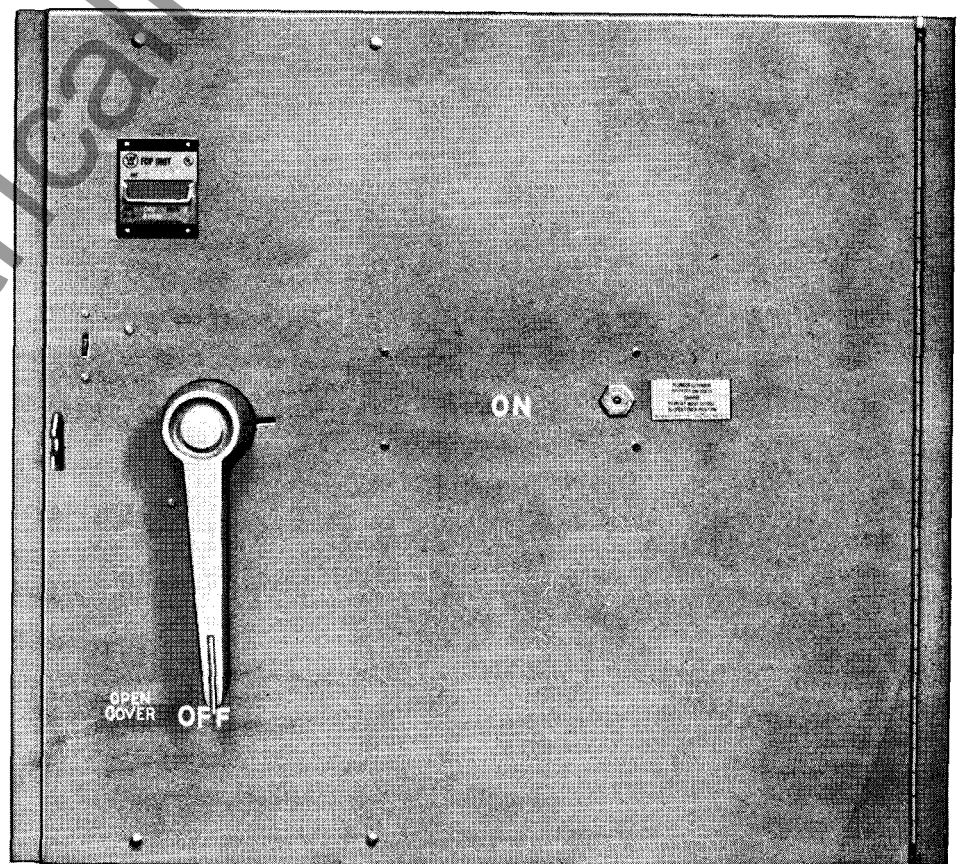
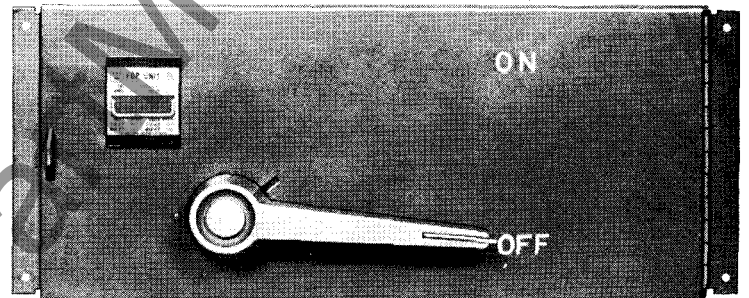
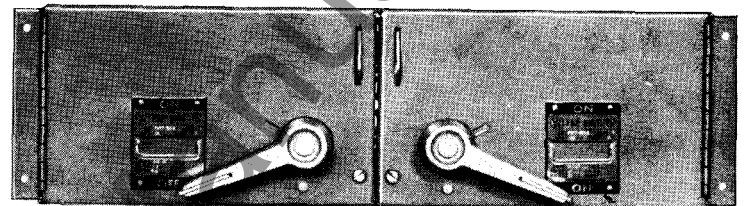




## FDP Fusible Panelboard Switches

4/14/80 - J. L. L. W. A.  
ALL FDP SWITCHES  
ARE CONSIDERED AS  
LOAD-BREAK.  
BZT



### Application

Westinghouse Type FDP fusible panelboard switches are designed for commercial, industrial and service entrance applications to protect and switch branch and feeder circuits. All ratings and sizes can be installed in standard convertible distribution panelboard chassis. All standard FDP switches thru 600 amperes are designed for use with standard NEC fuses, but can be modified to accept Class J current limiting fuses.

