



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-0583

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Bosch Building Technologies, LLC

Manufacturer's Technical Representative: John Derkocz

Mailing Address: 3230 El Camino Real, Suite 150, Irvine, CA 92602

Telephone: (949) 355-9647 Email: john.derkocz@bosch.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, PCB 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



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

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: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (800) 569-8423

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

BY: Mohammad Karim

DATE: 09/15/2026



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

Seismic Parameters

Certified Response Spectral Acceleration Factors: (F_p/W_p)

Horizontal (A Flx-H), $g =$ 3.20 (A Rig-H), $g =$ 2.15

Vertical (A Flx-V), $g =$ 1.67 (A Rig-V), $g =$ 0.67

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

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

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

I_p (Importance factor) = 1.5

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

HCAI Approval (For Office Use Only) - Approval Expires on 09/15/2032

Date: 9/15/2026

Name: Mohammad Karim

Title: Supervisor, Health Facilities

Condition of Approval (if applicable):

OSP-0583

BY: Mohammad Karim

DATE: 09/15/2026

Special Seismic Certification

Table 1 - Certified Components



DCL Project Number: 00625-2601

Manufacturer: Bosch Building Technologies, LLC

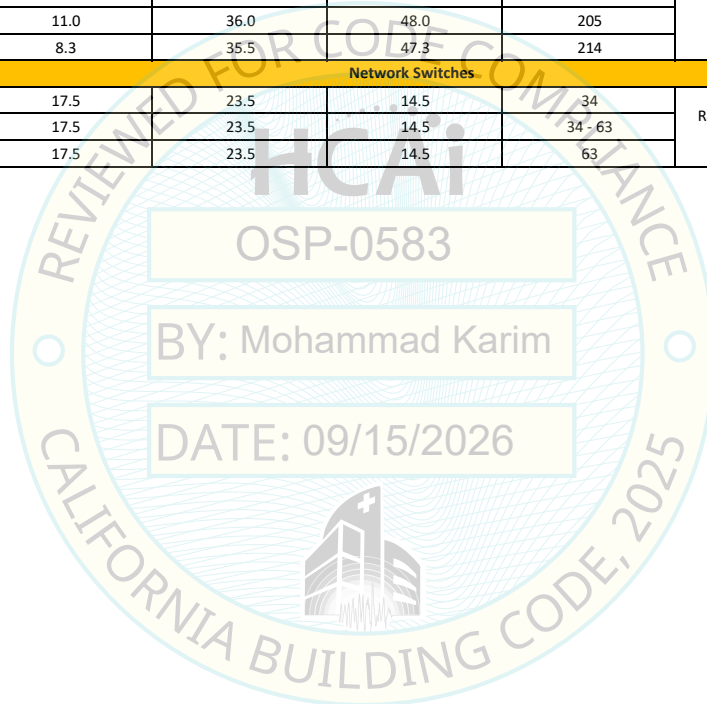
Product Line: HVAC Control Panels and Network Switches

Mounting: Rigid or 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	Dimensions [in.]			Weight [lb.]	Mounting	Unit
	Depth	Width	Height			
Custom Control Panels						
aaaXXXX	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
aaaXXXX	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
aaaXXXX	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
aaaXXXX	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	
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



