPO) Remote Shut Down and Signal Relay Port (Optional)..... | 6 |
| Optional Equipment Installation | 8 |
| Galvanic Isolation Transformer..... | 8 |
| External Service Bypass Panel (SBP)..... | 10 |
| External Service Bypass Panel and Galvanic Isolation Transformer..... | 11 |
| External Run Battery Cabinet..... | 12 |
| Operating Instructions | 13 |
| Switching On..... | 13 |
| Switching Off..... | 13 |
| Setting the Voltage..... | 13 |
| External Service Bypass Panel Operation..... | 13 |
| LEDs..... | 14 |
| Batteries | 15 |
| Automatic Battery Check..... | 15 |
| Manual Battery Check..... | 15 |
| Battery Replacement..... | 15 |
| Storage | 15 |
| Storage Conditions..... | 15 |
| Extended storage..... | 15 |
| Service | 15 |
| Specifications | 16 |
| Limited Warranty | 16 |
| Regulatory Agency Approvals | 17 |
| APC Contact Information | 18 |
| Latin America, South America..... | 18 |
| Europe, Middle East, Africa..... | 18 |
| Asia, Australia..... | 18 |

Safety

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.

Handling Safety

- Be careful. Do not lift heavy loads without assistance.

<18 kg (<40 lb.)



18-32 kg (40-70 lb.)

32-55 kg (70-120 lb.)



>55 kg (>120 lb.)



- Equipment with casters is built to move on a smooth surface without any obstacles.
- Do not use a ramp inclined at more than 10°.
- This equipment is intended for installation in a temperature-controlled indoor area (see the *User's Manual* for exact temperature range), free of conductive contaminants.

Electrical Safety

- Do not work alone under hazardous conditions.
- High short circuit current through conductive materials could cause severe burns.
- A licensed electrician is required to install permanently wired equipment.
- Check that the power cord(s), plug(s), and sockets are in good condition.
- To reduce the risk of electric shock when grounding cannot be verified, disconnect the equipment from the AC power before installing or connecting to other equipment. Reconnect only after all connections are made.
- Do not handle any kind of metallic connector before the power has been removed.
- Use one hand, whenever possible, to connect or disconnect signal cables to avoid a possible shock from touching two surfaces with different electrical grounds.
- Connect the equipment to appropriate branch circuit/mains protection (fuse or circuit breaker). Connection to any other type of receptacle may result in a shock hazard.



CAUTION! Deenergizing Safety

- If the equipment has an internal energy source (the battery), the output may be energized when the unit is not connected to AC power.
- To deenergize permanently wired equipment: set the power switch to off (0 or down). Next set the AC circuit breaker to off (down). Then disconnect the batteries (including any expansion units). Finally, disconnect the AC power from the building power supply.
- Use of this equipment in life support applications where failure of this equipment can reasonably be expected to cause the failure of the life support equipment or to significantly effect its safety or effectiveness is not recommended.



WARNING! Battery Safety

- **This equipment contains potentially hazardous voltages.** Do not attempt to disassemble the unit. The unit contains no user serviceable parts. Repairs are performed only by factory trained service personnel.



Batteries must be recycled. Deliver the battery to an appropriate recycling facility or ship it to the supplier in the new battery's packing material. See the new battery instructions for more information.

- Do not dispose of batteries in a fire. The batteries may explode.
- Do not open or mutilate batteries. They contain an electrolyte which is toxic and harmful to the skin and eyes.
- To avoid personal injury due to energy hazard, remove wrist watches and jewelry such as rings when replacing the batteries. Use tools with insulated handles.
- Replace batteries with the same number and type of batteries as originally installed in the equipment.

Replacement and Recycling of Batteries

See your dealer or the Battery Replacement Section of this *User's Manual* for information on replacement battery kits and battery recycling.

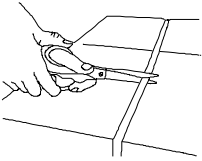

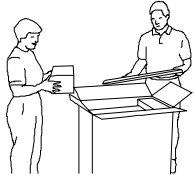
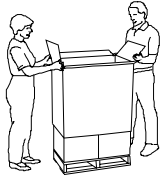
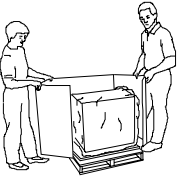
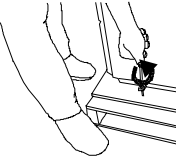
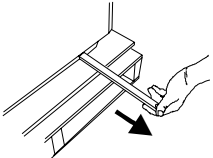
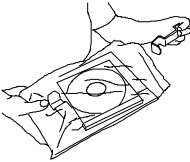

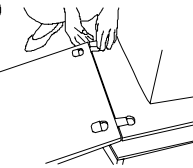

Initial Inspection

Inspection

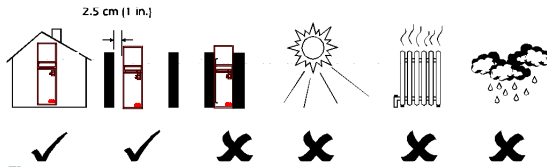
Inspect the UPS upon receipt. Notify the carrier and dealer if there is damage. The packaging is recyclable; save it for reuse or dispose of it properly.

Unpacking

Move the UPS, in its shipping package, as close to the desired location as possible. Then follow these instructions:

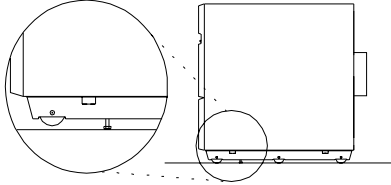
- 1  Use scissors or a knife to cut the plastic straps and open the package.
- 2  Refer to this *User's Manual* for safety information and installation instructions.
- 3  Unpack all visible foam pieces and the wooden unloading ramp.
- 4  Lift off the cardboard box that covers the top and sides of the package. A wooden pallet forms the bottom of the box.
- 5  Remove the carton liner.
- 6  Unscrew the hold-down bolts that secure the Smart-UPS DP to the pallet.
- 7  Pull out the two (2) metal bars and set aside.
- 8  Open the literature kit and locate the two (2) metal pallet brackets.
- 9  Insert the metal pallet brackets into the holes on the unloading ramp.
- 10  Attach the unloading ramp to the pallet.
- 11  Have two (2) people, standing on either side of the Smart-UPS DP, wheel the unit down the unloading ramp. Do not stand in front of the UPS.

Placement



Install the UPS in a protected area that is free of excessive dust and has adequate air flow. Sufficient cooling must be ensured by a minimum of 150 mm free space from the ventilation slots on the back, and 200 mm from the ventilation slots on the right side. Do not operate the UPS where the temperature and humidity are outside the specified limits.

To secure the unit in place



Once the unit is positioned, use a wrench to lower the drop bolts, raising the front wheels so the unit will not roll. The drop bolts are located behind the front wheels. The figure to the left shows the drop bolts lowered.

Installation Instructions

Note:

This function must be performed by qualified personnel only.
This UPS is equipped with a SmartSlot for accessories. See the APC Website (www.apcc.com) for available accessories.

Warning!

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the warranty.

Checking Electrical Data

Check the identification label on the back of the unit to verify that the specified voltage and power rating match the available mains voltage and load requirements, as specified in the tables shown with each configuration connection.

Electrical Connections

Warning!

Make sure that main power supply is switched off before any installation is carried out on the system.

