



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR OSHPD SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

**APPLICATION #: OSP-0340**

**OSHPD Special Seismic Certification Preapproval (OSP)**

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: La Marche Manufacturing

Manufacturer's Technical Representative: Mark Wong

Mailing Address: 106 Bradrock Drive, Des Plaines, IL 60018

Telephone: (847) 299-1188 Email: mwong@lamarchemfg.com

**Product Information**

Product Name: UPS and Batteries

Product Type: Battery Chargers

Product Model Number: TPSD 1-Phase, TPSD 3-Phase, A75D(E) 1-Phase, A75D(E) 3-Phase, ESCR 1-Phase

General Description: Cataloged Battery Charger, Power Supplies, and Battery Eliminator Units.

Mounting Description: Rigid Wall, Isolated Wall, Rigid Floor (See Tables 1, 2, 3), -

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**

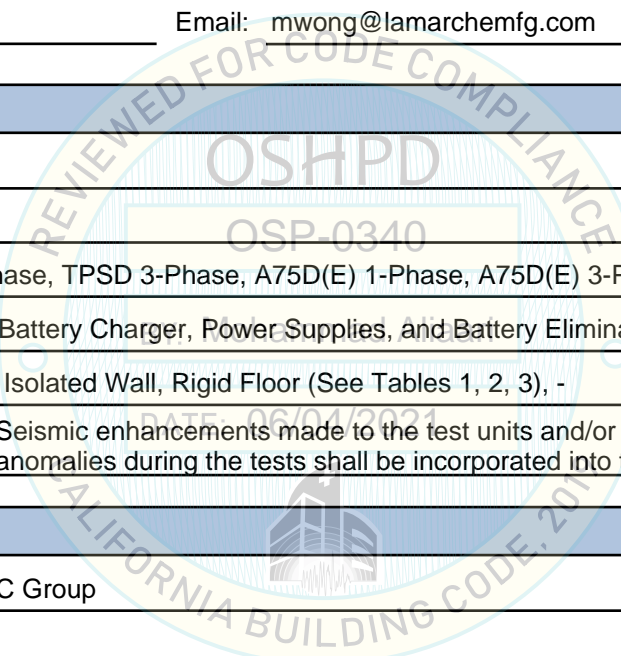
Applicant Company Name: The VMC Group

Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780 Email: john.giuliano@thevmcgroup.com

Title: President





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
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**California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)**

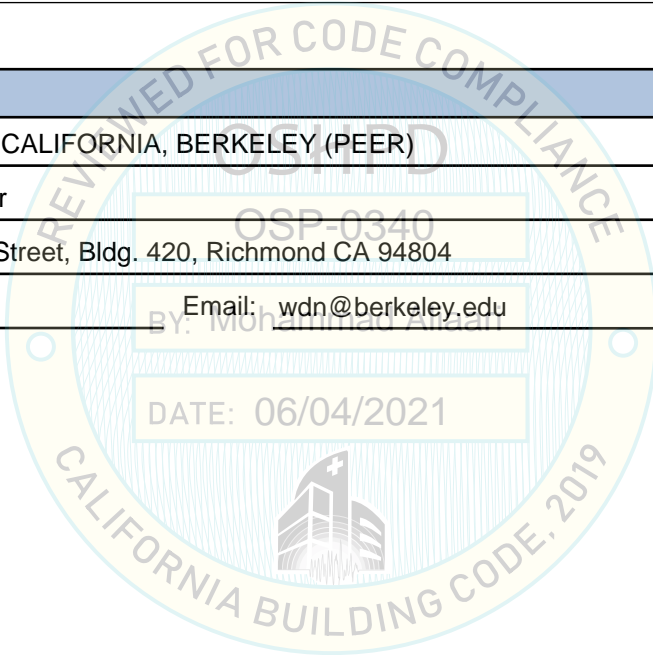
Company Name: THE VMC GROUP  
Name: Kenneth Tarlow California License Number: S2851  
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814  
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

**Certification Method**

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

**Testing Laboratory**

Company Name: UNIVERSITY OF CALIFORNIA, BERKELEY (PEER)  
Contact Person: Wesley Neighbour  
Mailing Address: 1301 South 46th Street, Bldg. 420, Richmond CA 94804  
Telephone: (510) 655-3409 Email: wdn@berkeley.edu





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
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**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 4.34 (Isolated Mounting) ; 1.39 (Rigid Mounting)

SDS (Design spectral response acceleration at short period, g) = 1.93

$a_p$  (Amplification factor) = 2.5 (Isolated) ; 1.0 (Rigid)

$R_p$  (Response modification factor) = 2.0 (isolated) ; 2.5 (Rigid)

$\Omega_0$  (System overstrength factor) = 2.0

$I_p$  (Importance factor) = 1.5

$z/h$  (Height ratio factor) = 1

Natural frequencies (Hz) = See attached matrix

Overall dimensions and weight = See attached matrix

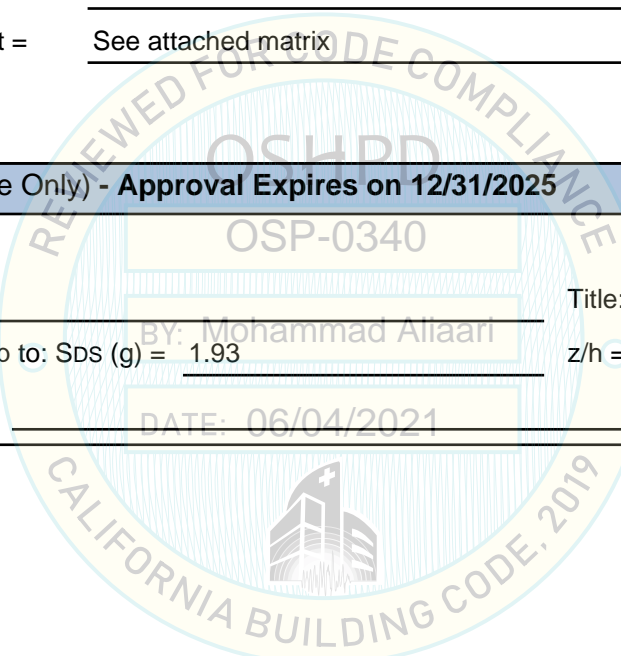
**OSHPD Approval (For Office Use Only) - Approval Expires on 12/31/2025**

Date: 6/4/2021

Name: Mohammad Aliaari Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: SDS (g) = 1.93 z/h = 1

