

Product Details and Certifications

Cross Reference RA Part Number: PN-D12657

Product: 140G-N6H3-E12

Description: 140G - Molded Case Circuit Breaker, N frame, 65 kA,
LSI (electronic), Rated Current 1200 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]	65 kA at 480V / 50 kA at 600V

CIRCUIT BREAKER DATA

Bulletin Number	140G - Molded Case Circuit Breaker
Number of Poles	3 Poles
Frame Size	N frame
Rated Current(A)	1200 A
Current Range	80% Rated
Protection	Electronic LSI - Long & Short Time, High Instantaneous

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

Bulletin 140G
Molded Case Circuit Breakers
 Product Overview



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 — 1200 A, N-Frame

Complete Circuit Breaker Assemblies — 1200 A, N-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 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 - N ~~AAAA~~6
H
3 - E12A
A

a
b
c
d
e
f
g
h

a

Bulletin No.	
Code	Description
140G	Global Molded Case Circuit Breaker

b

Frame/Rating	
Code	Description
N	1200 A

c

Interrupting Rating/Breaking Capacity (based on I _c at 480V)	
Code	Description
5	50 kA
6	65 kA
0	100 kA
T	Trip unit

d

Protection Type	
Code	Description
H	Electronic LSI-long, short & instant
I	Electronic LSI -long, short, instant & ground fault
K	Electronic LSI-MM -long, short, instant, ground fault & MM
S	Molded case switch (isolator)

e

Poles	
Code	Description
3	3 poles
4	4 poles

f

Current Range	
Code	Description
E12	1200 A rating plug, standard

g

Rating	
Code	Description
No Digit	80% Rated
Z1	100% Rated

h

Factory-Installed Internal Options ♦	
Shunt Trip and Undervoltage Release Units	
Code	Description
SJ	Shunt Trip, 24V AC/DC
SK	Shunt Trip, 48V AC/DC
SD	Shunt Trip, 110...120V AC/DC
SA	Shunt Trip, 220...240V AC/DC
SB	Shunt Trip, 380V AC
SC	Shunt Trip, 415...440V AC
UJ	Undervoltage Release, 24V AC/DC
UD	Undervoltage Release, 110...120V AC/DC
UA	Undervoltage Release, 220...240V AC/DC
UB	Undervoltage Release, 380...400V AC
UC	Undervoltage Release, 415...440V AC
No Digit	No Selection
Auxiliary and Alarm Contacts	
Code	Description
AJ	1 Aux., 1 Alarm Contact, 24V
AB	1 Aux., 1 Alarm Contact, 400V
FB	2 Aux., 400V

♦ Select up to two internal options: 1 for lower right side mounting (shunt trip or undervoltage release), 1 for upper right (auxiliary or alarm contact). Consult your local Rockwell automation sales office or Allen-Bradley distributor for further assistance.



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]	
65	50	25	85	85	50	50	50	50	40	40	30	30	N5
100	65	50	100	100	70	70	65	65	50	50	42	32	N6
150	100	65	200	200	120	120	100	100	85	64	50	38	N0

‡ See table below for Cat. No. selection

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

Rated Current I_n [A]	Protection Type §						Interrupting Code N5		Interrupting Code N6	
	L		S		I	Cat. No.		Cat. No.		
	$I_1=0.4...1 \times I_n$	$t_1=sec.$	$I_2=1...10 \times I_n$	$t_2=sec.$	$I_3=1...10 \times I_n$	3 Poles	4 Poles	3 Poles	4 Poles	
1200	480...1200	3, 12, 24, 36, 48, 72, 108, 144	OFF...12000	0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8	OFF...18000	140G-N5H3-E12	140G-N5H4-E12	140G-N6H3-E12	140G-N6H4-E12	

§ Listed I_1 , I_2 , I_3 & I_4 values are based on a 1200 A Rating plug value.

Rated Current I_n [A]	Protection Type §					Interrupting Code N0	
	L		S		I	Cat. No.	
	$I_1=0.4...1 \times I_n$	$t_1=sec.$	$I_2=1...10 \times I_n$	$t_2=sec.$	$I_3=1...10 \times I_n$	3 Poles	4 Poles
1200	480...1200	3, 12, 24, 36, 48, 72, 108, 144	180...12000	0.1, 0.2, 0.3, 0.4, 0.5, 5.8, 6.6., 7.4, 8.2, 9, 10	1800...18000	140G-N0H3-E12	140G-N0H4-E12

§ Listed I_1 , I_2 , I_3 & I_4 values are based on a 1200 A Rating plug value.

