



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

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

OFFICE USE ONLY

APPLICATION #: OSP-0906

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Syserco

Manufacturer's Technical Representative: Raymond Tam

Mailing Address: 215 Fourier Ave., Fremont, CA 94539

Telephone: (510) 584-8063

Email: r.tam@syserco.com

Product Information

Product Name: HVAC Control Panels and Network Switches

Product Model Number(s): See attached

Product Category: Industrial Control Panels

Product Sub-Category: HVAC Control Panels

General Description: Control panels containing transformer, Alerton/Delta controllers, relays, and switches. Tripp Lite Wall Rack SRW6U required for some installations.

Mounting Description: Any Vertical Surface Mounted Rigid (tested wall mounted both rigid and flexible)

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: DCL Labs, LLC

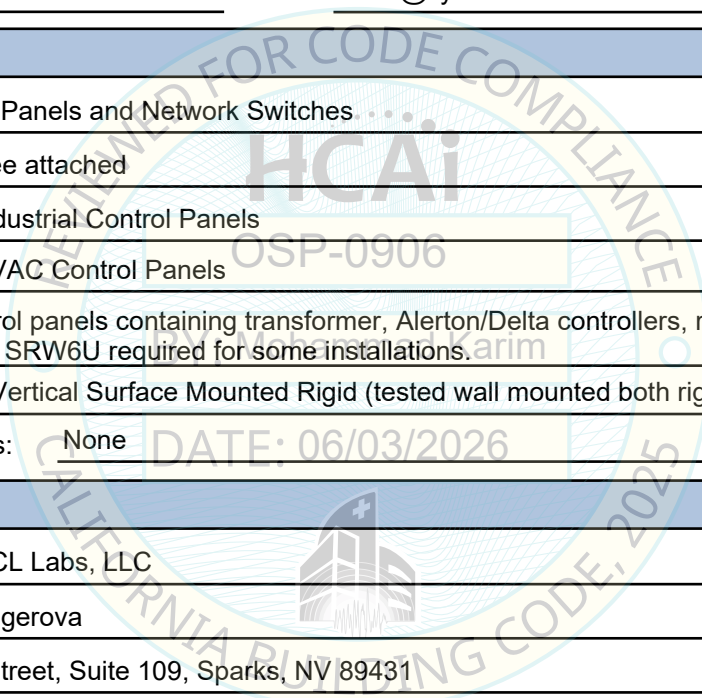
Contact Person: Nastya Veyngerova

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

Telephone: (775) 358-5085

Email: nastya.veyngerova@shaketest.com

Title: Seismic Test Engineer





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

Company Name: THE VMC GROUP

Name: Kenneth Tarlow California License Number: S2851

Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814

Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

- GR-63-Core
- ICC-ES AC156
- IEEE 344
- IEEE 693
- NEBS 3
- Other (Please Specify): _____

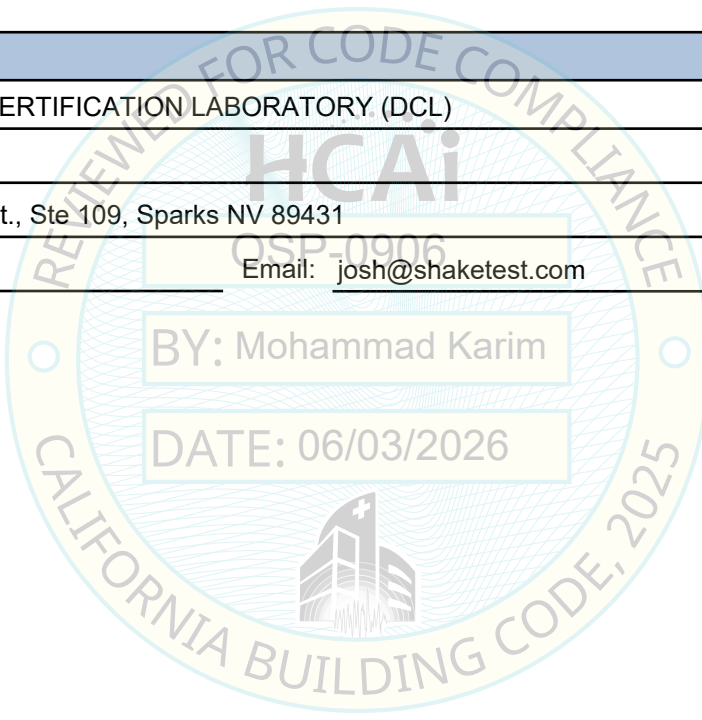
Testing Laboratory

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)

Contact Person: Josh Sailer

Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431

Telephone: (775) 358-5085 Email: josh@shaketest.com





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Seismic Parameters

Certified Response Spectral Acceleration Factors:(Fp/Wp)

Horizontal	(A Flx-H), g=	<u>3.20</u>	(A Rig-H), g=	<u>2.15</u>
Vertical	(A Flx-V), g=	<u>1.67</u>	(A Rig-V), g=	<u>0.67</u>

SDS (Design spectral response acceleration at short period, g) = Sds 2.0g at z/h=1.0 and Sds 2.5g at z/h=0

Hf (Force amplification height factor) = 3.5 at z/h=1.0; 1.0 at z/h=0

Ru (Structure ductility reduction factor) = 1.3 at z/h=1.0; 1.0 at z/h=0

Ip (Importance factor) = 1.5

z/h (Height ratio factor) = 0 and 1

HCAI Approval (For Office Use Only) - Approval Expires on 06/03/2032

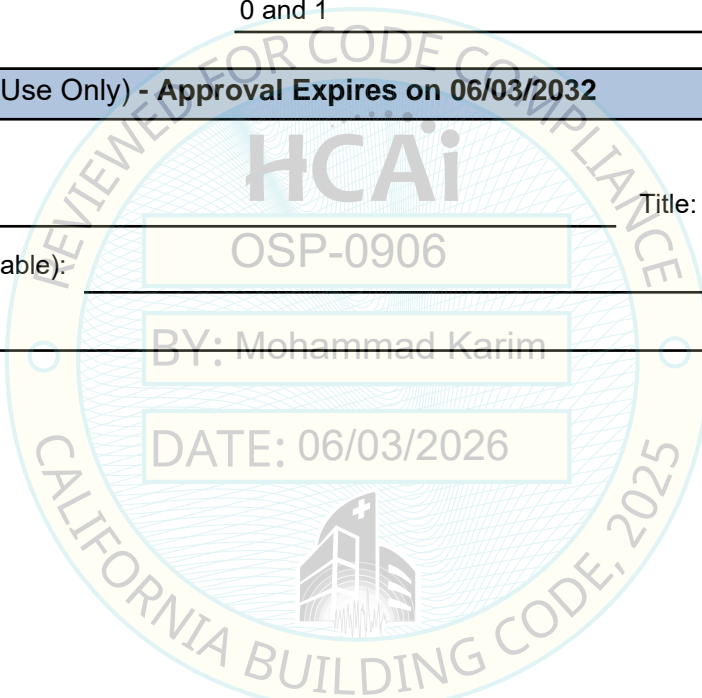
Date: 6/3/2026

Name: Mohammad Karim Title: Supervisor, Health Facilities

Condition of Approval (if applicable): OSP-0906

BY: Mohammad Karim

DATE: 06/03/2026



Special Seismic Certification
Table 1 - Certified Components



DCL Project Number: 11930-2501

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

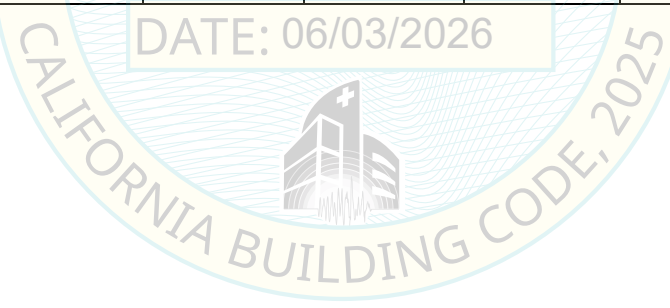
Certified Product Construction: Powder Coated Carbon Steel (UUT1a,b through UUT8a,b); Stainless Steel (UUT9a,b and UUT10a,b)

Mounting: Rigid and Isolated Wall Mounted

Certified Seismic Levels: Sds 2.0g at z/h=1.0 and Sds 2.5g at z/h=0

Factors for Force Amplification and Structure Ductility Reduction: Hf = 3.5 at z/h=1.0; 1.0 at z/h=0 and $R_{\mu} = 1.3$ at z/h=1.0; 1.0 at z/h=0

Model Number	Max. Dimensions [in.]			Max. Weight [lb.]	Mounting	Unit
	Depth	Width	Height			
Custom Control Panels						
aaa-XXXX	4.0	6.0-12.0	6.0-14.0	<17	Rigid and Isolated Wall	Extrapolated
FCU-1800	4.0	12.0	14.0	17		UUT1a,b
SMK-1100	8.3	23.6	23.6	68		UUT7a,b
aaa-XXXX	4.0-10.0	12.0-24.0	14.0-24.0	17 - 75		Interpolated
HHW-1100	11.0	24.0	24.0	75		UUT3a,b
aaa-XXXX	9.0-10.0	24.0-36.0	24.0-48.0	75 - 130		Interpolated
AHU-1800	9.0	36.0	48.0	200		UUT2a,b
aaa-XXXX	9.0-10.0	36.0	48.0	200 - 214		Interpolated
CHW-1100	11.0	36.0	48.0	205		UUT4a,b
CHW-1200	8.3	35.5	47.3	214		UUT8a,b
Custom Control Panels						
aaa-XXXX	6.0-10.8	12.0-24.0	12.0-24.0	<76	Rigid and Isolated Wall	Extrapolated
AHU-1900	10.0	24.0	24.0	76		UUT9a,b
aaa-XXXX	6.0-10.8	24.0-30.0	24.0-42.0	76 - 187		Interpolated
CHW-1300	10.8	30.0	42.0	187		UUT10a,b
Network Switches						
NET-1101	17.5	23.5	14.5	34	Rack Mounted (Rigid and Isolated Wall)	UUT6a,b
NET-xxxx	17.5	23.5	14.5	34 - 63		Interpolated
NET-1100	17.5	23.5	14.5	63		UUT5a,b



