APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0140

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Johnson Controls

Manufacturer's Technical Representative: Steven Gallo

Mailing Address: 507 E. Michigan Street, Milwaukee, WI 53202

Telephone: (414) 343-6086 Email: Steve.Gallo@jci.com

Product Information

Product Name: Industrial Control Panels

Product Type: Building Automation and Security Systems

Product Model Number: See attachment

General Description: The units are custom control panels, powder-coated carbon steel, stainless steel, or aluminum (NEMA 1, 3R, 4, 4X, 12), containing controllers, repeaters, surge protectors, network switches, displays, transformers, batteries, and circuit breakers.

Mounting Description: The units were tested in both rigid and flexible wall mounted conditions to allow for any

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: Dynamic Certification Laboratories

Contact Person: Kelly Laplace

Mailing Address: 1315 Greg Parkway #109, Sparks, NV 89431

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

Title: Business Manager

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: Kelly Laplace

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

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

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.70

S_{DS} (Design spectral response acceleration at short period, g) = 2.26

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 10/06/2028

Date: 10/6/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.26 z/h = 1

Condition of Approval (if applicable):

Special Seismic Certification
Table 1: Certified Components

DCL Project No. 15329-2101

Manufacturer: Johnson Controls
Mounting Configuration: Wall Mount (Rigid or Flexible)
Product Type: Control Panels
Seismic Level: S_{DS}=2.26 @ z/h=1.0

	Max Dimensions (in.)				
Model Numbers[1]	Height	Width	Depth	Max Weight (lb.)	Unit
JCI-CP-00001	13.0	10.0	4.5	12	UUT-1a,b
JCI-CP-00011	14.0	12.0	4.5	12	UUT-11a,b
JCI-CP-00014	14.0	12.0	4.5	12	UUT-14a,b
JCI-CP-xxxxx	16.0	12.0	6.0	16	Interpolated
JCI-CP-xxxxx	16.0	12.0	6.5	17	Interpolated
JCI-CP-00010	16.0	16.0	6.0	32	UUT-10a,b
JCI-CP-00005	16.0	16.0	6.0	38	UUT-5a,b
JCI-CP-xxxxx	20.0	15.0	6.5	23	Interpolated
JCI-CP-00012	20.0	16.0	4.5	21	UUT-12a,b
JCI-CP-00015	20.0	16.0	4.5	21	UUT-15a,b
JCI-CP-xxxxx	20.0	16.0	6.0	43	Interpolated
JCI-CP-00002	20.0	16.0	6.5	45	UUT-2a,b
JCI-CP-xxxxx	20.0	16.5	6.5	47	Interpolated
JCI-CP-xxxxx	20.0	20.0	6.0	51	Interpolated
JCI-CP-xxxxx	20.0	20.0	8.0	55	Interpolated
JCI-CP-00007	24.0	20.0	6.0	25	UUT-7a,b
JCI-CP-00013	24.0	20.0	4.5	34	UUT-13a,b
JCI-CP-00016	24.0	20.0	4.5	34	UUT-16a,b
JCI-CP-xxxxx	24.0	20.0	8.0	60	Interpolated
JCI-CP-xxxxx	24.0	20.0	9.0	62	Interpolated
JCI-CP-xxxxx	24.0	24.0	6.5	65	Interpolated
JCI-CP-xxxxx	24.0	24.0	8.0	69	Interpolated
JCI-CP-xxxxx	36.0	24.0	6.5	80	Interpolated
JCI-CP-xxxxx	36.0	24.0	8.0	89	Interpolated
JCI-CP-00003	36.0	24.0	9.0	92	UUT-3a,b
JCI-CP-xxxxx	42.0	30.0	8.0	97	Interpolated
JCI-CP-00006	42.0	30.0	6.0	138	UUT-6a,b
JCI-CP-00004	42.0	30.0	9.0	162	UUT-4a,b
JCI-CP-00009	48.0	36.0	8.0	81	UUT-9a,b
JCI-CP-00008	48.0	36.0	12.0	179	UUT-8a,b
JCI-CP-00017	36.0	24.0	9.0	92	UUT-17a,b
JCI-CP-00018	36.0	24.0	9.0	97	UUT-18a,b
JCI-CP-00019	36.0	36.0	9.0	141	UUT-19a,b
JCI-CP-00020	12.0	12.0	6.0	27	UUT-20a,b
JCI-CP-00021	12.0	12.0	6.0	23	UUT-21a,b
JCI-CP-00022	16.0	14.0	6.0	26	UUT-22a,b
JCI-CP-00023	36.0	24.0	9.0	81	UUT-23a,b
JCI-CP-00024	24.0	20.0	9.0	60	UUT-24a,b
JCI-CP-00025	36.0	36.0	13.5	148	UUT-25a,b
JCI-CP-00026	24.0	20.0	8.0	53	UUT-26a,b

1. xxxxx is an internally applied serial number. Reference nomenclature chart.

Table 2: Nomenclature Chart

DCL Project No. 15329-2101

Manufacturer: Johnson Controls
Mounting Configuration: Wall Mount (Rigid or Flexible)
Product Type: Control Panels
Seismic Level: S_{DS}=2.26 @ z/h=1.0

Nomenclature: aaa-aa-XXXXX			
Nomenclature	**Allowable Value**	**Allowable Value Description**	**Unit**
aaa-aa	JCI-CP	JCI custom panel	UUT-1a,b through UUT-26a,b
XXXXX	00000-99999	Internally applied serial number	UUT-1a,b through UUT-26a,b

Special Seismic Certification
Table 3: Certified Subcomponents - Enclosures

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

DCL Project No. 15329-2101

Model Number	Enclosure Manufacturer	NEMA rating	Material	Dimensions, WxHxD (in.)	Weight w/subpanel (lb.)	Unit
24-10319-7	Hoffman	1	Powder-coated carbon steel	10.0 x 13.0 x 4.5	12	UUT-1a,b
24-10388-00458	Hoffman	1		12.0 x 12.0 x 6.0	26	UUT-20a,b, UUT-21a,b
24-10388-164	Hoffman	3R		12.0 x 16.0 x 6.0	22	Interpolated
24-10388-83	Hoffman	1		12.0 x 16.0 x 6.5	21	Interpolated
24-10388-00474	Hoffman	1		14.0 X 16.0 X 6.0	14	UUT-22a,b
24-10388-156	Hoffman	3R		15.0 x 20.0 x 6.5	32	Interpolated
24-10329-0	Hoffman	1		16.0 X 16.0 X 6.0	38	UUT-5a,b, UUT-10a,b
24-10388-318	Hoffman	3R		16.0 x 20.0 x 6.0	33	Interpolated
24-10388-350	Hoffman	4/12		16.0 x 20.0 x 6.0	21	Interpolated
24-10388-40	Hoffman	1		16.0 x 20.0 x 6.5	45	UUT-2a,b
24-10388-180	Hoffman	3R		16.5 x 20.0 x 6.5	33	Interpolated
24-10388-229	Hoffman	3R		16.0 x 20.0 x 6.0	33	Interpolated
24-10388-369	Hoffman	4/12		20.0 x 20.0 x 6.0	34	Interpolated
24-10388-326	Hoffman	3R		20.0 x 20.0 x 8.0	37	Interpolated
24-10388-377	Hoffman	4/12		20.0 x 24.0 x 6.0	40	Interpolated
24-10388-59	Hoffman	1		20.0 x 24.0 x 6.5	40	Interpolated
24-10388-237	Hoffman	3R		20.0 x 24.0 x 8.0	42	Interpolated
24-10388-16	Hoffman	1		20.0 x 24.0 x 9.3	44	Interpolated
24-10388-67	Hoffman	1		24.0 x 24.0 x 6.5	50	Interpolated
24-10388-245	Hoffman	3R		24.0 x 24.0 x 8.0	52	Interpolated
24-10388-334	Hoffman	3R		24.0 x 24.0 x 8.0	52	Interpolated
24-10388-385	Hoffman	4/12		24.0 x 24.0 x 8.0	34	Interpolated
24-10388-24	Hoffman	1		24.0 x 24.0 x 9.3	57	Interpolated
24-10388-75	Hoffman	1		24.0 x 36.0 x 6.5	77	UUT-23a,b
24-10388-253	Hoffman	3R		24.0 x 36.0 x 8.0	80	Interpolated
24-10388-32	Hoffman	1		24.0 x 36.0 x 9.3	92	UUT-3a,b, UUT-17a,b, UUT-18a,b
24-10329-43	Hoffman	1		30.0 x 42.0 x 6.5	162	UUT-4a,b, UUT-6a,b
24-10388-261	Hoffman	3R		30.0 x 42.0 x 8.0	120	Interpolated
A36H30BLP	Hoffman	4/12		30.0 x 36.0 x 8.0	103	Interpolated
A36H24BLP	Hoffman	4/12		24.0 x 36.0 x 8.0	85	Interpolated
A24H20BLP	Hoffman	4/12		20.0 x 24.0 x 8.0	47	Interpolated
A48H3612	Hoffman	3R		36.0 x 48.0 x 12.0	179	UUT-8a,b
24-9695-36	Hoffman	1		36.0 x 48.0 x 8.0	81	UUT-9a,b
24-10388-393	Hoffman	4/4X/12	Aluminum	16.0 x 20.0 x 6.0	15	Extrapolated
24-10388-407	Hoffman	4/4X/12		20.0 x 20.0 x 6.0	16	Extrapolated
24-10388-415	Hoffman	4/4X/12		20.0 x 24.0 x 6.0	25	UUT-7a,b
A24H2008SSLP	Hoffman	4/4X/12	Stainless steel	20.0 x 24.0 x 8.0 [2]	43	UUT-24a,b
A36H2408SSLP	Hoffman	4/4X/12		24.0 x 36.0 x 8.0 [2]	68	Interpolated
A36H3008SSLP	Hoffman	4/4X/12		30.0 x 36.0 x 8.0 [2]	80	Interpolated
A36H3612SSLP	Hoffman	4/4X/12		36.0 x 36.0 x 12.0 [2]	103	UUT-25a,b
SCE-24H2008LP	Saginaw	3R/4/12	Powder-coated carbon steel	20.0 x 24.0 x 8.0	43	UUT-26a,b
SCE-36H3608LP	Saginaw	3R/4/12		36.0 X 36.0 X 8.0	106	UUT-19a,b
CKM-CE75-E1M	Life Safety Power	1		12.0 x 14.0 x 4.5	12	UUT-11a,b, UUT-14a,b
CKM-CE75-E2M	Life Safety Power	1		16.0 x 20.0 x 4.5	21	UUT-12a,b, UUT-15a,b
CKM-CE150-E4M	Life Safety Power	1		20.0 x 24.0 x 4.5	34	UUT-13a,b, UUT-16a,b

