

Thermal-magnetic Molded Case Circuit Breakers

100, 250 Ampere Frame
Class 525, 650, 734, 820



FIL3610



GJL 3-pole
circuit breaker



QBL
2 and 3-pole
70-250 Amperes

F-frame—100 A, Thermal-magnetic (600 Vac)

Ampere Rating	AC Magnetic Trip Settings		Standard Interrupting		High Interrupting		Current Limiting		Terminal Wire Range
	Hold	Trip	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price	
1-pole, 277 Vac, 125 Vdc									
15	275	600	FHL16015	\$301.	AL50FA #14-#4 AWG Cu or #12-#4 AWG Al
20	275	600	...	...	FHL16020	301.	...	...
25	275	600	...	...	FHL16025	301.	...	...
30	275	600	...	...	FHL16030	301.	...	...
35	400	850	FHL16035	301.	AL100FA #14-#1/0 AWG Cu or #12-#1/0 AWG Al
40	400	850	...	...	FHL16040	301.	...	...
45	400	850	...	...	FHL16045	301.	...	...
50	400	850	...	...	FHL16050	301.	...	...
60	800	1450	...	...	FHL16060	301.	...	...
70	800	1450	...	...	FHL16070	339.	...	...
80	800	1450	...	...	FHL16080	339.	...	...
90	900	1700	...	...	FHL16090	339.	...	...
100	900	1700	...	...	FHL16100	339.	...	...

2-pole, 600 Vac, 250 Vdc

Ampere Rating	Hold	Trip	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price	Terminal Wire Range
2-pole, 600 Vac, 250 Vdc									
15	275	600	FAL26015	\$469.	FHL26015	\$775.	AL50FA #14-#4 AWG Cu or #12-#4 AWG Al
20	275	600	FAL26020	469.	FHL26020	775.	FIL26020	\$1755.	
25	275	600	FAL26025	469.	FHL26025	775.	FIL26025	1755.	
30	275	600	FAL26030	469.	FHL26030	775.	FIL26030	1755.	
35	400	850	FAL26035	469.	FHL26035	775.	FIL26035	1755.	AL100FA #14-#1/0 AWG Cu or #12-#1/0 AWG Al
40	400	850	FAL26040	469.	FHL26040	775.	FIL26040	1755.	
45	400	850	FAL26045	469.	FHL26045	775.	FIL26045	1755.	
50	400	850	FAL26050	469.	FHL26050	775.	FIL26050	1755.	
60	800	1450	FAL26060	469.	FHL26060	775.	FIL26060	1755.	
70	800	1450	FAL26070	593.	FHL26070	902.	FIL26070	1755.	
80	800	1450	FAL26080	593.	FHL26080	902.	FIL26080	1755.	
90	900	1700	FAL26090	593.	FHL26090	902.	FIL26090	1755.	
100	900	1700	FAL26100	593.	FHL26100	902.	FIL26100	1755.	

3-pole, 600 Vac, 250 Vdc

Ampere Rating	Hold	Trip	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price	Terminal Wire Range
3-pole, 600 Vac, 250 Vdc									
15	275	600	FAL36015	\$604.	FHL36015	\$ 905.	AL50FA #14-#4 AWG Cu or #12-#4 AWG Al
20	275	600	FAL36020	604.	FHL36020	905.	FIL36020	\$2197.	
25	275	600	FAL36025	604.	FHL36025	905.	FIL36025	2197.	
30	275	600	FAL36030	604.	FHL36030	905.	FIL36030	2197.	
35	400	850	FAL36035	604.	FHL36035	905.	FIL36035	2197.	AL100FA #14-#1/0 AWG Cu or #12-#1/0 AWG Al
40	400	850	FAL36040	604.	FHL36040	905.	FIL36040	2197.	
45	400	850	FAL36045	604.	FHL36045	905.	FIL36045	2197.	
50	400	850	FAL36050	604.	FHL36050	905.	FIL36050	2197.	
60	800	1450	FAL36060	604.	FHL36060	905.	FIL36060	2197.	
70	800	1450	FAL36070	743.	FHL36070	1027.	FIL36070	2197.	
80	800	1450	FAL36080	743.	FHL36080	1027.	FIL36080	2197.	
90	900	1700	FAL36090	743.	FHL36090	1027.	FIL36090	2197.	
100	900	1700	FAL36100	743.	FHL36100	1027.	FIL36100	2197.	

