

F-Frame

Product Selection

Table 45-99. Types ED, EDH and EDC Thermal-Magnetic Circuit Breakers with Non-Interchangeable Trip Units Suitable for Reverse Feed

Maximum Continuous Ampere Rating at 40°C	240 Vac Maximum, 125 Vdc (Includes Terminals on Load End Only)											
	65 kAIC at 240 Vac				100 kAIC at 240 Vac				200 kAIC at 240 Vac			
	Type ED				Type EDH				Type EDC Current Limiting			
	2-Pole		3-Pole		2-Pole		3-Pole		2-Pole		3-Pole	
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	
15	ED2015			ED3015								
20	ED2020			ED3020								
25	ED2025			ED3025								
30	ED2030			ED3030								
35	ED2035			ED3035								
40	ED2040			ED3040								
50	ED2050			ED3050								
60	ED2060			ED3060								
100	ED2100			ED3100			EDH2100		EDH3100		EDC2100	
125	ED2125			ED3125			EDH2125		EDH3125		EDC2125	
150	ED2150			ED3150			EDH2150		EDH3150		EDC2150	
175	ED2175			ED3175			EDH2175		EDH3175		EDC2175	
200	ED2200			ED3200			EDH2200		EDH3200		EDC2200	
225	ED2225			ED3225			EDH2225		EDH3225		EDC2225	

Table 45-100. Types EDB and EDS Thermal-Magnetic Circuit Breakers with Non-Interchangeable Trip Units Suitable for Reverse Feed

Maximum Continuous Ampere Rating at 40°C	240 Vac Maximum, 125 Vdc (Includes Terminals on Load End Only)							
	22 kAIC at 240 Vac				42 kAIC at 240 Vac			
	Type EDB				Type EDS			
	2-Pole		3-Pole		2-Pole		3-Pole	
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	
100	EDB2100			EDB3100		EDS2100		EDS3100
110	EDB2110			EDB3110		EDS2110		EDS3110
125	EDB2125			EDB3125		EDS2125		EDS3125
150	EDB2150			EDB3150		EDS2150		EDS3150
175	EDB2175			EDB3175		EDS2175		EDS3175
200	EDB2200			EDB3200		EDS2200		EDS3200
225	EDB2225			EDB3225		EDS2225		EDS3225

Table 45-101. Type EHD Thermal-Magnetic Circuit Breakers with Non-Interchangeable Trip Units

Maximum Continuous Ampere Rating at 40°C	277 Vac Maximum, 125 Vdc				480 Vac Maximum, 250 Vdc			
	14 kAIC at 277 Vac				14 kAIC at 480 Vac			
	Type EHD (Includes Terminals on Load End Only)							
	1-Pole		2-Pole		3-Pole			
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	
10 ①	EHD1010			EHD2010		EHD3010		
15	EHD1015 ②			EHD2015		EHD3015		
20	EHD1020 ②			EHD2020		EHD3020		
25	EHD1025			EHD2025		EHD3025		
30	EHD1030			EHD2030		EHD3030		
35	EHD1035			EHD2035		EHD3035		
40	EHD1040			EHD2040		EHD3040		
45	EHD1045			EHD2045		EHD3045		
50	EHD1050			EHD2050		EHD3050		
60	EHD1060			EHD2060		EHD3060		
70	EHD1070			EHD2070		EHD3070		
80	EHD1080			EHD2080		EHD3080		
90	EHD1090			EHD2090		EHD3090		
100	EHD1100			EHD2100		EHD3100		

① Not UL listed. 5 kAIC interrupting rating.
 ② UL listed for SWD applications, see NEC Article 240-83(d).

F-Frame

Table 45-102. Type FD Thermal-Magnetic Circuit Breakers with Non-Interchangeable Trip Units