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

Rated Current I_n [A]	Protection Type §							Interrupting Code N5		Interrupting Code N6	
	L		S		I	G		Cat. No.		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	3 Poles	4 Poles
1200	480...1200	3, 12, 24, 36, 48, 72, 108, 144	OFF...12000	0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8	OFF...18000	240...1200	0.1, 0.2, 0.4, 0.8	140G-N5I3-E12	140G-N5I4-E12	140G-N6I3-E12	140G-N6I4-E12

§ Listed I_1 , I_2 , I_3 & I_4 values are based on a 1200 A Rating plug value.

Rated Current I_n [A]	Protection Type §							Interrupting Code N0	
	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
1200	480...1200	3, 12, 24, 36, 48, 72, 108, 144	180...12000	0.1, 0.2, 0.3, 0.4, 0.5, 5.8, 6.6., 7.4, 8.2, 9, 10	1800...18000	240...1200	0.1, 0.2, 0.4, 0.8	140G-N0I3-E12	140G-N0I4-E12

§ Listed I_1 , I_2 , I_3 & I_4 values are based on a 1200 A Rating plug value.

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

Rated Current I_n [A]	Protection Type §							Interrupting Code N5		Interrupting Code N6	
	L		S		I	G		Cat. No.		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	3 Poles	4 Poles
1200	480...1200	3, 12, 24, 36, 48, 72, 108, 144	180...12000	0.1, 0.2, 0.3, 0.4, 0.5, 5.8, 6.6., 7.4, 8.2, 9, 10	1800...18000	240...1200	0.1, 0.2, 0.4, 0.8	140G-N5K3-E12	140G-N5K4-E12	140G-N6K3-E12	140G-N6K4-E12

§ Listed I_1 , I_2 , I_3 & I_4 values are based on a 1200 A Rating plug value.

Rated Current I_n [A]	Protection Type §							Interrupting Code N0	
	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
1200	480...1200	3, 12, 24, 36, 48, 72, 108, 144	180...12000	0.1, 0.2, 0.3, 0.4, 0.5, 5.8, 6.6., 7.4, 8.2, 9, 10	1800...18000	240...1200	0.1, 0.2, 0.4, 0.8	140G-N0K3-E12	140G-N0K4-E12

★ Refer to page 30 for maintenance mode adjustment.

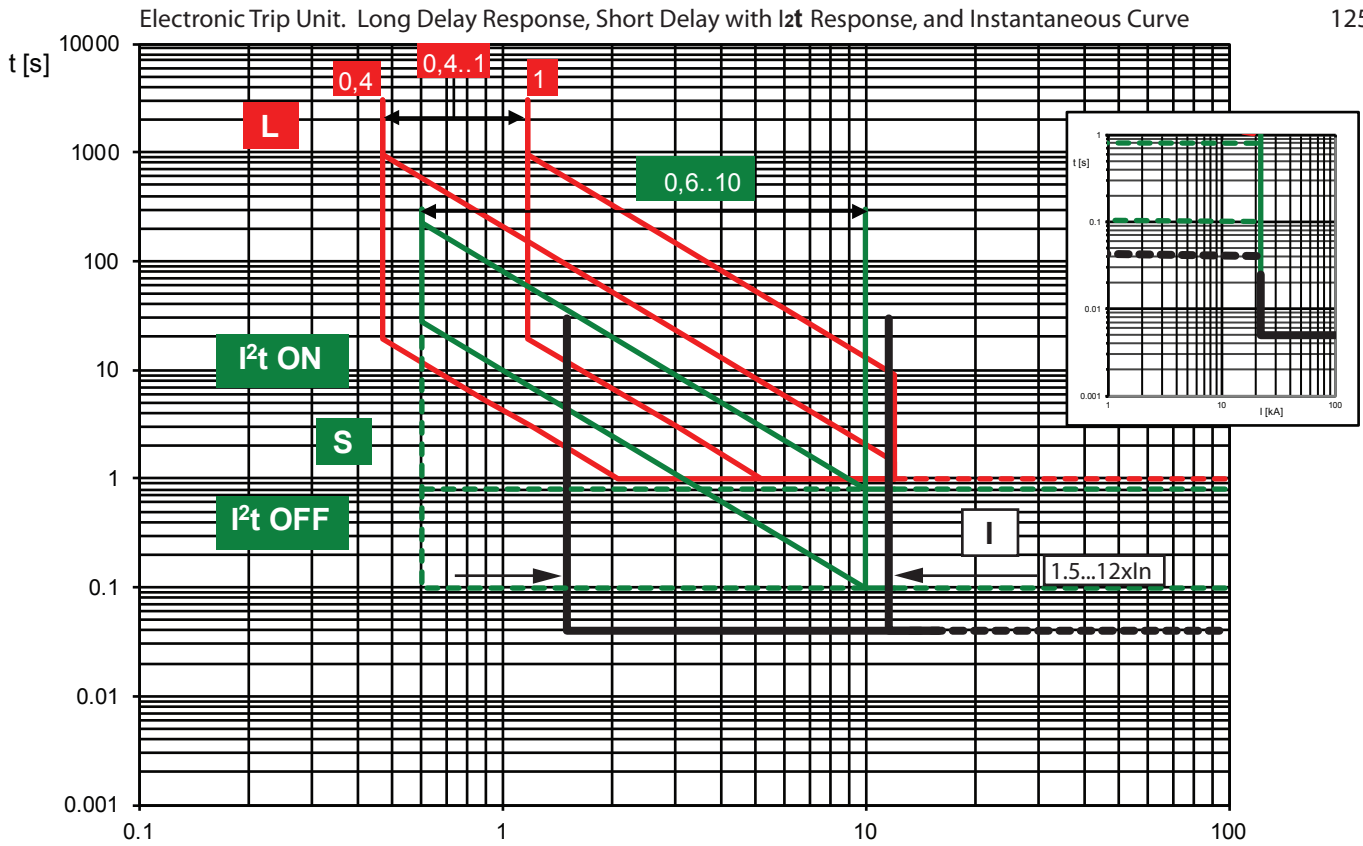
§ Listed I_1 , I_2 , I_3 & I_4 values are based on a 1200 A Rating plug value.

