



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-0435

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Trystar

Manufacturer's Technical Representative: James Brown

Mailing Address: 15765 Acorn Trail, Faribault, MN 55021

Telephone: (248) 729-5235

Email: james.brown@trystar.com

Product Information

Product Name: Series 700F and 700F/M Power Processors

Product Model Number(s): Power Processors

Product Category: Power Isolation and Correction Systems

Product Sub-Category: Power Isolation and Correction Systems

General Description: Front access power conditioning voltage regulator.

Mounting Description: Base Mounted Rigid -

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: Pre Compliance

Contact Person: Katie Braman

Mailing Address: 36 SW Wall St, Bend, OR 97702

Telephone: (541) 241-2310

Email: katie@go-pre.com

Title: Principal



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

Company Name: PRE COMPLIANCE

Name: Andrew Coughlin

California License Number: S6082

Mailing Address: 36 SW Wall Street, Bend, OR 97702

Telephone: (415) 635-8461

Email: Andy@go-pre.com

Certification Method

☐ GR-63-Core

☒ ICC-ES AC156

☐ IEEE 344

☐ IEEE 693

☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

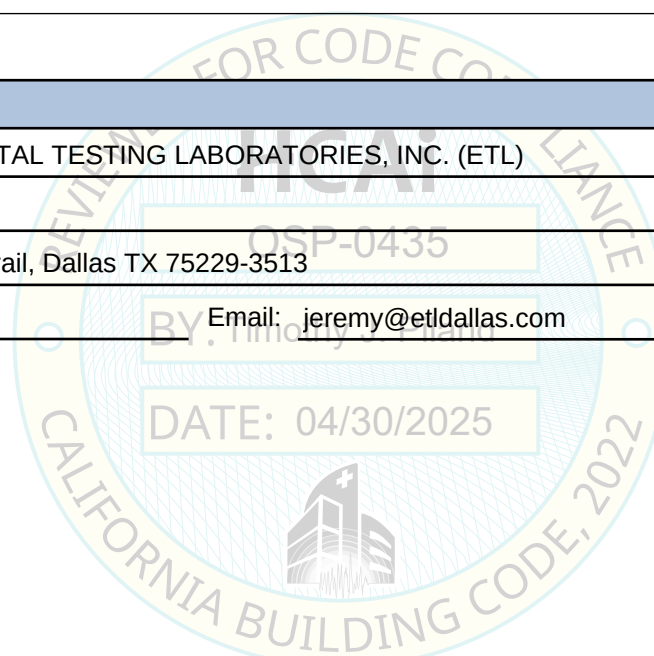
Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513

Telephone: (972) 247-9657

Email: jeremy@etldallas.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 0.90

SDs (Design spectral response acceleration at short period, g) = 1.25 ($z/h = 1$); 2.00 ($z/h = 0$)

a_p (Amplification factor) = 1

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

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

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 04/30/2031

Date: 4/30/2025

Name: Timothy Piland

Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: SDs (g) = See Above

z/h = See Above

Condition of Approval (if applicable):

Manufacturer: TryStar, LLC
Product Type: Power Isolation and Correction Systems
Model Line: Series 700F & 700F/M Power Processors

Seismic Parameters
 $S_{DS} = 1.25g$ for $z/h=1$
 $S_{DS} = 2.00g$ for $z/h=0$
 $I_p = 1.5$

Building Codes
CBC 2022

TABLE 1

Mounting Configuration: Base Mounted - Rigid

Construction Summary

Galvanized carbon steel frame: 14GA top; 12GA corner posts, bottom, mid panel; double 12GA base channels. 16GA painted carbon steel casing panels. Upgraded seismic construction used for UUT 2 must be used on all models.

Options Summary

Input voltage: 208V-600V, output voltage: 120/208V-347/600V. Models with three characters between '8' and 'X' have an additional output from a second transformer stacked on the main transformer. Second transformer can be 10K, 30K, or 50K, but it cannot be larger than the main transformer.

