

Catalog Number Description

Table 1 - General Duty Switches Catalog Number Description

Number Segment	Character	Description	D	3	2	1	N	RB	—
Type of Switch	Fusible	L=Light duty							
		D=General duty							
	Non-Fusible	DU=General duty							
Blades—Switch Poles	1	One-pole							
	2	Two-poles							
	3	Three-poles							
Voltage Rating	1	120 Vac (plug fuse)							
	2	240 Vac							
Ampere Rating	1	30 A							
	2	60 A							
	3	100 A							
	4	200 A							
	5	400 A							
	6	600 A							
	7	800 A							
Neutral	N	Factory-installed neutral (neutrals are field-installed on most general duty safety switches).							
Enclosure	No suffix	NEMA Type 1							
	R	NEMA Type 3R							
	RB	NEMA Type 3R (bolt-on hub provision)							
Factory Modifications ¹	N/A								

1. Factory modifications are not available for Light duty or General duty safety switches.

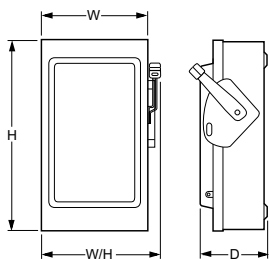
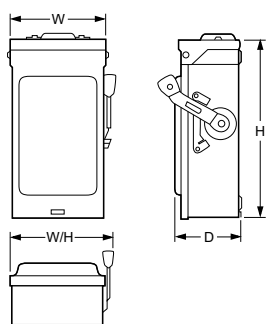
Table 12 - 30–800 A Horsepower Ratings General Duty Safety Switches (Continued)

Catalog Number	Series	Horsepower Ratings					
		120 Vac		240 Vac		240 Vac	
		Std.	Max.	Std.		Max.	
		1Ø	1Ø	1Ø	3Ø	1Ø	3Ø
<i>D325N</i>	E3	—	—	—	50	—	125
<i>D325NT</i>		—	—	—	—	—	—
<i>D325NR</i>	E1	—	—	—	50	—	125
<i>D325NTR</i>		—	—	—	—	—	—
<i>D326N</i>	E3	—	—	—	75	—	150
<i>D326NT</i>		—	—	—	—	—	—
<i>D326NR</i>	E1	—	—	—	75	—	150
<i>D326NTR</i>		—	—	—	—	—	—
<i>DU221RB</i>	E2	—	—	—	—	3	—
<i>DU222RB</i>	E1	—	—	—	—	10	—
<i>DU321</i>	E1	—	—	—	—	3	7–1/2
<i>DU321RB</i>		—	—	—	—	—	—
<i>DU322</i>	E2	—	—	—	—	10	15
<i>DU323RB</i>		—	—	—	—	—	—
<i>DU323</i>	F3	—	—	—	—	15	30
<i>DU323RB</i>		—	—	—	—	—	—
<i>DU324</i>	F1	—	—	—	—	15	60
<i>DU324RB</i>		—	—	—	—	—	—
<i>DU325</i>	E3	—	—	—	—	—	125
<i>DU326</i>	E3	—	—	—	—	—	150
<i>QO200TR</i> 27	G3	—	—	—	—	10	—
<i>QO260NATS</i> 27	E2	—	—	—	—	10	—
<i>QO2000NRB</i> 28	E1	—	—	—	—	20	—
<i>QO2000NS</i> 28	E1	—	—	—	—	20	—
<i>T327N</i>	E1	—	—	—	100	—	—
<i>T327NR</i>		—	—	—	100	—	100