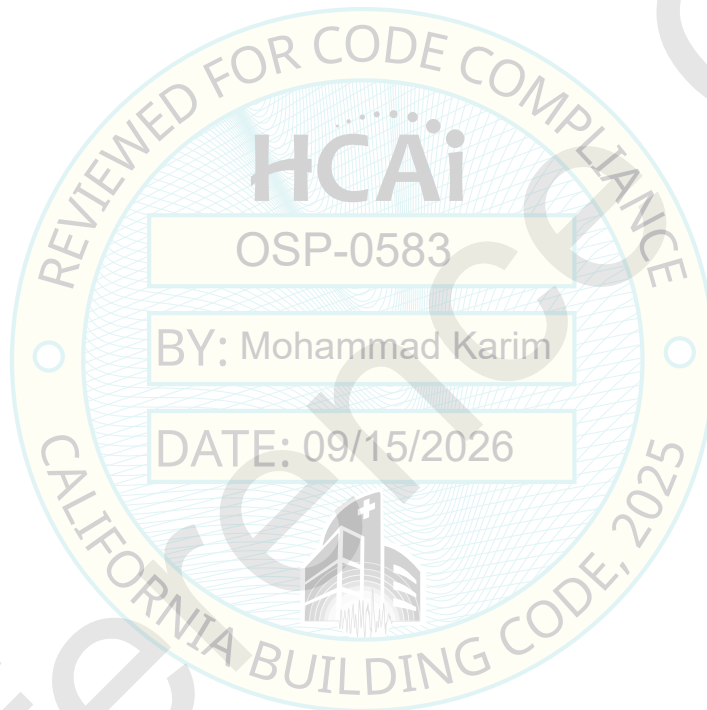
DCL Project Number: 00625-2601

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

Sample Part Number: aaaXXXX			
Nomenclature	Allowable Value	Allowable Value Description	UUT
aaa ¹	AHU	Air Handling Unit	UUT2a,b
	CHW	Chilled Water System	UUT4a,b, UU8a,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: 00625-2601

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number ¹	Manufacturer	NEMA Rating	Dimensions			Gauge	Material	Weight [lb.]	Unit
				Height	Width	Depth				
Enclosures	A6N64 + A6N6P	Hoffman	1, 4	6	6	4	16	Powder coated carbon steel	5	Extrapolated
	A8N64 + A8N6P		1, 4	8	6	4	16		6	Extrapolated
	A8N84 + A8N8P		1, 4	8	8	4	16		7	Extrapolated
	A8N86 + A8N8P		1, 4	8	8	6	16		7	Extrapolated
	A10N84 + A10N8P		1, 4	10	8	4	16		8	Extrapolated
	A10N104 + A10N10P		1, 4	10	10	4	16		9	Extrapolated
	A10N86 + A10N8P		1, 4	10	8	6	16		10	Extrapolated
	A10N106 + A10N10P		1, 4	10	10	6	16		11	Extrapolated
	A12N104 + A12N10P		1, 4	12	10	4	16		11	Extrapolated
	A12N106 + A12N10P		1, 4	12	10	6	16		12	Extrapolated
	A12N124 + A12N12P		1, 4	12	12	4	16		13	Extrapolated
	A14N124 + A14N12P		1, 4	14	12	4	16		14	UUT1a,b
	A12N126 + A12N12P		1, 4	12	12	6	16		15	Interpolated
	A14N126 + A14N12P		1, 4	14	12	6	16		16	Interpolated
	A12N128 + A12N12P		1, 4	12	12	8	16		17	Interpolated
	A16N126 + A16N12P		1, 4	16	12	6	16		17	Interpolated
	A14N128M + A14I2P		1, 4	14	12	8	16		18	Interpolated
	A16N12BLP + A16N12MP		1	16	12	9	14		19	Interpolated
	A16H12ALP + A16P12		1, 4	16	12	6	16		21	Interpolated
	A16H12BLP + A16P12		1, 4	16	12	8	16		24	Interpolated
	A20N12BLP + A20N12MP		1	20	12	9	14		24	Interpolated
	A20N16ALP + A20N16MP		1	20	16	7	14		26	Interpolated
	A16N20ALP + A16N20MP		1	16	20	7	14		27	Interpolated
	A16H16ALP + A16P16		1, 4	16	16	6	16		29	Interpolated
	A20N16BLP + A20N16MP		1	20	16	9	14		31	Interpolated
	A20H16ALP + A20P16		1, 4	20	16	6	16		32	Interpolated
	A24N16ALP + A24N16MP		1	24	16	7	14		32	Interpolated
	A20N20ALP + A20N20MP		1	20	20	7	14		33	Interpolated
	A20H16BLP + A20P16		1, 4	20	16	8	16		35	Interpolated
	A20N20BLP + A20N20MP		1	20	20	9	14		35	Interpolated
	A20H20ALP + A20P20		1, 4	20	20	6	16		37	Interpolated
	A24N20ALP + A24N20MP		1	24	20	7	14		38	Interpolated
	A24N20BLP + A24N20MP		1	24	20	9	14		41	Interpolated
	A20H20BLP + A20P20		1, 4	20	20	8	16		41	Interpolated
	A24H20ALP + A24P20		1, 4	24	20	6	16		45	Interpolated
	A24H20BLP + A24P20		1, 4	24	20	8	16		52	Interpolated
	A24H24ALP + A24P24		1, 4	24	24	6	16		53	Interpolated
	A24N24ALP + A24N24MP		1	24	24	7	12		53	Interpolated
	A24N24BLP + A24N24MP		1	24	24	9	12		55	Interpolated
	A24H24BLP + A24P24		1, 4	24	24	8	16		57	Interpolated
	A30N20BLP + A30N20MP		1	30	20	9	12		59	Interpolated
	A30N24ALP + A30N24MP		1	30	24	7	12		68	Interpolated
	A30N24BLP + A30N24MP		1	30	24	9	12		71	Interpolated
	A30H24ALP + A30P24		1, 4	30	24	6	16		73	Interpolated
	A36N24ALP + A36N24MP		1	36	24	7	12		75	Interpolated
	A30H24BLP + A30P24		1, 4	30	24	8	14		77	Interpolated
	A36N24BLP + A36N24MP		1	36	24	9	12		82	Interpolated
	A36H24ALP + A36P24		1, 4	36	24	6	16		83	Interpolated
	A30N30BLP + A30N30MP		1	30	30	9	12		87	Interpolated
	A36H24BLP + A36P24		1, 4	36	24	8	14		89	Interpolated
	A36N30ALP + A36A30MP		1	36	30	7	12		94	Interpolated
	A36N30BLP + A36A30MP		1	36	30	9	12		98	Interpolated
	A36H30BLP + A36P30		1, 4	36	30	8	14		110	Interpolated
	A42N3009 + A42P30		1	42	30	9	14		125	Interpolated
	A42N3609 + A42P36		1	42	36	9	14		147	Interpolated
	A42H36BLP + A42P36		1, 4	42	36	8	14		156	Interpolated
	A42H30BLP + A42P30		1, 4	42	30	8	14		160	Interpolated
	A48N3609 + A48P36		1	48	36	9	14		161	Interpolated
	A48H36BLP + A48P36		1, 4	48	36	8	14		185	UUT2a,b