Powerpact® G-frame—100 A, Thermal-magnetic (600Y/347 Vac)

Ampere Rating	AC Magnetic Trip Settings		J Interrupting		Terminal Wire Range
	Hold	Trip	Catalog Number	Price	
3-pole, Vac, Vdc					
15	...	600	1200	GJL36015	\$1327.
20	...	600	1200	GJL36020	1327.
30	...	600	1200	GJL36030	1327.
40	...	600	1200	GJL36040	1327.
50	...	800	1400	GJL36050	1327.
60	...	800	1400	GJL36060	1327.
70	...	800	1400	GJL36070	1632.
80	...	800	1400	GJL36080	1632.
90	...	800	1400	GJL36090	1632.
100	...	800	1400	GJL36100	1632.

Powerpact Q-frame—250 A, Thermal-magnetic (240 Vac)

Ampere Rating	AC Magnetic Trip Settings		B Interrupting		D Interrupting		G Interrupting		J Interrupting	
	Hold	Trip	Catalog Number	Price†	Catalog Number	Price†	Catalog Number	Price†	Catalog Number	Price†
2-pole, 240 Vac										
70	1000	1800	QBL22070	\$316.	QDL22070	\$ 762.	QGL22070	\$1014.	QJL22070	\$1260.
80	1000	1800	QBL22080	316.	QDL22080	762.	QGL22080	1014.	QJL22080	1260.
90	1000	1800	QBL22090	316.	QDL22090	762.	QGL22090	1014.	QJL22090	1260.
100	1200	2400	QBL22100	316.	QDL22100	762.	QGL22100	1014.	QJL22100	1260.
110	1200	2400	QBL22110	316.	QDL22110	762.	QGL22110	1014.	QJL22110	1260.
125	1200	2400	QBL22125	316.	QDL22125	762.	QGL22125	1014.	QJL22125	1260.
150	1200	2400	QBL22150	316.	QDL22150	762.	QGL22150	1014.	QJL22150	1260.
175	1200	2400	QBL22175	316.	QDL22175	762.	QGL22175	1014.	QJL22175	1260.
200	1200	2400	QBL22200	316.	QDL22200	762.	QGL22200	1014.	QJL22200	1260.
225	1200	2400	QBL22225	316.	QDL22225	762.	QGL22225	1014.	QJL22225	1260.
250	1200	2400	QBL22250	462.	QDL22250	1029.	QGL22250	1313.	QJL22250	1565.
3-pole, 240 Vac										
70	1000	1800	QBL32070	832.	QDL32070	1189.	QGL32070	1628.	QJL32070	1864.
80	1000	1800	QBL32080	832.	QDL32080	1189.	QGL32080	1628.	QJL32080	1864.
90	1000	1800	QBL32090	832.	QDL32090	1189.	QGL32090	1628.	QJL32090	1864.
100	1200	2400	QBL32100	832.	QDL32100	1189.	QGL32100	1628.	QJL32100	1864.
110	1200	2400	QBL32110	832.	QDL32110	1189.	QGL32110	1628.	QJL32110	1864.
125	1200	2400	QBL32125	832.	QDL32125	1189.	QGL32125	1628.	QJL32125	1864.
150	1200	2400	QBL32150	832.	QDL32150	1189.	QGL32150	1628.	QJL32150	1864.
175	1200	2400	QBL32175	832.	QDL32175	1189.	QGL32175	1628.	QJL32175	1864.
200	1200	2400	QBL32200	832.	QDL32200	1189.	QGL32200	1628.	QJL32200	1864.
225	1200	2400	QBL32225	832.	QDL32225	1189.	QGL32225	1628.	QJL32225	1864.
250	1200	2400	QBL32250	1208.	QDL32250	1628.	QGL32250	2100.	QJL32250	2310.

