

# PowerPact™ Q-Frame Molded Case Circuit Breakers and Switches

## Types QB, QD, QG and QJ Class 734

### Catalog

0734CT0201 R02/20  
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by Schneider Electric

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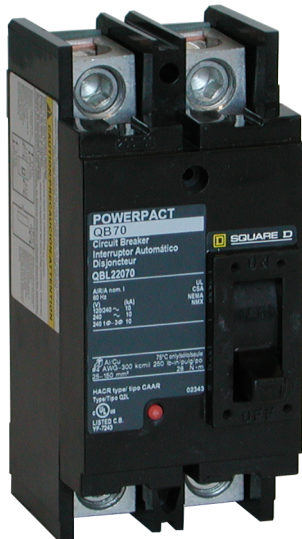
## Description

The PowerPact™ Q-frame line of circuit breakers includes QB, QD, QG and QJ molded case circuit breakers and QB automatic switches. They are rated 240 Vac, 250 A max. and are available in lug or bus-connected unit-mount constructions, or I-Line™ group-mounted construction.

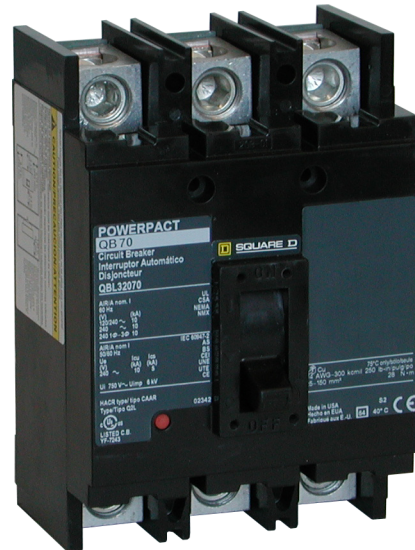
## Applications

The PowerPact Q-frame circuit breakers are used for overcurrent protection and switching on ac systems. PowerPact Q-frame circuit breakers are rated for 240 Vac (208Y/120 Vac for 3-pole 100 kA) and are available with UL® Listed interruption ratings from 10 to 100 kA. Unit-mount circuit breakers are available with lugs on both ends for cabled applications or with mounting studs for bus-mounted applications. These circuit breakers may be mounted in individual enclosures, metering devices, panelboards or switchboards. The I-Line circuit breakers are specifically designed for use in I-Line panelboards and switchboards. **NOTE:** the PowerPact Q-frame circuit breaker is a direct replacement for the Q2 Series device.

PowerPact Q-Frame 2P Unit-Mount Molded Case Circuit Breaker



PowerPact Q-Frame 3P Unit-Mount Molded Case Circuit Breaker



PowerPact Q-Frame 2P I-Line Molded Case Circuit Breaker



PowerPact Q-Frame 3P I-Line Molded Case Circuit Breaker



# Catalog Numbering System

**NOTE:** When ordering circuit breakers, catalog number may be collapsed if character is not needed.

**Table 1 - Catalog Numbering System for PowerPact Q-Frame Circuit Breakers**

| Number Segment                             | Character                   | Description                  | Q | B | L | 3 | 2 | 250 | 4 | LW <sup>1</sup> |
|--|-----------------------------|------------------------------|---|---|---|---|---|-----|---|-----------------|
| Circuit Breaker Family                     | Q                           |                              |   |   |   |   |   |     |   |                 |
| Circuit Breaker Type (Interrupting Rating) | B                           | 10 kA                        |   |   |   |   |   |     |   |                 |
|  | D                           | 25 kA                        |   |   |   |   |   |     |   |                 |
|  | G                           | 65 kA                        |   |   |   |   |   |     |   |                 |
|  | J                           | 100 kA                       |   |   |   |   |   |     |   |                 |
| Connection Type                            | A                           | I-Line shroud on ON (I) end  |   |   |   |   |   |     |   |                 |
|  | E                           | I-Line bolt-on configuration |   |   |   |   |   |     |   |                 |
|  | F                           | No lugs (bus connection)     |   |   |   |   |   |     |   |                 |
|  | L                           | Lugs on both ends            |   |   |   |   |   |     |   |                 |
|  | M                           | Lugs on ON (I) end only      |   |   |   |   |   |     |   |                 |
|  | P                           | Lugs on OFF (O) end only     |   |   |   |   |   |     |   |                 |
| Poles                                      | 2                           |                              |   |   |   |   |   |     |   |                 |
|  | 3                           |                              |   |   |   |   |   |     |   |                 |
| 240 V Only                                 | 2                           |                              |   |   |   |   |   |     |   |                 |
| Continuous Current Rating (A)              | 70                          |                              |   |   |   |   |   |     |   |                 |
|  | 80                          |                              |   |   |   |   |   |     |   |                 |
|  | 90                          |                              |   |   |   |   |   |     |   |                 |
|  | 100                         |                              |   |   |   |   |   |     |   |                 |
|  | 110                         |                              |   |   |   |   |   |     |   |                 |
|  | 125                         |                              |   |   |   |   |   |     |   |                 |
|  | 150                         |                              |   |   |   |   |   |     |   |                 |
|  | 200                         |                              |   |   |   |   |   |     |   |                 |
|  | 225                         |                              |   |   |   |   |   |     |   |                 |
|  | 250 <sup>2</sup>            |                              |   |   |   |   |   |     |   |                 |
|  | 000 S 22 = Switch (QB only) |                              |   |   |   |   |   |     |   |                 |
| I-Line Phasing                             | 2-pole                      | 1 = AB                       |   |   |   |   |   |     |   |                 |
|  |                             | 2 = AC                       |   |   |   |   |   |     |   |                 |
|  |                             | 3 = BA                       |   |   |   |   |   |     |   |                 |
|  |                             | 4 = BC                       |   |   |   |   |   |     |   |                 |
|  |                             | 5 = CA                       |   |   |   |   |   |     |   |                 |
|  |                             | 6 = CB                       |   |   |   |   |   |     |   |                 |
|  | 3-pole                      | None = ABC                   |   |   |   |   |   |     |   |                 |
|  |                             | 6 = CBA                      |   |   |   |   |   |     |   |                 |

1. May be multiple options.
2. 250 A not available in I-Line.

**Table 1 - Catalog Numbering System for PowerPact Q-Frame Circuit Breakers (Continued)**

| Number Segment      | Character | Description  | Q | B | L | 3 | 2 | 250 | 4 | LW <sup>3</sup> |
|---------------------|-----------|--|---|---|---|---|---|-----|---|-----------------|
| Special Ambient     | C         | A = 50°C <sup>4</sup>  |   |   |   |   |   |     |   |                 |
| Termination Options | T         | M = Lugs applied to OFF (O) end; studs with nuts and washers on ON (I) end |   |   |   |   |   |     |   |                 |
|                     |           | N = Lugs applied to ON (I) end; studs applied to OFF(O) end                |   |   |   |   |   |     |   |                 |
|                     |           | P = Studs applied to ON (I) end lugs applied to OFF (O) end                |   |   |   |   |   |     |   |                 |
|                     |           | S = Studs on both ends (no nuts or washers)                                |   |   |   |   |   |     |   |                 |
| Control Taps        | L         | U = Control taps applied to ON (I) end                                     |   |   |   |   |   |     |   |                 |
|                     |           | V = Control taps applied to OFF (O) end                                    |   |   |   |   |   |     |   |                 |
|                     |           | W = Control taps applied to both ends                                      |   |   |   |   |   |     |   |                 |
| Special Features    | Y         | D = Calibration test report supplied                                       |   |   |   |   |   |     |   |                 |
|                     |           | F = Fungus treatment   |   |   |   |   |   |     |   |                 |
|                     |           | P = Handle padlock attachment, ON (I) or (OFF) position                    |   |   |   |   |   |     |   |                 |
|                     |           | Q = Handle padlock attachment, OFF (O) position only                       |   |   |   |   |   |     |   |                 |

