APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0292

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Alpha Technologies Services, Inc

Manufacturer's Technical Representative: Lan Doan

Mailing Address: 1075 Satellite Blvd, Suite 400, Suwanee, GA 30024

Telephone: (678) 387-4045 Email: ldoan@alpha.com

Product Information

Product Name: UPS and Batteries

Product Type: Battery Chargers

Product Model Number: ACS Battery Charger (Standard)

General Description: Rigid Floor Mounted industrial grade battery chargers with a formed steel NEMA 1 enclosure and provisions for local or remote control and monitoring.

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: ZFA Structural Engineers

Contact Person: Chris Warner

Mailing Address: 1212 Fourth Street Suite Z, Santa Rosa, CA 95404

Telephone: (707) 526-0992 Email: chrisw@zfa.com

Title: Principal

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

Company Name: ZFA STRUCTURAL ENGINEERS

Name: Christopher Warner California License Number: S4613

Mailing Address: 1212 Fourth Street, Suite Z, Santa Rosa, CA 95404

Telephone: (707) 526-0992 Email: andrewz@zfa.com

Certification Method

☐ GR-63-Core ☒ ICC-ES AC156 ☐ IEEE 344 ☐ IEEE 693 ☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

Company Name: ANCO ENGINEERS, INC.

Contact Person: Paul Ibanez

Mailing Address: 1965 33rd Street, Suite A, Boulder CO 80301

Telephone: (303) 443-7580 Email: paul@ancoEngineers.com

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.13

S_{DS} (Design spectral response acceleration at short period, g) = 2.5

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 Attachments

Overall dimensions and weight = See Attachments

HCAI Approval (For Office Use Only) - Approval Expires on 02/07/2029

Date: 2/7/2023

Name: Mohammad Aliaari Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.5 z/h = 0

Condition of Approval (if applicable):

Table 1. Alpha Industrial Power Certified Component Matrix

	Dimensions (mm/in)				
Part Number	Length mm/ in.	Width mm/ in.	Height mm/ in.	Weight (kg/lb)	Tested/ Interpolated
ACS 125HP Charger					
ACS16175208416107	600/23.62	679/26.75	1,031/40.58	121/268	Tested UUT 3

a) See Table 2 below for nomenclature or model number guide
b) Values above apply to Sds=2.5; z/h=0

Table 2

ACS Charger Part Number Convention

Tested Unit	ACS	1	6	175	208	4	1	6	1	0	7
Generic Unit	**ACS**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**

Table J2: ACS Options

If a space has no option selected, a zero must be inserted.			
Box	**ST**	**Description**	**Interpolation**
A		**Phase**	
	1	Single Phase	Tested
	3	3 Phase	Wiring
B		**Nominal DC Output Voltage**	
	1	12 Vdc	N/A
	2	24 Vdc	N/A
	3	36 Vdc	N/A
	4	48 Vdc	N/A
	5	72 Vdc	N/A
	6	125 Vdc	Tested
	7	144 Vdc	N/A
	8	250 Vdc	N/A
	9	380 Vdc	N/A
	0	480 Vdc	N/A
	A	600 Vdc	N/A
	B	Dual Chargers	N/A
C		**Nominal DC Output Current**	
		Output ADC=xxx	Number of modules* (max was tested)
D		**Input Voltage**	
		Input VAC=xxx	Software
E		**Options**	
	1	DC Breaker	Omitted
	2	Individual Alarm Relays	Omitted
	3	High Voltage Shutdown	Omitted
	4	DC Breaker + Indiv. Alarm Relays + High Voltage Shutdown	Tested
	5	DC Breaker + High Voltage Shutdown	Omitted
	6	DC Breaker + Individual Alarm Relays	Omitted
	7	High Voltage Shutdown + Individual Alarm Relays	Omitted
	0	None of these	Omitted
F		**Parallel Capability**	
	1	Parallel Capability	Tested
	0	Single Capability	N/A

