



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OSP – 0158-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: ASCO Power Technologies, LP

Manufacturer's Technical Representative: Douglas A. Stephens, P.E.

Mailing Address: 111 Corning Road, Suite 120, Cary, NC 27518

Telephone: (919) 460-5221 Email: Doug.Stephens@Emerson.com

Product Information

Product Name: Fire Pump Controllers and Accessories

Product Type: Electrical Equipment

Product Model Number: See Attached Certified Components Listing

(List all unique product identification numbers and/or part numbers)

General Description: ASCO FTA Fire Pump Controllers and accessories. Enclosures are Nema 2, 3R, 4, 12, or 4X, constructed of cold-rolled steel, stainless steel, or polycarbonate. Certified components include but are not limited to: various enclosure sizes, backplates, leg enclosures, circuit breakers, isolation switches, transformers, contactors, soft starters, autotransformers, resistor banks, fusible disconnects, and automatic transfer switches.

Mounting Description: Rigid floor and rigid wall mounted as listed in the attached Certified Components Listing

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John Giuliano

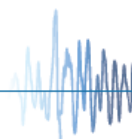
Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

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

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: 2/3/17

Title: President Company Name: The VMC Group





OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-759 (REV 12/16/15)

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

Company Name: The VMC Group

Name: Mr. Ken Tarlow California License Number: SE2851

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780 Email: Ken.Tarlow@thevmcgroup.com

Supports and Attachments Preapproval

- ☐ Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- ☒ Supports and attachments are not preapproved

Certification Method

- ☒ Testing in accordance with: ☒ ICC-ES AC156
- ☐ Other (Please Specify): _____
- _____
- _____

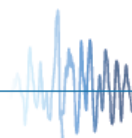
Testing Laboratory

Company Name: Dynamic Certification Laboratories, LLC

Contact Name: Kelly Laplace, Quality Manager

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

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





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = 1.35 (S_{DS} of 1.8); 1.45 (S_{DS} of 1.93); 1.88 (S_{DS} of 2.5)

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

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Attachments

Overall dimensions and weight (or range thereof) = See Attachments

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) = _____

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

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☐ Calculations ☒ Manufacturer's Catalog

☐ Other(s) (Please Specify): _____

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature: [Signature] Date: 3/7/2017

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = See Above z/h = 1.0

Condition of Approval (if applicable): _____

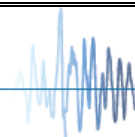


Table 1 - Certified Components Matrix

Model Line	Model Number	Dimensions (in)			Weight (lb)	Notes	S _{DS} (g) z/h=1	UUT
		Depth	Width	Height				
Softstarter and Autotransformer	916750	14	26	68	580	552A Softstarter and 200HP, 380V Autotransformer	2.5	UUT 8A
	916750-001	14	26	68	240	25HP, 480V Autotransformer	2.5	UUT 8B
J-Bypass ATS	J7ACTBB30600N5XM	37	49	95	1762	J-Bypass ATS Type 3R Enclosure	1.93	UUT 2C
FTA500 Across-the-Line Jockey Pump Controller	FTA500-AA-50B-BN	8	18	24	50	Jockey Pump Controller with Circuit Breaker	1.93	UUT 1A
	FTA500-AF-50B-BN	8	18	24	50	Jockey Pump Controller with Fusible Disconnect	1.8	UUT 2A
	FTA500-AF-01B-BN	8	18	24	44	Jockey Pump Controller with Fusible Disconnect	2.5	UUT 4A
FTA550E Across-the-Line Jockey Pump Controller	FTA550E-AA013B-BW	8	20	24	57	Across-the-Line Jockey Pump Controller	2.5	UUT 9
	FTA550E-AA050B-BW	8	20	24	66	Across-the-Line Jockey Pump Controller	2.5	UUT 10
FTA550F Across-the-Line Jockey Pump Controller	FTA550F-AG014B-BW	8	14	15.5	15	Across-the-Line Jockey Pump Controller	2.5	UUT 11
	FTA550F-AG002D-AM-NZ	8	14	15.5	15	Across-the-Line Jockey Pump Controller	2.5	UUT 12
FTA 900/901/950/951 Series Electric Fire Pump Controllers and FTA 1000-1930 Series Diesel Engine Fire Pump Controllers	FTA1000-AM300F	18	36	80	575	Across-the-Line Electric Controller	1.8	UUT 2B
	FTA1000-AM100B-TAB FTA951-AM100B	24	71	70	750	Across-the-Line Electric Controller with E-Bypass ATS	1.8	UUT 3B
	FTA1350-AM200B	14	41	68	380	Wye-Delta Start Electric Controller	2.5	UUT 4B
	FTA1800-AM100B	12	38	60	418	Autotransformer Start Controller	2.5	UUT 5
	FTA1930-AM150B-TS FTA950-AM150B	12	76	60	645	Soft-start Electric Controller with Standard ATS	1.8	UUT 1B
	FTA1930-AM50B	12	38	60	280	Soft-start Electric Controller	2.5	UUT 6
FTA 1100 Series Diesel Engine Fire Pump Controllers	FTA1100-JL24N	12	26	48	192	Diesel Engine Controller Type 2 Enclosure	1.8	UUT 3A
	FTA1100-JL24N-FDP	12	26	60	208	Diesel Engine Controller SS Type 4X Enclosure	2.5	UUT 7
	FTA1100-JL24N	12	26	36	160	Diesel Engine Controller	2.5	UUT 13
	FTA1100-JL12N	12	26	36	160	Diesel Engine Controller	2.5	UUT 14

