

Molded Case Circuit Breakers

Introduction

What's New?

Siemens Energy & Automation is proud to announce several new products. These new concepts serve the OEM and power distribution markets.

WL Power Circuit Breakers



It's the Circuit Breaker that changes everything! And it's armed with a full array of competitive advantages:

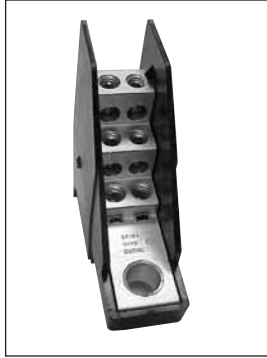
- Reliable – increased operations and better than 1% metering accuracy
- Compact – smallest switchgear footprint in the industry
- Easy to Use – straightforward catalog numbers & selection tools
- Modular – drop-in, front-mounted accessories & field changeable main contacts
- System Solution – Internet/Ethernet, Modbus and Profibus communications
- Safety – customized interlocking and unique status indicators

Specifications and Applications:

- Standards: UL489, UL1066 and ANSI C37
- Frame Ratings: 800A to 5000A
- Rated Nominal Voltages: 240, 480 and 600VAC
- Interrupting Ratings: from 50KA to 150KA un-fused and 200KA fused
- Assemblies: Fixed mounted, draw-out Circuit Breaker or Non-automatic Switch
- Applicable for all ICCB or RL Breaker applications

The WL Circuit Breaker may be new to North America, but it has already been proven in the field – with two years of flawless performance in Europe. No other product on the market today offers more flexibility or greater reliability.

Sentron Distribution Lug



Distribution lugs are now available for use with Siemens Sentron E, F, J and L-frame circuit breakers. These lugs are UL 486-B recognized and are ideal for UL 508 control panel applications to replace a distribution block. Using the Sentron distribution lugs can reduce the need for extra wire stripping. They also reduce the use of extra crimp connectors going between the circuit breaker and distribution block.

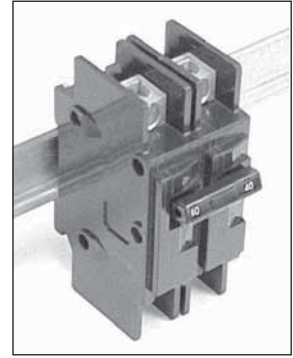
CE Marking

A wide range of Sentron® thermal magnetic circuit breakers has been fully tested for compliance with the European community's Low Voltage Directive, and carry the CE mark, indicating their compliance with that directive. These are noted in the Speedfax with the stylized CE in watermark behind the catalog numbers. Declarations of conformity are available for these products. A point of misunderstanding lies in the area of handle operators. A handle operator alone, such as that for the Max-flex, since there is no applicable European Directive, may not carry the CE mark. The mark is affixed to the finished equipment that incorporates the handle, but not to this component device.

PLC Level Auxiliary Switches

A new family of gold flashed auxiliary switches for the FD through ND breakers allows sensing at very low voltage and currents for interface directly to programmable logic controllers and other electronic devices. Standard contacts, built to switch 120 Volts and higher currents can be unreliable when the sensing current is in the milliamp range, and the sensing voltage is 12 Volts or lower. These very reliable low level switches overcome that limitation. Standard switch contacts should, of course, continue to be used in standard current and voltage applications.

DIN Rail mounted 120/240 V Breaker



The Siemens BQ breakers are now available in 1- and 2-pole construction, from 15 to 60 Amps in lug in – lug out DIN rail mounted configuration. These breakers, rated 120/240 Volts, are ideal for applications in control panels and HVAC, and with their available finger safe terminal shields can qualify as service disconnects.

NGG Type 125A Frame Circuit Breaker



The new NGG Circuit Breaker is a compact, industrial design with true value-added features such as Global Ratings (UL/CSA/IEC/CE/NOM), flexible DIN or base mounting without the need for adapters and UL Listed for field install-able accessories. This NGG125 has a 25KAIC interrupting rating at 480VAC and features a Quick Make/Quick Break Trip-free Mechanism. All this in a 3.0W x 5.4H x 2.8D package. Please consult your sales office for availability.