Condition of Approval (if applicable): DATE: 06/04/2021



**Table 1 - Certified Products - TPSD Battery Chargers/Power Supplies/Battery Eliminators**

Model No.	Encl. UL Rating	Input Voltage [ V ]	Phase	Output Rating [ A ]	Output Voltage [ V ]	Cabinet Dimensions W x D x H [ in ]	Max. Weight [ lb ]	Cabinet Case No.	Cabinet Material Gauge	Mounting			UUT
										Isolated Wall	Rigid Wall	Rigid Floor	
TPSD-6-24V	UL 1012	208, 220, 240	1	6	24	19 x 15 x 12	70	4B	14	X			UUT-01a
TPSD-6-24V	UL 1012		1	6	24	19 x 15 x 12	70	4B	14		X		UUT-01b
TPSD-6-24V	UL 1012		1	6	24	19 x 15 x 12	70	4B	14			X	UUT-01c
TPSD-6-24V	UL 1012	120, 208, 220, 240, 380, 480	1	6	24	19 x 15 x 12.25	90	4B	14	X	X	X	Interpolated
TPSD-12-24V	UL 1012		1	12	24	19 x 15 x 12.25	90	4B	14	X	X	X	Interpolated
TPSD-20-24V	UL 1012		1	20	24	19 x 15 x 24	110	4	14	X	X	X	Interpolated
TPSD-25-24V	UL 1012		1	25	24	19 x 15 x 24	138	4	14	X	X	X	Interpolated
TPSD-30-24V	UL 1012		1	30	24	19 x 15 x 24	165	4	14	X	X	X	Interpolated
TPSD-35-24V	UL 1012		1	35	24	19 x 15 x 24	170	4	14	X	X	X	Interpolated
TPSD-50-24V	UL 1012		1	50	24	19 x 15 x 24	193	4	14	X	X	X	Interpolated
TPSD-75-24V	UL 1012		1	75	24	19 x 15 x 24	233	4	14	X	X	X	Interpolated
TPSD-100-24V	UL 1012		1	100	24	23 x 15 x 36	248	9	14	X	X	X	Interpolated
TPSD-6-48V	UL 1012		1	6	48	19 x 15 x 12.25	90	4B	14	X	X	X	Interpolated
TPSD-12-48V	UL 1012		1	12	48	19 x 15 x 12.25	110	4B	14	X	X	X	Interpolated
TPSD-20-48V	UL 1012		1	20	48	19 x 15 x 24	165	4	14	X	X	X	Interpolated
TPSD-25-48V	UL 1012		1	25	48	19 x 15 x 24	165	4	14	X	X	X	Interpolated
TPSD-30-48V	UL 1012		1	30	48	19 x 15 x 24	171	4	14	X	X	X	Interpolated
TPSD-35-48V	UL 1012		1	35	48	19 x 15 x 24	198	4	14	X	X	X	Interpolated
TPSD-50-48V	UL 1012		1	50	48	19 x 15 x 24	225	4	14	X	X	X	Interpolated
TPSD-75-48V	UL 1012		1	75	48	23 x 15 x 36	325	9	14	X	X	X	Interpolated
TPSD-100-48V	UL 1012	1	100	48	23 x 15 x 36	354	9	14	X	X	X	Interpolated	
TPSD-6-130V	UL 1012	1	6	130	19 x 15 x 24	154	4	14	X	X	X	Interpolated	
TPSD-12-130V	UL 1012	1	12	130	19 x 15 x 24	193	4	14	X	X	X	Interpolated	
TPSD-20-130V	UL 1012	1	20	130	19 x 15 x 24	233	4	14	X	X	X	Interpolated	
TPSD-25-130V	UL 1012	1	25	130	19 x 15 x 24	275	4	14	X	X	X	Interpolated	
TPSD-30-130V	UL 1012	1	30	130	23 x 15 x 36	352	9	14	X	X	X	Interpolated	
TPSD-35-130V	UL 1012	1	35	130	23 x 15 x 36	390	9	14	X	X	X	Interpolated	
TPSD-50-130V	UL 1012	1	50	130	23 x 15 x 36	390	9	14	X	X	X	Interpolated	
TPSD-50-130V	UL 1012	208, 220, 240	1	50	130	23 x 15 x 36	390	9	14	X			UUT-02a
TPSD-50-130V	UL 1012		1	50	130	23 x 15 x 36	390	9	14		X		UUT-02b

**Table 1 - Certified Products - TPSD Battery Chargers/Power Supplies/Battery Eliminators (Cont.)**

Model No.	Encl. UL Rating	Input Voltage [ V ]	Phase	Output Rating [ A ]	Output Voltage [ V ]	Cabinet Dimensions W x D x H [ in ]	Max. Weight [ lb ]	Cabinet Case No.	Cabinet Material Gauge	Mounting			UUT
										Isolated Wall	Rigid Wall	Rigid Floor	
TPSD-75-24V	UL 1012	120, 208, 220, 240, 380, 480	3	75	24	27 x 23.5 x 44.5	400	72	14			X	Interpolated
TPSD-100-24V	UL 1012		3	100	24	27 x 23.5 x 44.5	475	72	14			X	Interpolated
TPSD-150-24V	UL 1012		3	150	24	27 x 23.5 x 44.5	530	72	14			X	Interpolated
TPSD-200-24V	UL 1012		3	200	24	27 x 23.5 x 44.5	600	72	14			X	Interpolated
TPSD-50-48V	UL 1012		3	50	48	27 x 23.5 x 44.5	400	72	14			X	Interpolated
TPSD-75-48V	UL 1012		3	75	48	27 x 23.5 x 44.5	575	72	14			X	Interpolated
TPSD-100-48V	UL 1012		3	100	48	27 x 23.5 x 44.5	600	72	14			X	Interpolated
TPSD-150-48V	UL 1012		3	150	48	27 x 23.5 x 44.5	700	72	14			X	Interpolated
TPSD-200-48V	UL 1012		3	200	48	27 x 23.5 x 44.5	755	72	14			X	Interpolated
TPSD-25-130V	UL 1012		3	25	130	27 x 23.5 x 44.5	420	72	14			X	Interpolated
TPSD-30-130V	UL 1012		3	30	130	27 x 23.5 x 44.5	490	72	14			X	Interpolated
TPSD-35-130V	UL 1012		3	35	130	27 x 23.5 x 44.5	550	72	14			X	Interpolated
TPSD-50-130V	UL 1012		3	50	130	27 x 23.5 x 44.5	600	72	14			X	Interpolated
TPSD-75-130V	UL 1012		3	75	130	27 x 23.5 x 44.5	660	72	14			X	Interpolated
TPSD-100-130V	UL 1012		3	100	130	27 x 23.5 x 44.5	800	72	14			X	Interpolated
TPSD-125-130V	UL 1012		3	125	130	24 x 19 x 72	850	44	14			X	Interpolated
TPSD-150-130V	UL 1012		3	150	130	24 x 19 x 72	900	44	14			X	Interpolated
TPSD-150-130V	UL 1012	208, 220, 240	3	150	130	24 x 19 x 72	1060	44	14			X	UUT-03

