

# Product Details and Certifications

**Cross Reference RA Part Number: PN-D12896**

**Product: 140MG-H8P-D12**

Description: 140MG - Motor Circuit Protectors, H frame, 35..65 kA at 480V, MCP (magnetic only), Rated Current 125 A



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

## SYSTEM DATA

|                        |                              |
|------------------------|------------------------------|
| Supply Voltage         | 480V 60Hz / 600V 60 Hz       |
| Interrupt Rating[kA] ① | 65 kA at 480V / 25kA at 600V |

## CIRCUIT BREAKER DATA

|                  |                                  |
|------------------|----------------------------------|
| Bulletin Number  | 140MG - Motor Circuit Protectors |
| Number of Poles  | 3 Poles                          |
| Frame Size       | H frame                          |
| Rated Current(A) | 125 A                            |
| Protection       | MCP (magnetic only)              |

## MANUFACTURING

|          |                   |
|----------|-------------------|
| Assembly | Factory Assembled |
|----------|-------------------|

## INTERNAL ACCESSORIES

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

① The interrupting rating for MCPs is dependent upon the controller used. Please contact your local Rockwell Automation sales office or Allen-Bradley distributor for further information.

**Complete Motor Circuit Protector Assemblies with Factory-Installed Options**

Examples given in this section are not intended to be used for product selection. 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 f to add on to the motor circuit protector cat. no. selected on the previous pages to form a complete cat. no. for a complete assembly with factory-installed options.



140MG – H 8 P - D1& - \_\_\_\_\_  
 a b c d e f

**a**

| Bulletin No. |                                |
|--------------|--------------------------------|
| Code         | Description                    |
| 140MG        | Global Motor Circuit Protector |

**d**

| Protection Type |   |
|-----------------|---|
| Code            | Description   |
| P               | Adjustable magnetic only (less than $13 \times I_n$ ) |

**b**

| Frame/Rating |             |
|--------------|-------------|
| Code         | Description |
| H            | 125 A       |
| J            | 250 A       |

**e**

| Current Range |                   |
|---------------|-------------------|
| Code          | Description       |
| B             | e.g., B30 = 3 A   |
| C             | e.g., C30 = 30 A  |
| D             | e.g., D20 = 200 A |

**c**

| Interrupting Rating/Breaking Capacity (based on $I_c$ at 480V) |             |
|--|-------------|
| Code   | Description |
| 8  | High break  |

**f**

| Factory-Installed Internal Options ♦      |  |
|---|--|
| Shunt Trip and Undervoltage Release Units |  |
| Code                                      | Description  |
| SJ  | Shunt Trip, 24...30V AC/DC                         |
| SK  | Shunt Trip, 48...60V AC/DC                         |
| SD  | Shunt Trip, 110...127V AC; 110...125V DC           |
| SA  | Shunt Trip, 220...240V AC; 220...250V DC           |
| SB  | Shunt Trip, 380...440V AC                          |
| SC  | Shunt Trip, 480...525V AC                          |
| UJ  | Undervoltage Release, 24...30V AC/DC               |
| UR  | Undervoltage Release, 48V AC/DC                    |
| UD  | Undervoltage Release, 110...127V AC; 110...125V DC |
| UA  | Undervoltage Release, 220...240V AC; 220...250V DC |
| UB  | Undervoltage Release, 380...440V AC                |
| UC  | Undervoltage Release, 480...525V AC                |
| No Digit                                  | No Selection                                       |
| Auxiliary and Alarm Contacts, Trip Units  |  |
| Code                                      | Description  |
| KA  | 1 Aux. Contact, 250V                               |
| TA  | 1 Alarm Contact, 250V                              |
| AA  | 1 Aux., 1 Alarm Contact, 250V                      |
| BA  | 2 Aux., 1 Alarm Contact, 250V                      |
| DA  | 1 Trip Unit Alarm Contact, 250V                    |
| FB  | 2 Aux. Contacts, 400V                              |
| AB  | 1 Aux., 1 Alarm Contact, 400V                      |
| AJ  | 1 Aux., 1 Alarm Contact, 24V                       |
| DJ  | 1 Trip Unit Alarm Contact, 24V                     |