Max. Cont. Ampere Rating at 40°C	600 Vac Maximum, 250 Vdc						277 Vac Maximum, 125 Vdc		600 Vac Maximum, 250 Vdc					
	14 kAIC at 600 Vac						35 kAIC at 277 Vac		35 kAIC at 480 Vac					
	Type FDB (Includes Terminals on Load End Only)						Type FD (Includes Terminals on Load End Only)							
	2-Pole		3-Pole		4-Pole		1-Pole		2-Pole		3-Pole		4-Pole	
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	
10 ①	FDB2010		FDB3010		FDB4010		FD1010		—		—		—	
15	FDB2015		FDB3015		FDB4015		FD1015 ②		FD2015		FD3015		FD4015	
20	FDB2020		FDB3020		FDB4020		FD1020 ②		FD2020		FD3020		FD4020	
25	FDB2025		FDB3025		FDB4025		FD1025		FD2025		FD3025		FD4025	
30	FDB2030		FDB3030		FDB4030		FD1030		FD2030		FD3030		FD4030	
35	FDB2035		FDB3035		FDB4035		FD1035		FD2035		FD3035		FD4035	
40	FDB2040		FDB3040		FDB4040		FD1040		FD2040		FD3040		FD4040	
45	FDB2045		FDB3045		FDB4045		FD1045		FD2045		FD3045		FD4045	
50	FDB2050		FDB3050		FDB4050		FD1050		FD2050		FD3050		FD4050	
60	FDB2060		FDB3060		FDB4060		FD1060		FD2060		FD3060		FD4060	
70	FDB2070		FDB3070		FDB4070		FD1070		FD2070		FD3070		FD4070	
80	FDB2080		FDB3080		FDB4080		FD1080		FD2080		FD3080		FD4080	
90	FDB2090		FDB3090		FDB4090		FD1090		FD2090		FD3090		FD4090	
100	FDB2100		FDB3100		FDB4100		FD1100		FD2100		FD3100		FD4100	
110	FDB2110		FDB3110		FDB4110		FD1110		FD2110		FD3110		FD4110	
125	FDB2125		FDB3125		FDB4125		FD1125		FD2125		FD3125		FD4125	
150	FDB2150		FDB3150		FDB4150		FD1150		FD2150		FD3150		FD4150	
175	—		—		—		—		FD2175		FD3175		FD4175	
200	—		—		—		—		FD2200		FD3200		FD4200	
225	—		—		—		—		FD2225		FD3225		FD4225	

① Not UL listed. 5 kAIC interrupting rating.

② UL listed for SWD applications, see NEC Article 240-83(d).

Table 45-103. Types HFD and FDC Thermal-Magnetic Circuit Breakers with Non-Interchangeable Trip Units

Max. Cont. Ampere Rating at 40°C	277 Vac Maximum, 125 Vdc				600 Vac Maximum, 250 Vdc				600 Vac Maximum, 250 Vdc				
	65 kAIC at 277 Vac				65 kAIC at 480 Vac				100 kAIC at 480 Vac				
	Type HFD (Includes Terminals on Load End Only)				Type FDC Current Limiting (Includes Terminals on Load End Only)								
	1-Pole		2-Pole		3-Pole		4-Pole		2-Pole		3-Pole		4-Pole
Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$
15	HFD1015 ③		HFD2015		HFD3015		HFD4015		FDC2015		FDC3015		FDC4015
20	HFD1020 ③		HFD2020		HFD3020		HFD4020		FDC2020		FDC3020		FDC4020
25	HFD1025		HFD2025		HFD3025		HFD4025		FDC2025		FDC3025		FDC4025
30	HFD1030		HFD2030		HFD3030		HFD4030		FDC2030		FDC3030		FDC4030
35	HFD1035		HFD2035		HFD3035		HFD4035		FDC2035		FDC3035		FDC4035
40	HFD1040		HFD2040		HFD3040		HFD4040		FDC2040		FDC3040		FDC4040
45	HFD1045		HFD2045		HFD3045		HFD4045		FDC2045		FDC3045		FDC4045
50	HFD1050		HFD2050		HFD3050		HFD4050		FDC2050		FDC3050		FDC4050
60	HFD1060		HFD2060		HFD3060		HFD4060		FDC2060		FDC3060		FDC4060
70	HFD1070		HFD2070		HFD3070		HFD4070		FDC2070		FDC3070		FDC4070
80	HFD1080		HFD2080		HFD3080		HFD4080		FDC2080		FDC3080		FDC4080
90	HFD1090		HFD2090		HFD3090		HFD4090		FDC2090		FDC3090		FDC4090
100	HFD1100		HFD2100		HFD3100		HFD4100		FDC2100		FDC3100		FDC4100
110	HFD1110		HFD2110		HFD3110		HFD4110		FDC2110		FDC3110		FDC4110
125	HFD1125		HFD2125		HFD3125		HFD4125		FDC2125		FDC3125		FDC4125
150	HFD1150		HFD2150		HFD3150		HFD4150		FDC2150		FDC3150		FDC4150
175	—		HFD2175		HFD3175		HFD4175		FDC2175		FDC3175		FDC4175
200	—		HFD2200		HFD3200		HFD4200		FDC2200		FDC3200		FDC4200
225	—		HFD2225		HFD3225		HFD4225		FDC2225		FDC3225		FDC4225

③ UL listed for SWD applications, see NEC Article 240-83(d).

