


Product Details and Certifications

Cross Reference RA Part Number: PN-D12699

 **Product: 140G-R12I3-E25**

Description: 140G - Molded Case Circuit Breaker, R frame, 125 kA,
LSIG (electronic), Rated Current 2500 A



Representative Photo Only (actual product may vary based on configuration selections)

SYSTEM DATA

Supply Voltage	480V 50/60Hz / 600V 50/60 Hz
Interrupt Rating[kA]	125 kA at 480V / 100 kA at 600V

CIRCUIT BREAKER DATA

Bulletin Number	140G - Molded Case Circuit Breaker
Number of Poles	3 Poles
Frame Size	R frame
Rated Current(A)	2500 A
Current Range	80% Rated
Protection	Electronic LSIG - Long & Short Time, High Instantaneous, Ground Fault

MANUFACTURING

Assembly	Factory Assembled
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INTERNAL ACCESSORIES

Auxiliaries(AX), Alarm (AL), Auxiliary/Alarm Combination (AX/AL), Right Side Mounting	N/A
Voltage for Aux Alarm Combination	N/A



Frame Reference	G-Frame	H-Frame	I-Frame	J-Frame	K-Frame	M-Frame	N-Frame	NS-Frame	R-Frame
Rated Current I_n	125 A	125 A	225 A	250 A	400 A	800 A	1200 A	1200 A	3000 A
No. of Poles	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4	3, 4
Interrupting Rating [kA]									
240V	50 65 100	65 100 150 200 200	50 65	65 100 150 200	100 150 200 200	100 200 200	65 100 150	65 100 150	125
480V	25 35 65	25 35 65 100 150	25 35	25 35 65 100	35 65 100 150	50 65 100	50 65 100	50 65 100	125
600Y/347V	10 14 25	—	10 10	—	—	—	—	—	—
600V	—	14 18 25 35	10 10	14 18 25 35	25 35 65 100	25 35 42	25 50 65	25 50 65	100
Breaking Capacity [I_{cu} (kA)]									
220...240V	65 85 100	65 85 100 150 200	65 85	65 85 100 150	85 100 200 200	85 100 200	85 100 200	85 100 200	130
415V	36 50 70	36 50 70 120 150	36 50	36 50 70 120	50 70 120 200	36 70 100	50 70 120	50 70 120	80
440V	36 50 65	36 50 65 100 150	25 40	36 50 65 100	40 65 100 180	35 50 65	50 65 100	50 65 100	80
690V	6 8 10	10 12 15 18 20	5 8	10 12 15 20	25 40 70 80	22 25 30	30 42 50	30 42 50	40
250V DC	36 50 70	36 50 70 85 100	36 50	36 50 70 85	—	36 50 65	—	—	—
500V DC	36 50 70	36 50 70 85 100	36 50	36 50 70 85	36 50 70 100	—	—	—	—
750V DC	—	—	—	—	25 36 70 70	16 36 50	—	—	—
Protection Type									
Thermal Magnetic	✓	✓	✓	✓	✓	✓	—	—	—
Electronic	—	✓	—	✓	✓	✓	✓	✓	✓
Molded Case Switch	✓	✓	✓	✓	✓	✓	✓	✓	✓
Internal Accessories									
Auxiliary Contact	✓	✓	✓	✓	✓	✓	✓	✓	✓
Alarm Contact	✓	✓	✓	✓	✓	✓	✓	✓	✓
AX/AL Combo	✓	✓	✓	✓	✓	✓	✓	✓	✓
Trip Unit Contact	—	✓	—	✓	—	—	✓	✓	✓
Shunt Trip	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shunt Close	—	—	—	—	—	—	✓	✓	✓
UV Relay	✓	✓	✓	✓	✓	✓	✓	✓	✓
Field Installable	✓	✓	✓	✓	✓	✓	✓	✓	✓
External Accessories									
End Cap	STD	STD	STD	STD	STD	STD	STD	STD	—
25 mm Phase Barriers	STD	STD	STD	STD	STD	—	—	—	—
Insulators	STD	STD	STD	STD	STD	STD	—	—	—
Terminal Lugs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Extended Terminal	✓	✓	✓	✓	✓	✓	✓	✓	—
Spreader Terminal	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rear Terminal	—	—	—	—	—	—	✓	✓	✓
Phase barriers	✓	✓	✓	✓	✓	✓	✓	✓	✓
Terminal Cover	✓	✓	✓	✓	✓	✓	✓	✓	—
Direct Rotary	✓	✓	✓	✓	✓	✓	✓	—	—
Variable Depth (Door)	✓	✓	✓	✓	✓	✓	✓	—	—
Internal NFPA 79	✓	✓	✓	✓	✓	✓	✓	—	—
Flange Operator	✓	✓	✓	✓	✓	✓	✓	—	—
Flange Cable	✓	✓	✓	✓	✓	✓	✓	—	—
Motor Operator	✓	✓	✓	✓	✓	✓	—	✓	✓
Field Installable	✓	✓	✓	✓	✓	✓	✓	✓	✓