1. NEMA 4, 4X and 12 enclosures are identical in construction; only the enclosure seal varies.
2. Enclosure dimension do not include door and mounting feet.

Special Seismic Certification
Table 4: Certified Subcomponents - Controllers

DCL Project No. 15329-2101

Model Number	Manufacturer	Material	Dimensions (in)	Mounting	Weight (lb)	Unit
MS-FAC2611-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
MS-FAC2612-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
MS-FAC3611-xx	JCI	Circuit board, plastic housing	6 x 9 x 2	DIN rail	1	UUT-9a,b
MS-FEC1611-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
MS-FEC1621-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	UUT-9a,b
MS-FEC2621-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
MS-FEC2611-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
MS-FEU1610-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
MS-FEU2610-xx	JCI	Circuit board, plastic housing	7 x 5 x 2	DIN rail	1	Interpolated
MS-IOM1710-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
MS-IOM1711-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	UUT-3a,b, UUT-4a,b
MS-IOM2710-xx	JCI	Circuit board, plastic housing	7 x 5 x 2	DIN rail	1	Interpolated
MS-IOM2711-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
MS-IOM2721-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
MS-IOM3721-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
MS-IOM3731-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
MS-IOM4711-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
MS-IOU4710-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
MS-IOU4711-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	UUT-3a,b, UUT-4a,b
FX-PCG1611-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
FX-PCG1621-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
FX-PCG2611-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
FX-PCG2621-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
FX-PCA2611-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
FX-PCA2612-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
FX-PCX1711-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
FX-PCX2711-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
FX-PCX2721-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
FX-PCX3721-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
FX-PCX3731-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
FX-PCX4711-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
FX-PCX3721-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
FX-PCX3731-xx	JCI	Circuit board, plastic housing	6 x 6 x 2	DIN rail	1	Interpolated
MS-NIE35xx-xx	JCI	Circuit board, plastic housing	5 x 11 x 3	DIN rail	3	Interpolated
MS-NIE45xx-xx	JCI	Circuit board, plastic housing	5 x 11 x 3	DIN rail	3	Interpolated
MS-NIE55xx-xx	JCI	Circuit board, plastic housing	10 x 13 x 4	DIN rail	9	UUT-4a,b
MS-NAE35xx-xx	JCI	Circuit board, plastic housing	5 x 11 x 3	DIN rail	3	Interpolated
MS-NAE45xx-xx	JCI	Circuit board, plastic housing	5 x 11 x 3	DIN rail	3	UUT-9a,b
MS-NAE55xx-xx	JCI	Circuit board, plastic housing	9 x 13 x 4	DIN rail	7	Interpolated
MS-NCE25xx-xx	JCI	Circuit board, plastic housing	6 x 11 x 3	DIN rail	3	Interpolated
MS-NCM45xx-xx	JCI	Circuit board, plastic housing	5 x 11 x 3	DIN rail	3	Interpolated
M4-CGM0406x-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
M4-CGM0909x-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	UUT-19a,b, UUT-26a,b
F4-CGM0406x-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated

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Table 4: Certified Subcomponents - Controllers (Continued)

DCL Project No. 15329-2101

DYNAMIC CERTIFICATION LABORATORIES,LLC

Model Number	Manufacturer	Material	Dimensions (in)	Mounting	Weight (lb)	Unit
Continued from Previous Page						
F4-CGM0909x-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
M4-XPM0406x-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
M4-XPM0909x-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	UUT-19a,b
M4-XPM1800x-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
F4-XPM0406x-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
F4-XPM0909x-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
F4-XPM1800x-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
M4-CCMxxxxx-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
F4-CCMxxxxx-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
M4-CGE-0406x-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
M4-CGE-0909x-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
F4-CGE-0406x-xx	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
F4-CGE-0909x-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
M4-CEGxxxxx-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
F4-CEGxxxxxx-xx	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
LC-SBH200-0S	JCI	Circuit board, plastic housing	5 x 7 x 2	DIN rail	1	Interpolated
JC-WRG1830-0	JCI	Circuit board, plastic housing	5 x 7 x 2	DIN rail	1	Interpolated
LC-VAC100x-x	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
LC-VAC110x-x	JCI	Circuit board, plastic housing	7 x 5 x 2	DIN rail	1	Interpolated
LC-VAC300x-x	JCI	Circuit board, plastic housing	9 x 5 x 2	DIN rail	1	Interpolated
PK-OEM18x0-0	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
PK-OEM18x1-0	JCI	Circuit board, plastic housing	7 x 5 x 2	DIN rail	1	Interpolated
PK-OEM32x0-0	JCI	Circuit board, plastic housing	9 x 5 x 2	DIN rail	1	Interpolated
PK-IOM1711-0	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
PK-IOM4711-0	JCI	Circuit board, plastic housing	6 x 8 x 2	DIN rail	1	Interpolated
M4-SNE10xxxxx-xxx	JCI	Circuit board, plastic housing	7 x 5 x 2	DIN rail	1	Interpolated
M4-SNE11xxxxx-xxx	JCI	Circuit board, plastic housing	7 x 5 x 2	DIN rail	1	Interpolated
M4-SNE22xxxxx-xxx	JCI	Circuit board, plastic housing	7 x 5 x 2	DIN rail	1	Interpolated
M4-SNC16xxx-xxx	JCI	Circuit board, plastic housing	10 x 6 x 2	DIN rail	1	UUT-24a,b
M4-SNC25xxx-xxx	JCI	Circuit board, plastic housing	10 x 6 x 2	DIN rail	1	Interpolated
F4-SNC16xxx-xxx	JCI	Circuit board, plastic housing	10 x 6 x 2	DIN rail	1	Interpolated
F4-SNC25xxx-xxx	JCI	Circuit board, plastic housing	10 x 6 x 2	DIN rail	1	Interpolated

1. An "x" in the Model Number may be any number from 0 to 9, or any alpha character from A to Z (marketing change only)
2. All controllers are 24 VAC

Special Seismic Certification
Table 5: Certified Subcomponents - Mercury Panel Controllers

DCL Project No. 15329-2101

Model Number	Manufacturer	Material	Dimensions (in)	Mounting	Weight (lb)	Unit
CKM-FP0150	LifeSafety Power	Circuit board	6 x 8	Back panel	1	UUT-13a,b, UUT-16a,b
CKM-F8P	LifeSafety Power	Circuit board	6 x 8	Back panel	1	UUT-11a,b through UUT-16a,b
CKM-MUX-8	LifeSafety Power	Circuit board	1 x 6 x 5	Back panel	1	UUT-13a,b, UUT-16a,b
CKM-EP2500	LifeSafety Power	Circuit board	1 x 6 x 5	Back panel	1	UUT-12a,b, UUT-13a,b, UUT-15a,b, UUT-16a,b
CKM-FP075	LifeSafety Power	Circuit board	1 x 6 x 4	Back panel	1	UUT-11a,b, UUT-12a,b, UUT-14a,b, UUT-15a,b
CKM-MR15E	LifeSafety Power	Circuit board	1 x 6 x 3	Back panel	1	UUT-11a,b, UUT-14a,b
CKM-EP1501	LifeSafety Power	Circuit board	1 x 6 x 4	Back panel	1	UUT-11a,b, UUT-14a,b
CKM-MR50	LifeSafety Power	Circuit board	1 x 4 x 3	Back panel	1	UUT-12a,b, UUT-15a,b
CKM-EP1502	LifeSafety Power	Circuit board	1 x 6 x 8	Back panel	1	UUT-12a,b, UUT-15a,b
CKM-MR52	LifeSafety Power	Circuit board	1 x 6 x 8	Back panel	1	UUT-12a,b, UUT-15a,b
CKM-MR16OUT	LifeSafety Power	Circuit board	1 x 6 x 8	Back panel	1	UUT-13a,b, UUT-16a,b
CKM-MR16IN	LifeSafety Power	Circuit board	1 x 6 x 8	Back panel	1	UUT-13a,b, UUT-16a,b
25-3017-12	TE Connectivity	Plastic	3 x 7 x 6	Snap Track	1	UUT-17a,b
25-3017-4	TE Connectivity	Plastic	3 x 7 x 6	Snap Track	1	UUT-17a,b
25-3035-37	TE Connectivity	Plastic	3 x 7 x 6	Snap Track Assy	1	UUT-17a,b

