



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OSP – 0165 – 10

**OSHPD Special Seismic Certification Preapproval (OSP)**

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: Intelligent Switchgear Organization (ISO)

Manufacturer's Technical Representative: Sreekanth Bandaru

Mailing Address: 4955 Marconi Drive, Alpharetta, GA 30005

Telephone: 770-442-9442 Email: SNBandaru@cat-iso.com

**Product Information**

Product Name: Epic, EXL and EMCP4 Generator Controls

Product Type: Generator and Paralleling Switchgear Controls

Product Model Number: Various

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

General Description: Generator and Paralleling Switchgear control cabinets, wall and floor mounted, NEMA 1 and 12 enclosures. Seismic enhancements made to the test units and modifications to address anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Rigid floor and wall mounted

**Applicant Information**

Applicant Company Name: Eaton Corporation

Contact Person: Eddie Wilkie

Mailing Address: 175 Vista Blvd, Arden, NC 28704

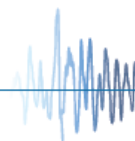
Telephone: 828-651-0707 Email: eddiwilkie@eaton.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: Eddie Wilkie Date: 6/9/14

Title: Engineering Director Company Name: Eaton Corporation

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



osHPD



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

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

Company Name: ISAT  
Name: William V. Joerger California License Number: SE4545  
Mailing Address: 1020 Crews Road, Suite Q, Matthews, NC 28105  
Telephone: 510-714-0216 Email: wvjoerger@isatsb.com

**Supports and Attachments Preapproval**

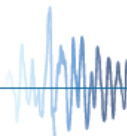
- Supports and attachments are preapproved under OPM- \_\_\_\_\_  
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

**Certification Method**

- Testing in accordance with:  ICC-ES AC156
- Other (Please Specify): \_\_\_\_\_

**Testing Laboratory**

Company Name: Wyle Laboratories  
Contact Name: Dave Bell  
Mailing Address: P.O. Box 77777, Huntsville, AL 35807  
Telephone: 256-716-4229 Email: [david.bell@wyle.com](mailto:david.bell@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 Tables

$S_{DS}$  (Design spectral response acceleration at short period, g) = See Certified 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) = 2.5

$I_p$  (Importance factor) = 1.5

$z/h$  (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = See Resonance Summary

Overall dimensions and weight (or range thereof) = See Product Range Summary

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, 2010:  Yes  No

**List of Attachments Supporting Special Seismic Certification**

Test Report(s)  Drawings  Calculations  Manufacturer's Catalog

Other(s) (Please Specify): Product Range Summary

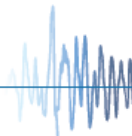
**OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2019**