1. Model number includes enclosure and back panel.

Special Seismic Certification
Table 4 - Certified Subcomponents



DCL Project Number: 00625-2601

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Manufacturer	NEMA Rating	Dimensions			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 5 - Certified Subcomponents



DCL Project Number: 00625-2601

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
	ALERVEW-WHT	Honeywell	Plastic	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
	VLCA1688				2	UUT 2a,b
	WEB-EHSERIESNX26ND			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 6 - Certified Subcomponents



DCL Project Number: 00625-2601

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-O9056H				1	UUT7a,b
	WEB-O3022H				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
	WEB-HMI7/C	Honeywell	Carbon Steel	Din Rail	2	UUT8a,b
	HMI-WL				<1	Extrapolated
	HMI-DN				<1	UUT8a,b
	JACE-9000	Tridium	Plastic	Din Rail	<1	UUT8a,b
	CDIDI-BOS8USWIFIU	Distech	Plastic	Din Rail	<1	Extrapolated
	PDIDI-NPB82X485U-00				<1	Extrapolated
	PXXDI-COMMSPK				<1	Extrapolated
	PXXDI-IO5PK				<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-8DORHOA00				<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
	CDIY-S1048-MS-00				<1	Interpolated
	CDIY-S1048ENVY-MS-00				<1	Interpolated

Continued on next page

Special Seismic Certification
Table 7 - Certified Subcomponents



DCL Project Number: 00625-2601

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Manufacturer	Material	Interior Mounting	Weight [lb.]	Unit
Controller	CDIY-S1048ENVY-MS-00	Distech	Plastic	Din Rail	<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-4UI4UOHOA00				<1	Interpolated
	CDIY-8UI6UO-00				<1	Interpolated
	CDIY-8UI6UOHOA00				<1	Interpolated
	CDIY-8UI6DOT-00				<1	Interpolated
	CDIY-8UI6DOTHOA00				<1	Interpolated
	CDIY-16DI-00				<1	Interpolated
	CDIY-6UO-00				<1	Interpolated
	CDIY-6UOHOA00				<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

Special Seismic Certification

Table 8 - Certified Subcomponents



DCL Project Number: 00625-2601

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
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
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
	AXM-22-0-0				<1	UUT2a,b
Battery	ACM-BATT	Alerton	Plastic	Din Rail	<1	UUT4a,b

