APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0276 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Alpha Industrial Power

Manufacturer's Technical Representative: Phillip Knighton

Mailing Address: 1705 Satellite BLVD NW, Suwanee, GA 30024-4625

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

Product Information

Product Name: Spectra Battery Chargers

Product Type: Emergency Backup Power

Product Model Number: Various – See Attachments
(List all unique product identification numbers and/or part numbers)

General Description: AC powered battery charger. See attachment for complete product specification details.

Mounting Description: Rigid Floor Mount

Applicant Information

Applicant Company Name: Alpha Industrial Power

Contact Person: Ron Rice

Mailing Address: 1705 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: 5/16/2014

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

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

Company Name: ZFA Structural Engineers

Name: David Cooper, S.E California License Number: S2768

Mailing Address: 1212 fourth street, suite Z, Santa Rosa ca 95404

Telephone: 707-526-0992 Email: davidc@zfa.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: Boaz Norton

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

Telephone: 303-443-7580 x237 Email: boaz@ancoengineers.com

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.125

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) =

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):

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

Signature: Date: October 19, 2014

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):

Alpha Industrial Power Certified Product Matrix

Part Number	Dimensions (mm/in)			Weight (kg/lb)	Tested/ Interpolated
	Length	Width	Height		
Spectra Charger					
1ST02401211100000	483/19.0	425/16.8	445/17.5	34/75	Tested
1ST02401210000000	483/19.0	425/16.8	445/17.5	34/75	Interpolated[a]
1ST02401210100000	483/19.0	425/16.8	445/17.5	34/75	Interpolated[a]
1ST04800610000000	483/19.0	425/16.8	445/17.5	34/75	Interpolated[a]
1ST04800610100000	483/19.0	425/16.8	445/17.5	34/75	Interpolated[a]
1ST04800611100000	483/19.0	425/16.8	445/17.5	34/75	Interpolated[a]
1ST04800611120000	483/19.0	425/16.8	445/17.5	34/75	Interpolated[a]
1ST04800631100000	483/19.0	425/16.8	445/17.5	34/75	Interpolated[a]
1ST02402011100000	483/19.0	425/16.8	445/17.5	39/85	Tested
1ST02401811100000	483/19.0	425/16.8	445/17.5	39/85	Interpolated[a]
1ST02402010000000	483/19.0	425/16.8	445/17.5	39/85	Interpolated[a]
1ST02402010100000	483/19.0	425/16.8	445/17.5	39/85	Interpolated[a]
1ST02402011000000	483/19.0	425/16.8	445/17.5	39/85	Interpolated[a]
1ST02402031100000	483/19.0	425/16.8	445/17.5	39/85	Interpolated[a]
1ST04802511100000	483/19.0	425/16.8	445/17.5	52/115	Tested
1ST04802510000000	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]
1ST04802510100000	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]
1ST04802511000000	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]
1ST04802511100100	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]
1ST04802511120000	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]
1ST04802521100000	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]

1ST04802521100100	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]
1ST04802530000000	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]
1ST04802530100000	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]
1ST04802531000000	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]
1ST04802531100000	483/19.0	425/16.8	445/17.5	52/115	Interpolated[a]
1ST02402511120100	483/19.0	425/16.8	445/17.5	41/90	Tested
1ST02402511000000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST02402511100000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST02402511120100	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST02402530000000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST04801210000000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST04801210100000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST04801211000000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST04801211100000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST04801211120000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST04801230100000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST04801231000000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]
1ST04801231100000	483/19.0	425/16.8	445/17.5	41/90	Interpolated[a]

a) See Table J1 below for non-structural interpolations

Spectra Charger Part Number Convention

Tested Unit	1	ST	024	025	1	1	1	2	0	1	0	0
Generic Unit	**A**		**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**

Table J1: Spectra Options

If a space has no option selected, a zero must be inserted.

Box	ST	Description	Interpolation	UUT
A	1	1 Phase	Tested	4,5,6,7
B		**Nominal DC Output Voltage**		
	024	24 Vdc	Tested	4,6,7
	048	48 Vdc	Tested	5
	130	130 Vdc	N/A	
C		**Nominal DC Output Current**		
	006	6 Adc	Wiring[1]	
	008	8 Adc	Wiring[1]	
	012	12 Adc	Tested	7
	020	20 Adc	Tested	6
	025	25 Adc	Tested	4,5
	050	50 Adc	N/A	
D		**Input Voltage**		
	1	120	Tested	4,5,6,7
	2	208 (not UL listed)	Wiring[1]	
	3	240	Software	
E		**Filtering**		
	0	Unfiltered	Software	
	1	Filtered / Eliminator	Tested	4,5,6,7
F		**Relays**		

