



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0305

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Myers Emergency Power Systems

Manufacturer's Technical Representative: Kevin Wolverton

Mailing Address: 44 South Commercial Way, Bethlehem, PA 18017

Telephone: (610) 868-3500

Email: kevin.wolverton@myerseps.com

Product Information

Product Name: UPS and Batteries

Product Type: Lighting Inverter Systems

Product Model Number: Various (See Attachment)

General Description: Single Phase Emergency Lighting Inverter System.

Mounting Description: Rigid Floor 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: Dynamic Certification Laboratories

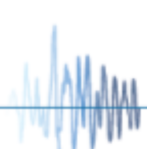
Contact Person: Kelly Laplace

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

Telephone: (775) 358-5085

Email: Kelly@shaketest.com

Title: Business Manager





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

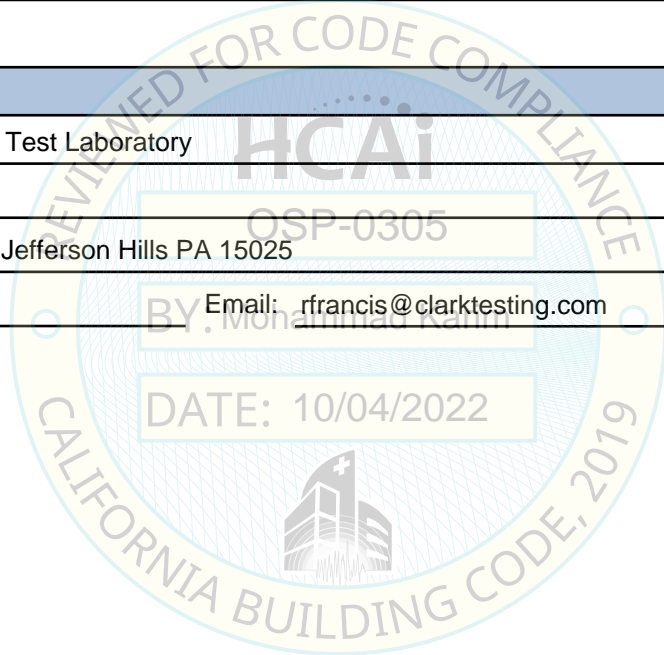
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

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

Testing Laboratory

Company Name: Clark Dynamics Test Laboratory
Contact Person: Robert Francis
Mailing Address: 1801 Route 51, Jefferson Hills PA 15025
Telephone: (412) 387-1004 Email: rfrancis@clarktesting.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.80

SDS (Design spectral response acceleration at short period, g) = 2.5

a_p (Amplification factor) = 1.0

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

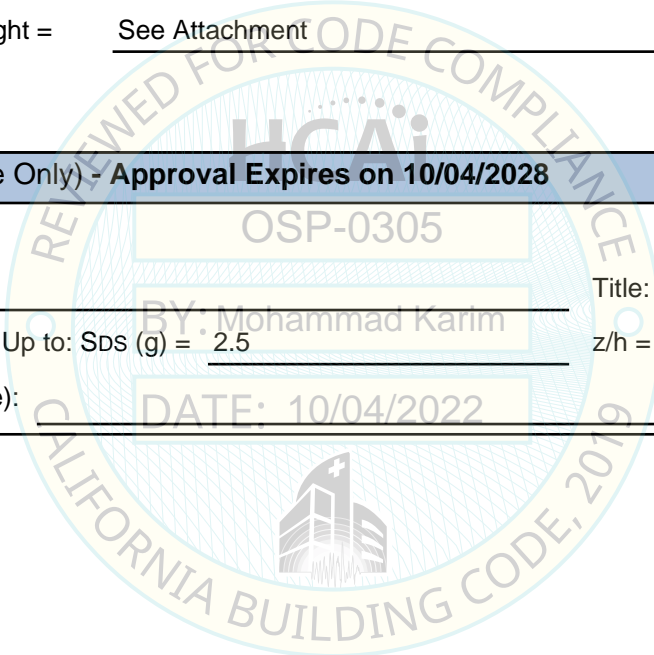
HCAI Approval (For Office Use Only) - Approval Expires on 10/04/2028

