

# Special Application Safety Switches Dimension Drawings

## Double Throw

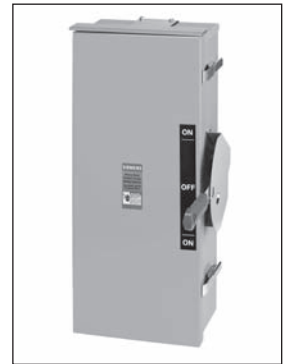
Selection

### Description

Double throw switches are intended to transfer loads from one power source to another. All 2 & 3-pole double throw switches are suitable for use as service equipment including non-fusible versions when used in combination with a UL listed circuit breaker or fusible switch. All are UL Listed and both horsepower and load break rated. Switches are rated for use on systems up to 10,000A when protected with Class H fuses or 100,000A when protected with Class R or Class T fuses<sup>②</sup>. They can also be used to connect a single source of power to either of two loads. In this application it is necessary to field modify fusible

switches so that the fuses are on the load side of the switching mechanism.

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



### Fuse Capabilities of Fusible DTF 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 <sup>③</sup>
100 & 200A	Std	Yes (kit)	Yes (kit)	Yes <sup>③</sup>
400 & 600A (DTF)	No	No	Yes <sup>③</sup>	Std

### Double Throw Switches

System	Voltage	Number of Poles	Amps	Type 1 — Indoor	Type 3R — Outdoor <sup>①</sup>	Type 12/3R — Industrial	Type 4X — Stainless Steel
				Catalog Number	Catalog Number	Catalog Number	Catalog Number

#### Heavy Duty Fusible (30-200A) with Class H fuse spacings —Less Neutral<sup>②</sup>

	240 Volt AC or 250 Volt DC	2	200	DTF224▲	DTF224R	—	—
			30	DTF321	DTF321R▲	—	—
			60	DTF322	DTF322R▲	—	—
		3	100	DTF323▲	DTF323R	—	—
			200	DTF324	DTF324R	—	—
			400	DTF325	FR325DTK <sup>④</sup> ▲	—	—
	600 Volt AC, 250 Volt DC	3	600	DTF326▲	FR326DTK <sup>④</sup> ▲	—	—
			30	DTF361	—	—	—
			60	DTF362▲	—	—	—
		100	DTF363	DTF363R	—	F353SSDTK <sup>④</sup> ▲	
		200	DTF364	DTF364R	—	F354SSDTK <sup>④</sup> ▲	
		400	DTF365	FR355DTK <sup>④</sup> ▲	—	F355SSDTK <sup>④</sup> ▲	

#### Heavy Duty Non-Fusible —Less Neutral<sup>②</sup>

	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		DTNF326	—	—	—
		600 Volt AC, or 250 Volt DC	3	800	DTNF327▲	—	—
	30			DTNF361	DTNF361R	DTNF361J	DTNF361S
	60			DTNF362	DTNF362R	DTNF362J	DTNF362S
	100			DTNF363	DTNF363R	DTNF363J	DTNF363S
	200			DTNF364	DTNF364R	DTNF364J▲	DTNF364S
	400			DTNF365	DTNF365R	NF355HDTK	NF355SSDTK
	600		DTNF366	DTNF366R	—	—	
	800		DTNF367	DTNF367R	—	—	
	1200		DTNF368▲	DTNF368R	—	—	
	4 <sup>⑤</sup>		30	—	NFR451DTK▲	—	—
			60	—	NFR452DTK▲	—	—
			100	—	NFR453DTK▲	—	—
		200	NF454DTK	NFR454DTK▲	—	NF454SSDTK▲	
400		NF455DTK▲	NFR455DTK▲	—	—		
600		NF456DTK▲	NFR456DTK▲	—	—		
800	NF457DTK▲	NFR457DTK▲	—	—			

#### General Duty Non-Fusible

	Voltage	Number of Poles	Amps	Type 3R — Outdoor <sup>①</sup> Less Neutral	Type 3R — Outdoor <sup>①</sup> With Neutral	Type 3R — Outdoor General Duty With Neutral <sup>②</sup>
				Catalog Number	Catalog Number	Catalog Number
	240 Volt AC	2	100	DTGNF223R	DTGNF223NR	DTLNF213NR
			200	DTGNF224R	DTGNF224NR	—
	3	100	DTGNF323R	DTGNF323NR	—	
		200	DTGNF324R	DTGNF324NR	—	

▲ Built to order. Allow 3-4 weeks for delivery.