Special Seismic Certification
Table 6: Certified Subcomponents - Security Controllers

DCL Project No. 15329-2101

Model Number	Manufacturer	Material	Power	Dimensions (in)	Mounting	Weight (lb)	Unit
S300-DIN-RDR2SA	JCI	Circuit board, plastic housing	Controller	6 x 6 x 2	DIN rail	3	UUT-5a,b, UUT-6a,b
S300-DIN-I8O4	JCI	Circuit board, plastic housing	Controller	6 x 6 x 2	DIN rail	3	Extrapolated[1]
S321IP	JCI	Circuit board, plastic housing	Controller	6 x 6 x 2	DIN rail	3	UUT-6a,b
S300-DIN-RDR8S	JCI	Circuit board, plastic housing	Controller	5 x 11 x 3	DIN rail	3	UUT-6a,b
S300-DIN-I32O16	JCI	Circuit board, plastic housing	Controller	5 x 11 x 3	DIN rail	3	Extrapolated[2]
CK7xxx[3]	JCI	Circuit board, plastic housing	Controller	5 x 11 x 3	DIN rail	3	UUT-6a,b
S300-DIN-L-PS	Electronic Security Devices	Circuit board, aluminium housing	Power Supply	7 x 4 x 2	DIN rail	2	UUT-5a,b, UUT-6a,b

1. Same as S300-DIN-RDR2SA (software and labeling change only)

2. Same as S300-DIN-RDR8S (software and labeling change only)

3. An "x" in the Model Number may be any number from 0 to 9, or any alpha character from A to Z (marketing change only)

Special Seismic Certification
Table 7: Certified Subcomponents - Other Controllers

DCL Project No. 15329-2101

Model Number	Manufacturer	Material	Dimensions (in)	Mounting	Weight (lb)	Unit
LP-FXNDIO16-0	JCI	Circuit board, plastic housing	4 x 4 x 2	DIN rail	1	Same as UUT-4a,b[1]
LP-FXRIO16-0	JCI	Circuit board, plastic housing	4 x 4 x 2	DIN rail	1	Same as UUT-4a,b[1]
LP-FXPM24-0	JCI	Circuit board, plastic housing	4 x 4 x 2	DIN rail	1	Same as UUT-4a,b[1]
LP-FXPM263-0	JCI	Circuit board, plastic housing	4 x 4 x 2	DIN rail	1	UUT-4a,b
LP-FXNDIO34-0	JCI	Circuit board, plastic housing	6 x 4 x 2	DIN rail	1	Interpolated
LP-FX3011E-1 FX30E	JCI	Circuit board, plastic housing	6 x 4 x 2	DIN rail	1	Interpolated
LP-FX3021E-1 FX30E	JCI	Circuit board, plastic housing	6 x 4 x 2	DIN rail	1	Interpolated
LP-FX6011E-1 FX60E	JCI	Circuit board, plastic housing	6 x 4 x 2	DIN rail	1	Interpolated
LP-FX6021E-1 FX60E	JCI	Circuit board, plastic housing	6 x 4 x 2	DIN rail	1	Interpolated
LP-FX7011N-0 FX70	JCI	Circuit board, plastic housing	9 x 6 x 2	DIN rail	1	Interpolated
LP-FX7021N-0 FX70	JCI	Circuit board, plastic housing	9 x 6 x 2	DIN rail	1	UUT-8a,b
FX30	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	UUT-8a,b
FX60	JCI	Circuit board, plastic housing	6 x 5 x 2	DIN rail	1	Interpolated
FX70	JCI	Circuit board, plastic housing	9 x 6 x 2	DIN rail	1	UUT-8a,b
EasyIO-8000-xx	JCI	Circuit board, plastic housing	4 x 7 x 2	DIN rail	1	UUT-17a,b
DX-9xxx-xxxx	JCI	Circuit board, plastic housing	8 x 7 x 4	Panel	5	UUT-4a,b
TEC20-xx	JCI	Circuit board, plastic housing	5 x 6 x 2	Panel	1	UUT-4a,b
xx-ZFR181x-x	JCI	Circuit board, plastic housing	6 x 5 x 2	Panel	1	UUT-4a,b
EasyIO-FS-xx	JCI	Circuit board, plastic housing	4 x 8 x 2	DIN rail	1	Interpolated
EasyIO-FW-28	JCI	Circuit board, plastic housing	4 x 9 x 2	DIN rail	1	UUT-17a,b
EasyIO-FW-14	JCI	Circuit board, plastic housing	4 x 8 x 2	DIN rail	1	Interpolated
EasyIO-FW-08	JCI	Circuit board, plastic housing	4 x 5 x 2	DIN rail	1	UUT-17a,b
EasyIO-FR-02	JCI	Circuit board, plastic housing	4 x 2 x 2	DIN rail	1	UUT-17a,b
EasyIO-FT-04x	JCI	Circuit board, plastic housing	2 x 2 x 1	DIN rail	1	UUT-17a,b
EasyIO-FC-20	JCI	Circuit board, plastic housing	4 x 8 x 2	DIN rail	1	Interpolated
EasyIO-FD-20I	JCI	Circuit board, plastic housing	4 x 8 x 2	DIN rail	1	Interpolated
WRG18xx	JCI	Wireless Gateway	6 x 5 x 2	DIN rail	1	UUT-18a,b
ZFR183x	JCI	Wireless Router	5 x 4 x 1	DIN rail	1	UUT-18a,b
RIBMNLB	Functional Devices	Circuit board, plastic housing	3 x 6 x 1	Plastic track	1	UUT-9a,b
RIBMNLB-1	Functional Devices	Circuit board, plastic housing	3 x 4 x 1	Plastic track	1	UUT-9a,b, UUT-26a,b
RIBMNLB-2	Functional Devices	Circuit board, plastic housing	3 x 6 x 1	Plastic track	1	UUT-26a,b
RIBM2401D	Functional Devices	Circuit board, plastic housing	2 x 4 x 2	Plastic track	1	UUT-9a,b
RIBMU1C	Functional Devices	Circuit board, plastic housing	1 x 4 x 2	Plastic track	1	UUT-9a,b

1. Identical to controller tested in UUT4 (software change only)
2. An x in the Model Number may be any number from 0 to 9, or any alpha character from A to Z (marketing change only)

Special Seismic Certification
Table 8: Certified Subcomponents - Transformers and Power Supplies

DCL Project No. 15329-2101

Transformers							
Model Number	**Manufactuer**	**Material**	**Capacity (VA)**	**Dimensions (in)**	**Mounting**	**Weight (lb)**	**Unit**
Y65A13-0	V&F Transformer	Carbon steel frame w/ SS housing	40	3 x 4 x 2	Foot	2	UUT-7a,b
Y65G13-0	V&F Transformer	Carbon steel frame w/ SS housing	40	3 x 4 x 2	Foot	2	Interpolated
Y65T31-0	V&F Transformer	Carbon steel frame w/ SS housing	40	3 x 4 x 2	Foot	2	Interpolated
Y65T54-0	V&F Transformer	Carbon steel frame w/ SS housing	40	2 x 4 x 2	Foot	2	Interpolated
Y65S13-0	V&F Transformer	Carbon steel frame w/ SS housing	40	3 x 4 x 2	Foot	2	Interpolated
Y65F13-0	V&F Transformer	Carbon steel frame w/ SS housing	40	3 x 4 x 2	Foot	2	Interpolated
Y63T31-0	V&F Transformer	Carbon steel frame w/ SS housing	50	3 x 4 x 3	Foot	3	Interpolated
Y66T12-0	V&F Transformer	Carbon steel frame w/ SS housing	75	3 x 4 x 3	Foot	3	Interpolated
Y66T13-0	V&F Transformer	Carbon steel frame w/ SS housing	75	3 x 5 x 3	Foot	3	Interpolated
Y66F12-0	V&F Transformer	Carbon steel frame w/ SS housing	75	3 x 4 x 3	Foot	3	Interpolated
Y66F13-0	V&F Transformer	Carbon steel frame w/ SS housing	75	3 x 5 x 3	Foot	3	Interpolated
Y64T15-0	V&F Transformer	Carbon steel frame w/ SS housing	92	3 x 5 x 3	Foot	4	UUT-4a,b
Y69T15-0	V&F Transformer	Carbon steel frame w/ SS housing	300	5 x 6 x 4	Foot	11	UUT-4a,b
PAN-PWRSPx-xx	V&F Transformer	Carbon steel frame	96	4 x 6 x 5	Foot	7	UUT-3a,b, UUT-4a,b, UUT-8a,b, UUT-26a,b
PAN-96VAXFR-xx	V&F Transformer	Carbon steel frame	96	3 x 6 x 5	Foot	5	UUT-2a,b, UUT-3a,b
AS-XFR050-xx	V&F Transformer	Carbon steel frame	50	3 x 5 x 3	Foot	2	UUT-4a,b, UUT-9a,b
XFF096A2B-388-0001	Wilspec	PA66	96	5 x 6 x 4	Foot	5	UUT-17a,b
PSH100AB10	Functional Devices	Carbon steel enclosure	100	5 x 5 x 5	Foot	9	UUT-18a,b
Power Supplies							
Model Number	**Manufactuer**	**Housing Material**	**Capacity (Watts)**	**Dimensions (in)**	**Mounting**	**Weight (lb)**	**Unit**
DR-4515	Meanwell	Circuit board in plastic housing	42	4 x 3 x 3	DIN rail	1	UUT-7a,b[1]
DSP30-15	Lamda	Circuit board in plastic housing	30	4 x 2 x 2	DIN rail	1	UUT-7a,b[1]
SYSTEMVIEW-PWxx	JCI	Circuit board in plastic housing	18	3 x 1 x 2	DIN rail	1	UUT-17a,b
ACC-PS-24VDC	JCI	Circuit board in plastic housing	60	4 x 2 x 5	DIN rail	1	UUT-17a,b
TPSN-50ABB	JCI / ABB	DC Power supply	50	6 x 3 x 5	DIN rail	1	UUT-18a,b
TPSN-65ABB	JCI / ABB	DC Power supply	65	6 x 3 x 5	DIN rail	1	UUT-18a,b