Interrupting Ratings (kA)

Voltage	FAL			FHL			FIL		
	Rating	Hold	Trip	Rating	Hold	Trip	Rating	Hold	Trip
240 V	25	25	1P:35-100 A, 65 (2, 3P)	200	200	200	200	200	200
480 V	18	18	25 (2, 3P)	200	200	200	200	200	200
600 V	14	14	18 (2, 3P)	100	100	100	100	100	100

Voltage	GJL		QB		QD		QG		QJ	
	Rating	Hold	Rating	Hold	Rating	Hold	Rating	Hold	Rating	Hold
240 V	100	10	25	25	65	65	100★	100★	100★	100★
480 V	65	...	...	...	...	...	...	...	...	...
600 V	18♦	...	...	...	...	...	...	...	...	...

♦ GJL is rated 18 kA at 600Y/347 Vac.
★ 3-pole QJ circuit breakers are rated at 208Y/120 Vac only.

Accessories pages 6-36-6-38
Optional Lugs pages 6-43, 6-44
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Enclosures pages 6-51-6-54

▲ Replacement lugs are not available for Powerpact Q-frame circuit breakers. Lugs for the Powerpact Q-frame circuit breakers accept (1) #4 AWG-300 kcmil.
■ 250 A lugs are suitable for copper conductors only.

Section 6

Miniature and Molded Case Circuit Breakers



FA



KA



LE



P-frame



R-frame



NSJ

Selection Information 6-2

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Dimensions of Miniature and Molded Case Circuit Breakers 6-49

Enclosures 6-51

Merlin Gerin Compact® 15–2500 A Molded Case Circuit Breakers

- For worldwide application
 - Complies with UL489, IEC947-2 and most standards and agreements worldwide
 - CE marked
 - Marine approvals
 - 3 and 4-pole
 - Reverse feeding
 - Field installable accessories: shunt trip, undervoltage trip, auxiliary switches, alarm switches and motor operators
 - Mounting: fixed, plug-in and drawout
 - Connection: busbar, cable and rear connections
- Pricing Guide: 0600PL9701R9/03

	150 A Frame	250 A Frame		250 A Frame				250 A Frame				
												
Circuit Breaker Type	CJ	CG	CJ	QB	QD	QG	QJ	KA	KH	KC	KI	
Number of Poles	3, 4	3, 4	3, 4	2, 3	2, 3	2, 3	2, 3	2, 3	2, 3	2, 3	2, 3	2, 3
Current Range	15–150	175–250	175–250	70–250Δ	70–250Δ	70–250Δ	70–250Δ	70–250	70–250	110–250	110–250	

Interrupting Ratings

		100	65	100	10	25	65	100	42	65	100	200
UL/CSA/NOM Rating (kA RMS) (50/60 Hz AC)	240 Vac	100	65	100	10	25	65	100	42	65	100	200
	480Y/277 Vac	65	35	65	...	...	...	...	25	35	65	200
	480 Vac	65	35	65	...	...	...	...	25	35	65	200
	600Y/347 Vac	25	18	25	...	...	...	...	22	25	...	100
DC Ratings	600 Vac	...	...	...	...	...	...	...	22	25	...	100
	250 Vdc	...	...	...	...	...	...	...	10	50	...	...
	500 Vdc ■	...	...	...	...	...	...	...	...	20	...	...
IEC 415/240 Vac (Icu/Ics) ▼	70	36	70	10/5	10/5	10/5	10/5	10/2.5	10/2.5	65/65	130/65	
IEC 50/60 Hz	For additional IEC ratings, see Supplemental Digest.											

Special Ratings

Fed. Specs W-C-375B/GEN	...	...	...	✓	✓	✓	✓	✓	✓	✓	✓	✓
HACR (2, 3-pole)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	...

Connections/Terminations

Unit Mount	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
I-Line®	...	...	...	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rear Connection	✓	✓	✓	...	...	...	...	✓	✓	...	...	...
Drawout	✓	✓	✓	...	...	...	...	...	...	...	...	...
Optional Lugs	✓	✓	✓	...	...	...	...	✓	✓	✓	✓	✓