Special Seismic Certification
Table 2 - Nomenclature Chart



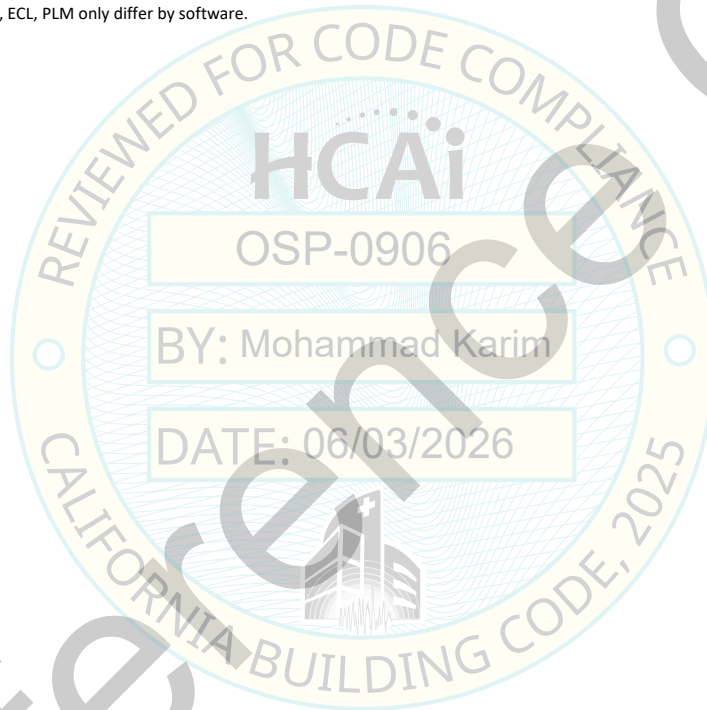
DCL Project Number: 11930-2501

Certified Seismic Levels: Sds 2.0g at z/h=1.0 and Sds 2.5g at z/h=0

Sample Part Number: aaa-XXXX			
Nomenclature	Allowable Value	Allowable Value Description	UUT
aaa ¹	AHU	Air Handling Unit	UUT2a,b, UUT9a,b
	CHW	Chilled Water System	UUT4a,b, UU8a,b, UUT10a,b
	HHW	Heating Hot Water System	UUT3a,b
	FCU	Fan Coil Unit	UUT1a,b
	SMK	Smoke Control Panel	UUT7a,b
	EXH	Exhaust Fan System	Same as UUT1, 2, 3, 4, 7, 8
	ELC	Electrical Systems	Same as UUT1, 2, 3, 4, 7, 8
	PLM	Plumbing Systems	Same as UUT1, 2, 3, 4, 7, 8
	NET	Network Switch	UUT5a,b, UUT6a,b
XXXX	0000-9999	Internally Applied Serial Number	All Interpolated and Tested UUTs

Note:

1. AHU, CHW, SMK, HHW, FCU, EXH, ECL, PLM only differ by software.



Special Seismic Certification
Table 3 - Certified Subcomponents



DCL Project Number: 11930-2501

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number ¹	Manufacturer	NEMA Rating	Dimensions [in.]			Gauge	Material	Weight [lb.]	Unit
				Height	Width	Depth				
Enclosures	CSD12126SS + CP1212	Hoffman	3R, 4, 4X, 12	12	12	6	16	Stainless Steel	16	Extrapolated
	CSD16126SS + CP1612		3R, 4, 4X, 12	16	12	6	16		20	Extrapolated
	CSD16128SS + CP1612		3R, 4, 4X, 12	16	12	8	16		21	Extrapolated
	CSD161210SS + CP1612		3R, 4, 4X, 12	16	12	10	16		23	Extrapolated
	CSD16166SS + CP1616		3R, 4, 4X, 12	16	16	6	16		26	Extrapolated
	CSD16168SS + CP1616		3R, 4, 4X, 12	16	16	8	16		27	Extrapolated
	CSD12246SS + CP2412		3R, 4, 4X, 12	12	24	6	16		28	Extrapolated
	CSD20166SS + CP2016		3R, 4, 4X, 12	20	16	6	16		31	Extrapolated
	CSD161610SS + CP1616		3R, 4, 4X, 12	16	16	10	16		32	Extrapolated
	CSD16208SS + CP2016		3R, 4, 4X, 12	16	20	8	16		33	Extrapolated
	CSD20168SS + CP2016		3R, 4, 4X, 12	20	16	8	16		33	Extrapolated
	CSD162010SS + CP2016		3R, 4, 4X, 12	16	20	10	16		36	Extrapolated
	CSD201610SS + CP2016		3R, 4, 4X, 12	20	16	10	16		36	Extrapolated
	CSD20206SS + CP2020		3R, 4, 4X, 12	20	20	6	16		37	Extrapolated
	CSD24168SS + CP2416		3R, 4, 4X, 12	24	16	8	16		38	Extrapolated
	CSD20208SS + CP2020		3R, 4, 4X, 12	20	20	8	16		39	Extrapolated
	CSD241610SS + CP2416		3R, 4, 4X, 12	24	16	10	16		41	Extrapolated
	CSD202010SS + CP2020		3R, 4, 4X, 12	20	20	10	16		43	Extrapolated
	CSD24206SS + CP2420		3R, 4, 4X, 12	24	20	6	16		43	Extrapolated
	CSD30166SS + CP3016		3R, 4, 4X, 12	30	16	6	16		45	Extrapolated
	CSD24208SS + CP2420		3R, 4, 4X, 12	24	20	8	16		47	Extrapolated
	CSD20248SS + CP2420		3R, 4, 4X, 12	20	24	8	16		49	Extrapolated
	CSD202410SS + CP2420		3R, 4, 4X, 12	20	24	10	16		51	Extrapolated
	CSD242010SS + CP2420		3R, 4, 4X, 12	24	20	10	16		51	Extrapolated
	CSD30208SS + CP3020		3R, 4, 4X, 12	30	20	8	16		58	Extrapolated
	CSD242410SS + CP2424		3R	24	24	10	16		59	UUT9a,b
	CSD302010SS + CP3020		3R, 4, 4X, 12	30	20	10	16		62	Interpolated
	CSD24248SS + CP2424		3R, 4, 4X, 12	24	24	8	16		62	Interpolated
	CSD24308SS + CP3024		3R, 4, 4X, 12	24	30	8	16		68	Interpolated
	CSD30248SS + CP3024		3R, 4, 4X, 12	30	24	8	16		68	Interpolated
	CSD302410SS + CP3024		3R, 4, 4X, 12	30	24	10	16		72	Interpolated
	CSD243010SS + CP3024		3R, 4, 4X, 12	24	30	10	16		74	Interpolated
	CSD36248SS + CP3624		3R, 4, 4X, 12	36	24	8	16		80	Interpolated
CSD30308SS + CP3030	3R, 4, 4X, 12	30	30	8	16	84	Interpolated			
CSD362410SS + CP3624	3R, 4, 4X, 12	36	24	10	16	85	Interpolated			
CSD303010SS + CP3030	3R, 4, 4X, 12	30	30	10	16	89	Interpolated			
CSD422410SS + CP2442	3R, 4, 4X, 12	42	24	10	14	97	Interpolated			
CSD36308SS + CP3630	3R, 4, 4X, 12	36	30	8	16	101	Interpolated			
CSD363010SS + CP3630	3R, 4, 4X, 12	36	30	10	16	117	Interpolated			
CSD423010SS + CP4230	4X, 12	42	30	10	14	130	UUT10a,b			

1. Model number includes enclosure and back panel.

Continued on next page

Special Seismic Certification
Table 4 - Certified Subcomponents



DCL Project Number: 11930-2501

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Manufacturer	NEMA Rating	Dimensions [in.]			Gauge	Material	Weight [lb.]	Unit
				Height	Width	Depth				
Enclosures	A-6N64 + A6N6P	Hoffman	1, 4	6	6	4	16	Powder coated carbon steel	5	Extrapolated
	A-8N64 + A8N6P		1, 4	8	6	4	16		6	Extrapolated
	A-8N84 + A8N8P		1, 4	8	8	4	16		7	Extrapolated
	A-8N86 + A8N8P		1, 4	8	8	6	16		7	Extrapolated
	A-10N84 + A10N8P		1, 4	10	8	4	16		8	Extrapolated
	A-10N104 + A10N10P		1, 4	10	10	4	16		9	Extrapolated
	A-10N86 + A10N8P		1, 4	10	8	6	16		10	Extrapolated
	A-10N106 + A10N10P		1, 4	10	10	6	16		11	Extrapolated
	A-12N104 + A12N10P		1, 4	12	10	4	16		11	Extrapolated
	A12N106 + A12N10P		1, 4	12	10	6	16		12	Extrapolated
	A-12N124 + A12N12P		1, 4	12	12	4	16		13	Extrapolated
	A-14N124 + A14N12P		1, 4	14	12	4	16		14	UUT1a,b
	A-12N126 + A12N12P		1, 4	12	12	6	16		15	Interpolated
	A-14N126 + A14N12P		1, 4	14	12	6	16		16	Interpolated
	A-12N128 + A12N12P		1, 4	12	12	8	16		17	Interpolated
	A-16N126 + A16N12P		1, 4	16	12	6	16		17	Interpolated
	A-14N128M + A1412P		1, 4	14	12	8	16		18	Interpolated
	A-16H12ALP + A16P12		1, 4	16	12	6	16		21	Interpolated
	A-16H12BLP + A16P12		1, 4	16	12	8	16		24	Interpolated
	A-16H16ALP + A16P16		1, 4	16	16	6	16		29	Interpolated
	A-20H16ALP + A20P16		1, 4	20	16	6	16		32	Interpolated
	A-20H16BLP + A20P16		1, 4	20	16	8	16		35	Interpolated
	A-20H20ALP + A20P20		1, 4	20	20	6	16		37	Interpolated
	A-20H20BLP + A20P20		1, 4	20	20	8	16		41	Interpolated
	A-24H20ALP + A24P20		1, 4	24	20	6	16		45	Interpolated
	A-24H20BLP + A24P20		1, 4	24	20	8	16		52	Interpolated
	A-24H24ALP + A24P24		1, 4	24	24	6	16		53	Interpolated
	A-24H24BLP + A24P24		1, 4	24	24	8	16		57	Interpolated
	A-30H24ALP + A30P24		1, 4	30	24	6	16		73	Interpolated
	A-30H24BLP + A30P24		1, 4	30	24	8	14		77	Interpolated
	A-36H24ALP + A36P24		1, 4	36	24	6	16		83	Interpolated
	A-36H24BLP + A36P24		1, 4	36	24	8	14		89	Interpolated
	A-36H30BLP + A36P30		1, 4	36	30	8	14		110	Interpolated
	A-42H36BLP + A42P36		1, 4	42	36	8	14		156	Interpolated
	A-42H30BLP + A42P30		1, 4	42	30	8	14		160	Interpolated
	A-48H36BLP + A48P36		1, 4	48	36	8	14		185	UUT2a,b

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Special Seismic Certification
Table 5 - Certified Subcomponents