F-Frame

Table 45-104. Types FDE, HFDE and FDCE Electronic Circuit Breakers with Non-Interchangeable Trip Units

Maximum Ampere Rating	Neutral CT for LSG and LSIG	LS		LSI		LSG		LSIG	
		Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$
IC Rating 35 kAIC at 480 Vac									
80	CTF080	FDE308033		FDE308032		FDE308035		FDE308036	
160	CTF160	FDE316033		FDE316032		FDE316035		FDE316036	
225	CTF225	FDE322533		FDE322532		FDE322535		FDE322536	
IC Rating 65 kAIC at 480 Vac									
80	CTF080	HFDE308033		HFDE308032		HFDE308035		HFDE308036	
160	CTF160	HFDE316033		HFDE316032		HFDE316035		HFDE316036	
225	CTF225	HFDE322533		HFDE322532		HFDE322535		HFDE322536	
IC Rating 100 kAIC at 480 Vac									
80	CTF080	FDCE308033		FDCE308032		FDCE308035		FDCE308036	
160	CTF160	FDCE316033		FDCE316032		FDCE316035		FDCE316036	
225	CTF225	FDCE322533		FDCE322532		FDCE322535		FDCE322536	

Molded Case Switches

Eaton's Cutler-Hammer molded case switches are used as compact switches in applications requiring high current switching capabilities. Molded case switches are constructed of circuit breaker components and are of the high instantaneous automatic type. Molded case switches are listed in accordance with Underwriters Laboratories Inc., Standard UL 1087.

Line and Load Terminals

Line and load terminals provide wire connecting capabilities for specific ranges of continuous current ratings and wire types. Except as noted, terminals comply with Underwriters Laboratories Inc., Standards UL 486A and UL 486B. Unless otherwise specified, F-Frame circuit breakers are factory equipped with load terminals only.

Ordering Information

F-Frame circuit breakers and molded case switches have load terminals only as standard equipment. When standard line-end terminals (same as standard load-end terminals) are required, add Suffix **L** to the circuit breaker Catalog Number. When non-standard or optional line and/or load terminals are required, order by style number. Specify if factory installation is required.

Table 45-105. Molded Case Switches

Maximum Continuous Ampere Rating at 40°C	Complete Circuit Breaker with Load Side Terminals Only					
	480 Vac Maximum, 250 Vdc			600 Vac Maximum, 250 Vdc		
	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$	Catalog Number	Price U.S. \$
2-Pole						
100	EHD2100K		FD2100K		HFD2100K	
150	—		FD2150K		HFD2150K	
225	—		FD2225K		HFD2225K	
3-Pole						
100	EHD3100K		FD3100K		HFD3100K	
150	—		FD3150K		HFD3150K	
225	—		FD3225K		HFD3225K	
4-Pole						
100	—		FD4100K		HFD4100K	
150	—		FD4150K		HFD4150K	
225	—		FD4225K		HFD4225K	

Note: Molded Case Switches will open above 1800 amperes.

Table 45-106. Line and Load Terminals

Maximum Breaker Amperes	Terminal Body Material	Wire Type	AWG Wire Range	Metric Wire Range mm ²	Package of 3 Terminals	
					Catalog Number	Price U.S. \$
Standard Pressure Type Terminals						
20 (EHD)	Steel	Cu/Al	14 – 10	2.5 – 4	3T20FB ①	
100	Steel	Cu/Al	14 – 1/0	2.5 – 50	3T100FB	
225	Aluminum	Cu/Al	4 – 4/0	25 – 95	3TA225FD	
Optional Pressure Terminals						
50	Aluminum	Cu/Al	14 – 4	2.5 – 25	3TA50FB ①	
100	Aluminum	Cu/Al	14 – 1/0	2.5 – 50	3TA100FD	
200	Stainless Steel	Cu	4 – 4/0	25 – 95	3T150FB	
225	Aluminum	Cu/Al	6 – 300 kcmil	16 – 150	3TA225FDK ②	

① Not for use with ED, EDH, EDC breakers.

