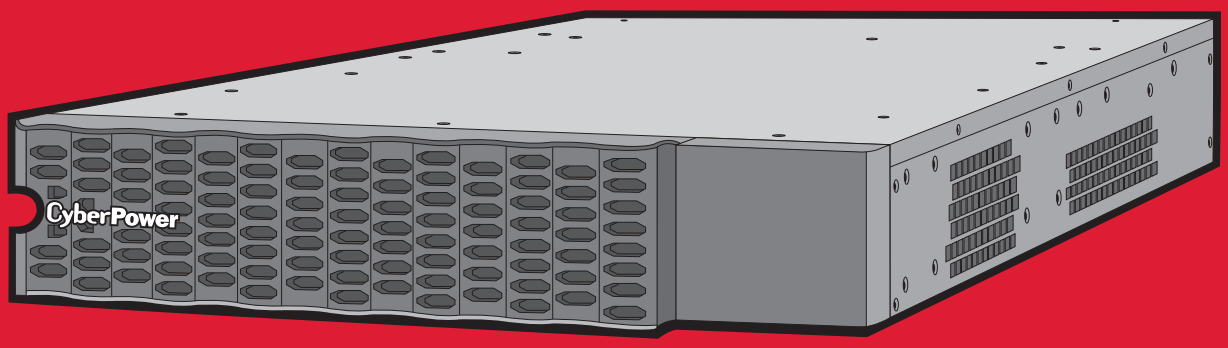
CyberPower®

SMART APP ONLINE STEP-DOWN TRANSFORMER

INSTALLATION AND OPERATION MANUAL

OL5KSTF



SAVE THESE INSTRUCTIONS
Please read this manual and follow the instructions for installation and operation.

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SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions that should be followed during installation and maintenance of the STEP-DOWN TRANSFORMER module.

The Smart App Online OL5KSTF step-down transformer models that are covered in this manual are intended for installation in an environment within 32°F to 104°F (0°C to 40°C), free of conductive contaminants.

SPECIAL SYMBOLS

Warning: High voltage – Risk of Electric Shock

Caution - Important Instructions: Must always be followed.

Do Not Discard: The UPS or UPS batteries in trash. The batteries contain lead acid. For more information, contact your local recycling or hazardous waste facility.

Information, advice, help

See applicable user manual

SAFETY INSTRUCTIONS CONT.

PERSONAL SAFETY

CAUTION

The AC electrical service where the step-down transformer is connected should be close to the unit and easily accessible.

Please use only UL-marked mains cable, (e.g. the mains cable of your equipment), to connect the step-down transformer to the AC outlet.

Please use only UL-marked power cables to connect any equipment to the step-down transformer.

Do not unplug the unit from AC power during operation, as this will disconnect the protective ground insulation.

Do not use an improper size power cord as it may cause damage to your equipment and cause fire hazards.

Make sure everything is turned off and disconnected completely before conducting any maintenance, repairs or shipment.

Installation environment should be in a temperature and humidity controlled indoor area free of conductive contaminants. Do not install this step-down transformer where excessive moisture or heat is present (Please see specifications for acceptable temperature and humidity range).

Never install a step-down transformer, or associated wiring or equipment, during a lightning storm.

Do not work alone under hazardous conditions.

Input circuit breaker must be “OFF” during the building installation.

Only qualified maintenance personnel should perform this task.

Before connecting to the step-down transformer, check that the input voltage into the step-down transformer is within specifications.

DO NOT INSTALL THE STEP-DOWN TRANSFORMER WHERE IT WOULD BE EXPOSED TO DIRECT SUNLIGHT OR NEAR A STRONG HEAT SOURCE!

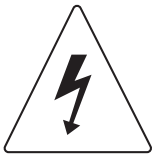
DO NOT BLOCK OFF VENTILATION OPENINGS AROUND THE HOUSING!

DO NOT CONNECT DOMESTIC APPLIANCES SUCH AS HAIR DRYERS TO STEP-DOWN TRANSFORMER OUTPUT SOCKETS!

SAFETY INSTRUCTIONS CONT.

PERSONAL SAFETY CONT.

RISK OF ELECTRIC SHOCK



To prevent the risk of fire or electric shock, only use the supplied hardware to attach the mounting brackets.