Date: 10/4/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.5 z/h = 1

Condition of Approval (if applicable): DATE: 10/04/2022



Special Seismic Certification
Table 1 - Certified Components



DCL Project Number: 58623-2201

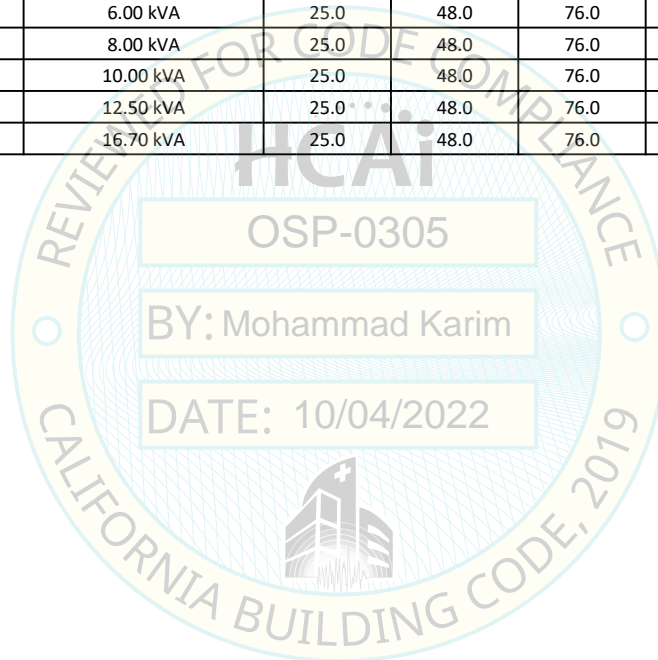
Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator E & IE Lighting Inverters

Mounting Description: Rigid base mount

Certified Seismic Level: $S_{DS}=2.5g, z/h=1.0$

Model	Power Rating	Dimensions (in)			Weight (lb)	UUT
		Depth	Width	Height		
EH-1-S	1.5 kVA	25.0	30.0	62.0	511	Extrapolated
EH-2-S	2.25 kVA	25.0	30.0	62.0	674	Extrapolated
EH-3-S	3.00 kVA	25.0	30.0	62.0	827	Extrapolated
EH-4-S	3.75 kVA	25.0	30.0	62.0	980	Extrapolated
EH-5-S	5.00 kVA	25.0	30.0	62.0	1,465	2
EH-6-S	6.00 kVA	25.0	48.0	76.0	1,715	Interpolated
EH-7-S	8.00 kVA	25.0	48.0	76.0	2,120	Interpolated
EH-8-S	10.00 kVA	25.0	48.0	76.0	2,561	Interpolated
EH-9-S	12.50 kVA	25.0	48.0	76.0	3,025	Interpolated
EH-10-S	16.70 kVA	25.0	48.0	76.0	4,280	1



Special Seismic Certification

Table 2 - Certified Subcomponents: Enclosures



DCL Project Number: 58623-2201

Certified Seismic Level: $S_{DS}=2.5g, z/h=1.0$

Model	Type	Manufacturer	Weight (lb)	UUT
CA-203255	Enclosure	Myers Emergency Power Systems	70	2
CA-203216			210	2
CA-203588			400	1

