## Ordering

In the FD through RD frames, you may order molded case circuit breakers three basic ways:

- As separately ordered frames, trip units and lugs
- As frame, trip unit and lugs ordered as one catalog number and shipped unassembled or assembled
- As Frame and Trip Unit shipped assembled and with the trip unit made non-removable, in compliance with UL 489 requirements that to be reverse fed the circuit breaker must not have an interchangeable trip unit.

These two options are described in the following:

**Components Ordered Separately**

To get the components for a 3-pole, 400 Amp standard interrupting circuit breaker, you would order the frame (JD63F400), the trip unit (JD63T400) and six lugs (TA2J6500). This option is normally useful only if you stock and use large volumes of product and wish to reduce your inventory cost. You may stock, for example, a smaller number of frames (JD63F400) and a variety of trip units (JD63T300, JD63T350, etc.) and assemble breakers as you need them.

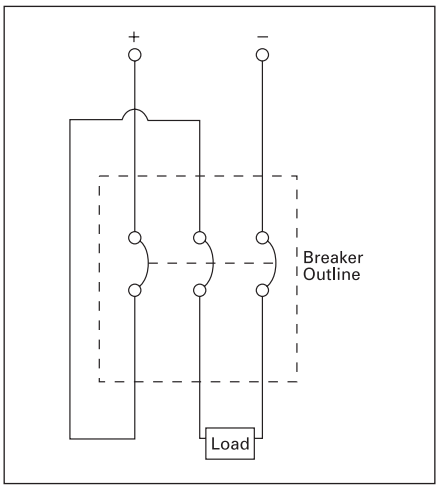
**Frame, Trip Unit and Lugs Ordered Together**

If you order the catalog number JD63B400, you will receive a frame, a trip unit and 6 lugs in separate packages. By suffixing this number with "L" (e.g. JD63B400L), you will receive frame, trip unit and lugs assembled in one container. Pursuant to UL 489, a product ordered thus will have the markings "LINE" and "LOAD", and may not be "reverse fed" (with power flowing from the "OFF" end of the breaker toward the "ON" end).

**Non-Interchangeable Trip Breakers**

If you place an "X" after the frame size designator (e.g. JXD63B400), you will receive a frame and trip unit assembled, with the trip unit made non-removable. If you suffix an "L" to this catalog number (e.g. JXD63B400L), you will receive the breaker, non-removable trip unit and lugs assembled. Unless you anticipate a specific need to change the breaker's ampere rating in the future, this is the preferred ordering method, as the products are assembled to Siemens' specifications in our factories. These breakers are suitable for use reverse fed according to UL 489, since the trip unit is not removable.

The smaller frames (QJ, ED and below) do not have removable trip units, and consequently are shipped only as assembled products. To add lugs, see the ordering instructions on each product's catalog page.

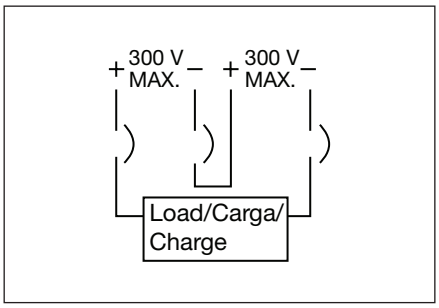



500V DC Wiring Configuration

## Connecting Breakers for DC Application

Most Siemens thermal magnetic trip MCCBs are applicable on direct current (dc) systems. Generally, for 250 V dc systems a two pole breaker is used, with one pole on each leg of the supply circuit. For three pole breakers applied on 500 V undergrounded DC systems, it is important to connect the power supply "zig-zag" through the breaker as shown in the figure below. This assures that the Voltage between phases on the breaker terminals is uniformly distributed.

See below for an alternative connection diagram. For a list of Sentron breakers with the DC ratings, please refer to pages 7-11 to 7-16.



If used on 250A frame and above means non-interchangeable trip breaker with factory assembled frame and trip. Solid state trip and current limiting (S or C in first character) are non-interchangeable only, and the "X" is omitted.


