

Typical R-Frame Breaker



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R-Frame (800–2500 Amperes)

Product Description

- Eaton R-Frame circuit breakers are available as frame (which includes trip unit), rating plug and terminals
- All R-Frame circuit breakers are suitable for reverse feed use

2.4

Molded Case Circuit Breakers

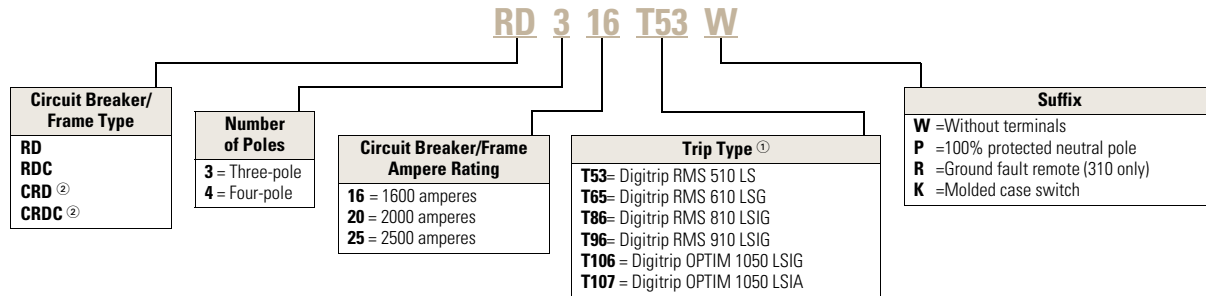
Series C

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.

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Circuit Breaker/Frame



Notes

- ① For complete list of available trip types, refer to **Pages V4-T2-343 to V4-T2-352**.
- ② No four-pole for CRD and CRDC.

Technical Data and Specifications

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UL 489/CSA Interrupting Capacity Ratings ^①

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes)			
		Volts AC (50/60 Hz)			
		240	277	480	600
RD	3, 4	125	—	65	50
CRD ^②	3	125	—	65	50
RDC	3, 4	200	—	100	65
CRDC ^②	3	200	—	100	65

IEC 947-2 Interrupting Capacity Ratings ^①

Circuit Breaker Type	Number of Poles	Interrupting Capacity (kA Symmetrical Amperes)		
		Volts AC (50/60 Hz)		
		240	415	690
RD				
I_{CU}	3, 4	135	70	25
I_{CS}	3, 4	100	50	13
RDC				
I_{CU}	3, 4	200	100	35
I_{CS}	3, 4	100	50	18

Notes

^① Utilization Category A circuit breakers.

^② 100% rated breakers.

See **Page V4-T2-357** for Trip Unit Specifications.

Specifications**R-Frame Digitrip**

Trip Unit Type	Digitrip RMS 510	Digitrip RMS 610	Digitrip RMS 810	Digitrip RMS 910	Digitrip OPTIM 1050
rms sensing	Yes	Yes	Yes	Yes	Yes
Breaker Type					
Frame	R	R	R	R	R
Ampere range	800–2500 A	800–2500 A	800–2500 A	800–2500 A	800–2500 A
Interrupting rating at 480 volts	65, 100 (kA)	65, 100 (kA)	65, 100 (kA)	65, 100 (kA)	65, 100 (kA)
Protection					
Ordering options	LI, LS, LSI, LIG, LSG, LSIG	LI, LS, LSI, LIG, LSG, LSIG	LI, LS, LSI, LIG, LSG, LSIG	LI, LS, LSI, LIG, LSG, LSIG	LSI(A), LISG
Fixed rated plug (I_n)	Yes	Yes	Yes	Yes	Yes
Overtemperature trip	Yes	Yes	Yes	Yes	Yes
Long Delay Protection (L)					
Adjustable rating plug (I_n)	No	No	No	No	No
Long delay pickup	0.5–1.0 x (I_n)	0.5–1.0 x (I_n)	0.5–1.0 x (I_n)	0.5–1.0 x (I_n)	0.4–1.0 x (I_n)
Long delay time I^2t	2–24 seconds	2–24 seconds	2–24 seconds	2–24 seconds	2–24 seconds
Long delay time I^4t	No	No	No	No	1–5 Seconds
Long delay thermal memory	Yes	Yes	Yes	Yes	Yes
High load alarm	No	0.85 x I_r	0.85 x I_r	0.85 x I_r	0.5–1.0 x I_r
Short Delay Protection (S)					
Short delay pickup	200–600% S1 and S2 x (I_r)	200–600% S1 and S2 x (I_r)	200–600% S1 and S2 x (I_r)	200–600% S1 and S2 x (I_r)	150–800% x (I_r) ^{①②}
Short delay time I^2t	100–500 ms	100–500 ms	100–500 ms	100–500 ms	100–500 ms
Short delay time flat	100–500 ms	100–500 ms	100–500 ms	100–500 ms	100–500 ms
Short delay time zone selective interlocking	Yes	Yes	Yes	Yes	Yes
Instantaneous Protection (I)					
Instantaneous pickup	200–600% M1 and M2 x (I_n)	200–600% M1 and M2 x (I_n)	200–600% M1 and M2 x (I_n)	200–600% M1 and M2 x (I_n)	200–800% x (I_n) ^②
Discriminator	Yes ^③	Yes ^③	Yes ^③	Yes ^③	Yes
Instantaneous override	Yes	Yes	Yes	Yes	Yes
Ground Fault Protection (G)					
Ground fault alarm ^④	No	No	No	No	25–100% x (I_n)
Ground fault pickup ^④	25–100% x (I_g)	25–100% x (I_g)	25–100% x (I_g)	25–100% x (I_g)	25–100% x (I_n)
Ground fault delay I^2t	100–500 ms	100–500 ms	100–500 ms	100–500 ms	100–500 ms
Ground fault delay flat	100–500 ms	100–500 ms	100–500 ms	100–500 ms	100–500 ms
Ground fault zone selective interlocking	Yes	Yes	Yes	Yes	Yes
Ground fault thermal memory	Yes	Yes	Yes	Yes	Yes