HID Lighting Breakers

Siemens BQD and CQD circuit breakers have been tested and approved for use in switching HID lighting. One, two and three pole breakers from 15A to 50A are now approved and marked for use in these high energy lighting systems where the breakers is used to directly control the lighting in 120VAC, 240VAC, 277AC or 480/277VAC circuits.

Molded Case Circuit Breakers

Catalog Numbering System

Selection/Application

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 | M — Type MD |
| F — Type FD | N — Type ND |
| J — Type JD | P — Type PD |
| L — Type LD | R — Type RD |
| LM — Type LMD | T — Type TD |

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)
- TD Frame — 2000, 2500, 3200

Suffix

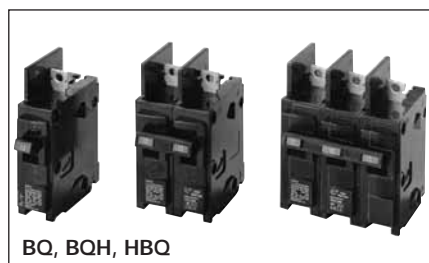
- L — where applicable indicates a breaker shipped with line/loads lugs installed
- A — used with a switch to show automatic self protection
- Y — 400 Hertz
- H — 100% rated
- P — Load side lugs only

NOTE:

- — Position omitted if not used.

Thermal-Magnetic Trip Breakers

				General Purpose Breakers								
				BQ	BQH	HBQ	QJ2	QJH2	QJ2-H	HQJ2-H	CQD	NGG
Page				17/12	17/12	17/12	17/14	17/14	17/14	17/14	17/15	17/16
Ratings	AC	Poles		1, 2, 3	1, 2, 3	1, 2, 3	2, 3	2, 3	2, 3	3	1, 2, 3	1, 2, 3
		Amperes, Continuous	1-Pole	15–70	15–70	15–50	—	—	—	—	15–100	15–125
			2-Pole	15–125	15–100	15–70	60–225	60–225	60–225	—	15–100	15–125
			3-Pole	15–100	15–100	15–100				100–225	15–100	15–125
		Volts (50/60 Hertz)	1-Pole	120/240	120/240	120/240	—	—	—	—	277	347
			2-Pole				240	240	240	—	480/277	600/347
			3-Pole	240	240	240				240		
		UL Interrupting Rating — Symmetrical RMS Amperes	120V	10,000	22,000	65,000	—	—	—	—	65,000	65,000
			240V	10,000	22,000	65,000	10,000	22,000	42,000	100,000	65,000	65,000
			480V	—	—	—	—	—	—	—	14,000 ^③	25,000
	600/347V		—	—	—	—	—	—	—	10,000 ^②	14,000	
	DC	Volts — 2-Pole		—	—	—	—	—	—	—	125/250	125/250
Interrupting Rating — DC Amperes		—	—	—	—	—	—	—	14,000	14,000		
Dimensions in inches		Height	15–50A	3.75	3.75	4.00	—	—	—	—	4.50	—
			55–125A	4.00	4.00	4.00	—	—	—	—	4.50	—
			60–225A	—	—	—	7.00	7.00	7.00	7.00	—	—
		Width	1-Pole	1.00	1.00	1.00	—	—	—	—	1.00	1.00
			2-Pole	2.00	2.00	2.00	3.00	3.00	3.00	—	2.00	2.00
			3-Pole	3.00	3.00	3.00	4.50	4.50	4.50	4.50	3.00	3.00
		Depth		2.37	2.37	2.37	2.34	2.34	2.53	2.53	2.87	2.90
Overcurrent Devices		Thermal and Fixed Magnetic Trip		✓	✓	✓	✓	✓	✓	✓	✓	
		Molded Case Switch		✓	—	—	✓	—	—	—	—	—
Accessories & Modifications		Undervoltage Trip		—	—	—	—	—	—	—	✓	—
		Shunt Trip		✓	✓	✓	✓ ^①	✓ ^①	✓ ^①	✓ ^①	✓	✓
		Auxiliary Switch		✓	✓	✓	✓ ^①	✓ ^①	✓ ^①	✓ ^①	✓	✓
		Alarm Switch		—	—	—	✓	✓	—	—	✓	✓
		Mechanical Interlock		—	—	—	✓	✓	✓	✓	—	—
		Fungus Proofing (ref. page 17/70)		✓	✓	✓	✓	✓	✓	✓	✓	✓
Individual Enclosures		Type 1 — Indoor Surface		✓	✓	✓	✓	✓	✓	✓	—	✓
		Type 1 — Indoor, Flush		✓	✓	✓	✓	✓	✓	✓	—	✓
		Type 3R — Outdoor-Rainproof		✓	✓	✓	✓	✓	✓	✓	—	✓



For inches / millimeters conversion, see Application Data section.