**Notes:**

1. All UUTs tested to  $S_{DS}=1.93$  at  $z/h = 1.0$
2. All Enclosures NEMA 1 Rating

3. Cabinets made of Carbon Steel
4. Cabinet Manufacturer: LaMarche

5. All Models Capable of 60/50 Hz

**Table 2 - Certified Products - A75D & A75DE Battery Charger/Eliminator**

Model No.		Encl. UL Rating	Input Voltage [ V ]	Phase	Output Rating [ A ]	Output Voltage [ V ]	Cabinet Dimensions W x D x H [ in ]	Max. Weight [ lb ]	Cabinet Case No.	Cabinet Material Gauge	Mounting			UUT
											Isolated Wall	Rigid Wall	Rigid Floor	
A75D-6-24V	A75DE-6-24V	UL 1012	120, 208, 240, 480	1	6	24	19 x 15 x 12.25	82	4B75	14		X		Extrapolated
A75D-12-24V	A75DE-12-24V	UL 1012		1	12	24	19 x 15 x 12.25	92	4B75	14		X		Extrapolated
A75D-16-24V	A75DE-16-24V	UL 1012		1	16	24	19 x 15 x 12.25	98	4B75	14		X		Extrapolated
A75D-20-24V	A75DE-20-24V	UL 1012		1	20	24	19 x 15 x 12.25	100	4B75	14		X		Extrapolated
A75D-25-24V		UL 1012	120, 208, 240	1	25	24	19 x 15 x 12	80	4B75	14		X		UUT-04
A75D-25-24V	A75DE-25-24V	UL 1012	120, 208, 240, 480	1	25	24	19 x 15 x 12.25	104	4B75	14		X		Interpolated
A75D-30-24V	A75DE-30-24V	UL 1012		1	30	24	19 x 15 x 24	130	475	14		X		Interpolated
A75D-35-24V	A75DE-35-24V	UL 1012		1	35	24	19 x 15 x 24	150	475	14		X		Interpolated
A75D-40-24V	A75DE-40-24V	UL 1012		1	40	24	19 x 15 x 24	160	475	14		X		Interpolated
A75D-50-24V	A75DE-50-24V	UL 1012		1	50	24	19 x 15 x 24	185	475	14		X		Interpolated
A75D-60-24V	A75DE-60-24V	UL 1012		1	60	24	19 x 15 x 24	208	475	14		X		Interpolated
A75D-75-24V	A75DE-75-24V	UL 1012		1	75	24	20 x 15 x 38	240	975	14			X	Interpolated
	A75DE-75-24V	UL 1012	240	1	75	24	20 x 15 x 38	330	975	14			X	UUT-05
A75D-100-24V	A75DE-100-24V	UL 1012	120, 208, 240, 480	1	100	24	20 x 15 x 38	275	975	14			X	Interpolated
A75D-6-48V	A75DE-6-48V	UL 1012		1	6	48	19 x 15 x 12.25	84	4B75	14		X		Interpolated
A75D-12-48V	A75DE-12-48V	UL 1012		1	12	48	19 x 15 x 12.25	96	4B75	14		X		Interpolated
A75D-16-48V	A75DE-16-48V	UL 1012		1	16	48	19 x 15 x 24	137	475	14		X		Interpolated
A75D-20-48V	A75DE-20-48V	UL 1012		1	20	48	19 x 15 x 24	158	475	14		X		Interpolated
A75D-25-48V	A75DE-25-48V	UL 1012		1	25	48	19 x 15 x 24	170	475	14		X		Interpolated
A75D-30-48V	A75DE-30-48V	UL 1012		1	30	48	19 x 15 x 24	190	475	14		X		Interpolated
A75D-35-48V	A75DE-35-48V	UL 1012		1	35	48	19 x 15 x 24	220	475	14		X		Interpolated
A75D-40-48V	A75DE-40-48V	UL 1012		1	40	48	19 x 15 x 24	240	475	14		X		Interpolated
A75D-50-48V	A75DE-50-48V	UL 1012		1	50	48	19 x 15 x 24	260	475	14		X		Interpolated
A75D-60-48V	A75DE-60-48V	UL 1012		1	60	48	20 x 15 x 38	300	975	14			X	Interpolated
A75D-75-48V	A75DE-75-48V	UL 1012		1	75	48	20 x 15 x 38	350	975	14			X	Interpolated
A75D-100-48V	A75DE-100-48V	UL 1012		1	100	48	21 x 15 x 38	448	975	14			X	Interpolated
A75D-6-130V	A75DE-6-130V	UL 1012		1	6	130	19 x 15 x 24	178	475	14		X		Interpolated
A75D-12-130V	A75DE-12-130V	UL 1012		1	12	130	19 x 15 x 24	185	475	14		X		Interpolated
A75D-16-130V	A75DE-16-130V	UL 1012		1	16	130	19 x 15 x 24	191	475	14		X		Interpolated
A75D-20-130V	A75DE-20-130V	UL 1012		1	20	130	19 x 15 x 24	235	475	14		X		Interpolated
A75D-25-130V	A75DE-25-130V	UL 1012		1	25	130	19 x 15 x 24	255	475	14		X		Interpolated
A75D-30-130V	A75DE-30-130V	UL 1012		1	30	130	19 x 15 x 24	260	475	14		X		Interpolated
A75D-30-130V		UL 1012		480	1	30	130	19 x 15 x 24	260	475	14		X	

