

Double Throw
Safety Switches



product GUIDE



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Description

Double throw switches are intended to transfer loads from one power source to another. All 2 and 3 pole double throw switches are suitable for use as service equipment. All are UL Listed. Switches are rated for use on systems up to 10,000A when protected with Class H fuses or up to 200,000A when protected with Class R, J or Class T fuses. They can also be

used to connect a single source of power to either of two loads. In this application, it is necessary to re-connect the factory wiring following the instructions provided with the switch.

A cover interlock is provided on all ampere ratings. The operating handle may be padlocked in the OFF position.

Double Throw Switches

System ①	Voltage	Number of Poles	Amps	Type 1 Indoor	Type 3R Outdoor		
				Catalog Number	Catalog Number		
Heavy Duty Fusible							
	240 Volt AC or 250 Volt DC	2	200	DTF224	DTF224R		
		3	30	DTF321	DTF321R		
			60	DTF322	DTF322R		
			100	DTF323	DTF323R		
			200	DTF324	DTF324R		
			400	DTF325	—		
	600		DTF326	—			
	600 Volt AC, 250 Volt DC	3	30	DTF361	—		
			60	DTF362	—		
			100	DTF363	DTF363R		
			200	DTF364	DTF364R		
			400	DTF365	—		
			Heavy Duty Non-fusible				
				240 Volt AC or 250 Volt DC	2	30	DTNF221
60						DTNF222	—
100	DTNF223	—					
200	DTNF224	DTNF224R					
400	DTNF225	DTNF225R					
3	30	DTNF321			—		
	60	DTNF322			—		
	100	DTNF323			DTNF323R		
	200	DTNF324			DTNF324R		
	400	DTNF325			—		
600 Volt AC or 250 Volt DC	3	600		DTNF326	—		
		800		DTNF327	—		
		30		DTNF361	DTNF361R		
		60		DTNF362	DTNF362R		
	4	100		DTNF363	DTNF363R		
		200		DTNF364	DTNF364R		
		400		DTNF365	DTNF365R		
		600		DTNF366	DTNF366R		
General Duty Non-fusible							
	240 Volt AC or 250 Volt DC	2	100	—	DTGNF223R		
			200	—	DTGNF224R		
		3	100	—	DTGNF323R		
			200	—	DTGNF324R		



HNC264

Standards and Ratings

- UL Listed under file #E4776
- Meets UL98 for switches and UL50 for enclosures
- Meets federal spec WS865C
- Suitable for use as Transfer Equipment on optional standby systems as defined by Article 702 of the NEC
- Meets NEMA Standard KS-1 for enclosed switches
- Meets NEC wire bending space requirements
- AIC Ratings
General Duty & 4 Pole Heavy Duty
10,000 AIC when protected by Class H or 100,000 AIC when protected by Class R, J or T fuses (fuse ampere rating must not exceed switch ampere rating)
- Heavy Duty
10,000 AIC with Class H or 200,000 AIC when used with or protected by Class R, J or T fuses (fuse ampere rating must not exceed switch ampere rating)

Features

- Quick-make and break switching action
- Visible blade, double break construction
- Highly visible ON/OFF indication
- Modular design allows quick and easy replacement of parts
- Front removable lugs which can easily be converted to copper body or compression type lugs
- Defeatable dual cover interlock on 2 and 3 pole switches
- Suitable for use as Service Equipment
- All copper current carrying parts ②
- Tangential knockouts (30-200A)
- Handle is padlockable in OFF position

Fuse Capabilities of Fusible Switches

Amp Rating	Fuse Type			
	H	R	T	J
30 & 60A, 240V	Std	Yes (kit)	No	No
30 & 60A, 600V	Std	Yes (kit)	No	Yes ③
100 & 200A	Std	Yes (kit)	Yes (kit)	Yes ③
400 & 600A	No	No	Yes ③	Std.

① Typical wiring diagrams for 30-200 amp switches are shown.

② Lugs are aluminum alloy as standard. Optional copper body lugs are available.

③ Move load side base.