3. May be multiple options.

4. This rating is not UL or CSA approved.

**Table 2 - PowerPact Q-Frame Circuit Breaker Catalog Numbers**

| Ampere Rating                      | Fixed AC Magnetic Trip (A) |      | B Interrupting 10 kA |          | D Interrupting 25 kA |          | G Interrupting 65 kA |          | J Interrupting 100 kA <sup>5</sup> |          |
|------------------------------------|----------------------------|------|----------------------|----------|----------------------|----------|----------------------|----------|------------------------------------|----------|
|                                    | Hold                       | Trip | Unit-Mount           | I-Line   | Unit-Mount           | I-Line   | Unit-Mount           | I-Line   | Unit-Mount                         | I-Line   |
| <b>2-Pole, 240 Vac</b>             |                            |      |                      |          |                      |          |                      |          |                                    |          |
| 70                                 | 1000                       | 1800 | QBL22070             | QBA22070 | QDL22070             | QDA22070 | QGL22070             | QGA22070 | QJL22070                           | QJA22070 |
| 80                                 | 1000                       | 1800 | QBL22080             | QBA22080 | QDL22080             | QDA22080 | QGL22080             | QGA22080 | QJL22080                           | QJA22080 |
| 90                                 | 1000                       | 1800 | QBL22090             | QBA22090 | QDL22090             | QDA22090 | QGL22090             | QGA22090 | QJL22090                           | QJA22090 |
| 100                                | 1200                       | 2400 | QBL22100             | QBA22100 | QDL22100             | QDA22100 | QGL22100             | QGA22100 | QJL22100                           | QJA22100 |
| 110                                | 1200                       | 2400 | QBL22110             | QBA22110 | QDL22110             | QDA22110 | QGL22110             | QGA22110 | QJL22110                           | QJA22110 |
| 125                                | 1200                       | 2400 | QBL22125             | QBA22125 | QDL22125             | QDA22125 | QGL22125             | QGA22125 | QJL22125                           | QJA22125 |
| 150                                | 1200                       | 2400 | QBL22150             | QBA22150 | QDL22150             | QDA22150 | QGL22150             | QGA22150 | QJL22150                           | QJA22150 |
| 175                                | 1200                       | 2400 | QBL22175             | QBA22175 | QDL22175             | QDA22175 | QGL22175             | QGA22175 | QJL22175                           | QJA22175 |
| 200                                | 1200                       | 2400 | QBL22200             | QBA22200 | QDL22200             | QDA22200 | QGL22200             | QGA22200 | QJL22200                           | QJA22200 |
| 225                                | 1200                       | 2400 | QBL22225             | QBA22225 | QDL22225             | QDA22225 | QGL22225             | QGA22225 | QJL22225                           | QJA22225 |
| 250 <sup>6</sup>                   | 1200                       | 2400 | QBL22250             | —        | QDL22250             | —        | QGL22250             | —        | QJL22250                           | —        |
| <b>3-Pole<sup>7</sup>, 240 Vac</b> |                            |      |                      |          |                      |          |                      |          |                                    |          |
| 70                                 | 1000                       | 1800 | QBL32070             | QBA32070 | QDL32070             | QDA32070 | QGL32070             | QGA32070 | QJL32070                           | QJA32070 |
| 80                                 | 1000                       | 1800 | QBL32080             | QBA32080 | QDL32080             | QDA32080 | QGL32080             | QGA32080 | QJL32080                           | QJA32080 |
| 90                                 | 1000                       | 1800 | QBL32090             | QBA32090 | QDL32090             | QDA32090 | QGL32090             | QGA32090 | QJL32090                           | QJA32090 |
| 100                                | 1200                       | 2400 | QBL32100             | QBA32100 | QDL32100             | QDA32100 | QGL32100             | QGA32100 | QJL32100                           | QJA32100 |
| 110                                | 1200                       | 2400 | QBL32110             | QBA32110 | QDL32110             | QDA32110 | QGL32110             | QGA32110 | QJL32110                           | QJA32110 |
| 125                                | 1200                       | 2400 | QBL32125             | QBA32125 | QDL32125             | QDA32125 | QGL32125             | QGA32125 | QJL32125                           | QJA32125 |
| 150                                | 1200                       | 2400 | QBL32150             | QBA32150 | QDL32150             | QDA32150 | QGL32150             | QGA32150 | QJL32150                           | QJA32150 |
| 175                                | 1200                       | 2400 | QBL32175             | QBA32175 | QDL32175             | QDA32175 | QGL32175             | QGA32175 | QJL32175                           | QJA32175 |
| 200                                | 1200                       | 2400 | QBL32200             | QBA32200 | QDL32200             | QDA32200 | QGL32200             | QGA32200 | QJL32200                           | QJA32200 |
| 225                                | 1200                       | 2400 | QBL32225             | QBA32225 | QDL32225             | QDA32225 | QGL32225             | QGA32225 | QJL32225                           | QJA32225 |
| 250 <sup>6</sup>                   | 1200                       | 2400 | QBL32250             | —        | QDL32250             | —        | QGL32250             | —        | QJL32250                           | —        |

5. 3P circuit breakers are rated 65 kA at 240/120 Vac, 3Ø, 4-wire delta or 100 kA at 208Y/120 Vac, 3Ø, 4-wire.

6. 250 A is based on copper cable only.

7. On 3P I-Line circuit breakers, add a 6 at the end of the catalog number to indicate CBA jaw configuration. Nothing added indicates a standard ABC jaw configuration.

# Terminations

## Lug Configuration

Position three of the catalog number indicates the general lug configuration of the circuit breaker. PowerPact Q-frame circuit breakers have box-type lugs suitable for use with 4 AWG–300 kcmil (21–150 mm<sup>2</sup>) aluminum or copper conductors. The 250 A circuit breaker allows copper conductors only.

- A = I-Line shroud on ON (I) end
- L = Lugs on both ends
- P = Lugs on OFF (O) end only
- E = I-Line bolt-on configuration
- M = Lugs on ON (I) end only
- F = No lugs (bus connection)

## Special Terminations

Special terminal arrangements may be called out in the catalog number by adding a two-digit code following the ampere rating. The first digit of the special terminal code is always the letter "T".

- TS = Studs on both ends (no nuts or washers)
- TN = Studs on OFF (O) end only (no nuts or washers)
- TP = Studs on ON (I) one only (no nuts or washers)
- TM = Studs on ON (I) end with nuts and washers

## Control Wire Taps

Circuit breakers with control taps are identified in the catalog number through a two-digit code in the suffix. The first digit of the control tap code is always the letter "L".

- LU = Control taps applied to ON (I) end
- LV = Control taps applied to OFF (O) end
- LW = Control taps applied to both ends

## Special Features

Circuit breakers with special features are identified in the catalog number with a two-digit code following the ampere rating. The first digit of the special feature code is always the letter “Y”.

- YD = Calibration test report supplied
- YF = Fungus treatment
- YP = Handle padlock attachment, OFF (O) or ON (I) position
- YQ = Handle padlock attachment, OFF (O) position only

Other special terminations and special features are available. Contact the local Field Sales office for more information.

## Multiple Options

When multiple options are required, they should be applied in the following order:

C—50°C ambient

T—Special terminations

L—Lug options

Y—Special options

# Overcurrent Protection

PowerPact Q-frame circuit breakers contain individual thermal (overload) and magnetic (short circuit) sensing elements in each pole. The amperage ratings of the thermal trip elements are calibrated at 40°C (104°F) free air ambient temperature. Per the National Electric Code® (NEC®) standard rated circuit breakers can be applied continuously at a maximum of 80% of their rating.

## Operating Mechanism

PowerPact Q-frame circuit breakers have an over-center toggle mechanism providing quick-make, quick-break operation. The operating mechanism is also trip-free, which allows tripping even when the circuit breaker handle is held in the ON (I) position. An internal cross bar provides common opening and closing of all poles with a single operating handle.

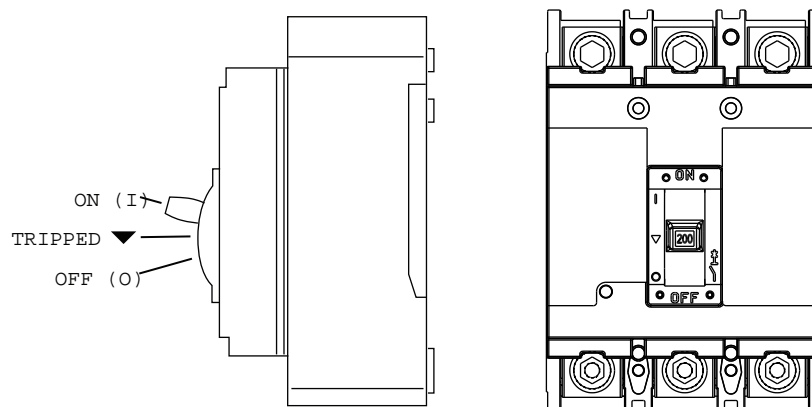
All PowerPact Q-frame circuit breakers have an integral push-to-trip button in the cover to manually trip the circuit breaker. This should be used as part of a regular preventive maintenance program.

## Trip Indication

The PowerPact Q-frame circuit breaker handle can assume any of three positions, ON (I), tripped (v), or OFF (O) as shown in *Handle Position, page 11*.

The center tripped position provides positive visual indication that the circuit breaker has tripped. The circuit breaker can be reset by first pushing the handle to the extreme OFF (O) position. Power can then be restored to the load by pushing the handle to the ON (I) position.

