



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0660

OSHPD Special Seismic Certification Preapproval (OSP)

Type: [X] New [] Renewal

Manufacturer Information

Manufacturer: Crucial Power Products

Manufacturer's Technical Representative: Sherri Shahsavari

Mailing Address: 14000 South Broadway St., Los Angeles, CA 90061

Telephone: (323) 720-4125 Email: sherris@onlinepower.com

Product Information

Product Name: UPS and Batteries

Product Type: UPS

Product Model Number: Wave Rider 4

General Description: Uninterruptible Power Supply

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: None

DATE: 03/26/2021

Applicant Information

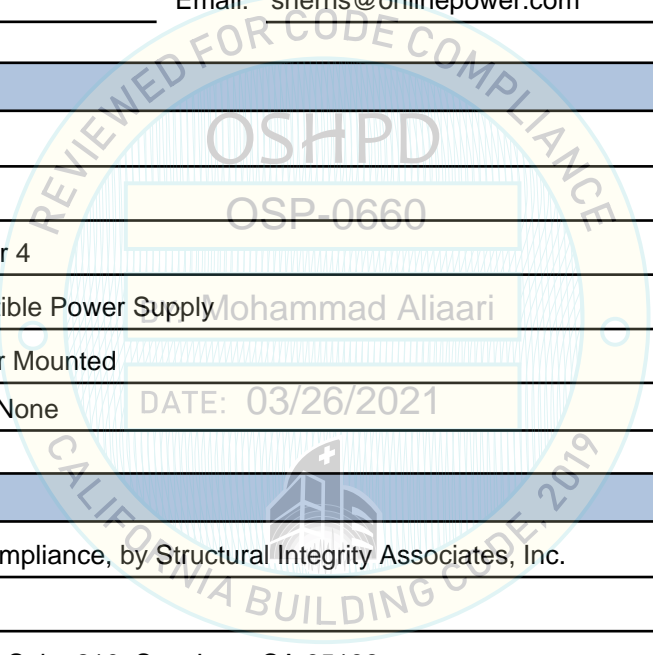
Applicant Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

Contact Person: Galen Reid

Mailing Address: 5215 Hellyer Ave., Suite 210, San Jose, CA 95138

Telephone: (844) 878-0200 Email: greid@structint.com

Title: Manager





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FACILITIES DEVELOPMENT DIVISION**

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

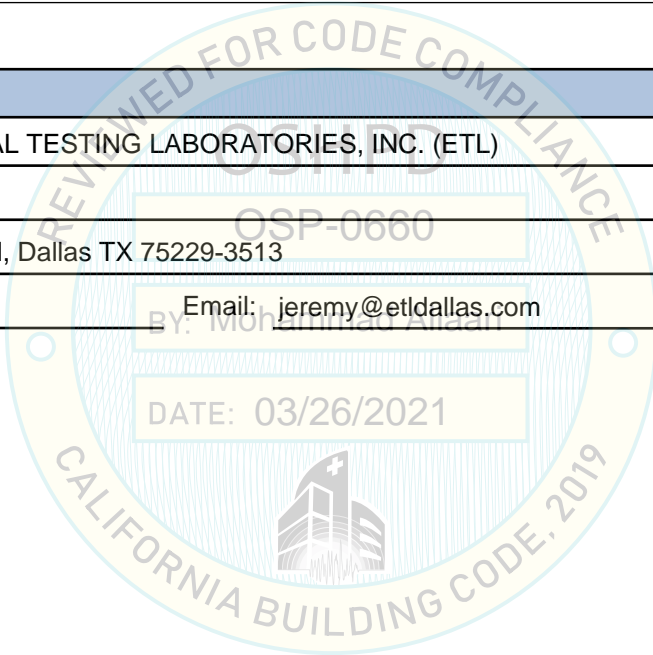
Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.
Name: Andrew Coughlin California License Number: S6082
Mailing Address: 5215 Hellyer Ave, Suite 101, San Jose, CA 95138-1025
Telephone: (415) 635-8461 Email: acoughlin@structint.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)
Contact Person: Jeremy Lange
Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513
Telephone: (972) 247-9657 Email: jeremy@etldallas.com





