

Telephone: (708) 450-0990

Title: CTO

DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

OFFICE USE ONLY APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP) APPLICATION #: OSP-0837 **HCAI Special Seismic Certification Preapproval (OSP)** X New Type: Renewal **Manufacturer Information** Manufacturer: SAI Advanced Power Solutions, Inc. Manufacturer's Technical Representative: Bethel Johnson Mailing Address: 11333 Addison Ave., Franklin Park, IL 60131 Telephone: (708) 450-0990 Email: bethel.johnson@sai-aps.com **Product Information** Product Name: Switchgear Assemblies Product Model Number(s): UL 1558 (SAI APS-XXXX) & UL 891 (SAI PSB-XXXX) Switchgear/Switchboards OSP-0837 **Product Category:** Product Sub-Category: Switchgear - Low Voltage Metal-Enclosed Low-Voltage Power Circuit Breaker Switchgear General Description: Mounting Description: Base Mounted Rigid -Seismic enhancements made to the test units and/or modifications required to address Tested Seismic Enhancements: anomalies during the tests shall be incorporated into the production units. **Applicant Information** Applicant Company Name: SAI Advanced Power Solutions, Inc. Contact Person: Bethel Johnson Mailing Address: 11333 Addison Ave., Franklin Park, IL 60131

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Email: bethel.johnson@sai-aps.com



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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)
Company Name: JUNKER ENGINEERING GROUP
Name: Dan Junker California License Number: S6178
Mailing Address: 8950 Jefferson Ave, La Mesa, CA 91941
Telephone: (619) 606-5058 Email: dan@junkereng.com
Certification Method
GR-63-Core X ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
Other (Please Specify):
EOR CODE CO.
Testing Laboratory
Company Name: CLARK TESTING LABORATORY, INC.
Contact Person: Devon Lohr
Mailing Address: 1801 Route 51, Jefferson Hills PA 15025
Felephone: (412) 387-1001 Ey Email: dlohr@clarktesting.com
DATE: 04/16/2025

HCA

"A healthier California where all receive equitable, affordable, and quality health care"

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DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

Seismic Parameters						
Design Basis of Equipment or Components (Fp/Wp) = 1.26 @ z/h=1; 1.01@z/h=0.0						
Sps (Design spectral response acceleration at short period, g) = 1.68 @z/h =1; 2.25 @z/h =0						
ap (Amplification factor) =	2.5					
R _P (Response modification factor) =	6.0					
Ω_0 (System overstrength factor) =	2.0					
Ip (Importance factor) =	1.5					
z/h (Height ratio factor) =	1					
Natural frequencies (Hz) =	See Attachment					
Overall dimensions and weight =	See Attachment					

HCAI Approval (For Office Use Only) - Approval Expires on 04/16/2031							
Date:	4/16/2025 OSP-0837	112					
Name:	Mohammad Karim	Title: S	Supervisor, Health Facilities				
Special	Seismic Certification Valid Up to: SDS (g) = 1,68	z/h = _1	1				
Conditio	on of Approval (if applicable): DATF 04/16/201	25					





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SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT SUMMARY



ManufacturerSAI Advanced Power Solutions, Inc.Product TypeCustom Switchgear Assemblies

Model Line UL 1558 (SAI APS-xxxx) & UL 891 (PSB -xxxx) Type, 1200A to 6000A

Table Description Certified Components

Table 1

Construction Summary

11 GA. cold rolled steel sheet type A-1008 Type B carbon steel enclosure. Certified component construction shall be identical to construction of UUT's.

