

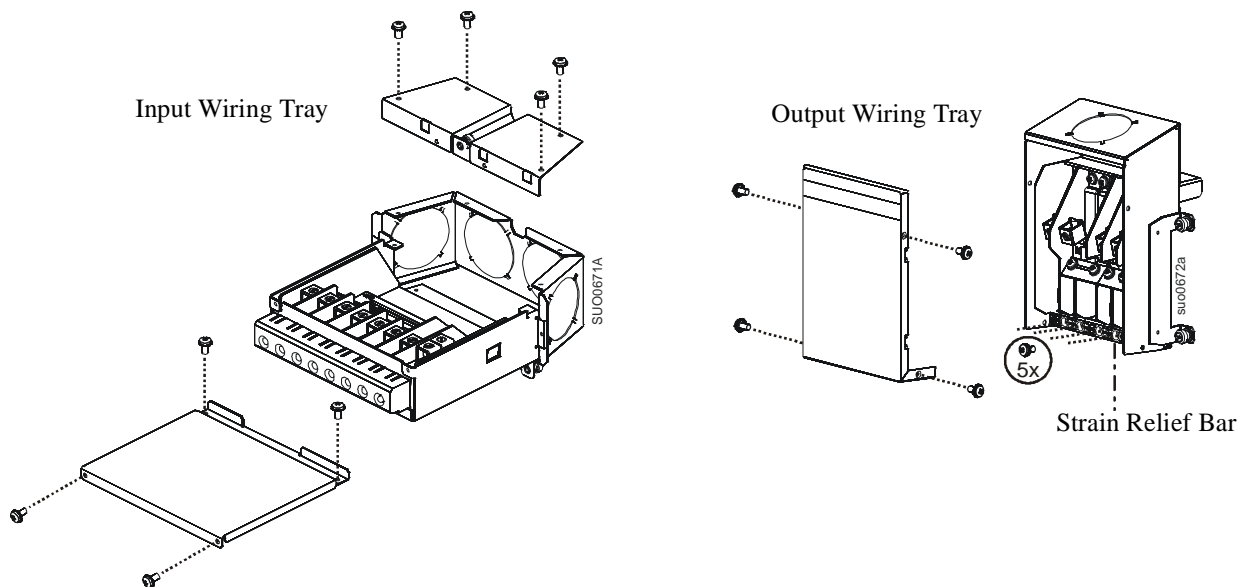
## Smart-UPS® Output Hardwire Kit SURT 15/20 kVA 230 Vac

