



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0458

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Crestron Electronics, Inc.

Manufacturer's Technical Representative: Chirag Patel

Mailing Address: 22 Link Drive, Rockleigh, NJ 07647

Telephone: (201) 750-7004

Email: cpatel@crestron.com

Product Information

Product Name: Electrical Control Panels on Life Safety/Critical Branch

Product Type: Lighting Control Panels

Product Model Number: Spacebuilder, See Certified Product Table

General Description: Galvanized carbon steel enclosures with internal components as listed in the attachments

Mounting Description: Rigid, Wall Mounted

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: The VMC Group

Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780

Email: john.giuliano@thvmcgroup.com

Title: President





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

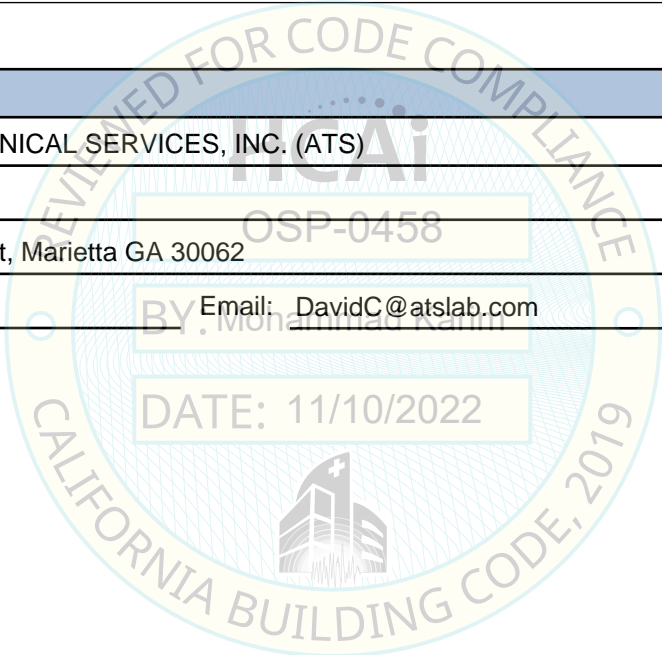
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 113 Main Street, Bloomingdale, NJ 07403
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

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

Testing Laboratory

Company Name: APPLIED TECHNICAL SERVICES, INC. (ATS)
Contact Person: David Common
Mailing Address: 1049 Triad Court, Marietta GA 30062
Telephone: (770) 423-1400 Email: DavidC@atslab.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.50(SDS = 2.0, z/h = 1); 1.3 (SDS = 2.5, z/h=0)

SDS (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1) & 2.50 (z/h = 0)

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 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 11/10/2028

Date: 11/10/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = See Above z/h = See Above