① CQD breakers are rated 14,000 KAIC at 480/277V.

② 3-pole breakers only (factory installed only).

③ Type CQD6—CSA only.

Circuit Breakers

Lug-In/Lug-Out with INSTA-WIRE

Selection

All BQ/BQH/HBQ circuit breakers are supplied with load side lugs. If line side lugs are required, add suffix "L" to catalog number. Lugs will be supplied at no charge if ordered with the circuit breaker. All standard circuit breakers are calibrated for 40(insert degree symbol)C maximum ambient application.

1-Pole Plug-In (120V AC)^{①⑤}

Continuous Current Rating @ 40° C	Type BQ		Type BQH		Type HBQ	
	10,000A IR		22,000A IR		65,000A IR	
	Catalog Number	List Price \$	Catalog Number	List Price \$	Catalog Number	List Price \$
10	BQ1B010		—		—	
15	BQ1B015 ^④		BQ1B015H ^④		HB1B015 ^④	
20	BQ1B020 ^④		BQ1B020H ^④		HB1B020 ^④	
25	BQ1B025		BQ1B025H■		HB1B025■	
30	BQ1B030		BQ1B030H		HB1B030■	
35	BQ1B035■		BQ1B035H■		HB1B035■	
40	BQ1B040		BQ1B040H		HB1B040■	
45	BQ1B045■		BQ1B045H■		HB1B045■	
50	BQ1B050		BQ1B050H		HB1B050■	
60	BQ1B060■		BQ1B060H■		HB1B060■	
70	BQ1B070■		BQ1B070H■		HB1B070■	



1-Pole

2-Pole Plug-In (Common-Trip 120/240V AC)^{①⑥}

10	BQ2B010		—		—	
15	BQ2B015		BQ2B015H		HB2B015■	
20	BQ2B020		BQ2B020H		HB2B020■	
25	BQ2B025		BQ2B025H■		HB2B025■	
30	BQ2B030		BQ2B030H		HB2B030■	
35	BQ2B035		BQ2B035H■		HB2B035■	
40	BQ2B040		BQ2B040H		HB2B040■	
45	BQ2B045		BQ2B045H■		HB2B045■	
50	BQ2B050		BQ2B050H		HB2B050■	
60	BQ2B060		BQ2B060H		HB2B060■	
70	BQ2B070		BQ2B070H■		HB2B070■	
80	BQ2B080		BQ2B080H■		HB2B080■	
90	BQ2B090		BQ2B090H■		HB2B090■	
100	BQ2B100		BQ2B100H		HB2B100■	
110	BQ2B110		BQ2B110H		HB2B110■	
125	BQ2B125		BQ2B125H		HB2B125■	



2-Pole

2-Pole Plug-In (Common-Trip 240V AC)^{①③④}

15	BQ2H015		—	—	—	—
20	BQ2H020		—	—	—	—
30	BQ2H030		—	—	—	—
40	BQ2H040■		—	—	—	—
50	BQ2H050		—	—	—	—
60	BQ2H060		—	—	—	—
70	BQ2H070■		—	—	—	—
80	BQ2H080■		—	—	—	—
90	BQ2H090■		—	—	—	—
100	BQ2H100■		—	—	—	—



3-Pole

3-Pole Plug-In (Common-Trip 240V AC)^{①⑦}

10	BQ3B010		—		—	
15	BQ3B015		BQ3B015H		HB3B015■	
20	BQ3B020		BQ3B020H		HB3B020■	
25	BQ3B025■		BQ3B025H■		HB3B025■	
30	BQ3B030		BQ3B030H		HB3B030■	
35	BQ3B035■		BQ3B035H		HB3B035■	
40	BQ3B040		BQ3B040H		HB3B040■	
45	BQ3B045■		BQ3B045H		HB3B045■	
50	BQ3B050		BQ3B050H		HB3B050■	
60	BQ3B060		BQ3B060H		HB3B060■	
70	BQ3B070		BQ3B070H		HB3B070■	
80	BQ3B080		BQ3B080H■		HB3B080■	
90	BQ3B090		BQ3B090H■		HB3B090■	
100	BQ3B100		BQ3B100H		HB3B100■	