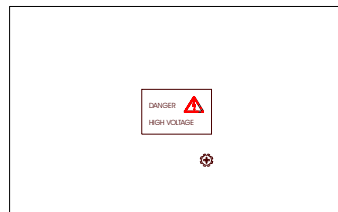
Switching Off

Switch off the Smart-UPS DP in the following way:

1. Switch the on/off switch on the front to 0 (down).
2. Switch off mains fuse on the rear.
3. Switch off the mains supply.

The electrical connections and service on the unit must be carried out by an authorized electrician according to national and local regulations.

To get access to the terminals, remove the screw on the back, and remove the cover.



External Connections

Notes:

As a standard, the Smart-UPS DP is made for single-phase connection.

Due to the leakage current of 3.5 to 10 mA, the Smart-UPS DP must always be grounded according to local regulations.

Mains Connections

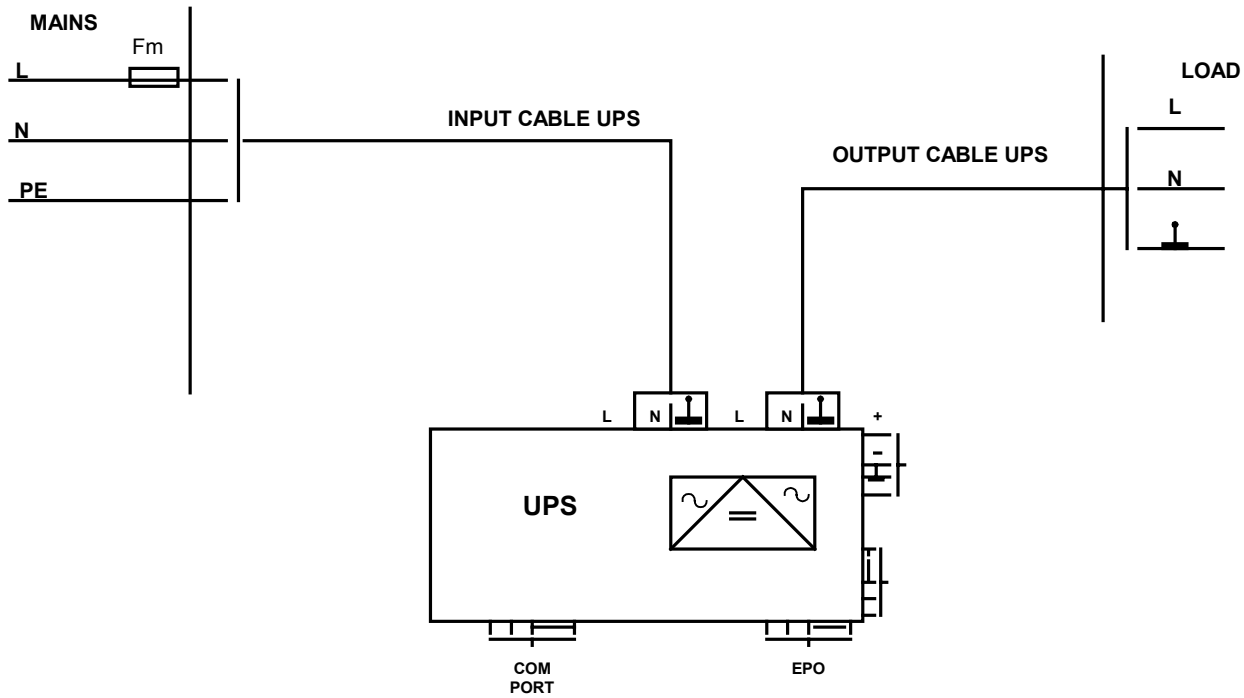
Make these connections only if no optional equipment (see the *Optional Equipment Installation*, page 8) is being used.

Mains Fuses and Cable Dimensions

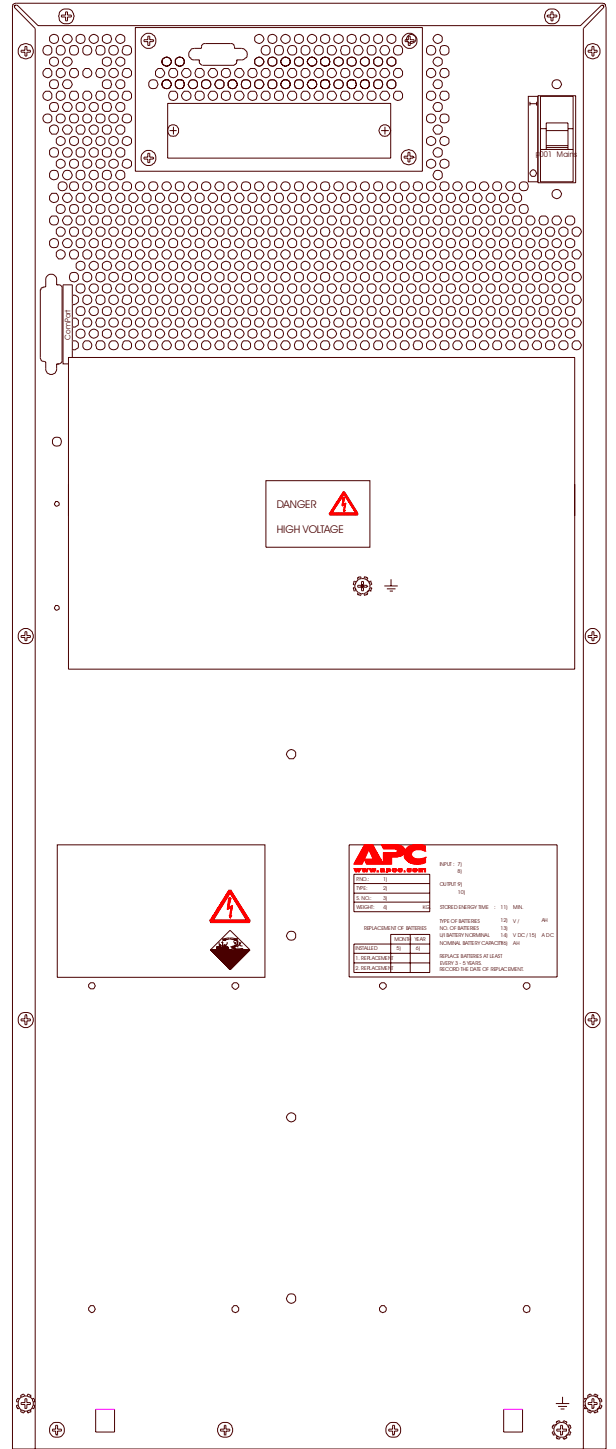
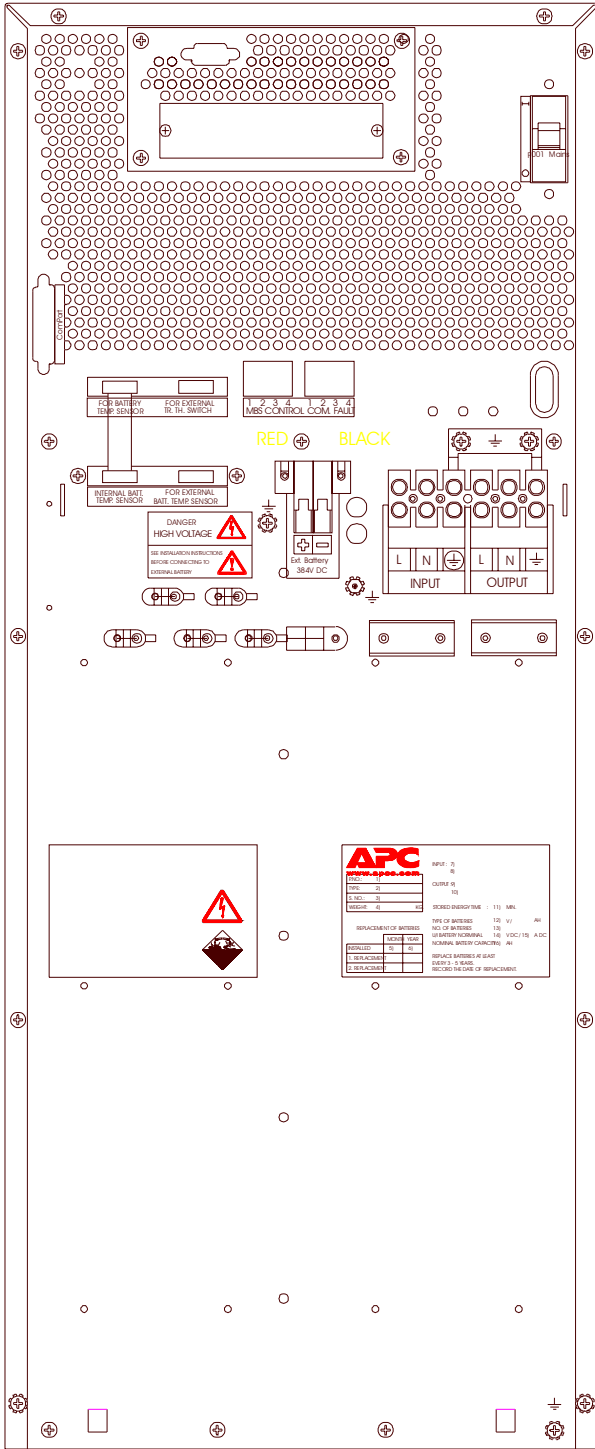
Standard System

