

Switching Devices



EATON

Powering Business Worldwide



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Switching Devices

Safety Switches

Product Selection Guide

	Voltage	Fuse Type		Number of Poles	Enclosure Type				NEMA 4 Painted Steel	NEMA 4X Stainless Steel	NEMA 4X Non Metallic	NEMA 7/9 Hazardous Location	Page #
					NEMA 1	NEMA 3R	NEMA 12						
Air Conditioning Disconnect	Max. 240 Vac	Fusible	Cartridge	2	—	30-60A	—	—	—	—	—	—	18
		Non-Fusible	—	2	—	60A	—	—	—	—	—	—	
		Moulded Case Switch	—	2	—	60A	—	—	—	—	—	—	
		Non-Fusible	—	3	—	30-80A	—	—	—	—	—	—	
General Duty	Single Throw Max. 240 Vac	Fusible	Cartridge	2	30-600A	30-600A	—	—	—	—	—	—	23
		Non-Fusible		3	30-600A	30-600A	—	—	—	—	—	—	
				2	30-100A	30-200A	—	—	—	—	—	—	
				3	30-600A	30-600A	—	—	—	—	—	—	
Heavy Duty	Single Throw Max. 600 Vac 250 Vdc & 600 Vdc	Fusible	Cartridge	2	30-800A	30-800A	30-800A	400-800A	30-800A	—	—	—	28
		Non-Fusible		3	30-1200A	30-1200A	30-1200A	400-800A	30-1200A	30-200A	30-100A	—	
				4	30-600A	—	30-600A	—	30-600A	—	—	—	
				2	30-800A	30-800A	30-800A	400-800A	30-800A	—	—	—	
				3	30-1200A	30-1200A	30-1200A	400-800A	30-1200A	30-200A	30-100A	—	
				4	30-600A	—	30-600A	—	30-600A	—	—	—	
Heavy Duty Double Door	Single Throw Max. 600 Vac	Fusible	Cartridge	2	—	—	30-1200A	—	30-1200A	—	—	—	39
		—	—	3	—	—	30-1200A	—	30-1200A	—	—	—	
6-Pole Motor Circuit	Single Throw Max. 600 Vac	Fusible and Non-Fusible		6	—	30-200A	30-200A	—	30-200A	—	—	—	71
Double Throw	Max. 600 Vac 250 Vdc	Fusible	Cartridge	2	200A	200A	—	—	—	—	—	—	43
				3	30-1200A	100-1200A	30-400A	—	30-400A	—	—	—	
				4	—	—	—	—	—	—	—	—	
		Non-Fusible		2	30-1200A	200-1200A	—	—	—	—	—	—	
				3	30-1200A	30-1200A	300-800A	—	300-800A	—	—	—	
				4	200-800A	30-800A	—	—	—	—	—	—	
Enclosed Rotary Switches	Max. 600 Vac	Non-Fusible		3	—	—	16-80A	—	16-80A	16-80A	—	—	110
				4	—	—	16-80A	—	16-80A	16-80A	—	—	
Hazardous Location Disconnect Switch	Max 600 Vac 250 Vdc	Fusible and Non-Fusible		3	—	—	—	—	—	—	—	30-100A	91
Enviroline All Stainless	Single Throw Max. 600 Vac/ Vdc	Fusible	Cartridge	2	—	—	—	—	30-400A	—	—	—	87
		Non-Fusible		3	—	—	—	—	30-400A	—	—	—	
				3	—	—	—	—	30-400A	—	—	—	
Viewing Window	Single Throw Max. 600 Vac/ Vdc	Fusible and Non-Fusible		2	—	—	30-1200A	30-1200A	30-1200A	—	—	—	81
				3	—	—	30-1200A	30-1200A	30-1200A	—	—	—	
				4	—	—	30-600A	30-600A	30-600A	—	—	—	
				6	—	—	30-200A	30-200A	30-200A	—	—	—	
Receptacle (Pin & Sleeve)	Single Throw Max. 600 Vac/ Vdc	Fusible	Cartridge	3	—	—	30-100A	—	30-100A	—	—	—	61
		Non-Fusible	—	3	—	—	60A	—	60A	—	—	—	
Quick Connect (Cam & Posi Lok)	Single Throw Max. 600 Vac	Fusible	Cartridge	2	100-800A	100-800A	—	—	—	—	—	—	54
				3	100-800A	100-800A	—	—	—	—	—	—	
				4	100-800A	100-800A	—	—	—	—	—	—	
	Double Throw Max. 600 Vac	Non-Fusible		2	100-800A	100-800A	—	—	—	—	—	—	
				3	100-800A	100-800A	—	—	—	—	—	—	
Solar	Single Throw Max. 600 Vdc	Fusible and Non-Fusible		1(3)	—	30-600A	30-600A	30-600A	—	—	—	—	95
				1(3)	—	30-600A	30-600A	30-600A	—	—	—	—	
Surge		Fusible and Non-Fusible		2	—	—	30-1200A	—	30-1200A	—	—	—	73
				3	—	—	30-1200A	—	30-1200A	—	—	—	
OEM Line Isolation (OLI)		Fusible and Non-Fusible		2	—	—	30-400A	—	30-400A	—	—	—	121
				3	—	—	30-400A	—	30-400A	—	—	—	

Note:

NEMA 12 enclosures (30-1200A) can be field modified to meet NEMA 3R rainproof requirements when a factory provided drain screw is removed. Optional windows also available with NEMA 12 or 4/4X enclosures. Double throw non-fusible 4 pole 30-800A, 6 pole 30-100A.

Product Overview

- Used to open or close a circuit
- Non-fusible safety switches provide a means to manually connect or disconnect the load from the source
- Fusible safety switches provide a means to manually open and close a circuit and provide overcurrent protection by means of installed fuses
- Fusible switches suitable for service entrance application when equipped with factory-installed neutral assembly
- Also commonly referred to as a disconnect switch or disconnect

- Available from 30–1200A
- All Padlockable
- Horsepower rated
- 100% load break rated (unless noted)
- Non-Fusible switches are 100% continuous duty rated and fusible switches are 80% continuous duty rated per CSA C22.2 No.4

Standards and Certifications

- C22.2 No.4 File #69743
- C22.2 No.14 (Enclosed Rotary) File #162136
- Det Norske Veritas
- ISO 9001:2008
- CSA certified Class I, Div, 1 & 2, Groups B, C & D; Class II, Div 1 & 2, Groups E, G & F; Class III, Div 1 & 2, Zone 1, IIB + H2 for NEMA 7/9.
- Seismic qualified (UBC and CBC) for Heavy Duty 30-800A
- ISO 1400



* unless otherwise noted

Fuse Clips/Class**Adaptable to Accept the Following Fuse Class**

Safety Switch Type	Standard Fuse Class Clips Supplied with Switch	Adaptable to Accept the Following Fuse Class		
		R	J	T
AC Disconnect	H	—	—	—
General Duty	H	30-600A	400-600A	400-600A
Heavy Duty	H 30-600A L 800-1200A	30-600A	240V: 100-600A 600V: 30-600A	200-800A 1200A
Heavy Duty 6 Pole	H	30-200A	60-200A	200A
Double-Throw	H 240 V/600V: 30-400A R 240V/600V: 30-400A L 240V/600V: 800-1200A	240V:30-400A 600V: 30-400A	240V (Nema 1/3R): 600A 600V (Nema 1/3R): 600A	240V (Nema 12/4x): 600A 600V: 400A 600V (Nema 12/4x): 600A
Enviroline	Same as Heavy Duty	Same as Heavy Duty		Same as Heavy Duty
Receptacle (Pin & Sleeve)	H	30-100A	60-100A	—
Solar	R	30-600A	—	—

Note:


Refer to specific switch technical data page for field adaptation notes.

Switching Devices

Safety Switches

Options and Accessories

Safety Switches

	Description	Catalogue Number
	Neutral Kits*/Ground Kits	
	30A CDG	DG030NB
	60–100A CDG	DG100NB
	200A GD, (NEMA 3R enclosures), CDG	DG200NK
	30–60A HD	DH030NK
	100A HD	DH100NK
	200A HD (NEMA 1, 3R enclosures)	N200
	200A HD (NEMA 4X, 12 enclosures)	DH200NK
	400A GD, HD	DS400NK
	600A GD, HD	DS600NK
	400–600A fusible DT, 800–1200A HD	DS800NK
	30–100A DT	DT100NK
	200A DT	DT200NK
	400A non-fusible DT	DT400NK
	600A non-fusible DT	DT600NK
	800A DT	DT800NK
	1200A DT	DT1200NK
	Ground Lug Kits	
	30–100A CDG	DG030GB
	30–100A HD, DT ①	DS100GK
	200A GD, HD, DT	DS200GK
	400–600A GD, 400–1200A HD, 400–800A DT	DS468GK

DS16CP



Control Pole Kit (For 2P, 3P Switches)①

400–600A GD, 30–1200A HD, 30–800A
DT, 1 N/O Aux contact

Control Pole Description - Operation - The HD-Series Control Pole provides one normally open contact, late-make, early-break operation (7° lag to main contacts on “make”). It mounts in the same position with pre-drilled holes as the neutral block, directly connected to the power pole operating shaft. Direct connection and visible blades provide more secure electrical interlocking than handle linkage operation of a snap switch type of interlock. This reliability meets the requirements of many specifications for 4-pole switches when the fourth pole is required for secure electrical interlocking. Unit is approved for use with elevating devices.

Wire Size Range - #16 to #12 AWG, copper conductors.

Ratings - 10A continuous, AC or DC

AC Code Rating A600			DC Code Rating N600	
Volts AC	Make	Break	Volts DC	Make & Break
120V	60A	6A	125V	2.2A
240V	30A	3A	250V	1.1A
480V	15A	1.5A	600V	0.4A
600V	12A	1.2A	—	—

DS200EK1



Auxiliary Contact Kits

All switches (except 30–100A GD) 1NO/1NC	DS200EK1
All switches (except 30–100A GD) 2NO/2NC	DS200EK2
NEMA 7/9 switches (30–100A) 1NO/1NC	178C265G05
NEMA 7/9 switches (30–100A) 2NO/2NC	178C265G06
Enclosed Rotary	See page 105

Safety Switches, continued

	Description	Catalogue Number
	Fuse Puller Kits	
	30A 240V-600V, 60A 240V, 1.5" pole spacing, SLIDER type (3 per kit)	DS32FP
	30 & 60A 600V, 1.5" pole spacing STRAP type (3 per kit)	DS30FP
	60A 240V-600V, 2" pole spacing SLIDER type (4 per kit)	DS60FP
	100A SLIDER integral to fuse clip (3 per kit)	DS100FP
	200A SLIDER integral to fuse clip (3 per kit)	DS200FP
	"J" Fuse Adapter Kits ⑤	
	60A 240V HD ②	DS22JK
	60A DT and receptacle switches ②	DS26JK
	400A 600V DT ④	DT400JK
	600A 240–600V HD, 600A GD ③	DS600JK
	"R" Fuse Rejector Adapter Kits ②	
	30A CDG	DG030RB
	100A CDG	DG100RB
	30A 240V HD, DT	DS12FK
	30A 600V HD, DT, 60A 240V HD, DT, 60A CDG	DS16FK
	60A 600V HD, DT	DS26FK
	100A 240–600V HD, DT	DS36FK
	200A 240–600V HD, DT, 200A GD, CDG	DS46FK
	400A 240–600V HD, 240V DT, 400A GD	DS56FK
	600A 240–600V HD, 600A GD	DS66FK
	"T" Fuse Adapter Kits	
	200A 240V HD ②	DS426TK
	200A 600V HD ②	DS466TK
	400A 240V GD, HD ③	DS526TK
	400A 600V HD ③	DS566TK
	600A 240V GD, HD ③	DS626TK
	600A 600V HD ③	DS666TK
	800A 240V HD ③	DS726TK
	800A 600V HD ③	DS766TK
	Form II Class C Clips ⑥	
	30, 60A HD (1 kit for 1-3 pole switch)	F2CLIP30
	100A HD (1 kit for 3 poles)	F2CLIP100
	200A HD (1 kit for 3 poles)	F2CLIP200
	400A HD (1 kit for 3 poles)	F2CLIP400

① For 6 pole switches with control pole DS16CP contact sales for special order.

② Order one kit for three poles.

③ Order one kit for each pole.

④ Order one kit per switch.

⑤ Majority of switches do not require fuse adapter kits, or kit is included. Fuse blocks or fuse clips are field adaptable. See fuse class adaptation notes under technical data and specifications, for specific switch categories.

⑥ Centre blade class 'C' fuse must be used.

Note:

Accessories are not applicable to NEMA 7/9 switches unless indicated otherwise.

*Suitable for service entrance application when equipped with factory-installed neutral assembly

Options and Accessories - Continued

DS36CL



Safety Switches

Copper Lug Kits

30A HD, DT ^②	DS16CL
60A HD, DT ^②	DS26CL
100A HD, DT ^②	DS36CL
200A HD, DT ^②	DS46CL
400A HD, (NEMA 4, 4X, 12 enclosures) ^③	DS56CL
600-800A HD, (NEMA 4, 4X, 12 enclosures) ^③	DS66CL

Crimp Lug Pad Kit (NEMA 4, 4X, 12 Enclosures)

400-600A HD ^②	DS56CK
800A HD ^②	DS76CK
400-800A neutral HD ^②	DS800CNK

Replacement Red Operating Handle (Knob only)

Hookstick handle - GD, HD 200-600A, 30-100 NEMA 12 with or without window	DH800HSH
---------------------------------------------------------------------------	-----------------

Lubricating grease for safety switch blades and contacts (each kit contains three 30 cc tubes of lubricating grease) **DSLUBEKIT**

Clear Line Shields (for General Duty 200-600A)

200A GD	70-7759-11
400A GD	70-8063-8
600A GD	70-8064-8

Note:

Refer to page 4 for footnotes ^②, ^③, ^④

DS56CK



DS050MH



Myers Type Hubs

For NEMA 3R (400A and above) and NEMA 4, 4X (stainless steel), 12

Catalogue Number	Conduit Size
DS050MH	0.50 (12.7)
DS075MH	0.75 (19.1)
DS100MH	1.00 (25.4)
DS125MH	1.25 (31.8)
DS150MH	1.50 (38.1)
DS200MH	2.00 (50.8)
DS250MH	2.50 (63.5)
DS300MH	3.00 (76.2)
DS350MH	3.50 (88.9)
DS400MH	4.00 (101.6)
DS500MH	5.00 (127.0)

Note:

3R enclosures include hub opening and cover plate 30-200A.

DS075H1



Plate Type Hubs

For NEMA 3R enclosures (up to 200A)

Group 1
General Duty, Heavy Duty,
Double-Throw Through 100A

Catalogue Number	Conduit Size
DS075H1	0.75 (19.1)
DS100H1	1.00 (25.4)
DS125H1	1.25 (31.8)
DS150H1	1.50 (38.1)
DS200H1	2.00 (50.8)

Group 2
General Duty, Heavy Duty,
Double-Throw—200A

Catalogue Number	Conduit Size
DS200H2	2.00 (50.8)
DS250H2	2.50 (63.5)
DS300H2	3.00 (76.2)
—	—
—	—

Catalogue number **DS900AP** adapter kit - permits installation of group 1 hubs on 200 ampere general duty, heavy duty, and double-throw switches.

Note:

3R enclosures include hub opening and cover plate 30-200A.

Switching Devices

Safety Switches

Technical Data and Specifications

Standard Lug Capacities - Safety Switches/Ground/Neutral/Copper Lug Kits

Description - Safety Switches	Minimum Wire Capacity	Maximum Wire Capacity	Wire Type
30A CDG	#14	#6	Cu/Al
30A HD, DT	#14	#2	Cu/Al
60A CDG	#14	#1/0	Cu/Al
60A HD, DT	#14	#2	Cu/Al
100A CDG ^①	#14	#1/0	Cu/Al
100A HD, DT	#14	#1/0	Cu/Al
200A CDG, GD, DT	#6	250 kcmil	Cu/Al
200A HD NEMA 1 and 3R	#6	250 kcmil	Cu/Al
200A HD NEMA 4 and 12	#6	300 kcmil	Cu/Al
400A GD, HD, DT	(2) #1/0 ^① (1) #1/0 ^①	(2) 300 kcmil ^① or (1) 750 kcmil ^①	Cu/Al Cu/Al
600A GD, HD, fusible DT	(1) #2 ^① (1) #1/0 ^①	(1) 600 kcmil ^① and (1) 750 kcmil ^①	Cu/Al Cu/Al
600A non-fusible DT	(2) #250 ^①	(2) 500 kcmil ^①	Cu/Al
800A HD	(4) #1/0 ^①	(4) 750 kcmil ^①	Cu/Al
800A DT	(3) #250 ^①	(3) 500 kcmil ^①	Cu/Al
1200A HD, DT	(4) #1/0 ^①	(4) 750 kcmil ^①	Cu/Al
Ground Lugs			
Standard with switch 30-200A	#14	#4 (continuous ground rated)	Cu/Al
Standard with switch 400A-1200A	#6	250mcm (continuous ground rated)	Cu/Al
Optional Ground Lugs			
DG030GB, 30-100A, CDG	#14	#4	Cu/Al
DS100GK, 30-100A HD, DT (10 per kit)	7 x #14	7 x #4	Cu/Al
DS200GK, 200A GD, HD, DT 400-600A GD, 400-800A HD	2 x #14	2 x #2	Cu/Al
DS468GK, 400-800A DT, 1200A HD	2 x #6	2 x 250mcm	Cu/Al
Copper-Bodied Lug Kits			
DS16CL, 30A Cu, 6 per kit	#14	#6	Cu
DS26CL, 60A Cu, 6 per kit	#14	#4	Cu
DS36CL, 100A Cu, 6 per kit	#6	#1/0	Cu
DS46CL, 200A Cu, 6 per kit	#6	250 kcmil	Cu
DS56CL, 400A Cu, 2 per kit	#1/0	500 kcmil	Cu
DS66CL, 600A Cu, 2 per kit	(2) #1/0 ^①	(2) 500 kcmil ^①	Cu
Neutral Kits - All neutral lugs accomodate Cu/Al wire			
DG030NB, 30A, CDG	3 x #14 - #4		
DG100NB, 60-100A, CDG	3 x #14 - 1/0		
DG200NK, 200A, GD, CDG	2 x #6 - 250mcm and #14 - #2		
DH030NK, 30-60A, HD	4 x #14 - #2		
DH100NK, 100A, HD	2 x #14 - #2 and #14 - 1/0		
DH200NK, 200A HD (NEMA 12, 4X encl.)	2 x #6 - 300mcm and 2 x #14 - #2		
N200, 200A HD (NEMA 1, 3R encl.)	2 x #6 - 250mcm and #14 - #2		
DS400NK, 400A HD	2 x 1/0 - (1)750mcm ^① or 1/0 - (2) 300mcm ^① and 3 x #6 - 250mcm		
DS600NK, 600A, GD, HD	2 x 1/0 - (1)750mcm ^① or 1/0 - (2) 300mcm ^① and 1 x #2 - 600mcm and 3 x #6 - 250mcm		
DS800NK, 400-600A Fusible DT, 800A HD, 1200A HD	2 x 3/0 - (4)750mcm ^① and 3 x #6 - 250mcm		
DT100NK, 30-100A DT	1 x #14 - #2 and 3 x #14 - #2		
DT200NK, 200A DT	3 x #6 - 250mcm and 1 x #14 - #2		
DT400NK, 400A Non Fusible DT	7 x #6 - 250mcm		
DT600NK, 600A Non Fusible DT	6 x 250 - 500mcm and 1 x #6 - 250mcm		
DT800NK, 800A DT	3 x (3)250mcm ^① - (3)500mcm		
DT1200NK, 1200A DT	3 x (4)1/0 ^① - (4) 750mcm ^①		

① Number in parentheses indicates number of conductors per phase.

Alternate lug capacities^①

Description	Minimum wire size	Maximum wire size	Wire type	Catalogue number suffix	Line/load ^⑧
30 A, 60 A, 100 A HD fusible	(3) #14	(3) #2	Cu/Al	"-00LA" ^⑥	
30 A, 60 A, 100 A HD	(3) #14	(3) #2	Cu/Al	"-LALN" ^⑥	Line lugs only
30 A, 60 A, 100 A HD fusible	(3) #14	(3) #2	Cu/Al	"-LALD" ^⑥	Line lugs only
30 A, 60 A, 100 A HD fusible	(2) #14	(2) #2/0	Cu/Al	"-00LB" ^⑥	
30 A, 60 A, 100 A HD	(2) #14	(2) #2/0	Cu/Al	"-LBLN" ^⑥	Line lugs only
30 A, 60 A, 100 A HD fusible	(2) #14	(2) #2/0	Cu/Al	"-LBLD" ^⑥	Line lugs only
30 A, 60 A HD	#14	#1/0	Cu/Al	"-LSE3" ^⑦	
100 A HD NEMA 1 and 3R	#6	250 kcmil	Cu/Al	"-LSE4" ^⑦	
100 A HD NEMA 4X and 12	#6	300 kcmil	Cu/Al	"-LSE4" ^⑦	
200 A HD	(2) #1/0 (1) #1/0	(2) 300 kcmil (1) 750 kcmil	Cu/Al or Cu/Al ^⑨	"-LSE5" ^⑧	
400 A HD	(1) #2 (1) #1/0	(1) 600 kcmil (1) 750 kcmil	Cu/Al and Cu/Al ^⑨	"-LSE6" ^⑨	
600 A HD	(4) #1/0	(4) 750 kcmil	Cu/Al	"-LSE7" ^⑩	

① Number in parentheses indicates number of conductors per phase.

② Single barrel lug that accepts one or two cables per phase as detailed above.

③ Double barrel lug that accepts two cables per phase as detailed above.

④ Alternate lugs are available as factory-installed options only, through the Switching Device Flex Center. Field kits are not available.

⑤ The alternate lugs will be provided on both line and load side, unless otherwise noted.

⑥ Uses the 100 A switch enclosure and dimensions.

⑦ Uses the 200 A switch enclosure and dimensions.

⑧ Uses the 400 A switch enclosure and dimensions.

⑨ Uses the 600 A switch enclosure and dimensions.

⑩ Uses the 800 A switch enclosure and dimensions.

Switching Devices

Safety Switches

Heavy Duty (HD) Switches Fuse Class Chart

Ampere	Voltage	Factory Fuse Class	R Fuse Kit	T Fuse Kit	J Fuse Kit
30	240	H	DS12FK	n/a	n/a
30	600	H	DS16FK	n/a	Field modified
60	240	H	DS16FK	n/a	n/a
60	600	H	DS26FK	n/a	Field modified
100	240/600	H	DS36FK	n/a	Relocate clips/base
200	240	H	DS46FK	DS426TK	Relocate clips/base
200	600	H	DS46FK	DS466TK	Relocate clips/base
400	240	H	DS56FK	DS526TK	Relocate clips/base
400	600	H	DS56FK	DS556TK	Relocate clips/base
600	240	H	DS66FK	DS626TK	DS600JK
600	600	H	DS66FK	DS666TK	DS600JK
800	240	L	n/a	DS726TK	n/a
800	600	L	n/a	DS766TK	n/a
1200	240	L	n/a	Relocate bases	n/a
1200	600	L	n/a	n/a	n/a

General Duty (CDG) Switches Fuse Class Chart

Ampere	Voltage	Factory Fuse Class	R Fuse Kit	T Fuse Kit	J Fuse Kit
30	240	H	DG030RB		
60	240	H	DS16FK		
100	240	H	DG100RB		
200	240	H	DS46FK		
400	240	H	DS56FK	DS526TK	
600	240	H	DS66FK	DS626TK	DS600JK

Double Throw (DT) Switches Fuse Class Chart

Ampere	Voltage	Factory Fuse Class	R Fuse Kit	T Fuse Kit	J Fuse Kit
30	240	H	DS12FK	n/a	n/a
30	600	H	DS16FK		n/a
60	240	H	DS16FK	n/a	n/a
60	600	H	DS26FK	n/a	n/a
100	240/600	H	DS36FK		n/a
200	240/600	H	DS46FK		n/a
400	240	H	DS56FK		n/a
400	600	T			DT400JK
600	240	J		DT626TK	n/a
600	600	J		DT666TK	n/a
800	240/600	L			DS766TK
1200	240/600	L			n/a

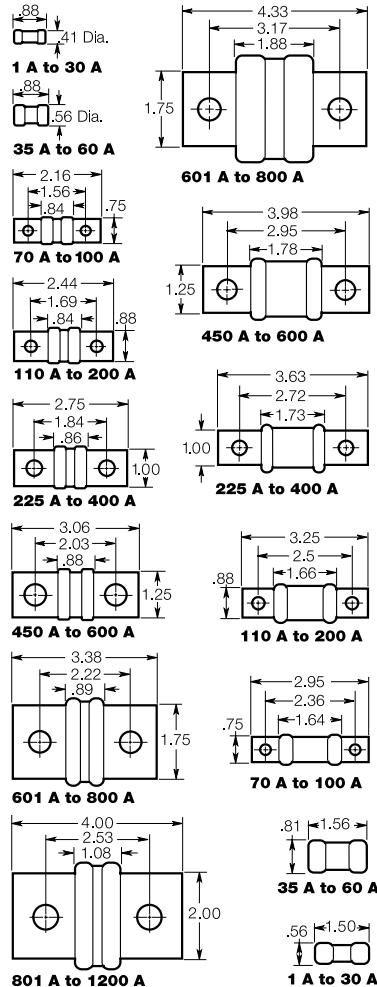
Quick connect double throw fuse class chart

Ampere	Voltage	Factory Fuse Class	Optional Fuse Kit	Optional Fuse Kit
100A	240/600V	Class H	DS36FK (R) 3P	n/a
200A	240/600V	Class H	DS46FK (R) 3P	Move forward class J
400A	240V	Class T	-	n/a
400A	600V	Class T	DT400JK (J) 6P	n/a
600A	240V	Class T	-	n/a
600A	600V	Class T	-	n/a
800A	240V	Class T	-	n/a
800A	600V	Class T	-	n/a
1200A	240V	Class L	-	n/a
1200A	600V	Class L	-	n/a

Typical Fuse Dimensions in Inches

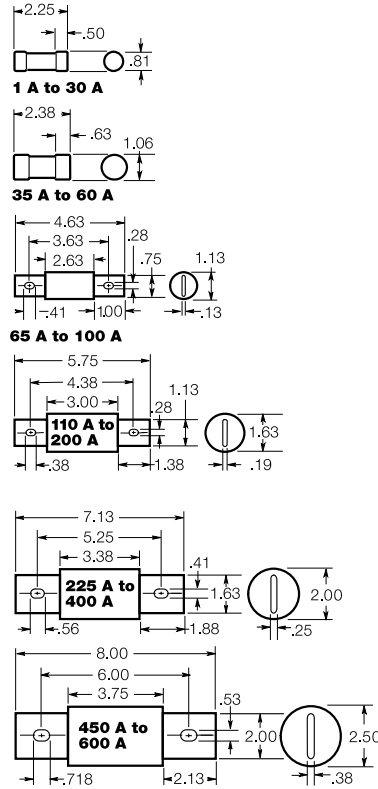
Class T

T-Tron™ Fuses
JJN (300V) JJS (600V)



Class J

Low-Peak® and Limitron® Fuses
LPJ & JKS (600V)

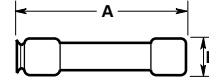


Class RK5 and RK1

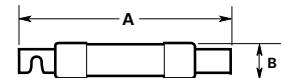
Fusetron®, Low-Peak and Limitron Fuses (250 and 600V)

FRN-R and FRS-R; LPN-RK and LPS-RK; KTN-R and KTS-R
Basic dimensions are same as Class H (formerly NEC) ONE-TIME (NON and NOS) and SUPERLAG Renewable RES and REN fuses.

Note: These fuses can be used to replace existing Class H, RK1 and RK5 fuses relating to dimensional compatibility.



Ampere	250V		600V	
	A	B	A	B
1/10-30	2.00	0.56	5.00	0.81
35-60	3.00	0.81	5.50	1.06



Fusetron and Limitron

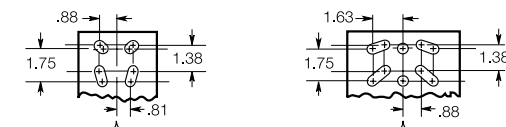
Ampere	250V		600V	
	A	B	A	B
70-100	5.88	1.06	7.88	1.34
110-200	7.13	1.56	9.63	1.84
225-400	8.63	2.06	11.63	2.59
450-600	10.38	2.59	13.38	3.13

Low-Peak

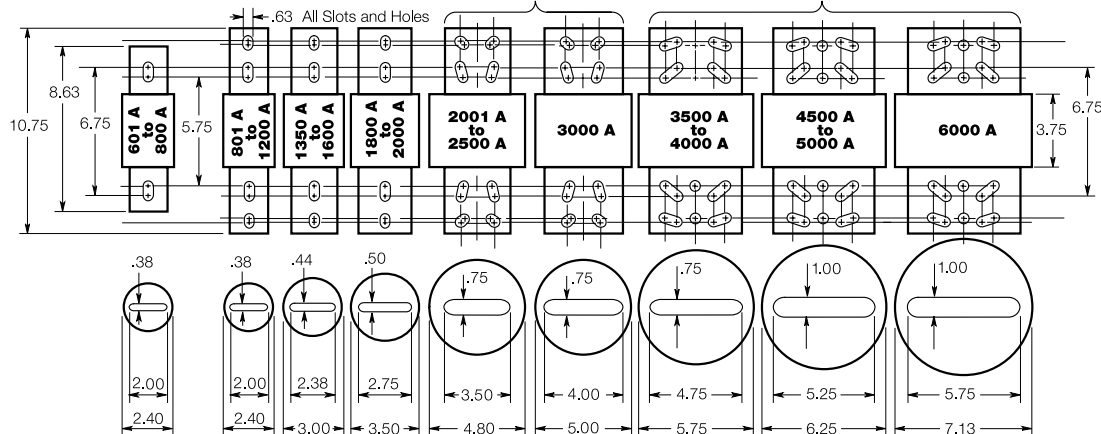
Ampere	250V		600V	
	A	B	A	B
70-100	5.88	1.16	7.88	1.16
110-200	7.13	1.66	9.63	1.66
225-400	8.63	2.38	11.63	2.38
450-600	10.38	2.88	13.38	2.88

Class L Low-Peak and Limitron Fuses

KRP-C, KTU & KLU (601-4000A) (600V)



Note: KRP-CL (150-600A) fuses have same dimensions as 601-800A case size. KTU (200-600A) have same dimensions, except tube 3-inch lgth. x 2-inch dia.; terminal 1.63-inch width x 1.25-inch thick.



Note:

Eaton does not supply fuses - information for reference only.

Typical Fuse Dimensions in Millimeters

Class T

T-Tron Fuses
JJN (300V)

1 A to 30 A

35 A to 60 A

70 A to 100 A

110 A to 200 A

225 A to 400 A

450 A to 600 A

601 A to 800 A

801 A to 1200 A

JJS (600V)

601 A to 800 A

450 A to 600 A

225 A to 400 A

110 A to 200 A

70 A to 100 A

35 A to 60 A

1 A to 30 A

Class J

Low-Peak and Limitron Fuses
LPJ and JKS (600V)

1 A to 30 A

35 A to 60 A

65 A to 100 A

110 A to 200 A

225 A to 400 A

450 A to 600 A

601 A to 800 A

801 A to 1200 A

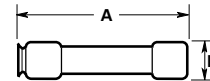
Class RK5 and RK1

Fusetron, Low-Peak and Limitron Fuses (250 and 600V)

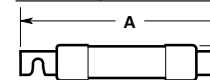
FRN-R and FRS-R; LPN-RK and LPS-RK; KTN-R and KTS-R

Basic dimensions are same as Class H (formerly NEC) ONE-TIME (NON and NOS) and SUPERLAG Renewable RES and REN fuses.

Note: These fuses can be used to replace existing Class H, RK1 and RK5 fuses relating to dimensional compatibility.



Ampere	250V		600V	
	A	B	A	B
1/10-30	50.8	14.3	127.0	20.6
35-60	76.2	20.6	139.7	27.0



Fusetron and Limitron

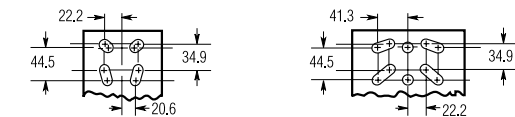
Ampere	250V		600V	
	A	B	A	B
70-100	149.2	26.9	200.0	34.0
110-200	181.0	39.6	244.5	46.7
225-400	219.1	52.3	295.3	65.8
450-600	263.5	65.8	339.7	79.5

Low-Peak

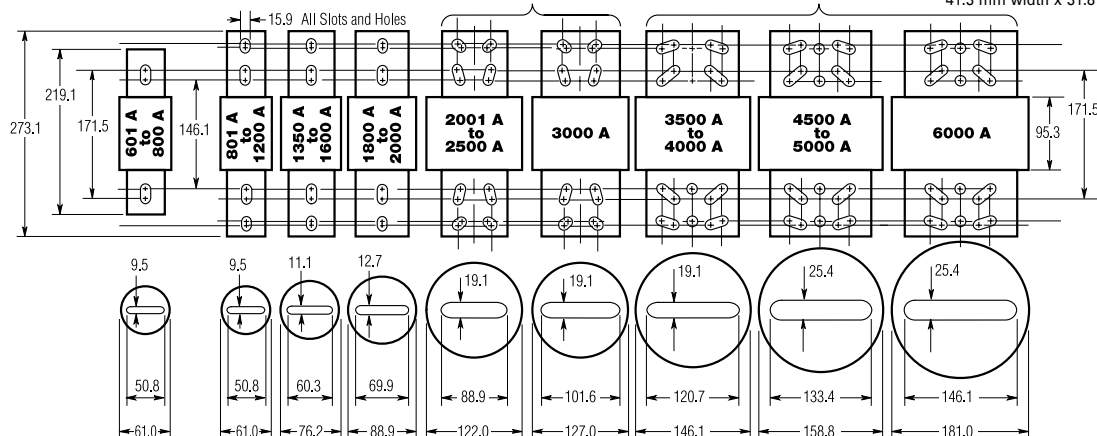
Ampere	250V		600V	
	A	B	A	B
70-100	149.2	29.5	200.0	29.5
110-200	181.0	42.2	244.5	42.2
225-400	219.1	60.5	295.3	60.5
450-600	263.5	73.2	339.7	73.2

Class L Low-Peak and Limitron Fuses

KRP-C, KTU and KLU (601-4000A) (600V)



Note: KRP-CL (150-600A) fuses have same dimensions as 601-800A case size. KTU (200-600A) have same dimensions, except tube 76.2 mm lgth. x 50.8 mm dia.; terminal 41.3 mm width x 31.8 mm thick.



Note: Eaton does not supply fuses - information for reference only.

General Duty Short-Circuit Ratings (kA) Using Class “R”, “J” or “T” Fusing where Applicable

Ampere Rating	NEMA 1	NEMA 3R
30	100 at 240V	100 at 240V
60	100 at 240V	100 at 240V
100	100 at 240V	100 at 240V
200	100 at 240V	100 at 240V
400	100 at 240V	100 at 240V
600	100 at 240V	100 at 240V

Heavy Duty Short-Circuit Ratings (kA) Using Class “R”, “J”, “L” or “T” Fusing where Applicable

Ampere Rating	NEMA 1	NEMA 3R	NEMA 12	NEMA 4 & 4X
30	200 at 600V	200 at 600V	200 at 600V	200 at 600V
60	200 at 600V	200 at 600V	200 at 600V	200 at 600V
100	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 600V	200 at 600V
200	200 at 600V	200 at 600V	200 at 600V	200 at 600V
400	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V
600	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V
800 ^①	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V
1200 ^①	200 at 600V	200 at 600V	200 at 600V	200 at 600V

^① Class “L” fuse connectors supplied as standard for 800A and 1200A.

Note:

Class “H” fuse clips supplied as standard for 30-600A.
Rated at 10,000 rms when using class “H” fuses.

Double-Throw Short-Circuit Ratings (kA) Using Class “R”, “J” or “T” Fusing where Applicable

Ampere Rating	NEMA 1	NEMA 3R	NEMA 12	NEMA 4 & 4X
30	100 at 600V	100 at 600V	100 at 600V	100 at 600V
60	100 at 600V	100 at 600V	100 at 600V	100 at 600V
100	100 at 600V	100 at 600V	100 at 600V	100 at 600V
200	100 at 600V	100 at 600V	100 at 600V	100 at 600V
400	100 at 600V	100 at 600V	100 at 600V	100 at 600V
600	100 at 600V	100 at 600V	100 at 600V	100 at 600V
800	100 at 600V	100 at 600V	—	—

Note:

Class “H” fuse clips supplied as standard for 30-600A except Class “T” for 400A at 600V and 600A at 240V.
Rated at 10,000A rms when using Class “H” fuses.
Safety switch short-circuit ratings are applicable to AC only. For 600 Vdc, 10 kA short-circuit applies.
Safety switch I^2t and I_p values are identical to UL maximum acceptable I^2t and I_p values for the corresponding class fuse.

Switching Devices

Safety Switches

Non-Fusible Switches - Short-Circuit Ratings

The circuit breaker or fuse rating is not to exceed the ampere rating of the non-fusible switch. When used on systems with greater than 10 kA short-circuit rating available, the UL Listed short-circuit rating of the non-fusible switch is based upon the switch being used in combination with fuses or moulded-case circuit breaker identified as below.

Non-Fusible Safety Switches

Eaton Non-Fusible Safety Switch Ampere Rating ^①	Maximum System Voltage AC	Maximum Short-Circuit Rating	Upstream Device ^②	
			Fuse Class	Breaker Frame
30 and 60	600	10,000	H, K	Any circuit breaker
		14,000		FDB, PDG2xF
		18,000		FD, EGE, PDG2xG, PDG1xF
		25,000		FDC, HFD, HFDE, EGH, PDG2xP, PDG2xM, PDG1xM
		200,000	R, T, J, L	
100	480	10,000	H, K	Any circuit breaker
		35,000		EGH, EGS, PDG1xM, PDG1xG
		200,000	R, T, J, L	
	600	10,000	H, K	Any circuit breaker
		14,000		FDB, PDG2xF
		18,000		FD, EGE, PDG2xG, PDG1xF
		25,000		FDC, HFD, HFDE, EGH, PDG2xP, PDG2xM, PDG1xM
200	480	200,000 ^③	R, T, J, L	
		10,000	H, K	Any circuit breaker
		65,000		HFD, HFDE, HJD, JGH, PDG2xM
	600	200,000	R, T, J, L	
		10,000	H, K	Any circuit breaker
		14,000		FDB, PDG2xF
		18,000		FD, JD, JGE, PDG2xG
		25,000		FDC, HFD, HFDE, HJD, JGH, PDG2xP, PDG2xM
		200,000	R, T, J, L	

① For use on NEMA 1, 3R, 12/3R, and 4X switches.

② Fuse or circuit breaker rating is not to exceed switch rating.

③ NEMA 12, 4/4X only. NEMA 1, 3R are 100 kAIC at 600 Vac.

Modifications—Flex Centre/Satellites

Introduction

The Safety Switch Flex Centre is a special facility at the site of our Cleveland, Tennessee plant, that is dedicated to providing customized safety switches that meet customer's challenging applications.

In addition, customized safety switches are available through Eaton's Canadian network of eight regional satellite facilities.

The Eaton Flex Centre and Canadian regional Satellites are solution centres that provide real value:

- A dedicated and knowledgeable engineering/manufacturing/customer service team to meet your needs
- A production facility stocked with a full arsenal of equipment to get the job done
- Local accessibility, eight strategically located satellites in Canada
- Quick turnaround
- For pricing of modification contact Eaton Sales, Satellite or Customer Support (1-800-268-3578)

Description	Suffix	Item
Nameplates	NP	1
Fungus proofing	FP	2
Special paint		3
Lock-on provisions on heavy duty safety switches for most enclosure types	LO	4
Trapped key interlock systems	TK	5
Viewing window	W	6
Solid neutral factory installed for double-throw safety switches	N	7
Switched neutral factory installed for double-throw switches	SN	8
Neutral assemblies for single throw Non-fusible/Fusible switches	N or SN	9
200% neutrals factory installed	200	10
Fuse pullers factory installed	FE	11
Special crimp lug pads factory installed for general duty and heavy duty switches	CK	12
Copper lugs factory installed	CL	13
Custom lug configurations	L	14
Auxiliary contacts factory installed	2 or 3	15
Control pole factory installed	CP	16
Grade 316 stainless	316	17
Left hand operated	LH	18

1. Nameplates

Price covers up to three lines of text with a maximum of 25 characters per line. Standard nameplates are laser-engraved plastic and have black letters on a white background. Rotary-engraved lamacoid nameplates are also available. Additional colour combinations and larger nameplates are available upon request. Customer must specify the text when placing an order.

Description

Plastic nameplate—up to three lines

Lamacoid nameplate—up to three lines

2. Fungus Proofing

All non-metallic components of the switch are coated with a moisture and fungus-resistant varnish. The inhibitor used meets USA military specification: MIL-V-173C for MOISTURE AND FUNGUS-RESISTANT TREATMENT. The treated switch meets USA military specification: MIL-T-152E for MOISTURE AND FUNGUS-RESISTANT TREATMENT OF COMMUNICATIONS, ELECTRONICS AND ASSOCIATED EQUIPMENT. Not UL listed/CSA Certified.

To order, **add Suffix FP** to standard safety switch catalogue number. *Example:* **1HD363FP**.

3. Special Paint

Special paint colours are available for order quantities of five or more switches. Custom colour is applied over the standard ANSI-61 gray finish.

Minimum quantity of five of the same colour is required. For quantities less than five, higher ampere ratings, or other colour request, contact Eaton Sales.

To order, add the following **suffix** to the standard catalogue number:

Red - **RED**
 Orange - **ORG**
 Yellow - **YEL**
 Green - **GRN**
 White - **WHT**
 Black - **BLK**
 Tan - **TAN**
 Brown - **BRN**
Example: 1HD361NF-ORG

4. Lock-ON Provision

Available on 30–800A heavy duty and double-throw safety switches. Provision will accept a single lock.

To order, **add Suffix LO** to the standard catalogue number. *Example:* **3HD362LO**.

5. Trapped Key Interlock Systems

Available only on heavy duty and double-throw safety switches. Trapped key systems are used on safety switches to prevent unauthorized operations or to predetermine a series of power transfers by an authorized operator.

Before system construction can begin, the following information must be provided to the Flex Centre:

- User—name, address and telephone number
- Complete coordination (lock scheme) required with order

To order, **add Suffix TK** to the standard catalogue number. *Example:* **12HD363TK**.

6. Viewing Window

Viewing window is centred over the switching contacts to provide visual verification of ON/OFF status. Available on 30-1200A heavy duty single and double-throw switches NEMA 12, 4/4X enclosures. To order, **add Suffix W** to the standard catalogue number. *Example:* 12HD362NFW.

Note: Effective August 2003 30-100A window switches are provided with a full view cover window. Double-throw window switches are provided with two windows.

7. Solid Neutral for Double-Throw Safety Switches

Solid neutrals are suitable for non bonded generator applications. For bonded generators **switched neutrals** are required. See item 8.

To order **solid neutral**, add **Suffix N**.

Example 1: **3DT361NFN** non-fusible double-throw, 600V, three phase, 30A switch with factory-installed solid neutral.

8. Switched Neutral Double-Throw

Switching neutrals are required for separately derived systems when bonding the neutral of the generator to a grounding system at the generator.

For non-bonded generator application, a solid neutral would apply. See Item 7.

For a switched neutral application order one more pole than number of power phases. *Example:* single phase order 3 pole switch, three phase order 4 pole switch.

Available rating 30-800A.

To order, **add Suffix SN** to the standard safety switch catalogue number.

Example: **3DT324NFSN** non-fusible double-throw, 240V, single phase, 200A switch with factory-installed switching neutral.

9. Neutral Assemblies Factory Installed for Single-Throw Non-Fusible/Fusible Safety Switches

Available on 200-600A general duty safety switches and 30-1200A heavy duty safety switches.

To order **Solid Neutral**, add **Suffix N** to the standard safety switch catalogue number.

Example: **4HD364NFN** Heavy duty, three-pole, 200A, non-fusible with solid neutral.

To order **Switched Neutral**, order one more pole than number of power phases and **add Suffix SN** to catalogue number.

Example: **3HD463SN** 3 PH, four-pole, 600V, 100A with switched neutral factory installed.

10. 200% Neutrals Factory Installed

Available on heavy duty 30-600A safety switches.

To order, **add Suffix 200** to standard switch catalogue number.

Example: **1HD324N200** Heavy duty, 200A, 240V, 3 phase with solid neutral 200% rated.

11. Fuse Pullers Factory Installed

Ampere Rating	Switch Type
30-100	Heavy Duty
200	General Duty, Heavy Duty

To order, **add Suffix FE** to the standard catalogue number.

Example: **3HD361FE**

12. Special Crimp Lug Pads Factory Installed for General Duty and Heavy Duty Switches (Crimp Lugs are Not Included)

To order **add Suffix CK** to the standard safety switch catalogue number.

Ampere Rating

400–600, GD

400–800, HD

Note: Heavy duty Type HD switches, 30–200A are field adaptable to accept crimp lugs, simply remove the box lugs.

13. Copper Lugs Factory Installed

Ampere Rating Switch Type

30–100 HD, DT

200 HD

400 GD, HD

600 GD, HD

To order, **add Suffix CL** to the standard safety switch catalogue number.

Example: **1HD361CL** heavy duty, three-pole, 30A fusible switch at 600V with copper lugs factory installed.

14. Custom Lug Configurations

Customer-specified lug arrangements are available on heavy duty and double-throw safety switches. Contact Eaton.

15. Auxiliary Contacts Factory Installed Provide Early-Make/Early-Break Operation

General Duty Switches 200–600A, Heavy Duty 30–1200A and Double-Throw Switches 30–800A

Ampere Rating Description

30–1200 1NO/1NC

2NO/2NC

To order 1NO/1NC contacts, **add Suffix 2** to the standard safety switch catalogue number.

To order 2NO/2NC contacts, **add Suffix 3** to the standard safety switch catalogue number.

Example: **1HD4232**

Heavy duty, four-pole, 100A fusible switch at 240V with factory-installed 1NO/1NC contacts.

Example: **1DT324NF22** double-throw, three-pole, 200A non-fusible switch at 240V with two factory-installed contacts (one installed in the primary switch ON position and one installed in the secondary switch ON position).

16. Control Pole Factory Installed Provides Late-Make/Early-Break Operation

The DS16CP control pole (1NO aux contact). Approved for use with elevating devices, provides one normally open contact, late-make, early-break operation. It mounts in the exact location as the neutral block using the same pre-drilled holes. This is directly connected to the power pole operating shaft. Direct connection and visible blades provide more secure electrical interlocking than handle linkage operation of a snap/switch type interlock. This reliability meets the requirements of many specifications for four-pole switches when the fourth pole is required for secure electrical interlocking.

Ampere Rating Switch Type

30–1200 HD

30–200 DT

400–600 GD

To order, **add Suffix CP** to the standard safety switch catalogue number.

Example: **1HD364CP** heavy duty, three-pole, 200A fusible switch at 600V with factory-installed control pole.

17. Grade 316 Stainless Enclosures

Standard stainless enclosures are made from grade 304. For a higher degree of stainless, grade 316 can be specified.

To order, **add -316** to **Suffix** of **4HD** standard catalogue number.

Example: **4HD362-316** or **>200A 4HD365SS-316**.

18. Left-Hand Operated Safety Switch

Available from 30–200A Heavy Duty, for applications that require an operating handle and door opening of the left side of the enclosure.

To order, **add Suffix LH** to the standard switch catalogue number.