Note: Certification level shall be based on lowest S_{DS} & z/h combinations shown in certified components or subcomponents table.

Certified Subcomponents Table 2 - Tested Enclosures

Subcomponent No.	Dimensions (in)			Approx. Weight (lbs)	Construction Material	NEMA Enclosure	UUT
	Depth	Width	Height				
915221	8	14	15.5	15	Polycarbonate	2/12/3R/4/4X	UUT 11, UUT 12
EN-1366	8	18	24	50	14 GA CRS	2	UUT 1A, UUT 2A, UUT 4A
EN-2254	8	20	24	66	14 GA CRS	2/12/3R/4	UUT 9, UUT 10
EN-1240	12	26	48	192	14 GA CRS	2	UUT 3A, UUT 13, UUT 14
EN-1218, EN-2219	14	26	68	580	14 GA CRS	2	UUT 8A, UUT 8B
EN-1173, EN-1210, EN-1212	12	76	60	645	14 GA CRS	2	UUT 1B
EN-1211	12	38	60	280	14 GA 316 SS	2	UUT 6
EN-1885-001	12	26	60	208	14 GA CRS	4X	UUT 7
EN-1216	14	41	68	380	14 GA CRS	2	UUT 4B
EN-1211	12	38	60	418	14 GA CRS	2	UUT 5
EN-1215, EN-1246	18	71	68	750	14 GA CRS	2	UUT 3B
EN-1213	18	36	80	575	12 GA CRS	2	UUT 2B
806143-021	37	49	95	1,762	11 GA CRS	3R	UUT 2C

Notes:

- Height includes 12-inch legs for floor-standing units
- Listed weights are for entire tested unit (including subcomponents), not just enclosure

Certified Subcomponents Table 3 - Certified Enclosures

Enclosure	Dimensions (in)			Approx. Weight (lbs)	Construction Material	Mounting
	Depth	Width	Height			
NEMA 2	8 - 37	14 - 76	15.5 - 95	15 - 1,762	Polycarbonate, CRS, SS	Rigid mount (wall-mount, floor-standing or free-standing)
NEMA 3R						
NEMA 4						
NEMA 12						
NEMA 4X						

Note: Dimensions do not account for combinations of different enclosures bolted together. See schematic drawings of footprints of certified enclosures and enclosure combinations