1. An "x" in the Model Number may be any number from 0 to 9, or any alpha character from A to Z (marketing change only)

Special Seismic Certification
Table 9: Certified Subcomponents - Network Components

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

DCL Project No. 15329-2101

Model Number	Manufacturer	Material	Remark	Dimensions (in)	Mounting	Weight (lb)	Unit
PNET1GB	APC	Wiring, plastic	Surge protector	4 x 2 x 1	Panel	1	UUT4a,b, UUT9a,b
ISOBAR12ULTRA	Tripplite	Wiring, plastic	Surge protector	2 x 18 x 4	Panel	5	UUT4a,b
ISOBAR8ULTRA	Tripplite	Wiring, plastic	Surge protector	2 x 4 x 9	Panel	3	UUT7a,b
FS105	NetGear	Circuit board, carbon steel	Network switch	1 x 4 x 4	Bracket	1	UUT8a,b
FS108	NetGear	Circuit board, carbon steel	Network switch	1 x 6 x 4	Bracket	1	UUT4a,b
GS105xx	NetGear	Circuit board, carbon steel	Network switch	1 x 4 x 4	Bracket	< 1	UUT-8a,b
GS305	NetGear	Circuit board, carbon steel	Network switch	1 x 4 x 4	Bracket	< 1	UUT4a,b
2960-24TC-S	Cisco	Wiring, plastic	Network switch	2 x 18 x 10	Bracket	8	UUT8a,b
EIMK100T-FT	Ccontrols.com	Plastic	Network switch	5 x 1 x 3	DIN rail	1	UUT9a,b
DS-EISK1000B	Ccontrols.com	Plastic	Network switch	6 x 2 x 6	DIN rail	1	UUT4a,b
EISK5-100T	Ccontrols.com	Plastic	Network switch	5 x 1 x 3	DIN rail	1	Interpolated
EIS8-100T	Ccontrols.com	Plastic	Network switch	6 x 2 x 6	DIN rail	1	UUT9a,b
EISK5-GT	Ccontrols.com	Plastic	Network switch	4 x 4 x 1	DIN rail	< 1	Extrapolated
IE-2000-8TC-G-E	Cisco	Plastic	Network switch	5 x 4 x 5	DIN rail	4	UUT-18a,b
IE-2000-16TC-G-E	Cisco	Plastic	Network switch	5 x 5 x 5	DIN rail	4	Interpolated
IE-4000-8GT8GP4G-E	Cisco	Plastic	Network switch	5 x 5 x 5	DIN rail	6	UUT-18a,b
IE-4000-16T4G-E	Cisco	Plastic	Network switch	6 x 6 x 5	DIN rail	6	Interpolated
IE-4000-16T4G-E	Cisco	Plastic	Network switch	6 x 6 x 5	DIN rail	6	UUT-18a,b
PWR-IE50W-AC-IEC	Cisco	Plastic	Power module	5 x 2 x 6	DIN rail	1	UUT-18a,b
PWR-IE170W-PC-AC	Cisco	Plastic	Power module	4 x 6 x 6	DIN rail	4	Interpolated
PWR-IE-65W-PC-X	Cisco	Plastic	Power module	4 x 6 x 6	DIN rail	4	UUT-18a,b
25-3017-12	JCI	Circuit board	Circuit board	3 x 5 x 1	Snap rail	1	UUT-17a,b
25-3017-4	JCI	Circuit board	Circuit board	3 x 5 x 1	Snap rail	1	UUT-17a,b
IX20-W064	Digi	Circuit board, plastic	4G LTE router	4 x 6 x 1	Panel	1	UUT-23a,b
Z3-HW	Cisco Meraki	Circuit board, plastic	Cellular gateway	7 x 4 x 1	Panel	< 1	UUT-23a,b
MG21E / MG21E-HW-NA	Cisco Meraki	Circuit board, plastic	Cellular gateway	7 x 6 x 1	Panel	1	UUT-23a,b
ICG-150/IR302	Intwine	Plastic	Modem	4 x 4 x 1	Bracket	1	UUT-23a,b
PSMN24DAS	Functional Devices	Plastic	Modem power supply (24 VAC TO 1.5 - 28 VDC)	2 x 3 x 2	Snap rail	1	UUT-23a,b
EIO-FW-ANT-2	JCI	Plastic	Network antenna	5 x 5 x 1	Magnet	1	UUT-17a,b
EIO-FW-ANT-1	JCI	Plastic	Network antenna	3 x 3 x 1	Magnet	1	UUT-17a,b
DTK-120HW	Ditek	Plastic	In-line surge suppressor	4 x 2 x 1	Panel	1	UUT-19a,b

1. An "x" in the Model Number may be any number from 0 to 9, or any alpha character from A to Z (marketing change only)

Special Seismic Certification
Table 10: Certified Subcomponents - Circuit Breakers & Relays

DCL DYNAMIC CERTIFICATION LABORATORIES,LLC

DCL Project No. 15329-2101

Circuit Breakers							
Model Number	**Manufacturer**	**Material**	**Current Rating (Amp)**	**Dimensions (in)**	**Mounting**	**Weight (lb)**	**Unit**
QOU110	Square D	Plastic cover	10.0	4 x 1 x 3	DIN rail	1	Extrapolated
QOU115	Square D	Plastic cover	15.0	4 x 1 x 3	DIN rail	1	UUT-6a,b
QOU120	Square D	Plastic cover	20.0	4 x 1 x 3	DIN rail	1	Interpolated
QOU125	Square D	Plastic cover	25.0	4 x 1 x 3	DIN rail	1	Interpolated
QOU130	Square D	Plastic cover	30.0	4 x 1 x 3	DIN rail	1	Interpolated
QOU135	Square D	Plastic cover	35.0	4 x 1 x 3	DIN rail	1	Interpolated
QOU140	Square D	Plastic cover	40.0	4 x 1 x 3	DIN rail	1	Interpolated
QOU145	Square D	Plastic cover	45.0	4 x 1 x 3	DIN rail	1	Interpolated
QOU150	Square D	Plastic cover	50.0	4 x 1 x 3	DIN rail	1	Interpolated
QOU160	Square D	Plastic cover	60.0	4 x 1 x 3	DIN rail	1	Interpolated
QOU170	Square D	Plastic cover	70.0	4 x 1 x 3	DIN rail	1	UUT-7a,b
QOU180	Square D	Plastic cover	80.0	4 x 1 x 3	DIN rail	1	Extrapolated
QOU190	Square D	Plastic cover	90.0	4 x 1 x 3	DIN rail	1	Extrapolated
1GU03M	Altech	Plastic cover	0.3	4 x 1 x 3	DIN rail	4	Extrapolated
1GU05M	Altech	Plastic cover	0.5	4 x 1 x 3	DIN rail	4	Extrapolated
1GU08M	Altech	Plastic cover	0.8	4 x 1 x 3	DIN rail	4	Extrapolated
1GU1M	Altech	Plastic cover	1.0	4 x 1 x 3	DIN rail	4	Extrapolated
1GU1.6M	Altech	Plastic cover	1.6	4 x 1 x 3	DIN rail	4	Extrapolated
1GU2M	Altech	Plastic cover	2.0	4 x 1 x 3	DIN rail	4	Extrapolated
1GU2.5M	Altech	Plastic cover	2.5	4 x 1 x 3	DIN rail	4	Extrapolated
1GU3M	Altech	Plastic cover	3.0	4 x 1 x 3	DIN rail	4	Extrapolated
1GU3.5M	Altech	Plastic cover	3.5	4 x 1 x 3	DIN rail	4	Extrapolated
1GU4M	Altech	Plastic cover	4.0	4 x 1 x 3	DIN rail	4	Extrapolated
1GU5M	Altech	Plastic cover	5.0	4 x 1 x 3	DIN rail	4	UUT-1a,b
1GU6M	Altech	Plastic cover	6.0	4 x 1 x 3	DIN rail	4	Interpolated
1GU8M	Altech	Plastic cover	8.0	4 x 1 x 3	DIN rail	4	Interpolated
1GU10M	Altech	Plastic cover	10.0	4 x 1 x 3	DIN rail	4	Interpolated
1GU12M	Altech	Plastic cover	12.0	4 x 1 x 3	DIN rail	4	Interpolated
1GU13M	Altech	Plastic cover	13.0	4 x 1 x 3	DIN rail	4	Interpolated
1GU15M	Altech	Plastic cover	15.0	4 x 1 x 3	DIN rail	4	UUT-8a,b