Example: **1HD364NFLH**

Heavy Duty 3 pole, 600V, 200A, non-fusible, left hand operated.

Additional Safety Switch Flex/Satellite Centre Design Offerings

- Left-hand design (30–200A)
- Cover-mounted status lights and selector switches
- Integrated:
 - Transient Voltage Surge Suppression (TVSS)
 - Current transformers
- Double-throw receptacle switches
- 200% neutrals
- Seam-welded stainless steel
- Gang-operated kits:
 - Mechanically interlocks two or three separate switches
- Integrated wattmeter
- Custom enclosures
- Double-throw switches with windows
- 316 grade stainless steel
- Breather/drains
- Voltage/phase monitor

This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal blue or grey lines across the entire width of the page. The lines are thin and consistent in color and thickness. There are no margins, text, or other markings present on the paper.

Air Condition Disconnects



Air Condition Disconnects

Application Description

Typically used as an outdoor motor disconnect for 240V residential and 600V commercial heating, ventilating and air conditioning applications. Per Section 28-604(5) CEC Part 1, "motor disconnecting means for air-conditioning and refrigeration equipment shall be located within sight of and within 3m of the equipment".

Product Description

240 Vac single phase 30A, 60A, and 600 Vac three phase 30A, 40A, 60A, 80A, horsepower rated motor disconnects. Rugged 3R outdoor rated padlockable metallic enclosure, ANSI 61 (light grey) electrocoat finish. CSA certified as a motor disconnect.

Single Phase 2 Wire 240 Vac 30, 60A.

- 240 Vac at 10 kA rms short-circuit rating when protected by 60A fuse or breaker
- Available in four designs.
- Standard pullout, fused, and non fusible.
- Moulded case switch.
- For additional safe power source, 15A GFI receptacle c/w pullout.
- Swing-up cover remains in place when in the open position. Cover can be easily removed for wiring and mounting. Cover snaps into place and no screws required. Includes provision for padlocking.

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Three Phase 3 Wire 600

Vac, 30A, 40A, 60A, 80A non-fusible motor disconnect

- 600 Vac at 65 kA rms short circuit rating when protected by J fusing. Applies to 'B' series, effective March 2011, non 'B' series rated 10 kA
- 600V unit complies with CEC rule 28-602(3)(b) and are labelled "suitable for motor disconnect." cCSAus approved
- For ease of wiring, din rail mounted removable 600V disconnect
- Versatile cable entry-bottom, sides or back. Both 240 Vac and 600 Vac

Standards and Certifications

- 240V meets C22.2 No.4
- 600V meets C22.2 No.14, "suitable for motor disconnect"
- See page 18 for specific catalogue number certifications



Switching Devices


Safety Switches

Product Selection

3GAC222NF

240 Vac HVAC Air Condition Disconnect



System	Ampere Rating	Maximum Horsepower Ratings ^①					NEMA 3R Catalogue Number
		Single-Phase AC		Three-Phase AC			
		120V	240V	240V	480V	600V	
Two Pole, Two-Wire - 240 Vac - Fusible - Pullout design ^②							
	30	—	3	—	—	—	3GAC221 ^{②③}
	60	—	10	—	—	—	3GAC222 ^{②③}

4GAC222NF



Two Pole, Two-Wire - 240 Vac - Non Fusible - Pullout design^②							
	60	—	10	—	—	—	3GAC222NF ^{②③}

Two Pole, Two-Wire - 240 Vac - Non Fusible - Pullout design^② Non Metallic							
	60	—	10	—	—	—	4GAC222NF ^{②③}

DPB222R




Two Pole, Two-Wire - 240 Vac - Non Fusible - Moulded Case Switch^⑥							
	60	—	10	—	—	—	DPB222R ^{⑥⑥}

3GAC362NFB

600 Vac HVAC Air Condition Disconnect



System	Ampere Rating	Maximum Horsepower Ratings ^①				600V	NEMA 3R Catalogue Number
		Single-Phase AC		Three-Phase AC			
		120V	240V	240V	480V		
Three Pole, Three-Wire - 600 Vac - Non Fusible - Toggle design							
	30	—	3	7.5	15	20	3GAC361NFB ^{⑦⑧}
	40	—	3	7.5	20	25	3GAC3640NFB ^{⑦⑧}
	60	—	7.5	15	30	30	3GAC362NFB ^{⑦⑧}
	80	—	10	20	40	40	3GAC3680NFB ^{⑦⑧}

① Hp ratings apply when time delay fuses used.

② Replacement pullout head 96-3258-4.

③ cUL listed.

④ c/w factory installed 15A GFI receptacle.

⑤ c/w factory installed Moulded Case Switch.

⑥ CSA certified

⑦ "B" series effective March 2011, 600V @ 65kA rms when protected by J fuse on line side, otherwise 10ka rms.

⑧ cCSAus (approved by CSA to CSA and UL standards).

Note:

Fusible disconnect not approved for service entrance.

Technical Data and Specifications for Air Condition Disconnects

Short-Circuit Ratings (kA) Terminal Capacity

240 Vac Single Phase Pullout and Moulded Case Switch Design

Ampere Rating	Short-Circuit Withstand/Voltage	Upstream Protection	Terminal Capacity
30	10 at 240V	30A max Fuse or Breaker ^①	#14 - #3 Cu/Al
60	10 at 240V	60A max Fuse or Breaker ^①	#14 - #3 Cu/Al

^① Fuse or Circuit Breaker utilized must have a minimum 10 kA short-circuit rating

600 Vac Three Phase Toggle Design

Ampere Rating	Short-Circuit Withstand/Voltage	Upstream Protection	Terminal Capacity
30	10 at 600V	60A max J Fuse	#14 - #4
30	65 at 600V	30A max J Fuse	#14 - #4
40	10 at 600V	60A max J Fuse	#14 - #4
40	65 at 600V	30A max J Fuse	#14 - #4
60	50 at 600V	100A max J Fuse	#14 - #1
60	65 at 600V	60A max J Fuse	#14 - #1
80	50 at 600V	100A max J Fuse	#14 - #1
80	65 at 600V	60A max J Fuse	#14 - #1

Dimensions

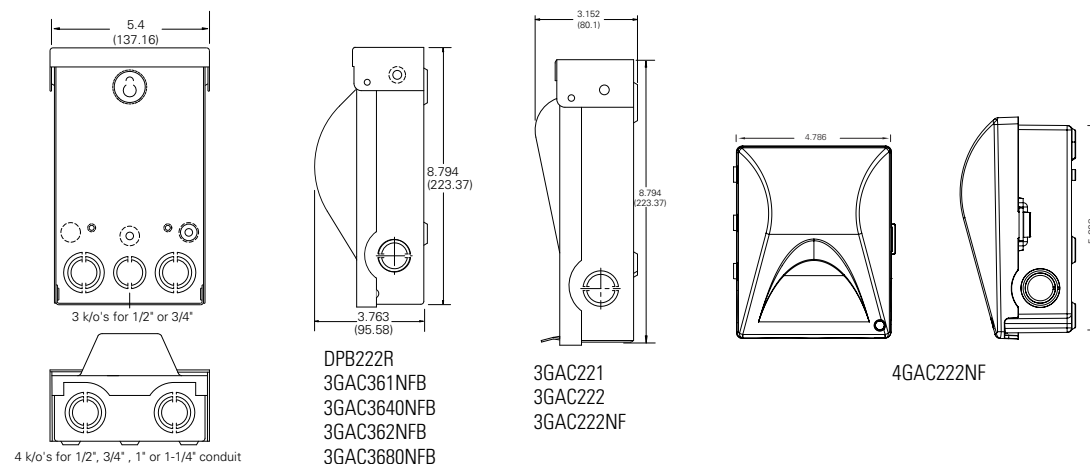
Approximate Dimensions in inches (mm)

240 Vac Single Phase - 2 Wire

Ampere Rating	Disconnect Type	Height (H)	Width (W)	Depth (D)	Weight lbs(kg)
30	Fusible	8.79 (223.4)	5.4 (137.16)	3.152 (80.1)	2.7 (1.23)
60	Fusible/ Non fusible	8.79 (223.4)	5.4 (137.16)	3.152 (80.1)	2.7 (1.23)
60	Non fusible with moulded case switch	8.79 (223.4)	5.4 (137.16)	3.75 (95.25)	3.4 (1.5)
60	Non fusible with 15A GFI receptacle	11.63 (295.4)	6.63 (168.4)	4.44 (112.8)	8 (3.6)

600 Vac Three Phase - 3 Wire

Ampere Rating	Disconnect Type	Height (H)	Width (W)	Depth (D)	Weight lbs(kg)
30	Non fusible toggle	8.79 (223.4)	5.4 (137.16)	3.75 (95.25)	3.8 (1.7)
40	Non fusible toggle	8.79 (223.4)	5.4 (137.16)	3.75 (95.25)	3.8 (1.7)
60	Non fusible toggle	8.79 (223.4)	5.4 (137.16)	3.75 (95.25)	4 (1.8)
80	Non fusible toggle	8.79 (223.4)	5.4 (137.16)	3.75 (95.25)	4 (1.8)



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General Duty Safety Switch - Cartridge Fuse Design



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General Duty

Application Description

For residential and commercial applications. Suitable for light-duty motor circuits and service entrance.

Product Description

- 30-60A 120/240V, fusible cartridge type and non fusible
- Fusible and non-fusible switches. Single-pole S/N through four-wire; 120/240, and 240 Vac
- Cartridge type general duty switches are certified for use on low voltage < 60 Vdc circuits
- Solid neutral standard on all fusible general duty switches
- Suitable for service entrance application when

- equipped with factory-installed neutral assembly
- NEMA 1 and 3R enclosures
- Fusible and non-fusible switches are 100% load break and 100% load make rated
- The continuous load current of fusible switches is not to exceed 80% of the rating of fuses employed in other than motor circuits. Non-fusible switches are 100% continuous load rated
- 200-600A features K-Series design
- Horsepower rated
- Where applicable with Class R, J, T fuses, switches may be used on systems capable of delivering 100,000A rms

symmetrical

- Bolt-on hub provision. Provided for general duty switches in a NEMA 3R enclosure.

General Duty Features
(Cartridge Fuse/Non-Fusible type)

- Ample wire bending space provides for easier installation
- Visible double-break quick-make, quick-break rotary blade mechanism
- Side opening door on all enclosures
- Mechanically interlocked cover to prevent easy access when the switch is in the ON position
- Clearly visible and accessible neutral where applicable
- Visible ON/OFF indication

- Double padlocking capability on 30-100A
 - Triple padlocking capability on 200-600A
 - Additional door locking capability
 - Fusible switches suitable for service entrance application when equipped with factory-installed neutral assembly
- Standards and Certifications**
- CSA certified File No. 69743
 - Meets C22.2 No.4 for enclosed switches
 - ISO 9001:2008

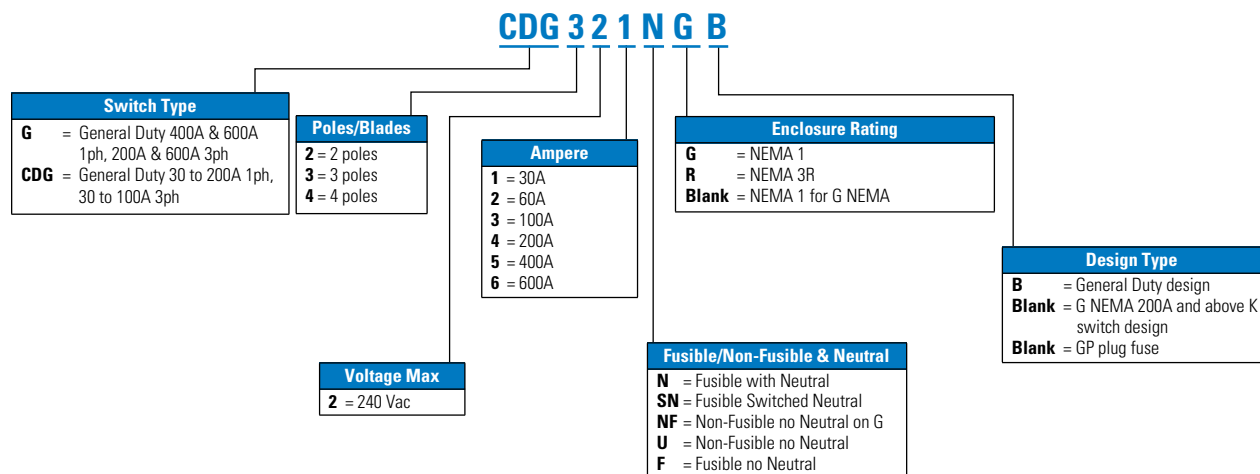


Switching Devices

Safety Switches

Catalog Numbering System

General Duty



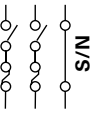
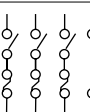
Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers. For more detailed catalogue part numbers, see Product Selection Guide

CDG321NRB

120/240 Vac General Duty, Fusible, Single-Throw





Maximum Horsepower Ratings ^①							NEMA 1	NEMA 3R
System	Ampere Rating	Fuse Type Provision	Single-Phase AC 120V	240V	Three-Phase AC 240V	DC 250V	Enclosure Indoor Catalogue Number	Enclosure Rainproof Catalogue Number
Cartridge Type— Three-Wire (Two Blades, Two Fuses, S/N)— 120/240 Vac								
	30	H	—	1-1/2–3	3–7-1/2	—	CDG221NGB	CDG221NRB
	60	H	—	3–10	7-1/2–15	—	CDG222NGB	CDG222NRB
	100	H	—	7-1/2–15	15–30	—	CDG223NGB	CDG223NRB
	200	H	—	15	25–60	—	CDG224NGK	CDG224NRK
	400	H	—	—	50–125	50	G225N	3G225N
	600	H	—	—	75–200	—	G226N	3G226N
Cartridge Type— Four-Wire (Three Blades, Three Fuses, S/N)— 120/240 Vac								
	30	H	—	1-1/2–3	3–7-1/2	—	CDG321NGB	CDG321NRB
	60	H	—	3–10	7-1/2–15	—	CDG322NGB	CDG322NRB
	100	H	—	7-1/2–15	15–30	—	CDG323NGB	CDG323NRB
	200	H	—	15	25–60	—	G324N	3G324N
	400	H	—	—	50–125	—	G325N	3G325N
	600	H	—	—	75–200	—	G326N	3G326N

Note: Fusible switches suitable for service entrance application when equipped with factory-installed neutral assembly

CDG322URB

120/240 Vac General Duty, Non-Fusible, Single-Throw



		Maximum Horsepower Ratings ^①				NEMA 1	NEMA 3R
	Ampere Rating	Single-Phase AC		Three-Phase AC	DC	Enclosure Indoor	Enclosure Rainproof
System		120V	240V	240V	250V	Catalogue Number	Catalogue Number
Two-Pole, Two-Wire (Two Blades) — 240 Vac							
	30	2	3	—	—	CDG221UGB ^②	CDG221URB ^②
	60	3	10	—	—	CDG222UGB ^②	CDG222URB ^②
	100	—	15	—	—	— ^②	— ^②
	200	—	—	—	—	— ^②	— ^②
Three-Pole, Three-Wire (Three Blades) — 240 Vac							
	30	2	3	7-1/2	—	CDG321UGB	CDG321URB
	60	3	10	15	—	CDG322UGB	CDG322URB
	100	—	15	30	—	CDG323UGB	CDG323URB
	200	—	15	60	—	G324NF	3G324NF
	400	—	—	125	—	G325NF	3G325NF
	600	—	—	200	—	G326NF	3G326NF

^① Maximum hp ratings apply only when dual element time delay fuses are used.

^② Use three-wire catalogue numbers below.

Note:

All general duty safety switches are individually packaged.

Accessories are limited in scope on general duty safety switches. See **Page 4 and 5** for selection. Clear line shields are available as an accessory on 200–600A general duty switches.

For “J” fusing on General Duty 30–200A use Heavy Duty switch no modification available.

For “J” fusing on General Duty 400–600A, field modification required.

400A, reposition loadside fuse block to accept ‘J’ fuse.

600A, fuse kit adapter for ‘J’ fusing included with switch. For adaptation to “R” and “T” fusing see accessory page 4.

Switching Devices

Safety Switches

Technical Data and Specifications for General Duty Switches

Short-Circuit Ratings (kA) Using Class “R”, “J” or “T” Fusing Where Applicable

Ampere Rating	NEMA 1	NEMA 3R
30	100 at 240V	100 at 240V
60	100 at 240V	100 at 240V
100	100 at 240V	100 at 240V
200	100 at 240V	100 at 240V
400	100 at 240V	100 at 240V
600	100 at 240V	100 at 240V

Dimensions

Approximate Dimensions in Inches (mm)

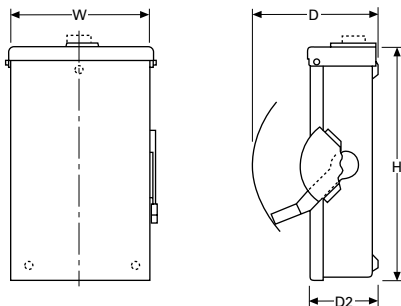
General Duty, Plug Fuse Type 120V, 120/240V, Single-, Two-Pole Solid Neutral, Single-Throw^②

Ampere Rating	Height	Width	Depth	Weight Lbs/(kg)
30	6.88 (174.8)	4.94 (125.5)	3.44 (87.4)	2 (.9)

General Duty, Non-Fusible, 240V, Three-Pole, Single-Throw^②

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 1					
30	6.38 (162.1)	10.69 (271.5)	6.88 (174.8)	3.75 (95.2)	6 (2.724)
60	8.69 (220.7)	14.19 (360.4)	7.38 (187.5)	4.21 (106.9)	9 (4.086)
100	9.13 (231.9)	18.81 (477.8)	7.38 (187.5)	4.23 (107.4)	12 (5.448)
200	16.00 (406.4)	25.25 (641.4)	11.25 (285.8)	6.14 (156.0)	48 (21.792)
400	23.00 (584.2)	44.75 (1136.7)	12.63 (320.8)	7.27 (184.7)	100 (45.4)
600	24.00 (609.6)	52.25 (1327.2)	14.25 (362.0)	8.95 (227.3)	130 (59.02)
NEMA 3R					
30	6.38 (162.1)	10.81 (274.6)	6.88 (174.8)	3.75 (95.2)	6 (2.724)
60	8.69 (220.7)	14.38 (365.3)	7.38 (187.5)	4.21 (106.9)	9 (4.086)
100	9.13 (231.9)	19.25 (489.0)	7.38 (187.5)	4.23 (107.4)	12 (5.448)
200	16.00 (406.4)	25.50 (647.7)	11.25 (285.8)	6.14 (156.0)	55 (24.97)
400	23.00 (584.2)	45.19 (1147.8)	12.63 (320.8)	7.27 (184.7)	105 (47.67)
600	24.00 (609.6)	52.70 (1338.6)	14.25 (362.0)	8.95 (227.3)	135 (61.29)

NEMA 1, 3R 30–100A General Duty Non-Fusible and Fusible Single-Throw^②



- ① Dimensions are for estimating purposes only.
② Figure is not applicable to plug fuse design.

Terminal Capacity for General Duty 240V

Ampere	Line/Load (per phase)	Ground	Neutral Catalogue #	Neutral Terminal Capacity
30 (GP type)	#14 - #8	#14 - 4	—	#14 - #8
30	#14 - #6	#14 - 4	DG030NB	3x #14 - #4
60	#14 - 1/0	#14 - 4	DG100NB	3x #14 - 1/0
100	#14 - 1/0	#14 - 4	DG100NB	3x #14 - 1/0
200	#6 - 250mcm	#14 - 4	DG200NK	2x #6 - 250mcm AND 2x #14 - #2
400	(2) 1/0 - (2)300mcm OR (1) 1/0 - 750mcm	#6 - 200mcm	DS400NK	2x 1/0 - 750mcm OR (2) 1/0 - (2)300mcm AND 3x #6 - 250mcm
600	(1) #2 - 600mcm AND (1) 1/0 - 750mcm	#6 - 200mcm	DS600NK	2 x 1/0 - (1)750mcm OR 1/0 - (2) 300mcm AND 1 x #2 - 600mcm AND 3 x #6 - 250mcm

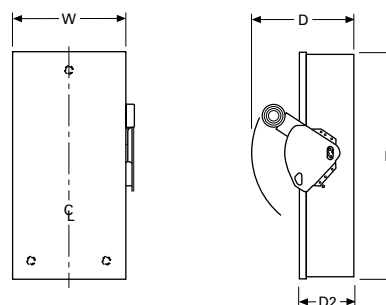
Note:

Use neutral catalogue number when neutral not included with switch
All terminals are rating Al/Cu unless otherwise noted
For optional ground lug kits see page 4

General Duty, Fusible (cartridge type), 240V, Three-Pole Solid Neutral, Single-Throw^①

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 1					
30	6.38 (162.1)	10.69 (271.5)	6.88 (174.8)	3.75 (95.2)	6 (2.724)
60	8.69 (220.7)	14.19 (360.4)	7.38 (187.5)	4.21 (106.9)	10 (4.54)
100	9.13 (231.9)	18.81 (477.8)	7.38 (187.5)	4.23 (107.4)	14 (6.356)
200	16.00 (406.4)	24.75 (628.7)	11.25 (285.8)	6.14 (156.0)	48 (21.792)
400	23.00 (584.2)	44.75 (1136.7)	12.63 (320.8)	7.27 (184.7)	110 (49.94)
600	24.00 (609.6)	52.25 (1327.2)	14.25 (362.0)	8.95 (227.3)	145 (65.83)
NEMA 3R					
30	6.38 (162.1)	10.81 (274.6)	6.88 (174.8)	3.75 (95.2)	6 (2.724)
60	8.69 (220.7)	14.38 (365.3)	7.38 (187.5)	4.21 (106.9)	10 (4.54)
100	9.13 (231.9)	19.25 (489.0)	7.38 (187.5)	4.23 (107.4)	14 (6.356)
200	16.00 (406.4)	25.50 (647.7)	11.25 (285.8)	6.14 (156.0)	55 (24.97)
400	23.00 (584.2)	45.19 (1147.8)	12.63 (320.8)	7.27 (184.7)	115 (52.21)
600	24.00 (609.6)	52.70 (1338.6)	14.25 (362.0)	8.95 (227.3)	150 (68.1)

NEMA 1, 3R 200–600A General Duty Non-Fusible and Fusible Single-Throw



Heavy Duty Safety Switch



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Heavy Duty

Application Description

For light to heavy commercial and industrial applications. Main service entrance, branch and motor circuit protection, disconnecting or transferring to alternate power source. Where reliable performance and service continuity are critical.

Product Description

- 30–1200A
- 600 Vac, 600 Vdc maximum
- Horsepower rated
- Fusible and non-fusible switches are 100% load break and 100% load make rated
- The continuous load current of fusible switches

is not to exceed 80% of the rating of fuses employed in other than motor circuits. Non-fusible switches are 100% continuous load rated

- Fusible switches suitable for service entrance application when equipped with factory-installed neutral assembly
- Enclosures, NEMA 1, 3R, 12/3R, 4 are painted steel ANSI 61 light grey electrocoat. and 4X are grade 304 stainless steel, grade 316 available upon request.
- For factory modifications, refer to **Pages 13** through **15**

240 Vac Heavy Duty, Fusible, Single-Throw

- 30–1200A
- Horsepower rated
- Fusible switches, suitable for service entrance application when equipped with factory-installed neutral assembly, except 4 pole switches
- For accessories refer to **Pages 4 and 5**

600 Vac Heavy Duty, Fusible, Single-Throw

- 30–1200A
- Horsepower rated
- Suitable for service entrance application when equipped with factory-

installed neutral assembly, except 4 pole switches

Note: Must use suitable ground fault protection at 1200A for service entrance.

600 Vac Heavy Duty, Non-Fusible, Single-Throw

- 30–1200A
- Horsepower rated
- Not suitable for service entrance per CEC

Switching Devices

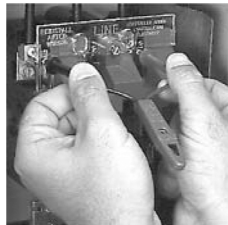
Safety Switches

Features, Benefits and Functions

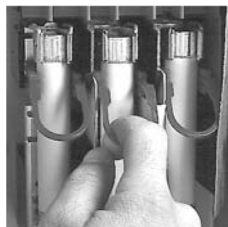
- Visible double-break quick-make, quick-break rotary blade mechanism. Two points of contact provide a positive open and close, easier operation, and also help prevent contact burning for longer contact life
- Triple padlocking capability. Personnel safety feature since the large hasp can accommodate up to three 3/8-inch (9.5 mm) shank locks. Cabinet door can be further padlocked at the top and bottom
- Interlocking mechanism. Door cannot be opened when the handle is in the ON position. Built-in defeater mechanism provides for user access when necessary
- Deionizing arc chutes; arc chutes confine and suppress the arcs produced by opening contacts under load
- Mechanically interlocked cover to prevent easy access when the switch is in the ON position
- Clear line shield with probe holes
- Clearly visible palm fitting red handle
- Tangential knockouts on NEMA 1 and NEMA 3R enclosures through 200A
- Built-in fuse pullers on NEMA 4X and NEMA 12 enclosures through 200A
- Additional door locking capability
- Complete accessory and renewal parts data shown on inner door label.
- 30–1200A NEMA 12 designs convertible to NEMA 3R by opening factory-installed drain hole
- 30–1200A switches are seismic qualified and exceed the requirements of the Uniform Building Code (UBC) and California Code Title 24
- Two points of contact provide a positive open and close, easier operation, and also help prevent contact burning for longer contact life
- Protects against accidental contact with energized parts. Probe holes enable the user to test if the line side is energized without removing the shield.



Visible Double-Break Rotary Blade Mechanism



Clear Line Shield



**Built-In Fuse Pullers
(Type 12 and 4X 30–200A)**



Clearly Visible Handle



Triple Padlocking Capability



Additional Locking Capability



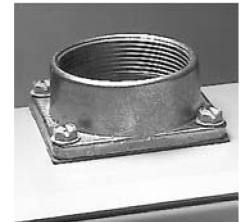
Interlocking Mechanism

- An ample number are provided on the top, bottom and sides of both NEMA 1 and 3R enclosures through 200A



Tangential Knockouts

- For switches in a NEMA 3R, 30–200A. Use a Myers type hub for all others



Bolt-On Hub Kits

- NEMA 12 and 4X 30–100A have padlockable suitcase latches vs screw type latches.



Padlockable Suitcase Latches

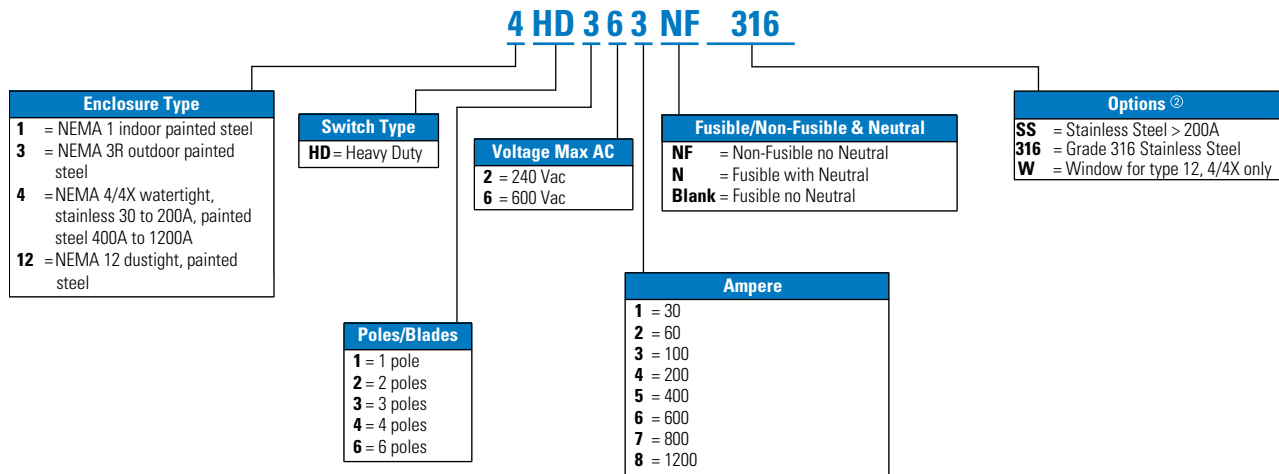
Standards and Certifications

- CSA Certified File No. 69743
- Meets C22.2 No. 4 for enclosed switches
- Refer to page 2 for additional certifications
- ISO 9001:2008



Catalog Numbering System

Heavy Duty



① Always verify the number of poles and wires required since catalogue numbers may appear in multiple tables.

② See **Pages 13 through 15** for additional Flex Centre options.

Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Switching Devices

Safety Switches

Product Selection

3HD221N



240 Vac Heavy Duty, Fusible, Single-Throw, Fusible—NEMA 1, 3R

Maximum Horsepower Ratings								NEMA 1 Enclosure Indoor Catalogue Number	NEMA 3R Enclosure Rainproof Catalogue Number
System	Ampere Rating	Fuse Type Provision	AC Standard Fuse Single-Phase	Three-Phase	Time Delay Single-Phase	Three-Phase	DC 250V		
Three-Wire (Two Blades, Two Fuses, S/N) — 240 Vac, 250 Vdc									
	30	H	1-1/2	3	3	7-1/2	5	1HD221N	3HD221N
	60	H	3	7-1/2	10	15	10	1HD222N	3HD222N
	100	H	7-1/2	15	15	30	20	1HD223N	3HD223N
	200	H	15	25	15	60	40	1HD224N	3HD224N
	400	H	—	50	—	125	50	1HD225N	3HD225N
	600	H	—	75	—	200	—	1HD226N	3HD226N
	800	L	—	100	—	—	—	1HD227N	3HD227N
Four-Wire (Three Blades, Three Fuses, S/N) — 240 Vac, 250 Vdc									
	30	H	1-1/2	3	3	7-1/2	5	1HD321N	3HD321N
	60	H	3	7-1/2	10	15	10	1HD322N	3HD322N
	100	H	7-1/2	15	15	30	20	1HD323N	3HD323N
	200	H	15	25	15	60	40	1HD324N	3HD324N
	400	H	—	50	—	125	50	1HD325N	3HD325N
	600	H	—	75	—	200	—	1HD326N	3HD326N
	800	L	—	100	—	250	—	1HD327N	3HD327N
	1200	L	—	—	—	—	—	1HD328N	3HD328N
Four-Pole — 240 Vac, 250 Vdc									
	30	H	3	3	10	7-1/2	5	1HD421	①
	60	H	7-1/2	7-1/2	20	15	10	1HD422	①
	100	H	15	15	30	30	20	1HD423	①
	200	H	30	25	50	60	40	1HD424	①
	400	H	50	50	—	125	50	1HD425	①②
	600	H	—	75	—	200	—	1HD426	①③

① NEMA 12 enclosures (30–1200A) can be field modified to meet NEMA 3R rainproof requirements when a factory provided drain hole is opened.

② Contact Customer Support (1-800-268-3578) for availability of this product.

③ NEMA 4X stainless steel enclosure.

④ NEMA 4 painted steel enclosure.

Note:

For 'J' Fusing on 240V Heavy Duty Switches Field Modification Required.

30-60A not available.


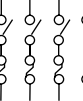

100-400A, reposition loadside fuse block to accept 'J' fuse.

600A adapter kit included with switch.

For 'R' fuse rejector adapter kit and 'T' fusing see page 4 accessory application options.

Fusible switches suitable for service entrance application when equipped with factory-installed neutral assembly

240 Vac Heavy Duty, Fusible, Single-Throw, Fusible—NEMA 12/3R^①, 4X^③, and 4^④

Maximum Horsepower Ratings								NEMA 12/3R ^① Enclosure Dust-Tight Catalogue Number	NEMA 4X and 4 ^{③④} Enclosure Watertight Catalogue Number
System	Ampere Rating	Fuse Type Provision	AC Standard Fuse Single-Phase	Three-Phase	Time Delay Single-Phase	Three-Phase	DC 250V		
Three-Wire (Two Blades, Two Fuses, S/N) — 240 Vac, 250 Vdc									
	30	H	1-1/2	3	3	7-1/2	5	12HD221N ^①	4HD221N ^③
	60	H	3	7-1/2	10	15	10	12HD222N ^①	4HD222N ^③
	100	H	7-1/2	15	15	30	20	12HD223N ^①	4HD223N ^③
	200	H	15	25	15	60	40	12HD224N ^①	4HD224N ^③
	400	H	—	50	—	125	50	12HD225N ^①	4HD225NSS ^③
	400	H	—	50	—	125	50	—	4HD225N ^④
	600	H	—	75	—	200	—	12HD226N ^①	4HD226NSS ^③
	600	H	—	75	—	200	—	—	4HD226N ^④
	800	L	—	100	—	250	—	12HD227N ^①	4HD227NSS ^③
800	L	—	100	—	250	—	—	4HD227N ^④	
Four-Wire (Three Blades, Three Fuses, S/N) — 240 Vac, 250 Vdc									
	30	H	1-1/2	3	3	7-1/2	5	12HD321N ^①	4HD321N ^③
	60	H	3	7-1/2	10	15	10	12HD322N ^①	4HD322N ^③
	100	H	7-1/2	15	15	30	20	12HD323N ^①	4HD323N ^③
	200	H	15	25	15	60	40	12HD324N ^①	4HD324N ^③
	400	H	—	50	—	125	50	12HD325N ^①	4HD325NSS ^③
	400	H	—	50	—	125	50	—	4HD325N ^④
	600	H	—	75	—	200	—	12HD326N ^①	4HD326NSS ^③
	600	H	—	75	—	200	—	—	4HD326N ^④
	800	L	—	100	—	250	—	12HD327N ^①	4HD327NSS ^③
	800	L	—	100	—	250	—	—	4HD327N ^④
	1200	L	—	—	—	—	—	12HD328N ^①	4HD328NSS ^③
	1200	L	—	—	—	—	—	—	4HD328N ^④
Four-Pole — 240 Vac, 250 Vdc									
	30	H	3	3	10	7-1/2	5	12HD421 ^①	②
	60	H	7-1/2	7-1/2	20	15	10	12HD422 ^①	②
	100	H	15	15	30	30	20	12HD423 ^①	②
	200	H	30	25	50	60	40	12HD424 ^①	②
	400	H	50	50	—	125	50	②	②
	400	H	50	50	—	125	50	②	②
	600	H	—	75	—	200	—	②	②
	600	H	—	75	—	200	—	②	②

① NEMA 12 enclosures (30–1200A) can be field modified to meet NEMA 3R rainproof requirements when a factory provided drain hole is opened.

② Contact Customer Support (1-800-268-3578) for availability of this product.

③ NEMA 4X stainless steel enclosure.

④ NEMA 4 painted steel enclosure.

Note:

For 'J' Fusing on 240V Heavy Duty Switches Field Modification Required.

30-60A not available.

100-400A, reposition loadside fuse block to accept 'J' fuse.

600A adapter kit included with switch.

For 'R' fuse rejector adapter kit and 'T' fusing see page 4 accessory application options.

Fusible switches suitable for service entrance application when equipped with factory-installed neutral assembly



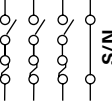
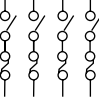
Switching Devices

Safety Switches

3HD362N



600 Vac Heavy Duty, Fusible, Single-Throw, 277/480–600V — NEMA 1, 3R

System	Ampere Rating	Fuse Class Provision	Maximum Horsepower Ratings with Time Delay Fuses						NEMA 1 Enclosure Indoor Catalogue Number	NEMA 3R Enclosure Rainproof Catalogue Number
			Single-Phase AC		Three-Phase AC		DC			
			480V	600V	480V	600V	250V	600V		
Two-Pole—480 Vac—600 Vac or Vdc ^② (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)										
	30	H	7-1/2	10	—	—	—	15	1HD261	3HD261
	60	H	20	25	—	—	—	25	1HD262	3HD262
	100	H	30	40	—	—	20	25	1HD263	3HD263
	200	H	50	50	—	—	—	50	1HD264	3HD264
	400	H	—	—	—	—	50	—	1HD265	3HD265
	600	H	—	—	—	—	—	—	1HD266	3HD266
	800	L	—	—	—	—	—	—	1HD267 ^②	3HD267 ^②
	1200	L	—	—	—	—	—	— ^③	— ^③	
Three-Pole—480 Vac—600 Vac, 250 Vdc (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)										
	30	H	7-1/2	10	15	20	—	—	1HD361	3HD361
	60	H	20	25	30	50	—	—	1HD362	3HD362
	100	H	30	40	60	75	—	—	1HD363	3HD363
	200	H	50	50	125	150	—	—	1HD364	3HD364
	400	H	—	—	250	350	—	—	1HD365	3HD365
	600	H	—	—	400	500	—	—	1HD366	3HD366
	800	L	—	—	500	500	—	—	1HD367	3HD367
	1200	L	—	—	500	500	—	—	1HD368 ^⑤	3HD368 ^⑤
Four-Wire (Three Blades, Three Fuses, S/N) 480 Vac—600 Vac, 250 Vdc										
	30	H	7-1/2	10	15	20	—	—	1HD361N	3HD361N
	60	H	20	25	30	50	—	—	1HD362N	3HD362N
	100	H	30	40	60	75	—	—	1HD363N	3HD363N
	200	H	50	50	125	150	—	—	1HD364N	3HD364N
	400	H	—	—	250	350	—	—	1HD365N	3HD365N
	600	H	—	—	400	500	—	—	1HD366N	3HD366N
	800	L	—	—	500	500	—	—	1HD367N	3HD367N
	1200	L	—	—	500	500	—	—	1HD368N ^⑤	3HD368N ^⑤
Four-Pole—480 Vac—600 Vac, 250 Vdc										
	30	H	20 ^④	25 ^④	15	20	—	—	1HD461	3HD461
	60	H	40 ^④	50 ^④	30	50	—	—	1HD462	3HD462
	100	H	50 ^④	50 ^④	60	75	—	—	1HD463	3HD463
	200	H	—	—	125	150	40	—	1HD464	3HD464
	400	H	—	—	250	350	50	—	1HD465	3HD465
	600	H	—	—	400	500	—	—	1HD466	3HD466
	800	L	—	—	—	—	—	— ^③	— ^③	

^① NEMA 12 enclosures (30–1200A) can be field modified to meet NEMA 3R rainproof requirements when a factory provided drain hole is opened.

^② DC rating for 800A switches is 250V.

^③ Contact Customer Support (1-800-268-3578) for availability of this product.

^④ Ratings are for two-phase AC.

^⑤ Must use suitable ground fault protection at 1200A for service entrance.

^⑥ NEMA 4X stainless steel enclosure.

^⑦ NEMA 4 painted steel enclosure.

Note:

For 'J' Fusing on 600V Heavy Duty Switches Field Modification Required.

30-60A reposition clips on loadside of fuse base.



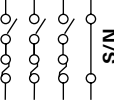
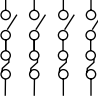
100-400A, reposition loadside fuse base.

600A adapter kit included with switch.

For 'R' fuse rejector adapter kit and 'T' fusing see page 4 accessory application options.

12HD361

**600 Vac Heavy Duty, Fusible, Single-Throw, 277/480–600V — NEMA 12/3R^①, 4X^⑥ and 4^②**

Maximum Horsepower Ratings with Time Delay Fuses									NEMA 12/3R ^①	NEMA 4X ^⑥ and 4 ^⑦
System	Ampere Rating	Fuse Class Provision	Single-Phase AC		Three-Phase AC		DC		Enclosure Dust-Tight Catalogue Number	Enclosure Watertight, Catalogue Number
			480V	600V	480V	600V	250V	600V		
Two-Pole—480 Vac—600 Vac or Vdc ^② (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)										
	30	H	7-1/2	10	—	—	—	15	12HD261 ^①	4HD261 ^⑥
	60	H	20	25	—	—	—	25	12HD262 ^①	4HD262 ^⑥
	100	H	30	40	—	—	20	25	12HD263 ^①	4HD263 ^⑥
	200	H	50	50	—	—	—	50	12HD264 ^①	4HD264 ^⑥
	400	H	—	—	—	—	50	—	12HD265 ^①	4HD265SS ^⑥
	400	H	—	—	—	—	50	—	—	4HD265 ^⑦
	600	H	—	—	—	—	—	—	12HD266 ^①	4HD266SS ^⑥
	600	H	—	—	—	—	—	—	—	4HD266 ^⑦
	800	L	—	—	—	—	—	—	12HD267 ^{①②}	4HD267SS ^⑥
	800	L	—	—	—	—	—	—	—	4HD267 ^⑦
1200	L	—	—	—	—	—	—	^{⑤③}	^{⑤③}	
Three-Pole—480 Vac—600 Vac, 250 Vdc (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)										
	30	H	7-1/2	10	15	20	—	—	12HD361 ^①	4HD361 ^⑥
	60	H	20	25	30	50	—	—	12HD362 ^①	4HD362 ^⑥
	100	H	30	40	60	75	—	—	12HD363 ^①	4HD363 ^⑥
	200	H	50	50	125	150	—	—	12HD364 ^①	4HD364 ^⑥
	400	H	—	—	250	350	—	—	12HD365 ^①	4HD365SS ^⑥
	400	H	—	—	250	350	—	—	—	4HD365 ^⑦
	600	H	—	—	400	500	—	—	12HD366 ^①	4HD366SS ^⑥
	600	H	—	—	400	500	—	—	—	4HD366 ^⑦
	800	L	—	—	500	500	—	—	12HD367 ^①	4HD367SS ^⑥
	800	L	—	—	500	500	—	—	—	4HD367 ^⑦
1200	L	—	—	500	500	—	—	12HD368 ^{①⑤}	4HD368SS ^{⑥⑤}	
1200	L	—	—	500	500	—	—	—	4HD368 ^{⑤⑦}	
Four-Wire (Three Blades, Three Fuses, S/N) 480 Vac—600 Vac, 250 Vdc										
	30	H	7-1/2	10	15	20	—	—	12HD361N ^①	4HD361N ^⑥
	60	H	20	25	30	50	—	—	12HD362N ^①	4HD362N ^⑥
	100	H	30	40	60	75	—	—	12HD363N ^①	4HD363N ^⑥
	200	H	50	50	125	150	—	—	12HD364N ^①	4HD364N ^⑥
	400	H	—	—	250	350	—	—	12HD365N ^①	4HD365N ^{SS} ^⑥
	400	H	—	—	250	350	—	—	—	4HD365N ^⑦
	600	H	—	—	400	500	—	—	12HD366N ^①	4HD366N ^{SS} ^⑥
	600	H	—	—	400	500	—	—	—	4HD366N ^⑦
	800	L	—	—	500	500	—	—	12HD367N ^①	4HD367N ^{SS} ^⑥
	800	L	—	—	500	500	—	—	—	4HD367N ^⑦
1200	L	—	—	500	500	—	—	12HD368N ^{①⑤}	^{⑤③}	
1200	L	—	—	500	500	—	—	—	^{⑤③}	
Four-Pole—480 Vac—600 Vac, 250 Vdc										
	30	H	20 ^⑤	25 ^⑤	15	20	—	—	12HD461 ^①	4HD461 ^⑥
	60	H	40 ^⑤	50 ^⑤	30	50	—	—	12HD462 ^①	4HD462 ^⑥
	100	H	50 ^⑤	50 ^⑤	60	75	—	—	12HD463 ^①	4HD463 ^⑥
	200	H	—	—	125	150	40	—	12HD464 ^①	4HD464 ^⑥
	400	H	—	—	250	350	50	—	12HD456 ^①	^③
600	H	—	—	400	500	—	—	12HD466 ^①	^③	

See notes listed on **Page 30**.



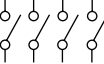
Switching Devices

Safety Switches

1HD362NF



600 Vac Heavy Duty, Non-Fusible, Single-Throw, 277/480–600V—NEMA 1, 3R

Maximum Horsepower Ratings										NEMA 1 Enclosure Indoor Catalogue Number	NEMA 3R ^① Enclosure Rainproof Catalogue Number
		Single-Phase AC			Three-Phase AC			DC			
System	Ampere Rating	240V	480V	600V	240V	480V	600V	250V	600V		
Two-Pole—480 Vac—600 Vac or Vdc ^②											
	30	3	7-1/2	10	—	—	—	—	15	1HD261NF	3HD261NF
	60	10	20	25	—	—	—	—	25	1HD262NF	3HD262NF
	100	20	30	40	—	—	—	20	25	1HD263NF	3HD263NF
	200	15	50	50	—	—	—	—	50	1HD264NF	3HD264NF
	400	—	—	—	—	—	—	50	—	1HD265NF	3HD265NF
	600	—	—	—	—	—	—	—	—	1HD266NF	3HD266NF
	800	—	—	—	—	—	—	—	—	1HD267NF ^②	3HD267NF ^②
	1200	—	—	—	—	—	—	—	—	③	③
Three-Pole—480 Vac—600 Vac, 250 Vdc											
	30	3	7-1/2	10	10	20	30	5	—	1HD361NF	3HD361NF
	60	10	20	25	20	50	60	10	—	1HD362NF	3HD362NF
	100	20	40	50	40	75	100	20	—	1HD363NF	3HD363NF
	200	15	50	50	60	125	150	40	—	1HD364NF	3HD364NF
	400	—	—	—	125	250	350	50	—	1HD365NF	3HD365NF
	600	—	—	—	200	400	500	—	—	1HD366NF	3HD366NF
	800	—	—	—	—	500	500	—	—	1HD367NF	3HD367NF
	1200	—	—	—	—	500	500	—	—	1HD368NF	3HD368NF
Four-Pole—480 Vac—600 Vac, 250 Vdc											
	30	10 ^④	20 ^④	25 ^④	10	20	30	5	—	1HD461NF	3HD461NF
	60	20 ^④	40 ^④	50 ^④	20	50	60	10	—	1HD462NF	3HD462NF
	100	40 ^④	50 ^④	50 ^④	40	75	100	20	—	1HD463NF	3HD463NF
	200	50 ^④	50 ^④	50 ^④	60	125	150	40	—	1HD464NF	3HD464NF
	400	50 ^④	—	—	125	250	350	50	—	1HD465NF	③
	600	—	—	—	200	400	500	—	—	1HD466NF	③
	800	—	—	—	—	—	—	—	—	②③	②③

① NEMA 12 enclosures (30–1200A) can be field modified to meet NEMA 3R rainproof requirements when a factory provided drain hole is opened.

② DC rating for 800A switches is 250V.




③ Contact Customer Support (1-800-268-3578) for availability of this product.

④ Ratings are for two-phase AC.

⑤ NEMA 4X stainless steel enclosure.

⑥ NEMA 4 painted steel enclosure.

