



SIEMENS

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Retail Reference Guide

Answers for infrastructure.

Arc Fault Circuit Interrupters (AFCI)

www.usa.siemens.com/afci



Definition of product:

Arc fault circuit interrupter (AFCI) uses advanced electronic technology to provide maximum available protection against the effects of arcing faults.

Overview of the product:

- United States Fire Administration (USFA) reported:
 - Annually, an estimated 28,300 residential electrical fires cause 360 deaths, 1,000 injuries, and \$995 million in direct loss.
 - 15% of residential electrical fires start in bedrooms.
 - 47% of residential electrical fires are caused by the wiring.
- Combination Type AFCI's are required by the 2005, 2008 and 2011 National Electric Code[®]

Product rating: UL listed

General features and benefits:

- 1 and 2 pole Combination Type AFCIs
- Exclusive LED trip indicators indicate cause of last trip (ie. Arcing fault, arcing fault to ground, or overcurrent condition.)

Identifying applications:

Used in Siemens and Murray load centers

1-Pole Combination Type AFCI		
LED indicator		Last known trip condition
Yellow 1	Yellow 2	
OFF	OFF	Overcurrent
ON	OFF	Arc fault
ON	ON	Arc fault to ground

Accessories

- Siemens also offers a diagnostic tool called an Intelli-Arc™ that saves the electrician time and money in trouble shooting AFCI circuits: **IDT5000**
- Padlocking device: **ECPLD1**

Arc Fault Breaker Catalog Numbering System

Q	1	20	AFC	P
Brand name	No. of Poles	Amperes	Special Applications	Packaging
Q = Siemens	1 = 1	15 = 15A	(blank) = Standard breaker	(blank) = cardboard packaging
MP = Murray	2 = 2	20 = 20A	AFC = Combination Type Arc Fault Circuit Interrupter AF = Branch Feeder Arc Fault Circuit Interrupter	P = Clamshell packaging for retail

Ground Fault Circuit Interrupters (GFCI)

www.usa.siemens.com/gfci



Definition of product:

Ground fault circuit interrupter (GFCI) is designed to protect against severe electrical shock or electrocution from ground faults. Ground faults occur when the electrical current in an appliance strays outside its normal path, and the human body becomes part of the path through which the electrical current may flow.

Overview of the product:

- GFCIs are installed to protect areas of the home, such as the kitchen, bathroom or laundry, where electrical appliances or products may come into contact with water.
- 47% of residential electrical fires are caused by the wiring.
- Current imbalances of 4-6 milliamps or more between load conductors will cause the ground fault sensor to trip the circuit breaker.

Product rating: UL listed, CSA Certified

Identifying applications:

Used in Siemens and Murray load centers

General features and benefits:

- Available in 1-pole (15-30A) and 2-pole (15-60A)
- Common uses: spas, hot tubs, kitchens, bathrooms, garages, etc.
- Resists false tripping (shielded to prevent RF interference)
- Standard 1 inch per pole format with plug-in design
- Provides Class A GFCI protection

Ground Fault Breaker Catalog Numbering System

Q	F	1	20	P
Brand name	Ground Fault Indication	No. of Poles	Amperes	Packaging
Q = Siemens MP = Murray	F = Ground Fault; 5mA personnel protection E = Ground fault; 30mA equipment protection	1 = 1 2 = 2	15 = 15A 20 = 20A 30 = 30A 40 = 40A 50 = 50A 60 = 60A	(blank) = cardboard packaging P = Clamshell packaging for retail

Load centers

PL and ES Series

www.usa.siemens.com/loadcenters



Definition of product:

A load center is the point where all of the electricity enters and is distributed throughout the house.