Certified Subcomponents Table 4 - Backplates

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
PL-1219	ASCO	Backplate, Relay Board	FTA1000-1930	14 GA CRS	5.0	1.8	UUT 1B
PL-1220	ASCO	Backplate, PTR 48"	FTA900/950/901/951	14 GA CRS	13.0	1.8	UUT 1B
PL-1221	ASCO	Backplate, PTR 56"		14 GA CRS	18.0	1.8	UUT 3B
PL-1222	ASCO	Backplate, PTR 80"	FTA1000-1930	12 GA CRS	16.0	1.8	UUT 2B
PL-1366	ASCO	Backplate	FTA500	14 GA CRS	5.0	1.93	UUT 1A, UUT 2A
PL-2027	ASCO	Backplate	FTA550F	0.80THK 5052-H32 Aluminum	1.0	2.5	UUT 11, UUT 12
PL-2035	ASCO	Backplate	FTA550E	0.100THK 5052-H32 Aluminum	3.0	2.5	UUT 9, UUT 10
PL-1240	ASCO	Backplate, 36"		14 GA CRS	20.0	1.8	UUT 3A
PL-1937	ASCO	Backplate, 48"	FTA1100	14 GA CRS	25.0	2.5	UUT 7

Certified Subcomponents Table 5 - Leg Enclosures

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
LG-1048	ASCO	Leg Enclosure, 6"H x 12"D	All Model Lines	3/16" CRS	7.0	1.8	Interpolated
LG-1049	ASCO	Leg Enclosure, 6"H x 14"D		3/16" CRS	7.0	1.8	Interpolated
LG-1045	ASCO	Leg Enclosure, 12"H x 12"D		14 GA CRS	7.0	1.8	UUT 1B
LG-1046	ASCO	Leg Enclosure, 12"H x 14"D		14 GA CRS	7.0	2.5	UUT 5
LG-1366	ASCO	Leg Enclosure, 12"H x 12"D		14 GA 316 SS	7.0	2.5	UUT 7
LG-1152	ASCO	Leg Enclosure, 12"H x 14"D		14 GA 316 SS	7.0	1.8	Interpolated
LG-1155	ASCO	Leg Enclosure, 12"H x 18"D		14 GA CRS	9.0	1.8	UUT 3B
LG-1045	ASCO	Leg Enclosure, 12"H x 12"D		14 GA CRS	7.0	1.8	UUT 3A
LG-1366	ASCO	Leg Enclosure, 12"H x 12"D		14 GA 316 SS	7.0	2.5	UUT 7

Note: The 6"H leg enclosures are approved because the 12"H (the weakest configuration) was tested. 3/16" CRS is stronger than 14 GA CRS.

Certified Subcomponents Table 6 - Circuit Breakers

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
CC-3091/CC-4053	ABB	Molded Case Circuit Breaker, 150/225A Frame	FTA1000-1930 FTA900/950/901/951	Plastic	6.8	2.5	UUT 6
PL-1220	ABB	Molded Case Circuit Breaker, 250A Frame			6.8	1.8	UUT 1B
PL-1221	ABB	Molded Case Circuit Breaker, 400A Frame			8.6	2.5	UUT 4B
PL-1222	ABB	Molded Case Circuit Breaker, 600/800A Frame			20.9	1.8	UUT 2B
PL-1366	ABB	Thermal Mag Molded Case Circuit Breaker, 150A Frame	FTA500		6.8	1.93	UUT 1A
PL-2027	ABB	Thermal Mag Molded Case Circuit Breaker, 100A Frame	FTA550E		6.8	2.5	UUT 10
PL-2035	ABB	Thermal Mag Molded Case Circuit Breaker, 15A Frame			6.8	2.5	UUT 9

Certified Subcomponents Table 7 - Isolation Switches

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
DC-1055/DC-1056	ABB	Molded Case Isolation Switch, 150/225A Frame	FTA1000-1930	Plastic	5.5	2.5	UUT 6
DC-1057	ABB	Molded Case Isolation Switch, 250A Frame		Plastic	6.0	1.8	UUT 1B
DC-1058	ABB	Molded Case Isolation Switch, 400A Frame		Plastic	8.5	2.5	UUT 4B
DC-1059/DC-1060	ABB	Molded Case Isolation Switch, 600/800A Frame		Plastic	22.0	1.8	UUT 2B

Certified Subcomponents Table 8 - Transformers

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
TF-0204	ASCO	Control 250VA, 220V-480V	FTA1000-1930	Steel	10.0	2.5	UUT 4B
TF-0206	ASCO	Control 250VA, 208V			10.0	2.5	Interpolated
TF-1370	ASCO	12Vdc Charger			11.0	2.5	Interpolated
TF-1371	ASCO	24Vdc Charger	FTA1100		17.0	2.5	UUT 7
TF-0200	ASCO	Control 50VA, 240V/480-120V			2.7	2.5	Interpolated
917248	ASCO	Control 58VA, 208/230/400/480/575-24V	FTA550		2.7	2.5	UUT 9, UUT 10, UUT 11, UUT 12
TF-0202	ASCO	Control 150VA, 240/480-120V			5.3	2.5	UUT 10

Certified Subcomponents Table 9 - Contactors

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
CT-1701	ABB	A12 Frame	FTA500	Plastic	0.7	1.8	UUT 4A
CT-1744*/CT-1754*	ABB	A50/A75 Frame	FTA500, FTA1000-1930		2.3	2.5	UUT 4B
CT-1706	ABB	1A, 24-60VAC, 20-60VDC	FTA550E, FTA550F		0.7	2.5	UUT 9
CT-2252	ABB	25.3A, 20-60VAC, 20-60VDC			0.7	2.5	UUT 11
CT-2254	ABB	25.3A, 48-130VAC/DC Coil			0.7	2.5	UUT 12
CT-2253	ABB	32.2A, 20-60VAC, 20-60VDC			0.7	2.5	Interpolated
CT-1750	ABB	80A, 110-120VAC	FTA1000-1930		2.3	2.5	UUT 10
CT-1764*/CT-1774*	ABB	A95/A110 Frame			3.5/5	2.5	UUT 4B
CT-1806*/CT-1816*	ABB	A145/A185 Frame			7.1	2.5	UUT 5
CT-1826*/CT-1836*/CT-1846*	ABB	A210/A260/A300 Frame			13.0	1.8	UUT 1B
CT-1851*/CT-1861*	ABB	AF400/AF460 Frame			26.0	1.8	Interpolated
CT-1871*/CT-1881*	ABB	AF580/AF750A Frame			33.0	1.8	UUT 2B

*Part number shown is a contactor with a 460V coil. 208, 220, and 220/440V coils may also be used.

Certified Subcomponents Table 10 - Soft Starters

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
VF-1689	Benshaw	65A	FTA1930	Aluminum	26.0	2.5	UUT 6
VF-1690	Benshaw	56A			27.0	1.8	Interpolated
VF-1691	Benshaw	240A			37.0	1.8	UUT 1B
VF-1693	Benshaw	720A			110.0	1.8	Interpolated
VF-1692	Benshaw	552 A			110.0	2.5	UUT 8A

Certified Subcomponents Table 11 - Autotransformers

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
TF-1039	Hammond	25/30 HP	FTA 1800	Steel	51.0	2.5	UUT 8B
TF-1064	Hammond	100 HP			140.0	2.5	UUT 5
TF-1084	Hammond	250 HP			245.0	2.5	Interpolated
TF-1078	Hammond	200 HP			280.0	2.5	UUT 8A

Certified Subcomponents Table 12 - Resistor Bank

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
RS-4601	Post Glover	Relay Board	FTA1350	Steel	9.0	2.5	Extrapolated*
RS-4657	Post Glover	PTR 48"			15.0	2.5	UUT 4B

*RS-4601 and RS-4657 are identical in construction; only number of resistor banks is different

Certified Subcomponents Table 13 - Fusible Disconnect

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
DC-1047	ABB	30A	FTA500	Plastic	0.7	1.8	UUT 4A
DC-1049	ABB	100A			1.5	1.93	UUT 2A

Certified Subcomponents Table 14 - Control Units

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
AS-2001	ASCO	Battery Charger, 12/24Vdc	FTA1100	Aluminum	3.0	2.5	UUT 7
473670-006	ASCO	Group 1 ATS Control Unit	FTA900/950	Plastic	5.0	1.8	UUT 1B
AS-1198/1199	ASCO	Mark II Fire Pump Control Unit	FTA1000-1930	Steel	7.0	2.5	UUT 4B
AS-2000	ASCO	Mark II Fire Pump Control Unit	FTA1100	Steel	7.0	2.5	UUT 7
601800-002	ASCO	Group 5 ATS Control Unit	FTA900/950/901/951	Plastic	11.0	1.8	UUT 3B
905102	ASCO	Jockey XG Pump Control Unit	FTA550e, FTA550F	Plastic	0.5	2.5	UUT 9, UUT 10, UUT 11, UUT 12

Certified Subcomponents Table 15 - Automatic Transfer Switches

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
9403104, 9403150, 7ATS3100, 7ATS3150	ASCO	D Frame STD ATS 30-230A	FTA900/950/901/951	Plastic	20.0	1.8	UUT 1B
9403260, 9403400, 7ATS3260, 7ATS3400	ASCO	E Frame STD ATS 260/400A			45.0	1.8	UUT 3B
9403400, 9403800, 94031000, 7ATS3400, 7ATS3800, 7ATS31000	ASCO	H Frame STD ATS 600/800/1000A			142.0	1.8	Interpolated
7ATB3150, 7ATB3260, 7ATB3400	ASCO	E Frame BYPASS ATS 260/400A			145.0	1.8	UUT 3B
7ATB3150, 7ATB3260, 7ATB3400, 7ATB3600	ASCO	J Frame BYPASS ATS 400/600A			600.0	2.5	UUT 2C

Certified Subcomponents Table 16 - Manual Motor Protectors

Subcomponent No.	Component Mfg.	Description	Model Line	Construction Material	Approx. Weight (lb)	Sds (g), z/h=1	UUT
DC-1081	ABB	0.63-1.0A	FTA550E, FTA550F	Plastic	0.5	2.5	UUT 11
DC-1082	ABB	1.0-1.6A			0.6	2.5	Interpolated
DC-1083	ABB	1.6-2.5A			0.6	2.5	Interpolated
DC-1804	ABB	2.5-4.0A			0.6	2.5	Interpolated
DC-1805	ABB	4.0-6.3A			0.6	2.5	Interpolated
DC-1806	ABB	6.3-10.0A			0.6	2.5	Interpolated
DC-1807	ABB	8.0-12.0A			0.7	2.5	Interpolated
DC-1088	ABB	10.0-16.0A			0.7	2.5	Interpolated
DC-1089	ABB	16.0-20.0A			0.7	2.5	Interpolated
DC-1090	ABB	20.0-25.0A			0.7	2.5	UUT 12
DC-1092	ABB	25.0-32.0A			0.7	2.5	Interpolated



UNIT UNDER TEST (UUT) Summary Sheet

UUT 1A

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA500-AA-50B-BN	ASCO Power Technologies, LP

Product Construction Summary

14 gage painted, cold rolled steel enclosure, NEMA 2

Options / Subcomponent Summary

FTA500 Low voltage Across-the-Line Jockey Pump Controller with A75 contracotr and 100 Amp circuit breaker

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
50	8	18	24	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.93	1	1.5	3.09	2.32	1.29	0.51

Test Mounting Details

The UUT was attached to the fixturing wall at four corners utilizing 1/4-inch ASTM A325 Grade 5 20x1 hex cap bolts and the existing openings in the back of the back-box.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 1B

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA1930-AM150B-TS, FTA950-AM150B	ASCO Power Technologies, LP

Product Construction Summary

14 gage painted, cold rolled steel enclosure, NEMA 2

Options / Subcomponent Summary

FTA1930 Soft Start Fire Pump Controller w/ Mark II XG and D-Frame ATS

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
644	12	76	60	7	18	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.80	1.00	1.50	2.88	2.16	1.20	0.48

Test Mounting Details

The UUT was bolted to a Wyle-fabricated test fixture using twelve 1/2-inch ASTM A325 Grade 5 bolts. The test fixture was welded to the seismic test table so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 2A

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA500-AF-50B-BN	ASCO Power Technologies, LP

Product Construction Summary

14 gage painted, cold rolled steel enclosure, NEMA 2

Options / Subcomponent Summary

FTA500 Low voltage Across-the-Line Jockey Pump Controller with A75 contracotr and 100 Amp fusible disconnect

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
50	8	18	24	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.93	1.00	1.50	3.09	2.32	1.29	0.51

Test Mounting Details

The UUT was attached to the fixturing wall at four corners utilizing 1/4-inch ASTM A325 Grade 5 20x1 hex cap bolts and the existing openings in the back of the back-box.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 2B

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA1000-AM300F	ASCO Power Technologies, LP

Product Construction Summary

14 gage painted, cold rolled steel enclosure, NEMA 2

Options / Subcomponent Summary

FTA1000 Across-the-Line Fire Pump Controller w/ Mark II XG

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
600	18	36	80	9	11	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.80	1.00	1.50	2.88	2.16	1.20	0.48

Test Mounting Details

The UUT was bolted to a Wyle-fabricated test fixture using six 1/2-inch ASTM A325 Grade 5 bolts. The test fixture was welded to the seismic test table so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 2C

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	J7ACTBB30600N5XM	ASCO Power Technologies, LP

Product Construction Summary

14 gage painted, cold rolled steel enclosure, NEMA 3R

Options / Subcomponent Summary

J 600 Amp bypass switch, 480V, 50-60Hz, 3 phase, 3 poles w/ an additional switched neutral

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
1,726	37	49	95	8.6	9.5	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

The UUT was bolted to a Wyle-fabricated test fixture using eight 1/2-inch ASTM A325 Grade 5 bolts. The test fixture was welded to the seismic test table so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 3A

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA1100-JL24N	ASCO Power Technologies, LP

Product Construction Summary

14 gage painted, cold rolled steel enclosure, NEMA 2

Options / Subcomponent Summary

FTA1100 Mark II Diesel Engine Fire Pump Controller

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
192	12	26	48	11	19	30

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.80	1.00	1.50	2.88	2.16	1.20	0.48

Test Mounting Details

The UUT was bolted to a Wyle-fabricated test fixture using six 1/2-inch ASTM A325 Grade 5 bolts. The test fixture was welded to the seismic test table so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 3B

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA1000-AM100B-TAB, FTA951-AM100B	ASCO Power Technologies, LP

Product Construction Summary

14 gage painted, cold rolled steel enclosure, NEMA 2

Options / Subcomponent Summary

ASCO FTA1000 Across-the-Line Fire Pump Controller w/ Mark II XG and E-Bypass ATS

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
800	24	71	70	8.5	10	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.80	1.00	1.50	2.88	2.16	1.20	0.48

Test Mounting Details

The UUT was bolted to a Wyle-fabricated test fixture using twelve 1/2-inch ASTM A325 Grade 5 bolts. The test fixture was welded to the seismic test table so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 4A

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA500-AF-01B-BN	ASCO Power Technologies, LP

Product Construction Summary

14 gage painted, cold rolled steel enclosure, NEMA 2

Options / Subcomponent Summary

FTA500 Low Voltage Across-the-Line Jockey Pump Controller with A12 contactor and 30 Amp fusible disconnect