Remove watches, rings or other metal objects. Use tools with insulated handles.

Use tools with insulated handles.

The step-down transformer must be connected to a grounded AC power source with fuse or circuit breaker protection. DO NOT plug the step-down transformer into an outlet that is not grounded. If you need to power-drain this equipment, turn off and unplug the unit.

(No User Serviceable Parts): Risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

To prevent the risk of fire or electric shock, install in a temperature and humidity controlled indoor area, free of conductive contaminants. (Please see specifications for acceptable temperature and humidity range).

To avoid electric shock, turn off and unplug the unit before installing the input/output power cord with a ground wire. Connect the ground wire prior to connecting the line wires!

Connect the Protection Earth (PE) safety conductor before any other cables are connected.

Internal circuit configuration or equivalent. Installation instructions shall carry sufficient information, including the basic internal circuit configuration of the UPS, to emphasize its compatibility with power distribution systems.

Signaling circuit connection - Information shall be provided in the installation instructions as to the purpose and connection of any signaling circuits.

For PLUGGABLE EQUIPMENT, the socket-outlet shall be installed near the equipment and shall be easily accessible.

For Permanently Connected Equipment:

A) A readily accessible disconnect device shall be incorporated in the building installation wiring for AC Input.

B) **CAUTION -** To reduce the risk of fire, connect only to a circuit provided with 30 A maximum branch circuit overcurrent protection in accordance with the National Electrical Code, ANSI/NFPA 70 and the Canadian Electrical Code, Part I, C22.1.

C) Wiring Information: Use No. 10 AWG, minimum 90°C copper wire and 18 lb-in Torque force when connecting to AC wiring terminal.

SAFETY INSTRUCTIONS CONT.

PRODUCT SAFETY

RISK OF ELECTRIC SHOCK

The step-down transformer should be placed near the connected equipment and easily accessible.

All step-down transformer models covered in this document are permanently-connected equipment and only qualified maintenance personnel may carry out installations.

Wiring must be done by qualified personnel.

DO NOT USE FOR MEDICAL OR LIFE SUPPORT EQUIPMENT! Under no circumstances should this unit be used for medical applications involving life support equipment and/ or patient care.

DO NOT USE WITH OR NEAR AQUARIUMS! To reduce the risk of fire, do not use with or near aquariums. Condensation from the aquarium can come in contact with metal electrical contacts and cause equipment to short out.

The unit has a dangerous amount of voltage.

TABLE OF CONTENTS

INTRODUCTION

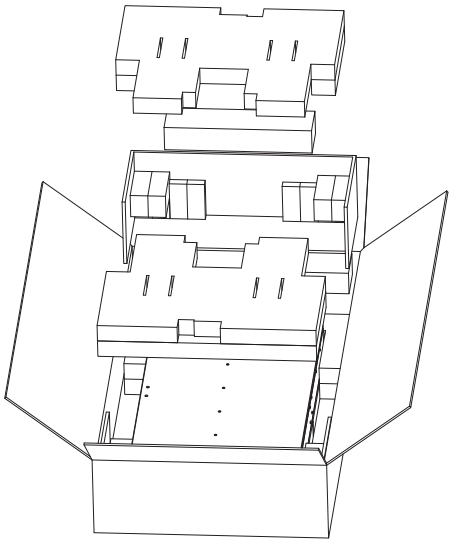
The CyberPower Step-Down and Isolation Transformers support hardwire and power cord installations OL5KSTF and are designed for a variety of CyberPower UPS systems. When connected to a UPS, the step-down transformer converts voltage from 208V down to 120V.

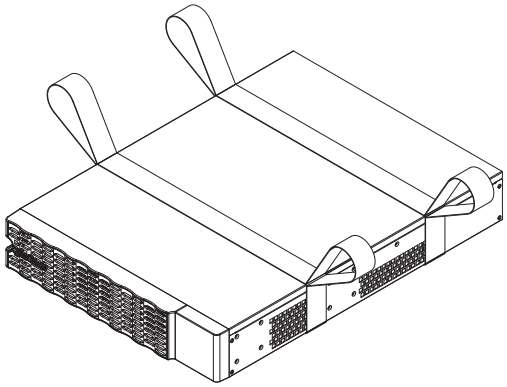
UNPACKING PROCEDURES

Information, advice, help

The UPS system is very heavy, please handle with care. Wear safety shoes and use a hydraulic equipment lift if one is available. At least two people are required for all handling operations, including unpacking, lifting, and installation in a rack system. Do not use the lifting straps to carry the unit around; they are provided to manually unpack the unit only.