Overview of the product:

- Copper Bus and Aluminum Bus variations
- 100-225A, 1 and 3-phase, NEMA 1 and 3R
- Main Lug and Main Breaker options

Product rating: UL listed

General features and benefits:

PL Series

- Copper Bus
- Convertible from Main Lug to Main Breaker
- 12-70 circuits/spaces
- 2 Ground Bars factory installed
- INSTA-WIRE™ neutrals and grounds

Identifying applications:

Residential and multi-family electrical distribution

General features and benefits:

ES Series

- Aluminum Bus
- 12-70 circuits/spaces
- Ground Bars field installed
- INSTA-WIRE™ neutrals and grounds
- Value Pack offering with 3 – Q120 and 1 – Q230 included



Load centers PL and ES Series

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Catalog Numbering System

Type Enclosure or Component

- P = PL Series Indoor Type 1 12-70 circuits
- S = ES Series Indoor Type 1 12-70 circuits
- PW = PL Series Outdoor Type 3R 12-70 circuits
- SW = ES Series Outdoor Type 3R 12-70 circuits

Spaces

Maximum number of 1" breakers

Circuits

Maximum number of circuits

Type of Main

- ML or L = Main Lug
- MB or B = Main Breaker

System

- 1 = 1-Phase, 3-Wire
- 3 = 3-Phase, 3-Wire or
3-Phase, 4-Wire

Main Ampere Rating

Ex:100 = 100 Amps

Trim/Others

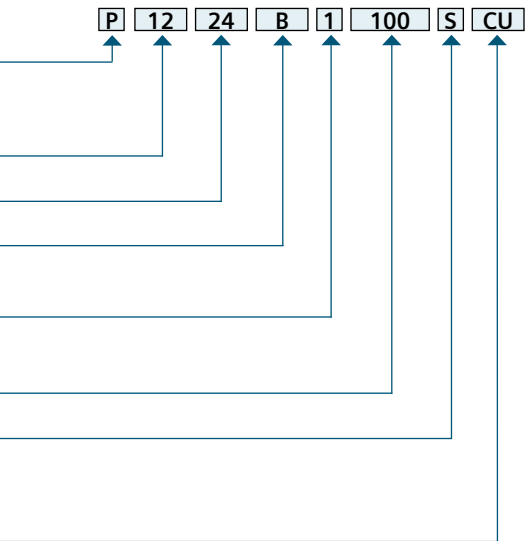
- Blank = Combination
- S = Surface
- F = Flush
- T = Feed-Thru Lugs
- G or GB = Ground Bar Factory Installed

Type of Bus Bar

- Blank = Aluminum
- C or CU = Copper
- P = Aluminum Bus, Value Pack

Identifying applications:

Residential and multi-family electrical distribution



Load centers PL and ES Series

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Siemens load centers meet or exceed the following standards.

- UL50 — Electric Cabinets and Boxes
- UL67 — Electric Panelboards
- UL486 — Wire Connectors
- UL489 — Molded-Case Circuit Breakers
- UL869 — Service Equipment
- UL943 — Ground Fault interrupters (Class A — Personnel Protection)
- Federal Specification W-P-115b — Panel Power Distribution
- Federal Specification W-C-375B — Circuit Breakers
- NEC
- NEMA 250

Underwriters' Laboratories, Inc. reference file numbers:

- Series Connected Circuit Breaker Information is recognized by UL under file #E10848(N)
- Load Centers Listed by UL under file #E10703
- Load Centers UL recognized components found under file #E10703, Volume 6 and 7. (Also referenced under the recognized components directory — section QEUY2)
- EQ Circuit Breakers are Listed by UL under file #E82615

Identifying applications:

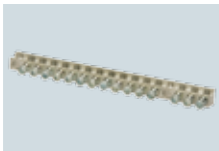
Residential and multi-family electrical distribution

Load center Accessories:

Ground Bars:

2 included in all PL Series load center. Sold separately for ES Series.

EC2GB15, EC3GB27



Filler Plates:

Covers twist outs from a deadfront without a breaker to fill the space.

ECQF3P



Hubs:

For use on outdoor load centers for water tight connection to conduit fittings.