Special Seismic Certification

Table 3 - Certified Subcomponents: Main Transformer

DCL Project Number: 58623-2201

Certified Seismic Level: $S_{DS}=2.5g, z/h=1.0$

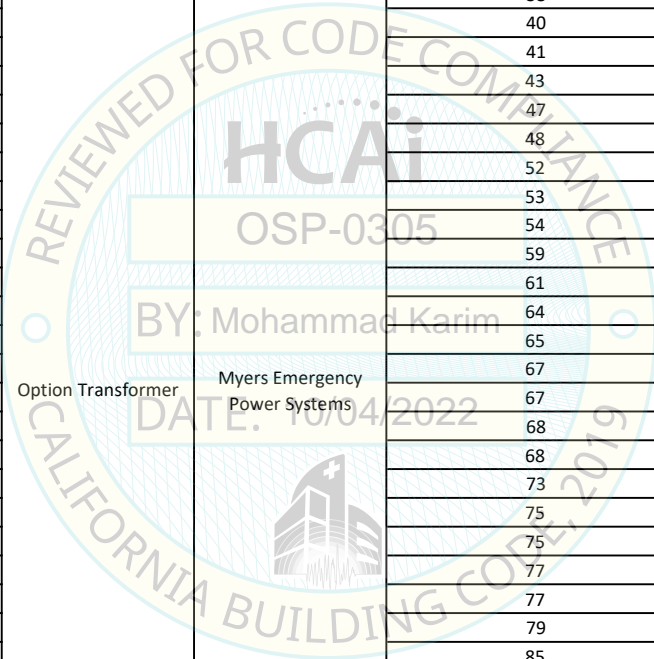
Model	Type	Manufacturer	Weight (lb)	UUT
XF-FM114085	Main Transformer	Myers Emergency Power Systems	41	Extrapolated
XF-FM114091			54	Extrapolated
XF-FM114092			65	Extrapolated
XF-FM114093			77	2
XF-FM114052			87	Interpolated
XF-FM114309			87	Interpolated
XF-FM114095			89	Interpolated
XF-FM114097			112	Interpolated
XF-FM114096			113	Interpolated
XF-FM114258			113	Interpolated
XF-FM114271			114	Interpolated
XF-FM114255			153	Interpolated
XF-FM114069			155	Interpolated
XF-FM114098			155	Interpolated
XF-FM114387			184	Interpolated
XF-FM114100			185	Interpolated
XF-FM114101			185	Interpolated
XF-FM114310			187	Interpolated
XF-FM114102			245	Interpolated
XF-FM114116			250	Interpolated
XF-FM114103			251	1

Special Seismic Certification
Table 4 - Certified Subcomponents: Option Transformer



DCL Project Number: 58623-2201
 Certified Seismic Level: $S_{DS}=2.5g, z/h=1.0$

Model	Type	Manufacturer	Weight (lb)	UUT
XF-AU101656	Option Transformer	Myers Emergency Power Systems	16	Extrapolated
XF-AU104304			16	Extrapolated
XF-AU112788			18	Extrapolated
XF-AU102331			22	Extrapolated
XF-AU104125			33	Extrapolated
XF-AU113859			33	Extrapolated
XF-AU101612			34	Extrapolated
XF-AU103093			37	Extrapolated
XF-IS104781			38	Extrapolated
XF-IS106435			40	Extrapolated
XF-AU108550			41	Extrapolated
XF-IS103533			43	Extrapolated
XF-AU102316			47	2
XF-IS102796			48	Interpolated
XF-IS114851			52	Interpolated
XF-IS114849			53	Interpolated
XF-IS105786			54	Interpolated
XF-AU102077			59	Interpolated
XF-AU105152			61	Interpolated
XF-IS105727			64	Interpolated
XF-IS113259			65	Interpolated
XF-AU101676			67	Interpolated
XF-AU102839			67	Interpolated
XF-IS103822			68	Interpolated
XF-IS114673			68	Interpolated
XF-IS110554			73	2
XF-IS107057			75	Interpolated
XF-AU106763			75	Interpolated
XF-AU102444			77	Interpolated
XF-AU102474			77	Interpolated
XF-IS102389			79	Interpolated
XF-AU109375			85	Interpolated
XF-IS102834			86	Interpolated
XF-AU111057			86	Interpolated
XF-IS102833			107	Interpolated
XF-IS102141			110	Interpolated
XF-AU105078			117	Interpolated
XF-IS111113			122	Interpolated
XF-IS104645			132	Interpolated
XF-IS101765			134	Interpolated
XF-IS103534			139	Interpolated
XF-IS103354			139	Interpolated
XF-IS114740	146	Interpolated		
XF-IS104920	186	Interpolated		
XF-IS114621	190	1		