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 0.72

SDS (Design spectral response acceleration at short period, g) = 1.60

a_p (Amplification factor) = 1.0

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

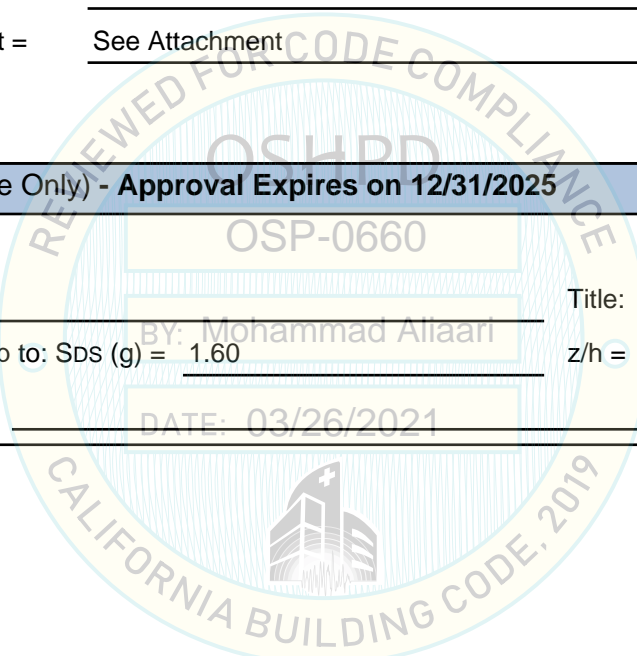
OSHPD Approval (For Office Use Only) - Approval Expires on 12/31/2025

Date: 3/26/2021

Name: Mohammad Aliaari Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: SDS (g) = 1.60 z/h = 0

Condition of Approval (if applicable): DATE: 03/26/2021



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

2000232-CRS-002-R1



Manufacturer: Crucial Power Products	TABLE 1
Model Line: Wave Rider 4	

Certified Product Construction Summary:
Base & Top: 12 GA. carbon steel, **Back & Sides:** 14 GA. carbon steel, **Doors:** 16 GA. carbon steel.

Certified Options Summary:
 Input/Output voltage: 480Y/277 OR 208Y/120

Mounting Configuration:
 Base mounted - rigid
 Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 1.6g$ $z/h = 0.0$ $I_p = 1.5$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Wave Rider 4 (Cabinet Type A)	SV-WR010B05ATT3-BT	31.5	40.7	63	925		Extrap.
	SV-WR020B05ATT3-BT	31.5	40.7	63	1168		Extrap.
	SV-WR030B05ATT3-BT	31.5	40.7	63	1345		Extrap.
	SV-WR040B05ATT3-BT	31.5	40.7	63	1499		Extrap.
	SV-WR050B05ATT3-BT	31.5	40.7	63	1610		Extrap.
	SV-WR010H05ATT3-BT	31.5	40.7	63	925		Extrap.
	SV-WR020H05ATT3-BT	31.5	40.7	63	1168		Extrap.
	SV-WR030H05ATT3-BT	31.5	40.7	63	1345		Extrap.
	SV-WR040H05ATT3-BT	31.5	40.7	63	1499		Extrap.
	SV-WR050H05ATT3-BT	31.5	40.7	63	1610		Extrap.
	SV-WR010B09ATT3-BT	31.5	40.7	63	925		Extrap.
	SV-WR020B09ATT3-BT	31.5	40.7	63	1168		Extrap.
	SV-WR030B09ATT3-BT	31.5	40.7	63	1345		Extrap.
	SV-WR040B09ATT3-BT	31.5	40.7	63	1499		Extrap.
	SV-WR050B09ATT3-BT	31.5	40.7	63	1610		Extrap.
	SV-WR010H09ATT3-BT	31.5	40.7	63	925		Extrap.
	SV-WR020H09ATT3-BT	31.5	40.7	63	1168		Extrap.
	SV-WR030H09ATT3-BT	31.5	40.7	63	1345		Extrap.
	SV-WR040H09ATT3-BT	31.5	40.7	63	1499		Extrap.
	SV-WR050H09ATT3-BT	31.5	40.7	63	1610		Extrap.
	SV-WR010B05ATT3	31.5	40.7	63	925		Extrap.
	SV-WR020B05ATT3	31.5	40.7	63	1168		Extrap.
	SV-WR030B05ATT3	31.5	40.7	63	1345		Extrap.
	SV-WR040B05ATT3	31.5	40.7	63	1499		Extrap.

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

2000232-CRS-002-R1



Manufacturer: Crucial Power Products	TABLE 1
Model Line: Wave Rider 4	

Certified Product Construction Summary:
Base & Top: 12 GA. carbon steel, **Back & Sides:** 14 GA. carbon steel, **Doors:** 16 GA. carbon steel.

