

**Cross Reference to
Rockwell Part Number
25105-209-10**

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



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

**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 | 600 Vac Maximum, 250 Vdc | | |
|---|--|---|---------------------------------|--------------------------------|
| | 35 kAIC at 277 Vac Single-Pole Catalog Number | 35 kAIC at 480 Vac 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).

F-Frame Digitrip Specifications

| Trip Unit Type | Digitrip RMS 310+ | |
|-------------------------------------|-----------------------|-------------|
| rms sensing | Yes | |
| Breaker Type | | |
| Frame | FDE | |
| Ampere range | 15–225A | |
| Interrupting rating at 480V | 35, 65, 100 (kA) | |
| Protection | | |
| Ordering options | LS | LSI |
| | LSG | LSIG |
| Fixed rated plug (I_n) | No | |
| Overtemperature trip | Yes | |
| Long Delay Protection (L) | | |
| Adjustable rating plug (I_n) | No | |
| Long delay pickup | 40–100% frame | |
| Long delay time I^2t | 2–24 seconds | |
| Long delay time I^4t | No | |
| Long delay thermal memory | Yes | |
| High load alarm | Yes | |
| Short Delay Protection (S) | | |
| Short delay pickup | 200–1000% x (I_r) | |
| Short delay time I^2t | Yes | No |
| Short delay time Flat | No | Inst–300 ms |
| Short delay time Z.S.I. | Yes ^① | |
| Instantaneous Protection (I) | | |
| Instantaneous pickup | No | |
| Discriminator | No | |
| Instantaneous override | Yes | |
| Ground Fault Protection (G) | | |
| Ground fault alarm | No | |
| Ground fault pickup | 20–100% frame | |
| Ground fault delay I^2t | No | |
| Ground fault delay flat | Inst–300 ms | |
| Ground fault Z.S.I. | Yes ^① | |
| Ground fault thermal memory | Yes | |
| System Diagnostics | | |
| Cause of trip LEDs | No | |
| Magnitude of trip information | No | |
| Remote signal contacts | No | |
| System Monitoring | | |
| Digital display | No | |
| Current | No | |
| Voltage | No | |
| Power and energy | No | |
| Power quality harmonics | No | |
| Power factor | No | |
| Communications | | |
| PowerNet | No | |
| Testing | | |
| Testing method | Test kit | |

Legend I_n = Rating Plug I_r = Long Delay Pickup Setting x I_n **Note**

^① ZSI (zone selective interlocking) is optional. Must order with ZSI. Standard 310+ does not come with ZSI.

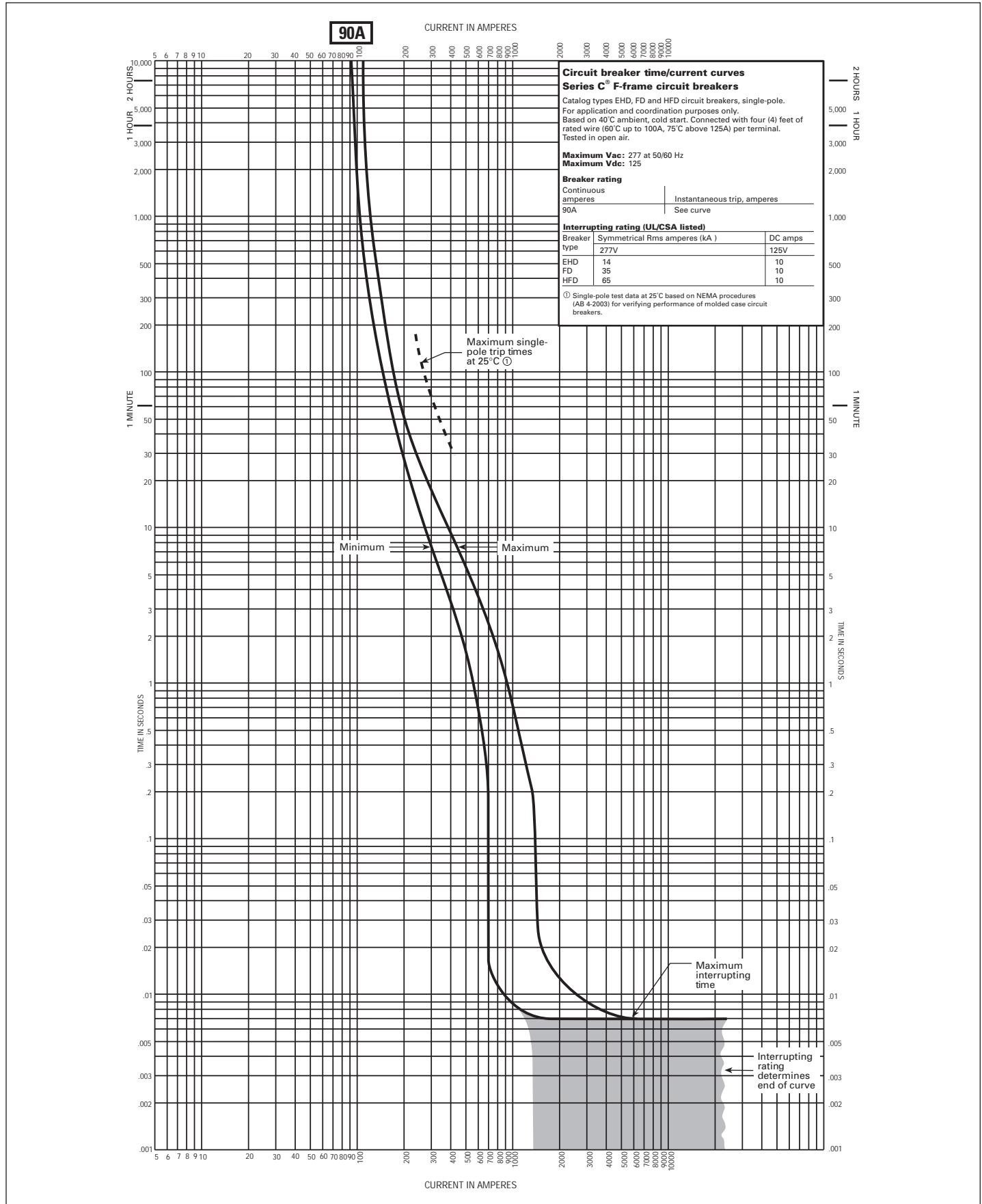


Figure 12. Types EHD, FD, and HFD 90A—Curve No. SC-4434-88A