Notes: 1. All UUTs tested to S<sub>DS</sub>=1.93 at z/h = 1.0

3. Cabinets made of Carbon Steel

5. All Models Capable of 60/50 Hz

06/04/2021 All Enclosures NEMA 1 Rating

4. Cabinet Manufacturer: Alpha Marche

**Table 2 - Certified Products - A75D & A75DE Battery Charger/Eliminator (Continued)**

Model No.		Encl. UL Rating	Input Voltage [ V ]	Phase	Output Rating [ A ]	Output Voltage [ V ]	Cabinet Dimensions W x D x H [ in ]	Max. Weight [ lb ]	Cabinet Case No.	Cabinet Material Gauge	Mounting			UUT
											Isolated Wall	Rigid Wall	Rigid Floor	
A75D-40-130V	A75DE-40-130V	UL 1012	120, 208, 240, 480	1	40	130	20 x 15 x 38	422	975	14			X	Interpolated
A75D-50-130V	A75DE-50-130V	UL 1012		1	50	130	20 x 15 x 38	480	975	14			X	Interpolated
A75D-75-130V	A75DE-75-130V	UL 1012		1	75	130	27 x 23.5 x 44.5	735	72	14			X	Interpolated
A75D-75-24V	A75DE-75-24V	N/A		3	75	24	23 x 15 x 38	400	975	14			X	Interpolated
A75D-100-24V	A75DE-100-24V	N/A		3	100	24	23 x 15 x 38	475	975	14			X	Interpolated
A75D-125-24V	A75DE-125-24V	N/A		3	125	24	27 x 23.5 x 44.5	530	72	14			X	Interpolated
A75D-150-24V	A75DE-150-24V	N/A		3	150	24	27 x 23.5 x 44.5	600	72	14			X	Interpolated
A75D-200-24V	A75DE-200-24V	N/A		3	200	24	27 x 23.5 x 44.5	675	72	14			X	Interpolated
A75D-250-24V	A75DE-250-24V	N/A		3	250	24	30 x 30 x 72	800	46	12			X	Interpolated
A75D-300-24V	A75DE-300-24V	N/A		3	300	24	30 x 30 x 72	875	46	12			X	Interpolated
A75D-400-24V	A75DE-400-24V	N/A		3	400	24	38 x 39.4 x 70	1050	47	14			X	Interpolated
A75D-50-48V	A75DE-50-48V	N/A		3	50	48	23 x 15 x 38	400	975	14			X	Interpolated
A75D-75-48V	A75DE-75-48V	N/A		3	75	48	23 x 15 x 38	575	975	14			X	Interpolated
A75D-100-48V	A75DE-100-48V	N/A	3	100	48	23 x 15 x 38	600	975	14			X	Interpolated	
A75D-125-48V	A75DE-125-48V	N/A	3	125	48	27 x 23.5 x 44.5	680	72	14			X	Interpolated	
A75D-150-48V	A75DE-150-48V	N/A	3	150	48	27 x 23.5 x 44.5	700	72	14			X	Interpolated	
A75D-200-48V	A75DE-200-48V	N/A	208, 240, 480	3	200	48	30 x 30 x 72	755	46	12			X	Interpolated
A75D-250-48V	A75DE-250-48V	N/A		3	250	48	30 x 30 x 72	800	46	12			X	Interpolated
A75D-300-48V	A75DE-300-48V	N/A		3	300	48	38 x 39.4 x 70	900	47	14			X	Interpolated
A75D-400-48V	A75DE-400-48V	N/A		3	400	48	38 x 39.4 x 70	1200	47	14			X	Interpolated
A75D-25-130V	A75DE-25-130V	N/A		3	25	130	23 x 15 x 38	305	975	14			X	Interpolated
A75D-30-130V	A75DE-30-130V	N/A		3	30	130	23 x 15 x 38	315	975	14			X	Interpolated
A75D-40-130V	A75DE-40-130V	N/A		3	40	130	23 x 15 x 38	330	975	14			X	Interpolated
A75D-50-130V	A75DE-50-130V	N/A		3	50	130	23 x 15 x 38	475	975	14			X	Interpolated
A75D-75-130V	A75DE-75-130V	N/A		3	75	130	27 x 23.5 x 44.5	660	72	14			X	Interpolated
A75D-100-130V	A75DE-100-130V	N/A		3	100	130	27 x 23.5 x 44.5	800	72	14			X	Interpolated
A75D-125-130V	A75DE-125-130V	N/A		3	125	130	30 x 30 x 72	850	46	12			X	Interpolated
A75D-150-130V	A75DE-150-130V	N/A		3	150	130	30 x 30 x 72	900	46	12			X	Interpolated
A75D-200-130V	A75DE-200-130V	N/A		3	200	130	38 x 39.4 x 70	1800	47	14			X	Interpolated
A75D-250-130V	A75DE-250-130V	N/A	3	250	130	38 x 39.4 x 70	1980	47	14			X	Interpolated	
A75D-300-130V	A75DE-300-130V	N/A	3	300	130	38 x 39.4 x 70	1980	47	14			X	Interpolated	
	<b>A75DE-300-130V</b>	<b>N/A</b>	<b>208</b>	<b>3</b>	<b>300</b>	<b>130</b>	<b>38 x 39 x 70</b>	<b>1980</b>	<b>47</b>	<b>14</b>			<b>X</b>	<b>UUT-07</b>

**Notes:** 1. All UUTs tested to  $S_{DS}=1.93$  at  $z/h = 1.0$   
 2. All Enclosures NEMA 1 Rating

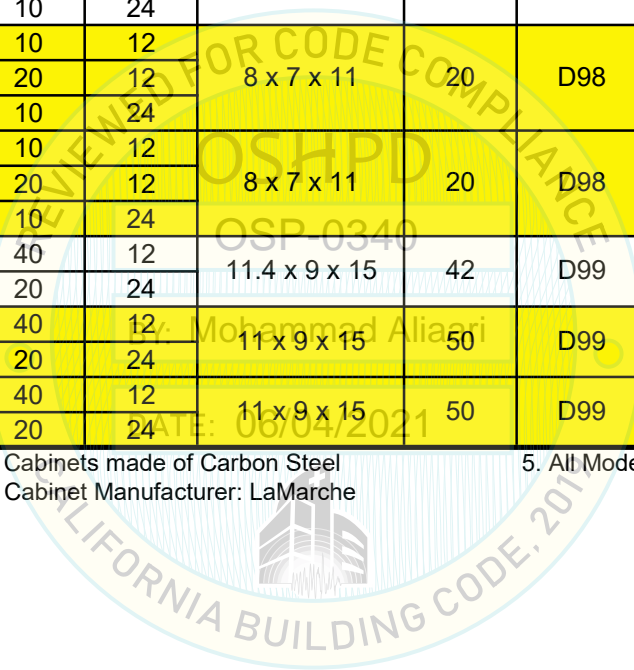
3. Cabinets made of Carbon Steel  
 4. Cabinet Manufacturer: LaMarche