Model Line	Model	Max. Dimensions (in)			Wt. (lb)	Notes	UUT
		D	W	H			
Series 700F Power Processors	8DLX-10K-7F	24.0	29.0	59.0	562		1
	8**X-10K-7F	24.0	29.0	59.0	610		Interp.
	8**X-15K-7F	24.0	29.0	59.0	690		Interp.
	8***X-10K-7F	24.0	29.0	59.0	772	10K 2nd transformer	Interp.
	8***X-15K-7F	24.0	29.0	59.0	852	10K 2nd transformer	Interp.
	8**X-25K-7F	24.0	29.0	59.0	890		Interp.
	8**X-60K(i)-7F/M	24.0	29.0	59.0	890	Equivalent to 30K	Interp.
	8**X-30K-7F	24.0	29.0	59.0	890		Interp.
	8***X-25K-7F	24.0	29.0	59.0	1052	10K 2nd transformer	Interp.
	8**X-75K(i)-7F/M	36.0	29.0	66.0	1176	Equivalent to 50K	Interp.
	8**X-100K(i)-7F/M	36.0	29.0	66.0	1176	Equivalent to 50K	Interp.
	8**X-110K(i)-7F/M	36.0	29.0	66.0	1176	Equivalent to 50K	Interp.
	8**X-50K-7F	36.0	29.0	66.0	1176		Interp.
	8***X-60K(i)-7F/M	24.0	29.0	59.0	1262	10K or 30K 2nd transformer	Interp.
	8***X-30K-7F	24.0	29.0	59.0	1262	10K or 30K 2nd transformer	Interp.
	8**X-160K(i)-7F/M	36.0	34.5	76.0	1575	Equivalent to 75K	Interp.
	8**X-75K-7F	36.0	34.5	76.0	1575		Interp.
	8**X-75K(i)-7F/M	36.0	29.0	66.0	1724	10K, 30K, or 50K 2nd transformer	Interp.
	8***X-100K(i)-7F/M	36.0	29.0	66.0	1724	10K, 30K, or 50K 2nd transformer	Interp.
	8***X-110K(i)-7F/M	36.0	29.0	66.0	1724	10K, 30K, or 50K 2nd transformer	Interp.
	8***X-50K-7F	36.0	29.0	66.0	1724	10K, 30K, or 50K 2nd transformer	Interp.
	8**X-210K(i)-7F/M	36.0	34.5	76.0	2014	Equivalent to 100K	Interp.
	8**X-100K-7F	36.0	34.5	76.0	2014		Interp.
	8***X-160K(i)-7F/M	36.0	34.5	76.0	2123	10K, 30K, or 50K 2nd transformer	Interp.
	8***X-75K-7F	36.0	34.5	76.0	2123	10K, 30K, or 50K 2nd transformer	Interp.
	8**X-260K(i)-7F/M	36.0	34.5	76.0	2137	Equivalent to 125K	Interp.
	8**X-125K-7F	36.0	34.5	76.0	2137		Interp.
	8**X-150K-7F	36.0	34.5	76.0	2240		Interp.



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENTS

CBC 2022

Mounting Configuration: Base Mounted - Rigid

Input voltage: 208V-600V, output voltage: 120/208V-347/600V. Models with three characters between '8' and 'X' have an additional output from a second transformer stacked on the main transformer. Second transformer can be 10K, 30K, or 50K, but it cannot be larger than the main transformer.

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PRE COMPLIANCE

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENTS

Pre No. CC251667-01-R0

Manufacturer:	TryStar, LLC
Product Type:	Power Isolation and Correction Systems
Model Line:	Series 700F & 700F/M Power Processors

Seismic Parameters

$S_{DS} = 1.25g$ for $z/h=1$
 $S_{DS} = 2.00g$ for $z/h=0$ $I_p = 1.5$

Building Codes

CBC 2022

TABLE 2

Table Description: Nomenclature

[illegible]



Manufacturer: TryStar, LLC
Product Type: Power Isolation and Correction Systems
Model Line: Series 700F & 700F/M Power Processors

$S_{DS} = 1.25g$ for $z/h=1$
 $S_{DS} = 2.00g$ for $z/h=0$

CBC 2022

Table Description: Nomenclature

Pre Compliance

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENTS

Manufacturer: TryStar, LLC
Product Type: Power Isolation and Correction Systems
Model Line: Series 700F & 700F/M Power Processors