DCL Project Number: 11930-2501

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Manufacturer	NEMA Rating	Dimensions [in.]			Gauge	Material	Weight [lb.]	Unit		
				Height	Width	Depth						
Enclosures	CSD12106 + CP1210	Hoffman	4 & 12	12	10	6	18	Powder coated carbon steel	14	Interpolated		
	CSD12126 + CP1212		4 & 12	12	12	6	18		15	Interpolated		
	CSD16126 + CP1612		4 & 12	16	12	6	18		19	Interpolated		
	CSD161210 + CP1612		4 & 12	16	12	10	16		21	Interpolated		
	CSD16128 + CP1612		4 & 12	16	12	8	18		21	Interpolated		
	CSD16166 + CP1616		4 & 12	16	16	6	18		24	Interpolated		
	CSD16168 + CP1616		4 & 12	16	16	8	18		26	Interpolated		
	CSD161610 + CP1616		4 & 12	16	16	10	16		28	Interpolated		
	CSD20166 + CP2016		4 & 12	20	16	6	18		30	Interpolated		
	CSD20208 + CP2020		4 & 12	20	20	8	18		30	Interpolated		
	CSD20168 + CP2016		4 & 12	20	16	8	18		32	Interpolated		
	CSD24166 + CP2416		4 & 12	24	16	6	18		34	Interpolated		
	CSD20206 + CP2020		4 & 12	20	20	6	18		36	Interpolated		
	CSD202010 + CP2020		4 & 12	20	20	10	16		38	Interpolated		
	CSD241610 + CP2416		4 & 12	24	16	10	16		39	Interpolated		
	CSD162010 + CP1620		4 & 12	16	20	10	16		42	Interpolated		
	CSD24206 + CP2420		4 & 12	24	20	6	18		42	Interpolated		
	CSD24168 + CP2416		4 & 12	24	16	8	18		44	Interpolated		
	CSD242010 + CP2420		4 & 12	24	24	10	16		46	UUT3a,b		
	CSD24208 + CP2420		4 & 12	24	20	8	18		47	Interpolated		
	CSD24246 + CP2424		4 & 12	24	24	6	16		52	Interpolated		
	CSD242410 + CP2424		4 & 12	24	24	10	16		53	Interpolated		
	CSD24248 + CP2424		4 & 12	24	24	8	16		53	Interpolated		
	CSD302010 + CP3020		4 & 12	30	20	10	16		55	Interpolated		
	CSD302410 + CP3024		4 & 12	24	30	10	16		65	Interpolated		
	CSD30248 + CP3024		4 & 12	30	24	8	14		67	Interpolated		
	CSD36248 + CP3624		4 & 12	36	24	8	16		81	Interpolated		
	CSD362410 + CP3624		4 & 12	36	24	10	16		83	Interpolated		
	CSD30308 + CP3030		4 & 12	30	30	8	14		89	Interpolated		
	CSD303010 + CP3030		4 & 12	30	30	10	14		93	Interpolated		
	CSD482410 + CP4824		4 & 12	48	24	10	14		103	Interpolated		
	CSD36308 + CP3630		4 & 12	36	30	8	14		109	Interpolated		
	CSD363010 + CP3630		4 & 12	36	30	10	14		112	Interpolated		
	CSD36368 + CP3636		4 & 12	36	36	8	14		122	Interpolated		
	CSD363610 + CP3636		4 & 12	36	36	10	14		126	Interpolated		
	CSD423610 + CP4236		4 & 12	42	36	10	14		150	Interpolated		
	CSD483610 + CP4836		4 & 12	48	36	10	14		174	UUT4a,b		
	SRW6U		Tripp Lite	N/A	15	24	18		14	Powder coated carbon steel	30	UUT5a,b, UUT6a,b
	WM161206NC		Rittal	4 & 12	16	12	6		15	Powder coated carbon steel	19	Interpolated
	WM161606NC			4 & 12	16	16	6		15		19	Interpolated
WM242006NC	4 & 12	24		20	6	15	21	Interpolated				
WM162006NC	4 & 12	16		20	6	15	27	Interpolated				
WM201606NC	4 & 12	20		16	6	15	31	Interpolated				
WM241606NC	4 & 12	24		16	6	15	35	Interpolated				
WM202006NC	4 & 12	20		20	6	15	36	Interpolated				
WM242408NC	4 & 12	24		24	8	15	50	UUT7a,b				
WM302408NC	4 & 12	30		24	8	15	67	Interpolated				
WM303008NC	4 & 12	30		30	8	15	88	Interpolated				
WM244208NC	4 & 12	24		42	8	12	101	Interpolated				
WM363008NC	4 & 12	36		30	8	12	110	Interpolated				
WM423008NC	4 & 12	42		30	8	12	138	Interpolated				
WM363608NC	4 & 12	36		36	8	12	149	Interpolated				
WM483608NC	4 & 12	48		36	8	12	184	UUT8a,b				

Special Seismic Certification
Table 6 - Certified Subcomponents



DCL Project Number: 11930-2501

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Manufacturer	Material	Interior Mounting	Weight [lb.]	Unit			
Controller	VLC-444	Alerton	Plastic	Back Panel	<1	UUT2a,b			
	VAV-DD7				<1	Interpolated			
	VAV-DD				<1	Interpolated			
	VAV-SD				<1	Interpolated			
	VAV-SD2A				<1	Interpolated			
	VLC-550				<1	Interpolated			
	VLC-1600				<1	Interpolated			
	VLC-16160				<1	Interpolated			
	VLC-16160-S				<1	Interpolated			
	VLC-853				<1	UUT1a,b			
	VLC-660R				<1	Interpolated			
	VLC-651R				<1	Interpolated			
	VLC-1188-S				<1	Interpolated			
	VLC-1188				<1	UUT2a,b			
	BTI-S				<1	Interpolated			
	VLC-550-E				<1	Interpolated			
	VLC-651R-E				<1	Interpolated			
	VLC-660R-E				<1	Interpolated			
	VLC-853-E				<1	Interpolated			
	VLC-1188-E				<1	Interpolated			
	VLC-1600-E				<1	Interpolated			
	VLC16160-E				<1	Interpolated			
	ALERVIEW-WHT						Cover	<1	UUT4a,b
	ACM						Din Rail	<1	UUT2a,b
	VXIO-322-HOA (WEB-03022H) ¹							<1	UUT4a,b
	ES-EIS8-100T							<1	Interpolated
	VGC-S							<1	UUT7a,b
	VLC-1188-E-S							<1	Interpolated
	VLC-16160-E-S			<1	Interpolated				
	VAV-DD7-E-S			<1	Interpolated				
	VAV-SD-E-S			<1	Interpolated				
	VLC16u8-IP-BLE			1	UUT8a,b				
	VLC8u8-IP			1	Interpolated				
	VLC8u8-IP-BLE			1	UUT8a,b				
	VXIO-965-HOA (WEB-09056H) ¹			1	UUT4a,b				
	VLC16u8-IP			1	Interpolated				
	VIP-363-HOA (WEB-C3036EPVBNH) ¹			1	UUT4a,b				
	VLCA-1688			2	UUT 2a,b				
	WEB-EHSERIESNX26ND		Honeywell	Plastic	Din Rail	<1		UUT8a,b	
	WEB-C3036EPVBNH					<1		UUT7a,b	
	XF821A					<1	UUT8a,b		
	XF822A					<1	UUT8a,b		
	XFR822A					<1	Interpolated		
	XSU821-22					<1	Interpolated		
	XF823A					<1	Interpolated		
XSU823		<1				Interpolated			
XF824A		<1				Interpolated			
XFR824A		<1				UUT8a,b			
XFR825A		<1				Interpolated			
XSU824-25		<1				Interpolated			
XFU830A		<1				UUT8a,b			
XS830		<1				Interpolated			
10BASE-T1L-ADAPT						<1	UUT7a,b		

1. Alternately branded as Honeywell (second model number listed is Honeywell model number).

Continued on next page

Special Seismic Certification
Table 7 - Certified Subcomponents



DCL Project Number: 11930-2501

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Manufacturer	Material	Interior Mounting	Weight [lb.]	Unit			
Controller	XS831	Honeywell	Plastic	Din Rail	<1	Interpolated			
	IO-16DI-S-S				<1	Interpolated			
	IO-8DOR-S-S				<1	Interpolated			
	IOD-8DOR-S-S				<1	UUT8a,b			
	IO-16UI-S-S				<1	Interpolated			
	IO-16UIO-S-S				<1	Interpolated			
	IOD-16UIO-S-S				<1	UUT8a,b			
	HMI-CABLE-L				<1	UUT8a,b			
	HMI-CABLE-S				<1	UUT8a,b			
	WEB-09056H				1	UUT7a,b			
	WEB-03022H				1	UUT7a,b			
	N-ADV-112-H-C				1	Interpolated			
	N-ADV-133-H-C				1	Interpolated			
	N-ADV-134-H-C				1	UUT8a,b			
	UN-RS0844ES24NMC				1	Interpolated			
	UN-RS0844TS24NMC				1	Interpolated			
	UN-RS0844MS24NMC				1	UUT8a,b			
	UN-RS0844ESB24NMC				1	Interpolated			
	UN-RS0844TSB24NMC				1	Interpolated			
	UN-RS0844MSB24NMC				1	Interpolated			
	UN-RL1644ES24NMC				1	Interpolated			
	UN-RL1644TS24NMC				1	Interpolated			
	UN-RL1644MS24NMC				1	UUT8a,b			
	UN-RL1644ESB24NMC				1	Interpolated			
	UN-RL1644TSB24NMC				1	Interpolated			
	UN-RL1644MSB24NMC				1	Interpolated			
	UN-RL1644ESB24NMC				1	Interpolated			
	UN-RL1644TSB24NMC				1	Interpolated			
	UN-RL1644MSB24NMC				1	Interpolated			
	WEB-HMI7/C				2	UUT8a,b			
	HMI-WL				Honeywell	Carbon Steel	Din Rail	<1	Extrapolated
	HMI-DN							<1	UUT8a,b
	JACE-9000 / ALER-9000 ¹				Tridium	Plastic	Din Rail	<1	UUT8a,b
	CDIDI-BOS8USWIFIU	<1	Extrapolated						
	PDIDI-NPB82X485U-00 / NPB-8000-2X-485 ¹	Distech	Plastic	Din Rail	<1	Extrapolated			
	PXXDI-COMMSPK				<1	Extrapolated			
	PXXDI-IOSPK				<1	Extrapolated			
	PXXDI-PWRSPK				<1	Extrapolated			
	PXXDI-TRIACSPK				<1	Extrapolated			
	PXXDI-INSIK-01				<1	Extrapolated			
	PXXDI-DCSIK				<1	Extrapolated			
	PDIDI-NPB82X485-00				<1	UUT4a,b			
	CDIY-RS485-00				<1	UUT4a,b			
	CDIY-NLINT-01				<1	Interpolated			
	CDIY-PS100240-00				<1	UUT4a,b			
CDIY-8DOR-00	<1				Interpolated				
CDIY-8DORHOA-00	<1				UUT4a,b				
CDIY-PS24-00	<1				UUT4a,b				
CDIY-S1028-00	<1				Interpolated				
CDIY-S1028ENVY-00	<1				Interpolated				
CDIY-S1028-MS-00	<1				Interpolated				
CDIY-S1028ENVY-MS-00	<1				Interpolated				
CDIY-S1048-00	<1	Interpolated							
CDIY-S1048ENVY-00	<1	Interpolated							

Note:
 1. Alternatively branded as Alerton.

