# APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

| OFFICE USE ONLY | |
|---|---|
| APPLICATION #: | OSP – 0016 – 10 |

## OSHPD Special Seismic Certification Preapproval (OSP)

**Type:** ☐ New ☒ Renewal

## Manufacturer Information

Manufacturer: Square D by Schneider Electric North America

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: Square D NEMA Power Panelboards and Square D NEMA Lighting Panelboards

Product Type: NEMA Panelboards – Low Voltage (600 Volts and Below)

Product Model Number: NEMA Power Panelboards Type HC*, CP and QMB and Lighting Panelboards Type NF / NQ (see Certified Product Listing tables)
(List all unique product identification numbers and/or part numbers)

General Description: Panelboards are integrated, low voltage, power and control systems and may include Powerlink, PowerLogic, and other interior components (see Certified Major Sub-Component tables). Sheet metal framed enclosures come in NEMA Type 1, 1A, 2, 3R, 4, 4X, 5 and Type 12 ratings. Seismic enhancements made to the UUTs & modifications required to address anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Rigid wall mounted

## Applicant Information

Applicant Company Name: Square D by Schneider Electric

Contact Person: Ralph Sanders

Mailing Address: 1010 Airpark Center Drive, Nashville, TN 37217

Telephone: 615-844-8426 Email: rd.sanders@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: Ralph Sanders Date: 07/26/2016

Title: Marketing Manager Company Name: Schneider Electric

## 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., 6th 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

## Testing Laboratory 2

Company Name: Applied Technical Services, Inc

Contact Name: David N. Common – Senior Test Engineer, Dynamics Testing

Mailing Address: 1049 Triad Court, Marietta, GA 30062

Telephone: 678-444-2905 Email: dcommon@atslab.com

## Testing Laboratory 3

Company Name: QualTech NP (formerly Trentec, Inc.)

Contact Name: Garry V. Chapman

Mailing Address: 4600 East Tech Drive, Cincinnati, OH 45245

Telephone: 513-528-7900 Email: _____

## 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) = See Certified Product Listing tables

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) = _____

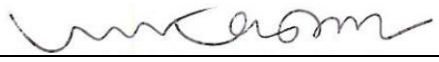
Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

## 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: 12/02/2016

Print Name: M. R. Karim Title: SHFR

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

Condition of Approval (if applicable): _____

# Certified Product Listing
## Panelboards

**Manufacturer:** Square D by Schneider Electric

**Product Category:** NEMA Panelboards – Low Voltage (600 Volts and Below)

**Product Line Models:** Square D NEMA Power Panelboards

**Product Options:** Panelboards are integrated, low voltage, power and control systems and may include Powerlink, PowerLogic, and other interior components (see Certified Major Sub-Component tables). Sheet metal framed enclosures come in NEMA Type 1, 1A, 2, 3R, 4, 4X, 5 and Type 12 ratings.

**Product Mounting:** Rigid Wall Mount

**Square D NEMA Power Panelboards[6]**

| Panelboard Type | Max Voltage Rating | Ampacity Rating (A) | Width[1] (in.) | Depth (in.) | Max Height[2] (in.) | Weight (lbs.) | NEMA Enclosure Type | Enclosure Material Type[3] | Test Status | Certification Level[4] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | z/h = 0 | | z/h = 1 | |
| | | | | | | | | | | $S_{DS}$ (g) | $F_p/W_p$ | $S_{DS}$ (g) | $F_p/W_p$ |
| CP | 48 V DC 600 V AC | 15–1200 | 26 | 9.5 | 86 | 388 | 1 | CS | Wyle 70891R13 UUT-3 | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | | | 625 | 1, 1A, 2 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | 10 | 92 | 645 | 3R / 5 / 12 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | 12 | 86 | 625 | 1, 1A, 2 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | 28 | 13.5 | 86 | 725 | 3R / 5 / 12 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | | | | 3R / 4 / 4X / 5 / 12 | SS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | 32 | 8 | 86 | 650 | 1, 1A, 2 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | 9.5 | 86 | 690 | 1, 1A, 2 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | 11 | 86 | 710 | 3R / 5 / 12 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | | | | 3R / 4 / 4X / 5 / 12 | SS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | 12 | 86 | 690 | 1, 1A, 2 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | | 91 | 710 | 3R / 5 / 12 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | 44 | 9.5 | 86 | 614 | 1 | CS | Wyle 70891R13 UUT-2 | 3.30 | 1.49 | 3.30 | 2.48 |
| | | | | | | 848 | 1, 1A, 2 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | 12 | 86 | 848 | 1, 1A, 2 | CS | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | 14.6 | 86 | 816 | 3R / 4 / 4X / 5 / 12 | SS | NTS PR047058-TR-16 UUT2 | 3.64 | 1.64 | 2.78 | 2.09 |
| | | | | | | 848 | 3R / 4 / 4X / 5 / 12 | SS | Extrapolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | | | | | 3R / 5 / 12 | CS | Extrapolated | 2.04 | 0.92 | 2.04 | 1.53 |
| QMB | 250 V DC 600 V AC | 15–1200 | 38 | 11.5 | 96 | 656 | 1 | CS | Trentec 0Q016.0, 0Q016-06-01-01 | 2.70 | 1.22 | 2.00 | 1.50 |
| | | | | | | 762 | 1, 1A, 2 | CS | Interpolated | 2.70 | 1.22 | 2.00 | 1.50 |
| | | | | 15 | 96 | 782 | 1 / 3R / 5 / 12 | CS | Interpolated | 2.70 | 1.22 | 2.00 | 1.50 |
| | | | | | | | 3R / 4 / 4X / 5 / 12 | SS | NTS PR047058-TR-16 UUT1 | 3.64 | 1.64 | 2.78 | 2.09 |

**Notes:**

1. Width does not include optional 14" enclosure side extensions.
2. Maximum height does not include optional 12" enclosure box extensions.
3. Enclosure types are constructed of either carbon steel (CS) sheet with UL-CSA listed acrylic/alkyd baked enamel finish or TGIC powder coat or stainless steel (SS) sheet.
4. 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.
5. "*" represents J, M, P, or R which corresponds to molded case circuit breaker frame size used in panelboard, see Certified Major Sub-Component Listing.
6. All Power Panelboards use the same family of enclosures.

# Certified Product Listing
## Panelboards

**Manufacturer:** Square D by Schneider Electric

**Product Category:** NEMA Panelboards – Low Voltage (600 Volts and Below)

**Product Line Models:** Square D NEMA Power Panelboards

**Product Options:** Panelboards are integrated, low voltage, power and control systems and may include Powerlink, PowerLogic, and other interior components (see Certified Major Sub-Component tables). Sheet metal framed enclosures come in NEMA Type 1, 1A, 2, 3R, 4, 4X, 5 and Type 12 ratings.