5. All Models Capable of 60/50 Hz

**Table 3 - Certified Products - ESCR Engine Starting Battery Charger**

Model No.	Encl. UL Rating	Input Voltage [ V ]	Phase	Output Rating [ A ]	Output Voltage [ V ]	Cabinet Dimensions W x D x H [ in ]	Max. Weight [ lb ]	Cabinet Case No.	Mounting			UUT
									Isolated Wall	Rigid Wall	Rigid Floor	
ESCR-20/10-12/24V-AV1	UL 1236	120, 208, 240	1	10	12	7.75 x 7 x 11.25	25	D98	X	X		Interpolated
				20	12							
				10	24							
ESCR-20/10-12/24V-AV1	UL 1236	120, 208, 240	1	10	12	8 x 7 x 11	20	D98	X			UUT-08a
				20	12							
				10	24							
ESCR-20/10-12/24V-AV1	UL 1236	120, 208, 240	1	10	12	8 x 7 x 11	20	D98		X		UUT-08b
				20	12							
				10	24							
ESCR-40/20-12/24V-AV1	UL 1236	120, 208, 240	1	40	12	11.4 x 9 x 15	42	D99	X	X		Interpolated
				20	24							
ESCR-40/20-12/24V-AV1	UL 1236	120, 208, 240	1	40	12	11 x 9 x 15	50	D99	X			UUT-09a
				20	24							
ESCR-40/20-12/24V-AV1	UL 1236	120, 208, 240	1	40	12	11 x 9 x 15	50	D99		X		UUT-09b
				20	24							

- Notes:**
- 1. All UUTs tested to  $S_{DS}=1.93$  at  $z/h = 1.0$
  - 2. All Enclosures NEMA 1 Rating
  - 3. Cabinets made of Carbon Steel
  - 4. Cabinet Manufacturer: LaMarche
  - 5. All Models Capable of 60/50 Hz





**Table 4 - Certified Subcomponents**

Part Description	Part Number	Max. Weight [ lb ]	Manufacturer	UUT
AC Breaker	219 Series (25-100A, 24V;6-150A, 130V)	1	AIRPAX	UUT-02
	219 Series (6-75A)	1		Interpolated
	AUPG Series (6-12A, 24 &48V)	1		UUT-01
	QC Series	1	Westinghouse	UUT-04
	HQC Series (100A)	4		Interpolated
	KDB Series (125-300A)	5		UUT-07
AC Terminations	Varies Between Units	1	Altec, Inc.	UUT-04, UUT-05, UUT-06
	Varies Between Units	1	Glastic	UUT-07
Cap	S6-A75DCAP Series	1	La Marche Mfg.	UUT-04, UUT-05, UUT-06, UUT-07
Capacitor	U32D Series (6-25A, 24V & 48V)	1	United Chemi-Con	UUT-01
	U36D & U32D Series (35-50A, 24V & 48V)	1		UUT-02
	U32D441 (6-40A, 24 & 48V)	1		UUT-04
	U36D741 (All 130V)	1		UUT-06
	U32D444 (50-100A, 24& 48V))	1		UUT-05
	U32D Series (100A-24V; 100A-48V; 6-150A, 130v)	2		UUT-03
	U36D Series (130v, -0 Varies Between Units)	2		UUT-07
Choke	Varies Between Units	1	La Marche Mfg..	UUT-01, UUT-02, UUT-03, UUT-04, UUT-05, UUT-06, UUT-07
Control Fuse	312500	1	Littelfuse	UUT-01, UUT-02 & UUT-03
DC Breaker	AUPL Series (6-75A, 24V; 48V)	1	AIRPAX	UUT-02
	EHD Series (50, 130V)	1		UUT-02
	ALEL Series (24V & 48V)	1		UUT-04
	A279 Series (130V)	1		UUT-06
	WFD Series (100-150A, 130V)	5		UUT-03
DC Terminations	Varies Between Units	1	Altec, Inc.	UUT-04, UUT-05, UUT-06
	Varies Between Units	1	Glastic	UUT-07
Diode	1N5624	1	GE	UUT-01, UUT-02 & UUT-03
	S1E-1D25-0101	3	La Marche Mfg.	UUT-04 & UUT-05
	S1E-1D38-0101	3		UUT-06
Fuse	A13X80-4 (6-40A, 24&48V)	1	Ferraz Shawmut	UUT-04
	A25X80 (6-40A, 130V)	1		UUT-06
	A13X200-4 (50-100A)	1		UUT-05
	A25X200	<1	Gould	UUT-07

**Table 4 - Certified Subcomponents (Continued)**

Part Description	Part Number	Max. Weight [ lb ]	Manufacturer	UUT
Circuit Card	S2A-255	1	La Marche Mfg..	UUT-01, UUT-02, UUT-03
	S2A-220	1		UUT-01, UUT-02, UUT-03
	S2A-296	1		UUT-01, UUT-02, UUT-03
	S2A-205 <sup>1</sup>	1		UUT-01, UUT-02, UUT-03
	S2A-293 (Digital Display)	1		UUT-01, UUT-02, UUT-03
	S2A-198 <sup>2</sup>	1		UUT-01, UUT-04, UUT-05, UUT-07
	S2A-149 <sup>3</sup>	1		UUT-01, UUT-02, UUT-03
	S2A-360S	1		UUT-04, UUT-05, UUT-06
	S2A-362 <sup>4</sup>	1		UUT-04, UUT-05, UUT-06
	S2A-364	1		UUT-04, UUT-05, UUT-06
	S2A-172	1		UUT-05
	S2A-302 <sup>5</sup>	1		UUT-02, UUT-04
	S2A-332 <sup>6</sup>	1		UUT-07
	S2A-172	1		UUT-07
	S2A-321	1		UUT-07
	S2A-326	1		UUT-07
	FC6	2		UUT-07
AC58 130V Only <sup>7</sup>	3	UUT-03		

**Notes:**

- 1. Includes Digital Display Meter, Regulator, and Switch components
- 2. Includes Alarm, Annunciator, and Relay components
- 3. Includes Resistor component
- 4. Includes Regulator, and Timer Component
- 5. Includes Data Port, and SCADA Components
- 6. Includes Timer Component
- 7. Includes Heat Sink component