Continued on next page

Special Seismic Certification
Table 8 - Certified Subcomponents



DCL Project Number: 11930-2501

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Manufacturer	Material	Interior Mounting	Weight [lb.]	Unit
Controller	CDIY-S1048-MS-00	Distech			<1	Interpolated
	CDIY-S1048ENVY-MS-00				<1	Interpolated
	CDIY-S1048ENVY-MS-00				<1	Interpolated
	CDIY-S1048ENVY-NL-00				<1	Interpolated
	CDIY-S1000-00				<1	UUT4a,b
	CDIY-S1000ENVY-00				<1	Interpolated
	CDIY-8UI-00				<1	Interpolated
	CDIY-4UI4UO-00				<1	Interpolated
	CDIY-4UI4UOHOA-00				<1	Interpolated
	CDIY-8UI6UO-00				<1	Interpolated
	CDIY-8UI6UOHOA-00				<1	Interpolated
	CDIY-8UI6DOT-00				<1	Interpolated
	CDIY-8UI6DOTHOA-00				<1	Interpolated
	CDIY-16DI-00				<1	Interpolated
	CDIY-6UO-00				<1	Interpolated
	CDIY-6UOHOA-00				<1	Interpolated
	CDIB-103X-01				<1	UUT3a,b
	CDIDI-BOS8USWIFI				<1	UUT4a,b
	CDIB-203X-00				<1	UUT4a,b
	CDIB-203E-00				<1	Interpolated
	CDIB-300X-00				<1	Interpolated
	CDIB-203U-00				<1	Interpolated
	CDIB-300U-00				<1	Interpolated
	CDIB-400U-00				1	Interpolated
	CDIB-600U-00				1	Interpolated
	CDIX-400U-00				1	Interpolated
	07CBL-ECLYPSE6HD1590				1	Interpolated
	EIS8-100T				1	Interpolated
	EIS6-100T/FC				1	Interpolated
	CDIB-253X-00				1	Interpolated
	CDIB-350X-00				1	Interpolated
	CDIB-400X-00				1	Interpolated
	CDIB-403X-00				1	Interpolated
	CDIB-410X-00				1	Interpolated
	CDIB-413X-00				1	Interpolated
	CDIB-600X-00				1	Interpolated
	CDIB-610X-00				1	UUT4a,b
	CDIX-400X-00				1	Interpolated
	CDIX-410X-00				1	Interpolated
	CDIX-420X-00				1	Interpolated
CDIX-400U-00	1	Interpolated				
CDIY-303-IMP-01	1	Interpolated				
CDIY-303M3-IMP-01	1	Interpolated				
CDIB-450X-00	1	Interpolated				
CDIB-453X-00	1	Interpolated				
CDIB-650X-00	1	Interpolated				
CDIY-400X-C1-20	1	UUT8a,b				
CDIY-600X-C1-20	1	UUT8a,b				
CDIY-S1048-C1-20	1	Interpolated				
CDIY-APEX-21	2	Interpolated				
CDIB-VAXU-IMP-10	2	UUT8a,b				
PW-TR100VA002	4	UUT7a,b				
PW-PSB100AB10	5	UUT7a,b				

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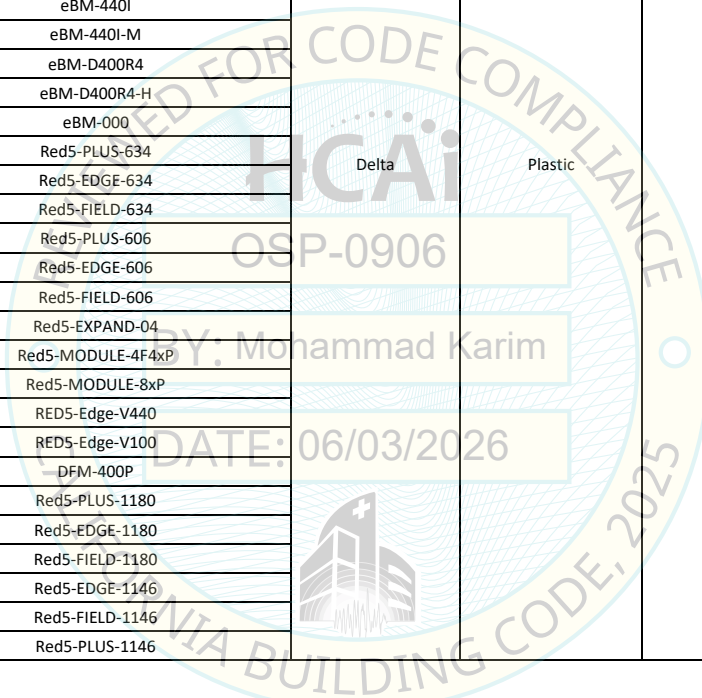
Special Seismic Certification
Table 9 - Certified Subcomponents



DCL Project Number: 11930-2501

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Manufacturer	Material	Interior Mounting	Weight [lb.]	Unit
Controller	eBMGR-TCH-2	Delta	Plastic	Din Rail	<1	UUT10a,b
	eBMGR-2				<1	Extrapolated
	eBCON-2				<1	UUT10a,b
	eBX-08				<1	UUT10a,b
	eBX-04				<1	Extrapolated
	eBM-800				<1	Extrapolated
	eBM-D800				<1	UUT10a,b
	eBM-440-M				<1	UUT10a,b
	eBM-404-H				<1	UUT10a,b
	eBM-440				<1	UUT10a,b
	eBM-404				<1	UUT10a,b
	eBM-440I				<1	UUT10a,b
	eBM-440I-M				<1	UUT10a,b
	eBM-D400R4				<1	UUT10a,b
	eBM-D400R4-H				<1	UUT10a,b
	eBM-000				<1	Extrapolated
	Red5-PLUS-634				<1	Extrapolated
	Red5-EDGE-634				<1	UUT9a,b
	Red5-FIELD-634				<1	Extrapolated
	Red5-PLUS-606				<1	Extrapolated
	Red5-EDGE-606				<1	Extrapolated
	Red5-FIELD-606				<1	Extrapolated
	Red5-EXPAND-04				<1	UUT10a,b
	Red5-MODULE-4F4xP				<1	UUT10a,b
	Red5-MODULE-8xP				<1	UUT10a,b
	RED5-Edge-V440				<1	UUT10a,b
	RED5-Edge-V100				<1	Extrapolated
	DFM-400P				<1	Extrapolated
	Red5-PLUS-1180				1	Extrapolated
	Red5-EDGE-1180				1	Extrapolated
Red5-FIELD-1180	1	Extrapolated				
Red5-EDGE-1146	1	Extrapolated				
Red5-FIELD-1146	1	Extrapolated				
Red5-PLUS-1146	1	UUT10a,b				



Special Seismic Certification
Table 10 - Certified Subcomponents



DCL Project Number: 11930-2501

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Manufacturer	Material	Interior Mounting	Weight [lb.]	Unit		
Network Switch	NC-ONS-C401i	Optigo	Carbon Steel	Din Rail	1	UUT4a,b		
	NC-ONS-C801pi				2	UUT4a,b		
	ONS-CR2420GT				3	Interpolated		
	NC-ONS-C1601pi					Rack	3	UUT4a,b
	NC-ONS-C810p			4	UUT5a,b			
	NC-ONS-C2401p			11	UUT5a,b			
	NC-ONS-C4801p			14	UUT5a,b, UUT6a,b			
Optical Switch	NC-ONS-YPS-8	Optigo	Carbon Steel	Din Rail	<1	UUT4a,b		
	NC-ONS-YPS-4				<1	Interpolated		
	NC-ONS-YPG-1				<1	Interpolated		
	NC-ONS-YPG-2				<1	Interpolated		
	NC-ONS-YPG-4				<1	Interpolated		
	NC-ONS-YPS-16				<1	Interpolated		
	NC-ONS-YPD-2				<1	Interpolated		
	NC-ONS-YPD-4				<1	Interpolated		
	NC-ONS-YPD-8				<1	Interpolated		
	NC-ONS-YPG-6				<1	Interpolated		
	NC-ONS-YPG-8				<1	Interpolated		
	NC-ONS-YRS-8				<1	Interpolated		
	NC-ONS-YRS-16				<1	Interpolated		
	NC-ONS-YRS-32				<1	Interpolated		
	NC-ONS-YPS-2				<1	UUT4a,b		
	NC-ONS-YPS-2-A05				<1	Interpolated		
	NC-ONS-YPS-2-A10				<1	Interpolated		
	NC-ONS-YPS-2-A15				<1	Interpolated		
	NC-ONS-YPS-3-A10				<1	Interpolated		
	NC-ONS-YPS-2-L				<1	Interpolated		
	NC-ONS-YPS-2-A05-L				<1	Interpolated		
	NC-ONS-YPS-2-A05-LR				<1	Interpolated		
	NC-ONS-YPS-2-A10-L				<1	Interpolated		
	NC-ONS-YPS-2-A10-LR				<1	Interpolated		
	NC-ONS-YPS-2-A15-L				<1	Interpolated		
	NC-ONS-YPS-2-A15-LR				<1	Interpolated		
	NC-ONS-YPS-3-A10-L				<1	Interpolated		
	NC-ONS-YPS-3-A10-LR				<1	Interpolated		
	NC-ONS-YPS-4-L				<1	Interpolated		
	NC-ONS-YPS-8-L				<1	Interpolated		
	NC-ONS-YPG-1-L				<1	Interpolated		
	NC-ONS-YPG-2-L				<1	Interpolated		
	NC-ONS-YPG-4-L				<1	Interpolated		
	NC-ONS-YPG-6-L				<1	Interpolated		
NC-ONS-YPG-8-L	<1	Interpolated						
NC-ONS-YPS-16-L	<1	Interpolated						
NC-ONS-YRD-8	4	Interpolated						
NC-ONS-YRD-16	4	Interpolated						
NC-ONS-YRD-32	4	Interpolated						
Network Controller	NC-ONS-NC-600	Optigo	Carbon Steel	Rack	9	UUT5a,b		
	NC-ONS-S8				10	UUT5a,b, UUT6a,b		
Display	EcX-Display	Distech	Plastic	Cover	<1	UUT3a,b		
I/O Expansion Module	AXM-10-12-0	Alerton	Plastic	Din Rail	<1	UUT2a,b		
	AXM-10-4-8				<1	Interpolated		
	IO-R-16				<1	Interpolated		
	IO-R-34				<1	Interpolated		
	AXM-22-0-0				<1	UUT2a,b		

