

Q4 Molded Case Circuit Breakers

CONTENTS

| Description | Class | Pages |
|--------------------------------------|-------|-------|
| Application Data | 735 | 3-4 |
| Selection Data | 735 | 5 |
| Dimensions | 735 | 6 |
| Characteristic Tripping Curves | 735 | 7-8 |



SQUARE D COMPANY
Dedicated to Growth • Committed to Quality

Q4 MOLDED CASE CIRCUIT BREAKERS THERMAL-MAGNETIC APPLICATION DATA

CLASS
735

Description: 400 ampere frame, 240V. ac 50/60 Hz, two and three pole, thermal-magnetic trip circuit breakers.

Application: Q4 thermal-magnetic circuit breakers are used for overcurrent protection and switching on ac systems. All Q4 breakers may be unit mounted or installed in individual enclosures, panelboards, switchboards, meter devices or load centers.

Construction Standards: Q4 circuit breakers are built in accordance with Underwriters Laboratories Standard 489 and NEMA Standard AB-1-1975 (1981). Circuit breakers are listed under UL File E10027, CSA File LR7551 and are IEC 157-1 rated. They also meet Federal Specification W-C-375B/GEN as Class 14b. Molded case switches comply with UL 1087 and are listed under UL File E33117 and CSA File LR 32390.

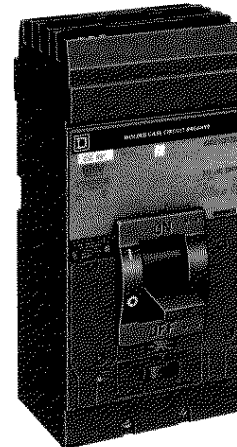
Operating Mechanism: Q4 circuit breakers have an over-center, trip-free toggle-type operating mechanism. They have a quick-make, quick-break action with positive handle indication. A heavy crossbar provides common tripping of all poles.

Tripping Operation: Q4 circuit breakers have a permanent trip unit containing individual thermal and magnetic trip elements in each pole. The thermal trip elements are calibrated for 40°C ambient temperature per UL 489, other ambient calibrations are also available. To provide uniform tripping characteristics, the magnetic elements in the individual poles are adjusted in common by a single control located on the breaker cover.

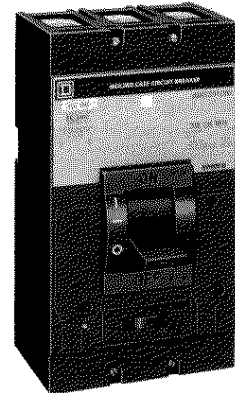
Push-To-Trip: An easily identified yellow push-to-trip button provides a means to mechanically trip the circuit breaker. This action exercises the tripping portion of the mechanism and allows maintenance checks on the breaker, control circuits, alarm devices, and other associated equipment.

Trip Indication: The operating handle assumes a center position when the circuit breaker is tripped. The breaker can be reset by moving the handle to the extreme OFF position and then to ON.

ON/OFF Indication: International I/O (on/off) markings appear on the face of each Q4 breaker along with standard ON/OFF markings.



Q4 2, 3 POLE

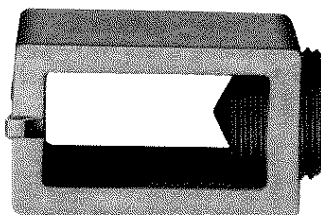


Q4L 2, 3 POLE

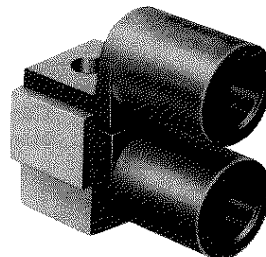
Terminations: Q4 circuit breakers, instantaneous trip circuit breakers, and molded case switches are provided with UL listed mechanical lugs for copper or aluminum conductors. Optional lugs available for field installation/replacement are shown below.