Relays and Accessories							
Model Number	**Manufacturer**	**Material**	**Current Rating (Amp)**	**Dimensions (in)**	**Mounting**	**Weight (lb)**	**Unit**
RH1B-xxx	IDEC	Plastic cover	10.0	1 x 1 x 2	DIN rail	1	UUT-17a,b
RH2B-xxx	IDEC	Plastic cover	10.0	1 x 1 x 2	DIN rail	1	Interpolated
RH3B-xxx	IDEC	Plastic cover	10.0	1 x 1 x 2	DIN rail	1	Interpolated
RHxB-xxx	IDEC	Plastic cover	10.0	1 x 2 x 2	DIN rail	1	UUT-17a,b
ABW110-x	IDEC	Plastic cover	10.0	1 x 1 x 2	Door	1	UUT-17a,b
APW199-x	IDEC	Plastic cover	10.0	1 x 1 x 2	Door	1	UUT-17a,b
ASW2xx	IDEC	Plastic cover	10.0	1 x 1 x 2	Door	1	UUT-17a,b
SH1B-05	IDEC	Plastic	N/A (mounting socket)	3 x 1 x 1	DIN rail	1	UUT-17a,b
SH2B-05	IDEC	Plastic	N/A (mounting socket)	3 x 1 x 1	DIN rail	1	Interpolated
SH3B-05	IDEC	Plastic	N/A (mounting socket)	3 x 2 x 1	DIN rail	1	Interpolated
SHxB-05	IDEC	Plastic	N/A (mounting socket)	3 x 2 x 1	DIN rail	1	UUT-17a,b
FM-102	Tane Alarm	Plastic	0.5	1 x 1 x 1	Door	1	UUT-19a,b
APW199D-A-24	IDEC	Plastic	10.0	2 x 2 x 2	Door	1	UUT-17a,b
ABW122-x	IDEC	Plastic	10.0	2 x 2 x 2	Door	1	UUT-17a,b
ASW3xx	IDEC	Plastic	10.0	2 x 2 x 2	Door	1	UUT-17a,b

1. An "x" in the Model Number may be any number from 0 to 9, or any alpha character from A to Z (marketing change only)

Special Seismic Certification
Table 11: Certified Subcomponents - Displays & Door Devices

DCL Project No. 15329-2101

Model Number	Manufacturer	Material	Dimensions (in)	Mounting	Weight (lb)	Unit
MS-DIS1710-xx	JCI	Circuit board, plastic housing	3 x 9 x 1	Door	1	UUT-4a,b
FX-DIS1710-xx	JCI	Circuit board, plastic housing	3 x 9 x 1	Door	1	Interpolated
DLK0350-x	JCI	Circuit board, plastic housing	3 x 6 x 1	Door	1	UUT-17a,b
EI-SH-SysView7	JCI	Circuit board, plastic housing	4 x 6 x 1	Door	1	UUT-17a,b
EI-SH-SysView10	JCI	Circuit board, plastic housing	7 x 10 x 1	Door	2	UUT-17a,b
TAD0471-x	JCI	Circuit board, plastic housing	4 x 6 x 1	Door	1	UUT-17a,b
TAD0701-x	JCI	Circuit board, plastic housing	6 x 7 x 1	Door	1	UUT-17a,b
TAD1001-x	JCI	Circuit board, plastic housing	8 x 11 x 1	Door	2	UUT-17a,b

1. An "x" in the Model Number may be any number from 0 to 9, or any alpha character from A to Z (marketing change only)

Special Seismic Certification
Table 12: Certified Subcomponents - Batteries and Repeater

DCL Project No. 15329-2101

Batteries							
Model Number	**Manufacturer**	**Material**	**Remark**	**Dimensions (in)**	**Mounting**	**Weight (lb)**	**Unit**
PS-1270F1	Power Sonic	Sealed gel	12V battery	4 x 6 x 3	Bracket	5	UUT6a,b
PS-1270	Power Sonic	Sealed gel	12V battery	4 x 6 x 3	Bracket	5	Same as UUT6a,b[1]
NP7-12	Yuasa	Sealed gel	12V battery	4 x 6 x 3	Bracket	6	UUT10a,b
SEC-ENCBATBRK	JCI	Galvanized carbon steel	Mounting bracket	4 x 6 x 3	Bracket	1	UUT6a,b, UUT10a,b
S300-DIN-BRK	JCI	Galvanized carbon steel	Mounting bracket	4 x 6 x 3	Bracket	1	UUT6a,b, UUT10a,b
CP550SLG	CyberPower	Plastic	Standby battery	10 x 6 x 4	Screw clips	6	UUT-22a,b

1. Identical to subcomponents tested in UUT6 (marketing name change only)

Repeater						
Model Number[1]	**Manufacturer**	**Material**	**Dimensions (in)**	**Mounting**	**Weight (lb)**	**Unit**
NU-RPTxxx-xx	Acromag	Circuit board in plastic housing	2.5 x 6.5 x 4.0	Panel	1	UUT4a,b

1. x may be any number from 0 to 9, or any alpha character from A to Z (marketing change only)

Table 13: Tested Units

DCL Project No. 15329-2101

Manufacturer: Johnson Controls
Mounting Configuration: Wall Mount (Rigid or Flexible)
Product Type: Control Panels
Seismic Level: S_{DS}=2.26 @ z/h=1.0

		Dimensions (in.)				
Model Number	**Old Model Number**	**Height**	**Width**	**Depth**	**Weight (lb.)**	**Unit**
JCI-CP-00001	FX07 HVAC Panel	13.0	10.0	4.5	12	UUT-1a,b
JCI-CP-00002	PA0P0010FC0 HVAC Panel	20.0	16.0	6.5	45	UUT-2a,b
JCI-CP-00003	Metasys Control Panel	36.0	24.0	9.0	92	UUT-3a,b
JCI-CP-00004	Multi-System Panel	42.0	30.0	9.0	162	UUT-4a,b
JCI-CP-00005	Security Panel	16.0	16.0	6.0	38	UUT-5a,b
JCI-CP-00006	Security Panel	42.0	30.0	6.0	138	UUT-6a,b
JCI-CP-00007	Custom control panel	24.0	20.0	6.0	25	UUT-7a,b
JCI-CP-00008	Custom control panel	48.0	36.0	12.0	179	UUT-8a,b
JCI-CP-00009	Custom control panel	48.0	36.0	8.0	81	UUT-9a,b
JCI-CP-00010	Custom control panel	16.0	16.0	6.0	32	UUT-10a,b
JCI-CP-00011	Custom control panel	14.0	12.0	4.5	12	UUT-11a,b
JCI-CP-00012	Custom control panel	20.0	16.0	4.5	21	UUT-12a,b
JCI-CP-00013	Custom control panel	24.0	20.0	4.5	34	UUT-13a,b
JCI-CP-00014	Custom control panel	14.0	12.0	4.5	12	UUT-14a,b
JCI-CP-00015	Custom control panel	20.0	16.0	4.5	21	UUT-15a,b
JCI-CP-00016	Custom control panel	24.0	20.0	4.5	34	UUT-16a,b
JCI-CP-00017	N/A	36.0	24.0	9.0	92	UUT-17a,b
JCI-CP-00018	N/A	36.0	24.0	9.0	97	UUT-18a,b
JCI-CP-00019	N/A	36.0	36.0	9.0	141	UUT-19a,b
JCI-CP-00020	N/A	12.0	12.0	6.0	27	UUT-20a,b
JCI-CP-00021	N/A	12.0	12.0	6.0	23	UUT-21a,b
JCI-CP-00022	N/A	16.0	14.0	6.0	26	UUT-22a,b
JCI-CP-00023	N/A	36.0	24.0	9.0	81	UUT-23a,b
JCI-CP-00024	N/A	24.0	20.0	9.0	60	UUT-24a,b
JCI-CP-00025	N/A	36.0	36.0	13.5	148	UUT-25a,b
JCI-CP-00026	N/A	24.0	20.0	8.0	53	UUT-26a,b

UNIT UNDER TEST - Summary Sheet
UUT-1a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00001 (FX07 HVAC Panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman enclosure, Altek circuit breaker.

Unit Mounting Description:

UUT-1a,b were attached to the stud wall on the shake table interface frame at four corners utilizing 1/4-inch 20x1 hex cap bolts and the existing openings in the back of the back-box.

UUT-1a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-1b (flexible wall mount): Eight Mason A-625 springs were attached to the stud wall using the provided 3/8-inch bolts. Four of the springs were oriented in the horizontal plane and sandwiched between the back of the stud wall and front of the steel fixture frame. The springs were attached to the fixture frame with 1/2-inch bolts. The remaining four springs were oriented in the vertical plane and sandwiched between the bottom of the stud wall and a piece of standard 12-gage Unistrut which was attached to the shake table using M12 threaded rod. The springs were attached to the Unistrut with 1/2-inch bolts and spring clips.

UUT Properties

UUT-1a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	12	4.5	10.0	13.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-1a)

Flexible test setup (UUT-1b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-2a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00002 (PA0P0010FC0 HVAC Panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman enclosure, V&F transformer (24VAC).

Unit Mounting Description:

UUT-2a,b were attached to the stud wall on the shake table interface frame at four corners utilizing 1/4-inch 20x1 hex cap bolts and the existing openings in the back of the back-box.