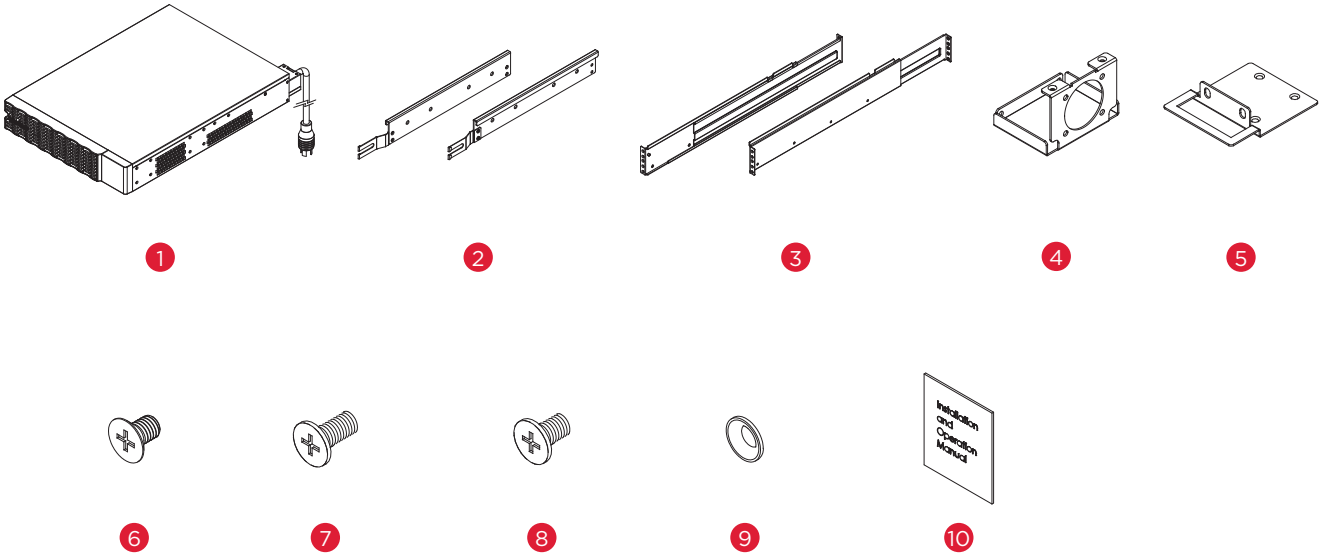
USE LIFTING STRAPS TO REMOVE UNIT FROM THE BOX.





INTRODUCTION CONT.

WHAT'S IN THE BOX



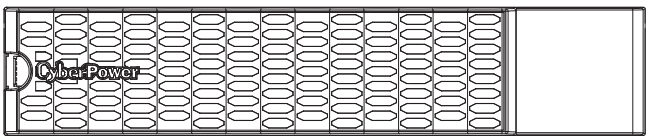
ITEM	CONTENT	QTY
1	OL5KSTF step-down and isolation transformer	1
2	Left & right hanging brackets	1
3	Left & right rackmount rail	1
4	Input terminal block bottom cover	1
5	2U Rack mount ears (Tower stands)	2

ITEM	CONTENT	QTY
6	Black M5X7L flat head screws	8
7	Black M5X12L pan head screws	12
8	Silver M5X6L pan head screws	6
9	Plastic washers	8
10	Installation and operation manual	1