**Table 4 - Certified Subcomponents (Continued)**

Part Description	Part Number	Max. Weight [ lb ]	Manufacturer	UUT
Heat Sink	S1F-2MX13-0101(6-16A)	7	La Marche Mfg..	UUT-04
	S1E-2MX05-0101(20-25A)	8		UUT-04
	S1E-1M3ET1X-XXXX(30-35) & (40-50)	10		UUT-06
	S1E-3875-J10	20		UUT-07
	S1E-1MES18-0201(75A)	20		UUT-05
LCD Display	ACM1602B	<1	AZ Displays, Inc.	UUT-04, UUT-07
Lighting Arrestor	Z40-3Y	1	DITEK	UUT-02, UUT-04, UUT-07
Ouil Fill Cap (C2)	N50R6601E	1	Aerovox	UUT-01
Regulator	S2C-47A (75-130V)	<1	La Marche Mfg..	UUT-05
	V250LA20AP (25-50A & 300, 130V)	<1	Littelfuse	UUT-07
Relay	KUP-11A15-24	<1	Tyco/P&B	UUT-04, UUT-07
Resistor	FST50-1K	1	Huntington	UUT-07
	FST50-1K	<1		UUT-04, UUT-05, UUT-06
Surge Protector	S2C-47A	1	La Marche Mfg..	UUT-03
	V250LA20AP (6-12A & 100A, 24V)	1	Littelfuse	UUT-01
	V120ZA6P (20A-75A & 150A, 24V)	1		UUT-03
	V100ZA15P (24V, 48V)	1		UUT-04
	V150LA20AP (130V)	1		UUT-06
Temperature Compensation	LM335AH	1	National	UUT-01, UUT-04
Transformer	Varies Between Units		La Marche Mfg.	UUT-01, UUT-02, UUT-03, UUT-07
Varistor	S07K250	1	Siemens	UUT-01



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-01a

PEER STI 2012-20; UUT1 Setup C

Model Line	Model Number	Manufacturer
TPSD Battery Charger	TPSD-6-24V w/ D4B Casing	La Marche

### Product Construction Summary

Base: 14 Gauge galvanized carbon steel Walls: 14 Gauge galvanized carbon steel  
Roof: 14 Gauge galvanized carbon steel

### Options / Subcomponent Summary

AC Breaker: AIRPAX ; Capacitor: UNITED CHEMI-CON ; Choke: La Marche Mfg ; Circuit Card: La Marche Mfg ; Control Fuse: LITTELFUSE ; Diode: GE ; OIL FILL CAP: AEROVOX ; Surge Protector: LITTELFUSE ; Temperature Compensation: NATIONAL ; Transformer: La Marche Mfg ; Varistor: SIEMENS

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
70	15	19	12	N/A	N/A	N/A

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-01a was an Isolated Wall Mounted unit, attached to a wall fixture that was spring isolated using (6) VMC M2SSH-1E isolators. UUT-01a was bolted the wall fixture using (4) 3/8" SAE Grade 8 bolts between the unit back panel and unistruts. Each isolator was connected to the wall fixture with (1) 3/4" Grade 8 bolt and to the shake table with (4) 5/8" Grade 8 bolts.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-01b

PEER STI 2012-20; UUT1 Setup B

Model Line	Model Number	Manufacturer
TPSD Battery Charger	TPSD-6-24V w/ D4B Casing	La Marche

### Product Construction Summary

Base: 14 Gauge galvanized carbon steel Walls: 14 Gauge galvanized carbon steel  
Roof: 14 Gauge galvanized carbon steel

### Options / Subcomponent Summary

AC Breaker: AIRPAX ; Capacitor: UNITED CHEMI-CON ; Choke: La Marche Mfg ; Circuit Card: La Marche Mfg ; Control Fuse: LITTELFUSE ; Diode: GE ; OIL FILL CAP: AEROVOX ; Surge Protector: LITTELFUSE ; Temperature Compensation: NATIONAL ; Transformer: La Marche Mfg ; Varistor: SIEMENS

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
70	15	19	12	N/A	N/A	N/A

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-01b was a Rigid Wall Mounted unit, attached to a non-isolated wall fixture. UUT-01b was bolted the wall fixture using (4) 3/8" SAE Grade 8 bolts between the unit back panel and unistruts. The wall fixture was bolted to the shake table using (6) 1" diameter prestressing rods.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-01c

PEER STI 2012-20; UUT1 Setup A

Model Line	Model Number	Manufacturer
TPSD Battery Charger	TPSD-6-24V w/ D4B Casing	La Marche

### Product Construction Summary

Base: 14 Gauge galvanized carbon steel Walls: 14 Gauge galvanized carbon steel  
Roof: 14 Gauge galvanized carbon steel

### Options / Subcomponent Summary

AC Breaker: AIRPAX ; Capacitor: UNITED CHEMI-CON ; Choke: La Marche Mfg ; Circuit Card: La Marche Mfg ; Control Fuse: LITTELFUSE ; Diode: GE ; OIL FILL CAP: AEROVOX ; Surge Protector: LITTELFUSE ; Temperature Compensation: NATIONAL ; Transformer: La Marche Mfg ; Varistor: SIEMENS

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
70	15	19	12	7.3	5.6	6.3

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-01c was a Rigid Floor Mounted unit, attached to the shake table thru provided holes and using (4) 5/16" SAE Grade 8 bolts through the unit's bottom panel.



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



## UNIT UNDER TEST (UUT) Summary Sheet

UUT-02a

PEER STI 2012-20; UUT2 Setup C

Model Line	Model Number	Manufacturer
TPSD Battery Charger	TPSD-50-130V w/ D9 Casing	La Marche

### Product Construction Summary

Base: 14 Gauge galvanized carbon steel Walls: 14 Gauge galvanized carbon steel  
Roof: 14 Gauge galvanized carbon steel

### Options / Subcomponent Summary

AC Breaker: AIRPAX ; Capacitor: UNITED CHEMI-CON ; Choke: La Marche Mfg ; Circuit Card: La Marche Mfg ; Control Fuse: LITTELFUSE ; DC Breaker: AIRPAX ; Diode: GE ; Lighting Arrestor: DITEK ; Transformer: La Marche Mfg ;

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
390	15	23	36	N/A	N/A	N/A

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-02a was an Isolated Wall Mounted unit, attached to a wall fixture that was spring vibration isolated using (6) VMC M2SSH-1E isolators. UUT-02a was bolted the wall fixture using (6) 1/2" SAE Grade 8 bolts between the unit back panel and unistruts. Each isolator was connected to the wall fixture with (1) 3/4" Grade 8 bolt and to the shake table with (4) 5/8" Grade 8 bolts.



