



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-0849

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☒ New ☐ Renewal

Manufacturer Information

Manufacturer: KONE Inc.

Manufacturer's Technical Representative: Jin Ko

Mailing Address: 450 Century Parkway, Allen, TX 75013

Telephone: (214) 597-2774 Email: jin.ko@kone.com

Product Information

Product Name: KCM831 - LCE HYDRAULIC DMC ELEVATOR CONTROLLER

Product Model Number(s): KM51244817C01

Product Category: Elevator Equipment

Product Sub-Category: Elevator Controllers

General Description: Electronic motion control system for the operation of people-moving elevators.

Mounting Description: Wall Mounted Rigid -

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: EASE LLC

Contact Person: Jonathan Roberson

Mailing Address: 5877 Pine Ave. Suite 210, Chino Hills, CA 91709

Telephone: (909) 606-7622 Email: jon@easeco.com

Title: Principal Structural Engineer



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

Company Name: EASE LLC

Name: Jonathan Roberson

California License Number: S4197

Mailing Address: 5877 Pine Ave., Suite 210, Chino Hills, CA 91709

Telephone: (951) 295-1892

Email: jon@EASECo.com

Certification Method

☐ GR-63-Core

☒ ICC-ES AC156

☐ IEEE 344

☐ IEEE 693

☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

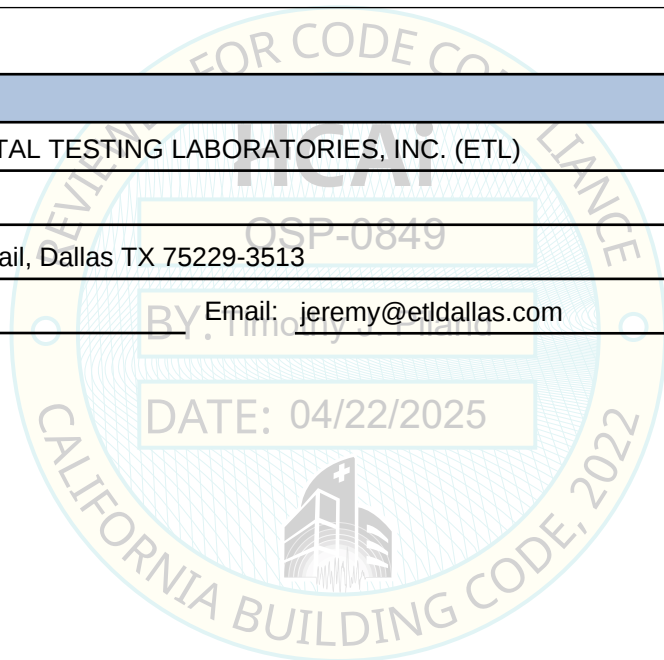
Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513

Telephone: (972) 247-9657

Email: jeremy@etldallas.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.44

SDs (Design spectral response acceleration at short period, g) = 2

a_p (Amplification factor) = 1

R_p (Response modification factor) = 2.5

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 04/22/2031

Date: 4/22/2025

Name: Timothy Piland

Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: SDs (g) = See Above

z/h = See Above

Condition of Approval (if applicable):

ATTACHMENT 1: CERTIFIED COMPONENT TABLES

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TABLE 1: COMPONENTS

Manufacturer	KONE						
Product Line	LCE HYDRAULIC DMC ELEVATOR CONTROLLER						
COMPONENT	KM NO.	DIMENSIONS (IN.)			MAX. WT. (LB.)	MOUNT	BASIS
		W	D	H			
KCM831 - LCE HYDRAULIC DMC ELEVATOR CONTROLLER	KM51244817C01	28.5	11.8	39.5	171	Wall	UUT 1 / UUT 2 UUT 3 / UUT 4
Description	Enclosure: Type Number 1 (IP20). Galvanized carbon steel. Motor Starter Input/Output: 208-600 Vac, 3-ph, 50/60 Hz, 228 A Max. Controller Inputs: 208-480 Vac, 1-ph, 50/60 Hz, 6 A; Door Operator Output: 230 Vac, 6 A, 1-ph, 50/60 Hz. Safety Circuit Rating: 120/230 Vac, 1 A, 1-ph, 50/60 Hz. Car Lighting Circuit Rating: 115 Vac, 15 A, 1-ph, 50/60 Hz. Car Logic Circuit Rating: 24 Vdc, 3 A. Shaft Logic Circuit Rating: 24 Vdc, 3 A. Controller Logic Circuit Rating: 24 Vdc, 1.5 A.						
Mount	<u>Wall</u> : Unit is anchored to a building wall or building partition.						
Notes	1. BASIS: • UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. 2. Special Seismic Certification is limited to components in Table 1 configured with subcomponents listed in Appendix 2 and those meeting exceptions of CBC §1705A.14.3.1 in a complete assembly.						