AVAILABLE LUGS FOR Q4 CIRCUIT BREAKERS

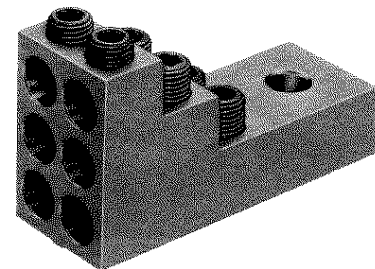
| Breaker Ampere Rating | Lug Type | Lug Kit Catalog Number | Standard or Optional | Number of Wires per Terminal and Wire Range | Conductor | |
|-----------------------|----------------------|------------------------|----------------------|---|-----------|---------|
| | | | | | Al/Cu | Cu Only |
| 250-400 | Mechanical | AL400LA | S | 1-#1-600 MCM or 2-#1-250 MCM | X | |
| | | AL400LA7 | O | 1-500-750 MCM | X | |
| | | CU400LA | O | 1-#1-600 MCM or 2-#1-250 MCM | | X |
| | VERSAtile Crimp Lugs | VC400LA3 | O | 2-#4-300 MCM | X | |
| | | VC400LA5 | O | 1-#2/0-500 MCM | X | |
| | | VC400LA7 | O | 1-500-750 MCM | X | |
| | | | | 1-500 MCM | | X |
| | | CVC400LA3 | O | 2-#4-300 MCM | | X |
| | | CVC400LA5 | O | 1-#250-500 MCM | | X |
| | Power | PDC6LA20 | O | 6-#12-2/0 | | X |
| | Distribution | PDC12LA4 | O | 12-#14-4 | | X |
| | Connectors | PDC4LA250 | O | 3-#14-2 1-#2-250 MCM | | X |



CU400LA



VC400LA3



PDC6LA20

VERSAtile is a Trademark of Square D Company.
Copyright © Square D Company 1988



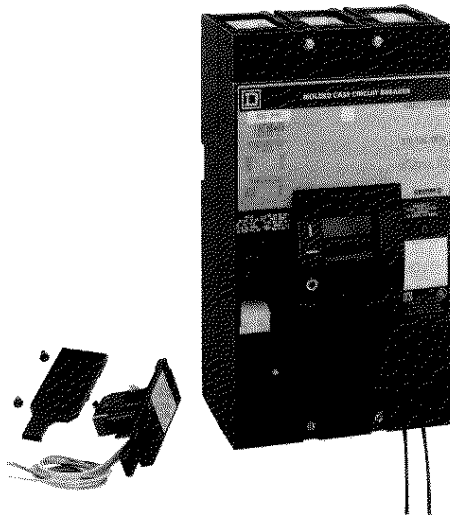
Q4 MOLDED CASE CIRCUIT BREAKERS THERMAL-MAGNETIC APPLICATION DATA

Reverse Connection: Q4 frame circuit breakers have been fully tested and are UL listed and IEC rated for reverse connection without restrictive "LINE" or "LOAD" markings. Installation of field installable accessories in the circuit breaker does not affect reverse connection capability.

Mounting: Q4 circuit breakers may be mounted and operated in any position, and are not limited to vertical or horizontal mounting.

I-LINE® Construction: Q4 circuit breakers and molded case switches are available in I-LINE plug-on construction for mounting in I-LINE panelboards and switchboards.

Molded Case Switches: Two and three pole molded case switches are available with a 400 ampere, 240 volt rating. Molded case switches provide no overcurrent protection.



FIELD INSTALLABLE ACCESSORIES

Accessories: Q4 Series 4 circuit breakers and molded case switches are capable of accepting UL listed field installable accessories as shown in the table below:

UL LISTED ACCESSORIES

| Description | Type | Field Installable Catalog No. | Factory Installed Suffix No. * |
|--|--|---|--------------------------------|
| Rear-Connecting Studs | 5 1/2 inches long 1 1/2 inches long | LASS4 LAS114 | |
| Handle Lock-Off and Padlock Attachment | | HPLAM | |
| Handle Extension | | LAHEX | |
| Handle Tie | | LAHT | |
| Shunt Trip | 24V. ac 48V. ac | LA11042 LA11048 | |
| | 120V. ac 208V. ac 240V. ac | LA11021 | |
| | 277V. ac 480V. ac | LA11037 | |
| | 6V. dc 12V. dc 24V. dc 48V. dc 72V. dc 125V. dc 250V. dc | LA11040 LA11039 LA11027 LA11028 LA11038 LA11029 LA11030 | |
| Ground Fault Shunt Trip | Used with GROUND SENSOR Type GP System | LAIG | |
| Undervoltage Trip | 24V. ac 120V. ac 208V. ac 240V. ac | LA11143 LA11121 LA11122 LA11124 | |
| | 6V. dc 12V. dc 24V. dc | LA11138 LA11133 LA11127 | |
| Auxiliary Switches | 1A & 1B Contacts | LA11212 | |
| | 2A & 2B Contacts | LA11352 | |
| | 3A & 3B Contacts | LA11384 | |
| Alarm Switch | | | 2100 |
| Electrical Operators Side-Mount | 120V. ac | LAM01 | |
| | UL Listed 120V. ac 240V. ac NOT UL LISTED 24V. dc 48V. dc 125V. dc | LAMO2120 AC LAMO2240 AC LAMO224 DC LAMO248 DC LAMO2125 DC | |
| Cylinder Lock | | LA1CL | |

* Add suffix number to breaker catalog number, e.g. LA364002100

For complete information on all electrical accessories, modifications and auxiliary devices for Q4 circuit breakers, refer to Catalog Class 690 "Molded Case Circuit Breaker Accessories" or the latest version of the Square D Digest.

I-LINE and GROUND-CENSOR are Registered Trademarks of Square D Company.



Q4 MOLDED CASE CIRCUIT BREAKERS THERMAL-MAGNETIC SELECTION DATA

CLASS
735

Application: For individual enclosures, panelboards, switchboards, etc., applications at 240V. ac. For switching and protection of branch or feeder circuits.

Q4 400 AMPERE FRAME — 400 AMPERES MAXIMUM, 240V. AC, PERMANENT TRIP 25,000 AMPERES RMS UL LISTED INTERRUPTING RATING

| Ampere Rating | Two Pole 240V. ac | | Three Pole 240V. ac | |
|--------------------|-------------------|------------------|---------------------|----------------|
| | Unit Breaker | I-LINE Breaker * | Unit Breaker | I-LINE Breaker |
| 250 | Q4L2250 | Q422250 () | Q4L3250 | Q432250 |
| 300 | Q4L2300 | Q422300 () | Q4L3300 | Q432300 |
| 350 | Q4L2350 | Q422350 () | Q4L3350 | Q432350 |
| 400 | Q4L2400 | Q422400 () | Q4L3400 | Q432400 |
| Molded Case Switch | Q4L2000 | Q422000 () | Q4L3000 | Q432000 |

*I-LINE 2-Pole Breaker Catalog Numbers are completed by adding the required phase connection letters as a suffix to the circuit breakers listed in the table above.

