



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0156 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Square D by Schneider Electric

Manufacturer's Technical Representative: Jeffrey A. Gatscher, Fellow Engineer

Mailing Address: 330 Weakley Lane, Smyrna, TN 37167

Telephone: 615-459-8466 Email: jeff.gatscher@schneider-electric.com

Product Information

Product Name: NEMA Combination Starters and Lighting Contactors

Product Type: NEMA Combination Starters and Lighting Contactors – Low Voltage (600 Volts and Below)

Square D Combination Starters / Non-Combination, Lighting Contactors including combination circuit breakers or fusible switches and Pump Panels with the following class designations:

Product Model Number: 8538, 8539, 8738, 8739, 8810, 8903S, and 8940 (See Product Listing Tables).

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

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 a NEMA Type 1, 3R, or 12 wall-mounted carbon steel enclosures.

Mounting Description: Rigid wall mounted.

Applicant Information

Applicant Company Name: Square D by Schneider Electric

Contact Person: Larry Nilles

Mailing Address: 8001 Knightdale Boulevard, Knightdale, NC 27545

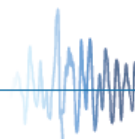
Telephone: 919-217-6310 Email: larry.nilles@schneider-electric.com

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

Signature of Applicant:  Date: 03/31/2016

Title: Staff Product Specialist Company Name: Schneider Electric

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





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

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

Company Name: Forell/Elsesser Engineers, Inc.

Name: Marco Scanu, SE California License Number: S4454

Mailing Address: 160 Pine St., 6<sup>th</sup> Flr., San Francisco, CA 94111

Telephone: (415) 837-0700 Email: m.scanu@forell.com

**Supports and Attachments Preapproval**

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

**Certification Method**

☒ Testing in accordance with: ☒ ICC-ES AC156

☐ Other (Please Specify): \_\_\_\_\_

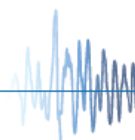
**Testing Laboratory 1**

Company Name: NTS Huntsville (formerly Wyle Laboratories)

Contact Name: Don Smith – Manager, Commercial Test Services

Mailing Address: 7800 Highway 20 West, Huntsville, AL 35806

Telephone: 256-716-4221 Email: don.smith@wyle.com





# OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

## Seismic Parameters

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

Design Basis of Equipment or Components ( $F_p/W_p$ ) = See Certified Product Listing tables

$S_{DS}$  (Design spectral response acceleration at short period, g) = See Certified Product Listing tables

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

$R_p$  (Equipment or component response modification factor) = 6.0

$\Omega_0$  (System overstrength factor) = 2.0

$I_p$  (Importance factor) = 1.5

$z/h$  (Height factor ratio) = 1.0 (also evaluated at grade elevation  $z/h=0$ )

Equipment or Component Natural Frequencies (Hz) = See UUT Summary Sheets

Overall dimensions and weight (or range thereof) = See Certified Product Listing tables

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

Design Basis of Equipment or Components ( $V/W$ ) = \_\_\_\_\_

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

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

$R$  (Response modification coefficient) = \_\_\_\_\_

$\Omega_0$  (System overstrength factor) = \_\_\_\_\_

$C_d$  (Deflection amplification factor) = \_\_\_\_\_

$I_p$  (Importance factor) = 1.5

Height to Center of Gravity above base = \_\_\_\_\_

Equipment or Component Natural Frequencies (Hz) = \_\_\_\_\_

Overall dimensions and weight (or range thereof) = \_\_\_\_\_

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

## List of Attachments Supporting Special Seismic Certification

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

☒ Other(s) (Please Specify): Certified Products Table, Certified Subcomponents Table, UUT Summary Sheets

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

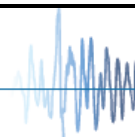
Signature:  Date: 10/11/16

Print Name: M. R. Karim Title: SHFR

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

Condition of Approval (if applicable): \_\_\_\_\_

\_\_\_\_\_





## Certified Product Listing

### Combination Starters and Lighting Contactors

**Manufacturer:** Square D by Schneider Electric

**Product Category:** NEMA Combination Starters and Lighting Contactors – Low Voltage (600 Volts and Below)

**Product Line Models:** 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

**Product Options:** 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. Sheet metal framed enclosures come in NEMA Type 1, 3R, or 12 ratings.