Certification Parameters

Component Importance Factor: $I_p = 1.5$ S_{DS} = 1.68g @ z/h = 1, 2.25g @ z/h = 0

Mounting Summary

Notes

Building Code: CBC 2022

Rigid floor mounted. Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Model	Maximum Dimensions (in)		Max Weight	D	шт			
Line	Model	Amperage	Height	Width	Depth	(lbs.)	Description	UUT
		800	93.0	38.0	30.0	N/A	Minimum Configuration	Note 2
	UL 891	1,800	93.0	38.0	30.0	2,539	1800A, 3PH, 3W, 480VAC, 100kA, NEMA 1	UUT2
SAI Custom	(PSB-xxxx)	6,000	93.0	40.0	48.0	2,715	6000A, 3PH, 4W, 480VAC, 100kA, NEMA 2	UUT3
Switchgear Assemblies	UL 1558 (SAI APS-xxxx)	4,000	93.0	48.0 ¹	48.0	4,762	4000A, 3PH, 4W, 480VAC, 100kA, NEMA 1	UUT1A
	Note 5	6,000	93.0	48.0	48.0	2,950	4000A, 3PH, 4W, 480VAC, 100kA, NEMA 1	Note 4
		5 <mark>,000</mark>	93.0	40.0	48.0	2,715	6000A, 3PH, 4W, 480VAC, 100kA, NEMA 1	Note 4
		O	BY:	<i>l</i> lohamı	mad Kai	im O		
			DAT	E: 04/	16/202	5		
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Notes:

- 1. Test prototype consisted of two (2) 24" wide cabinets, bolted together. 24" wide cabinet shall not be used unless in a minimum two-wide configuration.
- Construction same as UUT2 with 800A bus bars.
- Construction same as UUT1A with 72" deep base.
- 4. Construction same as UUT3 with 72" deep base.
- 5. UL 1558 Construction same as UL 891, with added barriers to separate the functional compartments.

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUB-COMPONENT SUMMARY



Manufacturer SAI Advanced Power Solutions, Inc.
Product Type Custom Switchgear Assemblies

Model Line UL 1558 (SAI APS-xxxx) & UL 891 (PSB -xxxx) Type, 1200A to 6000A

Table 2

Table Description Certified Sub-Components

Construction Summary

Construction is specific to model number. Certified subcomponent construction shall be identical to construction of UUT's. **Certification Parameters**

Component Importance Factor: $I_p = 1.5$ S_{DS} = 1.68g @ z/h = 1, 2.25g @ z/h = 0

Mounting Summary

Notes

Building Code: CBC 2022

Mounted in component. Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Subcomponent	Manufacturer	Model	Description	UUT
22mm Pilot Light	Schneider Electric	ZB4BVG3	120VAC, Green	3
2 Position Rotary Switch,	Shallco	ZB4BVG4 2638D	120VAC, Red	3
Trip/Close 2 Position Switch	Salzer	M220-61761		3
3 Pole Fusible Disconnect, Class CC, Indicator	Mersen	USCC3I	3	3
1A fuse, Class CC	Mersen	ATQR1		3
Voltage Transformer	ITI	2VTL460-480	1PH, 480-120V	3
Shorting Block	Marathon	1504SC	4P	3
Automatic Genset Controller	Deif/SAI	Y. Monagc/gsad Karif		3
Terminal Block	Phoenix	3044128	2 Position, 2.5mm	3
12 Position Plug and Jack,	Tyco/Amp	207017-1	Female	3
Wiring	i yco/Amp	ATE - 207018-13/2025	Male	3
Current Transformer	GE	CT	800/5A	3
Current Hansloffler	GE		2000/5A	3
		HJP36150CU33XYP	POWERPACT H-FRAME, 3P,150A w/ 2 aux. cont.	2
Molded Case Circuit	Schneider Electric	JJP36250CU33XYP	POWERPACT J-FRAME, 3P, 250A w/2 aux cont.	2
Breakers		LJM36600U33XYP	POWERPACT L-FRAME, 3P, 600A w/2 aux cont.	2
		PJP36120CU33AY	POWERPACT P-FRAME, 3P, 1200A w/2 aux cont.	2
		CWLEVV9AXAXXXXXXXX	3P/4P, 2000A	1A
Cradle Assembly	Schneider Electric	CWLEVV9AXAXXXXXXXX	3P/4P, 3200A	Interpolated
		CYLTGG9AXAXBXXXXXX	3P/4P, 5000A	3

