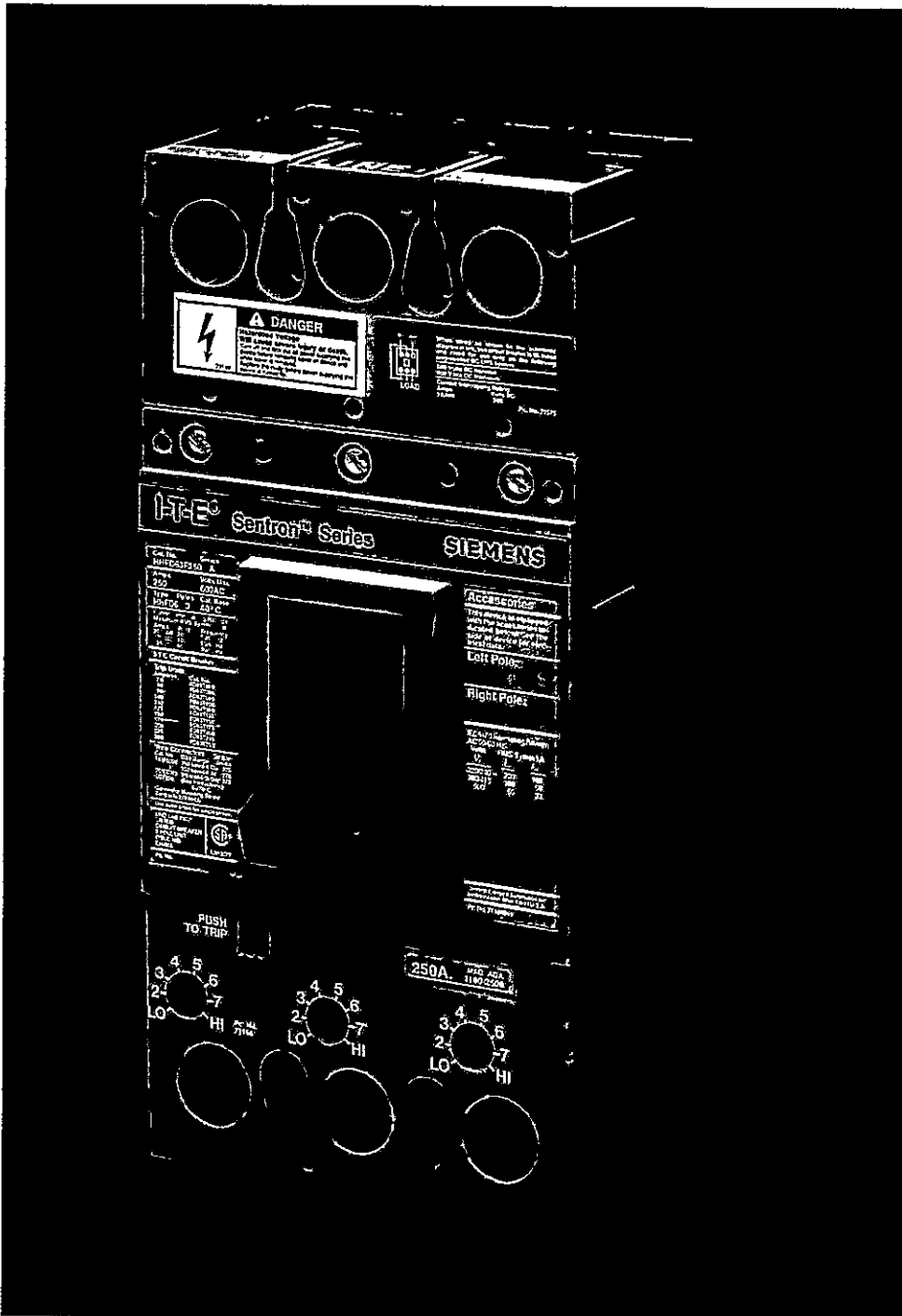


I-T-E[®] Molded Case Circuit Breakers

HHFD6/HHFXD6 Type Circuit Breakers Product Bulletin

- UL Listed
- Compact Size
- 100kA @ 480V AC
- Single Handle
- Glass Polyester Housing
- Common Trip
- Quick-Make
Quick-Break
Trip Free Mechanism
- Interchangeable Trip
- UL Listed Field
Addable Accessories



General Information

The HHFD6 and HHFXD6 type circuit breakers are available in 2 and 3 pole configurations. Voltage ratings of 240, 480 and 600V AC. In both interchangeable and non-interchangeable trip units.

Specifications:

2, 3 Poles
70-250 Amperes, 240, 480 and 600V AC
50/60 Hz

Meets or exceeds Federal Specifications
W-C-375b/Gen.