② Includes terminal shield kit. Adds approximately 3 inches (76.2) to breaker height. Available for use on 3-pole breaker only.

Table 45-107. Breaker Mount Ammeter

Description	Catalog Number	Price U.S. \$
Breaker Mount Ammeter	DIGVIEW	

Note: Use on FDE, HFDE and FDCE electronic trip only.

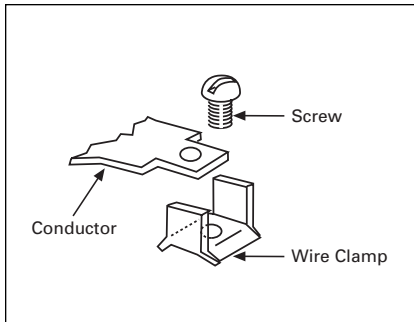


Ammeter

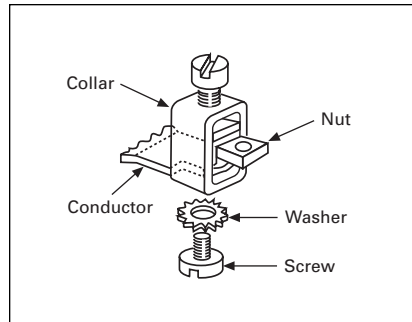
Discount Symbol **CB-2**

F-Frame

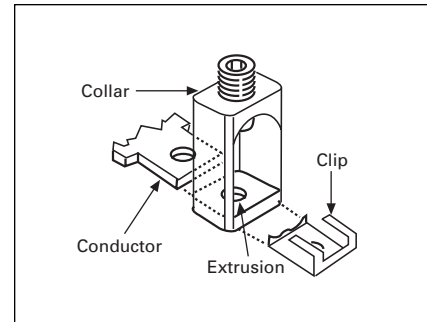
Line and Load Terminals (Continued)

**Figure 45-11. 3T20FB**

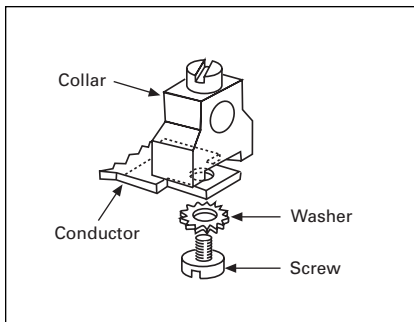
Assemble wire clamp to bottom of conductor as shown.

**Figure 45-12. 3T100FB, 3T150FB**

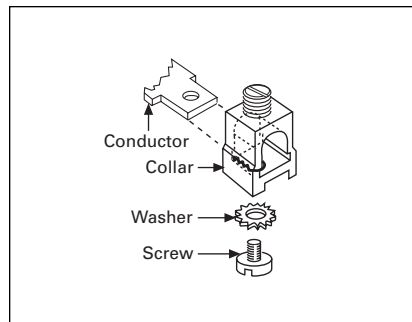
Insert collar enclosing conductor as shown. Locate nut on top of conductor and tighten securely with screw and washer. **Caution:** Collar must surround conductor.

**Figure 45-13. 3TA225FD**

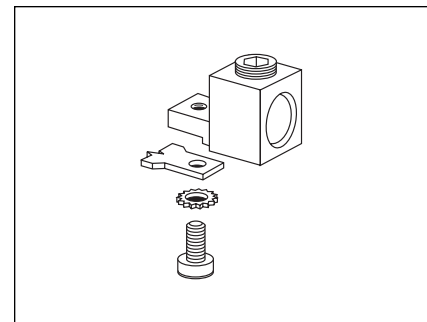
Insert collar enclosing conductor and center on extrusion on collar. Install clip with legs on top of conductor and snap end around bottom of collar.

**Figure 45-14. 3TA50FB**

Assemble collar on top of conductor as shown. Tighten securely with screw and washer.

**Figure 45-15. 3TA100FD**

Collar slides onto conductor and is held in position by a screw and lockwasher.

**Figure 45-16. 3TA225FDK (Up to 150 mm²)**

Assemble collar on top of conductor as shown. Tighten securely with screw and washer. Terminal shield must be used with this collar.

Note: For 185 mm², use 3TA225FDK1.