① Use HS Type hubs for 30-200A switches.

400A and larger switches do not have hub provisions.

② All Heavy Duty double throw switches with a catalog number starting with "DT" are rated 200,000 AIC max.

when protected by Class R, J or T fuses. Fuse ampere rating must not exceed switch ampere rating.

③ Move load base.

④ Will accept class T Fuses only.

⑤ 4-pole switches are not approved for service entrance.

⑥ Will accept class H fuses only.

⑦ General duty Stand-by Power Panel catalog number DTLNF213NR contains (2) 100A, 2P circuit breakers rated 120/240V AC & 10,000 AIC.

# Safety Switches

## Double Throw

Selection

Accessories, Lug Data and Horsepower Ratings

### Accessories – 2 and 3-Pole Switches Type “DT” Only<sup>Ⓞ</sup>

Description	Catalog Number	
<b>Neutral Kits</b>	30A 60 & 100A 200A 400 & 600A 800 & 1200A	HNC612 HN263 HNC264 HN678 HND678
<b>Equipment Ground Kit</b>	30-200A (2) #14-4 AWG 400 & 600A (4) #14-2/0 800-1200A (8) #6-350 Kcmil	HG61234 HG656 HG678
<b>Auxiliary Contacts (HD only) (two required per switch)<sup>Ⓞ</sup></b>	30-200A with (1) NO & (1) NC contact 30-200A with (2) NO & (2) NC contacts 400-1200A with (1) NO & (1) NC contact 400-1200A with (2) NO & (2) NC contacts	HA161234 HA261234 HA165678 HA265678
<b>Class R Fuse Clip Kits (two required per switch)</b>	30A, 240V Kit 30A, 600V Kit/60A, 240V Kit 60A, 600V Kit 100A Kit 200A Kit	HR21 HR612 HR62 HR63 HR64
<b>Class T Fuse Adapter Kits (two required per pole)</b>	100A, 240V Kit 100A, 600V Kit 200A, 240V Kit 200A, 600V Kit	HT23 HT63 HT24 HT64
<b>Type 3R Hubs (30-200A)</b>	For ¾" Conduit For 1" Conduit For 1 ½" Conduit For 2" Conduit For 2 ½" Conduit	ECHS075 ECHS100 ECHS125 ECHS150 ECHS200 ECHS250

### Accessories – 4-Pole and Type “F” & “NF” 3-Pole Switches Only<sup>Ⓞ</sup>

Description	Catalog Number	
<b>Auxiliary Switch (two required per switch)</b>	30-800A (1) NO, (1) NC <sup>Ⓞ</sup> (2) NO, (2) NC <sup>Ⓞ</sup>	DS200EK1 DS200EK2
<b>Ground Lug Kit<sup>Ⓞ</sup></b>	30-60-100A 200A 400-600-800A	DS100GK DS200GK DS468GK
<b>Hubs</b>	30-60-100A Use Type HR Hubs 200-400A Use Type SSH 4, 4X Hubs 600-800A Use Type SSH 4, 4X Hubs	
<b>Neutrals (3-pole only)</b>	30-60-100A 200A 400 & 600A Fusible 400A 3P Non-Fusible	DT100NK DT200NK DS800NK DT600NK

### Maximum Horsepower Ratings

#### Fused

Ampere Rating	1-Phase AC		3-Phase AC			250V DC
	240V	240V	240V	480V	600V	
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	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

▲ Built to order. Allow 6-8 weeks for delivery.

Ⓞ For “DT” VBII Type switches only.

Ⓞ Also for fusible stainless & 400A Type 12 & 4x switches.