27. Enclosed QO200 (60 A) molded case switch.

28. Enclosed QO2000 (100 A) molded case switch.

Ratings and Dimensions

Table 13 - Switch Dimensions
Typical NEMA Type 1

Typical NEMA Type 3R


Catalog Number	Series	H		W		W/H		D	
		in.	mm	in.	mm	in.	mm	in.	mm
<i>L111N</i> ₂₉	E2	7.63	194	5.00	127	6.13	156	4.00	102
<i>L211N</i> ₂₉	E2	7.63	194	5.00	127	6.13	156	4.00	102
<i>L221N</i> ₂₉	E2	7.63	194	5.00	127	6.13	156	4.00	102
<i>D211N</i> ₂₉	E3	9.25	235	6.75	171	7.25	184	3.63	92
<i>D211NRB</i> ₂₉	E2	9.63	245	7.25	184	7.75	197	3.75	95
<i>D221N</i> ₂₉	E3	9.25	235	6.75	171	7.25	184	3.63	92
<i>D221NRB</i> ₂₉	E3	9.63	245	7.25	184	7.75	197	3.75	95
<i>D222N</i>	F1	14.60	371	6.51	165	7.45	189	4.87	124
<i>D222NRB</i>	F1	14.88	378	6.63	168	7.45	189	4.87	124
<i>D223N</i>	F3	17.50	445	8.50	216	10.50	267	6.50	165
<i>D223NRB</i>	F3	17.50	445	8.50	216	10.50	267	6.50	165
<i>D224N</i>	F1	29.00	737	17.25	438	19.00	483	8.25	210
<i>D224NRB</i>	F1	29.25	743	17.25	438	19.00	483	8.25	210
<i>D225N</i> ₂₉	E3	45.12	1146	24.00	610	24.88	632	8.88	226
<i>D225NR</i>	E3	30.63	778	21.38	543	22.25	565	10.13	257
<i>D226N</i> ₂₉	E3	49.13	1248	24.00	610	24.88	632	8.88	226
<i>D226NR</i> ₂₉	E3	49.13	1248	24.75	629	25.13	638	8.88	226
<i>D321N</i> ₂₉	E3	9.25	235	6.75	171	7.25	184	3.63	92
<i>D321NRB</i> ₂₉	E3	9.63	245	7.25	184	7.75	197	3.75	95
<i>D322N</i>	F1	14.60	371	6.51	165	7.45	189	4.87	124
<i>D322NRB</i>	F1	14.88	378	6.63	168	7.45	189	4.87	124
<i>D323N</i>	F3	17.50	445	8.50	216	10.50	267	6.50	165
<i>D323NRB</i>	F3	17.50	445	8.50	216	10.50	267	6.50	165
<i>D324N</i>	F1	29.00	737	17.25	438	19.00	483	8.25	210
<i>D324NRB</i>	F1	29.25	743	17.25	438	19.00	483	8.25	210
<i>D325N</i> ₂₉	E3	45.12	1146	24.00	610	24.88	632	8.88	226
<i>D325NT</i> ₂₉	E3	45.12	1146	24.00	610	24.88	632	8.88	226
<i>D325NR</i>	E1	30.63	778	21.38	543	22.25	565	10.13	257
<i>D325NTR</i>	E1	30.63	778	21.38	543	22.25	565	10.13	257
<i>D326N</i> ₂₉	E3	49.13	1248	24.00	610	24.88	632	8.88	226

29. Does not have a cover draw as indicated in above drawing.

Table 13 - Switch Dimensions (Continued)

Catalog Number	Series	H		W		W/H		D	
		in.	mm	in.	mm	in.	mm	in.	mm
<i>D326NT</i> ₃₀	E3	49.13	1248	24.00	610	24.88	632	8.88	226
<i>D326NR</i>	E1	49.13	1248	24.75	629	25.13	638	8.88	226
<i>D326NTR</i>	E1	49.13	1248	24.75	629	25.13	638	8.88	226
<i>DU221RB</i> ₃₀	E2	9.63	245	7.25	184	7.75	197	3.75	95
<i>DU222RB</i> ₃₀	E1	9.63	245	7.25	184	7.75	197	3.75	95
<i>DU321</i> ₃₀	E2	9.25	235	6.75	171	7.25	184	3.63	92
<i>DU321RB</i> ₃₀	E2	9.63	245	7.25	184	7.75	197	3.75	95
<i>DU322</i> ₃₀	E1	9.25	235	6.75	171	7.25	184	3.63	92
<i>DU322RB</i> ₃₀	E1	9.63	245	7.25	184	7.75	197	3.75	95
<i>DU323</i>	F1	17.50	445	8.50	216	10.50	267	6.50	165
<i>DU323RB</i>	F1	17.50	445	8.50	216	10.50	267	6.50	165
<i>DU324</i>	F1	29.00	737	17.25	438	19.00	483	8.25	210
<i>DU324RB</i>	F1	29.25	743	17.25	438	19.00	483	8.25	210
<i>DU325</i> ₃₀	E3	45.12	1146	24.00	610	24.88	632	8.88	226
<i>DU326</i> ₃₀	E3	49.13	1248	24.00	610	24.88	632	8.88	226
<i>QO200TR</i> ₃₀	G3	6.50	165	4.63	118	—	—	3.88	99
<i>QO260-NATS</i> ₃₀	E2	9.25	235	4.88	124	—	—	3.25	83
<i>QO2000NR-B</i> ₃₀	E1	14.00	356	7.75	197	—	—	4.50	114
<i>QO2000NS</i> ₃₀	E1	13.38	340	6.13	156	—	—	3.50	89
<i>T327N</i> ₃₀	E1	49.13	1248	24.00	610	24.88	632	8.88	226
<i>T327NR</i> ₃₀	E1	49.13	1248	24.75	629	25.13	638	8.88	226