Accessories – 2 and 3 Pole Switches Only

Description	Catalog Number
Neutral Kits	
30A	HNC612
60 & 100A	HN263
200A	HNC264
400 & 600A	HN678
800 & 1200A	HND678
Equipment Ground Kits	
30-200A (2) #14-4 AWG	HG61234
400 & 600A (4) #14-2/0	HG656
800-1200A (8) #6-350 Kcmil	HG678
Auxiliary Contacts (HD only) (two required per switch)	
30-200A with (1) NO & (1) NC contact	HA161234
30-200A with (2) NO & (2) NC contacts	HA261234
400-1200A with (1) NO & (1) NC contact	HA165678
400-1200A with (2) NO & (2) NC contacts	HA265678
Class R Fuse Clip Kits (two required per switch)	
30A, 240V Kit	HR21
30A, 600V Kit/60A, 240V Kit	HR612
60A, 600V Kit	HR62
100A Kit	HR63
200A Kit	HR64
Class T Fuse Adapter Kits (two required per pole)	
100A, 240V Kit	HT23
100A, 600V Kit	HT63
200A, 240V Kit	HT24
200A, 600V Kit	HT64
Type 3R Hubs (30-200A)	
For ¾" Conduit	HS075
For 1" Conduit	HS100
For 1 ¼" Conduit	HS125
For 1 ½" Conduit	HS150
For 2" Conduit	HS200
For 2 ½" Conduit	HS250

Accessories – 4 Pole Switches Only

Description	Catalog Number
Auxiliary Switch (two required per switch)	
30-800A	DS200EK1 (1) NO, (1) NC DS200EK2 (2) NO, (2) NC
Ground Lug Kit	
30-60-100A	DSG100GK
200A	DSG200GK
400-600-800A	DSG468GK
Hubs	
30-60-100A	Use Type HR Hubs
200-400A	Use Type SSH 4, 4X Hubs
600-800A	Use Type SSH 4, 4X Hubs

Replacement Parts – 2 and 3 Pole Switches Only^①

Description	Catalog Number
30-200A	
Type 1, 3R & 12 Replacement Handle	HHD61234
Type 4X Replacement Handle	HHD61234S
400-1200A	
Replacement Handle	HHD678

^① For replacement line bases, load bases, mechanisms and lugs, see page 3-34 of the 2004 SPEEDFAX.

^② 4 pole switches rated 20HP at 600V, 3 phase.



DTF362

Wire Ranges (Line, Load and Neutral) per NEC Requirements

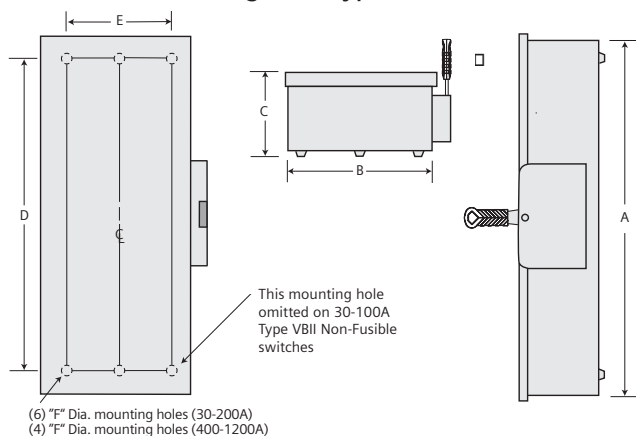
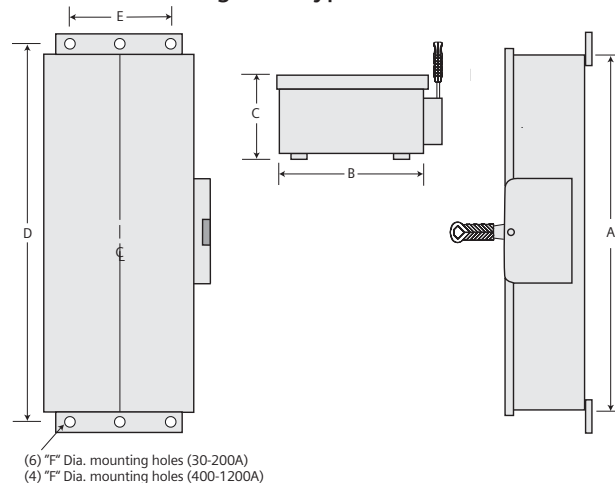
Switch Ampere Rating	Wire Range (Cu/Al) New VBII Design Line, Load and Neutral
30-200A – 2, 3 & 4 Pole Switches	
30	(1) #14-6
60	(1) #14-2
100	(1) #14-1/0 AWG
200	(1) #6-250 Kcmil
400-1200A – 2 & 3 Pole Switches	
400	(1) 1/0 AWG-750 Kcmil or (2) 1/0 AWG-250 Kcmil
600	(2) 1/0 AWG-500 Kcmil
800	(2) 1/0 AWG-750 Kcmil or (3) 1/0 AWG-400 Kcmil
1200	(3) 1/0 AWG-600 Kcmil or (4) 1/0 AWG-500 Kcmil
400-800A – 4 Pole switches	
400	(2) 1/0 AWG-300 Kcmil or (1) 1/0 AWG-750 Kcmil
600	(2) 250-500 Kcmil
800	(3) 250-500 Kcmil