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

**Motor Circuit Protectors**

- Short-Circuit Protection — Magnetic Trip
- Overload Protection — None (Magnetic Trip Only)

| Rated Operational Current ( $I_e$ ) [A] | Magnetic Trip Current [A] |      |      |      |      |      |      |      |      | 3-phase Hp Ratings★ |      |      |      | Max. kW, 3-Phase — AC-3★ |          |      |      | Cat. No.‡     |
|---|---------------------------|------|------|------|------|------|------|------|------|---------------------|------|------|------|--------------------------|----------|------|------|---------------|
|   | Cam Setting               |      |      |      |      |      |      |      |      | 200V                | 230V | 460V | 575V | 230V                     | 400/415V | 500V | 690V |               |
|   | A                         | B    | C    | D    | E    | F    | G    | H    | I    |                     |      |      |      |                          |          |      |      |               |
| <b>G-Frame</b>                          |                           |      |      |      |      |      |      |      |      |                     |      |      |      |                          |          |      |      |               |
| 3                                       | 9                         | 12   | 15   | 18   | 21   | 24   | 27   | 30   | 33   | 0.5                 | 0.5  | 1.5  | 2    | 0.6                      | 0.75     | 1.1  | 1.5  | 140MG-G8P-B30 |
| 7                                       | 21                        | 28   | 35   | 42   | 49   | 26   | 63   | 70   | 77   | 1.5                 | 2    | 3    | 5    | 1.1                      | 2.2      | 3    | 4    | 140MG-G8P-B70 |
| 15                                      | 45                        | 60   | 75   | 90   | 105  | 120  | 135  | 150  | 165  | 3                   | 3    | 10   | 10   | 3                        | 5.5      | 7.5  | 11   | 140MG-G8P-C15 |
| 30                                      | 90                        | 120  | 150  | 180  | 210  | 240  | 270  | 300  | 330  | 7.5                 | 10   | 20   | 25   | 5.5                      | 11       | 15   | 22   | 140MG-G8P-C30 |
| 50                                      | 150                       | 200  | 250  | 300  | 350  | 400  | 450  | 500  | 550  | 15                  | 15   | 30   | 40   | 11                       | 22       | 22   | 37   | 140MG-G8P-C50 |
| 70                                      | 210                       | 280  | 350  | 420  | 490  | 560  | 630  | 700  | 770  | 20                  | 25   | 50   | 60   | 15                       | 30       | 37   | 55   | 140MG-G8P-C70 |
| 80                                      | 240                       | 320  | 400  | 480  | 560  | 640  | 720  | 800  | 880  | 25                  | 30   | 60   | 75   | 22                       | 45       | 55   | 75   | 140MG-G8P-C80 |
| 100                                     | 300                       | 400  | 500  | 600  | 700  | 800  | 900  | 1000 | 1100 | 30                  | 30   | 75   | 100  | 30                       | 55       | 75   | 110  | 140MG-G8P-D10 |
| 125                                     | 375                       | 500  | 625  | 750  | 875  | 1000 | 1125 | 1250 | 1375 | 40                  | 40   | 100  | 125  | 22                       | 45       | 55   | 90   | 140MG-G8P-D12 |
| <b>H-Frame</b>                          |                           |      |      |      |      |      |      |      |      |                     |      |      |      |                          |          |      |      |               |
| 3                                       | 9                         | 12   | 15   | 18   | 21   | 24   | 27   | 30   | 33   | 0.5                 | 0.5  | 1.5  | 2    | 0.6                      | 0.75     | 1.1  | 1.5  | 140MG-H8P-B30 |
| 7                                       | 21                        | 28   | 35   | 42   | 49   | 26   | 63   | 70   | 77   | 1.5                 | 2    | 3    | 5    | 1.1                      | 2.2      | 3    | 4    | 140MG-H8P-B70 |