**ECHS000, ECHS075,
ECHS100, ECHS125,
ECHS150, ECHS200**



QN and MPD Breaker

www.usa.siemens.com/residential



Definition of product:

The QN is used as both a branch breaker and a main breaker in applications which require a two pole, 120/240V AC breaker.

Overview of the product:

- 150, 175, and 200 A
- 10k, 22K, 65K AIC

Product rating: UL listed

General features and benefits:

- Available with a reverse handle mechanism

Accessories

- Padlocking device
ECQLN3

Identifying applications:

Used as a main breaker in small circuit load centers, circuit breaker enclosures, meter mains and meter combos. Used as a branch breaker to be a main disconnect for main lug only load centers.

QN Breaker Catalog Numbering System

	QN	2	150	R	H
Interrupting Rating	Brand name	No. of Poles	Amperes	Handle operation	Interrupting Rating
(blank) = 10kAIC H = 65kAIC	QN = Siemens MPD = Murray	2 = 2	150 = 150A 175 = 175A 200 = 200A	(blank) = vertical applications R = horizontal applications	(blank) = 10kAIC H = 22kAIC

MBK Breaker

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Definition of product:

Main breaker used in various Siemens load centers

Overview of the product:

- 2 Pole
- 100, 125, 150, 200, 225 A
- 22K AIC

Product rating: UL listed

General features and benefits:

- 100 and 125A breakers have a smaller footprint than the 150A+ MBKs so they cannot be installed in 150A+ load centers for increased installation safety

Accessories

- Padlocking device
ECQLN3

Identifying applications:

Used in Ultimate load centers, 1 phase PL and ES load centers, riser panel load centers, and generator ready load centers

Catalog numbers

Siemens:

MBK100A, MBK125A, MBK150A, MBK200A, MBK225A

Murray:

MBK100M, MBK125M, MBK150M, MBK200M, MBK225M

QP Breakers

www.usa.siemens.com/residential



Definition of product:

1" pole center branch breaker

Overview of the product:

- 1, 2, and 3 Poles (common trip)
- Available as 120V, 120/240V, 240V AC
- 10-125A
- 10K, 22K, 65K AIC

Product rating: UL listed

General features and benefits:

- Time saving INSTA-WIRE™ feature

Accessories

- Padlocking device: **ECPLD1, ECPLD2, ECPLD2R, ECPLD3, ECPLD3R, ECQLD3, ECQLD4, ECQTH4**
- Handle tie: **ECQTH3**
- Mechanical interlock: **ECQML12**
- Handle blocking device: **ECQL1**

Identifying applications:

Used as a 1" pole center branch breaker for applications that require plug-in (QP) or bolt-on (BL) connections

Standard Breaker Catalog Numbering System

Q	1	20	H	
Brand name	No. of Poles	Amperes	Interrupting Rating	
Q = Siemens plug-in	1 = 1	10 = 10A 15 = 15A 20 = 20A	(blank) = 10kAIC	
MP = Murray plug-in	2 = 2	25 = 25A	H = 22kAIC	
	3 = 3	30 = 30A	35 = 35A	HH = 65kAIC
		40 = 40A		
		45 = 45A		
		50 = 50A		
		60 = 60A		
		70 = 70A		
		80 = 80A		
		90 = 90A		
		100 = 100A		
110 = 110A				
125 = 125A				

QT Breakers

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Definition of product:

1/2" pole centers branch breakers offered as a duplex, triplex, and quadplex.

