



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

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

OFFICE USE ONLY

APPLICATION #: OSP – 0055 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Climatec

Manufacturer's Technical Representative: Clark Freeman, PE

Mailing Address: 18002 Cowan, Irvine, CA 92614

Telephone: 949.214.8652 Email: clarkf@climatec.com

Product Information

Product Name: Alerton Custom Control panels

Product Type: Control Panel

Product Model Number: See Attachment

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

General Description: Configurable control panels for HVAC applications.

Mounting Description: Rigidly mounted to wall.

Applicant Information

Applicant Company Name: TRU Compliance, LLC

Contact Person: Matthew Tobolski, PhD, SE

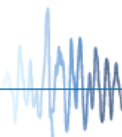
Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200 Email: mtobolski@trucompliance.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: 12/05/2016

Title: President and CEO Company Name: TRU Compliance, LLC





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

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

Company Name: TRU Compliance, LLC

Name: Matthew Tobolski, PhD, SE California License Number: S5648

Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200 Email: mtobolski@trucompliance.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): _____

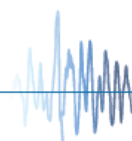
Testing Laboratory

Company Name: Clark Dynamic Testing Laboratory, Inc.

Contact Name: Robert Francis

Mailing Address: 1801 Route 51, Jefferson Hills, PA, 15025

Telephone: 412.387.1001 Email: rfrancis@clarktesting.com





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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) = 1.45

S_{DS} (Design spectral response acceleration at short period, g) = 1.93

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See attached

Overall dimensions and weight (or range thereof) = See attached

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, 2015: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): Attachment

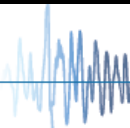
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: 1/10/17

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 1.93 z/h = 1.0

Condition of Approval (if applicable): _____



SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16027



Manufacturer: Climatec Model Line: Alerton Custom Control Panels		Table Description: Enclosures				TABLE 2		
Building Code: CBC 2016		Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_P = 1.5$						
Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Type 1 Enclosures (Hoffman)	A24N20ALP	6.6	20	24		Carbon steel, NEMA 1		extrap.
	A24N24ALP	6.6	24	24		Carbon steel, NEMA 1		3
	A30N24ALP	6.6	24	30		Carbon steel, NEMA 1		interp.
	A36N24ALP	6.6	24	36		Carbon steel, NEMA 1		interp.
	A36N30ALP	6.6	30	36		Carbon steel, NEMA 1		interp.
	A16N12BLP	8.6	12	16		Carbon steel, NEMA 1		interp.
	A20N12BLP	8.6	12	20		Carbon steel, NEMA 1		interp.
	A20N16BLP	8.6	16	20		Carbon steel, NEMA 1		interp.
	A20N20BLP	8.6	20	20		Carbon steel, NEMA 1		interp.
	A24N20BLP	8.6	20	24		Carbon steel, NEMA 1		interp.
	A24N24BLP	8.6	24	24		Carbon steel, NEMA 1		interp.
	A30N20BLP	8.6	20	30		Carbon steel, NEMA 1		interp.
	A30N24BLP	8.6	24	30		Carbon steel, NEMA 1		interp.
	A30N30BLP	8.6	30	30		Carbon steel, NEMA 1		interp.
	A36N24BLP	8.6	24	36		Carbon steel, NEMA 1		interp.
	A36N30BLP	8.6	30	36		Carbon steel, NEMA 1		interp.
	A42N3009	9.3	30	42		Carbon steel, NEMA 1		interp.
	A42N3609	9.3	36	42		Carbon steel, NEMA 1		1
Type 4/12 Enclosures (Hoffman)	A24H20ALP	6	20	24		Carbon steel, NEMA 4/12		2
	A24H24ALP	6	24	24		Carbon steel, NEMA 4/12		interp.
	A30H20ALP	6	20	30		Carbon steel, NEMA 4/12		interp.
	A30H24ALP	6	24	30		Carbon steel, NEMA 4/12		interp.
	A36H24ALP	6	24	36		Carbon steel, NEMA 4/12		interp.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16027



Manufacturer:	Climatec	Table Description: Enclosures	TABLE 2
Model Line:	Alerton Custom Control Panels		

