

## 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.

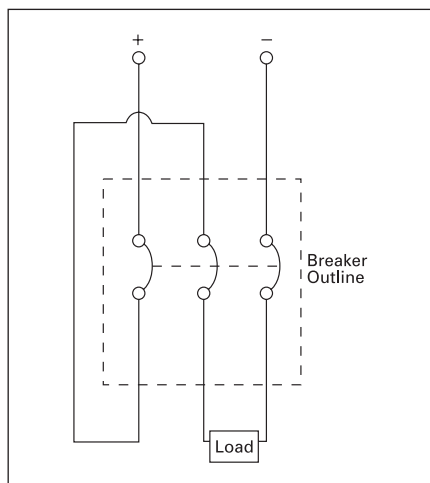
### Frame, Trip Unit and Lugs Ordered Together

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.

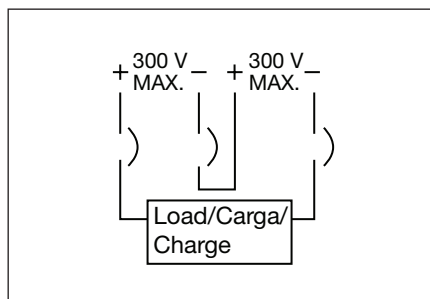


500V DC Wiring Configuration

## 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.



# Sentron Molded Case Circuit Breakers

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.

# Molded Case Circuit Breakers

LD 600A Frame Sentron Series

Selection/Dimensions

Type HLD6-A, HLXD6-A<sup>②③④</sup>

Black Label

Interchangeable Trip			
Continuous Current Rating @ 40°C	Complete Breaker Unassembled w/Lugs	Frame Only	Trip Unit Only
	Catalog Number	Catalog Number	Catalog Number

2-Pole 600V AC, 250V DC (3-Pole Width)

Current Rating	Complete Breaker Unassembled w/Lugs	Frame Only	Trip Unit Only
250	HLD62B250■	HLD62F600■	JD62T250■
300	HLD62B300■		JD62T300■
350	HLD62B350■		JD62T350■
400	HLD62B400■		JD62T400■
450	HLD62B450■		LD62T450■
500	HLD62B500■		LD62T500■
600	HLD62B600■		LD62T600■

3-Pole 600V AC, 500V DC<sup>①⑤</sup>

Current Rating	Complete Breaker Unassembled w/Lugs	Frame Only	Trip Unit Only
250	HLD63B250■	HLD63F600■	JD63T250■
300	HLD63B300■		JD63T300■
350	HLD63B350■		JD63T350■
400	HLD63B400■		JD63T400■
450	HLD63B450■		LD63T450■
500	HLD63B500■		LD63T500■
600	HLD63B600■		LD63T600■

Type HHL6, HHLXD6<sup>②③④</sup>

Black Label

2-Pole 600V AC (3-Pole Width)

Current Rating	Complete Breaker Unassembled w/Lugs	Frame Only	Trip Unit Only
250	HHL62B250■	HHL62F600■	JD62T250■
300	HHL62B300■		JD62T300■
350	HHL62B350■		JD62T350■
400	HHL62B400■		JD62T400■
450	HHL62B450■		HHL62T450■
500	HHL62B500■		HHL62T500■
600	HHL62B600■		HHL62T600■

3-Pole 600V AC

Current Rating	Complete Breaker Unassembled w/Lugs	Frame Only	Trip Unit Only
250	HHL63B250■	HHL63F600■	JD63T250■
300	HHL63B300■		JD63T300■
350	HHL63B350■		JD63T350■
400	HHL63B400■		JD63T400■
450	HHL63B450■		HHL63T450■
500	HHL63B500■		HHL63T500■
600	HHL63B600■		HHL63T600■

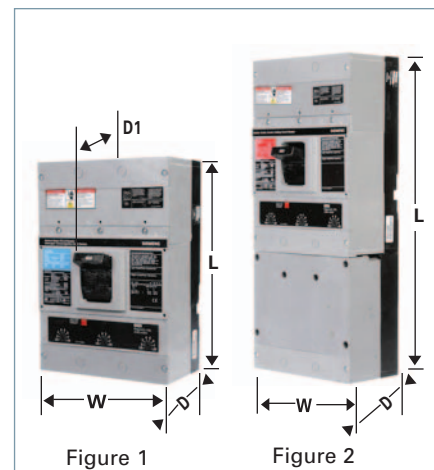
Type CLD6-A<sup>③④</sup>

Fuseless Current Limiting

Red Label

Non-Interchangeable Trip (Assembled Circuit Breaker Without Lugs)

Continuous Current Rating @ 40°C	2-Pole 600V AC/250V DC	3-Pole 600V AC/500V DC
	Catalog Number	Catalog Number
450	For 2-pole application use outside poles of 3-pole circuit breaker	CLD63B450■
500		CLD63B500■
600		CLD63B600■



Dimensions (in inches)

Breaker Type	W	L	D	To Handle D1
Figure 1 LXD6-A, LD6-A HLD6-A HHL6, HHLXD6, LXD6-ETI <sup>⑥</sup> , SLD6, SHLD6	7.5	11	4	5.44
Figure 2 CLD6, CLD6-ETI <sup>⑥</sup> , SCLD6	7.5	17.86	4	5.44

Enclosures: (except SCLD6)

Type	Catalog Number
1	LD6N1
3R	LD6N3R
12	LD6N12
4X	LD6SS4
7,9	ED6
Neutral	W60993

For inches / millimeters conversion, see Application Data section.

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

① When wired as shown on page 7-4, this circuit breaker is UL listed and rated for use on 500V DC ungrounded UPS systems only.

② For complete assembled 3-pole HLD6 or HHL6 type circuit breaker change the prefix identifier HLD6 or HHL6 to HLXD6 or HHLXD6. Price is sum of frame and trip units prices, e.g. price of HLXD63B400 is the price of HLD63F600 plus the price of LD63T600. Order the terminal connectors separately.

③ Type HLXD6, HHLXD6, & CLD6 Circuit Breakers are UL Listed for reverse feed applications.  
④ LXD6-ETI, CLD6-ETI see page 7-74 for ordering information.  
⑤ CE Applies to non-interchangeable type HLXD only.  
⑥ HACR rated.