### Hardwire the UPS

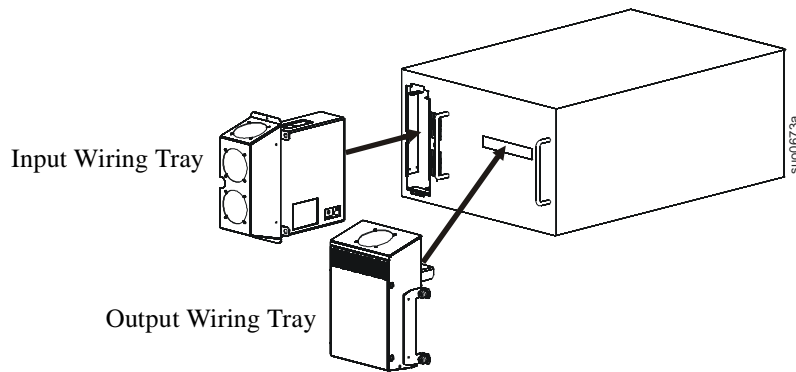
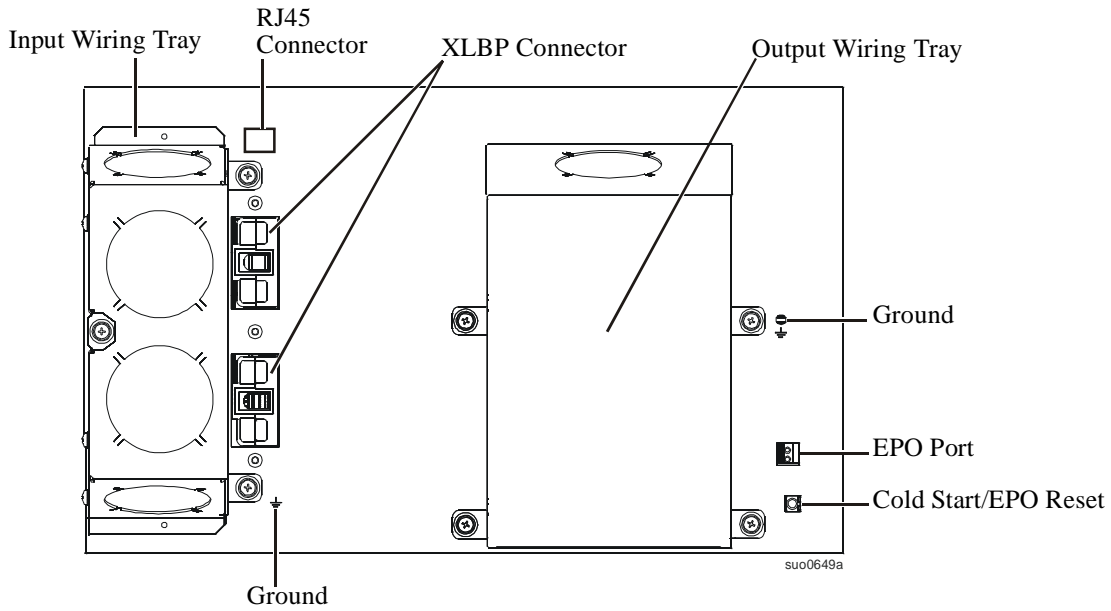
Refer to the Smart-UPS User Manual for additional installation information.

Wiring must be performed by a qualified electrician. Adhere to all local and national electrical codes.

1. For input wiring only, install a utility circuit breaker in accordance with local electrical codes.
2. Switch the utility circuit breaker OFF.
3. Remove the appropriate circular knockouts from the input and output wiring trays.
4. Remove the screws that secure the covers and take the covers off of the trays.
5. Remove the five screws that secure the strain relief bar.
6. Remove the appropriate jumpers for input power source compatibility and output wiring options, refer to “Wiring Specifications” on page 3 in this manual.
7. Insert the cables through the knockout holes to the terminal blocks. Connect the ground terminal first, refer to “Wiring Specifications” on page 3 in the this manual.
8. Use an appropriate strain-relief not supplied, on the hardwired input and output power cables.
9. Replace the wiring tray covers. Failure to do so may result in personal injury or equipment damage.
10. Install the wiring trays, refer to graphics below.










# Install input and output wiring trays in UPS rear panel



## Wiring Specifications

Adhere to national and local electrical codes when wiring.

Input Connections	Output Connections
<b>Main Input</b> Single-Phase: Wire to L1, N, and  Three-Phase: Wire to L1, L2, L3, N, and 	<b>Hardwire</b> Single-Phase: Wire to L1, N, and  Three-Phase: Wire to L1, L2, L3, N, and 
<b>Bypass Input (optional)</b> Single-Phase: Wire to B1, N, and  Three-Phase: Wire to B1, B2, B3, N, and 	<b>Single-phase PDU</b> XL battery pack PDU to UPS: Wire L1, N, 