**Product Mounting:** Rigid Wall Mount

Combination Starters and Lighting Contactors												
Type <sup>1</sup>	Part Number <sup>2</sup>	Width (in.)	Depth (in.)	Height (in.)	Weight		Notes	Test Status	Certification Level <sup>3</sup>			
					Min (lbs.)	Max (lbs.)			z/h = 0		z/h = 1	
									S <sub>Ds</sub> (g)	F <sub>p</sub> /W <sub>p</sub>	S <sub>Ds</sub> (g)	F <sub>p</sub> /W <sub>p</sub>
Enclosed Combination Starters	8539SBG43V81B CFF4P51P52T	9.5	9.84	22.5	39			Wyle 58062R10, UUT-1	2.71	1.22	2.39	1.79
Enclosed Combination Starters	8538S* 8539S* 8738S* 8739S* 8810C* 8810D* 8810U*	9.5 – 22.12	8.25 – 10.97	22.5 – 52.5	38	194		Interpolated	2.71	1.22	2.39	1.79
Enclosed Non-combination Starters	8810S*	11.88 – 22.15	7.5 – 10.6	11.88 – 41.5	50	170		Interpolated	2.71	1.22	2.39	1.79
Enclosed Type S Lighting Contactors	8903S*	5.88 – 22.15	4.75 – 10.97	10 – 56.37	43	195		Interpolated	2.71	1.22	2.39	1.79
Pump Panel	8940*	13.73 – 23	9.3 – 10.3	38.5 – 56.5	64	147		Interpolated	2.71	1.22	2.39	1.79
Enclosed Combination Starters	8738SFA23V81A 1FF4P51P52TY75	21	10.59	52.5	188			Wyle 58062R10, UUT-2	2.71	1.22	2.39	1.79
<b>Notes:</b> 1. All enclosure types are constructed of carbon steel sheet with baked enamel or powder-coated finish. 2. Product types are identified by part number as described on the Part Numbering Decoder reference. 3. Certification level is limited to the lower rating of either the Certified Product Listing, as listed here, or the internal sub-components, as listed on the Certified Major Sub-Components table.												

# Commercial Reference Numbering System Combination Starters and Lighting Contactors



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						
8502	Contactor					
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 Starter <sup>a</sup>					
8903	Type S Lighting Contactors <sup>a</sup>					
8940	Pumping Plant Panel <sup>a</sup>					
Design						
Type S NEMA Contactors and Starters						
NEMA Size		8903 (only)				
A	Size 00					
B	Size 0					
C	Size 1	M	30 Amperes			
D	Size 2	P	60 Amperes			
E	Size 3	Q	100 Amperes			
F	Size 4	V	200 Amperes			
Enclosure						
A	NEMA 12 Industrial Use					
G	NEMA 1 General Purpose Surface Mounting					
H	NEMA 3R Rainproof					
W	NEMA 4 Watertight, 4X Corrosion Resistant					
Numerals						
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.						
Voltage Code						
AC operated devices without control transformer						
Code	Voltage/Frequency					
V02	120/60 or 110/50					
V06	480/60 or 440/50					
V07	600/60 or 550/50					
V08	208/60					
V81 - 480V Primary, 120V Secondary for units using a fused transformer control circuit Form (F4T).						
This is only a partial listing						
Common Forms (factory modifications)						
A	"Start-Stop" pushbuttons in the enclosure cover					
B <sup>b</sup>	Bimetallic overload relays					
C	"Hand-Off-Auto" selector switch in the enclosure cover					
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.						

<sup>a</sup> 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".