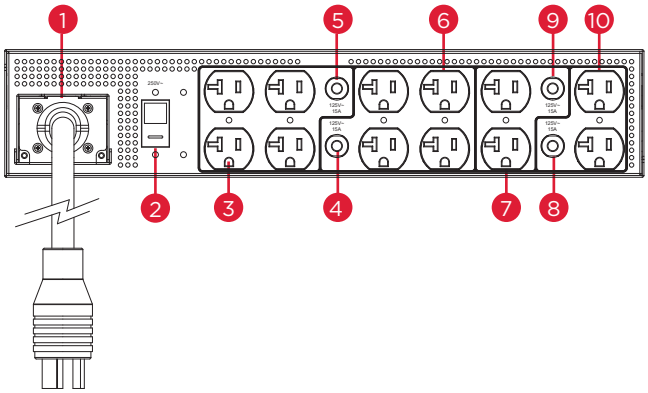
OVERVIEW

STEP-DOWN TRANSFORMER

Front



Back



1. Input Terminal Block with pre-installed L6-30P Power Cord
Connect to input power source (UPS).

2. Input circuit breaker
Provides input current overload and fault protection.

3. 4 x NEMA 5-20R Outlets (120Vac) --- segment 1
Output receptacles to connect equipment load.

4. Output Circuit Breaker (15A Max) --- segment 1
Provides output overload and fault protection.

5. Output Circuit Breaker (15A Max) --- segment 2
Provides output overload and fault protection.

6. 4 x NEMA 5-20R Outlets (120Vac) --- segment 2
Output receptacles to connect equipment load.

7. 2 x NEMA 5-20R Outlets (120Vac) --- segment 3
Output receptacles to connect equipment load.

8. Output Circuit Breaker (15A Max) --- segment 3
Provides output overload and fault protection.

9. Output Circuit Breaker (15A Max) --- segment 4
Provides output overload and fault protection.

10. 2 x NEMA 5-20R Outlets (120Vac) --- segment 4
Output receptacles to connect equipment load.

HARDWARE INSTALLATION

RACKMOUNT INSTALLATION FOR 4-POST RACK

Caution: Important Instructions

To prevent the risk of fire or electric shock, only use the supplied hardware to attach the mounting brackets.

Step 1: Rackmount ear & hanging bracket installation
Attach two rack mount ears to the step-down transformer using eight black M5X7L flat head screws. Install hanging brackets using six silver M5X6L pan head screws

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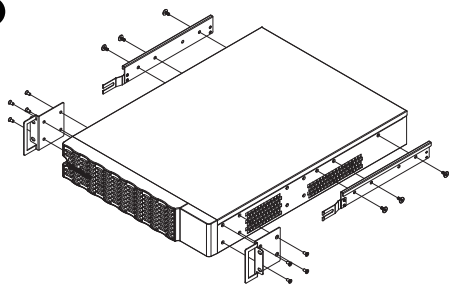

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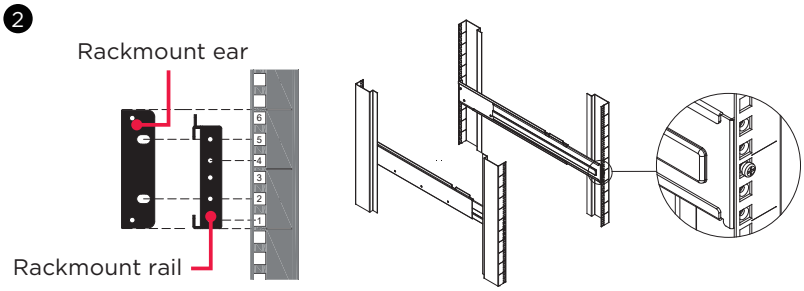
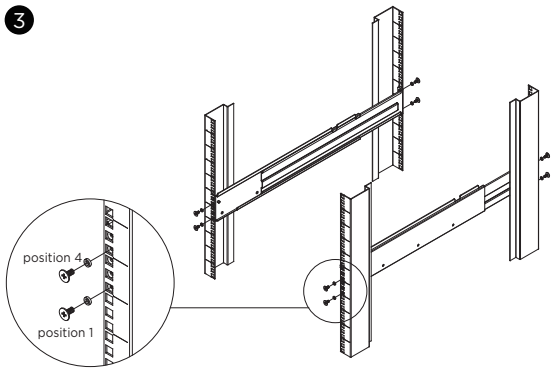


Step 2: Rackmount rail Installation
The rails adjust to mount in 19 in (48 cm) racks from 20.5 in to 36 in (52 cm to 91.5 cm) deep. Select the proper holes in the rack for positioning the step-down transformer in the rack. The step-down transformer takes up 2 rack units: rack hole positions 1 through 6.

Position the guide screws on the back of the rackmount rails into the rear rack square holes to temporarily support the rails in place.