Signature:  Date: September 12, 2014

Print Name: M. R. Karim Title: SHFR

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

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



**Intelligent Switchgear Organization**  
**Generator Controls**  
**Certified Product Range Summary (Wall Mounted)**

| Product Model <sup>2,3,4</sup> | Product Model Options | Primary Voltage Class (Max) | Enclosure Dimensions |             |             | Weight (lbs.) | S <sub>DS</sub> <sup>1</sup> | Test Status   |
|--------------------------------|-----------------------|-----------------------------|----------------------|-------------|-------------|---------------|------------------------------|---------------|
|                                |                       |                             | Height (in.)         | Width (in.) | Depth (in.) |               |                              |               |
| EXL/io560                      | N/A                   | 208-480                     | 38.75                | 24.25       | 10.25       | 116           | 2.77                         | UUT 44        |
| E-CUSTOM                       | N/A                   | 600                         | 16.00                | 12.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 20.00                | 12.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 24.00                | 12.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 16.00                | 16.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 20.00                | 16.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 24.00                | 16.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 30.00                | 16.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 16.00                | 20.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 20.00                | 20.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 24.00                | 20.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 30.00                | 20.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 12.00                | 24.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 20.00                | 24.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 24.00                | 24.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 30.00                | 24.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 36.00                | 24.00       | 6.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 16.00                | 12.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 20.00                | 12.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 24.00                | 12.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 16.00                | 16.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 20.00                | 16.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 24.00                | 16.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 16.00                | 20.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 20.00                | 20.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 24.00                | 20.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 30.00                | 20.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 12.00                | 24.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 20.00                | 24.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 24.00                | 24.00       | 8.00        | 120           | 2.77                         | Interpolation |
| EXL                            | N/A                   | 120                         | 36.00                | 24.00       | 8.00        | 120           | 2.77                         | Interpolation |
| EXL                            | N/A                   | 600                         | 36.00                | 24.00       | 8.00        | 120           | 2.77                         | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 24.00                | 30.00       | 8.00        | 120           | 2.77                         | Interpolation |
| EPIC                           | GCP                   | 208-480                     | 24.00                | 30.00       | 8.00        | 120           | 2.77                         | Interpolation |
| EPIC                           | GCP                   | 600                         | 24.00                | 30.00       | 8.00        | 120           | 2.77                         | Interpolation |
| EPIC                           | UCP                   | 120                         | 24.00                | 30.00       | 8.00        | 120           | 2.77                         | Interpolation |
| EPIC                           | UCP                   | 600                         | 24.00                | 30.00       | 8.00        | 120           | 2.77                         | Interpolation |
| EPIC                           | GCP                   | 120                         | 24.00                | 30.00       | 8.00        | 120           | 2.77                         | Interpolation |
| EMCP4 Master                   | N/A                   | 120                         | 30.00                | 24.00       | 10.00       | 120           | 2.77                         | Interpolation |
| EMCP4 Master                   | N/A                   | 600                         | 30.00                | 24.00       | 10.00       | 120           | 2.77                         | Interpolation |
| EMCP4 Master/io360             | N/A                   | 208-480                     | 32.50                | 24.25       | 13.25       | 120           | 2.77                         | UUT 43        |

- 1 - Certification level is limited to the lower rating of either the Certified Product Range Table, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.
2. All enclosures manufactured by Hoffman.
3. NEMA 12 enclosures include addition of gasket material around door opening.
4. All enclosures made from powder coated carbon steel.

**Intelligent Switchgear Organization**  
**Generator Controls**  
**Certified Product Range (Floor Mounted)**

| Product Model <sup>2,3,4</sup> | Product Model Options | Primary Voltage Class (Max) | Enclosure Dimensions |             |             | Weight (lbs.) | S <sub>DS</sub> <sup>1</sup> | Test Status   |
|--------------------------------|-----------------------|-----------------------------|----------------------|-------------|-------------|---------------|------------------------------|---------------|
|                                |                       |                             | Height (in.)         | Width (in.) | Depth (in.) |               |                              |               |
| EPIC                           | MCP                   | 120                         | 72.06                | 30.06       | 18.06       | 422           | 2.0                          | Extrapolation |
| EPIC/i0211-1                   | MCP                   | 480                         | 72.06                | 30.06       | 18.06       | 422           | 2.0                          | UUT 13        |
| EPIC                           | MCP                   | 600                         | 72.06                | 30.06       | 18.06       | 422           | 2.0                          | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 60.06                | 24.06       | 18.06       | 654           | 2.0                          | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 60.06                | 36.06       | 24.06       | 654           | 2.0                          | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 72.06                | 24.06       | 18.06       | 654           | 2.0                          | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 72.06                | 36.06       | 18.06       | 654           | 2.0                          | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 72.06                | 24.06       | 24.06       | 654           | 2.0                          | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 72.06                | 36.06       | 24.06       | 654           | 2.0                          | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 72.06                | 36.06       | 30.06       | 654           | 2.0                          | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 90.06                | 24.06       | 20.06       | 654           | 2.0                          | Interpolation |
| E-CUSTOM                       | N/A                   | 600                         | 90.06                | 36.06       | 20.06       | 654           | 2.0                          | Interpolation |
| E-CUSTOM/i0211-2               | N/A                   | 600                         | 90.06                | 36.06       | 24.06       | 654           | 2.0                          | UUT 12        |

1 - Certification level is limited to the lower rating of either the Certified Product Range Table, as listed here, or the internal subcomponents, as listed on the Certified Subcomponent tables.