Certified Options Summary:
 Input/Output voltage: 480Y/277 OR 208Y/120

Mounting Configuration:
 Base mounted - rigid
 Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 1.6 g$ $z/h = 0.0$ $I_p = 1.5$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Wave Rider 4 (Cabinet Type A)	SV-WR050B05ATT3	31.5	40.7	63	1610		Extrap.
	SV-WR060B05ATT3	31.5	40.7	63	1737		Extrap.
	SV-WR010H05ATT3	31.5	40.7	63	925		Extrap.
	SV-WR020H05ATT3	31.5	40.7	63	1168		Extrap.
	SV-WR030H05ATT3	31.5	40.7	63	1345		Extrap.
	SV-WR040BH05ATT3	31.5	40.7	63	1499		Extrap.
	SV-WR050H05ATT3	31.5	40.7	63	1610		Extrap.
	SV-WR060H05ATT3	31.5	40.7	63	1737		Extrap.
	SV-WR010B09ATT3	31.5	40.7	63	925		Extrap.
	SV-WR020B09ATT3	31.5	40.7	63	1168		Extrap.
	SV-WR030B09ATT3	31.5	40.7	63	1345		Extrap.
	SV-WR040B09ATT3	31.5	40.7	63	1499		Extrap.
	SV-WR050B09ATT3	31.5	40.7	63	1610		Extrap.
	SV-WR060B09ATT3	31.5	40.7	63	1737		Extrap.
	SV-WR010H09ATT3	31.5	40.7	63	925		Extrap.
	SV-WR020H09ATT3	31.5	40.7	63	1168		Extrap.
	SV-WR030H09ATT3	31.5	40.7	63	1345		Extrap.
	SV-WR040BH09ATT3	31.5	40.7	63	1499		Extrap.
	SV-WR050H09ATT3	31.5	40.7	63	1610		Extrap.
	SV-WR060H09ATT3	31.5	40.7	63	1751		1
Wave Rider 4 (Cabinet Type B)	SV-WR060B05ATT3-BT	31.5	62.4	63	1737		Interp.
	SV-WR080B05ATT3	31.5	62.4	63	1961		Interp.
	SV-WR100B05ATT3	31.5	62.4	63	2669		Interp.
	SV-WR120B05ATT3	31.5	62.4	63	2823		Interp.

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

2000232-CRS-002-R1



Manufacturer: Crucial Power Products	TABLE 1
Model Line: Wave Rider 4	

Certified Product Construction Summary:
Base & Top: 12 GA. carbon steel, **Back & Sides:** 14 GA. carbon steel, **Doors:** 16 GA. carbon steel.

Certified Options Summary:
 Input/Output voltage: 480Y/277 OR 208Y/120

Mounting Configuration:
 Base mounted - rigid
 Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 1.6g$ $z/h = 0.0$ $I_p = 1.5$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Wave Rider 4 (Cabinet Type B)	SV-WR060H05ATT3-BT	31.5	62.4	63	1737		Interp.
	SV-WR080H05ATT3	31.5	62.4	63	1961		Interp.
	SV-WR100H05ATT3	31.5	62.4	63	2669		Interp.
	SV-WR120H05ATT3	31.5	62.4	63	3223		Interp.
	SV-WR160H05ATT3	31.5	62.4	63	3317		Interp.
	SV-WR060H09ATT3-BT	31.5	62.4	63	1737		Interp.
	SV-WR080H09ATT3	31.5	62.4	63	1961		Interp.
	SV-WR100H09ATT3	31.5	62.4	63	2669		Interp.
	SV-WR120H09ATT3	31.5	62.4	63	2823		Interp.
	SV-WR060B09ATT3-BT	31.5	62.4	63	1737		Interp.
	SV-WR080B09ATT3	31.5	62.4	63	1961		Interp.
	SV-WR100B09ATT3	31.5	62.4	63	2669		Interp.
	SV-WR120B09ATT3	31.5	62.4	63	3223		Interp.
	SV-WR160H09ATT3	31.5	62.4	63	3750.5		2

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000232-CRS-002-R1



Manufacturer: Crucial Power Products	Table Description: Transformers	TABLE 2
Model Line: Wave Rider 4		

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 1.6g$ $z/h = 0.0$ $I_p = 1.5$