**Product Mounting:** Rigid Wall Mount

**Square D NEMA Power Panelboards (Cont.)[6]**

| Panelboard Type | Max Voltage Rating | Ampacity Rating (A) | Width[1] (in.) | Depth (in.) | Max Height[2] (in.) | Weight (lbs.) | NEMA Enclosure Type | Enclosure Material Type[3] | Test Status | Certification Level[4] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | z/h = 0 | | z/h = 1 | |
| | | | | | | | | | | $S_{DS}$ (g) | $F_p/W_p$ | $S_{DS}$ (g) | $F_p/W_p$ |
| HC*[5] | 250 V DC 600 V AC | 15–1200 | 26 | 9.5 | 86 | 625 | 1, 1A, 2 | CS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | 10 | 92 | 645 | 3R / 5 / 12 | CS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | 12 | 86 | 625 | 1, 1A, 2 | CS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | 28 | 13.5 | 86 | 725 | 3R / 5 / 12 | CS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | | | | 3R / 4 / 4X / 5 / 12 | SS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | 32 | 8 | 86 | 650 | 1, 1A, 2 | CS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | 9.5 | 86 | 690 | 1, 1A, 2 | CS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | 11 | 86 | 710 | 3R / 5 / 12 | CS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | | | | 3R / 4 / 4X / 5 / 12 | SS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | 12 | 86 | 690 | 1, 1A, 2 | CS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | | 91 | 710 | 3R / 5 / 12 | CS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | 42 | 9.5 | 98 | 528 | 1 | CS | NTS PR047058-TR-16 UUT 5 | 3.61 | 1.62 | 2.79 | 2.09 |
| | | | | | 86 | 848 | 1, 1A, 2 | CS | Interpolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | 12 | 86 | 848 | 1, 1A, 2 | CS | Interpolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | | | | 3R / 5 / 12 | CS | Interpolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | | | | 3R / 4 / 4X / 5 / 12 | SS | Interpolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | 13 | 86 | 848 | 3R / 5 / 12 | CS | Interpolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | 44 | 9.5 | 86 | 848 | 1 | CS | Wyle 58514R11-1 UUT-1 | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | | | | 1, 1A, 2 | CS | Interpolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | 12 | 86 | 848 | 1, 1A, 2 | CS | Interpolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | 14.6 | 86 | 816 | 3R / 4 / 4X / 5 / 12 | SS | NTS PR047058-TR-16 UUT2 | 3.64 | 1.64 | 2.78 | 2.09 |
| | | | | | | 848 | 3R / 5 / 12 | CS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | | | | | | | 3R / 4 / 4X / 5 / 12 | SS | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |

**Notes:**

1. Width does not include optional 14" enclosure side extensions.
2. Maximum height does not include optional 12" enclosure box extensions.
3. Enclosure types are constructed of either carbon steel (CS) sheet with UL-CSA listed acrylic/alkyd baked enamel finish or TGIC powder coat or stainless steel (SS) sheet.
4. 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.
5. "*" represents J, M, P, or R which corresponds to molded case circuit breaker frame size used in panelboard, see Certified Major Sub-Component Listing.
6. All Power Panelboards use the same family of enclosures.

# Certified Product Listing
## Panelboards

**Manufacturer:** Square D by Schneider Electric

**Product Category:** NEMA Panelboards – Low Voltage (600 Volts and Below)

**Product Line Models:** Square D NEMA Lighting Panelboards

**Product Options:** Panelboards are integrated, low voltage, power and control systems and may include Powerlink, PowerLogic, and other interior components (see Certified Major Sub-Component tables). Sheet metal framed enclosures come in NEMA Type 1, 1A, 2, 3R, 4, 4X, 5 and Type 12 ratings.

**Product Mounting:** Rigid Wall Mount

**Square D NEMA Lighting Panelboards[5]**

| Panelboard Type | Max Voltage Rating | Ampacity Rating (A) | Width[1] (in.) | Depth (in.) | Max Height[2] (in.) | Weight (lbs.) | NEMA Enclosure Type | Enclosure Material Type[3] | Test Status | Certification Level[4] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | z/h = 0 | | z/h = 1 | |
| | | | | | | | | | | $S_{DS}$ (g) | $F_p/W_p$ | $S_{DS}$ (g) | $F_p/W_p$ |
| NQ | 48 V DC 240 V AC | 10–225 | 8.5 | 5 | 62 | 90 | 1 | CS | NTS PR047058-TR-16 UUT3 | 3.61 | 1.62 | 2.79 | 2.09 |
| | | | 14 | 5.75 | 38 | 220 | 1, 1A, 2 | CS | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | 10–600 | 20 | 6 | 44 | 97 | 1 | CS | ATS D202932 UUT1 | 1.96 | 0.88 | 1.91 | 1.43 |
| | | | | 5.75 | 86 | 297 | 3R, 5, 12 | CS | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | | | 6.5 | | 258 | 3R / 4 / 4X / 5 / 12 | SS | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | | | 6 | | 297 | 3R, 5, 12 | CS | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | | | | | | 3R / 4 / 4X / 5 / 12 | SS | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | | | 8.75 | | 297 | 3R, 5, 12 | CS | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | | | 5.75 | 92 | 300 | 1, 1A, 2 | CS | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | | | 8.75 | | 300 | 1, 1A, 2 | CS | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | | 26 | 5.75 | 86 | 290 | 1, 1A, 2 | CS | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | | | 8.75 | 92 | 300 | 1, 1A, 2 | CS | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | | | 8.75 | 92 | 300 | 1 | CS | Trentec 2Q007.0, 2Q007-02-01-01 | 3.43 | 1.54 | 2.33 | 1.75 |
| NF | 600 V AC | 10–250 | 8.6 | 5.6 | 85 | 160 | 1 | CS | Extrapolated | 3.43 | 1.54 | 2.33 | 1.75 |
| | | 10–800 | 20 | 5.75 | 86 | 297 | 3R, 5, 12 | CS | Extrapolated | 3.43 | 1.54 | 2.33 | 1.75 |
| | | | | 6.5 | | 258 | 3R / 4 / 4X / 5 / 12 | SS | NTS PR047058-TR-16 UUT4 | 3.61 | 1.62 | 2.79 | 2.09 |
| | | | | 6 | | 297 | 3R, 5, 12 | CS | Interpolated | 3.43 | 1.54 | 2.33 | 1.75 |
| | | | | | | | 3R / 4 / 4X / 5 / 12 | SS | Interpolated | 3.43 | 1.54 | 2.33 | 1.75 |
| | | | | 8.75 | | 297 | 3R, 5, 12 | CS | Interpolated | 3.43 | 1.54 | 2.33 | 1.75 |
| | | | | 5.75 | 92 | 300 | 1, 1A, 2 | CS | Interpolated | 3.43 | 1.54 | 2.33 | 1.75 |
| | | | | 8.75 | | 300 | 1, 1A, 2 | CS | Interpolated | 3.43 | 1.54 | 2.33 | 1.75 |
| | | | 26 | 5.75 | 86 | 290 | 1, 1A, 2 | CS | Interpolated | 3.43 | 1.54 | 2.33 | 1.75 |
| | | | | 8.75 | 92 | 300 | 1, 1A, 2 | CS | Interpolated | 3.43 | 1.54 | 2.33 | 1.75 |
| | | | | 8.75 | 92 | 300 | 1 | CS | Trentec 2Q007.0, 2Q007-02-01-01 | 3.43 | 1.54 | 2.33 | 1.75 |