Special Seismic Certification

Table 5 - Certified Subcomponents: Batteries & Fuses



DCL Project Number: 58623-2201

Certified Seismic Level: $S_{DS}=2.5g, z/h=1.0$

Model	Type	Manufacturer	Description	UUT
NLN	Fuse	Little Fuse	60 Amp	1, 2
F60A1B	Fuse Block	Marathon	60 Amp	1, 2
12AVR100-3ET	Battery	East Penn Mfg.	12 V, 100 AH	1, 2
FT12-100	Battery	Leoch	12 V, 100 AH	1, 2

Special Seismic Certification

Table 6 - Certified Subcomponents: Miscellaneous

DCL Project Number: 58623-2201

Certified Seismic Level: $S_{DS}=2.5g, z/h=1.0$

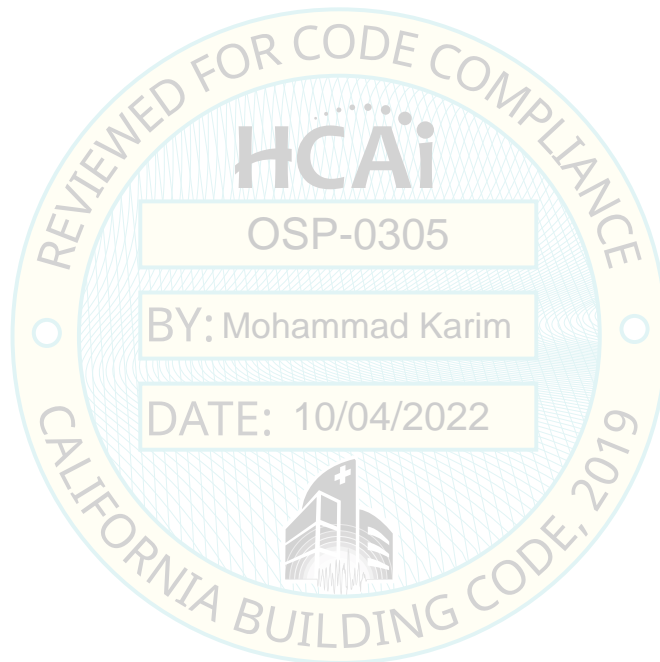
Model	Type	Manufacturer	UUT
SA-403244	AC Sub-Assembly	HCAI	1
SA-403245			2
SA-403246	DC Sub-Assembly	Myers Emergency Power Systems	1
SA-403243			2
IC2-Fax/Modem-1	Fax/Modem Option	Precision Graphics	2
IC2-Fax/Modem-2			1
403492	Stagger Start Option	Precision Graphics	1, 2
403833	Status monitoring	Precision Graphics	1, 2
EIS-W	SNMP	Newport Electronics	1, 2
160 Series	Options Relay	Deltrol Controls	1, 2
S2C-H6R	Output Trip Option	ABB	1, 2
MG26928		Schneider Electric	1, 2
600 E Series	Maintenance Bypass	Kraus & Naimer	1, 2

Special Seismic Certification
Table 7 - Tested Units



DCL Project Number: 58623-2201
Manufacturer: Myers Emergency Power Systems
Product Line: Illuminator E & IE Lighting Inverters
Mounting Description: Rigid base mount
Certified Seismic Level: $S_{DS}=2.5g$, $z/h=1.0$

Model	Power Rating	Dimensions (in)			Weight (lb)	UUT
		Depth	Width	Height		
EH-5-S	5.00 kVA	25.0	30.0	62.0	1,465	2
EH-10-S	16.70 kVA	25.0	48.0	76.0	4,280	1



UUT1
UNIT UNDER TEST (UUT)
Summary Sheet



DCL Project Number: 58623-2201

Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator E & IE Lighting Inverters

Model Number: EH-10-S

Product Construction Summary:

Powder-coated cold-rolled. Lockable hinger doors. Certified unit construction shall be identical to cabinet construction of UUT's.