2. All enclosures manufactured by Hoffman.

3. NEMA 12 enclosures include addition of gasket material around door opening.

4. All enclosures made from powder coated carbon steel.

## Intelligent Switchgear Organization

### Certified Subcomponents: HMI's

| Part Number     | Description                         | Dimensions (in.) |       |        | Weight (lbs.) | Manufacturer      | Test Status  | S <sub>DS</sub> (g) <sup>1</sup> | F <sub>p</sub> /W <sub>p</sub> |
|-----------------|-------------------------------------|------------------|-------|--------|---------------|-------------------|--------------|----------------------------------|--------------------------------|
|                 |                                     | Width            | Depth | Height |               |                   |              |                                  |                                |
| 19-24VDC-ISO-V1 | 19" Touchscreen                     | 16.30            | 3.76  | 13.50  | 13.00         | ELO               | UUT 12       | 2                                | 1.5                            |
| GTW7353         | Magelis 15" Touchscreen (Dual Port) | 15.55            | 2.55  | 11.57  | 13.22         | Magelis/Schneider | Extrapolated | 2                                | 1.5                            |
| XBTGT7340       | Magelis 15" Touchscreen             | 15.55            | 2.36  | 11.57  | 12.34         | Magelis/Schneider | UUT 43       | 2.77                             | 2.08                           |
| XBTGT6340       | Magelis 12" Touchscreen(64 GB)      | 12.32            | 2.20  | 9.40   | 6.61          | Magelis/Schneider | Interpolated | 2                                | 1.5                            |
| XBTGT6330       | Magelis 12" Touchscreen(32 GB)      | 12.32            | 2.20  | 9.40   | 6.61          | Magelis/Schneider | UUT 13       | 2                                | 1.5                            |
| HMI STU855      | Magelis 6" Touchscreen              | 6.41             | 0.68  | 5.09   | 3.3           | Magelis/Schneider | UUT 44       | 2.77                             | 2.08                           |

### Certified Subcomponents: Miscellaneous Control Components

| Part Number          | Description                 | Manufacturer         | Test Status | S <sub>DS</sub> (g) <sup>1</sup> | F <sub>p</sub> /W <sub>p</sub> |
|----------------------|-----------------------------|----------------------|-------------|----------------------------------|--------------------------------|
| VI-MV3-EV            | DC-DC Converter             | Vicor                | UUT 43      | 2.77                             | 2.08                           |
| VI-LJV3-EZ           | DC-DC Converter             | Vicor                | UUT 44      | 2.77                             | 2.08                           |
| SMP-BAC-V06-24VDC-01 | DC-DC Converter             | Axiomatic            | UUT 13      | 2                                | 1.5                            |
| 8440-2025            | EMCP3.S Controller          | Woodward/Caterpillar | UUT 13      | 2                                | 1.5                            |
| 8440-2025            | EMCP3.S Controller          | Woodward/Caterpillar | UUT 44      | 2.77                             | 2.08                           |
| 256-PLDU-SHBX-C7     | Synchronization Check Relay | Crompton             | UUT 43      | 2.77                             | 2.08                           |
| M57120100001         | Transducer                  | Bitronics            | UUT 43      | 2.77                             | 2.08                           |
| SR-489               | Protective Relay            | GE                   | UUT 12      | 2                                | 1.5                            |

1. Certification level is limited to the lower rating of either the internal components, as listed here, or the Product section, as listed on the Certified Products table.