Step 3: Adjust rackmount rails to fit your rack
Adjust the rail depth to match your rack depth. Attach the rackmount rail to your rack with two black M5X6L pan head screws and two plastic washers at the front of the rack (square holes 1 and 4 as shown below). Secure the rail to the rear of the rack with two black M5X12L screws and two plastic washers.

3



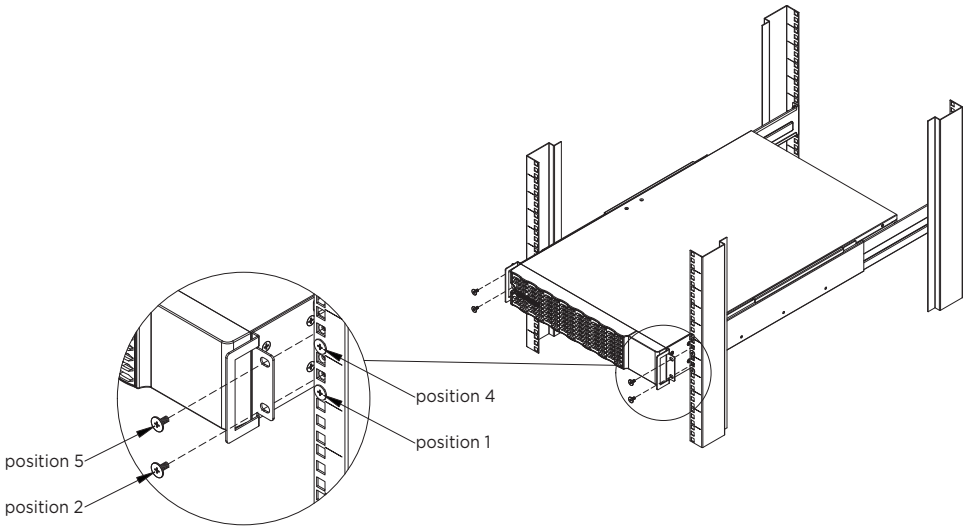
HARDWARE INSTALLATION CONT.

RACKMOUNT INSTALLATION FOR 4-POST RACK CONT.

RACKMOUNT EARS INSTALLATION CONT.

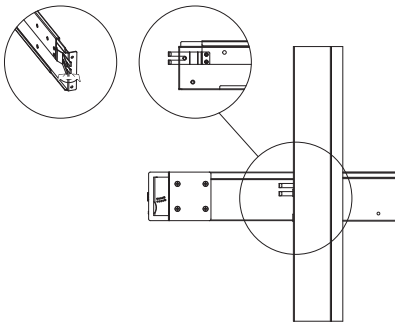
Step 4: Place and secure the step-down transformer on the rails

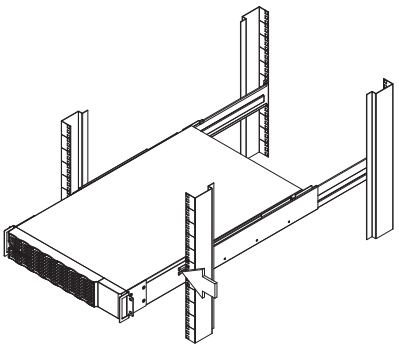
Slide the hanging brackets on the step-down transformer on to the rails mounted in the rack with the front of the unit facing toward you. Secure the step-down transformer to your rack with four black M5X12L pan head screws at the front of the rack (square holes 1 and 4 as shown above).

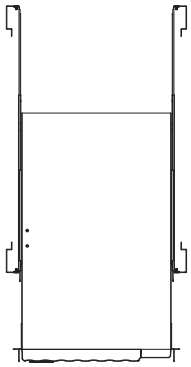


NOTE: To slide the step-down transformer out from the rack

The step-down transformer will be secured by a safety locking mechanism midway of pulling it out of the rack. Use both hands to hold the step-down transformer and press the safety locking tab to pull the step- down transformer out.







RACKMOUNT INSTALLATION FOR 2-POST RACK

This unit can be installed in a 2-post rack with an optional CyberPower 2-post mounting kit (model: 2POSTKIT, sold separately).

See the instructions included with the rail kit for installation procedures.