ATTACHMENT 1: CERTIFIED COMPONENT TABLES

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TABLE 2: SUBCOMPONENTS

SUBCOMPONENT	MANUFACTURER	KONE KM NO.	DESCRIPTION/MATERIAL	BASIS
CABINET,CONTROL PANEL (HCP)	KONE Inc.	KM51321037R01	Galvannealed or Galvanized CRS	UUT1,2,3,4
CONSTANT PARTS FOR HYDRO CONTROLLER, consisting of	KONE Inc.	KM51321050G03	Assembly of:	UUT1,2,3,4
MODULE,LCEDRV	KONE Inc.	KM51321040G01	UL 94V-0 PCB / Copper / Plastic	UUT1,2,3,4
MODULE,OPT 1 INPUT/OUTPUT BOARDS HYDRO	KONE Inc.	KM51223522G04	UL 94V-0 PCB / Copper / Plastic	UUT1,2,3,4
CONTACTOR 24VDC	Allen Bradley	KM51436766R01	24VDC Contact, 16A, 50/60Hz	UUT1,2,3,4
INTERCOM MODULE, KDL	Comelit	KM996186G01	Communication Module	UUT1,2,3,4
FUSEBLOCK,DINRAIL,600V,30A	Allen Bradley	US95984001	600VAC/VDC, 30A	UUT1,2,3,4
END ANCHOR, 35 DIN RAIL	Allen Bradley	KM983222	End Anchor for Top Din Rail	UUT1,2,3,4
KIT SURGE PROTECTION 5R 8A-20%	KONE Inc.	KM51712525R214		UUT1,2,3,4
TERMINAL BLOCK 4 POS. 600V GRAY 6-18 AWG	WEIDMULLER	KM52009373V000/-	4 POS. 600V GRAY 6-18 AWG	UUT1,2,3,4
NTC THERMISTOR 5R-8A-20%	TDK	KM1376444/-	THERMISTOR 5R-8A-20%	UUT1,2,3,4
EXTRA OPTIONAL BOARD	KONE Inc.	KM51223502G01	UL 94V-0 PCB / Copper / Plastic	UUT1,2,3,4
OPTIONAL BOARD FOR FDO	KONE Inc.	KM51223502G02	UL 94V-0 PCB / Copper / Plastic	UUT1,2,3,4
CONTROL MODULE, 230VAC W BYPASS, consisting of	KONE Inc.	KM51905170V000		UUT1,2,3,4
LCECPU561 Assembly	KONE Inc.	KM773390G09	UL 94V-0 PCB / Copper / Plastic	UUT1,2,3,4
Cover Plate, LCECPU561	KONE Inc.	KM837874G09	Gavanized sheet	UUT1,2,3,4
LOGIC BASE ASSY ICS 2.0	KONE Inc.	KM51198274V000	Gavanized sheet	UUT1,2,3,4
LCEADON3 ASSEMBLY	KONE Inc.	KM51115076G01	UL 94V-0 PCB / Copper / Plastic	UUT1,2,3,4
LCEADON3 ASSEMBLY	KONE Inc.	KM51115076G02	UL 94V-0 PCB / Copper / Plastic	SAME
SWITCH MODULE,W/ BYPASS,NO COVER,NA	KONE Inc.	KM780229G07		UUT1,2,3,4
CONTROL MODULE, 120VAC W BYPASS	KONE Inc.	KM51905170V001	Identical to V000, software variation.	SAME
CONTROL MODULE, 230VAC W BYPASS FREIGHT	KONE Inc.	KM51905170V003	Identical to V000, software variation.	SAME
CONTROL MODULE, 120VAC W BYPASS FR	KONE Inc.	KM51905170V004	Identical to V000, software variation.	SAME
CABLE,LCEOPT TO TB	KONE Inc.	KM51998563V000	Copper / Plastic	UUT1,2,3,4
FLOOD RESET SWITCH CABLE	KONE Inc.	KM52007027V000	Copper / Plastic	UUT1,2,3,4