<sup>b</sup> May also designate Motor Logic Plus overload relay

## Certified Major Sub-Components Listing Combination Starters and Lighting Contactors

Type S Contactors										
Description	Rated Voltage (Volts)	Rated Current (Amps)	Manufacturer	Part No. / Identifier	Notes	Test Status <sup>1</sup>	Certification Level <sup>2</sup>			
							z/h = 0		z/h = 1	
							S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>
NEMA Type S size 0	208-600	18	Square D by Schneider Electric	8502SBO* / 8702SBO*	3	Extrapolated	2.71	1.22	2.39	1.79
	480		Square D by Schneider Electric	8502SBO2	3	Wyle 58062R10, UUT-1	2.71	1.22	2.39	1.79
NEMA Type S size 1	208-600	27	Square D by Schneider Electric	8502SCO* / 8702SCO*	3	Interpolated	2.71	1.22	2.39	1.79
	24-480	30	Square D by Schneider Electric	8903SMO*	3	Interpolated	2.71	1.22	2.39	1.79
NEMA Type S size 2	208-600	45	Square D by Schneider Electric	8502SDO* / 8702SDO*	3	Interpolated	2.71	1.22	2.39	1.79
	24-480	60	Square D by Schneider Electric	8903SPO*	3	Interpolated	2.71	1.22	2.39	1.79
NEMA Type S size 3	208-600	90	Square D by Schneider Electric	8502SEO* / 8702SEO*	3	Interpolated	2.71	1.22	2.39	1.79
	24-480	100	Square D by Schneider Electric	8903SQO*	3	Interpolated	2.71	1.22	2.39	1.79
NEMA Type S size 4	208-600	135	Square D by Schneider Electric	8502SFO* / 8702SFO*	3	Interpolated	2.71	1.22	2.39	1.79
	480		Square D by Schneider Electric	8702SFO3	3	Wyle 58062R10, UUT-2	2.71	1.22	2.39	1.79
	24-480	200	Square D by Schneider Electric	8903SVO*	3	Extrapolated	2.71	1.22	2.39	1.79

**Notes:**

1. The sub-components listed here include part numbers which identify configuration, manufacturer, and materials. Tested sub-components and interpolated items have the same manufacturer and materials and have similar configuration and construction as the tested units.
2. Certification level is limited to the lower rating of either the Certified Major Sub-Components Listing, as listed here, or the product section, as listed on the Certified Product Listing table.
3. Sub-components are to be used when a separate Overload protection is provided.



## Certified Major Sub-Components Listing Combination Starters and Lighting Contactors

Type S Starters										
Description	Rated Voltage (Volts)	Rated Current (Amps)	Manufacturer	Part No. / Identifier	Notes	Test Status <sup>1</sup>	Certification Level <sup>2</sup>			
							z/h = 0		z/h = 1	
							S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>
NEMA Type S size 0	208-600	18	Square D by Schneider Electric	8536SBO* / 8736SBO*		Extrapolated	2.71	1.22	2.39	1.79
	480		Square D by Schneider Electric	8536SB02		Wyle 58062R10, UUT-1	2.71	1.22	2.39	1.79
NEMA Type S size 1	208-600	27	Square D by Schneider Electric	8536SCO* / 8736SCO*		Interpolated	2.71	1.22	2.39	1.79
NEMA Type S size 2		45	Square D by Schneider Electric	8536SDO* / 8736SDO*		Interpolated	2.71	1.22	2.39	1.79
NEMA Type S size 3		90	Square D by Schneider Electric	8536SEO* / 8736SEO*		Interpolated	2.71	1.22	2.39	1.79
NEMA Type S size 4	208-600	135	Square D by Schneider Electric	8536SFO* / 8736SFO*		Interpolated	2.71	1.22	2.39	1.79
	480		Square D by Schneider Electric	8736SFO3		Wyle 58062R10, UUT-2	2.71	1.22	2.39	1.79
<b>Notes:</b>										
1. The sub-components listed here include part numbers which identify configuration, manufacturer, and materials. Tested sub-components and interpolated items have the same manufacturer and materials and have similar configuration and construction as the tested units.										
2. Certification level is limited to the lower rating of either the Certified Major Sub-Components Listing, as listed here, or the product section, as listed on the Certified Product Listing table.										