**Figure 1 - Handle Position**



## Standards

- PowerPact Q-frame circuit breakers are built in accordance with UL Standard 489 and NEMA Standard AB-1-1999.
- Q-frame circuit breakers are UL Listed for use in the United States and UL approved for use in Canada under UL File E84905 and Canadian Standard C22.2 No. 5–02.
- Circuit breakers are listed for use in Mexico with NOM-003–SCFI (under Mexican ANCE Standard NMX-J-266–ANCE).
- PowerPact Q-frame molded case switches are UL Listed under UL file E33117, approved for use in the United States and Canada.

## Interrupting Ratings

**Table 3 - Circuit Breaker Interrupting Ratings**

| Catalog Prefix | Ampere Rating |          | Number of Poles | UL Listed Interrupting Rating |         | Federal Specification (W-C-375B/GEN) |
|----------------|---------------|----------|-----------------|-------------------------------|---------|--------------------------------------|
|                | Unit Mount    | I-Line   |                 | 208/120 Vac                   | 240 Vac |                                      |
| QB             | 70–250 A      | 70–225 A | 2               | 10 kA                         | 10 kA   | 12b                                  |
|                |               |          | 3               | 10 kA                         | 10 kA   | 12b                                  |
| QD             | 70–250 A      | 70–225 A | 2               | 25 kA                         | 25 kA   | 14b                                  |
|                |               |          | 3               | 25 kA                         | 25 kA   | 14b                                  |
| QG             | 70–250 A      | 70–225 A | 2               | 65 kA                         | 65 kA   | 15b                                  |
|                |               |          | 3               | 65 kA                         | 65 kA   | 15b                                  |
| QJ             | 70–250 A      | 70–225 A | 2               | 100 kA                        | 100 kA  | 15b                                  |
|                |               |          | 3               | 100 kA                        | —       | —                                    |

## Molded Case Switches

Two-pole (QB\_2000S22) and three-pole (QB\_32000S22) automatic molded case switches are available with a 225 A, 240 Vac, 10 kA rating. Automatic molded case switches contain magnetic tripping elements set high enough not to interfere with normal overload protective device operation but still protect the switch in the event of a short circuit. For Q-frame switches, this trip point is 4500 A. Molded case switches provide no other overcurrent protection and must be protected by an upstream circuit breaker or fuse.



# Summary of Specifications

**Table 4 - Specifications for UL and CSA Rated Q-Frame Circuit Breakers and Switches**

| Specification           |                    | Molded Case Circuit Breaker               | Automatic Switch                          |
|-------------------------|--------------------|---|---|
| Poles                   |                    | 2P and 3P                                 | 2P and 3P                                 |
| Operating Voltage       |                    | 240 Vac (208Y/120 for 3P at 100 kA)       | 240 Vac                                   |
| Current Rating          | Unit Mount         | 70–250 A                                  | 70–225 A                                  |
|                         | I-Line             | 70–225 A                                  | 70–225 A                                  |
| Rated Frequency         |                    | 50–60 Hz                                  | 50–60 Hz                                  |
| Interrupting Rating     | QB                 | 10 kA                                     | 10 kA                                     |
|                         | QD                 | 25 kA                                     | —   |
|                         | QG                 | 65 kA                                     | —   |
|                         | QJ                 | 100 kA                                    | —   |
| Certification Standards | UL489              | File E84905                               | File E33117                               |
|                         | NEMA               | AB-1-1999                                 | —   |
|                         | CSA C22.2 No. 5-02 | File E84905                               | File E33117                               |
|                         | NOM                | NOM-003–SCFI                              | NOM-003–SCFI                              |
| Mounting                |                    | Unit Mount and I-Line                     | Unit Mount and I-Line                     |
| Connectors              | Lugs               | 4 AWG–300 kcmil (25–150 mm <sup>2</sup> ) | 4 AWG–300 kcmil (25–150 mm <sup>2</sup> ) |
|                         | Studs              | 1/4–20                                    | 1/4–20                                    |
|                         | I-Line             | Plug-on and Bolt-on                       | Plug-on and Bolt-on                       |
| Connection              |                    | Forward or Reverse Fed                    | Forward or Reverse Fed                    |
| Temperature             |                    | 40°C (104°F)                              | 40°C (104°F)                              |
| Endurance Rating        | C/O Cycle          | 1000 load, 5000 no load (6000 total)      | 1000 load, 5000 no load (6000 total)      |

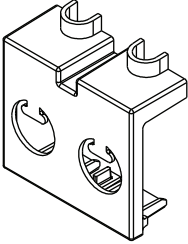
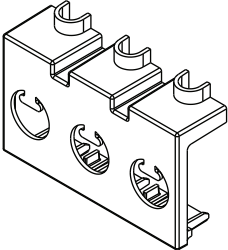
**Table 5 - IEC Declared Ratings**

| Standards  | Molded Case Circuit Breakers         | Automatic Switches                        |
|--|--------------------------------------|---|
| Certification Standards  | IEC 60947-2—1995 + A1:1997 + A2:2001 | IEC 60947-2, Appendix L                   |
| Poles  | 2P and 3P                            | 2P and 3P                                 |
| Rated Current I <sub>n</sub>                                   | 225 A                                | 225 A                                     |
| Rated Operational Voltage U <sub>e</sub>                       | IEC 415Y/240 Vac                     | IEC 415Y/240 Vac                          |
| Rated Insulation Voltage U <sub>i</sub>                        | 750 Vac                              | 750 Vac                                   |
| Overcurrent Protection Device                                  | —                                    | Requires equivalent 225 A circuit breaker |
| Rated Conditional Short Circuit Current I <sub>cc</sub>        | —                                    | 10 kA                                     |
| Instantaneous Tripping Current I <sub>i</sub>                  | —                                    | 2.5 kA                                    |
| Rated Frequency  | 50–60 Hz                             | 50–60 Hz                                  |
| Rated Ultimate Short Circuit Breaking Capacity I <sub>cs</sub> | I <sub>cu</sub> = 10 kA              | —   |
| Rated Service Short Circuit Breaking Capacity I <sub>cs</sub>  | 50% of I <sub>cu</sub>               | —   |
| Classification   | —                                    | X   |
| Connection Method  | Forward or Reverse                   | Forward or Reverse                        |
| Suitable for Isolation   | Yes (without padlock attachment)     | Yes (without padlock attachment)          |
| Impulse Voltage  | 6 kV                                 | 6 kV                                      |

## Accessories

### Service Barriers

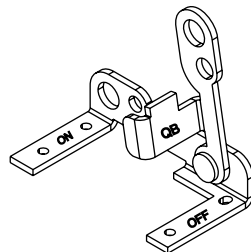
Barriers attach to line side service terminals to prevent inadvertent contact by persons or maintenance equipment. QSB2 and QSB3 comply with NEC 230.62 Service Equipment (C) Barriers requirement for service equipment. Available as a field-installable accessory. Refer to instruction bulletin GDE55811 Service Barrier for Q-Frame Unit Mount Circuit Breakers.

|  | Poles | Dimensions   | Service Barrier Kit |
|--|-------|--|---------------------|
|   | 2     | 2.74 x 2.81 x 1.00 in.<br>(69.5 x 71.4 x 25.5 mm)  | QSB2                |
|  | 3     | 2.74 x 4.30 x 1.00 in.<br>(69.5 x 109.3 x 25.5 mm) | QSB3                |

### Handle Padlock Attachment

The handle lock-off padlock attaches to the circuit breaker escutcheon for the two- or three-pole applications. The QBPA and QBPAL handle padlock attachments allow locking the handle in the ON (I) or OFF (O) position. The QBPAF and QOBPAFL handle padlock attachments allow locking in the OFF (O) position only. They are intended for use with the QBMIK mechanical interlock kit.

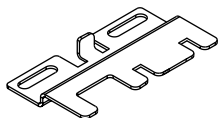
**Figure 2 - Handle Padlock Attachment QBPA**



## Mechanical Interlocks

The QBMIK mechanical interlock kit is used with two circuit breakers to allow only one circuit breaker at a time to be in the ON (I) position.