Component Type	Manufacturer	Model	Description	Notes	UUT
Input Transformer	CPP	ST-103A3-208360-9A	10 kva, 6 pulse, 208/120V, AL Winding	95 lbs	Extrap.
		ST-103A3-360480-9A	10 kva, 6 pulse, 480/277V, AL Winding	66 lbs	Extrap.
		ST-103IP-360360-9A	10 kva, 12 pulse, 208/120V, AL Winding	138 lbs	Extrap.
		ST-103IP-480360-9A2(Y)	10 kva, 12 pulse, 480/277V, AL Winding	119 lbs	Extrap.
		ST-203A3-208360-9A	20 kva, 6 pulse, 208/120V, AL Winding	141 lbs	Extrap.
		ST-203A3-360480-9AP10	20 kva, 6 pulse, 480/277V, AL Winding	103 lbs	Extrap.
		ST-203IP-360360-9A2	20 kva, 12 pulse, 208/120V, AL Winding	189 lbs	Extrap.
		ST-203IP-480360-9A2Y	20 kva, 12 pulse, 480/277V, AL Winding	1557 lbs	Extrap.
		ST-303A3-208360-9A	30 kva, 6 pulse, 208/120V, AL Winding	196 lbs	Extrap.
		ST-303A3-360480-9A	30 kva, 6 pulse, 480/277V, AL Winding	141lbs	Extrap.
		ST-303IP-360360-9A	30 kva, 12 pulse, 208/120V, AL Winding	276 lbs	Extrap.
		ST-303IP-480360-9A	30 kva, 12 pulse, 480/277V, AL Winding	215 lbs	Extrap.
		ST-403A3-208360-9AY	40 kva, 6 pulse, 208/120V, AL Winding	298 lbs	Extrap.
		ST-403A3-360480-9A	40 kva, 6 pulse, 480/277V, AL Winding	161 lbs	Extrap.
		ST-403IP-360360-9AY	40 kva, 12 pulse, 208/120V, AL Winding	346 lbs	Extrap.
		ST-403IP-480360-9A2Y	40 kva, 12 pulse, 480/277V, AL Winding	259 lbs	Extrap.
		ST-503A3-208360-9A	50 kva, 6 pulse, 208/120V, AL Winding	302 lbs	Extrap.
		ST-503A3-360480-9AY	50 kva, 6 pulse, 480/277V, AL Winding	183 lbs	Extrap.
		ST-503IP-360360-9A2	50 kva, 12 pulse, 208/120V, AL Winding	393 lbs	Extrap.
		ST-503IP-480360-9AY	50 kva, 12 pulse, 480/277V, AL Winding	289 lbs	Extrap.
ST-603A3-208360-9A	60 kva, 6 pulse, 208/120V, AL Winding	278 lbs	Extrap.		
ST-603A3-360480-9A	60 kva, 6 pulse, 480/277V, AL Winding	294 lbs	Extrap.		
ST-603IP-360360-9A(12P)	60 kva, 12 pulse, 208/120V, AL Winding	449 lbs	Extrap.		

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000232-CRS-002-R1



Manufacturer: Crucial Power Products	Table Description: Transformers	TABLE 2
Model Line: Wave Rider 4		

Building Code: CBC 2019	Seismic Certification Limits: $S_{DS} = 1.6g$ $z/h = 0.0$	$I_p = 1.5$
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Component Type	Manufacturer	Model	Description	Notes	UUT
Input Transformer	CPP	ST-603IP-480360-9A(12P)	60 kva, 12 pulse, 480/277V, AL Winding	449 lbs	1
		ST-803IP-360360-9AY	80 kva, 12 pulse, 208/120V, AL Winding	536 lbs	Interp.
		ST-803IP-480360-9AY(12P)	80 kva, 12 pulse, 480/277V, AL Winding	426 lbs	Interp.
		ST-104IP-360360-9AY	100 kva, 12 pulse, 208/120V, AL Winding	728 lbs	Interp.
		ST-104IP-480360-9AP10	100 kva, 12 pulse, 480/277V, AL Winding	505 lbs	Interp.
		ST-124IP-360360-9A2	120 kva, 12 pulse, 208/120V, AL Winding	734 lbs	Interp.
		ST-124IP-480360-9A2Y(12P)	120 kva, 12 pulse, 480/277V, AL Winding	602 lbs	Interp.
		ST-164IP-208360-9A2Y	160 kva, 12 pulse, 208/120V, AL Winding	875 lbs	Interp.
Output Transformer	CPP	ST-164IP-480360-9A2	160 kva, 12 pulse, 480/277V, AL Winding	666 lbs	2
		ST-103I3-208120-9A	10 kva, 6 pulse, 208/120V, AL Winding	178 lbs	Extrap.
		ST-103I3-208277-9A2	10 kva, 6 pulse, 480/277V, AL Winding	175 lbs	Extrap.
		ST-103I3-208120-9A	10 kva, 12 pulse, 208/120V, AL Winding	178 lbs	Extrap.
		ST-103I3-208277-9A2	10 kva, 12 pulse, 480/277V, AL Winding	175 lbs	Extrap.
		ST-203I3-208120-9A	20 kva, 6 pulse, 208/120V, AL Winding	231 lbs	Extrap.
		ST-203I3-208277-9A2	20 kva, 6 pulse, 480/277V, AL Winding	237 lbs	Extrap.
		ST-203I3-208120-9A	20 kva, 12 pulse, 208/120V, AL Winding	175 lbs	Extrap.
		ST-203I3-208277-9A2	20 kva, 12 pulse, 480/277V, AL Winding	237 lbs	Extrap.
		ST-303I3-208060-9A2	30 kva, 6 pulse, 208/120V, AL Winding	316 lbs	Extrap.
		ST-303I3-208277-9A2	30 kva, 6 pulse, 480/277V, AL Winding	313 lbs	Extrap.
		ST-303I3-208060-9A2	30 kva, 12 pulse, 208/120V, AL Winding	316 lbs	Extrap.
		ST-303I3-208277-9A2	30 kva, 12 pulse, 480/277V, AL Winding	313 lbs	Extrap.
		ST-403I3-208060-9A	40 kva, 6 pulse, 208/120V, AL Winding	446 lbs	Extrap.
ST-403I3-208277-9A	40 kva, 6 pulse, 480/277V, AL Winding	417 lbs	Extrap.		

