



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY

APPLICATION #: OSP-0156

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Square D by Schneider Electric

Manufacturer's Technical Representative: Scott Littler

Mailing Address: 6700 Tower Circle, Suite 700, Franklin, TN 37067

Telephone: (615) 267-9407

Email: Scott.Littler@se.com

Product Information

Product Name: Industrial Control Panels

Product Type: Variable Frequency Drives and Starters

Product Model Number: Square D Combination Starters / Non-Combination, Lighting Contactors including combination circuit breakers or fusible switches and Pump Panels with the following class designations: 8538, 8539, 8738, 8739, 8810, 8903S, and 8940 (See Product Listing Tables).

General Description: Rigid wall mounted NEMA Size 0 to Size 4 combination starters / non-combination and lighting contactors use combination circuit breakers and fusible switches inside NEMA Type 1, 3R, or 12 wall-mounted carbon steel enclosures.

Mounting Description: Rigid, Wall Mounted

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: Pre Compliance

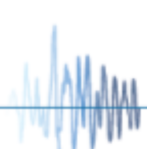
Contact Person: Galen Reid

Mailing Address: 36 Southwest Wall Street, Bend, OR 97702-3425

Telephone: (541) 241-2310

Email: galen@go-pre.com

Title: Principal





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

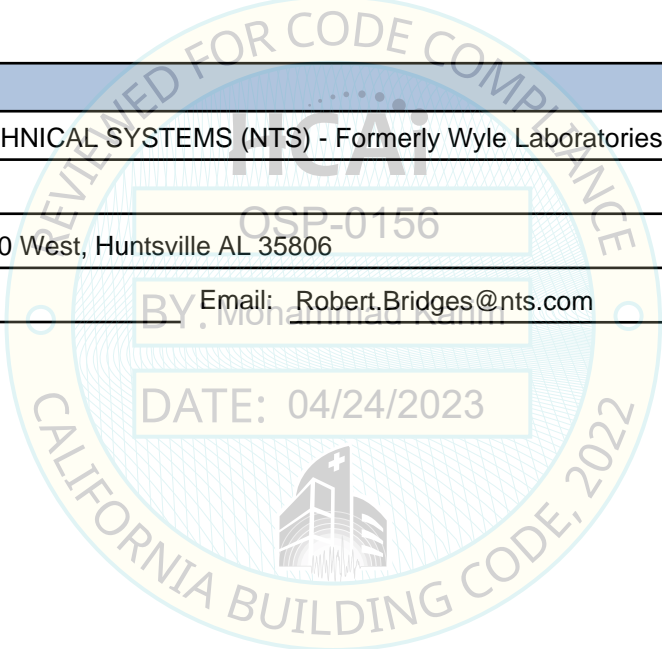
Company Name: PRE COMPLIANCE
Name: Andrew Coughlin California License Number: S6082
Mailing Address: 36 SW Wall Street, Bend, OR 97702
Telephone: (415) 635-8461 Email: Andy@go-pre.com

Certification Method

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

Testing Laboratory

Company Name: NATIONAL TECHNICAL SYSTEMS (NTS) - Formerly Wyle Laboratories
Contact Person: Robert Bridges
Mailing Address: 7800 Highway 20 West, Huntsville AL 35806
Telephone: (256) 837-4411 Email: Robert.Bridges@nts.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.79 (z/h=1); 1.22 (z/h=0)

SDS (Design spectral response acceleration at short period, g) = 2.39 (z/h = 1); 2.71 (z/h = 0)

