



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

**APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: **OSP – 0329 – 10**

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Alpha Industrial Power

Manufacturer's Technical Representative: Phillip Knighton

Mailing Address: 1075 Satellite Blvd NW, Suwanee, GA 30024-4625

Telephone: 678-387-4046 Email: pknighton@alpha.com

Product Information

Product Name: Alpha Backup Battery Systems

Product Type: Emergency Backup Power

Product Model Number: Various – See Attachments

(List all unique product identification numbers and/or part numbers)

AC powered battery chargers and battery racks. See attachment for complete product details.
Seismic enhancements made to the test units and modifications required to address anomalies

General Description: observed during the tests shall be incorporated into the production units.

Mounting Description: Rigid Base Mount and Rigid Wall Mount

Applicant Information

Applicant Company Name: Alpha Industrial Power

Contact Person: Ron Rice

Mailing Address: 1075 Satellite Blvd NW, Suwanee, GA 30024-4625

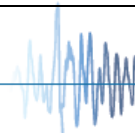
Telephone: 678-387-4049 Email: rrice@alpha.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: *Ron Rice* Date: 4/9/13

Title: Sales and Marketing Coordinator Company Name: Alpha Industrial Power

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dvnamic Needs"





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

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

Company Name: Tobolski Watkins Engineering, Inc.

Name: Matthew J. Tobolski, Ph.D., S.E California License Number: S5648

Mailing Address: 9246 Lightwave Ave. Ste. 140, San Diego, CA 92123

Telephone: 858-381-5843 Email: mtobolski@tobolskiwatkins.com

Supports and Attachments Preapproval

- Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____

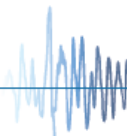
Testing Laboratory

Company Name: ANCO Engineers, Inc.

Contact Name: Paul Ibanez

Mailing Address: 1965A 33rd St., Boulder, CO 80301

Telephone: 303-443-7580 x239 Email: paul@ancoengineers.com





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

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: Yes No

Design Basis of Equipment or Components (F_p/W_p) = 0.6

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

a_p (In-structure equipment or component amplification factor) = 1.0

R_p (Equipment or component response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.5

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 0

Equipment or Component Natural Frequencies (Hz) = Various. See Attachments.

Overall dimensions and weight (or range thereof) = Various. See Attachments.

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: Yes No

Design Basis of Equipment or Components (V/W) = _____

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

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2010: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): Attachments

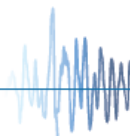
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2019

Signature:  Date: June 26, 2013

Print Name: Timothy J. Piland Title: SSE

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

Condition of Approval (if applicable): _____






3325.02 Alpha Industrial Power UUT Summaries and CPM

 <p>1965A 33rd Street Boulder, CO 80301 (303)443-7580</p>		<div style="border: 1px solid black; padding: 5px; display: inline-block;">UUT #1</div> Unit Under Test (UUT) Summary Sheet ANCO Project Number: 3325.02						
Manufacturer:	Alpha Industrial Power Inc							
Model Line:	AlphaRac Battery Racks and Cabinets							
Model Number:	3G840/1600SE21							
Product Construction Summary:	Painted steel battery rack with NI-CD batteries							
Options/ Subcomponent Summary:	48V configuration 3 batteries deep and 3 tiers high. 37 KPM-300P batteries connected in series (13 on the bottom tier, 13 on the middle, and 11 on the top tier).							
UUT Properties								
Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)				
	Depth	Width	Height	Front-Back	Side-Side	Vertical		
1393	33	63	33.6	12	9.3	>33		
Seismic Run Level – UUT Maintained Functionality and Structural Integrity - Pass								
Building Code	Test Criteria	S_{DS}	z/h	I_p	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	ICC-ES AC-156	2.5	0	1.5	2.5	1.0	1.68	0.68
Test Mounting Details:								
								
24 grade 8 1/4"-20 bolts were used to hold the rack to the table (2 bolts per foot, 8 feet per stand, 3 stands).								