## Certified Major Sub-Components Listing Combination Starters and Lighting Contactors

Disconnect Switch										
Description	Rated Voltage (Volts)	Rated Current (Amps)	Manufacturer	Part No. / Identifier	Notes	Test Status <sup>1</sup>	Certification Level <sup>2</sup>			
							z/h = 0		z/h = 1	
							S <sub>DS</sub> (g)	F <sub>P</sub> /W <sub>P</sub>	S <sub>DS</sub> (g)	F <sub>P</sub> /W <sub>P</sub>
30A Switch	208-600	30	Square D by Schneider Electric	9422TCF30		NTS PR051315-TR-16, UUT-6	3.25	1.46	2.63	1.97
			Square D by Schneider Electric	9422TC*3*		Interpolated	2.71	1.22	2.39	1.79
60A Switch		60	Square D by Schneider Electric	9422TD*6*		Interpolated	2.71	1.22	2.39	1.79
100A Switch		100	Square D by Schneider Electric	9422TE*10		Interpolated	2.71	1.22	2.39	1.79
200A Switch		200	Square D by Schneider Electric	9422TF*		Interpolated	2.71	1.22	2.39	1.79
			Square D by Schneider Electric	9422TF2		Wyle 58062R10, UUT-2	2.71	1.22	2.39	1.79
<b>Notes:</b> 1. The sub-components listed here include part numbers which identify configuration, manufacturer, and materials. Tested sub-components and interpolated items have the same manufacturer and materials and have similar configuration and construction as the tested units. 2. Certification level is limited to the lower rating of either the Certified Major Sub-Components Listing, as listed here, or the product section, as listed on the Certified Product Listing table.										



## Certified Major Sub-Components Listing Combination Starters and Lighting Contactors

Circuit Breaker										
Frame Type	Rated Voltage (Volts)	Rated Current (Amps)	Manufacturer	Part No. / Identifier	Notes	Test Status <sup>1</sup>	Certification Level <sup>2</sup>			
							z/h = 0		z/h = 1	
							S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>
Power Pact H Frame	208-600	15-150	Square D by Schneider Electric	H*		Interpolated	2.71	1.22	2.39	1.79
	480	30	Square D by Schneider Electric	HLL36030M71		Wyle 58062R10, UUT-1	2.71	1.22	2.39	1.79
Power Pact J Frame	208-600	70-250	Square D by Schneider Electric	J*		Interpolated	2.71	1.22	2.39	1.79
	600	250	Square D by Schneider Electric	JGL36250		Wyle 53276-4, UUT-24	3.16	1.42	2.70	2.03
<b>Notes:</b> 1. The sub-components listed here include part numbers which identify configuration, manufacturer, and materials. Tested sub-components and interpolated items have the same manufacturer and materials and have similar configuration and construction as the tested units. 2. Certification level is limited to the lower rating of either the Certified Major Sub-Components Listing, as listed here, or the product section, as listed on the Certified Product Listing table.										

Control Transformer									
Name	Rated Voltage (Volts)	Power Rating (VA)	Manufacturer	Part No. / Identifier	Test Status <sup>1</sup>	Certification Level <sup>2</sup>			
						z/h = 0		z/h = 1	
						S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub> (g)	F <sub>p</sub> /W <sub>p</sub>
TF	480	100	Square D by Schneider Electric	9070TF100D1	Wyle 58062R10, UUT-1	2.71	1.22	2.39	1.79
	120-600	100 - 300	Square D by Schneider Electric	9070TF100D* - 300D*	Interpolated	2.71	1.22	2.39	1.79
	480	300	Square D by Schneider Electric	9070TF300D1	Wyle 58062R10, UUT-2	2.71	1.22	2.39	1.79
<b>Notes:</b> 1. The sub-components listed here include part numbers which identify configuration, manufacturer, and materials. Tested sub-components and interpolated items have the same manufacturer and materials and have similar configuration and construction as the tested units. 2. Certification level is limited to the lower rating of either the Certified Major Sub-Components Listing, as listed here, or the product section, as listed on the Certified Product Listing table.									