| 15                                      | 45                        | 60   | 75   | 90   | 105  | 120  | 135  | 150  | 165  | 3                   | 3    | 10   | 10   | 3                        | 5.5      | 7.5  | 11   | 140MG-H8P-C15 |
| 30                                      | 90                        | 120  | 150  | 180  | 210  | 240  | 270  | 300  | 330  | 7.5                 | 10   | 20   | 25   | 5.5                      | 11       | 15   | 22   | 140MG-H8P-C30 |
| 50                                      | 150                       | 200  | 250  | 300  | 350  | 400  | 450  | 500  | 550  | 15                  | 15   | 30   | 40   | 11                       | 22       | 22   | 37   | 140MG-H8P-C50 |
| 70                                      | 210                       | 280  | 350  | 420  | 490  | 560  | 630  | 700  | 770  | 20                  | 25   | 50   | 60   | 15                       | 30       | 37   | 55   | 140MG-H8P-C70 |
| 80                                      | 240                       | 320  | 400  | 480  | 560  | 640  | 720  | 800  | 880  | 25                  | 30   | 60   | 75   | 22                       | 45       | 55   | 75   | 140MG-H8P-C80 |
| 100                                     | 300                       | 400  | 500  | 600  | 700  | 800  | 900  | 1000 | 1100 | 30                  | 30   | 75   | 100  | 30                       | 55       | 75   | 110  | 140MG-H8P-D10 |
| 125                                     | 625                       | 703  | 781  | 859  | 938  | 1016 | 1094 | 1172 | 1250 | 40                  | 40   | 100  | 125  | 22                       | 45       | 55   | 90   | 140MG-H8P-D12 |
| <b>I-Frame</b>                          |                           |      |      |      |      |      |      |      |      |                     |      |      |      |                          |          |      |      |               |
| 100                                     | 600                       | 675  | 750  | 825  | 900  | 975  | 1050 | 1125 | 1200 | 30                  | 30   | 75   | 100  | 22                       | 37       | 45   | 55   | 140MG-I8P-D10 |
| 110                                     | 660                       | 743  | 825  | 908  | 990  | 1073 | 1150 | 1238 | 1320 | 30                  | 40   | 75   | 100  | 22                       | 45       | 55   | 90   | 140MG-I8P-D11 |
| 125                                     | 750                       | 844  | 938  | 1031 | 1125 | 1219 | 1313 | 1406 | 1500 | 40                  | 40   | 100  | 125  | 22                       | 45       | 55   | 90   | 140MG-I8P-D12 |
| 150                                     | 900                       | 1013 | 1125 | 1238 | 1350 | 1463 | 1575 | 1688 | 1800 | 50                  | 50   | 100  | 150  | 30                       | 55       | 75   | 110  | 140MG-I8P-D15 |
| <b>J-Frame</b>                          |                           |      |      |      |      |      |      |      |      |                     |      |      |      |                          |          |      |      |               |
| 150                                     | 750                       | 844  | 938  | 1031 | 1125 | 1219 | 1313 | 1406 | 1500 | 50                  | 50   | 100  | 150  | 30                       | 55       | 75   | 110  | 140MG-J8P-D15 |
| 175                                     | 875                       | 984  | 1094 | 1203 | 1313 | 1422 | 1531 | 1641 | 1750 | 50                  | 60   | 125  | 150  | 37                       | 55       | 90   | 132  | 140MG-J8P-D17 |
| 200                                     | 1000                      | 1125 | 1250 | 1375 | 1500 | 1625 | 1750 | 1875 | 2000 | 60                  | 75   | 150  | 200  | 45                       | 75       | 90   | 132  | 140MG-J8P-D20 |
| 225                                     | 1125                      | 1266 | 1406 | 1547 | 1688 | 1828 | 1969 | 2109 | 2250 | 75                  | 75   | 150  | 200  | 55                       | 90       | 110  | 160  | 140MG-J8P-D22 |
| 250                                     | 1250                      | 1406 | 1563 | 1719 | 1875 | 2031 | 2188 | 2344 | 2500 | 75                  | 100  | 200  | 250  | 55                       | 90       | 132  | 160  | 140MG-J8P-D25 |