### User Benefits

All standard switches through 1200 amperes are UL Listed.

Shunt trip attachments for use with ground fault protection devices can be installed on 400-1200 amp switches. Switch and shunt trip are UL Listed when shunt trip is factory installed.

Switch cover and operating handle are interlocked so cover cannot be opened when switch is "ON". Operating handle can be padlocked in ON and OFF position, and cover can be padlocked when closed.

All switches in all ratings feature DE-ION® arc quenchers and quick-make – quick-break operating mechanisms for maximum contact life.

Highest horsepower ratings of comparable switches.

Fuse holders easily accessible for insertion and removal of fuses.

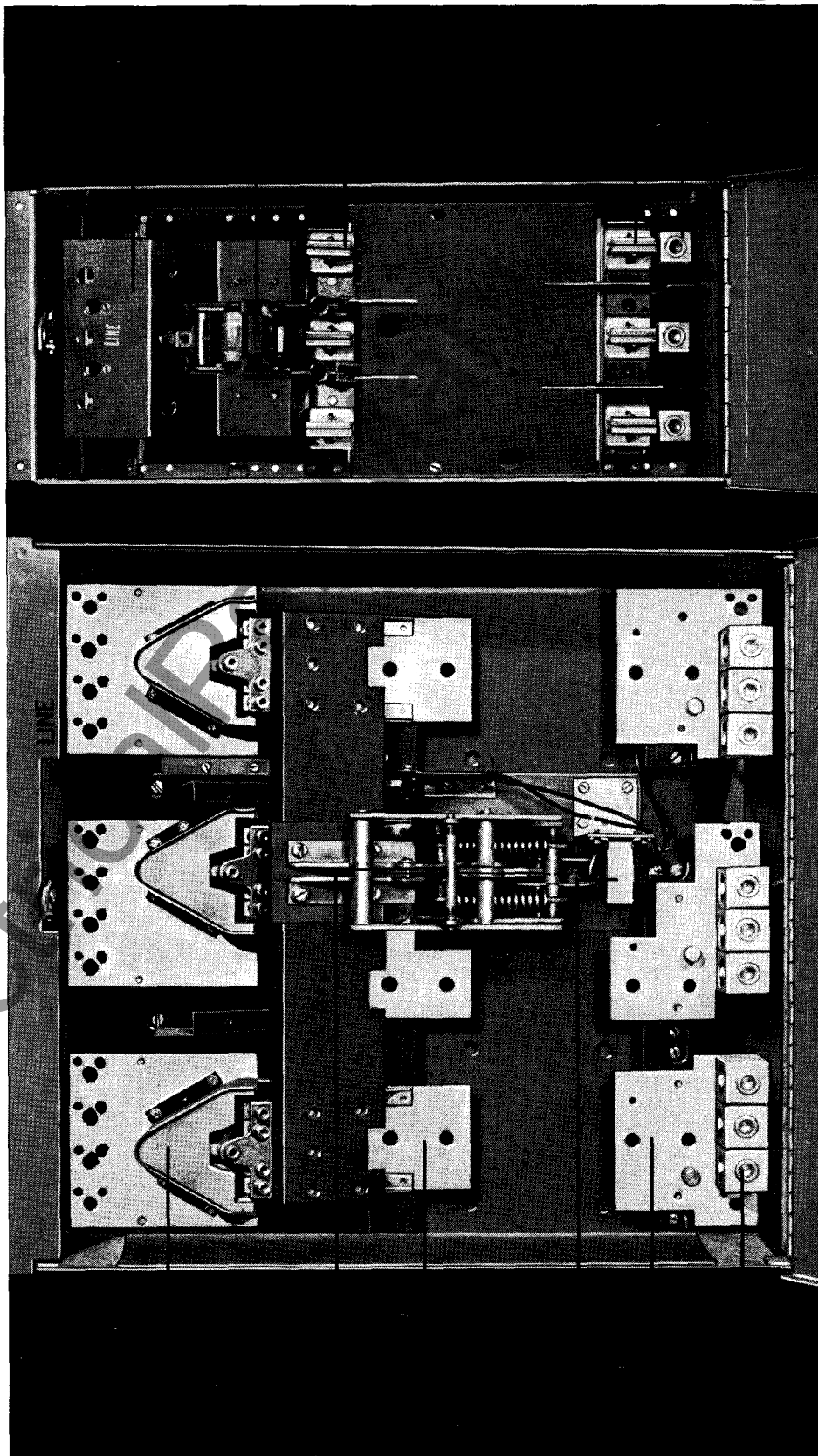
Extension "wings" for 18" wide units permit their use in standard 22" wide panelboards.