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000232-CRS-002-R1



Manufacturer: Crucial Power Products	Table Description: Transformers	TABLE 2
Model Line: Wave Rider 4		

Building Code: CBC 2019	Seismic Certification Limits: $S_{DS} = 1.6g$ $z/h = 0.0$	$I_p = 1.5$
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Component Type	Manufacturer	Model	Description	Notes	UUT
Output Transformer	CPP	ST-403I3-208060-9A	40 kva, 12 pulse, 208/120V, AL Winding	446 lbs	Extrap.
		ST-403I3-208277-9A	40 kva, 12 pulse, 480/277V, AL Winding	417 lbs	Extrap.
		ST-503I3-208060-9A	50 kva, 6 pulse, 208/120V, AL Winding	460 lbs	Extrap.
		ST-503I3-208277-9A	50 kva, 6 pulse, 480/277V, AL Winding	429 lbs	Extrap.
		ST-503I3-208060-9A	50 kva, 12 pulse, 208/120V, AL Winding	460 lbs	Extrap.
		ST-503I3-208277-9A	50 kva, 12 pulse, 480/277V, AL Winding	429 lbs	Extrap.
		ST-603I3-208120-9A2	60 kva, 6 pulse, 208/120V, AL Winding	503 lbs	Extrap.
		ST-603I3-208277-9A2	60 kva, 6 pulse, 480/277V, AL Winding	488 lbs	Extrap.
		ST-603I3-208120-9A2	60 kva, 12 pulse, 208/120V, AL Winding	503 lbs	Extrap.
		ST-603I3-208277-9A2	60 kva, 12 pulse, 480/277V, AL Winding	503 lbs	1
		ST-803I3-208208-9AM10	80 kva, 12 pulse, 208/120V, AL Winding	728 lbs	Interp.
		ST-803I3-208277-9AP10S	80 kva, 12 pulse, 480/277V, AL Winding	726 lbs	Interp.
		ST-104I3-208208-9AS	100 kva, 12 pulse, 208/120V, AL Winding	866 lbs	Interp.
		ST-104I3-208277-9A2S	100 kva, 12 pulse, 480/277V, AL Winding	840 lbs	Interp.
		ST-124I3-208060-9A	120 kva, 12 pulse, 208/120V, AL Winding	990 lbs	Interp.
		ST-124I3-208277-9A	120 kva, 12 pulse, 480/277V, AL Winding	913 lbs	Interp.
		ST-164I3-208120-9A	160 kva, 12 pulse, 208/120V, AL Winding	1215 lbs	Interp.
ST-164I3-208277-9AS	160 kva, 12 pulse, 480/277V, AL Winding	1215 lbs	2		