**Figure 3 - Mechanical Interlock Attachment QBMIK**



**Table 6 - Handle Padlocking Devices for Q-Frame Circuit Breakers**

| Attachment Kit      | Function  |
|---------------------|---|
| QBPA                | Locks OFF (O) or ON (I)                                       |
| QBPAF               | Locks OFF (O) only  |
| QBPAL <sup>8</sup>  | Locks OFF (O) or ON (I), left-hand side of handle only        |
| QBPAFL <sup>8</sup> | Locks OFF (O) only, left-hand side of handle only             |
| QBMIK               | Allows only one circuit breaker to be turned ON (I) at a time |

For further information refer to the following catalogs:

| Catalog Title                       | Catalog number |
|-------------------------------------|----------------|
| NQ Circuit Breaker Panelboards      | 1640CT0801     |
| I-Line™ Circuit Breaker Panelboards | 2110CT9701     |
| EZ Meter-Pak™ Meter Centers         | 4100CT0701     |
| MP Meter-Pak™ Meter Centers         | 4141CT0701     |

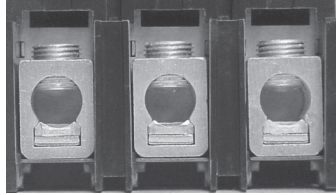
## Lug Options

**Table 7 - Lug Connector Combinations**

| Connector Type             | Usage           | Configuration |
|----------------------------|-----------------|---------------|
| Standard I-Line Connection | ON (I) end only |               |
| Bolt-on I-Line Connection  | ON (I) end only |               |

8. The QBPAL and QBPAFL handle padlocking devices mount on the left-hand side of the handle and are used with the circuit breaker mechanical interlock kit.

**Table 7 - Lug Connector Combinations (Continued)**

| Connector Type                    | Usage                     | Configuration  |
|-----------------------------------|---------------------------|--|
| Lug Connection                    | ON (I) and/or OFF (O) end |    |
| Terminal Stud Connection          | ON (I) and/or OFF (O) end |    |
| Terminal Stud with Nut and Washer | ON (I) end only           |    |
| Bus Connection                    | ON (I) end only           |   |
| Control Tap Connection            | ON (I) and/or OFF (O) end |  |

## Correction Factor

| Rating (In) | Temperature (C) |     |     |     |     |     |     |
|-------------|-----------------|-----|-----|-----|-----|-----|-----|
| Amperes     | 40              | 45  | 50  | 55  | 60  | 65  | 70  |
| 70          | 70              | 66  | 63  | 59  | 54  | 49  | 44  |
| 80          | 80              | 76  | 72  | 67  | 62  | 57  | 51  |
| 90          | 90              | 85  | 80  | 75  | 70  | 64  | 57  |
| 100         | 100             | 95  | 89  | 84  | 77  | 71  | 63  |
| 110         | 110             | 104 | 98  | 92  | 85  | 78  | 70  |
| 125         | 125             | 119 | 112 | 105 | 97  | 88  | 79  |
| 150         | 150             | 142 | 134 | 125 | 116 | 106 | 95  |
| 175         | 175             | 166 | 157 | 146 | 136 | 124 | 111 |
| 200         | 200             | 190 | 179 | 167 | 155 | 141 | 126 |
| 225         | 225             | 213 | 201 | 188 | 174 | 159 | 142 |

## Circuit Breaker Enclosures and Enclosure Accessories

- Square D circuit breaker enclosures are UL 489 and CSA C22.2 No. 5 Certified.
- The enclosures are suitable for service entrance equipment (USA only).
- The short circuit current rating of an enclosed circuit breaker is equal to the rating of the circuit breaker installed, except as footnoted.
- All enclosures meet minimum dimensions for 15–60 A UL Listed / CSA Certified circuit breakers applied at 100% of their current rating.
- Circuit breakers are ordered and shipped separately for field installation.



Q22200NS



Q22200NRB



Q22200NRB

**Table 8 - PowerPact Q-Frame Circuit Breaker Enclosures**

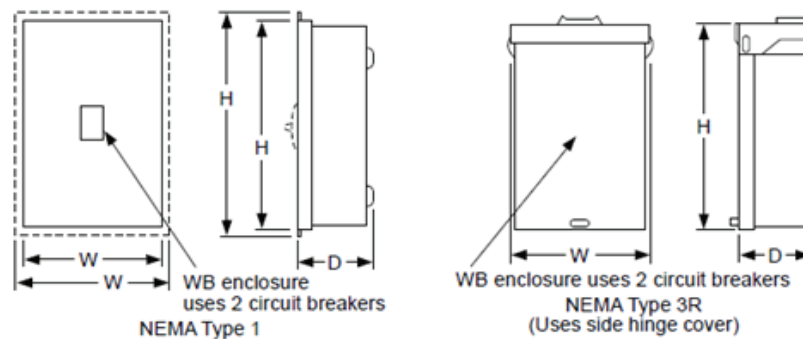
| Circuit Breaker                 |          |       | Enclosure Catalog No. |                        |                         | Neutral Assem. Kit Cat. No. | Service Ground Kit Cat. No. |
|---------------------------------|----------|-------|-----------------------|------------------------|-------------------------|-----------------------------|-----------------------------|
| Cat. No. Prefix                 | Rating   | Poles | NEMA 1 Flush          | NEMA 1 Surface         | NEMA 3R                 |                             |                             |
| QBL, QDL, QGL, QJL <sup>9</sup> | 70–225 A | 2     | —                     | Q22200NS <sup>10</sup> | Q22200NRB <sup>11</sup> | —                           | PKOGTA2                     |
|                                 |          | 2, 3  | Q23225NF              | Q23225NS               | Q23225NRB               |                             |                             |

**Table 9 - UL Listed Bolt-on Hub Accessories for RB Devices**

| UL Listed Bolt-on Hubs for RB Devices |          |          |          |          |          |          |
|---------------------------------------|----------|----------|----------|----------|----------|----------|
| Conduit Size 0.75 in.                 | 0.75 in. | 1.00 in. | 1.25 in. | 1.50 in. | 2.00 in. | 2.50 in. |
|                                       | 19 mm    | 25 mm    | 32 mm    | 38 mm    | 51 mm    | 64 mm    |
| Hub Catalog No.                       | B075     | B100     | B125     | B150     | B200     | B250     |