600 Vac Heavy Duty, Non-Fusible, Single-Throw, 277/480–600V—NEMA 12/3R^①, 4X^⑤ and 4^⑥

		Maximum Horsepower Ratings								NEMA 4X ^⑤ and 4 ^⑥	
		Single-Phase AC			Three-Phase AC			DC		NEMA 12/3R Enclosure Dust-Tight Catalogue Number	Enclosure Watertight, Painted Steel Catalogue Number
System	Ampere Rating	240V	480V	600V	240V	480V	600V	250V	600V		
Two-Pole—480 Vac—600 Vac or Vdc ^②											
	30	3	7-1/2	10	—	—	—	5	15	12HD261NF ^①	4HD261NF ^⑤
	60	10	20	25	—	—	—	10	25	12HD262NF ^①	4HD262NF ^⑤
	100	20	30	40	—	—	—	20	25	12HD263NF ^①	4HD263NF ^⑤
	200	15	50	50	—	—	—	40	50	12HD264NF ^①	4HD264NF ^⑤
	400	—	—	—	—	—	—	50	—	12HD265NF ^①	4HD265NFSS ^⑤
	400	—	—	—	—	—	—	50	—	—	4HD265NF ^⑥
	600	—	—	—	—	—	—	—	—	12HD266NF ^①	4HD266NFSS ^⑤
	600	—	—	—	—	—	—	—	—	—	4HD266NF ^⑥
	800	—	—	—	—	—	—	—	—	12HD267NF ^{①②}	4HD267NFSS ^⑤
	800	—	—	—	—	—	—	—	—	—	4HD267NF ^⑥
	1200	—	—	—	—	—	—	—	—	^③	^③
Three-Pole—480 Vac—600 Vac, 250 Vdc											
	30	3	7-1/2	10	10	20	30	5	—	12HD361NF ^①	4HD361NF ^⑤
	60	10	20	25	20	50	60	10	—	12HD362NF ^①	4HD362NF ^⑤
	100	20	40	50	40	75	100	20	—	12HD363NF ^①	4HD363NF ^⑤
	200	15	50	50	60	125	150	40	—	12HD364NF ^①	4HD364NF ^⑤
	400	—	—	—	125	250	350	50	—	12HD365NF ^①	4HD365NFSS ^⑤
	400	—	—	—	125	250	350	50	—	—	4HD365NF ^⑥
	600	—	—	—	200	400	500	—	—	12HD366NF ^①	4HD366NFSS ^⑤
	600	—	—	—	200	400	500	—	—	—	4HD366NF ^⑥
	800	—	—	—	—	500	500	—	—	12HD367NF ^①	4HD367NFSS ^⑤
	800	—	—	—	—	500	500	—	—	—	4HD367NF ^⑥
	1200	—	—	—	—	500	500	—	—	12HD368NF ^①	4HD368NFSS ^⑤
	1200	—	—	—	—	500	500	—	—	—	4HD368NF ^⑥
Four-Pole—480 Vac—600 Vac, 250 Vdc											
	30	10 ^⑤	20 ^⑤	25 ^⑤	10	20	30	5	—	12HD461NF ^①	4HD461NF ^⑤
	60	20 ^⑤	40 ^⑤	50 ^⑤	20	50	60	10	—	12HD462NF ^①	4HD462NF ^⑤
	100	40 ^⑤	50 ^⑤	50 ^⑤	40	75	100	20	—	12HD463NF ^①	4HD463NF ^⑤
	200	50 ^⑤	50 ^⑤	50 ^⑤	60	125	150	40	—	12HD464NF ^①	4HD464NF ^⑤
	400	50 ^⑤	—	—	125	250	350	50	—	^{①③}	—
	600	—	—	—	200	400	500	—	—	^{①③}	—
	800	—	—	—	—	—	—	—	—	^{①②③}	—

① NEMA 12 enclosures (30–1200A) can be field modified to meet NEMA 3R rainproof requirements when a factory provided drain hole is opened.

② DC rating for 800A switches is 250V.

③ Contact Customer Support (1-800-268-3578) for availability of this product.

④ Ratings are for two-phase AC.

⑤ NEMA 4X stainless steel enclosure.

⑥ NEMA 4 painted steel enclosure.

Switching Devices

Safety Switches

Technical Data and Specifications for 2, 3, 4 Pole Heavy Duty

Short-Circuit Ratings (kA) Using Class “R”, “J” or “T” Fusing Where Applicable

Ampere Rating	Short-Circuit Ratings			
	NEMA 1	NEMA 3R	NEMA 12	NEMA 4 and 4X
30	200 at 600V	200 at 600V	200 at 600V	200 at 600V
60	200 at 600V	200 at 600V	200 at 600V	200 at 600V
100	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 600V	200 at 600V
200	200 at 600V	200 at 600V	200 at 600V	200 at 600V
400	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V
600	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V
800	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V	200 at 480V 100 at 600V
1200	200 at 600V	200 at 600V	200 at 600V	200 at 600V

Note:

Class “H” fuse clips supplied as standard for 30–600A. Class “L” fuse clips supplied as standard for 800–1200A. Rated at 10,000 rms symmetrical when using Class “H” fuses.
For DC application short-circuit rating is 10 kA.

Fuse Class Adaptation

Safety Switch Type	Standard Fuse Class Clips Supplied with Switch	Adaptable to Accept the Following Fuse Class		
		R	J	T
Heavy Duty	H 30-600A L 800-1200A	30A-600A	240V: 100-600A 600V: 30-600A	200A-800A 1200A

Note:

For ‘J’ Fusing on 240V Heavy Duty Switches Field Modification Required.
30-60A not available.
100-400A, reposition loadside fuse block to accept ‘J’ fuse.
600A adapter kit included with switch.
For ‘R’ fuse rejector adapter kit and ‘T’ fuse adapter kit see accessory options on page 4.

For ‘J’ fusing on 600V Heavy Duty Switches Field Modification Required.
30-60A, reposition fuse clips on loadside of fuse base.
100-400A, reposition loadside fuse block to accept ‘J’ fuse.
600A adapter kit included with switch.
For ‘R’ fuse rejector adapter kit and ‘T’ fusing see page 4 accessory application options.

Terminal Capacity for Heavy Duty Safety Switch 600V Max

Ampere	Line/Load Terminal Capacity (per phase)	Ground terminal Capacity	Neutral Catalogue #	Neutral Terminal Capacity
30	#14 - #6	#14 - 4	DH030NK	4x #14 - #2
60	#14 - #2	#14 - 4	DH030NK	4x #14 - #2
100	#14 - 1/0	#14 - 4	DH100NK	2x #14-#2 AND 2x #14 - 1/0
200 (NEMA 1 & 3R)	#6 - 250mcm	#14 - 4	N200	2x #6 - 250mcm AND 2x #14 - #2
200 (NEMA 12 & 4X)	#6 - 300mcm	#14 - #4	DH200NK	2x #6 - 300mcm AND 2x #14 - #2
400	(2) 1/0 - (2)300mcm OR (1) 1/0 - 750mcm	#6 - 250mcm	DS400NK	2X 1/0 - 750mcm OR (2)1/0 - (2)300mcm AND 3x#6 - 250mcm
600	(1)#2 - 600mcm AND (1) 1/0 - 750mcm	#6 - 250mcm	DS600NK	2 x 1/0 - (1)750mcm OR 1/0 - (2) 300mcm AND 1 x #2 - 600mcm AND 3 x #6 - 250mcm
800	(4) 3/0 - (4)750mcm	#6 - 250mcm	DS800NK	2 X (4)3/0 - (4)750mcm AND 3 x #6 - 250mcm
1200	(4) 1/0 - (4)750mcm	#6 - 250mcm	DS800NK	2 X (4)3/0 - (4)750mcm AND 3 x #6 - 250mcm

Note:

* Order neutral catalogue number when neutral required and not included with switch.

All terminals are rating Al/Cu unless otherwise noted.

Ground terminal is standard on all switches. For optional ground lug kits or copper lug kits see page 4 and 5.

UL/CSA Recognized Non-Fusible Safety Switch/Circuit Breaker Series-Connected Ratings Eaton 30-200A non fusible safety switch withstand ratings when protected with circuit breakers

Non-Fusible Safety Switch Ampere Rating	Max System Voltage AC	Number of Poles Switched	Maximum fault level available at upstream circuit breaker (kA RMS symmetrical)	Circuit Breaker Frame(s)
30A & 60A	600	2, 3, 4, 6	25,000	FDC, HFD, HFDE, EGH, PDG2xP, PDG2xM, PDG1xM
			18,000	FD, EGE, PDG2xG, PDG1xF
			14,000	FDB, PDG2xF
			10,000	Any manufacturer or Eaton breaker type
100A	600	2, 3, 4, 6	25,000	FDC, HFD, HFDE, EGH, PDG2xP, PDG2xM, PDG1xM
			18,000	FD, EGE, PDG2xG, PDG1xF
			14,000	FDB, PDG2xF
			10,000	Any manufacturer or Eaton breaker type
	480	2, 3, 4, 6	35,000	EGH, EGS, PDG1xM, PDG1xG
			10,000	Any manufacturer or Eaton breaker type
200A	600	2, 3, 4, 6	25,000	FDC, HFD, HFDE, HJD, JGH, PDG2xP, PDG2xM
			18,000	FD, JD, JGE, PDG2xG
			14,000	FDB, PDG2xF
			10,000	Any manufacturer or Eaton breaker type
	480	2, 3, 4, 6	65,000	HFD, HFDE, HJD, JGH, PDG2xM
			10,000	Any manufacturer or Eaton breaker type

Dimensions

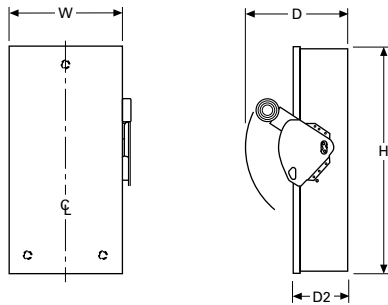
Approximate Dimensions in Inches (mm)

Note: Dimensions are for estimating purposes only.

Heavy Duty, Non-Fusible, 600V, Three-Pole, Single-Throw

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 1, 3R					
30	8.13 (206.5)	15.88 (403.4)	9.89 (251.3)	5.25 (133.3)	16 (7.264)
60	8.13 (206.5)	15.88 (403.4)	9.89 (251.3)	5.25 (133.3)	16 (7.264)
100	11.13 (282.7)	21.69 (550.9)	9.89 (251.3)	5.25 (133.3)	22 (9.988)
200	16.00(406.4)	27.66(702.5)	11.25 (285.8)	6.14 (156.0)	46 (20.884)
400	24.12(612.6)	44.31 (1125)	12.39 (315)	7.27 (184.7)	110 (49.94)
600	25.12(638.0)	51.82 (1316)	14.07 (357)	8.95 (227.3)	135 (61.29)
800	26.37(669.8)	55.82(1417.8)	14.07 (357)	8.95 (227.3)	158 (71.732)
1200	43.12(1095.2)	70.97(1802.6)	17.12(434.8)	12.44 (316.0)	430 (195.22)
NEMA 12, 4 Painted Steel, 4X Stainless Steel ^①					
30	8.76 (222.5)	14.14 (359)	10.22 (259)	5.50 (139.7)	17 (7.718)
60	8.76 (222.5)	14.14 (359)	10.22 (259)	5.50 (139.7)	17 (7.718)
100	11.79 (299.5)	25.00 (634)	10.22 (259)	5.50 (139.7)	28 (12.712)
200	16.95(430.5)	35.38 (899)	11.63 (295)	6.44 (163.6)	55 (24.97)
400	24.12 (613)	57.47 (1460)	12.43 (316)	7.19 (182.6)	125 (56.75)
600	25.08 (637)	63.00 (1600.2)	12.79(324.9)	8.88 (225.6)	167 (75.818)
800	26.34 (669)	71.75 (1822.5)	12.79(324.9)	8.88 (225.6)	175 (79.45)
1200	43.11(1095.0)	73.77 (1874)	17.15(435.6)	12.45(316.2)	475 (215.65)

NEMA 1, 3R Heavy Duty 30-1200A

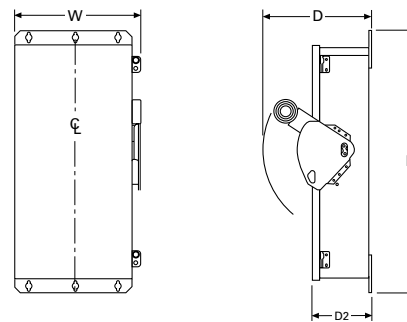


Heavy Duty, Fusible, 240V and 600V, Three-Pole with or without Neutral, Single-Throw

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 1, 3R					
30	8.13 (206.5)	15.88 (403.4)	10.00(254.0)	5.25 (133.3)	20 (9.08)
60	8.13 (206.5)	15.88 (403.4)	10.00(254.0)	5.25 (133.3)	20 (9.08)
100	11.13 (282.7)	21.69 (550.9)	10.00(254.0)	5.25 (133.3)	27 (12.258)
200	16.00(406.4)	27.66(702.5)	11.25 (285.8)	6.14 (156.0)	46(20.884)
400	24.12(612.6)	44.31(1125.5)	12.39(314.7)	7.27 (184.7)	110(49.94)
600	25.12(638.0)	51.82(1316.2)	14.07(357.4)	8.95 (227.3)	135 (61.29)
800	26.37(669.8)	56.24 (1428)	14.07 (357)	8.95 (227.3)	158(71.732)
1200	43.12(1095.2)	70.31 (1785.9)	17.12(434.8)	12.44 (316.0)	430(195.22)
NEMA 12, 4 Painted Steel, 4X Stainless Steel ^①					
30	8.76 (222.5)	19.08 (485)	10.22 (259)	5.50 (139.7)	22 (9.988)
60	8.76 (222.5)	19.08 (485)	10.22 (259)	5.50 (139.7)	22 (9.988)
100	11.79 (299.5)	25.00 (634)	10.22 (259)	5.50 (139.7)	28(12.712)
200	16.54 (421)	35.38 (899)	11.63 (295)	6.44 (163.6)	55(24.97)
400	24.12 (613)	57.47 (1460)	12.43 (316)	7.19 (182.6)	125(56.75)
600	25.08 (637)	63.00 (1600.2)	12.79(324.9)	8.95(227.3)	167(75.818)
800	26.34 (669)	71.75 (1822.5)	12.79(324.9)	8.95(227.3)	175(79.45)
1200	43.11(1095.0)	73.77 (1874)	17.15(435.6)	12.45(316.2)	475(215.65)

^① NEMA 12 enclosures (30-1200A) can be field modified to meet NEMA 3R rainproof requirements when factory provided drain hole is opened.

NEMA 12, 4, and 4X Heavy Duty 30-1200A ^①



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Heavy Duty Double Door Safety Switch



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Heavy Duty Double Door Safety Switch

Product Description

Eaton's double-door safety switch is the industry's first compartmentalized fusible safety switch. The revolutionary two-door design includes an internal barrier that separates the upper switching compartment from the lower fuse compartment. This allows operators to access the fuse compartment with no exposure to line-side power, providing enhanced safety during fuse replacement.

Features

- 30–1200A
- NEMA 12/3R and NEMA 4X stainless enclosures
- External viewing window over switching blade standard
- Enhanced visible blades included
- Interlocking mechanism keeps door closed when the switch is ON
- Optional voltage monitors

Standards and Certifications

- CSA 22.2 no. 4-16

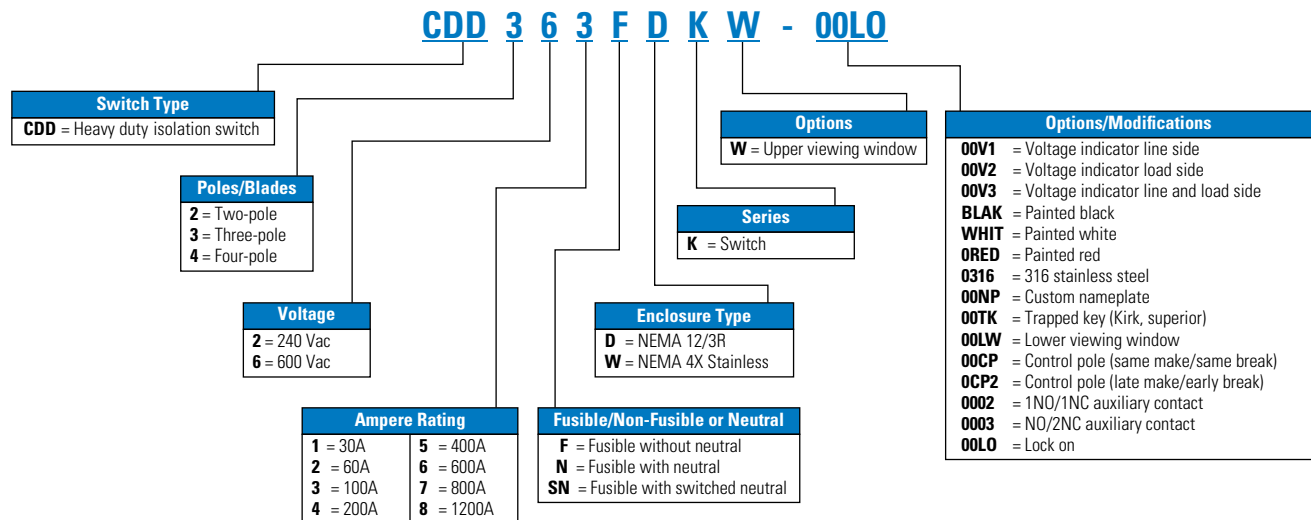


Switching Devices

Safety Switches

Catalog Numbering System

Heavy Duty Double Door Safety Switch



Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers. Contact Customer Support 1-800-268-3578 for availability of this product.

Product Selection

CDD321FDKW



240 Vac Heavy Duty Double Door, Fusible—NEMA 12/3R, 4X

System	Ampere Rating	Fuse Type Provision	Maximum hp Ratings with Time Delay Fuses						NEMA 12/3R	NEMA 4X
			Single-Phase AC		Three-Phase AC		DC		Enclosure Dust-tight	Enclosure Watertight
			480V	600V	480V	600V	250V	600V	Catalogue Number	Catalogue Number
Three-Pole, 240 Vac, 250 Vdc (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)										
	30	H	7.5	10	15	20	—	—	CDD321FDKW	CDD321FWKW
	60	H	20	25	30	50	—	—	CDD322FDKW	CDD322FWKW
	100	H	30	40	60	75	—	—	CDD323FDKW	CDD323FWKW
	200	H	50	50	125	150	—	—	CDD324FDKW	CDD324FWKW
	400	H	—	—	250	350	—	—	CDD325FDKW	CDD325FWKW
	600	H	—	—	400	500	—	—	CDD326FDKW	CDD326FWKW
	800	L	—	—	500	500	—	—	CDD327FDKW	CDD327FWKW
	1200	L	—	—	500	500	—	—	CDD328FDKW	CDD328FWKW
Four-Wire (Three Blades, Three Fuses, S/N) 240 Vac, 250 Vdc										
	30	H	7.5	10	15	20	—	—	CDD321NDKW	CDD321NWKW
	60	H	20	25	30	50	—	—	CDD322NDKW	CDD322NWKW
	100	H	30	40	60	75	—	—	CDD323NDKW	CDD323NWKW
	200	H	50	50	125	150	—	—	CDD324NDKW	CDD324NWKW
	400	H	—	—	250	350	—	—	CDD325NDKW	CDD325NWKW
	600	H	—	—	400	500	—	—	CDD326NDKW	CDD326NWKW
	800	L	—	—	500	500	—	—	CDD327NDKW	CDD327NWKW
	1200	L	—	—	500	500	—	—	CDD328NDKW	CDD328NWKW

CDD361FDKW



600 Vac Heavy Duty Double Door, Fusible—NEMA 12/3R, 4X

System	Maximum hp Ratings with Time Delay Fuses								NEMA 12/3R	NEMA 4X
	Ampere Rating	Fuse Type Provision	Single-Phase AC		Three-Phase AC		DC		Enclosure Dust-tight	Enclosure Watertight
			480V	600V	480V	600V	250V	600V	Catalogue Number	Catalogue Number
Three-Pole, 480 Vac–600 Vac or Vdc (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)										
	30	H	7.5	10	15	20	—	—	CDD361FDKW	CDD361FWKW
	60	H	20	25	30	50	—	—	CDD362FDKW	CDD362FWKW
	100	H	30	40	60	75	—	—	CDD363FDKW	CDD363FWKW
	200	H	50	50	125	150	—	—	CDD364FDKW	CDD364FWKW
	400	H	—	—	250	350	—	—	CDD365FDKW	CDD365FWKW
	600	H	—	—	400	500	—	—	CDD366FDKW	CDD366FWKW
	800	L	—	—	500	500	—	—	CDD367FDKW	CDD367FWKW
	1200	L	—	—	500	500	—	—	CDD368FDKW ①	CDD368FWKW ①
Four-Wire (Three Blades, Three Fuses, S/N) 480 Vac–600 Vac, 250 Vdc										
	30	H	7.5	10	15	20	—	—	CDD361NDKW	CDD361NWKW
	60	H	20	25	30	50	—	—	CDD362NDKW	CDD362NWKW
	100	H	30	40	60	75	—	—	CDD363NDKW	CDD363NWKW
	200	H	50	50	125	150	—	—	CDD364NDKW	CDD364NWKW
	400	H	—	—	250	350	—	—	CDD365NDKW	CDD365NWKW
	600	H	—	—	400	500	—	—	CDD366NDKW	CDD366NWKW
	800	L	—	—	500	500	—	—	CDD367NDKW	CDD367NWKW
	1200	L	—	—	500	500	—	—	CDD368NDKW ①	CDD368NWKW ①

① 1200A is not service entrance rated at 600V.

Switching Devices

Safety Switches

Modifications

Additions are available such as custom paint, 316-stainless enclosures, custom OEM labeling and more.

Call the Flex Center at 1-888-329-9272 or FlexSwitches@Eaton.com for more information.

Technical Data and Specifications

Ratings and Capacities

Ampere Rating	Factory Fuse Class	Optional Fuse Class ^①	Standard Lug Capacities Per Phase		Ground ^② Min. Wire Size	Max. Wire Size
			Min. Wire Size	Max. Wire Size		
30	H	J, R	#14	#2	#14	#4
60	H	J, R	#14	#2	#14	#4
100	H	J, R	#14	1/0	#14	#4
200	H	J, R, T	#6	300 kcmil	#14	#2
400	H	J, R, T	(2) 1/0 (1) 1/0	(2) 300 kcmil–1/0 or ^③ (1) 175 kcmil–1/0	#6	250 kcmil
600	H	J, R, T	(1) #2 (1) #2	(1) 600 kcmil and ^④ (1) 750 kcmil	#6	250 kcmil
800	L	T	(4) 1/0	(4) 750 kcmil	#6	250 kcmil
1200	L	T	(4) 1/0	(4) 750 kcmil	#6	250 kcmil

Cable IN/OUT reference chart

	Top IN ^⑤	Bottom IN
Top OUT	■	—
Bottom OUT	■	■

- ① Switches ranging from 30A to 400A can relocate clips/base for class J fuses. All other classes/ampereages require a kit. Please consult catalogue or contact the Technical Resource Center (TRC) for specific kit catalogue numbers.
- ② Lay-in type lug uses 30–100A. Two ground lugs are provided for 200–1200A switches, each accommodating the wire range listed above.
- ③ Single barrel lug that accepts one or two cables per phase as detailed above.
- ④ Double barrel lug that accepts two cables per phase as detailed above.
- ⑤ Remove wireway in bottom compartment. Necessary for 30–200A units only.

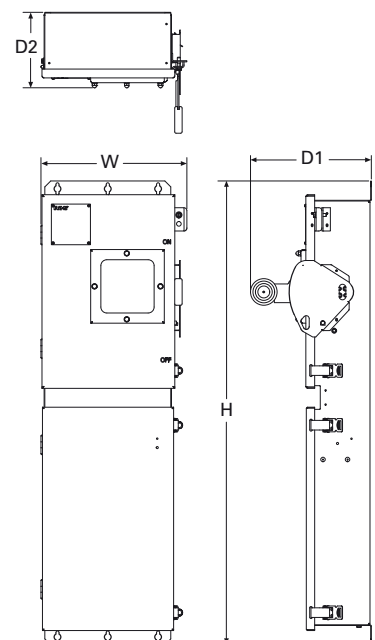
Dimensions

Approximate Dimensions in Inches (mm)

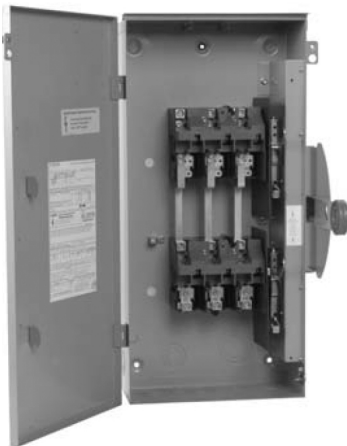
Note: Dimensions are for estimating purposes only.

Heavy Duty Double Door Safety Switch

Ampere Rating	Height (H)	Width (W)	Depth (D1)	Depth (D2)
30/60	37.49 (952.3)	9.30 (236.2)	8.22 (208.8)	6.37 (161.8)
100	39.19 (995.4)	12.33 (313.2)	10.21 (259.3)	6.37 (161.8)
200	49.90 (1267.5)	17.18 (436.4)	11.62 (295.1)	7.31 (185.7)
400	72.46 (1840.5)	24.32 (617.7)	16.41 (416.8)	14.56 (369.8)
600	77.96 (1980.2)	25.32 (643.1)	19.31 (490.5)	17.80 (452.1)
800	86.73 (2202.9)	26.57 (674.9)	22.16 (562.9)	17.81 (452.4)
1200	91.02 (2312.0)	43.11 (1095.0)	27.18 (690.4)	21.23 (539.2)



Heavy Duty Non-Fusible Double-Throw



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Double-Throw Switches

Application Description

Used to manually transfer a load from one power source to an alternate source, or to connect a single source of power to either of two different loads.

Product Description

- 30–1200A
- Horsepower rated
- 600 Vac, 250 Vdc maximum
- 600–1200 A fusible utilize common set of fuses as Eaton's stacked doublethrow design. The stacked design is suitable for two source 1 load applications only
- 600–800 A fusible are available for one source 2 load applications; include an "R" at the end of the catalog number
- 2, 3, 4, 6 pole designs available
- Enclosures NEMA 1, 3R, 12, 4, painted steel and 4X stainless steel
- 800–1200A fusible utilize common set of fuses; two Source 1 load applications
- Fusible or non-fusible
- Fusible and non-fusible switches are 100% load break and 100% load make rated
- Suitable for use on systems capable of delivering 100,000 rms symmetrical fault current when used with class J, R, or T fuses.
- The handle operating mechanism actuates either the upper or lower switch. When the handle is in the centre position, both switches are OFF.
- The handle and door are interlocked to keep the door closed when a switch is ON and hold the handle OFF when the door is open

- The continuous load current of fusible switches is not to exceed 80% of the rating of fuses employed in other than motor circuits. Non-fusible switches are 100% continuous duty rated
- Double-throw switches are not approved for service entrance in Canada, per CEC and C22.2 No.4.
- Wiring configuration from factory allows a single load to be supplied by a normal or alternate source. Can be field modified to allow two loads to be alternately supplied by a single power source
- Clear line shield (provided on **fusible** double-throw) protects against accidental contact with energized parts. Probe holes enable the user to test if the line side is energized without removing the shield

- For accessories, refer to **Pages 4 and 5**
- Window option available for NEMA 12 and 4X enclosures
- For factory modifications refer to **Pages 13 through 15**
- Same heavy duty features per page 28 for double-throw switches, unless noted.
- Triple padlocking capability. Two on door and up to three 3/8" shank locks in 'OFF' (centre) handle position. Special modification available for locking in 'ON' position, see page 13 note 4.

Standards and Certifications

- CSA Certified File No. 69473
- Meets C22.2 No. 4 standard for enclosed switches.
- ISO 9001:2008



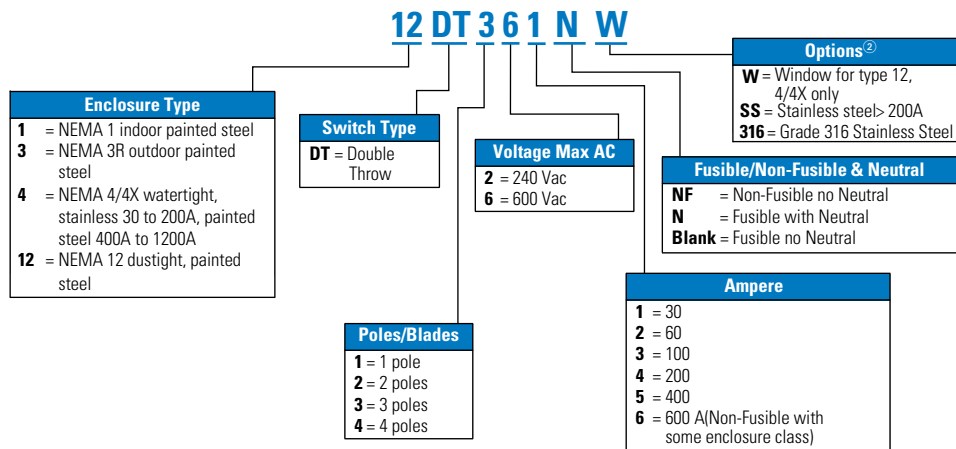
Switching Devices

Safety Switches

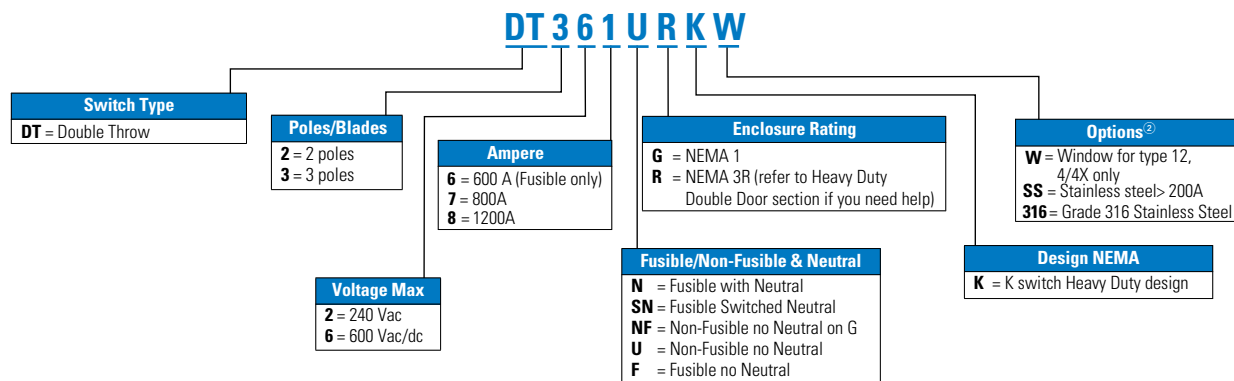
Catalog Numbering System

Double-Throw Switches

30-600A



800-1200A



Note:

Always verify the number of poles and wires required since catalogue numbers may appear in multiple tables.

See **Pages 13** through **15** for additional Flex Centre options.

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

240 Vac Heavy Duty, Fusible, Double-Throw

Ampere Rating Main and Standby	Fuse Class Provision	Maximum Horsepower Ratings with Time Delay Fuses						DC 250V	NEMA 1 Enclosure Indoor Catalogue Number	NEMA 3R Enclosure Rainproof Catalogue Number
		Single-Phase AC			Three-Phase AC					
		240V	480V	600V	240V	480V	600V			
Two-Pole—240 Vac—250 Vdc										
200	H or R	15	—	—	—	—	—	40	1DT224	3DT224
Three-Pole—240 Vac—250 Vdc										
30	H or R	3	—	—	7-1/2	—	—	5	1DT321	3DT321
60	H or R	10	—	—	15	—	—	10	1DT322	3DT322
100	H or R	15	—	—	30	—	—	20	1DT323	3DT323
200	H or R	15	—	—	60	—	—	40	1DT324	3DT324
400	H or R	—	—	—	125	—	—	50	1DT325	3DT325
600 ^①	J	—	—	—	50	—	—	50	1DT326	3DT326
800	L	—	—	—	—	—	—	—	DT327FGK	DT327FRK
1200	L	—	—	—	—	—	—	—	DT328FGK	DT328FRK

240 Vac Heavy Duty, Non-Fusible, Double-Throw

Ampere Rating Main and Standby	Maximum Horsepower Ratings						DC 250V	NEMA 1 Enclosure Indoor Catalogue Number	NEMA 3R Enclosure Rainproof Catalogue Number
	Single-Phase AC			Three-Phase AC					
	240V	480V	600V	240V	480V	600V			
Two-Pole—240 Vac—250 Vdc									
30	3	—	—	—	—	—	5	1DT221NF	3DT221NF
60	10	—	—	—	—	—	10	1DT222NF	3DT222NF
100	20	—	—	—	—	—	20	1DT223NF	3DT223NF
200	15	—	—	—	—	—	40	1DT224NF	3DT224NF
400	—	—	—	—	—	—	50	1DT225NF	3DT225NF
600	—	—	—	—	—	—	—	1DT226NF	3DT226NF
800	—	—	—	—	—	—	—	②	②
1200	—	—	—	—	—	—	—	②	②
Three-Pole—240 Vac—250 Vdc									
30	3	—	—	10	—	—	5	1DT321NF	3DT321NF
60	10	—	—	20	—	—	10	1DT322NF	3DT322NF
100	20	—	—	40	—	—	20	1DT323NF	3DT323NF
200	15	—	—	60	—	—	40	1DT324NF	3DT324NF
400	—	—	—	125	—	—	50	1DT325NF	3DT325NF
600	—	—	—	125	—	—	50	1DT326NF	3DT326NF
800	—	—	—	125	—	—	50	1DT327NF	3DT327NF
800	—	—	—	125	—	—	50	1DT327NF-N	3DT327NF-N
1200	—	—	—	125	—	—	50	②	②

① Only available for use with fast-acting fuses. Standard hp rating is shown.

② Contact Customer Support (1-800-268-3578) for availability of this product.

Switching Devices

Safety Switches

1DT363



600 Vac Heavy Duty, Fusible, Double-Throw

Ampere Rating Main and Standby	Fuse Class Provision	Maximum Horsepower Ratings with Time Delay Fuses					NEMA 1 Enclosure Indoor Catalogue Number	NEMA 3R Enclosure Rainproof Catalogue Number	NEMA 12 ③ Enclosure Dust-Tight Catalogue Number	NEMA 4X Enclosure ④ Corrosion-Resistant, Stainless Steel Catalogue Number
		Single-Phase		Three-Phase						
		AC 480V	600V	AC 480V	600V	DC 250V				
Three-Pole—600 Vac—250 Vdc										
30	H or R	7-1/2	10	15	20	—	1DT361	3DT361	①	①
60	H or R	20	25	30	50	—	1DT362	3DT362	①	①
100	H or R	30	40	60	75	—	1DT363	3DT363	①	①
200	H or R	50	50	125	150	40	1DT364	3DT364	①	①
400	T	—	—	250	350	50	1DT365	3DT365	①	①④
600	J	—	—	—	—	—	1DT366	3DT366	①	①④
800	L	—	—	—	—	—	DT367FGK	DT367FRK	①	①④
1200	L	—	—	—	—	—	DT368FGK	DT368FRK	—	①④

3DT363NF



600 Vac Heavy Duty, Non-Fusible, Double-Throw

Ampere Rating Main and Standby	Maximum Horsepower Ratings					NEMA 1 Enclosure Indoor Catalogue Number	NEMA 3R Enclosure Rainproof Catalogue Number	NEMA 12 ^③ Enclosure Dust-Tight Catalogue Number	NEMA 4X Enclosure ^④ Corrosion-Resistant, Stainless Steel Catalogue Number
	Single-Phase AC		Three-Phase AC		DC				
	480V	600V	480V	600V	250V				
Two-Pole—600 Vac—250 Vdc									
30	7-1/2	10	—	—	5	1DT261NF	3DT261NF	①	①
60	20	25	—	—	10	1DT262NF	3DT262NF	①	①
100	40	50	—	—	20	1DT263NF	3DT263NF	①	①
200	50	50	—	—	40	1DT264NF ^②	3DT264NF ^②	①	①
400	—	—	—	—	50	1DT265NF	3DT265NF	①	①
600	—	—	—	—	50	1DT266NF	3DT266NF	①	①
800	—	—	—	—	50	DT267UGK	DT267URK	①	①
1200	—	—	—	—	50	DT268UGK	DT268URK	—	①
Three-Pole—600 Vac—250 Vdc									
30	7-1/2	10	20	30	5	1DT361NF	3DT361NF	12DT361NF	4DT361NF
60	20	25	50	60	10	1DT362NF	3DT362NF	12DT362NF	4DT362NF
100	40	50	75	100	20	1DT363NF	3DT363NF	12DT363NF	4DT363NF
200	50	50	125	150	40	1DT364NF	3DT364NF	12DT364NF	4DT364NF
400	—	—	250	350	50	1DT365NF	3DT365NF	12DT365NF	①
600	—	—	250	350	50	1DT366NF	3DT366NF	①	①
800	—	—	250	350	50	1DT367NF	3DT367NF	①	①
800	—	—	250	350	50	1DT367NF-N	3DT367NF-N	①	①
1200	—	—	250	350	50	DT368UGK	DT368URK	—	①

① Contact Customer Support (1-800-268-3578) for availability of this product.

② Rated 600 Vdc, 50 hp in addition to ratings shown in table.

③ NEMA 12 enclosures (30–1200A) can be field modified to meet NEMA 3R rainproof requirements when a factory provided drain hole is opened.

④ 30-200A, stainless steel 4X standard, 400-800A NEMA 4 painted steel standard. For stainless @ 400-1200A add 'SS' to catalogue number suffix.

Note:

For 400A order DT400JK.

For applications with bonded generators, switched neutrals required, for 240V use 3 pole switch, for 600V use 4 pole switch, for factory installation of solid or switched neutrals refer to page 14.

For window option see factory modifications pages 13-15.

3DT363NF

**600 Vac Heavy Duty, Non-Fusible, Double-Throw**

Ampere Rating Main and Standby	Maximum Horsepower Ratings					NEMA 1 Enclosure Indoor Catalogue Number	NEMA 3R Enclosure Rainproof Catalogue Number	NEMA 12 ^③ Enclosure Industrial, Dust-Tight Catalogue Number	NEMA 4X Enclosure Corrosion-Resistant, Stainless Steel Catalogue Number
	Single-Phase AC		Three-Phase AC		DC				
	480V	600V	480V	600V	250V				
Four-Pole—600 Vac—250 Vdc^①									
30	7-1/2	10	20	30	5	1DT461NF	3DT461NF	②	②
60	20	25	50	60	10	1DT462NF	3DT462NF	②	②
100	40	50	75	100	20	1DT463NF	3DT463NF	②	②
200	—	50	125	150	40	1DT464NF	3DT464NF	②	②
400	—	—	250	350	50	1DT465NF	②	②	④
600	—	—	250	350	50	1DT466NF	②	②	④
800	—	—	250	350	50	1DT467NF	②	②	④
Six-Pole—600 Vac—250 Vdc^①									
30	7-1/2	10	15	30	5	1DT661NF	3DT661NF	②	②
60	20	25	50	60	10	1DT662NF	3DT662NF	②	②
100	40	50	75	100	20	1DT663NF	3DT663NF	②	②

① Field installable neutral kit is not available. If a neutral is required, order the catalogue number shown in the table add "N" suffix.

② Contact Customer Support (1-800-268-3578) for availability of this product.

③ NEMA 12 enclosures (30–1200A) can be field modified to meet NEMA 3R rainproof requirements when a factory provided drain hole is opened.

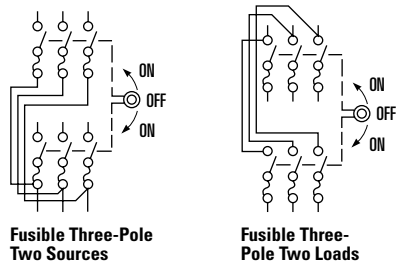
④ 30-200A stainless steel 4X standard, 400-800A NEMA 4 painted steel standard. For stainless at 400-800A add 'SS' to catalogue number suffix.

Switching Devices

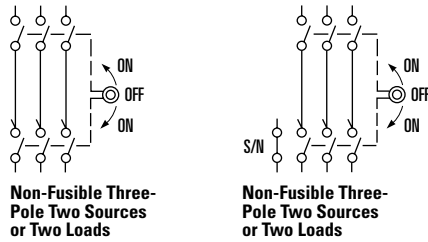
Safety Switches

Technical Data and Specifications for Double-Throw Switches

Typical Fusible, Double-Throw Schematic Diagram



Typical Non-Fusible, Double-Throw Schematic Diagram



Short-Circuit Ratings (kA) Using Class "R", "J" or "T" Fusing Where Applicable

Ampere Rating	NEMA 1	NEMA 3R	NEMA 12	NEMA 4 and 4X
30	100 at 600V	100 at 600V	100 at 600V	100 at 600V
60	100 at 600V	100 at 600V	100 at 600V	100 at 600V
100	100 at 600V	100 at 600V	100 at 600V	100 at 600V
200	100 at 600V	100 at 600V	100 at 600V	100 at 600V
400	100 at 600V	100 at 600V	100 at 600V	100 at 600V
600	100 at 600V	100 at 600V	100 at 600V	100 at 600V
800	100 at 600V	100 at 600V	—	—
1200	100 at 600V	100 at 600V	—	—

Terminal Capacity for Heavy Duty Double-Throw Safety Switch 600V Max

Ampere	Line/Load Terminal Capacity (per phase)	Ground terminal Capacity	Neutral Catalogue # ①	Neutral Terminal Capacity
30	#14 - #2	#14 - 4	DT100NK	1x #14 - #2 AND 3x #14 - #2
60	#14 - #2	#14 - 4	DT100NK	1x #14 - #2 AND 3x #14 - #2
100	#14 - 1/0	#14 - 4	DT100NK	1x #14 - #2 AND 3x #14 - #2
200	#6 - 250mcm	#14 - 4	DT200NK	3x #6 - 250mcm AND 1x #14 - #2
400 (non fusible)	(2) 1/0 - (2)300mcm OR (1) 1/0 - 750mcm	#6 - 250mcm	DT400NK	7x #6 - 250mcm
400 (fusible)	(2) 1/0 - (2)300mcm OR (1) 1/0 - 750mcm	#6 - 250mcm	DS800NK	2x (4)3/0 - (4)750mcm AND 3x #6 - 250mcm
600 (non fusible)	(2)250mcm - (2)500mcm	#6 - 250mcm	DT600NK	6x 250mcm - 500mcm AND 1x #6 - 250mcm
600 (fusible)	(1) #2 - 600mcm AND (1)1/0 - 750mcm	#6 - 250mcm	DS800NK	2x (4)3/0 - (4)750mcm AND 3 x #6 - 250mcm
800	(3)250mcm - (3)500mcm	#6 - 250mcm	DT800NK	3x (3) 250mcm - (3) 500mcm
1200	(4) 1/0 - (4)750mcm	#6 - 250mcm	DT1200NK	3x (4)1/0 - (4)750mcm

① Order neutral catalogue number when neutral required and not included with switch.

Note:

All terminals are rating Al/Cu unless otherwise noted.

Ground terminal is standard on all switches. For optional ground lug kits or copper lug kits see page 4 and 6.

Dimensions

Approximate Dimensions in Inches (mm)

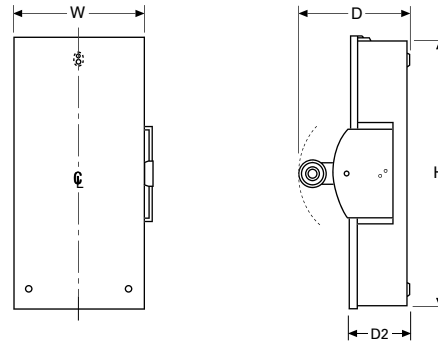
Heavy Duty, Non-Fusible, 240V and 600V, Two and Three-Pole, Double-Throw

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 1, 3R					
30	11.94 (303.3)	24.63 (625.6)	9.88 (251.0)	5.38 (136.7)	34 (15)
60	11.94 (303.3)	24.63 (625.6)	9.88 (251.0)	5.38 (136.7)	34 (15)
100	11.94 (303.3)	24.63 (625.6)	9.88 (251.0)	5.38 (136.7)	34 (15)
200	19.56 (496.8)	37.38 (949.5)	11.25 (285.8)	6.10 (154.9)	80 (36)
400	23.13 (587.5)	53.81 (1366.8)	12.50 (317.5)	7.25 (184.2)	130 (59)
600	24.13 (612.9)	63.31 (1608.1)	14.13 (358.9)	8.88 (225.6)	160 (73)
800	24.13 (612.9)	63.31 (1608.1)	14.13 (358.9)	8.88 (225.6)	175 (79)
1200	42.62 (1082.5)	78.11 (1984.0)	25.62 (650.7)	20.47 (519.9)	471(214)
NEMA 12, 4X Stainless Steel, 4 Painted Steel >200A					
30	12.00 (304.8)	25.88 (657.4)	10.25 (260.4)	5.50 (139.7)	60 (27)
60	12.00 (304.8)	25.88 (657.4)	10.25 (260.4)	5.50 (139.7)	60 (27)
100	12.00 (304.8)	25.88 (657.4)	10.25 (260.4)	5.50 (139.7)	60 (27)
200	19.50 (495.3)	41.00 (1041.4)	11.63 (295.4)	6.48 (164.6)	105 (48)
400	23.05 (587)	57.48 (1460)	12.5 (317)	7.25 (184.2)	135 (61)
600	24.07 (612)	67.02 (1702)	14.05 (357)	8.88 (225.6)	180 (82)
800	24.07 (612)	67.02 (1702)	14.05 (357)	8.88 (225.6)	200 (91)

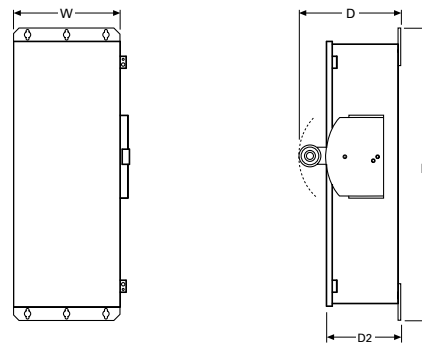
Heavy Duty, Fusible, 240V and 600V, Three-Pole, Double-Throw

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 1, 3R					
30	11.94 (303.3)	36.63 (930.4)	9.88 (251.0)	5.38 (136.7)	44 (20)
60	11.94 (303.3)	36.63 (930.4)	9.88 (251.0)	5.38 (136.7)	44 (20)
100	11.94 (303.3)	36.63 (930.4)	9.88 (251.0)	5.38 (136.7)	44 (20)
200	19.56 (496.8)	50.88 (1292.4)	11.25 (285.8)	6.10 (154.9)	95 (43)
400	25.38 (644.7)	74.75 (1898.7)	14.13 (358.9)	8.88 (225.6)	195 (89)
600	27.44 (697.0)	86.13 (2187.7)	14.13 (358.9)	8.88 (225.6)	230 (104)
800	28.12 (714.2)	58.86 (1495.0)	25.62 (650.7)	20.47 (519.9)	277(126)
1200	42.62 (1082.5)	78.11 (1984.0)	25.62 (650.7)	20.47 (519.9)	501(228)
NEMA 12, 4X Stainless Steel, 4 Painted Steel >200A					
30	12.00 (304.8)	39.81 (1011.2)	10.25 (260.4)	5.50 (139.7)	45 (20)
60	12.00 (304.8)	39.81 (1011.2)	10.25 (260.4)	5.50 (139.7)	45 (20)
100	12.00 (304.8)	39.81 (1011.2)	10.25 (260.4)	5.50 (139.7)	45 (20)
200	19.56 (496.8)	55.63 (1413.0)	11.63 (295.4)	6.46 (164.1)	100 (45)
400	25.32 (643)	77 (1956)	14.05 (357)	8.92 (226)	—
600	25.32 (643)	77 (1956)	14.05 (357)	8.92 (226)	—

NEMA 1, 3R Double-Throw 30-1200A



NEMA 12, 4X Double-Throw 30-1200A



Heavy Duty, Non-Fusible, 600V, Four and Six-Pole^①, Double-Throw

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 1, 3R					
30	17.75 (451)	24.63 (625)	9.88 (251.0)	5.28 (134)	45 (20.5)
60	17.75 (451)	24.63 (625)	9.88 (251.0)	5.28 (134)	45 (20.5)
100	17.75 (451)	24.63 (625)	9.88 (251.0)	5.28 (134)	45 (20.5)
200	19.50 (497)	37.25 (946)	11.25 (285.8)	6.10 (155)	95 (43)
400	27.50 (697)	63.31 (1608)	14.13 (358.9)	8.88 (226)	160 (72.6)
600	27.50 (697)	63.31 (1608)	14.13 (358.9)	8.88 (226)	185 (84)
800	27.50 (697)	63.31 (1608)	14.13 (358.9)	8.88 (226)	185 (84)

Note:

Six pole dimensions listed 30, 60, 100A only.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Non-Metallic Switch



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Heavy Duty Non-Metallic Switches

Product Description

This switch has a KRYDON™ enclosure. These are compression molded fiberglass reinforced polyester enclosure, which is capable of withstanding almost any corrosive environment. Ratings are 30–200A, 240–600 Vac, fusible and non-fusible. Enclosure is NEMA 4X rated.