G		**Options**	
	1	AC Input Meters + RS232 + Load Disconnect	N/A
	2	AC Input Meters + RS232	N/A
	3	AC Input Meters + Load Disconnect	N/A
	4	RS 232 + Load Disconnect	N/A
	5	AC Input Meters	N/A
	6	RS 232	Tested
	7	Load Disconnect	N/A
	0	None of these	Omitted
H		**Cabinet Type**	
	1	NEMA 1 with built-in battery compartment & DC panel	Tested
	2	NEMA 3R with built-in battery compartment & DC panel	N/A
	3	NEMA 12 with built-in battery compartment & DC panel	N/A
	4	NEMA 1 with built-in battery compartment	N/A
	5	NEMA 3R with built-in battery compartment	N/A
	6	NEMA 12 with built-in battery compartment	N/A
	7	NEMA 1 with DC panel	N/A
	8	NEMA 3R with DC panel	N/A
	9	NEMA 12 with DC panel	N/A
	0	NEMA 3R or 12 Cabinet	N/A
	S	Standard NEMA 1 Cabinet	N/A
I		**Number of Circuit Breakers**	
	A	2	N/A
	B	6	N/A
	C	4	N/A
	D	8	N/A
	E	10	N/A
	F	12	N/A
	G	3	N/A
	H	5	N/A
	J	7	N/A
	K	9	N/A
	L	11	N/A
	M	21	N/A
	N	22	N/A
	P	24	N/A
	0	No Circuit Breaker	Tested
J		**Cabinet Size**	
	6	XL ACS	N/A
	7	Standard ACS	Tested

ANCO Engineers, Inc.
1965A 33rd Street
Boulder, CO 80301
(303)443-7580

UUT #3

Unit Under Test (UUT) Summary Sheet

ANCO Project Number: 3325.01

Manufacturer:	Alpha Industrial Power Inc
Model Line:	AlphaRac Battery Racks and Cabinets
Model Number:	ACS16175208416107
Product Construction Summary:	120V backup battery bank charger system contained in a manufacturer rack housing
Options/ Subcomponent Summary:	Standard input and output breakers with 5 charger modules and controller installed for full wattage charging. 208VAC/1PH, 125VDC, 175A, ACS

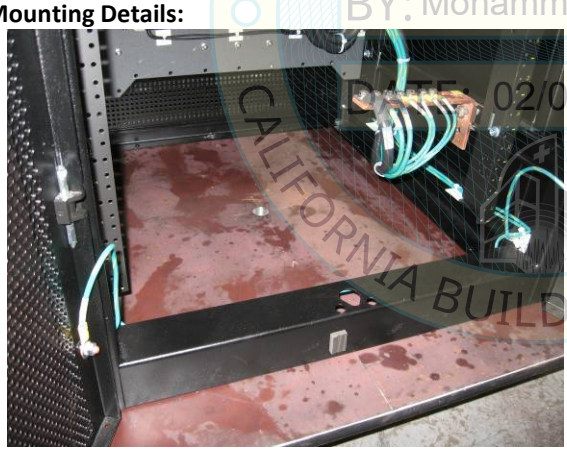
UUT Properties

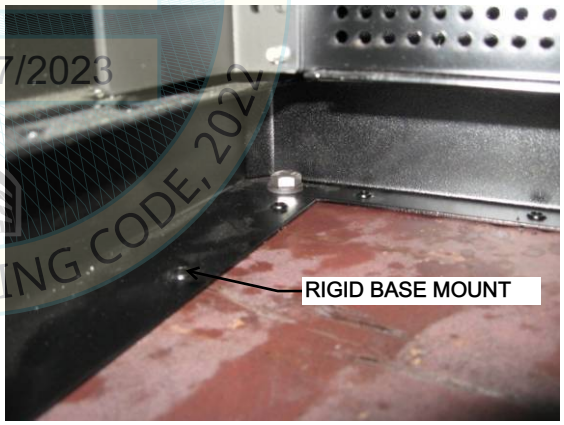
Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
268	23.5	27	40.5	22.5	16	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2019	ICC-ES AC-156	2.5	0	1.5	2.5	1.0	1.68	0.68

Test Mounting Details:





Rack bolted to plate using four 3/8”-16 bolts with standard washers (one bolt in each corner)

Unit full of contents during tests, units maintained structural integrity and functionality after test.