

CROSS REFERENCE TO ROCKWELL PART NUMBER 25105-209-02

Typical F-Frame Breaker
F-Frame Breaker with Electronic Trip Unit



Contents

Description

	<i>Page</i>
Product Overview	V4-T2-121
Standards and Certifications	V4-T2-122
Quick Reference	V4-T2-123
G-Frame (15–100 Amperes)	V4-T2-127
F-Frame (10–225 Amperes)	
Catalog Number Selection	V4-T2-142
Product Selection	V4-T2-143
Accessories	V4-T2-154
Technical Data and Specifications	V4-T2-155
Dimensions and Weights	V4-T2-157
J-Frame (70–250 Amperes)	V4-T2-158
K-Frame (70–400 Amperes)	V4-T2-166
L-Frame (125–600 Amperes)	V4-T2-193
M-Frame (300–800 Amperes)	V4-T2-219
N-Frame (400–1200 Amperes)	V4-T2-230
R-Frame (800–2500 Amperes)	V4-T2-258
Motor Circuit Protectors (MCP)	V4-T2-282
Motor Protection Circuit Breakers (MPCB)	V4-T2-289
Type ELC Current Limiter Attachment (Size 0–4)	V4-T2-291
Internal Accessories	V4-T2-296
External Accessories	V4-T2-327

F-Frame (10–225 Amperes)

Product Description

- All Eaton's F-Frame circuit breakers are HACR rated
- All circuit breakers 10 through 30 amperes are suitable for HID (high intensity discharge) use
- All F-Frame circuit breakers are suitable for reverse feed use

2.3

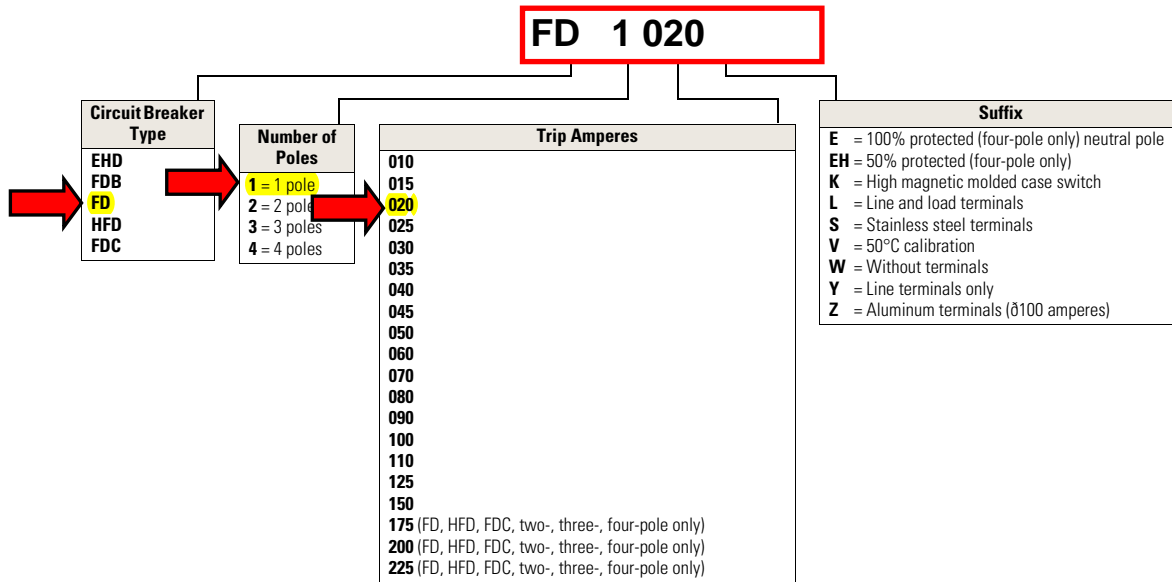
Molded Case Circuit Breakers

Series C


2

Catalog Number Selection

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.



**Type FD Thermal-Magnetic Circuit Breakers with Non-Interchangeable Trip Units
(Includes Terminals on Load End Only)**

Maximum Continuous Ampere Rating at 40°C	277 Vac Maximum, 125 Vdc 35 kAIC at 277 Vac	600 Vac Maximum, 250 Vdc 35 kAIC at 480 Vac		
	Single-Pole Catalog Number	Two-Pole Catalog Number	Three-Pole Catalog Number	Four-Pole Catalog Number
10 ^①	FD1010	—	—	—
15	FD1015 ^②	FD2015	FD3015	FD4015
20	 FD1020 ^②	FD2020	FD3020	FD4020
25	FD1025	FD2025	FD3025	FD4025
30	FD1030	FD2030	FD3030	FD4030
35	FD1035	FD2035	FD3035	FD4035
40	FD1040	FD2040	FD3040	FD4040
45	FD1045	FD2045	FD3045	FD4045
50	FD1050	FD2050	FD3050	FD4050
60	FD1060	FD2060	FD3060	FD4060
70	FD1070	FD2070	FD3070	FD4070
80	FD1080	FD2080	FD3080	FD4080
90	FD1090	FD2090	FD3090	FD4090
100	FD1100	FD2100	FD3100	FD4100
110	FD1110	FD2110	FD3110	FD4110
125	FD1125	FD2125	FD3125	FD4125
150	FD1150	FD2150	FD3150	FD4150
175	—	FD2175	FD3175	FD4175
200	—	FD2200	FD3200	FD4200
225	—	FD2225	FD3225	FD4225

Notes

- ^① Not UL listed. 5 kAIC interrupting rating.
^② UL listed for SWD applications, see NEC Article 240.83(d).