ELECTRICAL INSTALLATION

THE INPUT CONFIGURATION

Check that all power is turned OFF, before installing the step down transformer.
IMPORTANT! Make sure the utility circuit breaker feeding the UPS input is in the OFF position.
IMPORTANT! Make sure the UPS is turned off.
IMPORTANT! Verify the input wiring meets the recommended sizing.

OL5KSTF NEMA L6-30P POWER CORD CONNECTION: Connect the NEMA L6-30P input power cord directly to an outlet on the UPS. Refer to the "CONNECTING A STEP-DOWN TRANSFORMER TO A UPS POWER MODULE" section in this user manual for instructions.

OL5KSTF ELECTRICAL CONNECTION: Please see the instructions as shown below.

Check wiring dimensions with the following table.

STEP-DOWN AND ISOLATION TRANSFORMERS WITH HARDWIRE INPUT TERMINAL BLOCK	WIRING AWG	WIRING mm^2	SCREW TORQUE lbf-in
OL5KSTF	10 AWG	5.5 mm^2	18 lbf-in

1. Remove the top section of the input terminal cover by removing the top two screws.

2. Remove the bottom section of the input terminal cover by removing the bottom two screws.

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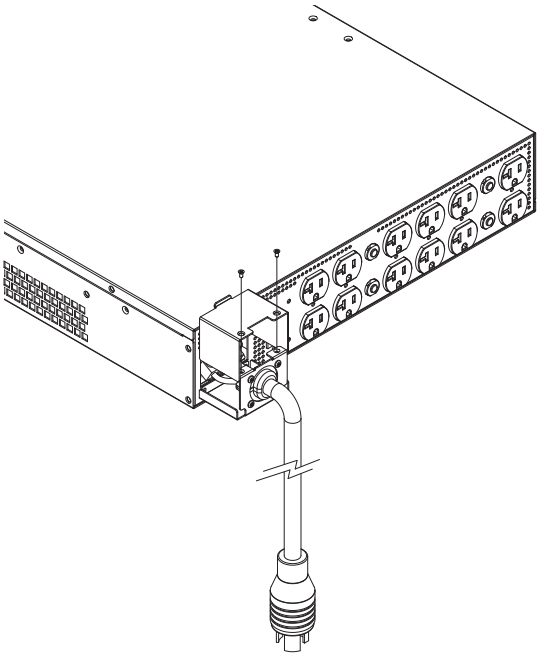

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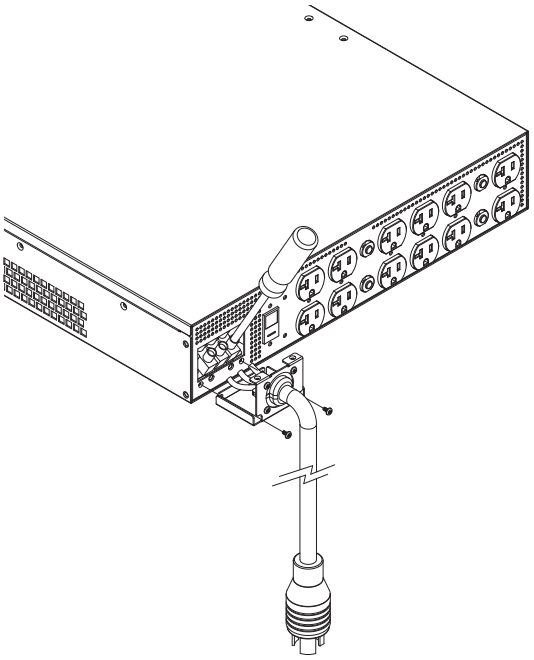

ELECTRICAL INSTALLATION CONT.

THE INPUT CONFIGURATION CONT.

3. Secure the bottom section of the input terminal cover using the included screws.

4. Insert the input cable through the appropriate cable gland (not included). Connect the three wires to input terminal block.