**Trip Unit Type**
□ — Omitted – Thermal-Magnetic
S — Sensitrip® Electronic Trip

**Sentron Series Type/Interrupting Range**
□ — Omitted – Standard Rating
H — High IC Rating
HH — Extra High IC Rating
C — Highest IC Rating and Current Limiting

**Frame Identifier**
E — Type ED
F — Type FD
J — Type JD
L — Type LD
LM — Type LMD
M — Type MD
N — Type ND
P — Type PD
R — Type RD

**Maximum Voltage**
2 — 240 Vac
4 — 480 Vac
6 — 600 Vac

**Number of Poles**
1
2
3
9 used to indicate the max. functions for an electronic trip circuit breaker (always 3 poles)

**(Specific Application Type)**
B — Standard 40°C Breaker
M — Calibrated for 50°C Application
F — Frame Only
T — 40°C Trip Unit Only
W — 50°C Trip Unit Only
S — Molded Case Switch
L — Low Instantaneous Range ETI Breaker
A — Standard Range ETI Breaker
H — High Instantaneous Range ETI Breaker

**Maximum Continuous Current Rating**
ED Frame — 015, 020, 025, 030, 035, 040, 045, 050, 060, 070, 080, 090, 100, 110, 125
FD Frame — 070, 080, 090, 100, 110, 125, 150, 175, 200, 225, 250
JD Frame — 200, 225, 250, 300, 350, 400
LD Frame — 250, 300, 350, 400, 450, 500, 600
LMD Frame — 500, 600, 700, 800
MD Frame — 500, 600, 700, 800
ND Frame — 900, 100 (1000A), 120 (1200A)
PD Frame — 120 (1200A), 140 (1400A), 160 (1600A)
RD Frame — 160 (1600A), 180 (1800A), 200 (2000A)

**Suffix**
L — where applicable indicates a breaker shipped with line/loads lugs installed
A — used with a switch to show automatic self protection
Y — 400 Hertz
H — 100% rated
P — Load side lugs only
NAV — Navel Ratings

NOTE:

□ — Position omitted if not used.

## Type LMXD6①④

Blue Label

**Non-Interchangeable Trip (Assembled Circuit Breaker without Lugs)**

| Continuous Current Rating @ 40°C | 2-Pole (3-Pole Width) Catalog Number | 3-Pole Catalog Number |
|---|---|---|
| 500 | — | LMXD63B500■ |
| 600 | LMXD62B600■ | LMXD63B600 |
| 700 | LMXD62B700■ | LMXD63B700 |
| 800 | LMXD62B800 | LMXD63B800 |

## Type LMD6④

Blue Label

**Interchangeable Trip**

| Continuous Current Rating @ 40°C | Complete Breaker Unassembled w/Lugs Catalog Number | Frame Only Catalog Number | Trip Unit Only Catalog Number |
|---|---|---|---|
| **2-Pole 600V AC, 250V DC (3-Pole Width)** | | | |
| 500 | LMD62B500■ | LMD62F800■ | LMD62T500■ |
| 600 | LMD62B600■ | | LMD62T600■ |
| 700 | LMD62B700■ | | LMD62T700■ |
| 800 | LMD62B800■ | | LMD62T800■ |
| **3-Pole 600V AC, 500V DC②** | | | |
| 500 | LMD63B500■ | LMD63F800 | LMD63T500■ |
| 600 | LMD63B600■ | | LMD63T600■ |
| 700 | LMD63B700■ | | LMD63T700■ |
| 800 | LMD63B800 | | LMD63T800 |

## Instantaneous Adjustment Trip Range

| Ampere Rating | Nominal Instantaneous Values | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Low +/- 20% Tolerance | 2 | 3 | 4 | 5 | 6 | 7 | High +/- 20% Tolerance |
| 500-600 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 |
| 700-800 | 3200 | 3500 | 3700 | 4200 | 4700 | 6400 | 7300 | 8000 |

### Ordering Information

**Complete Breaker Unassembled with Lugs**
Prices of LMD6 and HLMD6 breakers include frame, trip, and both line and load lugs (TA3K500). These catalog numbers include the frame, trip and lugs separately packaged. For applications requiring different lugs, order individual items as needed.

**Complete Breaker Assembled without Lugs**
Prices of LMXD6 and HLMXD6 include frame with non-interchangeable trip unit installed only. Order required lugs separately. For line and load lugs (TA3K500) installed, add suffix "L" to catalog number (add 2 times list price of lugs for each pole).

