



**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](mailto: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](mailto: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*

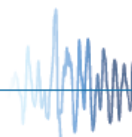
Date: 11/21/19

Title: Director of Engineering

Company Name: Eaton

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

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY  
OSH-FD-759 (REV 09/05/19)





**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](mailto: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): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

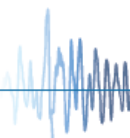
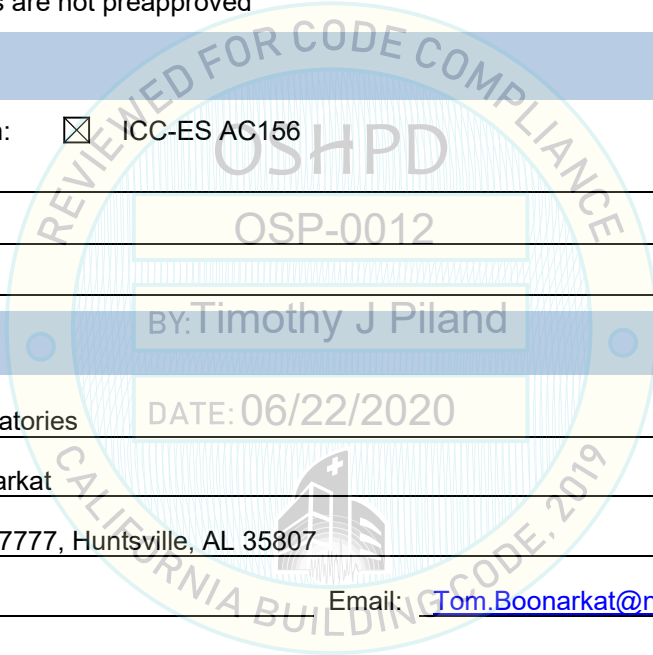
**Testing Laboratory**

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](mailto: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

$\Omega_0$  (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) = \_\_\_\_\_

$\Omega_0$  (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): \_\_\_\_\_

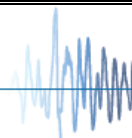
**OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025**

Signature:  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 Switches<sup>4</sup>  
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 <sup>3</sup> (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			20.75	11.25	51.75	92			NEMA 3R CS Enclosure	UUT 15
DT364FRK										
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			44	25.5	81	528			NEMA 3R CS Enclosure	UUT 16
DT368NRK										

- 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 Enclosures<sup>3</sup>

Dimensions			NEMA Type Ratings <sup>2</sup>	Manufacturer	UUT
Width (in.)	Height (in.)	Depth <sup>1</sup> (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 <sub>DS</sub> (g)	z/h	I <sub>p</sub>	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 <sub>DS</sub> (g)	z/h	I <sub>p</sub>	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