Building Code: CBC 2016 **Seismic Certification Limits:** $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_p = 1.5$

Model Line (Manufacturer)	Model	Dimension (in)			Weight (lb)	Material	Notes	UUT
		Depth	Width	Height				
Type 4/12 Enclosures (Hoffman)	A16H12BLP	8	12	16		Carbon steel, NEMA 4/12		interp.
	A20H16BLP	8	16	20		Carbon steel, NEMA 4/12		interp.
	A20H20BLP	8	20	20		Carbon steel, NEMA 4/12		interp.
	A20H24BLP	8	24	20		Carbon steel, NEMA 4/12		interp.
	A24H20BLP	8	20	24		Carbon steel, NEMA 4/12		interp.
	A24H24BLP	8	24	24		Carbon steel, NEMA 4/12		interp.
	A24H30BLP	8	30	24		Carbon steel, NEMA 4/12		interp.
	A30H20BLP	8	20	30		Carbon steel, NEMA 4/12		interp.
	A30H24BLP	8	24	30		Carbon steel, NEMA 4/12		interp.
	A30H30BLP	8	30	30		Carbon steel, NEMA 4/12		interp.
	A36H24BLP	8	24	36		Carbon steel, NEMA 4/12		interp.
	A36H30BLP	8	30	36		Carbon steel, NEMA 4/12		interp.
	A42H30BLP	8	30	42		Carbon steel, NEMA 4/12		interp.
	A42H36BLP	8	36	42		Carbon steel, NEMA 4/12		interp.
	A48H36BLP	8	36	48		Carbon steel, NEMA 4/12		4

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16027



Manufacturer: Climatec		Table Description: Controllers			TABLE 3
Model Line: Alerton Custom Control Panels					
Building Code: CBC 2016		Seismic Certification Limits: $S_{DS} = 1.93g$ $z/h = 1.0$ $I_P = 1.5$			
Component Type	Manufacturer	Model	Description	Notes	UUT
Controller	Alerton	BCM-PWS	BACtalk BCM; DIN-Z		4
		ACM	BACtalk BCM; DIN-Z	Similar to BCM-ETH	Interp.
		BCM-ETH	BACtalk BCM; DIN-Z		4
		BCM-MDM	BACtalk BCM; DIN-Z	Similar to BCM-PWS	Interp.
		BCM-MS/TP	BACtalk BCM; DIN-Z		4
		BCM-TUX	BACtalk BCM; DIN-Z	Similar to BCM-PWS	Interp.
		BCM-MDBS	BACtalk BCM; DIN-Z	Similar to BCM-PWS	Interp.
		BCM-VIG	BACtalk BCM; DIN-Z	Similar to BCM-PWS	Interp.
		VLC-444	BACtalk VLC; BP	Similar to VLC-550	Interp.
		VLC-550	BACtalk VLC; BP		4
		VLC-651R	BACtalk VLC; BP	Similar to VLC-550	Interp.
		VLC-660	BACtalk VLC; BP	Similar to VLC-550	Interp.
		VLC-853	BACtalk VLC; BP		2
		VLC-1188	BACtalk VLC; BP		2
		VLC-1600	BACtalk VLC; BP	Similar to VLC-1188	Interp.
		VLC-16160	BACtalk VLC; BP	Similar to VLC-1188	Interp.
		VLCA-1688	BACtalk VLC; BP	Similar to VLC-1188	Interp.
		VAV-DD	BACtalk VAV; BP	Similar to VAV-SD	Interp.
		VAV-DD7	BACtalk VAV; BP	Similar to VAV-SD	Interp.
		VAV-SD	BACtalk VAV; BP		3
VAV-SD2A	BACtalk VAV; BP		3		
VLX	BACtalk VLX; BP		4		

DIN-Z = Mounted with zip-tie around rail and component **BP** = Attached directly to back plate