**50°C Applications** see page 7-91.

**400Hz Applications** see page 7-91.

## Shipping Weights

| Number of Poles | Number per Carton | Shipping Weight (lbs.) |
|---|---|---|
| **LMD6, HLMD6, LMXD6, HLMXD6 Complete Breaker (less terminals)** | | |
| 2 | 1 | 53 |
| 3 | 1 | 61.5 |
| **LMD6, HLMD6 Frame Only** | | |
| 2 | 1 | 42.25 |
| 3 | 1 | 46 |
| **LMD6, HLMD6 Trip Unit Only** | | |
| 2 | 1 | 4.5 |
| 3 | 1 | 6.5 |

## Lugs③ for 75°C Wire

| Catalog Number | Cables per Lug | Wire Range |
|---|---|---|
| TA2K500 | 1, 2 | #1-500 kcmil Cu/Al |
| TA3K500 | 1-3 | #1/0-500 kcmil Cu/Al |
| TA2N750 | 1, 2 | 500-750 kcmil Cu/Al |

■ Built to order. Allow 2–3 weeks for delivery.

① LMXD6 circuit breakers are UL Listed for reverse connected applications.

② When wired as shown on page 7-4, this circuit breaker is UL listed and rated for use on 500VDC ungrounded UPS systems only.

③ See **Note: A**, page 7-88.

④ HACR rated.

Modifications page 7-91
Enclosures Section 6
Accessories pages 7-61 and 7-95 to 7-100