	0	No Relays	Omitted	
	1	Individual Alarm Relay Contact Board	Tested	4,5,6,7
G		**Remote Sensing**		
	0	Not Supplied	Omitted	
	1	Remote Control Panel	N/A	
	2	Remote Temperature Compensation	Tested	4
	3	Remote DC Voltage Sensing	N/A	
	4	Lines 1 & 2	N/A	
	5	Lines 1 & 3	N/A	
	6	Lines 2 & 3	N/A	
	7	Lines 1, 2 & 3	N/A	
H		**Lightning Arrester**		
	0	Not Supplied	Omitted	
	1	Included	N/A	
I		**Charging**		
	0	Not Supplied	Omitted	
	1	Parallel Charging	Tested	4
J		**Special Treatments**		
	0	None	Omitted	
	1	Fungus Proofing	N/A	
	2	Conformal Seal On Electronic PC Board	N/A	
	3	Lines 1 & 2	N/A	
K		**Other Options**		
	0	None	Omitted	

	1	Lockable enclosure door	N/A	
	2	NEMA 4 enclosure	N/A	
	3	NEMA 12 enclosure	N/A	
	4	19” Rack flanges @ 6.0” from front	N/A	
	5	23” Rack flanges @ 6.0” from front	N/A	
	6	Lines 1 & 4	N/A	
	7	Lines 1 & 5	N/A	

1) These options use an identical bus to those tested, which mounts inside the cabinet using the same anchors. The weight and max dimensions are the same for all models.

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

UUT #4

Unit Under Test (UUT) Summary Sheet

ANCO Project Number: 3324.01

Manufacturer:	Alpha Industrial Power Inc
Model Line:	AlphaRac Battery Racks and Cabinets
Model Number:	1ST02402511120100
Product Construction Summary:	Formed carbon steel sheet metal enclosure housing breakers, LCD control interface and charger module.
Options/ Subcomponent Summary:	None. Standard unit sold as tested. 24VDC, 25A, 120VAC, 1PH

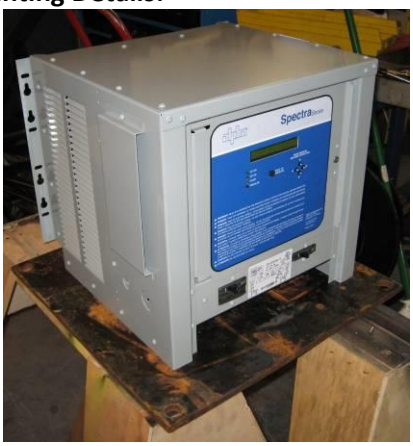
UUT Properties

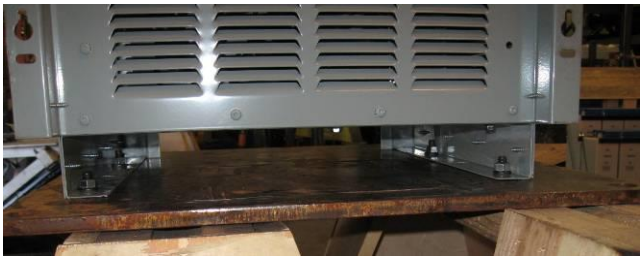
Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
87.5	19	16.8	17.5	>33	>33	>33

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 2013	ICC-ES AC-156	2.5	0	1.5	2.5	1.0	1.68	0.68

Test Mounting Details:





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

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UUT #4

Unit Under Test (UUT) Summary Sheet

ANCO Project Number: 3324.01

Test Setup:	Setup #1	
UUT Function:	Emergency backup battery bank charging	
Restrictions:	Rigid Floor Mount Only (As Tested)	
Functionality Test Results:	Pre-Test	Post-Test
	Pass	Pass
Component Serial Numbers:	OSHPD1ST	

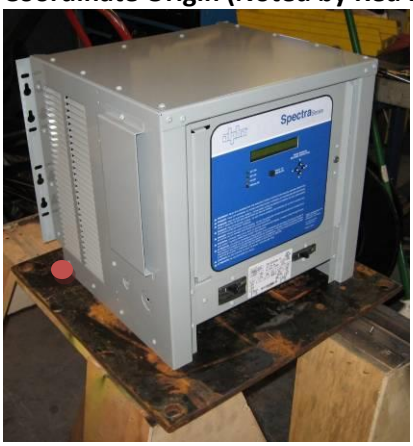
UUT Properties

Weight (lb)	CG Location (in)			Coordinate System Origin
	Depth	**Width**	**Height**	Bottom Back Left Anchor (see drawing Below)
87.5	10	6	9.5	