30. Does not have a cover draw as indicated in above drawing.

Catalog Number Description

Table 14 - Heavy Duty Switch Catalog Number Description

Number Segment	Character	Description	H	3	2	1	N	RB	—
Type of Switch	Fusible	H = Heavy duty							
	Non-Fusible	HU = Heavy duty							
Blades – Switched Poles	2	Two-poles							
	3	Three-poles							
	4	Four-poles							
	6	Six-poles							
Voltage Rating	2	240 Vac / 250 Vdc Maximum							
	6	600 Vac / 600 Vdc Maximum							
Ampere Rating	1	30 A							
	2	60 A							
	3	100 A							
	4	200 A							
	5	400 A							
	6	600 A							
	7	800 A							
	8	1200 A							
Neutral	N	Factory-installed neutral (neutrals are field-installable on most heavy duty safety switches).							
Enclosure	No suffix	NEMA Type 1							
	A	NEMA Type 12K							
	AWK	NEMA Type 12 (without Knock Outs)							
	DF	NEMA Type 4X Fiberglass Reinforced Polyester							
	DS	NEMA Type 4, 4X, and 5 (NEMA Type 304 stainless steel)							
	DX	NEMA Type 4X Krydon™ Fiberglass Reinforced Polyester							
	R	NEMA Type 3R							
	RB	NEMA Type 3R (with bolt-on hub provision)							
	SS	NEMA Type 4, 4X, and 5 (NEMA Type 316 stainless steel)							
	See Table 21 on page 24	NEMA Type 7 / 9 (Cast aluminum)							
Factory Modifications	CLR	Class R fuse kit (Rejects all but Class R fuses)							
	EI or EI2	Electrical interlock kit (EI = 1 NO / 1 NC contacts. EI2 = 2 NO / 2 NC contacts)							
	GL	Equipment ground lugs ³¹							

31. Equipment Ground Kits (Al/Cu) are factory installed standard in 30–200 A, Series F, NEMA Type 4/4X/5 (stainless steel), 12 and 12K. Equipment Ground Kits are standard on all receptacle switches and Series F, 30–200 A, four- and six-pole switches.

Table 14 - Heavy Duty Switch Catalog Number Description (Continued)

Number Segment	Character	Description	H	3	2	1	N	RB	—
	LI, SI, or LI2	Voltage indicators ³²							
	KI, KI2 or KIKI	Key interlocks ³³							
	LK	Compression lugs (Heavy Duty 800 A and 1200 A only)							
	LOG ³⁴	Lock-Off Guard							
	NP	Phenolic legend plate. Customer must provide legend text.							
	PB(xx)	Push buttons, pilot lights, selector switches. The customer must provide the catalog number of the control device to be installed (contact Schneider Electric for the complete catalog number).							
	SLC	Copper lugs (30–600 A)							
	SP(xx)	Special paint colors (For suffix xx see Table 40 on page 39)							
	SPLO	Lock-on provision							
	VW	Viewing window							
	WA	Appleton™ interlocked receptacle							
	WC	Crouse-Hinds Arktite™ interlocked receptacle							
	WH	Hubbellock™ interlocked receptacle							

32. LI = Load side indicator. SI = Line side indicator. LI2 = Line and load side indicators.

33. KI = 1 lock. KI2 = 1 lock with 2 cylinders. KIKI = 2 locks.

34. Not available for NEMA Type 4X fiberglass, NEMA Type 4/4X/5 stainless steel and NEMA Type 7/9 enclosures.

Heavy Duty Safety Switches

Product Description

Series F



The Square D™ by Schneider Electric brand Heavy Duty Safety Switch is designed to be tough, reliable and provide exceptional performance in the most grueling conditions; from commercial and institutional to industrial and manufacturing facilities. F Series safety switches provide significantly higher levels of mechanical endurance than NEMA Type KS-1 or UL98 standards require. The design life of a F-Series switch is a minimum of three times the NEMA requirement.