Molded Case Circuit Breakers

Catalog Number Explanation — 2000...3000 A, R-Frame Stored Energy Operating Mechanism

Complete Circuit Breaker Assemblies — 2000...3000 A, R-Frame

Examples given in this section are not intended to be used for product selection. Use ProposalWorks to configure the molded case circuit breaker. Use these configurations only to select all factory-installed options for shunt trips, undervoltage release units, auxiliary contacts, and alarm contacts. Use the codes from Table h and i to add on to the molded case circuit breaker cat. no. selected on the previous pages to form a complete cat. no. for a complete assembly with factory-installed options.



140G – R 12 I 3 - E25

a b c d e f g h i

a		d		h	
Bulletin No.		Protection Type		Remote MCCB Operation♦	
Code	Description	Code	Description	Spring Charge Motor	
140G	Global Molded Case Circuit Breaker	I	Electronic LSIG -Long, short, instant & ground fault	MJ	Spring Charge Motor, 24...30V AC/DC
		S	Molded case switch (isolator)	MK	Spring Charge Motor, 48...60V AC/DC
b		e		Shunt Trip and Shunt Close Units	
Frame/Rating		Poles		Code	Description
Code	Description	Code	Description	RJ	Shunt Trip and Shunt Close, 24V AC/DC
R	2500...3000 A	3	3 poles	RK	Shunt Trip and Shunt Close, 48V AC/DC
		4	4 poles	RD	Shunt Trip and Shunt Close, 110...120V AC/DC
c		f		RA	Shunt Trip and Shunt Close, 220...240V AC/DC
Interrupting Rating/Breaking Capacity (based on I _c at 480V)		Current Range		RB	Shunt Trip and Shunt Close, 380...440V AC
Code	Description	Code	Description	No Digit	No Selection
12	125 kA	E20	2000 A rating plug, installed		
		E25	2500 A rating plug, installed		
		E30	3000 A rating plug, installed		
g		i		Factory-Installed Internal Options♦	
Rating		Shunt Trip and Undervoltage Release Units		Code	Description
Code	Description	Code	Description	SJ	Shunt Trip, 24V DC
No Digit	80% Rated	SK	Shunt Trip, 48V AC/DC	SD	Shunt Trip, 110...120V AC/DC
Z1	100% Rated	SA	Shunt Trip, 220...240V AC/DC	SB	Shunt Trip, 380...440V AC
		SC	Shunt Trip, 480...525V AC	UJ	Undervoltage Release, 24V DC
		UD	Undervoltage Release, 110...120V AC/DC	UA	Undervoltage Release, 220...240V AC/DC
		UB	Undervoltage Release, 380...400V AC	UC	Undervoltage Release, 440V AC
		No Digit	No Selection		

♦ Select up to four internal options: 3 for left side mounting, 1 for right. Consult your local Rockwell automation sales office or Allen-Bradley distributor for further assistance.