2, 3 Poles 19a, 20a, 21a, 22a and 23a

Meets IEC 947-2 Interruption Levels

220/240		380/415		500	
I _{cu}	I _{cs}	I _{cu}	I _{cs}	I _{cu}	I _{cs}
200	100	100	50	65	33

UL Listed File #E10848

Meets CSA C22.2 #5 qualifications

Conforms to NEMA AB1

UL Listed Interruptions Ratings

240V AC 200kA

480V AC 100kA

600V AC 25kA

Handle Forces (lbs.)

Off to On 18

On to Off 20

Tripped to Reset 28

Due to their compact size, the HHFD6 and HHFXD6 type circuit breakers are well suited for OEM designed equipment in both commercial and industrial applications. As well as useage in individual enclosures, switchboards, panelboards and load centers.

Application:

- May be independently mounted in a suitable enclosure.
- Meets the UL 489 criteria for current limiting at 240 and 480V AC without the use of fuses and does not require the use of a second set of "blow-open" contacts at the UL listed interruption level.
- Uses all of the current offering of field installable FD Frame accessories.

Terminal Connectors

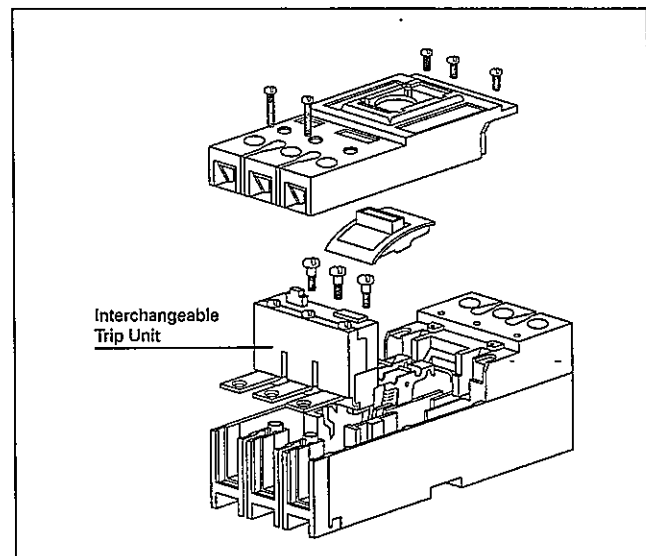
UL listed for 60/75C CU/AL

70-250A – TA1FD350 – 1 pc #6-350kcmil CU 1 pc #4-350kcmil AL
70-250A – TC1FD350 – 1 pc #6-350kcmil CU only

Dimensions, Inches (mm)

Number of Poles	Width	Height	Depth
2	4.48 (113.9)	9.5 (241.3)	4 (101.6)
3	4.48 (113.9)	9.5 (241.3)	4 (101.6)

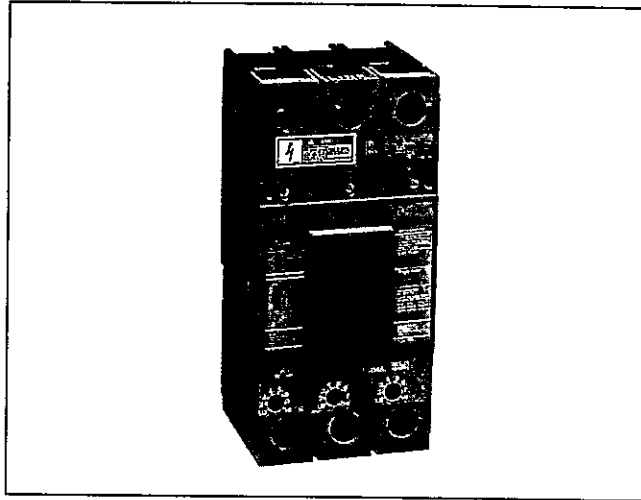
Ordering Information



Interchangeable Trip Unit Breakers

Maximum Continuous Current Rating @ 40C	2 Pole Catalog Number	3 Pole Catalog Number
70	HHFD62B070	HHFD63B070
80	HHFD62B080	HHFD63B080
90	HHFD62B090	HHFD63B090
100	HHFD62B100	HHFD63B100
110	HHFD62B110	HHFD63B110
125	HHFD62B125	HHFD63B125
150	HHFD62B150	HHFD63B150
175	HHFD62B175	HHFD63B175
200	HHFD62B200	HHFD63B200
225	HHFD62B225	HHFD63B225
250	HHFD62B250	HHFD63B250