**Notes:**

1. Width does not include optional 14" enclosure side extensions.
2. Maximum height does not include optional 12" enclosure box extensions.
3. Enclosure types are constructed of either carbon steel (CS) sheet with UL-CSA listed acrylic/alkyd baked enamel finish or TGIC powder coat or stainless steel (SS) sheet.
4. 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.
5. All Lighting Panelboards use the same family of enclosures.

| Square D NEMA Panelboard Enclosure Extensions | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Option Type | Manufacturer | Panel Type | Description / Identifier | Test Status[1] | Certification Level[2] | | | |
| | | | | | Grade (z/h = 0) | | Roof (z/h = 1) | |
| | | | | | $S_{DS}$ (g) | $F_p/W_p$ | $S_{DS}$ (g) | $F_p/W_p$ |
| Top/Bottom Extension | Square D by Schneider Electric | Power / Lighting | Max 6" Top/ Bottom Mounted Enclosure Extension | Extrapolated | 3.61 | 1.62 | 2.79 | 2.09 |
| Top/Bottom Extension | Square D by Schneider Electric | Power | Max 9" Top/ Bottom Mounted Enclosure Extension | Extrapolated | 3.61 | 1.62 | 2.79 | 2.09 |
| Top/Bottom Extension | Square D by Schneider Electric | Power / Lighting | Max 12" Top/ Bottom Mounted Enclosure Extension | NTS PR047058-TR-16 UUT 5 | 3.61 | 1.62 | 2.79 | 2.09 |
| Side Gutter/Extension | Square D by Schneider Electric | Lighting | Max 12" Side Gutter Extension | Extrapolated | 3.27 | 1.47 | 2.17 | 1.63 |
| Side Gutter/Extension | Square D by Schneider Electric | Power | Max 14" Side Gutter Extension | Wyle 58514R11-1 UUT-1 | 3.27 | 1.47 | 2.17 | 1.63 |

**Notes:**

1. The sub-components listed here include part numbers which provided 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.

| Square D NEMA Panelboard Interiors | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sub-Component Type | Rated Voltage (V) | Rated Current (A) | Manufacturer | Part Number / Identifier | Test Status[1] | Certification Level[2] | | | |
| | | | | | | Grade (z/h = 0) | | Roof (z/h = 1) | |
| | | | | | | $S_{DS}$ (g) | $F_p/W_p$ | $S_{DS}$ (g) | $F_p/W_p$ |
| NQ Interior | NA | NA | Schneider Electric | NQ8442B2C | NTS PR047058-TR-16 UUT3 | 3.61 | 1.62 | 2.79 | 2.09 |
| | NA | NA | Schneider Electric | NA[3] | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | NA | NA | Schneider Electric | NQ430L2 | ATS D202932 UUT1 | 1.96 | 0.88 | 1.91 | 1.43 |
| NF Interior | NA | NA | Schneider Electric | NF466L2 | NTS PR047058-TR-16 UUT4 | 3.61 | 1.62 | 2.79 | 2.09 |
| | NA | NA | Schneider Electric | NA[3] | Interpolated | 3.43 | 1.54 | 2.33 | 1.75 |
| | NA | NA | Schneider Electric | NF442L8C | Trentec 2Q007.0, 2Q007-02-01-01 | 3.43 | 1.54 | 2.33 | 1.75 |
| CP Interior | NA | NA | Schneider Electric | CP1886N4F2 | Wyle 70891R13 UUT-3 | 2.04 | 0.92 | 2.04 | 1.53 |
| | NA | NA | Schneider Electric | NA[3] | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | NA | NA | Schneider Electric | CP32868N44F6C | Wyle 70891R13 UUT-2 | 3.30 | 1.49 | 3.30 | 2.48 |
| QMB Interior | NA | NA | Schneider Electric | 012788399-005-01 | Trentec 0Q016.0 0Q016-06-01-01 | 2.70 | 1.22 | 2.00 | 1.50 |
| | NA | NA | Schneider Electric | NA[3] | Interpolated | 2.70 | 1.22 | 2.00 | 1.50 |
| | NA | NA | Schneider Electric | 379257990010001 | NTS PR047058-TR-16 UUT1 | 3.64 | 1.64 | 2.78 | 2.09 |
| HC Interior | NA | NA | Schneider Electric | HCP20566 | NTS PR047058-TR-16 UUT 5 | 3.61 | 1.62 | 2.79 | 2.09 |
| | NA | NA | Schneider Electric | NA[3] | Interpolated | 3.27 | 1.47 | 2.17 | 1.63 |
| | NA | NA | Schneider Electric | HCRU548612U | Wyle 58514R11 UUT1 | 3.27 | 1.47 | 2.17 | 1.63 |

**Notes:**

1. The sub-components listed here include part numbers which provided 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. Panelboard interiors do not have a numbering system that corresponds to a unique configuration. They are custom generated at the time of customer ordering.