★ The Hp and kW ratings shown are for reference only. They allow for a magnetic trip setting of at least up to 13X the motor FLA. However, the final selection of the MCP should be made based on motor full load current and the requirements of local electrical codes.  
 ‡ The interrupting rating for MCPs is dependent upon the controller used. Please contact your local Rockwell Automation sales office or Allen-Bradley distributor for further information.

| Rated Operational Current ( $I_e$ ) [A] | Magnetic Trip Current [A] | 3-phase Hp Ratings★ |      |      |      | Max. kW, 3-Phase — AC-3★ |          |      |      | Cat. No.‡     |
|---|---------------------------|---------------------|------|------|------|--------------------------|----------|------|------|---------------|
|   | $I_3$ (adjustable) [A]    | 200V                | 230V | 460V | 575V | 230V                     | 400/415V | 500V | 690V |               |
| <b>K-Frame</b>                          |                           |                     |      |      |      |                          |          |      |      |               |
| 300                                     | 300...3000                | 75                  | 75   | 150  | 200  | 55                       | 110      | 160  | 200  | 140MG-K8P-D30 |
| 400                                     | 400...4000                | 100                 | 100  | 250  | 300  | 90                       | 160      | 200  | 250  | 140MG-K8P-D40 |
| <b>M-Frame</b>                          |                           |                     |      |      |      |                          |          |      |      |               |
| 600                                     | 600...6000                | 125                 | 150  | 300  | 400  | 110                      | 200      | 250  | 355  | 140MG-M8P-D60 |
| 800                                     | 800...8000                | 150                 | 200  | 400  | 500  | 160                      | 250      | 355  | 500  | 140MG-M8P-D80 |
| <b>N-Frame</b>                          |                           |                     |      |      |      |                          |          |      |      |               |
| 1200§                                   | 1200...12000              | 250                 | 300  | 600  | 700  | 200                      | 250      | 500  | 710  | 140MG-N8P-E12 |

★ The Hp and kW ratings shown are for reference only. They allow for a magnetic trip setting of at least up to 13X the motor FLA. However, the final selection of the MCP should be made based on motor full load current and the requirements of local electrical codes.  
 ‡ The interrupting rating for MCPs is dependent upon the controller used. Please contact your local Rockwell Automation sales office or Allen-Bradley distributor for further information.  
 §  $I_3$  is adjustable between 1...10x motor FLA. Values based on 1200 A rating plug.