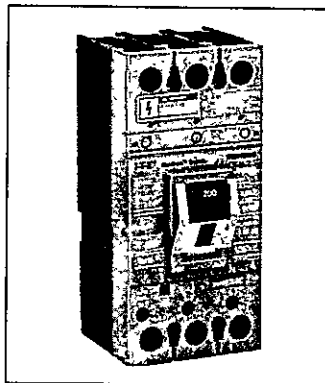
Ordering Information



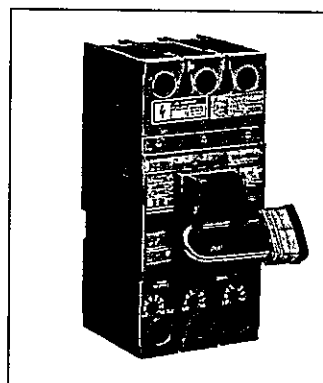
Non-Interchangeable Trip Unit Breakers

Maximum Continuous Current Rating: @ 40C	2-Pole Catalog Number	3-Pole Catalog Number
70	HHFXD62B070	HHFXD63B070
80	HHFXD62B080	HHFXD63B080
90	HHFXD62B090	HHFXD63B090
100	HHFXD62B100	HHFXD63B100
110	HHFXD62B110	HHFXD63B110
125	HHFXD62B125	HHFXD63B125
150	HHFXD62B150	HHFXD63B150
175	HHFXD62B175	HHFXD63B175
200	HHFXD62B200	HHFXD63B200
225	HHFXD62B225	HHFXD63B225
250	HHFXD62B250	HHFXD63B250

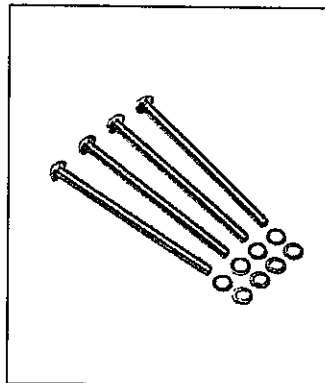
External Accessory Information



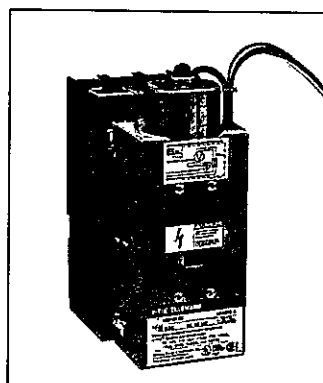
Handle Blocking Device
Catalog Number FD6HB1



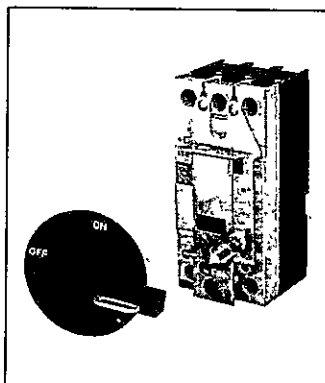
Handle Padlock Device
Catalog Number FD6PL1



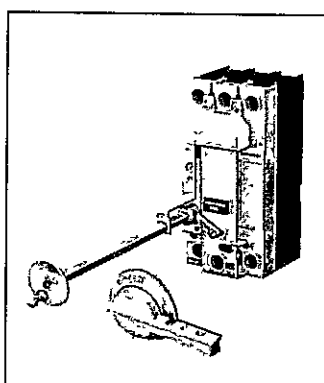
Mounting Screw Kit
Catalog Number MSF6



Motor Operator
120V AC MOF6120/MOF6120L
240V AC MOF6240/MOF6240L



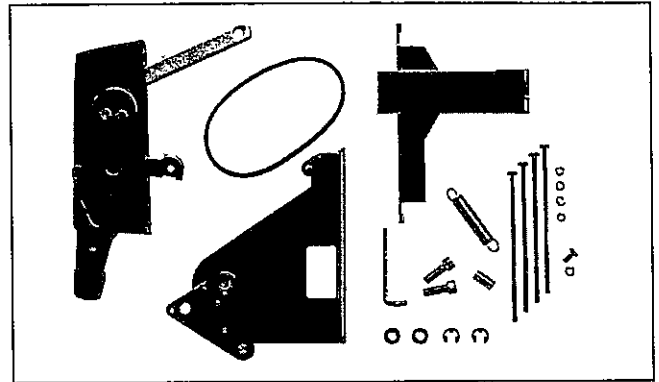
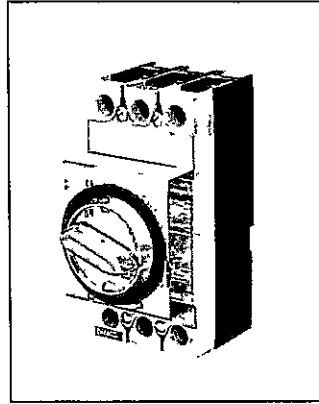
Rotary Handle Operator (Compact) Kit
Handle CRHOH
Breaker Operator RHOFBO
Shaft (Standard Depth) RHOSSD
Shaft (Variable Depth) RHOSVD