## UUT Summary

### Combination Starters and Lighting Contactors

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Combination Starters and Lighting Contactors	Enclosed Combination Starter	8539SBG43V81BCFF4P51P52T

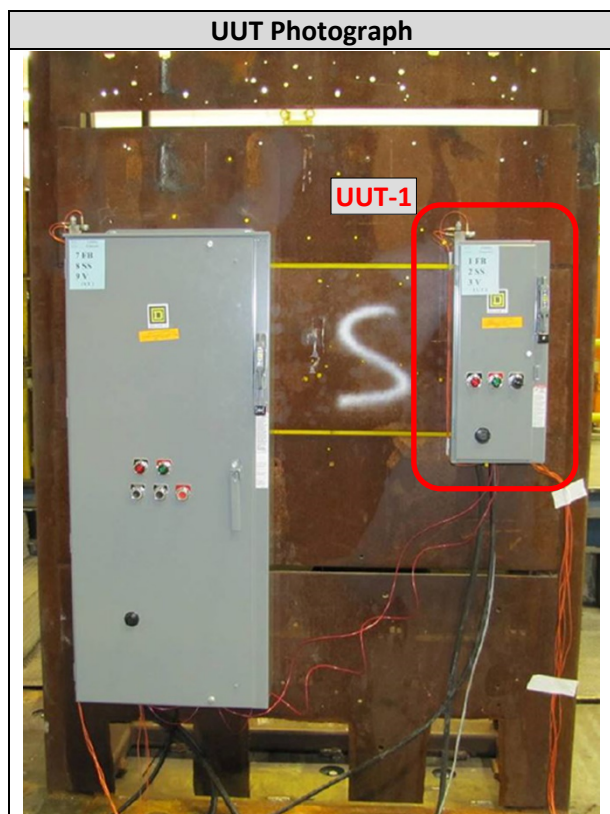
UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
Wyle Laboratories	58062R10	01/07/2011	4	UUT-1

UUT Notes / Description
<ol style="list-style-type: none"> <li>1. The UUT is a low voltage enclosed combination starter rated at 30A, 480Vac with Type S size 0 starter and H molded frame circuit breaker disconnect and a 100VA control transformer packaged into a NEMA Type 1 enclosure.</li> <li>2. Enclosure is constructed of carbon steel sheet, with powder-coated finish (gray baked enamel).</li> <li>3. UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
39	22.5	9.5	9.84	N/A	N/A	N/A	Rigid wall mounted	(4) 1/4-20 grade 5 bolts and flat washers at 7 ft-lbs torque.

UUT Seismic Test Parameters								
Building Codes	Test Criteria	$S_{Ds}(g)$	$z/h$	$I_p$	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016	ICC-ES AC156	2.71	0	1.5	2.71	1.08	1.82	0.72
		2.39	1	1.5	3.82	2.87	1.60	0.64

UUT Seismic Test Results	
✓	The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

[illegible]

## UUT Summary

### Combination Starters and Lighting Contactors

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Combination Starters and Lighting Contactors	Enclosed Combination Starter	8738SFA23V81A1FF4P51P52TY75

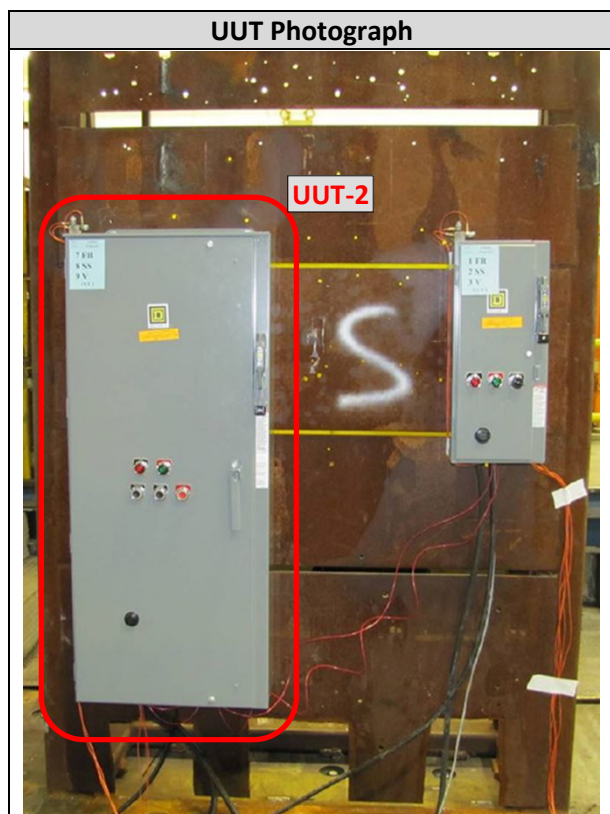
UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
Wyle Laboratories	58062R10	01/07/2011	4	UUT-2