| Square D NEMA Panelboard Major Sub-Components | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sub-Component Type | Rated Voltage (V) | Rated Current (A) | Manufacturer | Part Number / Identifier | Test Status[1] | Certification Level[2] | | | |
| | | | | | | Grade (z/h = 0) | | Roof (z/h = 1) | |
| | | | | | | $S_{DS}$ (g) | $F_p/W_p$ | $S_{DS}$ (g) | $F_p/W_p$ |
| Molded Case Circuit Breaker / Switch | 120–240 | 15–100 | Schneider Electric | QOB320 | NTS PR047058-TR-16 UUT 3 | 3.61 | 1.62 | 2.79 | 2.09 |
| | 120–240 | 10–150 | Schneider Electric | QO* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 120–600 | 15–125 | Schneider Electric | E* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 208–600 | 15–100 | Schneider Electric | FA*, FH* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 208–600 | 15–125 | Schneider Electric | B* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 208–600 | 15–150 | Schneider Electric | H* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 208–600 | 70–250 | Schneider Electric | J* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 70–250 | 70–250 | Schneider Electric | Q* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 208–600 | 200–400 | Schneider Electric | LA*, LH* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 208–600 | 70–600 | Schneider Electric | L* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 208–600 | 300–800 | Schneider Electric | M* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 208–600 | 100–1200 | Schneider Electric | P* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 208–600 | 240–1200 | Schneider Electric | R* | Interpolated | 3.61 | 1.62 | 2.78 | 2.09 |
| | 208–600 | 240–1200 | Schneider Electric | RJA36120 | NTS PR047058-TR-16 UUT 2 | 3.64 | 1.64 | 2.78 | 2.09 |
| Plug on Lug Kits | 208–600 | 10–1200 | Schneider Electric | SL400 | Wyle 70891R13 UUT-3 | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | Schneider Electric | SL*, S33* | Interpolated | 2.04 | 0.92 | 2.04 | 1.53 |
| | | | Schneider Electric | S33930 | NTS PR047058-TR-16 UUT2 | 3.64 | 1.64 | 2.78 | 2.09 |
| Surge Protection Device (Lighting or Power)[3] | 480 | NA | Schneider Electric | HL4IMA12C1 | NTS PR047058-TR-16 UUT2 | 3.64 | 1.64 | 2.78 | 2.09 |
| | 120–600 | NA | Schneider Electric | *IMA* | Extrapolated | 3.64 | 1.64 | 2.78 | 2.09 |
| Surge Protection Device (Lighting)[4] | 120–240 | NA | Schneider Electric | SSP* | Interpolated | 1.96 | 0.88 | 1.91 | 1.43 |
| | | NA | Schneider Electric | SSP02BIA24PBQ1 | ATS D202932 UUT1 | 1.96 | 0.88 | 1.91 | 1.43 |
| Fusible Branch Switch | 600 | 30 | Schneider Electric | QMB361HW | NTS PR047058-TR-16 UUT 1 | 3.64 | 1.64 | 2.78 | 2.09 |
| | 240–600 | 30–800 | Schneider Electric | QM* | Interpolated | 3.64 | 1.64 | 2.78 | 2.09 |
| | 600 | 800 | Schneider Electric | QMB367W | NTS PR047058-TR-16 UUT 1 | 3.64 | 1.64 | 2.78 | 2.09 |

**Notes:**

1. The sub-components listed here include part numbers which provided 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. All Lighting and Power Surge Protection Devices are structurally identical, the only difference is rating and software.
4. All Lighting Surge Protection Devices are structurally identical, the only difference is rating and software.

| Square D NEMA Panelboard Major Sub-Components (Cont.) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sub-Component Type | Rated Voltage (V) | Rated Current (A) | Manufacturer | Part Number / Identifier | Test Status[1] | Certification Level[2] | | | |
| | | | | | | Grade (z/h = 0) | | Roof (z/h = 1) | |
| | | | | | | $S_{DS}$ (g) | $F_p/W_p$ | $S_{DS}$ (g) | $F_p/W_p$ |
| Lighting Contactor/Controls | 120–480 | 225 | Schneider Electric | PBW11BV28 | NTS PR047058-TR-16 UUT4 | 3.61 | 1.62 | 2.79 | 2.09 |
| | | 30–225 | Schneider Electric | PB* | Interpolated | 2.80 | 1.26 | 2.00 | 1.50 |
| | | 10–600 | Schneider Electric | NF* | Interpolated | 2.80 | 1.26 | 2.00 | 1.50 |
| | | 600 | Schneider Electric | NF3000G3 | Wyle 56963R09 UUT1 | 2.80 | 1.26 | 2.00 | 1.50 |
| AL Bus Bar Material | NA | NA | Schneider Electric | NA | NTS PR047058-TR-16 UUT4 | 3.61 | 1.62 | 2.79 | 2.09 |
| | NA | NA | Schneider Electric | NA | Interpolated | 3.61 | 1.62 | 2.79 | 2.09 |
| | NA | NA | Schneider Electric | NA | NTS PR047058-TR-16 UUT 5 | 3.61 | 1.62 | 2.79 | 2.09 |
| CU Bus Bar Material | NA | NA | Schneider Electric | NA | NTS PR047058-TR-16 UUT 1 | 3.64 | 1.64 | 2.78 | 2.09 |
| | NA | NA | Schneider Electric | NA | Interpolated | 3.64 | 1.64 | 2.78 | 2.09 |
| | NA | NA | Schneider Electric | NA | NTS PR047058-TR-16 UUT2 | 3.64 | 1.64 | 2.78 | 2.09 |

**Notes:**

1. The sub-components listed here include part numbers which provided 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
# Panelboard – NEMA Power

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboard – QMB Series | 379257990010001 |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| NTS Huntsville | PR047058-TR-16 | 07-06-2016 | 5 | UUT-1 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase 480Y/277 VAC 3P 4W 60 Hz 800A QMB panelboard with a bottom fed main fusible switch and distribution feeder switches packaged in a NEMA Type 3R/4/4x/5/12 SS enclosure, QM3896WPSSUL.
2. NEMA Type 3R/4/4x/5/12 enclosure is constructed of stainless steel sheet.
3. UUT full of contents during testing.

| 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** |
| 782 | 96 | 38 | 15 | N/A | N/A | N/A | Rigid wall mount | (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)** | **$z/h$** | **$I_p$** | **$A_{FLX\text{-}H}$ (g)** | **$A_{RIG\text{-}H}$ (g)** | **$A_{FLX\text{-}V}$ (g)** | **$A_{RIG\text{-}V}$ (g)** |
| CBC 2016 | ICC-ES AC156 | 2.78 | 1 | 1.5 | 4.45 | 3.34 | 1.86 | 0.75 |

**UUT Seismic Test Results**

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

**UUT Photograph**

| UUT Major Components | | |
|---|---|---|
| **Description** | **Manufacturer** | **Part No. / Identifier** |
| Enclosure – NEMA Type 4/4X, Stainless Steel | Square D | QM3896WPSSUL |
| Panelboard Interior,QMB 800A, 3-phase, CU bus | Square D | 379257990010001 |
| Switch, Fusible, QMB, 600V 800A, 3P | Square D | QMB367W |
| Switch, Fusible, QMB, 600V 400A, 3P | Square D | QMB365W |
| Switch, Fusible, QMB, 600V 100-60A, 3P, Twin | Square D | QMB363T32W |
| Switch, Fusible, QMB, 600V 200A, 3P | Square D | QMB364W |
| Switch, Fusible, QMB, 600V 30A, 3P | Square D | QMB361HW |
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# UUT Summary
# Panelboard – NEMA Power

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboard – I-Line Series | HCR548612U |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| NTS Huntsville | PR047058-TR-16 | 07-06-2016 | 5 | UUT-2 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase I-Line panelboard with a 1200A main breaker, with branch breakers packaged in a NEMA Type 3R/4/4x/5/12 enclosure.
2. NEMA Type 3R/4/4x/5/12 enclosure is constructed of Stainless Steel sheet.
3. UUT full of contents during testing.