Ⓞ The following ground lugs are provided as standard in 200A and larger switches 200-(1) #14-4 Cu/Al 400-800A-(3) #6-250MCM Cu/Al.

Ⓞ One aux. required for normal and one required for emergency switch line base.

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

#### 30-200A – 2, 3 & 4-Pole Switches

Switch Ampere Rating	Wire Range (Cu/Al) New VBII Design Line, Load and Neutral
30	(1) #14-6
60	(1) #14-2
100	(1) #14-1/0 AWG
100	(1) #14-1/0 AWG
200	(1) #6-250 kcmil

#### 400-1200A – 2 & 3-Pole Switches

Switch Ampere Rating	Wire Range (Cu/Al) New VBII Design Line, Load and Neutral
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-500 kcmil
1200	(3) 1/0 AWG-600 kcmil or (4) 1/0 AWG-500 kcmil

#### 400-800A – 4-Pole switches

Switch Ampere Rating	Wire Range (Cu/Al) New VBII Design Line, Load and Neutral
400	(2) 1/0 AWG-300 kcmil or (1) 1/0 AWG-750 kcmil
600	(2) 250-500 Kcmil
800	(3) 250-500 Kcmil

### Replacement Parts – 2 and 3-Pole Switches Only<sup>Ⓞ</sup>

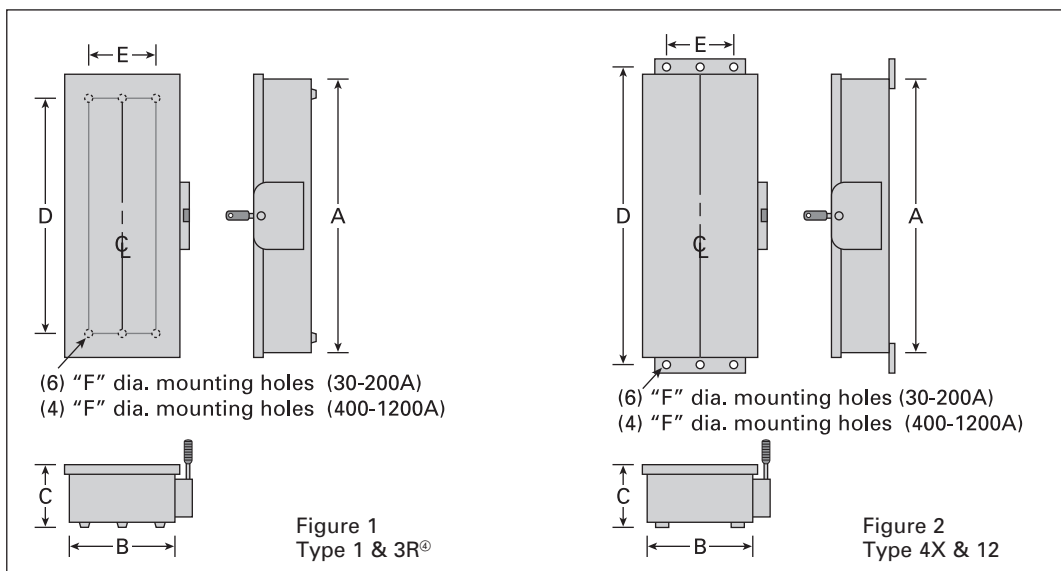
Description	Catalog Number
Type 1, 3R & 12 Replacement Handle	30-200A HHD61234
Type 4X Replacement Handle	30-200A HHD61234S
Replacement Handle	400-1200A HHD656