UUT-2a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-2b (flexible wall mount): Eight Mason A-625 springs were attached to the stud wall using the provided 3/8-inch bolts. Four of the springs were oriented in the horizontal plane and sandwiched between the back of the stud wall and front of the steel fixture frame. The springs were attached to the fixture frame with 1/2-inch bolts. The remaining four springs were oriented in the vertical plane and sandwiched between the bottom of the stud wall and a piece of standard 12-gage Unistrut which was attached to the shake table using M12 threaded rod. The springs were attached to the Unistrut with 1/2-inch bolts and spring clips.

UUT Properties

UUT-2a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	45	6.5	16.0	20.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-2a)

Flexible test setup (UUT-2b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-3a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00003 (Metasys Control Panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman enclosure, V&F transformers (24VAC).

Unit Mounting Description:

UUT-3a,b were attached to the stud wall on the shake table interface frame at four corners utilizing 1/4-inch 20x1 hex cap bolts and the existing openings in the back of the back-box.

UUT-3a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-3b (flexible wall mount): Eight Mason A-625 springs were attached to the stud wall using the provided 3/8-inch bolts. Four of the springs were oriented in the horizontal plane and sandwiched between the back of the stud wall and front of the steel fixture frame. The springs were attached to the fixture frame with 1/2-inch bolts. The remaining four springs were oriented in the vertical plane and sandwiched between the bottom of the stud wall and a piece of standard 12-gage Unistrut which was attached to the shake table using M12 threaded rod. The springs were attached to the Unistrut with 1/2-inch bolts and spring clips.

UUT Properties

UUT-3a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	92	9.0	24.0	36.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-3a)

Flexible test setup (UUT-3b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-4a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00004 (Multi-System Panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman enclosure, JCI network controller, JCI field controllers, Tridium controller, JCI plant controller, JCI wireless controllers, Acromag repeater, APC surge protector, Tripplite surge protector, NetGear network switch, Ccontrols.com network switch, JCI Metasys display, V&F transformers (24VAC).

Unit Mounting Description:

UUT-4a,b were attached to the stud wall on the shake table interface frame at four corners utilizing 1/4-inch 20x1 hex cap bolts and the existing openings in the back of the back-box.

UUT-4a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-4b (flexible wall mount): Eight Mason A-625 springs were attached to the stud wall using the provided 3/8-inch bolts. Four of the springs were oriented in the horizontal plane and sandwiched between the back of the stud wall and front of the steel fixture frame. The springs were attached to the fixture frame with 1/2-inch bolts. The remaining four springs were oriented in the vertical plane and sandwiched between the bottom of the stud wall and a piece of standard 12-gage Unistrut which was attached to the shake table using M12 threaded rod. The springs were attached to the Unistrut with 1/2-inch bolts and spring clips.

UUT Properties

UUT-4a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	162	9.0	30.0	42.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-4a)

Flexible test setup (UUT-4b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-5a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00005 (Security Panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman enclosure, JCI door access controller, Electronic Security Devices power supply.

Unit Mounting Description:

UUT-5a,b were attached to the stud wall on the shake table interface frame at four corners utilizing 1/4-inch 20x1 hex cap bolts and the existing openings in the back of the back-box.

UUT-5a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-5b (flexible wall mount): Eight Mason A-625 springs were attached to the stud wall using the provided 3/8-inch bolts. Four of the springs were oriented in the horizontal plane and sandwiched between the back of the stud wall and front of the steel fixture frame. The springs were attached to the fixture frame with 1/2-inch bolts. The remaining four springs were oriented in the vertical plane and sandwiched between the bottom of the stud wall and a piece of standard 12-gage Unistrut which was attached to the shake table using M12 threaded rod. The springs were attached to the Unistrut with 1/2-inch bolts and spring clips.

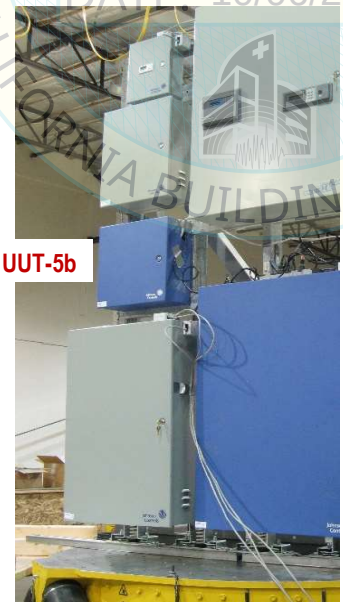
UUT Properties

UUT-5a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	38	6.0	16.0	16.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-5a)



Flexible test setup (UUT-5b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-6a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00006 (Security Panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman enclosure, JCI door access controllers, Electronic Security Devices power supply, Power Sonic 12V battery, JCI battery mounting brackets, Square D circuit breaker.

Unit Mounting Description:

UUT-6a,b were attached to the stud wall on the shake table interface frame at four corners utilizing 1/4-inch 20x1 hex cap bolts and the existing openings in the back of the back-box.

UUT-6a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-6b (flexible wall mount): Eight Mason A-625 springs were attached to the stud wall using the provided 3/8-inch bolts. Four of the springs were oriented in the horizontal plane and sandwiched between the back of the stud wall and front of the steel fixture frame. The springs were attached to the fixture frame with 1/2-inch bolts. The remaining four springs were oriented in the vertical plane and sandwiched between the bottom of the stud wall and a piece of standard 12-gage Unistrut which was attached to the shake table using M12 threaded rod. The springs were attached to the Unistrut with 1/2-inch bolts and spring clips.

UUT Properties

UUT-6a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	138	6.0	30.0	42.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-6a)

Flexible test setup (UUT-6b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-7a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00007 (Custom control panel)

Product Construction Summary: Aluminum enclosure, NEMA 12

Options / Subcomponent Summary: Hoffman enclosure, Tripplite surge protector, V&F transformer (24VAC), Meanwell transformer (15VDC), Lamda transformer (15VDC), Square D circuit breaker.

Unit Mounting Description:

UUT-7a,b were attached to the shake table interface frame with four 3/8-inch diameter Grade 5 bolts using the manufacturer-provided mounting holes at the back of the panel.

UUT-7a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center.

UUT-7b (flexible wall mount): The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M12 threaded rod spaced approximately 8-inches on-center

UUT Properties

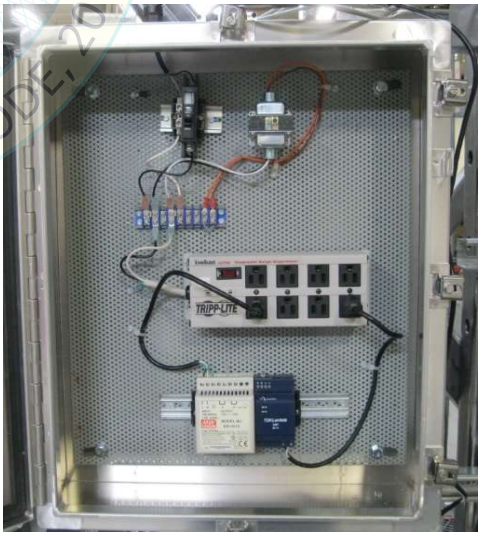
UUT-7a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	25	6.0	20.0	24.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-7a)

Flexible test setup (UUT-7b)



Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-8a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00008 (Custom control panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 3R

Options / Subcomponent Summary: Hoffman enclosure, Tridium controllers, NetGear network switch, Cisco network switch, V&F transformer (24VAC), Altek circuit breaker.

Unit Mounting Description:

UUT-8a,b were attached to the shake table interface frame with six 5/16-inch diameter Grade 5 bolts using the manufacturer-provided mounting holes at the back of the panel.
UUT-8a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center.
UUT-8b (flexible wall mount): The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M12 threaded rod spaced approximately 8-inches on-center

UUT Properties

UUT-8a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	179	12.0	36.0	48.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-8a)

Flexible test setup (UUT-8b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-9a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00009 (Custom control panel)

Product Construction Summary: Aluminum enclosure, NEMA 12

Options / Subcomponent Summary: Hoffman enclosure, JCI network controller, JCI field controllers, Functional Devices AHU fan safety alarm circuit (24VAC), Functional Devices 10, 15 and 20 Amp control relays, APC surge protector, Ccontrols.com network switches, V&F transformer (24VAC).

Unit Mounting Description:

UUT-9a,b were attached to the shake table interface frame with four 3/8-inch diameter Grade 5 bolts using the manufacturer-provided mounting holes at the back of the panel.

UUT-9a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center.

UUT-9b (flexible wall mount): The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M12 threaded rod spaced approximately 8-inches on-center

UUT Properties

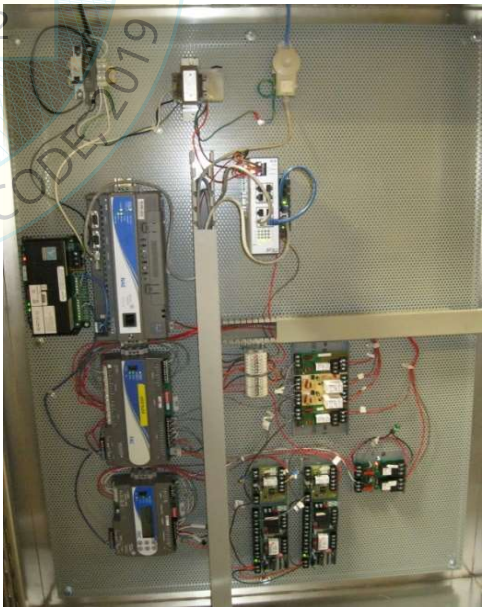
UUT-9a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	81	8.0	36.0	48.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-9a)

Flexible test setup (UUT-9b)



Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-10a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00010 (Custom control panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman enclosure, Yuasa 12V batteries, JCI battery mounting brackets.

