



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

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

OFFICE USE ONLY

APPLICATION #: **OSP – 0145 – 10**

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Schneider Electric IT Division

Manufacturer's Technical Representative: Jose Muniz

Mailing Address: Via de la Innovacion #408, Parque PIIT Apodaca, NL. CP 66628 Mexico

Telephone: +52 81 4739 2000 x82869 Email: Jose.Muniz@schneider-electric.com

Product Information

Product Name: Symmetra MW

Product Type: Uninterrupted Power Supply (UPS)

Product Model Number: See Certified Product Table attached

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

General Description: Symmetra MW UPS units consist of inverter (power) sections, control sections, input/output sections, and external bypass static switch sections. 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 floor mounted

Applicant Information


Applicant Company Name: Schneider Electric IT Division

Contact Person: Jose Muniz

Mailing Address: Via de la Innovacion #408, Parque PIIT Apodaca, NL. CP 66628 Mexico

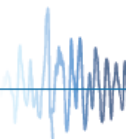
Telephone: +52 81 4739 2000 x82869 Email: Jose.Muniz@schneider-electric.com

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: 11/15/2016

Title: Regulatory Compliance Engineer Company Name: Schneider Electric IT Division

"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., 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): _____

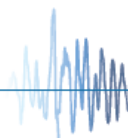
Testing Laboratory

Company Name: Wyle Laboratories

Contact Name: Rod Thornberry

Mailing Address: 7800 Hwy 20, Huntsville AL 35806

Telephone: (256) 837-4411 Email: _____





**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) = 0.92

S_{DS} (Design spectral response acceleration at short period, g) = 1.22

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

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

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

Overall dimensions and weight (or range thereof) = See attachment, Certified Products Table

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) = _____

Ω_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

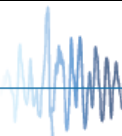
Signature:  Date: 2/8/2017

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = 1.22 z/h = 1.0

Condition of Approval (if applicable): _____

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



**Schneider Electric IT Division - Symmetra MW
I. Certified Product Table**

| Symmetra MW System Units | Width | Depth | Height | Max. Weight | Model No. | Testing Status |
|----------------------------------|-------|-------|--------|-------------|--------------|----------------|
| Inverter Sections | | | | | | |
| 400 kW Inverter | 33 in | 42 in | 80 in | 3,961 lbs | SYMF400KG | 58470R11 UUT-4 |
| 600 kW Inverter | 33 in | 42 in | 80 in | 5,342 lbs | OG-1025 | Interpolated |
| 800 kW Inverter | 67 in | 42 in | 80 in | 6,405 lbs | OG-4019 | Interpolated |
| 1000 kW Inverter | 83 in | 42 in | 80 in | 8,115 lbs | OG-4002 | 58470R11 UUT-3 |
| Input/Output Section | | | | | | |
| 400 kW I/O | 33 in | 42 in | 80 in | 611 lbs | SYMF400KG | 58470R11 UUT-4 |
| 600 kW I/O | 33 in | 42 in | 80 in | 733 lbs | OG-1024 | Interpolated |
| 800 kW I/O | 40 in | 42 in | 80 in | 1,300 lbs | OG-4020 | 57883R10 UUT-2 |
| 1000 kW I/O | 40 in | 42 in | 80 in | 2,650 lbs | OG-4000 | Interpolated |
| 1600 kW I/O-SSW | 83 in | 42 in | 80 in | 3,270 lbs | OG-1055 | 58470R11 UUT-2 |
| Controller Section | | | | | | |
| 400 kW Controller w/Internal SBS | 17 in | 42 in | 80 in | 778 lbs | SYMF400KG | 58470R11 UUT-4 |
| 600 kW Controller w/Internal SBS | 17 in | 42 in | 80 in | 932 lbs | OG-1024 | Interpolated |
| 800 kW Controller | 40 in | 42 in | 80 in | 1,350 lbs | OG-4027 | 57883R10 UUT-2 |
| 1000 kW Controller | 40 in | 42 in | 80 in | 1,350 lbs | OG-4001 | Interpolated |
| External Bypass Switch | | | | | | |
| 1000 kW External Bypass Switch | 40 in | 42 in | 80 in | 1,100 lbs | SYSSWT1000KG | 57883R10 UUT-3 |
| 2 MW External Bypass Switch | 40 in | 42 in | 80 in | 1,399 lbs | SYSSWT2000KG | Interpolated |
| 3MW/4 MW External Bypass Switch | 83 in | 42 in | 80 in | 2,955 lbs | SYSSWT4000KG | 58470R11 UUT-1 |