Seismic Parameters
 $S_{DS} = 1.25g$ for $z/h=1$
 $S_{DS} = 2.00g$ for $z/h=0$
 $I_p = 1.5$

Building Codes
CBC 2022

TABLE 3

Table Description: Subcomponents Mounted within Unit

Component (Manufacturer)	Model	Description	Notes	UUT
Power Transformers (TryStar)	10K	10kVA, 162 lbs.	Copper Windings	1
	15K	15kVA, 212 lbs.		Interp.
	25K	25kVA, 372 lbs.		Interp.
	60K(i)	60kVA intermittent, 30kVA equiv., 372 lbs.		Interp.
	30K	30kVA, 372 lbs.		Interp.
	75K(i)	75kVA intermittent, 50kVA equiv., 548 lbs.		Interp.
	100K(i)	100kVA intermittent, 50kVA equiv., 548 lbs.		Interp.
	110K(i)	110kVA intermittent, 50kVA equiv., 548 lbs.		Interp.
	50K	50kVA, 548 lbs.		2
	160K(i)	160kVA intermittent, 75kVA equiv., 675 lbs.		Interp.
	75K	75kVA, 675 lbs.		Interp.
	210K(i)	210kVA intermittent, 100kVA equiv., 983 lbs.		Interp.
	100K	100kVA, 983 lbs.		Interp.
	260K(i)	260kVA intermittent, 125kVA equiv., 1119 lbs.		Interp.
	125K	125kVA, 1119 lbs.		Interp.
	150K	150kVA, 1471 lbs.		2
Control Transformers (Square D)	T250D	250VA	Copper Windings	1
	T500D	500VA		2
Circuit Breakers (Square D)	QOU-115	1-pole, 15A	Copper Contacts and Plastic Case	1
	QOU-120	1-pole, 20A		Interp.
	QOU-125	1-pole, 25A		Interp.
	QOU-130	1-pole, 30A		Interp.
	QOU-135	1-pole, 35A		Interp.
	QOU-140	1-pole, 40A		Interp.
	QOU-145	1-pole, 45A		Interp.
	QOU-150	1-pole, 50A		Interp.
	QOU-160	1-pole, 60A		Interp.
	QOU-170	1-pole, 70A		Interp.
	QOU-180	1-pole, 80A		Interp.
	QOU-190	1-pole, 90A		Interp.
	QOU-1100	1-pole, 100A		Interp.
	QOU-315	3-pole, 15A		Interp.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENTS

Manufacturer: TryStar, LLC
Product Type: Power Isolation and Correction Systems
Model Line: Series 700F & 700F/M Power Processors

Seismic Parameters
 $S_{DS} = 1.25g$ for $z/h=1$
 $S_{DS} = 2.00g$ for $z/h=0$
 $I_p = 1.5$

Building Codes
CBC 2022

TABLE 3

Table Description: Subcomponents Mounted within Unit

Component (Manufacturer)	Model	Description	Notes	UUT
Circuit Breakers (Square D)	QOU-320	3-pole, 20A	Copper Contacts and Plastic Case	Interp.
	QOU-325	3-pole, 25A		Interp.
	QOU-330	3-pole, 30A		Interp.
	QOU-335	3-pole, 35A		Interp.
	QOU-340	3-pole, 40A		Interp.
	QOU-345	3-pole, 45A		Interp.
	QOU-350	3-pole, 50A		Interp.
	QOU-360	3-pole, 60A		Interp.
	QOU-370	3-pole, 70A		Interp.
	QOU-380	3-pole, 80A		Interp.
	QOU-390	3-pole, 90A		Interp.
	QOU-3100	3-pole, 100A		1
	HDL36015	3-pole, 15A		1
	HDL36020	3-pole, 20A		Interp.
	HDL36025	3-pole, 25A		Interp.
	HDL36030	3-pole, 30A		Interp.
	HDL36035	3-pole, 35A		Interp.
	HDL36040	3-pole, 40A		Interp.
	HDL36045	3-pole, 45A		Interp.
	HDL36050	3-pole, 50A		Interp.
	HDL36060	3-pole, 60A		Interp.
	HDL36070	3-pole, 70A		Interp.
	HDL36080	3-pole, 80A		Interp.
	HDL36090	3-pole, 90A		Interp.
	HDL36100	3-pole, 100A		Interp.
	HDL36110	3-pole, 110A		Interp.
	HDL36125	3-pole, 125A		Interp.
	HDL36150	3-pole, 150A		Interp.
	JDL36175	3-pole, 175A		Interp.
	JDL36200	3-pole, 200A		Interp.
	JDL36225	3-pole, 225A		Interp.
	JDL36250	3-pole, 250A		1
	QBL-32150	3-pole, 150A		2
	FAL34060	3-pole, 60A		2