## Adjustable Instantaneous Magnetic Trip Settings

*Application*

| Breaker Type | Maximum Continuous Amperes | Nominal AC Adjustable Trip Range | | | | | | | | ETI Motor Circuit Protector Catalog Number | Thermal Magnetic Catalog Number | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Low | 2 | 3 | 4 | 5 | 6 | 7 | High | 3-Pole | 2-Pole | 3-Pole |
| JXD2(A) | 200 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JXD22B200 | JXD23B200 |
| | 225 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JXD22B225 | JXD23B225 |
| | 250 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JXD22B250 | JXD23B250 |
| | 300 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JXD22B300 | JXD23B300 |
| | 350 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | JXD22B350 | JXD23B350 |
| | 400 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | JXD22B400 | JXD23B400 |
| JXD6(A) | 200 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JXD62B200 | JXD63B200 |
| | 225 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JXD62B225 | JXD63B225 |
| | 250 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JXD62B250 | JXD63B250 |
| | 300 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JXD62B300 | JXD62B300 |
| | 350 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | JXD62B350 | JXD23B350 |
| | 400 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | JXD62B400 | JXD23B400 |
| JD6(A) | 200 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JD62B200 | JD63B200 |
| | 225 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JD62B225 | JD63B225 |
| | 250 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JD62B250 | JD63B250 |
| | 300 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | JD62B300 | JD63B300 |
| | 350 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | JD62B350 | JD63B350 |
| | 400 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | JXD63L400 | — | — |
| | 400 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | JXD63H400 | JD62B400 | JD63B400 |
| HJD6(A) | 200 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HJD62B200 | HJD63B200 |
| | 225 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HJD62B225 | HJD63B225 |
| | 250 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HJD62B250 | HJD63H250 |
| | 300 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HJD62B300 | HJD63B300 |
| | 350 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | HJD62B350 | HJD63B350 |
| | 400 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | HJD62H400 | HJD63B400 |
| HHJD6 | 200 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HHJD62B200 | HHJD63B200 |
| | 225 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HHJD62B225 | HHJD63B225 |
| | 250 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HHJD62B250 | HHJD63B250 |
| | 300 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HHJD62B300 | HHJD63B300 |
| | 350 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | HHJD62B350 | HHJD63B350 |
| | 400 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | HHJD62B400 | HHJD63B400 |
| CJD6 | 200 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | — | CJD63B200 |
| | 225 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | — | CJD63B225 |
| | 250 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | — | CJD63B250 |
| | 300 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | — | CJD63B300 |
| | 350 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | — | CJD63B350 |
| | 400 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | CJD63H400 | — | CJD63B400 |
| | 400 | 1250 | 1450 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | CJD63L400 | — | — |
| LXD6(A) | 450 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | LXD62B450 | LXD63B450 |
| | 500 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | LXD62B500 | LXD63B500 |
| | 600 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | LXD62B600 | LXD63B600 |
| LD6(A) | 250 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | LD62B250 | LD63B250 |
| | 300 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | LD62B300 | LD63B300 |
| | 350 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | LD62B350 | LD63B350 |
| | 400 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | LD62B400 | LD63B400 |
| | 450 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | LD62B450 | LD63B450 |
| | 500 | 3000 | 3430 | 3800 | 4290 | 4710 | 5140 | 5570 | 6000 | — | LD62B500 | LD63B500 |
| | 600 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | LXD63L600 | — | — |
| | 600 | 3000 | 3430 | 3800 | 4290 | 4710 | 5140 | 5570 | 6000 | LXD63H600 | LD62B600 | LD63B600 |
| HLD6(A) | 250 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HLD62B250 | HLD63B250 |
| | 300 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HLD62B300 | HLD63B300 |
| | 350 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | HLD62B350 | HLD63B350 |
| | 400 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | HLD62B400 | HLD63B400 |
| | 450 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | HLD62B450 | HLD63B450 |
| | 500 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | HLD62B500 | HLD63B500 |
| | 600 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | HLD62B600 | HLD63B600 |
| HHLD6 | 250 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HHLD62B250 | HHLD63B250 |
| | 300 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | HHLD62B300 | HHLD63B300 |
| | 350 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | HHLD62B350 | HHLD63B350 |
| | 400 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | HHLD62B400 | HHLD63B400 |
| | 450 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | HHLD62B450 | HHLD63B450 |
| | 500 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | HHLD62B500 | HHLD63B500 |
| | 600 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | HHLD62B600 | HHLD63B600 |
| CLD6 | 250 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | — | CJD63B250 |
| | 300 | 1250 | 1430 | 1610 | 1790 | 1960 | 2140 | 2320 | 2500 | — | — | CJD63B300 |
| | 350 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | — | CJD63B350 |
| | 400 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | — | CLD63B400 |
| | 450 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | — | — | CLD63B450 |
| | 500 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | — | CLD63B500 |
| | 600 | 2000 | 2290 | 2570 | 2860 | 3140 | 3430 | 3710 | 4000 | CLD63L600 | — | — |
| | 600 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | CLD63H600 | — | CLD63B600 |
| LMXD6 | 500 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | — | LMXD63B500 |
| | 600 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | LMXD62B600 | LMXD63B600 |
| | 700 | 3200 | 3500 | 3700 | 4200 | 4700 | 6400 | 7300 | 8000 | — | LMXD62B700 | LMXD63B700 |
| | 800 | 2800 | 3100 | 3400 | 3700 | 4000 | 4800 | 5500 | 6000 | LMXD63L800 | — | — |
| | 800 | 3200 | 3500 | 3700 | 4200 | 4700 | 6400 | 7300 | 8000 | LMXD63A800 | LMXD62B800 | LMXD63B800 |
| LMD6 | 500 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | LMD62B500 | LMD63B500 |
| | 600 | 3000 | 3430 | 3860 | 4290 | 4710 | 5140 | 5570 | 6000 | — | LMD62B600 | LMD63B600 |
| | 700 | 3200 | 3500 | 3700 | 4200 | 4700 | 6400 | 7300 | 8000 | — | LMD62B700 | LMD63B700 |
| | 800 | 3200 | 3500 | 3700 | 4200 | 4700 | 6400 | 7300 | 8000 | — | LMD62B800 | LMD63B800 |

A variety of internal and external accessories, as well as modifications, are available to adapt Siemens circuit breakers to special installation requirements. UL listed internal accessories for 100 through 2000A circuit breakers are field-addable.

Internal accessories fine tune an electrical distribution system, allowing control of the circuit breakers to meet special application requirements. For example, emergency situations may dictate tripping critically placed circuit breakers quickly. Shunt trips accomplish this conveniently and efficiently. Or, when voltage drops are a concern, undervoltage trips automatically open the circuit breaker at a predetermined voltage level.