Features

- 30–200A
- KRYDON high-impact strength fiberglass reinforced polyester material
- Horsepower rated
- Suitable for service entrance use with factory installed neutral.
- Fusible and non-fusible
- Stainless steel external hardware

Standards and Certifications

- UL 98 listed File No. E5239

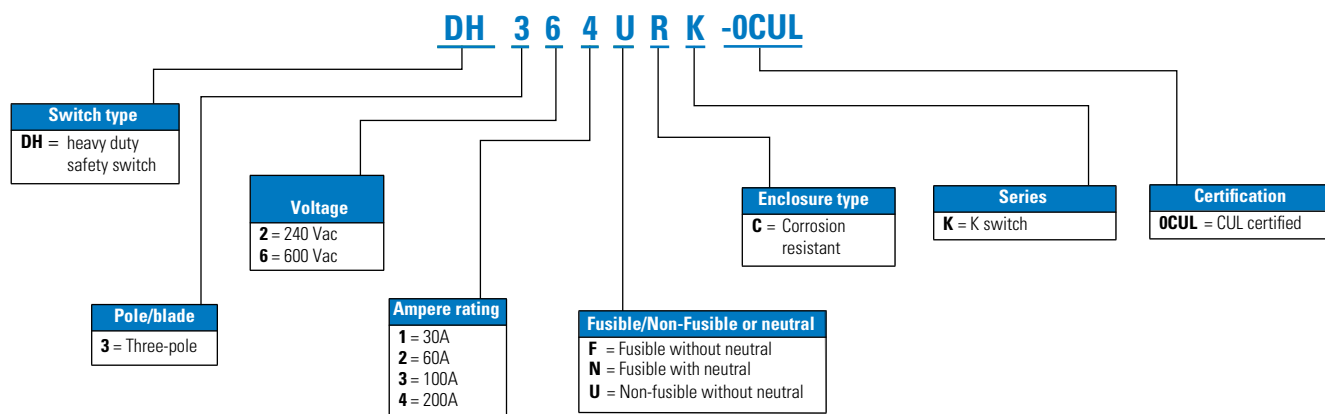


Switching Devices

Safety Switches

Catalog Numbering System

Heavy Duty Single Throw with Cam or Posi-Lok Receptacles



Note:



This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers. For more detailed catalogue part numbers, see Product Selection Guide

Product Selection



DH361UCK




240 Vac Heavy-Duty Non-Metallic Fusible

			Maximum Horsepower Ratings					NEMA 4X Enclosure Corrosion-Resistant, Non-Metallic Catalog Number
System	Ampere Rating	Fuse Type Provision	AC Standard Fuse Single-phase	Three-Phase	Time Delay Single-Phase	Three- Phase	DC 250V	
Three-Pole, 240 Vac—250 Vdc (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)								
	30	H	1-1/2	3	—	7-1/2	—	DH321FCK ① -0CUL
	60	H	3	7-1/2	—	15	—	DH322FCK-0CUL
	100	H	7-1/2	15	—	30	20	DH323FCK-0CUL
	200	H	15	25	—	60	40	DH324FCK-0CUL
Four-Wire (Three Blades, Three Fuses, S/N), 240 Vac—250 Vdc								
	30	H	—	3	—	7-1/2	—	DH321FCK ① -0CUL
	60	H	—	7-1/2	—	15	—	DH322FCK-0CUL
	100	H	—	15	—	30	20	DH323FCK-0CUL
	200	H	—	25	—	60	—	DH324FCK-0CUL

600 Vac Heavy-Duty Non-Metallic Fusible

Maximum Horsepower Ratings with Time Delay Fuses									NEMA 4X Enclosure Corrosion-Resistant, Non-Metallic Catalog Number
System	Ampere Rating	Fuse Class Provision	Single-Phase AC		Three-Phase AC		DC		
			480V	600V	480V	600V	250V	600V	
Three-Pole, 240 Vac—250 Vdc (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)									
	30	H	7-1/2	10	15	20	—	—	DH361FCK ① -0CUL
	60	H	20	25	30	50	—	—	DH362FCK-0CUL
	100	H	30	30	60	75	—	—	DH363FCK-0CUL
	200	H	50	50	125	150	—	—	DH364FCK-0CUL
Four-Wire (Three Blades, Three Fuses, S/N), 480 Vac—600 Vac, 250 Vdc									
	30	H	7-1/2	10	15	20	—	—	DH361FCK ① -0CUL
	60	H	20	25	30	50	—	—	DH362FCK-0CUL
	100	H	30	30	60	75	—	—	DH363FCK-0CUL
	200	H	50	50	125	150	—	—	DH364FCK-0CUL

600 Vac Heavy-Duty Non-Metallic Non-Fusible 277/480–600V

Maximum Horsepower Ratings with Time Delay Fuses										NEMA 4X Enclosure Corrosion-Resistant, Non-Metallic Catalog Number
System	Ampere Rating	Single-Phase AC 240V	480V	600V	Three-Phase AC 240V	480V	600V	DC 250V	600V	
Three-Pole, 480 Vac—600 Vac, 250 Vdc (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)										
	30	3	7-1/2	10	10	20	30	5	—	DH361UCK-0CUL
	60	10	20	25	20	50	60	10	—	DH362UCK-0CUL
	100	20	40	50	40	75	100	20	—	DH363UCK-0CUL
	200	15	50	50	60	125	150	40	—	DH364UCK-0CUL

Note:

① 30A heavy-duty switches with Type J fuse provisions are available from the factory only.

Switching Devices

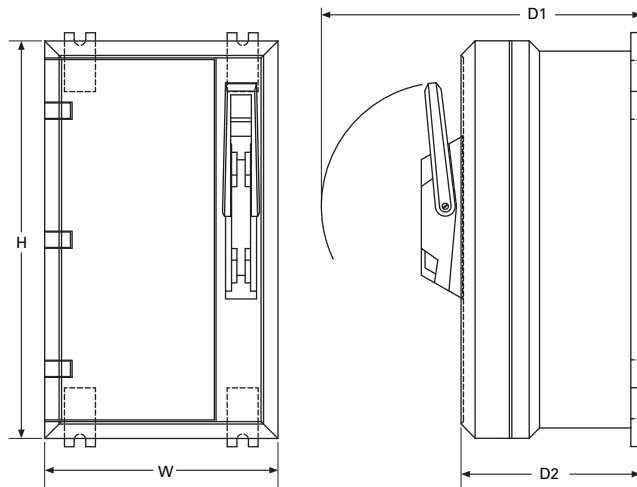
Safety Switches

Dimensions

Approximate Dimensions in Inches (mm)

Note: Dimensions are for estimating purposes only.

240 Vac and 600 Vac Heavy-Duty Non-Metallic



Non-Metallic NEMA 4X Rated Safety Switches, Fusible and Non-Fusible

Amperage	Height Height (H)	Width Width (W)	Depth Depth (D1)	Depth (D2)	Weight lbs(kg)
30A	19.25 (489.0)	11.30 (287.0)	15.46 (392.7)	8.63 (219.2)	32 (14.5)
60A	19.25 (489.0)	11.30 (287.0)	15.46 (392.7)	8.63 (219.2)	32 (14.5)
100A	27.25 (692.2)	15.30 (388.6)	16.46 (418.1)	9.70 (246.4)	45 (20.4)
200A	27.25 (692.2)	25.30 (642.6)	16.46 (418.1)	9.70 (246.4)	77 (35.0)

CDH364URKNLC Single Throw Quick Connect CDT364URKNLC Double-Throw Quick Connect



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Heavy Duty Quick Connect Switches

Application Description

The heavy duty quick connect **single throw** design is typically used with your main utility when temporary power is required such as, to connect a sound or lighting system, media equipment, carnival equipment. When portable power from a generator is required either a **single throw (reverse configuration)** or a **double-throw** quick connect could be used. CEC does not permit double-throw safety switches to be used for service entrance.

Product Description

- 100-800A
100-1200A
- 240-600 Vac heavy duty
- Utilizes Crouse-Hinds "J" Power series E1015,

E1016, E1017 Cam-Lok® connectors or Crouse-Hinds E200, E400 Posi-Lok® receptacles

- Fusible, Non-fusible switch design
- CDH – single throw switch design
- CDT – double-throw switch design
- Single or Three phase, ground receptacle standard. Fourth pole, solid or switched neutral optional
- NEMA 1 or 3R enclosure. Optional NEMA 12 or 4/4X (assembly rating 3R)
- 100% load break make rated
- Key interlocking available upon request
- Windows for NEMA 12 or 4/ 4X (assembly rating 3R) available upon request

Features

- Both designs provide a superior safety solution, interlocking the operation of the switch with the door interlock of the receptacle compartment.
- The switch cannot be turned to the ON position without first closing the receptacle compartment door.
- Convenient and safe method to quickly connect and disconnect portable equipment.
- Spring loaded flap door in the receptacle compartment allows the cables to exit the compartment, but seals the compartment when the switch is not in use.

- An additional flap door on the main compartment allows for quick connection in the event that the appropriate plugs are not readily available.
- Additional options such as Key Interlocking, Windows, NEMA 12, 4/4X enclosures available upon request

Standards and Certifications

- CSA certified File No. LR69743
- Meets C22.2 No. 4
- ISO-9001

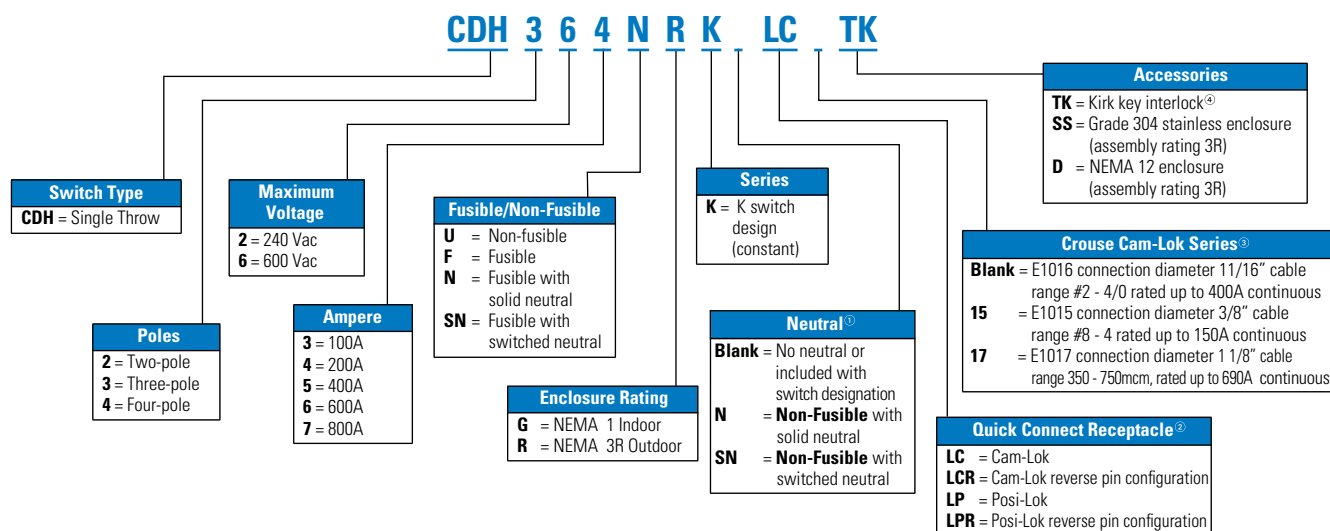


Switching Devices

Safety Switches

Catalog Numbering System

Heavy Duty Single Throw with Cam or Posi-Lok Receptacles



① This field is only used when the switch is non-fusible.

② Cam-Lok devices have male ground and neutral and female phase receptacles as standard on single throw

Posi-Lok devices have all female receptacles as standard on single throw

Should a reverse gender configuration be required add suffix "R" to the receptacle designation

An easy way to determine receptacle type: for generator applications male phase receptacles, for temporary load applications female phase receptacles

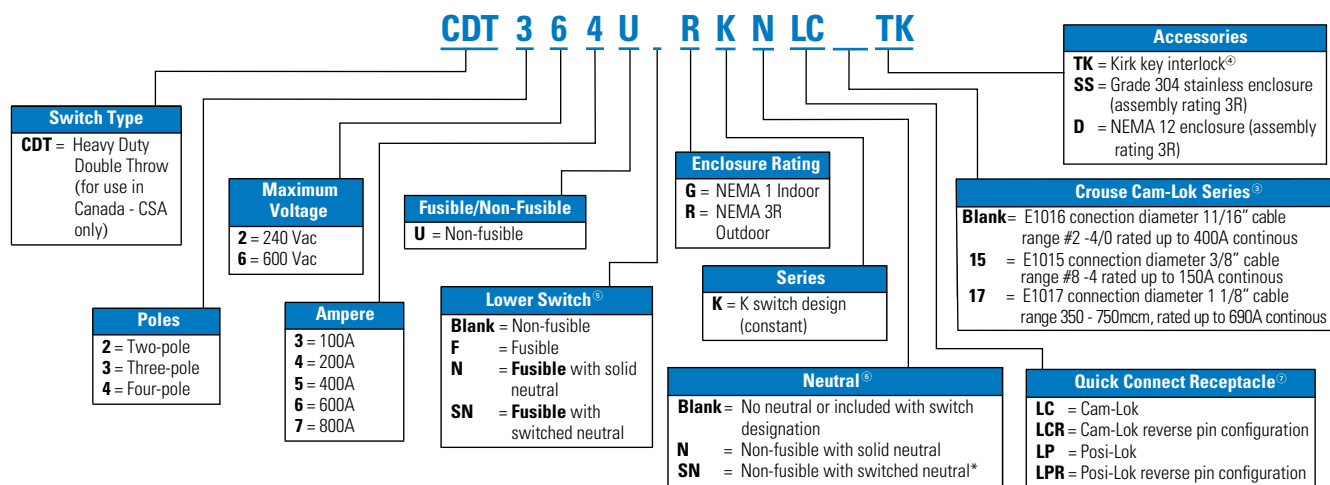
③ E1016 receptacle supplied as standard for all ratings, leave blank unless optional receptacle required

④ Provide key interlocking co-ordination as well as customer name, address and phone number for key registration when ordering

Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Heavy Duty Double-Throw with Cam or Posi-Lok Receptacles



⑤ When lower switch is unfused, the switch configuration is consolidated in one letter (ie: "U" not "UU")

A switch with a neutral will have either a solid neutral or a switched neutral, not both

For switched neutral application order 3 pole for single phase and 4 pole for three phase

⑥ This field is only used when the switch is non-fusible.

⑦ Cam-Lok devices have female ground and neutral and male phase receptacles as standard on double-throw

Posi-Lok devices have all male receptacles as standard on double-throw

Should a reverse gender configuration be required add suffix "R" to the receptacle designation

An easy way to determine receptacle type: for generator applications male phase receptacles, for temporary load applications female phase receptacles

Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Technical Data and Specifications

- 100-800A
- 240V - 600 Vac heavy duty
- Utilizes Crouse-Hinds "J" Power series E1015, E1016, E1017 Cam-Lok® connectors or Crouse-Hinds E200, E400 Posi-Lok® receptacles
- Fusible, Non-fusible switch design
- CDH – single throw switch design
- CDT – double-throw switch design
- 100% load break and make rated
- For short-circuit withstand ratings refer to page 11 for single throw and 12 for double-throw
- Horsepower rated
- Single or Three phase, ground receptacle standard. Fourth pole, solid or switched neutral optional
- NEMA 1 or 3R enclosures standard optional NEMA 12 or 4/4X (assembly rating 3R)
- **Single throw** design with Cam Lok® - male ground (standard) and male neutral (optional) receptacles, female phase receptacles (standard)
- Single throw design with Posi Lok® - all female receptacles
- Receptacles on single throw factory wired to load side of switch – standard
- Reverse pin (receptacle) and wiring configuration available – add "R" to catalogue suffix
- **Double-throw** with Cam-Lok® - female ground and male phase receptacles (standard). Female neutral receptacles (optional)
- Double-throw design with Posi Lok® - all male receptacles
- Reverse pin (receptacle) and wiring configuration available – add "R" to catalogue suffix
- Receptacles on double throw, non fusible, factory wired to lower switch line side
- Receptacles on double throw, lower switch fusible, factory wired to line side of fuse
- 100-200A receptacle compartment located at bottom of enclosure
- 400–800A receptacle compartment located beside enclosure
- 100A through 400A have a single row of receptacles, while 600A and 800A have parallel receptacles
- Additional options such as Key Interlocking, Windows, NEMA 12, 4/4X enclosures (3R rated assembly) available upon request

Lug Capacities - Quick Connect Double-Throw Switch Assembly with Cam-Lok or Posi-Lok Receptacles

Double-Throw Switch Size - Cam-Lok or Posi-Lok Receptacles	Line Terminal Per Phase	Load Terminal Per Phase	Switched Neutral Pole Load Terminals	Solid Neutral Terminals	Ground Terminals	Receptacle Bypass Terminals
100A	(1) 1/0 – 14 AWG Cu/Al	(1) 1/0 – 14 AWG Cu/Al	(1) 1/0 - 14 AWG Cu/Al	(2) 1/0 - 14 AWG, (1) 2 - 14 AWG Cu/Al	(3) 2 - 14 AWG Cu/Al	(1) 10 - 32 Screw Mounting
200A	(1) 300 kcmil 6 AWG Cu/Al	(1) 250 kcmil 6 AWG Cu/Al	(1) 250 kcmil - 6 AWG Cu/Al	(2) 250 kcmil - 6 AWG, (1) 1/0 - 14 AWG, (1) 2 - 14 AWG Cu/Al	(3) 2 - 14 AWG Cu/Al	(2) 1/4 Studs, 1.75 Inch Spacing
400A	(1) 750 kcmil - 1/0 or (2) 300 kcmil - 1/0 Cu/Al	(1) 750 kcmil - 1/0 or (2) 300 kcmil - 1/0 Cu/Al	(1) 750 kcmil - 1/0 or (2) 300 kcmil - 1/0 Cu/Al	(6) 500 - 250 kcmil, (2) 250 kcmil - 6 AWG Cu/Al	(4) 250 kcmil - 6 AWG Cu/Al	(2) 1/2 - 13 UNC Studs, 1.75 Inch Spacing
600A	(4) 750 kcmil - 3/0 Cu/Al	(4) 750 kcmil - 3/0 Cu/Al	4) 750 kcmil - 3/0 Cu/Al	(6) 500 - 250 kcmil, (4) 250 kcmil - 6 AWG Cu/Al	(4) 250 kcmil - 6 AWG Cu/Al	(2) 1/2 - 13 UNC Studs, 1.75 Inch Spacing
800A	(4) 750 kcmil - 3/0 Cu/Al	4) 750 kcmil - 3/0 Cu/Al	(4) 750 kcmil - 3/0 Cu/Al	(6) 500 - 250 kcmil, (4) 250 kcmil - 6 AWG	(4) 250 kcmil - 6 AWG Cu/Al	(2) 1/2 - 13 UNC Studs, 1.75 Inch Spacing

Lug Capacities - Quick Connect Single Throw with Cam-Lok or Posi-Lok Receptacles

Ampere	Line Terminals Per Phase	Load Terminals Per Phase	Solid Neutral Terminals	Ground Terminal
100A	1/0 - #14	1/0 - #14	(2) 1/0 - #14, (2) #2 - #14	#4 - 14AWG
200A	(1) #6 - 300mcm	(1) #6 - 300mcm	(2) #6 - 300mcm, (2) #4 - #14	#4 - 14AWG
400A	(1) 1/0 - 750mcm or (2) 1/0 - 300mcm	(1) 1/0 - 750mcm or (2) 2/0 - 300mcm	(1) 1/0 - 750mcm or (2) 1/0 - 300mcm, and (3) #6 - 250mcm	(2) #6 - 250mcm
600A	(1) #2-600mcm and (1) 1/0 - 750mcm	(1) #2-600mcm and (1) 1/0 - 750mcm	(1) 1/0 - 750mcm and (1) #2 - 600mcm, and (3) #6 - 250mcm	(2) #6 - 250mcm
800A	(4) 3/0 - 750mcm	(4) 3/0 - 750mcm	(3) #6 - 250mcm, (4) 3/0 - 750mcm	(2) #6 - 250mcm

Switching Devices

Safety Switches

Standard Receptacle Color Codes By Application

SINGLE THROW SWITCHES		GROUND				NEUTRAL				PHASE A				PHASE B				PHASE C			
		Gender		Color		Gender		Color		Gender		Color		Gender		Color		Gender		Color	
		Male	Female	240 V Color	600 V Color	Male	Female	240 V Color	600 V Color	Male	Female	240 V Color	600 V Color	Male	Female	240 V Color	600 V Color	Male	Female	240 V Color	600 V Color
LC	Canada	X		GREEN		X		WHITE		X		BLACK		X		RED		X		BLUE	
LCR	Canada		X	GREEN			X	WHITE		X		BLACK	X			RED	X			BLUE	
LP	Canada		X	GREEN			X	WHITE		X		BLACK		X		RED		X		BLUE	
LPR	Canada	X		GREEN		X		WHITE		X		BLACK	X			RED	X			BLUE	

DOUBLE THROW SWITCHES		GROUND				NEUTRAL				PHASE A				PHASE B				PHASE C			
		Gender		Color		Gender		Color		Gender		Color		Gender		Color		Gender		Color	
		Male	Female	240 V Color	600 V Color	Male	Female	240 V Color	600 V Color	Male	Female	240 V Color	600 V Color	Male	Female	240 V Color	600 V Color	Male	Female	240 V Color	600 V Color
LC	Canada		X	GREEN		X		WHITE		X		BLACK	X			RED		X		BLUE	
LCR	Canada	X		GREEN		X		WHITE		X		BLACK		X		RED		X		BLUE	
LP	Canada	X		GREEN		X		WHITE		X		BLACK	X			RED	X			BLUE	
LPR	Canada		X	GREEN		X		WHITE		X		BLACK		X		RED		X		BLUE	

Chart shows typical color codes, other colors can be substituted

*Note - Single Phase Posi-Lok switches, and 200% Neutral Posi-Lok switch will revert to a Red Black, or a Red Black Blue color scheme. Brown Orange Yellow has a limited offering, and there are no Brown Orange available.

**Note - Suffix "H" refers to Canadian switches for Hydro One. They require Red Black Blue color configuration for Phase A, B, C respectively.

***Note - Suffix "RG" refers to Reverse Gender for Single Throw. An example would be an LCR single throw supplied with Male Ground, Male Neutral, and Female Phases.

****Note - Suffix "F" refers to all Female receptacles.

*****Note - The "R" at the end of Double Throw is Reverse Gender for Double Throw. Only difference between LCR and LC on a DT is gender swap.

*****Note - Suffix "FN" refers to a Female Neutral.

*****Note - Suffix "DR" refers to Double Receptacles. This is for 200A or 400A QC switches where the customer wants (2) CamLok receptacles per phase, neutral, and ground, instead of our standard (1) per phase, neutral, and ground.

*****Note - Suffix "MG" refers to Male Ground.

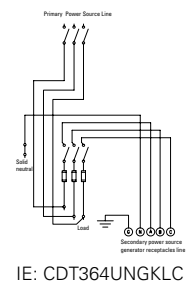
*****Note - Suffix "M" refers to all Male receptacles.

*****Note - Suffix "BBW" refers to Brown, Black, White for the Phases (A, B, C).

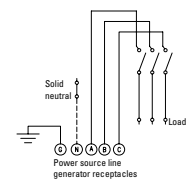
*****Note - Suffix "LS" refers to moving the CamLok box from the right side to left side. 400-800A DT Only. Non-UL. Non-Interlocked CamLok compartment.

Safety Switches

100-200A CDT Dimensions

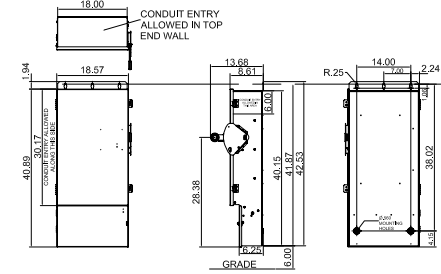


IE: CDT364UNGKLC

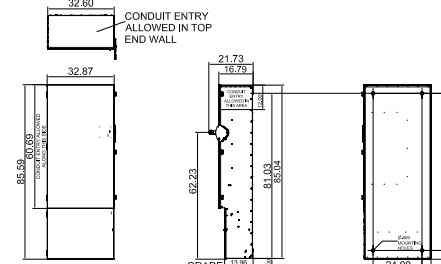


IE: CDH364UGKNLCR

200A CDH Dimensions



800A CDH Dimensions



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Pin & Sleeve Type Receptacle Switch**Contents**

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Pin & Sleeve Receptacle Switches**Application Description**

These switches are used with pin & sleeve type power plugs for portable power applications such as welders, infrared ovens, batch feeders, conveyors, truck and marine docks.

Product Description

These heavy duty switches are pre-wired and interlocked to polarized receptacles for three-phase, three-wire, grounded type power plugs. Referred as 3W4P (4th pole used for grounding).

Receptacles are interlocked to the handle mechanism so that power plugs may not be inserted or removed when the switch is in the ON position.

- 30–100A
- 600 Vac
- Fusible and non-fusible
- NEMA 12/3R painted steel, 4X stainless enclosure and receptacle rating
- 200A and 400A receptacles available upon

request - Note 200A and 400A not mechanically interlocked

- Utilizes 3W 4P Style 2 Powertite®, Arktime®, or Max-Gard® series pin and sleeve receptacles
- Windows available upon request
- 3W 3P receptacles available upon request
- Receptacles with a 22.5 degree interior rotation available upon request
- Receptacles with reverse contacts available upon request
- Power plugs not supplied with the receptacle

Standards and Certifications

- CSA certified File No. 69743
- Meets C22.2 No.4 standard for enclosed switches
- ISO - 9001:2008

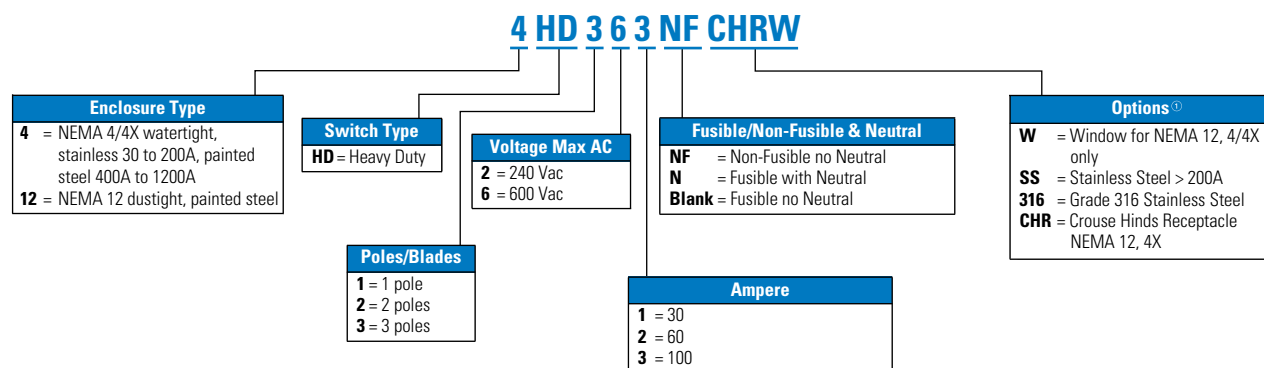


Switching Devices

Safety Switches

Catalog Numbering System

Pin & Sleeve Receptacle Switches



^① See **Pages 13** through **15** for additional Flex Centre options.

Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Product Selection

600 Vac Heavy Duty, Single-Throw with Pin & Sleeve Type Receptacle, Fusible, Non-Fusible

DH362FDK2WR



Safety Switch 3PH 3W with Pin and Sleeve Type Receptacle 3W4P, 600V Single Throw—Fusible

Ampere Rating			NEMA 12 Enclosure Dusttight	NEMA 4X Enclosure Corrosion Resistant, Stainless Steel	
Switch	Receptacle	Maximum Horsepower Rating with Time Delay Fuses	Catalogue Number ^②	Catalogue Number	Power Plug ^①
Crouse-Hinds ARKTITE® Receptacle					
30	30	20	12HD361CHR	4HD361CHR	Accepts Crouse-Hinds AP J3485
60	60	50	12HD362CHR	4HD362CHR	AP J6485
100	100	75	12HD363CHR	4HD363CHR	AP J10487

Safety Switch 3PH 3W with Pin and Sleeve Type Receptacle 3W4P, 600V Single Throw—Non-Fusible

Ampere Rating			NEMA 12 Enclosure Dusttight	NEMA 4X Enclosure Corrosion Resistant, Stainless Steel	
Switch	Receptacle	Maximum Horsepower Rating with Time Delay Fuses	Catalogue Number ^②	Catalogue Number	Power Plug ^①
Crouse-Hinds ARKTITE® Receptacle					
30	30	30	12HD361NFCHR	4HD361NFCHR	Accepts Crouse-Hinds AP J3485
60	60	60	12HD362NFCHR	4HD362NFCHR	AP J6485
100	100	75	12HD363NFCHR	4HD363NFCHR	AP J10487

① Power plugs are not included with switch and not available through Eaton.

② NEMA 12 enclosures can be field modified to meet NEMA 3R rainproof rating when factory provided drain hole is opened.

③ Contact Customer Support (1-800-268-3578) for availability of this product.

Note:

For viewing window add 'W' to suffix of catalogue number.

Switching Devices

Safety Switches

Technical Data and Specifications - For Heavy Duty Switches with Pin and Sleeve Receptacles

Short-Circuit Ratings (kA) Using Class “R”, “J” or “T” Fusing Where Applicable

Ampere Rating	NEMA 1	NEMA 3R	NEMA 12/3R	NEMA 4X
30	—	—	200 at 600V	200 at 600V
60	—	—	200 at 600V	200 at 600V
100	—	—	200 at 600V	200 at 600V

Note:

Class “H” fuse clips supplied as standard. Rated at 10,000 rms symmetrical when using Class “H” fuses.

Fuse Class Adaptation

Safety Switch Type	Standard Fuse Class Clips Supplied with Switch	Adaptable to Accept the Following Fuse Class		
		R	J	T
Pin & Sleeve Receptacle Switch	H	30-100A	60-100A	—

Note:

For ‘J’ Fusing on 600V heavy duty with receptacle field modification required.

30A reposition fuse clips on loadside of fuse base for ‘J’ fusing.

60A reposition fuse clips on loadside of fuse base for ‘J’ fusing.

100A reposition loadside fuse blocks to accept ‘J’ fusing.

Terminal Capacity for Heavy Duty Safety Switch with pin & sleeve receptacles 600V Max

Ampere	Line/Load Terminal Capacity (per phase)	Ground terminal Capacity	Neutral Catalogue #	Neutral Terminal Capacity
30	#14 - #2	#14 - 4	DH030NK	4x #14 - #2
60	#14 - #2	#14 - 4	DH030NK	4x #14 - #2
100	#14 - 1/0	#14 - 4	DH100NK	2x #14-#2 AND 2x #14 - 1/0

Note:

* Order neutral catalogue number when neutral required and not included with switch.

All terminals are rating Al/Cu unless otherwise noted.

Ground terminal is standard on all switches. For optional ground lug kits or copper lug kits see pages 4 and 5.

Dimensions

Approximate Dimensions in Inches (mm)

Note: Dimensions are for estimating purposes only.

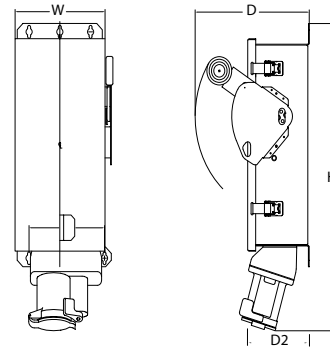
Heavy Duty, Non-Fusible, 600V, Three Pole, Single Throw, with Crouse Hinds Pin & Sleeve Receptacle

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg) NEMA 12	Weight Lbs (kg) NEMA 4X
NEMA 12, 4X Stainless Steel						
30	8 (203)	24.13 (612)	10.25 (260)	5.5 (140)	23 (10.5)	32 (14.54)
60	8 (203)	24.13 (612)	10.25 (260)	5.5 (140)	23 (10.5)	34 (15.45)
100	11.13 (281)	30.88 (786)	10.25 (260)	5.5 (140)	28 (12.7)	32 (14.54)

Heavy Duty, Fusible, 600V, Three Pole, Single Throw, with Crouse Hinds Pin & Sleeve Receptacle

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg) NEMA 12	Weight Lbs (kg) NEMA 4X
NEMA 12, 4X Stainless Steel[®]						
30	8 (203)	24.13 (612)	10.25 (260)	5.5 (140)	23 (10.5)	35 (15.9)
60	8 (203)	24.13 (612)	10.25 (260)	5.5 (140)	23 (10.5)	35 (15.9)
100	11.13 (281)	30.88 (786)	10.25 (260)	5.5 (140)	28 (12.7)	36 (16.36)

Switch with Crouse Hinds Receptacle 30, 60, 100A



Note:

NEMA 12 enclosures can be field modified to meet NEMA 3R rainproof requirements when factory provided drain hole is opened.

Depth listed is for non window design.

For 30-100A window version increase depth (D) by 1.22" (32mm) and (D2) by .8" (20mm)

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Shunt Trip Safety Switch



Shunt Trip Safety Switch

Product Description

Eaton's tried and true heavy-duty safety switch line expands to include shunt trip capability—remote switching and visible means of disconnect for commercial and industrial applications.

The shunt trip technology enhances safety by providing a means to open a safety switch electronically. When using an emergency stop, safety interlock or similar means, the remote operation capability of the shunt trip switch no longer requires personnel to manually open the switch with the handle, enhancing safety and improving productivity.

The shunt trip safety switch builds on Eaton's extensive portfolio of safety switch solutions, incorporating a side-handle operation mechanism and visible blade indication that have decades of successful installation and operation.

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Application Description

The shunt trip safety switch can be configured to meet the needs of safety applications in industrial and commercial environments. The switches can be signaled to electronically operate the trip mechanism and interrupt the flow of power when a defined electrical condition is detected via protection relay (for example, ground fault, undervoltage, blown fuse shutdown).

Application Examples

- E-stop
- Safety interlocking
- Machinery OEM interlocking
- Remote opening (distant from switch)
- Cost-effective solution for high-interrupt applications
- Ground fault ①
- Phase reversal/phase loss ①
- Blown fuse shutdown ①
- Undervoltage release ①

Note

① Shunt trip switch provides solenoid/coil to facilitate shunt trip, specific relay and applicable power supply provided by others.

Switching Devices

Safety Switches

Features

- Variety of coil voltages available
- Visible means of disconnect
- Standard heavy duty safety switch design with integrated shunt trip module
- Passes Class 1 ground fault testing (1200% opening)
- 30–800A (240–600 Vac)
- Horsepower ratings are the same as Eaton's standard heavy duty safety switches
- Fusible devices have short-circuit ratings of up to 200 kAIC

Options

Flex Center modifications available, such as viewing windows, pilot lights and more.

Auxiliary contacts **MUST** be factory installed. No auxiliary contacts are available for field installation.

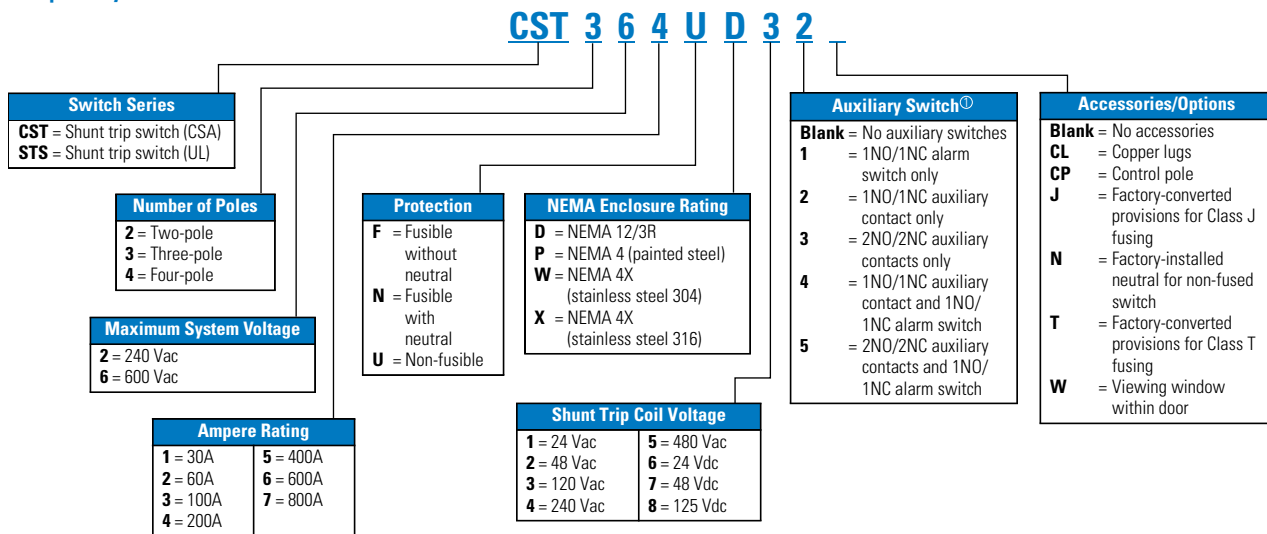
Standards and Certifications

- UL 98 file number E5239 (600 Vac maximum)
- CSA C22.2 No. 4, file number LL69743 (600 Vac maximum)
- Enclosure ratings: NEMA 12/3R, 4 (painted steel), 4X (stainless steel)



Catalog Numbering System

Shunt Trip Safety Switch



① Auxiliary switches must be specified and ordered up front in the catalogue number as a factory installed option. Auxiliary switch field kits (DS200EK1 and DS200EK2) can not be field installed on shunt trip switches.

Notes

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Switching Devices

Safety Switches

Technical Data and Specifications

Shunt Trip Safety Switch—240 Vac and 600 Vac—Ratings

Ampere Rating	Fuse Class ^①	Number of Poles
Fusible		
30	H	2, 3 or 4 ^②
60	H	2, 3 or 4 ^②
100	H	2, 3 or 4 ^②
200	H	2, 3 or 4
400	H	2, 3 or 4
600	H	2, 3
800	L	2, 3
Non-Fusible		
30	—	2, 3 or 4 ^②
60	—	2, 3 or 4 ^②
100	—	2, 3 or 4 ^②
200	—	2, 3 or 4
400	—	2, 3 or 4
600	—	2, 3
800	—	2, 3

Terminal/Lug Wire Range

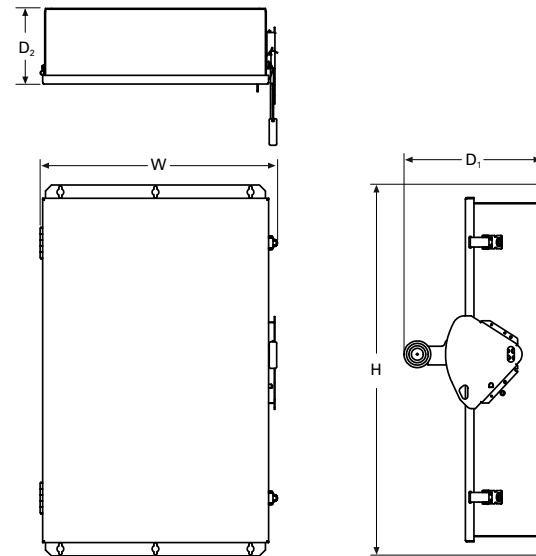
Ampere Rating	Minimum—Maximum	Wire Type
30	#14–#2	Cu/Al
60	#14–#2	Cu/Al
100	#14–1/0	Cu/Al
200	#6–300 kcmil	Cu/Al
400	(2) 1/0–300 kcmil or (1) 1/0–750 kcmil	Cu/Al
600	(1) #2–600 kcmil and (1) 1/0–750 kcmil	Cu/Al
800	(4) 1/0–750 kcmil	Cu/Al

Dimensions

Approximate Dimensions in Inches (mm)

Shunt Trip Safety Switch—240 Vac and 600 Vac

Ampere Rating	Enclosure Height (H)	Dimensions ^③ , Exterior Width (W)	Depth (D ₁)	Depth (D ₂)
Fusible				
30	21.58 (548.1)	11.58 (294.1)	11.43 (290.3)	5.58 (141.7)
60	21.58 (548.1)	11.58 (294.1)	11.43 (290.3)	5.58 (141.7)
100	24.95 (633.7)	14.89 (378.2)	11.51 (282.4)	5.58 (141.7)
200	35.38 (898.7)	20.11 (510.8)	11.61 (294.9)	6.45 (163.8)
400	57.47 (1459.7)	27.29 (693.2)	12.43 (315.7)	7.42 (188.5)
600	62.97 (1599.4)	28.29 (718.6)	12.43 (315.7)	7.42 (188.5)
800	71.72 (1821.7)	29.54 (750.3)	12.43 (315.7)	7.42 (188.5)
Non-Fusible				
30	21.58 (548.1)	11.58 (294.1)	11.43 (290.3)	5.58 (141.7)
60	21.58 (548.1)	11.58 (294.1)	11.43 (290.3)	5.58 (141.7)
100	24.95 (633.7)	14.89 (378.2)	11.51 (282.4)	5.58 (141.7)
200	35.38 (898.7)	20.11 (510.8)	11.61 (294.9)	6.45 (163.8)
400	57.47 (1459.7)	27.29 (693.2)	12.43 (315.7)	7.42 (188.5)
600	62.97 (1599.4)	28.29 (718.6)	12.43 (315.7)	7.42 (188.5)
800	71.72 (1821.7)	29.54 (750.3)	12.43 (315.7)	7.42 (188.5)



^① Class H fuse clips supplied as standard on fusible devices 30–600 A, Class L for 800 A; Class R, J, T fuse clips available.

^② Four-pole devices are wider than dimension for 30, 60 and 100 A devices. Consult factory for details.

^③ Accurate for all enclosure NEMA type ratings—12/3R, 4, 4X stainless steel.

Notes

For additional technical information, please refer to Technical Data TD008003EN.

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Six-Pole Motor Circuit



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Six-Pole Switches

Application Description

A compact safety switch that's ideal for use in heavy industry...when an "in sight" disconnecting means is required for two-speed motors, reversing motors, or two motors separately fed.

Product Description

- 600 Vac, 250 Vdc maximum - fusible
- 600 Vac, 600 Vdc maximum - non fusible
- 30–200A
- Fusible or non-fusible
- Enclosure NEMA 12/3R Painted Steel and 4X Stainless Steel

Features, Benefits and Functions

- Suitcase-type latches keep the cover tightly closed and a neoprene gasket seals out moisture and dust from the switch assembly
- Visible double-break quick-make, quick-break rotary blade mechanism. Two points of contact provide a positive open and close, easier operation, and also help prevent contact burning for longer contact life
- Clear line shield protection
- Built-in fuse pullers
- Clearly visible handle
- Triple padlocking capability; cabinet door can be further padlocked at the top and bottom

- Deionizing arc chutes; arc chutes confine and suppress the arcs produced by opening contacts under load
- For factory modifications, refer to **Pages 13** through **15**
- For accessories refer to **Pages 4 and 5**

Standards and Certifications

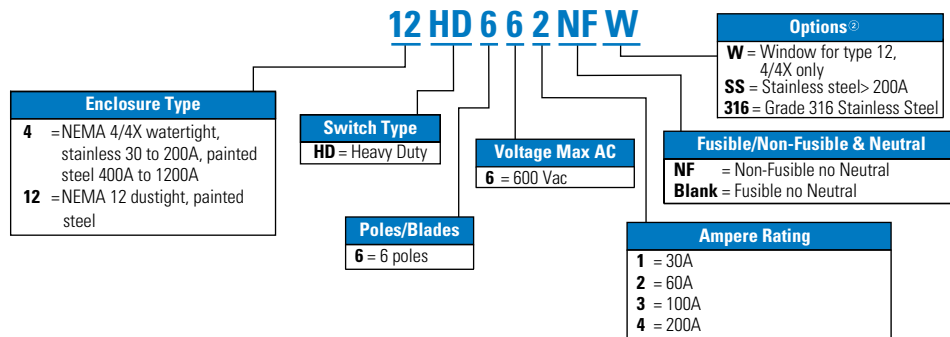
- CSA Certified File No. 69473
- Meets C22.2 No. 4 standard for enclosed switches.
- ISO 9001:2008



Switching Devices

Safety Switches

Catalogue Configurator

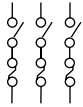
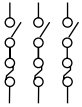




Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Product Selection





600 Vac Heavy Duty, Fusible, Six-Pole, Single-Throw

System	Ampere Rating	Maximum Horsepower Ratings, Three-Phase AC (Higher Rating with Time Delay Fuses)				Three-Phase DC	NEMA 12/3R Enclosure ^① Dust-Tight Catalogue Number	NEMA 4X Enclosure Corrosion-Resistant, Stainless Steel Cata- logue Number
		240V	480V	600V	250V			
600 Vac with Fuse Clips—250 Vdc								
	30	3–7-1/2	5–15	7-1/2–20	5		12HD661 ①	②
	60	7-1/2–15	15–30	15–50	10		12HD662 ①	②
	100	15–30	25–60	30–75	20		12HD663 ①	②
	200	25–60	50–125	60–150	40		12HD664 ①	②

12DH661NF

600 Vac Heavy Duty, Non-Fusible, Six-Pole, Single-Throw



System	Ampere Rating	Maximum Horsepower Ratings					NEMA 12/3R Enclosure ^① Dust-Tight Catalogue Number	NEMA 4X Enclosure Corrosion-Resistant, Stainless Steel Catalogue Number
		Three-Phase AC			Three-Phase DC			
		240V	480V	600V	250V	600v ^③		
600 Vac—250 Vdc								
	30	10	20	30	5	15 ^③	12HD661NF ^①	4HD661NF
	60	20	50	60	10	25 ^③	12HD662NF ^①	4HD662NF
	100	40	75	100	20	25 ^③	12HD663NF ^①	4HD663NF
	200	60	125	150	40	50 ^③	12HD664NF ^①	4HD664NF

① NEMA 12 enclosures (30-800A) can be field modified to meet NEMA 3R rainproof requirements when a factory provided drain hole is opened.

② Contact Customer Support (1-800-268-3578) for availability of this product.

③ 600 Vdc rating requires that the switch be wired per the wiring diagram on the device publication.

Note:

When control pole accessory required or custom enclosure required, contact Customer Support (1-800-268-3578)

Add 'W' to catalogue number suffix for window version.

For 'J' Fusing on 6-Pole 600V Heavy Duty Switches Field Modification Required.

30-60A not available to convert.

60A must order DS26JK adapter kit.

100-200A reposition loadside fuse base to accept 'J' fuse.

Switching Devices

Safety Switches

Technical Data and Specifications for 6 Pole Heavy Duty

Short-Circuit Ratings (kA) Using Class "R", "J" or "T" Fusing Where Applicable

Ampere Rating	NEMA 12	NEMA 4 and 4X
30	200 at 600V	200 at 600V
60	200 at 600V	200 at 600V
100	200 at 600V	200 at 600V
200	200 at 600V	200 at 600V

Note:

Class "H" fuse clips supplied as standard for 30–200A. Rated at 10,000 rms symmetrical when using Class "H" fuses.