Technical Data and Specifications

UL 489 Interrupting Capacity Ratings

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes)					
		Volts AC (50/60 Hz)				Volts DC ^①	
		240	277	480	600	125	250 ^{②③}
EDB	2, 3	22	—	—	—	10	—
EDS	2, 3	42	—	—	—	10	—
ED	2, 3	65	—	—	—	10	—
EDH	2, 3	100	—	—	—	10	—
EDC	2, 3	200	—	—	—	10	—
EHD	1	—	4	—	—	10	—
	2, 3	18	—	14	—	—	10
FDB	2, 3, 4	18	—	14	14	—	10
FD	1	—	35	—	—	10	—
	2, 3, 4	65	—	35	18	—	10
FDE ^④	2, 3, 4	65	—	35	18	—	—
HFD	1	—	65	—	—	10	—
	2, 3, 4	100	—	65	25	—	22
HFDE ^④	2, 3, 4	100	—	65	25	—	—
FDC ^⑤	2, 3, 4	200	—	100	35	—	22
FDCE ^{④⑤⑥}	3	200	—	100	25	—	—

IEC 157-1 (P1) Interrupting Capacity Ratings (P1)

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes)					Volts DC ^①	
		Volts AC (50/60 Hz)						
		220, 240	380, 415	440	500	125	250 ^{②③}	
EDB	2, 3	22	—	—	—	10	—	
EDS	2, 3	42	—	—	—	10	—	
ED	2, 3	65	—	—	—	10	—	
EDH	2, 3	100	—	—	—	10	—	
EDC	2, 3	200	—	—	—	10	—	
EHD	1	—	14	—	—	10	—	
	2, 3	18	—	14	—	—	10	
FDB	2, 3, 4	18	14	14	14	—	10	
FD	1	35	—	—	—	10	—	
	2, 3, 4	65	35	35	18	—	10	
HFD	1	65	—	—	—	10	—	
	2, 3, 4	100	65	65	25	—	22	
FDC	2, 3, 4	200	100	100	35	—	22	

Digitrip Electronic Trip Units

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

Notes

- ① DC ratings apply to substantially non-inductive circuits.
- 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 Electronics available on three-pole only, no DC rating for FDE, HFDE, FDCE.
- ⑤ Current limiting.
- ⑥ Check with Eaton for availability.

Dimensions and Weights

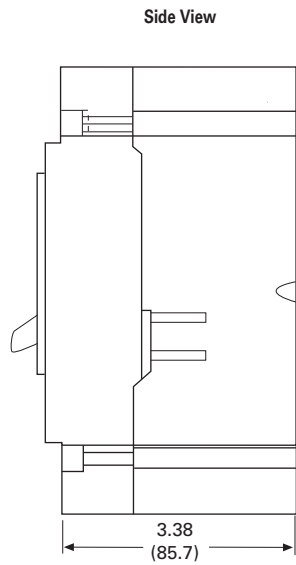
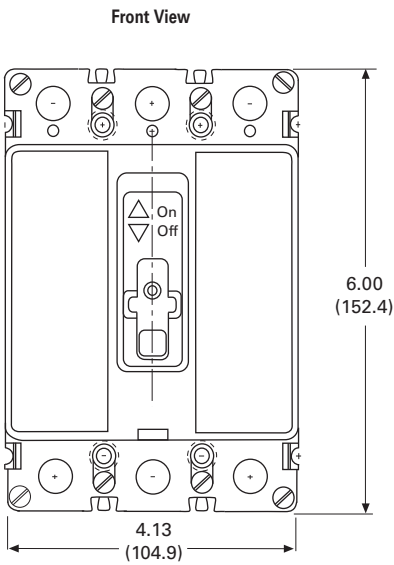
Approximate Dimensions in Inches (mm)

FD Frame



Number of Poles	Width	Height	Depth
1	1.38 (35.1)	6.00 (152.4)	3.38 (86.0)
2	2.75 (70.0)	6.00 (152.4)	3.38 (86.0)
3	4.13 (105.0)	6.00 (152.4)	3.38 (86.0)
4	5.50 (139.7)	6.00 (152.4)	3.38 (86.0)

FD Frame, Three-Pole



Approximate Shipping Weight Lbs (kg)

FD Frame



Breaker Type	Number of Poles			
	1	2	3	4
ED, EDB, EDS, EDH, EDC	—	3 (1.4)	4.5 (2.0)	—
EHD, FDB, FD, HFD, FDC	2 (0.9)	3 (1.4)	4.5 (2.0)	6 (2.7)
FDE, HFDE, FDCE	—	—	4.5 (2.0)	—