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16027



Manufacturer: Climatec Model Line: Alerton Custom Control Panels		Table Description: Controllers			TABLE 3	
Building Code: CBC 2016		Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_p = 1.5$				
Component Type	Manufacturer	Model	Description	Notes	UUT	
Controller	Alerton	VLX-PLATINUM	BACtalk VLX; BP	Similar to VLX	Interp.	
		EXP-1048	BACtalk EXP; BP		4	
		EXP-10120	BACtalk EXP; BP	Similar to EXP-1048	Interp.	
		EXP-2200	BACtalk EXP; BP	Similar to EXP-1048	Interp.	
		FLG-MODBUS	BACtalk FLG; BP	Similar to EXP-1048	Interp.	
	Tridium	J-200	JACE-200; BP			1
		J-200e	JACE-200e; BP	Similar to J-200	Interp.	
		J-600	JACE-600; BP			1
		J-600e	JACE-600e; BP	Similar to J-600	Interp.	
		J-700	JACE-700; BP	Similar to J-600	Interp.	
		J-700e	JACE-700e; BP	Similar to J-600	Interp.	
		J-8000	JACE-8000; BP	Similar to J-600	Interp.	
		NPB-8000-2X-485	RS-485 Comm Card	Similar to J-600	Interp.	
		NPB-8000-232	RS-232 Comm Card	Similar to J-600	Interp.	
		I/O-16	Vykon JACE; BP			1
		I/O-34	Vykon JACE; BP			1
		NWR-PWR-UN	Vykon JACE; BP	Similar to JACE NWR-PWR	Interp.	
		JACE NWR-PWR	Vykon JACE; BP			1

BP = Attached directly to back plate

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16027



Manufacturer: Climatec	Table Description: Power Supplies	TABLE 4
Model Line: Alerton Custom Control Panels		

Building Code: CBC 2016 **Seismic Certification Limits:** $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_P = 1.5$

Component Type	Manufacturer	Model	Description	Notes	UUT
Power Supply	Veris	PS 247.5	Product line - PS; BP		1
		PS 2415	Product line - PS; BP		Interp.
		PS 2430	Product line - PS; BP		Interp.
		PS 2450	Product line - PS; BP		Interp.
		PS 2460	Product line - PS; BP		4
	Functional Devices	PSH75AB10	Product line - PSH; BP	Similar to PSH100AB10	Extrap.
		PSH75A75AB10	Product line - PSH; BP	Similar to PSH100A100AB10	Extrap.
		PSH100AB10	Product line - PSH; BP		4
		PSH100A100AB10	Product line - PSH; BP		1

BP = Mounted directly to back plane

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16027



Manufacturer: Climatec	Table Description: Relays	TABLE 6
Model Line: Alerton Custom Control Panels		

Building Code: CBC 2016	Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_P = 1.5$	
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Component Type	Manufacturer	Model	Description	Notes	UUT
Relay	Magnecraft	781XAXM4L-24A	1PDT 24VAC; DIN		1 - 5
		781XAXM4L-120A	1PDT 120VAC; DIN		Interp.
		782XBXM4L-24A	2PDT 24VAC; DIN		1 - 5
		782XBXM4L-120A	2PDT 120VAC; DIN		Interp.
		783XCXM4L-24A	3PDT 24VAC; DIN		1 - 5
		783XCXM4L-120A	3PDT 120VAC; DIN		Interp.
		784DXM4L-24A	4PDT 24VAC; DIN		1 - 5
		784DXM4L-120A	4PDT 120VAC; DIN		Interp.

DIN = DIN rail mounted

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16027



Manufacturer: Climatec		Table Description: Ethernet Switches			<h2>TABLE 7</h2>
Model Line: Alerton Custom Control Panels					
Building Code: CBC 2016		Seismic Certification Limits: $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_p = 1.5$			
Component Type	Manufacturer	Model	Description	Notes	UUT
Ethernet Switches	B&B Electronics	EIR102-MC	EIR; BP	Similar to EIR208	Extrap.
		EIR208	EIR; BP		1
		EIR418	EIR; BP		4
		SFP-100FX-M-2KM-T	EIR; BP		4

BP = Attached directly to back plane

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 16027



Manufacturer: Climatec	Table Description: Miscellaneous	TABLE 8
Model Line: Alerton Custom Control Panels		

Building Code: CBC 2016 **Seismic Certification Limits:** $S_{DS} = 1.93 g$ $z/h = 1.0$ $I_P = 1.5$