Fuse Class Adaptation

Safety Switch Type	Standard Fuse Class Clips Supplied with Switch	Adaptable to Accept the Following Fuse Class		
		R	J	T
Heavy Duty 6 Pole	H	30-200A	60-200A	200A

Note:

For 'J' Fusing on 6-Pole 600V Heavy Duty Switch, Field Modification Required

30A not available to convert

60A must order DS26JK adapter kit

100-200A reposition loadside fuse base to accept 'J' fuse

For 'R' fuse rejector adapter kits, and 'T' class adapter kits see accessories page 4

Dimensions

Approximate Dimensions in Inches (mm)

Note: Dimensions are for estimating purposes only.

Heavy Duty Six-Pole NEMA 12 Enclosure^①

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
Fusible					
30	12.88 (327)	19.08 (485)	10.22 (259)	5.5 (140)	30 (13.6)
60	12.88 (327)	19.08 (485)	10.22 (259)	5.5 (140)	30 (13.6)
100	16.13 (410)	24.95 (634)	10.22 (259)	5.5 (140)	40 (18.2)
200	24.16 (614)	35.38 (899)	11.63 (295)	6.44 (164)	65 (29.5)
Non-Fusible					
30	12.88 (327)	19.8 (485)	10.22 (259)	5.5 (140)	28 (12.7)
60	12.88 (327)	19.8 (485)	10.22 (259)	5.5 (140)	28 (12.7)
100	16.13 (410)	24.95 (634)	10.22 (259)	5.5 (140)	37 (16.6)
200	24.16 (614)	35.38 (899)	11.63 (295)	6.44 (164)	62 (28.1)

Heavy Duty Six-Pole Non-Fusible NEMA 4X Enclosure

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
30	16.13 (410)	18.95 (481)	10.22 (259)	5.5 (140)	28 (12.7)
60	16.13 (410)	18.95 (481)	10.22 (259)	5.5 (140)	28 (12.7)
100	16.13 (410)	18.95 (481)	10.22 (259)	5.5 (140)	35 (15.9)
200	24.16 (614)	35.38 (899)	11.63 (295)	6.44 (164)	65 (29.5)

^① NEMA 12 enclosures can be field modified to meet 3R rainproof rating when factory provided drain hole opened.

Note:

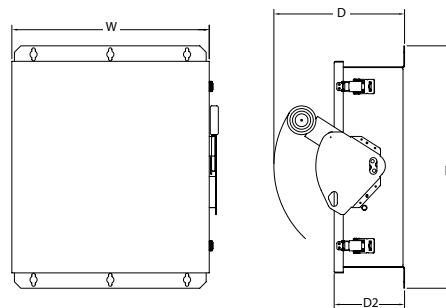
For 6 pole switch with window, 30, 60A same dimensions as 100A

UL/CSA Recognized Non-Fusible Safety Switch/Circuit Breaker Series-Connected Ratings

Eaton 30-200A non-fusible safety switch withstand ratings when protected with circuit breakers

Non-Fusible Safety Switch Ampere Rating	Max System Voltage AC	Number of Poles Switched	Maximum fault level available at upstream circuit breaker (kA RMS symmetrical)	Circuit Breaker Frame(s)
30A & 60A	600	2, 3, 4, 6	25,000	FDC, HFD, HFDE, EGH
		2, 3, 4, 6	18,000	FD, EGE
		2, 3, 4, 6	14,000	FDB
		2, 3, 4, 6	10,000	Any manufacturer or Eaton breaker type
100A	600	2, 3, 4, 6	25,000	FDC, HFD, HFDE, EGH
		2, 3, 4, 6	18,000	FD, EGE
		2, 3, 4, 6	14,000	FDB
		2, 3, 4, 6	10,000	Any manufacturer or Eaton breaker type
	480	2, 3, 4, 6	35,000	EGH, EGS
		2, 3, 4, 6	10,000	Any manufacturer or Eaton breaker type
200A	600	2, 3, 4, 6	25,000	FDC, HFD, HFDE, HJD, JGH
		2, 3, 4, 6	18,000	FD, JD, JGE
		2, 3, 4, 6	14,000	FDB
		2, 3, 4, 6	10,000	Any manufacturer or Eaton breaker type
	480	2, 3, 4, 6	65,000	HFD, HFDE, HJD, JGH
		2, 3, 4, 6	10,000	Any manufacturer or Eaton breaker type

NEMA 12, 4X - Six-Pole 30–200A^①



Terminal Capacity for Heavy Duty Safety Switch Six-Pole 600V Max

Ampere	Line/Load Terminal Capacity (per phase)	Ground terminal Capacity	Neutral Catalogue #	Neutral Terminal Capacity
30	#14 - #2	#14 - 4	DH030NK	4x #14 - #2
60	#14 - #2	#14 - 4	DH030NK	4x #14 - #2
100	#14 - 1/0	#14 - 4	DH100NK	2x #14-#2 AND 2x #14 - 1/0
200 (NEMA 12 #6 - 300mcm & 4X)		#14 - 4	DH200NK	2x #6 - 300mcm AND 2x #14 - #2

Note:

* Order neutral catalogue number when neutral required and not included with switch.

All terminals are rating al/cu unless otherwise noted.

Ground terminal is standard on all switches. For optional ground lug kits or copper lug kits see page 4 and 5

Heavy Duty Surge Switch



Heavy Duty Surge Switch

Product Description

Eaton's Switching Device product line combined heavy duty safety switches and Eaton's SP1 and CVX series surge protective devices (SPDs) to provide reliable, cost-effective surge protection. Integral to the switch, an SPD provides significantly better performance compared to a device that is externally mounted, resulting in better protection for connected equipment. Eaton's new packaged solution provides contractors and end users a UL listed product by connecting the SPD to the safety switch at the factory.

Features

- 30–1200A
- NEMA 12/3R or 4X 304-grade stainless steel enclosures
- External window over switching base standard
- Window to view LEDs of SPD for quick status view
- Enhanced visible blades included
- Eaton Type SP1 and CVX surge protective devices available

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Standards and Certifications

- UL 98, file no. E5239
- UL 1449 4th Edition, file no. E316410



Seismic Qualifications

- Heavy duty switches exceed the requirements of Uniform Building Code (UBC) and California Code Title 24 OSP-0011-10, OSP-0012-10



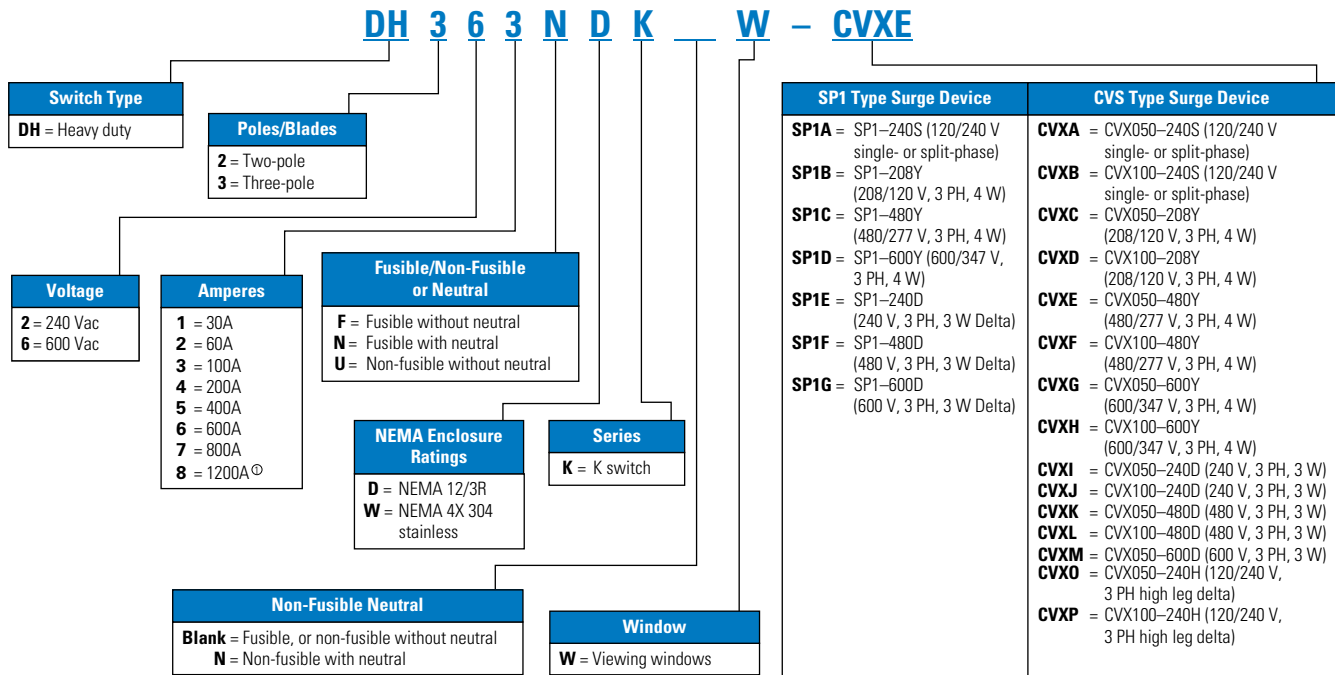
For specific information on Eaton's SP1 and CVX surge protective devices, refer to product aids PA01005006E and PA01005002E.

Switching Devices

Safety Switches

Catalog Numbering System

Heavy Duty Surge Switch



Note:

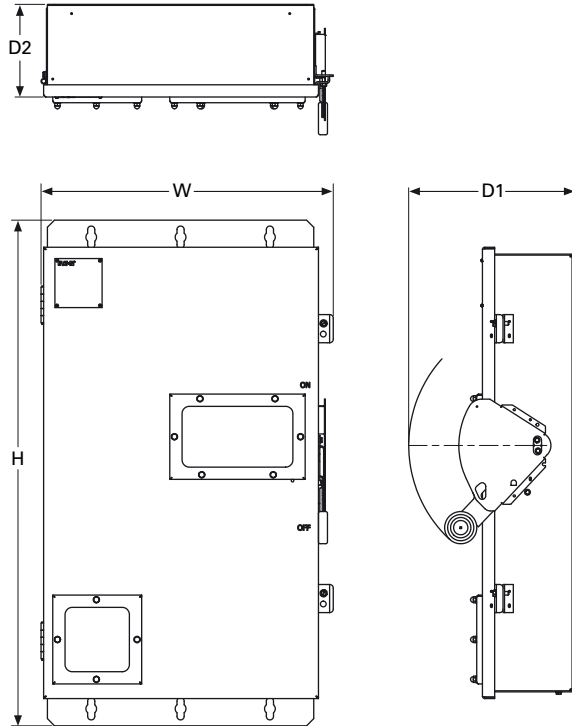
This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Technical Data and Specifications

Dimensions

Approximate Dimensions in Inches (mm)

Heavy Duty Surge Switch



Heavy Duty Surge Switch

Ampere Rating	Height (H)	Width (W)	Depth (D1)	Depth (D2)
30	25.02 (635.5)	15.00 (381.0)	10.31 (261.9)	5.62 (142.7)
60	25.02 (635.5)	15.00 (381.0)	10.31 (261.9)	5.62 (142.7)
100	25.02 (635.5)	15.00 (381.0)	10.31 (261.9)	5.62 (142.7)
200	35.37 (898.4)	20.44 (519.2)	11.66 (296.2)	6.48 (164.6)
400	57.47 (1459.7)	23.30 (591.8)	12.45 (316.2)	7.36 (186.9)
600	62.97 (1599.4)	24.30 (617.2)	14.08 (357.6)	8.98 (228.1)
800	71.72 (1821.7)	25.55 (649.0)	14.08 (357.6)	8.98 (228.1)
1200	73.77 (1873.8)	43.12 (1095.0)	19.20 (487.7)	12.46 (316.5)

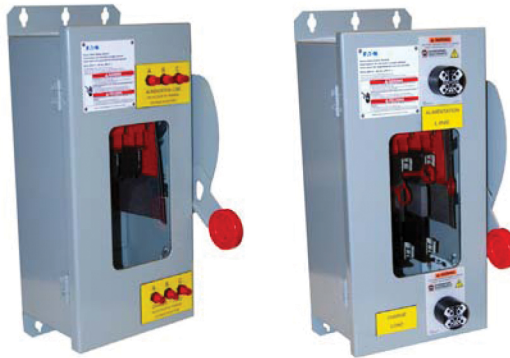
Standard Lug Capacities

Ampere Rating	Minimum Wire Size	Maximum Wire Size	Wire Type
30	#14	#2	Cu/Al
60	#14	#2	Cu/Al
100	#14	#1/0	Cu/Al
200	#6	#300 kcmil	Cu/Al
400	(2) #1/0 (1) #1/0	(2) 300 kcmil (1) 750 kcmil	Cu/Al or Cu/Al
600	(1) #2 (1) #1/0	(1) 600 kcmil (1) 750 kcmil	Cu/Al and Cu/Al
800	(4) #1/0	(4) 750 kcmil	Cu/Al
1200	(4) #1/0	(4) 750 kcmil	Cu/Al

① Available with SP1 type surge device only.

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Heavy Duty Voltage Indicator Switch



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Heavy Duty Voltage Indicator Switch

Application Description

Primarily used; but not limited to Industrial applications. LED's on the Line and /or Load side of the safety switch provide additional operator safety with highly visual voltage indication, warning of existing voltage presence and potentially dangerous situations.

Product Description

- 30-800A
- Fusible and Non-Fusible
- Heavy Duty K switch design at 600 Vac/ dc maximum
- Enclosure ratings 12/3R, 4/4X
- Viewing windows standard
- LED's factory installed on line side or load side or both sides of safety switch
- Switch is padlockable, up to 3 x 3/8" shank locks
- 100% load break rated
- Horsepower rated
- All heavy duty features per pages 25 and 76
- Options such as auxiliary contacts, control pole, kirk interlocking available, see options under catalogue configurator page 4
- Two options of LED's available – static or flashing indication
- **Static continuous indication** – CSA – 208V to 600 Vac, detects voltage or any current leakage greater than 2mA. Highly visible yellow lamacoid nameplates standard.
- **Flashing indication** – cULus – max 750 Vac/ 1000 Vdc detects line to line or line to ground voltage at 29 Vac three-phase, 40 Vac single-phase, 27 Vdc or stored energy.
- Flashing indication can be front or side mounted
- Warning nameplate standard

Features

- Enhanced safety with bright, luniscent LED's indicating power status per individual phase, of line, load or both.
- Two options of LED's available, static and flashing, providing a wide range of voltage application options.
- Utilizes the robust heavy duty K switch features, and options
- Highly visible line/load lamacoid nameplates

Standards and Certifications

- CSA approved
- Meets C22.2 No.4
- Compliant with article 185 & 186 of RSST (CSST) for lock off procedure in Quebec.



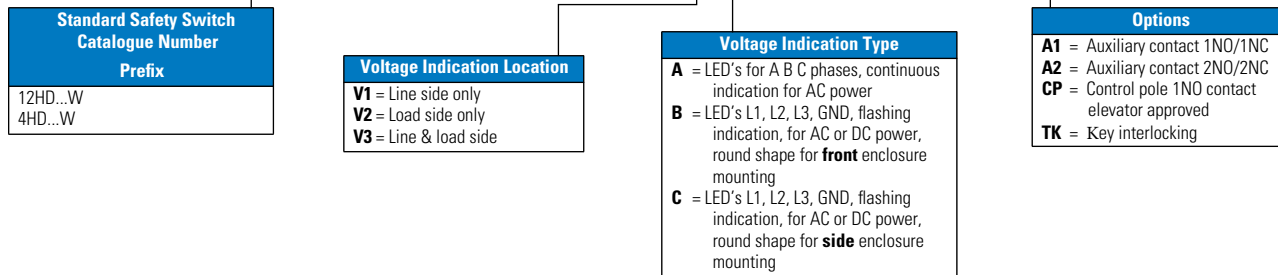
Switching Devices

Safety Switches

Catalog Numbering System

Voltage Indicator Switch

12HD362NFW V1 A A1CP



Note:

For dimensions, terminal capacity, fuse adaptation refer to page 78.

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Heavy Duty/Window Switch



Heavy Duty Window Switches

Application Description

Typically used but not limited to industrial applications such as mining, forestry, saw mills, steel mills. Recommended for any application where verification of the blade contact status is required without opening the door of the switch.

Product Description

- Available on NEMA 12 and 4 painted steel and 4X stainless steel heavy duty switches
- 30–1200A
- 30-60A full window design provides visible blade and blown fuse verification
- 100-1200A window design provides visible blade verification
- Fusible and non-fusible
- Also available on double-throw, receptacle switches, 6 pole, and enviroline switches
- Windows are constructed from tempered safety glass.
- 30-100A field replaceable window kit available (effective August 2003)
- Fusible switches suitable for service entrance application when equipped

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with factory-installed
neutral assembly

Features & Benefits

- Full range offering 30–1200A
- Tempered safety glass, resists scratching, fading and blistering
- Large full window at 30 & 60A, provides unrestricted view without opening the door of the switch
 - Visible blade indication
 - Fuse presence, condition and type
 - Better visibility in low light or restricted areas
- Benefits operator safety
- Labour savings
- Field replaceable window kit for 30-100A
- NEMA 12 enclosure can be field converted to 3R

Standards and Certifications

- CSA certified File No. 69743
- Meets C22.2 No.4 standard for enclosed switches
- ISO 9001:2008

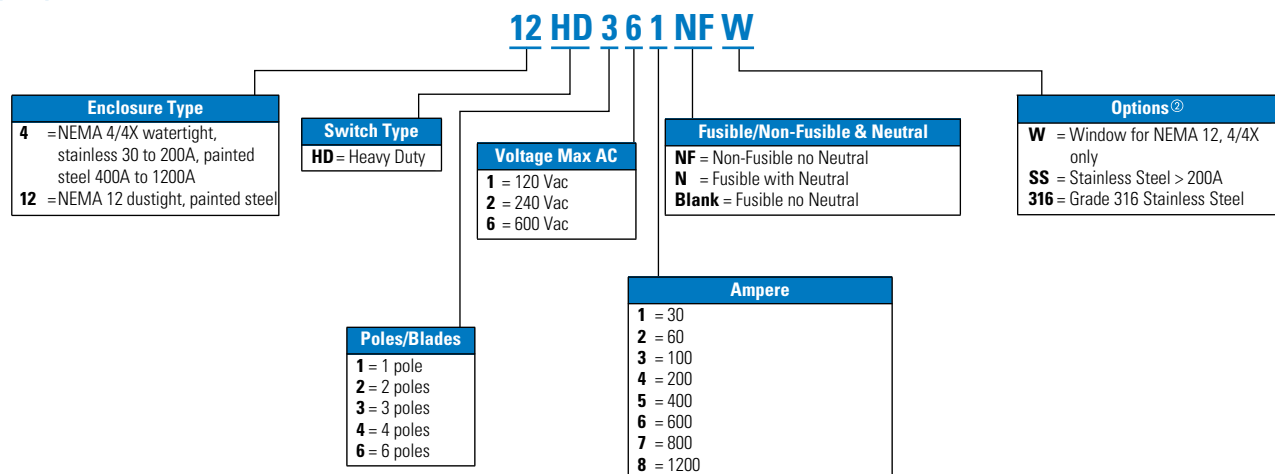


Switching Devices

Safety Switches

Catalog Numbering System

Heavy Duty Window Switches



Ⓢ Always verify the number of poles and wires required since catalogue numbers may appear in multiple tables.

Ⓢ See **Pages 13 through 15** for additional Flex Centre options.

Note:


This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Product Selection


12HD361W



240 Vac Heavy Duty, Fusible Single-Throw with Viewing Window

Maximum Horsepower Ratings with Time Delay Fuses										NEMA 4X
AC										Enclosure
Standard Fuse										Corrosion-Resistant,
Time Delay										Stainless Steel
NEMA 12 ②										Catalogue
Enclosure Dust-Tight										Number
NEMA 4										Enclosure
Watertight, Painted Steel										Corrosion-Resistant,
Catalogue										Stainless Steel
Number										Catalogue
Number										Number
System	Ampere Rating	Fuse Class Provision	Single-Phase	Three-Phase	Single-Phase	Three-Phase	DC 250V	NEMA 12 ②	NEMA 4	NEMA 4X
Four-Wire (Three Blades, Three Fuses, S/N), 240 Vac—250 Vdc ①										
	30	H	—	3	—	7-1/2	—	12HD321NW ②	—	4HD321NW
	60	H	—	7-1/2	—	15	—	12HD322NW ②	—	4HD322NW
	100	H	—	15	—	30	20	12HD323NW ②	—	4HD323NW
	200	H	—	25	—	60	40	12HD324NW ②	—	4HD324NW
	400	H	—	50	—	125	50	12HD325NW ②	4HD325NW	4HD325NWSS
	600	H	—	75	—	200	—	12HD326NW ②	4HD326NW	4HD326NWSS
	800	L	—	100	—	250	—	12HD327NW ②	4HD327NW	4HD327NWSS
	1200	L	—	—	—	—	—	③	③	③


600 Vac Heavy Duty, Fusible Single-Throw with Viewing Window

System	Ampere Rating	Fuse Class Provision	Maximum Horsepower Ratings with Time Delay Fuses				DC 250V 600V	NEMA 12 ② Enclosure Industrial, Dust-Tight Catalogue Number	NEMA 4 Enclosure Watertight, Painted Steel Catalogue Number	NEMA 4X Enclosure Corrosion-Resistant, Stainless Steel Catalogue Number
			Single-Phase AC		Three-Phase AC					
			480V	600V	480V	600V				
Three Pole (Three Blades, Three Fuses), 600 Vac—250 Vdc ①										
	30	H	7-1/2	10	15	20	—	12HD361W ②	—	4HD361W
	60	H	20	25	30	50	—	12HD362W ②	—	4HD362W
	100	H	30	40	60	75	—	12HD363W ②	—	4HD363W
	200	H	50	50	125	150	—	12HD364W ②	—	4HD364W
	400	H	—	—	250	350	—	12HD365W ②	4HD365W	4HD365WSS
	600	H	—	—	400	500	—	12HD366W ②	4HD366W	4HD366WSS
	800	L	—	—	500	500	—	12HD367W ②	4HD367W	4HD367WSS
	1200	L	—	—	—	—	—	③	③	③

4HD361NFW



600 Vac Heavy Duty, Non-Fusible Single-Throw with Viewing Window

System	Ampere Rating	Maximum Horsepower Ratings						NEMA 12 Enclosure ② Dust-Tight Catalogue Number	NEMA 4 Enclosure Watertight, Painted Steel Catalogue Number	NEMA 4X Enclosure Corrosion-Resistant, Stainless Steel Catalogue Number
		Single-Phase AC		Three-Phase AC		DC				
		480V	600V	480V	600V	250V	600V			
Three-Pole—600 Vac, 250 Vdc ① (Not Suitable for Service Entrance)										
	30	7-1/2	10	20	30	5	—	12HD361NFW ②	—	4HD361NFW
	60	20	25	50	60	10	—	12HD362NFW ②	—	4HD362NFW
	100	40	50	75	100	20	—	12HD363NFW ②	—	4HD363NFW
	200	50	50	125	150	40	—	12HD364NFW ②	—	4HD364NFW
	400	—	—	250	350	50	—	12HD365NFW ②	4HD365NFW	4HD365NFWSS
	600	—	—	400	500	—	—	12HD366NFW ②	4HD366NFW	4HD366NFWSS
	800	—	—	500	500	—	—	12HD367NFW ②	4HD367NFW	4HD367NFWSS
1200	—	—	—	—	—	—	③	③	③	

① For two-pole applications, use outside poles of three-pole switch.

② NEMA 12 enclosures (30–800A) can be field modified to meet NEMA 3R rainproof requirements when a factory provided drain hole is opened.

③ Contact Customer Support (1-800-268-3578) for availability of this product.

Effective August 2003, 30–100A window switches offer visible blade verification and blown fuse indication in a single design as shown in the photos. The window is field replaceable 30–100A. Higher ampere ratings will continue to be manufactured with a non-replaceable epoxy affixed design with visible blade verification only.

Switching Devices

Safety Switches

Technical Data and Specifications

Short-Circuit Ratings (kA) Using Class “R”, “J” or “T” Fusing Where Applicable

Ampere Rating	NEMA 12	NEMA 4 and 4X
30	200 at 600V	200 at 600V
60	200 at 600V	200 at 600V
100	200 at 600V	200 at 600V
200	200 at 600V	200 at 600V
400	200 at 480V 100 at 600V	200 at 480V 100 at 600V
600	200 at 480V 100 at 600V	200 at 480V 100 at 600V
800	200 at 480V 100 at 600V	200 at 480V 100 at 600V
1200	200 at 600V	200 at 600V

Note:

Class “H” fuse clips supplied as standard for 30–600A. Class “L” fuse clips supplied as standard for 800–1200A. Rated at 10,000 rms symmetrical when using Class “H” fuses.

Fuse Class Adaptation

Safety Switch Type	Adaptable to Accept the Following Fuse Class			
	Standard Fuse Class Clips Supplied with Switch	R	J	T
Heavy Duty	H 30-600A L 800-1200A	30A-600A	240V: 100-600A 600V: 30-600A	200-800A 1200A

Note:

For ‘J’ Fusing on 240V Heavy Duty Switches Field Modification Required.
30-60 amperes not available.
100-400 amperes, reposition loadside fuse block to accept ‘J’ fuse.
600 amperes adapter kit included with switch.
For ‘R’ fuse rejector adapter kit and ‘T’ fuse adapter kit see accessory options on page 4.

For ‘J’ Fusing on 600V Heavy Duty Switches Field Modification Required.
30-60 amperes, reposition fuse clips on loadside of fuse base.
100-400 amperes, reposition loadside fuse block to accept ‘J’ fuse.
600 amperes adapter kit included with switch.
For ‘R’ fuse rejector adapter kit and ‘T’ fusing see page 4 accessory application options.

Window Replacement Kit (for 30-100A switches built after August 2003)

30-60A	NEMA 12, 4X	70-8564
100A	NEMA 12, 4X	70-8564-3
30-60A	Enviroline	70-8564-2
100A	Enviroline	70-8564-4

UL/CSA Recognized Non-Fusible Safety Switch/Circuit Breaker Series-Connected Ratings Eaton 30-200A non fusible safety switch withstand ratings when protected with circuit breakers

Non-Fusible Safety Switch Ampere Rating	Max System Voltage AC	Number of Poles Switched	Maximum fault level available at upstream circuit breaker (kA RMS symmetrical)	Circuit Breaker Frame(s)
30A & 60A	600	2, 3, 4, 6	25,000	FDC, HFD, HFDE, EGH, PDG2xP, PDG2xM, PDG1xM
		2, 3, 4, 6	18,000	FD, EGE, PDG2xG, PDG1xF
		2, 3, 4, 6	14,000	FDB, PDG2xF
		2, 3, 4, 6	10,000	Any manufacturer or Eaton breaker type
100A	600	2, 3, 4, 6	25,000	FDC, HFD, HFDE, EGH, PDG2xP, PDG2xM, PDG1xM
		2, 3, 4, 6	18,000	FD, EGE, PDG2xG, PDG1xF
		2, 3, 4, 6	14,000	FDB, PDG2xF
		2, 3, 4, 6	10,000	Any manufacturer or Eaton breaker type
	480	2, 3, 4, 6	35,000	EGH, EGS, PDG1xM, PDG1xG
		2, 3, 4, 6	10,000	Any manufacturer or Eaton breaker type
200A	600	2, 3, 4, 6	25,000	FDC, HFD, HFDE, HJD, JGH, PDG2xP, PDG2xM
		2, 3, 4, 6	18,000	FD, JD, JGE, PDG2xG
		2, 3, 4, 6	14,000	FDB, PDG2xF
		2, 3, 4, 6	10,000	Any manufacturer or Eaton breaker type
	480	2, 3, 4, 6	65,000	HFD, HFDE, HJD, JGH, PDG2xM
		2, 3, 4, 6	10,000	Any manufacturer or Eaton breaker type

Switching Devices

Safety Switches

Dimensions

Approximate Dimensions in Inches (mm)

Note: Dimensions are for estimating purposes only.

Heavy Duty, Non-Fusible, 600V, Three-Pole, Single-Throw with Window

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
30	8.8 (224)	19.08 (485)	11.44 (291)	6.30 (160)	18 (8.18)
60	8.8 (224)	19.08 (485)	11.44 (291)	6.30 (160)	18 (8.18)
100	11.84 (301)	24.95 (634)	11.44 (291)	6.30 (160)	30 (13.64)
200	16.95 (430)	35.38 (899)	11.63 (295)	6.44 (164)	55 (24.97)
400	24.12 (612)	57.47 (1460)	12.43 (316)	7.19 (183)	125 (56.75)
600	25.12 (638)	63.00 (1600)	13.92 (353)	8.91 (226)	167 (75.82)
800	25.34 (644)	71.75 (1823)	13.92 (353)	8.91 (226)	175 (79.45)
1200	41.47 (1053)	73.77 (1874)	20 (508)	13.50 (343)	519 (231.54)

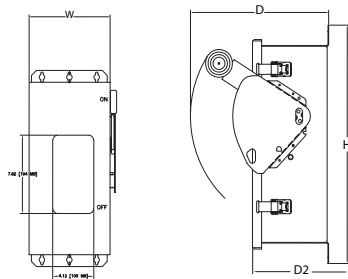
Note:

For 6 pole switches with windows, refer to page 49 for dimensions - NOTE 30, 60A same as 100A dimensions

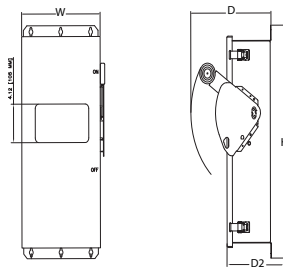
For DT (Double-Throw) switches with windows refer to page 49 for dimensions.

NEMA 12 enclosures (30-1200A) can be field modified to meet NEMA 3R rainproof requirements when factory provided drain hole is opened.

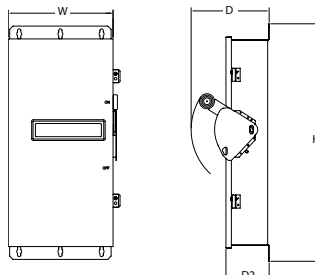
NEMA 12, 4X 30-60A



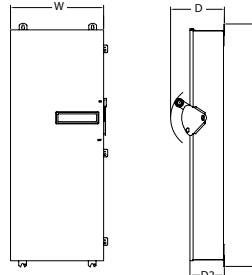
NEMA 12, 4X 100A



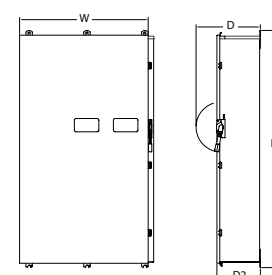
NEMA 12, 4/4X 200A



NEMA 12, 4/4X 400-800A



NEMA 12, 4/4X 1200A



Heavy Duty, Fusible, 240V and 600V, Three-Pole Single-Throw, with Window

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
30	8.8 (224)	19.08 (485)	11.44 (291)	6.30 (160)	18 (8.18)
60	8.8 (224)	19.08 (485)	11.44 (291)	6.30 (160)	18 (8.18)
100	11.84 (301)	24.95 (634)	11.44 (291)	6.30 (160)	30 (13.64)
200	16.95 (430)	35.38 (899)	11.63 (295)	6.44 (164)	55 (24.97)
400	24.12 (612)	57.47 (1460)	12.43 (316)	7.19 (183)	125 (56.75)
600	25.12 (638)	63.00 (1600)	13.92 (353)	8.91 (226)	167 (75.82)
800	25.34 (644)	71.75 (1823)	13.92 (353)	8.91 (226)	175 (79.45)
1200	41.47 (1053)	73.77 (1874)	20 (508)	13.50 (343)	519 (231.54)

Terminal Capacity for Heavy Duty Safety Switch 600V Max

Ampere	Line/Load Terminal Capacity (per phase)	Ground Terminal Capacity	Neutral Catalogue #	Neutral Terminal Capacity
30	#14 - #2	#14 - 4	DH030NK	4x #14 - #2
60	#14 - #2	#14 - 4	DH030NK	4x #14 - #2
100	#14 - 1/0	#14 - 4	DH100NK	2x #14 - #2 AND 2x #14 - 1/0
200 (NEMA 12 & 4X)	#6 - 300mcm	#14 - #4	DH200NK	2x #6 - 300mcm AND 2x #14 - #2
400	(2) 1/0 - (2)300mcm OR (1) 1/0 - 750mcm	#6 - 250mcm	DS400NK	2X 1/0 - 750mcm OR (2)1/0 - (2)300mcm AND 3x#6 - 250mcm
600	(1) #2 - 600mcm AND (1) 1/0 - 750mcm	#6 - 250mcm	DS600NK	2 x 1/0 - (1)750mcm OR 1/0 - (2) 300mcm AND 1 x #2 - 600mcm AND 3 x #6 - 250mcm
800	(4) 3/0 - (4)750mcm	#6 - 250mcm	DS800NK	2 X (4)3/0 - (4)750mcm AND 3 x #6 - 250mcm
1200	(4) 1/0 - (4)750mcm	#6 - 250mcm	DS800NK	2 X (4)3/0 - (4)750mcm AND 3 x #6 - 250mcm

Note:

* Order neutral catalogue number when neutral required and not included with switch. All terminals are rating Al/Cu unless otherwise noted.

Ground terminal is standard on all switches. For optional ground lug kits or copper lug kits see page 4 and 5

This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal blue or grey lines across the entire width of the page. The lines are thin and consistent in color and thickness. There are no margins, text, or other markings present on the paper.

EnviroLine/Stainless Steel Switch



EnviroLine—Stainless Steel Switch

Application Description

Primarily for use in high moisture or corrosive environments. Applications where water is frequently used to hose down equipment. ie. food processing, farm industry, fisheries, rendering plants.

In addition to the NEMA 4X standard stainless steel enclosure, the EnviroLine operating mechanism, backpan and springs are all stainless, and all hardware is grade 316 stainless.

Product Description

- 30–400A
- 240V fusible
- 600V fusible and non-fusible
- NEMA 4X stainless steel enclosure
- Interior operating mechanism, backpan and springs are stainless steel
- All hardware grade 316 stainless
- Horsepower rated
- 100% load make/break rated
- The continuous load current of fusible switches is not to exceed 80% of the rating of fuses employed in other than motor circuits. Non-fusible switches are 100% continuous duty rated
- Current carrying parts are not stainless steel

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Heavy Duty Receptacle Switches	59
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Features

- Stainless steel enclosure (304 grade)
- Stainless steel interior operating mechanism (304 grade)
- Fusible switch suitable for service entrance application when equipped with factory-installed neutral assembly
- Similar features as Heavy Duty design
- Visible double-break quick-make, quick-break rotary blade mechanism. Two points of contact provide a positive open and close, easier operation, and also help prevent contact burning for longer contact life
- Clear line shield protection
- Triple padlocking capability plus additional locking at the door top and bottom
- For accessories refer to page 4 and 5

- For factory modifications refer to pages 13-15.

Standards and Certifications

- CSA certified File No. 69743
- Meets C22.2 No.4 standard for enclosed switches
- ISO 9001:2008

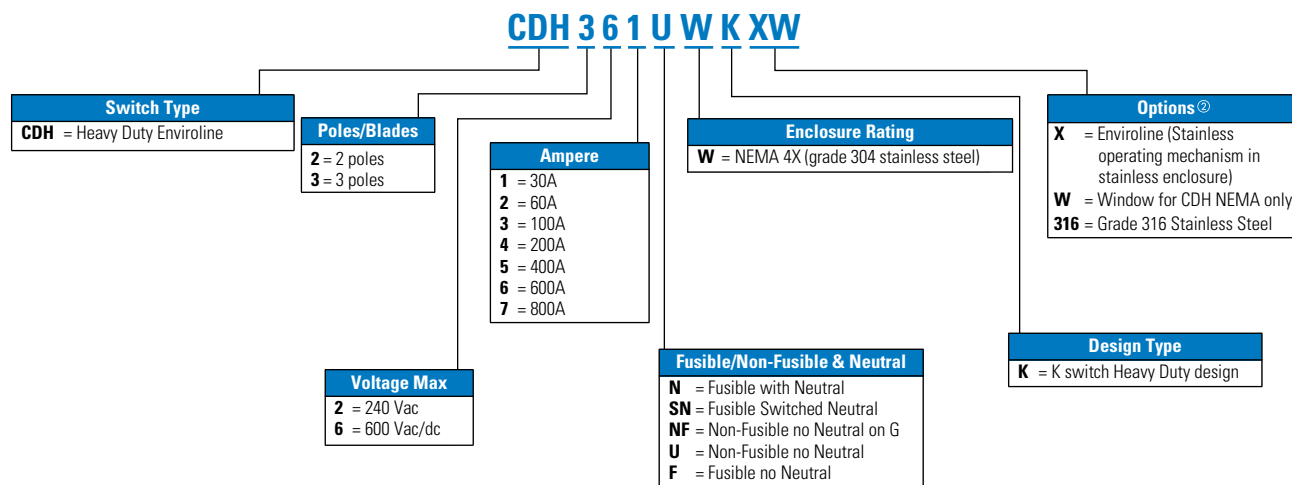


Switching Devices

Safety Switches

Catalog Numbering System

EnviroLine—Stainless Steel Switch



① Always verify the number of poles and wires required since catalogue numbers may appear in multiple tables.

② See **Pages 13 through 15** for additional Flex Centre options.

Note:

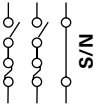
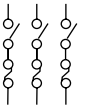
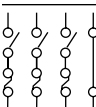
This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Product Selection

CDH321NWKX

240 Vac Heavy Duty, Fusible, Single-Throw Stainless Steel Enclosure and Operating Mechanism



Maximum Horsepower Ratings with Time Delay Fuses								NEMA 4X Enclosure Corrosion-Resistant, Stainless Steel Catalogue Number
System	Ampere Rating	Fuse Class Provision	AC	Time Delay		DC 250V		
			Standard Fuse	Single-Phase	Three-Phase		Single-Phase	
Three-Wire (Two Blades, Two Fuses, S/N), 240 Vac—250 Vdc								
	30	H	1-1/2	3	3	7-1/2	5	CDH221NWKX
	60	H	3	7-1/2	10	15	10	CDH222NWKX
	100	H	7-1/2	15	15	30	20	CDH223NWKX
	200	H	15	25	15	60	40	CDH224NWKX
	400	H	—	50	—	125	50	CDH225NWKX
Three-Pole, 240 Vac—250 Vdc (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)								
	30	H	1-1/2	3	—	7-1/2	—	CDH321FWKX
	60	H	3	7-1/2	—	15	—	CDH322FWKX
	100	H	—	—	—	—	—	CDH323FWKX
	200	H	15	25	—	60	40	CDH324FWKX
	400	H	—	50	—	125	50	CDH325FWKX
Four-Wire (Three Blades, Three Fuses, S/N), 240 Vac—250 Vdc								
	30	H	—	3	—	7-1/2	—	CDH321NWKX
	60	H	—	7-1/2	—	15	—	CDH322NWKX
	100	H	—	15	—	30	20	CDH323NWKX
	200	H	—	25	—	60	—	CDH324NWKX
	400	H	—	50	—	125	50	CDH325NWKX

Note:

See page 36 for technical data and specifications, page 37 for dimensions, pages 4 and 5 for accessories, pages 13 to 15 for factory modifications.
For fuse adaptation refer to page 36.



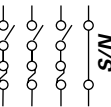
Switching Devices

Safety Switches


CDH361UWKX



600 Vac Heavy Duty, Fusible 277/480-600V, Single-Throw Stainless Steel Enclosure and Operating Mechanism

			Maximum Horsepower Ratings with Time Delay Fuses						NEMA 4X Enclosure
System	Ampere Rating	Fuse Class Provision	Single-Phase AC		Three-Phase AC		DC		Corrosion-Resistant, Stainless Steel Catalogue Number
			480V	600V	480V	600V	250V	600V	
Two-Pole, 480 Vac—600 Vac or Vdc ① (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)									
	30	H	7-1/2	10	—	—	—	15	CDH261FWKX
	60	H	—	—	—	—	—	25	CDH262FWKX
	100	H	—	—	—	—	—	25	CDH263FWKX
	200	H	50	50	—	—	—	50	CDH264FWKX
	400	H	—	—	—	—	50	—	CDH265FWKX
Three-Pole, 480 Vac—600 Vac, 250 Vdc (Suitable for Service Entrance Use with a Neutral Kit Factory Installed)									
	30	H	7-1/2	10	15	20	—	—	CDH361FWKX
	60	H	20	25	30	50	—	—	CDH362FWKX
	100	H	30	30	60	75	—	—	CDH363FWKX
	200	H	50	50	125	150	—	—	CDH364FWKX
	400	H	—	—	250	350	—	—	CDH365FWKX
Four-Wire (Three Blades, Three Fuses, S/N) 480 Vac—600 Vac, 250 Vdc									
	30	H	7-1/2	10	20	30	—	—	CDH361NWKX
	60	H	20	25	50	60	—	—	CDH362NWKX
	100	H	40	50	75	100	—	—	CDH363NWKX
	200	H	50	50	125	150	—	—	CDH364NWKX
	400	H	—	—	250	350	—	—	CDH365NWKX

600 Vac Heavy Duty, Non-Fusible, Single-Throw Stainless Steel Enclosure and Operating Mechanism

System	Ampere Rating	Maximum Horsepower Ratings						NEMA 4X Enclosure Corrosion-Resistant, Stainless Steel Catalogue Number
		Single-Phase AC		Three-Phase AC		DC		
		480V	600V	480V	600V	250V	600V	
Three-Pole, 480 Vac—600 Vac, 250 Vdc								
	30	7-1/2	10	20	30	5	—	CDH361UWKX
	60	20	25	50	60	10	—	CDH362UWKX
	100	40	50	75	100	20	—	CDH363UWKX
	200	50	50	125	150	40	—	CDH364UWKX
	400	—	—	250	350	50	—	CDH365UWKX

Note:

DC rating for 400A switch is 250V.

See Heavy Duty Switch page 36 for technical data and specifications, page 37 for dimensions, pages 4 and 5 for accessories, pages 13 to 15 for factory modifications.

See page 14 item 6 for optional window. For fuse adaptation refer to page 33.

Hazardous Location Switch



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NEMA 7/9 — Hazardous Location Disconnect Switch

Application Description

The cast aluminum enclosure is ideally suited for harsh industrial applications including but not limited to petrochemical facilities, mining operations, pharmaceutical plants and wastewater treatment facilities.

Product Description

Type DS switch is used as the switching device in a NEMA 4, 4X, 7, 9 enclosure. Ratings are 30–100A, 600 Vac, fusible and non-fusible.

Features

- 30–100A
- 600 Vac and 250 Vdc
- Explosion Proof NEMA 7/9 (4/4X) rated enclosure
- Fusible and non fusible
- Horsepower rated
- Three-pole, three-wire
- Field installable auxiliaries
- Optional breather, drain grounding stud and nameplates available
- 200A moulded case switch or breaker in NEMA 7/9 enclosure available via Eaton regional satellite locations in Canada

Standards and Certifications

Compliances

UL Classified— Standard 886 File No. E84577	CSA Certified— Standard C22.2 File No. LR 42131-6
Class I, Division 1 and 2, Groups B, C and D	Class I, Division 1 and 2, Groups B, C and D
Class II, Division 1 and 2, Groups E, F and G	Class II, Division 1 and 2, Groups E, F and G
Class III, Division 1 and 2	Class III, Division 1 and 2
NEMA 7/9	NEMA 7/9
Zone 1, IIB + H ₂	Zone 1, IIB + H ₂

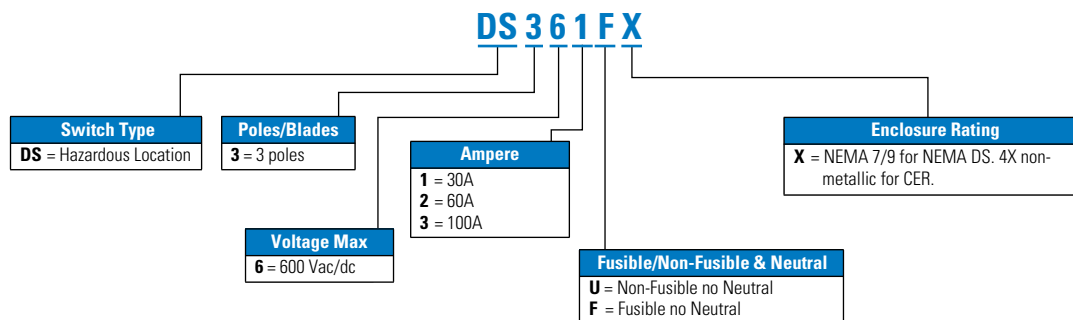


Switching Devices

Safety Switches

Catalog Numbering System

NEMA 7/9 — Hazardous Location Disconnect Switch



Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Product Selection

DS361UX

NEMA 7/9 Enclosure Sizes—Fusible^①

Ampere Rating	Maximum Horsepower Ratings			Fuse Class Provision	Number of Poles	Voltage	Enclosure Number	Catalogue Number
	Three-Phase AC 480V	600V	DC 250V					
30	15	20	5	J	3	600 Vac, 125/250 Vdc	1 ^②	DS361FX
60	30	50	10	J	3	600 Vac, 125/250 Vdc	2 ^②	DS362FX
100	60	75	20	J	3	600 Vac, 125/250 Vdc	3	DS363FX

NEMA 7/9 Enclosure Sizes—Non-Fusible^①

Ampere Rating	Maximum Horsepower Ratings			Fuse Class Provision	Number of Poles	Voltage	Enclosure Number	Catalogue Number
	Three-Phase AC 480V	600V	DC 250V					
30	15	20	5	—	3	600 Vac, 125/250 Vdc	1 ^②	DS361UX
60	30	50	10	—	3	600 Vac, 125/250 Vdc	1 ^②	DS362UX
100	60	75	20	—	3	600 Vac, 125/250 Vdc	2 ^②	DS363UX

Technical Data and Specifications

Dimensions

Approximate Dimensions in Inches (mm)

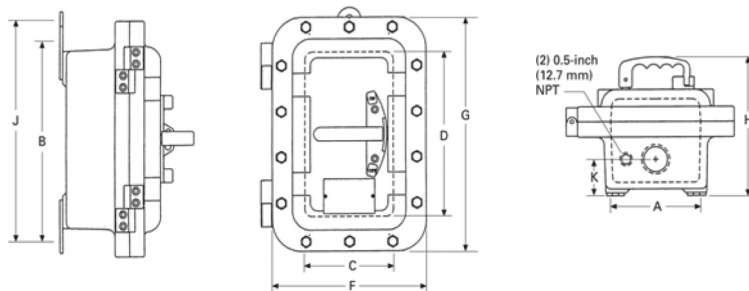
Catalogue Number	Standard Conduit Size
DS361FX	1.50 (38.1)
DS362FX	2.00 (50.8)
DS363FX	2.50 (63.5)
DS361UX	1.50 (38.1)
DS362UX	1.50 (38.1)
DS363UX	2.00 (50.8)

Terminal Capacity

Ampere	Line/Load per Phase Min - Max Copper	Line/Load per Phase Min - Max Aluminum
30A	#14 - #2	#12 - #2
60A	#14 - #2	#12 - #2
100A	#14 - 1/0	#12 - 1/0

NEMA 7/9 Fusible and Non-Fusible Dimensions – via Enclosure Number

Enclosure Number	Mounting Dimensions			Inside Dimensions		Outside Dimensions			Number of Outlets	Dimension K	Approximate Weight Lbs (kg)
	A	B	J	C	D	F	G	H			
1	5.50 (139.7)	13.13 (333.5)	14.13 (358.9)	5.94 (150.9)	10.75 (273.1)	10.63 (270.0)	15.25 (387.4)	8.84 (224.5)	2 (1.5 In. Dia.)	2.00 (50.8)	38 (17)
2	6.00 (152.4)	18.00 (457.2)	19.00 (482.6)	6.50 (165.1)	16.00 (406.4)	11.00 (279.4)	20.50 (520.7)	8.97 (227.8)	2 (1.5 In. Dia.)	2.31 (58.6)	57 (26)
3	10.25 (260.4)	22.63 (574.8)	—	11.75 (298.4)	20.00 (508.0)	16.38 (416.1)	25.13 (638.3)	9.59 (243.6)	2 (1.5 In. Dia.)	3.50 (88.9)	104 (47)

NEMA 7/9 30 – 100A^②^① Accessories and modifications shown on **Pages 13** through **15** are NOT applicable to NEMA 7/9 disconnect switches.^② Dual three- and four-point mounting available as standard on enclosures 1 and 2.