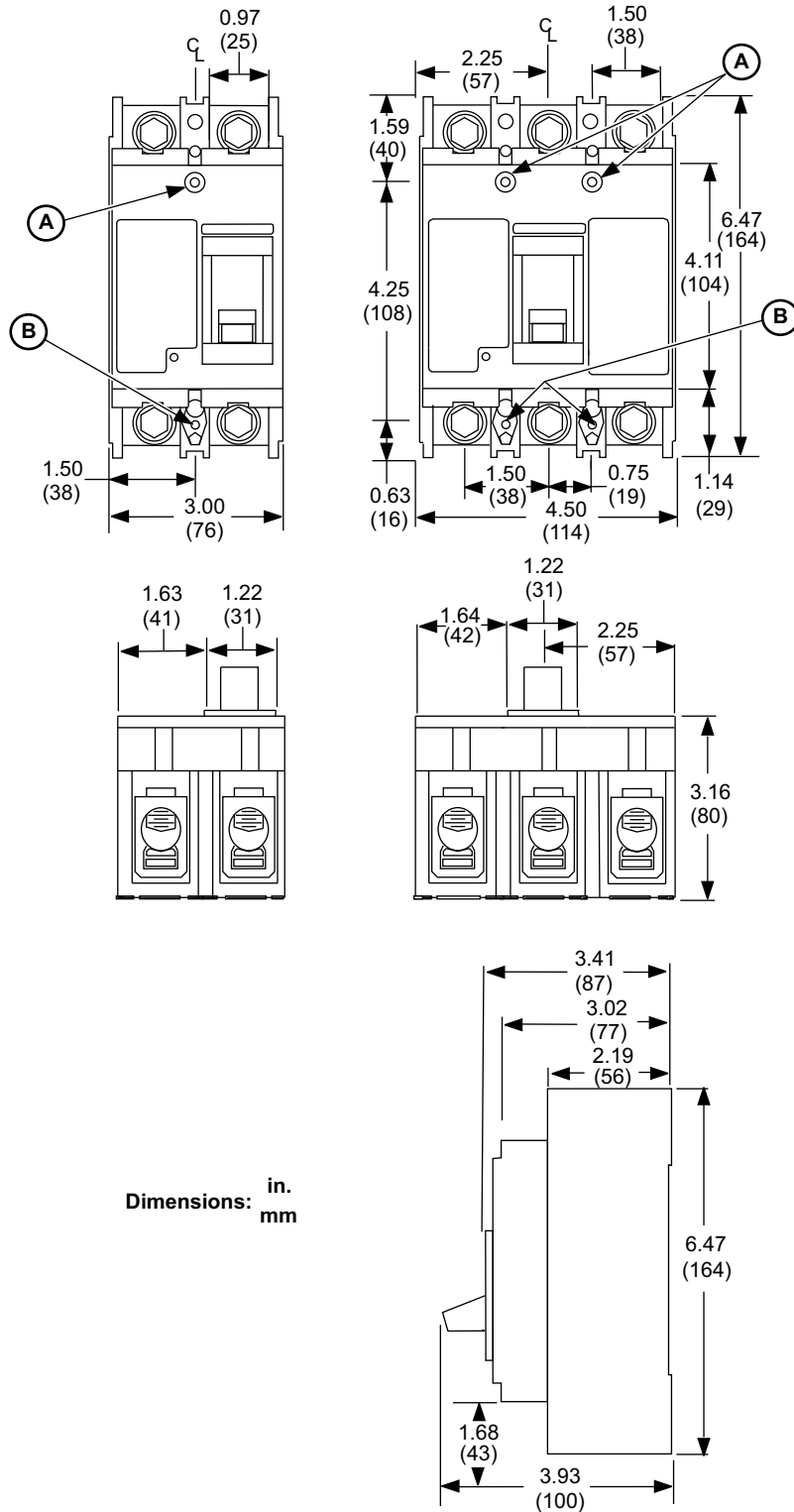
## Enclosure Dimensions

| Cat. No.  | Series | Approximate Dimensions |     |       |     |       |     |
|-----------|--------|------------------------|-----|-------|-----|-------|-----|
|           |        | Height                 |     | Width |     | Depth |     |
|           |        | in.                    | mm  | in.   | mm  | in.   | mm  |
| Q22200NRB | E05    | 23.38                  | 594 | 7.63  | 194 | 4.75  | 121 |
| Q22200NS  | E05    | 23.13                  | 588 | 7.63  | 194 | 4.25  | 108 |
| Q23225NF  | E05    | 26.25                  | 667 | 9.88  | 251 | 4.75  | 121 |
| Q23225NRB | E05    | 26.25                  | 667 | 9.88  | 251 | 5.50  | 140 |
| Q23225NS  | E05    | 26.25                  | 667 | 9.88  | 251 | 4.75  | 121 |

**Figure 4 - Enclosure Dimensions**

9. When the QJL circuit breaker is installed in the enclosure, the enclosure is limited to Short Circuit Current Ratings of 65 kAIR at 240 V and 100 kAIR at 208 V.
10. Limited to 200 A.
11. Enclosures with RB suffix have provisions for 3/4 in. through 2–1/2 in. bolt-on hubs in top end wall. See label below for corresponding accessory.

# Dimensions



Dimensions: in.  
mm

|   |  |
|---|--|
| A | Mounting holes for screw size 8-32 x 3.062 in. UNC |
| B | Mounting holes for screw size 8-32 x 2.062 in. UNC |

# Trip Curves



MULTIPLES OF RATED CURRENT

**POWERPACT™ Q-FRAME  
MOLDED CASE CIRCUIT BREAKERS  
CHARACTERISTIC TRIP CURVE NO. 734-4**

**CIRCUIT BREAKER INFORMATION**

| Circuit Breaker Prefix | Continuous Ampere Rating | Maximum AC Voltage | Number of Poles |
|------------------------|--------------------------|--------------------|-----------------|
| QB, QD, QG, QJ         | 70                       | 240                | 3               |
| CB, QD, QG, QJ         |                          | 240                | 3               |
|                        |                          | 208Y/120           | 3               |

This curve is to be used for application and coordination purposes only. The **EZ-AMP** overlay feature at the bottom of the page should be used during coordination studies.

All time/current characteristic curve data is based on 40°C ambient cold start. Terminations are made with conductors of appropriate length and ratings.

MAXIMUM SINGLE-POLE TRIP TIMES  
AT 25°C BASED ON NEMA AB-4 1991

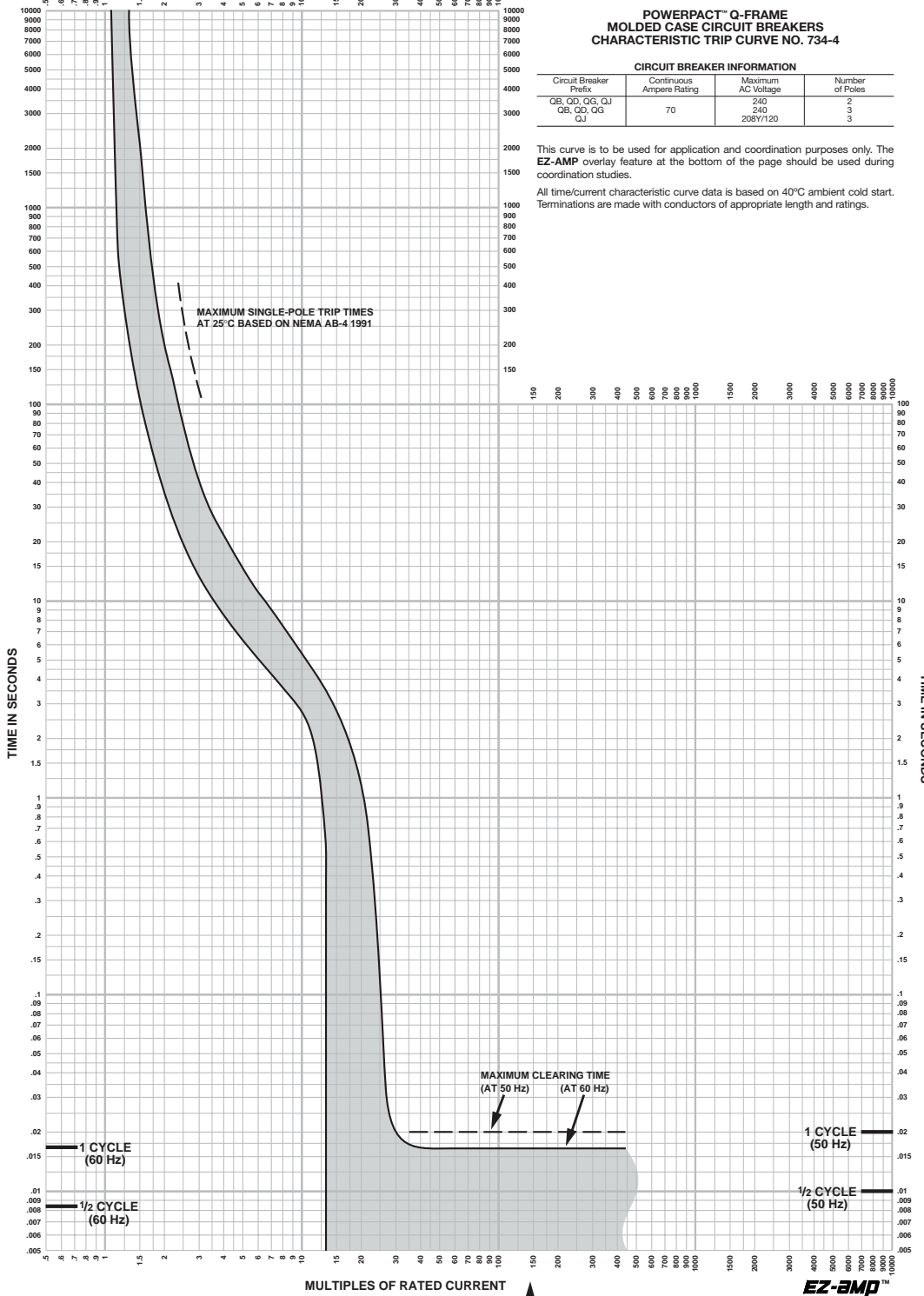
MAXIMUM CLEARING TIME  
(AT 50 Hz) (AT 60 Hz)

1 CYCLE  
(60 Hz)

1/2 CYCLE  
(60 Hz)

1 CYCLE  
(50 Hz)

1/2 CYCLE  
(50 Hz)