| Symmetra MW System Components | Width | Depth | Height | Weight | Component No. | Testing Status |
|--------------------------------|---------|----------|----------|------------|---------------|-----------------------------------|
| 66.6 kW Power Module | 43.7 in | 29.92 in | 14.57 in | 143.3 lbs | 0M-4104 | 58470R11 UUT-3, 58470R11 UUT-4 |
| Symmetra MW assy mains SSW NAM | 43.7 in | 29.92 in | 14.57 in | 134.66 lbs | 0N-0143 | 58470R11 UUT-4 |
| Internal Static Bypass Switch | 43.7 in | 29.9 in | 43.7 in | 433.0 lbs | OG-9343 | 58470R11 UUT-4 |

Notes:

- 1 All unit enclosures are constructed out of 0.0787" Cold rolled carbon steel.
- 2 All units are floor mounted.

Schneider Electric IT Division - Symmetra MW

II. Certified Subcomponent Table

| Internal Components | Manufacturer | Component No. | Testing Status |
|--|-------------------------|----------------|--|
| Controller box | Schneider Electric | 0M-4250 | 58470R11 UUT-1 57883R10 UUT-3 |
| SCR Unit 3160A/ 1600V | Eupec Inc. | 320-0035 | 58470R11 UUT-1, UUT-2 |
| SCR Unit 3160A/ 1600V | Eupec Inc. | 320-0035-Z-001 | Interpolated |
| SCR module 1 X 800A 1600V | Eupec Inc. | 320-0055 | 58470R11 UUT-4 |
| SCR Unit 2 X 1500A/ 1600V | Eupec Inc. | 320-0036 | 57883R10 UUT-2 |
| SCR Unit 2 X 1500A/ 1600V Style "B" | Eupec Inc. | 320-0037 | 57883R10 UUT-3 |
| Rectifiers 1240A | Eupec Inc. | 340-8000A | 57883R10 UUT-2 |
| Rectifiers 924A | Eupec Inc. | 340-8001 | 58470R11 UUT-2 |
| IC current sensor 1000A 5000:1 | ABB | 360-1000 | 58470R11 UUT-4 |
| Current transformer,windings copper | ABB | 360-2000 | 58470R11 UUT-2 57833R10 UUT-2 |
| Current transformer,windings copper | Salzer Electronics LTD. | 460-4002 | 58470R11 UUT-1, UUT-2 |
| Current transformer 2000 Turns, windings: copper | Salzer Electronics LTD. | 460-2005 | 58470R11 UUT-4 57833R10 UUT-2, UUT-3 |
| Choke BV neutral bonding, windings: copper | Dantrafo Horsens | 420-0096A | 58470R11 UUT-2, UUT-4 57833R10 UUT-2 |
| Choke Differential 200KVA/312A RMS, windings: copper | Dantrafo Horsens | 420-0463 | 58470R11 UUT-3, UUT-4 |
| Choke DC 600V/ 700UH, windings: copper | Dantrafo Horsens A/S | 420-0465 | 58470R11 UUT-2 57833R10 UUT-2 |
| Transformer 50.5KVA, windings: copper | Romarsh Limited | 430-0088b | 58470R11 UUT-3, UUT-4 |
| Transformer 480/230/220V 50/60Hz 250VA, windings: copper | Dantrafo Horsens A/S | 430-4110 | 58470R11 UUT-1, UUT-2 57833R10 UUT-2, UUT-3 |
| Contacto 480V 60Hz 250A | ABB | 451-0071 | 58470R11 UUT-2, UUT-3, UUT-4 57833R10 UUT-2 |
| Contacto 480V 60Hz 350A | ABB | 451-0072 | 58470R11 UUT-3, UUT-4 |
| Fan 277V 60Hz ø155mm x 55mm, windings: copper | EBM | 490-0039 | 58470R11 UUT-3, UUT-4 57833R10 UUT-2 |
| Fan 277V 60Hz ø155mm x 55mm, windings: copper | EBM | 490-0039-001 | Interpolated |
| Fan 200mm 230V 1000m ³ /h Hall: 680mm, windings: copper | EBM | 490-0041 | 58470R11 UUT-1, UUT-2 57883R10 UUT-3 |
| Fuse Class L 900A/ 600V | Ferraz-Shawmut | 515-0090 | 58470R11 UUT-4 |
| Fuse Class L 1200A/600V | Ferraz-Shawmut | 515-4170 | 57883R10 UUT-2 |
| Fuse Class L 2500A/600V | Ferraz-Shawmut | 515-2501 | 58470R11 UUT-2 |
| Fuse Fast 1100A/ 660V US Style | Bussmann | 515-0085 | 58470R11 UUT-4 |
| Fuse Fast 400A/ 660V | Bussmann | 515-1400 | 58470R11 UUT-3, UUT-4 |
| Fuse Fast 1500A/ 600V | Bussmann | 515-4168 | 57883R10 UUT-2 |
| Fuse Fast 1800A/ 600V | Bussmann | 515-1801 | 57883R10 UUT-3 |
| Fuse Fast 3000A/ 500V | Bussmann | 515-3000 | 58470R11 UUT-2 |
| Fuse Fast 3500A/ 690V | Bussmann | 515-3500 | 58470R11 UUT-1 |
| Connector Power 400A UL | Holec Laagspanning B.V. | 715-0400 | 58470R11 UUT-3, UUT-4 |