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ATTACHMENT 1: CERTIFIED COMPONENT TABLES

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TABLE 2: SUBCOMPONENTS

SUBCOMPONENT	MANUFACTURER	KONE KM NO.	DESCRIPTION/MATERIAL	BASIS
KEYSW ASSY CYL/RTY 2POS KONE1/CA4-1 DPDT	ABB	KM815971G16	240 V, 16 A, A300	UUT1,2,3,4
INDICATION LIGHT,RED LED 12-48VAC/DC	ABB	KM51624555V000	12-48VAC/DC	UUT1,2,3,4
CABLE,LCEOPT TO INDICATOR LIGHT	KONE Inc.	KM52045284V000	Copper / Plastic	UUT1,2,3,4
BRACKET ASSY,SUPPORT,SOFTSTARTER	KONE Inc.	KM789346G01	Gavanized sheet	UUT1,2,3,4
SOFT STARTER, SMC-SMC3,25A,200-600VAC	Rockwell Automation	KM955887H01	Din Rail Mount	INT
SOFT STARTER,SMC-SMC3,64A,200-600VAC	Rockwell Automation	KM955887H02	Din Rail Mount	UUT1,2
SOFT STARTER,SMC-SMC3,74A,200-600VAC	Rockwell Automation	KM955887H03	Back Plate Mount	INT
SOFT STARTER,SMC-SMC3,104A,200-600VAC	Rockwell Automation	KM955887H04	Back Plate Mount	UUT3
SOFT STARTER,SMC-SMC3,147A,200-600VAC	Rockwell Automation	KM955887H05	Back Plate Mount	UUT4
POWER MODULE,W/1200VA TRANS	KONE Inc.	KM51321041G01	UL 94V-0 PCB / Copper / Plastic	UUT1,2,3,4
MODULE,PWR,W/1200VA TRANS	KONE Inc.	KM51321041G02	UL 94V-0 PCB / Copper / Plastic	SAME
TRANSFORMER,CURRENT CONTROL 208V	Pacific Transformer Corp	KM713383G03		UUT1,3
TRANSFORMER,CURRENT CONTROL 240V	Pacific Transformer Corp	KM713383G04		INT
TRANSFORMER,CURRENT CONTROL 480V	Pacific Transformer Corp	KM713383G05		UUT2,4
POWERVATOR, RB-2	Reynolds Electronics	KM789657G01		UUT1,2,3,4
MODULE,LCEGTW	KONE Inc.	KM51223523G01	UL 94V-0 PCB / Copper / Plastic	UUT1,2,3,4
MODULE,FSP/TSD ES PHOENIX	Phoenix Contact	KM783040G01		UUT1,2,3,4
FUSE,600V,TM-DL,CSA, 5 AMP	Bussmann	US51816005		INT
FUSE,CARTRIDGE 6A 600VAC 10.3x38mm	Bussmann	KM281646		UUT2,4
FUSE,600V,TM-DL,CSA, 12AMP	Bussmann	US51816012		INT
FUSE,600V,TM-DL,CSA, 15AMP	Bussmann	US51816015		UUT1,3
CABLE SET, FOR HYDRO	KONE Inc.	KM51321035C01	Copper / Plastic	UUT1,2,3,4

Notes	1. BASIS:
	• UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. • INT (Interpolate/Extrapolate): indicates a model that was not specifically tested, and by which seismic certification is established through evaluation of testing of other, similar models in the product line. • SAME: Model is physically, mechanically & electrically the same as a UUT. Difference is limited to color, software, or labeling.
	2. Seismic Certification in this table is limited to subcomponents identified when installed as part of a complete assembly of the equipment defined in Table 1.

