



## Double throw safety switches

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.

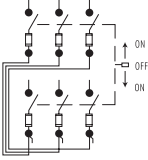
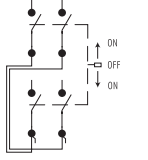
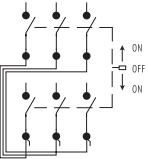
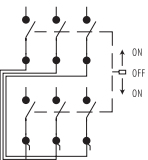
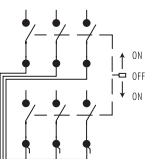
A cover interlock is provided on all ampere ratings. The operating handle may be padlocked in the OFF position.

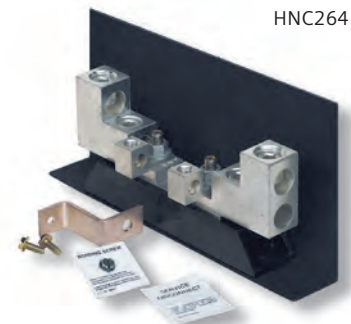
### Features

- Quick-make and break switching action
- Visible blade 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 in most ratings
- Defeatable dual cover interlock on 2 and 3 pole Type "DT" switches
- 2 and 3 pole switches are suitable for use as service equipment

# Double throw switches

System 1)	Voltage	Number of poles	Amps	Type 1 Indoor	Type 3R Outdoor
				Catalog number	Catalog number
<b>Heavy duty fusible 2)</b>					
	240 Volt AC or 250 Volt DC	2	200	DTF224	DTF224R
			3	30	DTF321
		60		DTF322	DTF322R
		100		DTF323	DTF323R
		200		DTF324	DTF324R
		600 Volt AC, 250 Volt DC	3	400	DTF325
	600			DTF326	FR326DTK
	30			DTF361	—
	60			DTF362	—
	  	240 Volt AC or 250 Volt DC	2	30	DTNF221
3				60	DTNF222
			100	DTNF223	—
			200	DTNF224	DTNF224R
			400	DTNF225	DTNF225R
600 Volt AC or 250 Volt DC			3	30	DTNF321
		60		DTNF322	—
		100		DTNF323	DTNF323R
		200		DTNF324	DTNF324R
		4 3)	400	DTNF325	—
	600		DTNF326	—	
	800		DTNF327	—	
	30		DTNF361	DTNF361R	
60	DTNF362	DTNF362R			
100	DTNF363	DTNF363R			
200	DTNF364	DTNF364R			
400	DTNF365	DTNF365R			
600	DTNF366	DTNF366R			
800	DTNF367	DTNF367R			
1200	DTNF368	DTNF368R			
<b>Heavy duty non-fusible 1)</b>				<b>Type 12/3R Industrial</b>	<b>Type 4X Stainless steel</b>
	600 Volt AC, 250 Volt DC	3	30	DTNF361J	DTNF361S
			60	DTNF362J	DTNF362S
			100	DTNF363J	DTNF363S
			200	DTNF364J	DTNF364S
			400	NF355HDTK	NF355SDTK
			<b>General duty non-fusible</b>		
				<b>Type 3R – Outdoor</b>	
	240 Volt AC or 250 Volt DC	2	100	With neutral DTGNF223NR	Less neutral DTGNF223R
			200	DTGNF224NR	DTGNF224R
		3	100	DTGNF323NR	DTGNF323R
			200	DTGNF324NR	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 100,000 AIC when used with or protected by Class R, J or T fuses (fuse ampere rating must not exceed switch ampere rating)

### Fuse capabilities of "DTF" type 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 4)
100 & 200A	Std.	Std.	Yes (kit)	Yes 4)
400 & 600A	No	No	Yes 4)	Std.

### Fuse capabilities of "F" and "FR" type fusible switches

Amp and volt rating	Fuse type			
	H	R	T	J
100A, 600V	Std.	—	—	—
200A, 600V	Std.	—	—	—
400A, 240V	Std.	—	—	—
400A, 600V	—	—	Std.	—
600A, 240V	—	—	Std.	—

1) Typical wiring diagrams for 30-200 amp switches are shown.  
 2) 100-400A fusible, 3 pole fusible switches (catalog numbers F353SSDTK, F354SSDTK and F355SSDTK) are also available.  
 3) 200A, 4 pole stainless Type 4X switch, catalog number NF454SSDTK, is also available.  
 4) Move load side base.

## Accessories and wire ranges

### Accessories – 2 and 3 pole type “DT” switches only

Description	Catalog number	
<b>Neutral kits</b>		
30A	HNC612	
60 & 100A	HN263	
200A	HNC264	
400 & 600A	HN678	
800 & 1200A	HND678	
<b>Equipment ground kits</b>		
30-200A	(2) #14-4 AWG	HG61234
400 & 600A	(4) #14-2/0	HG656
800-1200A	(8) #6-350 Kcmil	HG678
<b>Auxiliary contacts (HD only) (two required per switch)</b>		
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
<b>Class R fuse clip kits (two required per switch)</b>		
30A, 240V kit	HR21	
30A, 600V kit/60A, 240V kit	HR612	
60A, 600V kit	HR62	
100A Kit	HR63	
200A Kit	HR64	
<b>Class T fuse adapter kits (two required per pole)</b>		
100A, 240V Kit	HT23	
100A, 600V Kit	HT63	
200A, 240V Kit	HT24	
200A, 600V Kit	HT64	
<b>Type 3R hubs (30-200A)</b>		
For 3/4" Conduit	ECHS075	
For 1" Conduit	ECHS100	
For 1 1/4" Conduit	ECHS125	
For 1 1/2" Conduit	ECHS150	
For 2" Conduit	ECHS200	
For 2 1/2" Conduit	ECHS250	