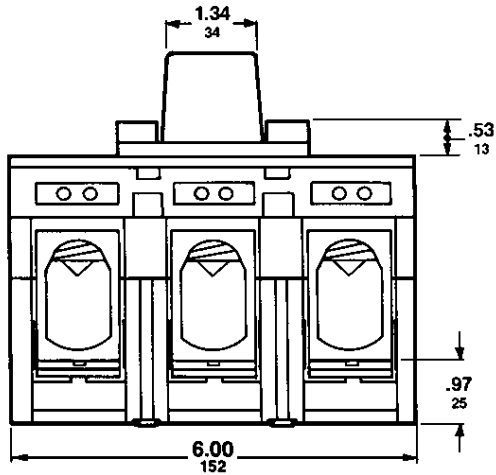
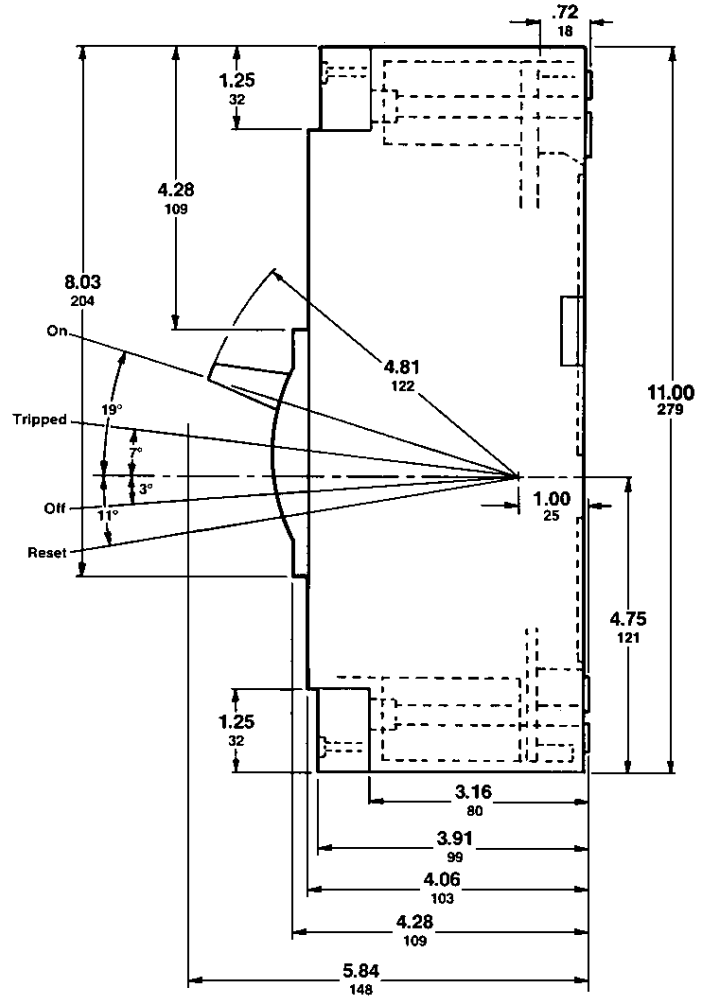
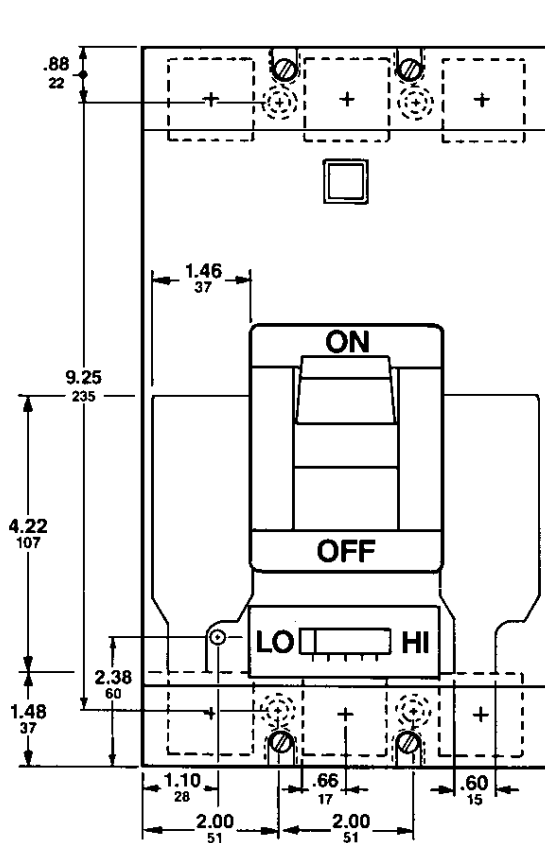
Example: 250 A. 240 volt breakers required in phase connections and number of poles as shown.

| Phase Connection | One Pole | Two Pole | Three Pole |
|------------------|----------|------------|------------|
| A-B | | Q422250-AB | |
| A-C | | Q422250-AC | |
| B-C | | Q422250-BC | |
| A-B-C | | | Q432250 |
| C-B-A | | | Q432250CBA |

Bolt-on branch breakers are available. Add letter B to catalog number prefix. (i.e. Q4B-).