Special Seismic Certification
Table 11 - Certified Subcomponents



DCL Project Number: 11930-2501

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Description	Manufacturer	Material	Interior Mounting	Weight [lb.]	Unit	
Battery	ACM-BATT	Battery	Alerton	Plastic	Din Rail	<1	UUT4a,b	
Network Gateway	BB3-7101	Modbus to Bacnet Gateway	Babel Buster	Carbon Steel	Din Rail	2	UUT8a,b	
Relays	38.51.0.024.0060	SPDT Terminal Block Relay	Finder	Plastic	Din Rail	<1	UUT10a,b	
	38.52.0.024.0060	DPDT Terminal Block Relay				<1	UUT10a,b	
	RH4B-UL-AC24V	4-Pole Relay	Idec	Plastic	Din Rail	<1	UUT10a,b	
	SH4B-05	4-Pole Relay				<1	UUT10a,b	
	RJ2S-CL-A24	2-Pole Relay				<1	UUT10a,b	
	SI2S-07LW	2-Pole Relay Base				<1	UUT10a,b	
	RE-12DC-SPDT	12 VDC Relay				Distech	Plastic	Back Panel
	RE-RT78724	12 VDC Relay	<1	UUT8a,b				
	RE-PTML0024	LED Module	<1	UUT8a,b				
	VMD1B-F24A	24VAC SPDT Relay	Veris	<1	UUT1a,b			
	VMD2B-F24A	24VAC DPDT Relay		<1	Interpolated			
	RIBMN24S	Smoke Relay		<1	UUT4a,b			
	VMD3B-F24A	24VAC 3PDT Relay		1	UUT2a,b			
VMD4B-C24A	24VAC 4PDT Relay	1	UUT2a,b					
Router	BASRT-B	BACnet 5 BBMD Capacity	Contemporary Controls	Carbon Steel	Din Rail	<1	Extrapolated	
	BASRTLX-B	BACnet 50 BBMD Capacity				<1	UUT2a,b	
	BB3-3101	BACnet-Modbus Gateway				<1	UUT9a,b	
	BB3-7101	BACnet-Modbus Gateway				<1	Interpolated	
	BB3-7301	BACnet Router				<1	UUT10a,b	
	FS-EZ3-MOD-BAC	Field Server Modbus to BACnet	Field Server	Carbon Steel	Din Rail	<1	Extrapolated	
	FS-EZ4-MOD-BAC	Field Server Modbus to BACnet				<1	UUT10a,b	
FS-Router-BAC2	BACnet Router				<1	UUT9a,b		
Ethernet Switch	1085254	10/100/1000 Mbps 5 Port	Phoenix Contact	Plastic	Din Rail	<1	Extrapolated	
	1085243	0/100/1000 Mbps 8 Port				<1	UUT8a,b	
	EISK5-GT/H	5 Port Ethernet Switch Gigabit	Contemporary Controls	Carbon Steel	Din Rail	1	Extrapolated ¹	
	EIGR-C3	4 Port Cellular IP Router				1	Extrapolated ¹	
	EISK8-GT/H	8 Port Ethernet Switch Gigabit				1	UUT2a,b	
DC Power Supply	A/PS24-24V-S	1.5A 24VDC Power Supply	ACI	Plastic	Back Panel	<1	UUT10a,b	
	BA/VC350-ADJ	350mA 24VAC to DC Voltage Converter	BAPI	Plastic	Din Rail	<1	UUT10a,b	
	P55R-VB05	120V/24VDC 10 W Slim Style	IDEC	Plastic	Din Rail	<1	UUT2a,b	
	P55R-VB24	120V/24VDC 15 W Slim Style				<1	Interpolated	
	P55R-VC24	120V/24VDC 30 W Slim Style				<1	UUT2a,b	
P55R-VD24	120V/24VDC 60 W Slim Style	<1				UUT4a,b		
AC Power Supply	NC-ACC-PS-24V10W	Power Supply	Optigo	Carbon Steel	Din Rail	<1	UUT4a,b	
	NC-ACC-PS-48V300W					2	UUT4a,b	
	X050CAA	24VAC 50VA Transformer	Veris	Copper Winding	Back Panel	3	UUT9a,b	
	X050COB	120/208/240/277/480 ²				3	UUT1a,b	
	X100CAA	120/24VAC 100VA Transformer				4	UUT9a,b	
	X100CHB	120/208/240/480/24VAC 100VA Transformer				4	UUT10a,b	
	X100CBB	120/208/240/277/480 ²	4	UUT2a,b				
	PSH100AB10	120VAC to 24VAC Power Supply w/Receptacle	Functional Devices	Carbon Steel	Back Panel	5	Extrapolated	
	PSH100AWB10	100VA Power Supply				5	UUT10a,b	
	PSH100A100AB10	120VAC to 24VAC Dual Power Supply				9	UUT2a,b	
PSMN300A	300VA Power Supply	13				Interpolated		
PSMN500A	500VA Power Supply	21				UUT10a,b		

1. Depopulated version of item tested in UUT2a,b.
 2. Transformer does not change based on input voltage, different input taps are used.

Special Seismic Certification
Table 12 - Certified Subcomponents



DCL Project Number: 11930-2501

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Description	Manufacturer	Material	Interior Mounting	Weight [lb.]	Unit
Cellular Router	TB600PAC1	Power Cable	Tosibox	Copper, Plastic	N/A	<1	UUT8a,b
	TB4GM2-3M	Tosibox Antenna Kit		Carbon Steel	Din Rail	<1	UUT8a,b
	TBL670US	Tosibox Lock 670 (90 Mb/s) Ethernet, Cellular				1	UUT8a,b
Fiber	EISK8M-100T/FCS	6 Port 10 / 100Mbps / 2 port 100 Mbps MM SC-Fiber	Contemporary Controls	Carbon Steel	Din Rail	1	UUT2a,b
Surge Protector	AP75-T1	Industrial Surge Protector	Able Power	Plastic	Din Rail	<1	UUT10a,b
	DTK-120HW	19.5KA	DITEK	Plastic	Din Rail	<1	UUT2a,b
	DTK-120SRD	54KA				<1	UUT2a,b
Pressure Transmitter	MSX-W20-IN-LCD	Diff. Pressure Transducer Unidirectional	Dwyer	Plastic	Back Panel	<1	UUT10a,b
	PX3ULX05	Differential Pressure Transmitter	Veris	Plastic	Back Panel	<1	UUT4a,b
	2671-001WD-11-A1-FD					<1	UUT2a,b
	2641-R25WB-11-A1-F	Diff. Pressure Transducer Bidirectional	Setra	Plastic	Back Panel	<1	UUT10a,b
Pressure Switch	AFS-460	Manual Pressure Reset	Cleveland Controls	Carbon Steel	Back Panel	1	UUT10a,b
	AFS-222					1	UUT10a,b
Smart Switches	OC200	Omada Hardware Controller	TP-Link	Plastic	Back Panel	<1	UUT9a,b
	TP-SG2210P	8-Port Switch				<1	UUT9a,b
	TP-SG2016P	16-Port Switch				<1	UUT10a,b
UPS	BAS34U24V	Uninterruptable Power Supply	CyberPower	Plastic	Din Rail	3	UUT3a,b
	SDU500B		SOLA	Carbon Steel	Back Panel	11	UUT8a,b
	SDU500				11	UUT2a,b, UUT9a,b	
	PSMN2C2RB10	UPS Interface Module	Functional Devices	Plastic	Track Mount	2	UUT10a,b
	UPS600	Uninterruptable Power Supply			Back Panel	8	UUT9a,b
	UPS850				15	UUT10a,b	
	SUA500PDR-S		APC	Carbon Steel	Back Panel	28	UUT3a,b
Cooling Fan	HF0424414	Side-Mount Filter Fans	Hoffman	Plastic	Side Panel	1	UUT3a,b
	HF0924414					2	UUT4a,b
	A0FF118	Outdoor Filter Fan Kit			Mounting Frame	3	UUT10a,b
Static Switch	AFS-460	Manual Reset Static Switch	Cleveland Controls	Carbon Steel	Back Panel	1	UUT2a,b
Circuit Breaker	UMBW-1B1-2	1POLE 2AMP	WEG Ind	Plastic	Din Rail	1	UUT2a,b
Plug	SYS1357-2412	AC adapter for 1214E Eth. Extender	Patton	Carbon Steel	Back Panel	2	UUT2a,b

Special Seismic Certification
Table 13 - Tested Units



DCL Project Number: 11930-2501

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

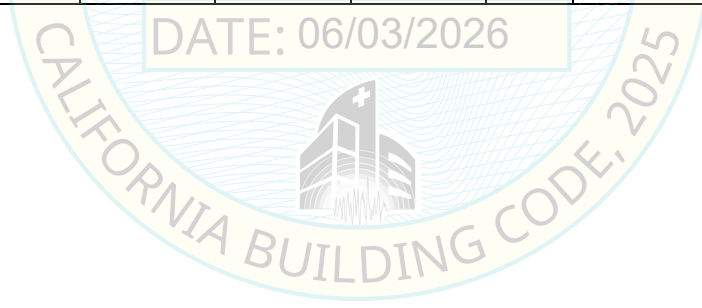
Certified Product Construction: Powder Coated Carbon Steel (UUT1a,b through UUT8a,b); Stainless Steel (UUT9a,b and UUT10a,b)

Mounting: Rigid and Isolated Wall Mounted

Certified Seismic Levels: Sds 2.0g at z/h=1.0 and Sds 2.5g at z/h=0

Factors for Force Amplification and Structure Ductility Reduction: Hf = 3.5 at z/h=1.0; 1.0 at z/h=0 and Rμ = 1.3 at z/h=1.0; 1.0 at z/h=0

Model Number	Nema Rating	Dimensions [in.]			Weight [lb.]	Mounting	DCL Test Report Number	Unit
		Length	Width	Height				
FCU-1800	1	4.0	12.0	14.0	17	Rigid Wall	05416-1801	UUT1a
FCU-1800	1	4.0	12.0	14.0	17	Isolated Wall	05416-1801	UUT1b
AHU-1800	4	9.0	36.0	48.0	200	Rigid Wall	05416-1801	UUT2a
AHU-1800	4	9.0	36.0	48.0	200	Isolated Wall	05416-1801	UUT2b
HHW-1100	4 & 12	11.0	24.0	24.0	75	Rigid Wall	00211-2001	UUT3a
HHW-1100	4 & 12	11.0	24.0	24.0	75	Isolated Wall	00211-2001	UUT3b
CHW-1100	4 & 12	11.0	36.0	48.0	205	Rigid Wall	00211-2001	UUT4a
CHW-1100	4 & 12	11.0	36.0	48.0	205	Isolated Wall	00211-2001	UUT4b
NET-1100	N/A	17.5	23.5	14.5	63	Rigid Wall (Rack)	00211-2001	UUT5a
NET-1100	N/A	17.5	23.5	14.5	63	Isolated Wall (Rack)	00211-2001	UUT5b
NET-1101	N/A	17.5	23.5	14.5	34	Rigid Wall (Rack)	00211-2001	UUT6a
NET-1101	N/A	17.5	23.5	14.5	34	Isolated Wall (Rack)	00211-2001	UUT6b
SMK-1100	4 & 12	8.3	23.6	23.6	68	Rigid Wall	05400-2501	UUT7a
SMK-1100	4 & 12	8.3	23.6	23.6	68	Isolated Wall	05400-2501	UUT7b
CHW-1200	4 & 12	8.3	35.5	47.3	214	Rigid Wall	05400-2501	UUT8a
CHW-1200	4 & 12	8.3	35.5	47.3	214	Isolated Wall	05400-2501	UUT8b
AHU-1900	3R	10.8	24.0	24.0	76	Rigid Wall	11930-2501	UUT9a
AHU-1900	3R	10.8	24.0	24.0	76	Isolated Wall	11930-2501	UUT9b
CHW-1300	4X & 12	10.8	30.0	42.0	187	Rigid Wall	11930-2501	UUT10a
CHW-1300	4X & 12	10.8	30.0	42.0	187	Isolated Wall	11930-2501	UUT10b



UNIT UNDER TEST (UUT) Summary Sheet



UUT1a

DCL Report Number: 05416-1801

Test Dates: 10/10/18

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: FCU-1800

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 1

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	A-14N124 + A14N12P	Hoffman	Powder coated carbon steel
Controller	VLC-853	Alerton	Plastic
AC Power Supply	X050COB	Veris	Copper Winding
Relays	VMD1B-F24A	Veris	Plastic

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
17	4.0	12.0	14.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT1a was mounted to the wall fixture, and the wall fixture was rigidly mounted to the shake table. The unit was mounted with (4) 1/4" Grade 5 bolts with a washer and a 3" x 3" x 3/16" low carbon steel plate washer spaced 11" on center in the horizontal direction and 11" on center in the vertical direction.



UNIT UNDER TEST (UUT) Summary Sheet



UUT1b

DCL Report Number: 05416-1801

Test Dates: 10/10/18

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: FCU-1800

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 1

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	A-14N124 + A14N12P	Hoffman	Powder coated carbon steel
Controller	VLC-853	Alerton	Plastic
AC Power Supply	X050COB	Veris	Copper Winding
Relays	VMD1B-F24A	Veris	Plastic

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
17	4.0	12.0	14.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 1b was mounted to the wall fixture, and the wall fixture was mounted atop VMC Group isolators (model number: MSSH-1E-1700N) mounted to the DCL shake table. The unit was mounted to the wall fixture with (4) 1/4" Grade 5 bolts with a washer and a 3" x 3" x 3/16" low carbon steel plate washer spaced 11" on center in the horizontal direction and 11" on center in the vertical direction.