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6

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

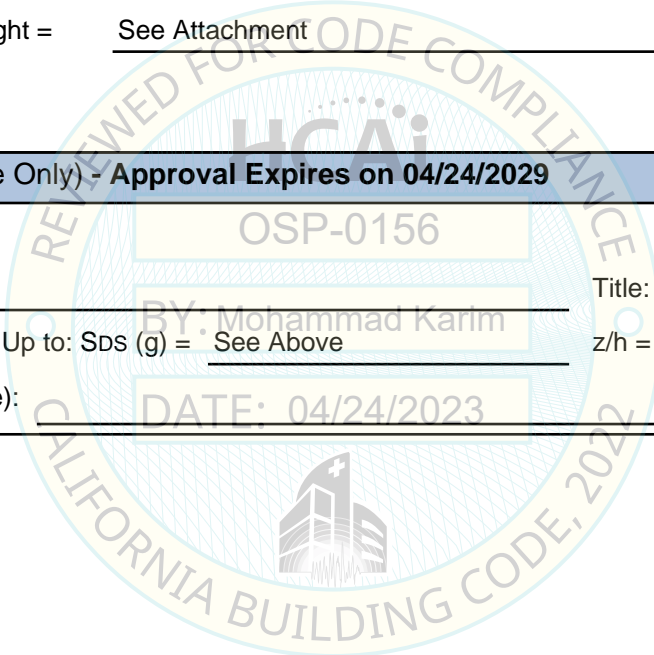
HCAI Approval (For Office Use Only) - Approval Expires on 04/24/2029

Date: 4/24/2023

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = See Above z/h = See Above

Condition of Approval (if applicable): DATE: 04/24/2023



Manufacturer: Square D by Schneider Electric
Product Type: Combination Starters & Lighting Contactors
Model Line: LV Combination Starters & Lighting Contactors

Seismic Parameters

$S_{DS} = 2.39 \text{ g for } z/h=1$ $I_p = 1.5$
 $S_{DS} = 2.71 \text{ g for } z/h=0$

Building Code

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TABLE 1 Mounting Configuration: Wall Mounted - Rigid

Construction Summary

NEMA 1, 3R, or 12 carbon steel sheet metal framed enclosures.

Options Summary

Model Line	Model	Max. Dimensions (in)			Wt. (lb)	Notes	UUT
		D	W	H			
Enclosed Non-combination Starters	8810S*	7.5-10.6	11.88-22.15	11.88-41.5	50-170	Square D Combination Starters or Lighting Contactors including combination circuit breakers or fusible switches with the following class designations: 8538, 8539, 8738, 8739, 8810, 8903S (electrically held), and 8940.	Interp.
Enclosed Type S Lighting Contactors	8903S*	4.75-10.97	5.88-22.15	10-39	43-188		Interp.
Pump Panel	8940*	9.3-10.3	13.73-23	38.5-52	64-147		Interp.
Enclosed Combination Starters	8539SBG43V81B CFF4P51P52T	9.84	9.5	22.5	39	NEMA Size 0 to Size 4 combination / non-combination starters, lighting contactors and pump panels use combination circuit breakers and fusible switches inside a wall-mounted enclosure	1
	8538S*	8.25-10.97	9.5-22.12	22.5-52.5	38-188		Interp.
	8539S*						
	8738S*						
	8739S*						
	8810C*						
	8810D*						
	8810U*						
8738SFA23V81A 1FF4P51P52TY75	10.59	21	52.5	188	2		

Manufacturer: Square D by Schneider Electric
Product Type: Combination Starters & Lighting Contactors
Model Line: LV Combination Starters & Lighting Contactors

Seismic Parameters
 $S_{DS} = 2.39 g$ for $z/h=1$
 $S_{DS} = 2.71 g$ for $z/h=0$
 $I_p = 1.5$

Building Code
CBC 2022

TABLE 1 Mounting Configuration: Wall Mounted - Rigid

Nomenclature



NEMA AC Magnetic
Contactors and Starter

Catalog Numbering System
Class 8502, 8536, 8538

Class 8536 Type S C G - 3 V02 Form S

General Classification		Numerals	
8502	Contactor	Used to designate specific, physical arrangements, such as number of poles, fuse clip size, etc.; but the numbering varies with Class of equipment. Consult Digest listings for specific device numbers.	
8536	Starter		
8538	Combination Starter with Disconnect Switch		
8539	Combination Starter with Circuit Breaker		
8702	Reversing Contactor		
8736	Reversing Starter		
8738	Reversing Combination Starter with Disconnect Switch		
8739	Reversing Combination Starter with Circuit Breaker		
8810	Two Speed Starters ^a		
8903	Type S Lighting Contactors ^a		
8940	Pumping Plant Panel ^a		