Q4 MOLDED CASE CIRCUIT BREAKERS THERMAL MAGNETIC DIMENSIONS

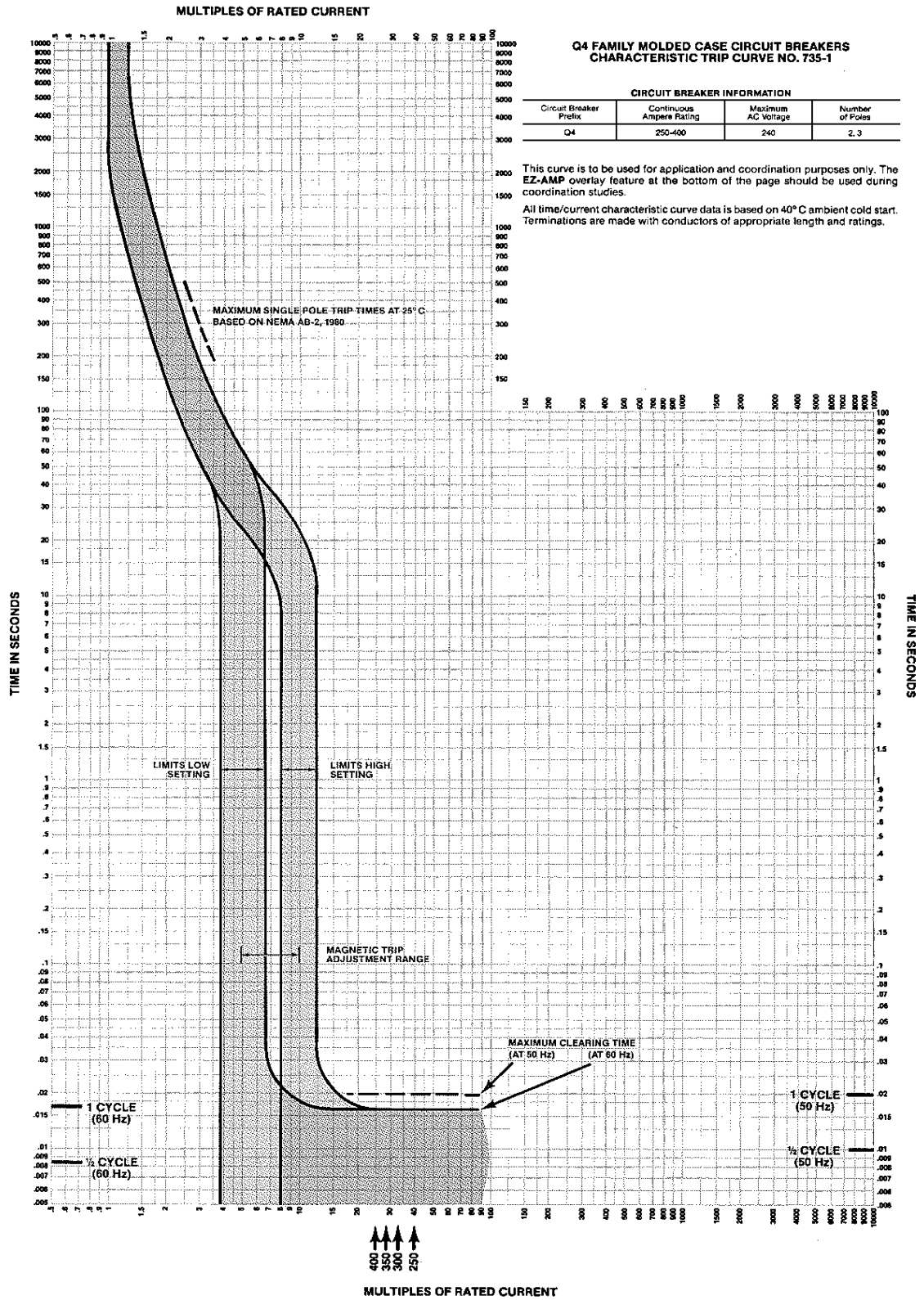


Dual Dimensions: INCHES
Millimeters

Four 12-24x3/4 Mounting Screws included with each circuit breaker.



Q4 MOLDED CASE CIRCUIT BREAKERS CHARACTERISTIC TRIPPING CURVE



**Q4 FAMILY MOLDED CASE CIRCUIT BREAKERS
CHARACTERISTIC TRIP CURVE NO. 735-1**

| CIRCUIT BREAKER INFORMATION | | | |
|-----------------------------|--------------------------|--------------------|-----------------|
| Circuit Breaker Profile | Continuous Ampere Rating | Maximum AC Voltage | Number of Poles |
| Q4 | 250-400 | 240 | 2, 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.

All curves available on tissue stock as a set for coordination studies





SQUARE D COMPANY
Dedicated to Growth • Committed to Quality