

**27.4-20 Molded-Case Circuit Breakers & Enclosures  
Circuit Breaker Selection Data**

May 2013  
Sheet 27 096

Series G Selection Data—F-Frame

**Series G, F-Frame 15–225A  
Electronic RMS 15–225A**



F-Frame Breaker

Table 27.4-27. Dimensions in Inches (mm)

Number of Poles	Width	Height	Depth
3	4.13 (104.8)	6.00 (152.4)	3.38 (85.7)

Table 27.4-28. Digitrip 310+ Electronic Trip Units

Types	Frame	Rated
FDE, HFDE, FDCE	225	100, 110, 125, 150, 160, 175, 200, 225
	160	60, 70, 80, 90, 100, 125, 150, 160
	80	15, 20, 30, 40, 50, 60, 70, 80

Table 27.4-29. UL 489 Interrupting Capacity Ratings

Circuit Breaker Type	Number of Poles	Trip Type ①	Interrupting Capacity (Symmetrical Amperes)					
			Volts AC (50/60 Hz)				Volts DC	
			240	277	480	600	125	250
FDE ②	3	N.I.T.	65,000	—	35,000	18,000	—	10,000
HFDE ②	3	N.I.T.	100,000	—	65,000	25,000	—	22,000
FDCE ②③	2, 3, 4	N.I.T.	200,000	—	100,000	25,000	—	—

- ① N.I.T. is non-interchangeable trip unit.
- ② Current limiting.
- ③ Electronics available on three-pole only.

Table 27.4-30. Line and Load Terminals

Maximum Breaker Amperes	Terminal Body Material ④	Wire Type	AWG Wire Range	Metric Wire Range (mm <sup>2</sup> )	Catalog Number Package of 3 Terminals
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Standard Pressure Type Terminals

100	Steel	Cu/Al	(1) #14–1/0	2.5–50	3T100FB
150	Aluminum	Cu/Al	(1) #4–4/0	25–95	<b>3TA150FB</b>
225	Aluminum	Cu/Al	(1) #4–4/0	25–95	3TA225FD

Optional Pressure Terminals

50	Aluminum	Cu/Al	(1) #14–#4	2.5–16	3TA50FB
100	Aluminum	Cu/Al	(1) #14–1/0	2.5–50	3TA100FD
150	Stainless steel	Cu	(1) #4–4/0	25–95	3T150FB
225	Aluminum	Cu/Al	(1) #6–300 kcmil	16–150	3TA225FDK

④ UL listed for use with copper or aluminum conductors as noted.

Series C Selection Data—F-Frame

Series C, F-Frame  
Thermal-Magnetic 10–225A  
Electronic RMS 15–225A



F-Frame Breaker

Table 27.4-55. Dimensions in Inches (mm)

Number of Poles	Width	Height	Depth
1	1.38 (34.8)	6.00 (152.4)	3.38 (85.7)
2	2.75 (69.9)	6.00 (152.4)	3.38 (85.7)
3	4.13 (104.8)	6.00 (152.4)	3.38 (85.7)
4	5.50 (139.7)	6.00 (152.4)	3.38 (85.7)

Table 27.4-56. Thermal-Magnetic Trip Ratings

Frame	Ratings
ED, EDH, EDC	100, 125, 150, 175, 200, 225
EHD, FDB, FD, HFD, FDC, HFDDC	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125, 150
FD, HFD, FDC	175, 200, 225

Table 27.4-57. Digitrip 310+ Electronic Trip Units

Types	Frame	Ratings
FDE, HFDE, FDCE	225	100, 110, 125, 150, 160, 175, 200, 225
	160	60, 70, 80, 90, 100, 125, 150, 160
	80	15, 20, 30, 40, 50, 60, 70, 80

Table 27.4-58. UL 489 Interrupting Capacity Ratings

Circuit Breaker Type	Number of Poles	Trip Type ①	Interrupting Capacity (Symmetrical Amperes)					
			Volts AC (50/60 Hz)				Volts DC	
			240	277	480	600	125	250 ②③
EDB	2, 3	N.I.T.	22,000	—	—	—	10,000	—
EDS	2, 3	N.I.T.	42,000	—	—	—	10,000	—
ED	2, 3	N.I.T.	65,000	—	—	—	10,000	—
EDH	2, 3	N.I.T.	100,000	—	—	—	10,000	—
EDC ④	2, 3	N.I.T.	200,000	—	—	—	10,000	—
EHD	1	N.I.T.	—	14,000	—	—	10,000	—
	2, 3	N.I.T.	18,000	—	14,000	—	—	10,000
FDB	2, 3, 4	N.I.T.	18,000	—	14,000	14,000	—	10,000
FD	1	N.I.T.	—	35,000	—	—	10,000	—
FD	2, 3, 4	N.I.T.	65,000	—	35,000	—	—	10,000
FDE ⑤	2, 3, 4	N.I.T.	65,000	—	35,000	18,000	—	—
HFD	1	N.I.T.	—	65,000	—	—	10,000	—
HFDE	2, 3, 4	N.I.T.	100,000	—	65,000	—	—	22,000
HFDE ⑤	2, 3, 4	N.I.T.	100,000	—	65,000	25,000	—	—
FDC ④	2, 3, 4	N.I.T.	200,000	—	100,000	35,000	—	22,000
FDCE ⑤	2, 3, 4	N.I.T.	—	—	—	25,000	—	—
HFDDC ⑥	3	N.I.T.	—	—	—	—	—	42,000 ⑦

- ① N.I.T. is non-interchangeable trip unit.
- ② Two-pole circuit breaker, or two poles of three-pole circuit breaker.
- ③ Time constant is 3 milliseconds minimum at 10 kA and 8 milliseconds minimum at 22 kA.
- ④ Current limiting.
- ⑤ Electronics available on three-pole only.
- ⑥ HFDDC is UL only and is not tested to other standards.
- ⑦ Interrupting rating is 35,000A at 600 Vdc with three poles in series, for ungrounded systems only.