Accessories and Modifications

Shunt Trip	✓	✓	✓	...	...	...	...	✓▲	✓▲	✓▲	✓▲	✓▲
Undervoltage Trip	✓	✓	✓	...	...	...	...	✓▲	✓▲	✓▲	✓▲	✓▲
Auxiliary Switches	✓	✓	✓	...	...	...	...	✓▲	✓▲	✓▲	✓▲	✓▲
Alarm Switch	✓	✓	✓	...	...	...	...	✓▲	✓▲	✓▲	✓▲	✓▲
Motor Operator	✓	✓	✓	...	...	...	...	✓	✓	✓	✓	✓
Handle Operators	✓	✓	✓	...	...	...	...	✓	✓	✓	...	...
Mechanical Interlocks (3-pole)	✓	✓	✓	✓	✓	✓	✓	✓◆	✓◆	...	...	...
Handle Padlock Attachment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cylinder Lock (3-pole)	...	...	...	...	...	...	...	✓▲	✓▲	...	...	...
Optional GF Protection	...	...	...	...	...	...	...	✓★	✓★	✓★	✓★	✓★

Trip System Type

Thermal-magnetic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Instantaneous-only (MCP)	✓	✓	✓	...	...	...	...	✓	✓	...	...	...
Molded Case Switch (Automatic)	✓	✓	✓	✓	...	...	...	...	✓	...	...	...
Electronic	...	...	...	...	...	...	...	...	...	...	...	...

Enclosures (Pages 6-51–6-54)

General Purpose (NEMA 1)	...	...	...	✓	✓	✓	✓	✓	✓	...	...	...
Raintight (NEMA 3R)	...	...	...	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dusttight (NEMA 12)	...	...	...	...	...	...	...	✓	✓	✓	✓	✓
Watertight (NEMA 4, 4X, 5)	...	...	...	...	...	...	...	✓	✓	✓	✓	✓
Explosion Proof (NEMA 7, 9)	...	...	...	...	...	...	...	✓	✓	...	...	...
Dimensions (3P Unit Mount)	Height IN (mm)	7.44 (189)	7.44 (189)	6.47 (164)				8 (203)				
	Width IN (mm)	4.13 (105)	4.13 (105)	4.5 (114)				4.5 (114)				
	Depth IN (mm)	3.38 (86)	3.38 (86)	3.93 (100)				4.75 (121)				
Pages (Unit Mount)/(I-Line)	□	□	Page 6-21/8-26				Page 6-22/8-27					

Note: All circuit breakers on this chart are UL Listed and CSA Certified unless otherwise noted.

- ▲ Factory-installed option only
- Ungrounded UPS systems only. See Supplemental Digest.
- ◆ Requires breaker with WB suffix.
- ★ Requires factory-installed "G" Shunt trip and 3-pole module.
- ▼ Dual UL and IEC ratings and CE markings on circuit breakers. For additional IEC ratings, see Supplemental Digest.
- Δ I-Line Q-frame circuit breakers are available 70–225 A only, 250 A Q-frame unit-mount circuit breakers are limited to copper conductors only.
- See Supplemental Digest.

Thermal-magnetic Molded Case Circuit Breakers

100 Ampere Frame
Class 650

SQUARE D
www.SquareD.com
For the most up-to-date information

Thermal-magnetic molded case circuit breakers shown on pages 6-20–6-24 are permanent trip UL Listed, CSA Certified, IEC rated, and also meet the requirements of Federal Specification W-C-375B/GEN as indicated on pages 6-4–6-7. For I-Line® molded case circuit breakers, see listings on pages 8-25–8-28.



FAL
1-pole
15–100 Amperes



FAL/FHL
2-pole
15–100 Amperes



FAL/FHL/FCL
3-pole
15–100 Amperes

Interrupting Ratings (kA)

	FAL240	FAL480	FCL
240 V	10	18 (1P), 25 (2, 3P)	100
480 V	...	18	65
600 V	...	...	...

Circuit Breaker Termination Options

(Third character of catalog number)

- F=No Lugs
- L=Lugs both ends
- M=Lugs "ON" end only
- P=Lugs "OFF" end only

Accessories	pages 6-36–6-38
Optional Lugs	pages 6-43, 6-44
Dimensions	pages 6-49, 6-50
Enclosures	pages 6-51–6-54

F-frame—100 A, Thermal-magnetic (240 Vac)