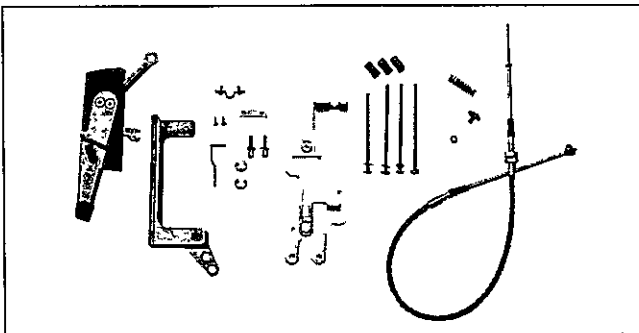
Rotary Handle Door Operator
Standard Depth D11CFU1
Variable Depth D11CFU2

External Accessory Information

Rotary Handle Operator
Standard Depth Kit F6RH1
Variable Depth Kit F6RHV9

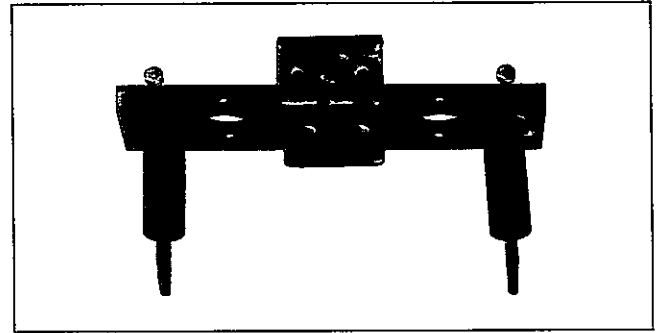


Fixed Depth Flange Operator
Catalog Number FDFBFR



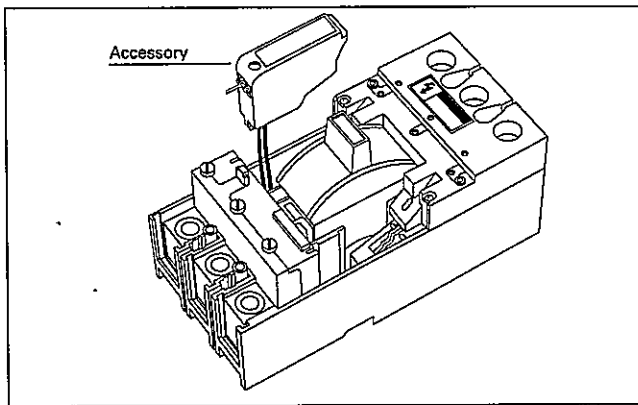
Max-Flex Flange Mounted
Variable Depth Operator
Handle FHOH
Breaker Operator FHOFB0
36 inch Cable FHOF036
48 inch Cable FHOF048

60 inch Cable FHOF060
72 inch Cable FHOF072
84 inch Cable FHOF084

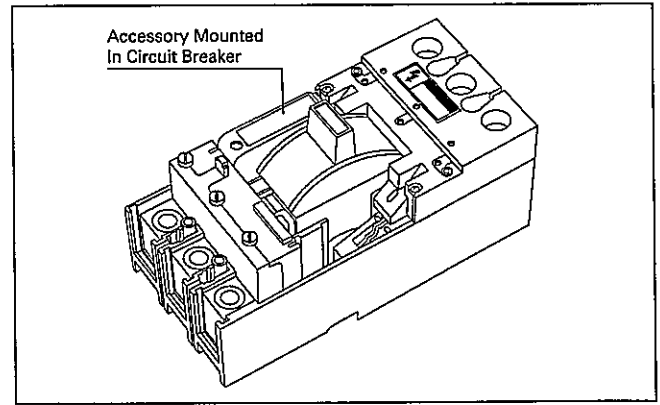


Mechanical Interlock
Catalog Number MI5444

Internal Accessory Information



- ① **Shunt Trip:** This device allows for tripping of the circuit breaker from a remote location by means of trip coil that is energized from a separate control circuit. All ratings will trip at 55% of the marked voltage rating.
- ② **Undervoltage Trip:** A continuous duty device that trips the circuit breaker electrically when a control circuit falls below 70% down to 35% of the marked rating (non-adjustable). Seal in voltage must be at 85% or less of the marked rating.