UNIT UNDER TEST (UUT) Summary Sheet



UUT2a

DCL Report Number: 05416-1801

Test Dates: 10/10/18

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: AHU-1800

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 4

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
200	9.0	36.0	48.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 2a was mounted to the wall fixture, and the wall fixture was rigidly mounted to the shake table. The unit was mounted to the wall fixture with (4) 3/8" Grade 5 bolts with a washer and a 3" x 3" x 3/16" low carbon steel plate washer spaced 30" on center in the horizontal direction and 49.5" on center in the vertical direction.



UNIT UNDER TEST (UUT) Summary Sheet



UUT2b

DCL Report Number: 05416-1801

Test Dates: 10/10/18

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: AHU-1800

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 4

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
200	9.0	36.0	48.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 2b was mounted to the wall fixture, and the wall fixture was mounted atop VMC Group isolators (model number: MSSH-1E-1700N) mounted to the DCL shake table. The unit was mounted to the wall fixture (4) 3/8" Grade 5 bolts with a washer and a 3" x 3" x 3/16" low carbon steel plate washer spaced 30" on center in the horizontal direction and 49.5" on center in the vertical direction.



UNIT UNDER TEST (UUT) Summary Sheet



UUT2a,b

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	A-48H36BLP + A48P36	Hoffman	Powder coated carbon steel
Controller	VLC-444	Alerton	Plastic
Controller	VLC-1188	Alerton	Plastic
Controller	ACM	Alerton	Plastic
Controller	VLCA-1688	Alerton	Plastic
I/O Expansion Module	AXM-10-12-0	Alerton	Plastic
I/O Expansion Module	AXM-22-0-0	Alerton	Plastic
Relays	VMD3B-F24A	Veris	Plastic
Relays	VMD4B-C24A	Veris	Plastic
Router	BASRTLX-B	Contemporary Controls	Carbon Steel
Ethernet Switch	EISK8-GT/H	Contemporary Controls	Carbon Steel
DC Power Supply	PS5R-VB05	IDEC	Plastic
DC Power Supply	PS5R-VC24	IDEC	Plastic
AC Power Supply	X100CBB	Veris	Copper Winding
AC Power Supply	PSH100A100AB10	Functional Devices	Carbon Steel
Fiber	EISK8M-100T/FCS	Contemporary Controls	Carbon Steel
Surge Protector	DTK-120HW	DITEK	Plastic
Surge Protector	DTK-120SRD	DITEK	Plastic
Pressure Transmitter	2671-001WD-11-A1-FD	Setra	Plastic
UPS	SDU500	SOLA	Carbon Steel
Static Switch	AFS-460	Cleveland Controls	Carbon Steel
Circuit Breaker	UMBW-1B1-2	WEG Ind	Plastic
Plug	SYS1357-2412	Patton	Carbon Steel



UNIT UNDER TEST (UUT) Summary Sheet



UUT3a

DCI Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: HHW-1100

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 4 & 12

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	CSD242010 + CP2420	Hoffman	Powder coated carbon steel
Controller	CDIB-103X-01	Distech	Plastic
Display	EcX-Display	Distech	Plastic
UPS	BAS34U24V	CyberPower	Plastic
UPS	SUA500PDR-S	APC	Carbon Steel
Cooling Fan	HF0424414	Hoffman	Plastic

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

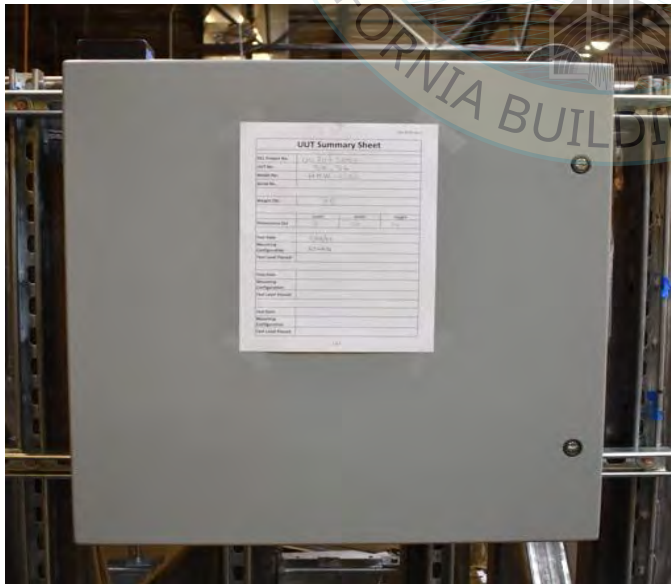
Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
75	11.0	24.0	24.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 3a was mounted to the wall fixture, and the wall fixture was rigidly mounted to the shake table. The unit was mounted to the wall fixture with (4) 3/8" Grade 5 bolts with a washer and a 3" x 3" x 1/4" low carbon steel plate washer spaced 22.5" on center in the horizontal direction and 22.5" on center in the vertical direction.

DATE: 06/03/2026



UNIT UNDER TEST (UUT) Summary Sheet



UUT3b

DCL Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: HHW-1100

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 4 & 12

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	CSD242010 + CP2420	Hoffman	Powder coated carbon steel
Controller	CDIB-103X-01	Distech	Plastic
Display	Exc-Display	Distech	Plastic
UPS	BAS34U24V	CyberPower	Plastic
UPS	SUA500PDR-S	APC	Carbon Steel
Cooling Fan	HF0424414	Hoffman	Plastic

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
75	11.0	24.0	24.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES AC156-24	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
		2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 3b was mounted to the wall fixture, and the wall fixture was mounted atop VMC Group isolators (model number: MSSH-1E-1700N) mounted to the DCL shake table. The unit was mounted to the wall fixture (4) 3/8" Grade 5 bolts with a washer and a 3" x 3" x 1/4" low carbon steel plate washer spaced 22.5" on center in the horizontal direction and 22.5" on center in the vertical direction.



UNIT UNDER TEST (UUT) Summary Sheet



UUT4a

DCL Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: CHW-1100

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 4 & 12

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

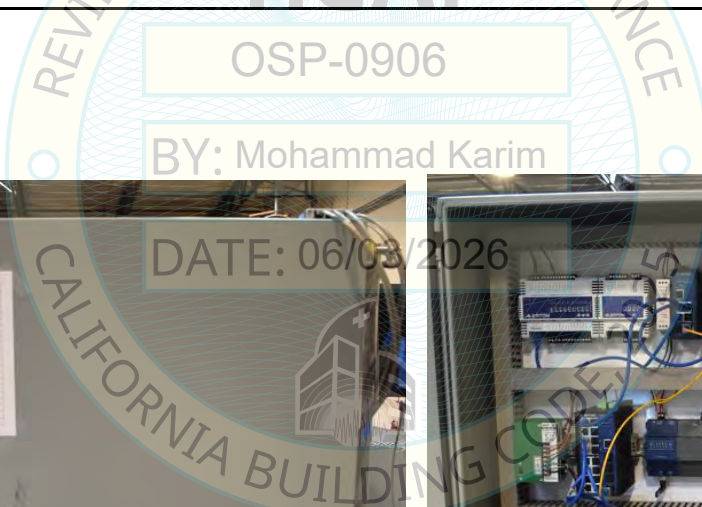
UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
205	11.0	36.0	48.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _c	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 4a was mounted to the wall fixture, and the wall fixture was rigidly mounted to the shake table. The unit was mounted to the wall fixture with (4) 3/8" Grade 5 bolts with a washer and a 3" x 3" x 1/4" low carbon steel plate washer spaced 34.5" on center in the horizontal direction and 46" on center in the vertical direction.



UNIT UNDER TEST (UUT) Summary Sheet



UUT4b

DCL Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: CHW-1100

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 4 & 12

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

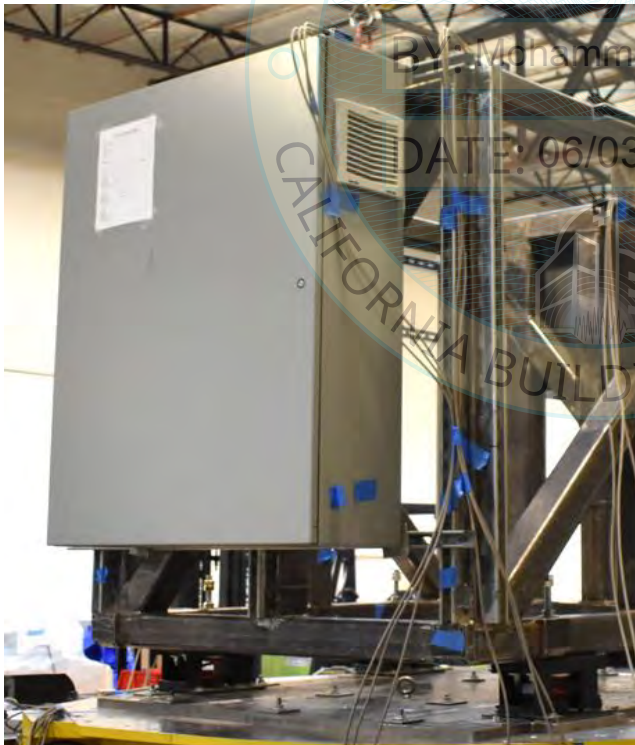
Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
205	11.0	36.0	48.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 4b was mounted to the wall fixture, and the wall fixture was mounted atop VMC Group isolators (model number: MSSH-1E-1700N) mounted to the DCL shake table. The unit was mounted to the wall fixture (4) 3/8" Grade 5 bolts with a washer and a 3" x 3" x 1/4" low carbon steel plate washer spaced 34.5" on center in the horizontal direction and 46" on center in the vertical direction.

