Plug-On Circuit Breakers

Contents

CH Circuit Breakers

Product Description

Quick-make, quick-break switch mechanism combined with inverse time element tripping operation and trip-free handle design. Type CH circuit breakers trip to the OFF position, eliminating nuisance callbacks. The thermal-magnetic trip curve avoids nuisance tripping on mild overloads while reacting almost instantaneously to severe short-circuit conditions. Multipole breakers have internal common trip connection to operate all poles simultaneously. Handles are marked with ON-OFF indication and ampere rating of the breaker.

Special Application Plug-On Circuit Breakers—Type CH 10 kAIC 120 Vac and 120/240 Vac

Branch Feeder Type Arc Fault Circuit Breakers

A branch feeder type arc fault circuit interrupter is a device intended to mitigate high current arcing faults in the complete circuit, including connected cords. High current arcing faults can occur from line to neutral or line to ground. These arcing faults are in parallel with the load and produce the most energy of all arcing faults. The current level of low current arcing faults is limited by the load.

The branch feeder type AFCI is required in the 1999 and 2002 National Electrical Code.

The Combination Type AFCI is required in the 2005 and 2008 National Electrical Code.

Combination Type Arc Fault Circuit Breakers

A combination type arc fault circuit interrupter is a device that includes all of the protection offered by the branch feeder AFCI (mitigation of high current arcing faults in the complete circuit, including connected cords). In addition it provides direct detection of persistent low current arcing faults down to 5 amps with associated mitigation of fire hazards in the cords connected to the outlets. High current arcing faults can occur from line to neutral or line to ground. These arcing faults are in parallel with the load and produce the most energy of all arcing faults. The current level of low current arcing faults is limited by the load.

Ground Fault Circuit Breakers—Ground Fault Application Notes

Single-pole Type CHGFIs are designed for use in two-wire, 120 Vac circuits. The diagram on **Page V1-T1-39** shows a typical wiring configuration.

Two-pole Type CHGFIs are designed for use in three-wire, 120/240 Vac circuits, 120 Vac multiwire circuits employing common, neutral and two-wire, 240 Vac circuits obtained from a 120/240 Vac source.

Diagrams on **Page V1-T1-39** illustrate typical wiring configurations for 120/240 Vac multiwire circuits.

The diagram on **Page V1-T1-39** depicts a 240 Vac, two-wire circuit. Note the "panel neutral" conductor connects to the neutral bar, even though the neutral is not included in the load circuit. This connection is necessary to supply a 120 Vac power source to the ground fault sensing circuit.

The figures are shown with a 120/240 Vac, single-phase, three-wire power source, but are also applicable to a 120/208 Vac, three-phase, four-wire power supply. For all figures, the electrical operation of the Type CHGFI is not affected by the equipment ground.

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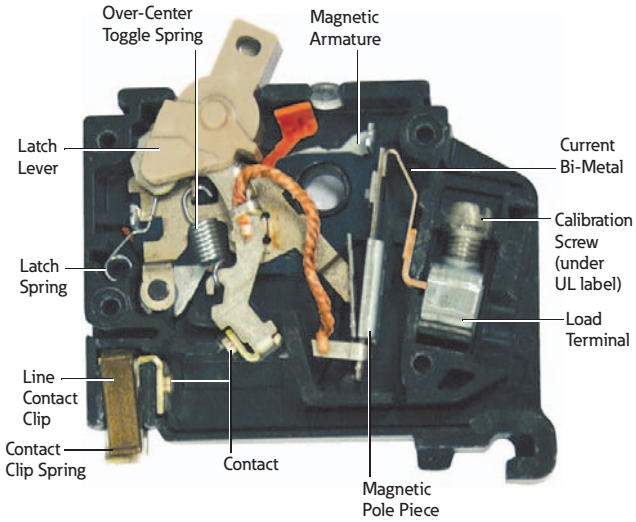
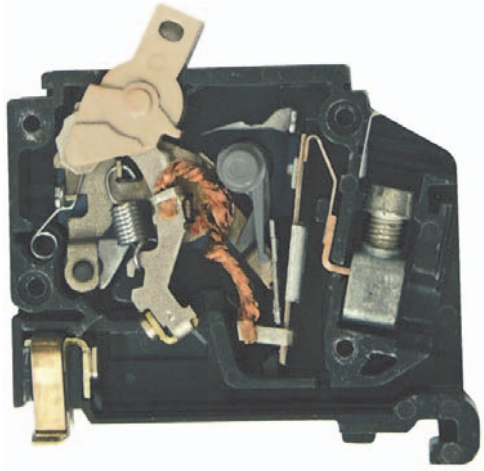
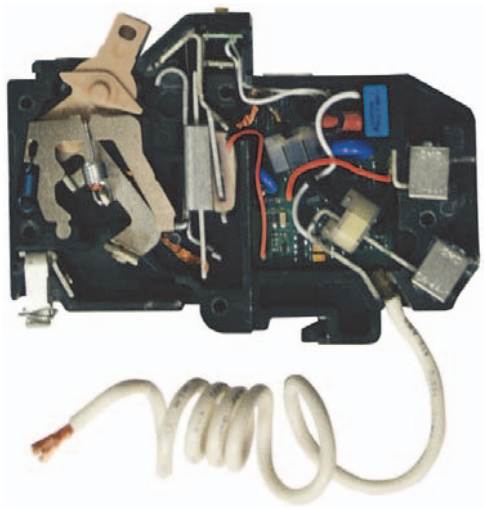
Features