5. Secure the top section of the input terminal cover using the included screws.

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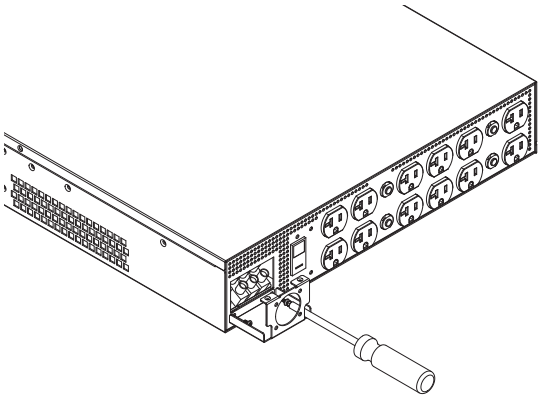

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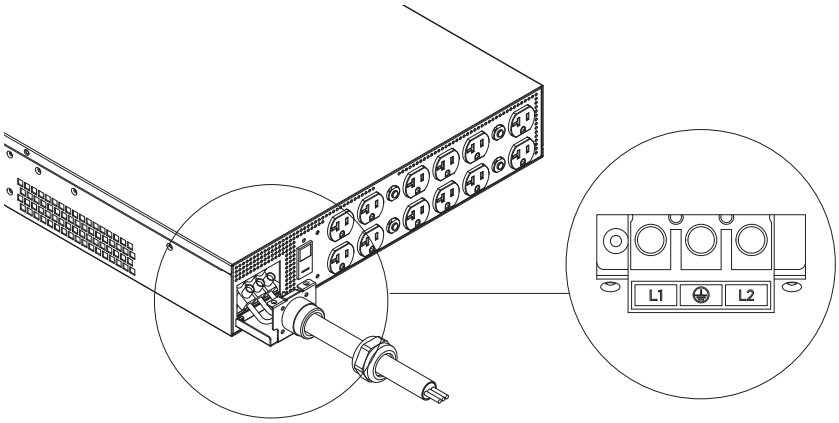

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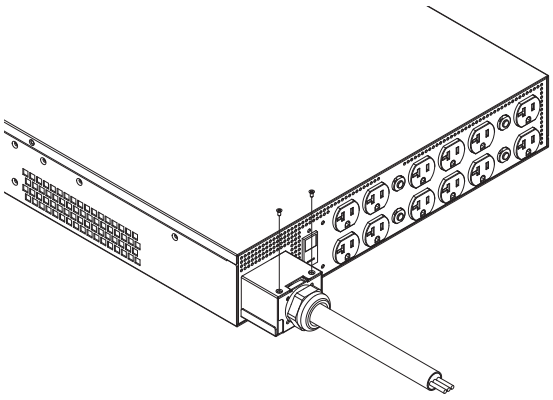
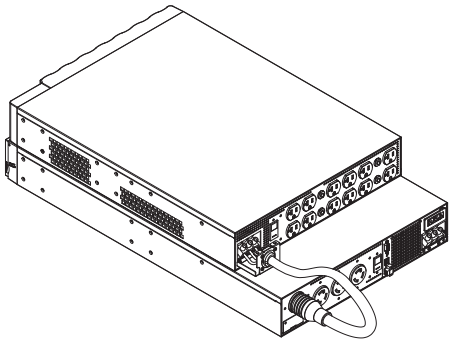


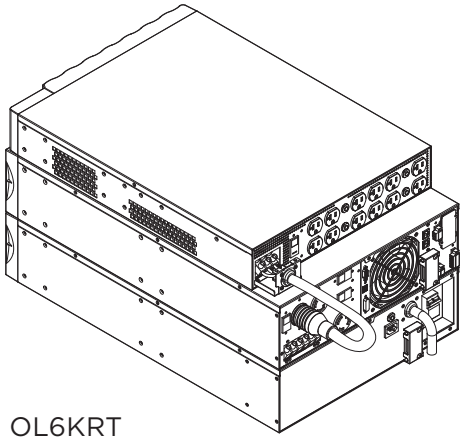
ELECTRICAL INSTALLATION CONT.

CONNECTING A STEP-DOWN TRANSFORMER TO A UPS POWER MODULE

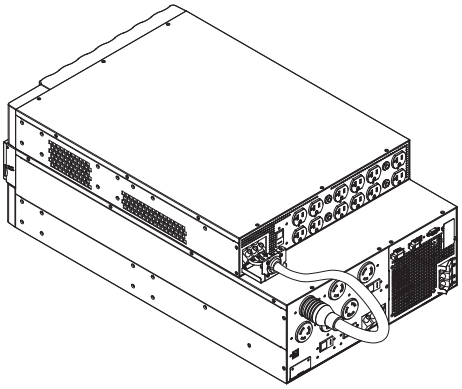
The following illustrations provide the recommended connections between a step-down transformer and a CyberPower Smart App Online UPS System.