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UNIT UNDER TEST (UUT) Summary Sheet



UUT4a,b

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	CSD483610 + CP4836	Hoffman	Powder coated carbon steel
Controller	ALERVIEW-WHT	Alerton	Plastic
Controller	VXIO-322-HOA (WEB-03022H)	Alerton	Plastic
Controller	VXIO-965-HOA (WEB-09056H)	Alerton	Plastic
Controller	VIP-363-HOA (WEB-C3036EPVBNH)	Alerton	Plastic
Controller	PDIDI-NPB82X485-00	Distech	Plastic
Controller	CDIY-RS485-00	Distech	Plastic
Controller	CDIY-PS100240-00	Distech	Plastic
Controller	CDIY-8DORHOA-00	Distech	Plastic
Controller	CDIY-PS24-00	Distech	Plastic
Controller	CDIY-S1000-00	Distech	Plastic
Controller	CDIDI-BOS8USWIFI	Distech	Plastic
Controller	CDIB-203X-00	Distech	Plastic
Controller	CDIB-610X-00	Distech	Plastic
Network Switch	NC-ONS-C401i	Optigo	Carbon Steel
Network Switch	NC-ONS-C801pi	Optigo	Carbon Steel
Network Switch	NC-ONS-C1601pi	Optigo	Carbon Steel
Optical Switch	NC-ONS-YPS-8	Optigo	Carbon Steel
Optical Switch	NC-ONS-YPS-2	Optigo	Carbon Steel
Battery	ACM-BATT	Alerton	Plastic
Relays	RIBMN24S	Veris	Plastic
DC Power Supply	PS5R-VD24	IDEC	Plastic
AC Power Supply	NC-ACC-PS-24V10W	Optigo	Carbon Steel
AC Power Supply	NC-ACC-PS-48V300W	Optigo	Carbon Steel
Pressure Transmitter	PX3ULX05	Veris	Plastic
Cooling Fan	HF0924414	Hoffman	Plastic

UNIT UNDER TEST (UUT) Summary Sheet



UUT5a

DCL Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: NET-1100

Product Construction Summary: Powder coated carbon steel panel

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	SRW6U	Tripp Lite	Powder coated carbon steel
Network Switch	NC-ONS-C810p	Optigo	Carbon Steel
Network Switch	NC-ONS-C2401p	Optigo	Carbon Steel
Network Switch	NC-ONS-C4801p	Optigo	Carbon Steel
Network Controller	NC-ONS-NC-600	Optigo	Carbon Steel
Network Controller	NC-ONS-S8	Optigo	Carbon Steel

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
63	17.5	23.5	14.5	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES AC156-24	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
		2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 5a rack was mounted to the wall fixture, and the wall fixture was rigidly mounted to the shake table. The rack was mounted to the wall fixture with (4) 5/16" Grade 5 bolts with a washer and a 3" x 3" x 1/4" low carbon steel plate washer spaced 21.5" on center in the horizontal direction and 10.8" on center in the vertical direction.



UNIT UNDER TEST (UUT) Summary Sheet



UUT5b

DCI Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: NET-1100

Product Construction Summary: Powder coated carbon steel panel

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	SRW6U	Tripp Lite	Powder coated carbon steel
Network Switch	NC-ONS-C810p	Optigo	Carbon Steel
Network Switch	NC-ONS-C2401p	Optigo	Carbon Steel
Network Switch	NC-ONS-C4801p	Optigo	Carbon Steel
Network Controller	NC-ONS-NC-600	Optigo	Carbon Steel
Network Controller	NC-ONS-S8	Optigo	Carbon Steel

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
63	17.5	23.5	14.5	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES AC156-24	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
		2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 5b rack was mounted to the wall fixture, and the wall fixture was mounted atop VMC Group isolators (model number: MSSH-1E-1700N) mounted to the DCL shake table. The rack was mounted to the wall fixture (4) 5/16" Grade 5 bolts with a washer and a 3" x 3" x 1/4" low carbon steel plate washer spaced 21.5" on center in the horizontal direction and 10.8" on center in the vertical direction.



UNIT UNDER TEST (UUT) Summary Sheet



UUT6a

DCL Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: NET-1101

Product Construction Summary: Powder coated carbon steel panel

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	SRW6U	Tripp Lite	Powder coated carbon steel
Network Switch	NC-ONS-C4801p	Optigo	Carbon Steel
Network Controller	NC-ONS-S8	Optigo	Carbon Steel

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

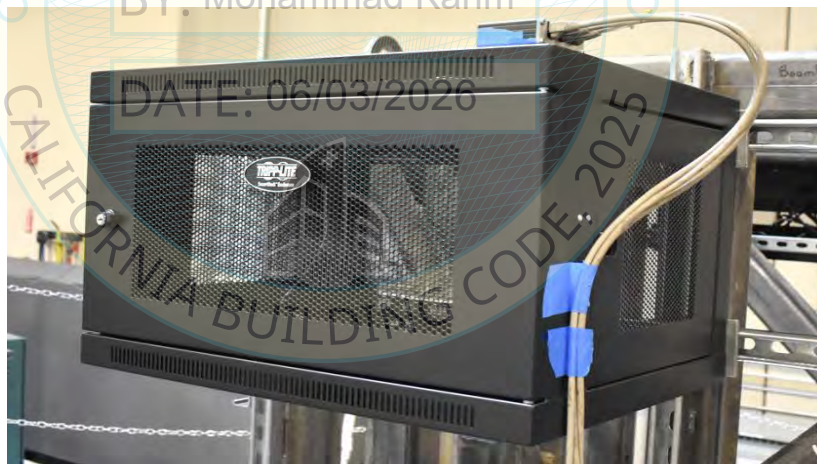
UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
34	17.5	23.5	14.5	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	S _{ds} (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 6a rack was mounted to the wall fixture, and the wall fixture was rigidly mounted to the shake table. The rack was mounted to the wall fixture with (4) 5/16" Grade 5 bolts with a washer and a 3" x 3" x 1/4" low carbon steel plate washer spaced 21.5" on center in the horizontal direction and 10.8" on center in the vertical direction.



UNIT UNDER TEST (UUT) Summary Sheet



UUT6b

DCL Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: NET-1101

Product Construction Summary: Powder coated carbon steel panel

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	SRW6U	Tripp Lite	Powder coated carbon steel
Network Switch	NC-ONS-C4801p	Optigo	Carbon Steel
Network Controller	NC-ONS-S8	Optigo	Carbon Steel

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
34	17.5	23.5	14.5	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT 6b rack was mounted to the wall fixture, and the wall fixture was mounted atop VMC Group isolators (model number: MSSH-1E-1700N) mounted to the DCL shake table. The rack was mounted to the wall fixture (4) 5/16" Grade 5 bolts with a washer and a 3" x 3" x 1/4" low carbon steel plate washer spaced 21.5" on center in the horizontal direction and 10.8" on center in the vertical direction.



UNIT UNDER TEST (UUT) Summary Sheet



UUT7a

DCL Report Number: 05400-2501

Test Dates: 4/14/2025

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: SMK-1100

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 4 & 12

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	WM242408NC	Rittal	Powder coated carbon steel
Controller	VGC-S	Alerton	Plastic
Controller	WEB-C3036EPUBNH	Honeywell	Plastic
Controller	10BASE-T1L-ADAPT	Honeywell	Plastic
Controller	WEB-O9056H	Honeywell	Plastic
Controller	WEB-O3022H	Honeywell	Plastic
Controller	PW-TR100VA002	Distech	Plastic
Controller	PW-PSB100AB10	Distech	Plastic

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
68	8.3	23.6	23.6	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES AC156-24	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
		2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT7a was wall mounted to the DCL wall fixture using (4) 3/8" Grade 5 bolts, flat washers, 1 5/8 x 1 5/8 x 1/4" carbon steel plate washers and channel nuts. The bolts were spaced approximately 22" apart in x and z-directions measured on-center. The wall fixture was rigidly mounted to the shake table.



UNIT UNDER TEST (UUT) Summary Sheet



UUT7b

DCL Report Number: 00211-2001

Test Dates: 4/14/2025

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: SMK-1100

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 4 & 12

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	WM242408NC	Rittal	Powder coated carbon steel
Controller	VGC-S	Alerton	Plastic
Controller	WEB-C3036EPUBNH	Honeywell	Plastic
Controller	10BASE-T1L-ADAPT	Honeywell	Plastic
Controller	WEB-O9056H	Honeywell	Plastic
Controller	WEB-O3022H	Honeywell	Plastic
Controller	PW-TR100VA002	Distech	Plastic
Controller	PW-PSB100AB10	Distech	Plastic

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
68	8.3	23.6	23.6	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES AC156-24	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
		2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT7b was wall mounted to the DCL wall fixture using (4) 3/8" Grade 5 bolts, flat washers, 1 5/8 x 1 5/8 x 1/4" carbon steel plate washers and channel nuts. The bolts were spaced approximately 22" apart in x and z-directions measured on-center. The wall fixture was mounted to the shake table using (4) VMC MSSH-1E-650 spring isolators.



UNIT UNDER TEST (UUT) Summary Sheet



UUT8a

DCL Report Number: 05400-2501

Test Dates: 4/14/2025

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: CHW-1200

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 4 & 12

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
214	8.3	35.5	47.3	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT8a was wall mounted to the DCL wall fixture using (4) 3/8" Grade 5 bolts, flat washers, 1 5/8 x 1 5/8 x 1/4" carbon steel plate washers and channel nuts. The bolts were spaced approximately 33 3/4" apart in x-direction and 45 3/4" apart in z-direction measured on-center. The wall fixture was rigidly mounted to the shake table.



OSP-0906

BY: Mohammad Karim

DATE: 06/03/2026



UNIT UNDER TEST (UUT) Summary Sheet



UUT8b

DCL Report Number: 05400-2501

Test Dates: 4/14/2025

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: CHW-1200

Product Construction Summary: Powder coated carbon steel panel, NEMA rating 4 & 12

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
214	8.3	35.5	47.3	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _c	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.40	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT8b was wall mounted to the DCL wall fixture using (4) 3/8" Grade 5 bolts, flat washers, 1 5/8 x 1 5/8 x 1/4" carbon steel plate washers and channel nuts. The bolts were spaced approximately 33 3/4" apart in x-direction and 45 3/4" apart in z-direction measured on-center. The wall fixture was mounted to the shake table using (4) VMC MSSH-1E-650 spring isolators.



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UNIT UNDER TEST (UUT) Summary Sheet



UUT8a,b

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	WM483608NC	Rittal	Powder coated carbon steel
Controller	VLC16u8-IP-BLE	Alerton	Plastic
Controller	VLC8u8-IP-BLE	Alerton	Plastic
Controller	WEB-EHSERIESNX26ND	Honeywell	Plastic
Controller	XF821A	Honeywell	Plastic
Controller	XF822A	Honeywell	Plastic
Controller	XFR824A	Honeywell	Plastic
Controller	XFU830A	Honeywell	Plastic
Controller	IOD-8DOR-S-S	Honeywell	Plastic
Controller	IOD-16UIO-S-S	Honeywell	Plastic
Controller	HMI-CABLE-L	Honeywell	Plastic
Controller	HMI-CABLE-S	Honeywell	Plastic
Controller	N-ADV-134-H-C	Honeywell	Plastic
Controller	UN-RS0844MS24NMC	Honeywell	Plastic
Controller	UN-RL1644MS24NMC	Honeywell	Plastic
Controller	WEB-HMI7/C	Honeywell	Plastic
Controller	HMI-DN	Honeywell	Carbon Steel
Controller	JACE-9000	Tridium	Plastic
Controller	CDIY-400X-C1-20	Distech	Plastic
Controller	CDIY-600X-C1-20	Distech	Plastic
Controller	CDIB-VAXU-IMP-10	Distech	Plastic
Network Gateway	BB3-7101	Babel Buster	Carbon Steel
Relays	RE-12DC-SPDT	Distech	Plastic
Relays	RE-RT78724	Distech	Plastic
Relays	RE-PTML0024	Distech	Plastic
Ethernet Switch	1085243	Phoenix Contact	Plastic
Cellular Router	TB600PAC1	Tosibox	Copper, Plastic
Cellular Router	TB4GM2-3M	Tosibox	Carbon Steel
Cellular Router	TBL670US	Tosibox	Carbon Steel
UPS	SDU500B	SOLA	Carbon Steel

UNIT UNDER TEST (UUT) Summary Sheet



UUT9a

DCL Report Number: 11930-2501

Test Dates: 4/28/2025

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: AHU-1900

Product Construction Summary: Stainless Steel, NEMA rating 3R

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	CSD242410SS + CP2424	Hoffman	Stainless Steel
Controller	Red5-EDGE-634	Delta	Plastic
Router	BB3-3101	Contemporary Controls	Carbon Steel
Router	FS-Router-BAC2	Field Server	Carbon Steel
AC Power Supply	X050CAA	Veris	Copper Winding
AC Power Supply	X100CAA	Veris	Copper Winding
Smart Switches	OC200	TP-Link	Plastic
Smart Switches	TP-SG2210P	TP-Link	Plastic
UPS	SDU500	SOLA	Carbon Steel
UPS	UPS600	Functional Devices	Plastic

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
76	10.8	24.0	24.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.15	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT9a was wall mounted to the DCL wall fixture using (4) 3/8" Grade 5 bolts, flat washers, 1.6" x 1.6" x 0.3" carbon steel plate washers, and channel nuts. The bolts were spaced approximately 22.5" apart in the horizontal and vertical directions measured on-center. The wall fixture was rigidly mounted to the shake table.