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUB-COMPONENT SUMMARY



Manufacturer SAI Advanced Power Solutions, Inc.
Product Type Custom Switchgear Assemblies

Model Line UL 1558 (SAI APS-xxxx) & UL 891 (PSB -xxxx) Type, 1200A to 6000A

Table Description Certified Sub-Components

Table 2

Construction Summary

Construction is specific to model number. Certified subcomponent construction shall be identical to construction of UUT's.

Certification Parameters

Building Code: CBC 2022

Component Importance Factor: $I_p = 1.5$ S_{DS} = 1.68g @ z/h = 1, 2.25g @ z/h = 0

Mounting Summary

Notes

Mounted in component. Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Subcomponent	Manufacturer	Model	Description	UUT
		NW08H1	3P/4P, 800AT, 65kA	Extrapolated
		NW08H2	3P/4P, 800AT, 85kA	Extrapolated
		NW08H3	3P/4P, 800AT, 100kA	Extrapolated
		NW08N	3P/4P, 800AT, 65kA UL489	Extrapolated
		NW08H	3P/4P, 800AT, 100kA UL489	Extrapolated
		NW12H1	3P/4P, 1200A, 65kA	1A
		NW16H1	3P/4P, 1600AT, 65kA	Interpolated
		NW16H2	3P/4P, 1600AT, 85kA	Interpolated
		NW16H3	3P/4P, 1600AT, 100kA	Interpolated
		NW16N	3P <mark>/4P, 1</mark> 600AT, 65kA UL489	Interpolated
		NW16H	3P/4P, 1600AT, 100kA UL489	Interpolated
		Y MohNW20H1ad Karir	3P/4P, 2000AT, 65kA	1A
		NW20H2	3P/4P, 2000AT, 85kA	Interpolated
		NW20H3	3P/4P, 2000AT, 85kA	Interpolated
Circuit Breaker	Schneider Elec.	NW16N	3P/4P, 2000AT, 65kA UL489	Interpolated
Circuit Breaker	Scrineider Liec.	A E. NW16H0/ZUZO	3P/4P, 2000AT, 100kA UL489	Interpolated
		NW25H	3P/4P, 2500AT, 100kA UL489	Interpolated
		NW32H1	3P/4P, 3200AT, 65kA	Interpolated
		NW32H2	3P/4P, 3200AT, 85kA	Interpolated
		NW32H3	3P/4P, 3200AT, 100kA	Interpolated
		NW30H	3P/4P, 3000AT, 100kA UL489	Interpolated
		NW40H1	3P/4P, 4000A, 65kA	3
		NW40BH1	3P/4P, 4000AT, 65kA	Extrapolated
		NW40BH2	3P/4P, 4000AT, 85kA	Extrapolated
		NW40BH3	3P/4P, 4000AT, 100kA	Extrapolated
		NW40H2	3P/4P, 4000AT, 85kA	Extrapolated
		NW40H3	3P/4P, 4000AT, 100kA	Extrapolated
		NW40H	3P/4P, 4000AT, 100kA UL489	Extrapolated
		NW50H	3P/4P, 5000AT, 85kA	Extrapolated
		NW50H3	3P/4P, 5000AT, 100kA	Extrapolated

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUB-COMPONENT SUMMARY



Manufacturer SAI Advanced Power Solutions, Inc.
Product Type Custom Switchgear Assemblies

Model Line UL 1558 (SAI APS-xxxx) & UL 891 (PSB -xxxx) Type, 1200A to 6000A

Table Description Certified Sub-Components

Table 2

Construction Summary

Construction is specific to model number. Certified subcomponent construction shall be identical to construction of UUT's.