Note:

For field installable auxiliary contacts order: **178C265G05** - 30-100A 1NO/1NC, **178C265G06** - 30-100A 2NO/2NC.Breather/drain group B (1) including outlets and installation, catalogue suffix **BR, DN**.External ground stud (3/8"), catalogue suffix **ES**.

[illegible]

Solar Disconnect Switch



Solar Disconnect Switch

Application Description

Used in Photo Voltaic installations. A DC disconnect switch is required ahead of the inverter to isolate the load from the PV source.

The most common application is a **negative grounded PV system**, with the location of the bond usually found at the inverter (transformer type inverters). Per CEC 14-100 only the current carrying ungrounded conductors shall be switched. Thus in a negative-grounded PV system only the positive conductor is switched. The other conductor of the DC circuit must be grounded (like a neutral in an AC system).

Ungrounded DC floating systems would be applied with transformerless inverters. In an ungrounded DC floating system both positive

and negative are switched in the disconnect.

Product Description for Negative Grounded Disconnects

- 30–600A, 600 Vdc single circuit
- Isolated negative ground and equipment ground lug standard
- Factory wired in series for DC, single circuit
- Fusible and Non-Fusible
- Class R fuse clips standard on fusible design
- Heavy Duty K switch design
- NEMA 3R, 12/3R and 4 painted steel ANSI 61 light grey electrocoat and 4X stainless steel enclosures available
- Line / Load terminal warning labels on door
- Line / Load fuse isolated
- 100% load break rated

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- Meets disconnect requirements of Section 50 CEC part 1
- Meets ESA requirements for PV applications
- For multi-circuit (2-6) and 1000 Vdc refer to Eaton publication No. BR00802002E for product offering and technical specifications

Features

- **“Out of the box solution”** no additional jumper bars or separate negative ground required
- **Enhanced safety** - fuse is completely de-energized on both line and load side when switch is in off position
- Isolated negative ground terminal included as standard, necessary for grounded PV systems per Section 50 CEC part 1
- Clear polycarbonate dead-front to guard against

accidental contact with live parts

- Highly visible line and load warning label specific to PV on door front of switch
- Visibly marked positive and negative terminal connections
- Additional labels included with switch – “PV System Disconnect”

Product Description for Ungrounded DC Disconnects

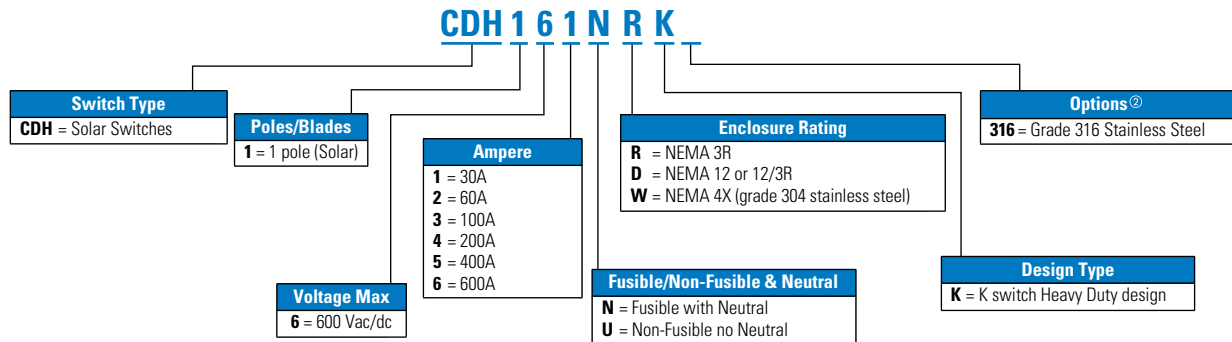
- 30–400A, 600 Vdc
- 30-400A @ 1000 Vdc
- Multi-circuit offering
- Both positive (+) and negative (-) are switched
- UL listed to UL98b standard
- CSA/ESA accepted
- Refer to Eaton Publication No. BR00802002E for product offering and technical specifications

Switching Devices

Safety Switches

Catalog Numbering System

Solar Disconnect Switch



① Always verify the number of poles and wires required since catalogue numbers may appear in multiple tables.

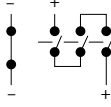
② See **Pages 13 through 15** for additional Flex Centre options.

Note:

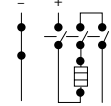
This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Product Selection

Non-Fusible 600 Vdc Disconnect for Negative Grounded PV Systems

System	Ampere	Catalogue Number NEMA 3R	Catalogue Number NEMA 12/3R ^②	Catalogue Number NEMA 4/ 4X ^③	Lug Capacity Main & Isolated Negative Ground ^④	Equipment Ground Lug
	30	CDH161URKN	CDH161UDKN	CDH161UWKN	#2 - #14 Cu/Al	#4 - #14 Cu/Al
	60	CDH162URKN	CDH162UDKN	CDH162UWKN	#2 - #14 Cu/Al	#4 - #14 Cu/Al
	100	CDH163URKN	CDH163UDKN	CDH163UWKN	1/0 - #14 Cu/Al	#4 - #14 Cu/Al
	200	CDH164URKN	CDH164UDKN	CDH164UWKN	250kcmil - #6 Cu/Al	#2 - #14 Cu/Al
	400	CDH165URKN	CDH165UDKN	CDH165UWKN	(1) 750kcmil - 1/0 or (2) 300kcmil - 1/0 Cu/Al	250kcmil - #6 Cu/Al
	600	CDH166URKN	CDH166UDKN	CDH166UWKN	(1) 750kcmil - 1/0 or (1) 600kcmil - #2 Cu/Al	250kcmil - #6 Cu/Al

Fusible 600 Vdc Disconnect for Negative Grounded PV Systems

System	Ampere	Catalogue Number NEMA 3R	Catalogue Number NEMA 12/3R ^②	Catalogue Number NEMA 4/ 4X ^③	Lug Capacity Main & Isolated Negative Ground ^④	Equipment Ground Lug
	30	CDH161NRK	CDH161NDK	CDH161NWK	#2 - #14 Cu/Al	#4 - #14 Cu/Al
	60	CDH162NRK	CDH162NDK	CDH162NWK	#2 - #14 Cu/Al	#4 - #14 Cu/Al
	100	CDH163NRK	CDH163NDK	CDH163NWK	1/0 - #14 Cu/Al	#4 - #14 Cu/Al
	200	CDH164NRK	CDH164NDK	CDH164NWK	250kcmil - #6 Cu/Al	#2 - #14 Cu/Al
	400	CDH165NRK	CDH165NDK	CDH165NWK	(1) 750kcmil - 1/0 or (2) 300kcmil - 1/0 Cu/Al	250kcmil - #6 Cu/Al
	600	CDH166NRK	CDH166NDK	CDH166NWK	(1) 750kcmil - 1/0 or (1) 600kcmil - #2 Cu/Al	250kcmil - #6 Cu/Al

Note: For negative grounded multi-circuit (2-6) and 1000 Vdc offering, refer to Eaton publication BR00802002E

Non-Fusible 600 Vdc 1000 Vdc Disconnect for UNGROUNDED DC Floating Systems ^⑤Fusible 600 Vdc 1000 Vdc Disconnect for UNGROUNDED DC Floating Systems ^⑤

Note: Refer to Eaton publication No. BR00802002E for offering and technical specifications.

^① Available Q4 2012

^② NEMA 12 enclosures can be field converted to 3R when drain screw removed from end wall of enclosure.

^③ Enclosure NEMA 4X stainless steel 30A to 200A, NEMA 4 painted steel enclosure 400A and 600A. For stainless steel enclosures at 400 and 600A add SS to catalogue number suffix.

^④ Field-wiring conductor size shall be determined by referring to CEC Table 2 and Table 4, or NFPA Table 310.16, 75C column for wire size (AWG). Use wire rated for 90C (194F) or higher.

^⑤ Refer to CEC Part 1 Section 50 to calculate current rating of disconnect required.

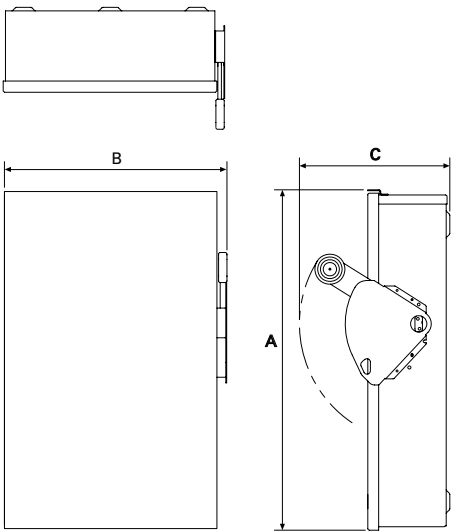
Technical Data and Specifications

Dimensions

Approximate Dimensions in Inches (mm)

NEMA 3R Dimensions

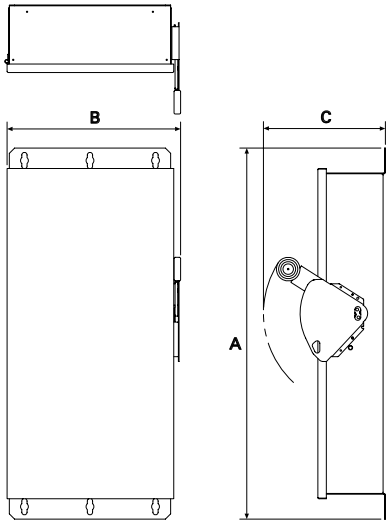
Ampere	A	B	C
30 Non-Fusible	16.35 (415)	8.87 (225)	9.89 (251)
30 Fusible	16.35 (415)	8.87 (225)	9.89 (251)
60 Non-Fusible	16.35 (415)	8.87 (225)	9.89 (251)
60 Fusible	16.35 (415)	8.87 (225)	9.89 (251)
100	22.15 (563)	11.84 (301)	9.89 (251)
200	28.27 (718)	16.66 (423)	11.26 (286)
400	45 (1143)	24.12 (613)	12.39 (315)
600	52.5 (1334)	25.12 (638)	14.07 (357)



Note: Dimensions apply to disconnects for either negative grounded or ungrounded PV systems.

NEMA 12/3R and 4/4X Dimensions

Ampere	A	B	C
30 Non-Fusible	14.14 (359)	8.76 (223)	10.22 (260)
30 Fusible	19.8 (485)	8.76 (223)	10.22 (260)
60 Non-Fusible	14.14 (359)	8.76 (223)	10.22 (260)
60 Fusible	19.8 (485)	8.76 (223)	10.22 (260)
100	24.95 (634)	11.79 (299)	10.22 (260)
200	35.38 (899)	16.5 (431)	11.63 (295)
400	57.47 (1460)	24.12 (613)	12.43 (316)
600	63 (1600)	36.34 (923)	14.25 (362)



Zone Blasting Switch



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Zone Blasting Switch

Application Description

Used as a means to safely initiate the blasting process found in mining, quarrying or roadway construction.

Product Description

- 30–100A
- 2 pole, 600 Vac - 250 Vdc maximum
- Non-fusible disconnect, Heavy Duty K switch design
- Highly visible RED NEMA 12/ 3R rated enclosure, or 4X stainless steel available
- Manually operated with three interlocked positions – PRIME, TEST, SHORT
 - PRIME – initiates the blast
 - TEST – neutral position, enables safe installation

of detonator wires galvanometer testing

- SHORT – provides a deadshort once blast complete

- Three lockable positions, each position accepts 3 x 3/8" shank locks
- 100% load break and make rated
- Optional auxiliary contacts available

Features

- Unsurpassed safety through a single point of control during the blasting process, along with a separate deadshort position safeguarding against premature blasts.

- Reduced installation time, with an all in one mechanical connection to short-circuit the blasting leg wires.

- A permanent galvanometer testing connection is a quick, simple and safe standard feature as opposed to the alternate methods of twisting and untwisting wires when performing short and test functions.
- Easy identification with highly visible red enclosure and lamacoid nameplates.

Standards and Certifications

- CSA Certified LL45963
- Meets C22.2 No.4 for enclosed switches

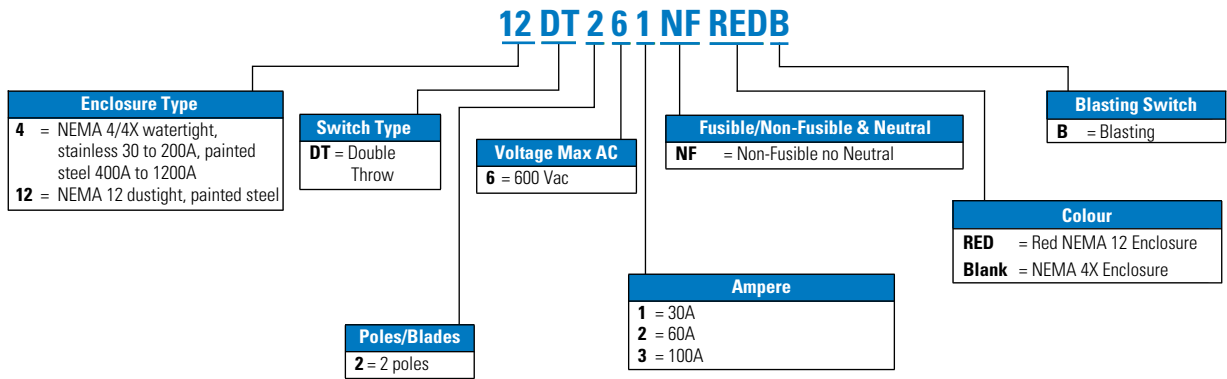


Switching Devices

Safety Switches

Catalog Numbering System

Zone Blasting Switch



Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Product Selection

12DT261NFREDB

Zone Blasting Switch, 600 Vac max. Non-Fusible - NEMA 12/3R, 4X Enclosure



Maximum Horsepower Rating

Ampere	Single Phase AC			DC 250V	Catalogue Number	
	Fuse Type	Provision 480V	600V		NEMA 12 Enclosure - Red ^②	NEMA 4X Enclosure - Stainless Steel
30	—	7.5	10	5	12DT261NFREDB	4DT261NFB
60	—	20	25	10	12DT262NFREDB	4DT262NFB
100	—	40	50	20	12DT263NFREDB	4DT263NFB

② NEMA 12 enclosure can be field modified to 3R rating when drain screw from bottom of enclosure is removed.

Accessories

Auxiliary Contact

Circuit	Catalogue Number
1 NO, 1 NC (Qty 2 required)	DS200EK1

Technical Data and Specifications

Terminal Capacity

Disconnect Switch Size	Wire Size
30A	#14–2 Cu/Al
60A	#14–2 Cu/Al
100A	#14–1/0 Cu/Al

Functions

Prime: The position that initiates the blast or blast signal.

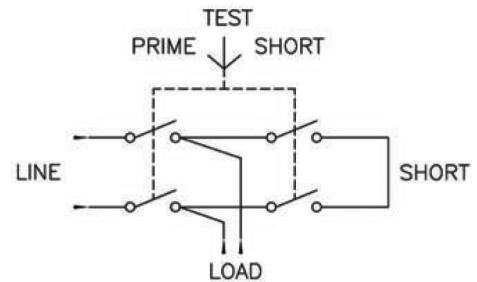
Test: An isolated position for operator to install detonator wires to load lugs, provides a permanent means for testing continuity of circuits with galvanometer.

Short: Position that mechanically short-circuits the leg wires. Once the blast has been completed, operator must return to the short position to activate the dead short.

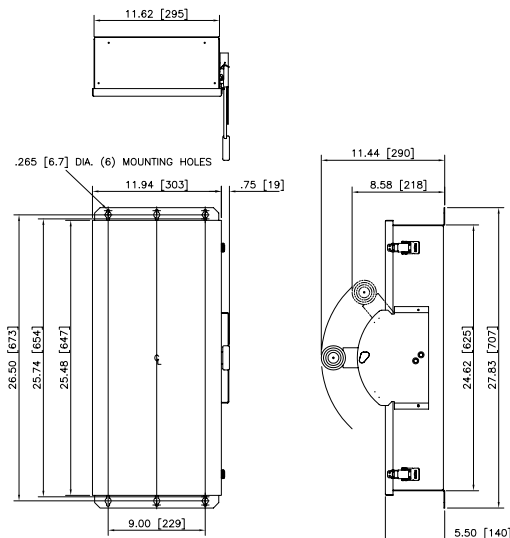
Note: Once installation of the leg wires and testing have been completed in the test position, the door of the enclosure must be closed to activate the prime position, as well to activate the short position.

Mechanism: Side operated handle, double break visible knife blades, quick make/break operation, 100% load break rated.

Short-Circuit Rating: 100 kA RMS with class R, J, or T upstream, otherwise 10 kA.



Dimensions



[illegible]

Elevator Control Switch



Elevator Control Switch

Application

Typically used in elevator applications, allowing the AC power to be shut down to the elevator **prior to the application of water** in the elevator machine room or hoistway.

Product Description

This device is a fusible switch that is equipped with a shunt trip mechanism. The shunt trip is operated by a control relay (called a Fire Safety Interface Relay) in the unit that is wired to a normally open contact in the remote Fire Alarm Control Panel.

It is a single device that meets the national building code requirements (US) for sprinklers, elevators and electrical equipment.

Standard Features

- 30–400A, 600 Vac three-phase fused power switch NEMA 1 enclosure
- 200kA rms short-circuit current rating
- Shunt trip 120V
- Control power terminal block
- Pilot light “ON”
- Class J Fuse mounting only (Class J Fuses not included)
- Key to test switch 120V
- Mechanically interlocked auxiliary contact for hydraulic elevators with battery backup (5A, 120 Vac rated) 1NO, 1NC

Optional Features

- Control power transformer with fuses and blocks
- Fire safety interface relay
- Isolated neutral lug (oversized 200% rated neutral option available where required by excessive nonlinear loads)
- Fire alarm voltage monitoring relay (to monitor shunt trip voltage)
- NEMA 3R, 4 and 12 enclosures available through 200A
- Phase failure and undervoltage relay available, consult Eaton
- Contact closure ie: battery lowering/door opening system. The ‘B’ option prevents “nuisance” fire alarms, by allowing over-

riding of the “Control Power not Available” signal when the Eaton elevator control disconnect is manually (intentionally) turned off, and distinctive signaling for ON-OFF-TRIPPED conditions.

Standards and Certifications

- UL 98 Enclosed and Deadfront Switch Guide 96NK3917, File No. E182262
- cUL® per Canadian Standards C22.2, No. 0-M91-CAN/CSA® C22.2, No. 4-M89 Enclosed Switch



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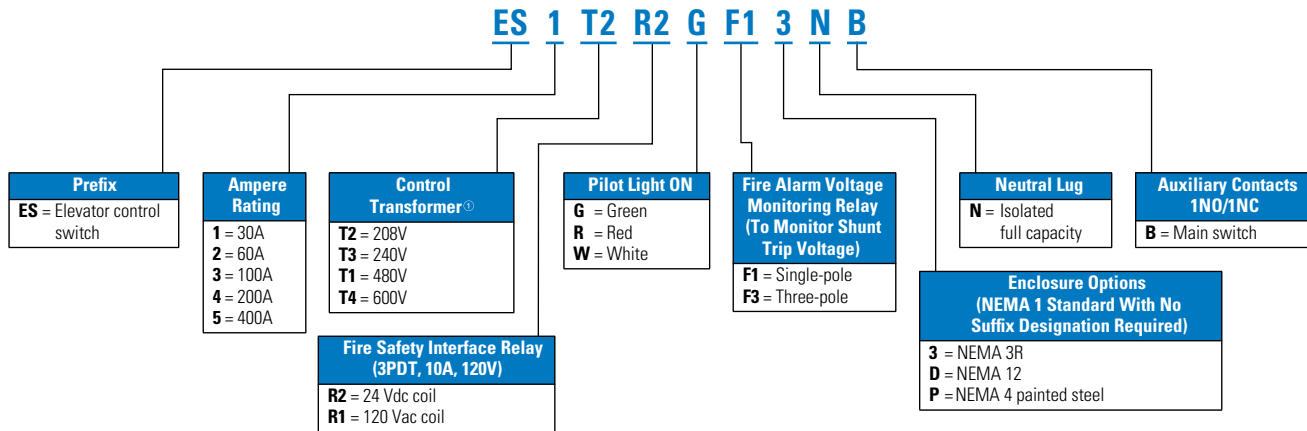
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Switching Devices

Safety Switches

Catalog Numbering System

Elevator Control Switch



Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Catalogue Number Example: ES3T1R1GF3

- 100A S.T. switch 480V-3P—ES3
- 480–120V CPT—T1
- 120 Vac coil fire safety interface relay—R1
- Pilot light—ON (Green)—G
- Fire alarm voltage monitoring relay (three-pole)—F3

Technical Data and Specifications

Elevator Control Switch Maximum hp Rating—Sizing Based on Motor Type

Voltage Rating (Vac Three-Phase)	Ampere Rating 30A, ES1			60A, ES2			100A, ES3			200A, ES4			400A, ES5		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
208	5	5	3	10	10	10	20	15	15	40	40	30	—	—	—
240	5	5	5	10	10	10	20	20	15	50	40	30	—	—	—
280	10	10	10	30	25	20	50	40	30	100	75	75	—	—	—
600	15	15	10	30	30	25	60	50	40	125	100	100	—	—	—

Dimensions

Approximate Dimensions in Inches (mm)

Elevator Control Switch Dimensions and Lug Data

Ampere Rating	NEMA 1 ^①			NEMA 3R, 12 ^②			Lug Size ^③	Catalogue Number
	Height	Width	Depth	Height	Width	Depth		
30	29.62(752.3)	16.35 (415.4)	11.18 (283.9)	29.62 (752.3)	16.35 (415.4)	11.18 (283.9)	#14–#8 Al or Cu	ES1
60	29.62 (752.3)	16.35 (415.4)	1.18 (283.9)	29.62 (752.3)	16.35 (415.4)	11.18 (283.9)	#14–#2 Al or Cu	ES2
100	29.62 (752.3)	16.35 (415.4)	11.18 (283.9)	29.62 (752.3)	16.35 (415.4)	11.18 (283.9)	#8–1/0 Al or Cu	ES3
200	32.63 (828.9)	20.38 (517.8)	11.28 (286.4)	32.63 (828.9)	20.38 (517.8)	11.28 (286.4)	#6–250 kcmil Al or Cu	ES4
400	54.63 (1387.7)	25.21 (640.3)	12.69 (322.3)	54.63 (1387.7)	25.21 (640.3)	12.69 (322.3)	(2) 1/0–(1) 750	ES5

^① Standard oversize enclosure to mount control power transformer fire safety interface relay and control terminal blocks.

^② Contact Eaton for dimensions for NEMA 4 enclosure.

^③ Optional neutral lug size same as line and load.

Grounding Switch



Industrial Grounding Switch

Application Description

Used to isolate and ground 250 Vdc/600 Vac loads typically found but not limited to industrial DC applications such as door machines, rail cars and cranes. Grounding enables the current to be drained ie: drives, capacitors, discharging stray current on the machine doors, rails or cranes, increasing safety and people protection.

Product Description

- 30-600A 250 Vdc/600 Vac
- Non-Fusible, double-throw heavy duty switch design
- Grounded dead short
- Enclosures NEMA 12 and 4 painted steel and 4X stainless steel grade 304. NEMA 12 enclosure can be field converted to 3R when drain screw removed.
- Optional grade 316 stainless available
- Two viewing windows standard for visible blade indication of both main switch and grounded dead short
- Highly visible lamacoid nameplates standard, warning source 250 Vdc and grounded position
- Triple lockoff capability, all switch positions

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Features & Benefits

- Safety - people protection - grounding enables the current to be drained discharging stray currents
- Cost and labour savings - eliminates the need for external hookstick ground clamps or ground bridles
- Reduces wear on existing breakers - eliminates the need to draw our breakers, lug out, tag out and apply ground bridle
- Increased uptime - all in one solution

Standards & Certifications

- CSA certified
- Meets C22.2 No.4 standard for enclosed switches

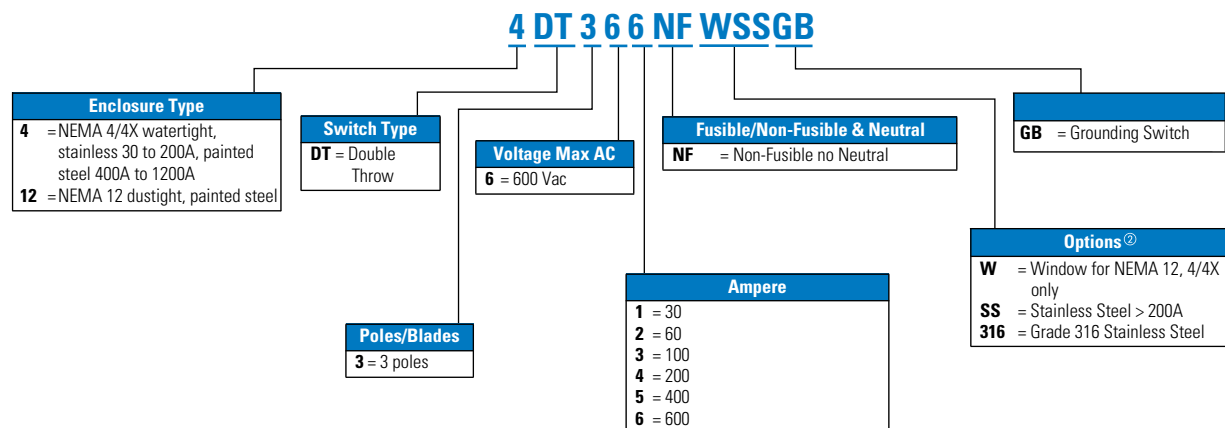


Switching Devices

Safety Switches

Catalog Numbering System

Industrial Grounding Switch



① Always verify the number of poles and wires required since catalogue numbers may appear in multiple tables.

② See **Pages 13 through 15** for additional Flex Centre options.

Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Product Selection

250 Vdc/600 Vac Heavy Duty, Non-Fusible, Grounding Switch

Ampere Rating Main and Standby	Maximum Horsepower Ratings			NEMA 12 ^① Catalogue Number	NEMA 4X Stainless Steel Catalogue Number	NEMA 4 Painted Steel Catalogue Number
	Single-Phase AC		DC			
	480V	600V	250V			
Two-Pole— 600 Vac — 250 Vdc						
30	7-1/2	10	5	12DT361NFWGB	4DT361NFWGB	—
60	20	25	10	12DT362NFWGB	4DT362NFWGB	—
100	40	50	20	12DT363NFWGB	4DT363NFWGB	—
200	50	50	40	12DT364NFWGB	4DT364NFWGB	—
400	—	—	50	12DT365NFWGB	4DT365NFWSSGB	4DT365NFWGB
600	—	—	50	12DT366NFWGB	4DT366NFWSSGB	4DT366NFWGB

① NEMA 12 enclosure can be field modified to 3R rating when drain screw from bottom of enclosure is removed.

Technical Data and Specifications

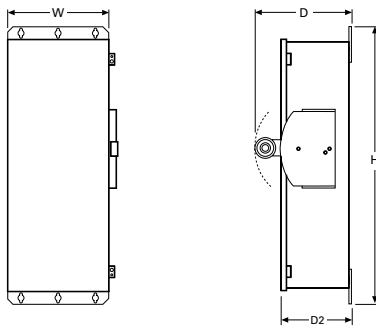
Dimensions

Approximate Dimensions in Inches (mm)

Heavy Duty, Non-Fusible, 250 Vdc and 600 Vac, Two-Pole

Ampere Rating	Width (W)	Height (H)	Depth (D)	Depth (D2)	Weight Lbs (kg)
NEMA 12, 4X Stainless Steel, 4 Painted Steel					
30	12.00 (304.8)	25.88 (657.4)	10.25 (260.4)	5.50 (139.7)	60 (27)
60	12.00 (304.8)	25.88 (657.4)	10.25 (260.4)	5.50 (139.7)	60 (27)
100	12.00 (304.8)	25.88 (657.4)	10.25 (260.4)	5.50 (139.7)	60 (27)
200	19.50 (495.3)	41.00 (1041.4)	11.63 (295.4)	6.48 (164.6)	105 (48)
400	23.05 (585)	57.48 (1460)	12.5 (317.5)	7.25 (184.2)	160 (73)
600	23.7 (602)	67.02 (1702)	14.1 (358)	8.88 (225.6)	175 (79)

NEMA 12, 4X Double-Throw 30–1200A



Terminal Capacity for Grounding Switch

Ampere	Line/Load Terminal Capacity (per phase)	Ground terminal Capacity	Neutral Catalogue # ^①	Neutral Terminal Capacity
30	#14 - #2	#14 - 4	DT100NK	1x #14 - #2 AND 3x #14 - #2
60	#14 - #2	#14 - 4	DT100NK	1x #14 - #2 AND 3x #14 - #2
100	#14 - 1/0	#14 - 4	DT100NK	1x #14 - #2 AND 3x #14 - #2
200	#6 - 250mcm	#14 - 4	DT200NK	3x #6 - 250mcm AND 1x #14 - #2
400 (non fusible)	(2) 1/0 - (2) 300mcm OR (1) 1/0 - 750mcm	#6 - 250mcm	DT400NK	7x #6 - 250mcm
600 (non fusible)	(2) 250mcm - (2) 500mcm	#6 - 250mcm	DT600NK	6x 250mcm - 500mcm AND 1x #6 - 250mcm

① Order neutral catalogue number when neutral required and not included with switch.

Note:

All terminals are rating Al/Cu unless otherwise noted.

Short-Circuit Rating (kA)

10 rms rating applies at 250 Vdc

For 600 Vac rms rating refer to **page 48**

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NEMA 1 Motor Disconnect



B330AGD



B330AND

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NEMA 1 Motor Disconnect

Product Application

Suitable as a motor disconnect for indoor use when switching or isolating motor loads.

Product Description

- 30A 600 Vac, NEMA 1
- Compact size 3.2"W x 4.72"H x 3.09"D
- Lockable
- 10kA withstand rating at 600V when protected by 60A max. class J fusing
- K/O's top, bottom, back

Features

- Labeled suitable for motor disconnect
- Compact, economical
- Snap action toggle design

Standards and Certifications

- UL listed
- CSA certified to C22.2, No. 14



Non-Fusible Two- and Three-Pole, 600 Vac

Ampere	Maximum Horsepower Single-Phase AC				Three-Phase AC				Catalogue Number
	120V	240V	480V	600V	120V	240V	480V	600V	
30	2	5	10	15					B230BGD ^①
Non-Fusible, 3 Pole, 600 Vac									
30					3	75	15	20	B330AGD ^②

^① Internal replacement switch B230BND

^② Internal replacement switch B330AND

[illegible]

Enclosed Rotary Disconnect



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NEMA 12/3R, 4X Enclosed Rotary Disconnects

Application

Suitable as a motor disconnect. A compact and economical choice for switching and isolating motor loads. Provides users with the ability to lock directly to wired motor loads in the OFF position.

Environments such as outdoor, corrosive, dust, hose down, all possible with the wide variety of enclosures available.

Product Overview

- Available in 16–80A ratings
- 600 Vac, three- and four-pole non-fusible device
- Up to 65kA RMS short-circuit withstand rating
- Padlockable in the OFF position (up to three padlocks)
- Load break rated
- Accepts auxiliary contacts; capability to signal PLC controllers
- Ground lug connection provided as standard
- Possibility of adding one power pole and one auxiliary contact
- NEMA® Type 12/3R painted steel, 4X stainless steel, 4X non metallic,

polycarbonate and thermoset polyester (krydon®)

- Labeled “Suitable for motor disconnect”

Standards and Certifications

- CSA Certified, File 162136
- C22.2 No.14/UL 508
- Meets CEC rule 28-602(3)(b) suitable for motor disconnect



Switching Devices

Motor Disconnects

Product Selection

Enclosed Rotary Non-Fusible

Ampere Rating	Maximum Horsepower Ratings				NEMA 12 ^①	NEMA 4X	NEMA 4X	NEMA 4X
	Three-Phase AC				Enclosure Dust-Tight/ Rainproof	Enclosure Corrosion-Resistant, Stainless Steel	Enclosure Corrosion-Resistant, Non-Metallic Krydon®	Enclosure Polycarbonate- Non-Metallic
	208V	240V	480V	600V	Catalogue Number	Catalogue Number	Catalogue Number	Catalogue Number
Three-Pole, 600 Vac								
16	3	5	10	10	CER53016UD	CER53016UW	CER53016UX	—
25	7-1/2	7-1/2	15	20	CER53025UD	CER53025UW	CER53025UX	—
30	7-1/2	7-1/2	15	20	CER53030UD	CER53030UW	CER53030UX	ER53030UPGB ^{②③}
40	7-1/2	7-1/2	20	25	CER53040UD	CER53040UW	CER53040UX	—
60	15	15	30	30	CER53060UD	CER53060UW	CER53060UX	ER53060UPGB ^{②③}
80	15	20	40	40	CER53080UD	CER53080UW	CER53080UX	—

Accessories for Enclosed Rotary Disconnects ^{④⑤}

Disconnect Ampere Rating	Switched Fourth Pole	Auxiliary Contacts (Choose one)	Terminal Shrouds
16	S4PR516	1NO + 1NC	Single-pole
25	S4PR525	AC1NONC	TS1R5A
30	S4PR530	2NC	Three-pole
40	S4PR540	AC2NC	TS3R5A
60	—		Single-pole
80	—		TS1R5B
			Three-pole
			TS3R5B

^① NEMA 12 enclosures (16–80A) can be field modified to meet NEMA 3R rainproof requirements when a factory-provided drain hole is opened.

^② **GB** suffix = gray cover and black handle, **YR** suffix = yellow cover and red handle, **GR** suffix = gray cover and red handle.

^③ cULus.

^④ Ordered and shipped as separate components—not integral to enclosed device.

^⑤ Enclosed disconnects can accept one power pole, neutral or up to two auxiliary contacts (one mounted on either side of switch).

Note:

Contact Customer Support (1-800-268-3578) for factory-installed accessories, UL labelled product, or other special modifications.

Technical Data and Specifications

CSA 22.2 No.14/UL508 Manual Motor Controller “Suitable as Motor Disconnect” from 16-80A

Technical Characteristics	16A	25A	30A	40A	60A	80A
Approvals	UL 508/CSA 22.2 No. 14	UL 508/CSA 22.2 No. 14	UL 508/CSA 22.2 No. 14	UL 508/CSA 22.2 No. 14	UL 508/CSA 22.2 No. 14	UL 508/CSA 22.2 No. 14
Short-circuit rating at 600 Vac (kA)	10/65	10/65	10/65	10/65	50/65	50/65
Branch circuit fuse type	J	J	J	J	J	J
Maximum fuse rating	60/30A	60/30A	60/30A	60/30A	100/60A	100/60A
Maximum CSA/UL Horsepower Ratings/Maximum Motor FLA Current, Three-Phase						
208 Vac	3/10.6	7.5/24.2	7.5/24.2	7.5/24.2	15/46.2	15/46.2
220-240 Vac	5/15	7.5/22	7.5/22	7.5/22	15/42	20/54
440-480 Vac	10/14	15/21	15/21	20/27	30/40	40/52
600 Vac	10/11	20/22	20/22	25/27	30/32	40/41
Connection						
Wire range (AWG), solid, single cable	#14 - #10	#14 - #10	#14 - #10	#14 - #10	#14 - #10	#14 - #10
Wire range (AWG), solid, two cables	2x #12	2x #12	2x #12	2x #12	2x #12	2x #12
Wire range (AWG), stranded, single cable	#14 - #4	#14 - #4	#14 - #4	#14 - #4	#14 - #1	#14 - #1
Wire range (AWG), stranded, two cables	2x (#14-#12)	2x (#14-#12)	2x (#14-#12)	2x (#14-#12)	2x (#10-#6)	2x (#10-#6)
Mechanical Characteristics						
Endurance, number of mechanical cycles	10,000	10,000	10,000	10,000	10,000	10,000
Auxiliary Contacts						
Electrical characteristics	A300	A300	A300	A300	A300	A300

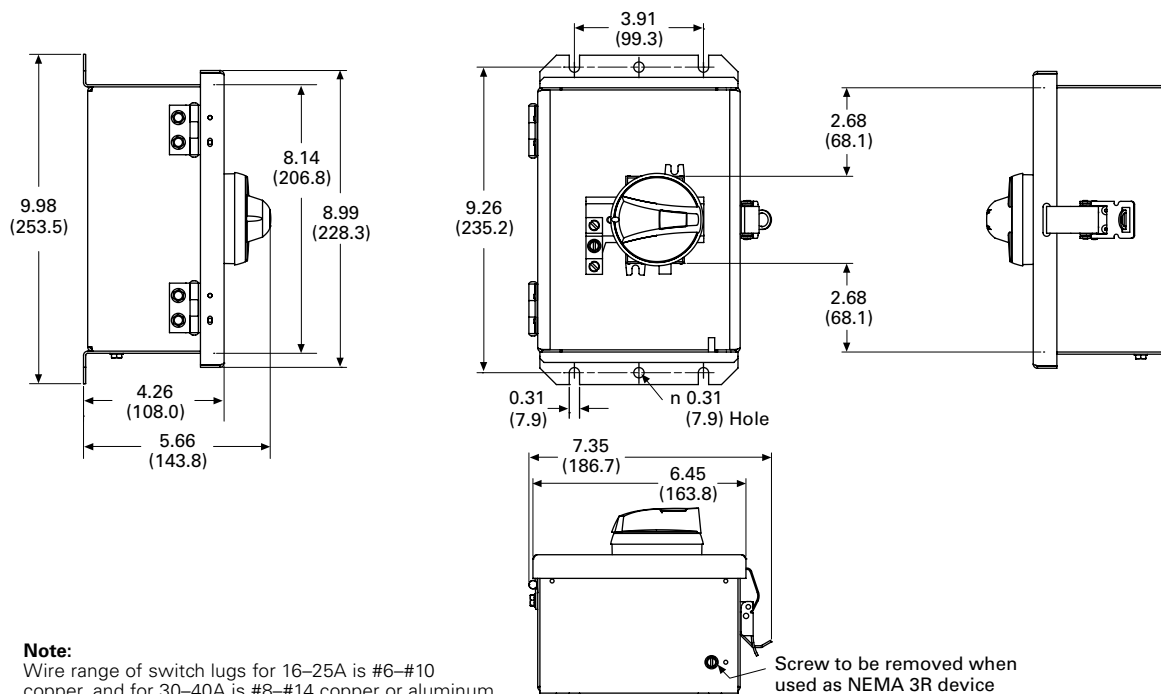
Switching Devices

Motor Disconnects

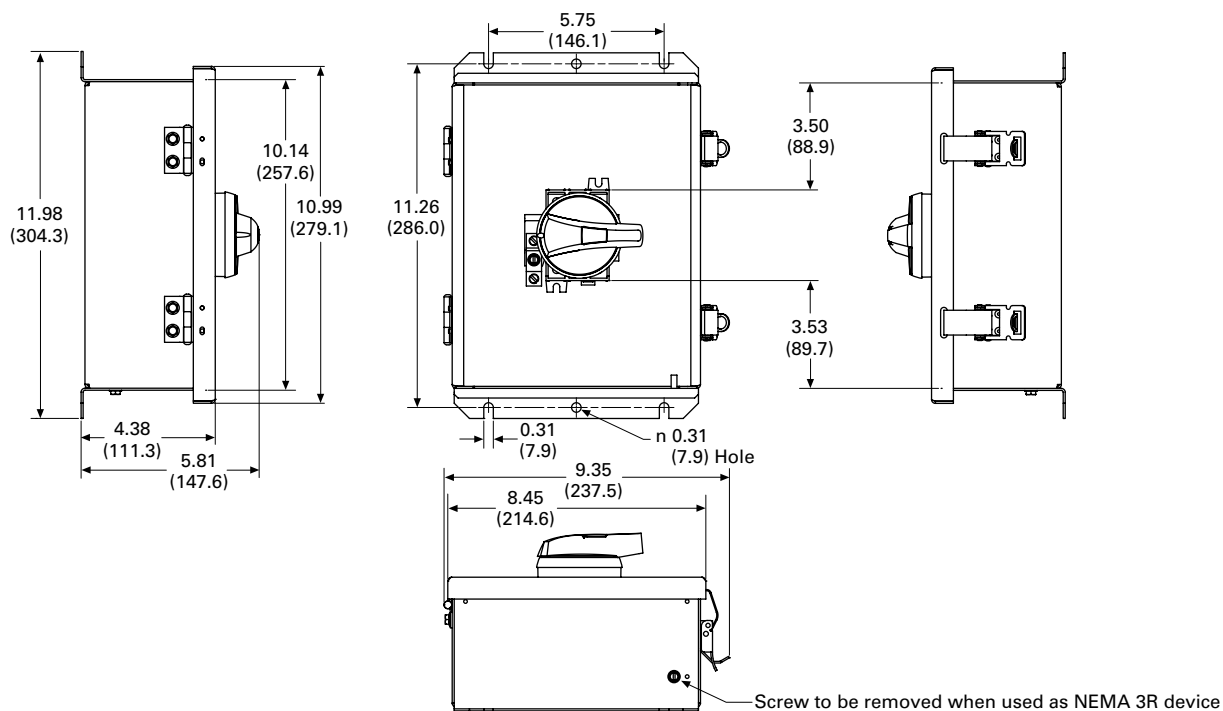
Dimensions

Approximate Dimensions in Inches (mm)

NEMA 12/3R (16–40A)

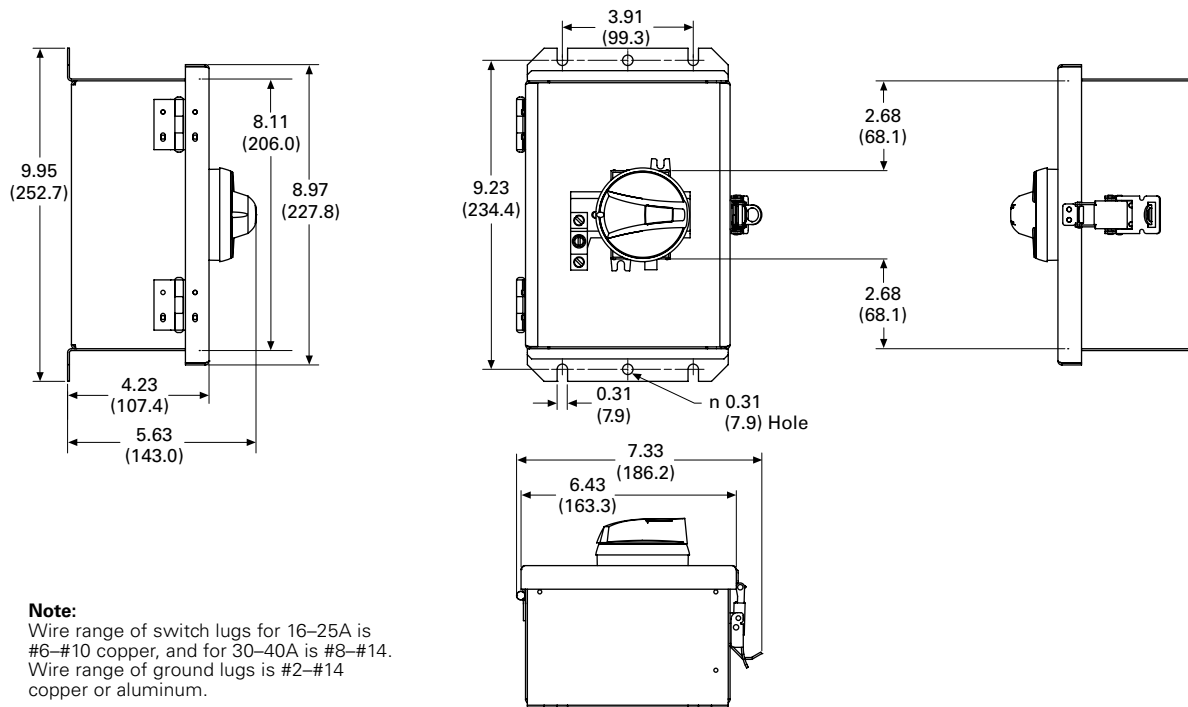


NEMA 12/3R (60–80A)



Approximate Dimensions in Inches (mm)

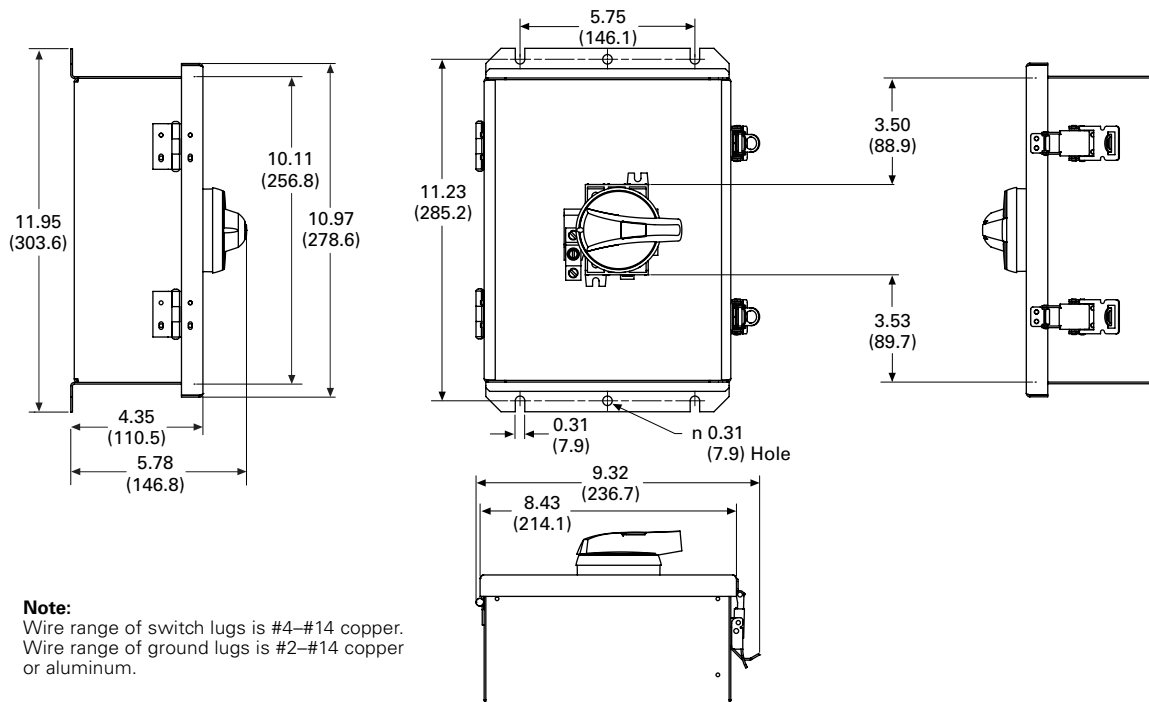
NEMA 4X Stainless (16–40A)



Note:

Wire range of switch lugs for 16–25A is #6–#10 copper, and for 30–40A is #8–#14. Wire range of ground lugs is #2–#14 copper or aluminum.