Schneider Electric IT Division - Symmetra MW
II. Certified Subcomponent Table

| Internal Components | Manufacturer | Component No. | Testing Status |
|---------------------|--------------------|---------------|--|
| GUI | Schneider Electric | AP9235 | 58470R11 UUT-1, UUT-2 57833R10 UUT-2, UUT-3 |
| | | 0N-9585MW | Extrapolated ¹ |
| Copper bus bars | Schneider Electric | 0H-0001E | 58470R11 UUT-2 57833R10 UUT-2 |
| | | 0H-0002B | 57833R10 UUT-2 |
| | | 0H-0003A | 58470R11 UUT-2, UUT-3, UUT-4 57833R10 UUT-2 |
| | | 0H-0004E | 58470R11 UUT-1 57833R10 UUT-3 |
| | | 0H-0006A | 58470R11 UUT-3 57833R10 UUT-2 |
| | | 0H-0007A | 58470R11 UUT-3 57833R10 UUT-2 |
| | | 0H-0008E | 58470R11 UUT-3 57833R10 UUT-2 |
| | | 0H-0009B | 58470R11 UUT-3 |
| | | 0H-0011D | 58470R11 UUT-3 57833R10 UUT-2 |
| | | 0H-0012D | 58470R11 UUT-3 |
| | | 0H-0014D | 58470R11 UUT-3 57833R10 UUT-2 |
| | | 0H-0015C | 58470R11 UUT-3 57833R10 UUT-2 |
| | | 0H-0022D | Interpolated |
| | | 0H-0025 | 58470R11 UUT-4 |
| | | 0H-0027C | 58470R11 UUT-4 |
| | | 0H-0028F | Interpolated |
| | | 0H-0031E | 58470R11 UUT-4 |
| | | 0H-0032A | 58470R11 UUT-1 57833R10 UUT-3 |
| | | 0H-0033E | 58470R11 UUT-2 |
| | | 0H-0034B | 58470R11 UUT-2 |
| 0H-0044 | 58470R11 UUT-2 | | |

Notes: 1. GUI are all structurally identical, the only difference is software.