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT 1 KCM831 - LCE HYDRAULIC DMC ELEVATOR CONTROLLER – Config. 1						
Manufacturer: KONE Inc.						
Identification: KM No.: KM51244817C01 Serial No.: 45638013						
Description: Input Voltage: 200-208V SOFT STARTER, 20 HP SMC-SMC3, 64A, 200-600VAC KM No. KM955887H02 TRANSFORMER, CURRENT CONTROL 208V KM No. KM713383G03 See Table 2, Attachment 1 for additional information.						
Mounting: Rigid Wall mount using: KONE MOUNTING KIT (P/N KM842546G03) w/ (2) – 3/8" diam. ASTM J429 Grade 5 bolts & Channel Nuts w/ spring to Haydon "H-132-OS" steel strut across 3 studs w/ (3) – 1/4" diam. HWH self-tapping, self-threading sheet metal screws through web of strut and 5/8" sheetrock to 16 ga. steel stud. Typical top and bottom of panel. <u>Unit also tested with:</u> (3) – 3/8" diam. ASTM J429 Grade 5 bolts & 1.25" O.D. x 13/16" I.D. x 0.06" Stainless Steel fender washers positioned in strut slots through 5/8" sheetrock & 16 ga. steel stud. To 1.75"x1.25"x1/4" plate washer & hex nut at back side of stud.						
Dimensions (in.)				Lowest Resonant Frequency (Hz.)		
Width	Depth	Height	Weight (lb.)	(S/S) X-Axis	(F/B) Y-Axis	(Vert.) Z-Axis
28.5	11.8	39.5	161.5	n/a	n/a	n/a
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						
S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						

UUT 2 KCM831 - LCE HYDRAULIC DMC ELEVATOR CONTROLLER – Config. 2							
Manufacturer:			KONE Inc.				
Identification:			KM No.: KM51244817C01 Serial No.: 45638014				
Description:			Input Voltage: 440-480V SOFT STARTER, 50 HP SMC-SMC3, 64A, 200-600VAC KM No. KM955887H02 TRANSFORMER, CURRENT CONTROL 480V KM No. KM713383G05 See Table 2, Attachment 1 for additional information.				
Mounting:			Rigid Wall mount using: KONE MOUNTING KIT (P/N KM842546G03) w/ (2) – 3/8" diam. ASTM J429 Grade 5 bolts & Channel Nuts w/ spring to Haydon "H-132-OS" steel strut across 3 studs w/ (3) – 1/4" diam. HWH self-tapping, self-threading sheet metal screws through web of strut and 5/8" sheetrock to 16 ga. steel stud. Typical top and bottom of panel.				
Dimensions (in.)				Weight (lb.)	Lowest Resonant Frequency (Hz.)		
Width	Depth	Height	(S/S) X-Axis		(F/B) Y-Axis	(Vert.) Z-Axis	
28.5	11.8	39.5	n/a		n/a	n/a	
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS							
S _{DS} (G)	z/h	I _P	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)	
2.0	1.0	1.5	3.2	2.4	1.34	0.54	
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.							

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT 3 KCM831 - LCE HYDRAULIC DMC ELEVATOR CONTROLLER – Config. 3						
Manufacturer: KONE Inc.						
Identification: KM No.: KM51244817C01 Serial No.: 45638013						
Description: Input Voltage: 200-208V SOFT STARTER, 20 HP SMC-SMC3, 64A, 200-600VAC KM No. KM955887H04 TRANSFORMER, CURRENT CONTROL 208V KM No. KM713383G03 See Table 2, Attachment 1 for additional information.						
Mounting: Rigid Wall mount using: KONE MOUNTING KIT (P/N KM842546G03) w/ (2) – 3/8" diam. ASTM J429 Grade 5 bolts & Channel Nuts w/ spring to Haydon "H-132-OS" steel strut across 3 studs w/ (3) – 1/4" diam. HWH self-tapping, self-threading sheet metal screws through web of strut and 5/8" sheetrock to 16 ga. steel stud. Typical top and bottom of panel.						
Dimensions (in.)				Lowest Resonant Frequency (Hz.)		
Width	Depth	Height	Weight (lb.)	(S/S) X-Axis	(F/B) Y-Axis	(Vert.) Z-Axis
28.5	11.8	39.5	170.0	n/a	n/a	n/a
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						
S _{DS} (G)	z/h	I _P	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						

UUT 4 KCM831 - LCE HYDRAULIC DMC ELEVATOR CONTROLLER – Config. 4						
Manufacturer:						
Identification:						
Description:						
Mounting:						
Manufacturer:						
Identification:						
Description:						
Mounting:						
Dimensions (in.)				Lowest Resonant Frequency (Hz.)		
Width	Depth	Height	Weight (lb.)	(S/S) X-Axis	(F/B) Y-Axis	(Vert.) Z-Axis
28.5	11.8	39.5	170.5	n/a	n/a	n/a
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						
S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						