Special Seismic Certification

Table 9 - Certified Subcomponents



DCL Project Number: 00625-2601

Product Line: HVAC Control Panels and Network Switches

Subcomponent Type	Model Number	Description	Manufacturer	Material	Interior Mounting	Weight [lb.]	Unit
Network Gateway	BB3-7101	Modbus to Bacnet Gateway	Babel Buster	Carbon Steel	Din Rail	2	UUT8a,b
Relays	RE-12DC-SPDT	12 VDC Relay	Distech	Plastic	Back Panel	<1	UUT8a,b
	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 ²
	BASRTLX-B	BACnet 50 BBMD Capacity				<1	UUT2a,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	Interpolated ³
	EIGR-C3	4 Port Cellular IP Router				1	Interpolated ³
Cellular Router	EISK8-GT/H	8 Port Ethernet Switch Gigabit	Tosibox	Copper, Plastic	N/A	1	UUT2a,b
	TB600PAC1	Power Cable				<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/FC5	6 Port 10 / 100Mbps / 2 port 100 Mbps MM SC-Fiber	Contemporary Controls	Carbon Steel	Din Rail	1	UUT2a,b
DC Power Supply	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
	X050COB	120/208/240/277/480 ¹	Veris	Copper Winding	Back Panel	3	UUT1a,b
	X100CBB	120/208/240/277/480 ¹				4	UUT2a,b
	PSH100AB10	120VAC to 24VAC Power Supply w/Receptacle	Functional Devices	Carbon Steel	Back Panel	5	Interpolated ³
	PSH100A100AB10	120VAC to 24VAC Dual Power Supply				9	UUT2a,b
Surge Protector	DTK-120HW	19.5KA	DITEK	Plastic	Din Rail	<1	UUT2a,b
	DTK-120SRD	54KA				<1	UUT2a,b
Pressure Transmitter	PX3ULX05	Differential Pressure Transmitter	Veris	Plastic	Back Panel	<1	UUT4a,b
	2671-001WD-11-A1-FD		Setra	Plastic	Back Panel	<1	UUT2a,b
UPS	BA534U24V	Uninterruptable Power Supply	CyberPower	Plastic	Din Rail	3	UUT3a,b
	SDU500B		SOLA	Carbon Steel	Back Panel	11	UUT8a,b
	SDU500					11	UUT2a,b
	SUA500PDR-S		APC			28	UUT3a,b
Cooling Fan	HF0424414	Side-Mount Filter Fans	Hoffman	Plastic	Side Panel	1	UUT3a,b
	HF0924414					2	UUT4a,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

1. Transformer does not change based on input voltage, different input taps are used.
2. Same as tested in UUT2a,b (software change only).
3. Depopulated version of item tested in UUT2a,b.

Special Seismic Certification

Table 10 - Tested Units



DCL Project Number: 00625-2601

Manufacturer: Bosch Building Technologies, LLC

Product Line: HVAC Control Panels and Network Switches

Mounting: Rigid or Flexibly 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	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	00625-2601	UUT7a
SMK-1100	4 & 12	8.3	23.6	23.6	68	Isolated Wall	00625-2601	UUT7b
CHW-1200	4 & 12	8.3	35.5	47.3	214	Rigid Wall	00625-2601	UUT8a
CHW-1200	4 & 12	8.3	35.5	47.3	214	Isolated Wall	00625-2601	UUT8b



UNIT UNDER TEST (UUT) Summary Sheet



UUT1a

DCL Report Number: 05416-1801

Test Dates: 10/10/18

Manufacturer: Bosch Building Technologies, LLC

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	A14N124 + 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 _e	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: Bosch Building Technologies, LLC

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	A14N124 + 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: Bosch Building Technologies, LLC

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: Bosch Building Technologies, LLC

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	A48H36BLP + 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

DCL Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Bosch Building Technologies, LLC

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: 09/15/2026



UNIT UNDER TEST (UUT) Summary Sheet



UUT3b

DCL Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Bosch Building Technologies, LLC

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 _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: Bosch Building Technologies, LLC

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 _e	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.

OSP-0583

BY: Mohammad Karim

DATE: 09/15/2026



UNIT UNDER TEST (UUT) Summary Sheet



UUT4b

DCL Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Bosch Building Technologies, LLC

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.