UNIT UNDER TEST (UUT) Summary Sheet



UUT9b

DCL Report Number: 11930-2501

Test Dates: 4/28/2025

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: AHU-1900

Product Construction Summary: Stainless Steel, NEMA rating 3R

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	CSD242410SS + CP2424	Hoffman	Stainless Steel
Controller	Red5-EDGE-634	Delta	Plastic
Router	BB3-3101	Contemporary Controls	Carbon Steel
Router	FS-Router-BAC2	Field Server	Carbon Steel
AC Power Supply	X050CAA	Veris	Copper Winding
AC Power Supply	X100CAA	Veris	Copper Winding
Smart Switches	OC200	TP-Link	Plastic
Smart Switches	TP-SG2210P	TP-Link	Plastic
UPS	SDU500	SOLA	Carbon Steel
UPS	UPS600	Functional Devices	Plastic

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

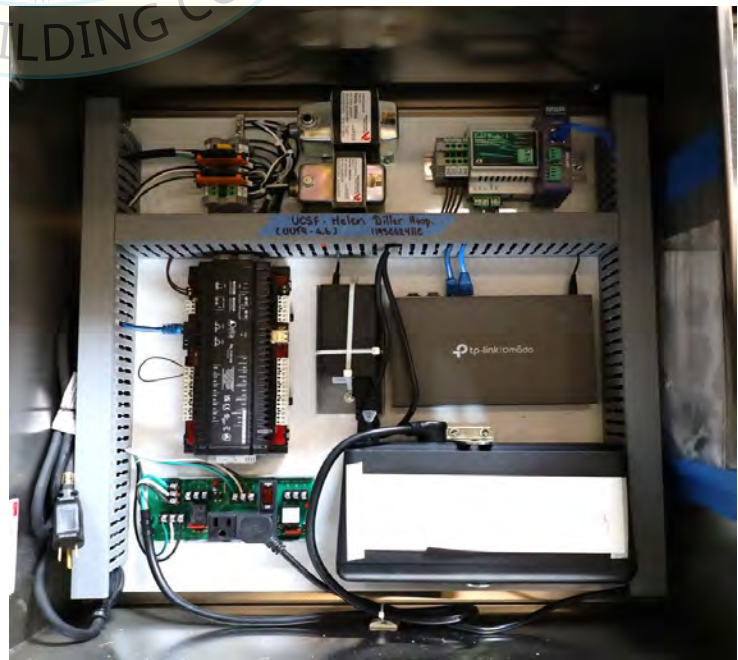
UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
76	10.8	24.0	24.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.15	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT9b was wall mounted to the DCL wall fixture using (4) 3/8" Grade 5 bolts, flat washers, 1.6" x 1.6" x 0.3" carbon steel plate washers, and channel nuts. The bolts were spaced approximately 22.5" apart in the horizontal and vertical directions measured on-center. The wall fixture was mounted to the shake table using (4) VMC MSSH-1E-650 spring isolators.



UNIT UNDER TEST (UUT) Summary Sheet



UUT10a

DCL Report Number: 11930-2501

Test Dates: 4/28/2025

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: CHW-1300

Product Construction Summary: Stainless Steel, NEMA rating 4X & 12

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
187	10.8	30.0	42.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.15	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

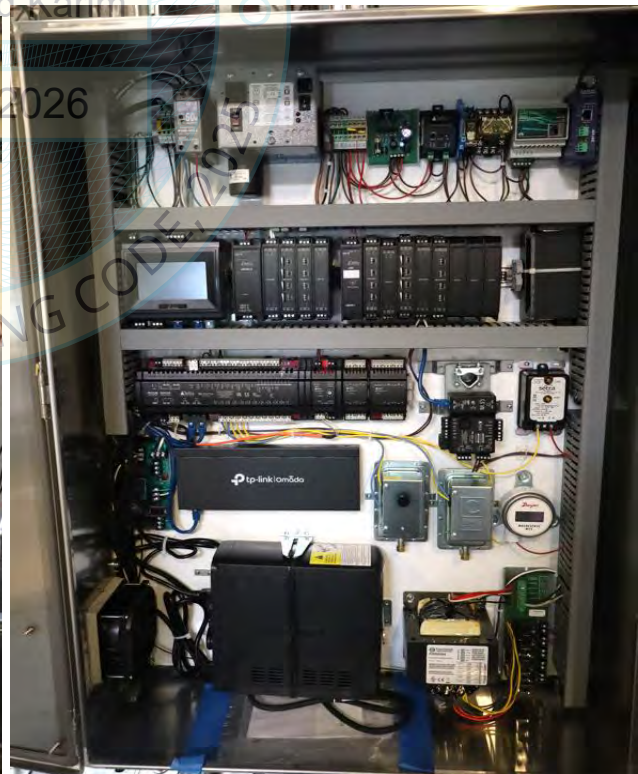
Unit Mounting Description: UUT10a was wall mounted to the DCL wall fixture using (4) 3/8" Grade 5 bolts, flat washers, 1.6" x 1.6" x 0.3" carbon steel plate washers, and channel nuts. The bolts were spaced approximately 28.5" apart in the horizontal direction and 40.5" apart in the vertical direction measured on-center. The wall fixture was rigidly mounted to the shake table.



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BY: Mohammad Karim

DATE: 06/03/2026



UNIT UNDER TEST (UUT) Summary Sheet



UUT10b

DCL Report Number: 11930-2501

Test Dates: 4/28/2025

Manufacturer: Syserco

Product Line: HVAC Control Panels and Network Switches

Model Number: CHW-1300

Product Construction Summary: Stainless Steel, NEMA rating 4X & 12

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

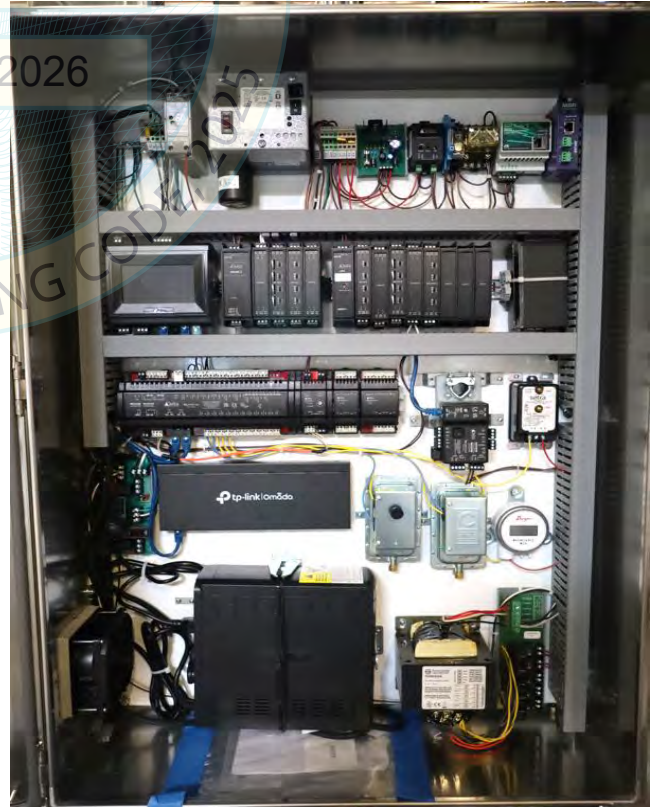
Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
187	10.8	30.0	42.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.00	1.0	3.5	1.3	1.5	3.20	2.15	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	NA	1.67	0.67

Unit Mounting Description: UUT10b was wall mounted to the DCL wall fixture using (4) 3/8" Grade 5 bolts, flat washers, 1.6" x 1.6" x 0.3" carbon steel plate washers, and channel nuts. The bolts were spaced approximately 28.5" apart in the horizontal direction and 40.5" apart in the vertical direction measured on-center. The wall fixture was mounted to the shake table using (4) VMC MSSH-1E-650 spring isolators.

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UNIT UNDER TEST (UUT) Summary Sheet



UUT10a,b

Options / Component Summary:

Subcomponent Type	Model Number	Manufacturer	Material
Enclosures	CSD423010SS + CP4230	Hoffman	Stainless Steel
Controller	eBMGR-TCH-2	Delta	Plastic
Controller	eBCON-2	Delta	Plastic
Controller	eBX-08	Delta	Plastic
Controller	eBM-D800	Delta	Plastic
Controller	eBM-440-M	Delta	Plastic
Controller	eBM-404-H	Delta	Plastic
Controller	eBM-440	Delta	Plastic
Controller	eBM-404	Delta	Plastic
Controller	eBM-440I	Delta	Plastic
Controller	eBM-440I-M	Delta	Plastic
Controller	eBM-D400R4	Delta	Plastic
Controller	eBM-D400R4-H	Delta	Plastic
Controller	Red5-EXPAND-04	Delta	Plastic
Controller	Red5-MODULE-4F4xP	Delta	Plastic
Controller	Red5-MODULE-8xP	Delta	Plastic
Controller	RED5-Edge-V440	Delta	Plastic
Controller	Red5-PLUS-1146	Delta	Plastic
Relays	38.51.0.024.0060	Finder	Plastic
Relays	38.52.0.024.0060	Finder	Plastic
Relays	RH4B-UL-AC24V	Idec	Plastic
Relays	SH4B-05	Idec	Plastic
Relays	RJ2S-CL-A24	Idec	Plastic
Relays	SJ2S-07LW	Idec	Plastic
Router	BB3-7301	Contemporary Controls	Carbon Steel
Router	FS-EZ4-MOD-BAC	Field Server	Carbon Steel
DC Power Supply	A/PS24-24V-S	ACI	Plastic
DC Power Supply	BA/VC350-ADJ	BAPI	Plastic
AC Power Supply	X100CHB	Veris	Copper Winding
AC Power Supply	PSH100AWB10	Functional Devices	Carbon Steel
AC Power Supply	PSMN500A	Functional Devices	Carbon Steel
Surge Protector	AP75-T1	Able Power	Plastic
Pressure Transmitter	MSX-W20-IN-LCD	Dwyer	Plastic
Pressure Transmitter	2641-R25WB-11-A1-F	Setra	Plastic
Pressure Switch	AFS-460	Cleveland Controls	Carbon Steel
Pressure Switch	AFS-222	Cleveland Controls	Carbon Steel
Smart Switches	TP-SG2016P	TP-Link	Plastic
UPS	PSMN2C2RB10	Functional Devices	Plastic
UPS	UPS850	Functional Devices	Plastic
Cooling Fan	AOFF118	Hoffman	Plastic