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**EZ-AMP™**

Curve No. 0734TC0304  
July 2003  
Drawing No. B48095-734-04





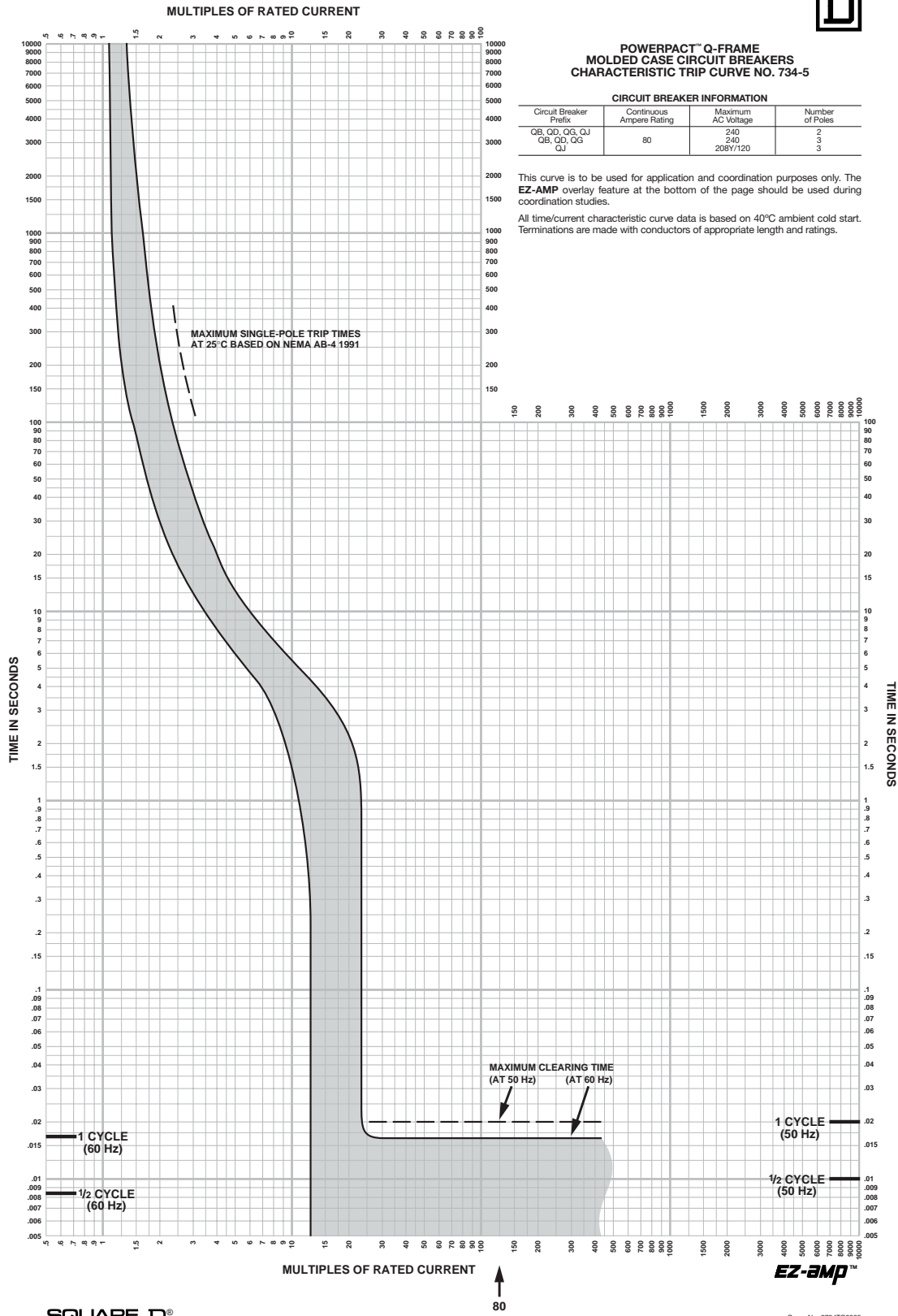
**POWERPACT™ Q-FRAME  
MOLDED CASE CIRCUIT BREAKERS  
CHARACTERISTIC TRIP CURVE NO. 734-5**

**CIRCUIT BREAKER INFORMATION**

| Circuit Breaker Prefix | Continuous Ampere Rating | Maximum AC Voltage | Number of Poles |
|------------------------|--------------------------|--------------------|-----------------|
| QB, QD, QG, QJ         | 80                       | 240                | 2               |
| QB, QD, QG, QJ         |                          | 240                | 3               |
| QB, QD, QG, QJ         |                          | 208Y/120           | 3               |

This curve is to be used for application and coordination purposes only. The **EZ-AMP** overlay feature at the bottom of the page should be used during coordination studies.

All time/current characteristic curve data is based on 40°C ambient cold start. Terminations are made with conductors of appropriate length and ratings.



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Curve No. 0734TC0305  
July 2003  
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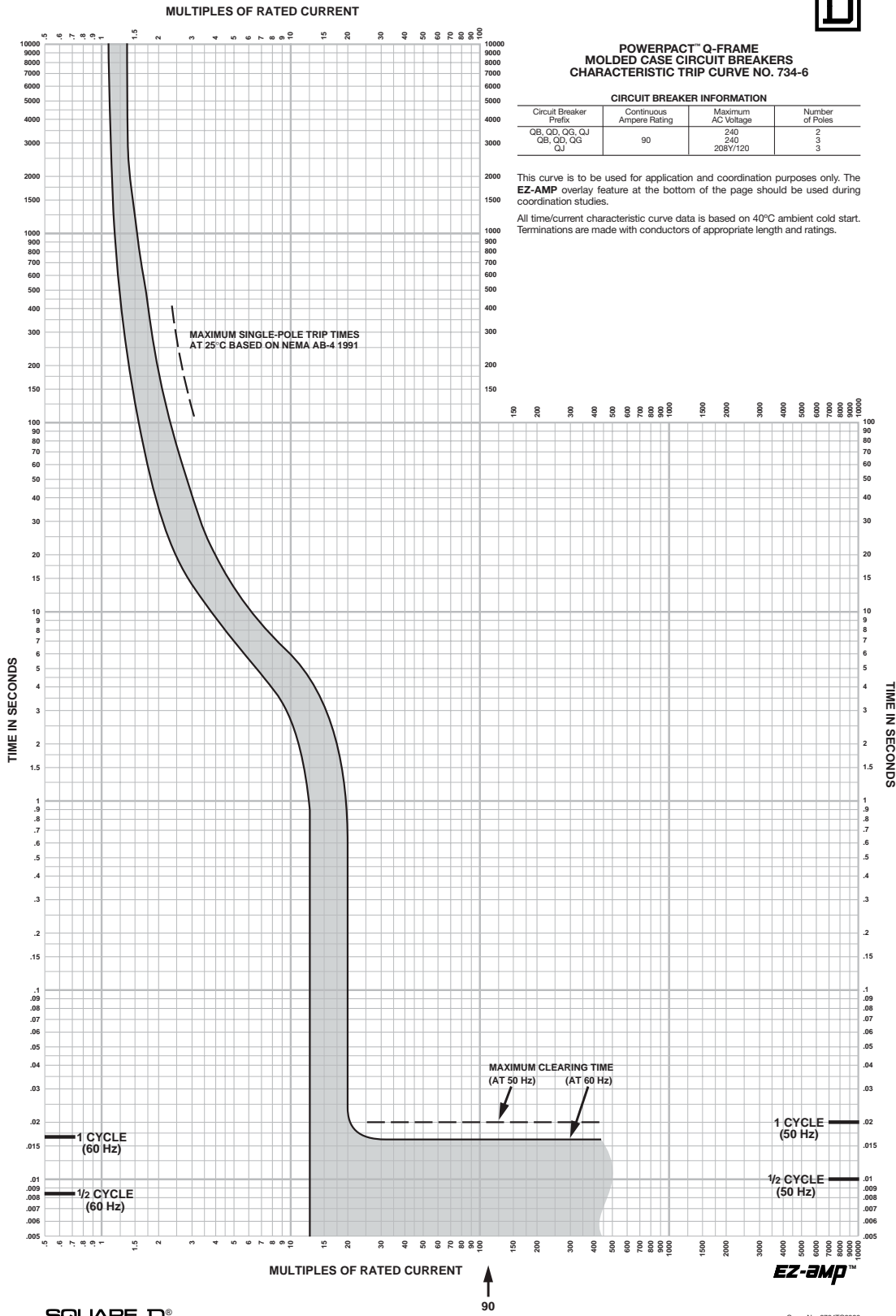
**POWERPACT™ Q-FRAME  
MOLDED CASE CIRCUIT BREAKERS  
CHARACTERISTIC TRIP CURVE NO. 734-6**

**CIRCUIT BREAKER INFORMATION**

| Circuit Breaker Prefix | Continuous Ampere Rating | Maximum AC Voltage | Number of Poles |
|------------------------|--------------------------|--------------------|-----------------|
| QB, QD, QG, QJ         | 90                       | 240                | 3               |
| QB, QD, QG             |                          | 240                | 3               |
| QJ                     |                          | 208V/120           | 3               |

This curve is to be used for application and coordination purposes only. The **EZ-AMP** overlay feature at the bottom of the page should be used during coordination studies.