| System | Mains Fuse * (Fm) | Input Cable UPS | Output Cable UPS |
|--------|-------------------|----------------------|----------------------|
| 4kV | 25A | 3x6 mm ² | 3x4 mm ² |
| 6kV | 40A | 3x10 mm ² | 3x10 mm ² |
| 8kV | 50A | 3x16 mm ² | 3x10 mm ² |
| 10kV | 63A | 3x16 mm ² | 3x16 mm ² |

* Din gl Types



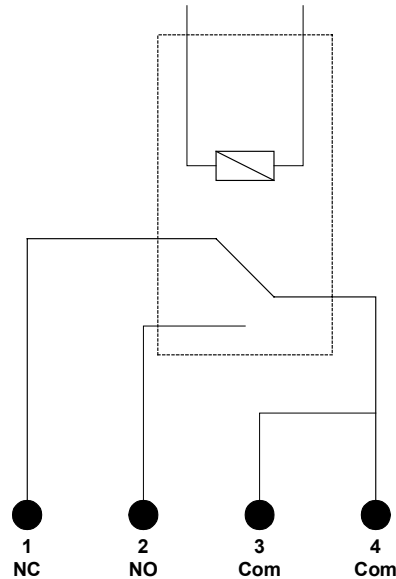
Rear Views



Common Fault

The function of the common fault relay is factory preset. For changing the factory setting, please contact your local dealer.

Principal Diagram (common fault)



Data:

Relay contacts - ohmic load

DC min./max.: 12V_{DC} 20mA/60V_{DC} 1A

AC min./max.: 12V_{AC} 20mA/250V_{AC} 8A

Computer Interface Port (Optional)

PowerChute[®] power management software and interface kits can be used with this UPS. If used, connect the interface cable to the 9-pin computer interface port on the back panel of the UPS. Secure the connector's screws to complete the connection.

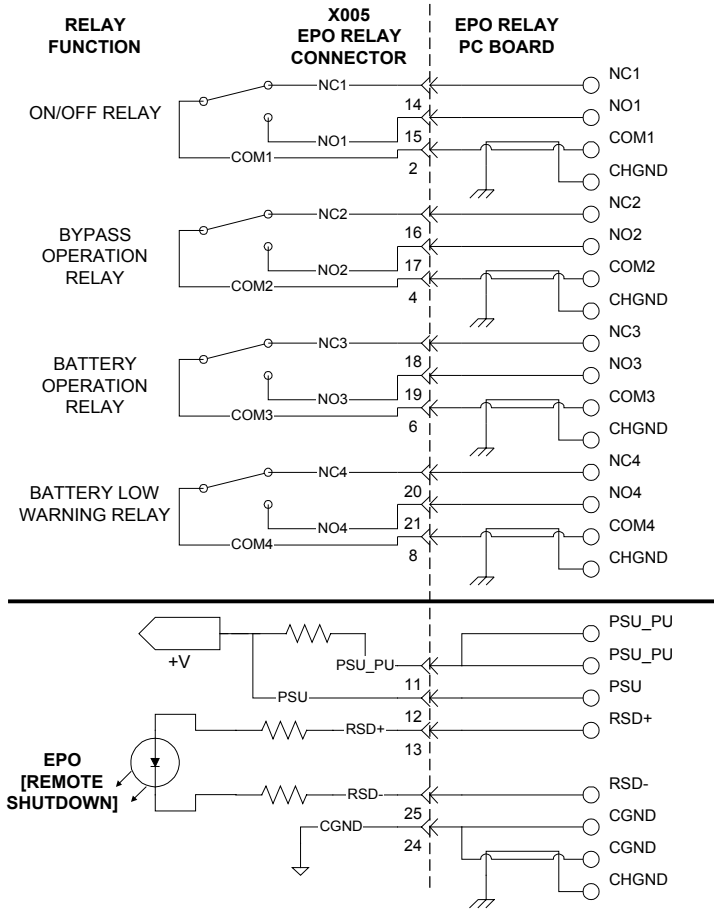
Note:

The serial cable should not be connected to the UPS until the user is ready to install the software.

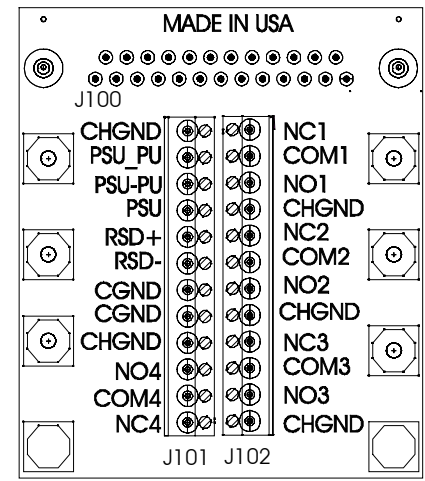
Emergency Power Off (EPO) Remote Shut Down and Signal Relay Port (Optional)

The EPO function uses the Remote Shut Down (RSD) pins on the X005 25-pin Sub-D female connector on the back of the UPS. The J100 PC board with the mate (a 25 pin Sub D male) to the X005 and a screw capture connector for each of the pins list below is included the UPS.