# Safety Switches

## Dimensions

### VIII Design Double Throw Dimensions (Inches)

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	9.53	6.09	19.00	6.75	0.268
DTF321, DTF321R, DTF361	29.12	9.53	6.09	23.50	6.75	0.268
DTNF222, DTNF322, DTNF362, DTNF362R	24.88	11.50	6.09	19.00	9.38	0.268
DTF322, DTF322R, DTF362	33.45	11.50	6.09	27.50	9.38	0.268
DTNF223, DTNF323, DTNF323R, DTNF363, DTNF363R, DTGNF223R, DTGNF223NR, DTGNF323R, DTGNF323NR	27.62	12.18	6.09	19.36	8.00	0.268
DTF323, DTF323R, DTF363, DTF363R	36.44	12.18	6.09	28.11	8.00	0.268
DTNF224, DTNF224R, DTNF324, DTNF324R, DTNF364, DTNF364R, DTGNF224R, DTGNF224NR, DTGNF324R, DTGNF324NR	36.00	19.12	6.42	31.00	15.00	0.44
DTF224, DTF224R, DTF324, DTF324R, DTF364, DTF364R	49.44	19.12	6.42	44.50	15.00	0.44
DTF325, DTF326, DTF365	73.54	28.22	9.44	65.50	16.00	0.56
DTNF225, DTNF225R, DTNF325, DTNF365, DTNF365R	57.71	28.22	9.44	49.75	16.00	0.56
DTNF326, DTNF366, DTNF366R	57.71	28.22	9.44	49.75	16.00	0.56
DTNF327, DTNF367, DTNF367R	71.65	41.60	9.44	63.70	32.00	0.56
DTNF368, DTNF368R	71.65	41.60	9.44	63.70	32.00	0.56
FR325DTK <sup>Ⓞ</sup> , FR355DTK <sup>Ⓞ</sup>	74.31	24.90	8.88	69.50	20.25	0.56
FR326DTK <sup>Ⓞ</sup>	85.65	27.00	8.88	80.75	22.25	0.56
NFR451DTK <sup>Ⓞ</sup> , NFR452DTK <sup>Ⓞ</sup> , NFR453DTK <sup>Ⓞ</sup>	24.63	11.63	4.78	21.50	9.25 <sup>Ⓛ</sup>	0.25 <sup>Ⓛ</sup>
NF454DTK <sup>Ⓞ</sup> , NFR454DTK <sup>Ⓞ</sup>	37.25	19.19	6.32	33.50	16.00 <sup>Ⓜ</sup>	0.56 <sup>Ⓜ</sup>
NF455DTK <sup>Ⓞ</sup> , NF456DTK <sup>Ⓞ</sup> , NF457DTK <sup>Ⓞ</sup> , NFR455DTK <sup>Ⓞ</sup> , NFR456DTK <sup>Ⓞ</sup> , NFR457DTK <sup>Ⓞ</sup>	63.31	27.00	8.88	58.50	22.25 <sup>Ⓜ</sup>	0.56 <sup>Ⓜ</sup>
<b>Figure 2 (30-200A Type 12 &amp; 4X)</b>						
DTNF361J, DTNF361S	24.42	9.65	6.48	26.65	5.47	0.27
DTNF362J, DTNF362S	24.80	11.61	6.48	27.03	8.00	0.27
DTNF363J, DTNF363S	27.54	12.29	6.48	29.77	8.47	0.27
DTNF364J, DTNF364S	35.93	19.24	6.78	38.16	13.44	0.33
NF355HDTK <sup>Ⓞ</sup> , NF355SSDTK <sup>Ⓞ</sup>	53.82	22.66	7.25	56.20	18.00	0.56
NF454SSDTK <sup>Ⓞ</sup>	37.47	19.16	6.48	39.75	15.75	0.50 <sup>Ⓜ</sup>
F353SSDTK <sup>Ⓞ</sup>	37.00	11.62	5.50	38.50	9.00	0.26
F354SSDTK <sup>Ⓞ</sup>	50.90	19.16	6.46	53.27	16.12	0.50
F355SSDTK <sup>Ⓞ</sup>	74.50	25.00	8.92	76.69	20.25	0.56



\*For inches / millimeters conversion, multiply inches by 25.4.

Ⓞ (3) Mounting holes supplied (1 at top).  
 Ⓞ (4) Mounting holes provided.

Ⓞ These switches are not Type VIII design.  
 Ⓞ Drip hood not shown but provided on Type 3R enclosures.