Ampere Rating	AC Magnetic Trip Settings		Standard Interrupting		Terminal Wire Range
	Hold	Trip	Catalog Number	Price	
1-pole, 120 Vac					
15	275	600	FAL12015	\$132.	AL50FA #14–#4 AWG Cu or #12–#4 AWG Al
20	275	600	FAL12020	132.	
25	275	600	FAL12025	132.	
30	275	600	FAL12030	132.	
35	400	850	FAL12035	132.	AL100FA #14–#1/0 AWG Cu or #12–#1/0 AWG Al
40	400	850	FAL12040	132.	
45	400	850	FAL12045	132.	
50	400	850	FAL12050	132.	
60	800	1450	FAL12060	132.	
70	800	1450	FAL12070	174.	
80	800	1450	FAL12080	174.	
90	900	1700	FAL12090	174.	
100	900	1700	FAL12100	174.	
2-pole, 240 Vac					
15	275	600	FAL22015	\$222.	AL50FA #14–#4 AWG Cu or #12–#4 AWG Al
20	275	600	FAL22020	222.	
25	275	600	FAL22025	222.	
30	275	600	FAL22030	222.	
35	400	850	FAL22035	222.	AL100FA #14–#1/0 AWG Cu or #12–#1/0 AWG Al
40	400	850	FAL22040	222.	
45	400	850	FAL22045	222.	
50	400	850	FAL22050	222.	
60	800	1450	FAL22060	222.	
70	800	1450	FAL22070	362.	
80	800	1450	FAL22080	362.	
90	900	1700	FAL22090	362.	
100	900	1700	FAL22100	362.	
3-pole, 240 Vac					
15	275	600	FAL32015	\$330.	AL50FA #14–#4 AWG Cu or #12–#4 AWG Al
20	275	600	FAL32020	330.	
25	275	600	FAL32025	330.	
30	275	600	FAL32030	330.	
35	400	850	FAL32035	330.	AL100FA #14–#1/0 AWG Cu or #12–#1/0 AWG Al
40	400	850	FAL32040	330.	
45	400	850	FAL32045	330.	
50	400	850	FAL32050	330.	
60	800	1450	FAL32060	330.	
70	800	1450	FAL32070	469.	
80	800	1450	FAL32080	469.	
90	900	1700	FAL32090	469.	
100	900	1700	FAL32100	469.	

F-frame—100 A, Thermal-magnetic (480 Vac)

Ampere Rating	AC Magnetic Trip Settings		Standard Interrupting		Extra High Interrupting		Terminal Wire Range	
	Hold	Trip	Catalog Number	Price	Catalog Number	Price	FA Lugs	FC Lugs
1-pole, 277 Vac, 125 Vdc								
15	275	600	FAL14015	\$167.	AL50FA #14–#4 AWG Cu or #12–#4 AWG Al	...
20	275	600	FAL14020	167.	...	...
25	275	600	FAL14025	167.	...	...
30	275	600	FAL14030	167.	...	...
35	400	850	FAL14035	167.	AL100FA #14–#1/0 AWG Cu or #12–#1/0 AWG Al	...
40	400	850	FAL14040	167.	...	...
45	400	850	FAL14045	167.	...	...
50	400	850	FAL14050	167.	...	...
60	800	1450	FAL14060	167.	...	...
70	800	1450	FAL14070	208.	...	...
80	800	1450	FAL14080	208.	...	...
90	900	1700	FAL14090	208.	...	...
100	900	1700	FAL14100	208.	...	...
2-pole, 480 Vac, 250 Vdc▲								
15	275	600	FAL24015	\$406.	AL50FA #14–#4 AWG Cu or #12–#4 AWG Al	CU30FA4 (1) #14–#10 AWG Cu only
20	275	600	FAL24020	406.	...	...
25	275	600	FAL24025	406.	...	...
30	275	600	FAL24030	406.	...	...
35	400	850	FAL24035	406.	AL100FA #14–#1/0 AWG Cu or #12–#1/0 AWG Al	AL100FA4 (1) #14–#3 AWG Cu or (1) #12–#1 AWG Al
40	400	850	FAL24040	406.	...	...
45	400	850	FAL24045	406.	...	...
50	400	850	FAL24050	406.	FCL24050	\$ 965.		
60	800	1450	FAL24060	406.	FCL24060	965.		
70	800	1450	FAL24070	525.	FCL24070	1188.		
80	800	1450	FAL24080	525.	FCL24080	1188.		
90	900	1700	FAL24090	525.	FCL24090	1188.		
100	900	1700	FAL24100	525.	FCL24100	1188.		
3-pole, 480 Vac, 250 Vdc▲								
15	275	600	FAL34015	\$521.	FCL34015	\$1206.	AL50FA #14–#4 AWG Cu or #12–#4 AWG Al	CU30FA4 (1) #14–#10 AWG Cu only
20	275	600	FAL34020	521.	FCL34020	1206.		
25	275	600	FAL34025	521.	FCL34025	1206.		
30	275	600	FAL34030	521.	FCL34030	1206.		
35	400	850	FAL34035	521.	FCL34035	1206.	AL100FA #14–#1/0 AWG Cu or #12–#1/0 AWG Al	AL100FA4 (1) #14–#3 AWG Cu or (1) #12–#1 AWG Al
40	400	850	FAL34040	521.	FCL34040	1206.		
45	400	850	FAL34045	521.	FCL34045	1206.		
50	400	850	FAL34050	521.	FCL34050	1206.		
60	800	1450	FAL34060	521.	FCL34060	1206.		
70	800	1450	FAL34070	616.	FCL34070	1484.		
80	800	1450	FAL34080	616.	FCL34080	1484.		
90	900	1700	FAL34090	616.	FCL34090	1484.		
100	900	1700	FAL34100	616.	FCL34100	1484.		