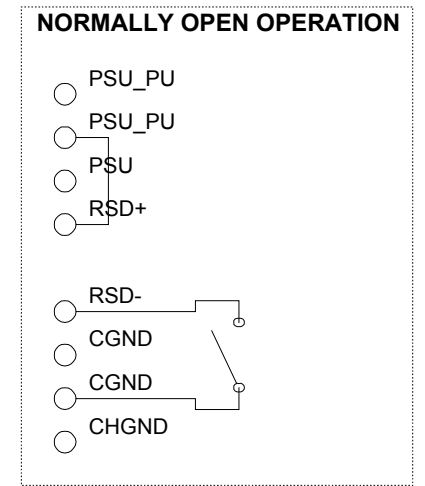
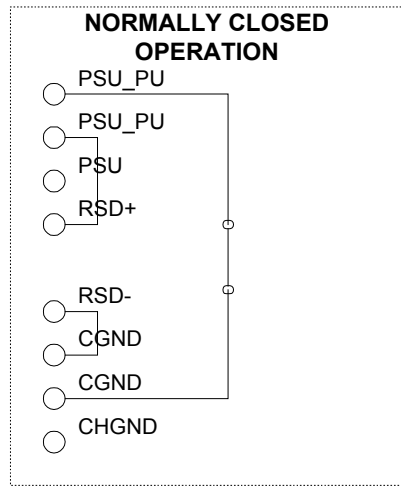
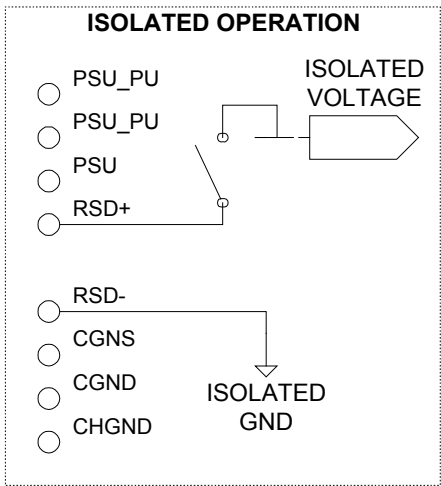
| | | |
|--|--|--|
| UPS on UPS off | Pin 2 -15 short circuit Pin 2 -14 short circuit | Pin 2 -14 open circuit Pin 2 -15 open circuit |
| Bypass mode Normal operation | Pin 4 -17 short circuit Pin 4 -16 short circuit | Pin 4 -16 open circuit Pin 4 -17 open circuit |
| Battery operation Normal operation | Pin 6 -19 short circuit Pin 6 -18 short circuit | Pin 6 -18 open circuit Pin 6 -19 open circuit |
| Battery voltage low Battery voltage normal | Pin 8 -21 short circuit Pin 8 -20 short circuit | Pin 8 -20 open circuit Pin 8 -21 open circuit |
| Galvanic isolated DC supply 5V / 30 mA or 12V / 20 mA Pull up resistor 2400ohm | Pin 12 = PSU + Pin 11 = Pull up + | Pin 24 = PSU GND |
| Remote shut down input High: 3.5V to 25V Low: -25V to 0.5V Min. Pulse length: 1 sec | Pin 13 = RSD + | Pin 25 = RSD - |



J100 EPO Relay PC Board



EPO SHUTDOWN EXAMPLES



To shut the unit down the RSD+ pin is connected to PSU and RSD- pin is connected to CGND. The unit will shut down in one second. The EPO-port can be connected to a stop switch so that the Smart-UPS DP can be switched off quickly (e.g., in case of fire).

Optional Equipment Installation

Galvanic Isolation Transformer

The galvanic isolation transformer can be delivered for one- or two-phase connection. When connecting a Smart-UPS DP and galvanic isolation transformer, the AC bus and the wires for the thermo switch must be mounted. Please follow the instructions below.

Note:

If the cables in the galvanic isolation transformer have 4 wires, the wire marked no. 3 must be cut off.

Galvanic Isolation Transformer Connections

The AC bus from the galvanic isolation transformer must be mounted.

Note:

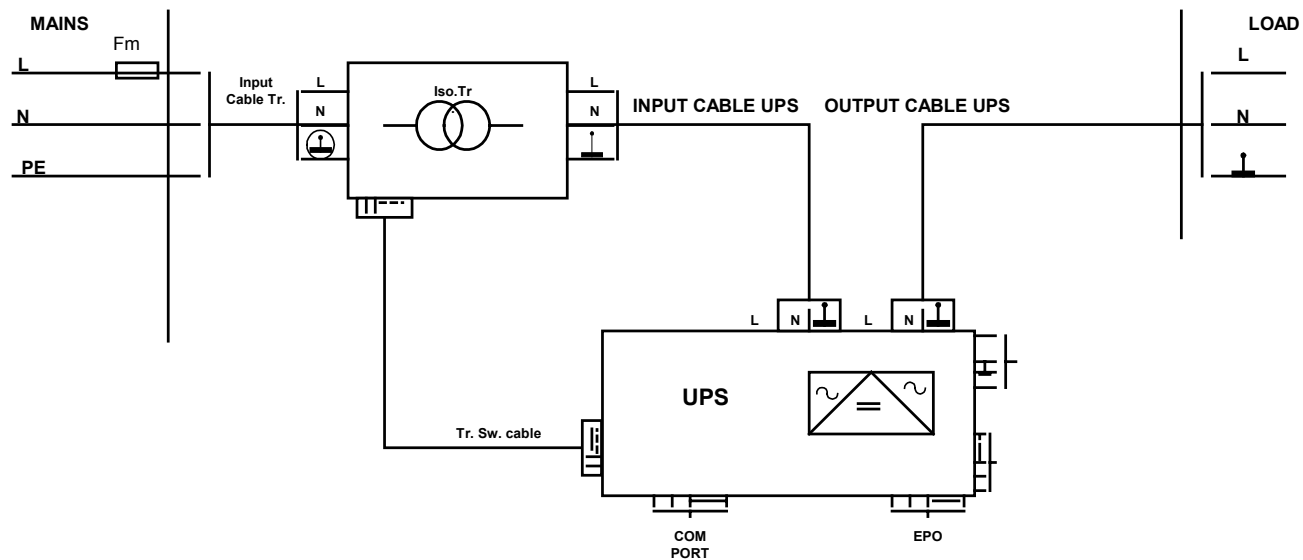
If the galvanic isolation module is installed it must be secured so that the neutral is grounded according to local regulations. This is done in the galvanic isolation transformer with a wire between terminal 5 (PE) and 9 (neutral).

This wire is already mounted from the factory. If the Smart-UPS DP has to be grounded to a separate EDP earth, this is done to terminal 9, after having removed the wire between terminals 5 and 9.