**Intelligent Switchgear Organization (ISO)  
Certified Subcomponents: Enclosures<sup>2,3</sup>**

| NEMA Enclosure Type <sup>4</sup> | Enclosure Mounting | Enclosure Dimensions (in.) |       |       | Weight (lbs.) | S <sub>DS</sub> <sup>1</sup> | F <sub>p</sub> /W <sub>p</sub> | Test Status   |
|----------------------------------|--------------------|----------------------------|-------|-------|---------------|------------------------------|--------------------------------|---------------|
|                                  |                    | Height                     | Width | Depth |               |                              |                                |               |
| 1,12                             | Wall               | 12.00                      | 24.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 12.00                      | 24.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 16.00                      | 12.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 16.00                      | 16.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 16.00                      | 20.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 16.00                      | 12.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 16.00                      | 16.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 16.00                      | 20.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 20.00                      | 12.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 20.00                      | 16.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 20.00                      | 20.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 20.00                      | 24.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 20.00                      | 12.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 20.00                      | 16.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 20.00                      | 20.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 20.00                      | 24.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 24.00                      | 12.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 24.00                      | 16.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 24.00                      | 20.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 24.00                      | 24.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 24.00                      | 12.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 24.00                      | 16.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 24.00                      | 20.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 24.00                      | 24.00 | 8.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 30.00                      | 16.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 30.00                      | 20.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 30.00                      | 24.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 36.00                      | 24.00 | 6.00  | 120           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 36.00                      | 24.00 | 8.00  | 120           | 2.77                         | 2.08                           | Interpolation |
| 1,12                             | Wall               | 36.00                      | 24.00 | 8.00  | 120           | 2.77                         | 2.08                           | UUT 44        |
| 1,12                             | Wall               | 36.00                      | 24.00 | 8.00  | 120           | 2.77                         | 2.08                           | Interpolation |
| 1,12                             | Wall               | 24.00                      | 30.00 | 8.00  | 125           | 2.77                         | 2.08                           | Interpolation |
| 1,12                             | Wall               | 24.00                      | 30.00 | 8.00  | 125           | 2.77                         | 2.08                           | Interpolation |
| 1,12                             | Wall               | 24.00                      | 30.00 | 8.00  | 125           | 2.77                         | 2.08                           | Interpolation |
| 1,12                             | Wall               | 24.00                      | 30.00 | 8.00  | 125           | 2.77                         | 2.08                           | Interpolation |
| 1,12                             | Wall               | 24.00                      | 30.00 | 8.00  | 125           | 2.77                         | 2.08                           | Interpolation |
| 1,12                             | Wall               | 24.00                      | 30.00 | 8.00  | 125           | 2.77                         | 2.08                           | Interpolation |
| 1,12                             | Wall               | 24.00                      | 30.00 | 8.00  | 150           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 30.00                      | 20.00 | 8.00  | 150           | 2.77                         | 2.08                           | Extrapolation |
| 1,12                             | Wall               | 30.00                      | 24.00 | 10.00 | 150           | 2.77                         | 2.08                           | Interpolation |
| 1,12                             | Wall               | 30.00                      | 24.00 | 10.00 | 150           | 2.77                         | 2.08                           | Interpolation |
| 1,12                             | Wall               | 30.00                      | 24.00 | 10.00 | 150           | 2.77                         | 2.08                           | UUT 43        |
| 1,12                             | Floor              | 72.06                      | 30.06 | 18.06 | 422           | 2.0                          | 1.50                           | Extrapolation |
| 1,12                             | Floor              | 72.06                      | 30.06 | 18.06 | 422           | 2.0                          | 1.50                           | UUT 13        |
| 1,12                             | Floor              | 72.06                      | 30.06 | 18.06 | 422           | 2.0                          | 1.50                           | Interpolation |
| 1,12                             | Floor              | 60.06                      | 24.06 | 18.06 | 654           | 2.0                          | 1.50                           | Interpolation |
| 1,12                             | Floor              | 60.06                      | 36.06 | 24.06 | 654           | 2.0                          | 1.50                           | Interpolation |
| 1,12                             | Floor              | 72.06                      | 24.06 | 18.06 | 654           | 2.0                          | 1.50                           | Interpolation |
| 1,12                             | Floor              | 72.06                      | 36.06 | 18.06 | 654           | 2.0                          | 1.50                           | Interpolation |
| 1,12                             | Floor              | 72.06                      | 24.06 | 24.06 | 654           | 2.0                          | 1.50                           | Interpolation |
| 1,12                             | Floor              | 72.06                      | 36.06 | 24.06 | 654           | 2.0                          | 1.50                           | Interpolation |
| 1,12                             | Floor              | 72.06                      | 36.06 | 30.06 | 654           | 2.0                          | 1.50                           | Interpolation |
| 1,12                             | Floor              | 90.06                      | 24.06 | 20.06 | 654           | 2.0                          | 1.50                           | Interpolation |
| 1,12                             | Floor              | 90.06                      | 36.06 | 20.06 | 654           | 2.0                          | 1.50                           | Interpolation |
| 1,12                             | Floor              | 90.06                      | 36.06 | 24.06 | 654           | 2.0                          | 1.50                           | UUT 12        |