- ③ **Auxiliary Switch:** Monitors circuit breaker contact status and provides remote signal indicating that the circuit breaker contacts are "OPEN" or "CLOSED".
- ④ **Bell Alarm:** Used with control circuits and is actuated only when the circuit breaker is caused to open due to an overcurrent condition (the circuit breaker has tripped).

Internal Accessory Information

Shunt Trip

Control Voltage		Catalog Number
AC	DC	
12	-	S19FD60
24	-	S17FD60
48	-	S18FD60
120	-	S01FD60
208	-	S02FD60
240	-	S03FD60
277	-	S15FD60
480	-	S04FD60
600	-	S06FD60
-	12	S16FD60
-	24	S07FD60
-	48	S09FD60
-	125	S11FD60
-	250	S13FD60

Undervoltage Device

Control Voltage		Catalog Number
AC	DC	
120	-	U01FD60
208	-	U02FD60
240	-	U03FD60
277	-	U16FD60
480	-	U06FD60
600	-	U08FD60
-	24	U13FD60
-	48	U14FD60
-	125	U10FD60
-	250	U12FD60

Bell Alarm

Maximum Control Voltage		Catalog Number
AC	DC	
480	250	BOOFD64

Undervoltage Plus 1 Aux. Sw.

Control Voltage		Catalog Number
AC	DC	
120	-	W01FD60
208	-	W02FD60
240	-	W03FD60
277	-	W16FD60
480	-	W06FD60
600	-	W08FD60
-	24	W13FD60
-	48	W14FD60
-	125	W10FD60
-	250	W12FD60

Auxiliary Switch

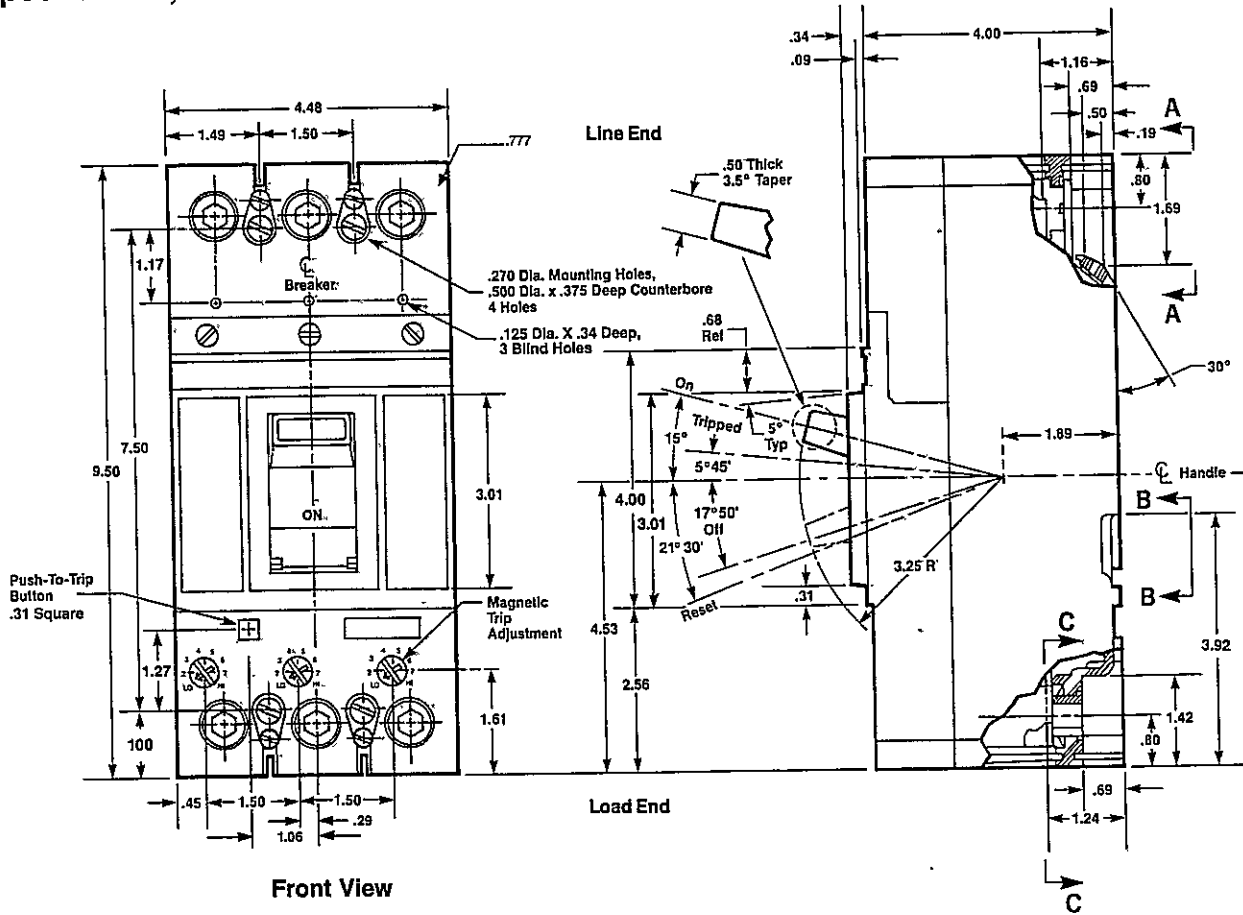
Maximum Control Voltage		Catalog Numbers		
AC	DC	1 Auxiliary Switch	2 Auxiliary Switch	Auxiliary and Bell Alarm
		1NO/1NC Contact	2NO/2NC Contacts	2NO/2NC Contacts
240	250	A01FD62	A02FD62	C01FD64
480		A01FD64	A02FD64	C01FD64