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000232-CR-002-R1



Manufacturer: Crucial Power Products Model Line: Wave Rider 4		Table Description: Choke			TABLE 3	
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.6g$ $z/h = 0.0$			$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Inverter Choke	CPP	ST-103INVC-A	10 kva, 6 pulse, 12 pulse	24 lbs	Extrap.	
		ST-203INVC-AM23	20 kva, 6 pulse, 12 pulse	29 lbs	Extrap.	
		ST-303INVC-A	30 kva, 6 pulse, 12 pulse	51 lbs	Extrap.	
		ST-403INVC-A	40 kva, 6 pulse, 12 pulse	53 lbs	Extrap.	
		ST-503INVC-A	50 kva, 6 pulse, 12 pulse	68 lbs	Extrap.	
		ST-603INVC-A	60 kva, 6 pulse, 12 pulse	86 lbs	1	
		ST-803INVC-A	80 kva, 12 pulse	106 lbs	Interp.	
		ST-104INVC-8A	100 kva, 12 pulse	128 lbs	Interp.	
		ST-124INVC-A	120 kva, 12 pulse	179 lbs	Interp.	
		ST-164INVC-AM7	160 kva, 12 pulse	181 lbs	2	
Input Choke	CPP	ST-103RC-A	10 kva, 6 pulse	33 lbs	Extrap.	
		ST-103C3-063103-A-40	10 kva, 12 pulse	26 lbs	Extrap.	
		ST-203RC-A	20 kva, 6 pulse; 40 kva, 12 pulse	46 lbs	Extrap.	
		ST-103RC-AS	20 kva, 12 pulse	35 lbs	Extrap.	
		ST-303RC-A	30 kva, 6 pulse; 60 kva, 12 pulse	55 lbs	Extrap.	
		ST-153RC-A	30 kva, 12 pulse	60 lbs	Extrap.	
		ST-403RC-A	40 kva, 6 pulse; 80 kva, 12 pulse	79 lbs	Extrap.	
		ST-503RC-A	50 kva, 6 pulse; 100 kva, 12 pulse	79 lbs	Extrap.	
		ST-253INVC-A	50 kva, 12 pulse	80 lbs	Extrap.	
		ST-603RC-A	60 kva, 6 pulse; 120 kva, 12 pulse	95 lbs	1	
ST-164IPC-A	160 kva, 12 pulse	106 lbs	2			

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000232-CR-002-R1



Manufacturer: Crucial Power Products	Table Description: Circuit Breakers	TABLE 4
Model Line: Wave Rider 4		

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 1.6g$ $z/h = 0.0$ $I_p = 1.5$

Component Type	Manufacturer	Model	Description	Notes	UUT
Circuit Breakers	ABB Inc.	XT1HU3020AFF000XXX	3 POLE 20A, MCCB, 4lbs		Extrap.
		XT1HU3030AFF000XXX	3 POLE 30A, MCCB, 4lbs		Extrap.
		XT1HU3040AFF000XXX	3 POLE 40A, MCCB, 4lbs		Extrap.
		XT1HU3060AFF000XXX	3 POLE 60A, MCCB, 4lbs		Extrap.
		XT1HU3080AFF000XXX	3 POLE 80A, MCCB, 4lbs		Extrap.
		XT1HU3100AFF000XXX	3 POLE 100A, MCCB, 4lbs		Extrap.
		XT1HU3125AFF000XXX	3 POLE 125A, MCCB, 4lbs		Extrap.
		XT1SU3015AFF000XXX	3 POLE 15A, MCCB, 4lbs		Extrap.
		XT1SU3020AFF000XXX	3 POLE 20A, MCCB, 4lbs		1
		XT1SU3025AFF000XXX	3 POLE 25A, MCCB, 4lbs		Interp.
		XT1SU3030AFF000XXX	3 POLE 30A, MCCB, 4lbs		1
		XT1SU3035AFF000XXX	3 POLE 35A, MCCB, 4lbs		Interp.
		XT1SU3040AFF000XXX	3 POLE 40A, MCCB, 4lbs		Interp.
		XT1SU3045AFF000XXX	3 POLE 45A, MCCB, 4lbs		Interp.
		XT1SU3050AFF000XXX	3 POLE 50A, MCCB, 4lbs		Interp.
		XT1SU3060AFF000XXX	3 POLE 60A, MCCB, 4lbs		Interp.
		XT1SU3070AFF000XXX	3 POLE 70A, MCCB, 4lbs		Interp.
		XT1SU3080AFF000XXX	3 POLE 80A, MCCB, 4lbs		Interp.
		XT1SU3090AFF000XXX	3 POLE 90A, MCCB, 4lbs		Interp.
		XT1SU3100AFF000XXX	3 POLE 100A, MCCB, 4lbs		Interp.
XT1SU3125AFF000XXX	3 POLE 125A, MCCB, 4lbs		Interp.		
XT2NU3050AFF000XXX	3 POLE 50A, MCCB, 5lbs		1		
XT3NU3080AFF000XXX	3 POLE 80A, MCCB, 7lbs		Interp.		