**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 |
| 816 | 86 | 44 | 14.63 | N/A | N/A | N/A | Rigid wall mount | (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) | $z/h$ | $I_p$ | $A_{FLX\text{-}H}$ (g) | $A_{RIG\text{-}H}$ (g) | $A_{FLX\text{-}V}$ (g) | $A_{RIG\text{-}V}$ (g) |
|---|---|---|---|---|---|---|---|---|
| CBC 2016 | ICC-ES AC156 | 2.78 | 1 | 1.5 | 4.45 | 3.34 | 1.86 | 0.75 |

**UUT Seismic Test Results**

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

**UUT Photograph**

**UUT Major Components**

| Description | Manufacturer | Part No. / Identifier |
|---|---|---|
| Enclosure – NEMA Type 4/4X, Stainless Steel | Square D | HC4486WPSSUL |
| Panelboard Interior, I-LINE, 1200A, 3-phase, CU bus | Square D | HCR548612U |
| R frame breaker | Square D | RJA36120 |
| IMA surge protection device | Square D | HL4IMA12C1 |
| F frame breaker | Square D | FA36015 |
| Plug on Lug Kit | Square D | S33930 |
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# UUT Summary
# Panelboard – NEMA Lighting

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboard – NQ Series | NQ8442B2C |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| NTS Huntsville | PR047058-TR-16 | 07-06-2016 | 10 | UUT-3 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase NQ Column Width panelboard with an 225A main breaker, with branch breakers packaged in a NEMA Type 1 enclosure.
2. NEMA Type 1 enclosure is constructed of Carbon Steel sheet.
3. UUT full of contents during testing.

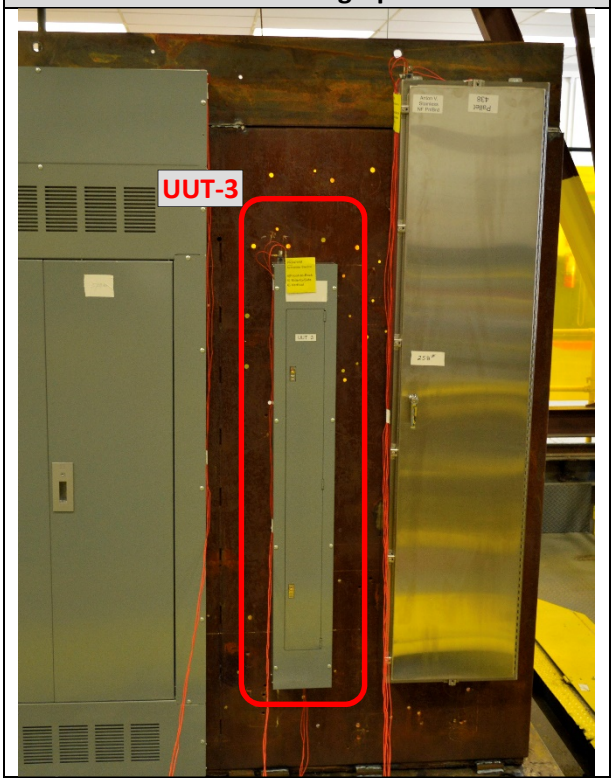
| UUT Properties (As Tested) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Weight (lbs.)** | **Dimensions (in.)** | | | **Lowest Natural Frequency (Hz)** | | | **Shake-Table Attachment** | |
| | **Height** | **Width** | **Depth** | **F-B** | **S-S** | **V** | **Type** | **Anchorage** |
| 90 | 62 | 8.6 | 5 | N/A | N/A | N/A | Rigid wall mount | (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*** | **$I_p$** | **$A_{FLX\text{-}H}$ (g)** | **$A_{RIG\text{-}H}$ (g)** | **$A_{FLX\text{-}V}$ (g)** | **$A_{RIG\text{-}V}$ (g)** |
| CBC 2016 | ICC-ES AC156 | 2.79 | 1 | 1.5 | 4.46 | 3.35 | 1.87 | 0.75 |

**UUT Seismic Test Results**

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

**UUT Photograph**




**UUT Major Components**

| Description | Manufacturer | Part No. / Identifier |
|---|---|---|
| Enclosure – NEMA Type 1, Carbon Steel | Square D | 8.5 x 5 x 62 |
| Panelboard Interior, NQ, 225A, 3-phase, 42 circuit, Column Width, CU bus | Square D | NQ8442B2C |
| Q frame Main Breaker | Square D | QBM32225TN |
| QO frame branch breakers | Square D | QOB320 |
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# UUT Summary
# Panelboard – NEMA Lighting

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboard – NF Series | 1237925823002001 |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| NTS Huntsville | PR047058-TR-16 | 07-06-2016 | 10 | UUT-4 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase NF panelboard with a lighting Contactor, with branch breakers packaged in a NEMA Type 3R/4/4x/5/12 enclosure.
2. NEMA Type 3R/4/4x/5/12 enclosure is constructed of Stainless Steel sheet.
3. UUT full of contents during testing.

