



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0011

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Eaton

Manufacturer's Technical Representative: Art Jur

Mailing Address: 3990 Old Tasso Road NE, Cleveland, TN 37312

Telephone: 423-478-0201

Email: ArtJJur@eaton.com

Product Information

Product Name: Unit and Group Mounted Elevator Control Switches

Product Type: Elevator Control Switches

Product Model Number: See Product Range Summary

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

General Description: Switch assemblies used for the controlled shut down of single or multiple elevator units

Providing appropriate interface controls and relays to the fire alarm system. Unit or group mounted, 30-1200A, 3-phase, 600 Vac maximum, NEMA 1, 3R, 4 and 12 enclosures. Marked as either Eaton or Bussman.

Mounting Description: Rigid wall mounted.

Applicant Information

Applicant Company Name: Eaton

Contact Person: Eddie Wilkie

Mailing Address: 175 Vista Blvd, Arden, NC 28704

Telephone: 828-651-0707

Email: eddiwilkie@eaton.com

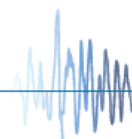
I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: Eddie Wilkie

Date: 10/28/19

Title: Director of Engineering

Company Name: Eaton





**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: SE 4545
Mailing Address: 1020 Crews Road, Quite Q, Matthews, NC 28105
Telephone: 510-714-0216 Email: wvjoerger@isatsb.com

Supports and Attachments Preapproval

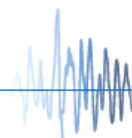
- ☐ Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- ☒ Supports and attachments are not preapproved

Certification Method

- ☒ Testing in accordance with: ☒ ICC-ES AC156
- ☐ Other (Please Specify): _____

Testing Laboratory

Company Name: NTS Laboratories DATE: 03/16/2021
Contact Name: Tom Boonarkat
Mailing Address: P.O. Box 77777, Huntsville, AL 35807
Telephone: 256-716-4291 Email: Tom.Boonarkat@nts.com





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Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 2.06

S_{DS} (Design spectral response acceleration at short period, g) = 2.74

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

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = N/A, wall mounted.

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) = _____

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): _____

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025

Signature: _____

Date: March 16, 2021

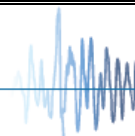
Print Name: Timothy J. Piland

Title: SSE

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.74

z/h = 1

Condition of Approval (if applicable): _____



Product Range Summary
 Wall Mounted Elevator Control Panels^{6,7}

| Model | Model # | Rating (Amps) | NEMA Enclosure Type ⁵ | Voltage (Maximum) | Width (in.) | Height (in.) | Depth (in.) | Conductor Material (Cu/Al) | Weight (lbs.) | S _{DS} (g) | Notes | UUT |
|------------------|------------------------|---------------|----------------------------------|-------------------|-------------|--------------|-------------|----------------------------|---------------|---------------------|-------|--------------|
| Elevator Control | ES1T1R1F1B | 30 | 1 | 600VAC | 17.25 | 29.75 | 11.5 | Cu | 51 | 2.74 | 1 | 1 |
| | ES1XXXXXX ² | 30 | 1, 3R, 4 | 600VAC | 17.25 | 29.75 | 11.5 | Cu | 51 | | 1 | Interpolated |
| | ES2XXXXXX ² | 60 | 1, 3R, 4 | 600VAC | 17.25 | 29.75 | 11.5 | Cu | 60 | | 1 | Interpolated |
| | ES3XXXXXX ² | 100 | 1, 3R, 4 | 600VAC | 17.25 | 29.75 | 11.5 | Cu | 60 | | 1 | Interpolated |
| | ES4XXXXXX ² | 200 | 1, 3R, 4 | 600VAC | 21.5 | 32.75 | 11.5 | Cu | 76 | | 1 | Interpolated |
| | ES5T1R1GF3B | 400 | 1 | 600VAC | 26.75 | 54.5 | 11.5 | Cu | 142 | 2.74 | 1 | 19 |
| | See Note 3 | 400 | 1, 3R, 4 | 600VAC | 26.75 | 54.5 | 11.5 | Cu | 142 | | 1 | Interpolated |
| | See Note 3 | 400 | 1 | 600VAC | 40 | 57 | 11.5 | Cu | 400 | | 1 | Interpolated |
| | See Note 3 | 600 | 1 | 600VAC | 40 | 73.75 | 11.5 | Cu | 460 | | 1 | Interpolated |
| | See Note 3 | 800 | 1 | 600VAC | 40 | 90 | 11.5 | Cu | 530 | | 1 | Interpolated |
| | See Note 3 | 1200 | 1 | 600VAC | 40 | 90 | 12 | Cu | 582 | | 1 | Interpolated |
| | SM060812-001 | 1200 | 1 | 600VAC | 40.5 | 90.25 | 12 | Cu | 582 | 2.74 | 1 | 2 |

1 - Carbon Steel Enclosure

2 - See Product Numbering System

3 - Engineered to Order. Unique Model number assigned to specific product.