UUT Notes / Description
<ol style="list-style-type: none"> <li>1. The UUT is a low voltage enclosed combination starter rated at 200A, 480Vac with Type S reversing starter size 4 and fusible disconnect switch and a 300VA control transformer packaged into a NEMA Type 12/3R enclosure.</li> <li>2. Enclosure is constructed of carbon steel sheet, with powder-coated finish (gray baked enamel).</li> <li>3. UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
188	52.5	21	10.59	N/A	N/A	N/A	Rigid wall mounted	(4) 3/8-16 grade 5 bolts and flat washers at 25 ft-lbs torque.

UUT Seismic Test Parameters								
Building Codes	Test Criteria	$S_{Ds}(g)$	$z/h$	$I_p$	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016	ICC-ES AC156	2.71	0	1.5	2.71	1.08	1.82	0.72
		2.39	1	1.5	3.82	2.87	1.60	0.64

UUT Seismic Test Results	
✓	The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

[illegible]

## UUT Summary

### Enclosed Circuit Breakers

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Enclosed Circuit Breaker - Low Voltage	250A Without Mechanism	J250R

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
Wyle Laboratories	53276-4	03/13/2006	16	UUT-24

UUT Notes / Description
<ol style="list-style-type: none"> <li>1. The UUT is a low voltage enclosed circuit breaker rated at 250A with molded case J-frame circuit breaker packaged into a NEMA Type 3R enclosure without operating mechanism.</li> <li>2. Enclosure is constructed of carbon steel sheet, with powder-coated finish (gray baked enamel).</li> <li>3. UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
34	31.05	14.47	6.28	N/A	N/A	N/A	Rigid wall mounted	(4) 1/4-20 grade 5 bolts and flat washers at 7 ft-lbs torque.

UUT Seismic Test Parameters								
Building Codes	Test Criteria	$S_{DS}(g)$	$z/h$	$I_p$	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$
CBC 2016	ICC-ES AC156	3.16	0	1.5	3.16	1.26	2.12	0.84
		2.70	1	1.5	4.32	3.24	1.81	0.72

UUT Seismic Test Results	
✓	The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

[illegible]



## UUT Summary

### Combination Starters and Lighting Contactors

UUT Product Information			
Manufacturer	Product Category	Product Line Model	Identification Number
Square D by Schneider Electric	Combination Starters and Lighting Contactors	Enclosed Combination Starter	8538SBG12V02S

UUT Test Report Association				
Test Lab	Report No.	Report Date	Test Run No.	UUT Designation
NTS – Huntsville	PR051315-TR-16	08/31/2016	4	UUT-6

UUT Notes / Description
<ol style="list-style-type: none"> <li>1. The UUT is a low voltage enclosed combination starter rated at 30A, 240Vac with Type S size 0 starter and 30A fusible disconnect switch packaged into a NEMA Type 1 enclosure.</li> <li>2. NEMA Type 1 enclosure is constructed of carbon steel sheet, with powder-coated finish (gray baked enamel).</li> <li>3. UUT full of contents during testing.</li> </ol>

UUT Properties (As Tested)								
Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment	
	Height	Width	Depth	F-B	S-S	V	Type	Anchorage
28	22.5	9.5	8.34	N/A	N/A	N/A	Rigid wall mounted	(4) 1/4-20 grade 5 bolts and flat washers at 7 ft-lbs torque.

UUT Seismic Test Parameters								
Building Codes	Test Criteria	$S_{Ds}$ (g)	$z/h$	$I_p$	$A_{FLX-H}$ (g)	$A_{RIG-H}$ (g)	$A_{FLX-V}$ (g)	$A_{RIG-V}$ (g)
CBC 2016	ICC-ES AC156	3.25	0	1.5	3.25	1.30	2.18	0.88
		2.63	1	1.5	4.21	3.16	1.76	0.71

UUT Seismic Test Results	
✓	The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

[illegible]