Design		Voltage Code	
Type S NEMA Contactors and Starters		AC operated devices without control transformer	
NEMA Size		Code	
8903 (only)		Voltage/Frequency	
A	Size 00	V02	120/60 or 110/50
B	Size 0	V06	480/60 or 440/50
C	Size 1	V07	600/60 or 550/50
D	Size 2	V08	208/60
E	Size 3	V81 - 480V Primary, 120V Secondary for units using a fused transformer control circuit Form (F4T).	
F	Size 4	This is only a partial listing	

Enclosure		Common Forms (factory modifications)	
A	NEMA 32 Industrial Use	A	"Start-Stop" pushbuttons in the enclosure cover
G	NEMA 1 General Purpose Surface Mounting	B ^b	Bimetallic overload relays
H	NEMA 3R Rainproof	C	"Hand-Off-Auto" selector switch in the enclosure cover
W	NEMA 4 Watertight, 4X Corrosion Resistant	F4T	Fused transformer control circuit (primary fuses only)
		FF4T	Fused transformer control circuit (primary & secondary fuses)
		H	Solid state overload relay
		P1	Red ON pilot light in the enclosure cover
		P2	Green OFF pilot light in cover
		S	Separate control circuit
		X01	One "normally closed" auxiliary contact N.C.
		X10	One "normally open" auxiliary contact N.O.

Consult Digest pages 16-100 to 16-104 for additional form letters. When more than one form is applied to a single device, arrange forms in alphabetical order.

^a Combination two speed starters will replace the "S" with a "C", "U" or "D". Pumping plant panels have various leading characters. Not all use Type S contactors. Duplex controllers use "N", "C", "U", and "D".

^b May also designate Motor Logic Plus overload relay

Manufacturer: Square D by Schneider Electric
Product Type: Combination Starters & Lighting Contactors
Model Line: LV Combination Starters & Lighting Contactors

Seismic Parameters

$S_{DS} = 2.39g$ for $z/h=1$ $I_p = 1.5$
 $S_{DS} = 2.71g$ for $z/h=0$

Building Codes

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TABLE 2

Table Description: Type S Contactors

Component (Manufacturer)	Model Number	Rated Voltage (Volts)	Rated Current (Amps)	Notes	UUT
NEMA Type S size 0 (Square D)	8502SBO* / 8702SBO*	208-600	18		Interp.
	8502SBO2	480		1	
NEMA Type S size 1 (Square D)	8502SCO* / 8702SCO*	208-600	27		Interp.
	8903SMO*	24-480	30		Interp.
NEMA Type S size 2 (Square D)	8502SDO* / 8702SDO*	208-600	45		Interp.
	8903SPO*	24-480	60		Interp.
NEMA Type S size 3 (Square D)	8502SEO* / 8702SEO*	208-600	90		Interp.
	8903SQO*	24-480	100		Interp.
NEMA Type S size 4 (Square D)	8502SFO* / 8702SFO*	208-600	135		Interp.
	8702SFO3	480		2	
	8903SVO*	24-480	200	Identical to 8702SF03	Interp.



SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENTS

Pre No. 231023-01-R0

Manufacturer: Square D by Schneider Electric
Product Type: Combination Starters & Lighting Contactors
Model Line: LV Combination Starters & Lighting Contactors

Seismic Parameters

S_{DS} = 2.39g for z/h=1 I_p = 1.5
S_{DS} = 2.71g for z/h=0

Building Codes

CBC 2022

TABLE 3

Table Description: Type S Starters

Component (Manufacturer)	Model Number	Rated Voltage (Volts)	Rated Current (Amps)	Notes	UUT
NEMA Type S size 0 (Square D)	8536SBO* / 8736SBO*	208-600	18		Interp. 1
	8536SB02	480			
NEMA Type S size 1 (Square D)	8536SCO* / 8736SCO*	208-600	27		Interp.
	8536SDO* / 8736SDO*	208-600	45		Interp.
NEMA Type S size 3 (Square D)	8536SEO* / 8736SEO*	208-600	90		Interp.
NEMA Type S size 4 (Square D)	8536SFO* / 8736SFO*	208-600	135		Interp.
	8736SFO3	480			2

Manufacturer: Square D by Schneider Electric
Product Type: Combination Starters & Lighting Contactors
Model Line: LV Combination Starters & Lighting Contactors

Seismic Parameters

S_{DS} = 2.39g for z/h=1 **I_p = 1.5**
S_{DS} = 2.71g for z/h=0

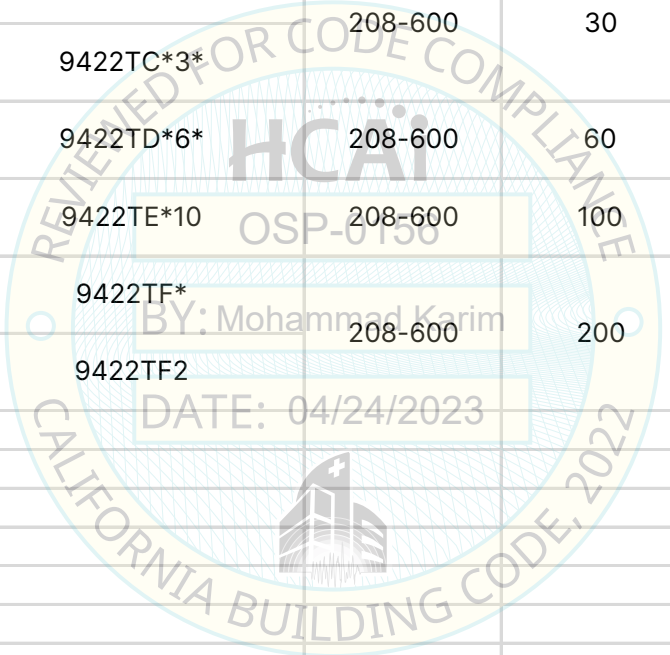
Building Codes

CBC 2022

TABLE 4

Table Description: Disconnect Switch

Component (Manufacturer)	Model Number	Rated Voltage (Volts)	Rated Current (Amps)	Notes	UUT
30A Switch (Square D)	9422TCF30	208-600	30		4
	9422TC*3*				Interp.
60A Switch (Square D)	9422TD*6*	208-600	60		Interp.
100A Switch (Square D)	9422TE*10	208-600	100		Interp.
200A Switch (Square D)	9422TF*	208-600	200		Interp.
	9422TF2				2



Manufacturer: Square D by Schneider Electric
Product Type: Combination Starters & Lighting Contactors
Model Line: LV Combination Starters & Lighting Contactors