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Curve No. 0734TC0306  
July 2003  
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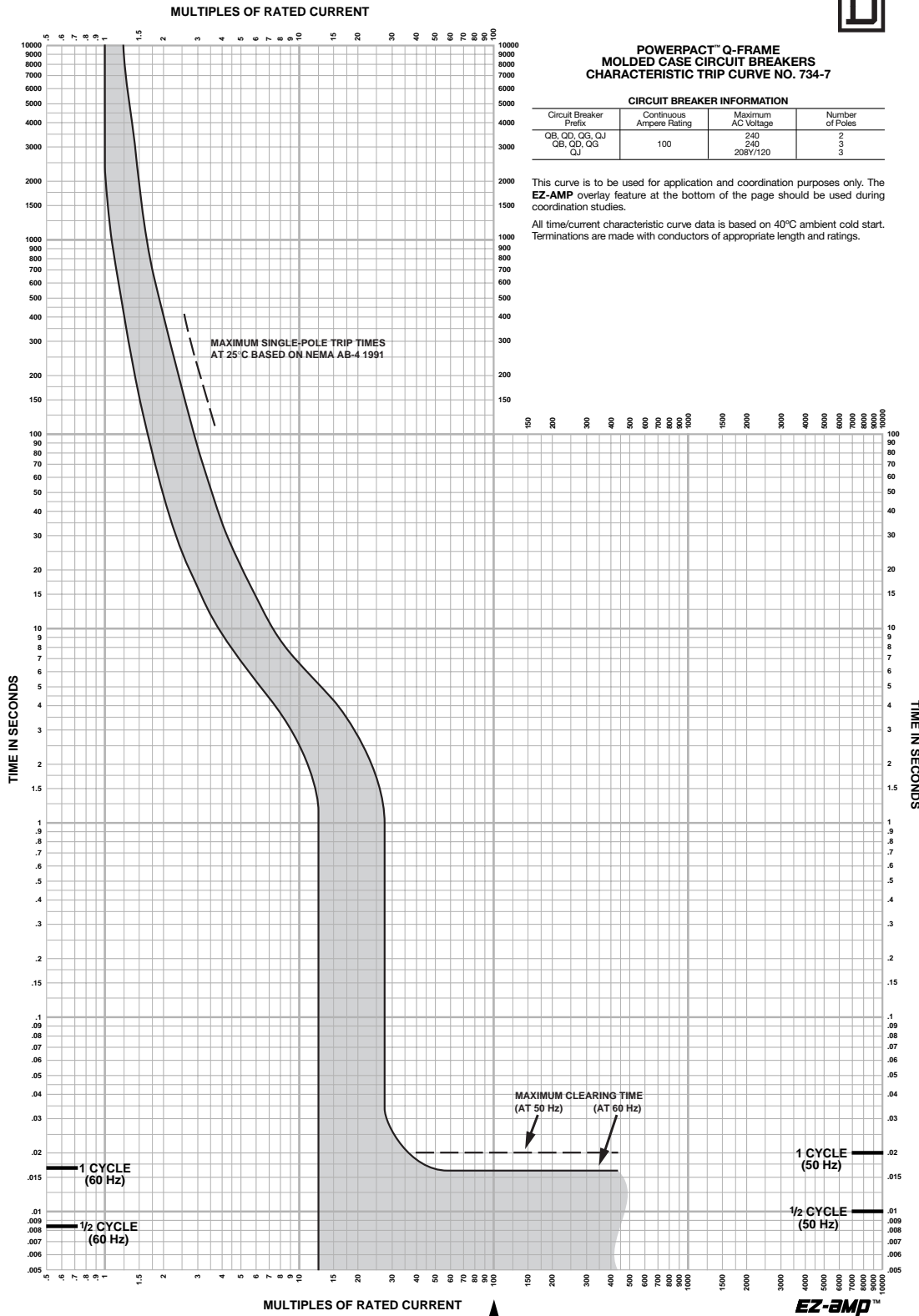
**POWERPACT™ Q-FRAME  
MOLDED CASE CIRCUIT BREAKERS  
CHARACTERISTIC TRIP CURVE NO. 734-7**

**CIRCUIT BREAKER INFORMATION**

| Circuit Breaker Prefix | Continuous Ampere Rating | Maximum AC Voltage | Number of Poles |
|------------------------|--------------------------|--------------------|-----------------|
| QB, QD, QG, QJ         | 100                      | 240                | 2               |
| QD, QG, QJ             |                          | 240                | 3               |
| QJ                     |                          | 208Y/120           | 3               |

This curve is to be used for application and coordination purposes only. The **EZ-AMP** overlay feature at the bottom of the page should be used during coordination studies.

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100

Curve No. 0734TC0307 July 2003  
Drawing No. B48095-734-07



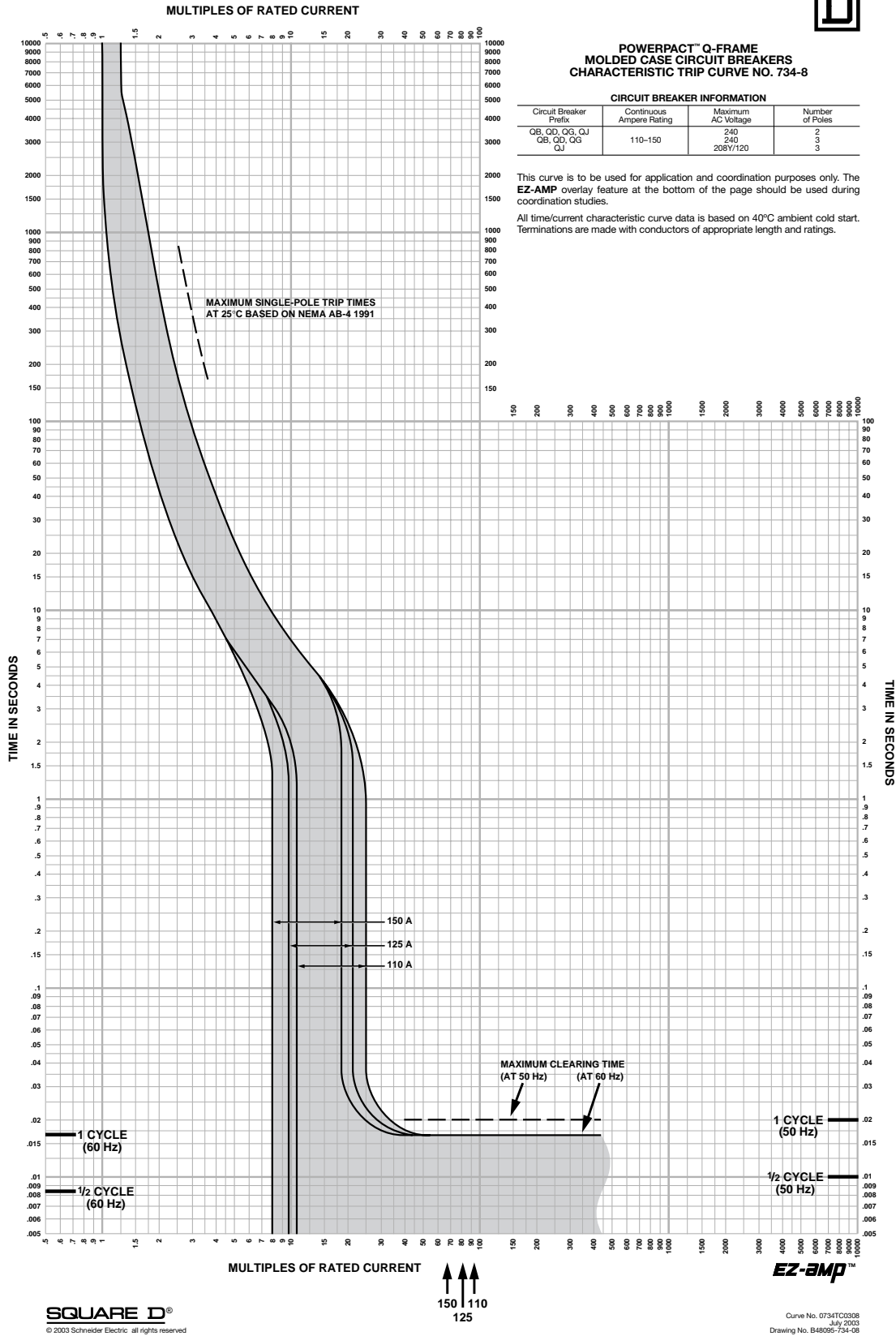
**POWERPACT™ Q-FRAME  
MOLDED CASE CIRCUIT BREAKERS  
CHARACTERISTIC TRIP CURVE NO. 734-8**

**CIRCUIT BREAKER INFORMATION**

| Circuit Breaker Prefix | Continuous Ampere Rating | Maximum AC Voltage | Number of Poles |
|------------------------|--------------------------|--------------------|-----------------|
| QB, QD, QG, QJ         | 110-150                  | 240                | 3               |
| QB, QD, QG, QJ         |                          | 240                | 3               |
| QJ                     |                          | 208Y/120           | 3               |

This curve is to be used for application and coordination purposes only. The **EZ-AMP** overlay feature at the bottom of the page should be used during coordination studies.

All time/current characteristic curve data is based on 40°C ambient cold start. Terminations are made with conductors of appropriate length and ratings.



