

Ordering

In the FD through RD frames, you may order molded case circuit breakers three basic ways:

- As separately ordered frames, trip units and lugs
- As frame, trip unit and lugs ordered as one catalog number and shipped unassembled or assembled
- As Frame and Trip Unit shipped assembled and with the trip unit made non-removable, in compliance with UL 489 requirements that to be reverse fed the circuit breaker must not have an interchangeable trip unit.

These two options are described in the following:

Components Ordered Separately

To get the components for a 3-pole, 400 Amp standard interrupting circuit breaker, you would order the frame (JD63F400), the trip unit (JD63T400) and six lugs (TA2J6500). This option is normally useful only if you stock and use large volumes of product and wish to reduce your inventory cost. You may stock, for example, a smaller number of frames (JD63F400) and a variety of trip units (JD63T300, JD63T350, etc.) and assemble breakers as you need them.

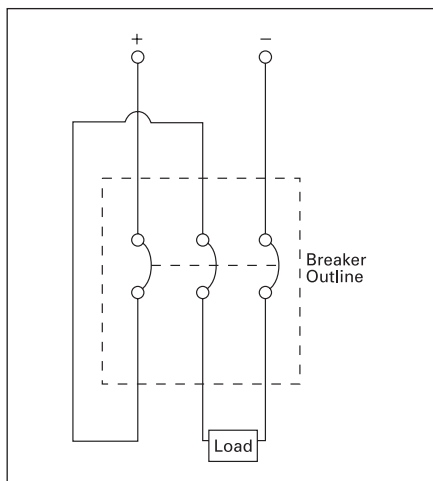
Frame, Trip Unit and Lugs Ordered Together

If you order the catalog number JD63B400, you will receive a frame, a trip unit and 6 lugs in separate packages. By suffixing this number with "L" (e.g. JD63B400L), you will receive frame, trip unit and lugs assembled in one container. Pursuant to UL 489, a product ordered thus will have the markings "LINE" and "LOAD", and may not be "reverse fed" (with power flowing from the "OFF" end of the breaker toward the "ON" end).

Non-Interchangeable Trip Breakers

If you place an "X" after the frame size designator (e.g. JXD63B400), you will receive a frame and trip unit assembled, with the trip unit made non-removable. If you suffix an "L" to this catalog number (e.g. JXD63B400L), you will receive the breaker, non-removable trip unit and lugs assembled. Unless you anticipate a specific need to change the breaker's ampere rating in the future, this is the preferred ordering method, as the products are assembled to Siemens' specifications in our factories. These breakers are suitable for use reverse fed according to UL 489, since the trip unit is not removable.

The smaller frames (QJ, ED and below) do not have removable trip units, and consequently are shipped only as assembled products. To add lugs, see the ordering instructions on each product's catalog page.



500V DC Wiring Configuration

Connecting Breakers for DC Application

Most Siemens thermal magnetic trip MCCBs are applicable on direct current (dc) systems. Generally, for 250 V dc systems a two pole breaker is used, with one pole on each leg of the supply circuit. For three pole breakers applied on 500 V undergrounded DC systems, it is important to connect the power supply "zig-zag" through the breaker as shown in the figure below. This assures that the Voltage between phases on the breaker terminals is uniformly distributed.

Sentron Molded Case Circuit Breakers

Accessories

• Revised •
07/20/14

Selection

Type FXD6-A^{①⑦}

Blue Label

Non-Interchangeable Trip (Assembled Circuit Breaker – Without Lugs)		
Continuous Current Rating @ 40°C	2-Pole	3-Pole
	Catalog Number	Catalog Number
70	FXD62B070■	FXD63B070
80	FXD62B080■	FXD63B080
90	FXD62B090■	FXD63B090
100	FXD62B100■	FXD63B100
110	FXD62B110■	FXD63B110
125	FXD62B125■	FXD63B125
150	FXD62B150■	FXD63B150
175	FXD62B175■	FXD63B175
200	FXD62B200■	FXD63B200
225	FXD62B225■	FXD63B225
250	FXD62B250■	FXD63B250

Type FD6-A^⑦

Blue Label

Interchangeable Trip			
Continuous Current Rating @ 40°C	Complete Breaker Unassembled w/Lugs	Frame Only	Trip Unit Only
	Catalog Number	Catalog Number	Catalog Number

2-Pole 600V AC, 250V DC^②

70	FD62B070■	FD62F250	FD62T070■
80	FD62B080■		FD62T080■
90	FD62B090■		FD62T090■
100	FD62B100■		FD62T100■
110	FD62B110■		FD62T110■
125	FD62B125■		FD62T125■
150	FD62B150■		FD62T150■
175	FD62B175■		FD62T175■
200	FD62B200■		FD62T200■
225	FD62B225■		FD62T225■
250	FD62B250■		FD62T250■

3-Pole 600V AC, 500V DC^③

70	FD63B070■	FD63F250	FD63T070■
80	FD63B080■		FD63T080■
90	FD63B090■		FD63T090■
100	FD63B100■		FD63T100■
110	FD63B110■		FD63T110■
125	FD63B125■		FD63T125■
150	FD63B150■		FD63T150■
175	FD63B175■		FD63T175■
200	FD63B200■		FD63T200■
225	FD63B225■		FD63T225■
250	FD63B250■		FD63T250■

Interrupting Ratings

Breaker Type	RMS Symmetrical Amperes (KA)										
	UL 489 AIR (File E10848)					IEC 947-2					
	Volts AC (50/60Hz)			Volts DC		Volts AC (50/60Hz)					
	240	480	600	250	500 ^④	220/240	380/415	500			
					lcu	lcs	lcu	lcs	lcu	lcs	
FXD6-A, FD6-A	65	35	22	30 (2-P)	18 (3-P)	65	33	35	9	—	—
HFXD6 ^⑤ , HFD6 ^⑥	100	65	25	30 (2-P)	25 (3-P)	100	50	65	33	—	—
HHFD6 ^⑤ , HHFXD6 ^⑥	200	100	25	—	—	—	—	—	—	—	—
CFD6	200	200	100	30 (2-P)	50 (3-P)	—	—	—	—	—	—

Instantaneous Adjustment Trip Range

Breaker Ampere Rating	Nominal Instantaneous Values							
	±20% Tolerance Low	2	3	4	5	6	7	±20% Tolerance High
70-90	600	640	690	730	770	810	850	900
100-110	700	770	840	920	990	1060	1140	1200
125-150	800	900	1000	1100	1200	1300	1400	1500
175-200	900	1060	1210	1370	1520	1780	1930	2000
225-250	1100	1300	1500	1700	1900	2100	2300	2500

Note: FD frame qualified to UL489 supplement SB "NAVAL".
See page 7-91 for additional information.

Ordering Information

Complete Breaker Unassembled with Lugs
Prices of FD6, HFD6, and HHFD6 breakers includes frame, trip and both line and load lugs (TA1FD350A). When ordered by these catalog numbers, the customer will receive the frame, trip, and lugs separately packaged. For applications requiring different lugs, order individual items as needed.

Complete Breaker Assembled with Lugs

Prices of FXD6, HFXD6, HHFXD6, and CFD6 includes frame with non-interchangeable trip unit installed only. Order required lugs separately. For line and load lugs (TA1FD350A) installed, add suffix "L" to catalog number (add 2 times list price of lugs for each pole).

50°C Applications see page 7-91.

400 Hz Applications see page 7-91.

Lugs For 75°C Wire^⑤

Catalog Number	Wire Range
TA1FD350A	#6—350 kcmil Cu #4—350 kcmil Al
TC1FD350	#6—350 kcmil Cu
Compression Lug	
CCF250	350 kcmil Cu/Al

Enclosures

Type	Catalog Number
1	F6N1S(F)
3R	F6N3R
4-4X	FD6SS4
7-9	EC2
12	F6N12
Neutral ^④	N250

Modifications page 7-91
Enclosures Section 6
Accessories pages 7-50 and 7-95 to 7-100

■ Built to order. Allow 2–3 weeks for delivery.

- ① Type FXD6-A circuit breakers are UL Listed for reverse fed applications.
- ② 2-pole units are 3-pole width.
- ③ When wired as shown on page 7-4, this circuit breaker is UL listed and rated for use on 500V DC ungrounded UPS systems only.
- ④ Order neutral as separate item.
- ⑤ See Note: A, page 7-88.
- ⑥ HFD6 and HHFD6 type circuit breakers meet the UL criteria for "current limiting" at 240 and 480V AC.
- ⑦ HACR rated.