Condition of Approval (if applicable): DATE: 11/10/2022

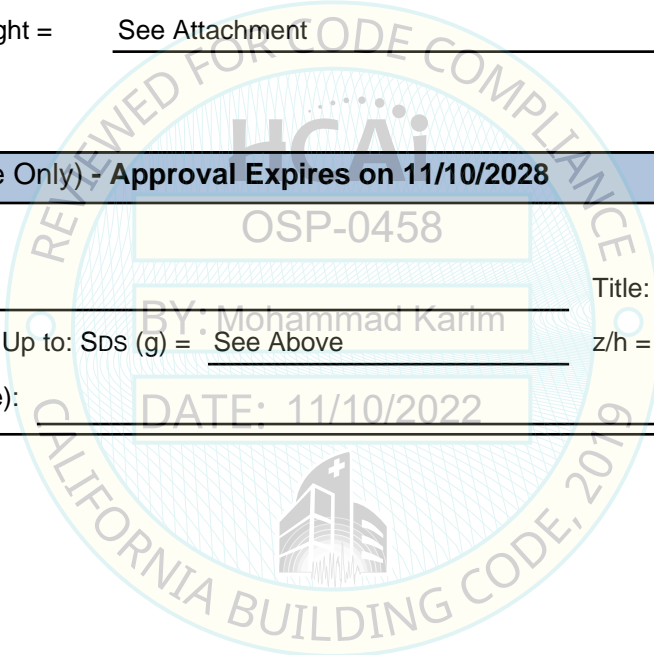


Table 1: Certified Spacebuilder Control Panels

Model	Manufacturer	Dimensions [in.]			Max. Weight [lb.]	Enclosure Thickness / Material	UUT
		Height	Width	Depth			
DIN-EN-3X18-MMOE	Crestron	24.3	16.1	4.4	30	16 Gauge Galvanized Carbon Steel	UUT-01
GLEX-FT-24	Crestron	24.3	16.1	4.4	30		Interpolated
GLEX-FT-24-MMOE	Crestron	24.3	16.1	4.4	30		Interpolated
DIN-EN-3X18	Crestron	24.3	16.1	4.4	30		Interpolated
GLEX-FT-56	Crestron	39.7	16.1	4.4	40		UUT-02
GLEX-FT-56-MMOE	Crestron	39.7	16.1	4.4	40		Interpolated
DIN-EN-6X18	Crestron	39.7	16.1	4.4	40		Interpolated
DIN-EN-6X18-MMOE	Crestron	39.7	16.1	4.4	45		UUT-03
GLEX-RACK-4U	Crestron	45.7	27.3	8.4	100		UUT-04

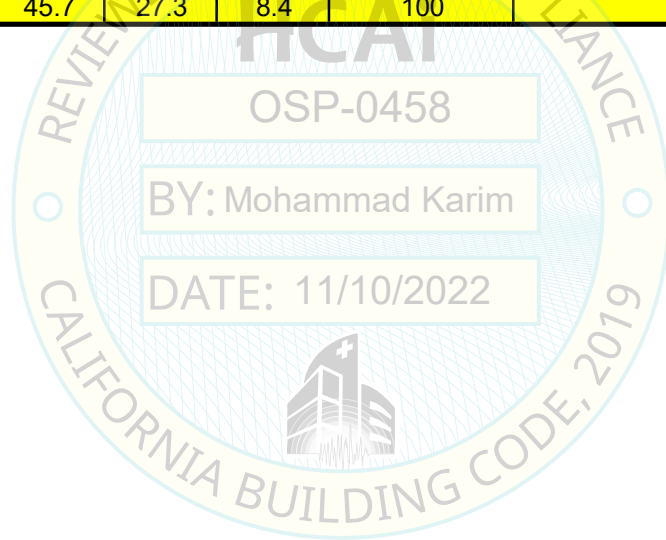


Table 2: Certified Spacebuilder Control Panel Subcomponents

Subcomponent	Part Number	Manufacturer	Material	Approx. Weight [lb.]	UUT
Switch Module (16 channels)	GLXX-SW16	Crestron	Galvanized Steel Mounting Plate	3.00	UUT-01
Relay Control Module	GLXX-CTRL	Crestron	Galvanized Steel Housing	2.00	UUT-01
Power Supply	DIN-PWS30-277	Crestron	Plastic Housing	0.41	UUT-01
Crestron 3 Series Control Processor	DIN-AP4 (Formerly DIN-AP3)	Crestron	Plastic Housing	0.58	UUT-01
Building Management Systems Interface	GLA-BMS	FieldServer Technologies	Plastic Housing	0.96	UUT-01
Power Supply for GLA-BMS	HK-H5-A15	Condor	Plastic Housing	0.30	UUT-01
Switch Module (8 channels)	GLXX-SW8	Crestron	Plastic Housing	2.50	UUT-01
Wireless Router	AIRPORT EXPRESS - MC414LL/A	Apple Computer	Plastic Housing	0.53	UUT-02
Power Supply	DIN-PWS30-277	Crestron	Plastic Housing	0.41	UUT-02
Switching Module	DIN-8SW8-I (Formerly DIN-8SW8)	Crestron	Plastic Housing	0.82	UUT-02
PYNG Control Hub	PYNG-HUB	Crestron	Plastic Housing	0.70	UUT-02
5 Port Switch	CEN-SW-POE-5	Crestron	Aluminum Housing	0.84	UUT-02
Power Supply for CEN-SW-POE-5	GS60A48-EO	Mean Well	Plastic Housing	1.30	UUT-02
Room Media Controller	RMC4 (Formerly RMC3)	Crestron	Plastic Housing	0.40	UUT-02