Standard System With Isolating Transformer (230 V)

| System | Mains Fuse* (Fm) | Input Cable Transformer | Input Cable UPS | Output Cable UPS |
|--------|---------------------|----------------------------|----------------------|----------------------|
| 4kV | 25A | 3x6 mm ² | 3x6 mm ² | 3x4 mm ² |
| 6kV | 40A | 3x10 mm ² | 3x10 mm ² | 3x10 mm ² |
| 8kV | 50A | 3x16 mm ² | 3x16 mm ² | 3x10 mm ² |
| 10kV | 63A | 3x16 mm ² | 3x16 mm ² | 3x16 mm ² |

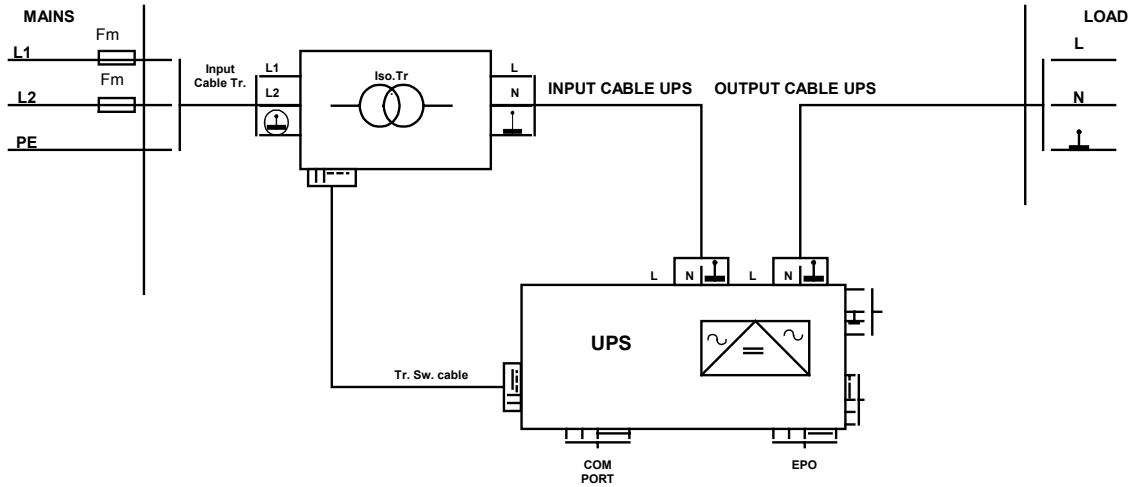
*Din gl Types



Standard System With Isolating Transformer (400 V)

| System | Mains Fuse* (Fm) | Input Cable Transformer | Input Cable UPS | Output Cable UPS |
|--------|---------------------|----------------------------|----------------------|----------------------|
| 4kV | 16A | 3x2.5mm ² | 3x6mm ² | 3x4 mm ² |
| 6kV | 25A | 3x6 mm ² | 3x16 mm ² | 3x10 mm ² |
| 8kV | 32A | 3x10 mm ² | 3x16 mm ² | 3x10 mm ² |
| 10kV | 40A | 3x10 mm ² | 3x16 mm ² | 3x16 mm ² |

*Din gl Types



External Service Bypass Panel (SBP)

Note:

The Smart-UPS DP must only be connected by service bypass panels (SBPs) manufactured by APC. If SBPs other than those manufactured by APC are used, the UPS system may be damaged and the warranty given by APC is repealed.

During the installation of the service bypass panel, you must attach a ferrite bead on the signal cable to ensure regulatory compliance. A ferrite bead and its installation instructions are included in the literature kit.

The external service bypass panel isolates the system so that service can be carried out safely without any interruption to the load.

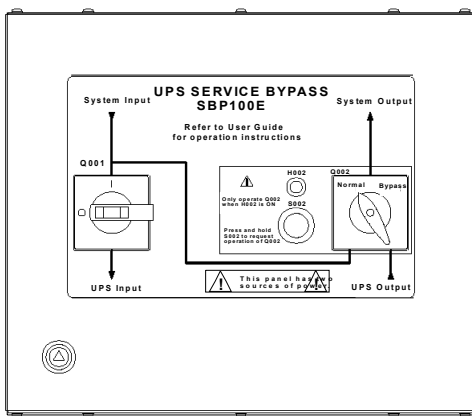
WARNING:

Be careful when operating the external service bypass panel. Follow the operating procedure described below carefully.

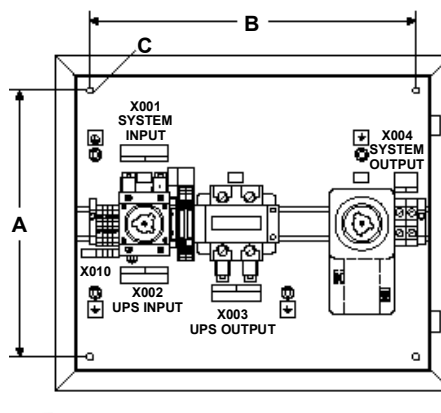
All pluggable cables between the Smart-UPS DP and the SBP should be disconnected or should only be connected while the SBP is in the Bypass position.

When the SBP is switched from “Normal” to “Bypass” the Smart-UPS DP no longer regulates and filters the input voltage.

Service Bypass Panel



SBP Mounting Holes



Key

| | | |
|-----|--------------|---------|
| | SUDP001 | SUDP002 |
| A = | 240 mm | 270 mm |
| B = | 240 mm | 330 mm |
| C = | 4 x ø 6.5 mm | |

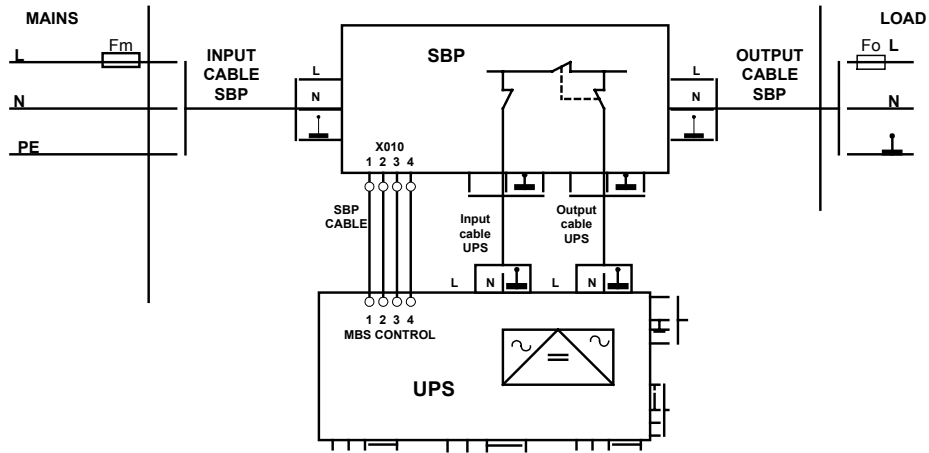
Service Bypass Panel Connections

Standard system with Service Bypass Panel (SBP)

| System | Mains Fuse*(Fm) | Input Cable SBP | Input Cable UPS |
|--------|-----------------|----------------------|----------------------|
| 4kV | 25A | 3x6 mm ² | 3x6 mm ² |
| 6kV | 40A | 3x10 mm ² | 3x10 mm ² |
| 8kV | 50A | 3x16 mm ² | 3x16 mm ² |
| 10kV | 63A | 3x16 mm ² | 3x16 mm ² |

*Din gl Types

| System | Output Cable UPS | Output Fuse SBP (Fo) | Output Cable SBP |
|--------|----------------------|----------------------|----------------------|
| 4kV | 3x4 mm ² | 20A | 3x4 mm ² |
| 6kV | 3x10 mm ² | 32A | 3x10 mm ² |
| 8kV | 3x10 mm ² | 40A | 3x10 mm ² |
| 10kV | 3x16 mm ² | 50A | 3x16 mm ² |



External Service Bypass Panel and Galvanic Isolation Transformer

If both the external service bypass panel and the galvanic isolation transformer are installed, the following connections must be made:

- If the cables in the galvanic isolation transformer have 4 wires, the wire marked no. 3 must be cut off.
- If Smart-UPS DP has an ohm load, then it is necessary to ensure the system with 20A. In this case, an external manual bypass switch which is supplied with a 32A CEE plug, should be used. The switch can ensure both 20A and 32A fuses.