Unit Mounting Description:

UUT-10a,b were attached to the shake table interface frame with four 1/4-inch diameter Grade 5 bolts using the manufacturer-provided mounting holes at the back of the panel.

UUT-10a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center.

UUT-10b (flexible wall mount): The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M12 threaded rod spaced approximately 8-inches on-center

UUT Properties

UUT-10a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	32	6.0	16.0	16.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-10a)

Flexible test setup (UUT-10b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-11a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00011 (Custom control panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Life Safety Power enclosure, Life Safety Power mercury panel controllers (CKM-F8P, CKM-FP075, CKM-MR15E, CKM-EP1501)

Unit Mounting Description:

UUT11-a,b were mounted with six drywall screws (1-5/8" / 4,12 cm, coarse) through the manufacturer-provided holes at the back of the panel.

UUT11-a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center.

UUT11-b (flexible wall mount): The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M12 threaded rod spaced approximately 8-inches on-center

UUT Properties

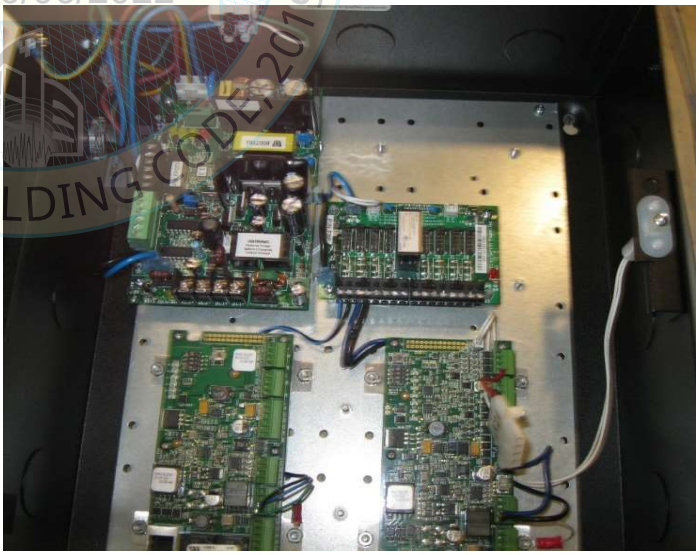
UUT-11a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	12	4.5	12.0	14.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-11a)

Flexible test setup (UUT-11b)



Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-12a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00012 (Custom control panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Life Safety Power enclosure, Life Safety Power mercury panel controllers (CKM-F8P, CKM-EP2500, CKM-FP075, CKM-MR50, CKM-EP1502, CKM-MR52)

Unit Mounting Description:

UUT-12a,b were mounted with six drywall screws (1-5/8" / 4,12 cm, coarse) through the manufacturer-provided holes at the back of the panel.
UUT-12a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center.
UUT-12b (flexible wall mount): The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M12 threaded rod spaced approximately 8-inches on-center

UUT Properties

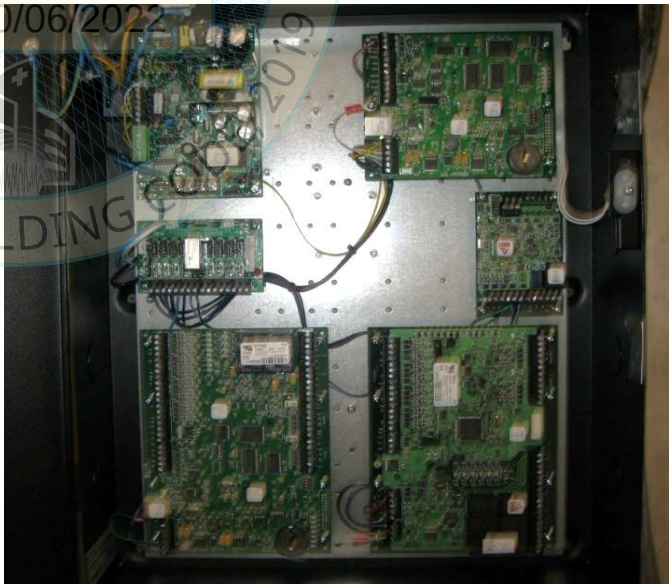
UUT-12a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	21	4.5	16.0	20.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-12a)

Flexible test setup (UUT-12b)



Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-13a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00013 (Custom control panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Life Safety Power enclosure, Life Safety Power mercury panel controllers (CKM-FP0150, CKM-F8P, CKM-MUX-8, CKM-EP2500, CKM-MR16OUT, CKM-MR16IN)

Unit Mounting Description:

UUT-13a,b were mounted with six drywall screws (1-5/8" / 4,12 cm, coarse) through the manufacturer-provided holes at the back of the panel.

UUT-13a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center.

UUT-13b (flexible wall mount): The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M12 threaded rod spaced approximately 8-inches on-center

UUT Properties

UUT-13a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	34	4.5	20.0	24.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-13a)

Flexible test setup (UUT-13b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-14a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00014 (Custom control panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Life Safety Power enclosure, Life Safety Power mercury panel controllers (CKM-F8P, CKM-FP075, CKM-MR15E, CKM-EP1501)

Unit Mounting Description:

UUT-14a,b were mounted with six drywall screws (1-5/8" / 4,12 cm, coarse) through the manufacturer-provided holes at the back of the panel.

UUT-14a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center.

UUT-14b (flexible wall mount): The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M12 threaded rod spaced approximately 8-inches on-center

UUT Properties

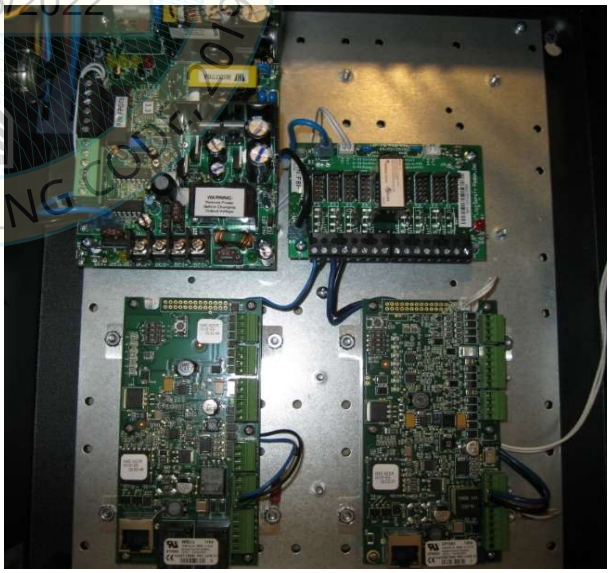
UUT-14a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	12	4.5	12.0	14.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-14a)

Flexible test setup (UUT-14b)



Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-15a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00015 (Custom control panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Life Safety Power enclosure, Life Safety Power mercury panel controllers (CKM-F8P, CKM-EP2500, CKM-FP075, CKM-MR50, CKM-EP1502, CKM-MR52)

Unit Mounting Description:

UUT-15a,b were mounted with six drywall screws (1-5/8" / 4,12 cm, coarse) through the manufacturer-provided holes at the back of the panel.

UUT-15a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center.

UUT-15b (flexible wall mount): The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M12 threaded rod spaced approximately 8-inches on-center

UUT Properties

UUT-15a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	21	4.5	16.0	20.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-15a)

Flexible test setup (UUT-15b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-16a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00016 (Custom control panel)

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Life Safety Power enclosure, Life Safety Power mercury panel controllers (CKM-FP0150, CKM-F8P, CKM-MUX-8, CKM-EP2500, CKM-MR16OUT, CKM-MR16IN)

Unit Mounting Description:

UUT-16a,b were mounted with six drywall screws (1-5/8" / 4,12 cm, coarse) through the manufacturer-provided holes at the back of the panel.

UUT-16a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 8-inches on-center.

UUT-16b (flexible wall mount): The DCL shake table interface frame was flexibly attached to four vibration spring isolators with two 3/4"-dia Grade 5 bolts per isolator. The isolators were welded to the DCL shake table interface plate which was attached to the shake table with M12 threaded rod spaced approximately 8-inches on-center

UUT Properties

UUT-16a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	34	4.5	20.0	24.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-16a)

Flexible test setup (UUT-16b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-17a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00017

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman Enclosure, TE Connectivity Mercury Panel Controllers, JCI Controllers, JCI Displays, Wilspec Transformers, JCI Power Supplies, JCI Network Circuit Boards, JCI Network Antenna, IDEC Relays and Accessories

Unit Mounting Description:

UUT-17a,b were attached to the shake table interface frame at the four corners utilizing 3/8-inch grade 5 bolts, round washers, 1/4-inch thick plate washers and channel nuts.

UUT-17a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-17b (flexible wall mount): The shake table interface frame was mounted on (4) VMC MSSH isolators.

UUT Properties

UUT-17a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	92	9.0	24.0	36.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-17a)

Flexible test setup (UUT-17b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-18a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00018

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman Enclosure, JCI Controllers, Functional Devices Transformers, JCI / ABB Power Supplies, Cisco Network Switches, Cisco Power Modules

Unit Mounting Description:

UUT-18a,b were attached to the shake table interface frame at the four corners utilizing 3/8-inch grade 5 bolts, round washers, 1/4-inch thick plate washers and channel nuts.