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENTS

Manufacturer: TryStar, LLC
Product Type: Power Isolation and Correction Systems
Model Line: Series 700F & 700F/M Power Processors

Seismic Parameters
 $S_{DS} = 1.25g$ for $z/h=1$
 $S_{DS} = 2.00g$ for $z/h=0$
 $I_p = 1.5$

Building Codes
CBC 2022

TABLE 3

Table Description: Subcomponents Mounted within Unit

Component (Manufacturer)	Model	Description	Notes	UUT
Circuit Breakers (Square D)	LDL36400U31X	3-pole, 400A	Copper Contacts and Plastic Case	2
	LDL36600U31X	3-pole, 600A		2
Bypasses (Kraus & Naimer)	C42-A222-600ER	42 Amp	Copper Contacts and Plastic Case	1
	C80-A222-600ER	80 Amp		Interp.
	C125-A222-600ER	125 Amp		Interp.
	C315-A222-600ER	315 Amp		2
SCR Thyristor Diode Modules (Semikron)	SKKT-42	42 Amp	Silicon chip, plastic enclosure	1
	SKKT-92	92 Amp		Interp.
	SKKT-162	162 Amp		Interp.
	SKKT-250	250 Amp		2
SCR Thyristor Diode Modules (Infineon)	TT-42	42 Amp	Silicon chip, plastic enclosure	1
	TT-92	92 Amp		Interp.
	TT-162	162 Amp		Interp.
	TT-250	250 Amp		2
SCR Thyristor Diode Modules (IXYS)	MCC 44	44 Amp	Silicon chip, plastic enclosure	1
	MCC 95	95 Amp		Interp.
	MCC 162	162 Amp		Interp.
	MCC 250	250 Amp		2
Rectifier Diode Modules (Semikron)	SKKD-100	100 Amp	Silicon chip, plastic enclosure	1
	SKKD-162	162 Amp		Interp.
	SKKD-260	260 Amp		2
Output Filters (Cornell Dubilier)	SF-18uF	18uF - Capacitor	OIMP, steel case	1
	SF-30uF	30uF - Capacitor		Interp.
	SF-45uF	45uF - Capacitor		Interp.
	SF-50uF	50uF - Capacitor		Interp.
	SF-60uF	60uF - Capacitor		2
Output Filters (Ohmite)	270-50W	50W - Resistor	Ceramic	1
	270-100W	100W - Resistor		Interp.
	270-225W	225W - Resistor		2
Output Filters (Multicomp)	MC-50W	50W - Resistor	Ceramic	1
	MC-100W	100W - Resistor		2
Output Filters (Ronken)	SF-18uF	18uF - Capacitor	OIMP, steel case	2
	SF-30uF	30uF - Capacitor		Interp.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENTS

Manufacturer: TryStar, LLC
Product Type: Power Isolation and Correction Systems
Model Line: Series 700F & 700F/M Power Processors

Seismic Parameters
 $S_{DS} = 1.25g$ for $z/h=1$
 $S_{DS} = 2.00g$ for $z/h=0$
 $I_p = 1.5$