An abundance of copper is used in the heaviest current carrying power paths of all Square D by Schneider Electric Heavy Duty Safety Switches. The more copper for current carrying paths, the lower the temperature rise. Managing temperatures inside the switch is the key to providing greater service life.

All heavy duty safety switches feature a quick-make, quick-break operating mechanism, a dual cover interlock and a color-coded indicator handle.

Applications

Heavy duty safety switches are designed for the following applications:

- Commercial and industrial installations
- Up to 600 Vac or 600 Vdc maximum
- Up to 200,000 rms symmetrical amperes short circuit current
- 30–1200 A
- Horsepower ratings
- Load-make, load-break rated for the switch current rating
- Seismically Qualified to the:
 - 2010 ASCE 7
 - 2012 International Building Code (IBC)
 - 2013 California Building Code (CBC)
 - State of California's Office of Statewide Health Planning and

Standards

Visible Blades



Heavy duty safety switches are manufactured in accordance with these standards:

- UL98, Standard for enclosed and dead front switches. UL Listed;
 - 30–200 A, see file E2875
 - 400–1200 A, see file E154828
- NEMA Standards Publication KS1 and KS2 enclosed switches
- Federal Specifications WS-865C for Type HD

General Information

UL Listed Maximum Short Circuit Current Ratings

NOTE: Consult the wiring diagram of the switch to verify the UL Listed short circuit current rating.

Fusible Safety Switches

Table 41 - Fusible Safety Switches

Heavy Duty Safety Switch Type	UL Listed Fuse Class	UL Listed Short Circuit Current Ratings
Fusible	H, K	10 kA
	R, J, L	200 kA ⁹⁴

94. On 600 V, 200 A switches, 100,000 A max. on corner grounded delta when protected by Class J or R fuses.

Non-Fusible Safety Switches

- **Systems equal or less than 10 kAIR SCCR;** Any brand of circuit breaker or fuse not exceeding the ampere rating of the switch may be used in conjunction with a non-fusible safety switch, see Table 43 below
- **Systems above 10 kAIR SCCR;** The UL Listed short circuit current rating for Square D non-fusible switches is based upon the switch being used in conjunction with fuses or Square D circuit breakers or Mag-Gard motor circuit protectors, see Table 43 below

Table 42 - Non-Fusible Safety Switches

Switch Rating (A) ⁹⁵ ₉₆	Fuse Class or Circuit Breaker Type ⁹⁷	3-Phase			250 Vdc / 600 Vdc
		240 Vac	480 Vac	600 Vac	
With Upstream Fuse Protection					
All	H, K	10 kA	10 kA	10 kA	Up to 10 kA
	R, T, J, L	200 kA	200 kA	200 kA	
With Upstream Circuit Breaker Protection					
All	Any brand circuit breaker	10 kA	10 kA	10 kA	Up to 10 kA
30–100	HD	25 kA	18 kA	14 kA	
30–100	HG	65 kA	35 kA	18 kA	
30–100	HJ	65 kA	35 kA	25 kA	
30–100	HL	65 kA	35 kA	35 kA	
30–100	HR	65 kA	35 kA	35 kA	
200	HD, JD	25 kA	18 kA	14 kA	
200	HG, JG	65 kA	35 kA	18 kA	
200	HJ, JJ	65 kA	35 kA	25 kA	
200	HL, JL	65 kA	35 kA	35 kA	
200	HR, JR	65 kA	35 kA	35 kA	
400	LA	22 kA	22 kA	22 kA	
400	LH	25 kA	25 kA	25 kA	
400–600	LD	25 kA	18 kA	14 kA	
400–600	LG	65 kA	35 kA	18 kA	
400–600	LJ	100 kA	65 kA	25 kA	
400–600	LL	100 kA	65 kA	50 kA	
400–600	LR	100 kA	65 kA	65 kA	