5 - NEMA 3R includes rain shield and gasket material for door. NEMA 4 includes gasket material for seams.

6 - Manufactured by Eaton

7 - Marked as either "Eaton Elevator Control " or "Bussman Power Module Panel".

Certified Major Component Summary
Wall Mounted Elevator Control Switches

| Molded Case Switches (Single) | | | | | | | | |
|-------------------------------|-------------|-------------------|----------------------|-------------|--------------|---------------|--------------|--------------|
| (Model)/Frame | Size (Amps) | Voltage (Maximum) | Dimensions / Weights | | | | Manufacturer | UUT |
| | | | Width (in.) | Depth (in.) | Height (in.) | Weight (lbs.) | | |
| (6629C85G10)/F | 30 | 600 | 4.13 | 3.38 | 6 | 4.5 | Eaton | 1 |
| F | 30-200 | 600 | 4.13 | 3.38 | 6 | 4.5 | Eaton | Interpolated |
| LG | 400 | 600 | 5.48 | 4.09 | 10.13 | 16 | Eaton | Interpolated |
| (LGK3400KSG)/LG | 400 | 600 | 5.48 | 4.09 | 10.13 | 16 | Eaton | 19 |

| Molded Case Switches (Twins) | | | | | | | | |
|------------------------------|-------------|---------|----------------------|-------------|--------------|---------------|--------------|--------------|
| Model | Size (Amps) | Voltage | Dimensions / Weights | | | | Manufacturer | Unit |
| | | | Width (in.) | Depth (in.) | Height (in.) | Weight (lbs.) | | |
| FDPB3601JSA | Blank/30 | 600 | 28.875 | 8.10 | 8.25 | 22 | Eaton | 2 |
| FDPB3602JSA | Blank/60 | 600 | 28.875 | 8.10 | 8.25 | 22 | Eaton | Interpolated |
| FDPB3603JSA | Blank/100 | 600 | 28.875 | 8.10 | 8.25 | 22 | Eaton | Interpolated |
| FDPB3604JSA | Blank/200 | 600 | 28.875 | 8.10 | 8.25 | 22 | Eaton | Interpolated |
| FDPB3611JSA | 30/30 | 600 | 28.875 | 8.10 | 8.25 | 26 | Eaton | Interpolated |
| FDPB3612JSA | 30/60 | 600 | 28.875 | 8.10 | 8.25 | 26 | Eaton | Interpolated |
| FDPB3613JSA | 30/100 | 600 | 28.875 | 8.10 | 8.25 | 26 | Eaton | Interpolated |
| FDPB3614JSA | 30/200 | 600 | 28.875 | 8.10 | 8.25 | 29 | Eaton | Interpolated |
| FDPB3622JSA | 60/60 | 600 | 28.875 | 8.10 | 8.25 | 26 | Eaton | Interpolated |
| FDPB3623JSA | 60/100 | 600 | 28.875 | 8.10 | 8.25 | 26 | Eaton | Interpolated |
| FDPB3624JSA | 60/200 | 600 | 28.875 | 8.10 | 8.25 | 29 | Eaton | Interpolated |
| FDPB3633JSA | 100/100 | 600 | 28.875 | 8.10 | 8.25 | 26 | Eaton | 2 |
| FDPB3634JSA | 100/200 | 600 | 28.875 | 8.10 | 8.25 | 29 | Eaton | Interpolated |
| FDPB3644JSA | 200/200 | 600 | 28.875 | 8.10 | 8.25 | 32 | Eaton | 2 |