## MCP Performance Characteristics



|                                    |  | G-Frame                      | H-Frame                      | I-Frame                      |          |
|------------------------------------|--|------------------------------|------------------------------|------------------------------|----------|
| Frame Size                         | [A]  | 125                          | 125                          | 225                          |          |
| Poles                              |  | 3                            | 3                            | 3                            |          |
| Instantaneous Trip Settings        | [A]  | 3...125                      | 3...125                      | 100...150                    |          |
| Rated Insulation Voltage, U, IEC   | [V]  | 800                          | 1000                         | 800                          |          |
| NEMA, UL, CSA                      | UL 489 Instantaneous Trip Circuit Breaker (Magnetic Only) Max SCCR. <b>Combination Controller Rating</b> ② |                              |                              |                              |          |
|                                    | 480V AC  | [kA]                         | 65                           | 65                           | 35       |
|                                    | 600/347V AC  | [kA]                         | 25                           | –                            | 10       |
|                                    | 600V AC  | [kA]                         | –                            | 25                           |          |
| IEC 60947-2 GB14048.2              | Rated Ultimate Short-circuit Breaking Capacity, $I_{cu}$   |                              |                              |                              |          |
|                                    | 220-230V AC ①  | [kA]                         | 65 ⑤                         | 100 ⑥                        | 85       |
|                                    | 400-415V AC  | [kA]                         | 36 ⑤                         | 70 ⑥                         | 50       |
|                                    | 440V AC ①  | [kA]                         | 36 ⑤                         | 65 ⑥                         | 40       |
|                                    | 500V AC  | [kA]                         | 30 ⑤                         | 50 ⑥                         | 30       |
|                                    | 525V AC  | [kA]                         | 22 ⑤                         | 30 ⑥                         | 20       |
|                                    | 690V AC  | [kA]                         | 6 ⑤                          | 15 ⑥                         | 6        |
|                                    | (DC) 250V – 2 Poles in Series  | [kA]                         | 36 ⑤                         | 36 ⑥                         | 50       |
|                                    | (DC) 500V – 3 Poles in Series  | [kA]                         | –                            | 36 ⑥                         | 50       |
|                                    | Rated Service Short-circuit Breaking Capacity, $I_{cs}$  |                              |                              |                              |          |
|                                    | 220-230V AC ①  | [kA]                         | 75% ⑤                        | 100% ⑥                       | 50%      |
|                                    | 400-415V AC  | [kA]                         | 100% ⑤                       | 100% ⑥                       | 50% (27) |
|                                    | 440V AC ①  | [kA]                         | 50% ⑤                        | 100% ⑥                       | 50% (27) |
|                                    | 500V AC  | [kA]                         | 50% ⑤                        | 100% ⑥                       | 50%      |
|                                    | 525V AC  | [kA]                         | 50% ⑤                        | 100% ⑥                       | 50%      |
|                                    | 690V AC  | [kA]                         | 75% ⑤                        | 100% ⑥                       | 50%      |
|                                    | (DC) 250V – 2 Poles in Series  | [kA]                         | 100% ⑤                       | 100% ⑥                       | 75%      |
| (DC) 500V – 3 Poles in Series      | [kA]   | –                            | 100% ⑥                       | 75%                          |          |
| Mechanical Life                    | [No. of Operations]  | 25000                        | 25000                        | 25000                        |          |
|                                    | [Operations per Hour]  | 240                          | 240                          | 240                          |          |
| Electrical Life @ 415V (AC)        | [No. of Operations]  | 8000                         | 8000                         | 8000                         |          |
|                                    | [Operations per Hour]  | 120                          | 120                          | 120                          |          |
| Wire Temperature Rating ④          | [°C]   | Cu 75 °C                     | Al or Cu 75 °C               | Al or Cu 75 °C               |          |
| Ambient Temperature w/out derating | °F [°C]  | 104 °F [40 °C]               | 104 °F [40 °C]               | 104 °F [40 °C]               |          |
| Operating Temperature              | °F [°C]  | -13...+158 °F [-25...+70 °C] | -13...+158 °F [-25...+70 °C] | -13...+158 °F [-25...+70 °C] |          |
| Storage Temperature                | °F [°C]  | -40...158 °F [-40...+70 °C]  | -40...158 °F [-40...+70 °C]  | -40...158 °F [-40...+70 °C]  |          |
| Dimensions                         | [mm]   | 76.2x70x130                  | 90x82.5x130                  | 105x70x150                   |          |
| [Width/Depth/Height]               | [inches]   | 3x2.76x5.12                  | 3.54x3.25x5.12               | 4.13x2.76x5.9                |          |
| Weight (approximate)               | lb [kg]  | 2.4 [1.1]                    | 2.6 [1.2]                    | 3.7 [1.7]                    |          |

① These ratings have not been tested for the CCC listing.

② The Short Circuit value is based on a combined of MCP, motor contactor and overload relay as a UL60497-4-1 Type D Combination Motor Controller. Refer to the AB Global Short Circuit Current Ratings Tables, or contact your local Allen Bradley Representative.

③ Adjustable between 1...10x motor FLA. Value based on 1200A rating plug.