Molded Case Circuit Breakers

Product Selection — 2000...3000 A, R-Frame Stored Energy Operating Mechanism

Assembled Molded Case Circuit Breakers — 2000...3000 A R-Frame

Interrupting Rating/Breaking Capacity — Electronic Circuit Breakers



Interrupting Rating (50/60 Hz), UL 489/CSA C22.2-5, No. 5-02 [kA]			Breaking Capacity (50/60 Hz), IEC 60947-2										Interrupting Code‡
240V	480V	600V	220V		415V		440V		500V		690V		
			I_{cu} [kA]	I_{cs} [kA]	I_{cu} [kA]	I_{cs} [kA]	I_{cu} [kA]	I_{cs} [kA]	I_{cu} [kA]	I_{cs} [kA]	I_{cu} [kA]	I_{cs} [kA]	
125	125	100	130	97.5	80	60	80	60	40	40	40	40	R12

‡ See table below for Cat. No. selection

Electronic LSI (Long, Short, Instantaneous, Ground Fault) - 80% Rated

Rated Current I_n [A]	Protection Type								Interrupting Code R12	
	L		S		I	G		Cat. No.		
	$I_1=0.4...1 \times I_n$	$t_1=sec.$	$I_2=1...10 \times I_n$	$t_2=sec.$	$I_3=1...10 \times I_n$	$I_4=0.2...1 \times I_n$	$t_4=sec.$	3 Poles	4 Poles	
2000‡	800...2000	3, 12, 24, 36, 48, 72, 108, 144	1200...20000	0.1, 0.2, 0.3, 0.4, 0.5, 5.8, 6.6, 7.4, 8.2, 9, 10	3000...30000	400...2000	0.1, 0.2, 0.4, 0.8	140G-R12I3-E20	140G-R12I4-E20	
2500‡	1000...2500	3, 12, 24, 36, 48, 72, 108, 144	1500...25000	0.1, 0.2, 0.3, 0.4, 0.5, 5.8, 6.6, 7.4, 8.2, 9, 10	3750...37500	500...2500	0.1, 0.2, 0.4, 0.8	140G-R12I3-E25	140G-R12I4-E25	
3000‡	1200...3000	3, 12, 24, 36, 48, 72, 108, 144	1800...30000	0.1, 0.2, 0.3, 0.4, 0.5, 5.8, 6.6, 7.4, 8.2, 9, 10	4500...45000	600...3000	0.1, 0.2, 0.4, 0.8	140G-R12I3-E30	140G-R12I4-E30	

‡ Listed I_1 , I_2 , I_3 & I_4 values are based on a 2000, 2500 & 3000 A rating plug value, respectively.

Electronic LSI (Long, Short, Instantaneous, Ground Fault) - 100% Rated

Rated Current I_n [A]	Protection Type								Interrupting Code R12	
	L		S		I	G		Cat. No.		
	$I_1=0.4...1 \times I_n$	$t_1=sec.$	$I_2=1...10 \times I_n$	$t_2=sec.$	$I_3=1...10 \times I_n$	$I_4=0.2...1 \times I_n$	$t_4=sec.$	3 Poles	4 Poles	
2000§	1000...2500	3, 12, 24, 36, 48, 72, 108, 144	1500...25000	0.1, 0.2, 0.3, 0.4, 0.5, 5.8, 6.6, 7.4, 8.2, 9, 10	3750...37500	500...2500	0.1, 0.2, 0.4, 0.8	140G-R12I3-E20-Z1	140G-R12I4-E20-Z1	
2500§	1000...2500	3, 12, 24, 36, 48, 72, 108, 144	1500...25000	0.1, 0.2, 0.3, 0.4, 0.5, 5.8, 6.6, 7.4, 8.2, 9, 10	3750...37500	500...2500	0.1, 0.2, 0.4, 0.8	140G-R12I3-E25-Z1	140G-R12I4-E25-Z1	
3000§	1200...3000	3, 12, 24, 36, 48, 72, 108, 144	1800...30000	0.1, 0.2, 0.3, 0.4, 0.5, 5.8, 6.6, 7.4, 8.2, 9, 10	4500...45000	600...3000	0.1, 0.2, 0.4, 0.8	140G-R12I3-E30-Z1	140G-R12I4-E30-Z1	