Options / Component Summary:

Myers Emergency Power Systems IC2-Fax/Modem-2, Precision Graphics 403833 Status monitoring, Newport Electronics EIS-W SNMP, Precision Graphics 403492, Stagger Start Option, Deltrol Controls 160 Series Options Relay, ABB S2C-H6R Output Trip Option, Schneider Electric MG26928 Output Trip Option, Kraus & Naimer 600 E Series Maintenance Bypass, Myers Emergency Power Systems SA-403244 AC Sub-Assembly, Myers Emergency Power Systems SA-403246 DC Sub-Assembly, Myers Emergency Power Systems XF-FM114103 Main Transformer, Myers Emergency Power Systems XF-IS114621 Option Transformer, Little Fuse NLN Series Fuse, Marathon F60A1B Fuse Block, East Penn Mfg. 12AVR100-3ET Batteries, Leoch FT12-100 Batteries

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

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
4,280	25	48	76	19.1	11.3	>33

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	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Rigid floor mounted. Unit mounted to shake table at ends with a total of (10) 5/8" grade 5 bolts.



Overall view of UUT1

UUT1
UNIT UNDER TEST (UUT)
Summary Sheet



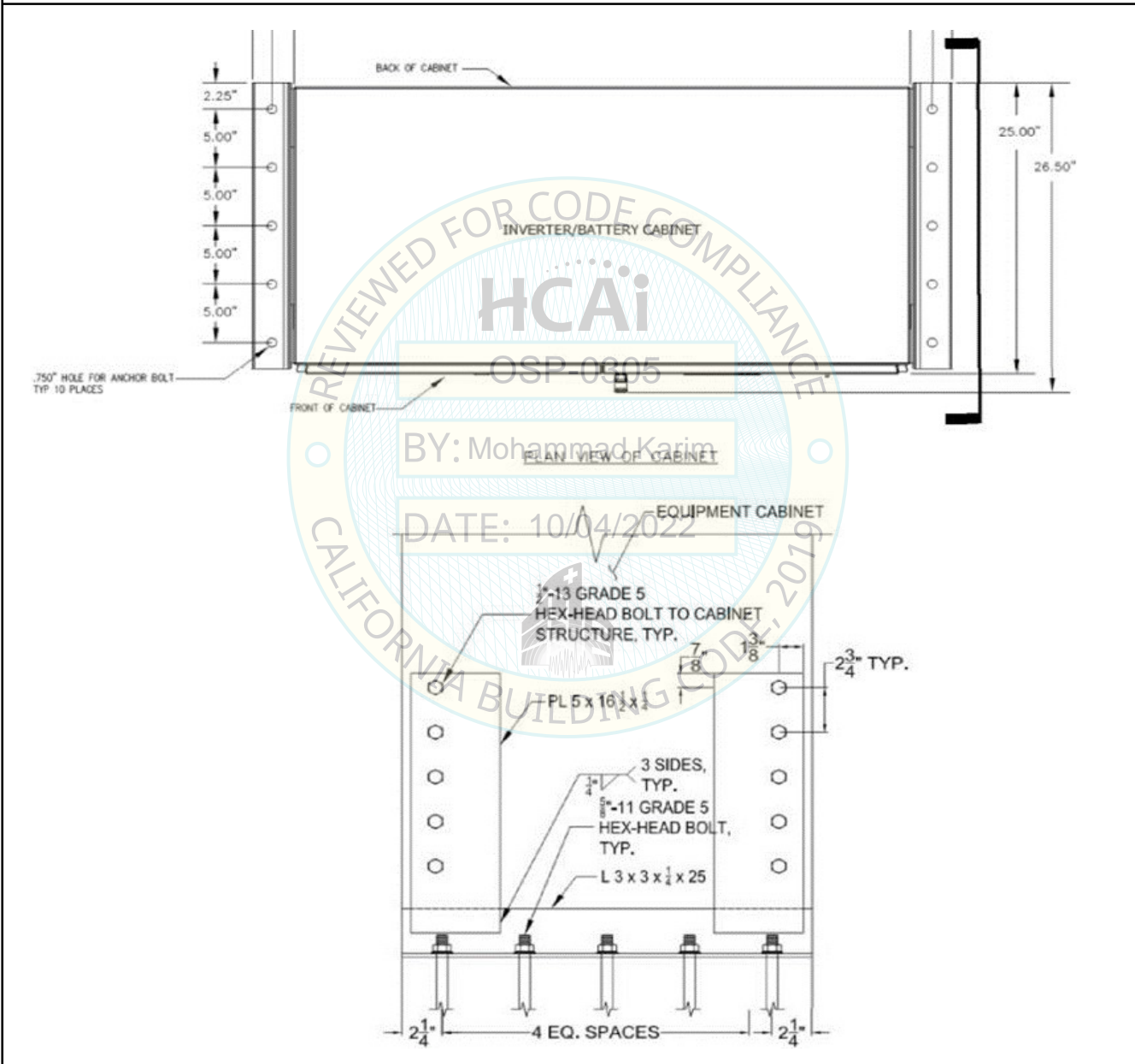
DCL Project Number: 58623-2201

Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator E & IE Lighting Inverters

Model Number: EH-10-S

Support and Attachment Summary:



UUT2
UNIT UNDER TEST (UUT)
Summary Sheet



DCL Project Number: 58623-2201

Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator E & IE Lighting Inverters

Model Number: EH-5-S

Product Construction Summary:

Powder-coated cold-rolled. Lockable hinged doors. Certified unit construction shall be identical to cabinet construction of UUT's.

Options / Component Summary:

Myers Emergency Power Systems IC2-Fax/Modem-1, Precision Graphics 403833 Status monitoring, Newport Electronics EIS-W SNMP, Precision Graphics 403492, Stagger Start Option, Deltrol Controls 160 Series Options Relay, ABB S2C-H6R Output Trip Option, Schneider Electric MG26928 Output Trip Option, Kraus & Naimer 600 E Series Maintenance Bypass, Myers Emergency Power Systems SA-403245 AC Sub-Assembly, Myers Emergency Power Systems SA-403243 DC Sub-Assembly, Myers Emergency Power Systems XF-FM114093 Main Transformer, Myers Emergency Power Systems XF-IS110554 & XF-AU102316 Option Transformers, Little Fuse NLN Series Fuse, Marathon F60A1B Fuse Block, East Penn Mfg. 12AVR100-3ET Batteries, Leoch FT12-100 Batteries

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

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,465	25	30	62	14.9	10.0	21.7

Seismic Test Parameters

Building Code	Test Criteria	Sds	z/h	Ip	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2022	ICC-ES AC156	2.5	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

Rigid floor mounted. Unit mounted to shake table at ends with a total of (4) 5/8" grade 5 bolts.



Overall view of UUT2

UUT2

UNIT UNDER TEST (UUT)

Summary Sheet



DCL

**DYNAMIC
CERTIFICATION
LABORATORIES, LLC**

DCL Project Number: 58623-2201

Manufacturer: Myers Emergency Power Systems

Product Line: Illuminator E & IE Lighting Inverters

Model Number: EH-5-S

Support and Attachment Summary:

