



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

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

OFFICE USE ONLY

APPLICATION #: OSP-0158

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol

Manufacturer's Technical Representative: Thomas Feighery

Mailing Address: 3362 Apex Peakway, Apex, NC 27502

Telephone: (919) 460-5228

Email: Tom.Feighery@firetrol.com

Product Information

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

Product Model Number(s): See Attached Certified Components Listing

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

Product Sub-Category: Fire Protection & Security Panels

General Description: Firetrol 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: Base/Wall Mounted Rigid

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: Dynamic Certification Laboratories

Contact Person: Rachel Wolfe

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

Telephone: (775) 358-5085

Email: rachel.wolfe@shaketest.com

Title: Seismic Test Engineer



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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: DYNAMIC CERTIFICATION LABORATORY (DCL)

Contact Person: Josh Sailer

Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431

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

Company Name: WYLE LABORATORIES

Contact Person: Don Smith

Mailing Address: 7800 Highway 20 West, Huntsville AL 35806

Telephone: (256) 837-4411 Email: Don.Smith@wyle.com





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Seismic Parameters

Certified Response Spectral Acceleration Factors:(F_p/W_p)

Horizontal (A Flx-H), g= 2.88 (A Rig-H), g= 1.94

Vertical (A Flx-V), g= 1.20 (A Rig-V), g= 0.48

SDS (Design spectral response acceleration at short period, g) = 1.8

H_f (Force amplification height factor) = 3.5 at z/h = 1.0; 1 at z/h = 0

R_u (Structure ductility reduction factor) = 1.3 at z/h = 1.0; 1 at z/h = 0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 0 and 1

HCAI Approval (For Office Use Only) - Approval Expires on 03/09/2032

Date: 3/9/2026

Name: Mohammad Karim

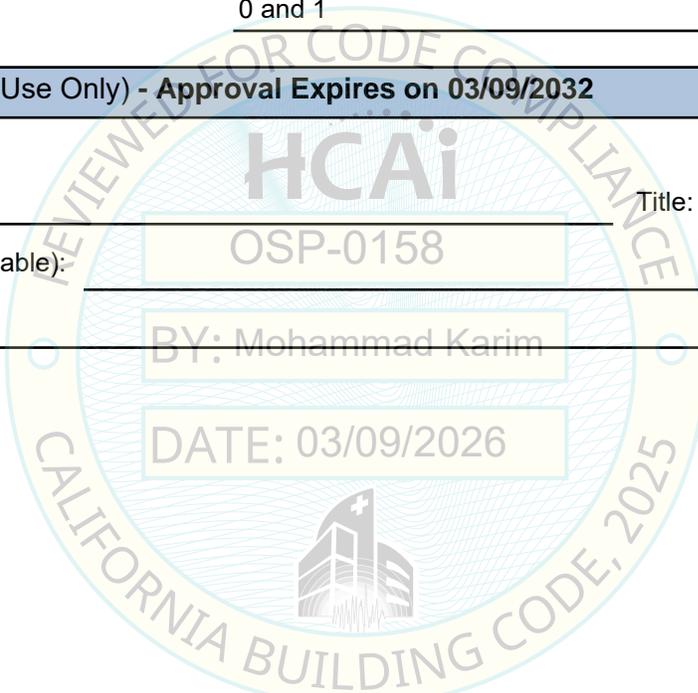
Title: Supervisor, Health Facilities

Condition of Approval (if applicable):

OSP-0158

BY: Mohammad Karim

DATE: 03/09/2026



Special Seismic Certification
Table 1 - Certified Components - Wall Mounted



DCL Project Number: 31871-2601

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

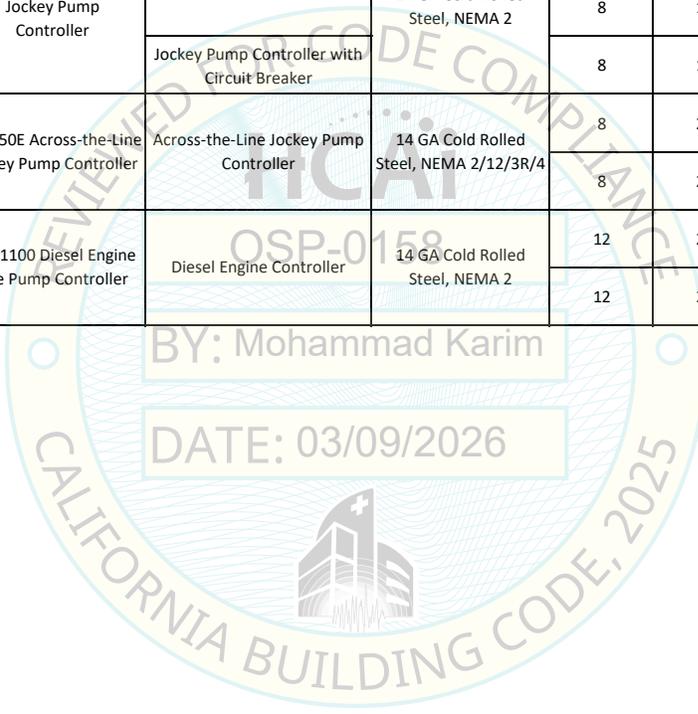
Product Type: Fire Pump Controllers and Accessories

Mounting: Rigid Wall Mounted

Certified Seismic Levels: Sds 1.80 g at z/h= 1.0 and 0.0

Factors for Force Amplification and Structure Ductility Reduction: $H_f = 3.5$ at z/h=1.0; 1.0 at z/h=0 and $R_{\mu} = 1.3$ at z/h=1.0; 1.0 at z/h=0

Model Number	Model Line	Description	Enclosure Construction	Dimensions [in.]			Weight [lb.]	Unit
				Depth	Width	Height		
FTA550F-AG014B-BW	FTA550F Across-the-Line Jockey Pump Controller	Across-the-Line Jockey Pump Controller	Polycarbonate, NEMA 2/12/3R/4/4X	8	14	16	15	UUT-11
FTA550F-AG002D-AM-NZ				8	14	16	15	UUT-12
FTA500-AF-01B-BN	FTA500 Across-the-Line Jockey Pump Controller	Jockey Pump Controller with Fusible Disconnect	14 GA Cold Rolled Steel, NEMA 2	8	18	24	44	UUT-04A
FTA500-AF-50B-BN		Jockey Pump Controller with Circuit Breaker		8	18	24	50	UUT-02A
FTA500-AA-50B-BN		Jockey Pump Controller with Circuit Breaker		8	18	24	50	UUT-01A
FTA550E-AA013B-BW	FTA550E Across-the-Line Jockey Pump Controller	Across-the-Line Jockey Pump Controller	14 GA Cold Rolled Steel, NEMA 2/12/3R/4	8	20	24	57	UUT-09
FTA550E-AA050B-BW				8	20	24	66	UUT-10
FTA1100-JL24N	FTA 1100 Diesel Engine Fire Pump Controller	Diesel Engine Controller	14 GA Cold Rolled Steel, NEMA 2	12	26	36	160	UUT-13
FTA1100-JL12N				12	26	36	160	UUT-14



Special Seismic Certification
Table 2 - Certified Components - Base Mounted



DCL Project Number: 31871-2601

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

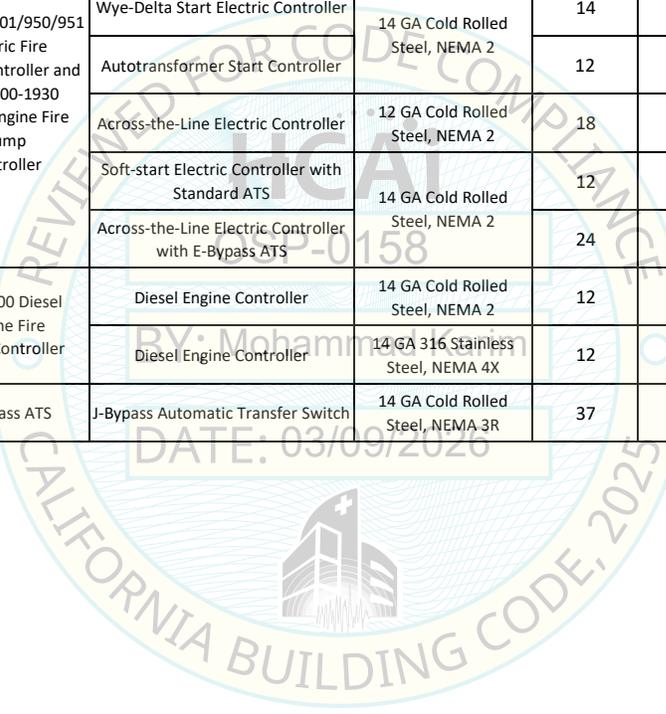
Product Type: Fire Pump Controllers and Accessories

Mounting: Rigid Base Mounted

Certified Seismic Levels: Sds 1.80 g at z/h= 1.0 and 0.0

Factors for Force Amplification and Structure Ductility Reduction: $H_f = 3.5$ at z/h=1.0; 1.0 at z/h=0 and $R_p = 1.3$ at z/h=1.0; 1.0 at z/h=0

Model Number	Model Line	Description	Enclosure Construction	Dimensions [in.]			Weight [lb.]	Unit	
				Depth	Width	Height			
916750-001	Soft Starter and Autotransformer	25HP, 480V Autotransformer	14 GA Cold Rolled Steel, NEMA 2	14	26	68	240	UUT-08B	
916750		552A Soft Starter and 200HP, 380V Autotransformer		14	26	68	580	UUT-08A	
FTA1930-AM50B	FTA 900/901/950/951 Electric Fire Pump Controller and FTA 1000-1930 Diesel Engine Fire Pump Controller	Soft-start Electric Controller	14 GA 316 Stainless Steel, NEMA 2	12	38	60	280	UUT-06	
FTA1350-AM200B		Wye-Delta Start Electric Controller	14 GA Cold Rolled Steel, NEMA 2	14	41	68	380	UUT-04B	
FTA1800-AM100B		Autotransformer Start Controller		12	38	60	418	UUT-05	
FTA1000-AM300F		Across-the-Line Electric Controller	12 GA Cold Rolled Steel, NEMA 2	18	36	80	575	UUT-02B	
FTA1930-AM150B-TS FTA950-AM150B		Soft-start Electric Controller with Standard ATS	14 GA Cold Rolled Steel, NEMA 2	12	76	60	644	UUT-01B	
FTA1000-AM100B-TAB FTA951-AM100B		Across-the-Line Electric Controller with E-Bypass ATS		24	71	70	800	UUT-03B	
FTA1100-JL24N		FTA 1100 Diesel Engine Fire Pump Controller	Diesel Engine Controller	14 GA Cold Rolled Steel, NEMA 2	12	26	48	192	UUT-03A
FTA1100-JL24N-FDP			Diesel Engine Controller	14 GA 316 Stainless Steel, NEMA 4X	12	26	60	208	UUT-07
J7ACTBB30600N5XM	J-Bypass ATS	J-Bypass Automatic Transfer Switch	14 GA Cold Rolled Steel, NEMA 3R	37	49	95	1762	UUT-02C	



Special Seismic Certification
Table 3 - Certified Subcomponents - Wall Mounted



DCL Project Number: 31871-2601

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Certified Seismic Levels: Sds 1.80 g at z/h= 1.0 and 0.0

Enclosures							
Model Number	Manufacturer	Dimensions [in.]			NEMA Rating	Material	Unit
		Depth	Width	Height			
915221	Firetrol	8.0	14.0	15.5	2/12/3R/4/4X	Polycarbonate	UUT-11, UUT-12
EN-1366		8.0	18.0	24.0	2	14 GA Cold Rolled Steel	UUT-01A, UUT-02A, UUT-04A
EN-2254		8.0	20.0	24.0	2/12/3R/4		UUT-09, UUT-10
EN-1240		12.0	26.0	48.0	2		UUT-13, UUT-14
Backplates							
Model Number	Manufacturer	Description			Material	Weight [lb.]	Unit
PL-2027	Firetrol	Blackplate			0.80THK 5052-H32 Aluminum	1	UUT-11, UUT-12
PL-2035					0.100THK 5052-H32 Aluminum	3	UUT-09, UUT-10
PL-1366					14 GA Cold Rolled Steel	5	UUT-01A, UUT-02A
Circuit Breakers							
PL-1366	ABB	Thermal Magnetic Molded Case, 150A Frame			Plastic	7	UUT-01A
PL-2027		Thermal Magnetic Molded Case, 100A Frame				7	UUT-10
PL-2035		Thermal Magnetic Molded Case, 15A Frame				7	UUT-09
Transformers							
917248	Firetrol	Control 58VA,208/230/400/460/575-24V			Laminated Steel (Varnished)	3	UUT-09, UUT-10, UUT-11, UUT-12
TF-0200		Control 50VA, 240V/480-120V				3	Interpolated
TF-0202		Control 150VA, 240/480-120V				5	UUT-10
Contactors							
CT-1701	ABB	A12 Frame			Plastic	<1	UUT-04A
CT-1706		1A, 24-60VAC, 20-60VDC				<1	UUT-09
CT-2252		25.3A, 20-60VAC, 20-60VDC				<1	UUT-11
CT-2254		25.3A, 48-130VAC/DC Coil				<1	UUT-12
CT-2253		32.2A, 20-60VAC, 20-60VDC				<1	Interpolated
CT-1750		80A, 110-120VAC				2	UUT-10
Fusible Disconnect							
DC-1047	ABB	30A			Plastic	<1	UUT-04A
DC-1049		100A				2	UUT-02A
Control Units							
905102	Firetrol	Jockey XG Pump Control Unit			Plastic	<1	UUT-09, UUT-10, UUT-11, UUT-12
Manual Motor Protectors							
DC-1081	ABB	0.63-1.0A			Plastic	<1	UUT-11
DC-1082		1.0-1.6A				<1	Interpolated
DC-1083		1.6-2.5A				<1	Interpolated
DC-1804		2.5-4.0A				<1	Interpolated
DC-1805		4.0-6.3A				<1	Interpolated
DC-1806		6.3-10.0A				<1	Interpolated
DC-1807		8.0-12.0A				<1	Interpolated
DC-1088		10.0-16.0A				<1	Interpolated
DC-1089		16.0-20.0A				<1	Interpolated
DC-1092		25.0-32.0A				<1	Interpolated
DC-1090		20.0-25.0A				<1	UUT-12

Special Seismic Certification
Table 4 - Certified Subcomponents - Base Mounted



DCL Project Number: 31871-2601

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Certified Seismic Levels: Sds 1.80 g at z/h= 1.0 and 0.0

Enclosures							
Model Number	Manufacturer	Dimensions [in.]			NEMA Rating	Material	Unit
		Depth	Width	Height ¹			
EN-1240	Firetrol	12.0	26.0	48.0	2	14 GA Cold Rolled Steel	UUT-03A
EN-1985-001		12.0	26.0	60.0	4X	14 GA 316 Stainless Steel	UUT-07
EN-1211		12.0	38.0	60.0	2	14 GA Cold Rolled Steel	UUT-06
EN-1211		12.0	38.0	60.0	2	14 GA Cold Rolled Steel	UUT-05
EN-1173, EN-1210, EN-1212		12.0	76.0	60.0	2	14 GA Cold Rolled Steel	UUT-01B
EN-1218, EN-2219		14.0	26.0	68.0	2	14 GA Cold Rolled Steel	UUT-08A, UUT-08B
EN-1216		14.0	41.0	68.0	2	14 GA Cold Rolled Steel	UUT-04B
EN-1213		18.0	36.0	80.0	2	12 GA Cold Rolled Steel	UUT-02B
EN-1215, EN-1246		18.0	71.0	68.0	2	14 GA Cold Rolled Steel	UUT-03B
806143-021		37.0	49.0	95.0	3R	14 GA Cold Rolled Steel	UUT-02C
Backplates							
Model Number	Manufacturer	Description			Material	Weight [lb.]	Unit
PL-1219	Firetrol	Backplate, Relay Board			14 GA Cold Rolled Steel	5	UUT-01B
PL-1220		Backplate, PTR 48"			14 GA Cold Rolled Steel	13	UUT-01B
PL-1222		Backplate, PTR 80"			12 GA Cold Rolled Steel	16	UUT-02B
PL-1221		Backplate, PTR 56"			14 GA Cold Rolled Steel	18	UUT-03B
PL-1240		Backplate, 36"			14 GA Cold Rolled Steel	20	UUT-03A
PL-1937		Backplate, 48"			14 GA Cold Rolled Steel	25	UUT-07
Legs							
LG-1366	Firetrol	Leg Enclosure, 12"H x 12"D			14 GA 316 Stainless Steel	7	UUT-07
LG-1152		Leg Enclosure, 12"H x 14"D			14 GA 316 Stainless Steel	7	Interpolated ²
LG-1045		Leg Enclosure, 12"H x 12"D			14 GA Cold Rolled Steel	7	UUT-01B, UUT-03A
LG-1048		Leg Enclosure, 6"H x 12"D			3/16" Cold Rolled Steel ³	7	Interpolated
LG-1049		Leg Enclosure, 6"H x 14"D			3/16" Cold Rolled Steel ³	7	Interpolated
LG-1046		Leg Enclosure, 12"H x 14"D			14 GA Cold Rolled Steel	7	UUT-05
LG-1155		Leg Enclosure, 12"H x 18"D			14 GA Cold Rolled Steel	9	UUT-03B
Isolation Switches							
DC-1055/DC-1056	ABB	Molded Case, 150/225A Frame			Plastic	6	UUT-06
CC-4201/CC-4205		Breaker used as Isolation Switch, 150, 175A (250A Frame)				6	Same as UUT-06
DC-1057		Molded Case, 250A Frame				6	UUT-01B
DC-1096		Molded Case, 250A Frame				6	Same as UUT-01B
DC-1058		Molded Case, 400A Frame				9	UUT-04B
DC-1059/DC-1060		Molded Case, 600/800A Frame				22	UUT-02B
Contactors							
CT-1744*/CT-1754*	ABB	A50/A75 Frame			Plastic	2	UUT-04B
CT-2217/CT-2219		AF116/AF140 Frame				4	Interpolated
CT-1764*/CT-1774*		A95/A110 Frame				5	UUT-04B
CT-2221/CT-2223		AF190/AF205 Frame				6	Interpolated
CT-1806*/CT-1816*		A145/A185 Frame				7	UUT-05
CT-2225/CT-2227		AF265/AF305 Frame				10	Interpolated
CT-1826*/CT-1836*/CT-1846*		A210/A260/A300 Frame				13	UUT-01B
CT-1851*/CT-1861*		AF400/AF460 Frame				26	Interpolated
CT-1871*/CT-1881*		AF580/AF750A Frame				33	UUT-02B

Notes:

- Height includes 12-inch legs for floor-standing units.
 - Interpolated item is certified based on tested more seismically vulnerable option .
 - The 6"H leg enclosures are approved because the 12"H (the weakest configuration) was tested. 3/16" Cold Rolled Steel is stronger than 14 GA Cold Rolled Steel.
- *Part number shown is a contactor with a 460V coil. 208, 220, and 220/440V coils may also be used.

Special Seismic Certification
Table 5 - Certified Subcomponents - Base Mounted



DCL Project Number: 31871-2601

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Certified Seismic Levels: Sds 1.80 g at z/h= 1.0 and 0.0

Control Units					
Model Number	Manufacturer	Description	Material	Weight [lb.]	Unit
AS-2001	Firetrol	Battery Charger, 12/24VDC	Aluminum	3	UUT-07
473670-006		Group 1 ATS Control Unit	Plastic	5	UUT-01B
AS-1198/1199		Mark II Fire Pump Control Unit	Cold Rolled Steel Zinc Plate	7	UUT-04B
AS-2000		Mark II Fire Pump Control Unit		7	UUT-07
601800-002		Group 5 ATS Control Unit	Plastic	11	UUT-03B
Transformers					
TF-0204	Firetrol	Control 250VA, 220V-480V	Laminated Steel (Varnished)	10	UUT-04B
TF-0206		Control 250VA, 208V		10	Interpolated
TF-1370		12VDC Charger		11	Interpolated
TF-1371		24VDC Charger		17	UUT-07
Circuit Breakers					
CC-3091/CC-4053	ABB	Molded Case , 150/225A Frame	Plastic	7	UUT-06
CC-4201/CC-4205		Molded Case , 150, 175A (250A Frame)		6	Same as UUT-06
PL-1220		Molded Case , 250A Frame		7	UUT-01B
CC-4203		Molded Case , 250A Frame		6	Same as UUT-01B
CC-4097		Molded Case , 400A Frame		9	UUT-04B
CC-4167		Molded Case , 600/800A Frame		21	UUT-02B
Soft Starters					
VF-1689	Benshaw	65A	Aluminum	26	UUT-06
VF-1690		56A		27	Interpolated
VF-1691		240A		37	UUT-01B
VF-1693		720A		110	Interpolated
VF-1692		552A		110	UUT-08A
Autotransformers					
TF-1039	Hammond	25/30 HP	Laminated Steel (Varnished)	51	UUT-08B
TF-1064		100 HP		140	UUT-05
TF-1084		250 HP		245	Interpolated
TF-1078		200 HP		280	UUT-08A
Automatic Transfer Switches					
9403104, 9403150, 7ATS3100, 7ATS3150	Asco Power Technologies	D Frame STD ATS 30-230A	Plastic	20	UUT-01B
9403260, 9403400, 7ATS3260, 7ATS3400		E Frame STD ATS 260/400A		45	UUT-03B
9403400, 9403800, 94031000, 7ATS3400, 7ATS3800, 7ATS31000		H Frame STD ATS 600/800/1000A		142	Interpolated
7ATB3150, 7ATB3260, 7ATB3400		E Frame BYPASS ATS 260/400A		145	UUT-03B
7ATB3150, 7ATB3260, 7ATB3400, 7ATB3600		J Frame BYPASS ATS 400/600A		600	UUT-02C
Resistor Banks					
RS-4601	Post Glover	Resistor Set	Stainless Steel	9	Depopulated ¹
RS-4657				15	UUT-04B

Note:

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

Special Seismic Certification
Table 6 - Tested Units



DCL Project Number: 31871-2601

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Certified Product Construction: NEMA 2/12/3R/4/4X Polycarbonate, NEMA 2/12/3R/4 or 2 Cold Rolled Steel

Certified Seismic Levels: Sds 1.80 g at z/h= 1.0 and 0.0

Factors for Force Amplification and Structure Ductility Reduction: $H_f = 3.5$ at z/h=1.0; 1.0 at z/h=0 and $R_w = 1.3$ at z/h=1.0; 1.0 at z/h=0

Model Number	Model Line	Dimensions [in.]			Weight [lb.]	Mounting	Test Report/ Previous UUT Designation	Unit
		Length	Width	Height				
FTA500-AA-50B-BN	FTA500 Across-the-Line Jockey Pump Controller	8	18	24	50	Rigid Wall Mounted	99864-1001/ UUT1	UUT-01A
FTA500-AF-50B-BN		8	18	24	50		99864-1001/ UUT2	UUT-02A
FTA500-AF-01B-BN		8	18	24	44		T57168-4/ EUT 4	UUT-04A
FTA550E-AA013B-BW	FTA550E Across-the-Line Jockey Pump Controller	8	20	24	57		99683-1201/ UUT9	UUT-09
FTA550E-AA050B-BW		8	20	24	66		99683-1201/ UUT10	UUT-10
FTA550F-AG014B-BW		8	14	15.5	15		99683-1201/ UUT11	UUT-11
FTA550F-AG002D-AM-NZ		8	14	15.5	15		99683-1201/ UUT12	UUT-12
FTA1100-JL24N	FTA 1100 Diesel Engine Fire Pump Controllers	12	26	36	160		99683-1201/ UUT13	UUT-13
FTA1100-JL12N		12	26	36	160		99683-1201/ UUT14	UUT-14
J7ACTBB30600N5XM	J-Bypass ATS	37	49	95	1726		58168R10-2/ UUT-2	UUT-02C
FTA1930-AM150B-TS FTA950-AM150B	FTA 900/901/950/951 Electric Fire Pump Controllers and FTA 1000-1930 Diesel Engine Fire Pump Controllers	12	76	60	644		T57168-1/ EUT 1	UUT-01B
FTA1000-AM300F		18	36	80	600		T57168-2/ EUT 2	UUT-02B
FTA1000-AM100B-TAB FTA951-AM100B		24	71	70	800	T57345-3/ EUT 1	UUT-03B	
FTA1350-AM200B		14	41	68	380	58168R10-4/ UUT 4	UUT-04B	
FTA1800-AM100B		12	38	60	418	58168R10-5/ UUT 5	UUT-05	
FTA1930-AM50B		12	38	60	280	58168R10-6/ UUT 6	UUT-06	
FTA1100-JL24N		FTA 1100 Diesel Engine Fire Pump Controllers	12	26	48	192	54614R07/ EUT 3	UUT-03A
FTA1100-JL24N-FDP	12		26	60	208	58168R10-7/ UUT 7	UUT-07	
916750	Soft Starter and Autotransformer	14	26	68	580	99841-1101/ UUT8a	UUT-08A	
916750-001		14	26	68	240	99841-1101/ UUT8b	UUT-08B	

UNIT UNDER TEST (UUT) Summary Sheet



UUT-01A

DCL Report Number: 99864-1001, UUT1

Test Dates: November 12, 2010

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Across-the-Line Jockey Pump Controller with Circuit Breaker

Model Number: FTA500-AA-50B-BN

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
50	8	18	24	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	S _{ds} (g)	z/h	H _r	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	1.93	1.0	3.5	1.3	1.5	3.09	2.08	N/A	N/A
	AC156-24	1.93	0.0	1.0	1.0		N/A	N/A	1.29	0.51

Unit Mounting Description:

The rigid-mount support system consisted of a rigid steel frame, a stud wall composed of 16-gage steel studs at 24-inches on center, and backing plates to accommodate the UUT as per manufacturer's instructions. An overall view of the support system and UUT is shown above. The support system, including rigid steel frame and its attachment to the shake table platform, was provided by DCL. The fixturing wall was attached to the shake table using M12 threaded rod at a spacing of approximately 12-inches on center. The UUT was attached to the fixturing wall at four corners utilizing 1/4-inch 20x1 hex cap bolts and the existing openings in the back of the back-box.



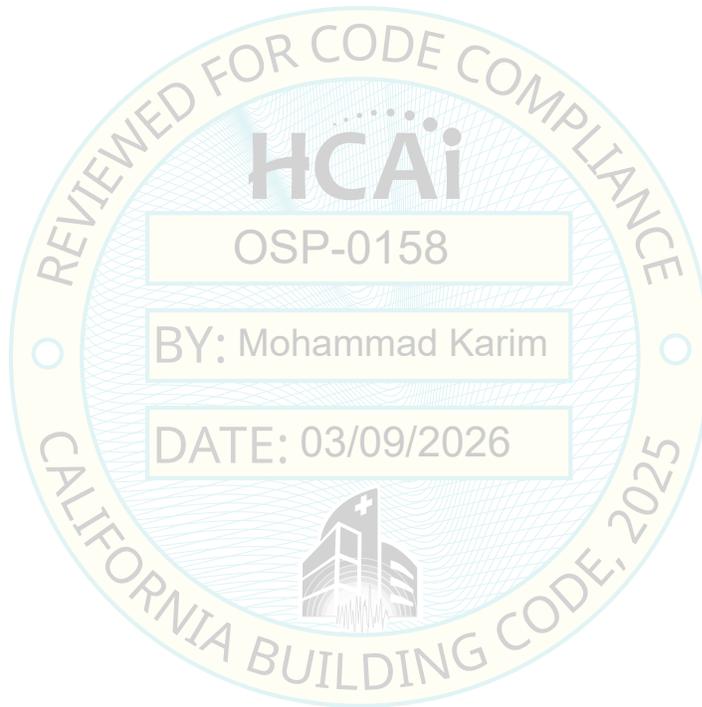
UNIT UNDER TEST (UUT) Summary Sheet



UUT-01A

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1366	Firetrol	14 GA Cold Rolled Steel
Backplates		
PL-1366	Firetrol	14 GA CRS
Circuit Breakers		
PL-1366	ABB	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-02A

DCL Report Number: 99864-1001, UUT2

Test Dates: November 12, 2010

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Across-the-Line Jockey Pump Controller with Fusible Disconnect

Model Number: FTA500-AF-50B-BN

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

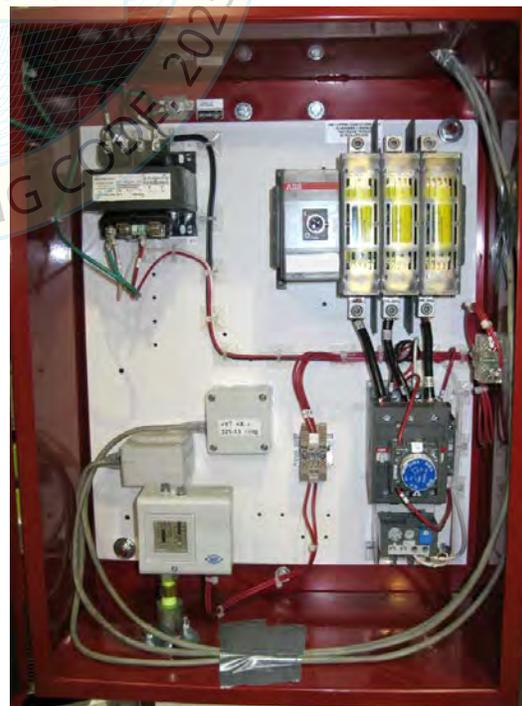
Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
50	8	18	24	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	S _{ds} (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	1.93	1.0	3.5	1.3	1.5	3.09	2.08	N/A	N/A
	AC156-24	1.93	0.0	1.0	1.0		N/A	N/A	1.29	0.51

Unit Mounting Description:

The rigid-mount support system consisted of a rigid steel frame, a stud wall composed of 16-gage steel studs at 24-inches on center, and backing plates to accommodate the UUT as per manufacturer's instructions. An overall view of the support system and UUT is shown above. The support system, including rigid steel frame and its attachment to the shake table platform, was provided by DCL. The fixturing wall was attached to the shake table using M12 threaded rod at a spacing of approximately 12-inches on center. The UUT was attached to the fixturing wall at four corners utilizing 1/4-inch 20x1 hex cap bolts and the existing openings in the back of the back-box.



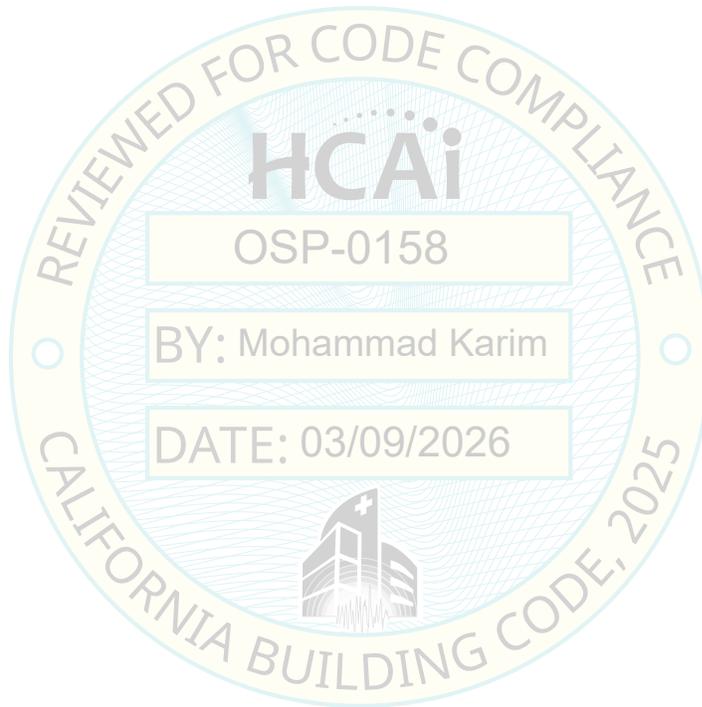
UNIT UNDER TEST (UUT) Summary Sheet



UUT-02A

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1366	Firetrol	14 GA Cold Rolled Steel
Backplates		
PL-1366	Firetrol	14 GA CRS
Fusible Disconnect		
DC-1049	ABB	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-04A

Wyle Report Number: T57168-4, EUT 4

Test Dates: October 27, 2009

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Across-the-Line Jockey Pump Controller with Fusible Disconnect

Model Number: FTA500-AF-01B-BN

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
44	8	18	24	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	1.80	1.0	3.5	1.3	1.5	2.88	2.16	N/A	N/A
	AC156-24	1.80	0.0	1.0	1.0		N/A	N/A	1.20	0.48

Unit Mounting Description:

The UUT was bolted to a Wyle-fabricated test fixture using three 5/16-inch 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.

BY: Mohammad Karim

DATE: 03/09/2026



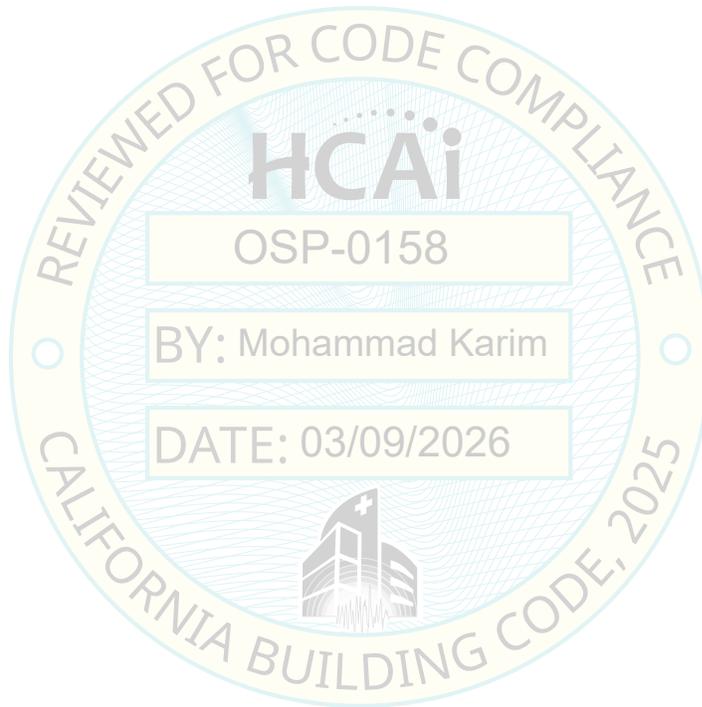
UNIT UNDER TEST (UUT) Summary Sheet



UUT-04A

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1366	Firetrol	14 GA Cold Rolled Steel
Contactors		
CT-1701	ABB	Plastic
Fusible Disconnect		
DC-1047	ABB	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-09

DCL Report Number: 99683-1201, UUT9

Test Dates: October 15, 2012

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Across-the-Line Jockey Pump Controller

Model Number: FTA550E-AA013B-BW

Product Construction Summary: NEMA 2/12/3R/4, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

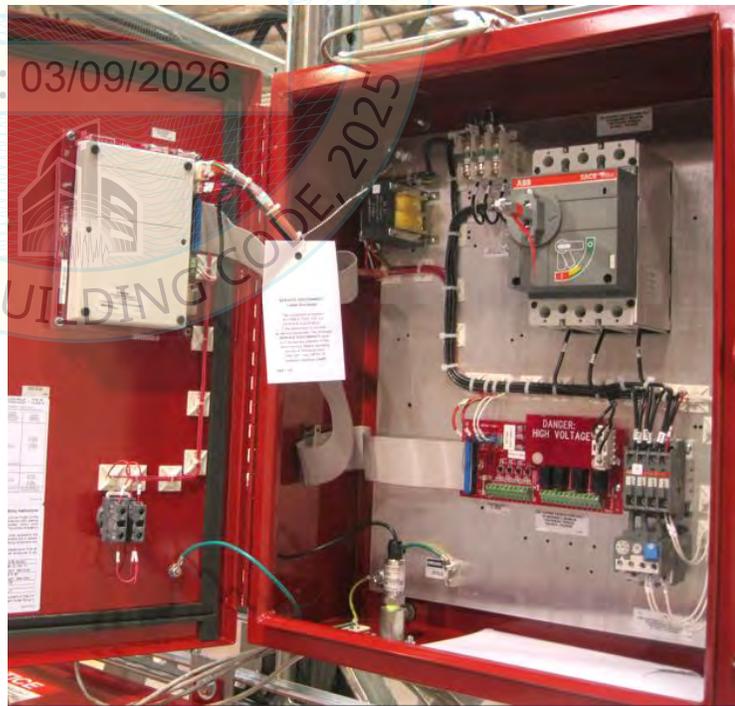
Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
57	8	20	24	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The unit was attached to the DCL wall shake table interface fixture with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided mounting holes at the back of the enclosure.



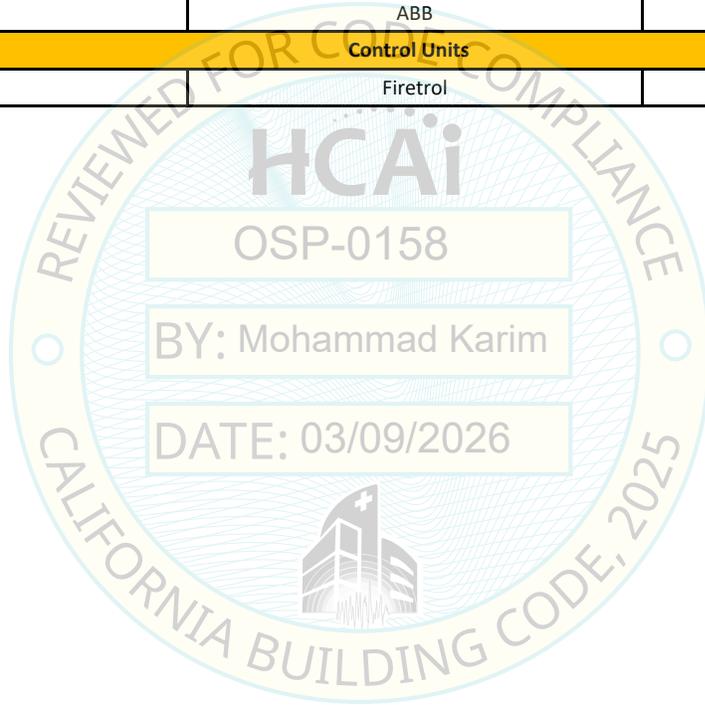
UNIT UNDER TEST (UUT) Summary Sheet



UUT-09

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-2254	Firetrol	15 GA Cold Rolled Steel
Backplates		
PL-2035	Firetrol	0.100THK 5052-H32 Aluminum
Circuit Breakers		
PL-2035	ABB	Plastic
Transformers		
917248	Firetrol	Laminated Steel (Varnished)
Contactors		
CT-1706	ABB	Plastic
Control Units		
905102	Firetrol	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-10

DCL Report Number: 99683-1201, UUT10

Test Dates: October 15, 2012

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Across-the-Line Jockey Pump Controller

Model Number: FTA550E-AA050B-BW

Product Construction Summary: NEMA 2/12/3R/4, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
66	8	20	24	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The unit was attached to the DCL wall shake table interface fixture with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided mounting holes at the back of the enclosure.



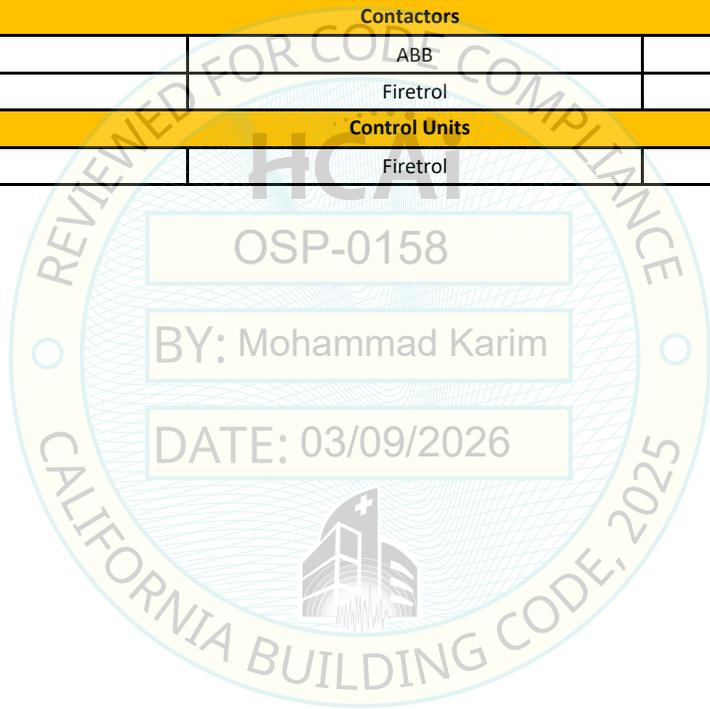
UNIT UNDER TEST (UUT) Summary Sheet



UUT-10

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-2254	Firetrol	15 GA Cold Rolled Steel
Backplates		
PL-2035	Firetrol	0.100THK 5052-H32 Aluminum
Circuit Breakers		
PL-2027	ABB	Plastic
Transformers		
917248	Firetrol	Laminated Steel (Varnished)
TF-0202	Firetrol	Laminated Steel (Varnished)
Contactors		
CT-1750	ABB	Plastic
905102	Firetrol	Plastic
Control Units		
905102	Firetrol	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-11

DCL Report Number: 99683-1201, UUT11

Test Dates: October 15, 2012

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Across-the-Line Jockey Pump Controller

Model Number: FTA550F-AG014B-BW

Product Construction Summary: NEMA 2/12/3R/4/4X Polycarbonate Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
15	8	14	15.5	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	S _{ds} (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The unit was attached to the DCL wall shake table interface fixture with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided mounting holes at the back of the enclosure.

BY: Mohammad Karim



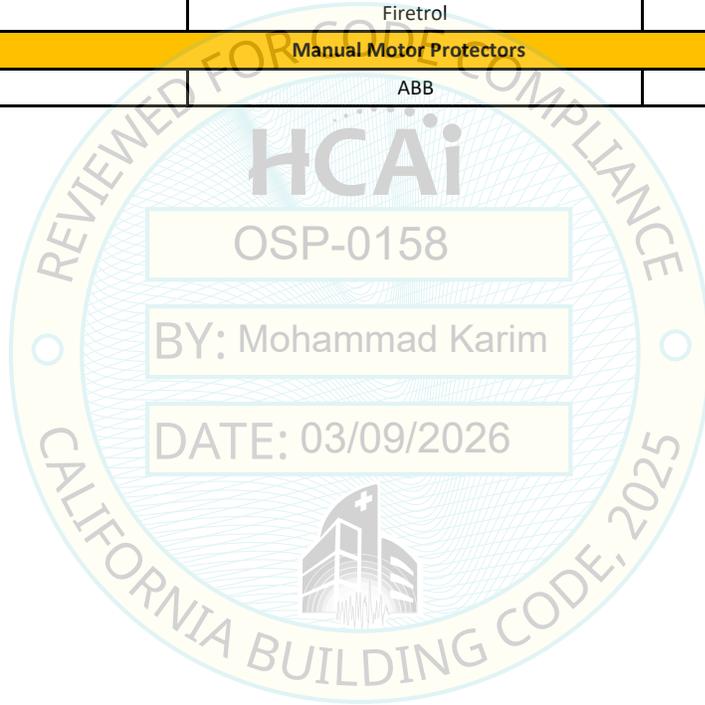
UNIT UNDER TEST (UUT) Summary Sheet



UUT-11

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
915221	Firetrol	Polycarbonate
Backplates		
PL-2027	Firetrol	0.80THK 5052-H32 Aluminum
Transformers		
917248	Firetrol	Laminated Steel (Varnished)
Contactors		
CT-2252	ABB	Plastic
Control Units		
905102	Firetrol	Plastic
Manual Motor Protectors		
DC-1081	ABB	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-12

DCL Report Number: 99683-1201, UUT12

Test Dates: October 15, 2012

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Across-the-Line Jockey Pump Controller

Model Number: FTA550F-AG002D-AM-NZ

Product Construction Summary: NEMA 2/12/3R/4/4X Polycarbonate Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
15	8	14	15.5	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The unit was attached to the DCL wall shake table interface fixture with four 3/8-inch diameter Grade 5 bolts, using the manufacturer-provided mounting holes at the back of the enclosure.

BY: Mohammad Karim



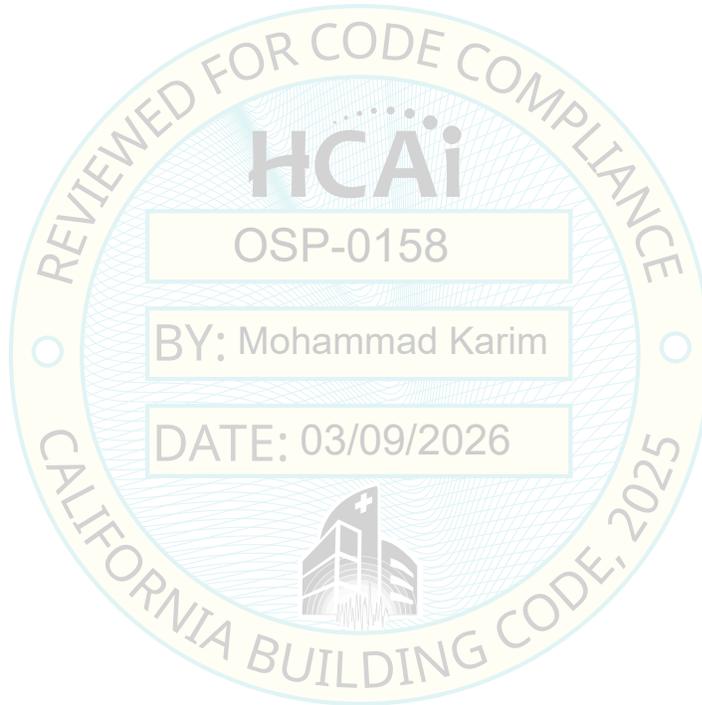
UNIT UNDER TEST (UUT) Summary Sheet



UUT-12

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
915221	Firetrol	Polycarbonate
Backplates		
PL-2027	Firetrol	0.80THK 5052-H32 Aluminum
Contactors		
CT-2254	ABB	Plastic
Manual Motor Protectors		
DC-1090	ABB	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-13

DCL Report Number: 99683-1201, UUT13

Test Dates: October 15, 2012

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Diesel Engine Fire Pump Controller

Model Number: FTA1100-JL24N

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
160	12	26	36	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	S _{ds} (g)	z/h	H _f	R _μ	I _p	A _{flx-H} (g)	A _{rig-H} (g)	A _{flx-V} (g)	A _{rig-V} (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The unit was attached to the DCL wall shake table interface fixture with four 1/2-inch diameter Grade 5 bolts, using the manufacturer-provided mounting holes at the back of the enclosure.



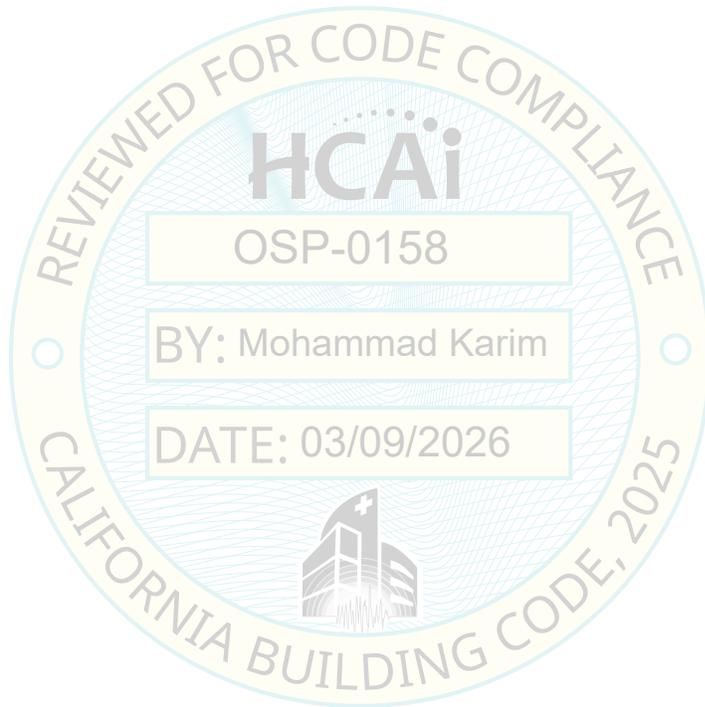
UNIT UNDER TEST (UUT) Summary Sheet



UUT-13

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1240	Firetrol	16 GA Cold Rolled Steel



UNIT UNDER TEST (UUT) Summary Sheet



UUT-14

DCL Report Number: 99683-1201, UUT14

Test Dates: October 15, 2012

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Diesel Engine Fire Pump Controller

Model Number: FTA1100-JL12N

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
160	12	26	36	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The unit was attached to the DCL wall shake table interface fixture with four 1/2-inch diameter Grade 5 bolts, using the manufacturer-provided mounting holes at the back of the enclosure.



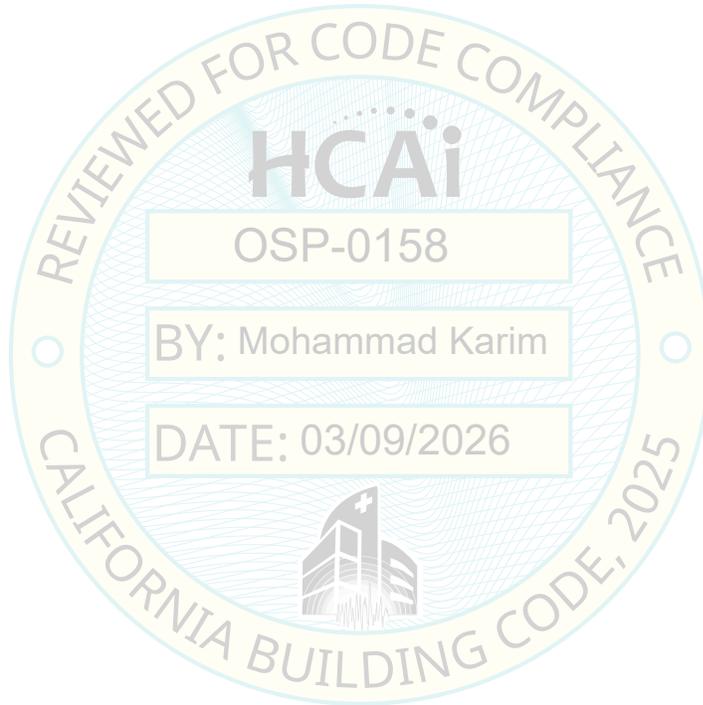
UNIT UNDER TEST (UUT) Summary Sheet



UUT-14

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1240	Firetrol	16 GA Cold Rolled Steel



UNIT UNDER TEST (UUT) Summary Sheet



UUT-02C

Wyle Report Number: 58168R10-2, UUT-2

Test Dates: December 1, 2010

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description : J-Bypass Automatic Transfer Switch

Model Number: J7ACTBB30600N5XM

Product Construction Summary: NEMA 3R, 14 GA Cold Rolled Steel

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,726	37	49	95	8.6	9.5	>33

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The UUT was bolted to a Wyle-fabricated test fixture using eight 1/2-inch 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.



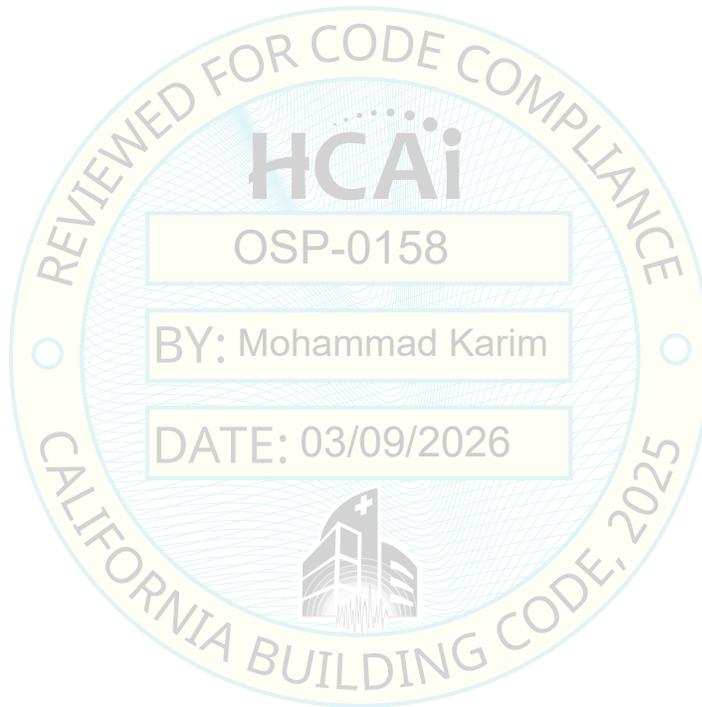
UNIT UNDER TEST (UUT) Summary Sheet



UUT-02C

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
806143-021	Firetrol	11 GA Cold Rolled Steel
Automatic Transfer Switches		
7ATB3150, 7ATB3260, 7ATB3400, 7ATB3600	Firetrol, Inc	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-01B

Wyle Report Number: T57168-1, was EUT 1

Test Dates: October 27, 2009

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Diesel Engine Fire Pump Soft-start Electric Controller with Standard Automatic Transfer Switch

Model Number: FTA1930-AM150B-TS, FTA950-AM150B

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
644	12	76	60	7.0	18.0	>33

Seismic Test Parameters

Building Code	Test Criteria	S _{ds} (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	1.80	1.0	3.5	1.3	1.5	2.88	2.16	N/A	N/A
	AC156-24	1.80	0.0	1.0	1.0		N/A	N/A	1.20	0.48

Unit Mounting Description:

The UUT was bolted to a Wyle-fabricated test fixture using twelve 1/2-inch 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.



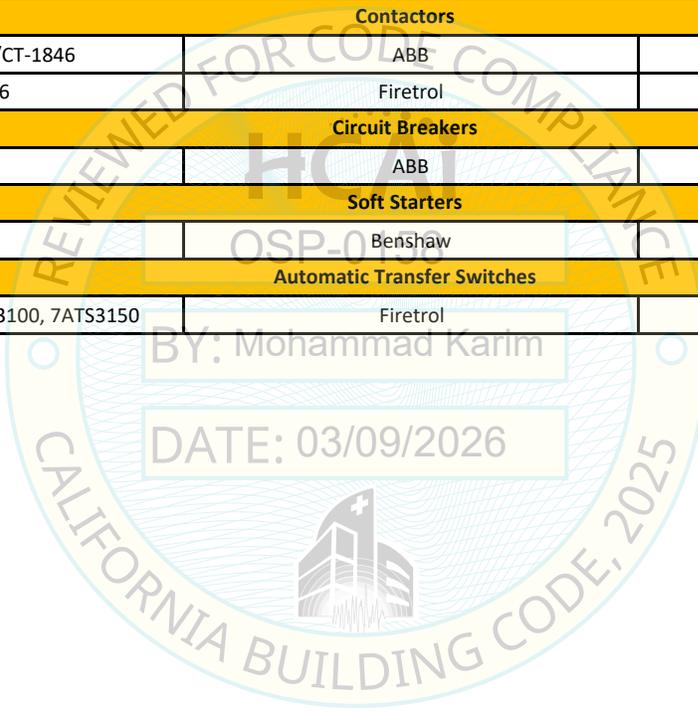
UNIT UNDER TEST (UUT) Summary Sheet



UUT-01B

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1173, EN-1210, EN-1212	Firetrol	14 GA Cold Rolled Steel
Backplates		
PL-1219	Firetrol	14 GA Cold Rolled Steel
PL-1220	Firetrol	14 GA Cold Rolled Steel
Legs		
LG-1045	Firetrol	14 GA Cold Rolled Steel
Isolation Switches		
DC-1057	ABB	Plastic
Contactors		
CT-1826/CT-1836/CT-1846	ABB	Plastic
473670-006	Firetrol	Plastic
Circuit Breakers		
PL-1220	ABB	Plastic
Soft Starters		
VF-1691	Benshaw	Aluminum
Automatic Transfer Switches		
9403104, 9403150, 7ATS3100, 7ATS3150	Firetrol	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-02B

Wyle Report Number: T57168-2, was EUT 2

Test Dates: October 27, 2009

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Line: Fire Pump Controllers and Accessories

Unit Description : Diesel Engine Fire Pump Across-the-Line Electric Controller

Model Number: FTA1000-AM300F

Product Construction Summary: NEMA 2, 12 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
600	18	36	80	9.0	11.0	>33

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	1.80	1.0	3.5	1.3	1.5	2.88	2.16	N/A	N/A
	AC156-24	1.80	0.0	1.0	1.0		N/A	N/A	1.20	0.48

Unit Mounting Description:

The UUT was bolted to a Wyle-fabricated test fixture using six 1/2-inch 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.



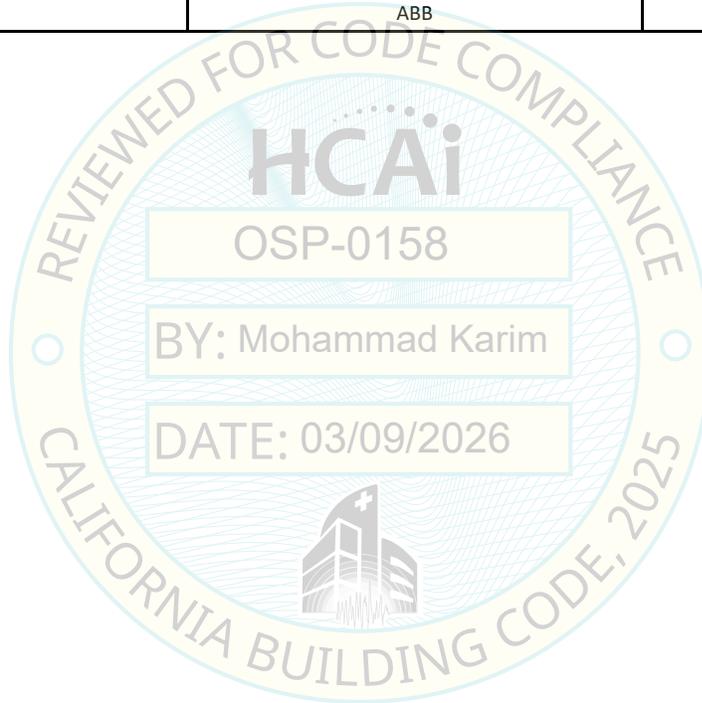
UNIT UNDER TEST (UUT) Summary Sheet



UUT-02B

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1213	Firetrol	12 GA Cold Rolled Steel
Backplates		
PL-1222	Firetrol	12 GA Cold Rolled Steel
Isolation Switches		
DC-1059/DC-1060	ABB	Plastic
Contactors		
CT-1871/CT-1881	ABB	Plastic
Circuit Breakers		
CC-4167	ABB	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-03B

Wyle Report Number: T57345-3, EUT 1

Test Dates: December 28, 2009

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Diesel Engine Fire Pump Across-the-Line Electric Controller with E-Bypass Automatic Transfer Switch

Model Number: FTA1000-AM100B-TAB, FTA951-AM100B

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
800	24	71	70	8.5	10.0	>33

Seismic Test Parameters

Building Code	Test Criteria	S _{ds} (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	1.80	1.0	3.5	1.3	1.5	2.88	2.16	N/A	N/A
	AC156-24	1.80	0.0	1.0	1.0		N/A	N/A	1.20	0.48

Unit Mounting Description:

The UUT was bolted to a Wyle-fabricated test fixture using six 1/2-inch 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.