Component Type	Manufacturer	Model	Description	Notes	UUT
Panel Light	IDEC	APW299D-R-24	Red panel light; Door mount		1 - 5
		APW299D-G-24	Green panel light; Door mount		1 - 4
Switch	IDEC	ASW2K10	2 Position Switch; Door mount		1 - 5
		ASW3K20	3 Position Switch; Door mount		1 - 5
LCD Display	Kele	LPI-1C	LPI; Door mount		2
UPS	SOLA-HD	SDU 500	SDU; BP		1
	SOLA-HD	SDU-PMBRK	SDU; BP		1

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 16027



Manufacturer: Climatec	UUT 1
Model Line: Custom Control Panels	
Model Number: BV-741412 Serial Number: N/A	

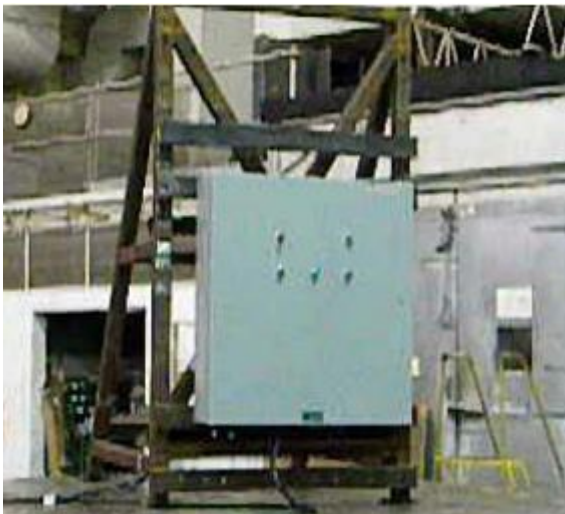
Product Construction Summary:
NEMA 1, carbon steel enclosure.

Options/Subcomponent Summary:
Controllers, power supply, control transformer, relays, ethernet switches, panel light and uninterruptible power supply. See Tables 2 - 8 for a specific listing of subcomponents installed in the panel.

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
170	9	36	42	N/A	N/A	N/A

<i>UUT Highest Passed Seismic Run Information</i>								
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 2016	ICC-ES AC156	1.93	1.0	1.5	3.09	2.32	1.29	0.51

Test Mounting Details:



Rigid wall mounted to wall fixture with (4) 5/16" cap screws.
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



TRU PROJECT NO. 16027

Manufacturer: Climatec	UUT 2
Model Line: Custom Control Panels	
Model Number: BV-741410 Serial Number: N/A	

Product Construction Summary:
NEMA 4/12, carbon steel enclosure.

Options/Subcomponent Summary:
Controller, power supply, control transformer, relays, panel light and LCD panel display. See Tables 2 - 8 for a specific listing of subcomponents installed in the panel.

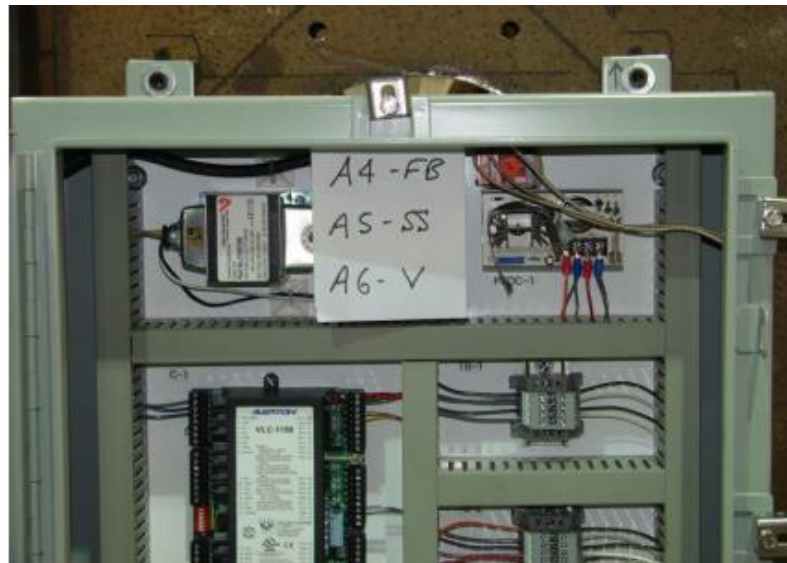
UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
51	6	20	24	N/A	N/A	N/A