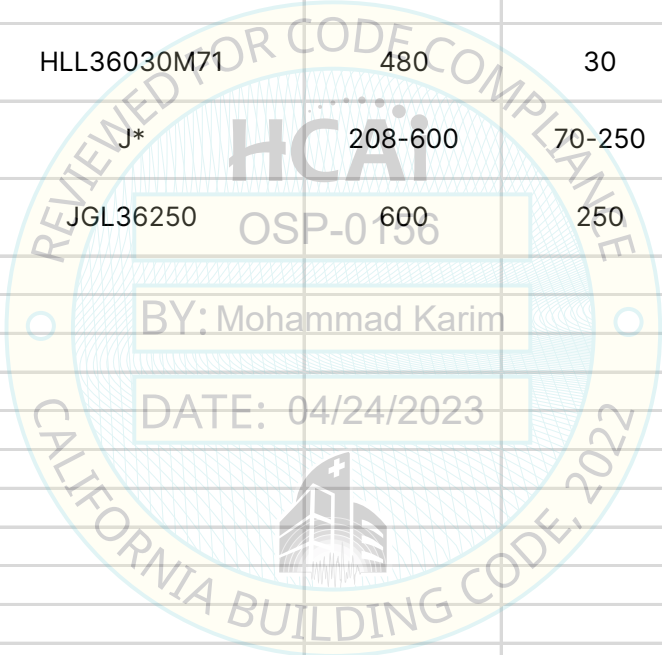
Seismic Parameters
 $S_{DS} = 2.39g$ for $z/h=1$
 $S_{DS} = 2.71g$ for $z/h=0$
 $I_p = 1.5$

Building Codes
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TABLE 5

Table Description: Circuit Breakers

Component (Manufacturer)	Model Number	Rated Voltage (Volts)	Rated Current (Amps)	Notes	UUT
Power Pact H Frame (Square D)	H*	208-600	15-150		Interp.
	HLL36030M71	480	30		1
Power Pact J Frame (Square D)	J*	208-600	70-250		Interp.
	JGL36250	600	250		3





Pre No. 231023-01-R0

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENTS

Manufacturer: Square D by Schneider Electric
Product Type: Combination Starters & Lighting Contactors
Model Line: LV Combination Starters & Lighting Contactors

Seismic Parameters

S_{DS} = 2.39g for z/h=1
 S_{DS} = 2.71g for z/h=0 **I_p = 1.5**

Building Codes

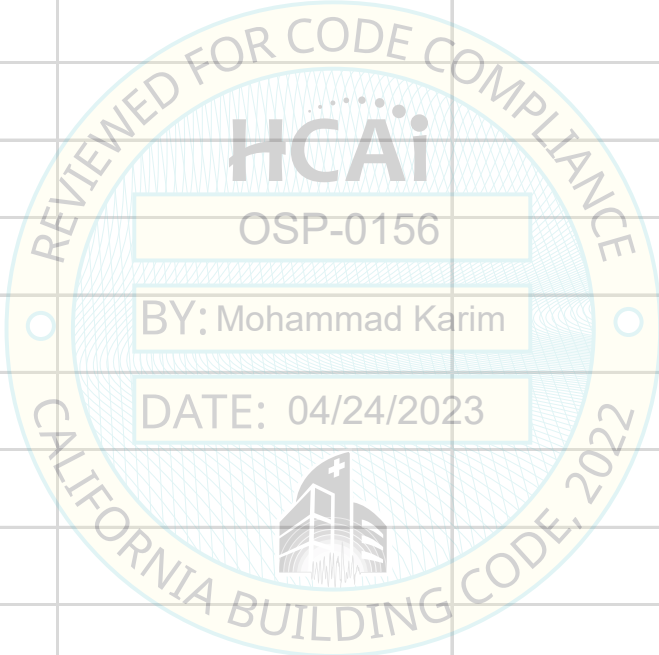
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TABLE 6

Table Description: Control Transformers

Component (Manufacturer)	Model Number	Rated Voltage (Volts)	Power Rating (VA)	Notes	UUT
TF Control Transformers (Square D)	9070TF100D1	480	100		1
	9070TF100D* - 300D*	120-600	100-300		Interp.
	9070TF300D1	480	300		2

UUT	Model	Test Report	Test Laboratory	S _{DS} ¹	z/h	I _p
1	8539SBG43V81B CFF4P51P52T	58062R10 (UUT1)	Wyle Laboratories	2.39 2.71	1 0	1.5
2	8738SFA23V81A 1FF4P51P52TY75	58062R10 (UUT2)	Wyle Laboratories	2.39 2.71	1 0	1.5
3	JGL36250	53276-4 (UUT24)	Wyle Laboratories	2.69 3.16	1 0	1.5
4	8538SBG12V02S	PR051315-TR-16 (UUT6)	NTS Huntsville	2.58 3.25	1 0	1.5