Sentron Molded Case Circuit Breakers

FD 250A Frame Sentron Series

Selection/Dimensions

Type HFD6, Type HFXD6^{②③④⑤⑥}

Black Label

Interchangeable Trip			
Continuous Current Rating @ 40°C	Complete Breaker Unassembled w/Lugs	Frame Only	Trip Unit Only
	Catalog Number	Catalog Number	Catalog Number

2-Pole 600V AC, 250V DC (3-Pole Width)

Current Rating	Complete Breaker Unassembled w/Lugs	Frame Only	Trip Unit Only
70	HFD62B070■	HFD62F250	FD62T070■
80	HFD62B080■		FD62T080■
90	HFD62B090■		FD62T090■
100	HFD62B100■		FD62T100■
110	HFD62B110■		FD62T110■
125	HFD62B125■		FD62T125■
150	HFD62B150■		FD62T150■
175	HFD62B175■		FD62T175■
200	HFD62B200■		FD62T200■
225	HFD62B225■		FD62T225■
250	HFD62B250■		FD62T250■

3-Pole 600V AC, 500V DC^①

Current Rating	Complete Breaker Unassembled w/Lugs	Frame Only	Trip Unit Only
70	HFD63B070■	HFD63F250	FD63T070■
80	HFD63B080■		FD63T080■
90	HFD63B090■		FD63T090■
100	HFD63B100■		FD63T100■
110	HFD63B110■		FD63T110■
125	HFD63B125■		FD63T125■
150	HFD63B150■		FD63T150■
175	HFD63B175■		FD63T175■
200	HFD63B200■		FD63T200■
225	HFD63B225■		FD63T225■
250	HFD63B250■		FD63T250■

Type HHFD, HHFXD6^{②③④⑥}

3-Pole 600V AC, Extra High Interrupting

Current Rating	Complete Breaker Unassembled w/Lugs	Frame Only	Trip Unit Only
70	HHFD63B070■	HHFD63F250	FD63T070■
80	HHFD63B080■		FD63T080■
90	HHFD63B090■		FD63T090■
100	HHFD63B100■		FD63T100■
110	HHFD63B110■		FD63T110■
125	HHFD63B125■		FD63T125■
150	HHFD63B150■		FD63T150■
175	HHFD63B175■		FD63T175■
200	HHFD63B200■		FD63T200■
225	HHFD63B225■		FD63T225■
250	HHFD63B250■		FD63T250■

Type CFD6-A^{③⑥}

Fuseless Current Limiting

Red Label

Non-Interchangeable Trip (Assembled Circuit Breaker without Lugs)	
Continuous Current Rating @ 40°C	3-Pole 600V AC/500V DC
	Catalog Number
70	CFD63B070■
80	CFD63B080■
90	CFD63B090■
100	CFD63B100■
110	CFD63B110■
125	CFD63B125■
150	CFD63B150■
175	CFD63B175■
200	CFD63B200■
225	CFD63B225■
250	CFD63B250■

■ Built to order. Allow 2-3 weeks for delivery.

① When wired as shown on page 17/5, this circuit breaker is UL listed and rated for use on 500V DC ungrounded UPS systems.

② For non-interchangeable trip 3-pole HFD6 type circuit

breaker, change prefix identifier from HFD6 to HFXD6. Price equals frame and trip prices combined, e.g. price of HFXD63B250 equals price of HFD63F250 plus price of FD63T250. Order lugs separately.

③ Type HFXD6, HHFXD6, CFD6 are UL Listed for reverse feed applications.

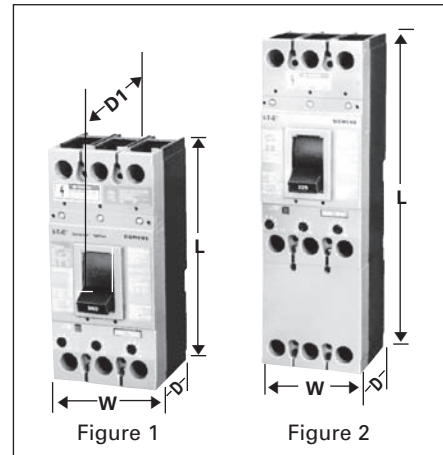


Figure 1

Figure 2

Dimensions (in inches)

Breaker Type	W	L	D	D1 (to handle)
Figure 1 FXD6-A, FD6-A, HFD6, HFXD6, HHFD6, FD6-ETI ^⑤	4.50	9.50	4	5.25
Figure 2 CFD6, CFD6-ETI ^⑤	4.50	14.25	4	5.25

Shipping Weights

Number of Poles	Number per Carton	Shipping Weight (lbs.)
FD6-A, HFD6, HHFD6, FXD6-A Assembled Circuit Breaker (less connectors)		
2	1	8.6
3	1	10
FD6-A, HFD6, HHFD6 Frame Only		
2	1	7.5
3	1	8.7
FD6 Trip Unit Only		
2	1	1.1
3	1	1.3
CFD6 Assembled Circuit Breaker (less terminals)		
3	1	16

④ Type HFXD6, HFD6, HHFD6, HHFXD6 meet the UL criteria for "Current Limiting" at 240 VAC and 480V AC.

⑤ FXD6, ETI, CFD6, ETI — See page 17/91 for ordering information.

⑥ HACR rated.