Optional terminals for 400-1200 ampere switches permit use of oversize aluminum cables.

Enclosures for 400-1200 ampere switches are designed to prevent heating from magnetic loops when used with a separate neutral.

200-1200 amp switches are suitable for branch or main switch applications.

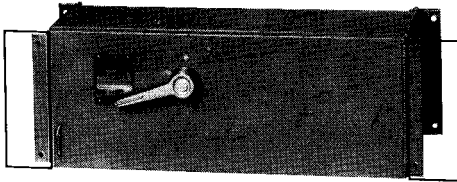
Shunt trip indicator on cover of 800-1200 amp switches provides visual indication of switch position.



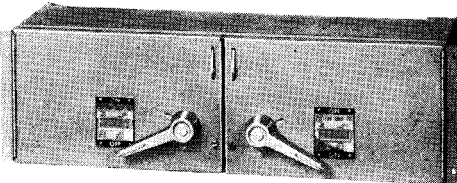
### Description

Westinghouse fusible distribution panelboard (FDP) switches are rugged, compact, switches housed in sturdy, heavy-gauge metal enclosures.

All switches are 7 $\frac{1}{8}$ " deep. Ratings 30 thru 200 amps are 18" wide, all other ratings are 22" wide. Eighteen inch (18") wide units can be fitted with extension wings to permit their installation in standard 22" wide convertible panelboard chassis.



18" Switch with Extension Wings



22" Wide Switch

Covers of all switches are interlocked with the operating handle to prevent opening the cover when the switch is ON. The cover can be padlocked closed, and the operating handle can be padlocked either ON or OFF. A metal nameplate on the cover of each switch identifies the unit and includes a card holder for customer circuit identification.

FDP switches feature DE-ION® arc quenchers, quick make – quick break operating mechanism and easily accessible fuse holders. Terminals are pressure-type to accept aluminum or copper conductors, and are front accessible for ease and convenience of wiring.

### Testing

FDP switches are subjected to a three part I<sup>2</sup>T test to meet maximum standards of operation: qualification of fuses for test, short circuit test and low level current test. Typical test results are shown in the following tables.

#### Part 1: Qualification of Fuses for Test

Fuses were tested at 101,000 amps RMS symmetrical, 19% power factor, 600 volts AC, single phase.

##### Qualification Test Values<sup>①</sup>

Switch Rating Amps	Fuse Amps	Fuse Type	I <sup>2</sup> T x 10 <sup>3</sup>	Peak Current, Amps
30	100	Class J	60	11,850
60	100	Time Delay	240	21,770
100	400	Class J	620	32,675
200	600	Curr. Limit	1760	49,350
400	600	Time Delay	30400	115,200
600	600	Time Delay	30400	115,200

#### Part 2: Short Circuit Test

Switches of all ratings were subjected to a closing test on a circuit having available short circuit current of 50,100 Amps symmetrical – 600 Volts 3 Phase – 17% power factor – using appropriate fuses of the qualified type. All switches passed the test.

#### Part 3: Low Level Current Test

Switches of all ratings were subjected to a closing test on a circuit having available current as listed below – 600 Volts 3 Phase – 50% power factor. The test circuit remained closed for sufficient time to provide I<sup>2</sup>T values listed below. All switches passed the test.

##### Test Values

Switch Rating Amps	Available Fault Current (Amps)	I <sup>2</sup> T x 10 <sup>3</sup> Av. of 3 Phases
30	3,070	3,656
60	3,070	3,656
100	3,070	3,656
200	5,020	8,390
400	10,050	58,020
600	10,050	58,020

### FDP Switch Application

Maximum switch – fuse application based on short circuit current withstand (symmetrical amperes).