Additional Notes/Comments:

UUT was tested full of content
UUT maintained structural stability after test
UUT maintained functionality after test

Coordinate Origin (Noted by Red Dot):



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UUT #5

Unit Under Test (UUT) Summary Sheet

ANCO Project Number: 3324.03

Manufacturer:	Alpha Industrial Power Inc
Model Line:	AlphaRac Battery Racks and Cabinets
Model Number:	1ST04802511100000
Product Construction Summary:	Formed carbon steel sheet metal enclosure housing breakers, LCD control interface and charger module.
Options/ Subcomponent Summary:	None. Standard unit sold as tested. 48VDC, 25A, 120VAC, 1PH

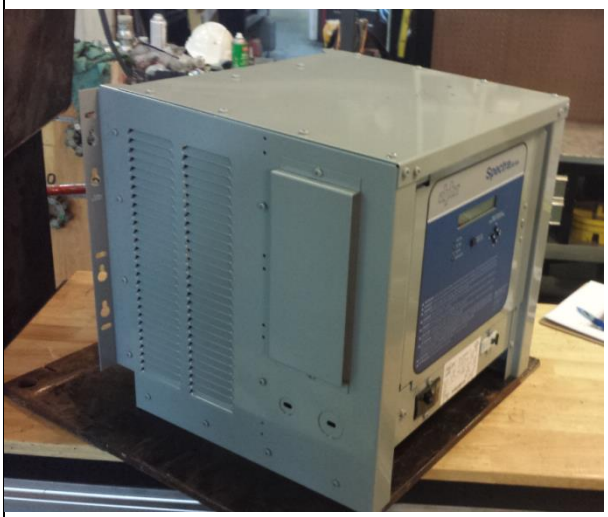
UUT Properties

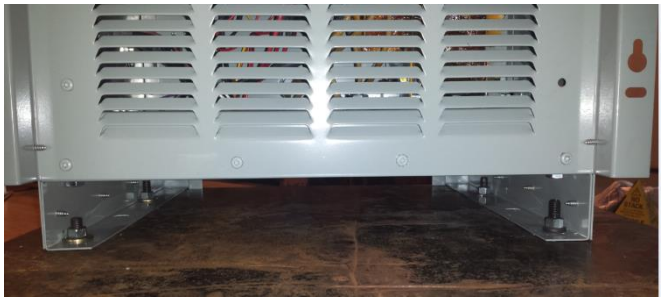
Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
115	19	16.8	17.5	>33	22	>33

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 2013	ICC-ES AC-156	2.5	0	1.5	2.5	1.0	1.68	0.68

Test Mounting Details:





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

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UUT #5

Unit Under Test (UUT) Summary Sheet

ANCO Project Number: 3324.03

Test Setup:	Setup #2	
UUT Function:	Emergency backup battery bank charging	
Restrictions:	Rigid Floor Mount Only (As Tested)	
Functionality Test Results:	Pre-Test: PASS	Post-Test: PASS
Component Serial Numbers:	501300246	

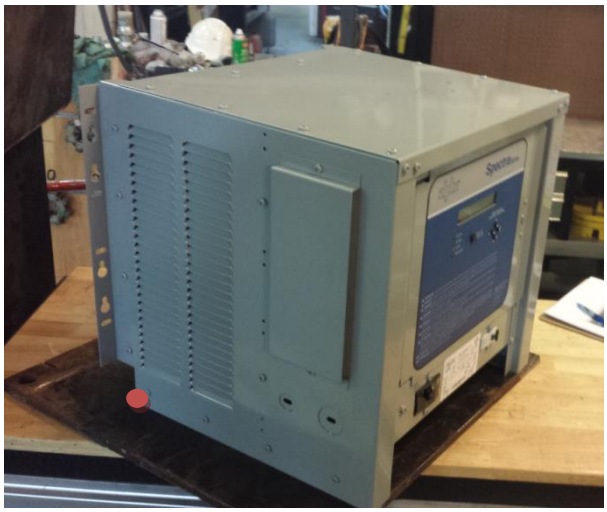
UUT Properties

Weight (lb)	CG Location (in)			Coordinate System Origin
	Depth	**Width**	**Height**	Bottom Back Left Anchor (see drawing Below)
115	7	8.25	9.75	

Additional Notes/Comments:

UUT was tested full of content
UUT maintained structural stability after test
UUT maintained functionality after test