1. Certification level is limited to the lower rating of either the internal components, as listed here, or the Product section, as listed on the Certified Products table.

2. All enclosures manufactured by Hoffman

3. All enclosures made from powder coated, carbon steel.

4. NEMA 12 enclosures include addition of gasket material around door opening.

**Intelligent Switchgear Organization  
Generator Controls  
Resonant Frequency Summary**

| <b>Report</b> | <b>UUT</b> | <b>Front to Back (Hz)</b> | <b>Side to Side (Hz)</b> | <b>Vertical (Hz)</b> |
|---------------|------------|---------------------------|--------------------------|----------------------|
| 58271R11-6    | 12         | 7.9                       | 7.8                      | >33                  |
| 58271R11-6    | 13         | 13                        | 18                       | >33                  |
| 71272R13      | 43         | N/A*                      | N/A*                     | N/A*                 |
| 71272R13      | 44         | N/A*                      | N/A*                     | N/A*                 |

\* - UUT secured rigidly to wall fixture.



## UUT 12 (Unit Under Test) Summary Sheet

Manufacturer: Intelligent Switchgear Organization

Model Number: i0211-1 (E-CUSTOM)

Product Construction Summary:

Cabinet is constructed of powder coated coated carbon steel, NEMA 12 rating.

Options/Component Summary: HMI 19" (19-24VDC-ISO-V1), Synchronization Relay (256-PLDU-SHBX-C7)

Protective Relay (SR-489)

### UUT Properties (As Tested)

| Weight (lbs.) | Dimensions (inches) |       |        | Lowest Natural Frequency (Hz) |           |          |
|---------------|---------------------|-------|--------|-------------------------------|-----------|----------|
|               | Width               | Depth | Height | Front-Back                    | Side-Side | Vertical |
| 654           | 30                  | 24    | 80     | 7.9                           | 7.8       | >33      |

### Seismic Test Parameters

| Building Code | Test Criteria     | C.G.-Height (in.) | Sds (g) | z/h | Ip  | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|-------------------|-------------------|---------|-----|-----|--------|--------|--------|--------|
| CBC 2013      | 2012 ICC-ES AC156 | 40                | 2.00    | 1   | 1.5 | 3.20   | 2.4    | 1.34   | 0.54   |

UUT maintained structural integrity and functionality as observed in post test inspection and operation checks.



UUT 12 (right) was mounted to a rigid base with (4) 1/2" bolts (Grade 5). The steel frame (carbon steel) was welded to the shake table.

## UUT 13 (Unit Under Test) Summary Sheet

Manufacturer: Intelligent Switchgear Organization

Model Number: i0211-2 (EPIC - MCP)

Product Construction Summary:

Cabinet is constructed of electro-coated carbon steel, NEMA 12 rating.