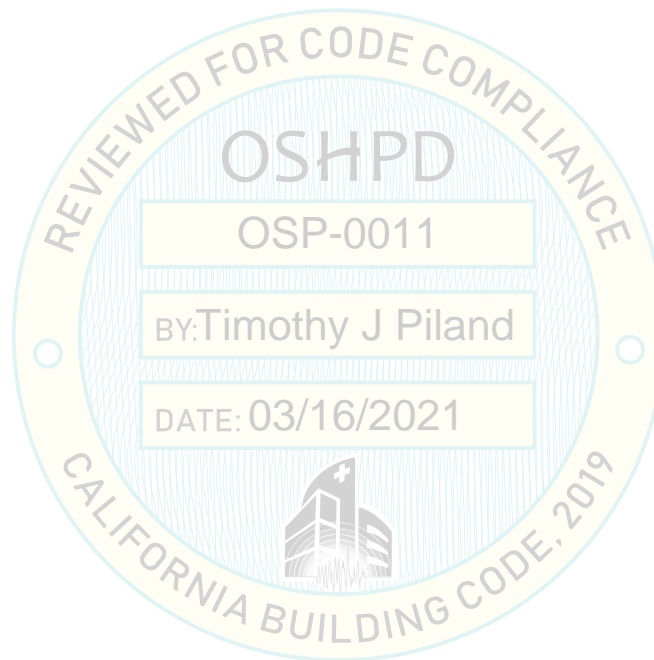
| Control Relays | | | | | | | | |
|----------------|-------------------|-------|------------------|--------|-------|---------------|--------------|--------------|
| Model | Operating Voltage | Poles | Dimensions (in.) | | | Weight (lbs.) | Manufacturer | Unit |
| | | | Width | Height | Depth | | | |
| D5PR3A-A3 | 120 Vac | 3 | 1.37 | 2.31 | 1.37 | 0.19 | Eaton | 1, 19 |
| D5PR3T1 | 24 Vdc | 3 | 1.50 | 2.18 | 1.38 | 0.19 | Eaton | Interpolated |
| 2961419 | 120 Vac | 1 | 0.50 | 1.14 | 0.62 | 0.03 | Phoenix | 2 |

| Transformers | | | | | | | | | |
|--------------|-------------------|-----------|------------------|--------|-------|---------------|------------------|--------------|--------|
| Model | Voltage (Primary) | Size (VA) | Dimensions (in.) | | | Weight (lbs.) | Winding Material | Manufacturer | Unit |
| | | | Width | Height | Depth | | | | |
| C0100E5EFB | 480 Vac | 100 | 3.75 | 4.63 | 3.62 | 5.77 | Copper | Eaton | 1,2,19 |

Certified Enclosures¹ - Elevator Control

| Model Number | Enclosure Dimensions (in.) | | | NEMA Enclosure Ratings | Manufacturer | UUT |
|--------------|----------------------------|--------|-------|------------------------|--------------|--------------|
| | Width | Height | Depth | | | |
| N/A | 17.25 | 29.75 | 11.50 | 1 | Eaton | 1 |
| N/A | 17.25 | 29.75 | 11.50 | 3R, 4 | Eaton | Interpolated |
| N/A | 26.75 | 54.50 | 11.50 | 3R, 4 | Eaton | Interpolated |
| N/A | 26.75 | 54.50 | 11.50 | 1 | Eaton | 19 |
| N/A | 40.50 | 73.75 | 12.00 | 1 | Eaton | Interpolated |
| N/A | 40.50 | 90.25 | 12.00 | 1 | Eaton | 2 |

1. All enclosures made from carbon steel.

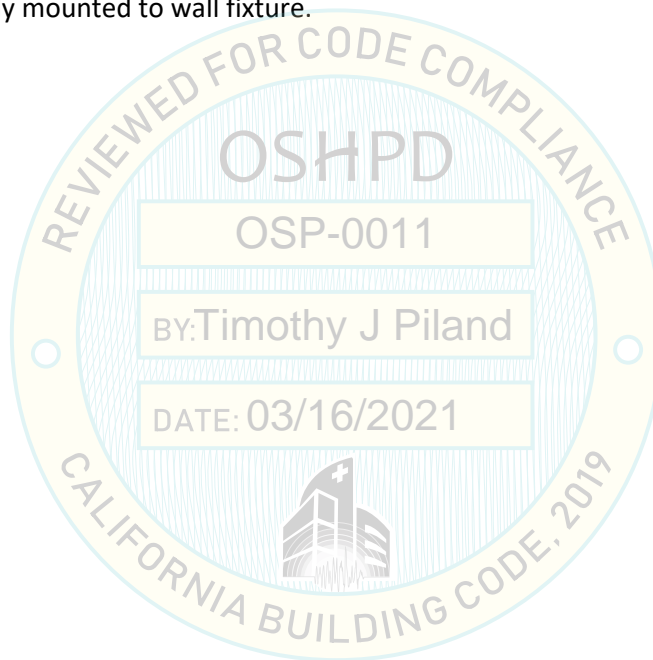




Elevator Control
Resonant Frequency Summary

| Report | UUT | Front to Back (Hz) | Side to Side (Hz) | Vertical (Hz) |
|----------|-----|--------------------|-------------------|---------------|
| 70282R12 | 1 | N/A | N/A | N/A |
| 70282R12 | 2 | N/A | N/A | N/A |
| 70282R12 | 19 | N/A | N/A | N/A |

* - UUT rigidly mounted to wall fixture.



UUT 1 (Unit Under Test) Summary Sheet

Manufacturer: Eaton Corporation

Product Line: Elevator Control

Model Number: ES1T1R1F1B

Product Construction Summary:

Cabinet is constructed of mild carbon steel, NEMA 1 Enclosure rating.

Options/Component Summary: Relay (D5PR3A-A3), Control Transformer (C0100E5EFB), Molded Case Switch (F Frame)

UUT Properties (As Tested)

| Weight (lb) | Dimensions (inches) | | | Lowest Natural Frequency (Hz) | | |
|-------------|---------------------|-------|--------|-------------------------------|-----------|----------|
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 51 | 11.5 | 17.25 | 29.75 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | C.G.-Height (in.) | Sds | z/h | Ip | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|---------------|-------------------|------|-----|-----|--------|--------|--------|--------|
| CBC 2019 | ICC-ES AC156 | N/A | 2.74 | 1 | 1.5 | 4.38 | 3.29 | 1.84 | 0.74 |

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



UUT 1 (top center) was mounted to a rigid wall frame using (4) 3/8-16 bolts. The steel frame was welded to the shake table.

UUT 2 (Unit Under Test) Summary Sheet

Manufacturer: Eaton Corporation

Product Line: Elevator Control

Model Number/UUT Identifier: ECP1200/SM060812-001

Product Construction Summary:

Cabinet is constructed of mild carbon steel, NEMA Enclosure 1 rating.

Options/Component Summary: Molded Case Switch Assemblies (FDPB3612JSA, FDPB3633JSA, FDPB3644JSA). Control Transformer (C0100E5EFB). Relay (2961419).

UUT Properties (As Tested)

| Weight (lbs.) | Dimensions (inches) | | | Lowest Natural Frequency (Hz) | | |
|---------------|---------------------|-------|--------|-------------------------------|-----------|----------|
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 582 | 12 | 40.5 | 90.25 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | C.G.-Height (in.) | Sds | z/h | Ip | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|---------------|-------------------|------|-----|-----|--------|--------|--------|--------|
| CBC 2019 | ICC-ES AC156 | N/A | 2.74 | 1 | 1.5 | 4.38 | 3.29 | 1.84 | 0.74 |

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



UUT 2 (left) was mounted to a rigid wall frame using (4) 1/2-13 bolts. The steel frame was welded to the shake table.

UUT 19 (Unit Under Test) Summary Sheet

Manufacturer: Eaton Corporation

Product Line: Elevator Control

Model Number: ES5T1R1GF3B

Product Construction Summary:

Cabinet is constructed of mild carbon steel, NEMA Enclosure 1 rating.

Options/Component Summary: Relay (D5PR3A-A3), Control Transformer (C0100E5EFB), Molded Case

Switch (L Frame, Series G)

UUT Properties (As Tested)

| Weight (lbs.) | Dimensions (inches) | | | Lowest Natural Frequency (Hz) | | |
|---------------|---------------------|-------|--------|-------------------------------|-----------|----------|
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 142 | 11.5 | 26.75 | 54.5 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | C.G.-Height (in.) | Sds | z/h | Ip | Aflx-H | Arig-H | Aflx-V | Arig-V |
|---------------|---------------|-------------------|------|-----|-----|--------|--------|--------|--------|
| CBC 2019 | ICC-ES AC156 | N/A | 2.74 | 1 | 1.5 | 4.38 | 3.29 | 1.84 | 0.74 |

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



UUT19 (bottom left) was mounted to a rigid wall frame using (4) 1/2-13 bolts. The steel frame was welded to the shake table.