## Single Feed

Wiring	Number of Phases	Voltage	Current Full Load*** (maximum)	External Input Circuit Breaker (typical)	Wire Size (typical)*
<b>SURT15K XLI/XLICH/XLI-CC</b>					
Input	1	220/230/240 VAC	83 A	100 A each phase	35 mm <sup>2</sup>
Output	1	220/230/240 VAC	66 A	not required	25 mm <sup>2</sup>
Input	3	380/400/415 VAC	28 A each phase	100 A each phase**	35 mm <sup>2**</sup>
Output	1	220/230/240 VAC	66 A	not required	25 mm <sup>2</sup>
Input	3	380/400/415 VAC	28 A each phase	35 A or 40 A each phase	6 mm <sup>2</sup>
Output	3	380/400/415 VAC	22 A each phase	not required	6 mm <sup>2</sup>

## SURT20K XLI/XLICH/XLI-CC

Input	1	220/230/240 VAC	105 A	125 A each phase	50 mm <sup>2</sup>
Output	1	220/230/240 VAC	87 A	not required	35 mm <sup>2</sup>
Input	3	380/400/415 VAC	35 A each phase	125 A each phase**	50 mm <sup>2**</sup>
Output	1	220/230/240 VAC	87 A	not required	35 mm <sup>2</sup>
Input	3	380/400/415 VAC	35 A each phase	50 A each phase	10 mm <sup>2</sup>
Output	3	380/400/415 VAC	29 A each phase	not required	10 mm <sup>2</sup>

\*Terminal screw tightening torque: 4.5 Nm (40 lb-in) minimum

\*\*Use cables and input circuit breakers rated for specifications listed in these tables.

**NOTE:** Units configured for three phase input and single phase output operation, the entire load connected to the UPS will transfer to L1 and Neutral of the three phase input when the UPS is operating in Bypass mode.

\*\*\*The current is specified at nominal input voltage.

The acceptable input frequency range is 40 Hz to 70 Hz.

The output frequency is user selectable. Refer to the PowerView display menu screens for available options.

## Dual Feed

Wiring	Number of Phases	Voltage	Current Full Load*** (maximum)	External Input Circuit Breaker Mains (typical)	External Input Circuit Breaker Bypass (typical)	Wire Size Mains* (typical)	Wire Size Bypass* (typical)
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### SURT15K XLI/XLICH/XLI-CC

Input	1	220/230/240 VAC	83 A	100 A each phase	100 A each phase	35 mm <sup>2</sup>	35 mm <sup>2</sup>
Output	1	220/230/240 VAC	66 A	not required	not required	25 mm <sup>2</sup>	25 mm <sup>2</sup>
Input	3	380/400/415 VAC	28 A each phase	35 A or 40 A each phase	100 A each phase**	6 mm <sup>2</sup>	35 mm <sup>2**</sup>
Output	1	220/230/240 VAC	66 A	not required	not required	25 mm <sup>2</sup>	25 mm <sup>2</sup>
Input	3	380/400/415 VAC	28 A each phase	35 A or 40 A each phase	35 A or 40 A each phase	6 mm <sup>2</sup>	6 mm <sup>2</sup>
Output	3	380/400/415 VAC	22 A each phase	not required	not required	6 mm <sup>2</sup>	6 mm <sup>2</sup>

### SURT20K XLI/XLICH/XLI-CC

Input	1	220/230/240 VAC	105 A	125 A each phase	125 A each phase	50 mm <sup>2</sup>	50 mm <sup>2</sup>
Output	1	220/230/240 VAC	87 A	not required	not required	35 mm <sup>2</sup>	35 mm <sup>2</sup>
Input	3	380/400/415 VAC	35 A each phase	50 A each phase	125 A each phase**	10 mm <sup>2</sup>	50 mm <sup>2**</sup>
Output	1	220/230/240 VAC	87 A	not required	not required	35 mm <sup>2</sup>	35 mm <sup>2</sup>
Input	3	380/400/415 VAC	35 A each phase	50 A each phase	50 A each phase	10 mm <sup>2</sup>	10 mm <sup>2</sup>
Output	3	380/400/415 VAC	29 A each phase	not required	not required	10 mm <sup>2</sup>	10 mm <sup>2</sup>

\*Terminal screw tightening torque: 4.5 Nm (40 lb-in) minimum

\*\*Use cables and input circuit breakers rated for specifications listed in these tables.