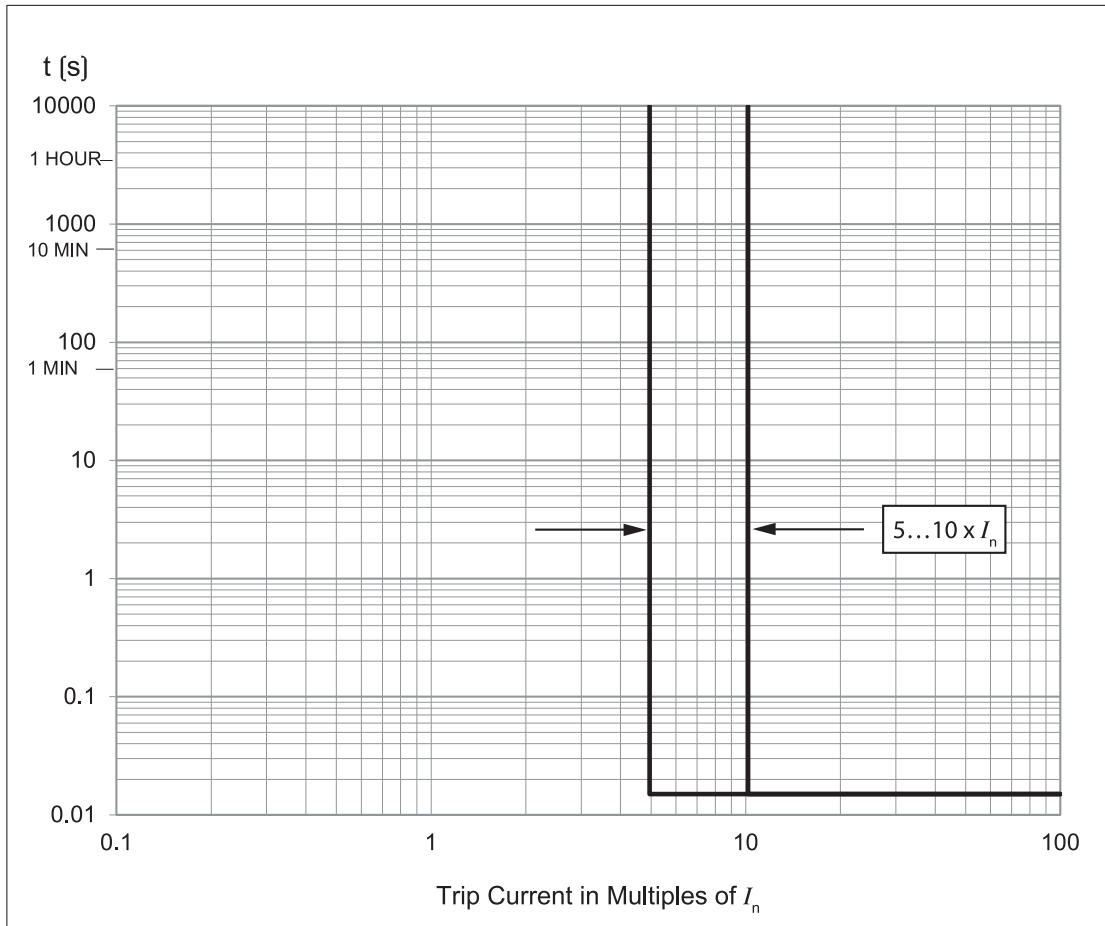
④ Wire temperature Rating is determined by testing the Motor Circuit Protector under full load current with the conductors sized for 75 °C.

## 3A-7A, H Frame

|   |               | 230V | 415V | 440V | 500-525V | 690V | 250V DC | 500V DC |
|---|---------------|------|------|------|----------|------|---------|---------|
| ⑥ | $I_{cu}$ [kA] | 5    | 5    | 3    | 3        | 3    | 5       | 5       |
|   | $I_{cs}$ [kA] | 100% | 100% | 100% | 100%     | 100% | 100%    | 100%    |

## Bulletin 140MG-H

Maximum Current: 125 A



### Typical Trip Unit Nameplate

| $I_3$ [A] |     |     |     |     |      |      |      |      |
|-----------|-----|-----|-----|-----|------|------|------|------|
| A         | B   | C   | D   | E   | F    | G    | H    | I    |
| 625       | 703 | 781 | 859 | 938 | 1016 | 1094 | 1172 | 1250 |

**Note:** Motor circuit protectors are for use only in combination controllers.  
 For DC applications, pick-up settings are approximately 40% higher.