§ Listed I_1 , I_2 , I_3 & I_4 values are based on a 2000, 2500 & 3000 A rating plug value, respectively.

Molded Case Switch — UL489§

Rated Current I_n [A]	Magnetic Trip I_m [A]	Cat. No.	
		3 Poles	4 Poles
2500	25 000	140G-R12S3-E25	140G-R12S4-E25

§ Does not provide overcurrent protection; may open at 40,000 A.



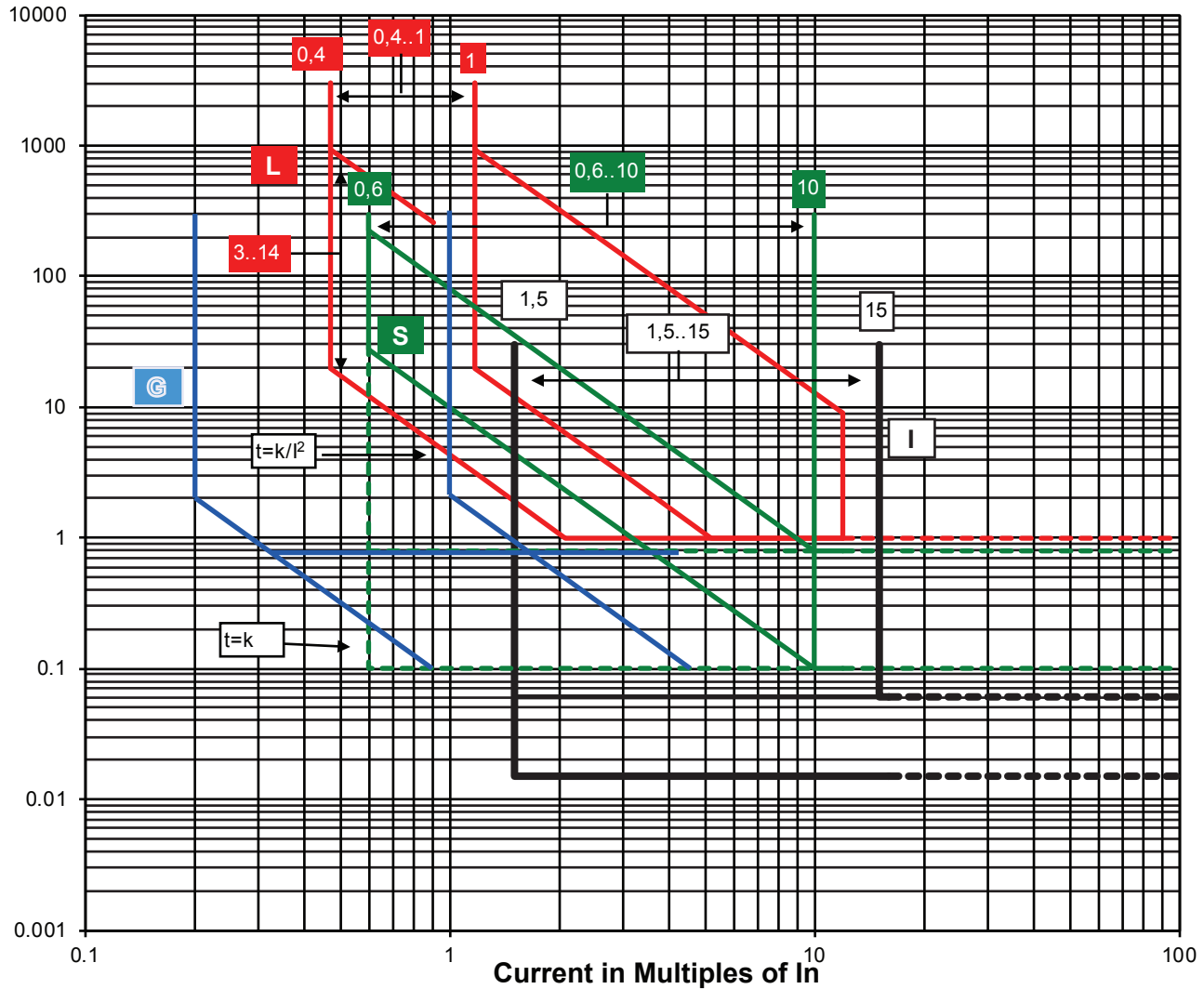
Rating Plugs

Rated Current I_n [A]	Cat. No.
1000	140G-NRP-E10
1200	140G-NRP-E12
1600	140G-RRP-E16
2000	140G-RRP-E20
2500	140G-RRP-E25
3000	140G-RRP-E30

Bulletin 140G
Molded Case Circuit Breakers
 Specifications — N-, NS-, and R-Frame

		N-, NS-Frame			R-Frame
Max. Rated Current	[A]	1200			2000/2500/3000
Rated insulation voltage, U_i , IEC	[V]	1000			1000
NEMA, UL, CSA					
Interrupting Rating Code		N5	N6	N0	R12
240V AC, 50/60Hz	[kA]	65	100	150	125
480V AC, 50/60Hz	[kA]	50	65	100	125
600Y/347V AC, 50/60Hz	[kA]	—	—	—	—
600V AC, 50/60 Hz	[kA]	25	50	65	100
IEC 60947-2					
Rated ultimate short-circuit breaking capacity, I_{cu}					
220/230/240V AC, 50/60Hz	[kA]	85	100	200	130
380V AC, 50/60Hz	[kA]	50	70	120	80
415V AC, 50/60Hz	[kA]	50	70	120	80
440V AC, 50/60Hz	[kA]	50	65	100	80
500V AC, 50/60Hz	[kA]	40	50	85	40