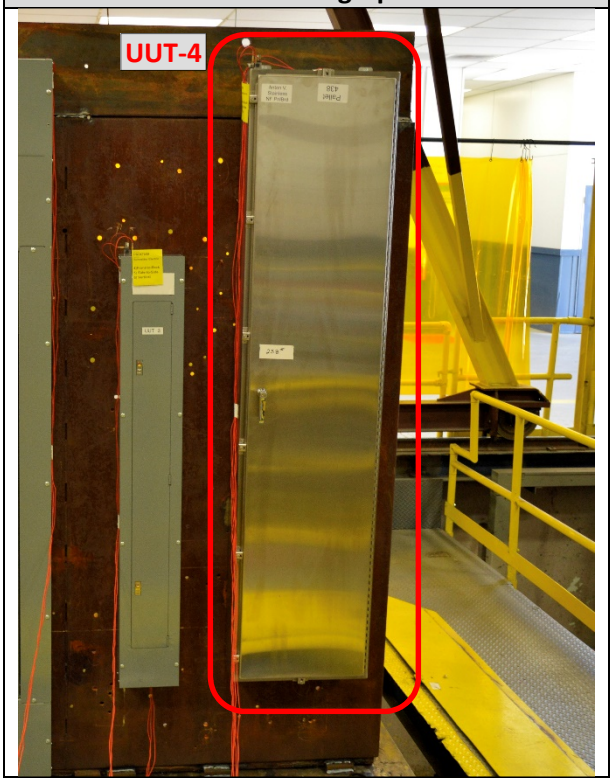
| UUT Properties (As Tested) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Weight (lbs.)** | **Dimensions (in.)** | | | **Lowest Natural Frequency (Hz)** | | | **Shake-Table Attachment** | |
| | **Height** | **Width** | **Depth** | **F-B** | **S-S** | **V** | **Type** | **Anchorage** |
| 258 | 86 | 20 | 6.5 | N/A | N/A | N/A | Rigid wall mount | (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)** | **$z/h$** | **$I_p$** | **$A_{FLX\text{-}H}$ (g)** | **$A_{RIG\text{-}H}$ (g)** | **$A_{FLX\text{-}V}$ (g)** | **$A_{RIG\text{-}V}$ (g)** |
| CBC 2016 | ICC-ES AC156 | 2.79 | 1 | 1.5 | 4.46 | 3.35 | 1.87 | 0.75 |

**UUT Seismic Test Results**

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

**UUT Photograph**




**UUT Major Components**

| Description | Manufacturer | Part No. / Identifier |
|---|---|---|
| Enclosure – NEMA Type 4/4X, Stainless Steel | Square D | MH86WPSSUL |
| Panelboard Interior, NF, 250A, 3-phase, 66 circuit chassis, With 6” rail exts. AL bus | Square D | NF466L2 |
| PB Lighting Contactor | Square D | PBW11BV28 |
| E frame breaker | Square D | EDB34020 |
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# UUT Summary
# Panelboard – NEMA Power

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboard – I-Line Series | HCP50864 |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| NTS Huntsville | PR047058-TR-16 | 07-06-2016 | 10 | UUT-5 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase I-LINE panelboard interior with P-frame, and FA-frame, molded case circuit breakers packaged into a NEMA Type 1 enclosure with a 12" box extension.
2. NEMA Type 1 enclosure is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents during testing.

| 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** |
| 528 | 98 | 42 | 9.5 | N/A | N/A | N/A | Rigid wall mount | (8) 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)** | **$z/h$** | **$I_p$** | **$A_{FLX\text{-}H}$ (g)** | **$A_{RIG\text{-}H}$ (g)** | **$A_{FLX\text{-}V}$ (g)** | **$A_{RIG\text{-}V}$ (g)** |
| CBC 2016 | ICC-ES AC156 | 2.79 | 1 | 1.5 | 4.46 | 3.35 | 1.87 | 0.75 |

**UUT Seismic Test Results**

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

**UUT Photograph**

| UUT Major Components | | |
|---|---|---|
| **Description** | **Manufacturer** | **Part No. / Identifier** |
| Enclosure – NEMA Type 1, Carbon Steel Sheet | Square D | 42W x 9.5D x 86H |
| Enclosure Top Extension | Square D | 42W x 9.5D x 12H |
| Panelboard Interior, I-LINE, 600A, 3-phase, AL bus | Square D | HCP50866 |
| Molded Case Circuit Breaker, P-frame, 600V 800A | Square D | PGA36080 |
| Molded Case Circuit Breaker, FA-frame, 240V 15A | Square D | FA36015 |
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# UUT Summary
# Panelboard – NEMA Power

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboard – I-Line Series | HCR548612U |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| Wyle Laboratories | 58514R11-1 | 05-26-2011 | 5 | UUT-1 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase I-Line panelboard with a 1200A main breaker, with branch breakers packaged in a NEMA Type 1 enclosure, with a 14" wide side extension.
2. NEMA Type 1 enclosure is constructed of carbon steel sheet with powder-coated finish.
3. UUT full of contents during testing.

**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 |
| 848 | 86 | 44 | 9.5 | N/A | N/A | N/A | Rigid wall mount | (8) 3/8-16 grade 5 bolts and flat washers at 30 ft-lbs torque on the main enclosure, with (8) additional identical bolts in the side extension. |

**UUT Seismic Test Parameters**

| Building Codes | Test Criteria | $S_{DS}$ (g) | z/h | $I_p$ | $A_{FLX\text{-}H}$ (g) | $A_{RIG\text{-}H}$ (g) | $A_{FLX\text{-}V}$ (g) | $A_{RIG\text{-}V}$ (g) |
|---|---|---|---|---|---|---|---|---|
| CBC 2016 | ICC-ES AC156 | 2.17 | 1 | 1.5 | 3.47 | 2.60 | 1.45 | 0.59 |

**UUT Seismic Test Results**

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

**UUT Photograph**

**UUT Major Components**

| Description | Manufacturer | Part No. / Identifier |
|---|---|---|
| Enclosure – NEMA Type 1, Carbon Steel Sheet | Square D | 44W x 9.5D x 86H |
| Enclosure Side Extension | Square D | 14W x 9.5D x 86H |
| Panelboard Interior, I-LINE, 1200A, 3-phase | Square D | HCRU548612U |
| Molded Case Circuit Breaker, R-frame, 600V 1200A | Square D | RJA36120 |
| Molded Case Circuit Breaker, J-frame, 600V 250A | Square D | JLA36250U54X |
| Molded Case Circuit Breaker, H-frame, 600V 150A | Square D | HJA26150 |
| Molded Case Circuit Breaker, L-frame, 600V 150A | Square D | LLA36600U54X |
| Molded Case Circuit Breaker, P-frame, 600V 800A | Square D | PJA36800 |
| Molded Case Circuit Breaker, H-frame, 600V 150A | Square D | HLA36150U54X |
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# UUT Summary
# Panelboard – NEMA Lighting

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboards – NF Series | P000697-002-M2 |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| Trentec, Inc. | 2Q007.0 | 04/26/2002 | 4 | 2Q007-02-01-01 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase, 800A MLO panelboard with dual sub-feed breakers packaged in a NEMA Type 1 enclosure.
2. NEMA Type 1 enclosure is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents during testing.

**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 |
| 300 | 92 | 26 | 8.75 | N/A | N/A | N/A | Rigid wall mount | (4)- ½ grade 2 bolts and flat washers at 56 ft-lb 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 | 2.33 | 1 | 1.5 | 3.73 | 2.80 | 1.56 | 0.63 |

**UUT Seismic Test Results**

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

**UUT Photograph**

**UUT Major Components**

| Description | Manufacturer | Part No. / Identifier |
|---|---|---|
| Enclosure – NEMA Type 1, Carbon Steel Sheet | Square D | 92H x 26W x 8.75D |
| Panelboard Interior, NF, 800A, 3-phase, 42 Circuit | Square D | NF442L8C, (Factory Assembled Only) |
| Miniature Circuit Breaker, E-frame, 480Y/277V 100A | Square D | EDB34100 |
| Miniature Circuit Breaker, E-frame, 277V 20A | Square D | EDB14020 |
| Molded Case Circuit Breaker, L-frame, 600V 400A | Square D | LAL36400 |
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# UUT Summary
## Panelboard I-Line

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboards – QMB Series | 012788399-005-01 |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| Trentec, Inc. | 0Q016.0 | 11/02/2000 | 6 | 0Q016-06-01-01 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase 480Y/277 VAC 3P 4W 60 Hz 800A QMB panelboard with a bottom fed main fusible switch and distribution feeder switches packaged in a NEMA Type 1 enclosure.
2. NEMA Type 1 enclosure is constructed of carbon steel sheet with powder-coated finish.
3. UUT full of contents during testing.

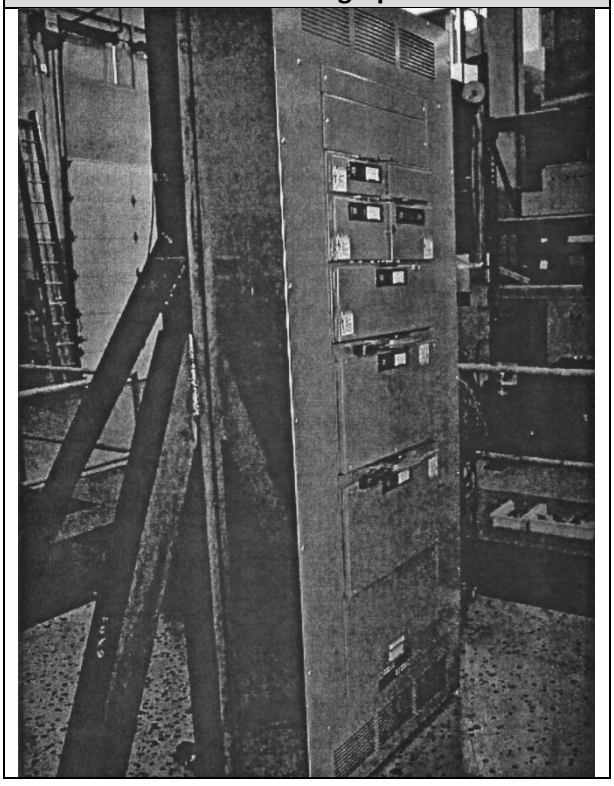
| UUT Properties (As Tested) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Weight (lbs.)** | **Dimensions (in.)** | | | **Lowest Natural Frequency (Hz)** | | | **Shake-Table Attachment** | |
| | **Height** | **Width** | **Depth** | **F-B** | **S-S** | **V** | **Type** | **Anchorage** |
| 656 | 96 | 38 | 11.5 | N/A | N/A | N/A | Rigid wall mounted | (6) 3/8-16 grade 2 bolts and flat washers at 260 in-lb torque. |

| UUT Seismic Test Parameters | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Building Codes** | **Test Criteria** | **$S_{DS}$ (g)** | **$z/h$** | **$I_p$** | **$A_{FLX\text{-}H}$ (g)** | **$A_{RIG\text{-}H}$ (g)** | **$A_{FLX\text{-}V}$ (g)** | **$A_{RIG\text{-}V}$ (g)** |
| CBC 2016 | ICC-ES AC156 | 2.00 | 1 | 1.5 | 3.20 | 2.40 | 1.34 | 0.53 |

**UUT Seismic Test Results**

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

**UUT Photograph**



| UUT Major Components | | |
|---|---|---|
| **Description** | **Manufacturer** | **Part No. / Identifier** |
| Enclosure – NEMA Type 1, Carbon Steel Sheet | Square D | 96H x 38W x 11.5D |
| Panelboard Interior,QMB 800A, 3-phase, CU bus | Square D | 012788399-005-01 |
| Switch, Fusible, QMB, 600V 800A, 3P | Square D | QMB367W |
| Switch, Fusible, QMB, 600V 400A, 3P | Square D | QMB365W |
| Switch, Fusible, QMB, 600V 100-60A, 3P, Twin | Square D | QMB363T32W |
| Switch, Fusible, QMB, 600V 200A, 3P | Square D | QMB364W |
| Switch, Fusible, QMB, 600V 30A, 3P | Square D | QMB361HW |
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# UUT Summary
## Panelboard I-Line

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboard – I-Line CP Series | CP32868N44F6C |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| Wyle Laboratories | 70891R13 | 05/28/2013 | 4 | UUT-2 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase I-Line CP panelboard with a 1200A main breaker, with branch breakers packaged in a NEMA Type 1 enclosure.
2. NEMA Type 1 enclosure is constructed of carbon steel sheet with powder-coated finish.
3. UUT full of contents during testing.

| 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** |
| 614 | 86 | 44 | 9.5 | N/A | N/A | N/A | Rigid wall mounted | (8) 3/8-16 grade 5 bolts and Belleville washers at 30 ft-lbs torque. |

| UUT Seismic Test Parameters | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Building Codes** | **Test Criteria** | **$S_{DS}$ (g)** | **$z/h$** | **$I_p$** | **$A_{FLX\text{-}H}$ (g)** | **$A_{RIG\text{-}H}$ (g)** | **$A_{FLX\text{-}V}$ (g)** | **$A_{RIG\text{-}V}$ (g)** |
| CBC 2016 | ICC-ES AC156 | 3.30 | 1 | 1.5 | 5.28 | 3.96 | 2.21 | 0.88 |

**UUT Seismic Test Results**

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

**UUT Photograph**

**UUT Major Components**

| Description | Manufacturer | Part No. / Identifier |
|---|---|---|
| Enclosure – NEMA Type 1, Carbon Steel Sheet | Square D | HC4486DB |
| Panelboard Interior, I-LINE CP, 1200A, 3-phase, CU bus | Square D | CP32868N44F6C |
| Molded Case Circuit Breaker, EDB-frame, 480V 20A | Square D | EDB34020 |
| Molded Case Circuit Breaker, FA-frame, 600V 20A | Square D | FA34020 |
| Molded Case Circuit Breaker, P-frame, 480V 1200A | Square D | PLA34120U31A |
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# UUT Summary
# Panelboard – NEMA Power

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboard – I-Line CP Series | CP18864N4F2 |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| Wyle Laboratories | 70891R13 | 05-28-2013 | 4 | UUT-3 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase I-Line CP panelboard with a 400A main breaker, with branch breakers packaged in a NEMA Type 1 enclosure.
2. NEMA Type 1 enclosure is constructed of carbon steel sheet with powder-coated finish.
3. UUT full of contents during testing.