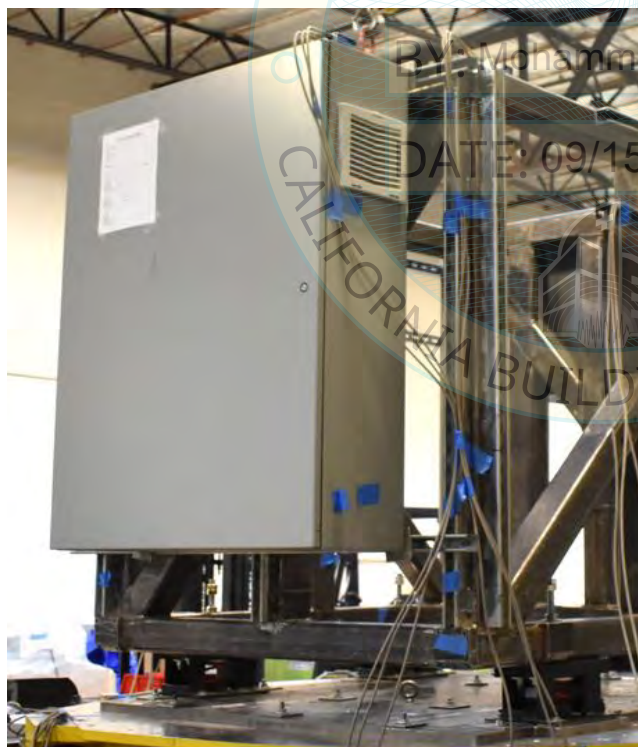
UUT Properties

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 _e	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.



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-C3036EPVBH)	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	PSSR-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: Bosch Building Technologies, LLC

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.

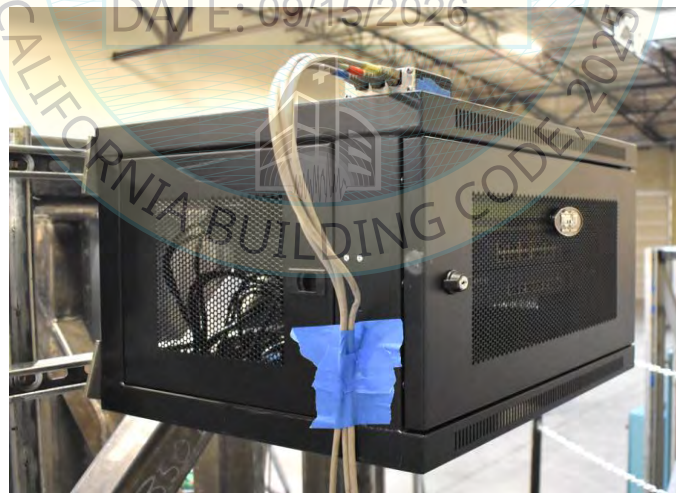
UUT Properties

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	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 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

DCL Report Number: 00211-2001

Test Dates: 11/23/2020

Manufacturer: Bosch Building Technologies, LLC

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	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 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: Bosch Building Technologies, LLC

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.

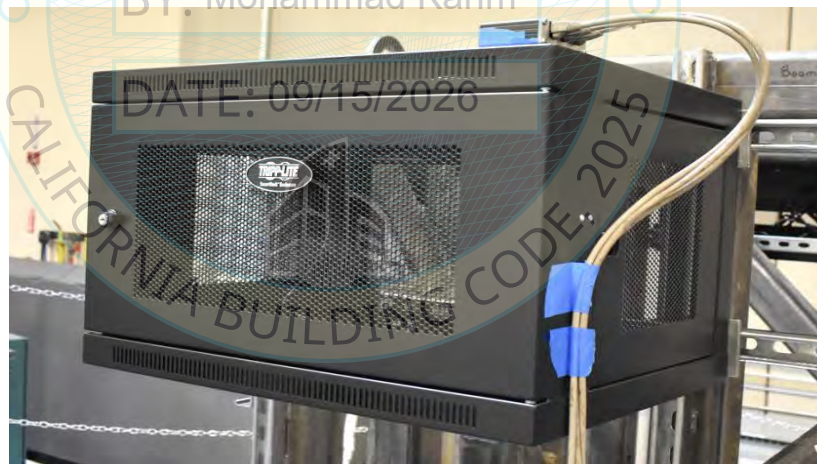
UUT Properties

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 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: Bosch Building Technologies, LLC

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: Bosch Building Technologies, LLC

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: Bosch Building Technologies, LLC

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: Bosch Building Technologies, LLC

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 _e	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-0583

BY: Mohammad Karim

DATE: 09/15/2026



UNIT UNDER TEST (UUT) Summary Sheet



UUT8b

DCL Report Number: 05400-2501

Test Dates: 4/14/2025

Manufacturer: Bosch Building Technologies, LLC

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 _e	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.

OSP-0583



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-EH SERIESNX26ND	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-16UIQ-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 / ALER-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