525V AC, 50/60Hz	[kA]	—	—	—	—
690V AC, 50/60Hz	[kA]	30	42	50	40
250V DC, 2 Poles in Series	[kA]	—	—	—	—
500V DC, 2 Poles in Series	[kA]	—	—	—	—
500V DC, 3 Poles in Series	[kA]	—	—	—	—
750V DC, 3 Poles in Series	[kA]	—	—	—	—
Rated service short-circuit breaking capacity, I_{cs}					
220/230/240V AC, 50/60Hz	[kA]	100%	100%	100%	100%
380V AC, 50/60Hz	[kA]	100%	100%	100%	—
415V AC, 50/60Hz	[kA]	100%	100%	100%	100%
440V AC, 50/60Hz	[kA]	100%	100%	100%	100%
500V AC, 50/60Hz	[kA]	100%	100%	75%	100%
525V AC, 50/60Hz	[kA]	—	—	—	—
690V AC, 50/60Hz	[kA]	100%	75%	75%	100%
250V DC, 2 Poles in Series	[kA]	—	—	—	—
500V DC, 2 Poles in Series	[kA]	—	—	—	—
500V DC, 3 Poles in Series	[kA]	—	—	—	—
750V DC, 3 Poles in Series	[kA]	—	—	—	—
Mechanical Life	[No. Ops]	10000			15000
	[Ops/hr]	60			60
Electrical Life @ 415V AC	[No. Ops]	2000			4500 (2000 A) - 4000 (2500 A) - 3000 (3200 A)
	[Ops/hr]	60			60
Ambient Temp. w/out derating	°F [°C]	104 °F [40 °C]			104 °F [40 °C]
Storage Temperature	°F [°C]	-40...+176 °F [-40...+80 °C]			-40...+176 °F [-40...+80 °C]
Dimensions [Width/Depth/Height]	[mm]	3 poles: 210x154(N)/178(NS)x268			3 poles: 427x282x382
	[mm]	4 poles: 280x154(N)/178(NS)x268			4 poles: 553x282x382

Electronic Trip Unit. Long Delay Response, Short Delay with I_{2t} Response, Instantaneous, and Ground Fault Curve



Protection	Disa- ble	Trip Threshold	Trip Time	Trip Threshold Tolerance	Trip Time Tolerance
L (t=k/I ²)		I ₁ = 0.4-0.425-0.45-0.475-0.5-... 1 x I _n	t ₁ = 3-12-24-36-48-72-108-144 s ⁽¹⁾ @3I ₁	Release between 1.05 and 1.2 x I ₁	± 10% I _g ≤ 6xI _n
S (t=k)	✓	I ₂ = 0.6-0.8-1.2-1.8-2.4-3-3.6- 4.2-5-5.8-6.6-7.4-8.2-9-10 x I _n	with I > I ₂ t ₂ = 0.1-0.2-0.3-0.4-0.5-0.6-0.7-0.8 s	± 7% I _g ≤ 6xI _n ± 10% I _g > 6xI _n	The best of: ± 10% or ± 40 ms
S (t=k/I ²)	✓	I ₂ = 0.6-0.8-1.2-1.8-2.4-3-3.6- 4.2-5-5.8-6.6-7.4-8.2-9-10 x I _n	t ₂ = 0.1-0.2-0.3-0.4-0.5-0.6-0.7-0.8 s @10I _n	± 7% I _g ≤ 6xI _n ± 10% I _g > 6xI _n	± 15% I _g ≤ 6xI _n ± 20% I _g > 6xI _n
I (t=k)	✓	I ₃ = 1.5-2-3-4-5-6-7-8-9-10-11- 12-13-14-15 x I _n	≤ 30ms	± 10%	
G (t=k)	✓	I ₄ = 0.2-0.3-0.4-0.6-0.8-0.9-1 x I _n	with I > I ₄ t ₄ = 0.1-0.2-0.4-0.8 s	± 7%	The best of: ± 10% or ± 40 ms
G (t=k/I ²)	✓	I ₄ = 0.2-0.3-0.4-0.6-0.8-0.9-1 x I _n	t ₄ = 0.1 @4.47 I ₄ t ₄ = 0.2 @3.16 I ₄ t ₄ = 0.4 @2.24 I ₄ t ₄ = 0.8 @1.58 I ₄	± 7%	± 15%

For all other cases the following tolerance values apply:

Protection	Trip Threshold	Trip Time
L	1.05 ≤ x I ₁ ≤ 1.25	± 20%
S	± 10%	± 20%
I	± 15%	≤ 60 ms
G	± 10%	± 20%
Others	± 20%	

- Notes:
- The minimum value of this trip is 1s regardless of curve type (self-protection)
 - These tolerances apply under the following conditions:
 - self-powered relay at full power (without start-up)
 - two-phase or three-phase power supply
 - presence of auxiliary power supply
 - preset trip time ≥ 100ms
 - The value of this trip is ensured between 40 and 500 ms from CB closing; this setting must be done by the customer
 - Curve accuracy applies from -20 C to +55 C ambient.

For possible continuous ampere derating for ambient above 40 C, consult Rockwell Automation.

5. The right portion of the curve is determined by the interrupting rating of the circuit breaker.

6. Total clearing times shown include the response times of the trip unit, the breaker opening, and the interruption of the current.

7. For high fault current levels an additional fixed instantaneous hardware override is provided at 14x (I_n).