Plug-On Type CH Breaker

Plug-On Ground Fault Circuit Breakers, Type CH 10 kAIC, 120 Vac and 120/240 Vac

Type CH Single-Pole

Type CH Ground Fault Circuit Breakers (5 Milliampere) 3/4-Inch (19.1 mm) per Pole 120 Vac or 120/240 Vac,10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60°C or 75°C	Catalog Number—1 per Shelf Carton Single-Pole 120 Vac Requires One 3/4-Inch (19.1 mm) Space	Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces
15	#14–6 ①	**CH115GF**	**CH215GF**
20	#14–6 ①	**CH120GF**	**CH220GF**
25	#14–6 ①	**CH125GF**	**CH225GF**
30	#14–6 ①	**CH130GF**	**CH230GF**
35	#14–6 ①	—	**CH235GF**
40	#14–6 ①	—	**CH240GF**
45	#14–6 ①	—	**CH245GF**
50	#14–6 ①	—	**CH250GF**
60	#14–6 ①	—	**CH260GF**

Type CH Two-Pole

Type CH Ground Fault Equipment Protectors (30 Milliampere) 3/4-Inch (19.1 mm) per Pole 120 Vac or 120/240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60°C or 75°C	Catalog Number—1 per Shelf Carton Single-Pole 120 Vac Requires One 3/4-Inch (19.1 mm) Space	Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces
15	#14–6 ①	**CH115EPD**	**CH215EPD**
20	#14–6 ①	**CH120EPD**	**CH220EPD**
25	#14–6 ①	**CH125EPD**	—
30	#14–6 ①	**CH130EPD**	**CH230EPD**
40	#14–6 ①	—	**CH240EPD**
50	#14–6 ①	—	**CH250EPD**
60	#14–6 ①	—	**CH260EPD**

Type CH Switching Neutral Breakers—10 kAIC, 120 Vac and 120/240 Vac

Used to open the neutral along power line(s) for applications of gas pumps.

CH220SW

3/4-Inch (19.1 mm) per Pole 120/240 or 240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60°C or 75°C	Catalog Number—1 per Shelf Carton Two-Pole 120 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces (Hot leg) Neutral Out Neutral In	Three-Pole 120/240 Vac Common Trip Requires Three 3/4-Inch (19.1 mm) Spaces Phase Phase Neutral Out Neutral In
15	#14–8	**CH215SW** ②	**CH315SW** ③
20	#14–8	**CH220SW** ②	**CH320SW** ③
30	#14–8	**CH230SW** ②	**CH330SW** ③
40	#14–8	**CH240SW** ②	**CH340SW** ③
50	#14–8	**CH250SW** ②	**CH350SW** ③

Notes

① 60A breaker listed for 75°C Cu wire only.

② For circuit breakers with shunt trip, add ST suffix. Shunt trip requires one additional pole space.

③ Switching duty rated.