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↑↑↑  
150 | 110  
125

Curve No. 0734TC0308  
July 2003  
Drawing No. B48095-734-08



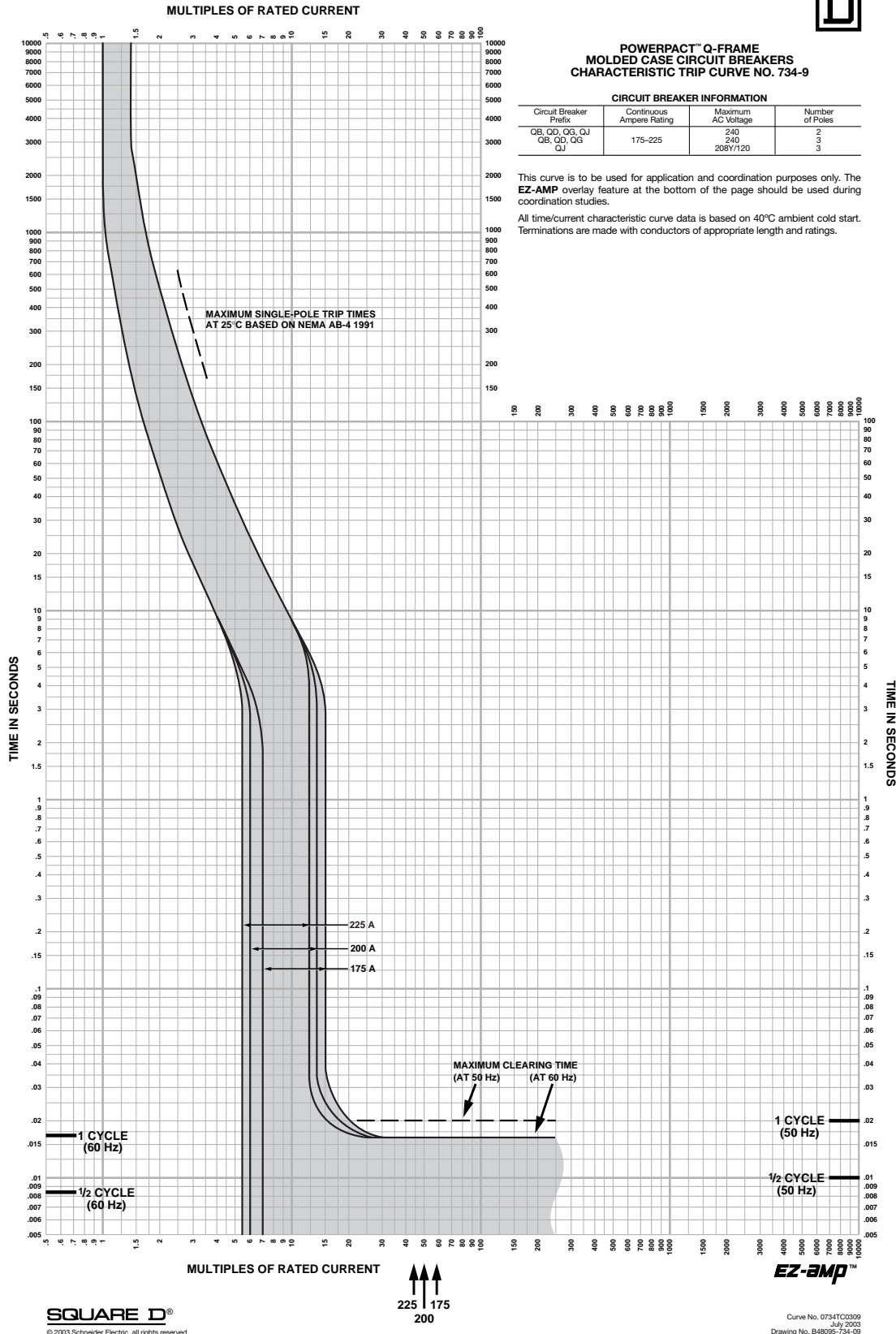
**POWERPACT™ Q-FRAME  
MOLDED CASE CIRCUIT BREAKERS  
CHARACTERISTIC TRIP CURVE NO. 734-9**

**CIRCUIT BREAKER INFORMATION**

| Circuit Breaker Prefix | Continuous Ampere Rating | Maximum AC Voltage | Number of Poles |
|------------------------|--------------------------|--------------------|-----------------|
| QB, QD, QG, QJ         | 175-225                  | 240                | 2               |
| QD, QG, QJ             |                          | 240                | 3               |
|                        |                          | 208Y/120           | 3               |

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↑↑↑  
225 | 175  
200

Curve No. 0734TC0309  
July 2003  
Drawing No. B48095-734-09



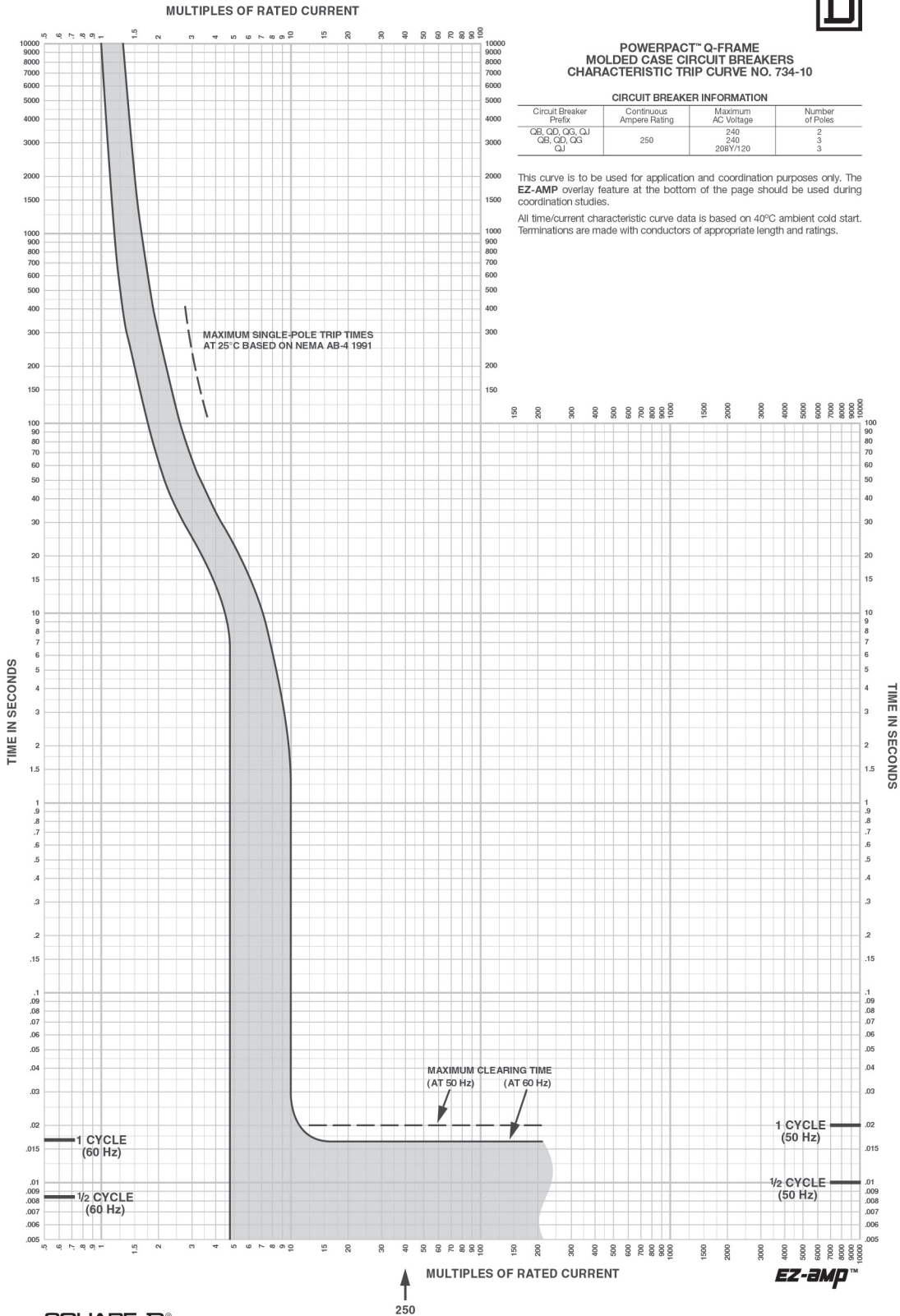
**POWERPACT™ Q-FRAME  
MOLDED CASE CIRCUIT BREAKERS  
CHARACTERISTIC TRIP CURVE NO. 734-10**

**CIRCUIT BREAKER INFORMATION**

| Circuit Breaker Prefix | Continuous Ampere Rating | Maximum AC Voltage | Number of Poles |
|------------------------|--------------------------|--------------------|-----------------|
| QB, QD, QG, QJ         | 250                      | 240                | 2               |
| QB, QD, QG, QJ         |                          | 240                | 3               |
| QB, QD, QG, QJ         |                          | 208Y/120           | 3               |

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250

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