UUT-18a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-18b (flexible wall mount): The shake table interface frame was mounted on (4) VMC MSSH isolators.

UUT Properties

UUT-18a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	97	9.0	24.0	36.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-18a)

Flexible test setup (UUT-18b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-19a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00019

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 3R/4/12

Options / Subcomponent Summary: Saginaw Enclosure, JCI Controllers, Ditek In-Line Surge Suppressor, Tane Alarm Relays and Accessories

Unit Mounting Description:

UUT-19a,b were attached to the shake table interface frame at the four corners utilizing 3/8-inch grade 5 bolts, round washers, 1/4-inch thick plate washers and channel nuts.

UUT-19a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-19b (flexible wall mount): The shake table interface frame was mounted on (4) VMC MSSH isolators.

UUT Properties

UUT-19a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	141	9.0	36.0	36.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-19a)

Flexible test setup (UUT-19b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-20a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00020

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman Enclosure

Unit Mounting Description:

UUT-20a,b were attached to the shake table interface frame at the four corners utilizing 1/4-inch grade 5 bolts, round washers, 1/4-inch thick plate washers and channel nuts.

UUT-20a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-20b (flexible wall mount): The shake table interface frame was mounted on (4) VMC MSSH isolators.

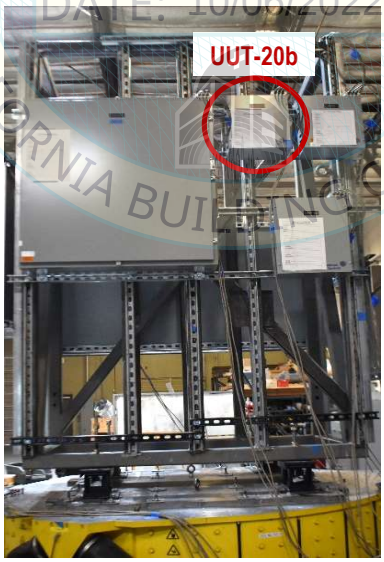
UUT Properties

UUT-20a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	27	6.0	12.0	12.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-20a)



Flexible test setup (UUT-20b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-21a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00021

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman Enclosure

Unit Mounting Description:
UUT-21a,b were attached to the shake table interface frame at the four corners utilizing 1/4-inch grade 5 bolts, round washers, 1/4-inch thick plate washers and channel nuts.

UUT-21a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-21b (flexible wall mount): The shake table interface frame was mounted on (4) VMC MSSH isolators.

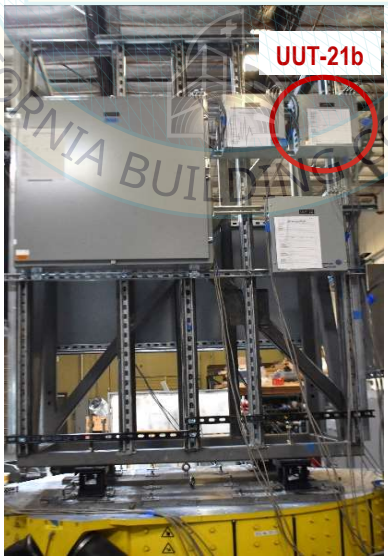
UUT Properties

UUT-21a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	23	6.0	12.0	12.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-21a)



Flexible test setup (UUT-21b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-22a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00022

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman Enclosure, CyberPower Standby Battery

Unit Mounting Description:

UUT-22a,b were attached to the shake table interface frame at the four corners utilizing 1/4-inch grade 5 bolts, round washers, 1/4-inch thick plate washers and channel nuts.

UUT-22a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

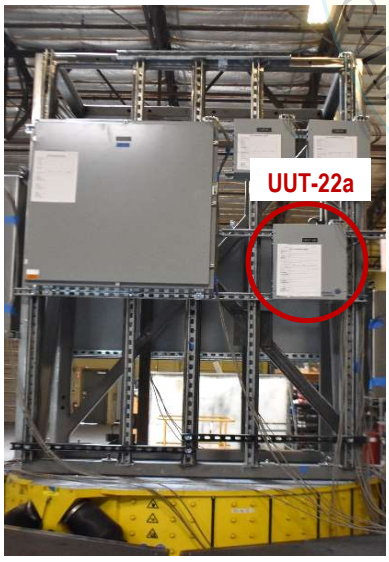
UUT-22b (flexible wall mount): The shake table interface frame was mounted on (4) VMC MSSH isolators.

UUT Properties

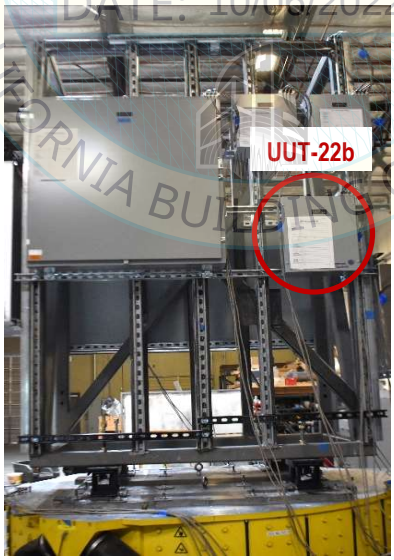
UUT-22a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	26	6.0	14.0	16.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61



Rigid test setup (UUT-22a)



Flexible test setup (UUT-22b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-23a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00023

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 1

Options / Subcomponent Summary: Hoffman Enclosure, Intwine Modem, Digi Network Circuit Board, Cisco Meraki Network Circuit Board, Functional Devices Modem Power Supply

Unit Mounting Description:

UUT-23a,b were attached to the shake table interface frame at the four corners utilizing 3/8-inch grade 5 bolts, round washers, 1/4-inch thick plate washers and channel nuts.

UUT-23a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-23b (flexible wall mount): The shake table interface frame was mounted on (4) VMC MSSH isolators.

UUT Properties

UUT-23a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	81	9.0	24.0	36.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-23a)

Flexible test setup (UUT-23b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-24a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00024

Product Construction Summary: Stainless steel enclosure, NEMA 4/4X/12

Options / Subcomponent Summary: Hoffman Enclosure, JCI Controllers

Unit Mounting Description:

UUT-24a,b were attached to the shake table interface frame at the four corners utilizing 3/8-inch grade 5 bolts, round washers, 1/4-inch thick plate washers and channel nuts.

UUT-24a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-24b (flexible wall mount): The shake table interface frame was mounted on (4) VMC MSSH isolators.

UUT Properties

UUT-24a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	60	9.0	20.0	24.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-24a)

Flexible test setup (UUT-24b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-25a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00025

Product Construction Summary: Stainless steel enclosure, NEMA 4/4X/12

Options / Subcomponent Summary: Hoffman Enclosure

Unit Mounting Description:
UUT-25a,b were attached to the shake table interface frame at the four corners utilizing 3/8-inch grade 5 bolts, round washers, 1/4-inch thick plate washers and channel nuts.

UUT-25a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-25b (flexible wall mount): The shake table interface frame was mounted on (4) VMC MSSH isolators.

UUT Properties

UUT-25a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	148	13.5	36.0	36.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-25a)

Flexible test setup (UUT-25b)

Interior view of panel

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

UNIT UNDER TEST - Summary Sheet
UUT-26a,b

Manufacturer: Johnson Controls

Product Line: Control panels

Model Number: JCI-CP-00026

Product Construction Summary: Powder coated carbon steel enclosure, NEMA 3R/4/12

Options / Subcomponent Summary: Saginaw Enclosure, JCI Controllers, Functional Devices Controllers, V&F Transformer Transformers

Unit Mounting Description:

UUT-26a,b were attached to the shake table interface frame at the four corners utilizing 3/8-inch grade 5 bolts, round washers, 1/4-inch thick plate washers and channel nuts.

UUT-26a (rigid wall mount): The DCL shake table interface frame was rigidly attached to the shake table using M12 threaded rod spaced approximately 12-inches on-center.

UUT-26b (flexible wall mount): The shake table interface frame was mounted on (4) VMC MSSH isolators.

UUT Properties

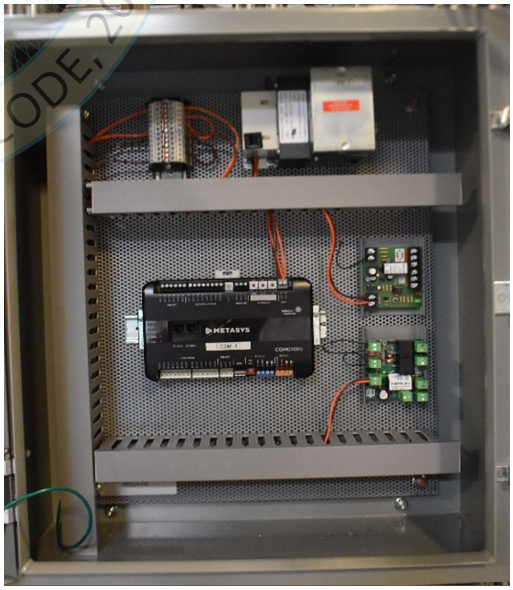
UUT-26a,b	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Depth	Width	Height	Front-Back	Side-Side	Vertical
	53	8.0	20.0	24.0	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.61

Rigid test setup (UUT-26a)

Flexible test setup (UUT-26b)



Interior view of panel

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