Maximum Horsepower Ratings

Ampere Rating	1 Phase AC 240V	3 Phase AC			250V DC
		240V	480V	600V	
Fused					
30	3	7½	15	20	5
60	10	15	30	50	10
100	15	30	60	75	20
200	15	60	125	150	40
400	—	125	125	125	50
600	—	125	—	—	50
Non-Fused					
30	5	10	20	30 ^②	5
60	10	20	50	60	10
100	15	40	75	100	20
200	15	60	125	150	40
400-800	—	125	250	350	50

VBII Design Double Throw Dimensions – Inches (mm)

Catalog Number	Enclosure			Mounting		
	A	B	C	D	E	F
Figure 1 (30-1200A Type 1 & 3R)						
DTNF221, DTNF321, DTNF361, DTNF361R	24.50 (622)	9.53 (242)	6.09 (155)	19.00 (483)	6.75 (171)	0.268 (7)
DTF321, DTF321R, DTF361	29.12 (740)	9.53 (242)	6.09 (155)	23.50 (597)	6.75 (171)	0.268 (7)
DTNF222, DTNF322, DTNF362, DTNF362R	24.88 (632)	11.50 (292)	6.09 (155)	19.00 (483)	9.38 (238)	0.268 (7)
DTF322, DTF322R, DTF362	33.53 (852)	11.50 (292)	6.09 (155)	27.50 (699)	9.38 (238)	0.268 (7)
DTNF223, DTNF323, DTNF323R, DTNF363, DTNF363R, DTGNF223R, DTGNF323R	27.62 (702)	12.18 (309)	6.09 (155)	19.36 (492)	8.00 (203)	0.268 (7)
DTF323, DTF323R, DTF363, DTF363R	36.44 (926)	12.18 (309)	6.09 (155)	28.11 (714)	8.00 (203)	0.268 (7)
DTNF224, DTNF244R, DTNF324, DTNF324R, DTNF364, DTNF364R, DTGNF224R, DTGNF324R	36.00 (914)	19.12 (486)	6.42 (163)	30.88 (784)	15.00 (381)	0.44 (11)
DTF224, DTF224R, DT324, DT324R, DT364, DT364R	49.48 (1257)	19.12 (486)	6.42 (163)	44.50 (1130)	15.00 (381)	0.44 (11)
DTF325, DTF326, DTF365	74.00 (1880)	28.38 (721)	9.38 (238)	65.50 (1664)	16.00 (406)	0.56 (14)
DTNF225, DTNF225R, DTNF325, DTNF365, DTNF365R	57.78 (1468)	28.38 (721)	9.38 (238)	49.75 (1264)	16.00 (406)	0.56 (14)
DTNF326, DTNF366, DTNF366R	57.78 (1468)	28.38 (721)	9.38 (238)	49.75 (1264)	16.00 (406)	0.56 (14)
DTNF327, DTNF367, DTNF367R	71.65 (1820)	40.10 (1019)	9.38 (238)	63.70 (1618)	32.00 (813)	0.56 (14)
DTNF368, DTNF368R	71.65 (1820)	40.10 (1019)	9.38 (238)	63.70 (1618)	32.00 (813)	0.56 (14)
NFR451DTK, ③ NFR452DTK, ③ NFR453DTK ③	24.63 (626)	11.63 (295)	4.78 (121)	21.50 (546)	9.25 (235) ①	0.25 (6) ①
NFR454DTK ③	37.25 (946)	19.19 (487)	6.32 (161)	33.50 (851)	16.00 (406) ②	0.56 (14) ②
NF455DTK, ③ NF456DTK, ③ NF457DTK, ③ NFR455DTK, ③ NFR456DTK, ③ NFR457DTK ③	63.31 (1608)	27.00 (686)	8.88 (226)	58.50 (1486)	22.25 (565)	0.56 (14)
Figure 2 (30-200A Type 12 & 4X)						
DTNF361J, DTNF361S	24.50 (622)	9.53 (242)	6.48 (165)	26.65 (677)	5.47 (139)	0.27 (7)
DTNF362J, DTNF362S	24.88 (632)	11.50 (292)	6.48 (165)	27.03 (687)	8.00 (203)	0.27 (7)
DTNF363J, DTNF363S	27.54 (700)	12.18 (309)	6.48 (165)	29.77 (756)	8.47 (215)	0.27 (7)
DTNF364J, DTNF364S	36.00 (914)	19.12 (486)	6.78 (172)	38.16 (969)	13.44 (341)	0.33 (8)

Figure 1: Type 1 & 3R ④

Figure 2: Type 4X & 12


- ① (3) mounting holes provided (1) at top. ③ These switches are not Type VBII design.
 ② (4) mounting holes provided. ④ Drip hood not shown but supplied on Type 3R enclosures.

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