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000232-CR-002-R1



Manufacturer: Crucial Power Products	Table Description: Circuit Breakers	TABLE 4
Model Line: Wave Rider 4		

Building Code: CBC 2019 **Seismic Certification Limits:** $S_{DS} = 1.6g$ $z/h = 0.0$ $I_p = 1.5$

Component Type	Manufacturer	Model	Description	Notes	UUT
Circuit Breakers	ABB Inc.	XT3NU3125AFF000XXX	3 POLE 125A, MCCB, 7lbs		Interp.
		XT3NU3200AFF000XXX	3 POLE 200A, MCCB, 7lbs		2
		XT4HU3150AFF000XXX	3 POLE 150A, MCCB, 9lbs		Interp.
		XT4HU3175AFF000XXX	3 POLE 175A, MCCB, 9lbs		Interp.
		XT4HU3200AFF000XXX	3 POLE 200A, MCCB, 9lbs		Interp.
		XT4HU3225AFF000XXX	3 POLE 225A, MCCB, 9lbs		Interp.
		XT4HU3250AFF000XXX	3 POLE 250A, MCCB, 9lbs		Interp.
		XT4NU3150AFF000XXX	3 POLE 150A, MCCB, 9lbs		Interp.
		XT4NU3175AFF000XXX	3 POLE 175A, MCCB, 9lbs		Interp.
		XT4NU3200AFF000XXX	3 POLE 200A, MCCB, 9lbs		2
		XT4NU3225AFF000XXX	3 POLE 225A, MCCB, 9lbs		Interp.
		XT4NU3250AFF000XXX	3 POLE 250A, MCCB, 9lbs		2
		S201-C20	1 POLE 20A, MCCB, 1lb		Interp.
		SU204M-K20	4 POLE 20A, MCCB, 1lb		Interp.
		XT1SU4125AFF000XXX	4 POLE 125A, MCCB, 6lbs		Interp.
		XT1SU4060AFF000XXX	4 POLE 60A, MCCB, 6lbs		Interp.
		XT1SU4030AFF000XXX	4 POLE 30A, MCCB, 6lbs		Interp.
		T5N300TW-A	2 POLE 300A, MCCB, 6lbs		2
		XT1SU3020AFF000XXX +KXTAAXCQYFP	3 POLE 20A, W/AUX, MCCB, 6lbs		1
		T5N300TW	3 POLE 300A, W/AUX, MCCB, 6lbs		2
T5N600BW	2 POLE 300A, MCCB, 6lbs		2		
T5N400TW	3 POLE 400A, MCCB, 6lbs		2		

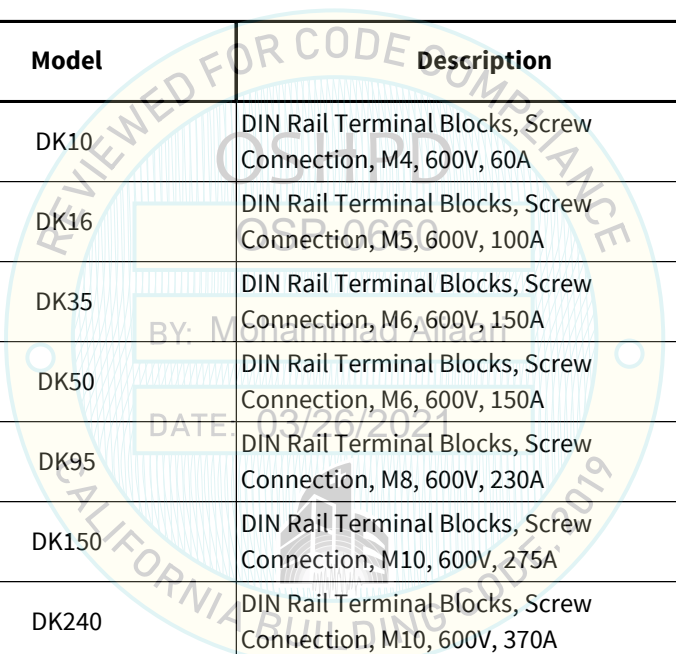
TRU Compliance, by Structural Integrity Associates, Inc.
844-TRU-0200 | info@trucompliance.com

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2000232-CR-002-R1



Manufacturer: Crucial Power Products Model Line: Wave Rider 4		Table Description: Electrical Accessories			TABLE 5	
Building Code: CBC 2019		Seismic Certification Limits: $S_{DS} = 1.6g$ $z/h = 0.0$			$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Terminal Block	Dinkle	DK10	DIN Rail Terminal Blocks, Screw Connection, M4, 600V, 60A		Extrap.	
		DK16	DIN Rail Terminal Blocks, Screw Connection, M5, 600V, 100A		Extrap.	
		DK35	DIN Rail Terminal Blocks, Screw Connection, M6, 600V, 150A		1	
		DK50	DIN Rail Terminal Blocks, Screw Connection, M6, 600V, 150A		Interp.	
		DK95	DIN Rail Terminal Blocks, Screw Connection, M8, 600V, 230A		Interp.	
		DK150	DIN Rail Terminal Blocks, Screw Connection, M10, 600V, 275A		Interp.	
		DK240	DIN Rail Terminal Blocks, Screw Connection, M10, 600V, 370A		2	
Transient Voltage Suppressor	FERRAZ	ST4803PYG	TVSS 480Y/277V 3PH WYE		1	
		ST2083PYG	TVSS 208Y/120V 3PH WYE		2	