UUT Properties

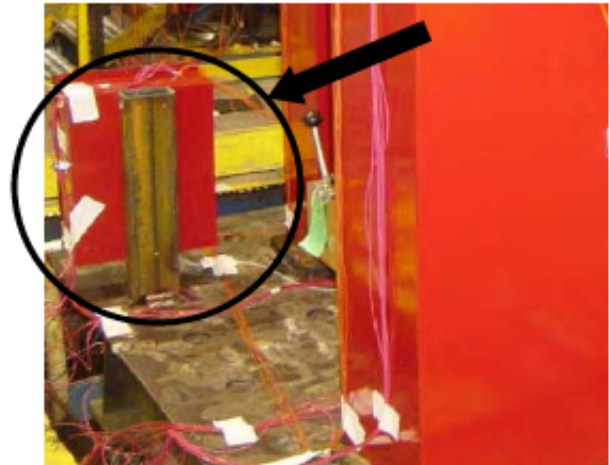
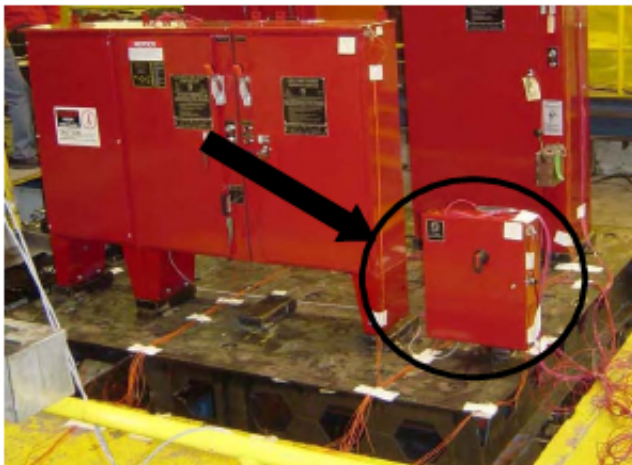
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
44	8	18	24	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.80	1.00	1.50	2.88	2.16	1.20	0.48

Test Mounting Details

The UUT was bolted to a Wyle-fabricated test fixture using three 5/16-inch ASTM A325 Grade 5 bolts. The test fixture was welded to the seismic test table so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 4B

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA1350-AM200B	ASCO Power Technologies, LP

Product Construction Summary

14 gage painted, cold rolled steel enclosure, NEMA 2

Options / Subcomponent Summary

FTA1350 Electric Motor Fire Pump Controller, Wye-Delta Start, 480 Vac, 50/60 Hz, Three Phase

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
380	14	41	68	7.7	12.5	33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

UUT 4B is shown in the front-center of the test units in the below photo. The UUT was bolted to a Wyle-fabricated test fixture using six 5/16-inch ASTM A325 Grade 5 bolts. The test fixture was welded to the seismic test table so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 5

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA1800-AM100B	ASCO Power Technologies, LP

Product Construction Summary

Single door, 14 gage CRS enclosure, welded construction, NEMA 2

Options / Subcomponent Summary

FTA 1800 Autotransformer Start Electric Controller with Mark II XG operator interface and a water pressure transducer

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
418	12	38	60	10	15	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

The UUT was bolted to a Wyle-fabricated test fixture using six 5/16-inch ASTM A325 Grade 5 bolts. The test fixture was welded to the seismic test table so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 6

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA1930-AM50B	ASCO Power Technologies, LP

Product Construction Summary

Single door, 14 gage CRS enclosure, welded construction, UL listed NEMA Type 2

Options / Subcomponent Summary

FTA1930 Soft Start Electric Controller with Mark II XG operator interface and a water pressure transducer

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
280	12	38	60	9	21.5	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

The UUT was bolted to a Wyle-fabricated test fixture using six 5/16-inch ASTM A325 Grade 5 bolts. The test fixture was welded to the seismic test table so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 7

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA1100-JL24N-FDP	ASCO Power Technologies, LP

Product Construction Summary

Single door, 14 gage 316 painted stainless steel enclosure, welded construction, NEMA Type 4X

Options / Subcomponent Summary

FTA1100 Deisel Engine Fire Controller SS with Mark II XG operator interface, two 24 V engine battery chargers and a water pressure transducer

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
208	12	26	60	12.5	19.6	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

The UUT was bolted to a Wyle-fabricated test fixture using six 5/16-inch ASTM A325 Grade 5 bolts. The test fixture was welded to the seismic test table so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 8A

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	916750	ASCO Power Technologies, LP

Product Construction Summary

Single door, 14 gage CRS enclosure, welded construction, UL listed NEMA Type 2

Options / Subcomponent Summary

552A Softstarter and 200HP, 380V Autotransformer

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
580	14	26	68	9	9	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

The UUT was bolted to a DCL-fabricated test fixture using six 1/2-inch ASTM A325 Grade 5 bolts (3 per leg). The test fixture was attached to the seismic test table with M12 threaded rod, spaced approximately 8-inches on center, so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 8B