95. For NEMA Type 4X Fiberglass Reinforced Polyester switches, see Table 17 and 18 on page 22.

96. NEMA Type 7/9 SCCR 10 kAIR 600 Vac maximum.

97. Ampere rating of fuse or circuit breaker not to exceed switch ampere rating.

Terminal Lug Data

Table 43 - Terminal Lug Data

Rating (A) ⁹⁸	Wires Per Phase and Neutral	Wire Range Wire Bending Space Per NEC Table 312.6 AWG/kcmil	Lug Wire Range AWG/kcmil	Optional ⁹⁹ Versa-Crimp™ Compression Lug Field-Installed	Optional Copper Only Versa-Crimp™ Compression Lug Field-Installed ^{99 100}
30	1	12–6 (Al) or 14–6 (Cu)	12–2 (Al) or 14–2 (Cu)	—	C10–14 ¹⁰¹ , D8–14, or E6–14
	2	12–10 (Al) or 14–10 (Cu)			
60 ¹⁰²	1	12–3 (Al) or 14–3 (Cu)	12–2 (Al) or 14–2 (Cu)	—	C10–14 ¹⁰¹ , D8–14, or E6–14
100 ¹⁰³	1	12–1/0 (Al) or 14–1/0 (Cu)	12–1/0 (Al) or 14–1/0 (Cu)	VCEL02114S1	VCELC02114S1
200 ¹⁰⁴	1	6–250 (Al/Cu)	6–300 (Al/Cu)	VCEL030516H1	VCELC030516H1
400 ¹⁰⁵	1 or 2	1/0–750 (Al/Cu) or 1/0–300 (Al/Cu)	1/0–750 (Al/Cu) and 1/0–300 (Al/Cu)	VCEL07512H1 or	VCELC07512H1 or
				VCEL030516H1 ¹⁰⁶ and	VCELC030516H1 ¹⁰⁷ and
				VCEL05012H1	VCELC05012H1
600	2	3/0–500 (Al/Cu)	3/0–500 (Al/Cu)	VCEL05012H1	VCELC05012H1
800	3	3/0–750 (Al/Cu)	3/0–750 (Al/Cu)	H8LKE2 ¹⁰⁸	—
1200	4	3/0–750 (Al/Cu)	3/0–750 (Al/Cu)	H12LKE2	—

98. 30–100 A switches suitable for 140°F (60°C) or 167°F (75°C) conductors. 200–1200 A switches suitable for 167°F (75°C) conductors.

99. Hubbell Versa-Crimp™ unless otherwise noted.

100. For NEMA Type 1, 12/3R, 12K and 4/4X/5 stainless steel switches only.

101. Order C10–14, D8–14 and E6–14 from Thomas and Betts.

102. H60XBD and H60XBDAA — use 167°F (75°C) copper wire only. #6 AWG copper wire required for 60 A rating.

103. H100XBD and H100XBDAA — use 167°F (75°C) copper wire only. #3 AWG copper wire required for 100 A rating.

104. H225XJG and H225XJGAA — use 167°F (75°C) copper wire only. Lug wire range is #3 AWG – 350 kcmil. Not UL Listed due to inadequate wire bending space (5 in. (127 mm) on the ON end, 6 in. (152 mm) on the OFF end).

105. Maximum wire bending space allows for (1) 600 kcmil or (2) 300 kcmil Al/Cu on NEMA Type 4/4X/5 stainless steel and NEMA Type 12 switches.

106. For NEMA Type 1 and 3R only. For NEMA Type 4/4X/5 stainless steel and NEMA Type 12/3R, 12K use VCEL03038H1 (Al/Cu) or VCELC03038H1 (Cu only). Order two PK516KN mounting kits when installing VCEL030516H1 lugs. Only one kit is required on two-pole switches. PK561KN consists of four 5/16–18 (7 mm) Keps Nuts.

107. For NEMA Type 4/4X/5 stainless steel and NEMA Type 12/3R, 12K use VCEL03038H1 (Al/Cu) or VCELC03038H1 (Cu only). Order two PK516KN mounting kits when installing VCEL030516H1 or VCELC030516H1 lugs. Only one kit is required on two-pole switches. PK561KN consists of four 5/16–18 (7 mm) Keps Nuts.

108. For 800 and 1200 A compression lug kits, see Table 37 on page 35 for additional information.