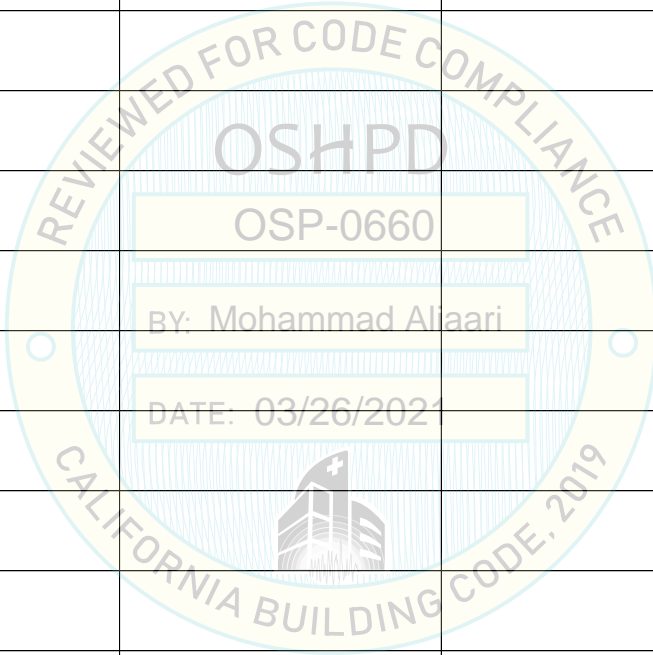
**UNIT UNDER TEST (UUT)
SUMMARY SHEET**

2000232-CR-002-R1



Manufacturer: Crucial Power Products
Model Line: Wave Rider 4

UUT	Unit Description	Report Number	Testing Laboratory	S _{DS}	z/h	I _p
1	Power Wave 4 (Cabinet Type A)	2000232-TR-001 R0	Environmental Testing Laboratory	1.6	0.0	1.5
2	Power Wave 4 (Cabinet Type B)	2000232-TR-001 R0	Environmental Testing Laboratory	1.6	0.0	1.5



Notes:

UNIT UNDER TEST (UUT) SUMMARY SHEET

2000232-CR-002-R1



Manufacturer: Crucial Power Products	UUT 1
Model Line: Wave Rider 4	
Model Number: SV-WR060H09ATT3 Serial Number: N/A	

Product Construction Summary:
Base & Top: 12GA. Carbon steel, **Back & Sides:** 14GA. Carbon steel, **Doors:** 16 GA. Carbon steel.

Options/Subcomponent Summary:
Input Transformer: ST-603IP-480360-9A(12P), **Output Transformer:** ST-603I3-208277-9A2, **Inv Choke:** ST-603INVC-A, **Input Choke:** ST-603RC-A, **Circuit Breakers:** XT1SU3020AFF000XXX, XT1SU3030AFF000XXX, XT2NU3050AFF000XXX, XT11SU3020AFF000XXX+KXTAAXCQYFP

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1751	31.5	40.7	63	13.6	11.0	16.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019	ICC-ES AC156	1.6	0.0	1.5	1.60	0.64	1.07	0.43

Test Mounting Details:



Base Mounted Rigid: Ten (10) 5/8" Grade 5 bolts.
 Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
 Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

2000232-CR-002-R1



Manufacturer: Crucial Power Products	UUT 2
Model Line: Wave Rider 4	
Model Number: SV-WR160H09ATT3 Serial Number: N/A	

Product Construction Summary:
Base & Top: 12GA. Carbon steel, **Back & Sides:** 14GA. Carbon steel, **Doors:** 16 GA. Carbon steel.

Options/Subcomponent Summary:
Input Transformer: ST-164IP-480360-9A2, **Output Transformer:** ST-164I3-208277-9AS, **Inv. Choke:** ST-164INVC-AM7, **Input Choke:** ST-164IPC-A, **Circuit Breakers:** XT3NU3200AFF000XXX, XT4NU3200AFF000XXX, XT4NU3250AFF000XXX, T5N300TW-A, T5N300TW, T5N600BW, T5N400TW.

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
3750.5	31.5	62.4	63	10.2	8.1	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019	ICC-ES AC156	1.6	0.0	1.5	1.60	0.64	1.07	0.43

Test Mounting Details:



Base Mounted Rigid: Ten (10) 5/8" Grade 5 bolts.
 Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
 Contents were included in testing per operating conditions.