MP-T / MP-HT / MP-MT Accessories

Description	Catalog Number	Field/Factory Installed	List Price \$
120V Shunt Trip	add suffix...00S01■	Factory	
24V Shunt Trip	add suffix...00S07■	Factory	
120V Auxiliary Switch	add suffix...01■ ^②	Factory	
1-Pole Padlocking Device	ECPLD1	Field	
2-Pole Padlocking Device	ECPLD2	Field	
3-Pole Padlocking Device	ECQLD3	Field	
Handle Block	ECQL1	Field	

Factory Modifications

Description	Catalog Number	List Price \$
Ring Terminal	add suffix...C	
Line Side Lugs	add suffix...L	
Quick Connect Lug	add suffix...QX	
400Hz Calibration	add suffix...Y ^⑥	
415V 50Hz Calibration	add suffix...E ^{⑥⑧}	
Marine 50° C Ambient Calibration	add suffix...M ^⑥	
Fungus Proofing	add suffix...F	

① UL Listed for use with 60/75° wire through 125 amps, HACR rated, 120V AC Fluorescent Lighting.
② 1A and 1B contacts.
③ UL Listed for use on 3 phase grounded "B" systems —

10,000 for this application.
④ UL Listed for frequent switching applications (SWD).
⑤ Shipped 12 per sleeve.
⑥ Shipped 6 per sleeve.

⑦ Shipped 4 per sleeve.
⑧ UL Listed 5KA IR.
⑨ Not UL Listed.
⑩ 1 & 2 Poles only.

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

Molded Case Circuit Breakers

DIN Rail Mounted Circuit Breakers

Selection

1-Pole DIN Rail (120V AC)

Breaker Type	Ampere Rating	Catalog Number	Load Side Connector	List Price \$	"Interrupting Ratings (KA) (RMS Symmetrical Amperes)" Volts AC	
					120	120/240
"BQXD 1-Pole 120V DIN Rail"	10	BQ1B010QLD	TC1Q1		10	
	15	BQ1B015QLD	TC1Q1		10	
	20	BQ1B020QLD	TC1Q1		10	
	25	BQ1B025QLD	TC1Q1		10	
	30	BQ1B030QLD	TC1Q1		10	
	35	BQ1B035QLD	TC1Q1		10	
	40	BQ1B040QLD	TC1Q1		10	
	45	BQ1B045QLD	TA1Q1		10	
	50	BQ1B050QLD	TA1Q1		10	
	60	BQ1B060QLD	TA1Q1		10	
	10	BQ1B010QXD	Quick-Connect		10	
	15	BQ1B015QXD	Quick-Connect		10	
	20	BQ1B020QXD	Quick-Connect		10	
	25	BQ1B025QXD	Quick-Connect		10	
	30	BQ1B030QXD	Quick-Connect		10	
	35	BQ1B035QXD	Quick-Connect		10	
	40	BQ1B040QXD	Quick-Connect		10	
	45	BQ1B045QXD	Quick-Connect		10	
	50	BQ1B050QXD	Quick-Connect		10	
	60	BQ1B060QXD	Quick-Connect		10	

2-Pole DIN Rail (120/240V AC)

"BQXD 2-Pole 120/240V DIN Rail"	10	BQ2B010QLD	TC1Q1			10
	15	BQ2B015QLD	TC1Q1			10
	20	BQ2B020QLD	TC1Q1			10
	25	BQ2B025QLD	TC1Q1			10
	30	BQ2B030QLD	TC1Q1			10
	35	BQ2B035QLD	TC1Q1			10
	40	BQ2B040QLD	TC1Q1			10
	45	BQ2B045QLD	TA1Q1			10
	50	BQ2B050QLD	TA1Q1			10
	60	BQ2B060QLD	TA1Q1			10
	10	BQ2B010QXD	Quick-Connect			10
	15	BQ2B015QXD	Quick-Connect			10
	20	BQ2B020QXD	Quick-Connect			10
	25	BQ2B025QXD	Quick-Connect			10
	30	BQ2B030QXD	Quick-Connect			10
	35	BQ2B035QXD	Quick-Connect			10
	40	BQ2B040QXD	Quick-Connect			10
	45	BQ2B045QXD	Quick-Connect			10
	50	BQ2B050QXD	Quick-Connect			10
	60	BQ2B060QXD	Quick-Connect			10