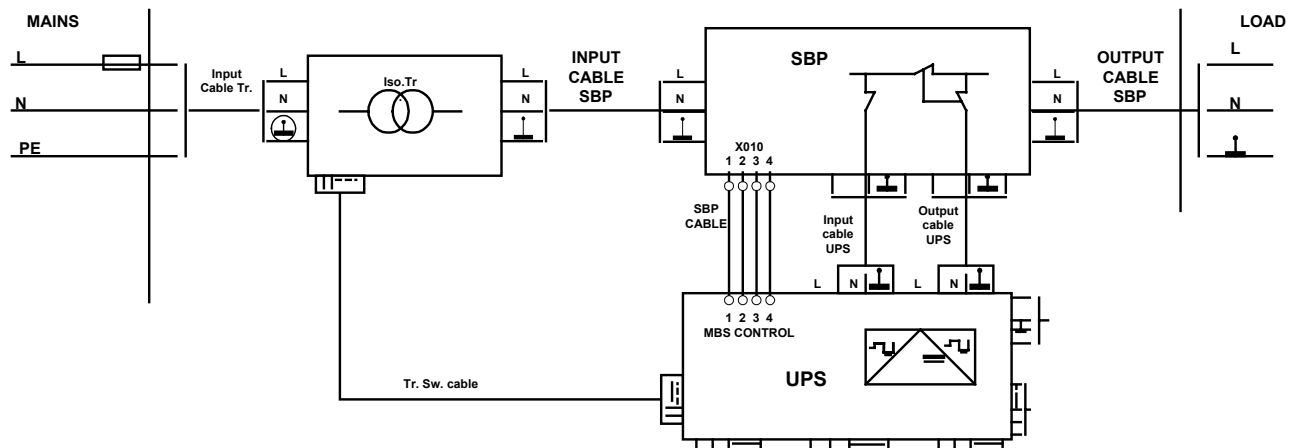
SBP and Galvanic Isolation Transformer Connections

Standard System With Isolating Transformer (230 V) And SBP

| System | Mains Fuse* (Fm) | Input Cable Transformer | Input Cable SBP | Input Cable UPS |
|--------|------------------|-------------------------|----------------------|----------------------|
| 4kV | 25A | 3x6 mm ² | 3x6 mm ² | 3x6 mm ² |
| 6kV | 40A | 3x10 mm ² | 3x10 mm ² | 3x10 mm ² |
| 8kV | 50A | 3x16 mm ² | 3x16 mm ² | 3x16 mm ² |
| 10kV | 63A | 3x16 mm ² | 3x16 mm ² | 3x16 mm ² |

*Din gl Types

| System | Output Cable UPS | Output Fuse SBP (Fo) | Output Cable SBP |
|--------|----------------------|----------------------|----------------------|
| 4kV | 3x4 mm ² | 20A | 3x4 mm ² |
| 6kV | 3x10 mm ² | 32A | 3x10 mm ² |
| 8kV | 3x10 mm ² | 40A | 3x10 mm ² |
| 10kV | 3x16 mm ² | 50A | 3x16 mm ² |

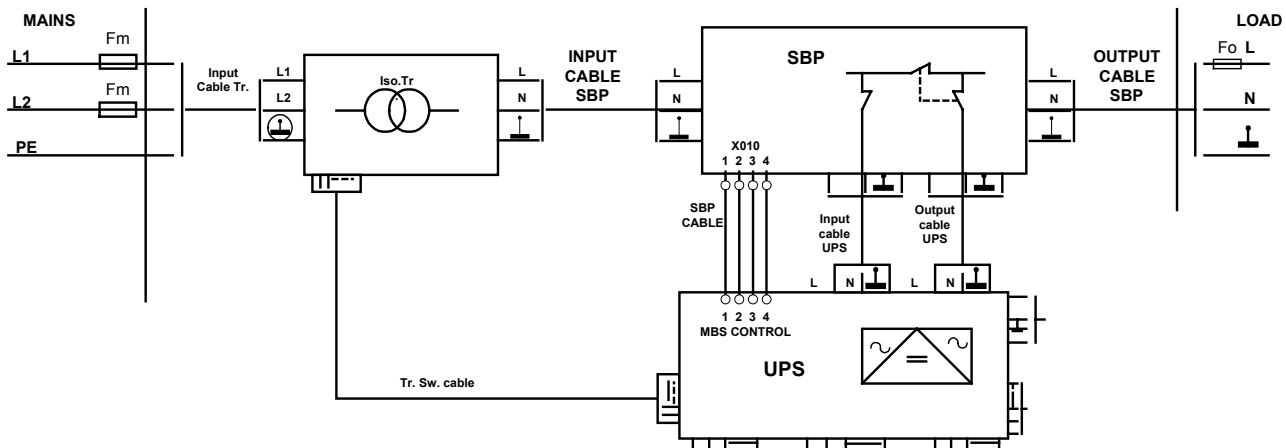


Standard System With Isolating Transformer (400 V) And SBP

| System | Mains Fuse* (Fm) | Input Cable Transformer | Input Cable UPS | Output Cable UPS |
|--------|---------------------|----------------------------|----------------------|----------------------|
| 4kV | 16A | 3x2.5mm ² | 3x6mm ² | 3x6 mm ² |
| 6kV | 25A | 3x6 mm ² | 3x16 mm ² | 3x10 mm ² |
| 8kV | 32A | 3x10 mm ² | 3x16 mm ² | 3x10 mm ² |
| 10kV | 40A | 3x10 mm ² | 3x16 mm ² | 3x16 mm ² |

*Din gl Types

| System | Output Cable UPS | Output Fuse SBP (Fo) | Output Cable SBP |
|--------|----------------------|----------------------|----------------------|
| 4kV | 3x4 mm ² | 20A | 3x4 mm ² |
| 6kV | 3x10 mm ² | 32A | 3x10 mm ² |
| 8kV | 3x10 mm ² | 40A | 3x10 mm ² |
| 10kV | 3x16 mm ² | 50A | 3x16 mm ² |



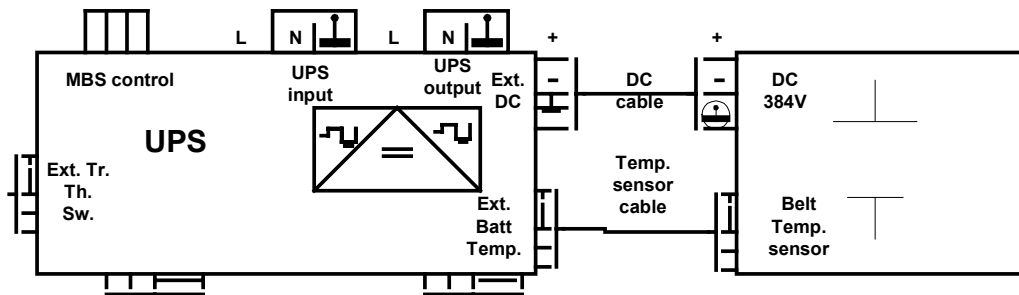
External Run Battery Cabinet

Note:

You must attach a ferrite bead to the signal cable of the extended run battery cabinet to ensure regulatory compliance. A ferrite bead and its installation instructions are included in the literature kit.