Certification Parameters

Building Code: CBC 2022

Component Importance Factor: $I_p = 1.5$ **S**_{DS} = 1.68g @ z/h = 1, 2.25g @ z/h = 0

Mounting Summary

Notes

Mounted in component. Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

Subcomponent	Manufacturer	Model	Description	UUT
Cradle Assembly	Siemens	GS2312T1XFXXXXN	3P, 800A, 65kA	1A
Circuit Breaker	Siemens	S2A316 QF1CXCZCN	3P/4P, 1200AT, 65kA	1A
Cradle Assembly		GU12S2S	Cradle Intelliguard, 2000A	1A
Circuit Breaker	ABB/GE	GN12N1HERXX8AXXL5X2S	2000AF/1200AT, Entelliguard 65kA Circuit Bkr, UL 1066	1A
Cradle Assembly		UAL-S20E3-AVFS	ACRADLE UA, 3P, 2000A	1A
Circuit Breaker	LSIS	UAH-S16E3-16A	2000AF/1200AT, Susol 100kA Circuit Bkr, UL 1066	1A
		USP-0837		
		XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX		
		Y: Mohammad Karir	n O	
		ATE: 04/16/2025		
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		BOILDING		

Notes:

- 1. Circuit Breakers type NW 800A to 2000A rated for 65kA to 100kA have the same frame size and weight.
- 2. Circuit Breakers 2500A to 3200A rated for 65kA to 100kA have the same frame size and weight.
- 3. Circuit Breakers 4000A to 5000A rated for 65kA to 100kA have the same frame size and weight.

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SPECIAL SEISMIC CERTIFICATION UNIT UNDER TEST (UUT) DESCRIPTION



SAI Advanced Power Solutions, Inc. Manufacturer:

UL 1558 (SAI APS-xxxx) & UL 891 (PSB -xxxx) Type, 1200A to 6000A **Model Line:**

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Model Number: Test Prototype: UL891, 4000A, 3PH, 4W, 480/277V, 65KAIC@480V, NEMA 1

Construction Summary:

11 GA. cold rolled steel sheet type A-1008 Type B carbon steel enclosure. Certified component construction shall be identical to construction of UUT's.

Options Summary:

Cradle & Circuit Breaker: Schneider Electric CWLEVV9AXAXXXXXXX & NW12H1 & NW20H1, Siemens GS2312T1XFXXXXN & S2A312QF1CXCZCN, ABB/GE GN12S2S &

GN12S1HERXX8AXXL5X2S, LSIS UAL-S20E3-AVFS & UAH-16E3-16A. All other subcomponents inclusive to above assembly model numbers.

Mounting Summary:

Rigid floor mounted. Fastened to shake table platen using eight (8) ½-13 grade 8 cap screws, washers, and lock washers torqued to 50ft./lbs.

Test Parameters:

Building Code: CBC 2022

Component Importance Factor: $I_p = 1.5$

Test Criteria: AC-156

Test Report: Clark Testing Laboratory ID 18-00847 Rev.0, Dated: 10/18/2018

Notes:

Contents were included in testing per operating conditions.

UUT Image



UUT Properties

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Dimensions (in)			Woight (lbc.)	Min.	ncy (Hz)	
Depth	Width	Height	Weight (lbs.)	F-B	S-S	Vert
48.0	48.0	93.0	4,762	13.22	7.62	>33.3

Unit maintained structural integrity and remained operational

per manufacturer requirement when subjected to a shake table test with the following test parameters

per manaraotarer r	per manaracturer requirement when cabjected to a chake table test with the following test parameters							
S _{DS} (g)	z/h	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)			
1.68	1.0	2.69	2.02	-	-			
2.25	0	-	-	1.50	0.60			

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SPECIAL SEISMIC CERTIFICATION UNIT UNDER TEST (UUT) DESCRIPTION



Manufacturer: SAI Advanced Power Solutions, Inc.