Enclosures

Types	3B	4-4X	7g	5-12	
Catalog Number	F6N1	F6N3R	FD6SS4	EC2	F612
Neutral	N250	N250	N250	N250	N250

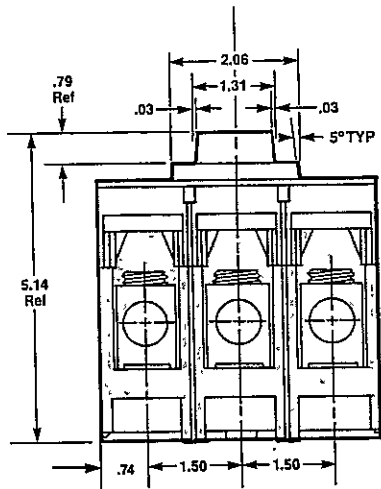
I-T-E FD-Frame Outline Drawings^①-2 and 3-Pole^②

Types HHFD6, HHFXD6

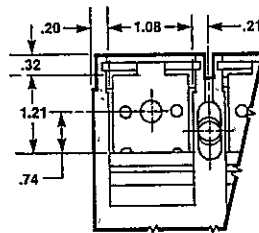


Front View

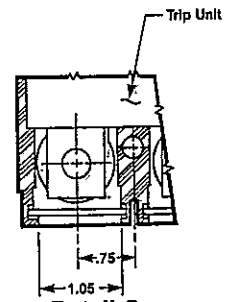
Side View



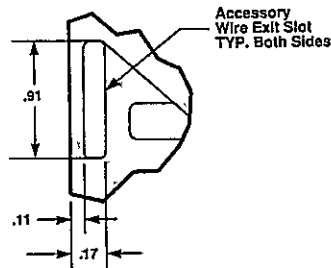
End View



Detail A



Detail C



Detail B

Handle Operating Forces

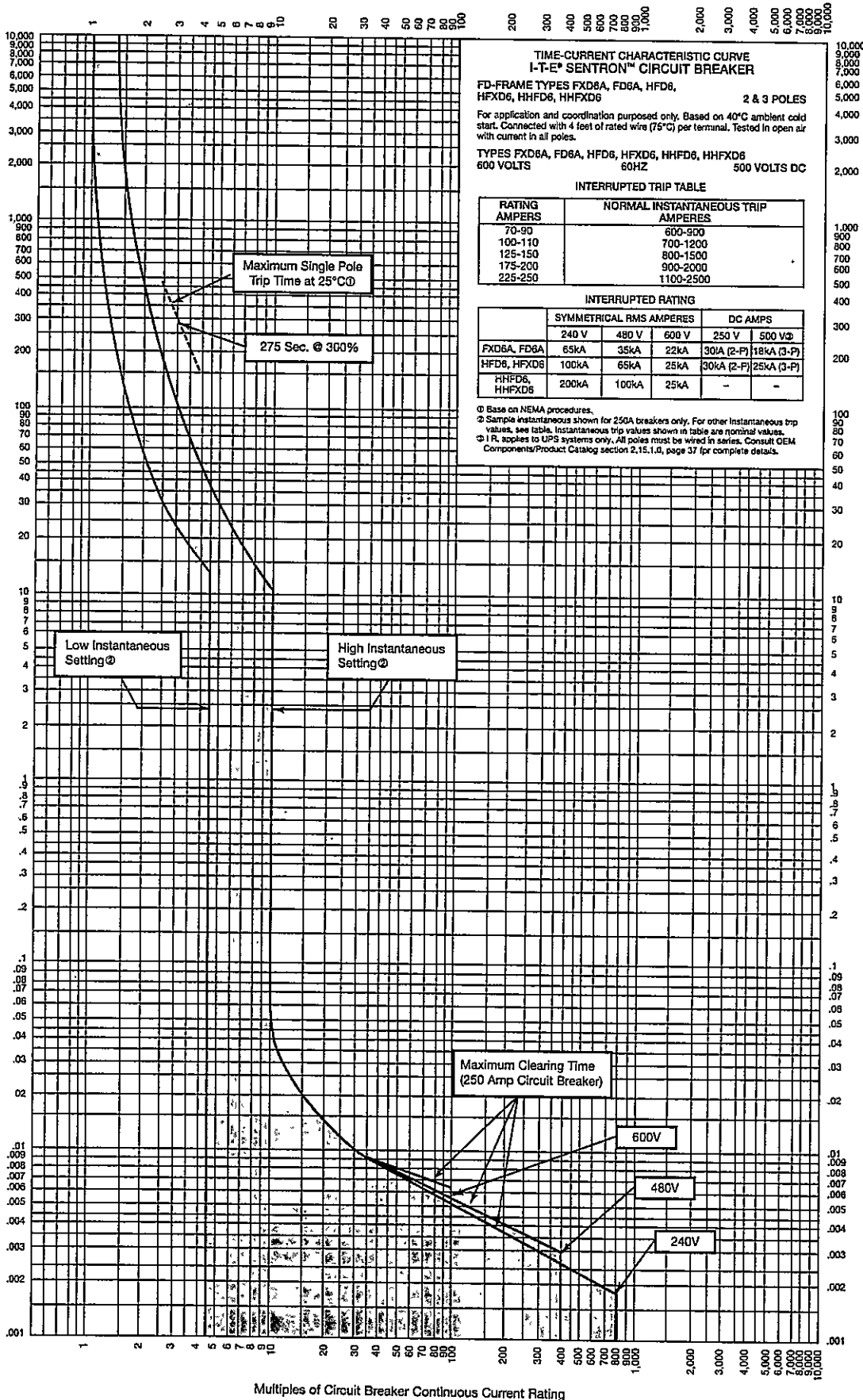
Operation	lb.
OFF to ON	18
ON to OFF	20
TRIPPED to RESET	28

① All drawing dimensions are shown in inches.

② Two and 3-pole breakers are the same physical size. Current carrying parts are omitted from the center pole in 2-pole breakers.

FD-Frame Time Current Curve

Types FXD6A, FD6A, HFXD6, HFD6, HHFD6, HHFXD6



TIME-CURRENT CHARACTERISTIC CURVE
I-T-E® SENTRON™ CIRCUIT BREAKER
 FD-FRAME TYPES FXD6A, FD6A, HFD6, HFXD6, HHFD6, HHFXD6 **2 & 3 POLES**