For longer uninterrupted power during UPS on-battery operation, connect an extended run battery cabinet to the Smart-UPS DP. All connection diagrams show the UPS with an extended run battery cabinet already connected.

Detail of Smart-UPS DP with an Extended Run Battery Cabinet



Operating Instructions

Switching On



Switch on the mains fuse on the rear of the UPS. The Smart-UPS DP will perform a self-check ending with the LED display showing red/yellow/green, meaning that the unit is functioning properly. The unit performs a self-test automatically when turned on, and every two weeks thereafter.



Switch the 1/0 switch on the front of the Smart-UPS to 1 (up). The acoustic alarm will give a short beep when output power is available.

Note:

Whenever the UPS is turned on and utility voltage is present, the charger maintains battery charge.

Switching Off

Switching off the Smart-UPS DP must be done in the following way:

- Switch the on/off switch on the front to 0 (down).
- Switch off (down) the mains fuse on the rear.
- Switch off the main supply.

Setting the Voltage

If the AC power mains voltage is not 230 V (the factory-set default for the UPS), use the PowerChute[®] power management software to set it to the correct voltage. This must be done with no load connected to the UPS.

External Service Bypass Panel Operation

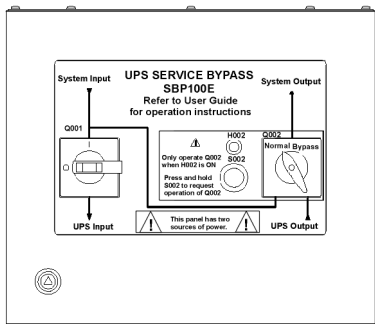
The external service bypass panel (SBP) isolates the Smart-UPS DP so service can be carried out safely without any interruption to the load.

WARNING:

The Smart-UPS DP must only be connected by service bypass panels (SBPs) manufactured by APC. If SBPs other than those manufactured by APC are used, the UPS system may be damaged and the warranty given by APC is repealed.

When the SBP is switched from “Normal” to “Bypass” the output voltage is no longer adjusted or controlled by the Smart-UPS DP.

Before operating the SBP, check that the Smart-UPS DP is running in normal operation. When S002 is pushed, H002 must go on within 1 second - if not, release S002 immediately- bypass mains is outside tolerances and the SBP cannot be operated.



- Q001:** 0 : Supply voltage to Smart-UPS DP is OFF.
I : Supply voltage to Smart-UPS DP is ON.
- Q002:** Normal : The Smart-UPS DP is running in normal operation. The electrical load is supplied directly from the Smart-UPS DP.
Bypass: The electrical load is supplied via the bypass switch from the mains.

Note:

Ensure that the UPS is operating on-line (Normal mode) before switching to the Bypass mode.

How to Switch From Normal to Bypass Mode

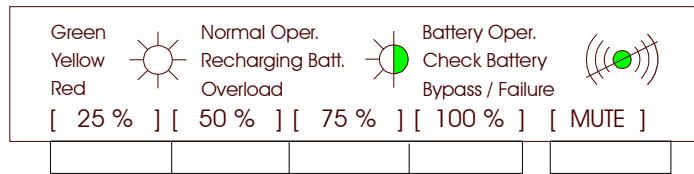
1. Press and hold the S002 switch and, within one (1) second turn the Q002 switch to the Bypass position.
2. Turn the Q001 switch to the “0” position. The UPS can now be shut down or serviced.

How to Return to Normal Mode

1. Turn the Q001 switch to the “I” position.
2. Turn the Smart-UPS DP on by switching the front panel switch from the “0” to the “I” position.
3. Push and hold the S002 switch and, within one (1) second turn the Q002 switch to the Normal position.

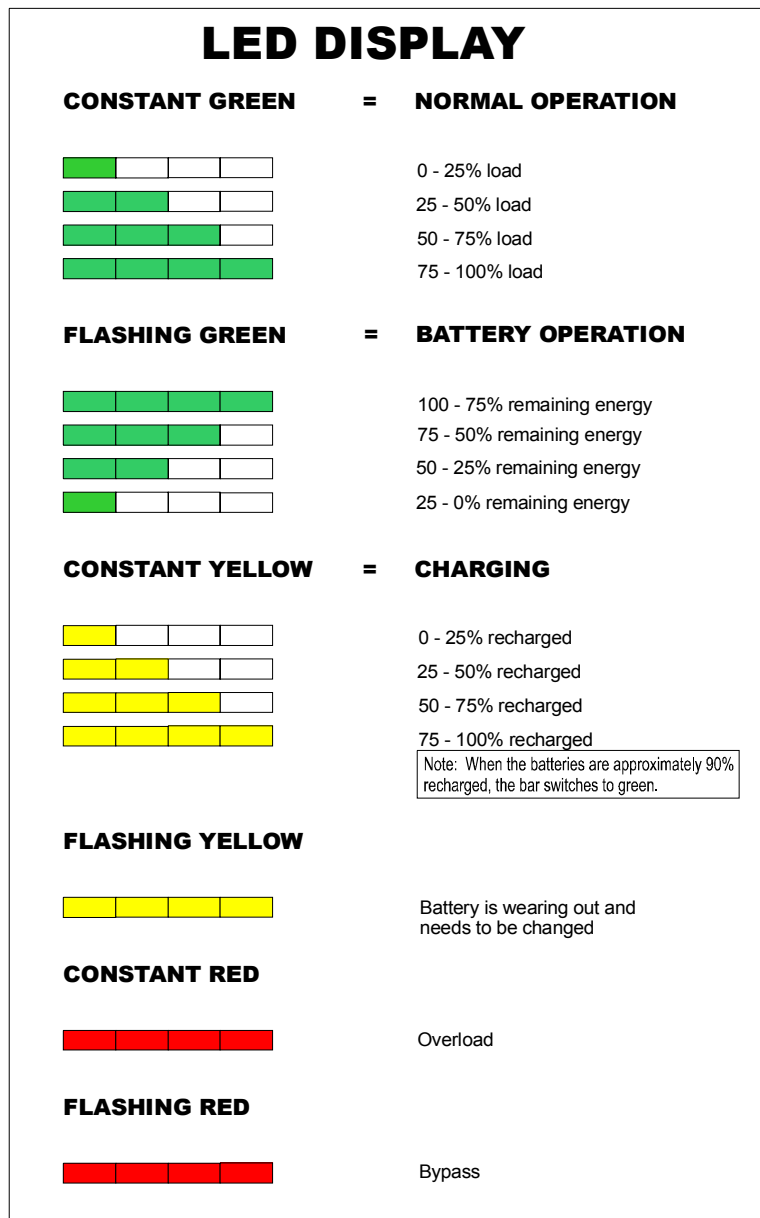
LEDs

The LED bar on the front of the unit gives information by means of color and size of the bar.



The general meaning is:

- Green = Okay.
- Yellow = Okay, but...
- Red = DANGER!! Might lose output.



An alarm will sound when the UPS goes into battery operation, bypass operation, or fault conditions. (The alarm can be stopped by pressing the mute button.)