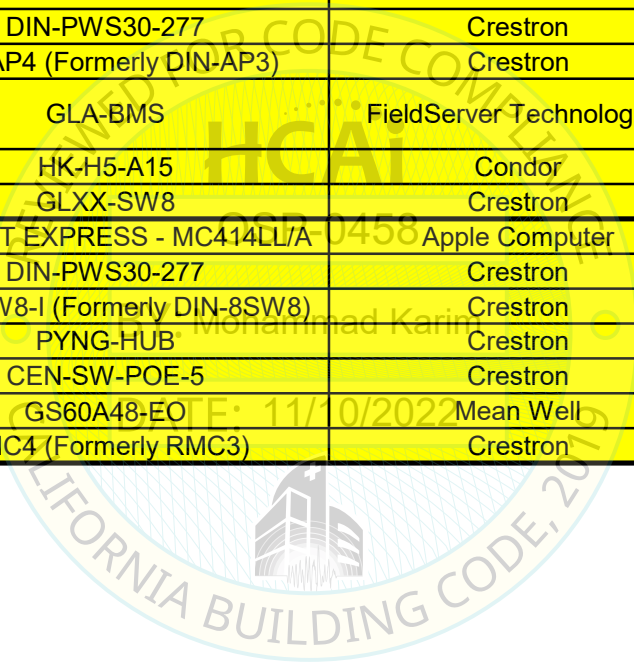


Table 2: Certified Spacebuilder Control Panel Subcomponents (Continued)

Subcomponent	Part Number	Manufacturer	Material	Approx. Weight [lb.]	UUT
Universal Dimming Module	DIN-1DIMU4	Crestron	Plastic Housing	2.10	UUT-03
0-10V Dimming Module	DIN-4DIMFLV4	Crestron	Plastic Housing	0.58	UUT-03
Power Supply	DIN-PWS60	Crestron	Plastic Housing	0.38	UUT-03
Power Supply	787-1628	WAGO	Aluminum Housing	1.30	UUT-03
Protection Module	PISA11.CLASS2	PULS	Plastic Housing	0.26	UUT-03
DALI Controller	DIN-DALI-2	Crestron	Plastic Housing	0.60	UUT-03
Distribution Block	DIN-BLOCK	Crestron	Plastic Housing	0.31	UUT-03
Crestron 3 Series Control Processor	DIN-AP3 (Formerly DIN-AP4)	Crestron	Plastic Housing	0.58	UUT-03
Distribution Hub	DIN-HUB	Crestron	Plastic Housing	0.38	UUT-03
DMX Lighting Controller	LPC 1	Pharos	Aluminum Housing	1.06	UUT-03
5 Port Switch	CEN-SW-POE-5	Crestron	Aluminum Housing	0.84	UUT-03
Power Supply for CEN-SW-POE-5	GS60A48-EO	Mean Well	Plastic Housing	1.30	UUT-03
Patch Panel	5G596-U24	Leviton	Carbon Steel Chassis	2.00	UUT-04
Crestron 3 Series Control Processor	CP4N (Formerly CP3N)	Crestron	Aluminum Chassis	3.10	UUT-04
Power Supply	PW-2420RU (2)	Crestron	Plastic Housing	1.30	UUT-04
AC Outlet	51015188 (4)	WAGO	Plastic Housing	0.33	UUT-04
24 Port Switch	CNGE2FE24MS	Comnet	Carbon Steel Chassis	2.00	UUT-04
Comnet Power Brick	CONDOR SA-242A52	Condor	Plastic Housing	0.53	UUT-04
Patch Panel	HP624	Hubbell	Carbon Steel Chassis	1.51	UUT-04
Crestron 3 Series Control Processor	CP4 (Formerly CP3)	Crestron	Aluminum Chassis	3.12	UUT-04
AC Outlet	2963860	Phoenix Contact	Plastic Housing	0.30	UUT-04
16 Port Switch	CEN-SWPOE-16	Crestron	Aluminum Chassis	6.40	UUT-04
GLA-DMX512 Power Brick	PW-1205	Crestron	Plastic Housing	0.29	UUT-04
DMX Lighting Controller	GLA-DMX512	Interactive Technologies, Inc.	Aluminum Housing	0.56	UUT-04
5 Port Switch	EIRP305-24V-T	B & B Electronics	Aluminum Housing	1.39	UUT-04
Ethernet to Cresnet Bridge	DIN-CENCN-2	Crestron	Plastic Housing	0.56	UUT-04
Ethernet to Cresnet Bridge w/ POE	DIN-CENCN-2-POE	Crestron	Plastic Housing	0.76	UUT-04
Versiport Module	DIN-IO8	Crestron	Plastic Housing	0.37	UUT-04
Analog Output Module	DIN-AO8	Crestron	Plastic Housing	0.40	UUT-04
Power Supply	DIN-PWS50	Crestron	Plastic Housing	0.40	UUT-04