Building Codes
CBC 2022

TABLE 3

Table Description: Subcomponents Mounted within Unit

Component (Manufacturer)	Model	Description	Notes	UUT
Output Filters (Ronken)	SF-45uF	45uF - Capacitor	OIMP, steel case	Interp.
	SF-50uF	50uF - Capacitor		Interp.
	SF-60uF	60uF - Capacitor		2
Digital Meters (Electro Industries)	Shark 100	Digital display	Printed circuit board, plastic enclosure	1
	Shark 200	Digital display, data logging		2
Cooling Fan (Sunon)	SP101A-1123HBT	120mm Dia., 60Hz, 20W, 0.21A		1
Cooling Fan (Fans-Tech)	FD120E0000	120mm Dia., 60Hz, 91W, 0.82A		2
Cooling Fan (Comair Rotron)	CLE2T2	10in. Dia., 60Hz, 67W, 1.0A		1,2
Transient Voltage Surge Suppression (TryStar)	200778	Printed circuit board		1
	200779	Printed circuit board		2
Surge Protection Device (LEA)	SP 100	3.5" x 6.3" x 6.3", 3 lbs.	Plastic Enclosure	1
	SP 200	3.5" x 6.3" x 9.5", 5 lbs.		2
Transient Voltage Surge Suppression (Transtector)	MCP		Plastic Enclosure	1
Fuses (Bussmann)	FWH-250A	500V, 250A high speed fuse	Ceramic body, aluminum terminals	2
	FWH-300A	500V, 300A high speed fuse		Interp.
	FWH-400A	500V, 400A high speed fuse		2
	FWX-500A	250V, 500A high speed fuse		2
	FWX-600A	250V, 600A high speed fuse		Interp.
	FWX-700A	250V, 700A high speed fuse		Interp.
	FWX-800A	250V, 800A high speed fuse		2
Fuses (Bussmann)	FNQ-6/10	600V, 0.6A time delay fuse	Ceramic body, metal barrel terminals	1
	SC-1	600V, 1A current limiting fuse		1
	SC-2	600V, 2A current limiting fuse		Interp.
	SC-3	600V, 3A current limiting fuse		Interp.
	SC-5	600V, 5A current limiting fuse		Interp.



Manufacturer: TryStar, LLC
Product Type: Power Isolation and Correction Systems
Model Line: Series 700F & 700F/M Power Processors

$S_{DS} = 1.25g$ for $z/h=1$

$$I_p = 1.5$$

S_{DS} = 2.00g for z/h=0

CBC 2022

Table Description: Subcomponents Mounted within Unit

C-30 600V, 30A current limiting fuse

HCAi

OSP-0435

BY: Timothy J. Piland

DATE: 04/30/2025

CALIFORNIA BUILDING CODE, 2022



Pre No. CC251667-01-R0

SPECIAL SEISMIC CERTIFICATION UUT SUMMARY

UUT 1

Test Report# ETL R13679

Manufacturer: TryStar, LLC
Model Line: Series 700F & 700F/M Power Processors
Model Number: 8DLX-10K-7F
Serial Number: N/A

Highest Passed Test Level

S _{DS}	z/h	I _p	A _{flx-h}	A _{rig-h}	A _{flx-v}	A _{rig-v}
2.0	1	1.5	3.20	2.40	2.14	0.86
3.2	0					

Dimensions/Weights

Depth (in)	Width (in)	Height (in)	Weight (lbs.)
24.0	29.0	59.0	562

Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
7.6	9.4	21.0

Building Codes

CBC 2022

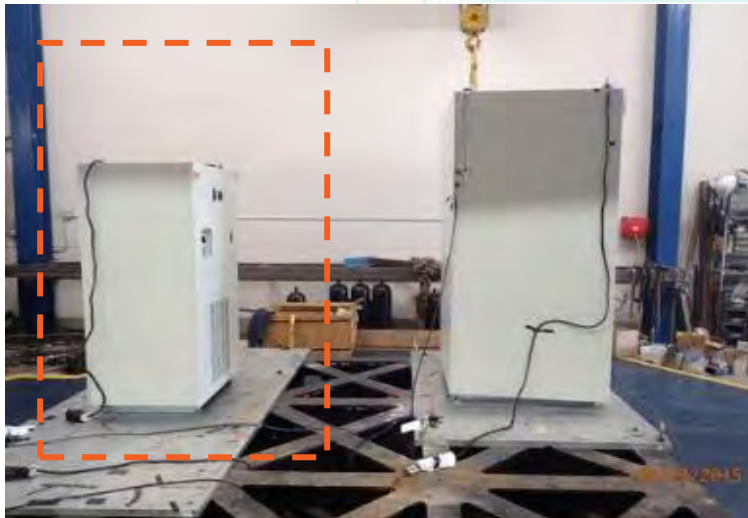
Test Criteria

ICC-ES AC156

Construction/Option Summary

Input voltage: 480V; output voltage: 120V/208V. Galvanized carbon steel frame: 14GA top; 12GA corner posts, bottom, mid panel; double 12GA base channels. 16GA painted carbon steel casing panels. Standard riveted construction.