Lugs-For Use with BQ, BQH, HBQ®

Circuit Breaker Amp. Rtg.	Cab. Per Lug	Lug Wire Range AWG	Catalog Number	List Price \$ (Qty. 6)
Line Side				
10-40	1	#16-#6 Cu #12-#6 Al	TC1Q1 ^{①②③}	
45-100	1	#8-#1 Cu #6-#1/0 Al	TA1Q1 ^④	
Load Side				
10	2	#16 Cu	Connectors are Supplied with Circuit Breaker	
15-20	1	#14-#10 Cu #12-#10 Al		
25-35	1	#14-#6 Cu #12-#10 Al		
40-50	1	#8-#6 Cu #8-#4 Al		
55-70	1	#8-#4 Cu #8-#2 Al		
80-100	1	#4-#1/0 Cu #2-#1/0 Al		
110-125	1	#2-#1/0 Cu #1/0-#2/0 Al		

For inches / millimeters conversion, see Application Data section.

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

① Terminals are UL Listed for 60°/75°C conductors. Also CSA Listed.

③ Connector has steel construction.

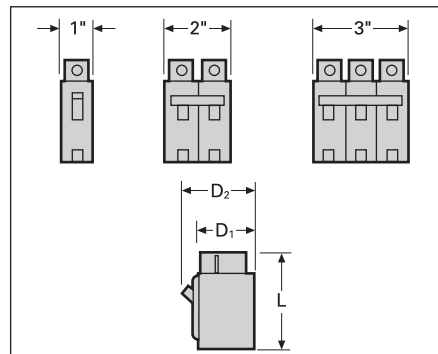
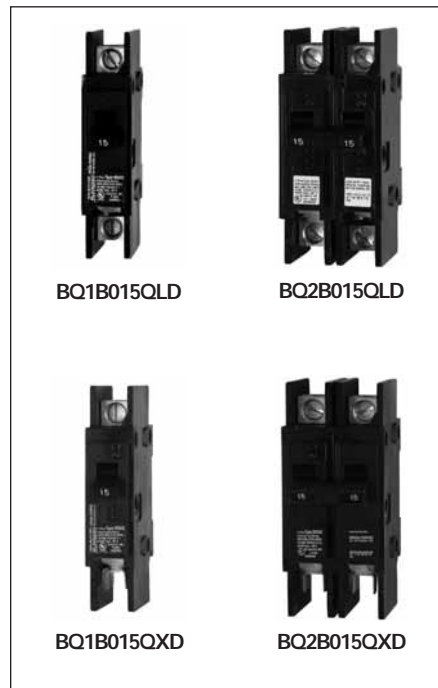
② Surface mounted indoor. If flush mounting is required, replace suffix "S" in catalog number with suffix "F".

④ Discount Schedule B.

⑤ Does not include circuit breaker. Order circuit breaker separately.

⑥ Neutral included in enclosure.

⑦ Enclosure will not accept circuit breakers with shunt trips or auxiliary switches installed.



Breaker Type	Amperes	Dimensions (inches)		
		L	D1	D2
BQ, BQH	15-50	3 3/4	2 3/4	3
BQ, BQH	55-125	4	2 3/4	3
HBQ	15-125	4	2 3/4	3
BQXD	15-60	4 1/2	2 3/4	3

Finger Safe Terminal Shield

Protects against accidental contact with lugs-1 per lug. Fits line and load end.

Catalog Number	Qty	List Price \$
BQFS2	2	
BQFS1K	1000	

Enclosures		
Type	Catalog Number ^④	List Price \$ ^{④⑤}
1	EB3100S ^{⑥⑦}	
3R	WB3100	

⑥ Package of 6 connectors.

⑦ Type BQXD uses TA1Q1 or TC1Q1 lugs on line side of circuit breaker.

Accessories pages 17/72 to 17/77