BY: Mohammad Karim

DATE: 03/09/2026

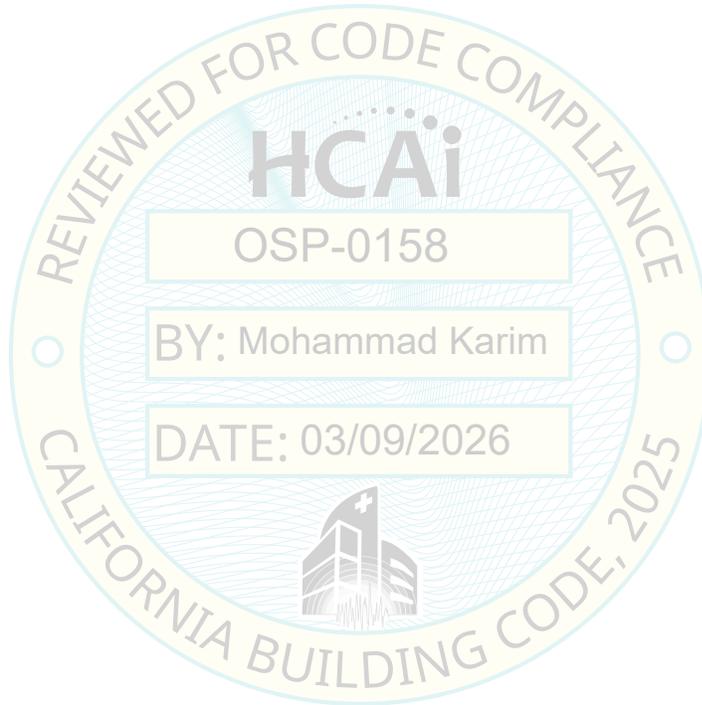
UNIT UNDER TEST (UUT) Summary Sheet



UUT-03B

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1215, EN-1246	Firetrol	14 GA Cold Rolled Steel
Backplates		
PL-1221	Firetrol	14 GA Cold Rolled Steel
Legs		
LG-1155	Firetrol	14 GA Cold Rolled Steel
Automatic Transfer Switches		
9403260, 9403400, 7ATS3260, 7ATS3400	Firetrol, Inc	Plastic
7ATB3150, 7ATB3260, 7ATB3400	Firetrol, Inc	Plastic



UNIT UNDER TEST (UUT) Summary Sheet



UUT-04B

Wyle Report Number: 58168R10-4, UUT 4

Test Dates: December 1, 2010

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Diesel Engine Fire Pump Wye-Delta Start Electric Controller

Model Number: FTA1350-AM200B

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
380	14	41	68	7.7	12.5	33.0

Seismic Test Parameters

Building Code	Test Criteria	S _{ds} (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The UUT was bolted to a Wyle-fabricated test fixture using six 5/16-inch 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.



BY: Mohammad Karim

DATE: 03/09/2026

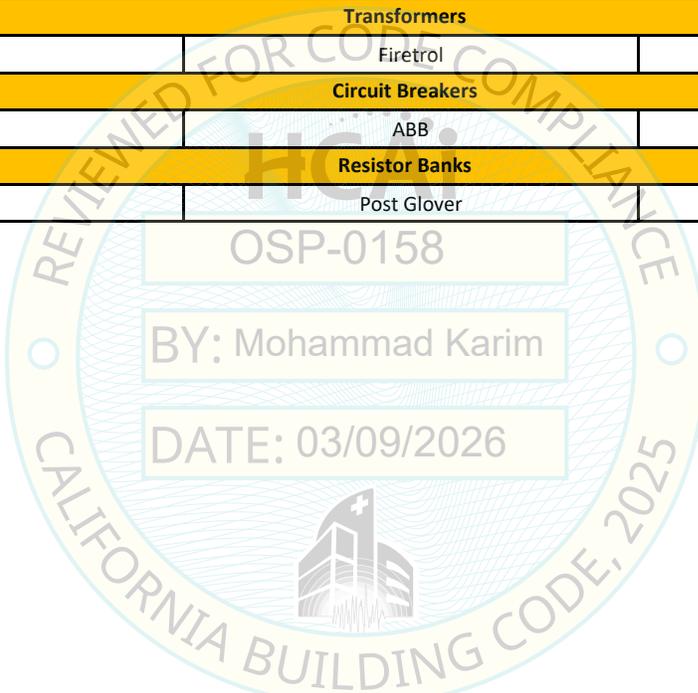
UNIT UNDER TEST (UUT) Summary Sheet



UUT-04B

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1216	Firetrol	14 GA Cold Rolled Steel
Isolation Switches		
DC-1058	ABB	Plastic
Contactors		
CT-1744/CT-1754	ABB	Plastic
CT-1764/CT-1774	ABB	Plastic
Control Units		
AS-1198/1199	Firetrol	Cold Rolled Steel Zinc Plate
Transformers		
TF-0204	Firetrol	Laminated Steel (Varnished)
Circuit Breakers		
CC-4097	ABB	Plastic
Resistor Banks		
RS-4657	Post Glover	Stainless Steel



UNIT UNDER TEST (UUT) Summary Sheet



UUT-05

Wyle Report Number: 58168R10-5, UUT 5

Test Dates: December 1, 2010

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Diesel Engine Fire Pump Autotransformer Start Controller

Model Number: FTA1800-AM100B

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
418	12	38	60	10.0	15.0	>33

Seismic Test Parameters

Building Code	Test Criteria	S _{ds} (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The UUT was bolted to a Wyle-fabricated test fixture using six 5/16-inch 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.



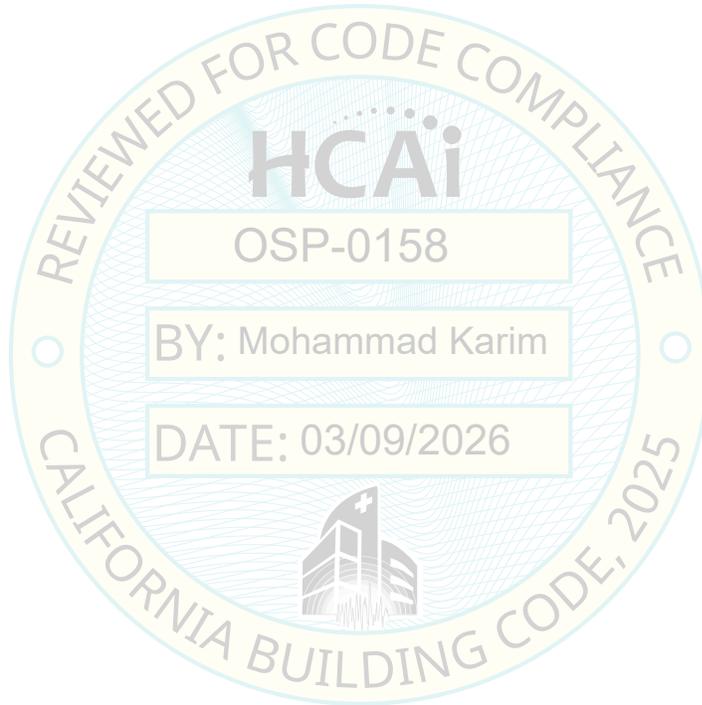
UNIT UNDER TEST (UUT) Summary Sheet



UUT-05

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1211	Firetrol	14 GA Cold Rolled Steel
Legs		
LG-1046	Firetrol	14 GA Cold Rolled Steel
Contactors		
CT-1806/CT-1816	ABB	Plastic
Autotransformers		
TF-1064	Hammond	Laminated Steel (Varnished)



UNIT UNDER TEST (UUT) Summary Sheet



UUT-06

Wyle Report Number : 58168R10-6, UUT 6

Test Dates: December 1, 2010

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Diesel Engine Fire Pump Soft-start Electric Controller

Model Number: FTA1930-AM50B

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
280	12	38	60	9.0	21.5	>33

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The UUT was bolted to a Wyle-fabricated test fixture using six 5/16-inch 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.