Table 27.4-59. Line and Load Terminals

Maximum Breaker Amperes	Terminal Body Material ⑥	Wire Type	AWG Wire Range	Metric Wire Range (mm <sup>2</sup> )	Catalog Number Package of 3 Terminals
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Standard Pressure Type Terminals

20 (EHD)	Steel	Cu/Al	(1) #14–#10	2.5–4	3T20FB ⑧
100	Steel	Cu/Al	(1) #14–1/0	2.5–50	3T100FB
150	Aluminum	Cu/Al	(1) #4–4/0	25–95	3TA150FB
225	Aluminum	Cu/Al	(1) #4–4/0	25–95	3TA225FD

Optional Pressure Terminals

50	Aluminum	Cu/Al	(1) #14–#4	2.5–16	3TA50FB ⑧
100	Aluminum	Cu/Al	(1) #14–1/0	2.5–50	3TA100FD
150	Stainless Steel	Cu	(1) #4–4/0	25–95	3T150FB
225	Aluminum	Cu/Al	(1) #6–300 kcmil	16–150	3TA225FDK

- ⑧ UL listed for use with copper or aluminum conductors as noted.
- ⑨ Not for use with ED, EDH, EDC breakers.

**Series C® F-Frame**

**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 UL486A and UL486B. Unless otherwise specified, F-frame circuit breakers

are factory equipped with load terminals only.

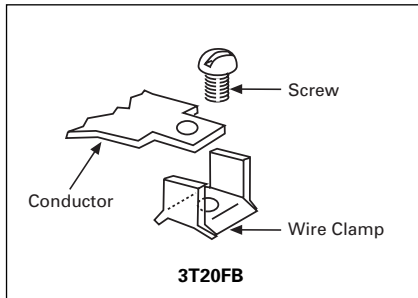
**Ordering Information**

F-frame circuit breakers and molded case switches have load terminals only as standard equipment. When standard line-end terminals (same as

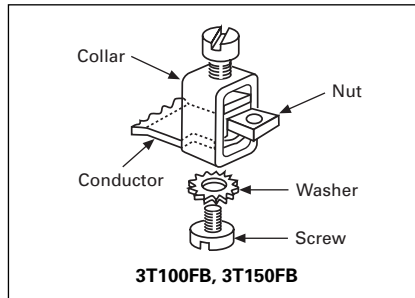
standard load-end terminals) are required, add suffix L to the circuit breaker catalog number. When non-standard or optional line and/or load terminals are required, order by style number. Specify if factory installation is required.

**Line and Load Terminals**

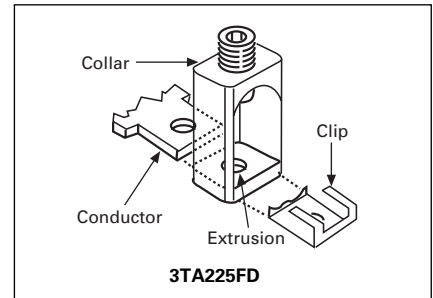
Maximum Breaker Amperes	Terminal Body Material	Wire Type	AWG Wire Range	Metric Wire Range mm <sup>2</sup>	Package of 3 Terminals
					Catalog Number
<b>Standard Pressure Type Terminals</b>					
20 (EHD)	Steel	Cu/Al	#14-#10	2.5-4	<b>3T20FB</b> ①
100	Steel	Cu/Al	#14-1/0	2.5-50	<b>3T100FB</b>
225	Aluminum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



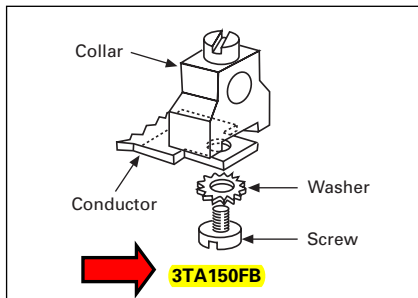
Assemble wire clamp to bottom of conductor as shown.



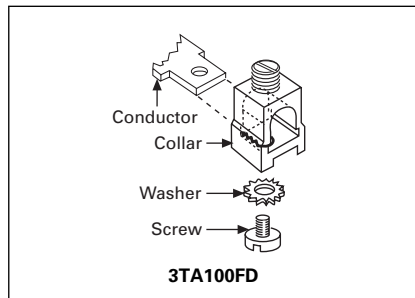
Insert collar enclosing conductor as shown. Locate nut on top of conductor and tighten securely with screw and washer. Caution: Collar must surround conductor.



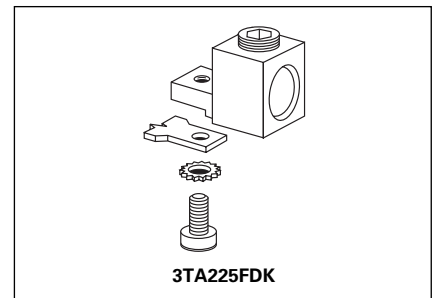
Insert collar enclosing conductor and center on extrusion on collar. Install clip with legs on top of conductor and snap end around bottom of collar.



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



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



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

① Not for use with ED, EDH, EDC breakers.  
② Includes terminal shield kit. Adds approximately 3 inches to breaker height. Available for use on 3-pole breaker only.