Coordinate Origin (Noted by Red Dot):



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UUT #6

Unit Under Test (UUT) Summary Sheet

ANCO Project Number: 3324.03

Manufacturer:	Alpha Industrial Power Inc
Model Line:	AlphaRac Battery Racks and Cabinets
Model Number:	1ST02402011100000
Product Construction Summary:	Formed carbon steel sheet metal enclosure housing breakers, LCD control interface and charger module.
Options/ Subcomponent Summary:	None. Standard unit sold as tested. 24VDC, 20A, 120VAC, 1PH

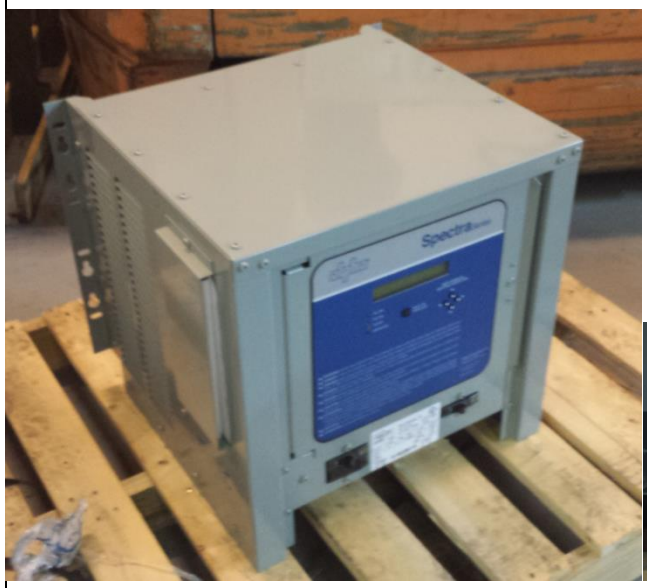
UUT Properties

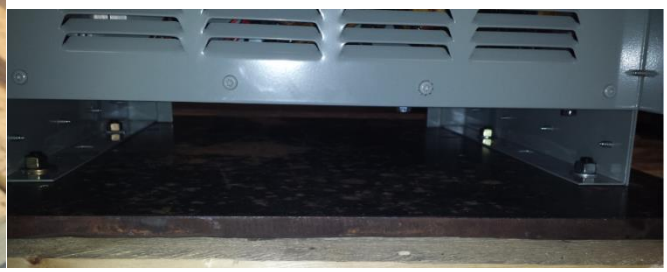
Weight (lb)	**Dimensions (in)**			**Lowest Natural Frequency (Hz)**		
	Depth	**Width**	**Height**	**Front-Back**	**Side-Side**	**Vertical**
85	19	16.8	17.5	32.8	20.4	>33

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 2013	ICC-ES AC-156	2.5	0	1.5	2.5	1.0	1.68	0.68

Test Mounting Details:





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

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UUT #6

Unit Under Test (UUT) Summary Sheet

ANCO Project Number: 3324.03

Test Setup:	Setup #2	
UUT Function:	Emergency backup battery bank charging	
Restrictions:	Rigid Floor Mount Only (As Tested)	
Functionality Test Results:	Pre-Test	Post-Test
	PASS	PASS
Component Serial Numbers:	081400425	

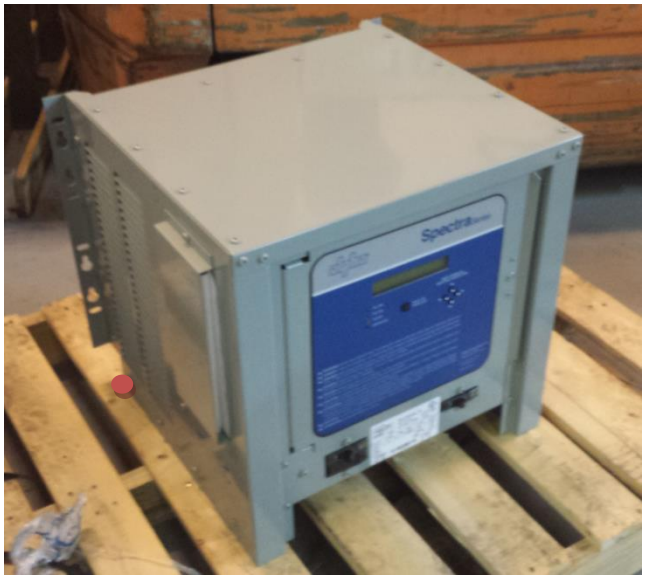
UUT Properties

Weight (lb)	**CG Location (in)**			**Coordinate System Origin**
	Depth	**Width**	**Height**	Bottom Back Left Anchor (see drawing Below)
85	7.25	7.75	8.5	