Options/Component Summary: HMI 12" (XBTGT6330), DC-DC Converter (SMP-BAC-V06-24VDC-01)

EMCP 3.S Controller (8440-2025)

### UUT Properties (As Tested)

| Weight (lbs.) | Dimensions (inches) |       |        | Lowest Natural Frequency (Hz) |           |          |
|---------------|---------------------|-------|--------|-------------------------------|-----------|----------|
|               | Width               | Depth | Height | Front-Back                    | Side-Side | Vertical |
| 422           | 30                  | 19    | 72     | 13                            | 18        | >33      |

### Seismic Test Parameters

| Building Code | Test Criteria     | C.G.-Height (in.) | Sds (g) | z/h | Ip  | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|-------------------|-------------------|---------|-----|-----|--------|--------|--------|--------|
| CBC 2013      | 2012 ICC-ES AC156 | 36.72             | 2.00    | 1   | 1.5 | 3.20   | 2.40   | 1.34   | 0.54   |

UUT maintained structural integrity and functionality as observed in post test inspection and operation checks.



UUT 13 was mounted to a rigid base with (4) 3/8" bolts (Grade 5). The steel frame (carbon steel) was welded to the shake table.

## UUT 43 (Unit Under Test) Summary Sheet

Manufacturer: Intelligent Switchgear Organization

Model Number: i0360 (EMCP 4 Master)

Product Construction Summary:

Cabinet is constructed of electro-coated carbon steel, NEMA 12 rating.

Options/Component Summary: Transducer (M57120100001C), PLC (M340), DC-DC Converter (VI-MV3-EV) 15" HMI (XBTGT7340)

### UUT Properties (As Tested)

| Weight (lbs.) | Dimensions (inches) |       |        | Lowest Natural Frequency (Hz) |           |          |
|---------------|---------------------|-------|--------|-------------------------------|-----------|----------|
|               | Width               | Depth | Height | Front-Back                    | Side-Side | Vertical |
| 120           | 24                  | 10    | 30     | N/A                           | N/A       | N/A      |

### Seismic Test Parameters

| Building Code | Test Criteria     | C.G.-Height (in.) | Sds (g) | z/h | Ip  | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|-------------------|-------------------|---------|-----|-----|--------|--------|--------|--------|
| CBC 2013      | 2012 ICC-ES AC156 | 14.87             | 2.77    | 1   | 1.5 | 4.43   | 3.32   | 1.86   | 0.75   |

UUT maintained structural integrity and functionality as observed in post test inspection and operation checks.



UUT 43 was mounted to a rigid wall frame with (4) 3/8" bolts (Grade 5). The wall frame (carbon steel) was welded to the shake table.

## UUT 44 (Unit Under Test) Summary Sheet

Manufacturer: Intelligent Switchgear Organization

Model Number: i0560 (EXL)

Product Construction Summary:

Cabinet is constructed of electro-coated carbon steel, NEMA 12 rating.

Options/Component Summary: EMCP 3.S Controller (8440-2025), DC-DC Converter (VI-LJV3-EZ)

6" HMI (HMISTU855)

### UUT Properties (As Tested)

| Weight (lbs.) | Dimensions (inches) |       |        | Lowest Natural Frequency (Hz) |           |          |
|---------------|---------------------|-------|--------|-------------------------------|-----------|----------|
|               | Width               | Depth | Height | Front-Back                    | Side-Side | Vertical |
| 116           | 24                  | 8     | 36     | N/A                           | N/A       | N/A      |

### Seismic Test Parameters

| Building Code | Test Criteria     | C.G.-Height (in.) | Sds (g) | z/h | Ip  | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|-------------------|-------------------|---------|-----|-----|--------|--------|--------|--------|
| CBC 2013      | 2012 ICC-ES AC156 | 18                | 2.77    | 1   | 1.5 | 4.43   | 3.32   | 1.86   | 0.75   |

UUT maintained structural integrity and functionality as observed in post test inspection and operation checks.



UUT 44 was mounted to a rigid wall frame with (4) 3/8" bolts (Grade 5). The wall frame (carbon steel) was welded to the shake table.