



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0012

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: HD Safety Switches

Product Type: Low Voltage Switching Devices

Product Model Number: See Product Range Summary

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

General Description: Low Voltage (600V) disconnects for use in power distribution systems per UL 98 and KS-1.

Options include fusible and non-fusible, single and double throw, 30-1200A, 2-6 poles, 120-600 Vac/Vdc. NEMA 1, 3R
And 12 type enclosures.

Mounting Description: Rigid wall mounted.

Applicant Information

Applicant Company Name: Eaton

Contact Person: Eddie Wilkie

Mailing Address: 175 Vista Blvd, Arden, NC 28704

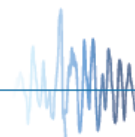
Telephone: 828-651-0707

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: 11/21/19

Title: Director of Engineering Company Name: Eaton





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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

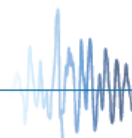
- ☐ Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- ☒ Supports and attachments are not preapproved

Certification Method

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

Testing Laboratory

Company Name: NTS Laboratories DATE: 06/22/2020
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) = 2.0

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): _____

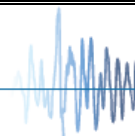
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025

Signature: Timothy J. Piland Date: June 22, 2020

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): _____



Heavy Duty Safety Switches⁴
Seismic Certification
Certified Product Range Summary

Product Numbering System	Current Rating (Amperes)	Primary Voltage Class (Max)	Enclosure Dimensions			Weight (lbs.)	Anchorage Type	Notes	Comments
			Width (in.)	Depth ³ (in.)	Height (in.)				
DHXX1XXK	30	600VAC/1000VDC	8-13	5-6	14-20	16-20	Wall	1,2	Extrapolated
DTXX1XXK									Extrapolated
DCXXX1XXM									Extrapolated
DHXX2XXK	60	600VAC/1000VDC	8-13	5-6	14-20	16-20	Wall	1,2	Extrapolated
DTXX2XXK									Extrapolated
DCXXX2XXM									Extrapolated
DHXX3XXK	100	600VAC/1000VDC	11-16	5-6	22-40	23-50	Wall	1,2	Extrapolated
DTXX3XXK									Extrapolated
DCXXX3XXM									Extrapolated
DHXX4XXK	200	600	16-24	6-7	24-56	38-100	Wall	1,2	Extrapolated
DTXX4XXK									Extrapolated
DT364FRK			20.75	11.25	51.75	92		NEMA 3R CS Enclosure	UUT 15
DHXX5XXK	400	600	23-27	7-9	45-78	115-230	Wall	1,2	Interpolated
DTXX5XXK									Interpolated
DHXX6XXK	600	600	25-29	8-9	52-87	148-320	Wall	1,2	Interpolated
DTXX6XXK									Interpolated
DHXX7XXK	800	600	26-31	8-21	56-89	175-315	Wall	1,2	Interpolated
DTXX7XXK									Interpolated
DHXX8XXK	1200	600	41-44	12-21	71-81	465-528	Wall	1,2	Interpolated
DTXX8XXK									Interpolated
DT368NRK			44	25.5	81	528		NEMA 3R CS Enclosure	UUT 16

1 - NEMA Type 1, 3R, 12 enclosure

2 - Carbon Steel (CS) sheet metal construction

3 - Enclosure dimension only. Does not include handle operator.

4 - Manufactured by Eaton.

Certified Major Component Summary

Enclosures³

Dimensions			NEMA Type Ratings ²	Manufacturer	UUT
Width (in.)	Height (in.)	Depth ¹ (in.)			
8-13	14-20	5-6	1, 3R, 12	Eaton	Extrapolated
8-13	14-20	5-6	1, 3R, 12	Eaton	Extrapolated
11-16	22-40	5-6	1, 3R, 12	Eaton	Extrapolated
20.75	51.75	11.25	3R CS	Eaton	15
23-27	45-78	7-9	1, 3R, 12	Eaton	Interpolated
25-29	52-87	8-9	1, 3R, 12	Eaton	Interpolated
26-31	56-89	8-21	1, 3R, 12	Eaton	Interpolated
44	81	25.5	3R CS	Eaton	16

1 - Enclosure dimension only. Does not include handle operator.

2 - NEMA 3R includes rain shield and gasket material for door. NEMA 12 includes gasket material for seams.

3 - Carbon Steel (CS) sheet metal construction.

Operating Mechanisms

Current Rating (Amperes)	Mechanism Part Number	Material	UUT	Manufacturer
30	95-927	Mild Carbon Steel	Extrapolated	Eaton
60	95-927		Extrapolated	Eaton
100	95-927		Extrapolated	Eaton
200	26-2261		15	Eaton
400	26-2261		Interpolated	Eaton
600	26-2261		Interpolated	Eaton
800	26-2261		Interpolated	Eaton
1200	26-2521		16	Eaton



Safety Switches
Resonant Frequency Summary

Report	UUT	Front to Back (Hz)	Side to Side (Hz)	Vertical (Hz)
70282R12	15	N/A*	N/A*	N/A*
70282R12	16	N/A*	N/A*	N/A*

* - UUT secured to wall fixture.



UUT 15 (Unit Under Test) Summary Sheet

Manufacturer: Eaton Corporation

Product Line: Safety Switches

Model Number: DT364FRK

Product Construction Summary:

Cabinet is constructed of electro-coated carbon steel, NEMA 3R rating.

Options/Component Summary: Operating Mechanism (26-2261)

UUT Properties (As Tested)

Weight (lbs.)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Width	Depth	Height	Front-Back	Side-Side	Vertical
92	20.75	11.25	51.75	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	C.G.-Height (in.)	S_{DS} (g)	z/h	I_p	Aflx-H	Arig-H	Aflx-V	Arig-V
CBC 2019	ICC-ES AC156	N/A	3.10	1	1.5	4.96	3.72	2.08	0.84

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



UUT 15 (center) was mounted to a rigid wall frame using (4) 1/2" bolts. The steel frame was welded to the shake table.

UUT 16 (Unit Under Test) Summary Sheet

Manufacturer: Eaton Corporation

Product Line: Safety Switches

Model Number: DT368NRK

Product Construction Summary:

Cabinet is constructed of electro-coated carbon steel, NEMA 3R rating.

Options/Component Summary: Operating Mechanism (26-2521)

UUT Properties (As Tested)

Weight (lbs.)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Width	Depth	Height	Front-Back	Side-Side	Vertical
528	44	25.5	81	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	C.G.-Height (in.)	S _{DS} (g)	z/h	I _p	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 16 (left) was mounted to a rigid wall frame using (4) 1/2 bolts. The steel frame was welded to the shake table.

Eaton Safety Switch Product Numbering System

Safety Switch