Switch Rating Amps	Maximum Application at 240, 480 or 600 Volts Ac		
	Time Delay Fuse Class K5	Current Limiting Fuse Class J	Current Limiting Fuse Class L
30	100,000	100,000	.....
60	100,000	100,000	.....
100	100,000	100,000	.....
200	100,000	100,000	.....
400	50,000	100,000	.....
600	50,000	100,000	.....
800	.....	.....	100,000
1200	.....	.....	100,000

### Terminal Data

Switch Ampere Rating	Conductor No.	Size	Type	Max. Terminals Per Pole
30 (Compact)	1	#14-#8	Cu	1
30, 60, 100	1	#14-#1/0	Cu/Al	1
200	1	#4-300MCM	Cu/Al	1
400 Std.	1	#4-600MCM	Cu/Al, or 1	
	2	1/0-3/0	Cu, or	
	2	1/0-250MCM	Al	
400 Opt.	1	600-750MCM	Cu/Al	1
600 Std.	1	#4-600MCM	Cu/Al, or 2	
	2	1/0-250MCM	Al, or	
	2	1/0-3/0	Cu	
600 Opt.	1	600-750MCM	Cu/Al	2
800, 1200 Std.	1	#4-600MCM	Cu/Al, or 4	
	2	1/0-3/0	Cu, or	
	2	1/0-250MCM	Al	
800 Opt.	2	500-1000MCM	Cu/Al	1
1200 Opt.	3	500-1000MCM	Cu/Al	1

### Horsepower Ratings, 600 Ampere Maximum Switches

Max. Amps	Poles	240 Volts Ac		480 Volts Ac		600 Volts Ac		240 Volts 3 Ph <sup>④</sup>		480 Volts 3 Ph <sup>④</sup>		250 Volts Dc
		Std. NEC Fuse	Max. Time Delay Fuse	Std. NEC Fuse	Max. Time Delay Fuse	Std. NEC Fuse	Max. Time Delay Fuse	Std. NEC Fuse	Max. Time Delay Fuse	Std. NEC Fuse	Max. Time Delay Fuse	
30	2	1 $\frac{1}{2}$	3	3	7 $\frac{1}{2}$	3	10	3 <sup>②</sup>	7 $\frac{1}{2}$ <sup>②</sup>	5	15	5
	3	3	7 $\frac{1}{2}$	5	15	7 $\frac{1}{2}$	20	..	..	..	..	..
60	2	3	10	5	20	10	25	7 $\frac{1}{2}$	15	15	30	10
	3	7 $\frac{1}{2}$	15	15	30	15	50	..	..	..	..	..
100	2	7 $\frac{1}{2}$	15	10	30	15	40	15	30	25	60	20
	3	15	30	25	60	30	75	..	..	..	..	..
200	2	15	..	25	50	30	50	25	60	50	100	40
	3	25	60	50	100	60	100	..	..	..	..	..
400	2	..	..	..	..	..	..	③	③	③	③	50
	3	50	100	100	250	125	350	..	..	..	..	..
600	2	..	..	..	..	..	..	③	③	③	③	..
	3	75	100	150	400	200	500	..	..	..	..	..

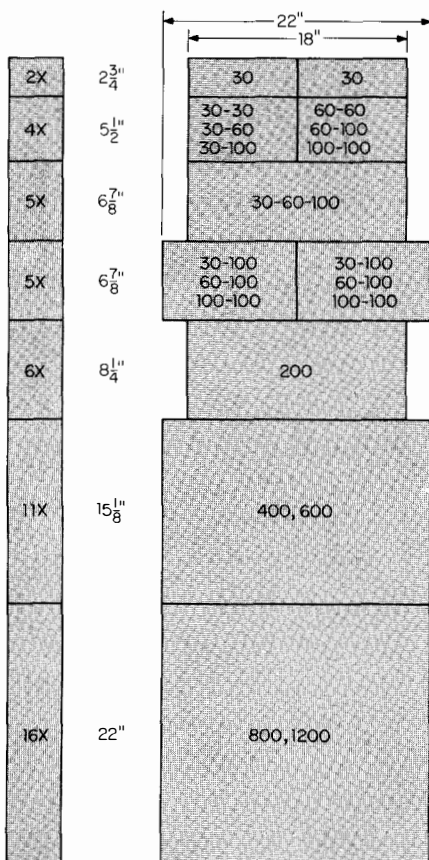
① These exceed specified values.

② Except compact 30 amp switches.

③ UL listed as a general use, amp rated switch only when used on 3 phase Delta grounded B phase systems.

④ Two pole switches used on 3-phase Delta grounded B phase system.

**Panel Layout, Inches and X Units**



**Typical Specifications**

Electrical circuits shall be protected by panel-board switches as manufactured by Westinghouse Electric Corporation or an approved equal. Panelboard switch ratings, type, modifications, etc. shall be as indicated on the drawings.