**NOTE:** Units configured for three phase input and single phase output operation, the entire load connected to the UPS will transfer to L1 and Neutral of the three phase input when the UPS is operating in Bypass mode.

\*\*\*The current is specified at nominal input voltage.

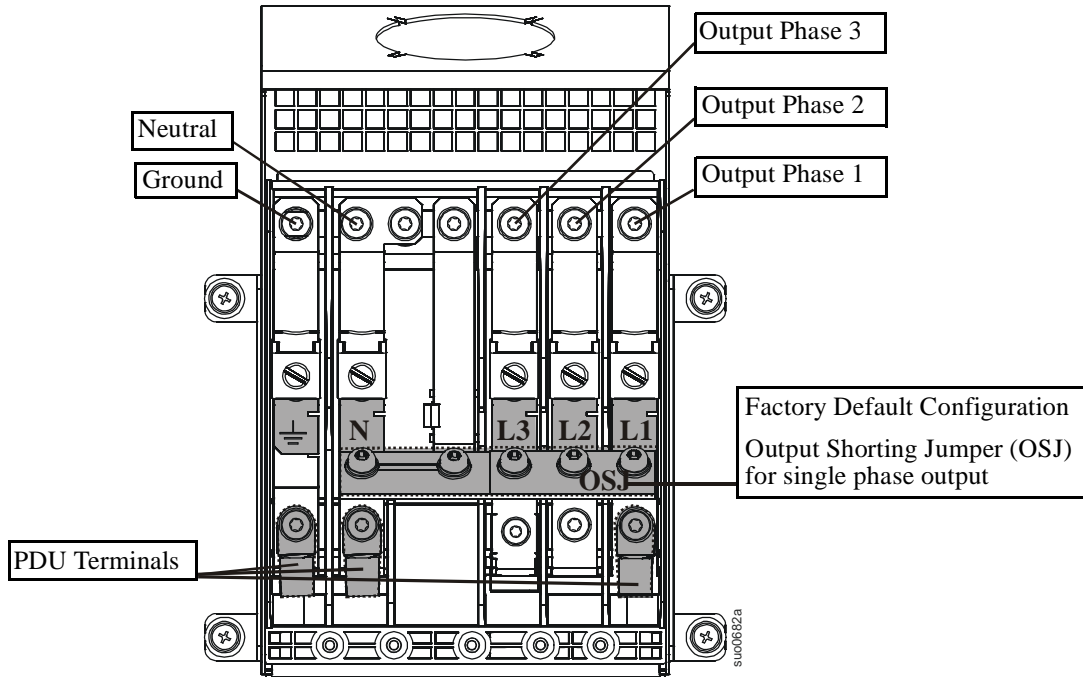
The acceptable input frequency range is 40 Hz to 70 Hz.

The output frequency is user selectable. Refer to the PowerView display menu screens for available options

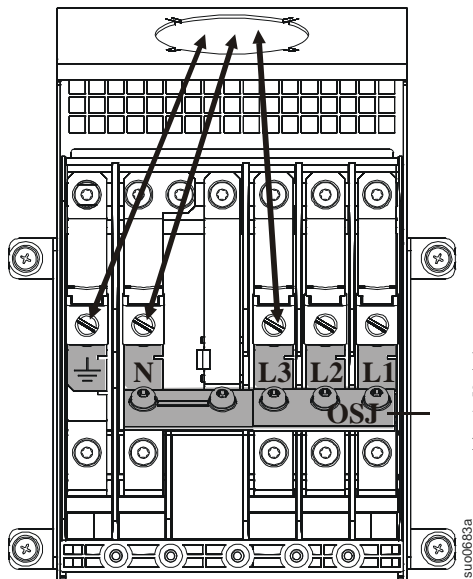
## Output wiring options

Output wiring overview. Refer to the diagrams on the following pages for output wiring options.