Legend

BIM = Breaker Interface Module
(A) = GF Alarm
 I_s = Sensor Rating
 I_n = Rating Plug
 I_r = Long Delay Pickup Setting x I_n

Notes

- ① Except 2500 ampere frame is 200–600%.
② Varies by frame.
③ LS/LSG only.
④ Not to exceed 1200 amperes.

R-Frame Digitrip, continued

Trip Unit Type	Digitrip RMS 510	Digitrip RMS 610	Digitrip RMS 810	Digitrip RMS 910	Digitrip OPTIM 1050
System Diagnostics					
Status LEDs	Yes	Yes	Yes	Yes	Yes
Cause of trip LEDs	Yes	Yes	Yes	Yes	Yes
Magnitude of trip information	No	Yes	Yes	Yes	Yes
Remote signal contacts	No	Yes	Yes	Yes	Yes
System Monitoring					
Digital display	No	Yes	Yes	Yes	Yes ^①
Current	No	Yes	Yes	Yes	Yes
Voltage	No	No	No	Yes	No
Power and energy	No	No	Yes	Yes	Yes
Power quality—harmonics	No	No	No	Yes	Yes
Power factor	No	No	Yes (over Eaton PowerNet only)	Yes	Yes
Communications					
Eaton PowerNet	No	No	Yes	Yes	Yes
Testing					
Testing method	Integral	Integral	Integral	Integral	OPTIMizer, BIM, PowerNet

Legend

BIM = Breaker Interface Module
 (A) = GF Alarm
 I_s = Sensor Rating
 I_n = Rating Plug
 I_r = Long Delay Pickup Setting x I_n

Note

^① By OPTIMizer/BIM.

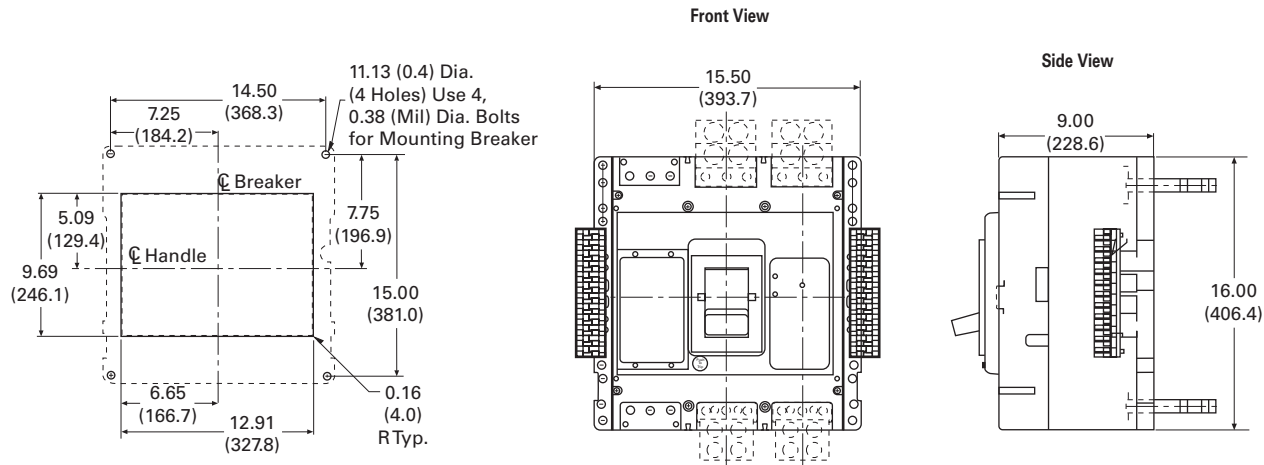
Dimensions and Weights

Dimensions in Inches (mm)