Plug-On Circuit Breakers

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CH Circuit Breakers

Product Description

Quick-make, quick-break switch mechanism combined with inverse time element tripping operation and trip-free handle design. Type CH circuit breakers trip to the OFF position, eliminating nuisance callbacks. The thermal-magnetic trip curve avoids nuisance tripping on mild overloads while reacting almost instantaneously to severe short-circuit conditions. Multipole breakers have internal common trip connection to operate all poles simultaneously. Handles are marked with ON-OFF indication and ampere rating of the breaker.

Special Application Plug-On Circuit Breakers—Type CH 10 kAIC 120 Vac and 120/240 Vac

Branch Feeder Type Arc Fault Circuit Breakers

A branch feeder type arc fault circuit interrupter is a device intended to mitigate high current arcing faults in the complete circuit, including connected cords. High current arcing faults can occur from line to neutral or line to ground. These arcing faults are in parallel with the load and produce the most energy of all arcing faults. The current level of low current arcing faults is limited by the load.

The branch feeder type AFCI is required in the 1999 and 2002 National Electrical Code.

The Combination Type AFCI is required in the 2005 and 2008 National Electrical Code.

Combination Type Arc Fault Circuit Breakers

A combination type arc fault circuit interrupter is a device that includes all of the protection offered by the branch feeder AFCI (mitigation of high current arcing faults in the complete circuit, including connected cords). In addition it provides direct detection of persistent low current arcing faults down to 5 amps with associated mitigation of fire hazards in the cords connected to the outlets. High current arcing faults can occur from line to neutral or line to ground. These arcing faults are in parallel with the load and produce the most energy of all arcing faults. The current level of low current arcing faults is limited by the load.

Ground Fault Circuit Breakers—Ground Fault Application Notes

Single-pole Type CHGFIs are designed for use in two-wire, 120 Vac circuits. The diagram on **Page V1-T1-39** shows a typical wiring configuration.

Two-pole Type CHGFIs are designed for use in three-wire, 120/240 Vac circuits, 120 Vac multiwire circuits employing common, neutral and two-wire, 240 Vac circuits obtained from a 120/240 Vac source.

Diagrams on **Page V1-T1-39** illustrate typical wiring configurations for 120/240 Vac multiwire circuits.

The diagram on **Page V1-T1-39** depicts a 240 Vac, two-wire circuit. Note the "panel neutral" conductor connects to the neutral bar, even though the neutral is not included in the load circuit. This connection is necessary to supply a 120 Vac power source to the ground fault sensing circuit.

The figures are shown with a 120/240 Vac, single-phase, three-wire power source, but are also applicable to a 120/208 Vac, three-phase, four-wire power supply. For all figures, the electrical operation of the Type CHGFI is not affected by the equipment ground.

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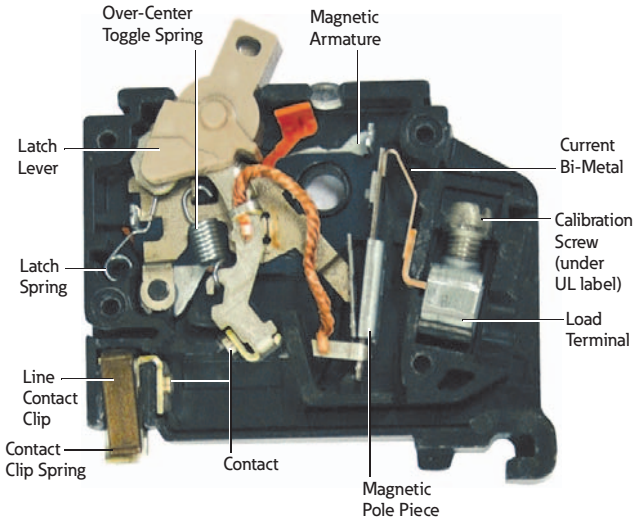
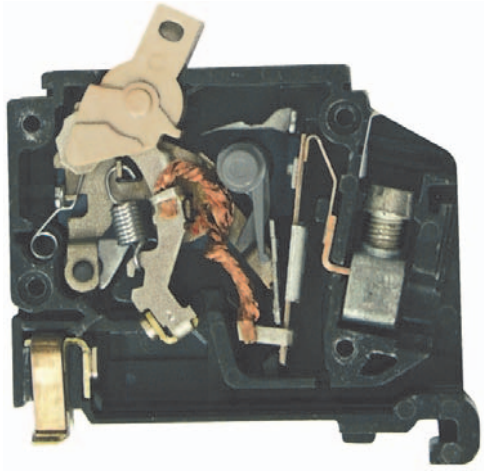
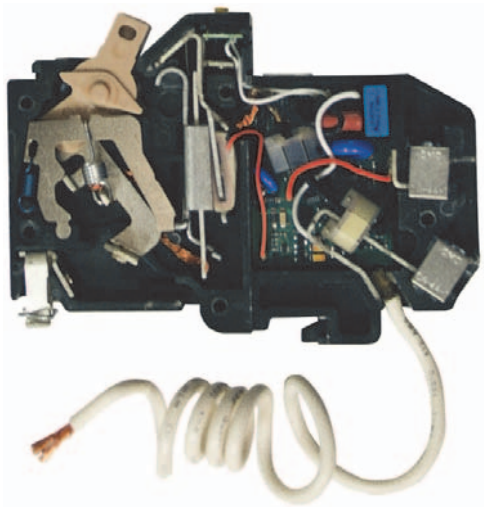
Features







Plug-On Type CH Breaker

Plug-On Ground Fault Circuit Breakers, Type CH 10 kAIC, 120 Vac and 120/240 Vac

Type CH Single-Pole

Type CH Ground Fault Circuit Breakers (5 Milliampere) 3/4-Inch (19.1 mm) per Pole 120 Vac or 120/240 Vac,10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60°C or 75°C	Catalog Number—1 per Shelf Carton Single-Pole 120 Vac Requires One 3/4-Inch (19.1 mm) Space	Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces
15	#14–6 ①	**CH115GF**	**CH215GF**
20	#14–6 ①	**CH120GF**	**CH220GF**
25	#14–6 ①	**CH125GF**	**CH225GF**
30	#14–6 ①	**CH130GF**	**CH230GF**
35	#14–6 ①	—	**CH235GF**
40	#14–6 ①	—	**CH240GF**
45	#14–6 ①	—	**CH245GF**
50	#14–6 ①	—	**CH250GF**
60	#14–6 ①	—	**CH260GF**

Type CH Two-Pole

Type CH Ground Fault Equipment Protectors (30 Milliampere) 3/4-Inch (19.1 mm) per Pole 120 Vac or 120/240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60°C or 75°C	Catalog Number—1 per Shelf Carton Single-Pole 120 Vac Requires One 3/4-Inch (19.1 mm) Space	Two-Pole 120/240 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces
15	#14–6 ①	**CH115EPD**	**CH215EPD**
20	#14–6 ①	**CH120EPD**	**CH220EPD**
25	#14–6 ①	**CH125EPD**	—
30	#14–6 ①	**CH130EPD**	**CH230EPD**
40	#14–6 ①	—	**CH240EPD**
50	#14–6 ①	—	**CH250EPD**
60	#14–6 ①	—	**CH260EPD**

Type CH Switching Neutral Breakers—10 kAIC, 120 Vac and 120/240 Vac

Used to open the neutral along power line(s) for applications of gas pumps.

CH220SW

3/4-Inch (19.1 mm) per Pole 120/240 or 240 Vac, 10 kAIC

Ampere Rating	Wire Size Range Cu/Al 60°C or 75°C	Catalog Number—1 per Shelf Carton Two-Pole 120 Vac Common Trip Requires Two 3/4-Inch (19.1 mm) Spaces (Hot leg) Neutral Out Neutral In	Three-Pole 120/240 Vac Common Trip Requires Three 3/4-Inch (19.1 mm) Spaces Phase Phase Neutral Out Neutral In
15	#14–8	**CH215SW** ②	**CH315SW** ③
20	#14–8	**CH220SW** ②	**CH320SW** ③
30	#14–8	**CH230SW** ②	**CH330SW** ③
40	#14–8	**CH240SW** ②	**CH340SW** ③
50	#14–8	**CH250SW** ②	**CH350SW** ③

Notes

① 60A breaker listed for 75°C Cu wire only.

② For circuit breakers with shunt trip, add ST suffix. Shunt trip requires one additional pole space.

③ Switching duty rated.