UUT Mounting Details:



Rigid floor mounted using (4) 1/2 in. Grade 8 bolts.

Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

List of Included Subcomponents

TryStar - power transformer (10K), Square D - control transformer (T250D), Square D - circuit breakers (QOU-115, QOU-3100, HDL36015, JDL36250), Kraus & Naimer - bypass (C42-A222-600ER), Semikron - SCR module (SKKT-42), Infineon - SCR module (TT-42), IXYS - SCR module (MCC44), Semikron - rectifier module (SKKD-100), Cornell Dubilier - output filter (SF-18uF), Ohmite - output filter (270-50W), Multicomp - output filter (MC-50W), Electro Industries - digital meter (Shark 100), Sunon - cooling fan (SP101A-1123HBT), Comair Rotron - cooling fan (CLE2T2), Trystar-Transient Voltage Surge Suppression (200778), LEA - surge protection (SP 100), Transtector - TVSS (MCP), Bussmann - fuses (FNQ-6/10, SC-1)

SPECIAL SEISMIC CERTIFICATION UUT SUMMARY

UUT 2

Test Report# ETL R13679

Manufacturer: TryStar, LLC
Model Line: Series 700F & 700F/M Power Processors
Model Number: 8BLNX-150K-7F
Serial Number: N/A

Highest Passed Test Level

S _{DS}	z/h	I _p	A _{flx-h}	A _{rig-h}	A _{flx-v}	A _{rig-v}
1.25	1	1.5	2.00	1.50	1.34	0.54
2.00	0					

Dimensions/Weights

Depth (in)	Width (in)	Height (in)	Weight (lbs.)
36.0	34.5	76.0	2,609

Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
5.5	5.7	20.3

Building Codes

CBC 2022

Test Criteria

ICC-ES AC156

Construction/Option Summary

Input voltage: 208V; output voltage: 120V/208V & 277V/480V.
 Galvanized carbon steel frame: 14GA top; 12GA corner posts, bottom, mid panel; double 12GA base channels. 16GA painted carbon steel casing panels. Upgraded seismic construction.

UUT Mounting Details:



Rigid floor mounted using (4) 1/2 in. Grade 8 bolts.

Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

Seismic Enhancements

Seismic enhancements were made to address anomalies observed during testing. UUT 2 was successfully re-tested after making the enhancements. The seismic enhancements are detailed below.

1. All rivets connecting the frame together were replaced with 1/4 in. Grade 5 bolts.
2. Standard washers were added to the screws attaching the exterior panels to the frame.
3. Three additional screws, with washers, were added to each the left and right side panels along the horizontal midline.
4. The 2.25 in. transformer support brackets were replaced with 3 in. support brackets of the same thickness.
5. The standard washers used for the transformer hardware were replaced with plate washers.
6. The standard washers used for the support channel to frame hardware were replaced with structural washers.

List of Included Subcomponents

TryStar - power transformer (10K), Square D - control transformer (T250D), Square D - circuit breakers (QOU-115, QOU-3100, HDL36015, JDL36250), Kraus & Naimer - bypass (C42-A222-600ER), Semikron - SCR module (SKKT-42), Infineon- SCR module (TT-42), IXYS - SCR module (MCC44), Semikron - rectifier module (SKKD-100), Cornell Dubilier - output filter (SF-18uF), Ohmite - output filter (270-50W), Multicomp - output filter (MC-50W), Electro Industries - digital meter (Shark 100), Sunon - cooling fan (SP101A-1123HBT), Comair Rotron - cooling fan (CLE2T2), Trystar-Transient Voltage Surge Suppression (200778), LEA - surge protection (SP 100), Transtector - TVSS (MCP), Bussmann - fuses (FNQ-6/10, SC-1)