UNIT UNDER TEST (UUT) Summary Sheet

UUT-1

Test Report: D243452

Model Line	Model Number	Manufacturer
Spacebuilder	DIN-EN-3X18-MMOE	Crestron

Product Construction Summary

16ga. Galvanized Carbon Steel

Options / Subcomponent Summary

Power Supply: TDK-Lambda; Control Module: Crestron; Automation Processor: Crestron;
16 channel switch module: Crestron

UUT Properties						
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
30	16.1	4.4	24.3	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}	
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-	
		2.50	0.0	1.5	-	-	1.68	0.68	

Test Mounting Details

UUT-1 was mounted directly to the wall fixture using (4) 3/8" diameter Grade 5 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-2

Test Report: D243452

Model Line	Model Number	Manufacturer
Spacebuilder	GLEX-FT-56	Crestron

Product Construction Summary

16ga. Galvanized Carbon Steel

Options / Subcomponent Summary

Power Supply: TDK-Lambda; Ethernet switch: Crestron; Wireless Router: Apple Computer; High voltage switch: Crestron; Control Hum: Crestron; Room Media Controller: Crestron

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
39	16.1	4.4	39.7	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.68	0.68

Test Mounting Details

UUT-2 was mounted directly to the wall fixture using (4) 3/8" diameter Grade 5 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-3

Test Report: D243452

Model Line	Model Number	Manufacturer
Spacebuilder	DIN-EN-6X18-MMOE	Crestron

Product Construction Summary

16ga. Galvanized Carbon Steel

Options / Subcomponent Summary

Power Supply: Crestron; Power Supply: WAGO; DMX Lighting Controller: Pharos; Automation Processor: Crestron; Dimmer: Crestron; Dimmer Module: Crestron; Protection Module: PULS; DALI Controller: Crestron; Distribution Block: Crestron; Distribution Hub: Crestron; 5 Port Switch: Crestron

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
45	16.1	4.4	39.7	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.68	0.68

Test Mounting Details

UUT-3 was mounted directly to the wall fixture using (4) 3/8" diameter Grade 5 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-4

Test Report: D243452

Model Line	Model Number	Manufacturer
Spacebuilder	GLEX-RACK-4U	Crestron

Product Construction Summary

16ga. Galvanized Carbon Steel

Options / Subcomponent Summary

Patch Panel: Leviton; Patch Panel: Hubbell; Power Supply: Crestron; AC Outlet: WAGO; AC Outlet: Phoenix Contact; Ethernet Switch: Crestron; Ethernet Switch: B & B Electronics; Control Module: Crestron; DMX Lighting Controller: Interactive Technologies, Inc.; Control Processor: Crestron; Managed Ethernet Switch: Comnet; Comnet Power brick: Condor; GLA-DMX512 Power brick: Crestron; Building Management Systems Interface; FieldServer Technologies; Bridge, Bridge w/ power over ethernet, Versiport module, Analog Output module: Crestron

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
102	27.3	8.4	45.7	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.68	0.68

Test Mounting Details

UUT-4 was mounted directly to the wall fixture using (4) 3/8" diameter Grade 5 bolts.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.