OSP APPLICATION
Schneider Electric IT Division – Symmetra MW
III. UUT Summary Sheets

Date: 11/15/2016

Test Report 58470R11 – UUT 1

Symmetra MW 4MW External Static Bypass Switch
0.0787" Cold Rolled Carbon Steel
83"W x 42"D x 80"H, 2,955 lbs
Floor mounted using: (16) -1/2"-13 Grade 5 bolts



| System Unit | Width | Depth | Height | Weight | Material | Component No. |
|-----------------------------------|-------|-------|--------|-----------|-------------|---------------|
| 4MW External Bypass Static Switch | 83" | 42" | 80" | 2,955 lbs | 0.0787" CRS | SYSSWT4000KG |

CRS=Cold Rolled Carbon Steel

| Building Code | Test Criteria | S _{DS} (g) | z/h | I _p | Horizontal | | Vertical | |
|--------------------------|------------------|---------------------|--|----------------|------------------------|------------------------|------------------------|------------------------|
| | | | | | A _{FLX-H} (g) | A _{RIG-H} (g) | A _{FLX-V} (g) | A _{RIG-V} (g) |
| CBC 2016 | ICC-ES AC 156 | 1.22 | 1.0 | 1.5 | 1.95 | 1.46 | 0.82 | 0.33 |
| Natural Frequencies (Hz) | | | Test Results | | | | | |
| F-B | S-S | V | The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing. | | | | | |
| 9.1 | 8.9 | >33.3 | | | | | | |

| Subcomponents | Manufacturer | Part # |
|--|-------------------------|----------|
| SCR Unit 3160A/ 1600V (total 12) | Eupec Inc. | 320-0035 |
| Fuse Fast 3500A/690V | Bussmann | 515-3500 |
| Current transformer (total 6) Windings: copper | Salzer Electronics LTD. | 460-4002 |
| Transformer 480/230/220V 50/60Hz 250VA, windings: copper | Dantrafo Horsens A/S | 430-4110 |
| Fan 200mm 230V 1000m ³ /h Hall: 680mm (total 6, windings: copper) | EBM | 490-0041 |
| Controller box | Schneider Electric | 0M-4250 |
| GUI | Schneider Electric | AP9235 |
| Copper Bus bars | Schneider Electric | 0H-0004E |
| | | 0H-0032A |

OSP APPLICATION
Schneider Electric IT Division – Symmetra MW
III. UUT Summary Sheets

Date: 11/15/2016

Test Report 58470R11 – UUT 2

Symmetra MW 1600KW I/O-SSW
0.0787" Cold Rolled Carbon Steel
83"W x 42"D x 80"H, 3,270 lbs
Floor mounted using: (16) -1/2"-13 Grade 5 bolts



| System Unit | Width | Depth | Height | Weight | Material | Component No. |
|----------------|-------|-------|--------|-----------|-------------|-------------------------|
| 1600kW I/O-SSW | 83" | 42" | 80" | 3,270 lbs | 0.0787" CRS | SYMF1600KG (0G-1055) |

CRS=Cold Rolled Carbon Steel

| Building Code | Test Criteria | S _{DS} (g) | z/h | I _p | Horizontal | | Vertical | |
|--------------------------|------------------|---------------------|--|----------------|------------------------|------------------------|------------------------|------------------------|
| | | | | | A _{FLX-H} (g) | A _{RIG-H} (g) | A _{FLX-V} (g) | A _{RIG-V} (g) |
| CBC 2016 | ICC-ES AC 156 | 1.23 | 1.0 | 1.5 | 1.97 | 1.48 | 0.82 | 0.33 |
| Natural Frequencies (Hz) | | | Test Results | | | | | |
| F-B | S-S | V | The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing. | | | | | |
| 5.6 | 7.7 | >33.3 | | | | | | |

| Subcomponents | Manufacturer | Part # |
|---|-------------------------|-----------|
| Choke BV Neutral bonding, windings: copper | Dantrafo Horsens | 420-0096A |
| Choke DC 600V/ 700UH (4 total), windings: copper | Dantrafo Horsens A/S | 420-0465 |
| Current transformer, windings: copper | ABB | 360-2000 |
| Current transformer (6 total) Windings: copper | Salzer Electronics LTD. | 460-4002 |
| Contactora 480V 60Hz 250A | ABB | 451-0071 |
| SCR Unit 3160A/ 1600V | Eupec INC | 320-0035 |
| Fuse Class L 2500A/600V (3 total) | Ferraz-Shawmut | 515-2501 |
| Fuse Fast 3000A/500V | Bussmann | 515-3000 |
| Fan 200mm 230V 1000m3/h Hall: 680mm, windings: copper | EBM | 490-0041 |
| Transformer480/230/220V 50/60Hz 250VA, windings: copper | Dantrafo Horsens A/S | 430-4110 |
| GUI | Schneider Electric | AP9235 |
| Rectifiers 924A | Eupec Inc. | 340-8001 |
| Copper Bus bars | Schneider Electric | 0H-0034B |
| | | 0H-0033E |
| | | 0H-0044 |
| | | 0H-0003A |
| | | 0H-0001E |