Form: UUT, revision 0.0

3325.02 Alpha Industrial Power UUT Summaries and CPM

 <p>ANCO Engineers, Inc. 1965A 33rd Street Boulder, CO 80301 (303)443-7580</p>	<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;">UUT #2</div> <h2 style="margin: 0;">Unit Under Test (UUT) Summary Sheet</h2> <p>ANCO Project Number: 3325.02</p>																																																												
Manufacturer:	Alpha Industrial Power Inc																																																												
Model Line:	AlphaRac Battery Racks and Cabinets																																																												
Model Number:	AIP744-0081-20																																																												
Product Construction Summary:	Altair NEMA 3R Floor standing enclosure containing a battery charger and batteries.																																																												
Options/ Subcomponent Summary:	<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>14</td><td>8</td><td>AIP634-0003-10</td><td>Nut, hex, M10</td></tr> <tr><td>13</td><td>8</td><td>AIP630-0006-10</td><td>Washer, lock, M20</td></tr> <tr><td>12</td><td>16</td><td>AIP633-0002-10</td><td>Washer, flat, M20</td></tr> <tr><td>11</td><td>8</td><td>AIP630-0054-10</td><td>Bolt, Hex, M10 x 20</td></tr> <tr><td>10</td><td>1</td><td>CC-04-072-038</td><td>Pos Chgr cable 4AWG, 72" NOTE 2</td></tr> <tr><td>9</td><td>1</td><td>CC-04-072-038</td><td>Neg Chgr cable 4AWG, 72" NOTE 1</td></tr> <tr><td>8</td><td>1</td><td>460-025-19</td><td>Fuse, 5A, 250V, slow</td></tr> <tr><td>7</td><td>1</td><td>520-027-10</td><td>Fuse Holder</td></tr> <tr><td>6</td><td>1</td><td>175-026-19</td><td>Thermostat, N.O. 85°F-C/67°F-0</td></tr> <tr><td>5</td><td>1</td><td>AIP591-0006-10</td><td>Cover, junction box, galv st</td></tr> <tr><td>4</td><td>1</td><td>AIP591-0005-10</td><td>Box, junction, galv st</td></tr> <tr><td>3</td><td>1</td><td>AIP500-0011-10</td><td>Fan, exhaust, 115V 50/60 CFM</td></tr> <tr><td>2</td><td>1</td><td>1ST04801231100000</td><td>Chgr, SPECTRA, 48V, 12A</td></tr> <tr><td>1</td><td>1</td><td>CAB3R3624721S4SZ4</td><td>Cabinet, NEMA 3R</td></tr> <tr><td>Item</td><td>Qty</td><td>Part Number</td><td>Description</td></tr> </table> <p>Installed in the Altair cabinet were 37 KM-40-P NiCd Batteries wired in series to create a 48V string.</p>	14	8	AIP634-0003-10	Nut, hex, M10	13	8	AIP630-0006-10	Washer, lock, M20	12	16	AIP633-0002-10	Washer, flat, M20	11	8	AIP630-0054-10	Bolt, Hex, M10 x 20	10	1	CC-04-072-038	Pos Chgr cable 4AWG, 72" NOTE 2	9	1	CC-04-072-038	Neg Chgr cable 4AWG, 72" NOTE 1	8	1	460-025-19	Fuse, 5A, 250V, slow	7	1	520-027-10	Fuse Holder	6	1	175-026-19	Thermostat, N.O. 85°F-C/67°F-0	5	1	AIP591-0006-10	Cover, junction box, galv st	4	1	AIP591-0005-10	Box, junction, galv st	3	1	AIP500-0011-10	Fan, exhaust, 115V 50/60 CFM	2	1	1ST04801231100000	Chgr, SPECTRA, 48V, 12A	1	1	CAB3R3624721S4SZ4	Cabinet, NEMA 3R	Item	Qty	Part Number	Description
14	8	AIP634-0003-10	Nut, hex, M10																																																										
13	8	AIP630-0006-10	Washer, lock, M20																																																										
12	16	AIP633-0002-10	Washer, flat, M20																																																										
11	8	AIP630-0054-10	Bolt, Hex, M10 x 20																																																										
10	1	CC-04-072-038	Pos Chgr cable 4AWG, 72" NOTE 2																																																										
9	1	CC-04-072-038	Neg Chgr cable 4AWG, 72" NOTE 1																																																										
8	1	460-025-19	Fuse, 5A, 250V, slow																																																										
7	1	520-027-10	Fuse Holder																																																										
6	1	175-026-19	Thermostat, N.O. 85°F-C/67°F-0																																																										
5	1	AIP591-0006-10	Cover, junction box, galv st																																																										
4	1	AIP591-0005-10	Box, junction, galv st																																																										
3	1	AIP500-0011-10	Fan, exhaust, 115V 50/60 CFM																																																										
2	1	1ST04801231100000	Chgr, SPECTRA, 48V, 12A																																																										
1	1	CAB3R3624721S4SZ4	Cabinet, NEMA 3R																																																										
Item	Qty	Part Number	Description																																																										
UUT Properties																																																													
Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)																																																									
	Depth	Width	Height	Front-Back	Side-Side	Vertical																																																							
710	24	36	72.25	9	11	>33																																																							
Seismic Run Level – UUT Maintained Functionality and Structural Integrity - Pass																																																													
Building Code	Test Criteria	S_{DS}	z/h	I_p	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}																																																					
CBC 2013	ICC-ES AC-156	2.5	0	1.5	2.5	1.0	1.68	0.68																																																					
Test Mounting Details:																																																													
																																																													