### Accessories – 4 pole and type “F” and “NF” 3 pole switches only

Description	Catalog number
<b>Neutral kits (for 3 pole switches only)</b>	
100A	DT100NK
200A	DT200NK
400 and 600A fusible	DS800NK
400A 3P non-fusible	DT600NK
<b>Auxiliary switch (two required per switch)</b>	
30-800A	DS200EK1 (1) NO, (1) NC DS200EK2 (2) NO, (2) NC
<b>Ground lug kit</b>	
30-60-100A	DSG100GK
200A	DSG200GK
400-600-800A	DSG468GK
<b>Hubs</b>	
30-60-100A	Use Type HR hubs (3R)
400A	Use Type SSH 4, 4X hubs

### Replacement parts – 2 and 3 pole switches only <sup>1)</sup>

Description	Catalog number
<b>30-200A</b>	
Type 1, 3R & 12 replacement handle	HHD61234
Type 4X replacement handle	HHD61234S
<b>400-1200A</b>	
Replacement handle	HHD656

1) For replacement line bases, load bases, mechanisms and lugs, see page 3-34 of the 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
<b>30-200A – 2, 3 &amp; 4 pole switches</b>	
30	(1) #14-6
60	(1) #14-2
100	(1) #14-1/0 AWG
200	(1) #6-250 Kcmil
<b>400-1200A – 2 &amp; 3 pole switches</b>	
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
<b>400-800A – 4 pole switches</b>	
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		3 Phase AC		250 DC
	240V	240V	480V	600V	
<b>Fused</b>					
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
<b>Non-fused</b>					
30	5	10	20	30 <sup>2)</sup>	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
<b>Figure 1 (30-1200A Type 1 &amp; 3R)</b>						
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, DTGNF223NR, DTGNF323R, DTGNF323NR	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, DTGNF224NR, DTGNF324R, DTGNF324NR	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, <sup>3)</sup> NFR452DTK, <sup>3)</sup> NFR453DTK <sup>3)</sup>	24.63 (626)	11.63 (295)	4.78 (121)	21.50 (546)	9.25 (235) <sup>1)</sup>	0.25 (6) <sup>1)</sup>
NF454DTK, <sup>3)</sup> NFR454DTK <sup>3)</sup>	37.25 (946)	19.19 (487)	6.32 (161)	33.50 (851)	16.00 (406) <sup>2)</sup>	0.56 (14) <sup>2)</sup>
NF455DTK, <sup>3)</sup> NF456DTK, <sup>3)</sup> NF457DTK, <sup>3)</sup> NFR455DTK, <sup>3)</sup> NFR456DTK, <sup>3)</sup> NFR457DTK <sup>3)</sup>	63.31 (1608)	27.00 (686)	8.88 (226)	58.50 (1486)	22.25 (565)	0.56 (14)
<b>Figure 2 (30-200A Type 12 &amp; 4X)</b>						
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<sup>4)</sup>

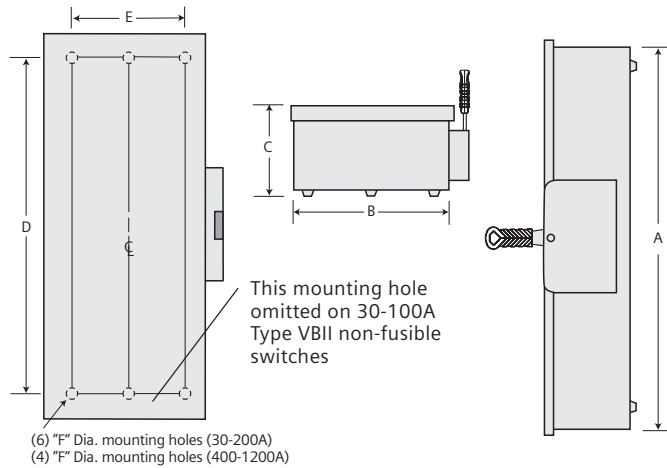
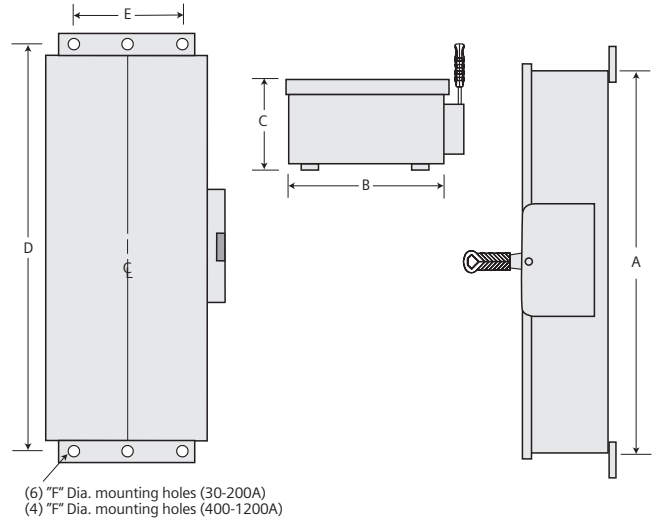


Figure 2: Type 4X & 12



1) (3) mounting holes provided (1) at top.  
2) (4) mounting holes provided.

3) These switches are not Type VBII design.  
4) Drip hood not shown but supplied on Type 3R enclosures.

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