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



## UNIT UNDER TEST (UUT) Summary Sheet

UUT-02b

PEER STI 2012-20; UUT2 Setup B

Model Line	Model Number	Manufacturer
TPSD Battery Charger	TPSD-50-130V w/ D9 Casing	La Marche

### Product Construction Summary

Base: 14 Gauge galvanized carbon steel Walls: 14 Gauge galvanized carbon steel  
Roof: 14 Gauge galvanized carbon steel

### Options / Subcomponent Summary

AC Breaker: AIRPAX ; Capacitor: UNITED CHEMI-CON ; Choke: La Marche Mfg ; Circuit Card: La Marche Mfg ; Control Fuse: LITTELFUSE ; DC Breaker: AIRPAX ; Diode: GE ; Lighting Arrestor: DITEK ; Transformer: La Marche Mfg ;

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
390	15	23	36	N/A	N/A	N/A

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-02b was a Rigid Wall Mounted unit, attached to non-isolated wall fixture. UUT-02b was bolted the wall fixture using (6) 1/2" SAE Grade 8 bolts between the unit back panel and unistruts. The wall fixture was bolted to the shake table using (6) 1" diameter prestressing rods.



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





## UNIT UNDER TEST (UUT) Summary Sheet

UUT-03

PEER STI 2012-20; UUT3 Setup C

Model Line	Model Number	Manufacturer
TPSD Battery Charger	TPSD-150-130V w/ D44 Casing	La Marche

### Product Construction Summary

Base: 14 Gauge galvanized carbon steel Walls: 14 Gauge galvanized carbon steel  
Roof: 14 Gauge galvanized carbon steel

### Options / Subcomponent Summary

Capacitor: UNITED CHEMI-CON ; Choke: La Marche Mfg ; Circuit Card: La Marche Mfg ; Control Fuse: LITTELFUSE ; DC Breaker: La Marche Mfg ; Diode: GE ; Surge Protector: La Marche Mfg ; Transformer: La Marche Mfg

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
1060	19	24	72	8.8	5.8	6.3

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-03 was a Rigid Floor Mounted unit, attached through provided holes using (4) 3/8" SAE Grade 8 bolts through the unit's bottom panel. Pre-test design change modification included (2) added L3x2x3/16 in. angles to base of inside of unit, attached with (5) equally spaced 3/8" Grade 8 bolts per L.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-04

PEER STI 2012-20; UUT4 Setup B

Model Line	Model Number	Manufacturer
A75D SCR Battery Charger	A75D-25-24V w/ D4B75 Casing	La Marche

### Product Construction Summary

Base: 14 Gauge galvanized carbon steel Walls: 14 Gauge galvanized carbon steel  
Roof: 14 Gauge galvanized carbon steel

### Options / Subcomponent Summary

AC Breaker: WESTINGHOUSE ; AC TERMINATIONS: ALTEC ; Cap: La Marche Mfg ; Capacitor: UNITED CHEMI-CON ; Choke: La Marche Mfg ; Circuit Card: La Marche Mfg ; DC Breaker: AIRPAX ; DC TERMINATIONS: ALTEC ; Diode: La Marche Mfg ; Fuse: FERRAZ SHAWMUT ; Heat Sink: La Marche Mfg ; LCD Display: AZ Displays INC ; Lighting Arrestor: DITEK ; Relay: TYCO/P&B ; Resistor: HUNTINGTON ; Surge Protector: LITTELFUSE ; Temperature Compensation: NATIONAL

### UUT Properties

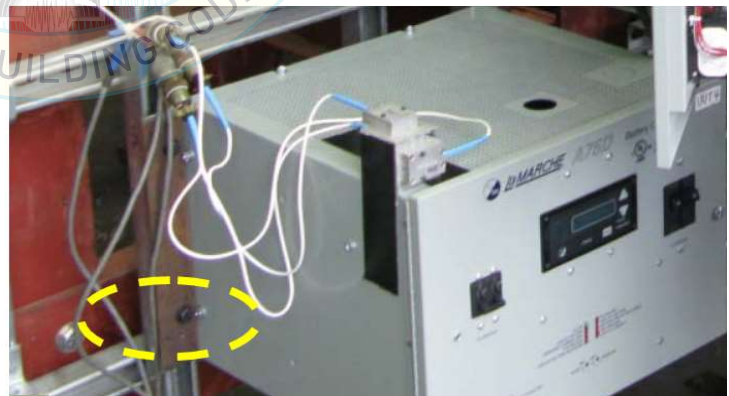
Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
80	15	19	12	N/A	N/A	N/A

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-04 was a Rigid Wall Mounted unit, attached to non-isolated wall fixture. (4) 3/8" SAE Grade 8 bolts connected the unit to the fixture via unistruts . The wall fixture was bolted to the shake table using (6) 1" diameter prestressing rods. Pre-test design change modification included the addition of plate washers to mounting bolt locations.



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



# UNIT UNDER TEST (UUT) Summary Sheet

**UUT-05**

PEER STI 2012-20; UUT5 Setup A

Model Line	Model Number	Manufacturer
A75DE SCR Battery Charger	A75DE-75-24V w/ D975 Casing	La Marche

### Product Construction Summary

Base: 14 Gauge galvanized carbon steel Walls: 14 Gauge galvanized carbon steel  
Roof: 14 Gauge galvanized carbon steel

### Options / Subcomponent Summary

AC TERMINATIONS: ALTEC ; Cap: La Marche Mfg ; Capacitor: UNITED CHEMI-CON ; Choke: La Marche Mfg ; Circuit Card: La Marche Mfg ; DC TERMINATIONS: ALTEC ; Diode: La Marche Mfg ; Fuse: FERRAZ SHAWMUT ; Heat Sink: La Marche Mfg ; Regulator: La Marche Mfg ; Resistor: HUNTINGTON

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
330	15	20	38	13.5	15.7	6.3

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-05 was a Rigid Floor Mounted unit, attached through provided holes using (4) 5/16" SAE Grade 8 bolts on bottom panel.