Notes:

 1 See test report addendum "PL231023-03" for back calculated achieved S_{DS} levels.

UUT 1

Test Report# 58062R10 (UUT1)

Manufacturer: Square D by Schneider Electric
Model Line: LV Combination Starters & Lighting Contactors
Model Number: 8539SBG43V81BCFF4P51P52T
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}
2.39	1	1.5	3.82	2.87	1.82	0.72
2.71	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
9.84	9.5	22.5	39

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Code	Test Criteria	Construction/Option Summary
CBC 2022	ICC-ES AC156	NEMA Type 1 carbon steel enclosure.

UUT Mounting Details:	List of Included Subcomponents
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UUT was rigid wall mounted using (4) 1/4-20 Grade 5 bolts and flat washers at 7 ft-lbs. torque. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

Description	Model #
Enclosure - NEMA Type 1	8539SBG
Type S Non-reversing starter NEMA size 0/ Type S Contactor NEMA size 0	8536SB02/ 85025SB02
H Frame Circuit Breaker	HLL36030M71
Control Power Transformer	9070TF100D1

UUT 2

Test Report# 58062R10 (UUT2)

Manufacturer: Square D by Schneider Electric
Model Line: LV Combination Starters & Lighting Contactors
Model Number: 8738SFA23V81A1FF4P51P52TY75
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}
2.39	1	1.5	3.82	2.87	1.82	0.72
2.71	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
10.59	21	52.5	188

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Code
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
NEMA Type 12/3R carbon steel enclosure.

UUT Mounting Details:



UUT was rigid wall mounted using (4) 3/8-16 Grade 5 bolts and flat washers at 25 ft-lbs. torque. 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

Description	Model #
Enclosure - NEMA Type 12/3R	8738SFA
Type S Reversing starter NEMA size 4/ Type S Contactor NEMA size 4	8536SFO3/ 8702SFO3
Disconnect Switch	9422TF2
Control Power Transformer	9070TF300D1

UUT 3

Test Report# 53276-4 (UUT24)

Manufacturer: Square D by Schneider Electric
Model Line: Enclosed Circuit Breakers
Model Number: JGL36250
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}
2.69	1	1.5	4.3	3.23	2.11	0.84
3.16	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
6.28	14.47	31.05	34

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Code	Test Criteria	Construction/Option Summary
CBC 2022	ICC-ES AC156	NEMA Type 3R carbon steel enclosure.

UUT Mounting Details:	List of Included Subcomponents
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Description	Model #
Enclosure - NEMA Type 3R	J250R
Molded Case Circuit Breaker 600V, 250A	JGL36250

UUT was rigid wall mounted using (4) 1/4-20 Grade 5 bolts and flat washers at 7 ft-lbs. torque. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

Pre No. 231023-01-R0

UUT 4

Test Report# PR051315-TR-16 (UUT6)

Manufacturer: Square D by Schneider Electric
Model Line: LV Combination Starters & Lighting Contactors
Model Number: 8538SBG12V02S
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}
2.58	1	1.5	4.13	3.10	2.17	0.87
3.25	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
8.34	9.5	22.5	28

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Code	Test Criteria	Construction/Option Summary
CBC 2022	ICC-ES AC156	NEMA Type 1 carbon steel enclosure.

UUT Mounting Details:	List of Included Subcomponents
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Description	Model #
Enclosure - NEMA Type 1	8538SBG
Type S Non-reversing starter	8536SBO2/
NEMA size 0	8502SBO2
30A Fusible Disconnect Switch	9422TCF30

UUT was rigid wall mounted using (4) 1/4-20 Grade 5 bolts and flat washers at 7 ft-lbs. torque. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.