Batteries

Automatic Battery Check

The battery test is automatically carried out every third month, if the automatic battery test function is set. The battery test starts when the batteries are fully charged. There is no alarm given for the battery operation and the display shows normal operation.

Manual Battery Check

1. Let the Smart-UPS DP run in normal operation for 24 hours.
2. Use the PowerChute[®] power management software to start the self-test.

WARNING:

The tests are carried out to detect possible failure in the Smart-UPS DP. Save all work on the connected load before tests are started. Battery tests should be run during noncritical periods for computer operation safety reasons.

Battery Replacement

The built-in batteries are designed for five years of service life. Service personnel will replace the batteries every three to five years, or when an annual check gives an unsatisfactory result. See your dealer or call the number in this manual for information on replacement battery.

Note:

Please read the cautions in the Safety Section at the beginning of this *User's Guide*. Once the battery is disconnected, the loads are not protected from power outages.



Batteries must be recycled. Deliver the battery to an appropriate recycling facility or ship it to the supplier in the new battery's packing material. See the new battery instructions for more information.

Storage

Storage Conditions

Store the UPS covered and upright in a cool, dry location, with its battery fully charged. Before storing, charge the UPS for at least 2 hours. Remove any accessories in the accessory slot and disconnect any cables connected to the computer interface port to avoid unnecessarily draining the battery.

Extended storage

At -15 to +30 °C (+5 to +86 °F), charge the UPS's battery every 6 months.

At +30 to +45 °C (+86 to +113 °F), charge the UPS's battery every 3 months.

Service

If the UPS requires service do not return it to the dealer!

Follow these steps:

1. Use the *Troubleshooting* section of the *Quick Reference Guide* to eliminate common problems.
2. Verify that no circuit breakers are tripped. A tripped circuit breaker is the most common UPS problem!
3. If the problem persists, call customer service or visit the APC Internet Website (www.apcc.com).
4. Note the model number of the UPS, the serial number, and the date purchased. A technician will ask you to describe the problem and try to solve it over the phone, if possible. If this is not possible the technician will schedule a service call.

Specifications

| | SUDP4000I | SUDP6000I | SUDP8000I | SUDP10000I |
|---|--|-----------|-----------|------------|
| Acceptable input voltage | 220/230/240V +10%/-15% normal operation ±10% bypass operation | | | |
| Input voltage (on-line operation) | 220/230/240 VAC | | | |
| 230 volt output range | 220/230/240 VAC | | | |
| Nominal input frequency | 50 or 60 Hz | | | |
| Input protection | Resettable circuit breaker | | | |
| Frequency limits (on-line operation) | 50 or 60 Hz, 8% | | | |
| Bypass Transfer time | 2 ms typical, 5 ms maximum | | | |
| Maximum load, Total | 4000 VA | 6000 VA | 8000 VA | 10000 VA |
| On-battery output voltage | 230 VAC | | | |
| On-battery frequency | 50 or 60 Hz, 0.1 Hz; unless synchronized to utility during brownout. | | | |
| On-battery waveshape | Low-distortion sine wave | | | |
| Overload protection (on-battery) | Overcurrent and short-circuit protected, latching shutdown on overload | | | |
| Overload protection (on-line) | 25A | 40A | 50A | 63A |
| Noise filter | Normal and common mode EMI/RFI suppression, 100 kHz to 10 MHz | | | |
| Battery type | Spill proof, maintenance free, sealed lead-acid | | | |
| Typical battery life | 5 years, depending on number of discharge cycles and ambient temperature | | | |
| Typical recharge time | 24 hours from total discharge | | | |
| Operating temperature | 0 to 40°C (+32 to +104°F) | | | |
| Storage temperature | -15 to +45°C (+5 to +113°F) | | | |
| Operating and storage relative humidity | 30% to 95%, not condensing | | | |
| Operating elevation | 0 to +3,000 m (0 to +10,000 ft.) | | | |
| Storage elevation | 0 to +15,000 m (0 to +50,000 ft.) | | | |
| Electromagnetic Compatibility (EMC) | EN50091-2 | | | |
| Electromagnetic Interference (EMI) | EN55022 Class A | | | |
| Electromagnetic Immunity | IEC 801-2, 801-3, 801-4, 801-5, 1000-2-2 EN60555-1, -2, -3, EN61000-4-1, EN61000-4-11 | | | |
| Audible noise in dBA at 1 m (3 ft.) | 45 dBA | | | |
| Safety approvals | GS licensed by VDE to EN50091-1-1 and EN60950 | | | |
| Size (W x H x D) | 315 x 650 x 610 mm | | | |
| Weight | 128 kg | | | 138 kg |

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 (see the *Service* section of the *User's Manual*). 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 which 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 Agency Approvals



Declaration of Conformity

Application of Council Directives: 89/336/EEC, 73/23/EEC, 92/31/EEC, 93/68/EEC, 91/157/EEC

Standards to Which Conformity Declared: EN50091-1-1, EN50091-2, EN60950

Manufacturer's Name and Address: American Power Conversion
132 Fairgrounds Road
West Kingston, Rhode Island, 02892, USA
-or-
American Power Conversion (A. P. C.) b. v.
Ballybritt Business Park
Galway, Ireland
-or-
American Power Conversion Philippines
Second Street
Caivte EPZA
Rosero, Cavite Phillipines
-or-
Silcon Power Electronics A/S
Silcon Alle
6000 Kolding
Denmark

Importer's Name and Address: American Power Conversion (A. P. C.) b. v.
Ballybritt Business Park
Galway, Ireland

Type of Equipment: Uninterruptible Power Supply

Model Numbers: Smart-UPS DP 10000

Serial Numbers: X9901 000 0000 — X9999 999 9999*
X0001 000 0000 — X0099 999 9999*

Years of Manufacture: 1999, 2000

Note: Where X = B, O, W, or D

We, the undersigned, hereby declare that the equipment specified above conforms to the above directives.

| | | |
|------------------------|---------------|--|
| <u>Billerica, MA</u> | <u>1/1/99</u> | <u><i>Stephen A. Lee</i></u> |
| Place | Date | Stephen A. Lee, Regulatory Compliance Engineer |
| <u>Galway, Ireland</u> | <u>1/1/99</u> | <u><i>Ray S. Ballard</i></u> |
| Place | Date | Ray S. Ballard, Managing Director, Europe |

APC Contact Information

Internet <http://www.apcc.com>

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| Brazil..... | 0800.12.72.21 | Uruguay..... | 000.413.598.2139 |
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| Austria..... | 0660 6480 | Norway..... | 800 11 632 |
| Belgium..... | 0800 15063 | Poland | 00800 353 1202 |
| Denmark..... | 800 18 153 | Portugal..... | 0800 853 182 |
| France..... | 0800 906 483 | Russia..... | 007 095 2306297 (toll number) |
| Finland | 9800 13 374 | South Africa | 0800 994206 |
| Germany..... | 0800 180 1227 | Spain | 900 95 35 33 |
| Holland..... | 0800 0224655 | Sweden..... | 020 795 419 |
| Hungary..... | 00800 12221 | Switzerland..... | 0800 556177 |
| Israel..... | 177 353 2206 | Turkey | 0800 35390275 |
| Italy | 1678 74731 | UK..... | 0800 132990 |

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| | |
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