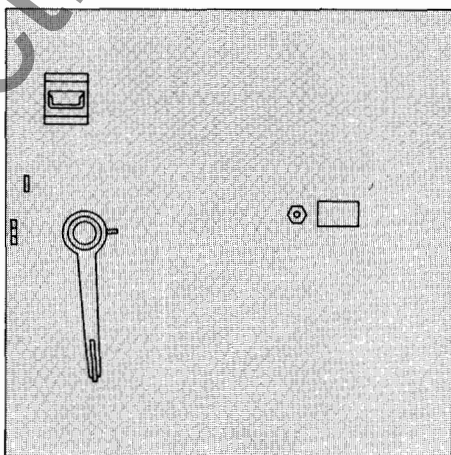
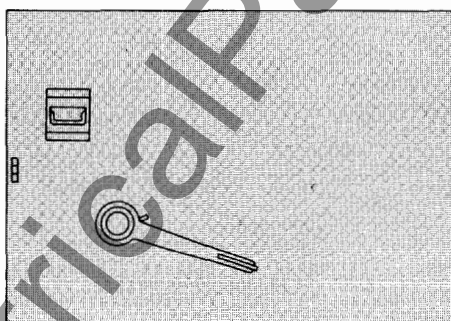
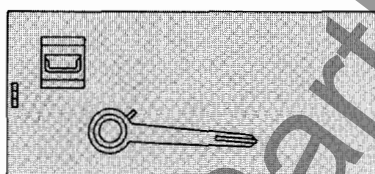
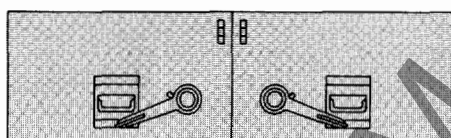
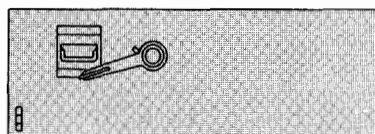
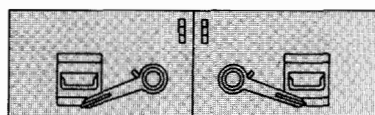
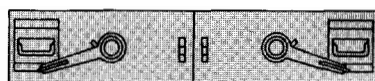
All panelboard switches shall have: NEMA 1 general purpose enclosures suitable for switchboard and/or panelboard mounting; handles that are padlockable in the "ON" or "OFF" position and clearly indicate the "ON" and "OFF" positions; non-teasible positive quick-make, quick-break mechanisms; defeatable door interlocks that prevent the door from opening when the operating handle is in the "ON" position; metal nameplates, front cover mounted, that contain a permanent record of switch type, catalog number and ratings (with both standard and time delay fuses, and a card holder); front cover doors shall be padlockable in the closed position.

Panelboard switches shall be built in accordance with the latest NEMA Standards and shall be listed by Underwriters' Laboratories, Inc.

**Further Information**

Price List 29-620

Dimension Sheet 29-670



**Description of Switches**

**2 1/4 Inch Compact Twin Unit, 30 Amps**  
250 Volts Ac, 250 Volts Dc, 2, 3, Poles

**5 1/2 Inch Twin Unit, 100 Amps Max.**  
250, 600 Volts Ac, 250 Volts Dc; 2, 3 Poles  
250 Volts Ac, Dc; 30-30A, 30-60A, 30-100A, 60-60A, 60-100A, 100-100A, 2, 3 Poles  
600 Volts Ac: 30-30A, 30-60A, 60-60A, 2, 3 Poles

**6 1/8 Inch Single Units, 100 Amps Max.**  
250, 600 Volts Ac, 250 Volts Dc  
250 Volts Ac, Dc: 100 A, 2, 3 Poles  
600 Volts Ac: 30, 60, 100A, 2, 3 Poles

**6 1/8 Inch Twin Unit, 100 Amps Max.**  
600 Volts Ac  
30-100A, 60-100A, 100-100A, 2, 3 Poles

**8 1/4 Inch Single Unit, 200 Amps**  
250, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles

**15 1/8 Inch Single Unit, 400, 600 Amps**  
250, 600 Volts Ac, 250 Volts Dc, 2, 3 Poles  
Horizontal Design: Line Side at Left (Illus.)  
Vertical Design with Line Side at Top or Bottom is 22" High.

**22 Inch Single Unit, 800, 1200 Amps**  
600 Volts Ac, 2, 3 Poles  
Horizontal Design: Line Side at Left (Illus.)  
Vertical Design: Line Side at Top or Bottom