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 2016	ICC-ES AC156	1.93	1.0	1.5	3.09	2.32	1.29	0.51

Test Mounting Details:



Rigid wall mounted to wall fixture with (4) 3/8" cap screws.
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

TRU PROJECT NO. 16027



Manufacturer: Climatec	UUT 3
Model Line: Custom Control Panels	
Model Number: BV-741413 Serial Number: N/A	

Product Construction Summary:
NEMA 1, carbon steel enclosure.

Options/Subcomponent Summary:
Controllers, control transformer, relays, ethernet switches and panel light. See Tables 2 - 8 for a specific listing of subcomponents installed in the panel.

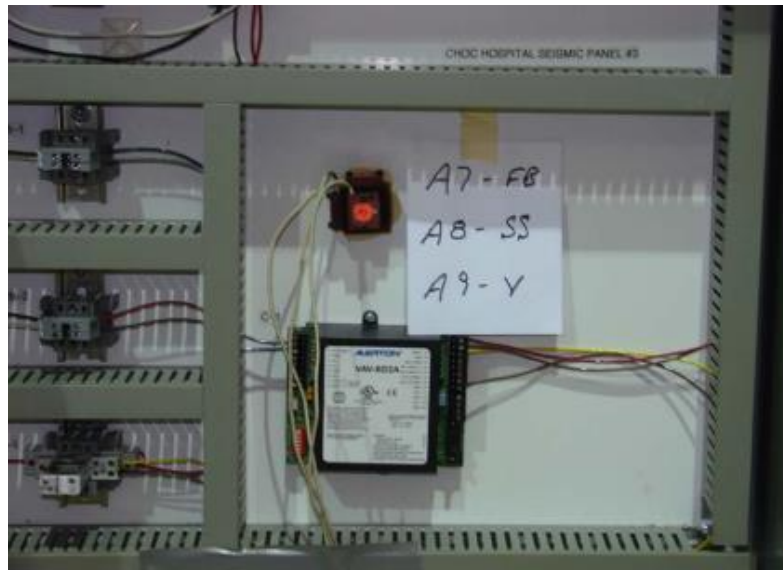
UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
51	6.6	24	24	N/A	N/A	N/A

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 2016	ICC-ES AC156	1.93	1.0	1.5	3.09	2.32	1.29	0.51

Test Mounting Details:



Rigid wall mounted to wall fixture with (4) 5/16" cap screws.
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

TRU PROJECT NO. 16027



UUT 4

Manufacturer: Climatec
Model Line: Custom Control Panels
Model Number: BV-741411 **Serial Number:** N/A

Product Construction Summary:
 NEMA 4/12, carbon steel enclosure.

Options/Subcomponent Summary:
 Controllers, power supplies, control transformer, relays, ethernet switches and panel light. See Tables 2 - 8 for a specific listing of subcomponents installed in the panel.

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
180	8	36	48	N/A	N/A	N/A

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 2016	ICC-ES AC156	1.93	1.0	1.5	3.09	2.32	1.29	0.51

Test Mounting Details:



Rigid wall mounted to wall fixture with (4) 5/16" cap screws.
 Unit maintained structural integrity and remained functional per manufacturer requirement.
 Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



TRU PROJECT NO. 16027

Manufacturer: Climatec	UUT 5
Model Line: Custom Control Panels	
Model Number: PSH500A Serial Number: N/A	

Product Construction Summary:
NEMA 1, carbon steel enclosure.

Options/Subcomponent Summary:
Power supply and control transformer. See Tables 2 - 8 for a specific listing of subcomponents installed in the panel.

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
29	6	12.1	12.1	N/A	N/A	N/A

<i>UUT Highest Passed Seismic Run Information</i>								
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 2016	ICC-ES AC156	1.93	1.0	1.5	3.09	2.32	1.29	0.51

Test Mounting Details:



Rigid wall mounted to wall fixture with (4) 5/16" cap screws.
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
Contents were included in testing per operating conditions.