**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 |
| 388 | 86 | 26 | 9.5 | N/A | N/A | N/A | Rigid wall mount | (8) 3/8-16 grade 5 bolts and Belleville conical washers at 30 ft-lbs torque. |

**UUT Seismic Test Parameters**

| Building Codes | Test Criteria | $S_{DS}$ (g) | $z/h$ | $I_p$ | $A_{FLX\text{-}H}$ (g) | $A_{RIG\text{-}H}$ (g) | $A_{FLX\text{-}V}$ (g) | $A_{RIG\text{-}V}$ (g) |
|---|---|---|---|---|---|---|---|---|
| CBC 2016 | ICC-ES AC156 | 2.04 | 1 | 1.5 | 3.26 | 2.45 | 1.37 | 0.55 |

**UUT Seismic Test Results**

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

**UUT Photograph**

**UUT Major Components**

| Description | Manufacturer | Part No. / Identifier |
|---|---|---|
| Enclosure – NEMA Type 1, Carbon Steel Sheet | Square D | HC2686DB |
| Panelboard Interior, I-LINE CP, 400A, 3-phase | Square D | CP18864N4F2 |
| Molded Case Circuit Breaker, EDB-frame, 480V 20A | Square D | EDB34020 |
| Molded Case Circuit Breaker, FA-frame, 600V 20A | Square D | FA34020 |
| I-Line Plug on Subfeed Lug Kit, 600V 400A | Square D | SL400 |
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# UUT Summary
# Panelboard – NEMA Lighting

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboard – NQ Series | 12335800420030000 |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| Applied Technical Services, Inc. | D202932 Rev 1 | 08/12/2013 | 1 | UUT-1 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase NQ panelboard with a J-frame main breaker, QO branch breakers and a Surge Protection Device (SPD) packaged in a NEMA Type 1 enclosure.
2. NEMA Type 1 enclosure is constructed of Carbon Steel sheet.
3. UUT full of contents during testing.

| 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** |
| 97 | 44 | 20 | 6 | N/A | N/A | N/A | Rigid wall mount | (4) 3/8-16 grade 5 bolts and flat washers at 30 ft-lbs torque. |

| UUT Seismic Test Parameters | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Building Codes** | **Test Criteria** | **$S_{DS}$ (g)** | ***z/h*** | **$I_p$** | **$A_{FLX\text{-}H}$ (g)** | **$A_{RIG\text{-}H}$ (g)** | **$A_{FLX\text{-}V}$ (g)** | **$A_{RIG\text{-}V}$ (g)** |
| CBC 2016 | ICC-ES AC156 | 1.91 | 1 | 1.5 | 3.06 | 2.29 | 1.28 | 0.52 |

**UUT Seismic Test Results**

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

**UUT Photograph**

| UUT Major Components | | |
|---|---|---|
| **Description** | **Manufacturer** | **Part No. / Identifier** |
| Enclosure – NEMA Type 1, Carbon Steel Sheet | Square D | 20W x 6D x 44H |
| Panelboard Interior, NQ, 225A, 3-phase, 30 Circuit | Square D | NQ430L2 |
| Molded Case Circuit Breaker, PowerPact J-Frame, 600V 250A | Square D | JGP36250U31X |
| Miniature Circuit Breaker, Q-frame, 240V 30A | Square D | QOB330 |
| Miniature Circuit Breaker, Q-frame, 120V 30A | Square D | QOB130 |
| SurgeLogic Surge Protection Device | Square D | SSP02BIA24PBQ1 |
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# UUT Summary
# Panelboard – NEMA Lighting

| UUT Product Information | | | |
|---|---|---|---|
| **Manufacturer** | **Product Category** | **Product Line Model** | **Identification Number** |
| Square D by Schneider Electric | Panelboards – Low Voltage | Panelboards – NF Series | NF454L2CCL |

| UUT Test Report Association | | | | |
|---|---|---|---|---|
| **Test Lab** | **Report No.** | **Report Date** | **Test Run No.** | **UUT Designation** |
| Wyle Laboratories | 56963R09 | 08-04-2009 | 6 | UUT-1 |

**UUT Notes / Description**

1. The UUT is a low voltage, three phase 480Y/277 VAC 3P 4W 60 Hz 250A NF Main Lug, CU, panelboard with a bottom fed main lugs and distribution feeder breakers with powerlink lighting controls packaged in a NEMA Type 1 enclosure.
2. NEMA Type 1 enclosure is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents during testing.

**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 |
| 140 | 50 | 20 | 6 | N/A | N/A | N/A | Rigid wall mount | (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) | $z/h$ | $I_p$ | $A_{FLX\text{-}H}$ (g) | $A_{RIG\text{-}H}$ (g) | $A_{FLX\text{-}V}$ (g) | $A_{RIG\text{-}V}$ (g) |
|---|---|---|---|---|---|---|---|---|
| CBC 2016 | ICC-ES AC156 | 2.00 | 1 | 1.5 | 3.20 | 2.40 | 1.34 | 0.54 |

**UUT Seismic Test Results**

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

**UUT Photograph**

**UUT Major Components**

| Description | Manufacturer | Part No. / Identifier |
|---|---|---|
| Enclosure – NEMA Type 1, Carbon Steel Sheet | Square D | MH50 |
| Panelboard Interior, NF, 400A, 3-phase, 54 Circuit | Square D | NF454L2CCL |
| Miniature Circuit Breaker, E-frame, 480Y/277V 20A | Square D | ECB14020G3 |
| Powerlink Controller | Square D | NF3000G3 |
| Powerlink Control Bus left | Square D | NF21SBLG3 |
| Powerlink Control Bus right | Square D | NF21SBRG3 |
| Powerlink Power Supply | Square D | NF120PSG3 |
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