NEMA 4X Stainless (60–80A)



Note:

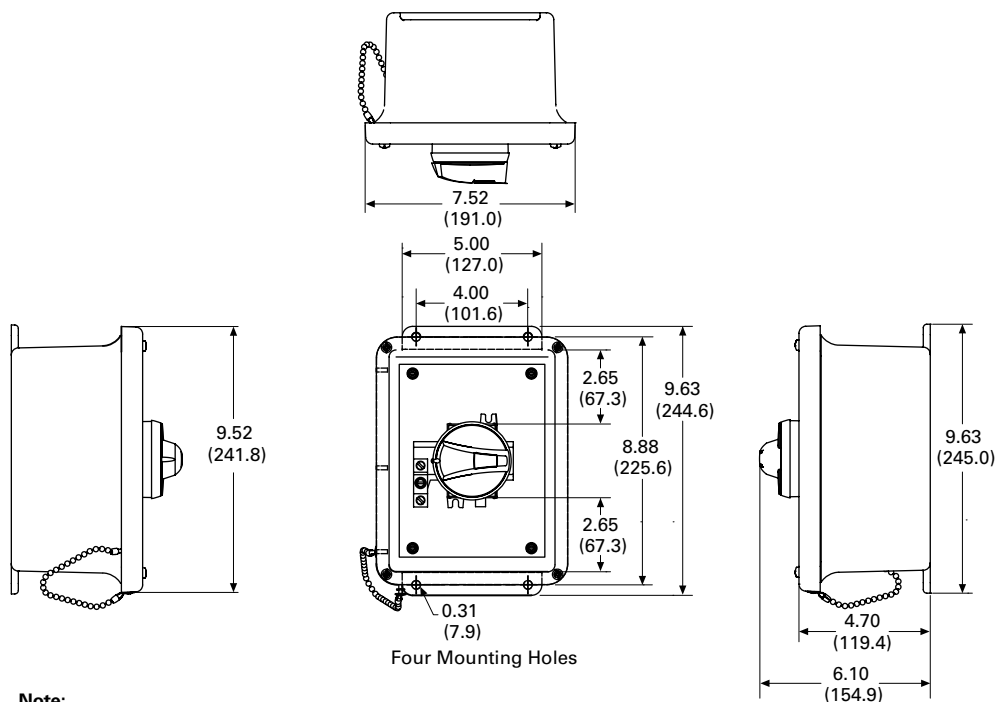
Wire range of switch lugs is #4–#14 copper. Wire range of ground lugs is #2–#14 copper or aluminum.

Switching Devices

Motor Disconnects

Approximate Dimensions in Inches (mm)

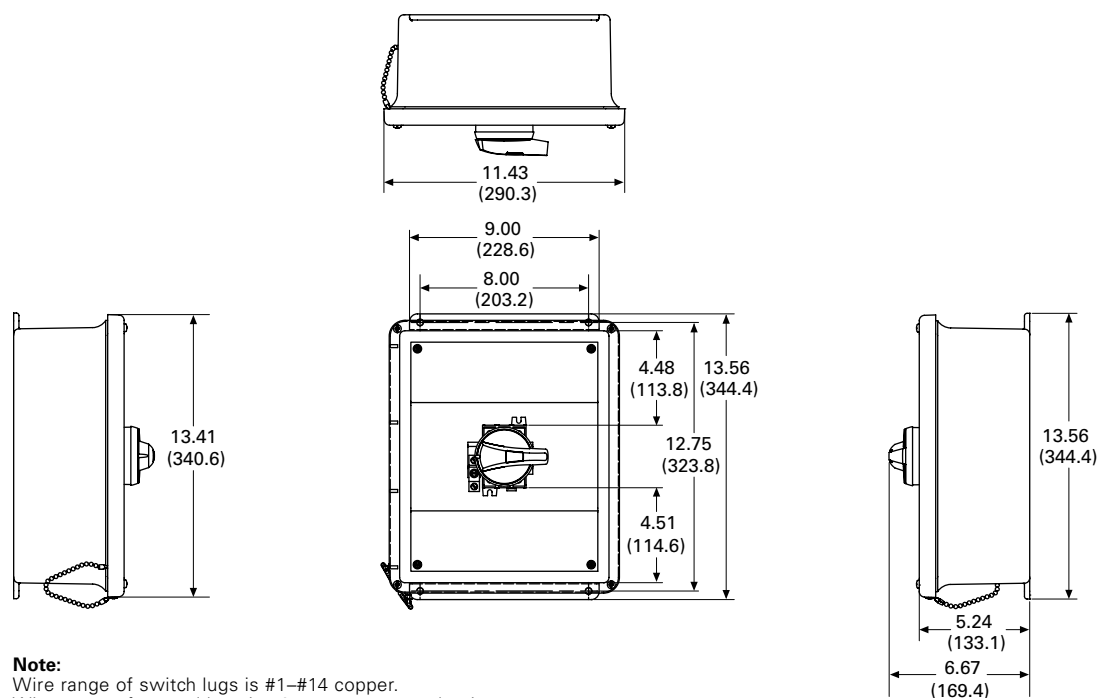
NEMA 4X Thermoset Polyester Krydon® (16 – 40A)



Note:

Wire range of switch lugs for 16–25A is #6–#10 copper, and for 30–40A is #8–#14. Wire range of ground lugs is #2–#14 copper or aluminum.

NEMA 4X Thermoset Polyester Krydon® (60 – 80A)

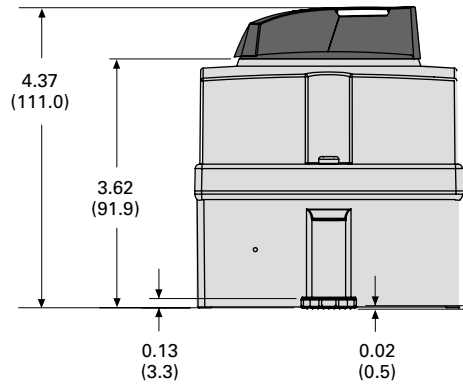
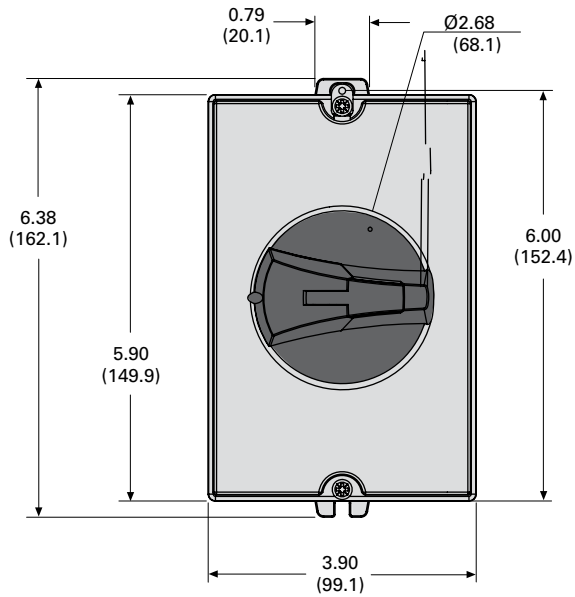


Note:

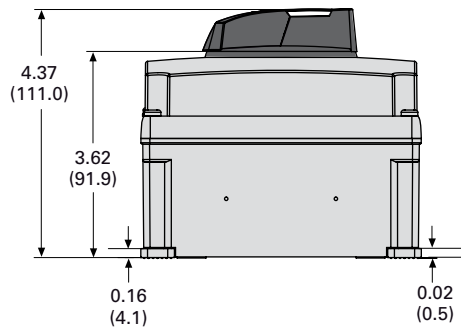
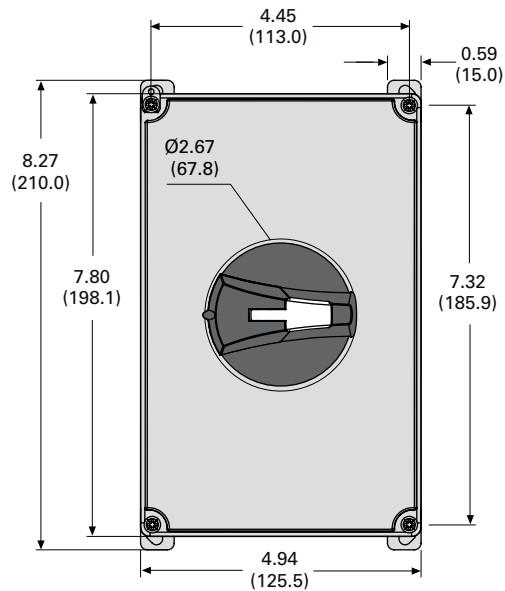
Wire range of switch lugs is #1–#14 copper. Wire range of ground lugs is #2–#14 copper or aluminum.

Approximate Dimensions in Inches (mm)

NEMA 4X—Polycarbonate (30A)



NEMA 4X—Polycarbonate (60A)

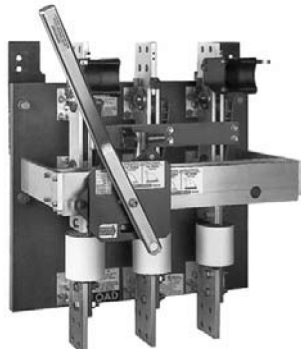


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Pringle Bolted Pressure Switches



CBC Type Switch



QA Type Switch

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Pringle Bolted Pressure Switch

Product Application

Typically sold as an open device to OEM's. **QA** and **CBC** type Pringle switches are typically used as the low voltage (600 Vac max.) fusible main service entrance device installed in a switchboard or an enclosure for commercial installations.

Along with standard 600 Vac low voltage and 250 Vdc Pringle switches, custom Pringle switches are available for various, commercial, industrial, utility, port electrification, transit, applications. Medium voltage up to 15kV at 6 to 60kA. For DC applications (non load break rated) at 600, 750, 1000, 1200, 1600 Vdc custom Pringle switches are available.

Features

Bolted Pressure Contacts

All Pringle switches feature bolted pressure contacts. The result: blade contact surfaces are bolted closed at a pressure of 600 PSI - at both the hinge and jaw ends. The benefit: current conducting efficiency is the equivalent of a bolted bus bar connection.

Spring Mechanism

All quick action switches use a unique spring mechanism for improved reliability over traditional coil springs. The unique spring design is created by a series of concave-convex washers. The paired-washer spring design provides a higher force/distance ratio, making it easier to operate the mechanism.

Should a pair of washers become inoperable for any reason, the entire spring assembly will still be operable by means of the remaining pairs. This is unlike the situation if a coil spring were to fracture or fatigue.

required by conventional top feed devices.

- 200kAIC and 100% rated with Class "L" fuses.

Standards and Certifications

- 600 Vac
- CSA Certified "QA" & "CBC" type
- UL Listed switches available upon request



Sample Spring Configuration

- Bottom feed configurations simplify connections from underground services resulting in considerable savings by eliminating up-and-around bus and extra cubicle space



Switching Devices

Bolted Pressure Switches

Product Selection

"QA" – Manually operated contact switch with quick positive switching action

"CBC" – Electric trip contact switch with charge-before-close mechanism. Can be manually or electrically tripped. Optional blown fuse detector and phase failure relay with capacitor trip available.

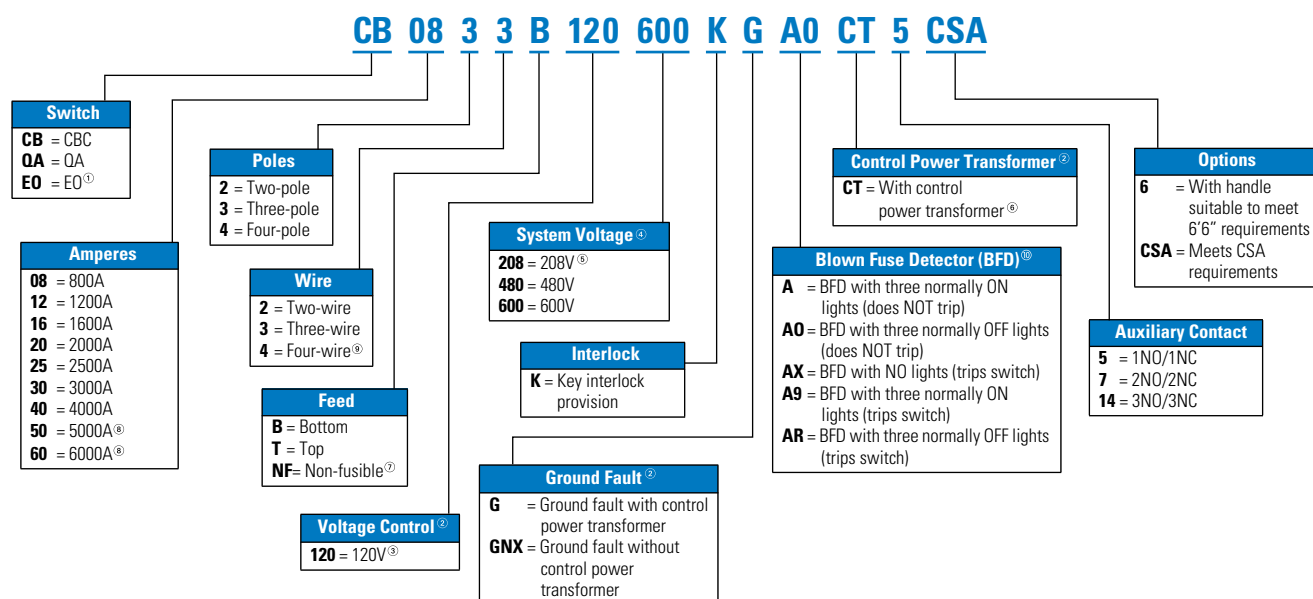
"EO" – (Not UL or CSA)
Similar to "CBC" design except pushbutton operated vs handle, also enables remote access to energize or shut down power to the switch

- 600 Vac maximum
- 800–6000A
- 800–4000A at 600 Vac- CSA
- Fusible
- Optional non-fusible "QA"
- Top or bottom fed
- Manually operated "QA" design

- Electric Trip "CBC" design
- 200kAIC and 100% load break rated with Class "L" fuses
- Top or bottom feed
- Two, three, or four pole
- Silver tipped contacts
- Various options available see page 119

Catalog Numbering System

Pringle Bolted Pressure Switch



① Not CSA certified. A separate control box may be required when adding accessories.

② Not an option with QA type switches. GF option includes control power transformer.

③ 110 Vdc and 125 Vdc also available. Please contact Customer Service (1-800-268-3578).

④ For different system voltage requirements, please contact Customer Service (1-800-268-3578).

⑤ For QA switches, use 600V system catalogue number when referencing a 208V system.

⑥ Only applicable if ordering a CPT only, without ground fault.

⑦ Only available with QA switches and in a top-feed configuration.

⑧ Does not carry CSA marking.

⑨ Three-pole four-wire not available; if neutral required, customer to supply neutral or four-pole four-wire available as alternative.

⑩ For BFD that does not trip the switch, use QA switch design.

For BFD that does trip the switch, use CB switch design.

Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Technical Data and Specifications

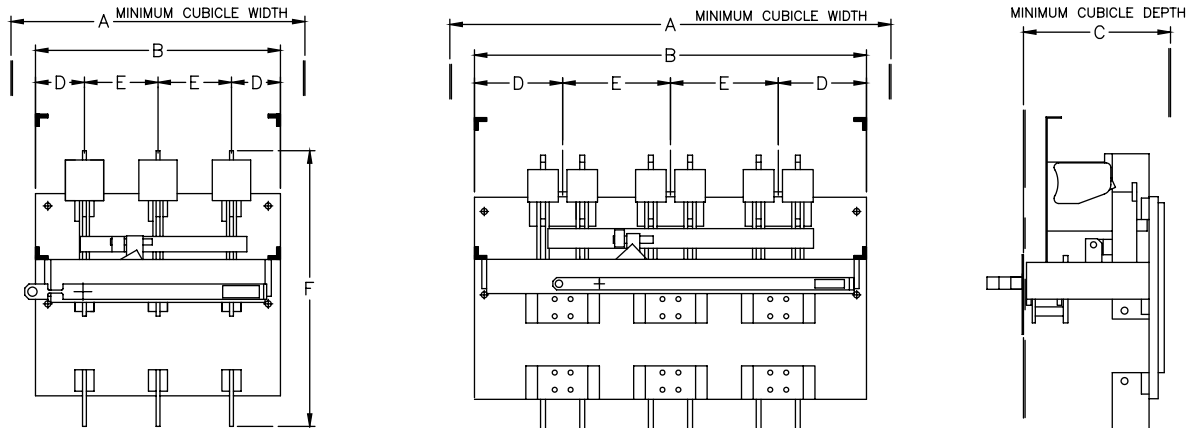
Dimensions

Approximate Dimensions in Inches (mm)

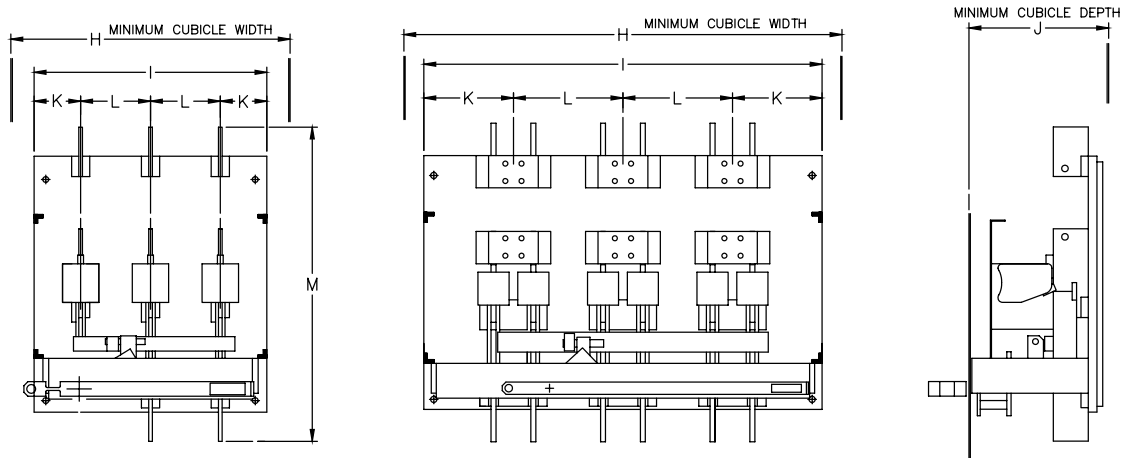
Manually Operated Bolted Contact Switches “QA” Design

Type	Feed	Ampere	Standard Catalogue							Weight (lb/kg)
			Number	Dimensions						
	Top			A	B	C	D	E	F	
QA	T	800	QA0833T600CSA	24 (610)	20 (508)	12 (305)	4 (102)	6 (152)	22.5 (572)	95 (43)
QA	T	1200	QA1233T600CSA	28 (711)	20 (508)	14 (356)	5.5 (140)	6.5 (165)	28 (711)	160 (73)
QA	T	1600	QA1633T600CSA	28 (711)	20 (508)	14 (356)	5.5 (140)	6.5 (165)	28 (711)	160 (73)
QA	T	2000	QA2033T600CSA	28 (711)	20 (508)	14 (356)	5.5 (140)	6.5 (165)	28 (711)	160 (73)
QA	T	2500	QA2533T600CSA	32 (813)	28 (711)	15 (381)	6 (152)	8 (203)	28 (711)	190 (86)
QA	T	3000	QA3033T600CSA	44 (1118)	40 (1016)	20 (508)	9 (229)	11 (279)	28 (711)	350 (159)
QA	T	4000	QA4033T600CSA	44 (1118)	40 (1016)	20 (508)	9 (229)	11 (279)	28 (711)	350 (159)
	Bottom			H	I	J	K	L	M	
QA	B	800	QA0833B600CSA	24 (610)	20 (508)	12 (305)	4 (102)	6 (152)	27 (686)	110 (50)
QA	B	1200	QA1233B600CSA	28 (711)	24 (610)	14 (356)	5.5 (140)	6.5 (165)	32 (813)	180 (82)
QA	B	1600	QA1633B600CSA	28 (711)	24 (610)	14 (356)	5.5 (140)	6.5 (165)	32 (813)	180 (82)
QA	B	2000	QA2033B600CSA	28 (711)	24 (610)	14 (356)	5.5 (140)	6.5 (165)	32 (813)	180 (82)
QA	B	2500	QA2533B600CSA	32 (813)	28 (711)	15 (381)	6 (152)	8 (203)	32 (813)	215 (98)
QA	B	3000	QA3033B600CSA	44 (1118)	40 (1016)	20 (508)	9 (229)	11 (279)	32 (813)	400 (182)
QA	B	4000	QA4033B600CSA	44 (1118)	40 (1016)	20 (508)	9 (229)	11 (279)	32 (813)	400 (182)

800 - 4000A QA Top Feed



800-4000A QA Bottom Feed



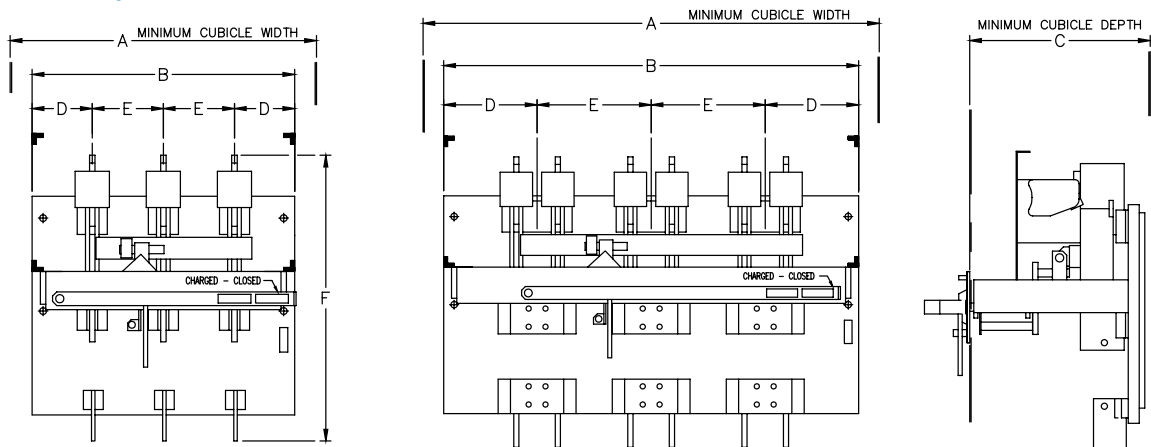
Switching Devices

Bolted Pressure Switches

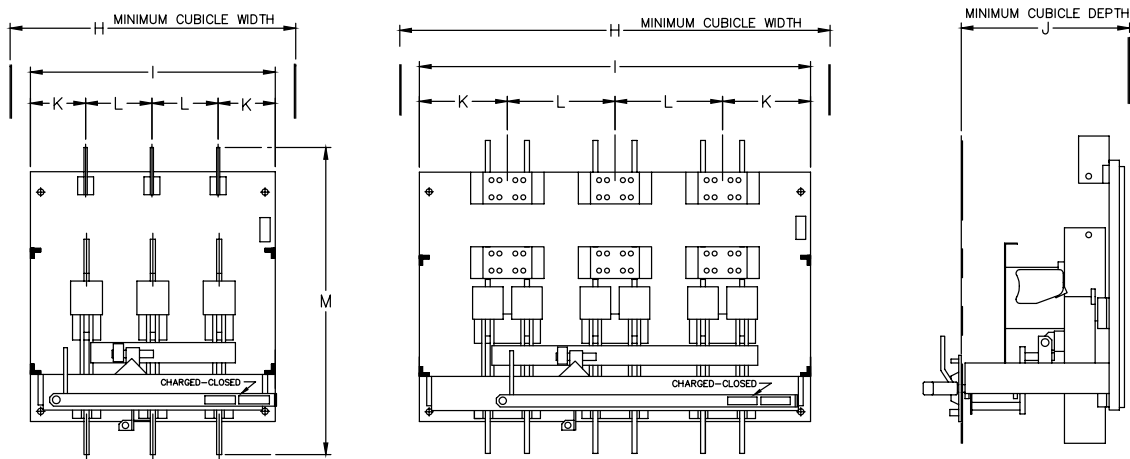
Electrically Operated Bolted Contact Switches “CBC” Design

Type	Feed	Ampere	Standard Catalogue Number	Dimensions						Weight (lb/kg)
Top				A	B	C	D	E	F	
CBC	T	800	CB0833T120600CSA	28 (711)	24 (610)	16.5 (419)	5.5 (140)	6.5 (165)	26.1 (663)	140 (64)
CBC	T	1200	CB1233T120600CSA	28 (711)	24 (610)	16.5 (419)	5.5 (140)	6.5 (165)	28 (711)	180 (82)
CBC	T	1600	CB1633T120600CSA	28 (711)	24 (610)	16.5 (419)	5.5 (140)	6.5 (165)	28 (711)	180 (82)
CBC	T	2000	CB2033T120600CSA	28 (711)	24 (610)	16.5 (419)	5.5 (140)	6.5 (165)	28 (711)	180 (82)
CBC	T	2500	CB2533T120600CSA	32 (813)	28 (711)	17.5 (445)	6 (152)	8 (203)	28 (711)	215 (98)
CBC	T	3000	CB3033T120600CSA	44 (1118)	40 (1016)	22.5 (572)	9 (229)	11 (279)	28 (711)	390 (177)
CBC	T	4000	CB4033T120600CSA	44 (1118)	40 (1016)	22.5 (572)	9 (229)	11 (279)	28 (711)	390 (177)
Bottom				H	I	J	K	L	M	
CBC	B	800	CB0833B120600CSA	28 (711)	24 (610)	16.5 (419)	5.5 (140)	6.5 (165)	30.3 (765)	155 (70)
CBC	B	1200	CB1233B120600CSA	28 (711)	24 (610)	16.5 (419)	5.5 (140)	6.5 (165)	32 (813)	200 (91)
CBC	B	1600	CB1633B120600CSA	28 (711)	24 (610)	16.5 (419)	5.5 (140)	6.5 (165)	32 (813)	200 (91)
CBC	B	2000	CB2033B120600CSA	28 (711)	24 (610)	16.5 (419)	5.5 (140)	6.5 (165)	32 (813)	200 (91)
CBC	B	2500	CB2533B120600CSA	32 (813)	28 (711)	17.5 (445)	6 (152)	8 (203)	32 (813)	240 (109)
CBC	B	3000	CB3033B120600CSA	44 (1118)	40 (1016)	22.5 (572)	9 (229)	11 (279)	32 (813)	430 (195)
CBC	B	4000	CB4033B120600CSA	44 (1118)	40 (1016)	22.5 (572)	9 (229)	11 (279)	32 (813)	430 (195)

800-4000A CBC Top Feed



800-4000A CBC Bottom Feed



OEM Line Isolation (OLI) Switch**Contents**

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OEM Line Isolation (OLI) Switch**Product Description**

Traditional control panels may expose operators to line side system voltage (i.e., 480 Vac) even when the internal main disconnect is in the OFF position. Many panel-building OEMs and OEM customers are concerned with arc flash hazards and arc flash categories and may be looking for ways to reduce them.

The solution is the OEM Line Isolation (OLI) switch—another product in Eaton’s expanding offering of safer switching devices. The OLI switch provides an external disconnecting means for industrial control panels. It allows an operator to

without exposure to the line side voltage, thus enhancing safety and allowing for reduced PPE, which improves worker dexterity and mobility.

The OLI switch is designed to universally integrate to major manufacturers’ “disconnect enclosures” that will work with the Eaton C371-style handle and operating mechanism. The Eaton solution is a complete package, including enclosure, disconnect, handle, flex-cable operator and all other necessary components.

Features

- 60–400A
- NEMA 12/3R and NEMA 4X 304 stainless steel enclosures
- Oversized line shield (internal to switch)
- Optional voltage portal(s)
- Gasketed side wall mounts to OEM cabinet
- Voltage indicators for line, load or line and load of switch (optional)
- Mechanical interlock—cannot open switch or OEM cabinet when handle is in the ON position
- Flange handle (for mounting on OEM cabinet)
- Custom Flex Shaft™ operator modified to work with safety switch

Standards and Certifications

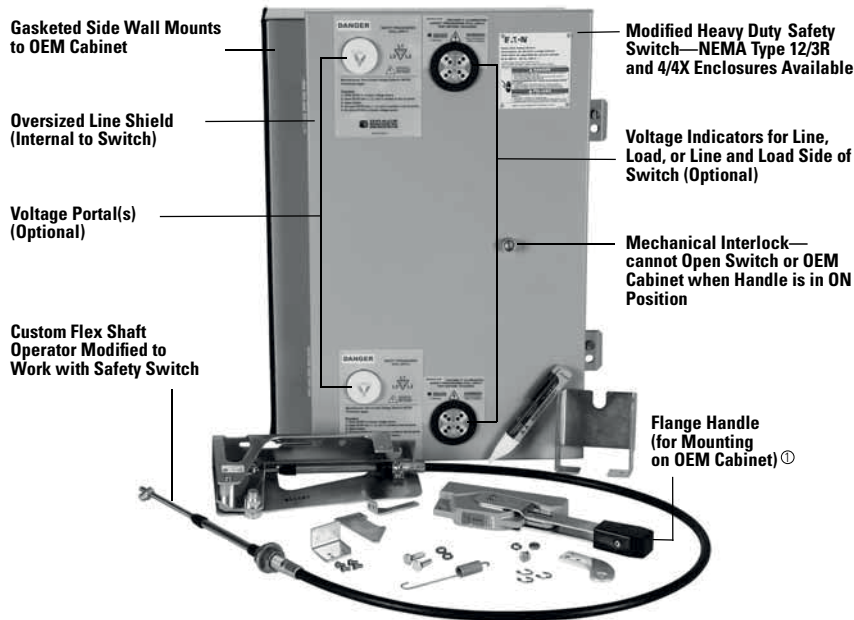
- UL/cUL
- UL 98 standard, file no. E222859
- UL 50 standard, file no. E478865



Switching Devices

Safety Switches

Additional Features and Benefits

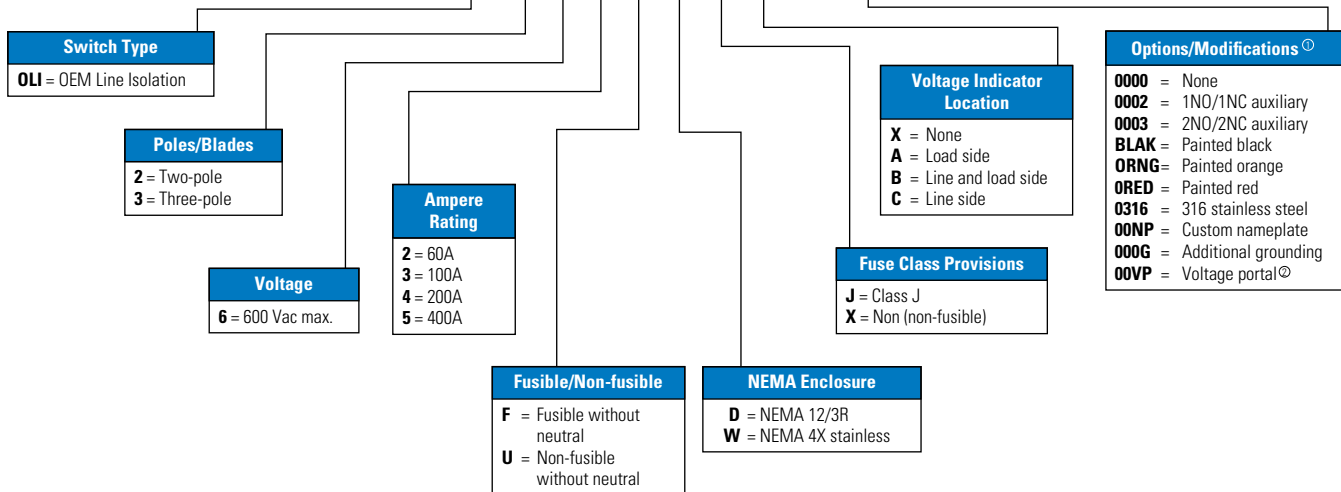


① Flex shaft operator and handle assembly is included and shipped with switch loose, for field installation.

Catalog Numbering System

OEM Line Isolation (OLI) Switch

OLI 3 6 3 F D J B - 00VP



① More combinations and options are available.

② One voltage portal for each voltage indicator specified.

Note:

This table is intended for use in breaking down existing catalogue numbers. It is not intended for building new catalogue numbers.

Modifications

Additions are available such as custom paint, 316-stainless enclosures, custom OEM labeling and more.

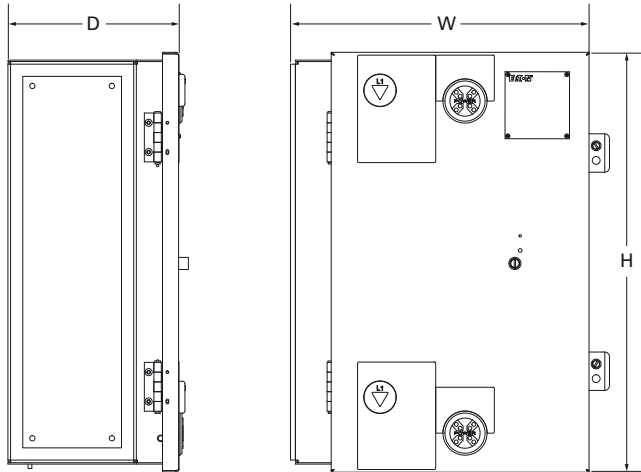
Call customer support at 1-800-268-3578 for more information.

Technical Data and Specifications

Dimensions

Approximate Dimensions in Inches (mm)

OEM Line Isolation (OLI) Switch



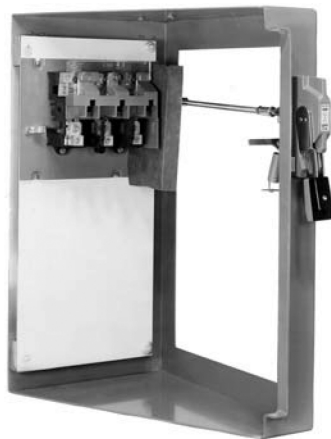
Switch Amperage	Height (H)	Width (W)	Depth (D)
60	21.49 (545.8)	16.08 (408.4)	9.24 (234.7)
100	21.49 (545.8)	16.08 (408.4)	9.24 (234.7)
200	28.21 (716.5)	18.30 (464.8)	9.24 (234.7)
400	50.15 (1273.8)	21.30 (541.0)	9.24 (234.7)

Short-Circuit Ratings (kA) and Terminal Capacities

Ampere Rating	Short-Circuit Ratings (kA)		Standard Lug Capacities		Wire Type	Ground		Wire Type
			Per Phase	Per Phase		Min. Wire Size	Max. Wire Size	
	Fusible (Class J)	Non-Fusible	Min. Wire Size	Max. Wire Size				
60	200 at 600V	10 at 600V	#14	#2	Cu/Al	(2) #14	(2) 1/0	Cu/Al
100	200 at 600V	10 at 600V	#14	1/0	Cu/Al	(2) #14	(2) 1/0	Cu/Al
200	200 at 600V	10 at 600V	#6	300 kcmil	Cu/Al	(2) #14	(2) 1/0	Cu/Al
400	100 at 600V 200 at 480V	10 at 600V	(2) 1/0 (1) 1/0	(2) 300 kcmil or (1) 750 kcmil	Cu/Al	(2) #6	(2) 250 kcmil	Cu/Al

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Complete Operating Mechanism—C361NE1



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Flange Mounted—Operating Mechanisms with Disconnect and Breakers

Product Application

Suitable for OEM's and panelbuilders where main or branch circuit protection devices are required in enclosures having a right hand flange. These devices can be mounted in any commercially available enclosure. Before installing the device, obtain detailed mounting and other important information from the enclosure manufacturer.

Product Description

There are three types of flange mount operating mechanisms to select from:

- Variable Depth complete with non fusible or fusible disconnect
- Fixed Depth complete with non fusible or fusible disconnect
- Variable Depth for use with MCCB (moulded case circuit breaker, or moulded case switch)
- Optional channel support, connecting rods, safety interlocks and door hardware
- Optional connecting rod to increase depth by five inches
- Field installable rejection kits supplied as standard for 100A and 200A
- UL/CSA recognized for use on systems up to 200kA RMS
- Handles rated for NEMA 1, 3R, 12, or 4 (non plastic) enclosures
- Padlockable – up to three padlocks in OFF position
- Optional field installable auxiliary contacts
- Variable depth ranges from 6.5 inches to 22 inches (rating dependent)
- Handles rated for NEMA 1, 3R, 12, or 4 (non plastic) enclosures
- Padlockable – up to three padlocks in OFF position

Variable Depth complete with disconnect

- 250 Vdc/600 Vac maximum
- 30–200A, three phase
- Variable depth mounting range 7 to 16 inches
- For right hand flange enclosures
- Disconnect is Heavy Duty K switch design
- Fusible or Non-Fusible
- Fusible will accept R fuse as standard

Fixed Depth complete with disconnect

- Same as above except
- 30–100A, three phase
- Fixed depth
 - 30-60A = 6.5 inches
 - 100A = 7 inches

Variable Depth for use with MCCB's

- 150–1200A
- Three phase
- Breaker must be ordered separately
- Variable depth ranges from 6.5 inches to 22 inches (rating dependent)
- Handles rated for NEMA 1, 3R, 12, or 4 (non plastic) enclosures
- Padlockable – up to three padlocks in OFF position

Standards and Certifications

- UL—Component File E55492
- CSA—LR353-439



Switching Devices

OEM Operating Mechanisms

Product Selection

C361NE1



Operating Mechanism Variable Depth with Disconnect Switch—Right-Hand Mounting

Disconnect Switch Size (Amperes)	Variable Depth Mtg. Range Min./Max. (Inches) ^①	Maximum Horsepower Ratings ^②						Fuse Clip Rating (Amperes) Non-interchangeable Type for Class H, J, K or R Type Fuses Only		Switch and Operating Mechanism Only DOES NOT Include Handle Catalogue Number	Switch and Operating Mechanism with 4-Inch Handle ^③	
		AC System Volts (Motor Volts)			DC Using Two Poles 250V Max.			250V	600V		For NEMA 1 or 12 Enclosure Catalogue Number	For NEMA 4 Enclosure Catalogue Number
30	7 to 16	7-1/2 (200)	7-1/2 (230)	15 (460)	20 (575)	5		Non-fusible		C361NC	C361NC1	C361NC2
								30	—	C361SC21	C361SC121 ^④	C361SC221 ^④
								60	30	C361SC61	C361SC161 ^④	C361SC261 ^④
60	7 to 16	15	15	30	50	10		Non-fusible		C361ND	C361ND1	C361ND2
								60	30	C361SD22	C361SD122 ^④	C361SD222 ^④
								—	60	C361SD62	C361SD162 ^④	C361SD262 ^④
100	7 to 16	25	30	60	75	20		Non-fusible		C361NE	C361NE1	C361NE2
								100	100	C361SE263	C361SE1263	C361SE2263
200	7 to 16	40	60	125	150	40		Non-fusible		C361NF1	C361NF1	C361NF2
								200	200	C361SF264	C361SF1264	C361SF2264

C361H1



Handle Only

Application	Operating Handle Length in Inches (mm)	NEMA Type Enclosure	Catalogue Number
For use with 30, 60 100 and 200A disconnect switches	4.00 (101.6)	1-12	C361H1
	4.00 (101.6)	4	C361H2
	6.00 (152.4)	1-12	C361H3
	6.00 (152.4)	4	C361H4

^① Dimension shown is from panel to flange surface.

^② Refers to rating of switch only.

^③ Components individually boxed and shipped in overpack carton.

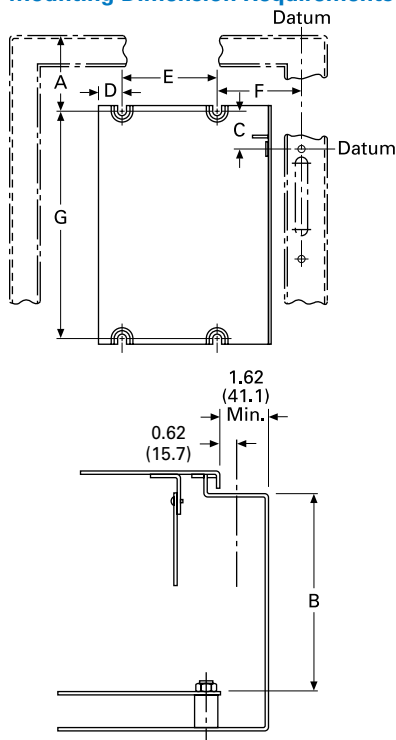
^④ For rejection clips, add Suffix Letter **R** to listed Catalogue Number. Example: C361SC121**R**.

Dimensions for Variable Depth Design

Approximate Dimensions in Inches (mm)

Mounting Dimension Requirements in Inches (mm)

Disconnect Switch Type	A	B	C	D	E	F	G
30A and 60A non-fusible	See dimensions below	See dimensions below	1.56 (39.6)	0.96 (24.4)	4.00 (101.6)	3.50 (88.9)	7.12 (180.8)
30A and 60A fusible			1.56 (39.6)	0.96 (24.4)	4.00 (101.6)	3.50 (88.9)	9.75 (247.7)
100A non-fusible			1.75 (44.5)	1.10 (27.9)	5.50 (139.7)	3.38 (85.9)	7.12 (180.8)
100A fusible			1.75 (44.5)	1.10 (27.9)	5.50 (139.7)	3.38 (85.9)	11.88 (301.8)
200A non-fusible and fusible			3.34 (84.8)	0.63 (16.0)	8.50 (215.9)	1.84 (46.7)	15.50 (393.7)

Mounting Dimension Requirements**Terminal Capacity**

Disconnect Switch Size	Wire Size
30A	#14–#2 Cu/Al
60A	#14–#2 Cu/Al
100A	#14–1/0 Cu/Al
200A	#6–250 Cu/Al

Dimension A = The required wire bending spacing selected per CSA C22.2 No.12.

Dimension B = Minimum or maximum depth from inside of flange holding operating handle to panel where disconnect switch is mounted (variable 7 to 16 inches).

Switching Devices

OEM Operating Mechanisms

Product Selection

Fixed Depth Application

Operating Mechanism Fixed Depth with Disconnect Switch—Right-Hand Mounting

Maximum Horsepower Ratings^①



Disconnect Switch Size (Amperes)	AC System Volts (Motor Volts)				DC Using Two Poles 250V Maximum	Fuse Clip Rating (Amperes) Non-Interchangeable Type for Class H, J, K or R Type Fuses Only		Switch and Operating Mechanism with 4-Inch Handle For NEMA 1 or 12 Enclosure Catalogue Number
	208 (200)	240 (230)	480 (460)	600 (575)		250V	600V	
30	7-1/2	7-1/2	15	20	5	Non-fusible		C361FNC1
						30	—	C361FSC121^②
						60	30	C361FSC161^②
60	15	15	30	50	10	Non-fusible		C361FND1
						60	30	C361FSD122^②
						—	60	C361FSD162^②
100	25	30	60	75	20	Non-fusible		C361FNE1
						100	100	C361FSE1263

Technical Data and Specifications

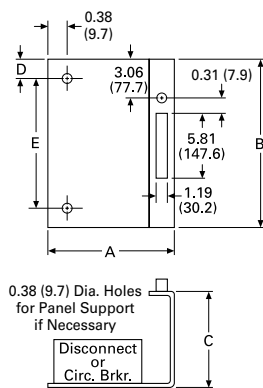
Dimensions

Approximate dimensions in Inches (mm)

Frame Size

Description	A	B	C	D	E
30–60A disconnect switch	8.63 (219.2)	11.38 (289.1)	6.50 (165.1)	1.50 (38.1)	9.50 (241.3)
150A circuit breaker	8.63 (219.2)	11.38 (289.1)	6.50 (165.1)	1.50 (38.1)	9.50 (241.3)
100A disconnect switch	9.88 (251.0)	13.38 (339.9)	7.00 (177.8)	1.25 (31.8)	11.75 (298.5)
250A circuit breaker	9.88 (251.0)	13.38 (339.9)	7.00 (177.8)	1.25 (31.8)	11.75 (298.5)
400A circuit breaker	9.88 (251.0)	13.38 (339.9)	7.00 (177.8)	1.25 (31.8)	11.75 (298.5)

Approximate Dimensions



^① Refers to rating of switch only.

^② For Rejection Clips, add Suffix Letter **R** to listed Catalogue Number. Example: C361FSC121**R**.

Terminal Capacity

Disconnect Switch Size	Wire Size
30A	#2–14 Cu/Al
60A	#2–14 Cu/Al
100A	1/0–14 Cu/Al
200A	250 kcmil–#6 Cu/Al

Accessories

Type C361 NEMA 12 Safety Door Hardware

Type C361 door hardware kits are designed to function with all C361 and C371 disconnect switches and circuit breaker operating mechanisms.

These kits are designed for use with small enclosures up to 40 inches (1016 mm), intermediate 40–60 inches (1016–1524 mm) or larger floor cases over 60 inches (1524 mm) to provide enclosure sealing and protection against unauthorized entry. These kits can be used on enclosure flanges with

material thickness ranging from 16 gauge through 3/16 inches with flanges on the right side only. Door hardware kits are to be installed in a commercially available enclosure. Consult the enclosure manufacturer application data for proper kit selection.

NEMA 12 Safety Door Hardware**Type C361 NEMA 12 Safety Door Hardware**

Handle Length (Inches)	Catalogue Number ^①
4	C361KJ4
6	C361KJ6
Roller Latch ^②	C361KR

- ① The 1/4-inch x 1/2-inch standard mill rectangular locking bar is not supplied with these kits.
 ② Third roller latch for use with 4 or 6-inch handle when three-point latching is required.

Note:

Consult enclosure manufacturer - Some enclosures have latch for handle to lock included, other enclosures have holes predrilled ready to mount this kit.

Electrical Interlocks

Circuit	Catalogue Number
1NO-1NC	DS200EK1
2NO-2NC	DS200EK2

Connecting Rods—Increase Maximum Allowable Depth by 5 Inches

Application	Catalogue Number
Disconnect switches 30, 60, 100 and 200A Circuit breakers 150, 250 and 400A	C371CS1
Circuit breakers 600, 800 and 1200A	C371CS2

Fuse Clips for Variable or Flange Mount Operating Mechanisms**Fuse Clip Selection for C361 Series Disconnects**

Starter Size	Motor Voltage	Maximum Horsepower (3-Phase)		Fuse Clip Rating		Fuse Clip Kit for Field Installation with Fusible Switches			
		Dual Element Fuses		Amperes	Volts	Catalogue Number For Non-rejection Type Fuses	Catalogue Number For use w/"R" Rejection Type Fuses	Catalogue Number For Form I Type "J" Fuses	Catalogue Number For Form II Type "C" Fuses
0	200/230	3	30	250		C351KC21	C351KC21R	—	—
	460/575	5	30	600		C351KD22-61	C351KD22-61R	C351KD71	C351KD81
1	200/230	7-1/2	30	250		C351KC21	C351KC21R	—	—
	460/575	10	30	600		C351KD22-61	C351KD22-61R	C351KD71	C351KD81
2	200	10	60	250		C351KD22-61	C351KD22-61R	—	—
	230	15	60	250		C351KD22-61	C351KD22-61R	—	—
	460/575	25	60	600		C351KD62	C351KD62R	C351KD72	C351KD82
3	200	25	100	250		C351KE23-63 ^①	C351KE23-63 ^①	—	—
	230	30	100	250		C351KE23-63 ^①	C351KE23-63 ^①	—	—
	460/575	50	100	600		C351KE23-63 ^①	C351KE23-63 ^①	C351KE73	C351KE83
4	200	40	200	250		C351KF24-64 ^①	C351KE24-64 ^①	—	—
	230	50	200	250		C351KF24-64 ^①	C351KE24-64 ^①	—	—
	460/575	100	200	600		C351KF24-64 ^①	C351KE24-64 ^①	C351KF74	C351KF84
5	200	75	400	250		Not available in kit form	Not available in kit form	Not available in kit form	Not available in kit form
	230	100	400	250					
	460/575	200	400	600					

① Fuse clip "R" rejection members for use with Class R fuses are supplied loose in the Fuse Clip Kits.