OSP APPLICATION
Schneider Electric IT Division – Symmetra MW
III. UUT Summary Sheets

Date: 11/15/2016

Test Report 58470R11 – UUT 3

Symmetra MW 1000kW Inverter
0.0787" Cold Rolled Carbon Steel
83"W x 42"D x 80"H, 8,115 lbs
Floor mounted using: (16) -1/2"-13 Grade 5 bolts



| System Unit | Width | Depth | Height | Weight | Material | Component No. |
|-----------------|-------|-------|--------|-----------|-------------|----------------------|
| 1000kW Inverter | 83" | 42" | 80" | 8,115 lbs | 0.0787" CRS | SYMF1000KG (0G-4002) |

CRS=Cold Rolled Carbon Steel

| Building Code | Test Criteria | S _{DS} (g) | z/h | I _p | Horizontal | | Vertical | |
|--------------------------|------------------|---------------------|--|----------------|------------------------|------------------------|------------------------|------------------------|
| | | | | | A _{FLX-H} (g) | A _{RIG-H} (g) | A _{FLX-V} (g) | A _{RIG-V} (g) |
| CBC 2016 | ICC-ES AC 156 | 1.27 | 1.0 | 1.5 | 2.03 | 1.52 | 0.85 | 0.34 |
| Natural Frequencies (Hz) | | | Test Results | | | | | |
| F-B | S-S | V | The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing. | | | | | |
| 9.8 | 4.3 | >33.3 | | | | | | |

| Subcomponents | Manufacturer | Part # |
|---|-------------------------|-----------|
| 66.6 kW Power Module | Schneider Electric | OM-4104 |
| Connector Power 400A UL (60 total) | Holec Laagspanning B.V. | 715-0400 |
| Choke Differential (15 total) 200KVA/312A RMS, windings: copper | Dantrafo Horsens | 420-0463 |
| Transformer 50.5KVA (5 total), windings: copper | Romarsh Limited | 430-0088b |
| Contactora 480V 60Hz 250A (5 total) | ABB | 451-0071 |
| Contactora 480V 60Hz 350A (5 total) | ABB | 451-0072 |
| Fuse Fast 400A/ 660V (6 total) | Bussmann | 515-1400 |
| Fan 277V 60Hz ø155mm x 55mm (20 Total), windings: copper | EBM | 490-0039 |
| Copper bus bars | Schneider Electric | 0H-0003A |
| | | 0H-0012D |
| | | 0H-0007A |
| | | 0H-0014D |
| | | 0H-0008E |
| | | 0H-0011D |
| | | 0H-0006A |
| | | 0H-0009B |
| 0H-0015C | | |

OSP APPLICATION
Schneider Electric IT Division – Symmetra MW
III. UUT Summary Sheets

Date: 11/15/2016

Test Report 58470R11 – UUT 4

Symmetra MW 400kW UPS

0.0787" Cold Rolled Carbon Steel

83"W x 42"D x 80"H, 5,350 lbs

Floor mounted using: (16) -1/2"-13 Grade 5 bolts



| System Unit | Width | Depth | Height | Weight | Material | Component No. |
|-------------------------------------|-------|-------|--------|----------|-------------|---------------|
| 400 kW Inverter | 33" | 42" | 80" | 3961 lbs | 0.0787" CRS | SYMF400KG |
| 400 kW I/O | 33" | 42" | 80" | 611 lbs | 0.0787" CRS | SYMF400KG |
| 400 kW Controller w/Internal SSB | 17" | 42" | 80" | 778 lbs | 0.0787" CRS | SYMF400KG |