Overview of the product:

- 120/240V AC
- Available as 120V, 120/240V, 240V AC
- 10K AIC
- 15-50A

Product rating: UL listed

General features and benefits:

- Space saving design allows two poles to fit in a 1" panel space
- Available without a rejection tab so it can be used with an unnotched stab (for panels built before the 1970s)

Accessories

- Padlocking device: **ECPLD1, ECPLD2, ECPLD2R, ECQLD4**
- Handle tie: **ECQTH2**
- Handle blocking device: **ECBX23IM**

Identifying applications:

Used as branch breakers in Siemens load centers

QT Breaker Catalog Numbering System

Q		15	15	NC
Brand name	No. of Poles	Amperes	Amperes	Special Application
Q = Siemens MP = Murray	(blank) = Duplex 2 = Triplex or Quadplex	15 = 15A 20 = 20A 30 = 30A	15 = 15A 20 = 20A 25 = 25A 30 = 30A 35 = 35A 40 = 40A 45 = 45A 50 = 50A	(blank) = standard NC = Non-CTL for replacement use only in panels manufactured before 1968. CT = Triplex CT2 = Quadplex

One Pole Applications

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Appliance	Watts	Voltage	Amps	Breaker
Dishwasher	1200	120	20	Q120
Lighting Fixture	1200	120	15	Q115
Refrigerator/ Freezer	300/350	120	20	Q120
TV/DVD	300	120	20	Q120
Washing Machine	1200	120	20	Q120
Waste Disposal	300	120	20	Q120

*These are typical installations. Check with local codes, existing wire size installed, and ratings of the appliances before proceeding.

Two Pole Applications

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Appliance	Watts	Voltage	Amps	Breaker
Built-in Oven	4500	120/240	30	Q230
Central Air	6000	120/240	50	Q250
Clothes Dryer	5000	120/240	30	Q230
Range	12000	120/240	50	Q250
Range Top	6000 3300	120/240	30 20	Q230 Q220
Water Heater	4000	120/240	30	Q230

Surge Protection Device

www.usa.siemens.com/surge



Definition of product:

2" Wide plug-on containing two one pole circuit breakers and a surge arrester

Overview of the product:

- Utilizes Siemens-built 150V AC, 40mm, metal oxide varistor with maximum impulse rating of 40 kA
- Rated 120/240V AC

Product rating: UL listed

General features and benefits:

- Easy to install and perfect for retrofit
- LEDs provide protection status
- \$20,000 warranty for the residential electrical system (Load center, internal wiring, receptacles, dimmers, hard wired appliances)
- Surge protection at no loss of load center spaces

Identifying applications:

Provides surge protection for all branch circuits in the load center of the residence at no loss of load center spaces

Surge Protection Breaker Catalog Numbering System

QSA	20	20	SPD
Brand name	Amperes	Amperes	Special Application
QSA = Siemens	15 = 15A	15 = 15A	SPD = Surge Protection Device
MSA = Murray	20 = 20A	20 = 20A	

Breaker Accessories

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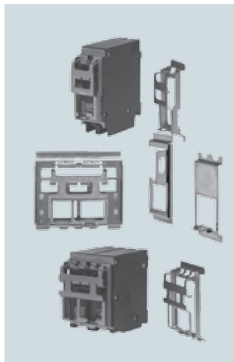
Padlocking Device:

For locking breaker in "OFF" position. Note "ON" position does not affect breaker functionality.

**ECPLD1, ECPLD2,
ECPLD2R, ECPLD3,
ECPLD3R, ECQLD3,
ECQLD4, ECQLN3,
ECQTH4**

Available for:

QP, BL, QT, QN, QNR,
150A+ MBK



Handle Tie:

Provides simultaneous switching of 2 adjacent handles

ECQTH2, ECQTH3

Available for:

2 Pole QP and QTs



Breaker Accessories

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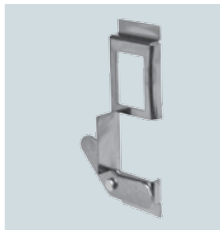
Mechanical Interlock:

Mechanically interlocks two breakers so it is impossible for both to close at the same time

ECQML12

Available for:

QP and BL



Handle Blocking Device:

For holding device in "ON" and "OFF" position. Not a lockout/tagout device

ECQL1, ECBX231M

Available for:

QP, BL, QT





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