Switching Devices

OEM Operating Mechanisms

Type C371

Circuit Breaker or Motor Circuit Protector	Frame Size	Variable Depth Mounting Range Min/Max	Operating Mechanism Only Catalogue Number	Operating Mechanism w/ 4-Inch Handle For NEMA 1-12 Enclosure Catalogue Number	Operating Mechanism w/ 4-Inch Handle For NEMA 4/4X Enclosure Catalogue Number
HMCP and Series C EHD, FDB, FD, FDC, HFD, ED	150	6.50-16 (165.1-406.4)	C371E	C371E1	C371E2
HMCP and Series C HJD, JD, JDB, JDC	250	6.50-16.63 (165.1-422.4)	C371F	C371F5	C371F6
HMCP and Series C DK, HKD, KD, KDB	400	6.50-16.63 (165.1-422.4)	C371F	C371F5	C371F6
Series C HLD, LD, LDC	600	8.50-22 (215.9-558.8)	C371G	C371G5	C371G6
Series C MD, MDS (No MDL)	800	8.75-22 (222.3-558.8)	C371K	C371K5	C371K6
Series C HND, ND, NDC	1200	9.75-22 (247.7-558.8)	C371K	C371K5	C371K6

Note: Breaker not included in kit.

Handle Only

Circuit Breaker Frame Size (Amperes)	NEMA Enclosure Type	Operating Handle Length	Catalogue Number
150	1/3R/3/12	4.00 (101.6)	C371H1
	4	4.00 (101.6)	C371H2
	1/3R/3/12	6.00 (152.4)	C371H3
	4	6.00 (152.4)	C371H4
250-1200	1/3R/3/12	4.00 (101.6)	C371H5
	4	4.00 (101.6)	C371H6
	1/3R/3/12	6.00 (152.4)	C371H7
	4	6.00 (152.4)	C371H8



Channel Support Kit (Rod Not Supplied)

For use to prevent bending of the operating handle mounting surface. This is especially useful when the operating handle is mounted on a channel in a multi-door enclosure.

Amperes	Catalogue Number
600-1200	C371CS6

Connecting Rods

Application	Catalogue Number
Disconnect switches (30, 60, 100, 200A sizes)	C371CS1
Circuit breakers (150, 250, 400A sizes)	C371CS1
Circuit breakers (600, 800, 1200A sizes)	C371CS2

- ① For increased maximum allowable depth, see connecting rods left.
- ② Dimensions shown are from panel flange surface.
- ③ Does not include handle.
- ④ Increase maximum allowable depth by 5 inches (127 mm).

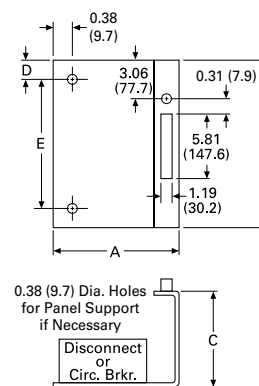
Dimensions

Approximate dimensions in Inches (mm)

Frame Size

Description	A	B	C	D	E
30–60A disconnect switch	8.63 (219.2)	11.38 (289.1)	6.50 (165.1)	1.50 (38.1)	9.50 (241.3)
150A circuit breaker	8.63 (219.2)	11.38 (289.1)	6.50 (165.1)	1.50 (38.1)	9.50 (241.3)
100A disconnect switch	9.88 (251.0)	13.38 (339.9)	7.00 (177.8)	1.25 (31.8)	11.75 (298.5)
250A circuit breaker	9.88 (251.0)	13.38 (339.9)	7.00 (177.8)	1.25 (31.8)	11.75 (298.5)
400A circuit breaker	9.88 (251.0)	13.38 (339.9)	7.00 (177.8)	1.25 (31.8)	11.75 (298.5)

Approximate Dimensions



CSA Enclosure Designations (Canadian Electrical Code C22.1)

	Enclosure 1	Enclosure 2	Enclosure 3	Enclosure 4	Enclosure 5	Hazardous Loc. Class II Gr. E, F, G	Hazardous Loc. Class I Gr. C, D
NEMA DESIGNATION	General Purpose Encl.	Dripproof Encl.	Weatherproof Encl.	Weatherproof Encl.	Dusttight Encl. (Not Hazardous)	Dusttight Encl. (Hazardous Dust)	Refer to Canadian Electrical Code C22.1 Sec. 18
	(a) Protects against accidental contact with live parts.	(a) Same as (a) for Encl. 1 (b) Indoor use so constructed that is exposure to falling moisture, dirt, or drops of moisture due to condensation will not impair effectiveness of the enclosed equipment. (C22.2 No.94)	(a) Same as (a) for Encl. 1 (b) Outdoor use so constructed that exposure to weather, falling moisture, dirt, or extreme splashing will not impair effectiveness of the enclosed equipment. (C22.2 No.94)	(a) Same as (a) for Encl. 1 (b) Outdoor or Indoor use, so constructed that a stream of water will not enter the enclosure. (C22.2 No.94)	(a) Same as (a) for Encl. 1 (b) Indoor use, so constructed that dust, readily ignitable fibres or combustible flyings cannot enter the enclosure. (C22.2 No.94)		
Type 1 General Purpose - Indoor	Basically same - non-vent, Encl. protects against falling dirt.						
Type 2 Dripproof Indoor	Basically same						
Type 3 Windblown dust and water - indoor / outdoor	Basically same						
Type 3R Rainproof and sleet (ice) resistant - indoor / outdoor	Basically same, CSA does not specifically say sleet proof						
Type 3S Dusttight, raintight, and sleet (ice) proof, outdoor	Basically same, CSA does not specifically say sleet proof						
Type 4 Watertight and dusttight - indoor / outdoor	CSA Encl. 4 is for both indoor and outdoor service						
Type 4X Watertight, dusttight and corrosion resist, indoor / outdoor	CSA Encl. 4X does specify corrosion resistant						
Type 5 Supersedes by type 12 for control application	CSA Encl. 5 states settling dust, lint etc.						
Type 6 Submersible, watertight, dusttight and sleet (ice) resistant - indoor and outdoor							
Type 7 Class I Gr. A, B, C, or D, indoor hazardous locations - air break	Similar						
Type 8 Class I Gr. A, B, C or D, indoor hazardous locations - oil immersed	Similar						
Type 9 Class II Gr. E, F or G, indoor hazardous locations - air break	Similar						
Type 10 Bureau of Mines	No CSA Equivalent; specified for industrial control applications see C22.5 for use if electricity in mines						
Type 11 Corrosion resistant and dripproof - oil immersed indoor	Similar - but no CSA equivalent to Type 11						
Type 12 Industrial use dusttight and driptight - indoor	Similar in most features - Can Elect.						
Type 13 Oiltight and dusttight - indoor	CSA for oil and coolant seepage, spraying and splashing						

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Safety Switch FAQs



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Is a safety switch a 100% Rated device or 80% rated device?

UL98/ CSA 22.2 No.4 limits fusible switch current to 80% of the rating of the fuse (for any type of fuse, even "100% rated fuses") for continuous loads, such as a motor load. Non-fusible switches are 100% rated devices.

Can a safety switch be applied in a 400HZ application?

Safety switches can be used in 400HZ applications if de-rated by 20% (i.e. a 200A 3HD364NF must be used at no more than 160A and a 400A 3HD365NF must be used at no more than 320A). Switches used in 400HZ systems cannot be operated under load unless the switch has a DC rating equal to or greater than the AC voltage of the 400HZ system. If the switch does not have an appropriate DC rating, then it must be marked "Do not open under load".

Safety switches are designed, built, and tested to UL98/ CSA 22.2 No.4 standards; however, there are no UL98/ CSA 22.2 No.4 test requirements for 400HZ applications. Thus, safety switches are not UL/CSA Listed or tested for 400HZ applications. In addition, there are no AIC ratings associated with 400HZ application of safety switches.

Should we de-rate a safety switch for higher than 50 degree C ambient temperature?

Safety switches are fully rated for applications where the ambient temperature does not exceed 50 degrees C ambient

temperature. For service conditions where the ambient can exceed 50 degree C Eaton recommends the following de-rating be applied:

Ambient Temperature	Multiplier
50 degree C	1.00
55 degree C	0.93
60 degree C	0.87
65 degree C	0.79
70 degree C	0.71

Can a safety switch be applied in a 50HZ application?

UL98/ CSA 22.2 No.4 limits fusible switch current to 80% of the rating of the fuse (for any type of fuse, even "100% rated fuses") for continuous loads, such as a motor load. Non-fusible switches are 100% rated devices.

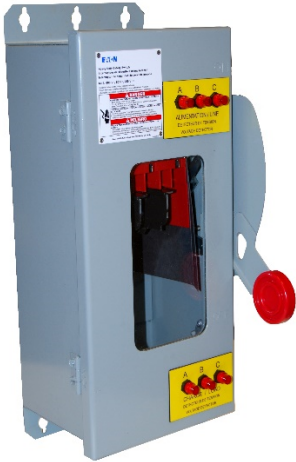
Our safety switches will operate at 50HZ applications. We have not had any known issues in the past and estimate there are thousands of safety switches in 50HZ applications. The switches do not have horsepower ratings at 50HZ because the CSA 22.2 No.4 standards have no 50HZ tables.

Switching Devices

Safety Switch FAQs

Can a safety switch be applied in a 50HZ application?

Our safety switches will operate at 50HZ applications. We have not had any known issues in the past and estimate there are thousands of safety switches in 50HZ applications. The switches do not have horsepower ratings at 50HZ because the CSA 22.2 No.4 standards have no 50HZ tables.



NEMA 4X Non-metallic

Can we order a safety switch with a CE Mark?

We cannot offer any safety switches with a CE mark.

What comments do we have with regards to corrosion resistance? Salt spray/salt fog testing?

Stainless steel enclosures meet the UL50/CSA C22.2 No. 94.1-07 standard for salt spray resistance. The UL and CSA test requirement are 5% salt (NaCl) in water spray, ASTM B117 salt fog test.

Eaton routinely runs salt spray tests to validate that the paint system meets the UL50 and UL1332 salt spray requirements, which exceeds 24 hours testing. The UL/CSA recognized component requirements of the paint that is used on the safety switch is maintained by our supplier and verified by UL/CSA follow up service at their manufacturing location. UL/CSA requires a recognized component paint to be used on UL/CSA listed safety switches.

General recommendations or rules of thumb about corrosive environments:

Saltwater Environment – recommend NEMA 4X 316 stainless steel or NEMA 4X non-metallic

Chlorine Environment – recommend NEMA 4X non-metallic

Sulfur Environment – recommend any NEMA 4X (304 stainless, 316 stainless, or non-metallic) or our Enviroline Stainless Switch (304 NEMA 4X, with stainless mech and sub pan).

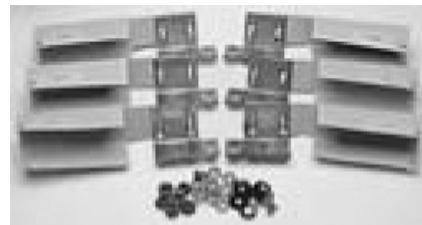
Can crimp lugs be used on safety switches?

Yes for 30-800A Heavy Duty switches, but there are limitations and exceptions



NEMA 4X Stainless Steel

1. We will not install any crimp lugs here at the factory. All crimp lugs are field installed.
2. The switch must be NEMA 12, NEMA 4, or NEMA 4X.
3. On 30-200A switches the customer removes the factory supplied lugs and then installs crimp lugs. Customer must choose lugs that are listed on the PUB label on the inside of the switch.
4. On 400-800A switches a crimp lug pad kit needs to be installed. A customer can order this as a field kit from our catalog or order the safety switch with the crimp lug pad kit factory installed (switch will have -00CK suffix in its catalog number).



Can I get a safety switch with an AC voltage higher than 600V?

Yes, we offer safety switches higher than 600VAC which are 800 VAC and 1000 VAC offered in 200 Amp and 400 Amp rating and is limited to Energy transition switches.

I see you list a HP rating at 240V, but not one at 208V. My customer is installing a switch on a 208V circuit and would like to know the 208V HP rating. Can you provide it?

UL/CSA does not allow us to mark 208V HP ratings. We cannot provide 208V HP ratings, the 240V must be used.

Can the knockouts on a safety switch be used for bonding connection?

The concentric and eccentric knock out rings are not CSA Listed for a reliable bonding connection.

How many electrical + mechanical operations are my switch rated for?

Eaton designs to and meets NEMA KS-1 standards for endurance requirements for Heavy Duty switches. The standard is:

Switch Size	Heavy Duty Electrical + Mechanical Operations
30, 60A	15,000
100A	14,000
200A	12,000
400A	7,500
600A	6,000
800A	3,500
1200A	2,500

Eaton designs to and meets UL98/ CSA 22.2 No. 4 standards for endurance requirements for General Duty switches. The standard is:

Switch Size	General Duty Electrical + Mechanical Operations
30, 60A	6,000 + 4,000
100A	6,000 + 4,000
200A	6,000 + 2,000
400A	1,000 + 5,000
600A	1,000 + 4,000

Can you send maintenance guidelines, inspection guidelines, or an O&M manual?

We can supply the NEMA KS 3 "Guidelines for Inspection and Preventative Maintenance of Switches Used in Commercial and Industrial Applications". This is the only O&M manual we have.

Are safety switches ROHS compliant?

No. We believe that no major manufacturer is ROHS compliant with their safety switches. There are numerous obstacles to supplying an ROHS compliant product.

How do safety switches handle motor inrush current? Can a switch handle an inrush current of 3 or 4 times its continuous current rating?

UL98/ CSA 22.2 No.4 has testing standards for heavy duty safety switches, in order to give them a horsepower rating. All of the major manufacturers are required to perform make and break operational testing at 600% continuous current rating. The number of operations depends on the horsepower rating. Every switch that we offer with a horsepower rating has passed these tests. Yes, a heavy-duty safety switch can handle 3X or 4X continuous current rating for inrush.

600% Make and Break Tests required by UL98/ CSA 22.2 No.4
50 make/break required for 100HP rating and below
10 make/break required for 100HP rating and above

Can you give me a brief overview of your paint and paint process?

The paint is Light Gray – ANSI 61 in color. It is an Acrylic/Epoxy blend.

We use an automated e-coat paint line process, fabricated components are cleaned, coated with a water-based e-coat immersion system followed immediately by an oven curing cycle for the paint. It has the following steps:

1. Spray de-grease cleaning
2. Water spray rinse
3. Phosphate conversion coating
4. Water spray rinse
5. Bath e-coat
6. Oven cure

If needed more details can be provided.



What type of plating do you use on bus or current carrying parts?

Copper base metal is used universally for contacts, blades, and connectors. Contacts and contact terminal plates are silver plated at 200A and higher, and tin plated for 100A and lower. Some connectors on 400A and larger are tin plated copper, but most are silver plated.

Do I need to wear PPE to operate a safety switch?

There are no NFPA 70 or 70E, UL, CSA, or NEMA codes or standards in the US and Canada that require PPE to be worn, while operating a safety switch while under normal operation (throwing the handle into the ON or OFF position with the door closed).

You call them "viewing windows" but they are actually IR windows correct? Can I perform IR scans through these windows?

No. Those are viewing windows only. The glass will block infra-red spectrum light.

We do not offer IR Windows in our safety switches currently. We have reviewed this possible modification many times and will review it many more. As of now they are still cost prohibitive, and there are still issues with field of vision. We would need multiple IR windows/ports in the switch to allow you to see line and load lugs, switch contacts, fuse clips, etc.



I have a non-fused safety switch in the field. Can I order some fuse bases and turn it into a fused switch?

No. You cannot field convert a non-fused switch to a fused switch, or vice versa. This would violate UL/CSA and create a safety issue since the switch would no longer match the information provided on the interior door label.

Can a 30A Heavy Duty switch be field modified to accept Class J fuse clips?

No. This is a factory installed option only at this time. We are currently exploring a design change to accommodate this request.

Can you verify that field installing accessories, does not void warranty or UL/CSA?

This is correct. UL98/ CSA 22.2 No.4 allows for the field installation of accessories. Installing a field kit or accessory into a safety switch does not void warranty or a UL/CSA Listing.



Can I get some Certified Test Reports for the switches that shipped last week, and some for the switches shipping next week?

Certified Test Reports are not applicable to safety switch products and are not available.

All safety switches manufactured by Eaton go through a visual and mechanical inspection. This includes multiple throws of the handle to ensure blade engagement and proper operation of the mechanism. No electrical testing or electrical inspections are required or performed.

If requested, a Certificate of Compliance can be provided to certify adherence to all appropriate standards and procedures, for a given GO# and catalog number, after shipment of the product.



Can you provide a switch with 90 degree C lugs? What is the degree C rating of your lugs? I want to run 90 degree C cable to the switch, can I?

Eaton safety switches are suitable for use with 90 degrees C cable, given that the cable is sized per either the 60 degrees C or the 75 degree C columns in the NEC tables. This is a UL98/ CSA 22.2 No.4 requirement for all safety switches and will hold for all manufacturers. You can use even higher degree C rated wire (105 degrees C for example) if you wish, but it still must be sized per the 60- or 75-degree C columns.

I ordered a HD26 _____ product and when I open the door, it looks like you guys built it wrong. There are three poles in the switch, there is a cable/bus jumper between poles, something is wrong. Did I get the wrong switch? Can you send out the correct one?

You received the correct switch, and it was correctly built at the factory. 3P 600V product carries a 250V DC rating. 2P 600V product carries a 600V DC rating. The way we achieve this DC rating, is to build a 3P switch and include a factory jumper between two of the poles, thus wiring them in series. This allows us to break that leg of the circuit in two places simultaneously and achieve the rating. You will still bring in two phases, and you will still exit with two phases.

I am exporting some switches overseas. The customer needs to know if these switches have any export classifications. Are these switches EAR99 (Export Administration Regulation) or CCL (Commerce Control List)?

Safety switches are EAR99.

There are CU Lug Field Kits listed in the catalog. Can these be factory installed as well? Are there any limitations for use on the CU Lug Kits?

Yes, these can be factory installed. To order a switch with factory installed CU lugs add “-00CL” suffix to the catalog number of the switch (1HD262 becomes 1HD262-00CL). The CU lug kits should be only be used with Heavy Duty safety switches. For 400A-800A switches they can only be used on NEMA 12, NEMA 4, or NEMA 4X rated product. There are no CU lug kits for 1200A switches.

The catalog lists most 30-600A safety switches as coming with Class H fuse class provisions. My customer always uses Class R fuses with these switches. Is this OK? If so, why would we ever use the Class R fuse kits?

Yes. Class R and Class H fuses are the same dimensionally, so when you sell a standard safety, a customer can install either a Class H or a Class R fuse. The physical difference between the two fuses is a small notch in one of blades of the Class R. When you order the Class R fuse adapter kit, you are getting rejection pins installed in the fuse clips of the safety switch. These rejection pins fit into the notch on the Class R blade. Therefore, these rejection pins reject Class H fuses (and only allow Class R to be installed).

Class R fuses have a higher KAIC rating than Class H fuses (which are 10KAIC max). If your customer knows that their system has higher than 10K available fault current, and they want to guarantee that no one ever installs Class H fuses (and de-rates the switch down to 10KAIC), then the Class R fuse kits should be factory or field installed.

I am trying to install a Class R fuse (FRS-R) into a 240V safety switch and it will not fit. It appears to be too wide for the clips, and too long for the clip spacing end to end.

250V and 600V Class R fuses are different dimensionally from each other. 600V fuses are longer and have a larger circumference. The fuse clips and spacing provided in our switches much matches the fuse. Please check the fuse voltage and ensure that you are attempting to install a 250V rated Class R fuse in a 240V rated safety switch, or a 600V rated Class R fuse in a 600V rated safety switch.

My customer burned up/damaged/lost one of the lugs in his safety switch. They would like to order just a replacement lug. Can you provide a quotation?

We do not offer lugs only, as a replacement part. We can offer replacement switch bases, or replacement fuse bases, which will include lugs as part of the assembly. See Safety Switch Renewal Parts guide (RP00801001E) for details.

I know that being pad-lockable in the OFF position is a standard feature. Can safety switches be lockable in the ON position?

Yes. Our safety switches come with a drill point located at the top of the handle shroud, to help locate a lock on provision hole. We can drill out this location and provide lock on provisions at the factory (with suffix -00LO added to the catalog number) or customers can drill this out in the field as well. We drill a .438" diameter hole in the shroud for lock on provisions.

How many fuses will my customer need to install, for this 3P fusible double throw switch?

That depends on the amperage. 30-400A switches will require six fuses for a complete installation (three for the upper switch, three for the lower switch). Our 600A-1200A switches utilize our stacked design, and only require three fuses for a complete installation. Instead of an upper switch and a lower switch, we have vertically stacked switches that bus down to a common set of fuses.

What are Eaton's safety switch contacts and terminals made of?

Heavy Duty 30-100A, as well as General Duty 60A and 100A are made of tin-plated copper of 99.5% purity. Heavy Duty 200-1200A are made of silver-plated copper of 99.5% purity.

Do you have a publication showing you DC UL/CSA rated max fault currents for fused and un-fused safety switches? I see ratings for AC but not DC switches?

Eaton's line of General and Heavy-Duty safety switches is UL98/CSA 22.2 No.4 listed and therefore rated for 10kAIC short circuit current unless marked otherwise. Fusible switches are marked for an RMS symmetrical short circuit current which applies to AC voltages only. Heavy Duty switches with a maximum DC voltage listed are rated for 10kAIC.

Hey, can we mount an ECB horizontally? They do it in switchboards all of the time. If not, how about mounting a safety switch horizontally?

All of our assemblies are tested in an upright position and any other means of mounting other than intended is suspect for potential rejection of a savvy inspector. Yes, some switch interiors and breakers can be mounted sideways within different gear, but they have been tested as such in said gear. All this being noted, there have been some situations where our equipment has in fact been mounted in other than intended orientations – but those have typically been NEMA Type 1, the local inspectors had no issues and I think we may have limited our normal warranty.

What are the bolts on the Crouse Hinds / Eaton NEMA type 7/9 DS36 disconnects made out of?

The DS36 disconnect switches use plated steel bolts.

Material & Finish: Steel-(SAE Grade 5) Cad or Zinc with Clear Chromate

DC application fault current:

DC short circuit ratings Safety switches are suitable for use in DC circuits capable of delivering not more than 10,000 A direct current when protected by any CSA listed or recognized overcurrent protective device. Fusible switches used in DC applications are also rated for 10 kA provided the installed fuse carries the appropriate DC voltage rating.

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Air Conditioning Disconnects FAQ

What are the options for Air Conditioner Disconnects?

- 3 Standard Designs:
- Non-Fused
- Fused
- Molded Case Switch
- Enclosure NEMA 3R (outdoor)
- Metallic (galvanized/painted)
- Non-metallic (plastic)
- Ratings
- Single-phase, two-wire, 240Vac
- Three-phase, three-wire, 240Vac
- 30 and 60 amps
- Optional Ground fault or Weather-resistant/Tamper-resistant receptacles are available

Are Air Conditioning Disconnect rated for load break or load make application?

Our pull-out ACD's are UL listed per CSA 22.2. Endurance testing in CSA 22.2 tests the device at its making and breaking rated current.

What class fuse goes into Air Conditioning Disconnects?

Class H fuse clips are provided on fused AC disconnects.

Looking for a replacement pullout on the DPO AC disconnect switch?

The older style pullouts are no longer available. The pull-out was redesigned a couple years ago, so on the old ACD the current pull-out would also not work. A complete unit replacement from the current DPU series would be suggested.

What is the Warranty for Air Conditioning Disconnects?**Limited Warranty**

Eaton Electrical Inc. warrants to the original retail purchaser that this Cutler-Hammer Air Conditioner Disconnect product will be free from failure due to defects in workmanship or materials under normal care and proper usage in a residential installation which fully complies with all National Electrical Code requirements for a period of 1 year from the date of purchase.



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Operation and maintenance information for safety switches: General duty, heavy duty, and double throw



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Catalog number	3DT367NFW	DOUBLE THROW SAFETY SWITCH/INTERRUPTEUR BIDIRECTIONNEL DE SECURITE 800 Amp. Type 3R *** Enclosure/Boîtier Type 3R *** 600V AC/CA MAX. 3 POLE 250V DC/CC																																																		
Max voltage rating	<table> <tr> <th colspan="6">Horsepower Ratings/ Régimes "Horsepower"</th> <th colspan="2">Use any two switching poles for DC and 1 Phase AC. Not for use as a motor controller over 100 Horsepower.</th> </tr> <tr> <th>Volts/ Tension</th><th></th><th></th><th></th><th>3 Phase Std.</th><th>DC/CC Std.</th><th></th><th></th> </tr> <tr> <td>240 AC/CA</td><td></td><td></td><td></td><td>125</td><td></td><td></td><td></td> </tr> <tr> <td>480 AC/CA</td><td></td><td></td><td></td><td>250</td><td></td><td></td><td></td> </tr> <tr> <td>600 AC/CA</td><td></td><td></td><td></td><td>350</td><td></td><td></td><td></td> </tr> <tr> <td>250 DC/CC</td><td></td><td></td><td></td><td></td><td>50</td><td></td><td></td> </tr> </table> <div> <div>Utiliser n'importe quel interrupteur bipolaire pour le CC et 1 phase pour le CA. Ne pas utiliser comme contrôle de moteur de plus de 100 h.p.</div> <div>Current and / or voltage rating notes</div> </div>				Horsepower Ratings/ Régimes "Horsepower"						Use any two switching poles for DC and 1 Phase AC. Not for use as a motor controller over 100 Horsepower.		Volts/ Tension				3 Phase Std.	DC/CC Std.			240 AC/CA				125				480 AC/CA				250				600 AC/CA				350				250 DC/CC					50		
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Figure 1. Label for 800 amp. Double Throw Safety Switch.

Voltage ratings

Maximum AC voltage ratings for each switch are outlined on the switch's publication. Where DC voltage ratings are applicable, they are noted separately from the AC rating.

The standard maximum voltage ratings are outlined in **Table 1** for safety switches. The publication inside the switch will ultimately determine the switch's maximum voltage rating.

Table 1. Standard maximum voltage ratings.

Switch type	Maximum AC rating (with neutral installed)	Maximum DC rating
General duty	240 Vac (120 / 240 Vac)	250 Vdc
Heavy duty, 240 V	240 Vac (120 / 240 Vac)	250 Vdc
Heavy duty, 600 V, 2-pole	600 Vac (277 / 480 Vac, 600 Vac)	600 Vdc**
Heavy duty, 600 V, 3+ pole, fusible	600 Vac (277 / 480 Vac, 600 Vac)	-
Heavy duty, 600 V, 3+ pole, non-fusible (NF)	600 Vac (277 / 480 Vac, 600 Vac)	250 Vdc
Double throw, 240 V	240 Vac (120 / 240 Vac)	250 Vdc
Double throw, 600 V	600 Vac (277 / 480 Vac, 600 Vac)	250 Vdc

For 3+ pole switches, any two of the switching poles can be used for either DC or 1 Phase AC applications.

**600 Vdc rating requires two switching poles to be wired in series. Two-pole, 600 V rated heavy duty safety switches come with a factory installed jumper between two switching poles making the 2-pole switch capable of interrupting one 600 Vdc circuit. For additional DC options, refer to Eaton's line of DC solar switches. Heavy Duty switches over 600 A are not listed for 600 Vdc applications



Figure 2. Sample 2-pole 600 V heavy duty safety switch.

For a 600 Vdc rating, the first two poles are wired in series with a factory installed jumper as outlined in this photo. Only the circuit connected to the line and load lugs of these poles wired in series are rated for 600 Vdc.

The 600 Vdc rating is only applied to 2-pole, 600 V rated heavy duty safety switches.

Enclosure ratings

The safety switch enclosure rating listed on the publication is both the cUL and NEMA environmental rating of that switch

Single Throw switches listed as Type 12 (3R) can be used as either depending on the installation of the factory installed drain screw in the bottom end-wall. Type 12 (3R) switches come from the factory as Type 12, if being used as Type 3R the drain screw should be removed in the field.

Installation of appropriately rated conduit entry hubs or fittings does not impact the enclosure rating of the switch when installed in accordance with the hub manufacturer's instructions. (Example: Type 4X rated hub installed on a Type 4X safety switch enclosure.)

The listing of acceptable hubs on the publication and in Eaton's Commercial Distribution catalog are not exhaustive of acceptable conduit entry fittings. Appropriately rated fittings from other manufacturers can be installed on Eaton safety switches.

Amperage ratings and continuous load current

Non-fusible safety switches are 100% rated devices.

Fusible switch current ratings are limited to 80% of the rating of the fuse for continuous loads other than motor circuits. This limitation applies even when "100% rated" Class L fuses are installed. The NEC allows the switch size calculation to use up to 100% of the fuse rating for non-continuous loads.

Horsepower ratings

Where horsepower ratings are applicable for a given switch, the maximum horsepower ratings are included in a table on the switch publication for all applicable voltage ratings. Maximum horsepower ratings are based on standard squirrel cage motors as outlined in the NEC motor tables.

The "Std." column notes the maximum horsepower rating of the switch using "standard" fuses and the "Max." column outlines the maximum horsepower rating of the switch when time delay fuses are installed (see **Table 2**).

Table 2. Horsepower ratings.

Volts	Horsepower rating*			
	1 phase		3 phase	
	Std.	Max.	Std.	Max.
480 AC	25	50	50	125
600 AC	30	50	60	150

* These values are examples, see published ratings on your switch.

Horsepower ratings for safety switches account for typical starting currents (inrush) and potential locked rotor current demands for typical motors. The starting current of motors of more than the standard horsepower ratings may require the use of fuses with appropriate time-delay characteristics.

The cUL 98 standard for enclosed switches states that the switch is not to be used as the motor controller over 100 HP. Additionally, the largest horsepower ratings included in the cUL 98 standard for switches is 250 HP at 240 V and 500 HP at 480 V or 600 V.

Service entrance requirements

At and below 800 A, all heavy duty, general duty, and double throw safety switches are rated for service entrance when a neutral kit is installed. Switches with factory installed neutrals will be marked "Suitable for Use as Service Equipment". If the switch does not ship with a factory installed neutral, the publication inside the switch will state which neutral kit would need to be field installed to make the switch suitable for service entrance.

All neutral kits, whether factory or field installed, will include neutral lugs, a bonding kit, and service disconnect sticker for field application when being used as the service entrance disconnect. Grounding lugs are included in safety switches as a standard.

At 1,200 A, heavy duty and double throw switches cannot be service entrance rated for many applications including 480 Vac where ground fault protection is required. Additionally, there is a requirement for arc energy reduction in 1,200 A fusible devices in some areas which is often supplemental to the overcurrent or short circuit protection afforded by fuses. Eaton has a separate line of shunt trip safety switches with integral arc-energy reduction and ground fault protection relay options for these service entrance applications.

Line shields

A clear plastic line shield is provided in heavy duty type switches including heavy duty type double throw switches to help prevent incidental contact with incoming line conductors. Line shields are an optional accessory for 200 A – 600 A general duty safety switches.

Grounding

All Eaton safety switches are provided with standard ground lugs. Optional ground lug kits are available to increase the grounding capacity and can be field or factory installed. The concentric and eccentric knock out rings on a safety switch are not cUL listed for a reliable bonding connection. Grounding and bonding lugs are included with factory or field installable neutral assemblies.

Replacement parts

Some replacement parts are outlined on the publication inside the switch. Where replacement parts are available, they can be replaced in the field provided proper electrical safety procedures are followed to ensure an electrically safe work environment. Replacement parts are not approved for modifying the original configuration of a safety switch as this would violate the cUL listing of the switch.

Additional replacement parts or updated catalog numbers may be available in Eaton's Safety Switch Renewal Parts Guide.

Short circuit ratings (fusible and non-fusible)

Non-fusible safety switches may be used on circuits capable of delivering no more than 10,000 RMS symmetrical amperes (AC) when properly protected by any overcurrent protective device rated no greater than the ampere rating of the switch. **Table 3** can be used to determine when upstream protection allows the switch to be applied in a circuit capable of delivering more than 10,000 RMS symmetrical amperes.

Table 3. Upstream protection application.

Eaton non-fusible safety switch ampere rating (1)	Maximum system voltage AC	Maximum short circuit rating	Upstream device (2)	
			Fuse class	Eaton breaker frame
30 and 60	600	10,000	H, K	Any circuit breaker
		14,000		FDB, PDG2xF
		18,000		FD, EGE, PDG2xG, PDG1xF
		25,000		FDC, HFD, HFDE, EGH, PDG2xP, PDG2xM, PDG1xM
		200,000	R, T, J	
100	480	10,000	H, K	Any circuit breaker
		35,000		EGH, EGS, PDG1xM, PDG1xG
		200,000	R, T, J	
		600	10,000	H, K
14,000			FDB, PDG2xF	
18,000			FD, EGE, PDG2xG, PDG1xF	
25,000			FDC, HFD, HFDE, EGH, PDG2xP, PDG2xM, PDG1xM	
		200,000 (3)	R, T, J	
200	480	10,000	H, K	Any circuit breaker
		65,000		HFD, HFDE, HJD, JGH, PDG2XM
		200,000	R, T, J	
		600	10,000	H, K
14,000			FDB, PDG2xF	
18,000			FD, JD, JGE, PDG2xG	
25,000			FDC, HFD, HFDE, HJD, JGH PDG2xP, PDG2xM	
		200,000	R, T, J	
400	480	200,000	R, T, J	
	600	10,000	H, K	Any circuit breaker
	600	100,000	R, T, J	
600	480	200,000	R, T, J	
	600	10,000	H, K	Any circuit breaker
	600	100,000	R, T, J	
800	480	200,000	L, T	
	600	10,000		Any circuit breaker
	600	100,000	L, T	
1,200	480	200,000	L, T	
	600	10,000		Any circuit breaker
	600	100,000	L, T	

Notes:

- (1) For use on NEMA 1, 3R, 12/3R, and 4X switches.
- (2) Fuse or circuit breaker rating is not to exceed switch rating.
- (3) NEMA 12, 4/4X only. NEMA 1, 3R are 100 kAIC at 600 Vac.

Fusible switches are suitable for use on circuits delivering up to 100,000 RMS symmetrical amperes (AC) or 200,000 RMS symmetrical amperes (AC) depending on the configuration and voltage when the appropriate Class R, J, L, or T fusing is installed. The maximum short circuit rating of a fusible switch will be noted on the publication.

For general duty, heavy duty (30 A – 600 A), and double throw (30 A-200 A and 400 A at 240 V) Class "H" fuse clips are supplied as the standard. When Class "H" fuses are used, the switch is rated for a maximum of 10,000 A symmetrical.

DC short circuit ratings

Safety switches are suitable for use in DC circuits capable of delivering not more than 10,000 A direct current when protected by any cUL listed or recognized overcurrent protective device. Fusible switches used in DC applications are also rated for 10 kA provided the installed fuse carries the appropriate DC voltage rating.

Fuse kits and provisions

Fusible safety switches are provided with provisions to accept one class and voltage rating of fuses. Where fuse sizes are differentiated based on maximum voltage rating, the fuse provisions in the safety switch will accommodate fuses with the same maximum AC voltage rating as the switch. **Table 4** outlines the standard fuse provisions for safety switches in addition to optional fuse provisions which can be achieved by re-configuring the switch or by the installation of an optional kit.

Table 4. Standard fuse provisions for safety switches.

General duty (GD) switches fuse class chart

Ampere	Voltage	Standard factory fuse class ^①	Optional R fuse kit ^②	Optional T fuse kit	Optional J fuse kit
30	240	H	DG030RB	n/a	n/a
60	240	H	DS16FK	n/a	n/a
100	240	H	DG100RB	n/a	n/a
200	240	H	DS46FK	n/a	n/a
400	240	H	DS56FK	DS526TK	n/a
600	240	H	DS66FK	DS626TK	DS600JK

Heavy duty (HD) switches fuse class chart

30	240	H	DS12FK	n/a	Factory option only
30	600	H	DS16FK	n/a	Factory option only
60	240	H	DS16FK	n/a	DS22JK
60	600	H	DS26FK	n/a	Relocate clips ^③
100	240/600	H	DS36FK	n/a	Relocate base ^③
200	240	H	DS46FK	DS426TK	Relocate base ^③
200	600	H	DS46FK	DS466TK	Relocate base ^③
400	240	H	DS56FK	DS526TK	Relocate base ^③
400	600	H	DS56FK	DS566TK	Relocate base ^③
600	240	H	DS66FK	DS626TK	DS600JK
600	600	H	DS66FK	DS666TK	DS600JK
800	240	L	n/a	DS726TK	n/a
800	600	L	n/a	DS766TK	n/a
1,200	240	L	n/a	Relocate bases	n/a
1,200	600	L	n/a	n/a	n/a

Double throw (CDT) switches fuse class chart

30	240	H	DS12FK	n/a	Factory option only
30	600	H	DS16FK	n/a	Factory option only
60	240	H	DS16FK	n/a	Factory option only
60	600	H	DS26FK	n/a	Relocate bases ^③
100	240/600	H	DS36FK	n/a	Relocate bases ^③
200	240/600	H	DS46FK	n/a	Relocate bases ^③
400	240	H	DS56FK	n/a	Relocate bases ^③
400	600	T	n/a	standard	DT400JK
600	240 (stacked=N1/N3R)	J	n/a	DT626TK	Standard
600	600 (stacked=N1/N3R)	J	n/a	DT666TK	Standard
600	240 (N12/N4X)	T	n/a	standard	n/a
600	600 (N12/N4X)	T	n/a	standard	n/a
800	240	L	n/a	DS726TK	n/a
800	600	L	n/a	DS766TK	n/a
1,200	240	L	n/a	n/a	n/a
1,200	600	L	n/a	n/a	n/a

Note ① - Where Class H is indicated, Class R fuses will physically fit and can be installed.

Note ② - Class R fuse kits are used to reject Class H fuses, and allow only Class R fuses to be installed.

Note ③ - Relocation of fuse clips or fuse bases as required to achieve Class J fuse spacing. Class J fuse spacings are illustrated in Figure 3



Photo shows how fuse clips should be moved from the standard lower position for Class H fuse spacing to the upper mounting location for Class J fuse installation



Photo shows how fuse clips should be moved from the standard lower position for Class H fuse spacing to the upper mounting location for Class J fuse installation

Figure 3. Relocation of fuse clips or fuse bases.

Experience has shown that renewable fuses can cause overheating problems and their use is not recommended in safety switches.

Standard lug information

Standard mechanical lugs included in safety switches are suitable for aluminum or copper wire, wire strand class B and C. Select terminals are acceptable for fine stranded cable, see Eaton publication fine stranded wire guide for more information. Wire sizing should be based on 60°C or 75°C (140°F or 167°F) conductor ratings only. The torque values for wire pressure in the provided mechanical lugs is outlined based on switch ampacity rating in **Tables 5 and 6**.

Table 5. Torque table for wire pressure screws 30 A - 1,200 A (general duty, heavy duty, and double throw).

Slotted head screws		Socket head screws	
Wire size	Torque lb. - in.	Socket size across flats	Torque lb. - in.
14-10 AWG	35	1/8	45
8 AWG	40	5/32	100
6-4 AWG	45	3/16	120
3-1/0 AWG	50	7/32	150
		1/4	200
		5/16	275
		3/8	375
		3/8 (400 A only)	500
		1/2	500

Table 6. Torque table for lug mounting screws.

Amperage	Lug description	Torque value
30 A - 100 A	All lug mounting screws	24 lb. - in.
200 A	Line and load lug mounting screws	8 lb. - ft.
200 A	Ground lug mounting screws	24 lb. - in.
400 A - 1,200 A	Line and load lug mounting screws	29 lb. - ft.
400 A - 1,200 A	Ground lug mounting screws	45 lb. - in.

Alternative lug options

Crimp lugs may be field installed in place of the standard mechanical type line and load terminals in some safety switches where outlined by the switch's publication. Suitable crimp lug manufacturer and part numbers are tabulated on the publication - installation of these crimp lugs ensures that proper mounting and anti-rotation can be retained. Copper wire must be used when crimp lugs are installed.

Some larger, heavy-duty safety switches which allow for the installation of crimp lugs also require a crimp lug landing pad kit. If this kit is required, its part number is outlined on the publication.

For applicable switches, the installation of crimp lugs requires the removal of the clear plastic line shield (where applicable), standard mechanical lugs, and red or yellow plastic arc shield. After installation of the crimp lug the arc shield and line shield should be re-installed.

Optional copper bodied mechanical type lugs are available for installation in place of the standard line and load terminals in some switches where outlined by the switch's publication. Copper wire must be used when copper bodied lugs are installed.

The mechanical lugs provided in safety switches are designed to comply with minimum wire bending space requirements in the enclosure for the maximum conductor capacity allowed by the installed lugs. Alternative lugs with larger than standard capacity are a factory only option as they require oversizing the enclosure to accommodate additional or larger conductors. Installation of alternative or oversized lugs not outlined on the switch's publication would violate the cUL listing of the switch.

Mounting and environmental considerations

Information regarding performance under unusual service conditions should be obtained from Eaton Corporation. Examples of unusual service conditions are:

- Temperatures below -30°C (-22°F);
- Temperatures above 50°C (122°F);
- Altitudes over 6,600 ft. (2011.7 m);
- Corrosive or explosive environments;
- Abnormal vibration, shock, or tilting;
- Unusual operating duties;
- Frequencies other than 60 Hertz; or
- Mounting the switch in a non-vertical position.

Generally, the enclosure should be mounted on a flat surface or the mounting must be shimmed; the mounting points must be co-planar. For NEMA 3R applications the enclosure needs to be level to ensure proper draining of any condensation or collected moisture through the drain hole on the bottom end wall of the enclosure.

Field installable accessories

The installation of accessories listed on the publication does not impact the cUL listing of the switch. An example of normal field installable accessories would be:

- Neutral kits;
- Electrical interlock (auxiliary contacts);
- Control pole;
- Fuse puller;
- Bonding kit;
- Ground lug kit;
- Optional fuse kit;
- Optional copper bodied lug kits; or
- Optional line shields.

Each kit should be installed in accordance with the instructions provided with that kit.

The installation of a "Lock-On" provision to allow padlocking a switch in the On position is available as a factory or field installable option. When installing the "Lock-On" provision in the field, the locator nib (indentation) provided near the top of the shroud protecting the safety switch handle should be used as the center point for drilling out a hole to accommodate a padlock hasp.

Double throw wiring configurations

Fusible, double throw switches up to 400 A can be configured in the field for two sources and one load or two loads and one source depending on the location of internal factory provided jumpers. Should the switch need to be re-configured, use the wiring diagrams shown in **Figure 4** to change the location of the jumpers.

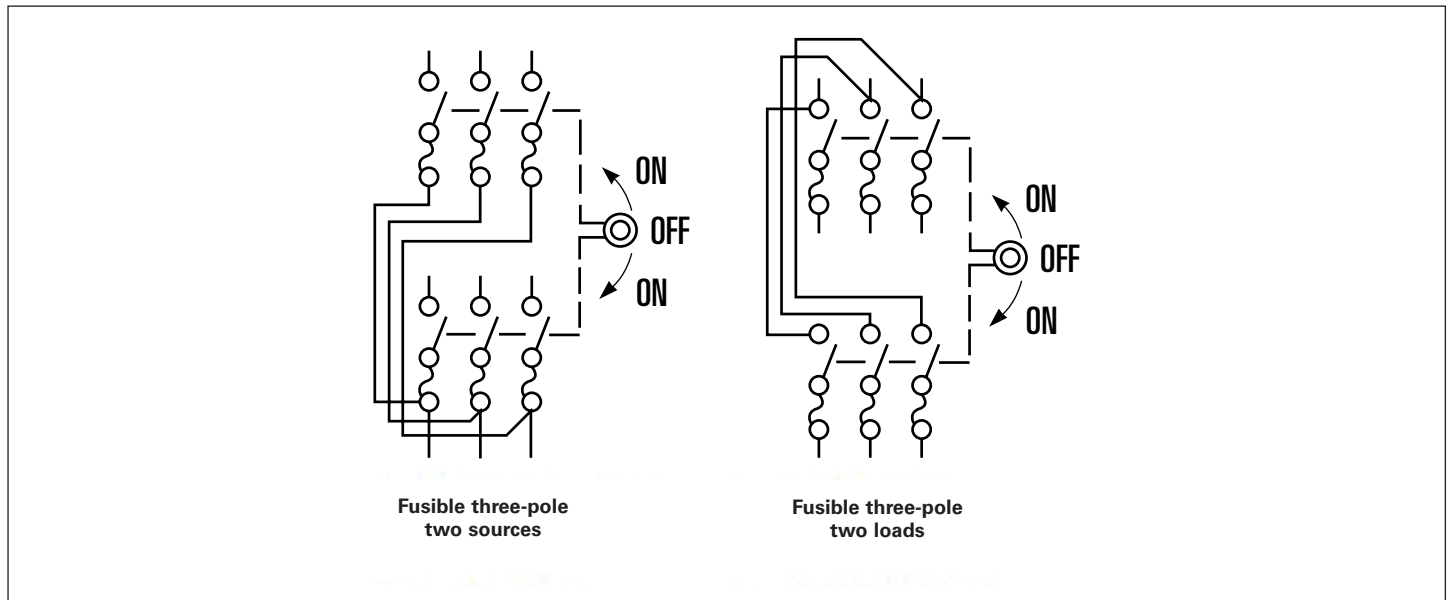


Figure 4. Typical fusible, double throw schematic diagram.

Standard fusible, double throw switches rated 600 A and above are configured for two sources and one load only and cannot be re-configured in the field. A factory only option for two loads and one source applications is available for 600 A and 800 A double throw switches.

Non-fusible, double throw switches can be used for two sources and one load or two loads and one source without being re-configured.

Inspection and preventative maintenance

Additional information regarding the inspection and preventative maintenance of general duty, heavy duty, or double throw safety switches can be found in the NEMA Standard Publication KS 3-2010 titled: "Guidelines for Inspection and Preventative Maintenance of Switches Used in Commercial and Industrial Applications".

The instructions for installation, testing, maintenance, or repair herein are provided for the use of the product in general commercial applications and may not be appropriate for use in nuclear applications. Additional instructions may be available upon specific request to replace, amend, or supplement these instructions to qualify them for use with the product in safety-related applications in a nuclear facility.

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Revision notes

Volume 2

Safety switches

Revision date	Change page(s)	Description
01/7/2020	All	Revision date changed to July 2020
10/11/2021	Page 2	Content edits
10/11/2021	Page 6	Content edits
14/7/2021	Page 8	Content edits
01/7/2021	Page 17	Content edits
01/7/2021	Page 18	Content edits
01/7/2021	Page 27	Content edits
22/11/2021	Page 34	Content edits
01/7/2021	Page 42	Content edits
01/7/2021	Page 54	Content edits
01/7/2021	Page 56	Created new page
01/7/2021	Page 68	Content edits
01/7/2021	Page 72	Content edits
10/11/2021	All	Revision date changed to July 2021
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31/7/2023	Page 102	Content edits
31/7/2023	Page 117	Content edits
02/8/2023	Page 12	Content edits
04/8/2023	Page 133	Safety Switch FAQ
04/8/2023	Page 139	Air Conditioning Disconnects
04/8/2023	All	Revision date changed to August 2023

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