CRS=Cold Rolled Carbon Steel

| Building Code | Test Criteria | S _{DS} (g) | z/h | I _p | Horizontal | | Vertical | |
|--------------------------|------------------|---------------------|--|----------------|------------------------|------------------------|------------------------|------------------------|
| | | | | | A _{FLX-H} (g) | A _{RIG-H} (g) | A _{FLX-V} (g) | A _{RIG-V} (g) |
| CBC 2016 | ICC-ES AC 156 | 1.33 | 1.0 | 1.5 | 2.13 | 1.60 | 0.89 | 0.36 |
| Natural Frequencies (Hz) | | | Test Results | | | | | |
| F-B | S-S | V | The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing. | | | | | |
| 7.3 | 4.6 | >33.3 | | | | | | |

OSP APPLICATION
Schneider Electric IT Division – Symmetra MW
III. UUT Summary Sheets

Date: 11/15/2016

Test Report 58470R11 – UUT 4 cont'd
Symmetra MW 400kW UPS
0.0787" Cold Rolled Carbon Steel
83"W x 42"D x 80"H, 5,350 lbs
Floor mounted using: (16) -1/2"-13 Grade 5 bolts



| Subcomponents | Manufacturer | Part # |
|---|-------------------------|-----------|
| 66.6KW Power Module (6 total) | Schneider Electric | 0M4104 |
| Internal Static Bypass Switch | Schneider Electric | OG-9343 |
| Symmetra MW assy mains SSW NAM (3 total) | Schneider Electric | 0N-0143 |
| Connector Power 400A UL (48 total) | Holec Laagspanning B.V. | 715-0400 |
| Choke BV neutral bonding, windings: copper | Dantrafo Horsens | 420-0096A |
| Choke Differential 200KVA/312A RMS, windings: copper (12 total) | Dantrafo Horsens | 420-0463 |
| Current transformer 2000 Turns, windings: copper | Salzer electronics | 460-2005 |
| Transformer 50.5KVA (4 total), windings: copper | Romarsh Limited | 430-0088b |
| Contactora 480V 60hZ 250A | ABB | 451-0071 |
| Contactora 480V 60Hz 350A | ABB | 451-0072 |
| Fuse Fast 400A/ 660V | Bussmann | 515-1400 |
| Fan 277V 60Hz ø155mm x 55mm, windings copper | EBM | 490-0039 |
| Copper bus bars | Schneider Electric | 0H-0003A |
| | | 0H-0027C |
| | | 0H-0031E |
| | | 0H-0025 |
| SCR module 1 X 800A 1600V | Eupec. Inc. | 320-0055 |
| Fuse Class L 900A/600V | Ferraz-Shawmut | 515-0090 |
| Fuse Fast 1100A/660V US Style | Bussmann | 515-0085 |
| IC current sensor 1000A 5000:1 | ABB | 360-1000 |

OSP APPLICATION
Schneider Electric IT Division – Symmetra MW
III. UUT Summary Sheets

Date: 11/15/2016

Test Report 57883R10 – UUT 2

Symmetra MW 800kW Control and I/O
0.0787” Cold Rolled Carbon Steel
80”W x 42”D x 80”H, 2,650 lbs
Floor mounted using: (12) -1/2”-13 Grade 5 bolts



| System Unit | Width | Depth | Height | Weight | Material | Component No. |
|----------------------|-------|-------|--------|-----------|-------------|------------------------|
| 800kW I/O | 40” | 42” | 80” | 1,300 lbs | 0.0787” CRS | SYMF800KG (OG-4020) |
| 800kW Controller-SSW | 40” | 42” | 80” | 1,350 lbs | 0.0787” CRS | SYMF800KG (OG-4027) |

CRS=Cold Rolled Carbon Steel

| Building Code | Test Criteria | S _{DS} (g) | z/h | I _p | Horizontal | | Vertical | |
|--------------------------|------------------|---------------------|--|----------------|------------------------|------------------------|------------------------|------------------------|
| | | | | | A _{FLX-H} (g) | A _{RIG-H} (g) | A _{FLX-V} (g) | A _{RIG-V} (g) |
| CBC 2016 | ICC-ES AC 156 | 1.38 | 1.0 | 1.5 | 2.21 | 1.66 | 0.92 | 0.37 |
| Natural Frequencies (Hz) | | | Test Results | | | | | |
| F-B | S-S | V | The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing. | | | | | |
| 8.8 | 8.7 | >33.3 | | | | | | |