A wide range of external operating and mounting accessories is also available. For example, face, shallow, and back mounting plates are ideal for tailoring BQ circuit breakers to OEM applications. A complete line of operating handles and handle-blocking devices meet switchboard, enclosure and safety needs. Plug-in mounting assemblies, which simplify switchboard mounting of circuit breakers and permit breaker removal without disconnecting bus or cable connections, are available.

**50°C Ambient Calibration — Not UL listed and not available for solid state, 100% rated breakers or 400HZ calibrated breakers.**

For BL Type Circuit Breakers
— Add suffix 'M' to catalog number
(Example: B120M) ..... No Charge

For BQ and ED Frame Circuit Breakers
— Replace 'B' in catalog number with 'M' ..... No Charge
(Example: BQ3M060, ED63M060)

For FD, JD, LD, LMD, MD, ND, PD, and RD Frame Circuit Breakers
Non-Interchangeable Trip (3–pole only) ..... No Charge
— Replace 'B' in catalog number with 'M'
(Example: FXD63M225, JXD63M400)

**400 HZ Calibration**

UL Listed (5KA IR)

For BQ & BL Type Circuit Breakers (200A max.) ..... Add 25% to list price
— Add suffix 'Y' to catalog number

Not UL Listed
For all other Circuit Breakers, see derating tables on page 7-102 and order standard circuit breakers.

**Fungus Proofing**

All BQD, CQD, GB, GG, ED, FD, JD, LD, LMD, MD, ND, PD, RD, DG, FG, JG, LG, MG, NG, and PG Frame Circuit Breakers are inherently fungus resistant and do not require special treatment.

For BL, and BQ Type Circuit Breakers ..... Add $10.00 net per pole
— Consult Sales Office for Availability

For all other Circuit Breaker Types ..... Add $160.00 net per device
— Consult Sales Office for Availability

**Certificate of Compliance with Test Report (catalog number CERT OF COMP.)** Add $210.00 net
Certificate of compliance testing must be performed on the actual device being shipped. The certificate cannot be provided after initial shipment. Order for devices with COC requirement must be placed directly with the factory by the sales office and shipped directly to the end user.

## UL 489 Supplement SB Naval Use Breakers

Breakers tested to UL 489 Supplement SB are qualified for use on non combat and auxiliary naval vessels.

Siemens molded case breakers, including BL, NGB and Sentron ED through RD frames can be labeled "NAVAL" in compliance with UL 489 Supplement SB.

Supplement SB testing comprises two sets of vibration tests. The first is to find mechanical resonances in the product and to subject the breaker to extreme testing at each resonant frequency. The second is a swept frequency test, in which the frequency of excitation is changed in intervals of 1Hz, and held at each frequency for five minutes. The excitation frequencies run from 4 to 33Hz, and the test is conducted in each of the three orthogonal axes of the breaker.

During these tests, the breaker must not trip from the closed position, nor may the contacts touch from the open position. Calibration and insulation resistance are also verified during the test.

For detailed information, refer to UL 489, Supplement SB.

### Ordering Information

For "NAVAL" label, add **$75.** net per catalog number per order. Order must be placed directly with the factory by Siemens Sales Office.

| Types | UL File |
|---|---|
| BQD/CQD | E10848, Vol 10, Sec 1 |
| GG | E10848, Vol 10, Sec 2 |
| GB | E10848, Vol 10, Sec 3 |
| ED2, ED4, IIED4, HED6 | E10848, Vol 4, Sec 11 |
| CED6 | E10848, Vol 4, Sec 13 |
| FD6, FXD6, HFD6, HFXD6 | E10848, Vol 4, Sec 17 |
| CFD6 | E10848, Vol 4, Sec 18 |
| JXD2, JD6, JXD6, LXD6, LD6, HJD6, HJXD6, HLD6, HLXD6 | E10848, Vol 4, Sec 8 |
| HHJD6, HHJXD6, HHLD6, HHLXD6 | E10848, Vol 4, Sec 20 |
| CJD6, CLD6 | E10848, Vol 4, Sec 14 |
| MD6, MXD6, HMD6, HMXD6, CMD6, ND6, NXD6, HND6, HNXD6, CND6 | E10848, Vol 4, Sec 15 |
| PD6, PXD6, HPD6, HPXD6, CPD6, RD6, RXD6, HRD6, HRXD6 | E10848, Vol 4, Sec 19 |