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



## UNIT UNDER TEST (UUT) Summary Sheet

UUT-06

PEER STI 2012-20; UUT6 Setup B

Model Line	Model Number	Manufacturer
A75D SCR Battery Charger	A75D-30-130V w/ D475 Casing	La Marche

### Product Construction Summary

Base: 14 Gauge galvanized carbon steel Walls: 14 Gauge galvanized carbon steel  
Roof: 14 Gauge galvanized carbon steel

### Options / Subcomponent Summary

AC TERMINATIONS: ALTEC ; Cap: La Marche Mfg ; Capacitor: UNITED CHEMI-CON ; Choke: La Marche Mfg ; Circuit Card: La Marche Mfg ; DC Breaker: AIRPAX ; DC TERMINATIONS: ALTEC ; Diode: La Marche Mfg ; Fuse: FERRAZ SHAWMUT ; Heat Sink: La Marche Mfg ; Resistor: HUNTINGTON ; Surge Protector: LITTELFUSE ;

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
260	15	19	24	N/A	N/A	N/A

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-06 was a Rigid Wall Mounted unit, attached to non-isolated wall fixture. UUT-06 was bolted the wall fixture using (6) 3/8" SAE Grade 8 bolts between the unit back panel and unistruts. The wall fixture was bolted to the shake table using (6) 1" diameter prestressing rods. Pre-test design change modification included then addition of plate washers to mounting bolt locations.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-07

PEER STI 2012-20; UUT7 Setup A

Model Line	Model Number	Manufacturer
A75DE SCR Battery Charger	A75DE-300-130V w/ D47 Casing	La Marche

### Product Construction Summary

Base: 14 Gauge galvanized carbon steel Walls: 14 Gauge galvanized carbon steel  
Roof: 14 Gauge galvanized carbon steel

### Options / Subcomponent Summary

AC Breaker: AIRPAX ; AC TERMINATIONS: GLASTIC ; Cap: La Marche Mfg ; Capacitor: UNITED CHEMI-CON ; Choke: La Marche Mfg ; Circuit Card: La Marche Mfg ; DC Terminations: GLASTIC ; Fuse: GOULD ; Heat Sink: La Marche Mfg ; LCD Display: AZ DISPLAYS, INC ; Lighting Arrestor: DITEK ; Regulator: LITTELFUSE ; Relay: TYCO/P&B ; Transformer: La Marche Mfg

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
1980	39	38	70	17	14.5	6.0

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-07 was a Rigid Floor Mounted unit, attached through provided holes using (4) 1/2" SAE Grade 8 bolts on the unit's mounting brackets.



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



# UNIT UNDER TEST (UUT) Summary Sheet

UUT-08a

PEER STI 2012-20; UUT8 Setup C

Model Line	Model Number	Manufacturer
ESCR Engine Starting Battery Charger	ESCR-20/10-12/24V-AV1 w/ D98 Casing	La Marche

### Product Construction Summary

Base: 16 Gauge galvanized carbon steel Walls: 16 Gauge galvanized carbon steel  
Roof: 16 Gauge galvanized carbon steel

### Options / Subcomponent Summary

CPU, Controller, and Electronics: La Marche Mfg ; Transformer: La Marche Mfg ;

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
20	7	8	11	N/A	N/A	N/A

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-08a was an Isolated Wall Mounted unit, attached to a wall fixture that was spring vibration isolated using (6) VMC M2SSH-1E isolators. UUT-08a was bolted the wall fixture using (4) 1/4" SAE Grade 8 bolts between the unit back panel and unistruts. Each isolator was connected to the wall fixture with (1) 3/4" Grade 8 bolt and to the shake table with (4) 5/8" Grade 8 bolts.



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



## UNIT UNDER TEST (UUT) Summary Sheet

UUT-08b

PEER STI 2012-20; UUT8 Setup B

Model Line	Model Number	Manufacturer
ESCR Engine Starting Battery Charger	ESCR-20/10-12/24V-AV1 w/ D98 Casing	La Marche

### Product Construction Summary

Base: 16 Gauge galvanized carbon steel Walls: 16 Gauge galvanized carbon steel  
Roof: 16 Gauge galvanized carbon steel

### Options / Subcomponent Summary

CPU, Controller, and Electronics: La Marche Mfg ; Transformer: La Marche Mfg ;

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
20	7	8	11	N/A	N/A	N/A

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-08b was a Rigid Wall Mounted unit, attached to a non-isolated wall fixture. UUT-08b was bolted the wall fixture using (4) 1/4" SAE Grade 8 bolts between the unit back panel and unistruts. The wall fixture was bolted to the shake table using (6) 1" diameter prestressing rods.



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



## UNIT UNDER TEST (UUT) Summary Sheet

UUT-09a

PEER STI 2012-20; UUT9 Setup C

Model Line	Model Number	Manufacturer
ESCR Engine Starting Battery Charger	ESCR-40/20-12/24V-AV1 w/ D99 Casing	La Marche

### Product Construction Summary

Base: 16 Gauge galvanized carbon steel Walls: 16 Gauge galvanized carbon steel  
Roof: 16 Gauge galvanized carbon steel

### Options / Subcomponent Summary

CPU, Controller, and Electronics: La Marche Mfg ; Transformer: La Marche Mfg ;

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
50	9	11	15	N/A	N/A	N/A

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-09a was an Isolated Wall Mounted unit, attached to a wall fixture that was spring vibration isolated using (6) VMC M2SSH-1E isolators. UUT-09a was bolted the wall fixture using (4) 1/4" SAE Grade 8 bolts between the unit back panel and unistruts. Each isolator was connected to the wall fixture with (1) 3/4" Grade 8 bolt and to the shake table with (4) 5/8" Grade 8 bolts.



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





## UNIT UNDER TEST (UUT) Summary Sheet

UUT-09b

PEER STI 2012-20; UUT9 Setup B

Model Line	Model Number	Manufacturer
ESCR Engine Starting Battery Charger	ESCR-40/20-12/24V-AV1 w/ D99 Casing	La Marche

### Product Construction Summary

Base: 16 Gauge galvanized carbon steel Walls: 16 Gauge galvanized carbon steel  
Roof: 16 Gauge galvanized carbon steel

### Options / Subcomponent Summary

CPU, Controller, and Electronics: La Marche Mfg ; Transformer: La Marche Mfg ;

### UUT Properties

Weight [ lbs ]	Dimensions [ in ]			Lowest Nat. Freq. [ Hz ]		
	Length	Width	Height	F-B	S-S	V
50	9	11	15	N/A	N/A	N/A

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
CBC 2019	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.52

### Test Mounting Details

UUT-09b was a Rigid Wall Mounted unit, attached to a non-isolated wall fixture. UUT-09b was bolted the wall fixture using (4) 1/4" SAE Grade 8 bolts between the unit back panel and unistruts. The wall fixture was bolted to the shake table using (6) 1" diameter prestressing rods.



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