OSP APPLICATION
Schneider Electric IT Division – Symmetra MW
III. UUT Summary Sheets

Date: 11/15/2016

Test Report 57883R10 – UUT 2, cont'd

Symmetra MW 800kW Control and I/O
0.0787" Cold Rolled Carbon Steel
80"W x 42"D x 80"H, 2,650 lbs
Floor mounted using: (12) -1/2"-13 Grade 5 bolts



| Subcomponents | Manufacturer | Part # |
|--|-------------------------|-----------|
| Choke BV Neutral bonding, windings: copper | Dantrafo Horsens | 420-0096A |
| Choke DC 600V/ 700UH (4 total), windings: copper | Dantrafo Horsens A/S | 420-0465 |
| Current transformer, windings: copper | ABB | 360-2000 |
| Current transformer (6 total) Windings: copper | Salzer Electronics LTD. | 460-2005 |
| Contactora 480V 60Hz 250A | ABB | 451-0071 |
| SCR Unit 2 X 1500A/ 1600V | Eupec INC | 320-0036 |
| Fuse Class L 1200A/600V (3 total) | Ferraz-Shawmut | 515-4170 |
| Fuse Fast 1500A/600V | Bussmann | 515-4168 |
| Fan 277V 60Hz ø155mm x 55mm, windings: copper | EBM | 490-0039 |
| Transformer480/230/220V 50/60Hz 250VA, windings : copper | Dantrafo Horsens A/S | 430-4110 |
| GUI | Schneider Electric | AP9235 |
| Rectifiers 1240A | Eupec Inc. | 340-8000A |
| Copper Bus bars | Schneider Electric | 0H-0003A |
| | | 0H-0001E |
| | | 0H-0008E |
| | | 0H-0011D |
| | | 0H-0002B |
| | | 0H-0006A |
| | | 0H-0015C |
| | | 0H-0007A |
| 0H-0014D | | |

OSP APPLICATION
Schneider Electric IT Division – Symmetra MW
III. UUT Summary Sheets

Date: 11/15/2016

Test Report 57883R10 – UUT 3

Symmetra MW 1000kW External Bypass Static Switch
0.0787" Cold Rolled Carbon Steel
40"W x 42"D x 80"H, 1,100 lbs
Floor mounted using: (8) -1/2"-13 Grade 5 bolts



| System Unit | Width | Depth | Height | Weight | Material | Component No. |
|--------------------------------------|-------|-------|--------|-----------|-------------|---------------|
| 1000kW External Bypass Static Switch | 40" | 42" | 80" | 1,100 lbs | 0.0787" CRS | SYSSWT1000KG |

CRS=Cold Rolled Carbon Steel

| Building Code | Test Criteria | S _{DS} (g) | z/h | I _p | Horizontal | | Vertical | |
|--------------------------|---------------|---------------------|--|----------------|------------------------|------------------------|------------------------|------------------------|
| | | | | | A _{FLX-H} (g) | A _{RIG-H} (g) | A _{FLX-V} (g) | A _{RIG-V} (g) |
| CBC 2016 | ICC-ES AC 156 | 1.24 | 1.0 | 1.5 | 1.98 | 1.49 | 0.83 | 0.33 |
| Natural Frequencies (Hz) | | | Test Results | | | | | |
| F-B | S-S | V | The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing. | | | | | |
| 13 | 7.6 | >33.3 | | | | | | |

| Subcomponents | Manufacturer | Part # |
|---|-------------------------|----------|
| SCR Unit 2 X 1500A/ 1600V Style "B" | Eupec Inc. | 320-0037 |
| Fuse Fast 1800A/600V | Bussmann | 515-1801 |
| Current transformer, windings: copper | Salzer Electronics LTD. | 460-2005 |
| Transformer 480/230/220V 50/60Hz 250VA, windings: copper | Dantrafo Horsens A/S | 430-4110 |
| Fan 200mm 230V 1000m3/h Hall: 680mm (total 6, windings: copper) | EBM | 490-0041 |
| Controller box | Schneider Electric | 0M-4250 |
| GUI | Schneider Electric | AP9235 |
| Copper Bus bars | Schneider Electric | 0H-0004E |
| | | 0H-0032A |