Labeled jumpers and connectors must be installed in the appropriate locations.

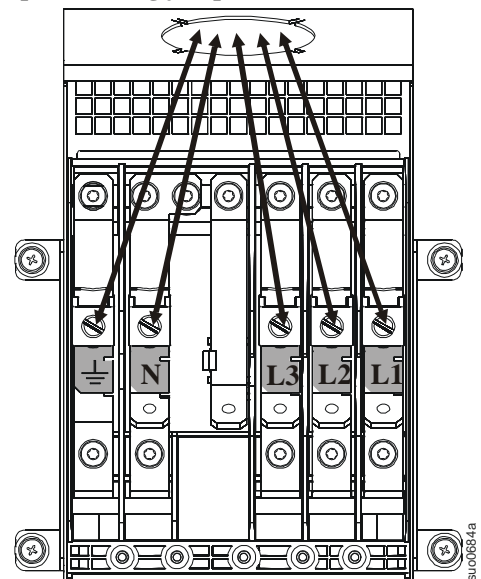


Output hardwire option 1  
Single phase hardwire output connection

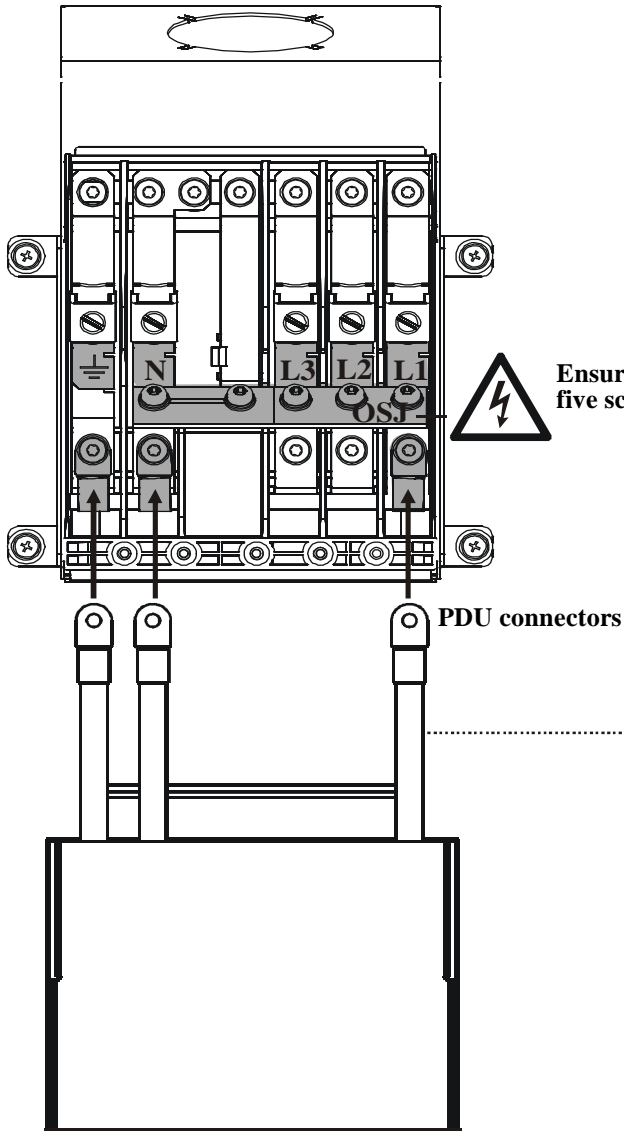


Ensure the OSJ is secured to the output wiring tray using the five screws provided.

Output hardwire option 2  
Three phase hardwire output connection  
XLBP PDU not connected  
Output shorting jumper (OSJ) removed



Output PDU option  
Single phase output connection to battery pack PDU



Ensure the OSJ is secured to the output wiring tray using the five screws provided.