RD Frame

Number of Poles	Width	Height	Depth
3	15.50 (393.7)	16.00 (406.4)	9.75 (247.7)
4	20.00 (508.0)	16.00 (406.4)	9.75 (247.7)

RD-Frame, Three-Pole, 1600 and 2000 Amperes



Approximate Shipping Weight in Lbs (kg)

RD Frame

Breaker Type	Complete Breaker	
	Three-Pole	Four-Pole
1600 Amperes		
RD, CRD ①, RDC, CRDC ①	102 (46.3)	135 (61.2)
2000 Amperes		
RD, RDC	102 (46.3)	135 (61.2)
CRD, CRDC	130 (59.0)	175 (79.4)
2500 Amperes		
RD, RDC	135 (61.2)	182 (82.6)

Note

① No four-pole for CRD and CRDC.

J-Frame and HMCP (J) Undervoltage Release Mechanism

Voltage Rating (AC Freq. = 50/60 Hz)	Factory Mounted Connection Type and Location			Field Mounted Field Installation Kits ^②		
	18-Inch (457.2 mm) Pigtail Leads			Terminal Block ^①	Pigtail Leads Catalog Number	Terminal Block ^③ Catalog Number
	Same Side Suffix Number	Rear ^② Suffix Number	Opposite Side Suffix Number	Same Side Suffix Number		
Left-Pole Mounting AC Ratings ^④						
12 Vac	U05	U06	U07	U08	UVH2LP02K	UVH2LT02K
24 Vac	U09	U10	U11	U12	UVH2LP03K	UVH2LT03K
48–60 Vac	U13	U14	U15	U16	UVH2LP05K	UVH2LT05K
110–127 Vac	U17	U18	U19	U20	UVH2LP08K	UVH2LT08K
208–240 Vac	U21	U22	U23	U24	UVH2LP11K	UVH2LT11K
380–480 Vac	U25	U26	U27	U28	UVH2LP15K	UVH2LT15K
Right-Pole Mounting AC Ratings ^③						
12 Vac	U37	U38	U39	U40	UVH2RP02K	UVH2RT02K
24 Vac	U41	U42	U43	U44	UVH2RP03K	UVH2RT03K
48–60 Vac	U45	U46	U47	U48	UVH2RP05K	UVH2RT05K
110–127 Vac	U49	U50	U51	U52	UVH2RP08K	UVH2RT08K
208–240 Vac	U53	U54	U55	U56	UVH2RP11K	UVH2RT11K
380–480 Vac	U57	U58	U59	U60	UVH2RP15K	UVH2RT15K
Left-Pole Mounting DC Ratings ^④						
12 Vdc	T01	T02	T03	T04	UVH2LP20K	UVH2LT20K
24 Vdc	T05	T06	T07	T08	UVH2LP21K	UVH2LT21K
48–60 Vdc	T09	T10	T11	T12	UVH2LP23K	UVH2LT23K
110–127 Vdc	T13	T14	T15	T16	UVH2LP26K	UVH2LT26K
220–250 Vdc	T17	T18	T19	T20	UVH2LP28K	UVH2LT28K
Right-Pole Mounting DC Ratings ^③						
12 Vdc	T21	T22	T23	T24	UVH2RP20K	UVH2RT20K
24 Vdc	T25	T26	T27	T28	UVH2RP21K	UVH2RT21K
48–60 Vdc	T29	T30	T31	T32	UVH2RP23K	UVH2RT23K
110–127 Vdc	T33	T34	T35	T36	UVH2RP26K	UVH2RT26K
220–250 Vdc	T37	T38	T39	T40	UVH2RP28K	UVH2RT28K

Notes

- ^① For electrical rating data for manual, automatic and electrical reset undervoltage release mechanisms, refer to Eaton.
^② Listed with Underwriters Laboratories for field installation under E64983.
^③ Not for use on right pole of four-pole circuit breakers.
^④ Standard mounting location—leads exit rear of breaker.