BY: Mohammad Karim

DATE: 03/09/2026



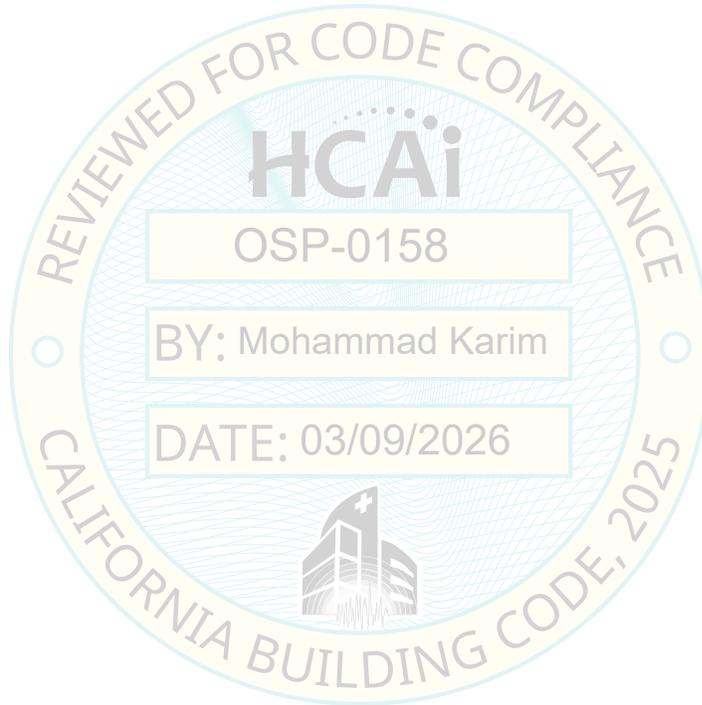
UNIT UNDER TEST (UUT) Summary Sheet



UUT-06

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1211	Firetrol	14 GA Cold Rolled Steel
Isolation Switches		
DC-1055/DC-1056	ABB	Plastic
Circuit Breakers		
CC-3091/CC-4053	ABB	Plastic
Soft Starters		
VF-1689	Benshaw	Aluminum



UNIT UNDER TEST (UUT) Summary Sheet



UUT-03A

Wyle Report Number: 54614R07, EUT 3

Test Dates: May 2, 2007

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Diesel Engine Fire Pump Controller

Model Number: FTA1100-JL24N

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
192	12	26	48	11.0	19.0	30.0

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	1.80	1.0	3.5	1.3	1.5	2.88	2.16	N/A	N/A
	AC156-24	1.80	0.0	1.0	1.0		N/A	N/A	1.20	0.48

Unit Mounting Description:

The UUT was bolted to a Wyle-fabricated test fixture using six 1/2-inch 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.

BY: Mohammad Karim

DATE: 03/09/2026



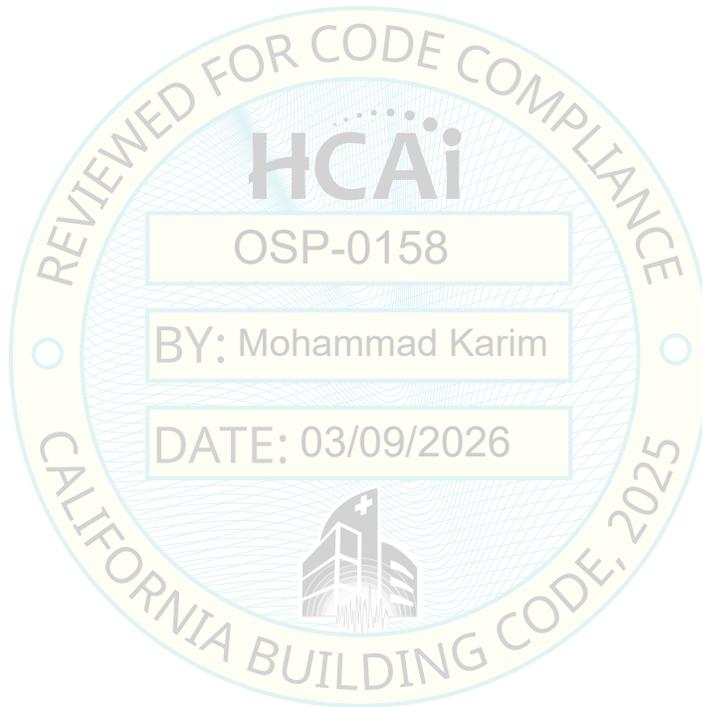
UNIT UNDER TEST (UUT) Summary Sheet



UUT-03A

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1240	Firetrol	14 GA Cold Rolled Steel
Backplates		
PL-1240	Firetrol	14 GA Cold Rolled Steel



UNIT UNDER TEST (UUT) Summary Sheet



UUT-07

Wyle Report Number: 58168R10-7, UUT 7

Test Dates: December 1, 2010

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: Diesel Engine Fire Pump Controller

Model Number: FTA1100-JL24N-FDP

Product Construction Summary: NEMA 4X, 14 GA 316 Stainless Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
208	12	26	60	12.5	19.6	>33

Seismic Test Parameters

Building Code	Test Criteria	S _{ds} (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The UUT was bolted to a Wyle-fabricated test fixture using six 5/16-inch 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.

BY: Mohammad Karim



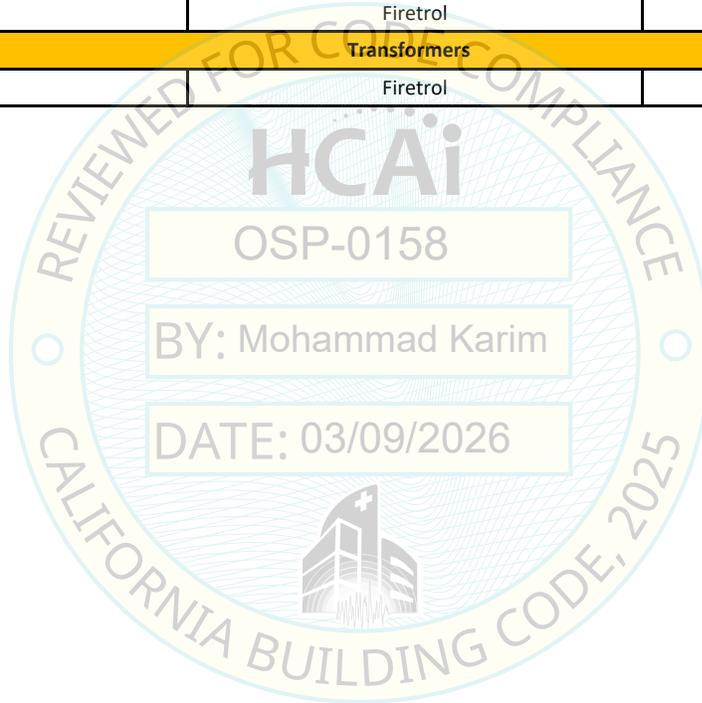
UNIT UNDER TEST (UUT) Summary Sheet



UUT-07

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1985-001	Firetrol	14 GA 316 Stainless Steel
Backplates		
PL-1937	Firetrol	14 GA Cold Rolled Steel
Legs		
LG-1366	Firetrol	14 GA 316 Stainless Steel
LG-1366	Firetrol	14 GA 316 Stainless Steel
Control Units		
AS-2001	Firetrol	Aluminum
AS-2000	Firetrol	Cold Rolled Steel Zinc Plate
Transformers		
TF-1371	Firetrol	Laminated Steel (Varnished)



UNIT UNDER TEST (UUT) Summary Sheet



UUT-08A

DCL Report Number: 99841-1101, UUT8a

Test Dates: May 7, 2011

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: 552A Soft Starter and 200HP, 380V Autotransformer

Model Number: 916750

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
580	14	26	68	9.0	9.0	>33

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The UUT was bolted to a DCL-fabricated test fixture using six 1/2-inch 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.



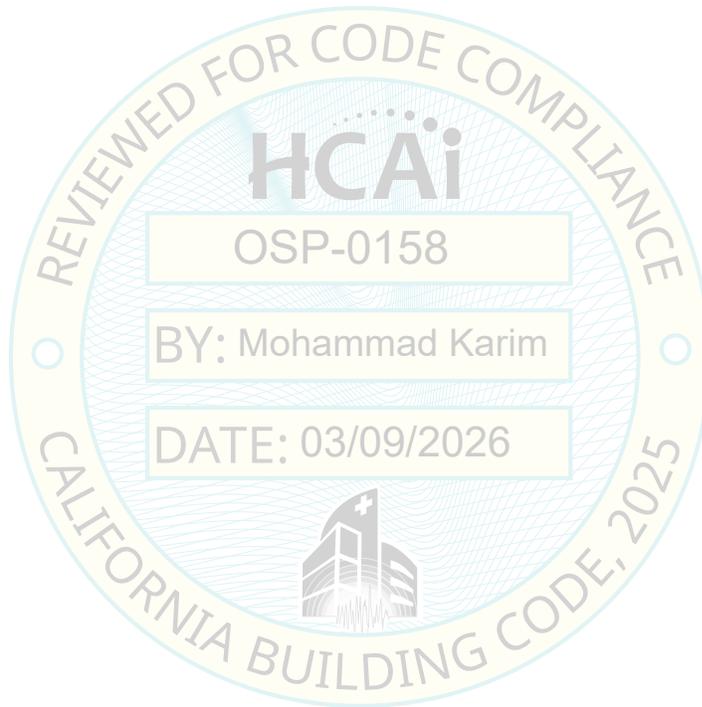
UNIT UNDER TEST (UUT) Summary Sheet



UUT-08A

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1218, EN-2219	Firetrol	14 GA Cold Rolled Steel
Soft Starters		
VF-1692	Benshaw	Aluminum
Autotransformers		
TF-1078	Hammond	Laminated Steel (Varnished)



UNIT UNDER TEST (UUT) Summary Sheet



UUT-08B

DCL Report Number: 99841-1101, UUT8a

Test Dates: May 7, 2011

Manufacturer: GTI Fire Protection Systems Corp. dba Firetrol®

Product Type: Fire Pump Controllers and Accessories

Unit Description: 25HP, 480V Autotransformer

Model Number: 916750-001

Product Construction Summary: NEMA 2, 14 GA Cold Rolled Steel Enclosure

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained before and after the AC 156 test.

UUT Properties

Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
240	14	26	68	8.5	8.8	>33

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	H _f	R _μ	I _p	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2025	ICC-ES	2.50	1.0	3.5	1.3	1.5	4.00	3.00	N/A	N/A
	AC156-24	2.50	0.0	1.0	1.0		N/A	N/A	1.67	0.67

Unit Mounting Description:

The UUT was bolted to a DCL-fabricated test fixture using six 1/2-inch 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.

BY: Mohammad Karim

DATE: 03/09/2026



UNIT UNDER TEST (UUT) Summary Sheet



UUT-08B

Options / Component Summary:

Model Number	Manufacturer	Material
Enclosures		
EN-1218, EN-2219	Firetrol	14 GA Cold Rolled Steel
Autotransformers		
TF-1039	Hammond	Laminated Steel (Varnished)