The unit was mounted to steel plates using four grade 8 3/8"-16 bolts with standard washers (two in each angle iron foot).																																																													

Form: UUT, revision 0.0

3325.02 Alpha Industrial Power UUT Summaries and CPM

 <p>1965A 33rd Street Boulder, CO 80301 (303)443-7580</p>		<h1>UUT #5</h1> <h2>Unit Under Test (UUT)</h2> <h3>Summary Sheet</h3> <p>ANCO Project Number: 3325.02</p>						
Manufacturer:	Alpha Industrial Power Inc							
Model Line:	AlphaRac Battery Racks and Cabinets							
Model Number:	ACS14075208416101X							
Product Construction Summary:	Wall mounted ACS battery charger cabinet (Nema 1 cabinet by Altair).							
Options/ Subcomponent Summary:	Standard unit sold as tested. 48VDC, 75A, 120/240VAC, 1PH. Tested with one CXCM2 controller and 2 Cordex CRXF 48-1.8kW modules installed.							
UUT Properties								
Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)				
	Depth	Width	Height	Front-Back	Side-Side	Vertical		
96	21.75	24.5	14.5	N/A	N/A	N/A		
Seismic Run Level – UUT Maintained Functionality and Structural Integrity - Pass								
Building Code	Test Criteria	S_{DS}	z/h	I_p	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	ICC-ES AC-156	2.5	0	1.5	2.5	1.0	1.68	0.68
Test Mounting Details:								
								
<p>Cabinet hanging plate bolted to wall using four 1/4"-20 bolts with standard washers and toggle nuts (all bolts at top of cabinet). Cabinet backbox was then hung on the bracket and two additional 5/16" holes were drilled in the lower corners of the backbox. 1/4"-20 bolts with standard washers and toggle nuts were used to fix the bottom of the backbox to the wall through these new holes. The main cabinet was then hung by its hinges on the backbox, swung closed, and locked.</p>								

Form: UUT, revision 0.0

3325.02 Alpha Industrial Power UUT Summaries and CPM

Alpha Industrial Power Certified Product Matrix

Part Number	Dimensions (mm[in])			Weight kg[lb]	Mounting	Tested/ Interpolated
	Length	Width	Height			
Battery Rack (Loaded with 37 KPM 300 P Batteries)						
3G840/1600SE21	1600[63.0]	840[33.1]	853[33.6]	633[1393]	Rigid Base	UUT#1
AIP Battery Cabinet (w/ Spectra Charger and 37 KM 30 P Batteries)						
AIP744-0081-20	914[36]	610[24]	1829[72]	323[710]	Rigid Base	UUT#2
ACS 48V Charger						
ACS14075208416101X	550[21.75]	620[24.5]	368[14.5]	44[96]	Rigid Wall	UUT#5