▲ FCL 2-pole circuit breaker built using 3-pole module.
■ FCL circuit breakers are not rated for 250 Vdc.

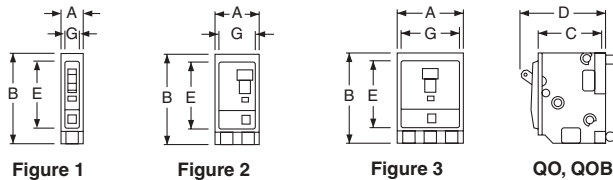


Figure 1 Figure 2 Figure 3 QO, QOB

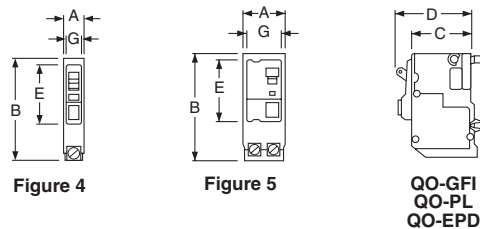


Figure 4 Figure 5 QO-GFI
QO-PL
QO-EPD

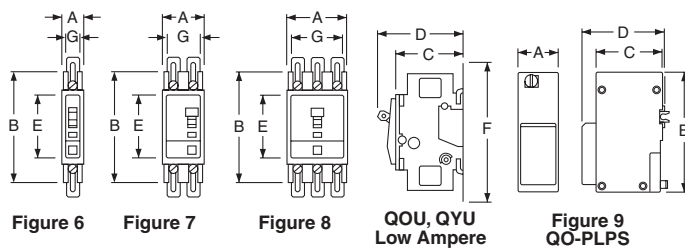


Figure 6 Figure 7 Figure 8 QOU, QYU
Low Ampere Figure 9
QO-PLPS

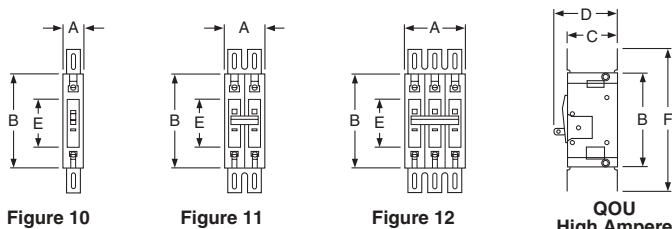


Figure 10 Figure 11 Figure 12 QOU
High Ampere

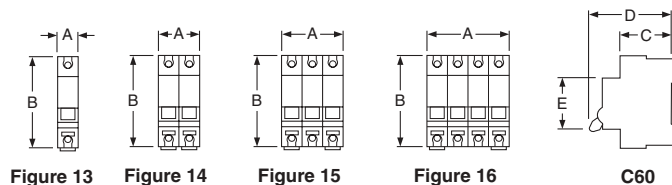


Figure 13 Figure 14 Figure 15 Figure 16 C60

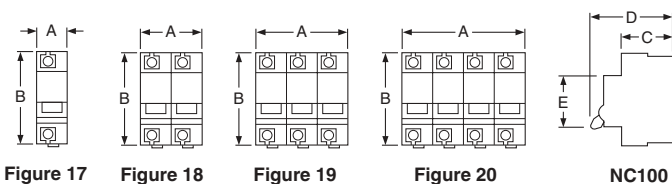


Figure 17 Figure 18 Figure 19 Figure 20 NC100

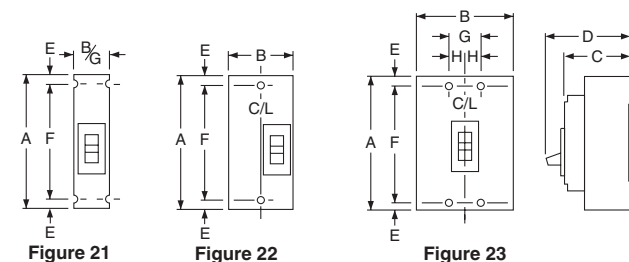


Figure 21 Figure 22 Figure 23

QO®, QOU, EH Circuit Breakers

Circuit Breaker Catalog No. Prefix	No. Poles	Fig. No.	Dimensions—Inches						
			A	B	C	D	E	F	G
QO, QOB	1	1	0.75	3.00▲	2.31	2.91	2.25	...	0.59
	2	2	1.50	3.00▲	2.31	2.91	2.25	...	1.34
	3	3	2.25	3.00▲	2.31	2.91	2.25	...	2.09
QOB-VH 150 A QOB-VH 110–150 A	2	2	3.0	5.72	2.53	4.90	3.78	...	2.85
	3	3	4.50	5.72	2.53	4.90	3.78	...	4.35