Additional Notes/Comments:

UUT was tested full of content
UUT maintained structural stability after test
UUT maintained functionality after test

Coordinate Origin (Noted by Red Dot):



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UUT #7

Unit Under Test (UUT) Summary Sheet

ANCO Project Number: 3324.03

Manufacturer:	Alpha Industrial Power Inc
Model Line:	AlphaRac Battery Racks and Cabinets
Model Number:	1ST02401211100000
Product Construction Summary:	Formed carbon steel sheet metal enclosure housing breakers, LCD control interface and charger module.
Options/ Subcomponent Summary:	None. Standard unit sold as tested. 24VDC, 12A, 120VAC, 1PH

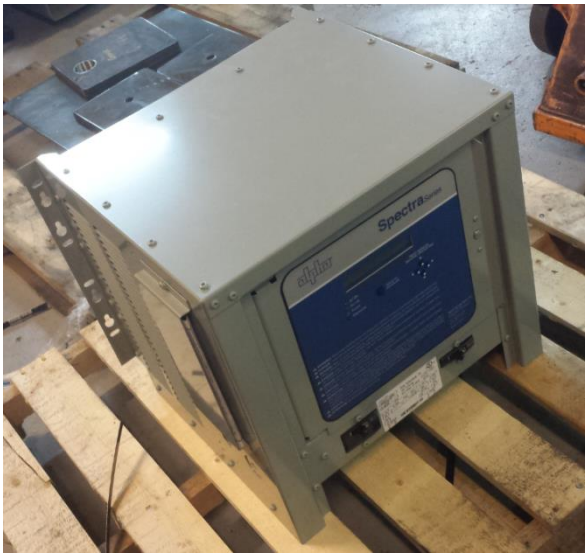
UUT Properties

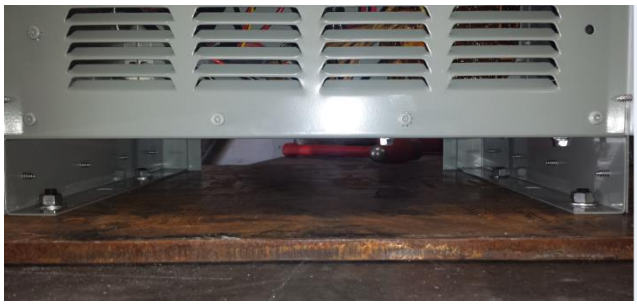
Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
75	19	16.8	17.5	23.9	21.6	>33

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 2013	ICC-ES AC-156	2.5	0	1.5	2.5	1.0	1.68	0.68

Test Mounting Details:





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

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UUT #7

Unit Under Test (UUT) Summary Sheet

ANCO Project Number: 3324.03

Test Setup:	Setup #2	
UUT Function:	Emergency backup battery bank charging	
Restrictions:	Rigid Floor Mount Only (As Tested)	
Functionality Test Results:	Pre-Test: PASS	Post-Test: PASS
Component Serial Numbers:	511301232	

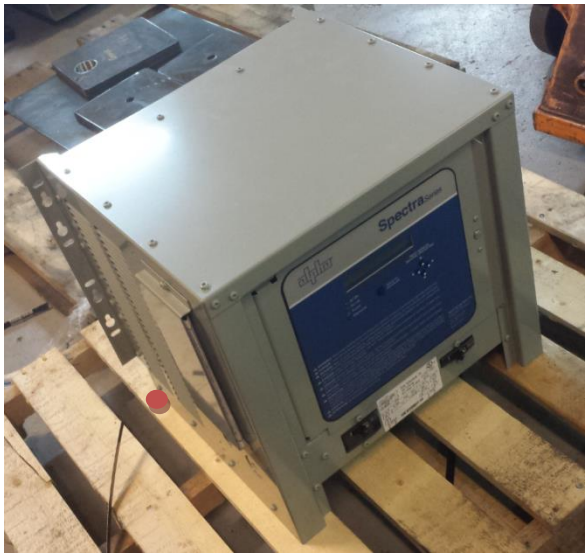
UUT Properties

Weight (lb)	CG Location (in)			Coordinate System Origin
	Depth	**Width**	**Height**	Bottom Back Left Anchor (see drawing Below)
75	7	7.75	9.25	

Additional Notes/Comments:

UUT was tested full of content
UUT maintained structural stability after test
UUT maintained functionality after test

Coordinate Origin (Noted by Red Dot):



Form: UUT, revision 0.0