 For application and coordination purposes only. Based on 40°C ambient cold start. Connected with 4 feet of rated wire (75°C) per terminal. Tested in open air with current in all poles.
 TYPES FXD6A, FD6A, HFD6, HFXD6, HHFD6, HHFXD6
 600 VOLTS **60HZ** **500 VOLTS DC**

INTERRUPTED TRIP TABLE

RATING AMPERES	NORMAL INSTANTANEOUS TRIP AMPERES
70-90	600-900
100-110	700-1200
125-150	800-1500
175-200	900-2000
225-250	1100-2500

INTERRUPTED RATING

	SYMMETRICAL RMS AMPERES			DC AMPS	
	240 V	480 V	600 V	250 V	500 V Φ
FXD6A, FD6A	65kA	35kA	22kA	30kA (2-P)	18kA (3-P)
HFD6, HFXD6	100kA	65kA	25kA	30kA (2-P)	25kA (3-P)
HHFD6, HHFXD6	200kA	100kA	25kA	-	-

Φ Base on NEMA procedures.
 Φ Sample instantaneous shown for 250A breakers only. For other instantaneous trip values, see table. Instantaneous trip values shown in table are nominal values.
 Φ I.R. applies to UPS systems only. All poles must be wired in series. Consult OEM Components/Product Catalog section 2.15.1.0, page 37 for complete details.