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	916750-001	ASCO Power Technologies, LP

Product Construction Summary

Single door, 14 gage CRS enclosure, welded construction, UL listed NEMA Type 2

Options / Subcomponent Summary

25HP, 480V Autotransformer

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
240	14	26	68	8.5	8.8	>33

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

The UUT was bolted to a DCL-fabricated test fixture using six 1/2-inch ASTM A325 Grade 5 bolts (3 per leg). The test fixture was attached to the seismic test table with M12 threaded rod, spaced approximately 8-inches on center, so that the horizontal axes of the UUT were colinear with the horizontal axes of the test table.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 9

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA550E-AA013B-BW	ASCO Power Technologies, LP

Product Construction Summary

NEMA Type 2 painted cold rolled steel enclosure

Options / Subcomponent Summary

Programmable running period timer, circuit breaker, 1/3 HP, 480V-3 Phase and contacts for remote indication and system pressure

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
57	8	20	24	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

Unit attached to DCL steel stud wall shake table interface fixture with four 3/8-inch diameter ASTM A325 Grade 5 bolts, using the manufacturer-provided mounting holes at the back of the enclosure.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 10

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA550E-AA050B-BW	ASCO Power Technologies, LP

Product Construction Summary

NEMA Type 2 painted cold rolled steel enclosure

Options / Subcomponent Summary

Programmable running period timer, circuit breaker, 50 HP, 480V-3 Phase and contacts for remote indication and system pressure

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
66	8	20	24	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

Unit attached to DCL steel stud wall shake table interface fixture with four 3/8-inch diameter ASTM A325 Grade 5 bolts, using the manufacturer-provided mounting holes at the back of the enclosure.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 11

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA550F-AG014B-BW	ASCO Power Technologies, LP

Product Construction Summary

NEMA Type 2/3R/4/4X/12 polycarbonate enclosure

Options / Subcomponent Summary

Programmable running period timer, circuit breaker, 1/4 HP, 480V-3 Phase and contacts for remote indication and phase failure/reversal

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
15	8	14	15.5	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

Unit attached to DCL steel stud wall shake table interface fixture with four 3/8-inch diameter ASTM A325 Grade 5 bolts, using the manufacturer-provided mounting holes at the back of the enclosure.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 12

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA550F-AG002D-AM-NZ	ASCO Power Technologies, LP

Product Construction Summary

NEMA Type 2/3R/4/4X/12 polycarbonate enclosure

Options / Subcomponent Summary

Programmable running period timer, manual motor protector, 2 HP, 110V-1 Phase; contacts for remote indication, failed to start; interlock output contacts to prevent jockey pump from starting during main controller operation

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
15	8	14	15.5	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

Unit attached to DCL steel stud wall shake table interface fixture with four 3/8-inch diameter ASTM A325 Grade 5 bolts, using the manufacturer-provided mounting holes at the back of the enclosure.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 13

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA1100-JL24N	ASCO Power Technologies, LP

Product Construction Summary

NEMA Type 2, painted cold rolled steel enclosure

Options / Subcomponent Summary

Diesel Engine Fire Pump Controller, Mark II Controller, lead acid battery, 24V DC, negative ground

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
160	12	26	36	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

Unit attached to DCL steel stud wall shake table interface fixture with four 1/2-inch diameter ASTM A325 Grade 5 bolts, using the manufacturer-provided mounting tabs at the back of the enclosure.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT 14

99683-1201

Model Line	Model Number	Manufacturer
Fire Pump Controllers and Accessories	FTA1100-JL12N	ASCO Power Technologies, LP

Product Construction Summary

NEMA Type 2, painted cold rolled steel enclosure

Options / Subcomponent Summary

Diesel Engine Fire Pump Controller, Mark II Controller, lead acid battery, 12V DC, negative ground

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
160	12	26	36	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	1.00	1.50	4.00	3.00	1.68	0.67

Test Mounting Details

Unit attached to DCL steel stud wall shake table interface fixture with four 1/2-inch diameter ASTM A325 Grade 5 bolts, using the manufacturer-provided mounting tabs at the back of the enclosure.



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