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

Time-Current Curves for Bulletin 140G-N (-NS) Molded Case Circuit Breaker

Available Rating Plugs: (In):
400; 600; 800; 1000; 1200;
1250A (IEC)



Protection	Disa ble	Trip Threshold	Trip Time	Trip Threshold Tolerance ⁽²⁾	Trip Time Tolerance ⁽²⁾
L ($t=k/I^2$)		$I_1 = 0.4-0.44-0.48-0.52-... 1 \times I_n$	$t_1 = 3-6-12-18 \text{ s}^{(1)} @ 6I_1$	Release between 1.05 and $1.2 \times I_1$	$\pm 10\% I_g \leq 6xI_n$
S ($t=k$)	✓	$I_2 = 0.6-0.8-1.2-1.8-2.4-3-3.6-4.2-5-5.8-6.6-7.4-8.2-9-10 \times I_n$	with $I > I_2$ $t_2 = 0.1-0.25-0.5-0.8 \text{ s}$	$\pm 7\% I_g \leq 6xI_n$ $\pm 10\% I_g > 6xI_n$	The best of: $\pm 10\%$ or $\pm 40 \text{ ms}$
S ($t=k/I^2$)	✓	$I_2 = 0.6-0.8-1.2-1.8-2.4-3-3.6-4.2-5-5.8-6.6-7.4-8.2-9-10 \times I_n$	$I = 10xI_n$ $t_2 = 0.1-0.25-0.5-0.8 \text{ s}$	$\pm 7\% I_g \leq 6xI_n$ $\pm 10\% I_g > 6xI_n$	$\pm 15\% I_g \leq 6xI_n$ $\pm 20\% I_g > 6xI_n$
I ($t=k$)	✓	$I_3 = 1.5-2.5-3-4-4.5-5-5.5-6.5-7-7.5-8-9-9.5-10.5-12- \times I_n$	$\leq 30 \text{ ms}$	$\pm 10\%$	

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)
 - presence of auxiliary power supply
 - two-phase or three-phase power supply
 - preset trip time $\geq 100 \text{ ms}$
- Curve accuracy applies from -20 C to $+55 \text{ C}$ ambient.
For possible continuous ampere derating for ambient above 40 C , consult Rockwell Automation.
- The right portion of the curve is determined by the interrupting rating of the circuit breaker.
- Total clearing times shown include the response times of the trip unit, the breaker opening, and the interruption of the current.
- For high fault current levels an additional fixed instantaneous hardware override is provided at 22 kA .

For all cases not covered by the above assumptions, the following tolerance values apply:

Protection	Trip Threshold	Trip Time
L	$1.05 \leq x I_1 \leq 1.25$	$\pm 20\%$
S	$\pm 10\%$	$\pm 20\%$
I	$\pm 15\%$	$\leq 60 \text{ ms}$
Others	$\pm 20\%$	