Multiples of Circuit Breaker Continuous Current Rating

Siemens Energy & Automation Sales Offices

Alabama
Birmingham
(205) 879-7030
Mobile
(334) 621-0822
Montgomery
(334) 271-4486

Alaska
Anchorage
(907) 346-2489

Arizona
Phoenix
(602) 944-7956

Arkansas
Little Rock
(501) 897-1385

California
Fresno
(209) 264-5018
Los Angeles
(714) 979-6600
Sacramento
(916) 631-9433
San Diego
(619) 569-8015
San Francisco
(510) 429-1200

Colorado
Colorado Springs
(719) 473-7880
Denver
(303) 694-3770
Ft. Collins
(303) 223-2712

Connecticut
Wallingford
(203) 265-5003

Florida
Ft. Lauderdale
(305) 484-3888
Fort Myers
(813) 656-3605
Jacksonville
(904) 363-0087
Miami
(305) 592-4106
Orlando
(407) 894-7771
Tampa
(813) 287-2450
West Palm Beach
(407) 627-7408

Georgia
Atlanta
(770) 458-4353
Macon
(912) 745-6393
Savannah
(912) 354-5092

Hawaii
Honolulu
(808) 533-7135

Idaho
Boise
(208) 342-6852

Illinois
Chicago
(847) 310-6500
Peoria
(309) 689-0823

Indiana
Evansville
(812) 422-9176
Fort Wayne
(219) 490-6999
Indianapolis
(317) 848-5500
South Bend
(219) 232-6050

Iowa
Des Moines
(515) 280-1614

Kansas
Wichita
(316) 942-1409

Kentucky
Louisville
(502) 426-4647

Louisiana
Baton Rouge
(504) 387-6987
New Orleans
(504) 837-8500
Shreveport
(318) 424-0720

Maine
Portland
(207) 854-0021

Maryland
Landover
(301) 459-2044

Massachusetts
Andover
(508) 685-6077
Worcester
(508) 792-4566

Michigan
Detroit
(810) 253-1000
Grand Rapids
(616) 530-9777

Minnesota
Minneapolis
(612) 942-8888

Mississippi
Jackson
(601) 936-9360

Missouri
Kansas City
(913) 491-3740
St. Louis
(314) 567-3900

Nebraska
Omaha
(402) 397-1940

Nevada
Las Vegas
(702) 734-1022

New Hampshire
Manchester
(603) 626-0702

New Jersey
Cranford
(908) 276-7227

New Mexico
Albuquerque
(505) 881-1611

New York
Albany
(518) 365-4569
Buffalo
(716) 834-3815
Long Island
(516) 484-7560
Syracuse
(315) 453-2935

North Carolina
Asheville
(704) 253-8299
Charlotte
(704) 536-1201
Greensboro
(910) 852-1758
Raleigh
(919) 782-3365
Wilmington
(910) 313-0034

North Dakota
Bismarck
(701) 258-9555
Fargo
(701) 293-7709

Ohio
Cincinnati
(513) 398-9288
Cleveland
(216) 642-0701
Columbus
(614) 766-2204
Dayton
(513) 279-0458
Toledo
(419) 893-7197
Wooster
(216) 262-3268

Oklahoma
Oklahoma City
(405) 235-7515
Tulsa
(918) 665-1806

Oregon
Portland
(503) 635-6700

Pennsylvania
Philadelphia
(215) 646-3800
Pittsburgh
(412) 788-8060
York
(717) 854-9776

Rhode Island
Providence
(401) 732-9966

South Carolina
Columbia
(803) 359-7715
Greenville
(803) 288-3490

Tennessee
Chattanooga
(423) 267-7412
Johnson City
(423) 434-9270
Knoxville
(615) 690-5172
Memphis
(901) 761-2123
Nashville
(615) 367-9403

Texas
Austin
(512) 416-0181
Dallas
(214) 247-4481
Fort Worth
(817) 838-9770
Houston
(713) 690-3000
San Antonio
(210) 525-7845

Utah
Salt Lake City
(801) 266-9612

Virginia
Richmond
(804) 288-8311
Roanoke
(703) 982-2776
Virginia Beach
(804) 486-0174

Washington
Seattle
(206) 828-6600
Spokane
(509) 468-3717
Tacoma
(206) 926-7663

Washington, D.C.
(301) 459-2044

West Virginia
(304) 522-9732

Wisconsin
Green Bay
(414) 336-1144
Milwaukee
(414) 774-9500

Canada
Mississauga,
Ontario
(905) 819-8000
Pointe Claire,
Quebec
(514) 695-7300
Vancouver,
British Columbia
(604) 435-0880

International
Tel: (770) 751-2291
Fax: (770) 751-2496
TLX: 822024SEA
IBU UF

Siemens Energy & Automation, Inc.
Industrial Products Division
3333 Old Milton Parkway
Alpharetta, GA 30202

© 1996 Siemens Energy & Automation, Inc.
Siemens is a registered trademark of Siemens AG.

Bulletin SIB2.8-4A (New)
10M596SP Printed in U.S.A.