QO-PL QO-GFI QO-EPD	1	4	0.75	4.12■	2.31	2.91	2.25	...	0.59
	2	5	1.50	4.12■	2.31	2.91	2.25	...	1.34
	3	5	2.25	4.12■	2.31	2.91	2.25	...	2.09
QOU QYU Low Ampere	1	6	0.75	4.05♦	2.38	2.98	2.25	5.00▼	0.62
	2	7	1.50	4.05♦	2.38	2.98	2.25	5.00▼	1.37
	3	8	2.25	4.05♦	2.38	2.98	2.25	5.00▲	2.12
QOU High Ampere	1	10	0.75	4.45	2.37	2.96	2.25	6.78	...
	2	11	1.50	4.45	2.37	2.96	2.25	6.78	...
	3	12	2.25	4.45	2.37	2.96	2.25	6.78	...
Multi 9™ C60N	1	13	0.71	3.19	1.73	2.76	1.77	...	...
	2	14	1.42	3.19	1.73	2.76	1.77	...	...
	3	15	2.13	3.19	1.73	2.76	1.77	...	...
	4	16	2.84	3.19	1.73	2.76	1.77	...	...
Multi 9 NC100	1	17	1.06	3.19	1.73	2.76	1.77	...	...
	2	18	2.13	3.19	1.73	2.76	1.77	...	...
	3	19	3.19	3.19	1.73	2.76	1.77	...	...
	4	20	4.25	3.19	1.73	2.76	1.77	...	...
QO-PLPS Power Supply	2	9	1.45	4.35	2.42	3.11	...	...	...

▲ 35–70 A is 3.12 in; 80–100 A 2-pole and 70–100 A 3-pole are 3.50 in.
■ QO-PL is 4.55 in.
♦ 80–100 A 1-pole and 80–125 A 2-pole are 4.45 in.
★ 70–100 A 4.45 in.
▼ 80–100 A 1-pole and 80–125 A 2-pole are 6.78 in.
▲ 70–100 A is 6.78 in.