Model Line: UL 1558 (SAI APS-xxxx) & UL 891 (PSB -xxxx) Type, 1200A to 6000A

Test Prototype: UL891, 1800A, 3PH, 3W, 480V, 65KAIC@480V, NEMA 1

Construction Summary:

11 GA. cold rolled steel sheet type A-1008 Type B carbon steel enclosure. Certified component construction shall be identical to construction of UUT's.

Options Summary:

Model Number:

Circuit Breaker: Schneider Electric HJP36150CU33XYP, JJP36250CU33XYP, LIM36600U33XYP, PJP36120CU33AYP, SAI-CE 1800A. All other subcomponents inclusive to above assembly model numbers.

Test Parameters:

Building Code: CBC 2022

Component Importance Factor: $I_p = 1.5$

Test Criteria: AC-156

Test Report: Clark Testing Laboratory ID 18-00847 Rev.0, Dated: 10/18/2018

Mounting Summary:

washers and flat washers torqued to 75ft./lbs.

Rigid floor mounted. Fastened to shake table platen using four (4) 1/2"-13 grade 5 bolts, lock

Notes:

Contents were included in testing per operating conditions.

UUT Image



UUT Properties

	Dimensions (in)			Min. I	ncy (Hz)	
Depth	Width	Height	Weight (lbs.)	F-B	S-S	Vert
30.0	38.0	93.0	2,539	16.00	14.70	>33.33

Unit maintained structural integrity and remained operational

per manufacturer requirement when subjected to a shake table test with the following test parameters

S _{DS} (g)	z/h	A _{FLX-H} (g)	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
1.94	1.0	3.10	2.33	-	-
2.25	0	-	-	1.50	0.60

SPECIAL SEISMIC CERTIFICATION UNIT UNDER TEST (UUT) DESCRIPTION



Manufacturer: SAI Advanced Power Solutions, Inc.

Model Line: UL 1558 (SAI APS-xxxx) & UL 891 (PSB -xxxx) Type, 1200A to 6000A

100T **3**

Model Number: Test Prototype: UL891, 6000A, 3PH, 4W, 480/277V, 65KAIC@480V, NEMA 1

Construction Summary:

11 GA. cold rolled steel sheet type A-1008 Type B carbon steel enclosure. Certified component construction shall be identical to construction of UUT's.

Options Summary:

Circuit Breaker: Schneider Electric CYLTGG9AXAXBXXXXXX. Options Included: Schneider Electric pilot light ZB4BVG3 & ZB4BVG4, Shallco 2 position rotary switch, Salzer 2 position switch, Mersen 3 pole fusible disconnect, Mersen 1A fuse, ITI voltage transformer, Marathon shorting block, Deif/SAI automatic genset controller, Phoenix terminal block, Tyco/Amp 12 position plug 207017-1 & 207018-1, GE current transformer. All other subcomponents inclusive to above assembly model numbers.

Test Parameters:

Building Code: CBC 2022

Component Importance Factor: $I_p = 1.5$

Test Criteria: AC-156

Test Report: Clark Testing Laboratory ID 18-00847 Rev.0, Dated: 10/18/2018

Mounting Summary:

Rigid floor mounted. Fastened to shake table platen using four (4) ½"-13 grade 5 bolts, lock washers and flat washers torqued to 75ft./lbs.

Notes:

Contents were included in testing per operating conditions.

UUT Image



UUT Properties

Dimensions (in)			Weight (lhe)	Min. First Natural Frequency (H	ncy (Hz)	
Depth	Width	Height	Weight (lbs.)	F-B	S-S	Vert
48.0	40.0	93.0	2,539	16.43	9.49	>33.33

Unit maintained structural integrity and remained operational

per manufacturer requirement when subjected to a shake table test with the following test parameters

S _{DS} (g)	z/h	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
1.80	1.0	2.88	2.16	-	-
2.25	0	-	-	1.50	0.60