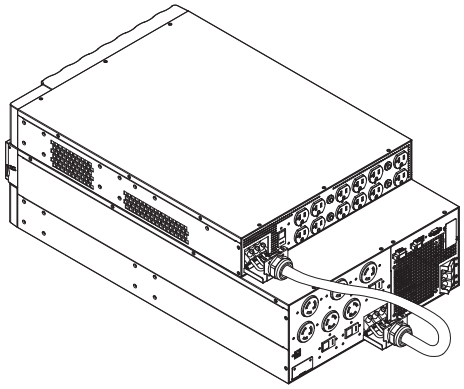
OL5KRTHD/OL6KRTHD



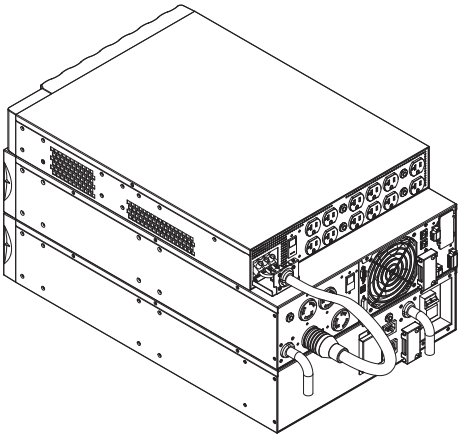
OL6KRT



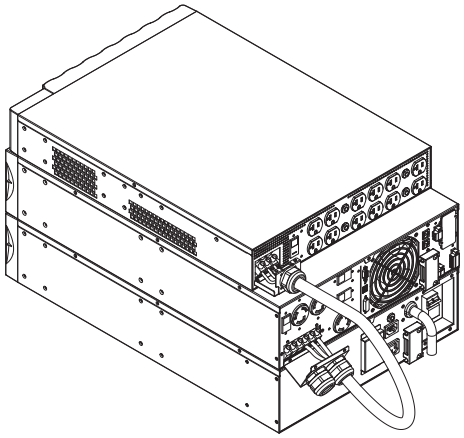
OL8KRTHD/OL10KRTHD



OL8KRTHD/OL10KRTHD
(Terminal configuration)



OL8KRT/OL10KRT



OL8KRT/OL10KRT
(Terminal configuration)

TECHNICAL SPECIFICATIONS

MODELS	OL5KSTF	
CONFIGURATION		
Maximum Output Power (VA)*	5,000 VA/60HZ	4,800 VA/50HZ
Maximum Output Power (W)*	5,000 W/60HZ	4,800 W/50HZ
Form Factor	Rackmount	
INPUT		
Nominal Input Voltage	208 Vac	
Input connection type	Power cord L6-30P Terminal	
Input Frequency	50/60 Hz	
Input Current Rating	Power Cord：24A / Terminal：27A	
OUTPUT		
Nominal Output Voltage	120 Vac	
UPS Outlets	(12) NEMA 5-20R	
PHYSICAL		
Dimensions	L x W x H = 23.6 x 17 x 3.4 in. (600 x 433 x 86.5mm)	
Net Weight	38 kg / 83.8 lbs	
ENVIRONMENTAL		
Operating Temperature	32°F to 104°F (0°C to 40°C)	
Operating Relative Humidity	0 to 90% Non-condensing	
SAFETY		
Conformance Approvals	UL	

* When connected with NEMA L6-30P input power cord, the output power will be derated to 4500VA/4500W.

PRODUCT REGISTRATION

CyberPower requests that you complete and return the Warranty Registration Card enclosed with the Product or register the Product at its website (www.cyberpowersystems.com/registration) to establish that you are the Initial Customer of the Product, and therefore entitled coverage under the Limited Warranty and the Connected Equipment Guarantee. (Registration is not required for coverage, but note: if you do not register your purchase, you will be required to provide proof of purchase.)

LIMITED WARRANTY AND CONNECTED EQUIPMENT GUARANTEE

Please visit www.CyberPowerSystems.com for a copy of the Limited Warranty and Connected Equipment Guarantee.

CyberPower®

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