QB, QD, QG, QJ, Q4, FA, FI, KA, KI, LA, MA, ME and MX Circuit Breakers

Circuit Breaker Catalog No. Prefix	No. Poles	Fig. No.	Dimensions—Inches							
			A	B	C	D	E	F	G	H
QB, QD, QG, QJ	2	22	6.47	3.00	3.02	3.93	□	4.25	...	...
	3	23	6.47	4.50	3.02	3.93	□	4.25	1.50	0.75
FAL, FHL, FCL♦	1	21	6.00	1.50	3.16	4.13	0.44	5.13	1.50	...
	2	22	6.00	3.00♦	3.16	4.13	0.44	5.13	...	...
	3	23	6.00	4.50	3.16	4.13	0.44	5.13	1.50	0.75
FIL, KAL, KHL, KCL, KIL	2 & 3	23	8.00	4.50	3.66	4.75	0.44	7.13	1.50	0.75
	Q4L, LAL, LHL	2 & 3	23	11.00	6.00	4.06	5.84	0.88	9.25	2.00
MAL, MHL	2 & 3	23	14.00	9.00	4.53	6.50	1.66	10.69	3.00	1.50

□ Dimensions E are 1.59 in at ON end and 0.63 in at OFF end.
♦ FCL 2-pole circuit breaker dimension B is 4.50 as in Fig. 23.

INTRODUCTION

CLASS IV

Exchange of permanent trip circuit breakers (KA, LA, MA or NA) furnished in lieu of circuit breakers specified with interchangeable trip. These circuit breakers can be identified by a label stating that they are subject to this exchange policy.

Allowance

A replacement circuit breaker within the same frame size, but of a different trip rating than that exchanged, is furnished at the lowest recognized competitive list price for a trip unit of the same frame size and trip rating minus the regular discount. This exchange arrangement requires that the replaced circuit breaker be returned to Square D.

CATALOG NUMBERS

Square D circuit breakers are ordered by a catalog number that includes the breaker family, description, poles, voltage rating, amperage rating and suffix.

Figure 5 shows a catalog number broken down by components. For example, FAL36050V2100, a typical catalog number, can be broken down as follows:

- FA 100A frame circuit breaker
- L Circuit breaker with lugs on both ends
- 3 Number of poles
- 6 Voltage rating
- 050 Continuous current amperage rating (handle rating)
- V and 2100 V indicates the Visi-Blade feature and the 2100 indicates a factory installed contact alarm. These two components are the suffix.

TYPICAL CATALOG NUMBER:

	FA	L	3	6	050	V	2100
BREAKER FAMILY							
FY - 30 Amp. Frame	NOTE: "A" is replaced by letter "H" for High Interrupting						
FA - 100 Amp. Frame	"A" is replaced by letter "C" for Extra High Interrupting						
KA - 250 Amp. Frame	"A" is replaced by letter "I" for Current Limiting. (FA, KA, LA circuit breakers only)						
LA - 400 Amp. Frame							
MA - 1000 Amp. Frame							
NA - 1200 Amp. Frame							
DESCRIPTION							
NO LETTER - (I-LINE®) Plug-On Breaker							
B - (I-LINE) Bolt-On Breaker (400 ampere frame maximum)							
F - Terminal Pads Only (No Lugs)							
L - Lugs on Both Ends (Merchandised — Universal Breaker)							
P - Lugs OFF End Only							
R - Plug-On Breaker (I-LINE Type DO with Plug-On Line & Load Connectors)							
POLES							
1 - 1-Pole							
2 - 2-Pole							
3 - 3-Pole							
VOLTAGE RATING							
2 - 240Vac							
4 - 480Vac							
6 - 600Vac							
AMPERE RATING							
015 - 090 - 15-90 Ampere Rating							
100 - 900 - 100-900 Ampere Rating							
1000 - 1200 - 1000-1200 Ampere Rating							
000 or 0000 - Molded Case Switch							
000X or 000XX - Molded Case Switch							
SUFFIX							
The suffix indicates a special feature of the circuit breaker.							
A, B, C - indicates I-LINE® Phase Connections							
V - indicates Visi-Blade							
M - indicates Automatic Molded Case Switch							
XXM - indicates Instantaneous Trip only (MAG-GARD®) (i.e., 18M is 300-1100A adjustable trip range)							
XXT - indicates adjustable magnetic trip with responsive thermal (mining breakers)							
G - indicates Ground Fault Shunt Trip accessory							
XXXX - i.e., 2100 indicates a factory installed accessory							

FIGURE 5
CATALOG NUMBERING SYSTEM FOR THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS

