



H-Frame



J-Frame



L-Frame



M-Frame



P-Frame



R-Frame

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Selection Information

Miniature Circuit Breakers

Class 500, 600

		CHOM Circuit Breakers									QO™ Circuit Breakers																			
																														
Circuit Breaker Type	Plug-on	CHOM	CHOM-AFI	CHOM-GFI	CHOM-EPD	CHOMT																								
	Bolt-on	—	—	—	—	—	—	—																						
	Unit Mount	—	—	—	—	—	—	—																						
Number of Poles		1	2	1	1	2	1	2	1	2	3	2	1	2	3	1	2, 3 ▲	1, 2	3	1	1	—	—	—	—	—	—			
Current Range		15–50	15–200 ◐	15–20	15–20	15–50	15–20	15–50	15–50 ■	10–70	10–200 ◐	10–100	15–100	15–30	15–125	15–100	15–30	15–150	15–30	15–30	15–30	15–20	15–30	15–30	15–60	15–50	15–30			
Interrupting Ratings																														
UL/CSA Rating (kA) (50/60 Hz)	120 Vac	10	10	10	10	10	10	10	10	10	10	10	10	22	22	22	22	22	65	65	10	10	22	10	10	—	22			
	120/240 Vac	10	10	—	—	10	—	10	10	10	10	10	10	22	22	22	22	22	65	65	10	—	—	—	10	—	—			
	208Y/120	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	—	—			
	240 Vac ★	—	—	—	—	—	—	—	—	—	—	10	10	—	—	22	—	22★	—	65	—	—	—	—	—	—	10			
	277 Vac	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
DC Ratings	480Y/277 Vac	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	48 Vdc	—	—	—	—	—	—	—	—	5▼	5▼	5▼	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	60 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	65 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	125 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
IEC 60947-2 (50/60 Hz) ▼	250 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	IEC (Icu)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Special Ratings																														
CCC		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Fed. Specs W-C-375B/GEN		X	X	X	X	X	X	X	X	X	—	—	—	X	—	—	—	—	X	—	X	X	—	X	—	—	X			
Other Standard		HACR Δ	HACR Δ							HACR □	HACR □							—	—	—	HACR □	—	NOM	—	—	NOM				
Accessories and Modifications																														
Shunt Trip ◇		—	—	—	—	—	—	—	—	X	X	X	X	X	X	X	X	X	X	X	X	—	—	—	—	—	—			
Undervoltage Trip		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Auxiliary Switches ◇		—	—	—	—	—	—	—	—	X	X	X	X	X	X	X	X	X	X	X	—	X	X	X	X	X	X			
Alarm Switch ◇		—	—	—	—	—	—	—	—	X	X	X	X	X	X	X	X	X	X	X	—	X	X	X	X	X	X			
Handle Operators		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Handle Padlock Attachment		X	X	X	—	—	—	—	X ▽	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Trip System Type																														
Thermal-magnetic		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Molded Case Switch		—	—	—	—	—	—	—	—	X	X	X	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Dimensions (1P Unit Mount)																														
Dimensions (1P Unit Mount) in. (mm)	Height	3.13 (79)									3.5 (89) ▲									4.75 (121)				4.12 (103)						
	Width	1.00 (25)									0.75 (19) ▲																			
	Depth	2.98 (76)									2.92 (74) ▲																			
Pages		Section DE1									Pages DE3-10, DE3-11																			

- ▲ See page DE3-54 for dimensions for: QOB2150VH, QOB3110VH, QOB3125VH and QOB3150VH.
- CHOMT tandem is 30 A maximum. CHOMT quad has 20 A maximum on outside poles, and 50 A maximum on the inside poles.
- ◆ AFI, EPD and GFI products are rated 60 Hz only.
- ★ 22 kA @ 240 Vac for 3P only.
- ▼ 1P and 2P, 10–70 A and 3P 10–60 A only.
- Δ HACR on CHOM 1P 15–50 A and 2P 15–100 A.
- HACR on QO, QOB 1P 10–70 A, 2P 15–100 A, 3P 10–100 A; QOB-VH 1P 15–70 A, 2P 15–125 A, 3P 15–100 A.
- ◇ Factory-installed option only.
- ☆ Factory-installed accessories are not available on QOB-VH 2P150 A and 3P 110–150 A.
- ▼ Handle padlock attachment available for CHOMT quad tandem only.
- 2P 150–200 A requires 4P width.

		QOU Circuit Breakers			QOM1 and QOM2 Main Circuit Breakers		Multi 9™ Circuit Breakers and Supplementary Protectors						EDB Circuit Breakers							
																				
Circuit Breaker Type	Plug-on	—			—	—	—			—			—		—	—	—	—	—	—
	Bolt-on	—			QOM1-VH	QOM2-VH	—			—			—		EDB	EGB	EJB	—	—	
	Unit Mount	QOU			—	—	CSA C22.2 No. 5/UL 489 C60			CSA C22.2 No. 235/UL1077 C60			C60H-DC▲		—	—	—	—	—	
Number of Poles		1	2	3	2	2	1	2	3	1	2	3,4	1	2	1	2,3	1	2,3	1	2,3
Current Range		10–100	10–125	10–100	50–125	100–225	0.5–35	0.5–35	0.5–35	0.5–63	1–63	1–63	0.5–40	0.5–40	15–70	15–125	15–70	15–125	15–70	15–125
Interrupting Ratings																				
UL/CSA Rating (kA RMS) (50/60 Hz)	120 Vac	10	10	10	22	22	10	—	—	10	10	10	—	—	25	25	65	65	100	100
	120/240 Vac	10	10	10	22	22	5	10	10	10	10	10	—	—	18	25	35	65	65	100
	240 Vac	—	—	10	—	—	5	10	10	10	10	10	—	—	18	25	35	65	65	100
	277 Vac	—	—	—	—	—	—	—	—	5	5	5	—	—	18	18	35	35	65	65
	480Y/277 Vac	—	—	—	—	—	10	10	10	—	5	5	—	—	—	18	—	35	—	65
DC Ratings	48 Vdc	5■	5■	5■	—	—	—	—	—	10	10	—	5	5	—	—	—	—	—	—
	60 Vdc	5♦	5♦	5♦	—	—	10	10	—	—	—	—	5	5	—	—	—	—	—	—
	65 Vdc	—	—	—	—	—	—	—	—	10	10	—	5	5	—	—	—	—	—	—
	125 Vdc	—	—	—	—	—	—	10	—	—	10	—	5	5	—	—	—	—	—	—
	250 Vdc	—	—	—	—	—	—	—	—	—	—	—	5	5	—	—	—	—	—	—
	500 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	5	—	—	—	—	—	—
IEC 60947-2 (50/60 Hz) Icu	240 Vac	—	—	—	—	—	20	20	20	10	10	10	20	10	20	—	—	—	—	—
	415 Vac	—	—	—	—	—	—	10	10	—	5	5	—	—	10	—	—	—	—	—
Special Ratings																				
CCC	X♦	X♦	X♦	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fed. Specs W-C-375B/GEN	X	X	X	X	X	X	X	X	X	—	—	—	—	—	X	X	X	X	X	X
Other Standard	HACR ★			—	—	—	—	—	—	—	—	—	—	—	HACR					
Accessories and Modifications																				
Shunt Trip	X▼	X▼	X▼	—	X▼	X	X	X	X	X	X	X	X	X	X▼	X▼	X▼	X▼	X▼	X▼
Undervoltage Trip	—	—	—	—	—	—	X	X	X	X	X	X	X	X	—	—	—	—	—	—
Auxiliary Switches	X▼	X▼	X▼	—	—	—	X	X	X	X	X	X	X	X	X▼	X▼	X▼	X▼	X▼	X▼
Alarm Switch	X▼	X▼	X▼	—	—	—	X	X	X	X	X	X	X	X	X▼	X▼	X▼	X▼	X▼	X▼
Handle Operators	—	—	—	—	—	—	X	X	X	X	X	X	X	X	—	—	—	—	—	—
Handle Padlock Attachment	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Trip System Type																				
Thermal-magnetic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Molded Case Switch	—	X	X	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dimensions (1P Unit Mount)																				
(1P Unit Mount) in. (mm)	Height	4.05 (103)			5.09 (129)△	5.60 (142)△	4.21 (107)□			3.19 (81)			3.19 (81)			5.66 (144)				
	Width	0.75 (19)			5.00 (127)△	5.07 (129)△	0.71 (18)			0.71 (18)			0.71 (18) 1.42 (36)			0.98 (25)				
	Depth	2.92 (74)			3.47 (88)△	3.60 (91)△	2.76 (70)			2.76 (70)			2.56 (65)			4.05 (103)				
Pages	Pages DE3-14			Section DE1			Pages DE3-16 through DE3-19						Section DE5							

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

- ▲ C60H-DC is a UL 1077 (not CSA certified) supplementary protector.
- 1P and 2P, 10–70 A and 3P 10–60 A only.
- ♦ QOU is CSA/UL Listed for 60 Vdc per pole 80–100 A, 1P; 80–125 A, 2P; and 70–100 A, 3P.
- ★ HACR on QOU 1P and 3P 15–100 A, 2P 15–125 A;
- ▼ Factory-installed option only
- △ QOM1 and QOM2 dimensions are for 2-pole unit.
- 480 V C60 height is 5.56 in. (141 mm).
- ◇ 15–70 A 1P and 2P, 15–60 A 3P.

Selection Information

Molded Case Circuit Breakers

Class 500, 600, 800

DE3 CIRCUIT BREAKERS

		PowerPact™ 150 A H-Frame					PowerPact 250 A J-Frame				
		New! Electronic Trip Version 					New! Electronic Trip Version 				
Circuit Breaker Type		HD	HG	HJ	HL	HR	JD	JG	JJ	JL	JR
Number of Poles		2, 3	2, 3	2, 3▲	2, 3▲	3	2, 3▲	2, 3▲	2, 3▲	2, 3▲	3
Current Range		15–150 A	15–150 A	15–150 A	15–150 A	15–150 A	70–250 A■	70–250 A■	70–250 A■	70–250 A■	70–250 A■
Interrupting Ratings											
UL/CSA/NOM Rating (kA RMS) (50/60 Hz)	240 Vac	25	65	100	125	200	25	65	100	125	200
	480Y/277 Vac	18	35	65	100	200	18	35	65	100	200
	480 Vac	18	35	65	100	200	18	35	65	100	200
	600Y/347 Vac	14	18	25	50	100	14	18	25	50	100
	600 Vac	14	18	25	50	100	14	18	25	50	100
DC Ratings	250 Vdc◆	20	20	20	20	—	20	20	20	20	—
	500 Vdc◆	—	—	—	—	—	—	20	—	—	—
IEC Rating (kA RMS) Icu/Ics★	240 Vac	25/25	65/65	100/100	125/125	125/125	25/25	65/65	100/100	125/125	125/125
	415 Vac	18/18	35/35	65/65	100/100	100/100	18/18	35/35	65/65	100/100	100/100
Special Ratings											
CCC		X	X	X	X	X	X	X	X	X	X
Fed. Specs W-C-375B/GEN		X	X	X	X	X	X	X	X	X	X
HACR (2P, 3P)		X	X	X	X	X	X	X	X	X	X
Connections/Terminations											
Unit Mount		X	X	X	X	X	X	X	X	X	X
I-Line™		X	X	X	X	X	X	X	X	X	X
Rear Connection		X▼	X▼	X	X	X	X	X	X	X	X
Drawout		X▼	X▼	X	X	X	X	X	X	X	X
Optional Lugs		X▼	X▼	X	X	X	X	X	X	X	X
Accessories and Modifications											
Shunt Trip		X	X	X	X	X	X	X	X	X	X
Undervoltage Trip		X	X	X	X	X	X	X	X	X	X
Auxiliary Switches		X	X	X	X	X	X	X	X	X	X
Alarm Switch		X	X	X	X	X	X	X	X	X	X
Motor Operator		X▼	X▼	X	X	X	X	X	X	X	X
Handle Operators		X▼	X▼	X	X	X	X	X	X	X	X
Mechanical Interlocks (3P)		X	X	X	X	X	X	X	X	X	X
Handle Padlock Attachment		X▼	X▼	X	X	X	X	X	X	X	X
Cylinder Lock (3P)		—	—	—	—	—	—	—	—	—	—
Optional GF Protection		—	—	—	—	—	—	—	—	—	—
Trip System Type											
Thermal-magnetic		X	X	X	X	—	X	X	X	X	X
Instantaneous-only (MCP)		—	—	X△	X△	X△	—	X△	X△	X	X
Molded Case Switch (Automatic)		X	X	X	X	X	X	X	X	X	X
Electronic		X△	X△	X△	X△	X△	X△	X△	X△	X△	X△
Enclosures (Pages DE3-56–DE3-58)											
General Purpose (NEMA 1)		X	X	X	X	—	X	X	X	—	—
Raintight (NEMA 3R)		X	X	X	X	—	X	X	X	—	—
Dust-tight (NEMA 12)		X	X	X	X	—	X	X	X	—	—
Watertight (NEMA 4, 4X, 5)		X	X	X	X	—	X	X	X	—	—
Explosion Proof (NEMA 7, 9)		—	—	—	—	—	—	—	—	—	—
Dimensions (3P Unit Mount) in. (mm)	Height	6.4 (163)					7.5 (191)				
	Width	4.1 (104)					4.1 (104)				
	Depth	3.4 (86)					3.4 (86)				
Pages (Unit Mount)/(I-Line)		Pages DE3-22, DE3-23, DE3-29, DE3-34/Section DE5					Pages DE3-22, DE3-23, DE3-29, DE3-34, DE3-35/Section DE5				

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

- ▲ 2P in a 3P module.
- 70–250 A with electronic trip system
- ◆ Not available with electronic trip units
- ★ Dual CSA/UL and IEC ratings and CE markings on circuit breakers.
- ▼ Not available in HD and HG 2P rating (2P module).
- △ 3P only.

		PowerPact 250 A Q-Frame				PowerPact 600 A L-Frame				
						New! 				
Circuit Breaker Type		QB	QD	QG	QJ	LD	LG	LJ	LL	LR
Number of Poles		2, 3	2, 3	2, 3	2, 3	3, 4	3, 4	3, 4	3, 4	3, 4
Current Range		70–250■	70–250■	70–250■	70–250■	70–600	70–600	70–600	70–600	70–600
Interrupting Ratings										
UL/CSA/NOM Rating (kA RMS) (50/60 Hz)	240 Vac	10	25	65	100	25	65	100	125	200
	480Y/277 Vac	—	—	—	—	18	35	65	100	200
	480 Vac	—	—	—	—	18	35	65	100	200
	600Y/347 Vac	—	—	—	—	14	18	25	50	100
	600 Vac	—	—	—	—	14	18	25	50	100
DC Ratings	250 Vdc★	—	—	—	—	—	—	—	—	—
	500 Vdc◆★	—	—	—	—	—	—	—	—	—
IEC Rating (kA RMS) Icu/Ics★	240 Vac	10/5	10/5	10/5	10/5	25/25	65/65	100/100	125/125	125/125
	415 Vac	10/5	10/5	10/5	10/5	18/18	35/35	65/65	100/100	100/100
Special Ratings										
CCC		—	—	—	—	X	X	X	X	X
Fed. Specs W-C-375B/GEN		X	X	X	X	—	—	—	—	—
HACR (2P, 3P)		X	X	X	—	X	X	X	X	X
Connections/Terminations										
Unit Mount		X	X	X	X	X	X	X	X	X
I-Line™		X	X	X	X	X	X	X	X	X
Rear Connection		—	—	—	—	X	X	X	X	X
Drawout		—	—	—	—	X	X	X	X	X
Optional Lugs		—	—	—	—	X	X	X	X	X
Accessories and Modifications										
Shunt Trip		—	—	—	—	X	X	X	X	X
Undervoltage Trip		—	—	—	—	X	X	X	X	X
Auxiliary Switches		—	—	—	—	X	X	X	X	X
Alarm Switch		—	—	—	—	X	X	X	X	X
Motor Operator		—	—	—	—	X	X	X	X	X
Handle Operators		—	—	—	—	X	X	X	X	X
Mechanical Interlocks (3P)		X	X	X	X	X	X	X	X	X
Handle Padlock Attachment		X	X	X	X	X	X	X	X	X
Cylinder Lock (3PΔ)		—	—	—	—	—	—	—	—	—
Optional GF Protection▼		—	—	—	—	X	X	X	X	X
Trip System Type										
Thermal-magnetic		X	X	X	X	—	—	—	—	—
Instantaneous-only (MCP)		—	—	—	—	X	X	X	X	X
Molded Case Switch (Automatic)		X	—	—	—	—	X	—	X	X
Electronic		—	—	—	—	X	X	X	X	X
Enclosures (Pages DE3-56–DE3-58)						—	—	—	—	—
General Purpose (NEMA 1)		X	X	X	X					
Raintight (NEMA 3R)		X	X	X	X					
Dust-tight (NEMA 12)		—	—	—	—					
Watertight (NEMA 4, 4X, 5)		—	—	—	—					
Explosion Proof (NEMA 7, 9)		—	—	—	—	—	—	—	—	—
Dimensions (3P Unit Mount) in. (mm)	Height	6.47 (164)				13.38 (340)				
	Width	4.5 (114)				5.51 (140)				
	Depth	3.93 (100)				4.33 (110)				
Pages (Unit Mount)/(I-Line)		Pages DE3-24/Section DE5				Pages DE3-25/DE3-33				

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

- ▲ 2P in a 3P module.
- I-Line Q-frame circuit breakers are available 70–225 A only. 250 A Q-frame unit-mount circuit breakers are limited to Cu conductors only.
- ◆ Ungrounded UPS systems only. See page DE3-35. Special DC J-Frame only.
- ★ Dual CSA/UL and IEC ratings and CE markings on circuit breakers.
- ▼ Requires factory-installed "G" shunt trip and 3P module.
- △ Factory-installed option only.
- 3P only.
- ◆ 70–250 A with electronic trip system.
- ★ Not available with electronic trip units.

Selection Information

Molded Case Circuit Breakers

Class 600, 612, 800

DE3 CIRCUIT BREAKERS

		PowerPact 800 A M-Frame		PowerPact 1200 A P-Frame				PowerPact 3000 A R-Frame			
											
Circuit Breaker Type		MG	MJ	PG	PJ	PK	PL	RG	RJ	RK	RL
Number of Poles		2, 3	2, 3	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4
Current Range		300–800	300–800	100–1200	100–1200	100–1200	100–1200	240–3000	240–3000	240–3000	240–3000
Interrupting Ratings											
UL/CSA/NOM Rating (kA RMS) (50/60 Hz)	240 Vac	65	100	65	100	65	125	65	100	65	125
	480Y/277 Vac	35	65	35	65	50	100	35	65	65	100
	480 Vac	35	65	35	65	50	100	35	65	65	100
	600Y/347 Vac	18	25	18	25	50	25	18	25	65	50
	600 Vac	18	25	18	25	50	25	18	25	65	50
DC Ratings		250 Vdc	—	—	—	—	—	—	—	—	—
		500 Vdc▲	—	—	—	—	—	—	—	—	—
IEC (kA RMS) Icu/Ics■	240 Vac	50/25	65/35	50/25	65/35	50/25	125/65	50/25	65/35	85/65	125/65
	415 Vac	35/20	50/25	35/20	50/25	50/25	85/45	35/20	50/25	70/55	85/45
Special Ratings											
CCC		X	X	X	X	X	X	X	X	X	X
Fed. Specs W-C-375B/GEN		X	X	X	X	X	X	X	X	X	X
HACR (2P, 3P)		X	X	X	X	X	X	X	X	X	X
Connections/Terminations											
Unit Mount		X	X	X	X	X	X	X	X	X	X
I-Line™		X	X	X	X	X	X	X▼	X▼	X▼	X▼
Rear Connection		—	—	—	—	—	—	—	—	—	—
Drawout		—	—	X★	X★	X★	X★	—	—	—	—
Optional Lugs		X	X	X	X	X	X	X	X	X	X
Accessories and Modifications											
Shunt Trip		X	X	X	X	X	X	X	X	X	X
Undervoltage Trip		X	X	X	X	X	X	X	X	X	X
Auxiliary Switches		X	X	X	X	X	X	X	X	X	X
Alarm Switch		X	X	X	X	X	X	X	X	X	X
Motor Operator		—	—	X★	X★	X★	X★	—	—	—	—
Handle Operators		—	—	X★	X★	X★	X★	—	—	—	—
Mechanical Interlocks (3P)		—	—	X	X	X	X	—	—	—	—
Handle Padlock Attachment		X	X	X	X	X	X	X	X	X	X
Cylinder Lock (3P)		—	—	—	—	—	—	—	—	—	—
Optional GF Protection		—	—	X	X	X	X	X	X	X	X
Trip System Type											
Thermal-magnetic		—	—	—	—	—	—	—	—	—	—
Instantaneous-only (MCP)		—	—	—	X	X	—	—	—	—	—
Molded Case Switch (Automatic)		—	—	X	X	X	X	X	X	X	X
Electronic		X	X	X	X	X	X	X	X	X	X
Enclosures (Pages DE3-56–DE3-58)											
General Purpose (NEMA 1)		X	X	X	X	X	X	—	—	—	—
Raintight (NEMA 3R)		X	X	X	X	X	X	—	—	—	—
Dust-tight (NEMA 12)		X	X	X	X	X	X	—	—	—	—
Watertight (NEMA 4, 4X, 5)		X	X	—	—	—	—	—	—	—	—
Explosion Proof (NEMA 7, 9)		—	—	—	—	—	—	—	—	—	—
Dimensions (3P Unit Mount)	Height—in. (mm)	12.80 (325)		16.20 (413)				15 (381)			
	Width—in. (mm)	8.30 (210)		8.30 (210)				16.50 (420)			
	Depth—in. (mm)	8.10 (205)		8.10 (205)				14.40 (366)			
Pages (Unit Mount)/(I-Line)		Page DE3-26/Section DE5		Page DE3-27, DE3-31, DE3-34/Section DE5				Page DE3-28, DE3-34/Section DE5			

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

- ▲ Ungrounded UPS systems only. See page DE3-35.
- Dual CSA/UL and IEC ratings and CE markings on circuit breakers.
- ◆ Requires breaker with WB suffix
- ★ 65/50 kA Icu/Ics for 450–600 A ratings.
- ▼ 1000 A and 1200 A only.

Selection Information

Insulated Case Circuit Breakers

Class 600, 800

		Masterpact 1200 A					Masterpact 6000 A							
														
Circuit Breaker Type		NT-N	NT-H	NT-L1	NT-L	NT-LF ▲	NW-N	NW-H	NW-L	NW-LF ▲	NW-H	NW-L	NW-H	NW-L
Number of Poles		3, 4	3, 4	3	3	3	3, 4	3, 4	3	3	3, 4	3	3, 4	3
Current Range		100–1200	100–1200	100–1200	100–1200	100–1200	100–2000	100–2000	100–2000	100–2000	640–3000	640–3000	1200–6000	1200–6000
Interrupting Ratings														
UL/CSA/NOM Rating (kA RMS) (50/60 Hz)	240 Vac	50	65	100	200	200	65	100	200	200	100	200	100	200
	480Y/277 Vac	50	50	65	100	100	65	100	150	150	100	150	100	150
	480 Vac	50	50	65	100	100	65	100	150	150	100	150	100	150
	600Y/347 Vac	35	50	—	—	—	50	85	100	100	85	100	85	100
	600 Vac	35	50	—	—	—	50	85	100	100	85	100	85	100
DC Ratings	250 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—
	500 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—
IEC ■ (kA RMS) Icu/Ics	240 Vac	—	—	—	—	—	—	—	—	—	—	—	—	—
	415 Vac	—	—	—	—	—	—	—	—	—	—	—	—	—
Special Ratings														
CCC		—	—	—	—	—	—	—	—	—	—	—	—	—
Fed. Specs W-C-375B/GEN		—	—	—	—	—	—	—	—	—	—	—	—	—
HACR (2P, 3P)		—	—	—	—	—	—	—	—	—	—	—	—	—
Connections/Terminations														
Unit Mount		X	X	X	X	X	X	X	X	X	X	X	X	X
I-Line™		—	—	—	—	—	—	—	—	—	—	—	—	—
Rear Connection		X	X	X	X	X	X	X	X	X	X	X	X	X
Drawout		X	X	X	X	X	X	X	X	X	X	X	X	X
Optional Lugs		—	—	—	—	—	—	—	—	—	—	—	—	—
Accessories and Modifications														
Shunt Trip		X	X	X	X	X	X	X	X	X	X	X	X	X
Undervoltage Trip		X	X	X	X	X	X	X	X	X	X	X	X	X
Auxiliary Switches		X	X	X	X	X	X	X	X	X	X	X	X	X
Alarm Switch		X	X	X	X	X	X	X	X	X	X	X	X	X
Motor Operator		X	X	X	X	X	X	X	X	X	X	X	X	X
Handle Operators		—	—	—	—	—	—	—	—	—	—	—	—	—
Mechanical Interlocks		X	X	X	X	X	X	X	X	X	X	X	X	X
Padlock Attachment		X	X	X	X	X	X	X	X	X	X	X	X	X
Cylinder Lock		—	—	—	—	—	—	—	—	—	—	—	—	—
Optional GF Protection		X	X	X	X	X	X	X	X	X	X	X	X	X
Trip System Type														
Thermal-magnetic		—	—	—	—	—	—	—	—	—	—	—	—	—
Instantaneous-only (MCP)		—	—	—	—	—	—	—	—	—	—	—	—	—
Molded Case Switch (Automatic)		X	X	X	X	X	X	X	X	X	X	X	X	X
Electronic		X	X	X	X	X	X	X	X	X	X	X	X	X
Enclosures														
General Purpose (NEMA 1)		—	—	—	—	—	—	—	—	—	—	—	—	—
Raintight (NEMA 3R)		—	—	—	—	—	—	—	—	—	—	—	—	—
Dust-tight (NEMA 12)		—	—	—	—	—	—	—	—	—	—	—	—	—
Watertight (NEMA 4, 4X, 5)		—	—	—	—	—	—	—	—	—	—	—	—	—
Explosion Proof (NEMA 7, 9)		—	—	—	—	—	—	—	—	—	—	—	—	—
Dimensions (3P Unit Mount) in. (mm)	Height	12.67 (322)					17.28 (439)				17.28 (439)		17.28 (439)	
	Width	11.25 (286)					17.74 (450)				17.74 (450)		30.94 (786)	
	Depth	13.00 (331)					18.38 (467)				18.38 (467)		18.38 (467)	
Pages		Page DE3-50 and Catalog 0613CT0001					Page DE3-50 and Catalog 0613CT0001							

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

- ▲ Tested to show arc flash hazard risk category as reference by NFPA70E.
- See Catalog 0613CT0001 for additional ratings and other information.

Selection Information

Molded Case Circuit Breakers

Class 500, 600, 800

DE3 CIRCUIT BREAKERS

		100 A Frame					100 A F-Frame	
								
Circuit Breaker Type		FA (240 V)	FA		FH	FH■	FH	FI
Number of Poles		1, 2, 3	1	2, 3	1	1	2, 3	2, 3
Current Range		15–100	15–100	15–100	15–30	35–100	15–100	20–100
Interrupting Ratings								
UL/CSA/NOM Rating (kA RMS) (50/60 Hz)	240 Vac	10●	25●	25	65	25	65	200
	480Y/277 Vac	—	18	18	65	25	25	200
	480 Vac	—	—	18	—	—	25	200
	600Y/347 Vac	—	—	14	—	—	18	100
	600 Vac	—	—	14	—	—	18	100
DC Ratings	250 Vdc*	5◆	10◆	10	10◆	10◆	50	—
	500 Vdc▲*	—	—	—	—	—	20	—
IEC Rating (kA RMS) Icu/Ics★	240 Vac	—	18/9	—	18/9	—	—	—
	415 Vac	10/2.5	10/2.5	10/2.5	10/2.5	10/2.5	10/2.5	6/1.5
Special Ratings								
CCC		—	—	—	—	—	—	—
Fed. Specs W-C-375B/GEN		X	X	X	X	X	X	X
HACR (2P, 3P)		X	—	X	—	—	—	—
Connections/Terminations								
Unit Mount		X	X	X	X	X	X	—
I-Line™		X	X	X	X	X	X	X
Rear Connection		X	X	X	—	—	—	—
Drawout		—	—	—	—	—	—	—
Optional Lugs		X	X	X	X	X	X	—
Accessories and Modifications								
Shunt Trip		X△▼	—	X△	—	—	X△	X△
Undervoltage Trip		X△▼	—	X△	—	—	X△	X△
Auxiliary Switches		X△▼	—	X△	—	—	X△	X△
Alarm Switch		X△▼	X△	X△	X△	X△	X△	X△
Motor Operator		—	—	X	—	—	X	X
Handle Operators		X	—	X	X	X	X	—
Mechanical Interlocks (3P)		—	—	X	—	—	X	—
Handle Padlock Attachment		X	X	X	X	X	X	X
Cylinder Lock (3P△)		—	—	X	—	—	X	—
Optional GF Protection□		—	—	X	—	—	X	—
Trip System Type								
Thermal-magnetic		X	X	X	X	X	X	X
Instantaneous-only (MCP)		—	—	X	—	—	X	—
Molded Case Switch (Automatic)		—	—	—	—	—	X	—
Electronic		—	—	—	—	—	—	—
Enclosures (Pages DE3-56–DE3-58)								
General Purpose (NEMA 1)		X	X	X	X	X	X	—
Raintight (NEMA 3R)		X	X	X	X	X	X	—
Dust-tight (NEMA 12)		X	X	X	X	X	X	—
Watertight (NEMA 4, 4X, 5)		X	X	X	X	X	X	—
Explosion Proof (NEMA 7, 9)		X	X	X	X	X	X	—
Dimensions (3P Unit Mount) in. (mm)	Height	6 (152)	6 (152)					8 (203)
	Width	4.5 (114)	4.5 (114)					4.5 (114)
	Depth	4.13 (105)	4.13 (105)					4.75 (121)
Pages (Unit Mount)/(I-Line)		DE3-59 / Section DE5		DE3-59 / Section DE5			DE3-61/Section DE5	

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

- ▲ Ungrounded UPS systems only. See page DE3-35.
- 65 kA @120 Vac
- ◆ 1Ø 125 Vdc rating only.
- ★ Dual CSA/UL and IEC ratings and CE markings on circuit breakers.
- ▼ Not available on 1P FA (240 V).

- △ Factory-installed option only.
- Requires factory-installed "G" Shunt trip and 3P module.
- ◇ Not available in HD and HG 2P rating (2P module).
- ☆ 2P in a 3P module.
- ▽ 3P only.
- 1P FA is 120 Vac.
- * Not available with electronic trip units

	250 A K-Frame	400 A L-Frame			600 A L-Frame	
						
Circuit Breaker Type	KI	Q4	LA	LH	LI	LXI
Number of Poles	2, 3	2, 3	2, 3	2, 3	2, 3	3
Current Range	110–250	250–400	125–400	125–400	300–600	100–600
Interrupting Ratings						
UL/CSA/NOM Rating (kA RMS) (50/60 Hz)	240 Vac	200	25	42	65	200
	480Y/277 Vac	200	—	30	35	200
	480 Vac	200	—	30	35	200
	600Y/347 Vac	100	—	22	25	100
DC Ratings	600 Vac	100	—	22	25	100
	250 Vdc	—	—	10	50	—
	500 Vdc▲	—	—	—	20	—
IEC 60947-2 (kA RMS) Icu/Ics■	240 Vac	—	—	—	—	—
	415 Vac	130/65	—	20/5	20/5	—
Special Ratings						
CCC	—	—	—	—	—	—
Fed. Specs W-C-375B/GEN	X	X	X	X	X	X
HACR (2P, 3P)	—	—	X	X	—	—
Connections/Terminations						
Unit Mount	X	X	X	X	X	X
I-Line™	X	X	X	X	X	X
Rear Connection	—	X	X	X	—	—
Drawout	—	—	—	—	—	—
Optional Lugs	X	X	X	X	X	X
Accessories and Modifications						
Shunt Trip	X♦	X	X	X	X	—
Undervoltage Trip	X♦	X	X	X	X	X
Auxiliary Switches	X♦	X	X	X	X	X
Alarm Switch	X♦	X	X	X	X	X
Motor Operator	X	X	X	X	—	—
Handle Operators	—	X	X	X	—	—
Mechanical Interlocks (3P)	—	—	X★	X★	—	—
Handle Padlock Attachment	X	X	X	X	X	X
Cylinder Lock (3P)	—	X	X	X	—	—
Optional GF Protection	X▼♦	—	—	—	—	X★
Trip System Type						
Thermal-magnetic	X	X	X	X	X	—
Instantaneous-only (MCP)	—	—	X	X	—	—
Molded Case Switch (Automatic)	—	—	—	X	—	—
Electronic	—	—	—	—	—	X
Enclosures (Pages DE3-56–DE3-58)						
General Purpose (NEMA 1)	—	X	X	X	—	—
Raintight (NEMA 3R)	X	X	X	X	—	—
Dust-tight (NEMA 12)	X	X	X	X	X	X
Watertight (NEMA 4, 4X, 5)	X	X	X	X	—	—
Explosion Proof (NEMA 7, 9)	—	—	—	—	—	—
Dimensions (3P Unit Mount) in. (mm)	Height	8 (203)	11 (279)		11.86 (301)	
	Width	4.5 (114)	6 (152)		7.5 (190)	
	Depth	4.75 (121)	5.84 (148)		6.74 (171)	
Pages (Unit Mount)/(I-Line)		DE3-61 / Section DE5		DE3-60 / Section DE5		DE3-61 / Section DE5

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

- ▲ Ungrounded UPS systems only. See page DE3-35.
- Dual CSA/UL and IEC ratings and CE markings on circuit breakers.
- ♦ Factory-installed option only.
- ★ Requires circuit breaker with WB suffix.
- ▼ Requires factory-installed "G" Shunt trip. Available only for 3P.
- △ 65/50 kA Icu/Ics for 450 A–600 A ratings

QO™ and QOU Miniature Circuit Breakers

QO™ Miniature Circuit Breakers

Class 730, 731, 733 / Refer to Catalog 0730CT9801

QO™ miniature circuit breakers are plug-on products for use in QO load centers, NQOD panelboards, NQOD OEM interiors or Speed-D™ switchboard distribution panels. Bolt-on QOB circuit breakers are for use in NQOD panelboards or interiors.▲
The QO exclusive Qwik-Open™ mechanism, with a trip reaction within 1/60th of a second, is standard on all 1P 15 A and 20 A QO circuit breakers.

Plug-On Circuit Breakers

Amperes Rating	1P—120/240 Vac		2P—120/240 Vac Common Trip		2P—240 Vac Common Trip		3P—240 Vac Common Trip	
	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
10 k AIR								
10 A	QO110		QO210		—		QO310	
15 A	QO115★▼		QO215★		QO215H		QO315★	
20 A	QO120★▼		QO220★		QO220H		QO320★	
25 A	QO125★		QO225★		QO225H		QO325★	
30 A	QO130★		QO230★		QO230H		QO330★	
35 A	QO135★		QO235★		—		QO335★	
40 A	QO140★		QO240★		QO240H		QO340★	
45 A	QO145★		QO245★		—		QO345★	
50 A	QO150★		QO250★		QO250H		QO350★	
60 A	QO160★		QO260★		QO260H		QO360★	
70 A	QO170★		QO270★		QO270H		QO370★	
80 A	—		QO280★		QO280H		QO380★	
90 A	—		QO290★		QO290H		QO390★	
100 A	—		QO2100★		QO2100H		QO3100★	
110 A	—		QO2110★		—		—	
125 A	—		QO2125★		—		—	
150 A	—		QO2150★△□		—		—	
175 A	—		QO2175★△□		—		—	
200 A	—		QO2200★△□		—		—	
Molded Case Switch 60 A max.—240 Vac			—		QO200		QO300	
Molded Case Switch 100 A max.—240 Vac			—		QO2000★		QO3000★	
22 k AIR★								
15 A	QO115VH▼		QO215VH□		—		QO315VH□	
20 A	QO120VH▼		QO220VH□		—		QO320VH□	
25 A	QO125VH		QO225VH□		—		QO325VH□	
30 A	QO130VH		QO230VH□		—		QO330VH□	
40 A	—		QO240VH□		—		QO340VH□	
50 A	—		QO250VH□		—		QO350VH□	
60 A	—		QO260VH□		—		QO360VH□	
70 A	—		QO270VH□		—		QO370VH□	
80 A	—		QO280VH□		—		QO380VH□	
90 A	—		QO290VH□		—		QO390VH□	
100 A	—		QO2100VH□◇		—		QO3100VH□	
110 A	—		QO2110VH□◇		—		—	
125 A	—		QO2125VH□◇		—		—	
150 A	—		QO2150VH□◇□		—		—	
175 A	—		QO2175VH□◇□		—		—	
200 A	—		QO2200VH□◇□		—		—	
42 k AIR★								
40 A	—		QOH240★		—		—	
45 A	—		QOH245★		—		—	
50 A	—		QOH250★		—		—	
60 A	—		QOH260★		—		—	
70 A	—		QOH270		—		—	
80 A	—		QOH280		—		—	
90 A	—		QOH290		—		—	
100 A	—		QOH2100		—		—	
110 A	—		QOH2110★		—		—	
125 A	—		QOH2125		—		—	
65 k AIR★								
15 A	QH115▼		QH215		—		QH315★	
20 A	QH120▼		QH220		—		QH320	
25 A	QH125★		QH225★		—		QH325★	
30 A	QH130		QH230		—		QH330	

QO-QOB Ring Terminal (20% \$ Price Adder)—Factory Installed Only

Ampere Rating	Poles	Suffix
10–30 A	1, 2, 3	5237
35–60 A	1,2	
35–50 A	3	5238
70–110 A	2	
60–100 A	3	5273

Wire Sizes■

Circuit Breaker Type	Ampere Rating	Wire Size (AWG/kcmil)
QO 1P	10–30 A	14–8 Al/Cu
	10–30 A	(2) 14–10 Cu
	35–70 A	8–2 Al/Cu
QO 2P	10–30 A	14–8 Al/Cu
	10–30 A	(2) 14–10 Cu
	35–70 A	8–2 Al/Cu
	80–125 A	4–2/0 Al/Cu
QO 3P	10–30 A	14–8 Al/Cu, (2) 14–10 Cu
	35–70 A	8–2 Al/Cu
QOB-VH	110–150 A	4–300 Al/Cu
	15–20 A	12–8 Al 14–8 Cu
QOT	15–20 A	12–8 Al 14–8 Cu
	15–30 A	12–8 Al 14–8 Cu
QO-AFI, QO-GFI & QO-EPD	40, 50, 60 A	12–4 Al 14–6 Cu
	10–60 A	12–2 Al 14–2 Cu

Replacement Tandem Circuit Breakers

For Use in Old Style Non-Class CTL QO Load Centers—10 k AIR

Ampere Rating	Cat. No.★	\$ Price
1P—120/240 Vac—1 Space Required		
15 & 15 A	QO1515	
15 A & 20 A	QO1520	
20 A & 20 A	QO2020	
20 A & 30 A	QO2030	
30 A & 20 A	QO3020	
Two 1P Individual Trip—120/240 Vac—2 Spaces Required		
15 A & 15 A	Order Two QO1515 or QO2020 circuit breakers and handle tie QOTHT for common switching of center two poles.	
15 A & 20 A		
20 A & 20 A		
20 A & 30 A		
30 A & 20 A		



QO 1P
1 Space Required



QOT 1P Tandem
1 Space Required



QO 2P
2 Spaces Required



QO2200 2P 200 A
4 Spaces Required



QO 3P
3 Spaces Required

- ▲ See Section 1 for load centers, and Section 5 for panelboards and interiors.
- 10–30 A circuit breakers are suitable for use with 60°C or 75°C conductors. 35–125 A circuit breakers are suitable for use with 75°C conductors.
- ◆ CSA/UL Listed 5 k AIR on corner grounded Delta systems.
- ★ CSA/UL Listed as HACR type for use with air conditioning, heating and refrigeration equipment having motor group combinations and marked for use with HACR type circuit breakers.
- ▼ CSA/UL Listed as SWD (switching duty) rated. Suitable for switching 120 Vac fluorescent lighting loads.
- △ Requires four spaces (1 AWG–300 kcmil Al/Cu). Suitable for switching 120 Vac fluorescent lighting loads.
- CSA/UL Listed for use ahead of QO, QO-GFI, QO-EPD, QO-AFI, QOT, QOCAFI, and QO-PL 10 k AIR circuit breakers to permit their application at 22 kA fault level.
- ◇ 100 A maximum branch mounted opposite.
- ☆ Order only. Contact your local Field Office.
- ▽ Includes two circuit breakers (one QO2030 and one QO3020) and handle tie QOTHT.
- Not suitable for use in 3Ø panels. Use only in 1Ø panel rated 150 A or greater.

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1P
QO-AFI



1P
QO-GFI



2P
QO-GFI



3P
QO-GFI



Two-wire
QO-SWN



Three-wire
QO-SWN



QO 1P
With Shunt Trip



QO-K Key
Operated

QO™ Arc-Fault Circuit Breaker

QO arc-fault circuit breakers provide branch feeder protection for series and parallel-type arcing as required by the NEC and local code adoption, and comply with UL1699.

QO Arc Fault Circuit Breakers▲

Circuit Breaker Type	Ampere Rating	1P 120 Vac		1P 120 Vac	
		10 k AIR		22 k AIR	
		1 Space Required		1 Space Required	
		Cat. No.	\$ Price	Cat. No.	\$ Price
Combination Arc-fault Interrupter	15 A	QO115CAFI		QO115VHCAFI	
	20 A	QO120CAFI		QO120VHCAFI	

QO-GFI

Qwik-Gard™ circuit breakers provide overload and short circuit protection, combined with Class A ground fault protection. Class A denotes a ground fault circuit interrupter that will trip when a fault current to ground is 6 mA or more, for people protection. Do not connect to more than 250 feet of load conductor for the total one-way run to prevent nuisance tripping.

QO-GFI Circuit Breakers

Ampere Rating ▲	Qwik-Gard Circuit Breakers With Ground Fault Circuit Interrupter					
	1P 120 Vac			2P Common Trip 120/240 Vac		
	10 k AIR		22 k AIR	10 k AIR		
	1 Space Required	1 Space Required	1 Space Required	2 Spaces Required	2 Spaces Required	2 Spaces Required
	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
15	QO115GFI		QO115VHGFI		QO215GFI	
20	QO120GFI		QO120VHGFI		QO220GFI	
25	QO125GFI		QO125VHGFI		QO225GFI	
30	QO130GFI		QO130VHGFI		QO230GFI	
40	—	—	—	—	QO240GFI	
50	—	—	—	—	QO250GFI	
60	—	—	—	—	QO260GFI★	

QO-EPD/EPE

QO-EPD/EPE circuit breakers provide overload and short circuit protection combined with Class B ground fault protection. They are designed to provide ground fault protection of equipment at a 30 milliampere level (EPD) or 100 milliamp level (EPE). They are not designed to protect people from electrical shock.

QO-EPD Circuit Breakers

Ampere Rating ▲	1P 120 Vac	2P Common Trip 120/240 Vac	3P Common Trip 240 Vac			
	10 k AIR	10 k AIR	10 k AIR			
	1 Space Required	2 Spaces Required	3 Spaces Required			
	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
15	QO115EPD		QO215EPD		QO315EPD▼	QO315EPE▼
20	QO120EPD		QO220EPD		QO320EPD▼	QO320EPE▼
25	QO125EPD		QO225EPD		—	—
30	QO130EPD		QO230EPD		QO330EPD▼	QO330EPE▼
40	—	—	QO240EPD		QO340EPD▼	QO340EPE▼
50	—	—	QO250EPD		QO350EPD▼	QO350EPE▼
60	—	—	QO260EPD★		—	—

QO-SWN

Switch Neutral Common Trip 2008 NEC™ 514.11

QO-SWN Circuit Breakers

Ampere Rating ▲	2 Wire 120 Vac		3 Wire 120/240 Vac	
	10 k AIR		10 k AIR	
	2 Spaces Required		3 Spaces Required	
	Cat. No.	\$ Price	Cat. No.	\$ Price
10 A	QO210SWN		—	
15 A	QO215SWN		QO315SWN	
20 A	QO220SWN		QO320SWN	
25 A	QO225SWN		—	
30 A	QO230SWN		QO330SWN	
40 A	QO240SWN		QO340SWN	
50 A	QO250SWN		QO350SWN	

QO-HID

HID circuit breakers are for use on circuits feeding fluorescent and high intensity discharge (HID) lighting systems such as mercury vapor, metal halide, or high pressure sodium. These circuit breakers are physically interchangeable with QO circuit breakers.

QO-HID Circuit Breakers

Ampere Rating ▲	1P 120/240 Vac		2P Common Trip 120/240 Vac		3P Common Trip 240 Vac	
	10 k AIR		10 k AIR		10 k AIR	
	1 Space Required	2 Spaces Required	2 Spaces Required	3 Spaces Required	3 Spaces Required	3 Spaces Required
	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
15 A	QO115HID■		QO215HID		QO315HID	
20 A	QO120HID■		QO220HID		QO320HID	
25 A	QO125HID		QO225HID		QO325HID	
30 A	QO130HID		QO230HID		QO330HID	
40 A	QO140HID		QO240HID		—	
50 A	QO150HID		QO250HID		—	

QO-K

Key operated QO circuit breakers are available in single-pole construction and can be mounted in any single-pole space which will accept a standard QO. These circuit breakers can be turned ON or OFF or to RESET with a special key (catalog number QOK10) included with the circuit breaker. These circuit breakers are UL Listed and available as shown in the table.

QO-K Circuit Breakers

120 Vac—10 k AIR (1 Space Required)		
Ampere Rating ▲	Cat. No.	\$ Price
10 A	QO110K	
15 A	QO115K	
20 A	QO120K	
30 A	QO130K	

QO-HM

High magnetic trip circuit breakers are recommended for applications where high initial inrush may occur and for individual dimmer applications.

QO-HM Circuit Breakers

Ampere Rating ▲	1P	
	Cat. No.	\$ Price
120 Vac—10 k AIR		
15 A	QO115HM▲■	
20 A	QO120HM▲■	

Non-automatic (Standard) Miniature Switches

Miniature non-automatic switches have the same physical packaging as miniature circuit breakers, but open only when the handle is switched to the OFF position.

Non-automatic switches provide no overcurrent protection or short circuit protection. They must not be used on systems that have an available fault current greater than the values listed in the table.

Non-automatic switches are UL Listed per UL 1087 and are CSA certified.

QO, 240 Vac 10 kA

Ampere Rating	2P		3P	
	Cat. No.	\$ Price	Cat. No.	\$ Price
60 A	QO200		QO300	
100 A	QO2000		QO3000	

- ▲ CSA/UL Listed as HACR type for use with air conditioning, heating and refrigeration equipment having motor group combinations and marked for use with HACR type circuit breakers.
- CSA/UL Listed as SWD (switching duty) rated. Suitable for switching 120 Vac fluorescent lighting loads.
- ◆ 10–30 A circuit breakers are suitable for use with 60° C or 75° C conductors. 35–60 A circuit breakers are suitable for use with 75° C conductors.
- ★ Suitable only for feeding 240 Vac and 208 Vac two-wire loads. Does not contain load neutral connection.
- ▼ See note in Instruction Bulletin when using in an enclosure with a QO403 or QON prefix.

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QO™ and QOU Miniature Circuit Breakers

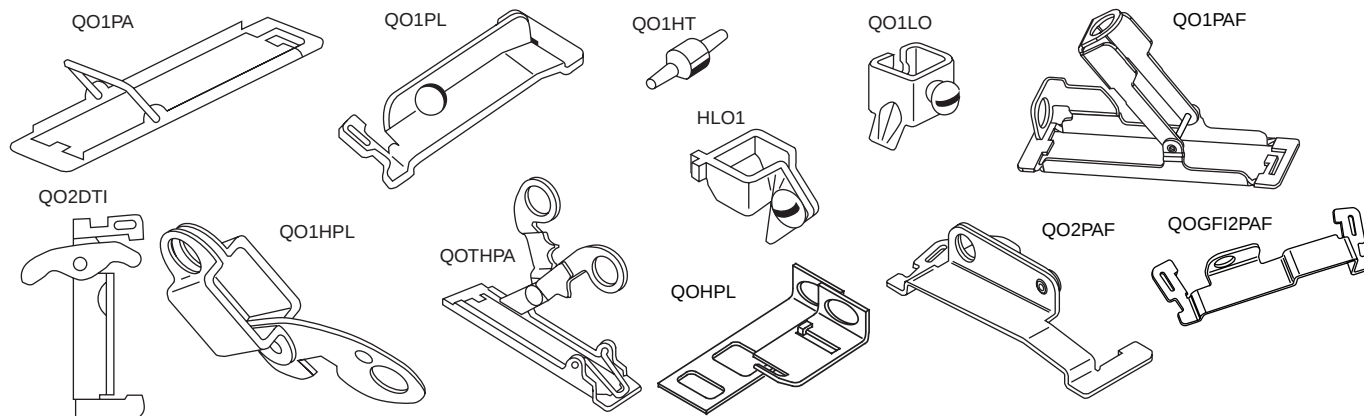
QO™ Circuit Breaker Accessories

Class 1130 / Refer to Catalog 0730CT9801

Accessories for Use with QO™ and QOB Miniature Circuit Breakers

Handle Attachments	Description	Cat. No.	\$ Price
Handle Tie:	Converts any two adjacent 120/240 Vac 1P QO circuit breakers to independent trip 2P Converts any two adjacent 120/240 Vac 1P side-by-side QOT circuit breakers to independent trip 2P Handle tie and lock-off for three 1P QO, QOB circuit breakers	QO1HT QOTHT QO3HT	
Handle Clamp:	Clamp for holding QO 1P handle in ON or OFF position Clamp for holding QO or Q1 1P, 2P or 3P circuit breaker handles in ON or OFF position	QO1LO HLO1	
Handle Padlock Attachment: for Padlocking in ON or OFF position	For padlocking 1P QO circuit breaker in ON or OFF position Loose attachment Fixed attachment For padlocking 1P side-by-side QOT circuit breaker in ON or OFF position For padlocking 2P and 3P QO-GFI, QO-EPD, and QO-EPE in either ON or OFF position, fixed attachment. For 2P and 3P QO and Q1 standard circuit breakers which require padlocking in either ON or OFF position. Loose attachment Fixed attachment	QOHPL QO1PA QOTHPA GFI2PA QO1HPL QO1PL	
Handle Padlock Attachment: for Padlocking in OFF position	For padlocking 1P QO circuit breaker in OFF position only, fixed attachment. For padlocking 2P and 3P QO circuit breakers in OFF position only, fixed attachment. For padlocking 1P QO-GFI, QO-AFI, QO-CAFI, and QO-EPD circuit breakers in OFF position only, fixed attachment. For padlocking 2P and 3P QO-GFI, QO-EPD, and QO-EPE circuit breakers in OFF position only, fixed attachment.	QO1PAF QO2PAF QOGFI1PAF QOGFI2PAF	
Sub-Feed Lugs	60 A 2P plug-on – 2 spaces required (6–2 Al/Cu) 125 A 2P plug-on – 2 spaces required (12–2/0 Al/Cu) 225 A 2P plug-on – 4 spaces required (4–300 Al/Cu) 125 A 3P plug-on – 3 spaces required (12–2/0 Al/Cu)	QO60SL QO2125SL QO2225SL▲ QO3125SL	
Mechanical Interlock Attachment	For interlocking the handles of two 2P or one 2P and one 1P QO and Q1 circuit breakers mounted side-by-side so that only one circuit breaker can be ON at a time (Not QOU)	QO2DTI	
With Retaining Kit:	QO2DTI mechanical interlock attachment with retaining kits for securing two adjacent back-fed circuit breakers in dual power supply applications. Can be used with (2) 2Ps or (1) 2P and (1) 1P QO circuit breakers in QO816L100 load centers.	QO2DTIM	

▲ Not suitable for use in 3Ø panels. Use only in 1Ø panel rated 150 A or greater.



Factory-Installed Accessories for Use with QO and QOB Miniature Circuit Breakers

Factory-installed electrical accessories take up an additional pole space on QO™, QO-GFI, QO-EPD, QO-SWN and QOU circuit breakers. All AC electrical accessories shown below are rated for 50/60 Hz. Accessories are not available for QOB-VH (2P 150 A and 3P 110–150 A) circuit breakers or QO, QOU molded case switches. QO circuit breakers will accept only one accessory per circuit breaker. Undervoltage trip is not available on miniature circuit breakers. Factory-installed accessories are not available for QO-AFI or QO-CAFI Arc Fault Circuit Breakers or on QO2150, QO2175, or QO2200 circuit breakers.

Factory-Installed Accessories

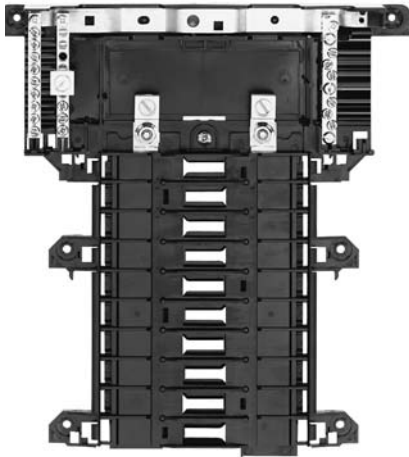
Accessory	Description	Rated Voltage	Coil Burden	Cat. No. Suffix	\$ Price Adder	Accessory	Description	Contact Comb.	Max. Voltage	Max. Load	Cat. No. Suffix	\$ Price Adder	
Shunt Trip	Trips the circuit breaker from a remote location by means of a trip coil energized from a separate circuit. A 120 Vac shunt trip will operate at 55% or more of rated voltage. All other shunt trips will operate at 75% or more of rated voltage. Application - For use with momentary or maintained push button. - Not available on QO-GFI, QO-EPD, QO-AFI, QOCAFI. - Shunt trip terminals accept (2) 14–12 AWG Cu.	AC/DC	12 24	60 VA 168 VA	-1042	Auxiliary Switches	Monitors circuit breaker contact status and provides a remote signal indicating the circuit breaker contacts are OPEN or CLOSED. Application Auxiliary switch terminals accept (2) 14–12 AWG Cu leads.	1A 1B	AC 120 AC 120	5 A 5 A	-1200 -1201		
		AC	120 208 240	72 VA 228 VA 288 VA	-1021								
							Alarm Switches	Used with control circuits and is actuated only when the circuit breaker has tripped. Standard construction includes a normally-open contact. Application Alarm switch terminals accept (2) 14–12 AWG Cu leads.	1A	AC 120	5 A	-2100	



SN12125



QON2L40



QON120L125I

QO OEM Mounting Bases

Voltage System	Main Lug Rating	1P Spaces	Max. No. 1P	Mounting Bases		Main Wire Size AWG/kcmil
				Cat. No.	\$ Price	
QO Plug-On Mounting Bases—For unit mounting QO, QO-GFI, QO-AFI and QO-EPD circuit breakers						
1Ø2W 240 Vac Max. 10 k AIC	70 A	2	2	QON2L70		14–4 Cu, 12–3 Al
	40 A	2	2	QON2L40		14–6 Cu, 12–6 Al
	70 A	2	4	QON24L70		14–4 Cu, 12–3 Al
	100 A	6	12	QON612L100		8–1/0 Cu/Al
	100 A	8	16	QON816L100		8–1/0 Cu/Al
	125 A	12	12	QON112L125I		4–2/0 Cu/Al
	125 A	16	16	QON116L125I		4–2/0 Cu/Al
	125 A	20	20	QON120L125I		4–2/0 Cu/Al
	125 A	32	32	QON132L125I		4–2/0 Cu/Al
	200 A	12	12	QON124L200I		4–250 Cu/Al
1Ø3W 240 Vac Max. 10 k AIC	200 A	12	12	QON12L200FTL ■		4–250 Cu/Al
	225 A	42	42	QON142L225I		4–300 Cu/Al
	125 A	12	12	QON312L125		4–2/0 Cu/Al
	200 A	18	18	QON318L200		4–300 Cu/Al
3Ø3W 240 Vac Max. 10 k AIC (Without Neutral Assy.)	200 A	24	24	QON324L200		4–300 Cu/Al
	200 A	30	30	QON330L200		4–300 Cu/Al
	60 A	3	3	QON403L60N		12–6 Cu/Al
	125 A	24	24	QON324L125I		4–2/0 Cu/Al
3Ø4W 240 Vac Max. 10 k AIC	200 A	24	24	QON324L200I		4–300 Cu/Al
	200 A	24	24	QON324L200I		4–300 Cu/Al
QO Plug-On Mounting Bases—For unit mounting QO, QO-GFI and QO-EPD circuit breakers						
1Ø2W 240 Vac Max. 10 k AIC (Without Neutral Assembly)	70 A	1	1	QOMB1		14–4 Cu 12–2 Al
	70 A	2	2	QOMB2		14–4 Cu 12–2 Al
	70 A	3	3	QOMB3		14–4 Cu 12–2 Al
QOB Bolt-On Mounting Bases—For unit mounting QOB, QOB-GFI, QOB-EPD circuit breakers						
3Ø3W 240 Vac Max. 10 k AIC (Without Neutral Assembly)	100 A	3	3	QON3B ♦		12–1 Cu/Al
♦ Device comes with factory-installed feed-thru lugs. ♦ UL listed only.						

- Device comes with factory-installed feed-thru lugs.
- ◆ UL listed only.

Solid Neutral Assemblies

Main Lug Rating	Number of Branch Neutral Terminals	Cat. No.	\$ Price	Main Neutral Lug Wire Size	Branch Neutral Terminal Wire Size	
				Cu/Al	Cu	Al
125 A	20	SN20		4–2/0 AWG	14–4 AWG	12–4 AWG
200 A	12	SN1200		4 AWG–300 kcmil	14–4 AWG	12–4 AWG
200 A	30	SN30		4 AWG–300 kcmil	14–4 AWG	12–4 AWG

Multi-9 Mounting Bases for CSA C22.2 No. 5/UL489 C60, 240 Vac max.

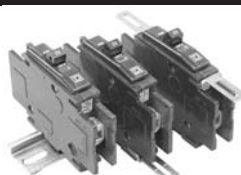
Description	Poles	Amperes	Length		Cat. No.	\$ Price
			in.	mm		
One-conductor Mounting Base	12	200 A	10.4	264	US11220018	
	24		14.4	366	US12420018	
	36		19	483	US13620018	
	48		23	584	US14820018	
	60		27.5	699	US16020018	
Two-conductor Mounting Base	12	150 A	10.4	264	US21215018	
	24		14.4	366	US22420018	
	36		19	483	US23620018	
	48		23	584	US24820018	
	60		27.5	699	US26020018	
Three-conductor Mounting Base	12	100 A	10.4	264	US31210018	
	24		14.4	366	US32420018	
	36		19	483	US33620018	
	48		23	584	US34820018	
	60		27.5	699	US36020018	



US Mounting Base for CSA C22.2 No. 5/UL489 C60 (3 conductor shown)

Accessories for US Mounting Base for CSA C22.2 No. 5/UL489 C60

Description	Cat. No.	\$ Price
Main lug kit for US mounting bases, 1 lug per kit, for 6 AWG to 300 kcmil cable	USMBLK	
Terminal cover for US mounting base; provides IP20 ingress protection per IEC 60529; suitable for jumper bars or cable	USMBTC	



Low Ampere QOU

Low Ampere QOU Miniature Circuit Breakers

QOU unit mount miniature circuit breakers (cable-in/cable-out) are ideal for OEM applications. They have the Square D™ circuit breaker's unique Visi-Trip™ feature and can be DIN rail-mounted or surface- or flush-mounted using mounting feet.

General Specifications Common to All Low Ampere QOU Circuit Breakers

- For convenient flush mount, surface mount or DIN mount (symmetrical rail 35 x 7.5 DIN/EN 50 022)
- Single handle with internal common trip
- Terminal lug wire size (1) 14–2 AWG Cu or Al
- Reversible line and load lugs
- Field-installable quick connectors
- CSA/UL Listed 48 Vdc (5 k AIR)
- CSA/UL Listed as HACR Type: 10–70 A
- High magnetic trip circuit breakers (QOU-HM) are recommended for applications where high initial inrush may occur and for individual dimmer applications.

QOU Low Ampere Miniature Circuit Breakers

Ampere Rating	1P 120/240 Vac		2P 120/240 Vac		2P 240 Vac		3P 240 Vac	
	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.▲	\$ Price	Cat. No.	\$ Price
10 k AIR								
10 A	QOU110		QOU210		—		QOU310	
15 A	QOU115		QOU215		QOU215H		QOU315	
20 A	QOU120		QOU220		QOU220H		QOU320	
25 A	QOU125		QOU225		QOU225H		QOU325	
30 A	QOU130		QOU230		QOU230H		QOU330	
35 A	QOU135		QOU235		—		QOU335	
40 A	QOU140		QOU240		—		QOU340	
45 A	QOU145		QOU245		—		QOU345	
50 A	QOU150		QOU250		—		QOU350	
60 A	QOU160		QOU260		—		QOU360	
70 A	QOU170		QOU270		—		QOU370	
22 k AIR								
15 A	QOU115VH		QOU215VH		—		QOU315VH	
20 A	QOU120VH		QOU220VH		—		QOU320VH	
25 A	QOU125VH		QOU225VH		—		QOU325VH	
30 A	QOU130VH		QOU230VH		—		QOU330VH	
35 A	QOU135VH		QOU235VH		—		—	
40 A	QOU140VH		QOU240VH		—		—	
45 A	QOU145VH		QOU245VH		—		—	
50 A	QOU150VH		QOU250VH		—		—	
60 A	QOU160VH		QOU260VH		—		—	

▲ QOU-H interrupting rating is 10 kA at 240 Vac.

QOU-HM Miniature Circuit Breakers (10 k AIR)

Ampere Rating	1P 120/240 Vac		2P 120/240 Vac		2P 240 Vac		3P 240 Vac	
	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
15 A	QOU115HM		—		—		—	
20 A	QOU120HM		—		—		—	

High Ampere QOU Circuit Breakers

General Specifications Common to All High Ampere QOU Circuit Breakers

- Flush mount, surface mount, and DIN rail mount.
- Internal common trip.
- Non-reversible line and load lugs.
- Terminal lug wire size (1) 12– 2/0 AWG Cu or Al.
- UL Listed 60 Vdc per pole (5 k AIR). (**Note:** except switches)
- CSA/UL Listed as HACR type, 80–125 A.
- Non-automatic switches have the same physical packaging as miniature circuit breakers, but provide no overcurrent or short circuit protection. They are UL Listed per UL1087 and are CSA certified.

QOU High Ampere Miniature Circuit Breakers (10 k AIR)

Ampere Rating	1P 120/240 Vac		2P 120/240 Vac		2P 240 Vac		3P 240 Vac	
	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
80 A	QOU180		QOU280		—		QOU380	
90 A	QOU190		QOU290		—		QOU390	
100 A	QOU1100		QOU2100		—		QOU3100	
125 A	—		QOU2125		—		—	

QOU Non-Automatic Switches

Ampere Rating	1P 120 Vac	\$ Price	2P 120/240 Vac	\$ Price	2P 240 Vac	\$ Price	3P 240 Vac	\$ Price
	Cat. No.		Cat. No.		Cat. No.		Cat. No.	
60 A	—		—		QOU200		QOU300	
100 A	—		—		QOU2000		QOU3000	
125 A	—		—		QOU20001		QOU30001	

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High Ampere QOU

Accessories for QOU Low Ampere Circuit Breakers (Except as Noted)

Description	Order Qty.	Cat. No.	Unit \$ Price
Factory-installed ring tongue terminal, 10–32 screw, for 1P, 2P, 3P QOU, 10–60 A	—	Suffix -5283	
Hex drive 5/32 in. wire binding screw for QOU	—	Suffix -5280	
For padlocking 1P low ampere QOU circuit breaker in OFF or ON position	—	QOU1PA	
For padlocking 2P and 3P low ampere QOU circuit breaker in OFF or ON position	—	QOU1PL	
For padlocking 1P low ampere QOU circuit breaker in OFF position only	—	QOU1PAFLA	
For padlocking 2P and 3P low ampere QOU circuit breaker in OFF position only	—	QOU2PAFLA	
For padlocking 2P and 3P high ampere QOU circuit breaker in OFF position only	—	Suffix -7100	
Handle lock-out, ON or OFF position	—	HLO1	
4P 100 A Jumper bar assy. w/front wiring with base, cover and screw	1	QOU14100JBAF	
4P 100 A Jumper bar assy. w/right side wiring with base, cover and screw	1	QOU14100JBAR	
4P 100 A Jumper bar assy. w/left side wiring with base, cover and screw	1	QOU14100JBAL	
1Ø, 4P, 100 A Jumper bar base with front wiring	40	QOU14100BAFB	
1Ø, 4P, 100 A Jumper bar base with left side wiring	40	QOU14100BALB	
1Ø, 4P, 100 A Jumper bar base with right side wiring	40	QOU14100BARB	
4P Jumper bar cover	40	QOU14100CAB	
Mounting screw for jumper bar cover	40	QOU1CMSB	
6P 150 A Jumper bar assy. w/front wiring with base, cover and screw	1	QOU16150JBAF	
1Ø, 6P, 150 A Jumper bar base with front wiring	40	QOU16150BAFB	
1Ø, 6P, 150 A Jumper bar base with left side wiring	40	QOU16150BALB	
1Ø, 6P, 150 A Jumper bar base with right side wiring	40	QOU16150BARB	
6P jumper bar cover	40	QOU16150CAB	
Vertical rainproof cover 2P and 3P QO, QOU, FA and KA	1 10	BCV▲ BCVB▲	
Horizontal rainproof cover 2P QO, QOU, and 3P Q2, EH	1 10	BCH▲ BCHB▲	
1P Fingersafe™ cover for high ampere QOU circuit breaker	1 40	QOUHFSC1 QOUHFSC1B	
1P Fingersafe cover for low ampere QOU circuit breaker	1 40	QOULFSC1 QOULFSC1B	
Cover plate for one 2P QOU circuit breaker	1 40	QOUCP2 QOUCP2B	
Cover plate for one 3P QOU circuit breaker	1 40	QOUCP3 QOUCP3B	
Cover plate for two 2P QOU circuit breakers	1 40	QOUCP4 QOUCP4B	
Cover plate for three 2P QOU circuit breakers	1 40	QOUCP6 QOUCP6B	
Field-installable ring tongue terminal adaptor	1 80	QOURT QOURTB	
Quick connector end connection wiring	1 40	QOUEC QOUECB	
Quick connector forward or reverse wiring	1 40	QOUFR QOUFRB	
1P QOU mounting foot	1 80	QOUMF1▲ QOUMF1B▲	
2P QOU mounting foot	1 40	QOUMF2▲ QOUMF2B▲	
3P QOU mounting foot	1 24	QOUMF3▲ QOUMF3B▲	
Tapped mounting foot for QOU, 1P and 2P 10–70 A, 3P 10–60 A			
Packaged with circuit breaker	1	Suffix -3100	
Individually packaged		QOUMFS1	
Bulk packed	80	QOUMFS1B	
Mechanical interlock attachment: Used to interlock two circuit breakers mounted side-by-side so that only one circuit breaker can be ON at a time. A 1P or 2P circuit breaker can be mounted on the left and interlocked with a 2P or 3P circuit breaker on the right.	1	QOU2DTILA ■	

▲ For use on low and high ampere QOU.

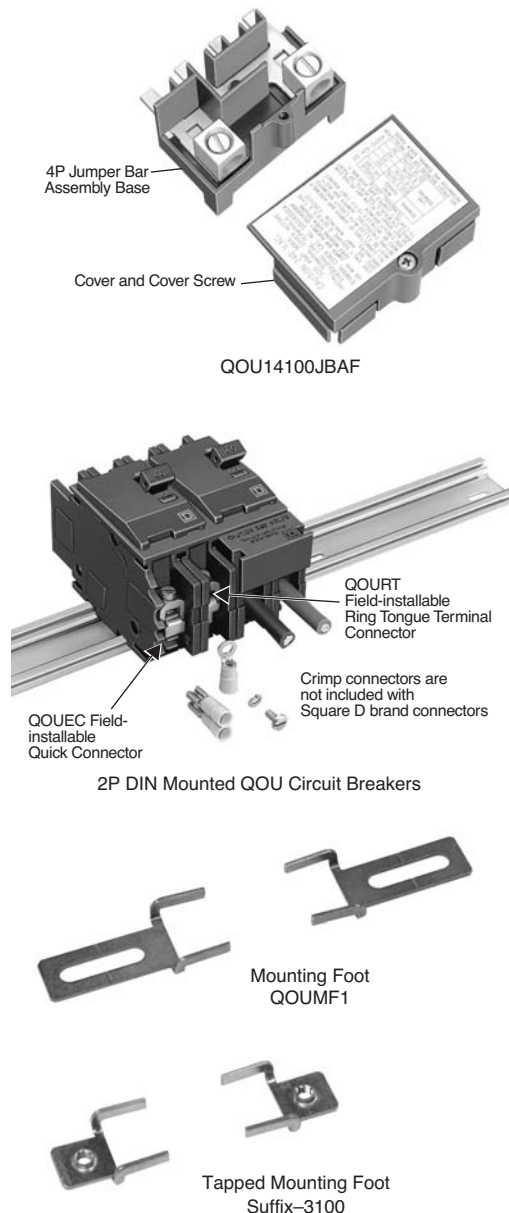
■ 10–70 A 1P and 2P, 10–60 A 3P.

For QOUQ Low Ampere Circuit Breakers with Four-Point Quick-Connect Terminals

QOUQ low ampere circuit breakers with four-point quick-connect terminals are provided with permanent factory-installed terminals which are affixed to the Load or OFF end of the circuit breaker. This special terminal will accommodate up to four 1/4-inch insulated female quick connect wire terminations. Total ampacity of these connections must not exceed the rating of the circuit breaker.

QOUQ Four-Point Quick-Connect Terminals

	Poles	Order Qty.	Cat. No.	Unit \$ Price Adder
Four-Point Quick-Connect Terminals	1	1	Change QOU to QOUQ	
	2	1		
	3	1		



Multi 9™ Miniature Circuit Breakers

CSA C22.2 No. 5/UL 489 C60 Miniature Circuit Breakers

Class 860 / Refer to Catalog 0860CT0201



1P C60
Box lug



2P C60
Box lug



3P C60
Box lug



Ring Tongue C60

Multi 9 C60 CSA C22.2 No. 5/UL 489 Listed 240 V Miniature Circuit Breakers

- UL 489 Listed and CSA 22.2 No. 5.1 for branch circuit protection
- Eliminates concerns and uncertainty of using a CSA C22.2 No. 235/UL 1077 device where a CSA C22.2 No. 5/UL 489 device is required
- Replaces fuses in low-ampere range; 17 ratings up to 35 A

Trip Curve	Use	Magnetic Release
C	For typical loads	7–10 x ampere rating (7–14 for DC)
D	For high inrush	10–14 x ampere rating

- 10 k AIR (1P @ 120 Vac; 2P and 3P @ 240 Vac)
- 60 Vdc for 1P and 125 Vdc for 2P (on C-curve circuit breakers only, see table below)
- Increased installation flexibility with standard box lugs or optional ring terminals
- Allows easy front-mounting and rear wiring when using ring terminals
- A wide range of electrical and mechanical accessories
- Suitable for reverse feeding
- Trip-free mechanism
- Positive indication of contact disconnect

CSA C22.2 No. 5/UL 489 Circuit Breakers (120/240 V)

Rating (A)	C Curve—7–10 Times Ampere Rating (7–14 DC)						D Curve—10–14 Times Ampere Rating					
	1P ▲		2P ■		3P		1P		2P		3P	
	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
Box Lug/Box Lug												
0.5	60100		60134		—		60117		60151		—	
1	60101		60135		60168		60118		60152		60184	
1.5	60102		60136		60169		60119		60153		60185	
2	60103		60137		60170		60120		60154		60186	
3	60104		60138		60171		60121		60155		60187	
4	60105		60139		60172		60122		60156		60188	
5	60106		60140		60173		60123		60157		60189	
6	60107		60141		60174		60124		60158		60190	
7	60108		60142		60175		60125		60159		60191	
8	60109		60143		60176		60126		60160		60192	
10	60110		60144		60177		60127		60161		60193	
13	60111		60145		60178		60128		60162		60194	
15	60112		60146		60179		60129		60163		60195	
20	60113		60147		60180		60130		60164		60196	
25	60114		60148		60181		60131		60165		60197	
30	60115		60149		60182		60132		60166		60198	
35	60116		60150		60183		60133		60167		60199	
Ring Tongue/Ring Tongue												
0.5	60200		60234		—		60217		60251		—	
1	60201		60235		60268		60218		60252		60284	
1.5	60202		60236		60269		60219		60253		60285	
2	60203		60237		60270		60220		60254		60286	
3	60204		60238		60271		60221		60255		60287	
4	60205		60239		60272		60222		60256		60288	
5	60206		60240		60273		60223		60257		60289	
6	60207		60241		60274		60224		60258		60290	
7	60208		60242		60275		60225		60259		60291	
8	60209		60243		60276		60226		60260		60292	
10	60210		60244		60277		60227		60261		60293	
13	60211		60245		60278		60228		60262		60294	
15	60212		60246		60279		60229		60263		60295	
20	60213		60247		60280		60230		60264		60296	
25	60214		60248		60281		60231		60265		60297	
30	60215		60249		60282		60232		60266		60298	
35	60216		60250		60283		60233		60267		60299	

- ▲ 1P dual rated 120 Vac/60 Vdc.
- 2P dual rated 240 Vac/125 Vdc.

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 Accessories Page DE3-20
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 Mounting Bases Page DE3-13



1P
UL489 C60



2P
UL489 C60



3P
UL489 C60

Multi 9 C60 CSA C22.2 No.5/UL 489 Listed 480V Miniature Circuit Breakers

- UL 489 Listed, CSA C22.2 No. 5.1; Also IEC 60947-2; CE marked
- 480Y/277 Vac @ 10 kA (2P and 3P), 277 Vac @ 10 kA (1P)
- 0.5 A through 20 A
- 1P, 2P, 3P, 18 mm wide per pole

Trip Curve	Use	Magnetic Release
C	For typical loads	7–10 x ampere rating (7–14 for DC)
D	For high inrush	10–14 x ampere rating

- UL 486B Listed single-barrel lug: (2) 18–10 AWG (1–25 mm²) cables, Cu only
- Optional ring tongue terminals
- A wide range of electrical and mechanical accessories
- Suitable for reverse feeding
- Trip-free mechanism
- Positive indication of contact disconnect

CSA C22.2 No.5/UL 489 Circuit Breakers (480Y/277 Vac)

Rating (A)	C Curve—7–10 Times Ampere Rating (7–14 DC)						D Curve—10–14 Times Ampere Rating					
	1P		2P		3P		1P		2P		3P	
	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
Single-Barrel Wire Lug												
0.5	MGN61300		—		—		MGN61333		—		—	
1	MGN61301		MGN61312		MGN61323		MGN61334		MGN61345		MGN61356	
2	MGN61302		MGN61313		MGN61324		MGN61335		MGN61346		MGN61357	
3	MGN61303		MGN61314		MGN61325		MGN61336		MGN61347		MGN61358	
4	MGN61304		MGN61315		MGN61326		MGN61337		MGN61348		MGN61359	
5	MGN61305		MGN61316		MGN61327		MGN61338		MGN61349		MGN61360	
6	MGN61306		MGN61317		MGN61328		MGN61339		MGN61350		MGN61361	
8	MGN61307		MGN61318		MGN61329		MGN61340		MGN61351		MGN61362	
10	MGN61308		MGN61319		MGN61330		MGN61341		MGN61352		MGN61363	
15	MGN61309		MGN61320		MGN61331		MGN61342		MGN61353		MGN61364	
20	MGN61310		MGN61321		MGN61332		MGN61343		MGN61354		MGN61365	
Ring Tongue Terminal												
0.5	MGN61366		—		—		MGN61399		—		—	
1	MGN61367		MGN61378		MGN61389		MGN61400		MGN61411		MGN61422	
2	MGN61368		MGN61379		MGN61390		MGN61401		MGN61412		MGN61423	
3	MGN61369		MGN61380		MGN61391		MGN61402		MGN61413		MGN61424	
4	MGN61370		MGN61381		MGN61392		MGN61403		MGN61414		MGN61425	
5	MGN61371		MGN61382		MGN61393		MGN61404		MGN61415		MGN61426	
6	MGN61372		MGN61383		MGN61394		MGN61405		MGN61416		MGN61427	
8	MGN61373		MGN61384		MGN61395		MGN61406		MGN61417		MGN61428	
10	MGN61374		MGN61385		MGN61396		MGN61407		MGN61418		MGN61429	
15	MGN61375		MGN61386		MGN61397		MGN61408		MGN61419		MGN61430	
20	MGN61376		MGN61387		MGN61398		MGN61409		MGN61420		MGN61431	

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Multi 9™ Miniature Circuit Breakers

UL1077 C60H Circuit Breakers

Class **860** / Refer to Catalog **0860CT0201**



1P C60H-DC



2P C60H-DC

Multi 9 C60H-DC UL 1077 Recognized (not CSA certified) Supplementary Protectors (250 and 500 Vdc)

The C60H-DC supplementary protectors are used in direct current circuits (industrial control and automation, transport, renewable energy, etc.). They provide overcurrent protection within appliances or electrical equipment.

- Range from 0.5–40 A
- 5 k AIR at 250 Vdc (1-pole) and 5 k AIR at 500 Vdc (2-pole, wired in series)
- Trip-free mechanism
- Positive indication of contact disconnect
- C-Curve: 7 to 14 times ampere rating
- UL 1077, IEC 60947-2, EN 60947-2, GB 14048.2, CCC and CE mark
- **Not CSA certified**

Multi 9 C60H-DC UL 1077 Recognized (not CSA certified) Supplementary Protectors

Current (A) ▲	1-Pole 24–250 Vdc		2-Pole 24–500 Vdc	
	Cat. No.	\$ Price	Cat. No.	\$ Price
0.5	MGN61500		MGN61520	
1	MGN61501		MGN61521	
2	MGN61502		MGN61522	
3	MGN61503		MGN61523	
4	MGN61504		MGN61524	
5	MGN61505		MGN61525	
6	MGN61506		MGN61526	
10	MGN61508		MGN61528	
13	MGN61509		MGN61529	
15	MGN61510		MGN61530	
16	MGN61511		MGN61531	
20	MGN61512		MGN61532	
25	MGN61513		MGN61533	
30	MGN61514		MGN61534	
32	MGN61515		MGN61535	
40	MGN61517		MGN61537	

▲ At 25°C/77°F, for other temperatures see temperature derating table in Multi 9 Catalogue 0860CT0201.

Class 685, 690, 730, 912, 950 / Refer to Catalog 0730CT9801 Multi 9™ Miniature Circuit Breakers

CSA C22.2 No. 235/UL 1077 C60 Supplementary Protectors



1P
UL 1077 C60



2P
UL 1077 C60



3P
UL 1077 C60



4P
UL 1077 C60

Intended for use within equipment where branch circuit protection is already provided or not needed

- Range from 0.5 to 63 A
- 10 k AIR @ 120/240 Vac; 5 k AIR at 480Y/277; 10 k AIR @ 60 Vdc (1P) and 125 Vdc (2P)
- Suitable for reverse feeding
- DIN mounting for easy installation
- Suitable for reverse feeding

- A wide range of electrical and mechanical accessories
- Trip-free mechanism
- Positive indication of contact disconnect

Trip Curve	Use	Magnetic Release
B	For sensitive equipment	3.2–4.8 x ampere rating
C	For typical loads	7–10 x ampere rating (7–14 for DC)
D	For high inrush	10–14 x ampere rating

CSA C22.2 No. 235/UL 1077 Supplementary Protectors

Rating (A)	1P	\$ Price	2P	\$ Price	3P	\$ Price	4P	\$ Price
B Curve—Magnetic Setting Between 3.2 and 4.8 Times Ampere Rating								
1	MG24110		MG24125		MG24140		MG24155	
1.2	MG17402		MG17432		—		—	
1.5	MG17403		MG17433		—		—	
2	MG24111		MG24126		MG24141		MG24156	
3	MG24112		MG24127		MG24142		MG24157	
4	MG24113		MG24128		MG24143		MG24158	
5	MG17404		MG17434		—		—	
6	MG24114		MG24129		MG24144		MG24159	
7	MG17405		MG17435		—		—	
8	MG24115		MG24130		MG24145		MG24160	
10	MG24116		MG24131		MG24146		MG24161	
13	MG24117		MG24132		MG24147		MG24162	
15	MG17406		MG17436		MG17461		—	
16	MG24118		MG24133		MG24148		MG24163	
20	MG24119		MG24134		MG24149		MG24164	
25	MG24120		MG24135		MG24150		MG24165	
30	MG17407		MG17437		MG17462		—	
32	MG24121		MG24136		MG24151		MG24166	
35	MG17408		MG17438		MG17463		—	
40	MG24122		MG24137		MG24152		MG24167	
50	MG24123		MG24138		MG24153		MG24168	
60	MG17409		MG17439		MG17464		—	
63	MG24124		MG24139		MG24154		MG24169	
C Curve—Magnetic Setting Between 7 and 10 Times Ampere Rating								
0.5	MG17411		—		—		—	
1	MG24425		MG24442		MG24459		MG24476	
1.2	MG17412		MG17442		—		—	
1.5	MG17413		MG17443		—		—	
2	MG24426		MG24443		MG24460		MG24477	
3	MG24427		MG24444		MG24461		MG24478	
4	MG24428		MG24445		MG24462		MG24479	
5	MG17414		MG17444		—		—	
6	MG24430		MG24447		MG24464		MG24481	
7	MG17415		MG17445		—		—	
8	MG24431		MG24448		MG24465		MG24482	
10	MG24432		MG24449		MG24466		MG24483	
13	MG24433		MG24450		MG24467		MG24484	
15	MG17416		MG17446		MG17466		—	
16	MG24434		MG24451		MG24468		MG24485	
20	MG24435		MG24452		MG24469		MG24486	
25	MG24436		MG24453		MG24470		MG24487	
30	MG17417		MG17447		MG17467		—	
32	MG24437		MG24454		MG24471		MG24488	
35	MG17418		MG17448		MG17468		—	
40	MG24438		MG24455		MG24472		MG24489	
50	MG24439		MG24456		MG24473		MG24490	
60	MG17419		MG17449		MG17469		—	
63	MG24440		MG24457		MG24474		MG24491	
D Curve—Magnetic Setting Between 10 and 14 Times Ampere Rating								
0.5	MG17421		—		—		—	
1	MG24500		MG24516		MG24532		MG24548	
1.2	MG17422		MG17452		—		—	
1.5	MG17423		MG17453		—		—	
2	MG24501		MG24517		MG24533		MG24549	
3	MG24502		MG24518		MG24534		MG24550	
4	MG24503		MG24519		MG24535		MG24551	
5	MG17424		MG17454		—		—	
6	MG24504		MG24520		MG24536		MG24552	
7	MG17425		MG17455		—		—	
8	MG24505		MG24521		MG24537		MG24553	
10	MG24506		MG24522		MG24538		MG24554	
13	MG24507		MG24523		MG24539		MG24555	
15	MG17426		MG17456		MG17471		—	
16	MG24508		MG24524		MG24540		MG24556	
20	MG24509		MG24525		MG24541		MG24557	
25	MG24510		MG24526		MG24542		MG24558	
30	MG17427		MG17457		MG17472		—	
32	MG24511		MG24527		MG24543		MG24559	
35	MG17428		MG17458		MG17473		—	
40	MG24512		MG24528		MG24544		MG24560	
50	MG24513		MG24529		MG24545		MG24561	
60	MG17429		MG17459		MG17474		—	
63	MG24514		MG24530		MG24546		MG24562	

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Multi 9™ Miniature Circuit Breakers

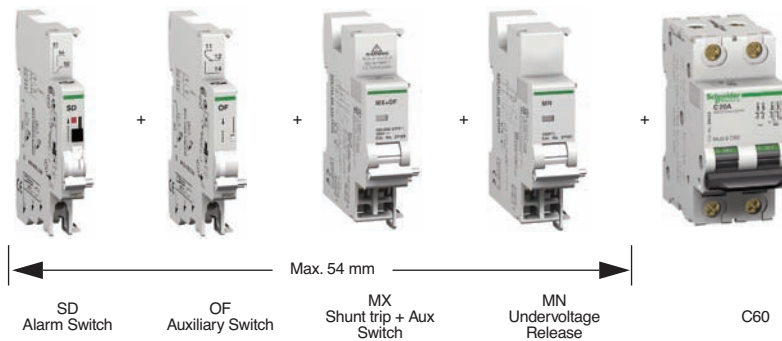
C60 Accessories

Class 860 / Refer to Catalog 0860CT0201

Electrical Accessories for C60 Circuit Breakers and Supplementary Protectors

Possible Combinations

Mounted to the left of the circuit breaker with a maximum width of 54 mm.



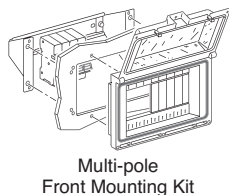
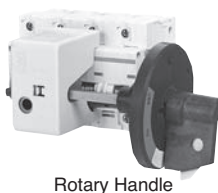
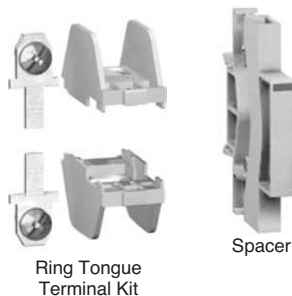
Multi 9 C60 Electrical Accessories

Descriptions	Control Voltage		Width in 9 mm modules	C60 UL/IEC	
	Vac	Vdc		Cat. No.	\$ Price
OF Auxiliary Switch (1a1b)	12-277	12-125	1	MG26925	
SD Alarm Switch (1a1b)	12-277	12-125	1	MG26928	
MX Shunt Trip + OF Auxiliary Switch (1a1b)	24	24	2	27118	
	48	48	2	27110	
	110-240-277	125	2	27109	
MN Undervoltage Release	24	24	2	27108	
	48	48	2	27106	
	120	—	2	27107	
	240	—	2	27105	

Multi 9 C60 Mechanical Accessories

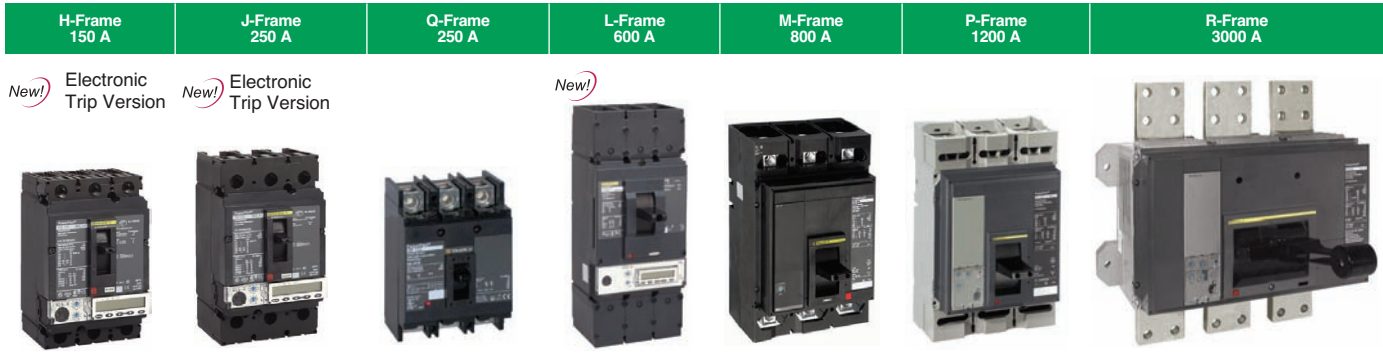
Descriptions		C60	
		Cat. No.	\$ Price
Ring tongue terminal kit for UL1077 C60	For one pole	17400	
Spacer for DIN rail, Not UL Recognized	9 mm wide	MG27062	
Padlock Attachment (1 per for 1P, 2P, 3P or 4P)	2 per pack	MG26970	
Padlocking Device Left Side Mount, Locks OFF only▲	1 per pack	MGN26380	
Padlocking Device Right Side Mount, Locks OFF only■		MGN26381	
Front Mounting Kit	1P	MG26983	
	2P	MG26984	
	3P	MG26985	
	4P	MG26989	
Label holders for 2, 3 or 4P C60 (Not CSA/UL Recognized)	Bag of 10	MG27150	
Terminal Screw Shield (Not UL Recognized)	Bag of two 4P shields	MG26981	
Terminal cover (Not CSA/UL Recognized)	1P	MG26975	
	2P	MG26976	
	3P	MG26975+MG26976	
	4P	MG26978	
Tooth Caps for UL Comb Bus Bar, Bag of 20		60488	
Rotary Handle for C60 (Non UL Recognized)			
Operating Subassembly	2P/3P/4P	MG27046	
Door Interlock Handle		MG27047	
Fixed Handle (Front or Lateral)		MG27048	
Multi-pole Front Mounting Kit			
Rail Support (20 of 9 mm modules)		14211	
Hinged Transparent Cover		14210	

- ▲ Left-side mounted padlocking device cannot be used in conjunction with accessories SD, OF, MX or MN. Use right-side mounted padlocking device when accessories are required.
- Right-side mounted padlocking device cannot be used in conjunction with VIGI module. Use left-side mounted padlocking device when VIGI Module is required..



The PowerPact Advantage

- **Proven Performance:** Industry-leading circuit breaker innovation and protection for heavy-duty commercial and industrial applications.
- **Smart:** Integrated metering options provide a cost-effective solution to reduce energy consumption, optimize energy costs, and improve energy availability for your facilities.
- **Flexible:** Full range of thermal-magnetic and electronic trip molded case circuit breakers from 15 A to 3000 A, delivering the ratings, configurations, and operators for your unique applications.
- **Simple:** Common catalog numbers, standardized ratings, and a full range of field-installable accessories make product selection, installation and maintenance easier than ever.
- **Common Design Features:** Mounting holes, door trim, and handle accessories.



PowerPact Interrupting Ratings

Voltage	Interrupting Rating						
	B	D	G	J	K	L	R
240 Vac	10 kA	25 kA	65 kA	100 kA	65 kA	125 kA	200 kA
480 Vac		18 kA	35 kA	65 kA	65 kA ▲	100 kA	200 kA
600 Vac		14 kA	18 kA	25 kA	65 kA ▲	50 kA ■	100 kA

▲ P-frame K interrupting is 50 kA at 480 and 600 Vac.

■ P-frame L interrupting is 25 kA at 600 Vac.

Common Catalog Numbering System

Frame	Rating	Termination	Poles	Voltage	Amperage	Suffix Code	Suffix Code
H	G	L	3	6	1 5 0	A	B S A
110 Vac Shunt Trip 2A/2B Auxiliary Switch							
Frame Designation				Interrupting Rating			Terminations
H 150 A Frame J 250 A Frame Q 250 A Frame L 600 A Frame M 800 A Frame P 1200 A Frame R 3000 A Frame				240 Vac	480 Vac	600Vac	A I-Line L Lugs on Both Ends F Bus Bar (No Lugs) M Lugs Line Side Only P Lugs Load End Only N Plug-in D Drawout S Rear Connected Studs
				B	10 kA		
				D	25 kA	18 kA	
				G	65 kA	35 kA	
				J	100 kA	65 kA	
				K	65 kA	65 kA	
				L	125 kA	100 kA	
				R	200 kA	200 kA	

♦ For amperage of M-, P- or R-frame circuit breakers, add a zero to the three amperage digits; for example, 120 = 1200 A.

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PowerPact™ Circuit Breakers

H- and J-Frame Circuit Breakers

Class 611 / Refer to Catalog 0611CT1001



HD and HG 2 Pole
Thermal-Magnetic Trip Unit



H-Frame
Thermal-Magnetic Trip Unit

H-frame 150 A Thermal-magnetic CSA/UL Current-Limiting ▼ Circuit Breakers (600 Vac) with Factory Sealed Trip Unit Suitable for Reverse Connection ■▲

Current Rating @ 40° C	AC Magnetic Trip Setting		D Interrupting		G Interrupting		J Interrupting ▼		L Interrupting ▼		Terminal Wire Range
	Hold	Trip	Catalogue Number ▲	Price	Catalogue Number ▲	Price	Catalogue Number ▲	Price	Catalogue Number ▲	Price	
2-pole, 600 Vac 50/60 Hz											
15	350	750	HDL26015		HGL26015		HJL26015		HLL26015		AL150HD #14–#3/0 AWG Cu or Al
20	350	750	HDL26020		HGL26020		HJL26020		HLL26020		
25	350	750	HDL26025		HGL26025		HJL26025		HLL26025		
30	350	750	HDL26030		HGL26030		HJL26030		HLL26030		
35	400	850	HDL26035		HGL26035		HJL26035		HLL26035		
40	400	850	HDL26040		HGL26040		HJL26040		HLL26040		
45	400	850	HDL26045		HGL26045		HJL26045		HLL26045		
50	400	850	HDL26050		HGL26050		HJL26050		HLL26050		
60	800	1450	HDL26060		HGL26060		HJL26060		HLL26060		
70	800	1450	HDL26070		HGL26070		HJL26070		HLL26070		
80	800	1450	HDL26080		HGL26080		HJL26080		HLL26080		
90	800	1450	HDL26090		HGL26090		HJL26090		HLL26090		
100	900	1700	HDL26100		HGL26100		HJL26100		HLL26100		
110	900	1700	HDL26110		HGL26110		HJL26110		HLL26110		
125	900	1700	HDL26125		HGL26125		HJL26125		HLL26125		
150	900	1700	HDL26150		HGL26150		HJL26150		HLL26150		

3-pole, 600 Vac 50/60 Hz											
15	350	750	HDL36015		HGL36015		HJL36015		HLL36015		AL150HD #14–#3/0 AWG Cu or Al
20	350	750	HDL36020		HGL36020		HJL36020		HLL36020		
25	350	750	HDL36025		HGL36025		HJL36025		HLL36025		
30	350	750	HDL36030		HGL36030		HJL36030		HLL36030		
35	400	850	HDL36035		HGL36035		HJL36035		HLL36035		
40	400	850	HDL36040		HGL36040		HJL36040		HLL36040		
45	400	850	HDL36045		HGL36045		HJL36045		HLL36045		
50	400	850	HDL36050		HGL36050		HJL36050		HLL36050		
60	800	1450	HDL36060		HGL36060		HJL36060		HLL36060		
70	800	1450	HDL36070		HGL36070		HJL36070		HLL36070		
80	800	1450	HDL36080		HGL36080		HJL36080		HLL36080		
90	800	1450	HDL36090		HGL36090		HJL36090		HLL36090		
100	900	1700	HDL36100		HGL36100		HJL36100		HLL36100		
110	900	1700	HDL36110		HGL36110		HJL36110		HLL36110		
125	900	1700	HDL36125		HGL36125		HJL36125		HLL36125		
150	900	1700	HDL36150		HGL36150		HJL36150		HLL36150		

J-frame 250 A Thermal-magnetic (600 Vac) Factory Sealed Trip Unit Suitable for Reverse Connection ■▲

Current Rating @ 40° C	AC Magnetic Trip Setting		D Interrupting		G Interrupting		J Interrupting ▼		L Interrupting ▼		R Interrupting ▼		Terminal Wire Range
	Low	High	Catalogue Number ▲	Price	Catalogue Number ▲	Price	Catalogue Number ▲	Price	Catalogue Number ▲	Price	Catalogue Number ▲	Price	
2-pole, 600 Vac 50/60 Hz													
150	750	1500	JDL26150		JGL26150		JJL26150		JLL26150		—		AL175JD #4–4/0 AWG Al or Cu
175	875	1750	JDL26175		JGL26175		JJL26175		JLL26175		—		
200	1000	2000	JDL26200		JGL26200		JJL26200		JLL26200		—		
225	1125	2250	JDL26225		JGL26225		JJL26225		JLL26225		—		AL250JD #3/0–350 kcmil Al or Cu
250	1250	2500	JDL26250		JGL26250		JJL26250		JLL26250		—		
3-pole, 600 Vac 50/60 Hz													
150	750	1500	JDL36150		JGL36150		JJL36150		JLL36150		JRL36150		AL175JD #4–4/0 AWG Al or Cu
175	875	1750	JDL36175		JGL36175		JJL36175		JLL36175		JRL36175		
200	1000	2000	JDL36200		JGL36200		JJL36200		JLL36200		JRL36200		
225	1125	2250	JDL36225		JGL36225		JJL36225		JLL36225		JRL36225		AL250JD #3/0–350 kcmil Al or Cu
250	1250	2500	JDL36250		JGL36250		JJL36250		JLL36250		JRL36250		

■ See catalogue for circuit breakers with field interchangeable trip units.

▲ For 100% rated circuit breakers, add a "C" in the 9th character place (for example, HDL36015C or JDL26150C). 100% rated circuit breakers have copper lugs and can only be used with copper wire.

▼ Circuit breakers with J, L, and R interrupting ratings are CSA/UL certified as current limiting.

H- and J-frame Termination Options

Interrupting Ratings (kA)

Voltage	D	G	J	L	R
240 V	25	65	100	125	200
480 V	18	35	65	100	200
600 V	14	18	25	50	100

Accessories - DE3-39
Dimensions - DE3-55
Enclosures - DE3-56

A-I-Line (see Section 5)

F = No Lugs (includes terminal nut kit)

L = Lugs both ends

M = Lugs "ON" end Terminal Nut Kit "Off" end

P = Lugs "OFF" end Terminal Nut Kit "On" end

N = Plug-in ♦

D = Drawout ♦

S = Rear Connected ♦

♦ For N, D, and S details see page DE3-45, DE3-41



Plug-in



Drawout



Rear Connected



I-Line®

New! Electronic Trip Version

H-Frame 150 A and J-Frame 250 A Electronic Trip CSA/UL Current-Limiting▲ Circuit Breakers (600 Vac) With Factory Sealed Trip Unit■ Suitable for Reverse Connection □

Electronic Trip Unit			Sensor Rating	Interrupting Rating (2nd Letter of Catalog Number)										Terminal
Type	Function	Trip Unit		D		G		J▲		L▲		R▲		
				\$ Price										
				Catalogue Number▲	Price	Catalogue Number▲	Price	Catalogue Number▲	Price	Catalogue Number▲	Price	Catalogue Number▲	Price	
600 Vac, 50/60 Hz, 3P														
Micrologic Standard	LI	3.2Δ	60 A	HDL36060U31X		HGL36060U31X		HJL36060U31X		HLL36060U31X		HRL36060U31X		AL150HD★
			100 A	HDL36100U31X		HGL36100U31X		HJL36100U31X		HLL36100U31X		HRL36100U31X		
Micrologic Standard	LSI	3.2SΔ	150 A	HDL36150U31X		HGL36150U31X		HJL36150U31X		HLL36150U31X		HRL36150U31X		
			250 A	JDL36250U31X		JGL36250U31X		JJL36250U31X		JLL36250U31X		JRL36250U31X		AL250JD▼
			60 A	HDL36060U33X		HGL36060U33X		HJL36060U33X		HLL36060U33X		HRL36060U33X		AL150HD★
			100 A	HDL36100U33X		HGL36100U33X		HJL36100U33X		HLL36100U33X		HRL36100U33X		
Micrologic Ammeter	LSI	5.2A	150 A	HDL36150U33X		HGL36150U33X		HJL36150U33X		HLL36150U33X		HRL36150U33X		
			250 A	JDL36250U33X		JGL36250U33X		JJL36250U33X		JLL36250U33X		JRL36250U33X		AL250JD▼
			60 A	HDL36060U43X		HGL36060U43X		HJL36060U43X		HLL36060U43X		HRL36060U43X		AL150HD★
			100 A	HDL36100U43X		HGL36100U43X		HJL36100U43X		HLL36100U43X		HRL36100U43X		
Micrologic Energy	LSI	5.2E	150 A	HDL36150U43X		HGL36150U43X		HJL36150U43X		HLL36150U43X		HRL36150U43X		
			250 A	JDL36250U43X		JGL36250U43X		JJL36250U43X		JLL36250U43X		JRL36250U43X		AL250JD▼
			60 A	HDL36060U53X		HGL36060U53X		HJL36060U53X		HLL36060U53X		HRL36060U53X		AL150HD★
			100 A	HDL36100U53X		HGL36100U53X		HJL36100U53X		HLL36100U53X		HRL36100U53X		
Micrologic Ammeter	LSIG	6.2A	150 A	HDL36150U53X		HGL36150U53X		HJL36150U53X		HLL36150U53X		HRL36150U53X		
			250 A	JDL36250U53X		JGL36250U53X		JJL36250U53X		JLL36250U53X		JRL36250U53X		AL250JD▼
			60 A	HDL36060U44X		HGL36060U44X		HJL36060U44X		HLL36060U44X		HRL36060U44X		AL150HD★
			100 A	HDL36100U44X		HGL36100U44X		HJL36100U44X		HLL36100U44X		HRL36100U44X		
Micrologic Energy	LSIG	6.2E	150 A	HDL36150U44X		HGL36150U44X		HJL36150U44X		HLL36150U44X		HRL36150U44X		
			250 A	JDL36250U44X		JGL36250U44X		JJL36250U44X		JLL36250U44X		JRL36250U44X		AL250JD▼
			60 A	HDL36060U54X		HGL36060U54X		HJL36060U54X		HLL36060U54X		HRL36060U54X		AL150HD★
			100 A	HDL36100U54X		HGL36100U54X		HJL36100U54X		HLL36100U54X		HRL36100U54X		
Micrologic Energy	LSIG	6.2E	150 A	HDL36150U54X		HGL36150U54X		HJL36150U54X		HLL36150U54X		HRL36150U54X		
			250 A	JDL36250U54X		JGL36250U54X		JJL36250U54X		JLL36250U54X		JRL36250U54X		AL250JD▼

- ▲ Circuit breakers with J, L, and R interrupting ratings are CSA/UL certified as current limiting.
- Refer to catalogue 0611CT1001 for circuit breakers with field-interchangeable trip units
- ◆ For 100% rated circuit breakers, add a "C" in the 9th character place (for example, HGL36150CU31X, JGL36250CU43X)
- ★ 100% rated H- and J-frame circuit breakers have copper lugs and can only be used with copper wire.
- ★ AL150HD wire range is 14–3/0 AWG Al or Cu.
- ▼ AL250JD wire range is 3/0 AWG–350 kcmil Al or Cu. For smaller wire range (4–4/0 AWG Al or Cu), replace the lug's wire binding screws with the larger binding screws provided.
- 3P circuit breakers with this trip unit can be used for 2P applications.
- For applications requiring communications see page DE3-49.

H- and J-Frame Termination Options



H-Frame Micrologic™ Trip Unit

Termination Letter

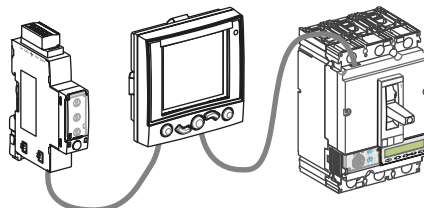
- A = I-Line (See Section 5)
 - F = No Lugs (includes terminal nut kit on both ends)
 - L = Lugs both ends
 - M = Lugs ON end Terminal Nut Kit OFF end
 - P = Lugs OFF end Terminal Nut Kit ON end
 - N = Plug-in ◇
 - D = Drawout ◇
 - S = Rear Connected ◇
- For factory-installed termination, place termination letter in the third block of the circuit breaker catalog number.
- HDL36015T**
- Termination Letter
- ◇ For N and D details, refer to page DE3-45. For S details, refer to page DE3-41.

H- and J-Frame Interrupting Ratings

Voltage	Interrupting Rating				
	D	G	J	L	R
240 Vac	25 kA	65 kA	100 kA	125 kA	200 kA
480 Vac	18 kA	35 kA	65 kA	100 kA	200 kA
600 Vac	14 kA	18 kA	25 kA	50 kA	100 kA



J-Frame Micrologic™ Trip Unit



H-Frame Circuit Breaker with Optional FDM and IFM Modules

- Accessories Page DE3-39
- Optional Lugs Page DE3-42
- Dimensions Page DE3-55
- Enclosures Page DE3-56

PowerPact™ Circuit Breaker

Q-Frame Circuit Breakers

Class 0734 / Refer to Catalogs: 0734CT0201



QBL 2P
70–250 A



QBL 3P
70–250 A

DE3 CIRCUIT BREAKERS

POWERPACT Q-frame▲ — 250 A, Thermal-magnetic Circuit Breaker (240 Vac)

Ampere Rating	AC Magnetic Trip Settings		B Interrupting	D Interrupting	G Interrupting	J Interrupting ★	Terminal Wire Range ■
	Hold	Trip	Catalogue Number	Catalogue Number	Catalogue Number	Catalogue Number	
2-pole, 240 Vac							
70	1000	1800	QBL22070	QDL22070	QGL22070	QJL22070	#4 AWG - 300 kcmil Al/Cu
80	1000	1800	QBL22080	QDL22080	QGL22080	QJL22080	
90	1000	1800	QBL22090	QDL22090	QGL22090	QJL22090	
100	1200	2400	QBL22100	QDL22100	QGL22100	QJL22100	
110	1200	2400	QBL22110	QDL22110	QGL22110	QJL22110	
125	1200	2400	QBL22125	QDL22125	QGL22125	QJL22125	
150	1200	2400	QBL22150	QDL22150	QGL22150	QJL22150	
175	1200	2400	QBL22175	QDL22175	QGL22175	QJL22175	
200	1200	2400	QBL22200	QDL22200	QGL22200	QJL22200	
225	1200	2400	QBL22225	QDL22225	QGL22225	QJL22225	
250	1200	2400	QBL22250■	QDL22250■	QGL22250■	QJL22250■	
3-pole, 240 Vac							
70	1000	1800	QBL32070	QDL32070	QGL32070	QJL32070	#4 AWG - 300 kcmil Al/Cu
80	1000	1800	QBL32080	QDL32080	QGL32080	QJL32080	
90	1000	1800	QBL32090	QDL32090	QGL32090	QJL32090	
100	1200	2400	QBL32100	QDL32100	QGL32100	QJL32100	
110	1200	2400	QBL32110	QDL32110	QGL32110	QJL32110	
125	1200	2400	QBL32125	QDL32125	QGL32125	QJL32125	
150	1200	2400	QBL32150	QDL32150	QGL32150	QJL32150	
175	1200	2400	QBL32175	QDL32175	QGL32175	QJL32175	
200	1200	2400	QBL32200	QDL32200	QGL32200	QJL32200	
225	1200	2400	QBL32225	QDL32225	QGL32225	QJL32225	
250	1200	2400	QBL32250■	QDL32250■	QGL32250■	QJL32250■	

▲ Replacement lugs and electrical accessories are not available for POWERPACT Q-frame circuit breakers.

■ 250 A lugs are suitable for copper conductors only.

– Refer to Catalogue 0734CT0201 for details.

Q-Frame Termination Options

Termination Letter	
A = I-Line (See Section 5)	For factory-installed termination, place termination letter in the third block of the circuit breaker catalog number. QGL32200 Termination Letter
E = Bolt-on I-Line (See Section 5)	
F = No lugs	
L = Lugs both ends	
M = Lugs ON end, studs on OFF end	
P = Lugs OFF end, studs on ON end	
– Add TS suffix for studs on both ends without nuts and washers. See Catalogue 0734CT0201 for additional information.	

Q-Frame Interrupting Ratings (kA)

Voltage	QB	QD	QG	QJ
240 V	10	25	65	100★
480 V	...	...	...	...
600 V	...	...	...	...

★ 3-pole QJ circuit breakers are rated at 208Y/120 Vac only.

Dimensions DE3-55

Enclosures DE3-56

New!

L-Frame 600 A Circuit Breakers with Lugs and Factory-Sealed Electronic Trip Units Suitable for Reverse Connection^{Δ*}

Electronic Trip Unit			Sensor Rating	Interrupting Rating (2nd Letter of Catalog Number)										Terminal
				D		G		J ♦		L ♦		R ♦		
Type	Function	Trip Unit		Catalogue Number □	Price	Catalogue Number□	Price	Catalogue Number □	Price	Catalogue Number □	Price	Catalogue Number □	Price	
600 Vac, 50/60 Hz, 3P														
Micrologic Standard	LI	3.3☆	250 A	LDL36250U31X		LGL36250U31X		LJL36250U31X		LLL36250U31X		LRL36250U31X		AL400L61K3▽
			400 A	LDL36400U31X		LGL36400U31X		LJL36400U31X		LLL36400U31X		LRL36400U31X		AL600LS52K3◉
			600 A	LDL36600U31X		LGL36600U31X		LJL36600U31X		LLL36600U31X		LRL36600U31X		
Micrologic Standard	LSI	3.3S☆	250 A	LDL36250U33X		LGL36250U33X		LJL36250U33X		LLL36250U33X		LRL36250U33X		AL400L61K3▽
			400 A	LDL36400U33X		LGL36400U33X		LJL36400U33X		LLL36400U33X		LRL36400U33X		AL600LS52K3◉
			600 A	LDL36600U33X		LGL36600U33X		LJL36600U33X		LLL36600U33X		LRL36600U33X		
Micrologic Ammeter	LSI	5.3A	400 A	LDL36400U43X		LGL36400U43X		LJL36400U43X		LLL36400U43X		LRL36400U43X		AL600LS52K3◉
Micrologic Energy	LSI	5.3E	400 A	LDL36400U53X		LGL36400U53X		LJL36400U53X		LLL36400U53X		LRL36400U53X		
			600 A	LDL36600U53X		LGL36600U53X		LJL36600U53X		LLL36600U53X		LRL36600U53X		
Micrologic Ammeter	LSIG	6.3A	400 A	LDL36400U44X		LGL36400U44X		LJL36400U44X		LLL36400U44X		LRL36400U44X		
Micrologic Energy	LSIG	6.3E	400 A	LDL36400U54X		LGL36400U54X		LJL36400U54X		LLL36400U54X		LRL36400U54X		
			600 A	LDL36600U54X		LGL36600U54X		LJL36600U54X		LLL36600U54X		LRL36600U54X		
600 Vac, 50/60 Hz, 4P														
Micrologic Standard	LI	3.3	250 A	LDL46250U31X		LGL46250U31X		LJL46250U31X		LLL46250U31X		LRL46250U31X		AL400L61K4▽
			400 A	LDL46400U31X		LGL46400U31X		LJL46400U31X		LLL46400U31X		LRL46400U31X		AL600LS52K4◉
			600 A	LDL46600U31X		LGL46600U31X		LJL46600U31X		LLL46600U31X		LRL46600U31X		
Micrologic Standard	LSI	3.3S	250 A	LDL46250U33X		LGL46250U33X		LJL46250U33X		LLL46250U33X		LRL46250U33X		AL400L61K4▽
			400 A	LDL46400U33X		LGL46400U33X		LJL46400U33X		LLL46400U33X		LRL46400U33X		AL600LS52K4◉
			600 A	LDL46600U33X		LGL46600U33X		LJL46600U33X		LLL46600U33X		LRL46600U33X		
Micrologic Ammeter	LSI	5.3A	400 A	LDL46400U43X		LGL46400U43X		LJL46400U43X		LLL46400U43X		LRL46400U43X		AL600LS52K4◉
Micrologic Energy	LSI	5.3E	400 A	LDL46400U53X		LGL46400U53X		LJL46400U53X		LLL46400U53X		LRL46400U53X		
			600 A	LDL46600U53X		LGL46600U53X		LJL46600U53X		LLL46600U53X		LRL46600U53X		
Micrologic Ammeter	LSIG	6.3A	400 A	LDL46400U44X		LGL46400U44X		LJL46400U44X		LLL46400U44X		LRL46400U44X		
Micrologic Energy	LSIG	6.3E	400 A	LDL46400U54X		LGL46400U54X		LJL46400U54X		LLL46400U54X		LRL46400U54X		
			600 A	LDL46600U54X		LGL46600U54X		LJL46600U54X		LLL46600U54X		LRL46600U54X		

- Δ Refer to catalogue 0611CT1001 for circuit breakers with field-interchangeable trip units
 ▢ For 100% rated circuit breakers (250 A and 400 A only), add a "C" in the 9th character place (for example, LGL36400CU31X)
 ♦ Circuit breakers with J, L, and R interrupting ratings are CSA/UL certified as current limiting.
 ★ 3P circuit breakers with this trip unit can be used for 2P applications.
 ▽ AL400L61K3 terminal wire ranges are (1) 2 AWG–600 kcmil Cu or 1) 2 AWG–500 kcmil AL.
 ◉ AL600LS52K3 terminal wire range is (2) 2/0 AWG–500 kcmil Al/Cu.
 * For applications requiring communications see page DE3-49.



L-Frame Circuit Breaker

Termination Options

Termination Letter	Termination Option
A	I-Line (See Section 5)
F	No lugs
L	Lugs both ends
M	Lugs ON end, terminal nut kit OFF end
P	Lugs OFF end, terminal nut kit ON end
N ♦	Plug In
D ♦	Drawout
S ♦	Rear Connected

For factory-installed termination, place termination letter in the third block of the circuit breaker catalog number.

LGL36600U44X
 L Termination Letter

- ♦ For N and D details, please refer to page DE3-45. For S details, please refer to page DE3-41.

Interrupting Ratings

Voltage	Interrupting Rating				
	D	G	J	L	R
240 Vac	25 kA	65 kA	100 kA	125 kA	200 kA
480 Vac	18 kA	35 kA	65 kA	100 kA	200 kA
600 Vac	14 kA	18 kA	25 kA	50 kA	100 kA

Accessories	page DE3-39
Optional Lugs	page DE3-42
Dimensions	page DE3-55
Enclosures	page DE3-56

PowerPact™ Circuit Breakers

M-Frame Circuit Breakers

Class 612 / Refer to Catalog 0612CT0101



M-Frame Circuit Breaker

Frame—800 A, Standard Rated, Basic Electronic Trip System Type ET 1.0 •Factory Sealed Trip Unit

Ampere Rating	Adjustable Instantaneous Trip Range		G Interrupting		J Interrupting		Terminal Wire Range
	Low	High	Catalogue Number	Price	Catalogue Number	Price	
2-pole, 600 Vac 50/60 Hz							
300	600	3000	MGL26300		MJL26300		AL800M23K 3–3/0 through 500 kcmil Al/Cu
350	700	3500	MGL26350		MJL26350		
400	800	4000	MGL26400		MJL26400		
450	900	4500	MGL26450		MJL26450		
500	1000	5000	MGL26500		MJL26500		
600	1200	6000	MGL26600		MJL26600		
700	1400	7000	MGL26700		MJL26700		
800	1600	8000	MGL26800		MJL26800		

3-pole, 600 Vac 50/60 Hz

300	600	3000	MGL36300		MJL36300		AL800M23K 3–3/0 through 500 kcmil Al/Cu
350	700	3500	MGL36350		MJL36350		
400	800	4000	MGL36400		MJL36400		
450	900	4500	MGL36450		MJL36450		
500	1000	5000	MGL36500		MJL36500		
600	1200	6000	MGL36600		MJL36600		
700	1400	7000	MGL36700		MJL36700		
800	1600	8000	MGL36800		MJL36800		

- The ET 1.0 trip unit cannot be field replaced or have the long-time trip point setting adjusted. It is considered an electronic equivalent of a thermal-magnetic circuit breaker.

Termination Options

Termination Letter	Termination Option
A	I-Line (See Section 5)
F	No lugs
L	Lugs both ends
M	Lugs ON end, terminal nut kit OFF end
P	Lugs OFF end, terminal nut kit ON end

For factory-installed termination, place termination letter in the third block of the circuit breaker catalog number.

M G L 3 6 4 0 0

L Termination Letter

M-Frame Interrupting Ratings (kA)

Voltage	G	J
240 V	65	100
480 V	35	65
600 V	18	25

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Optional Lugspage DE3-42
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P Frame - 1200A, (600 Vac, 50/60 Hz) 3P ▲ Circuit Breaker with Electronic Trip Unit

Electronic Trip Unit			Sensor Rating	G Interrupting		J Interrupting		L Interrupting		K Interrupting		Terminal Wire Range
Type	Function	Trip Unit		Catalogue Number	Price	Catalogue Number	Price	Catalogue Number	Price	Catalogue Number	Price	
Basic Electronic Trip Unit (Not Interchangeable)	Fixed long-time, Adjustable Instantaneous	ET1.0I	600 A	PGL36060		PJL36060		PLL34060		PKL36060		AL800M23K (3) 3/0 AWG–500 kcmil Al or Cu AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			800 A	PGL36080		PJL36080		PLL34080		PKL36080		
			1000 A	PGL36100		PJL36100		PLL34100		PKL36100		
			1200 A	PGL36120		PJL36120		PLL34120		PKL36120		
Micrologic Interchangeable Standard Trip Unit	LI	3.0	250	PGL36025U31A		PJL36025U31A		PLL34025U31A		PKL36025U31A		AL800M23K (3) 3/0 AWG–500 kcmil Al or Cu AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			400	PGL36040U31A		PJL36040U31A		PLL34040U31A		PKL36040U31A		
			600	PGL36060U31A		PJL36060U31A		PLL34060U31A		PKL36060U31A		
			800	PGL36080U31A		PJL36080U31A		PLL34080U31A		PKL36080U31A		
			1000	PGL36100U31A		PJL36100U31A		PLL34100U31A		PKL36100U31A		
			1200	PGL36120U31A		PJL36120U31A		PLL34120U31A		PKL36120U31A		
	LSI	5.0	250	PGL36025U33A		PJL36025U33A		PLL34025U33A		PKL36025U33A		AL800M23K (3) 3/0 AWG–500 kcmil Al or Cu AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			400	PGL36040U33A		PJL36040U33A		PLL34040U33A		PKL36040U33A		
			600	PGL36060U33A		PJL36060U33A		PLL34060U33A		PKL36060U33A		
			800	PGL36080U33A		PJL36080U33A		PLL34080U33A		PKL36080U33A		
			1000	PGL36100U33A		PJL36100U33A		PLL34100U33A		PKL36100U33A		
			1200	PGL36120U33A		PJL36120U33A		PLL34120U33A		PKL36120U33A		
Micrologic Interchangeable Ammeter Trip Unit	LI	3.0A	250	PGL36025U41A		PJL36025U41A		PLL34025U41A		PKL36025U41A		AL800M23K (3) 3/0 AWG–500 kcmil Al or Cu AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			400	PGL36040U41A		PJL36040U41A		PLL34040U41A		PKL36040U41A		
			600	PGL36060U41A		PJL36060U41A		PLL34060U41A		PKL36060U41A		
			800	PGL36080U41A		PJL36080U41A		PLL34080U41A		PKL36080U41A		
			1000	PGL36100U41A		PJL36100U41A		PLL34100U41A		PKL36100U41A		
			1200	PGL36120U41A		PJL36120U41A		PLL34120U41A		PKL36120U41A		
	LSI	5.0A	250	PGL36025U43A		PJL36025U43A		PLL34025U43A		PKL36025U43A		AL800M23K (3) 3/0 AWG–500 kcmil Al or Cu AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			400	PGL36040U43A		PJL36040U43A		PLL34040U43A		PKL36040U43A		
			600	PGL36060U43A		PJL36060U43A		PLL34060U43A		PKL36060U43A		
			800	PGL36080U43A		PJL36080U43A		PLL34080U43A		PKL36080U43A		
			1000	PGL36100U43A		PJL36100U43A		PLL34100U43A		PKL36100U43A		
			1200	PGL36120U43A		PJL36120U43A		PLL34120U43A		PKL36120U43A		
	LSIG	6.0A	250	PGL36025U44A		PJL36025U44A		PLL34025U44A		PKL36025U44A		AL800M23K (3) 3/0 AWG–500 kcmil Al or Cu AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			400	PGL36040U44A		PJL36040U44A		PLL34040U44A		PKL36040U44A		
			600	PGL36060U44A		PJL36060U44A		PLL34060U44A		PKL36060U44A		
			800	PGL36080U44A		PJL36080U44A		PLL34080U44A		PKL36080U44A		
			1000	PGL36100U44A		PJL36100U44A		PLL34100U44A		PKL36100U44A		
			1200	PGL36120U44A		PJL36120U44A		PLL34120U44A		PKL36120U44A		
Micrologic Interchangeable Power Trip Unit	LSI	5.0P	250	PGL36025U63AE1		PJL36025U63AE1		PLL34025U63AE1		PKL36025U63AE1		AL800M23K (3) 3/0 AWG–500 kcmil Al or Cu AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			400	PGL36040U63AE1		PJL36040U63AE1		PLL34040U63AE1		PKL36040U63AE1		
			600	PGL36060U63AE1		PJL36060U63AE1		PLL34060U63AE1		PKL36060U63AE1		
			800	PGL36080U63AE1		PJL36080U63AE1		PLL34080U63AE1		PKL36080U63AE1		
			1000	PGL36100U63AE1		PJL36100U63AE1		PLL34100U63AE1		PKL36100U63AE1		
			1200	PGL36120U63AE1		PJL36120U63AE1		PLL34120U63AE1		PKL36120U63AE1		
	LSIG	6.0P	250	PGL36025U64AE1		PJL36025U64AE1		PLL34025U64AE1		PKL36025U64AE1		AL800M23K (3) 3/0 AWG–500 kcmil Al or Cu AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			400	PGL36040U64AE1		PJL36040U64AE1		PLL34040U64AE1		PKL36040U64AE1		
			600	PGL36060U64AE1		PJL36060U64AE1		PLL34060U64AE1		PKL36060U64AE1		
			800	PGL36080U64AE1		PJL36080U64AE1		PLL34080U64AE1		PKL36080U64AE1		
			1000	PGL36100U64AE1		PJL36100U64AE1		PLL34100U64AE1		PKL36100U64AE1		
			1200	PGL36120U64AE1		PJL36120U64AE1		PLL34120U64AE1		PKL36120U64AE1		
Micrologic Interchangeable Harmonic Trip Unit	LSI	5.0H	250	PGL36025U73AE1		PJL36025U73AE1		PLL34025U73AE1		PKL36025U73AE1		AL800M23K (3) 3/0 AWG–500 kcmil Al or Cu AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			400	PGL36040U73AE1		PJL36040U73AE1		PLL34040U73AE1		PKL36040U73AE1		
			600	PGL36060U73AE1		PJL36060U73AE1		PLL34060U73AE1		PKL36060U73AE1		
			800	PGL36080U73AE1		PJL36080U73AE1		PLL34080U73AE1		PKL36080U73AE1		
			1000	PGL36100U73AE1		PJL36100U73AE1		PLL34100U73AE1		PKL36100U73AE1		
			1200	PGL36120U73AE1		PJL36120U73AE1		PLL34120U73AE1		PKL36120U73AE1		
	LSIG	6.0H	250	PGL36025U74AE1		PJL36025U74AE1		PLL34025U74AE1		PKL36025U74AE1		AL800M23K (3) 3/0 AWG–500 kcmil Al or Cu AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			400	PGL36040U74AE1		PJL36040U74AE1		PLL34040U74AE1		PKL36040U74AE1		
			600	PGL36060U74AE1		PJL36060U74AE1		PLL34060U74AE1		PKL36060U74AE1		
			800	PGL36080U74AE1		PJL36080U74AE1		PLL34080U74AE1		PKL36080U74AE1		
			1000	PGL36100U74AE1		PJL36100U74AE1		PLL34100U74AE1		PKL36100U74AE1		
			1200	PGL36120U74AE1		PJL36120U74AE1		PLL34120U74AE1		PKL36120U74AE1		

▲ For 2P and 4P information see Catalog 0612CT0101.

■ For 100% rated circuit breakers add a "C" in the 9th character place. For example, the catalog number for a 100% trip unit with LI trip functions at 250A would be PGL36025CU31A. 100% ratings are not available for circuit breakers with ET1.0 Trip Units.

◆ P-frame L-interrupting is available in 480 Vac only.

P-Frame Termination Options**Termination Letter**

F = No Lugs (Includes terminal nut kit on both ends)

L = Lugs both ends

M = Lugs ON end, terminal nut kit OFF end

P = Lugs OFF end, terminal nut kit ON end

D = Drawout

A = I-Line (See Section 5)

For factory-installed termination, place termination letter in the third block of the circuit breaker catalog number.

PGL36040U41A

L Termination Letter

P-Frame and R-Frame Interrupting Ratings

Voltage	P-Frame Interrupting Rating				R-Frame Interrupting Rating			
	G	J	K	L	G	J	K	L
240 Vac	65 kA	100 kA	65 kA	125 kA	65 kA	100 kA	65 kA	125 kA
480 Vac	35 kA	65 kA	50 kA	100 kA	35 kA	65 kA	65 kA	100 kA
600 Vac	18 kA	25 kA	50 kA		18 kA	25 kA	65 kA	50 kA

R-frame catalog numbers Page DE3-28
 Dimensions Page DE3-55
 Trip Unit Options Page DE3-47
 Optional Lugs Page DE3-42
 Alternate Rating Plugs Page DE3-48
 Enclosure Page DE3-56
 Accessories Page DE3-39

PowerPact™ Circuit Breakers

R-Frame Circuit Breakers

Class 612 / Refer to Catalog 0612CT0101

R-frame—3000 A (600 Vac, 50/60 Hz) 3PΔ Circuit Breaker with Electronic Trip Unit

Electronic Trip Unit			Sensor Rating	G Interrupting ♦		J Interrupting ♦		L Interrupting ♦		K Interrupting ♦	
Type	Function	Trip Unit		Catalogue Number ■	Price	Catalogue Number ■	Price	Catalogue Number ■	Price	Catalogue Number ■	Price
Basic Electronic Trip Unit (Not Interchangeable)	Fixed long-time, Adjustable Instantaneous	ET1.0I	1200 A	RGF36120		RJF36120		RLF36120		RKF36120	
			1600 A	RGF36160		RJF36160		RLF36160		RKF36160	
			2000 A	RGF36200		RJF36200		RLF36200		RKF36200	
			2500 A	RGF36250		RJF36250		RLF36250		RKF36250	
Micrologic Interchangeable Standard Trip Unit	LI	3.0	600	RGF36060U31A		RJF36060U31A		RLF36060U31A		RKF36060U31A	
			800	RGF36080U31A		RJF36080U31A		RLF36080U31A		RKF36080U31A	
			1000	RGF36100U31A		RJF36100U31A		RLF36100U31A		RKF36100U31A	
			1200	RGF36120U31A		RJF36120U31A		RLF36120U31A		RKF36120U31A	
			1600	RGF36160U31A		RJF36160U31A		RLF36160U31A		RKF36160U31A	
			2000	RGF36200U31A		RJF36200U31A		RLF36200U31A		RKF36200U31A	
	LSI	5.0	2500	RGF36250U31A		RJF36250U31A		RLF36250U31A		RKF36250U31A	
			3000	RGF36300U31A		RJF36300U31A		RLF36300U31A		RKF36300U31A	
			600	RGF36060U33A		RJF36060U33A		RLF36060U33A		RKF36060U33A	
			800	RGF36080U33A		RJF36080U33A		RLF36080U33A		RKF36080U33A	
			1000	RGF36100U33A		RJF36100U33A		RLF36100U33A		RKF36100U33A	
			1200	RGF36120U33A		RJF36120U33A		RLF36120U33A		RKF36120U33A	
Micrologic Interchangeable Ammeter Trip Unit	LI	3.0A	1600	RGF36160U41A		RJF36160U41A		RLF36160U41A		RKF36160U41A	
			2000	RGF36200U41A		RJF36200U41A		RLF36200U41A		RKF36200U41A	
			2500	RGF36250U41A		RJF36250U41A		RLF36250U41A		RKF36250U41A	
			3000	RGF36300U41A		RJF36300U41A		RLF36300U41A		RKF36300U41A	
	LSI	5.0A	600	RGF36060U43A		RJF36060U43A		RLF36060U43A		RKF36060U43A	
			800	RGF36080U43A		RJF36080U43A		RLF36080U43A		RKF36080U43A	
			1000	RGF36100U43A		RJF36100U43A		RLF36100U43A		RKF36100U43A	
			1200	RGF36120U43A		RJF36120U43A		RLF36120U43A		RKF36120U43A	
			1600	RGF36160U43A		RJF36160U43A		RLF36160U43A		RKF36160U43A	
			2000	RGF36200U43A		RJF36200U43A		RLF36200U43A		RKF36200U43A	
	LSIG	6.0A	2500	RGF36250U43A		RJF36250U43A		RLF36250U43A		RKF36250U43A	
			3000	RGF36300U43A		RJF36300U43A		RLF36300U43A		RKF36300U43A	
			600	RGF36060U44A		RJF36060U44A		RLF36060U44A		RKF36060U44A	
			800	RGF36080U44A		RJF36080U44A		RLF36080U44A		RKF36080U44A	
			1000	RGF36100U44A		RJF36100U44A		RLF36100U44A		RKF36100U44A	
			1200	RGF36120U44A		RJF36120U44A		RLF36120U44A		RKF36120U44A	
Micrologic Interchangeable Power Trip Unit	LSI	5.0P	1600	RGF36160U63AE1		RJF36160U63AE1		RLF36160U63AE1		RKF36160U63AE1	
			2000	RGF36200U63AE1		RJF36200U63AE1		RLF36200U63AE1		RKF36200U63AE1	
			2500	RGF36250U63AE1		RJF36250U63AE1		RLF36250U63AE1		RKF36250U63AE1	
			3000	RGF36300U63AE1		RJF36300U63AE1		RLF36300U63AE1		RKF36300U63AE1	
	LSIG	6.0P	600	RGF36060U64AE1		RJF36060U64AE1		RLF36060U64AE1		RKF36060U64AE1	
			800	RGF36080U64AE1		RJF36080U64AE1		RLF36080U64AE1		RKF36080U64AE1	
Micrologic Interchangeable Harmonic Trip Unit	LSI	5.0H	1000	RGF36100U73AE1		RJF36100U73AE1		RLF36100U73AE1		RKF36100U73AE1	
			1200	RGF36120U73AE1		RJF36120U73AE1		RLF36120U73AE1		RKF36120U73AE1	
			1600	RGF36160U73AE1		RJF36160U73AE1		RLF36160U73AE1		RKF36160U73AE1	
			2000	RGF36200U73AE1		RJF36200U73AE1		RLF36200U73AE1		RKF36200U73AE1	
			2500	RGF36250U73AE1		RJF36250U73AE1		RLF36250U73AE1		RKF36250U73AE1	
			3000	RGF36300U73AE1		RJF36300U73AE1		RLF36300U73AE1		RKF36300U73AE1	
	LSIG	6.0H	600	RGF36060U74AE1		RJF36060U74AE1		RLF36060U74AE1		RKF36060U74AE1	
			800	RGF36080U74AE1		RJF36080U74AE1		RLF36080U74AE1		RKF36080U74AE1	
			1000	RGF36100U74AE1		RJF36100U74AE1		RLF36100U74AE1		RKF36100U74AE1	
			1200	RGF36120U74AE1		RJF36120U74AE1		RLF36120U74AE1		RKF36120U74AE1	
			1600	RGF36160U74AE1		RJF36160U74AE1		RLF36160U74AE1		RKF36160U74AE1	
			2000	RGF36200U74AE1		RJF36200U74AE1		RLF36200U74AE1		RKF36200U74AE1	

Note: R-frame circuit breakers can be bus- or cable-connected. For cable connections, optional terminal pad kit RLTB or equivalent bus structure is required. Each RLTB kit contains terminal pads for one end of the circuit breaker only and has provisions for mounting a maximum of 8 lugs per phase (9 lugs for 3000 A). RLTB kits are included with 2500 A 100% rated circuit breakers. The RL3TB kits are included with the 3000 A, 80% and 100% rated circuit breakers. For other circuit breakers, order terminal pad kit (RLTB) and optional lugs separately. See pages DE3-42–DE3-44.

▲ For 2P and 4P information see Catalog 0612CT0101.

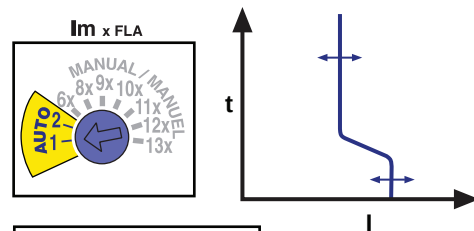
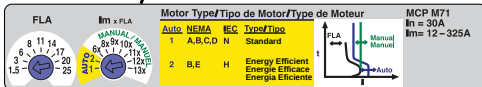
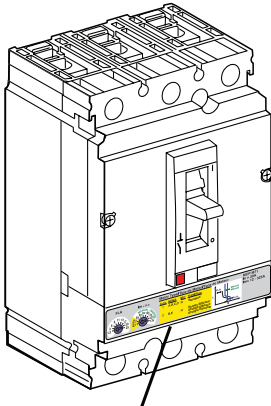
■ Listed catalogue numbers are for 80% rated circuit breakers. For 100% rated circuit breakers add a "C" in the 9th character place. For example, the catalogue number for a 100% standard trip unit with LI trip functions at 2500A would be RGF36250CU31A. 100% ratings are not available for circuit breakers with ET1.0 Trip Units.

♦ See page DE3-27 for interrupting ratings table.

Motor Circuit Protectors and Motor Protector Circuit Breakers

Class 611 / Refer to Catalog 0611CT1001

PowerPact™ H- and J-Frame



Motor Type / Tipo de Motor / Type de Moteur				
Auto	NEMA	IEC	Type/Typo	
1	A,B,C,D	N	Standard	
2	B,E	H	Energy Efficient Energie Efficace Energia Efficente	

PowerPact H- and J-frame electronic Motor Circuit Protectors (MCP) are magnetic-only instantaneous-trip circuit breakers. They are designed to offer short circuit protection and are Canadian Electrical Code (CEC) and National Electrical Code (NEC) compliant when installed as part of a combination controller having motor overload protection. MCP circuit breakers accept the same accessories and terminals as the equivalent thermal-magnetic circuit breakers.

Determine the hp rating from the nameplate of the motor. Select a MCP with an ampere rating recommended for the hp and voltage involved. When using the automatic settings the MCP microprocessor automatically adjusts the trip settings for both current and time to align with the start-up characteristic for the motor type, whether it is a standard or energy-efficient motor. This includes a dampening means to accommodate a transient motor in-rush current without nuisance tripping of the circuit breaker.

H- and J-frame Electronic Motor Circuit Protectors (MCP)

Frame	Current	Full Load Amperes Range	Adjustable Instantaneous Trip Range	Suffix	J Interrupting (See SCCR Table Below)		L Interrupting (See SCCR Table Below)	
					Cat. No.	Price	Cat. No.	Price
H-frame	30 A	1.5–25 A	9–325 A	M71	HJL36030M71		HLL36030M71	
	50 A	14–42 A	84–546 A	M72	HJL36050M72		HLL36050M72	
	100 A	30–80 A	180–1040 A	M73	HJL36100M73		HLL36100M73	
	150 A	58–130 A	348–1690 A	M74	HJL36150M74		HLL36150M74	
J-frame	250 A	114–217 A	684–2500 A	M75	JJL36250M75		JLL36250M75	

Maximum Rating or Setting of Motor Protective Devices▲

Type of Motor		Percentage of Full-load Current	
		Setting	Not to Exceed ■
A, B, C, D	Standard	800%	1300%
B, E	Energy Efficient	1100%	1700%

▲ Based on 2005 NEC Table 430.52.

■ See NEC Exception No. 1 to Table 430.52. The NEC 1300% maximum setting may be inadequate for instantaneous trip circuit breakers to withstand current surges typical of the magnetization current of autotransformer type reduced voltage starters, or open transition wye-delta starters during transfer from "start" to "run," constant hp multi-speed motors, and motors labeled "high efficiency."

MCP Selection by HP Ratings♦ of Induction-type Squirrel-Cage and Wound-rotor Motors★

3Ø 60 Hz Voltages ▼				Full-Load Amperes	Suffix
200 Vac	230 Vac	460 Vac	575 Vac		
.5–5	.5–7.5	.75–15	1–20	1.5–25	M71
5–10	5–15	10–30	15–40	14–42	M72
10–25	15–30	25–60	30–75	30–80	M73
20–40	25–50	50–100	60–125	58–130	M74
40–60	50–75	100–150	125–200	114–217	M75

♦ Based on 2005 NEC Table 430.250.

★ Per NEC 430.3, part-winding motors should select two circuit breakers, each at not more than one-half the allowable trip setting for the horsepower rating. The two circuit breakers should operate simultaneously as a disconnecting means per NEC 430.103.

▼ Listed voltages are rated motor voltages. Corresponding system voltages are 200 Vac, 220–240 Vac, 440–480 Vac and 550–600 Vac. Select wire and circuit breakers based on horsepower rather than nameplate full-load current per NEC 430.6 (A) for general motor applications.

Short Circuit Current Rating (SCCR)

Tested to meet NEC and UL508A requirements for short circuit current ratings as part of an approved combination controller.

Short Circuit Current Ratings (SCCR)

Contactor/Starter	J Interrupting			L Interrupting		
	200–240 Vac	480 Vac	600 Vac	200–240 Vac	480 Vac	600 Vac
Tesys D-line and F-line	100 kA	65 kA	25 kA	125 kA	100 kA	50 kA
NEMA Type S	100 kA	65 kA	25 kA	125 kA	100 kA	50 kA

Accessories..... Page DE3-39

Optional Lugs Page DE3-42

Dimensions Page DE3-55

Enclosures..... Page DE3-56

Motor Circuit Protectors and Motor Protector Circuit Breakers

H-Frame and J-Frame MCP Selector

Class 611 / Refer to Catalog 0611CT1001

Application of PowerPact® H-frame and J-frame Electronic Motor Circuit Protectors (MCP)

Horsepower Rating of Induction-type Squirrel-cage and Wound-rotor Motors 3Ø 60 Hz					NEC Full Load Amperes	PowerPact H-frame and J-frame Electronic MCP	
Starter Size	200 Vac	230 Vac	480 Vac	575 Vac			
00	1/2	1/2	1/2	1/2	0.9 A	HJL36030M71 and HLL36030M71 1/2–10 hp	
			3/4	3/4	1.1 A		
			1	1	1.3 A		
					1.7 A		
					2.1 A		
					2.2 A		
					2.4 A		
					2.5 A		
					2.7 A		
	3/4	3/4	1-1/2	2	3 A		
			2		3.2 A		
					3.4 A		
					3.7 A		
					3.9 A		
					4.2 A		
					4.8 A		
					4.8 A		
	1	1	3	3	6 A		
					6.1 A		
					6.8 A		
					6.9 A		
					7.6 A		
					7.8 A		
					9 A		
					9.6 A		
0	2			7-1/2	11 A	HJL36100M73 and HLL36100M73 15–50 hp	HJL36050M72 and HLL36050M72 10–25 hp
	3	3	7-1/2	10	14 A		
			10		15.2 A		
1	5	5	15	15	17 A		
					17.5 A		
					21 A		
2	7-1/2	7-1/2	20	20	22 A		
					25.3 A		
					27 A		
3	10	10	25	25	28 A		
					32 A		
					32.2 A		
4	15	15	30	30	34 A		
					40 A		
					41 A		
5	20	20	40	40	42 A		
					48.3 A		
					52 A		
6	25	25	50	50	54 A		
					62 A		
					65 A		
7	30	30	60	60	68 A		
					77 A		
					78.2 A		
8	40	40	75	75	80 A		
					92 A		
					96 A		
9	50	50	100	100	99 A		
					104 A		
					120 A		
10	60	60	125	125	124 A		
					125 A		
					130 A		
11	75	75	150	150	144 A		
					150 A		
					154 A		
12			200	200	156 A		
					177.1 A		
					180 A		
13					192 A		
					221 A		
					240 A		
14					248 A		

Shaded area is not covered by J-frame electronic motor circuit protector.



Motor Circuit Protector



Motor Protector Circuit Breaker

Motor Circuit Protectors

Mag-Gard™ Motor Circuit Protectors (MCP) are instantaneous-trip magnetic-only circuit breakers. They have a single adjustment which simultaneously sets the magnetic trip level of each individual pole. Mag-Gard™ circuit breakers comply with CEC/NEC requirements for providing motor circuit protection when installed as part of a UL Listed combination controller having motor overload protection. Interrupting ratings are established for these CSA/UL Recognized Components only when they are used in combination with motor starters with properly sized overload relays and contactors.

All Mag-Gard circuit breakers will accept the same lugs and accessories as equivalent circuit breakers. Mag-Gard circuit breakers are available with I-Line construction.★ High-interruption (H) construction Mag-Gard circuit breakers (LHL) are also available.

Magnetic Only 3 Pole, 600 Vac, 50/60 Hz★—Three Device Solutions■

Ampere Rating	Trip Unit	Adjustable Trip Range (A)	24 Vdc Multiplier	Cat. No.	\$ Price
LAL	400	500–1000 A 750–1600 A 1000–2000 A 1125–2250 A 1250–2500 A 1500–3000 A 1750–3500 A 2000–4000 A	High = 1.2 Low = 1.4	LAL3640022M LAL3640028M LAL3640030M LAL3640031M LAL3640032M LAL3640033M LAL3640035M LAL3640036M	

For PowerPact L- and P-Frames, an instantaneous-only version of the electronic trip circuit breaker is also available for motor circuit protection. These MCPs comply with CEC/NEC® requirements for providing short-circuit protection when installed as part of a Listed combination controller having motor overload protection.

Magnetic Only 3 Pole, 600 Vac, 50/60 Hz★—Three Device Solutions■

Sensor Rating	Trip Unit	Adjustable Trip Range (A)	Interrupting Rating							
			G		J		L		R	
			Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
PowerPact L-Frame★	400	500–1200%	LGL36400M37X		LJL36400M37X		LLL36400M37X		LRL36400M37X	
	600	500–1200%	LGL36600M37X		LJL36600M37X		LLL36600M37X		LRL36600M37X	
PowerPact PJJ, PLL★	600	1200–10000 A	—		PJL36060M68		PLL34060M68		—	
	800	1200–10000 A	—		PJL36080M68		PLL34080M68		—	
	1000	1500–10000 A	—		PJL36100M69		PLL34100M69		—	
	1200	1800–10000 A	—		PJL36120M70		PLL34120M70		—	

- ▲ CSA/UL magnetic trip tolerances are -20%/+30% from the nominal values shown.
- Three-device solutions are the traditional solutions: motor circuit protector plus motor starter plus overload relay.
- ◆ 250 Vdc ratings are available. No CSA/UL component recognition
- ★ These electronic magnetic only motor circuit protectors are available with I-Line constructions. Consult the factory.

Motor Protector Circuit Breakers

New!

Motor protection circuit breakers provide built-in thermal and magnetic protection. They are used in two-device motor feeder solutions to provide protection against short-circuits, overloads, and phase unbalance.

H-Frame (150 A), J-Frame (250 A) and L-Frame (600 A) Electronic Trip Motor Protector Circuit Breakers (CSA/UL Ratings)—Two Device Solutions▼

Electronic Trip Unit Type	Frame	Sensor Rating	Trip Unit	Full Load Amperes Range (FLA)	Isd (x FLA)	Interrupting Rating							
						G		J		L		R	
						Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
Standard△	H-Frame	30	2.2 M	14–25	5–13 x FLA	HGL36030M38X		HJL36030M38X		HLL36030M38X		HRL36030M38X	
		50		14–42	5–13 x FLA	HGL36050M38X		HJL36050M38X		HLL36050M38X		HRL36050M38X	
		100		30–80	5–13 x FLA	HGL36100M38X		HJL36100M38X		HLL36100M38X		HRL36100M38X	
		150		58–130	5–13 x FLA	HGL36150M38X		HJL36150M38X		HLL36150M38X		HRL36150M38X	
	J-Frame	250	2.3 M	114–217	5–13 x FLA	JGL36250M38X		JJL36250M38X		JLL36250M38X		JRL36250M38X	
	L-Frame	400		190–348	5–13 x FLA	LGL36400M38X		LJL36400M38X		LLL36400M38X		LRL36400M38X	
		600		312–520	5–13 x FLA	LGL36600M38X		LJL36600M38X		LLL36600M38X		LRL36600M38X	

- ▼ Two-device solutions (these electronic motor protector circuit breakers include short circuit and overload protection)
 - 1 electronic motor circuit protector with a Micrologic 2.2 M plus
 - 1 contactor
- △ The standard trip unit offers Class 5, 10 and 20 and phase unbalance or phase loss protection.

Accessories Page DE3-39
 Optional Lugs Page DE3-42
 Dimensions Pages DE3-54 and DE3-55
 Enclosures Page DE3-56



Adjustable Instantaneous Trip Circuit Breakers For Single Motor Circuit Protection

Adjustable Instantaneous trip circuit breakers are intended for use in combination with motor starters with overload relays for the protection of motor circuits from short circuits. Other specific applications include rectifiers and resistance welders. These C/B's contain a magnetic trip element in each pole with the trip point adjustable from the front. Interrupting ratings are determined by testing the instantaneous trip C/B in combination with a contactor and overload relay. Refer to C.E.C. 28-210.

Select instantaneous trip C/B's as follows:

1. This selection table is suitable for motors with Locked-Rotor Indicating Code Letters as follows;

Horsepower	Motor Code Letters
1/2 or less	A-L
3/4 to 1 1/2	A-K
2 to 3	A-J
5 to 25	A-H
30 to 125	A-G
150 or more	A-F

For other motors order a special thermal-magnetic circuit breaker with magnetic trip settings for the specific motor - specify motor horsepower, voltage, frequency, full load current and code letter or locked rotor current.

2. Determine motor HP rating from the motor nameplate.

3. Refer to the table at right and select an instantaneous trip C/B with an ampere rating recommended for the HP and voltage involved.

4. Select an adjustable trip setting of at least 700%, not to exceed 1300%, of the motor full load amperes (FLA).

5. The 1300% maximum setting may be inadequate for instantaneous trip circuit breakers to withstand current surges typical of the magnetization current of auto-transformer type reduced voltage starters, or open transition wye-delta starters during transfer from "start" to "run", constant HP multi-speed motors, and motors labeled "high efficiency". Select thermal-magnetic circuit breakers from page DE3-5 for those applications.

6. Part-winding motors, should have two circuit breakers selected from the above at not more than one half the allowable trip setting for the horsepower rating. The two circuit breakers should operate simultaneously as a disconnecting means.

7. Motor full load currents, 1/2 HP thru 200 HP are taken from Table 44 of the C.E.C. & Table 430-150 of the NEC. Above 200 HP from UL 98, Table 18.2. Select wire and circuit breakers on basis of horsepower rather than nameplate full load current for General Motor Applications. **Do not use these values to select overload relay thermal units. See Book CP2 for selection of thermal units when actual full load is not known.** The voltages listed are rated motor voltages. Corresponding nominal system voltages are 200 to 208, 220 to 240, 440 to 480 and 550 to 600 volts.

Based on 1990 CEC Section 28-210 & Table 44, and 1990 NEC Article 430-52 and Table 430-150.

HP Ratings of Induction Type Squirrel-Cage and Wound Rotor Motors				Full Load Amps. (Note7) ▲	Standard MAG-GARD® Circuit Breaker Catalogue No. ■	Magnetic Trip Settings ♦	
Three Phase 60 Hz ac						LO	HI
200 Volts	230 Volts	460 Volts	575 Volts				
5	5	10	15	14	H (L36030M38X	500%	1300%
				15.2	H (L36030M38X		
				17	H (L36030M38X		
				17.5	H (L36030M38X		
7-1/2	7-1/2	15	20	21	H (L36030M38X		
				22	H (L36030M38X		
				25.3	H (L36030M38X		
				27	H (L36050M38X		
10	10	20	25	28	H (L36050M38X		
				32	H (L36050M38X		
				32.2	H (L36050M38X		
				34	H (L36050M38X		
15	15	30	40	40	H (L36050M38X		
				41	H (L36050M38X		
				42	H (L36050M38X		
				48.3	H (L36100M38X		
20	20	40	50	52	H (L36100M38X		
				54	H (L36100M38X		
				62	H (L36100M38X		
				65	H (L36100M38X		
75	100	200	250	221	L (L36400M38X		
				240	L (L36400M38X		
				242	L (L36400M38X		
				248	L (L36400M38X		
100	125	250	300	285	L (L36400M38X		
				289	L (L36400M38X		
				302	L (L36400M38X		
				312	L (L36400M38X		
125	150	300	350	336	L (L36400M38X		
				359	L (L36600M38X		
				360	L (L36600M38X		
				361	L (L36600M38X		
150	200	350	400	382	L (L36600M38X		
				414	L (L36600M38X		
				472	L (L36600M38X		
				477	L (L36600M38X		
				480	L (L36600M38X		

▲ Motor full-load currents are taken from NEC Table 430.150. Select wire and circuit breakers on basis of horsepower rather than nameplate full-load current per NEC 430.6 (A) for general motor applications. Do not use these values to select overload relay thermal units. The voltages listed are rated motor voltages. Corresponding nominal system voltages are 200-208, 220-240, 440-480 and 550-600 V.

■ To complete catalog number, replace the blank with the appropriate rating (G, J, or L). M38X is for standard trip units. For advanced trip units (LCD display, metering and communication, replace with M58X).

♦ Only MIN and MAX settings are shown, intermediate settings are available on all circuit breakers.

★ See NEC 430.52(A) for circuit breaker settings above 800%.

▼ If due to motor starting characteristics, trip settings at the 1300% maximum permitted level are needed, the next size Mag-Gard circuit breaker should be chosen.

Motor Circuit Protectors

Class 601

Motor Protection Selection Tables

Selection Tables for Conductors, Safety Switches and Thermal-Magnetic Circuit Breakers Based on 2005 NEC® Tables 430.147, 430.148 & 430.150



▲ 8 XHHW requires 3/4 in. conduit for 3W.

■ 200 V motors are commonly used on 208 V services.

◆ Ordinary service for normal starting duty only, acceleration time of 10 sec. or less.

★ Heavy service is jogging or plugging duty or cycling load with over 25 starts per hour or over 5 starts per minute. Energy efficient motors are polyphase motors defined in NEMA Standard MG1 and exhibit high starting current.

▼ NEC 430.22 for Single Motor, Smaller conductors may be permitted for light duty-cycle service per 430.22 (B) Exception No. 1. DC motors operating from rectified 1Ø power supply will require larger conductors per 430.22 (A) Exception No. 1. For motor-generator arc welders, see 630.11.

△ Motor full load currents thru 200 hp are taken from NEC Tables 430.147, 148 and 150. Above 200 hp from UL 98. Select wire size, circuit breakers, or fuses on basis of hp rather than nameplate full load current per NEC 430.6. **Do not use these values to select overload relay thermal units.** Voltages listed are rated motor voltages. Corresponding nominal system voltages are 110–120 V, 200–208 V, 220–240 V, 440–480 V and 550–600 V.

□ Switch size only is shown in table. Selected fuses should not exceed maximum percent of full-load current as given in NEC Table 430.52. Above 50 hp dc switches are not hp rated by UL as Motor Circuit Switches, but as General Use Switches only and are not necessarily capable of interrupting the max. operating overload current of a motor. See NEC 100 for definition of General Use Switch. When protecting a 3Ø, Design E energy efficient motor, the switch is required by NEC 430.109 to have a hp rating of not less than 1.4 times that of a motor rated 3–100 hp, or not less than 1.3 times that of a motor rated over 100 hp. Switches shown in this table do not necessarily comply with that requirement.

◇ Thermal-magnetic circuit breaker ampere ratings recommended are approximate for average conditions, based on trip characteristics of Square D circuit breakers and NEC Table 430.52. Under some conditions, the next size larger switch or circuit breaker rating may be necessary to accommodate the motor starting current and is permitted by NEC 430.52(C)(1) Exception 2. High starting currents are anticipated with Design E and other energy efficient motors. For explanation of Code letter markings, see NEC 430.7(B). For Busway Plug-in units, see Section DE8.

★ Thermal-magnetic breaker ampere ratings recommended are approximate for average conditions and based on trip characteristics of Square D circuit breakers and NEC Tables 430.7(B) and 430.52. ▼Type LC, LI, LX, LXI, and LE circuit breakers are NOT recommended for use on single motor branch circuits.

Contact your local Field Office for circuit breaker selection on constant horsepower multi-speed motors.

Horsepower Ratings									Full Load Amperage Δ	Amperage of Thermal-Magnetic Inverse Time Circuit Breaker			QMB and Heavy Duty Switch with Time Delay Fuses □	Minimum Size metallic Conduit 75 °C Wire Field-Installed Sized for 125% FLA ▼																								
Squirrel-Cage and Wound-Rotor Motors with Norm. Torque Characteristics Operating at usual Speeds 3Ø 60 Hz				1Ø 10 Hz ac			Average Direct Current Motors Operating at Base Speed			For Motor Code Letter B to E		For Motor Code Letter F to V ★		AWG kcmil	Conduit 3 W																							
										Ordinary Service ★	Heavy Service and Energy Efficient ★				THHN THWN XHHW	THW																						
200 Vac	230 Vac	460 Vac	575 Vac	115 Vac	200 Vac	230 Vac	120 Vdc	240 Vdc				15 A					20 A	25 A	30 A	35 A	40 A	45 A	50 A	60 A	70 A	80 A	90 A	100 A	110 A	125 A	150 A	175 A	200 A	225 A	250 A	300 A	350 A	400 A
2		5		1/3		3/4		3.4		2	6.9 A 7.2 A 7.6 A 7.8 A 7.9 A 8.0 A 8.5 A 9.0 A 9.2 A 9.5 A	15 A		20 A		30 A		14	1/2 in.	N/A																		
3	3		7-1/2	10	1/2		1-1/2			3	9.6 A 9.8 A 10.0 A 11.0 A 11.5 A 12.0 A 12.2 A 13.2 A 13.8 A 14.0 A	20 A		25 A		30 A																						
		10		3/4	2		1-1/2				15.2 A 16.0 A 16.0 A 17.0 A 17.5 A 19.6 A 20.0 A 21.0 A 22.0 A 24.0 A 25.0 A	25 A				35 A		12	1/2 in.	N/A																		
5	5		15	1		3		2		5	25.3 A 27.0 A 28.0 A 29.0 A 32.0 A 32.2 A 34.0 A 38.0 A 40.0 A 41.0 A	30 A		35 A		40 A																						
		15		1-1/2	3						42.0 A 46.0 A 48.3 A 50.0 A 52.0 A 54.0 A 55.0 A 56.0 A 57.5 A 58.0 A	35 A		40 A		50 A		10	1/2 in.	N/A																		
7-1/2				2				3			42.0 A 46.0 A 48.3 A 50.0 A 52.0 A 54.0 A 55.0 A 56.0 A 57.5 A 58.0 A	40 A		45 A		60 A																						
	10	20	25		5			7-1/2			62.0 A 62.1 A 65.0 A 68.0 A 72.0 A 76.0 A 77.0 A 78.2 A 80.0 A 89.0 A 92.0 A	50 A		60 A		70 A		8	1/2 in.▲	N/A																		
		25		3		7-1/2		5		10	96.0 A 99.0 A 100.0 A 104.0 A 106.0 A 120.0 A 124.0 A 125.0 A 130.0 A 140.0 A	60 A		70 A		80 A																						
											144.0 A 150.0 A 154.0 A 156.0 A 173.0 A 177.0 A 180.0 A 192.0 A 221.0 A 240.0 A	80 A		80 A		100 A																						
15	15				7-1/2					15	242.0 A 248.0 A 285.0 A 289.0 A 302.0 A 312.0 A 336.0 A 359.0 A 360.0 A 361.0 A	90 A		110 A		125 A		6	3/4 in.	1 in.																		
	20	40	50		5	10		7-1/2		15	382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A	90 A		110 A		150 A																						
		40									144.0 A 150.0 A 154.0 A 156.0 A 173.0 A 177.0 A 180.0 A 192.0 A 221.0 A 240.0 A	100 A		125 A		175 A		4	1 in.	1 in.																		
20		50	60							20	242.0 A 248.0 A 285.0 A 289.0 A 302.0 A 312.0 A 336.0 A 359.0 A 360.0 A 361.0 A	110 A		150 A		200 A																						
	25	60	75					10			144.0 A 150.0 A 154.0 A 156.0 A 173.0 A 177.0 A 180.0 A 192.0 A 221.0 A 240.0 A	110 A		175 A		200 A		3	1 in.	1-1/4 in.																		
	30			7-1/2				25			144.0 A 150.0 A 154.0 A 156.0 A 173.0 A 177.0 A 180.0 A 192.0 A 221.0 A 240.0 A	125 A				225 A		2	1 in.	1-1/4 in.																		
30		75	100		10					30	242.0 A 248.0 A 285.0 A 289.0 A 302.0 A 312.0 A 336.0 A 359.0 A 360.0 A 361.0 A	150 A		200 A		250 A		1	1-1/4 in.	1-1/2 in.																		
											144.0 A 150.0 A 154.0 A 156.0 A 173.0 A 177.0 A 180.0 A 192.0 A 221.0 A 240.0 A	175 A		225 A		300 A		1/0	1-1/4 in.	1-1/2 in.																		
40	40	100	125					30			144.0 A 150.0 A 154.0 A 156.0 A 173.0 A 177.0 A 180.0 A 192.0 A 221.0 A 240.0 A	200 A		250 A		350 A		2/0	1-1/2 in.	1-1/2 in.																		
	50							40			144.0 A 150.0 A 154.0 A 156.0 A 173.0 A 177.0 A 180.0 A 192.0 A 221.0 A 240.0 A			300 A																								
50	60	125	150					50			242.0 A 248.0 A 285.0 A 289.0 A 302.0 A 312.0 A 336.0 A 359.0 A 360.0 A 361.0 A	225 A		350 A		400 A		3/0	1-1/2 in.	2 in.																		
		150	200								242.0 A 248.0 A 285.0 A 289.0 A 302.0 A 312.0 A 336.0 A 359.0 A 360.0 A 361.0 A	250 A		400 A		500 A		4/0	2 in.	2 in.																		
	75										242.0 A 248.0 A 285.0 A 289.0 A 302.0 A 312.0 A 336.0 A 359.0 A 360.0 A 361.0 A	300 A		450 A		600 A		250	2 in.	2 in.																		
100	100	250	300								382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A	350 A		500 A		700 A		350	2 in.	2-1/2 in.																		
											382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A	400 A		600 A		800 A		(2) 3/0	(2) 2-1/2 in.	(2) 2 in.																		
	125		350								382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A	450 A		700 A				(2) 4/0	(2) 2 in.	(2) 2 in.																		
		200									382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A	500 A				900 A		(2) 3/0	(2) 2 in.	(2) 2 in.																		
125	150	300	400								382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A	600 A		800 A		1000 A		(2) 4/0	(2) 2 in.	(2) 2 in.																		
				500							382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A	800 A		900 A		1200 A		(2) 300	(2) 2 in.	(2) 2-1/2 in.																		
150		350	400								382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A																											
		200									382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A	900 A		1200 A		1600 A	—	(3) 300	(3) 2 in.	(3) 2-1/2 in.																		
200		500									382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A																											
	250										382.0 A 414.0 A 472.0 A 477.0 A 480.0 A 552.0 A 590.0 A 602.0 A																											

DE3 CIRCUIT BREAKERS

J-Frame
SwitchL-Frame
Switch

Automatic molded case switches open instantaneously at a factory preset magnetic trip point, calibrated to protect only the molded case switch itself, when it is subjected to high fault currents. The trip point is nonadjustable and provides no overload or low level fault protection.

Molded case switches open when the handle is switched to the OFF position or in response to an auxiliary tripping device such as a shunt trip.

All molded case switches will accept the same lugs and accessories as equivalent thermal-magnetic circuit breakers, with the exception of Q-frame switches which do not have electrical accessories available.

Automatic molded case switches are UL Listed per UL 489 and are CSA Certified.

H-Frame, J-Frame, and L-Frame PowerPact™ Automatic Molded Case Switches, 600 Vac

Circuit Breaker	Poles	Ampere Rating	G Withstand			L Withstand			R Withstand			Terminal	Wire Range
			Cat. No.	\$ Price	Trip Point	Cat. No.	\$ Price	Trip Point	Cat. No.	\$ Price	Trip Point		
New! H-Frame J-Frame	2	150 A	HGL26000S15▲		2250 A	HLL26000S15		2250 A	—		—	AL150HD	14 AWG–3/0 AWG Al/Cu
		175 A	JGL26000S17		3125 A	JLL26000S17		3125 A	—		—	AL175JD	4–4/0 AWG Al/Cu
		250 A	JGL26000S25		3125 A	JLL26000S25		3125 A	—		—	AL250JD	3/0 AWG–350 kcmil Al/Cu
L-Frame	3	150 A	HGL36000S15		2250 A	HLL36000S15		2250 A	—		—	AL150HD	14 AWG–3/0 AWG Al/Cu
		175 A	JGL36000S17		3125 A	JLL36000S17		3125 A	JRL36000S17		3125 A	AL175JD	4–4/0 AWG Al/Cu
		250 A	JGL36000S25		3125 A	JLL36000S25		3125 A	JRL36000S25		3125 A	AL250JD	3/0 AWG–350 kcmil Al/Cu
	4	400 A	LGL36000S40X		4800 A	LLL36000S40X		4800 A	LRL36000S40X		4800 A	AL150HD	AL600LS52K3
		600 A	LGL36000S60X		6600 A	LLL36000S60X		6600 A	LRL36000S60X		6600 A	AL250JD	(2) 2/0 AWG–500 kcmil Al/Cu
		400 A	LGL46000S40X		4800 A	LLL46000S40X		4800 A	LRL46000S40X		4800 A	AL150HD	AL600LS52K4
		600 A	LGL46000S60X		6600 A	LLL46000S60X		6600 A	LRL46000S60X		6600 A	AL250JD	(2) 2/0 AWG–500 kcmil Al/Cu

▲ True 2P device. Others are a 2P in a 3P module.

Q-Frame (240 Vac) PowerPact™ Automatic Molded Case Switches

Circuit Breaker	Poles	Ampere Rating	J Withstand			Wire Range
			Cat. No.	\$ Price	Trip Point	
Q-Frame■	2	225 A	QBL22000S22		4500 A	4 AWG–300 kcmil
	3	225 A	QBL32000S22		4500 A	

■ Withstand rating of 10 kA at 240 Vac.

P-Frame and R-Frame PowerPact™ Automatic Molded Case Switches*, 600 Vac

Frame	Poles	Ampere Rating	J Withstand			K Withstand			L Withstand			Terminal	Wire Range
			Cat. No.	\$ Price	Trip Point	Cat. No.	\$ Price	Trip Point	Cat. No.	\$ Price	Trip Point		
P	2	600 A	PJL26000S60		10 kA	PKL26000S60		24 kA	PLL24000S60♦		10 kA	AL800M23K	(3) 3/0 AWG–500 kcmil Al or Cu
		800 A	PJL26000S80		10 kA	PKL26000S80		24 kA	PLL24000S80♦		10 kA		
		1000 A	PJL26000S10		10 kA	PKL26000S10		24 kA	PLL24000S10♦		10 kA	AL1200P25K	(4) 3/0 AWG–500 kcmil Al or Cu
		1200 A	PJL26000S12		10 kA	PKL26000S12		24 kA	PLL24000S12♦		10 kA		
	3	600 A	PJL36000S60		10 kA	PKL36000S60		24 kA	PLL34000S60♦		10 kA	AL800M23K	(3) 3/0 AWG–500 kcmil Al or Cu
		800 A	PJL36000S80		10 kA	PKL36000S80		24 kA	PLL34000S80♦		10 kA		
R	2	1200 A	—	—	—	RKF26000S12		57 kA	RLF26000S12		48 kA	R-frame circuit breakers can be bus-connected or cable-connected. For cable connections, RLTB kit or equivalent bus structure is required. Kit is included with 3000 A switches. For all others, see page DE3-44.	
		1600 A	—	—	—	RKF26000S16		57 kA	RLF26000S16		48 kA		
		2000 A	—	—	—	RKF26000S20		57 kA	RLF26000S20		48 kA		
		2500 A	—	—	—	RKF26000S25		57 kA	RLF26000S25		48 kA		
	3	1200 A	—	—	—	RKF36000S12		57 kA	RLF36000S12		48 kA		
		1600 A	—	—	—	RKF36000S16		57 kA	RLF36000S16		48 kA		
		2000 A	—	—	—	RKF36000S20		57 kA	RLF36000S20		48 kA		
		2500 A	—	—	—	RKF36000S25		57 kA	RLF36000S25		48 kA		
	3000 A	—	—	—	—	RKF36000S30		57 kA	RLF36000S30		48 kA		

♦ P-frame L-interrupting is available in 480 Vac only.

* UL magnetic trip tolerances are -20% / +30% from the nominal values shown.

H-, J-, L- P-, and R-Frame Withstand Ratings▼

Voltage	Withstand				
	G	J	K	L	R
240 Vac	65 kA	100 kA	65 kA	125 kA	200 kA
480 Vac	35 kA	65 kA	50 kA *	100 kA	200 kA
600 Vac	18 kA	25 kA	50 kA *	50 kA	100 kA

▼ The withstand rating is the fault current at rated voltage that the molded case switch will withstand without damage when protected by a circuit breaker with an equal continuous current rating.

* R-Frame withstand rating is 65kA.

Accessories Page DE3-39
Optional Lugs Page DE3-42
Dimensions Pages DE3-54 and DE3-55
Enclosures Pages DE3-56–DE3-58

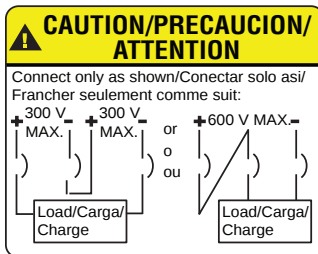
The CSA/UL Listed thermal-magnetic molded case circuit breakers shown below are specifically designed for use on ungrounded dc systems having a maximum short-circuit voltage of 500 Vdc or a maximum floating (unloaded) voltage of 600 Vdc. The circuit breakers are suitable for use only with UPS (uninterruptible power supplies) and ungrounded systems.

This two-level voltage rating allows these circuit breakers to be applied to battery sources having a short-circuit availability of 20,000 amperes for LH, and MH circuit breakers and 25,000 amperes for PAF circuit breakers at 500 Vdc.

LH and MH circuit breakers are provided with an adjustable magnetic trip that is readily accessible by means of a single adjustment on the face of the circuit breaker. PAF circuit breakers have a fixed magnetic trip range.

These circuit breakers are CSA/UL Listed for the interrupting ratings shown only if applied with three poles connected in series (series connection is external to circuit breaker). See diagram below.

NOTE: Due to external series connection, I-Line™ circuit breakers are not available for this application.



Source = 600 Vdc max. (floating)
500 Vdc max. (loaded)

DC Circuit Breaker Label

DC Molded Case Circuit Breakers

Ampere Rating	Circuit Breaker Cat. No.	Adjustable Magnetic Trip Range—DC Amperes ▲		Interrupting Rating @ 500 Vdc	\$ Price
		Low	High		
100 A	JGL37100D81	400	600	20 k AIR	
125 A	JGL37125D81	400	600		
150 A	JGL37150D81	400	600		
175 A	JGL37175D81	400	600		
200 A	JGL37200D82	500	850		
225 A	JGL37225D82	500	850	20 k AIR	
250 A	JGL37250D82	500	850		
250 A	LHL3625025DC	625	1250		
300 A	LHL3630026DC	750	1500	20 k AIR	
350 A	LHL3635029DC	875	1750		
400 A	LHL3640030DC	1000	2000		
450 A	MHL3645031DC	1125	2250		
500 A	MHL3650032DC	1250	2500		
600 A	MHL3660033DC	1500	3000	20 k AIR	
700 A	MHL3670035DC	1750	3500		
800 A	MHL3680036DC	2000	4000		
900 A	MHL3690039DC	2500	5000		
1000 A	MHL36100040DC	2500	5000		
1200 A	MHL36120040DC ■	2500	5000	25 k AIR	
450 A	MHL3645031DCH	1125	2250	50 k AIR	
500 A	MHL3650032DCH	1250	2500		
600 A	MHL3660033DCH	1500	3000		
700 A	MHL3670035DCH	1750	3500		
800 A	MHL3680036DCH	2000	4000		
900 A	MHL3690039DCH	2500	5000		
1000 A	MHL36100040DCH	2500	5000		
1200 A	MHL36120040DCH ■	2500	5000	50 k AIR	

▲ Magnetic trip tolerances are -20%/+30% from the nominal values shown.

■ Suitable for use only in a ventilated enclosure. Minimum enclosure dimensions are 38" h x 20" w x 7" d with a minimum of 300 square inches of ventilation near the top and bottom of the enclosure.

Ampere Rating	Circuit Breaker Cat. No.	Fixed Magnetic Trip Range—DC Amperes ▲		Interrupting Rating @ 500 Vdc	\$ Price
		Hold	Trip		
1200 A	PAF361200DC	1200	1620	25 k AIR	
1600 A	PAF361600DC	1600	2160		
2000 A	PAF362000DC	2000	2700		
2500 A	PCF362500DC	2500	3375	25 k AIR	

Accessories..... Page DE3-39

Optional Lugs..... Page DE3-42

Dimensions..... Pages DE3-54 and DE3-55

Enclosures..... Pages DE3-56–DE3-58

500 Vdc Circuit Breakers

CSA/UL Listed 500 Vdc NW Circuit Breakers

Class **0613DC** / Refer to catalog **0613CT0501**



New!

CSA/UL Listed Masterpact NW DC circuit breakers are for use on ungrounded systems rated 500 Vdc (600 Vdc unloaded) or less. IEC Rated circuit breakers are for use on ungrounded, grounded middle point, or grounded negative systems. Please refer to catalog 0613CT0501 for details.

Masterpact NW DC Circuit Breaker

Masterpact NW DC Circuit Breakers

Ampere Rating	Circuit Breaker Cat. No.	Interrupting Rating 500 Vdc (max 600 Vdc unloaded)	\$ Price Fixed Circuit Breaker		\$ Price Drawout Circuit Breaker		\$ Price Cradle	
			Version C	Version C1	Version C	Version C1	Version C	Version C1
800 A	NW08NDC	35 kA						
1200 A	NW12NDC	35 kA						
1600 A	NW16NDC	35 kA						
2000A	NW20NDC	35 kA						
2500 A	NW25NDC	35 kA						
3000 A	NW30NDC	35 kA						
4000 A	NW40NDC	35 kA						
800 A	NW08HDC	85 kA						
1200 A	NW12HDC	85 kA						
1600 A	NW16HDC	85 kA						
2000A	NW20HDC	85 kA						
2500 A	NW25HDC	85 kA						
3000 A	NW30HDC	85 kA						
4000 A	NW40HDC	85 kA						

Mission Critical Circuit Breakers

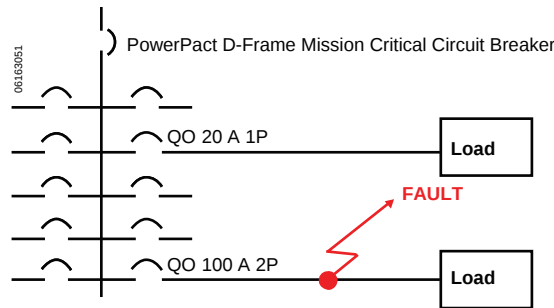
Selective Coordination

Designed for selectively coordinated systems, mission critical circuit breakers maximize continuity of the electrical service by allowing the branch circuit breaker to clear the fault.

Mission critical circuit breakers are engineered with technology that optimizes current, time and energy selectivity so the fault is cleared by the circuit breaker immediately upstream of the occurrence. This technology (see figure below) allows the remaining areas of the electrical system to continue operation without disruption. In addition to unique design attributes, Square D mission critical circuit breakers have also undergone rigorous testing procedures to certify the coordination with downstream circuit breakers—combining innovative engineering with validated test results.

Apply Square D mission critical circuit breakers in emergency power distribution systems, data centers, hospitals or anywhere continuity of service is desired.

208 Y/120 V 3 Phase Panel



LA Mission Critical Circuit Breakers

The LA High Magnetic Withstand MC Circuit Breakers are designed to trip at a higher magnetic trip level (18–20 times handle rating) than typical molded case circuit breakers (MCCBs) (which trip at 5–10 times the handle rating).

The high magnetic withstand value of these LA circuit breakers allow the downstream branch circuit breaker to clear the fault.

L-Frame—400 A, Thermal-Magnetic, High Magnetic Withstand Circuit Breakers For Mission Critical Loads

Ampere Rating	AC Magnetic Level Factory Set		Standard Interrupting		High Interrupting		Terminal	
	Hold	Trip	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	Wire Range
LA/LH MC Circuit Breaker, 3P, 480 Vac								
200 A	3400 A	4000 A	LAL34200MC		LHL34200MC		AL250LAMC	(1) 250–350 kcmil Al (1) 3/0 AWG–350 kcmil Cu
225 A	3825 A	4500 A	LAL34225MC		LHL34225MC			
250 A	4250 A	5000 A	LAL34250MC		LHL34250MC			
400 A	6000 A	7200 A	LAL34400MC		LHL34400MC		AL400LA	(1) 1 AWG–600 kcmil Al or (2) 1 AWG–250 kcmil Al

L-Frame Interrupting Table

	LAL	LHL
240 Vac	42 kA	65 kA
480 Vac	30 kA	35 kA

Dimensions Page DE3-54
Enclosures Page DE3-56

Mission Critical Circuit Breakers

Selective Coordination

PowerPact™ D-frame Mission Critical Circuit Breakers

When the D-frame Mission Critical circuit breaker is used as a main circuit breaker with QO branch circuit breakers, the D-frame MC will remain closed during any fault that occurs downstream of the QO circuit breaker up to 30kA at 208Y/120 Vac.

Ratings:

- UL 489 Listed
- CSA Certified
- Voltage: 208Y/120 V
- Handle ratings: 60–600 A
- AIR: 65 kA

Available Configurations:

- Four sizes: 150 A, 250 A, 400 A, and 600 A
- Main circuit breaker in NQ panelboards
- Unit mount for OEM users
- Plug-in base for OEM users
- Drawout base for OEM users

D-Frame Mission Critical Circuit Breakers

Circuit Breaker Cat. No.▲	Continuous Current Rating	\$ Price	Terminal	
			Cat. No.	Wire Range (AWG/kcmil)
DJL32150W	150 A		32508	#2-600 Cu or #2-500 Al
DJL32250W	250 A			
DJL32400W	400 A			
DJL32600W	600 A		32510	(2) 2/0-350 Cu or (2) 2/0-500Al

▲ D-Frame circuit breakers 400 A and below are 100% rated.

Termination Options

Frame	Termination Letter	Termination Option
D-Frame	F	No Lugs (Includes terminal nut kit on both ends)
	L	Lugs both ends
	M	Lugs ON end Terminal Nut Kit Off end
	P	Lugs OFF end Terminal Nut Kit On end
	N	Plug-in
	D	Drawout
	S	Rear Connected

For factory-installed termination, place termination letter in the third block of the circuit breaker catalog number.

DJL32600E20

Termination Letter

For N, D, and S details, see page DE3-45.

Dimensions Page DE3-54
Enclosures Page DE3-56

New!

Electrical Accessories

Accessory	Description	Rated Voltage	H-, J-, and L-Frame					M-, P-, and R-Frame					
			Factory-Installed Cat. Suffix	H- and J-Frame		L-Frame		Factory Installed Cat. Suffix	Field-Installable Cat. No.	\$ Price			
				Field-Installable Cat. No.	\$ Price	Field-Installable Cat. No.	\$ Price						
 H-, J-, L-, M-, P, and R-Frame	Provides circuit breaker contact status. Note: The location of the accessory in the circuit breaker determines its function.	Standard Min Load = 10mA with 24V	1 auxiliary switch (OF) 1a1b	AA	S29450		S29450		AA	S29450			
			2 auxiliary switch (OF) 2a2b	AB	S29450		2x	S29450		AB	S29450		
			3 auxiliary switch (OF) 3a3b	AC	—		3x	S29450		AC	S29450		
			Alarm Switch (SD) 1a1b	BC	S29450			S29450		BC	S29450		
			Overcurrent trip switch (SDE) 1a1b	BD	—			S29450		BD	S29450		
			Consisting of:	OF Switch	—	S29450		—		—			
				SDE Adapter	—	S29451		—		—			
			Alarm switch and Overcurrent trip switch	BE	—		2x	S29450		BE	2x	S29450	
			Consisting of:	OF Switch	—	2x	S29450		—		—		
				SDE Adapter	—	S29451		—		—			
			Auxiliary Switch/Alarm Switch/Adapter (OF/SD/SDE) Kit	—	—			—		—		S33801■	
		Low Level Min Load = 1mA with 24V	One auxiliary switch (OF) 1a1b	AE	S29452			S29452		AE	S29452		
			Two auxiliary switches (OF) 2a2b	AF	2x	S29452		2x	S29452		AF	2x	S29452
			3 auxiliary switches (OF) 3a3b	AG	—			3x	S29452		AG	3x	S29452
			Alarm Switch (SD) 1a1b	BH	S29452			S29452		BH	S29452		
			Overcurrent trip switch (SDE) 1a1b	BJ	—			S29452		BJ	S29452		
			Consisting of:	OF Switch	—	S29452		—		—			
	SDE Adapter		—	S29451		—		—					
Alarm switch and Overcurrent trip switch	BK	—		2x	S29452		BK	2x	S29452				
Consisting of:	OF Switch	—	2x	S29452		—		—					
	SDE Adapter◆	—	S29451		—		—						
 H-, J-, and L-Frame	Trips the circuit breaker from a remote location by means of a trip coil energized from a separate supply voltage circuit.	AC	24	SK	S29384		S29384		SK	S33659			
			48	SL	S29385		S29385		SL	S33660			
			110/130	SA	S29386		S29386		SA	S33661			
			220/240	—	—		—		SC	S33662			
			208/277	SD	S29387		S29387		SD	S33663			
			380/480	SH	S29388		S29388		SH	S33664			
			525/600	SJ	S29389		S29389		—	—			
		DC	12	SN	S29382		S29382		SN	S33658			
			24	SO	S29390		S29390		SK	S33659			
			30	SU	S29391		S29391		SK	S33659			
			48	SP	S29392		S29392		SL	S33660			
			60	SV	S29383		S29383		SL	S33660			
			125	SR	S29393		S29393		SA	S33661			
			250	SS	S29394		S29394		SC	S33662			
			AC	24	UK	S29404		S29404		UK	S33668		
				48	UL	S29405		S29405		UL	S33669		
				110/130	UA	S29406		S29406		UA	S33670		
220/240	—	—			—		UC	S33671					
208/277	UD	S29407			S29407		—	—					
380/480	UH	S29408			S29408		UH	S33673					
525/600	UJ	S29409			S29409		—	—					
DC	12	UN		S29402		S29402		—	—				
	24	UO		S29410		S29410		UK	S33668				
	30	UU		S29411		S29411		UK	S33668				
	48	UP	S29412		S29412		UL	S33669					
	60	UV	S29403		S29403		UL	S33669					
	125	UR	S29413		S29413		UA	S33670					
	250	US	S29414		S29414		UC	S33671					
	Undervoltage trip with externally mounted adjustable time delay unit for UVR of 0.5, 0.9, 1.5, 3.0 seconds before circuit breaker trips	AC/DC	48	—	S33680		S33680		FL	S33680▲			
			100/130	—	S33681		S33681		FA	S33681▲			
			220/250	—	S33682		S33682		FC	S33682▲			
			380/480	—	—		—		FH	S33683▲			
	Undervoltage trip with externally mounted non-adjustable time delay unit of 0.25 sec before circuit breaker trips.	AC/DC	48	—	S29426		S29426		—	—			
			100/130	—	—		—		KA	S33684▲			
			200/250	—	—		—		KC	S33685▲			
			220/240	—	S29427		S29427		—	—			

▲ Field-installable kit includes time delay module only. Order undervoltage trip separately.

■ P-frame drawout circuit breaker only.

◆ SDE Adapter used for H- and J-frame only.

PowerPact™ Circuit Breaker Accessories

Motor Operators and Rotary Handles

Class 0611, 612 / Refer to Catalogs 0611CT1001, 0612CT0101

Motor Operators for H-, J-, and L-Frame Circuit Breakers

Description	Rated Voltage	Factory Installed Cat. No. Suffix	Field-Installable Kit					
			H-Frame▲		J-Frame		L-Frame 600 A	
			Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
 Motor Operator	AC	48/60	ML	S29440		S31548		S432639
		110/130	MA	S29433		S31540		S432640
		208/277 220/240	MD	S29434		S31541		S432641
		380/415	MF	—		—		S432642
		440/480	MH	S29435		S31542		S432647
	DC	24/30	MO	S29436		S31543		S432643
		48/60	MV	S29437		S31544		S432644
		110/130	MR	S29438		S31545		S432645
		250	MS	S29439		S31546		S432646
	AC	220/240	NC	S429441		S431549		S432652
Locking device	Mounting hardware		—	—	—	—	S32649	
	Ronis lock		—	S41940		S41940	S41940	
	Profalux lock		—	S42888		S42888	S42888	
Operations counter	Mounting hardware plus Ronis lock		—	S429449		S429449	—	S32648
	Adapter for I-Line circuit breaker		—	S37420		S37420	—	—

Spring-Charging Motors for Electrically-Operated P-Frame Circuit Breakers

Description		Rated Voltage	Factory Installed		P-Frame (For Field-replacement Only)		Replacement Coils		
			Cat. No. Suffix	\$ Price	Spring Charging Motor Cat. No.	\$ Price	Opening/Closing Coil Cat. No.	\$ Price	
 Spring-charging Motor	Standard motor for electrically-operated circuit breakers. Factory-installed includes motor and opening/closing coils.	AC	48	ML		S47391		S33660	
			100/130	MA		S47395		S33661	
			220/240	MC		S47396		S33662	
			380/415	MF		S47398		S33664	
		24/30	MO		S47390		S33659		
	DC	48/60	MV		S47391		S33660		
		110/130	MR		S47392		S33661		
		200/250	MS		S47393		S33662		
		48	NL		S47391		S33034		
		Communicating motor mechanism for electrically operated circuit breakers. Factory-installed includes motor and opening/closing coils.	AC	100/130	NA		S47395		S33035
220/240	NC				S47396		S33036		
380/415	NF				S47398		S33038		
DC	24/30		NO		S47390		S33033		
	48/60		NV		S47391		S33034		
	110/130		NR		S47392		S33035		
	200/250		NS		S47393		S33036		

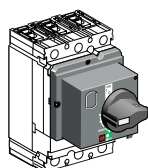
Rotary Operated Handles

Device	Description	H- and J-Frame▲			L-Frame			P-Frame	
		Factory Installed Cat. No. Suffix	Field Installable Cat. No.	\$ Price	Factory Installed Cat. No. Suffix	Field Installable Cat. No.	\$ Price	Factory Installed Cat. No. Suffix	\$ Price
Direct Mounted	Standard black handle	RD10	S29337		RD10	S32597		RD10	
	Standard black handle with:	Two early-break and two early make switches		—	—	—	—	RD16	
		One early-break switch		RD12	S29337 + S29345	—	—	—	
		Two early-make switches		RD13	S29337 + S29346	—	—	—	
	Red handle on yellow bezel	Handle only		RD20	S29339	RD20	S32599	—	
		One early-break switch		RD22	S29339 + S29345	—	—	—	
		Two early-make switches		RD23	S29339 + S29346	—	—	—	
Door Mounted	MCC conversion accessory	—	S429341		—	S32606		—	
	CNOMO conversion accessory	—	—		—	S32602		—	
	Standard black handle	RE10	S29338		RE10	S32598		RE10	
Rotary Handle Replacement Kit	Standard black handle with:	Two early-break and two early make switches		—	—	—	—	RE16	
		Two early make switches		RE13	S29338 + S29345	—	—	—	
	Red handle on yellow bezel	RE20	S29340		RE20	S32600		—	
Telescoping	Handle only	—	—		—	—		S33875	
Accessories	Key lock adapter	—	S429344		—	S32604		—	
	Key locks	—	S41940		—	S41940		—	
		—	S42888		—	S42888		—	
		—	S41950		—	S41950		—	
		—	S42878		—	S42878		—	
	Indication Auxiliary Switch	One early-break switch		—	—	S32605		—	
		Two early-make switches		—	—	S29346		—	

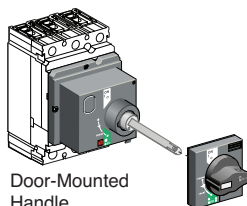
▲ Not available in H-frame 2P modules.

■ Factory and field-installed standard motor operators for H- and J-frame circuit breakers require the SDE switch and SDE adapter (both included).
Factory and field-installed standard motor operators for L-frame circuit breakers require the SDE switch (included).

♦ Installation requires BSCM with NSX Cord. See page DE3-49 for ordering information.

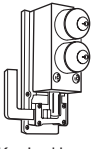


Direct-Mounted handle

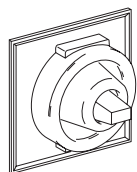


Door-Mounted Handle

Locks, Interlocking ^{New!}

Device	Description	H- and J-Frame			Q-Frame			L-Frame			M- and P-Frame			R-Frame		
		Factory Installed Cat. No. Suffix	Field-Installed Cat. No.	Price	Factory Installed Cat. No. Suffix	Field-Installed Cat. No.	Price	Factory Installed Cat. No. Suffix	Field-Installed Cat. No.	Price	Factory Installed Cat. No. Suffix	Field-Installed Cat. No.	Price	Factory Installed Cat. No. Suffix	Field-Installed Cat. No.	Price
Handle Padlocking Device	Removable (lock OFF only)	—	S29370		—			—	S29370		—	S44936		—	S33996	
	Fixed (lock OFF or ON)	YP	S29371		YP	QBPA		YP	S32631		YP	S32631		YP	S32631	
	Fixed (lock OFF only)▲	YQ	S37422		YQ	QBPAF		YQ	NJPAF		YQ	MPRPAF		YQ	MPRPAF	
Interlocking (Not UL listed)	Mechanical for circuit breakers with rotary handles▲	—	S29369		—			—	S32621		—	S33890		—		
	Mechanical for circuit breakers with toggles▲	—	S29354		—	QBMIK		—	S32614		—			—		
 Key Locking	Provision only, vertical mount, 1 or 2 locks	Kirk or Schneider Electric	—	—	—	—		—	—		JA	—		—	—	
	Provisions only, vertical mounting one key interlock including padlock provision, open position only.	Kirk or Schneider Electric	—	—	—	—		—	—		JE▲	—		JE	—	
	Provision only, horizontal mount 1 lock, M- and P-frame 1 or 2 locks, R-frame	Kirk	—	—	—	—		—	—		JK	—		JK	—	
		Schneider Electric	—	—	—	—		—	—		JR	—		JR	—	
		Ronis	—	—	—	—		—	—		JB	—		JB	—	
	Provision and 1 lock, vertical mount	Profalux	—	—	—	—		—	—		JD	—		JD	—	
		Kirk	—	—	—	—		—	—		JG	—		—	—	
		Schneider Electric	—	—	—	—		—	—		JH	—		—	—	
	Provision and 1 lock, horizontal mount	Kirk	—	—	—	—		—	—		JL	—		JL	—	
		Schneider Electric	—	—	—	—		—	—		JS	—		JS	—	
		Ronis	—	—	—	—		—	—		JC	—		JC	—	
	Provision and 2 locks keyed alike	Profalux	—	—	—	—		—	—		JF	—		JF	—	
		Kirk	—	—	—	—		—	—		JN	—		JN	—	
		Schneider Electric	—	—	—	—		—	—		JV	—		JV	—	
	Provision and 2 locks keyed differently	Kirk	—	—	—	—		—	—		JP	—		JP	—	
		Schneider Electric	—	—	—	—		—	—		JW	—		JW	—	

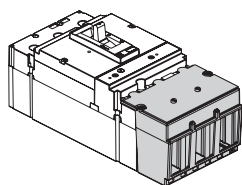
▲ Not available in M frame or HD and HG 2P modules.



Handle Rubber Boot



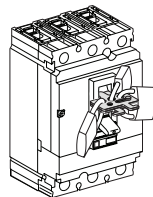
Door Escutcheon



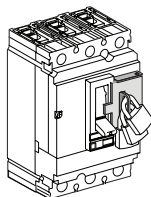
Terminal Covers



Rear Connection



Removable Padlock Attachment



Fixed Padlock Attachment

Installation Accessories for H-, J-, and L-Frame Circuit Breakers ^{New!}

Description	H- and J-Frame		L-Frame	
	Field-Installed Cat. No.	\$ Price	Field-Installed Cat. No.	\$ Price
Front Panel Escutcheon for Toggle Breakers	S29315		32556	
Front Panel Escutcheon for Rotary Handle, Motor Operator, or extended escutcheon	S29317		S32558	
Phase Barriers (set of 6)	S29329		32570	
Handle Rubber Boot■	S29319		S32560	
Sealing Accessories (for front cover screws)	S29375		S29375	
DIN rail mounting kit (requires 15 mm depth on a 35 mm DIN rail)■	S29305		—	
DIN rail adapter	—		—	
Handle Extensions (set of 5)	S29313		S432553	

■ Not available in HD and HG 2P modules.

Installation Accessories for M-, P-, and R-Frame Circuit Breakers

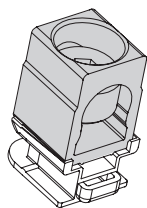
Description		Frame	Field-Installed Cat. No.	\$ Price
Door Escutcheon	Accessory Cover	M-, P-Frame	S33718	
		R-Frame	S33929	
	Toggle Handle	M-, P-Frame	S33717	
	Drawout	P-Frame	S33857	
Terminal Covers	Short lug cover 3P	P-Frame	S33932	
	Short lug cover 4P		S33933	
	Long lug cover 3P		S33934	
	Long lug cover 4P		S33935	
Replacement Handle	Standard	R-Frame	S33997	
	Standard Short	M-, P-Frame	S46998	
	Long	M-, P-Frame	S46996	

Rear Connections ^{New!}

Device	Description	H-Frame				J-Frame				L-Frame			
		Poles	Factory-Installed Termination No.	Field-Installable Cat. No.	\$ Price	Poles	Factory-Installed Termination No.	Field-Installable Cat. No.	\$ Price	Poles	Factory-Installed Termination No.	Field-Installed Cat. No.	\$ Price
Mixed Rear Connection Kit♦		2	S	—		2	S	—		3	S	S32477	
		3	S	S37432		3	S	S37437		4	S	S32478	
Consisting of:	Short rear connections (set of 2)	2 or 3	—	2x S37433		2 or 3	—	2x S37438		3	—	2x S432475	
	Long rear connections (set of 2)		—	S37434			—	S37439★			—	2x S432476	
	Short terminal cover (3P)	3	—	S37436		3	—	S37440		3	—	2x S32562	
	Short terminal cover (4P)	4	—	—		—	—	—		4	—	2x S32563	

♦ Kit contains 4 short rear connections, 2 long rear connections (4 long rear connections for 4P), hardware, and 2 terminal covers..

★ For use with 3P circuit breakers only.



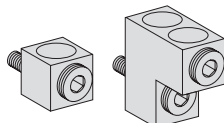
J-Frame Lug

Mechanical Lug Kits for H-Frame and J-Frame Circuit Breakers▲

Description	Circuit Breaker Application			Ampere Rating	Number of Wires Per Lug and Wire Range	Kit Cat. No.	Qty Per Kit	\$ Price Per Kit
	Standard	Ampere Rating	Optional					
Al Lugs for Use with Al or Cu Wire	HD, HG, HJ, HL	15–150 A			(1) 14–3/0 AWG Al or Cu	AL150HD	3	
	JD, JG, JJ, JL	150–175 A			(1) 4–4/0 AWG Al or Cu	AL175JD	3	
	JD, JG, JJ, JL	200–250 A	JD,JG,JJ,JL	150–175 A	(1) 3/0–350 kcmil Al or Cu	AL250JD	3	
Cu Lugs for Use with Cu Wire Only			HD,HG,HJ,HL	15–150 A	(1) 14–2/0 AWG Cu	CU150HD	3	
			JD,JG,JJ,JL	150–250 A	(1) 1/0–300 kcmil Cu	CU250JD	3	
Control Wire Terminal for H-frame lug kit						S37423	2	
Control Wire Terminal for J-frame lug kit						S37424	2	

▲ See page DE3-44 for terminal nuts/bus bar connections.

New!



L-Frame Lugs

Mechanical Lug Kits for L-Frame Circuit Breakers

Description	Circuit Breaker Application				Number of Wires Per Lug and Wire Range	Kit Cat. No.	Qty Per Kit	\$ Price Per Kit
	Ampere Rating	Poles	Unit Mount	I-Line				
Al Lugs for Use with Al or Cu Wire	250	3	X	X	(1) 2 AWG–500 kcmil Al	AL400L61K3	3	
		4	X	—	(1) 2 AWG–600 kcmil Cu	AL400L61K4	4	
	400/600	3	X	—	(2) 2/0 AWG–500 kcmil Al or Cu	AL600LS52K3	3	
		4	X	—		AL600LS52K4	4	
Cu Lugs for Use with Cu Wire Only	400/600	3	X	X	(2) 3/0 AWG–500 kcmil Al or Cu	AL600LF52K3	3	
	250/400	3	X	X	(1) 2 AWG–500 kcmil Al	CU400L61K3	3	
		4	X	—	(1) 2 AWG–600 kcmil Cu	CU400L61K4	4	
	400/600	3	X	—	(1) 2/0 AWG–500 kcmil Al or Cu	CU600LS52K3	3	
		4	X	—		CU600LS52K4	4	
	400/600	3	X	X	(1) 3/0 AWG–500 kcmil Al or Cu	CU600LF52K3	3	

Mechanical Lug Kits for M-Frame, P-Frame and R-Frame Circuit Breakers▼

Description	Circuit Breaker Application				Wires per Lug and Wire Range	Cat. No.	Lugs Per Kit	\$ Price Per Kit
	Standard	Rating	Optional	Ampere Rating				
Al Lugs for AL or Cu Wire	M-, P-Frame	800 A	—	800 A	(3) 3/0 AWG-500 kcmil	AL800M23K	3	
						AL800M23K4	4	
		1200 A	PG, PJ, PL, MG, MJ	800 A	(4) 3/0 AWG-500 kcmil	AL1200P24K■	1	
		—	PG, PJ, PL, MG, MJ	800 A	(2) 3/0 AWG-600 kcmil	AL800P6K■	3	
	P-Frame	—	PG, PJ, PL, MG, MJ	800 A	(2) 3/0 AWG-600 kcmil	AL800P6K4■	4	
					(2) 3/0 AWG-750 kcmil	AL800P7K■	3	
					750 kcmil: compact AL only	AL800P7K4■	4	
		1200 A	PG, PJ, PL	800 A	(4) 3/0 AWG-500 kcmil	AL1200P25K◆	3	
		—	PG, PJ, PL	800–1200 A	(3) 350-600 kcmil	AL1200P25K4◆	4	
						AL1200P6KU◆	3	
						AL1200P6KU4◆	4	
	R-Frame	PG,PJ,PL	PG, PJ, PL	1200 A	(3) 3/0 AWG-750 kcmil	AL1200P7KU◆	3	
					750 kcmil: compact AL only	AL1200P7KU4◆	4	
Cu Lugs for Cu Wire Only	M-, P-Frame	1200 A	I-Line	—	(4) 3/0 AWG-600 kcmil	AL1200R53K	1	
		2500 A	Unit Mount	—	(1) 3/0 AWG-750 kcmil	AL2500RK★	2	
		—	PJ	100–150 A	(1) 1-1/0 AWG	CU250P1K△	3	
						CU800M23K	3	
	P-Frame	800 A	MG, MJ, PG, PJ, PL	—	(3) 3/0 AWG-500 kcmil	CU800M23K4	4	
		1200 A	MG, MJ, PG, PJ, PL	800–1200 A	(4) 3/0 AWG-500 kcmil	CU1200P24K■	1	
	R-Frame	1200 A	PG, PJ, PL	800–1200 A	(4) 3/0 AWG-500 kcmil	CU1200P25K◆	3	
						CU1200P25K4	4	
	R-Frame	1200 A	I-Line	—	(4) 3/0 AWG-500 kcmil	CU1200R53K	1	

■ Does not fit onto ON end of unit-mount P-frame circuit breakers.

◆ For unit-mount circuit breaker only.

★ All unit-mount R-frame circuit breakers require terminal pads for mounting lugs of any type. See page DE3-44.

▼ For lug with a tapped hole for control wire, add a "T" before the "K" in the catalog number (for example, AL800P6TK).

△ This lug can only be used on low amp PJ frame breakers where the Instantaneous setting must not be turned OFF. The cables must be laced with rope per lug instructions.

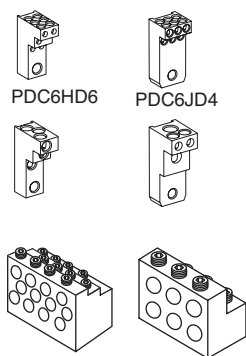
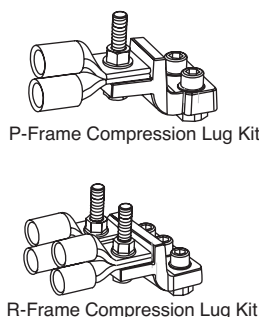
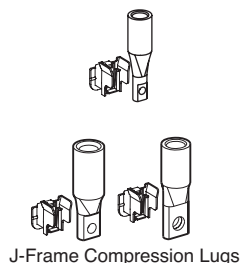
PowerPact™ Circuit Breaker Accessories

Compression Lugs and Power Distribution Connectors (PDC)

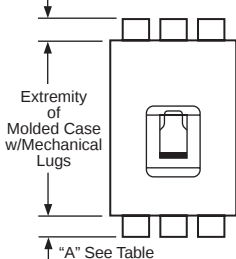
Compression Lug Kits for PowerPact™ Circuit Breakers

Description	Circuit Breaker Type	Ampere Rating	System Range	Mounting Type	Dimension A (in)	Max. Lugs per Terminal	Cat. No.	Qty. Per Kit	\$ Price Per Kit
Compression Lug Kits for H-Frame and J-Frame Circuit Breakers									
Aluminum Compression Lug Kits	H-frame	60 A	6–2 AWG Al or Cu	Unit	1.2	1	YA060HD	3	
		150 A	1/0–4/0 AWG Al or Cu		2.5	1	YA150HD	3	
	J-frame	150 A	1–3/0 AWG Al or Cu		1.2	1	YA150JD	3	
		250 A	3/0–350 kcmil Al or Cu		2.5	1	YA250J35	3	
Copper Compression Lug Kits	H-frame	60 A	6–1/0 AWG Cu		1.0	1	CYA060HD	3	
		150 A	4–2/0 AWG Cu		1.2	1	CYA150HD	3	
	J-frame	150 A	6–1/0 AWG Cu		0.7	1	CYA150JD	3	
		250 A	2/0–300 kcmil Cu		1.1	1	CYA250J3	3	
Compression Lug Kits for L-Frame Circuit Breakers									
Aluminum Compression Lug Kits	L-frame	400 A	4–300 kcmil Al/Cu	Unit	1.2	1	YA400L31K3	3	
		600 A	4–300 kcmil Al/Cu		2.5	2	YA600L32K3	6	
		400 A	2/0–500 kcmil Al/Cu			1	YA400L51K3	3	
		600 A	2/0–500 kcmil Al/Cu			2	YA600L52K3	6	
		400 A	500–750 kcmil Al 500 kcmil Cu			1	YA400L71K3	3	
		400 A	4–300 kcmil Al/Cu			1	YA400L31K4	4	
		600 A	4–300 kcmil Al/Cu			2	YA600L32K4	8	
		400 A	2/0–500 kcmil Al/Cu			1	YA400L51K4	4	
		600 A	2/0–500 kcmil Al/Cu		1.2	2	YA600L52K4	8	
		400 A	500–750 kcmil Al 500 kcmil Cu		2.5	1	YA400L71K4	4	
Copper Compression Lug Kits	L-frame	400 A	2/0–300 kcmil Cu	Unit	1.2	1	CYA400L31K3	3	
		600 A	2/0–300 kcmil Cu		2.5	2	CYA600L32K3	6	
		400 A	250–500 kcmil Cu			1	CYA400L51K3	3	
		600 A	250–500 kcmil Cu			2	CYA600L52K3	6	
		400 A	2/0–300 kcmil Cu			1	CYA400L31K4	4	
		600 A	2/0–300 kcmil Cu			2	CYA600L32K4	8	
		400 A	250–500 kcmil Cu			1	CYA400L51K4	4	
		600 A	250–500 kcmil Cu			2	CYA600L52K4	8	
Compression Lug Kits for M-Frame, P-Frame, and R-Frame Circuit Breakers									
Aluminum Compression Lug Kits	M-, P-frame◆	250 A	2/0–300 kcmil	Unit	3.7	2	YA250P3	1	
		300 A	4/0–500 kcmil		3.9	2	YA300P5	1	
		400 A	2/0–300 kcmil		4.3	2	YA400P3	2	
		400 A	500–750 kcmil		3.7	2	YA400P7	1	
		600 A	4/0–500 kcmil		3.9	2	YA600P5	2	
		800 A	500–750 kcmil		4.3	2	YA800P7	2	
	R-frame▲◆	1200 A	2/0–300 kcmil	I-line	3.8	4	YA1200R3	4	
		1200 A	4/0–500 kcmil		4.0	4	YA1200R5	4	
		1200 A	500–750 kcmil		4.4	4	YA1200R7	4	
		2000 A	2/0–300 kcmil		▲	8	YA2000R3	2	
Copper Compression Lug Kits	M-, P-frame◆	2000 A	4/0–500 kcmil	Unit	▲	8	YA2000R5	2	
		2500 A	500–750 kcmil		▲	8■	YA2500R7	2	
		400 A	4/0–500 kcmil		3.3	2	CYA400P5	1	
		600 A	4/0–500 kcmil		3.3	2	CYA600P5	2	
		800 A	500–750 kcmil		3.6	2	CYA800P7	2	
	R-frame◆	1200 A	4/0–500 kcmil	I-Line	3.5	4	CYA1200R5	4	
		1200 A	500–750 kcmil		3.8	4	CYA1200R7	4	

New!



Crimp lug or PDC connectors extension past end of circuit breaker "A" See Table



- ▲ All unit-mount R-frame circuit breakers require terminal pads for mounting lugs of any type. See page DE3-44.
- 9 lugs for 3000 A circuit breakers
- ♦ Not for use on I-Line™ circuit breakers unless wire bending space is adequate.

Power Distribution Connectors for H-Frame, J-Frame and L-Frame Circuit Breakers

Use with Circuit Breaker Type	Circuit Breaker Ampere Rating	Wires Per Terminal & Wire Range	Dimension A (in.)	Cat. No.	Qty. Per Kit	\$ Price Per Kit
HD, HG, HJ, HL★	15–150	(6) 14–6 AWG Cu	1.0	PDC6HD6	3	
	15–150	(3) 14–2 AWG Cu	1.2	PDC3HD2	3	
JD, JG, JJ, JL★	150–250	(6) 14–4 AWG Cu	1.0	PDC6JD4	3	
	150–250	(2) 14–1 AWG and (1) 3–2/0 AWG Cu	1.5	PDC3JD20	3	
LD, LG, LJ, LL	150–600	(3) 14–1 AWG and (2) 3–2/0 AWG	1.28Δ	PDC5DG20L3	3	
	150–600	(12) 14–4 AWG	1.31Δ	PDC12DG4L3	3	

★ OFF end only when OFF end is the load end.

Power Distribution Connectors for M-Frame and P-Frame Circuit Breakers▼

Use for multiple load connections on one circuit breaker in place of standard distribution block to save space and time.

- Use on load end of circuit breaker only
- Use in UL508 Industrial Control applications only.
- Use in UL1995/CSA C22.2 No. 236 heating and cooling equipment.
- For Cu wire only.

Ampere Rating	(Wires Per Terminal) Wire Range	Cat. No.	Qty Per Kit	\$ Price Per Kit
250–1200 A	(6) 12–2/0 AWG Cu	PDC6P20	3	
	(6) 12–2/0 AWG Cu	PDC6P204	4	
250–1200 A	(12) 10–4 AWG Cu	PDC12P4	3	
		PDC12P44	4	

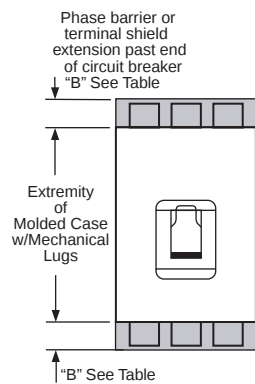
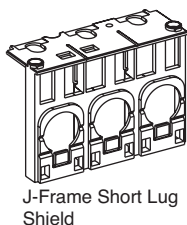
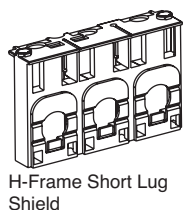
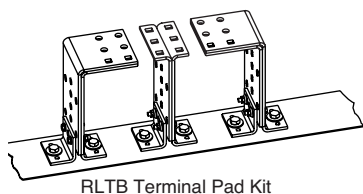
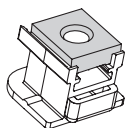
▼ Not for use with I-Line™ circuit breakers.

Δ Kit includes long terminal shield and cover, which adds 1.65 inches to standard lug with short terminal shield.

PowerPact™ Circuit Breaker Accessories

Terminal Nuts, Terminal Pads, Terminal Shields and Accessories

Class 0611, 612 / Refer to Catalogs
0611CT1001, 0612CT0101



Terminal Nuts for Bus Bar Connection of H-Frame and J-Frame Circuit Breakers

Description	Frame	Tap	Cat. No.	Qty Per Kit	\$ Price Per Kit
H-Frame Terminal Nut Insert-English	HD/HG/HJ/HL	1/4-20	S37425	2	
H-Frame Terminal Nut Insert-English	HD/HG/HJ/HL	1/4-20	S37444	3	
H-Frame Terminal Nut Insert-Metric	HD/HG/HJ/HL	M6	S37426	2	
J-Frame Terminal Nut Insert-English	JD/JG/JJ/JL	1/4-20	S37427	2	
J-Frame Terminal Nut Insert-English	JD/JG/JJ/JL	1/4-20	S37445	3	
J-Frame Terminal Nut Insert-Metric	JD/JG/JJ/JL	M8	S37428	2	
Control Wire Terminal for H-Frame Terminal Nut	HD/HG/HJ/HL		S37429	2	
Control Wire Terminal for J-Frame Terminal Nut	JD/JG/JJ/JL		S37430	2	

Bus Bar Connections Hardware for L-Frame, M-Frame and P-Frame Circuit Breakers

Frame	Description	Term. No.	Poles	Cat. No.	\$ Price
L-Frame	Set of 4 terminal screws and washers for one side	F	4	S36967	
M- and P-Frame	Bus Connector Kit for one pole, one end		1	S33928	

Terminal Pad Kits for R-Frame Circuit Breakers

R-Frame Circuit Breaker	Terminal Pad Kit		Field-Installable Kits			
	Usage	Lugs per Phase	3P Kit (One End Only)		4P Kit (One End Only)	
			Cat. No.	\$ Price.	Cat. No.	\$ Price
3000 A, 100% Rated	Required for cable or bus	9	RL3TB		RL3TB4	
3000 A, Standard (80% Rated)	Required for cable or bus					
2500 A, 100% Rated	Required for cable or bus					
2500 A, Standard (80% Rated)	Required for cable, optional for bus	8	RLTB		RLTB4	
All Other R-Frame Circuit Breakers	Required for cable, optional for bus					

For cable connection to RLTB, use AL2500RK lug. See page DE3-43.

Terminal Shields and Phase Barriers

Used With	Description		Dimension B (in.)	Cat. No.	Qty Per Kit	\$ Price
H- and J-Frame Mechanical Lugs	Short Lug Shield▲	Frame	Max. Wire Size			
		H-Frame 60 A	3 AWG	0.50	S37446	1
		H-Frame 150 A	3/0 AWG	0.50	S37447	1
		J-Frame	350 kcmil	0.24	S37448	1
New! H- and J-Frame Power Distribution Connectors and Compression Lugs	Compatible with:	PDC		Compression Lugs		
				Aluminum	Copper	
	H-Frame Long Lug Shield	PDC6HD6	YA060HD	CYA060HD	2.24	S37449
		PDC3HD2	YA150HD	CYA150HD		
	J-Frame Long Lug Shield	PDC6JD4	YA150JD	CYA150JD	1.68	S37450
		PDC3JD2	■	CYA250J3		
L-Frame	Terminal Shield (3P)	PDC5DG2	PDC12DG2	—	—	S36965
M-, P-Frame	Phase Barriers			S33646	3	
R-Frame				S33998		

- ▲ Short lug shields provide IP20 protection for mechanical lugs and are compatible with control wire terminals.
- J-frame terminal shield is not compatible with the YA250J35 compression terminal.

Miscellaneous H-, J-, and L-Frame Circuit Breaker Accessories

Accessory	Description	Field-Installed Cat. No.	\$ Price
Spare Parts	Bag of screws for accessory cover, L-frame	S432552	
	1 spare toggle extension, L-frame	32595	
	Set of 10 identification labels	LV429226	

PowerPact™ Circuit Breaker Accessories

Class 611, 612 / Refer to Catalogs 0611CT1001, 0612CT0101

Plug-In and Drawout Mountings



H-Frame and J-Frame Plug-in Mounting



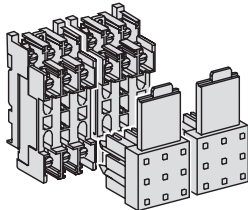
H-Frame and J-Frame Drawout Mounting



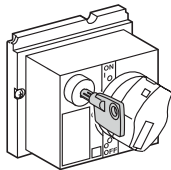
L-Frame Plug-In Mounting



L-Frame Drawout Mounting



L-Frame Disconnecting Blocks



L-Frame Locking Device

New!

New!

Plug-In and Drawout Mountings for H- and J-Frame Circuit Breakers (3P or 2P in a 3P module)

Description		Factory Installed Cat. No.	Field-Installed Cat. No.	\$ Price
Complete Factory-Assembled Circuit Breakers	Plug-in base shipped with circuit breaker	N		
	Drawout cradle shipped with circuit breaker	D		
Special Order Options for Plug-In and Drawout Circuit Breakers	Plug-In Base	Circuit breaker Only	HJ00	
		Plug-in base kit		\$29278
	Drawout Cradle	Circuit breaker only	HJ00	\$29278
		Plug-in base kit		\$29282
Accessories for Plug-In and Drawout	Cradle side plates (fixed part of chassis)			\$29283
		Circuit breaker side plates (moving part of chassis)		
	H-Frame Shutter Kit (set of two)			\$37442
	J-Frame Shutter Kit (set of two)			\$37443
	Secondary Disconnect Blocks	Fixed part 9-wire connector (mounted on base)		\$29273
		Moving part 9-wire connector (mounted on circuit breaker)		\$29274
		Support for 2-moving connectors		\$29275
	Extended escutcheon with extended toggle handle			\$29284
	Two position indicating switches (connected/disconnected)			\$29287

Plug-In and Drawout Mountings for L-Frame Circuit Breakers

Description	Poles	Plug-in Mounting			Drawout Mounting		
		Factory Installed Cat. No.	Field-Installed Cat. No.	\$ Price	Factory Installed Cat. No.	Field-Installed Cat. No.	\$ Price
Kit (stationary and moving parts)	3	N			D		
	4	N			D		
Stationary Part	Plug-in base	3					
		4					
	Fixed part of chassis		S32514 S32515			S32514 S32515	
Moving Part	Circuit breaker only		HJ00		HJ00		
	Moving part of chassis					S32533	
	Short terminal covers	3	2x S32562		2x	S32562	
		4	2x S32563		2x	S32563	

▲ Price shown is for quantity of 1.

Plug-In and Drawout Accessories for L-Frame Circuit Breakers

Description			Field-Installed Cat. No.	\$ Price
Secondary Disconnecting Blocks	Fixed Part	9-wire connector	S29273	
		9-wire connector	S32523	
	Moving Part	Support for 3 moving connectors	S32525	
		9-wire manual auxiliary connector	S29272	
Shutters	Two shutters for plug-in base		32521	
	Extended escutcheon for toggle		S32534	
Chassis Accessories	Locking device (key lock is not included)		S29286	
	Two position indicating switches (connected/disconnected)		29287	

Termination Options

Termination Letter	
N = Plug-in	For factory-installed termination, place termination letter in the third block of the circuit breaker catalog number.
D = Drawout	

L G L 3 6 4 0 0 U 3 1 X
L Termination No.

Drawout Cradle and Accessories for P-Frame Circuit Breakers

Description		Cat. No.	\$ Price
Drawout Cradle		Product Selector	
Cradle Connectors	Front Connected Flat (FCF)	SFCF12■	
	Rear Connected T Horizontal/Vertical (RCTH/RCTV)	SRCTV12■	
	Modbus™ cradle communication module	S33852	
	Safety shutters	S48933	
	Secondary disconnects terminal shield	S33763	
	Cradle position switch 1a/1b Form C— Connected/test/disconnected	S33170	
	Low level cradle position switch 1a/1b Form C— Connected/test/disconnected	S33171	
	Cell keying kit	S33767	
	Disconnected position key locking—provision for Kirk or Federal Pioneer Lock	S33772	
	Door interlock kit	S33786	
	Racking interior kit	S33788	
	Door escutcheon (for replacement only, included with circuit breaker)	S33857	
	Transparent cover	S33859	
	Push-in terminal kit (3 wires)	S33098	
Cradle Accessories	Push-in terminal kit (6 wires)	S33099	
	Finger cluster	S33166	
	Cluster grease (12 oz. tube)	S48899	

■ Needs 2 kits per cradle.

DE3 CIRCUIT BREAKERS

New!

PowerPact™ H-, J-, and L-Frame Micrologic™ Trip Units



Micrologic Standard Trip Unit



Micrologic Ammeter and Energy Trip Unit

PowerPact™ H-, J-, and L-frame molded case circuit breakers may be specified with any of the following Micrologic Electronic Trip Units.

Micrologic Standard 3.2/3.3 Trip Units

- True RMS sensing
- LI, LSI trip configurations
- Field-interchangeable trip units
- LED long-time pickup and trip indication
- Test kits available
- Thermal imaging

Micrologic Ammeter 5.2A/5.3A/6.2A/6.3A Trip Units

Includes all features listed for Micrologic standard trip unit, as well as:

- Advanced user interface
- Neutral protection
- Incremental fine tuning of settings
- Up to 12 alarms
- Digital ammeter—phase and neutral (4-pole only)
- Phase loading bar graph
- Maintenance indicators including contact wear, number of operations, operating hours, and load profiles
- Cause of trip information for troubleshooting assistance
- LCD Display
- Zone-selective interlocking (ZSI) (short-time & ground-fault)
- Optional Modbus™ communications—PowerLogic™ compatible

Micrologic Energy 5.2E/5.3E/6.2E/6.3E Trip Units

Includes all features listed for Micrologic ammeter trip unit, as well as:

- Ground-fault trip with programmable ground fault alarm (available on 6.2E/6.3E only)
- Power and energy measurement
- Power quality measurements
- Current demand and power demand measurements

Micrologic Trip Units△ for PowerPact H-, J-, and L-Frame Circuit breakers

x – Standard Feature o – Available Option

Features	Standard		Ammeter		Energy	
	3.2/3.3	3.2S/3.3S	5.2A/5.3A	6.2A/6.3A	5.2E/5.3E	6.2E/6.3E
LI	x					
LSI▲		x	x		x	
LSIG / Ground-Fault Trip■				x		x
Ground-Fault Alarm/Trip■				x		x
Current Setting Directly in Amperes	x	x	x	x	x	x
True RMS Sensing	x	x	x	x	x	x
UL Listed	x	x	x	x	x	x
Thermal Imaging	x	x	x	x	x	x
LED for Long-time Pickup	x	x	x	x	x	x
LED for Trip Indication	x	x	x	x	x	x
LED for Green "Ready"	x	x	x	x	x	x
Up to 12 Alarms Used Together			x	x	x	x
Digital Ammeter			x	x	x	x
Zone-selective Interlocking◆			x	x	x	x
Communications	o	o	o	o	o	o
LCD Display			x	x	x	x
Front Display Module FDM121			o	o	o	o
Advanced User Interface			x	x	x	x
Neutral Protection■			x	x	x	x
Contact Wear Indication★			x	x	x	x
Incremental Fine Tuning of Settings			x	x	x	x
Load Profile★,▼			x	x	x	x
Power Measurement					x	x
Power Quality Measurements					x	x

- ▲ The LSI with 3.2S/3.3S trip units have fixed short time and long time delays.
- Requires neutral current transformer on the three-phase four-wire loads
- ◆ ZSI for H/J frames in only IN. for L-frame ZSI is In and OUT.
- ★ Indication available using the communication system only.
- ▼ % of hours in 4 current ranges: 0–49%, 50–79%, 80–89%, and >90% In.
- △ DC not available with electronic trip units.

Micrologic Trip Unit Settings for H- and J-Frame

Model	Trip Function	Trip Unit	Ampere Setting
Standard	LI	3.2	15-20-25-30-35-40-45-50-60 35-40-45-50-60-70-80-90-100 50-60-70-80-90-100-110-125-150 70-80-100-125-150-175-200-225-250
			15-20-25-30-35-40-45-50-60 35-40-45-50-60-70-80-90-100 50-60-70-80-90-100-110-125-150 70-80-100-125-150-175-200-225-250
	LSI	3.2S	15-60 35-100 50-150 70-250
			15-60 35-100 50-150 70-250
Ammeter	LSI	5.2A	15-60 35-100 50-150 70-250
			15-60 35-100 50-150 70-250
	LSIG	6.2A	15-60 35-100 50-150 70-250
			15-60 35-100 50-150 70-250
Energy	LSI	5.2E	15-60 35-100 50-150 70-250
			15-60 35-100 50-150 70-250
	LSIG	6.2E	15-60 35-100 50-150 70-250
			15-60 35-100 50-150 70-250

Micrologic Trip Unit Settings for L-Frame

Model	Trip Function	Trip Unit	Ampere Setting
Standard	LI	3.3	70-80-100-125-150-175-200-225-250 125-150-175-200-225-250-300-350-400 200-225-250-300-350-400-450-500-600
			70-80-100-125-150-175-200-225-250 125-150-175-200-225-250-300-350-400 200-225-250-300-350-400-450-500-600
	LSI	3.3S	125-400 200-600
			125-400 200-600
Ammeter	LSI	5.3A	125-400 200-600
			125-400 200-600
	LSIG	6.3A	125-400 200-600
			125-400 200-600
Energy	LSI	5.3E	125-400 200-600
			125-400 200-600
	LSIG	6.3E	125-400 200-600
			125-400 200-600



Powerpack® circuit breakers may be specified with any of the following Micrologic Electronic Trip Units.

Micrologic (Standard) 3.0 and 5.0 Trip Units

- True RMS sensing
- LI, LSI trip configurations
- Field-interchangeable long-time rating plugs
- LED long-time pickup indication
- Test kits available
- Thermal imaging

Micrologic (Ammeter) 3.0A, 5.0A and 6.0A Trip Units

Includes all features listed for Micrologic standard trip unit, as well as:

- LSI trip configurations
- Digital ammeter—phase and neutral
- Phase loading bar graph
- LED trip indication
- Zone-selective interlocking (ZSI) (short-time & ground-fault)
- Optional Modbus™ communications—PowerLogic® compatible

Micrologic (Power) 5.0P and 6.0P Trip Units

Power measurement and advanced protection features includes all features listed for Micrologic ammeter trip unit, as well as:

- LSI trip configuration with programmable ground fault alarm
- LSI (Ground-fault trip) with programmable ground fault alarm
- Incremental “fine tuning” of L, S, I, and G pickup and delay settings
- LCD dot matrix display and LED trip indication
- Advanced user interface
- Advanced protection IDMTL—selectable long-time delay bands
- Neutral protection
- Power measurement
- Contact wear indication
- Modbus communications—PowerLogic compatible
- Local and remote settings

Micrologic (Harmonic) 5.0H and 6.0H Trip Units

Power quality measurement and advanced protection features. Includes all features listed for the Micrologic power trip unit, as well as:

- Enhanced power measurements functions
- Power quality measurements

Adjustable Rating Plugs—Selection

To provide maximum design flexibility, system protection, and field upgradeability, each Micrologic® trip unit is equipped with an interchangeable long-time rating plug. Each trip unit requires an adjustable rating plug to determine the long-time pickup range of the circuit breaker. These plugs are factory-installed on new trip units, or can be ordered separately for field-installable upgrades.

Adjustable rating plugs are offered in eight different ranges of long-time pickup adjustments. The following chart show the ranges of adjustments. Each adjustment times the sensor rating (I_r X I_n) of the circuit breaker sets the long-time pickup value of the circuit breaker.

Long-time Pickup Settings

Rating Plug	Long-time Pickup Settings							
A	1.0	.90	.80	.70	.63	.60	.50	.40
B	1.0	.95	.88	.75	.63	.56	.50	.44
C	1.0	.95	.83	.75	.67	.56	.53	.42
D	1.0	.95	.93	.90	.80	.70	.64	.40
E	1.0	.95	.93	.90	.85	.80	.75	.60
F	1.0	.98	.96	.94	.92	.90	.88	.84
G	.82	.80	.78	.76	.74	.72	.70	.66
H	.64	.62	.60	.58	.56	.54	.52	.48

Micrologic Trip Units ✓ – Standard Feature ○ – Available Option

Features	Standard		Ammeter			Power		Harmonic	
	3.0	5.0	3.0A	5.0A	6.0A	5.0P	6.0P	5.0H	6.0H
LI	✓		✓						
LSI (Instantaneous can be turned off)		✓				✓		✓	
LSIG / Ground-Fault Trip					✓		✓		✓
Ground-Fault Alarm (No Trip) ▲■						✓		✓	
Ground-Fault Alarm and Trip ▲■							✓		✓
Adjustable Rating Plugs	✓	✓	✓	✓	✓	✓	✓	✓	✓
True RMS Sensing	✓	✓	✓	✓	✓	✓	✓	✓	✓
UL Listed	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thermal Imaging	✓	✓	✓	✓	✓	✓	✓	✓	✓
Phase Loading Bar Graph			✓	✓	✓	✓	✓	✓	✓
LED for Long-time Pickup	✓	✓	✓	✓	✓	✓	✓	✓	✓
LED for Trip Indication			✓	✓	✓	✓	✓	✓	✓
Digital Ammeter			✓	✓	✓	✓	✓	✓	✓
Zone-selective Interlocking			✓	✓	✓	✓	✓	✓	✓
Communications			○	○	○	✓	✓	✓	✓
LCD Dot Matrix Display						✓	✓	✓	✓
Advanced User Interface						✓	✓	✓	✓
Protective Relay Functions						✓	✓	✓	✓
Neutral Protection ▲						✓	✓	✓	✓
Contact Wear Indication						✓	✓	✓	✓
Incremental Fine Tuning of Settings						✓	✓	✓	✓
Selectable Long-time Delay Bands						✓	✓	✓	✓
Power Measurement						✓	✓	✓	✓
Power Quality Measurements								✓	✓
Waveform Capture								✓	✓

▲ Requires neutral current transformer in 304W systems.

■ Requires M2C or M6C Programmable Contact Module.

Micrologic Trip Unit and Options

Model	Protection	Additional Features	Field-Installable Cat. No.♦	Kit \$ Price / Circuit Breaker \$ Price Adder
2.0 (IEC only)	LSO	None	S132R	
3.0 (UL/ANSI only)	LI		S131A	
5.0	LSI		S133A	
2.0A (IEC only)	LSO	Ammeter	S142R★	
3.0A (UL/ANSI only)	LI		S141A★	
5.0A	LSI		S143A★	
6.0A	LSIG		S144A★	
5.0P	LSI	Metering, Adv. Protection	S163A★▼	
6.0P	LSIG		S164A★▼	
5.0H	LSI	Metering, Adv. Protection & Harmonic Analysis	S173A★▼	
6.0H	LSIG		S174A★▼	

♦ The standard rating plug supplied with a trip unit will be the “A” rating plug. To specify an alternative adjustable rating plug, please add the letter designation to the end of the catalog number. Please refer to page DE3-48 for a complete listing of adjustable settings available with each plug. (Example: S143B would specify a “B” rating plug instead of the standard “A” plug.) Use suffix “N” if no rating plug is required.

★ When replacing a standard trip unit with Type A (Ammeter), P (Power metering) or H (Harmonic analysis) trip unit, order the 12-pin connector kit S33101 for the Masterpack NW and NT and the PowerPack P-frame drawout circuit breakers or kit S33100 for PowerPack P-frame and R-frame unit-mount and I-Line circuit breakers. See page DE3-48.

▼ Requires Circuit Breaker Communications Module.

△ The LSI with 3.2S/3.3S trip units have fixed short time and long time delays.

□ Requires neutral current transformer on the three-phase four-wire loads

◇ ZSI for H/J frames in only IN. For L-frame ZSI is IN and OUT.

☆ Indication available using the communication system only.

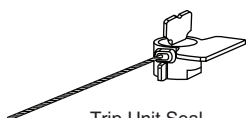
▼ % of hours in 4 current ranges: 0–49%, 50–79%, 80–89%, and >90% I_n.

Special Options

Description	Factory-Installed Suffix	Field-Installable Cat. No.	\$ Price
Ship circuit breaker in closed position	YK	N/A	
CT Characterization (Calibrated trip system)	Q	N/A	



Full Function Test Kit



Trip Unit Seal



Sensor Plug

Adjustable rating plug "A" is installed as standard on all Micrologic trip unit orders. However, an alternative selection may be specified from the "Assembled" table below, and factory-installed with your trip unit order at no additional charge. To order, please attach the appropriate catalog suffix to the end of the trip unit catalog number (after specifying trip unit options). Adjustable rating plugs may also be purchased as field-installable components from the table below.

Rating Plugs

Rating Plug	Factory-Installed		Field-Installable	
	Cat. Suffix	\$ Price Adder	Cat. No.	\$ Price
A	A (standard)		S48818	
B	B		S48819	
C	C		S48820	
D	D		S48836	
E	E		S48837	
F	F		S48838	
G	G		S48839	
H	H		S48840	

▲ Long-time pickup amperes (In) = Sensor Rating (In) X Setting of rating plug.

• "Fine adjustment tuning" is included on Micrologic Power and Harmonic trip units, allowing for incremental settings of 1 ampere between the plug setting and .40 X Sensor Rating.

Neutral Current Transformers

For Use with Circuit Breaker	Cat. No.	Sensor	\$ Price
H-Frame	S429521	60–100	
	S430562	150	
J-Frame	S430563	250	
L-Frame	S432575	400–600	
P-Frame	S33575■	250	
	S33576■	400–1600	
R-Frame	S48916■	250	
	S34036■	400–1600	
	S48896■	2000	
	S48182■	3000	
All	NCTWIRING	All	

■ Includes NCTWIRING kit.

Trip Unit Accessories

Device	Frame	Cat. No.	\$ Price
Pocket Tester		S434206	
UTA Tester		STRV00910	
Spare UTA Tester		STRV00911	
Bluetooth/Modbus for UTA Tester	H/J/L	SVW3A8114	
Spare Power Supply for UTA Tester 110–120 Vac		TRV00915	
Micrologic Cord for UTA Tester		TRV00917	
Micrologic 5/6 Cover, Transparent	H/J	S429478	
Micrologic 2/3 Cover, Transparent		S429481	
Micrologic 5/6 Cover, Transparent	L	S432459	
Micrologic 2/3 Cover, Transparent		S432461	
LCD Display for Micrologic 5	H/J/L	S429483	
LCD Display for Micrologic 6		S429484	
Hand-held Test Kit		S33594	
Primary Injection Test Adaptor		S33937	
Full-function Adapter Kit		S48981	
Full-function Test Kit	P/R	S33595	
Seven-pin Test Cable (for connection between test kit and trip unit)◆		S48907	
Two-pin Test Cable (for connection between test kit and trip unit)★		S48908	
230 Vac Filtered Power Cord▼		S48856	
120 Vac Filtered Power Cord▼	P/R	S48855	
Trip Unit Battery for Trip Indicator Lights		S33593	
Power supply with:			
24–30 Vdc input		685823	
48/60 Vdc input	H/J/L/P/R	685824	
125 Vdc input		685825	
110–130 Vac input		685826	
200–240 Vac input		685827	
380–415 Vac input		685829	
Micrologic A Trip Unit Cover, clear	P/R	S33592	
Micrologic P/H Trip Unit Cover, opaque gray		S47067	
Trip Unit Seal (6 pieces) for compliance with NEC 240.6(c)	H/J/L/P/R	MICROTUSEAL	
12-pin Trip Unit Connector for NT/NW Masterpact Circuit Breakers		S33101	
12-pin Trip Unit Connector for P- and R-Frame Circuit Breakers	P/R	S33100	
Battery Back-up (12 Hours)		685831	

◆ Used for testing Micrologic trip units. Included in the price of the Hand-held/Full-function Test Kits. Kit for replacement only.

★ Used for testing STR trip units. Included in the price of the Hand-held/Full-function Test Kits. Kit for replacement only.

▼ Included in the price of the Full-function Test Kit. Kit for replacement only.

Sensor Plugs for P- and R-Frame Circuit Breakers△◇

Circuit Breaker	Sensor Plug Range	Sensor Plug Catalog No.	Circuit Breaker Frames Accepting Sensor Plug										\$ Price
P-Frame Circuit Breaker			250 A	400 A	600 A	630 A□	800 A	1000 A	1200 A	1250 A□	1600 A		
UL	250 A	S47052	X										
	400 A	S47053		X	X		X						
	600 A	S48823			X		X	X	X				
	800 A	S33092					X	X	X				
	1000 A	S33093						X	X				
	1200 A	S48824							X				
IEC	630 A	S33091				X	X	X		X	X		
	800 A	S33092					X	X		X	X		
	1000 A	S33093						X		X	X		
	1250 A	S33094								X	X		
	1600 A	S33095									X		
												X	
R-Frame Circuit Breaker			600 A	800 A	1000 A	1200 A	1600 A	2000 A	2500 A	3000 A	3200 A		
UL	600 A	S48823	X	X									
	800 A	S33092		X									
	1000 A	S33093			X	X	X	X					
	1200 A	S48824				X	X	X	X				
	1600 A	S33095					X	X	X	X			
	2000 A	S33982						X	X	X			
	2500 A	S33983							X	X			
	3000 A	S48825								X			
IEC	1600 A	S33095					X	X	X	X	X		
	2000 A	S33982						X	X	X	X		
	2500 A	S33983							X	X	X		
	3200 A	S33984									X		

△ For use only with circuit breakers with date codes later than 07011.

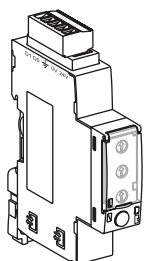
□ IEC Only.

◇ See rating plug for long-time pickup range on page DE3-47.

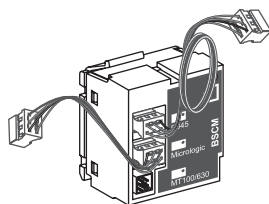
Trip Unit Field-Installable Accessories for P- and R-Frame Circuit Breakers

Description	Factory-Installed		Field-Installable Kit Cat. No.							\$ Price
	Cat. No. Suffix	\$ Price Adder	P-Frame					R-Frame		
			Unit Mount	I-Line	Motor Operated	Drawout	With Rotary Handle	Unit Mount	I-Line	
Circuit Breaker Communication Module (BCM) (Modbus)	E1		S64205	S64205	S64207	S64206	S64205	S64205	S64205	
Two Programmable Contacts Module (M2C)	V		S64273	S64273	S64273	S64273	S64273	S64273	S64273	
Six Programmable Contacts Module (M6C)	W		S64204	S64204	S64204	S64202	S64204	S64201	S64201	
External Voltage Sensing (EVS)	YV		S64203	S64203	S64210	S64209	S64210	S64208	S64208	

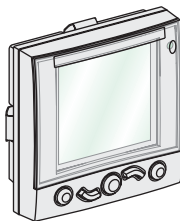
New!



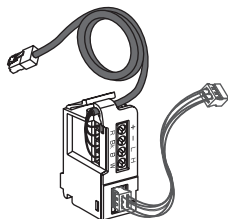
Modbus Interface Module (IFM)



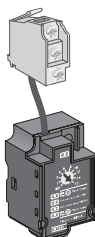
Breaker Status and Control Module (BSCM)



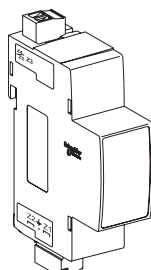
Front Display Module (FDM)



NSX Cord for Modbus Communications



SDTAM Module (Remote indication relay for motor applications)



ZSI Interface Module (Connects PowerPact H/J/L circuit breakers to PowerPact P/R and Masterpact NT/NW circuit breakers)

Trip Unit Field-Installable Accessories for H-, J-, and L-Frame Circuit Breakers

Description	Factory-Installed		Field-Installable Kit Cat. No.	
	Cat. No. Suffix	\$ Price Adder	Cat. No.	\$ Price
External Accessories				
Modbus Interface Module IFM▲	—		STRV00210	
Stacking Connections for IFM (10)	—		TRV00217	
Front Display Module FDM121▲	—		STRV00121	
FDM Mounting Accessory (Dia. 22 mm)	—		TRV00128	
Isolated Modbus Repeater Module	—		STRV00211	
ZSI Interface Module	—		S434212	
Internal Accessories				
NSX Cord ■ (for Modbus Communication)	L = 1.3 m L = 3 m	EA EB	S434201 S434202	
BSCM (Breaker Status and Control Module) with NSX Cord■	L = 1.3 m L = 3 m	EGΔ EHΔ	S434201BS S434202BS	
Replacement BSCM	—	—	S434205	
NSX Cord for V > 480 Vac■	L = 1.3 m L = 3 m	ED EE	S434204 S434303	
BSCM with NSX Cord for V > 480 Vac■	L = 1.3 m L = 3 m	EKΔ ELΔ	S434204BS S434303BS	
24 Vdc Terminal Block	—	EN	S434210	
SDTAM 24/415 Vac/dc Module♦	—	V	S429424	
SDX Module 24/415 Vac/dc★	—	V	S429532	

- ▲ Require NSX Cord
- Installation requires IFM (STRV00210) for Modbus communication and/or FDM (STRV00121) for external display
- ♦ Remote indication relay for motor applications
- ★ Remote indication relay
- ▼ For proper selection, see catalog 0611CT1001.
- Δ If using with motor operator requires communicating motor operator (suffix NC).

Wire Harness□ and ULP Cords for H-, J-, and L-Frame Circuit Breakers

Description	Factory-Installed		Field-Installable Kit Cat. No.	
	Cat. No. Suffix	\$ Price Adder	Cat. No.	\$ Price
ZSI Wire Harness, H/J Frame	YH3		S434300	
ZSI Wire Harness, L-Frame	YH3		S434301	
ENCT Wire Harness	YH2		S434302	
OF Wire Harness	YH1		S434500	
SD/SDE Wire Harness	YH1		S434501	
SDx/SDTAM Wire Harness	YH1		S434502	
MN Wire Harness	YH1		S434503	
MX Wire Harness	YH1		S434504	
24 Vdc Terminal Block Wire Harness♦	YH1		S434505	
Motor Operator Wire Harness	YH1		S434506	
Communicating Motor Operator Wire Harness	YH1		S434507	
NSX Wire Harness♦	YH1		S434508	
ENCT and ZSI Wire Harness	YH4		—	
10 RJ45 Connectors female/female	—		TRV00870	
10 ULP Line Terminations	—		TRV00880	
10 RJ45/RJ45 Male Cords	L = 0.3 m L = 0.6 m	— —	TRV00803 TRV00806	
5 RJ45/RJ45 Male Cords	L = 1 m L = 2 m L = 3m	— — —	TRV00810 TRV00820 TRV00830	
1 RJ45/RJ45 Male Cord	L = 5 m	—	TRV00850	

- Wire harness is required for I-Line applications, optional for unit-mount applications
- YH1 = all installed accessories but ZSI and ENCT
- YH2 = ENCT and all installed accessories
- YH3 = ZSI and all installed accessories
- YH4 = ZSI, ENCT and all installed accessories
- ♦ I-Line wire harness is included for communication network accessories. Optional wire harness for unit mount requires YH1 suffix.

Masterpact™ Universal Power Circuit Breakers

Masterpact™ NT/NW Circuit Breakers

Class 613 / Refer to Catalog 0613CT0001



Masterpact NT



Masterpact NW

The Masterpact universal power circuit breaker offers a family of circuit protection products meeting the most common world standards, ANSI, CSA/UL and IEC. The basic design platform for each is common. The final result is CSA/UL, ANSI and IEC circuit breakers with the same basic external dimensions, features and accessories.

Full-Featured Performance

- Complete product offering
- Circuit breakers tested to show arc flash hazard risk category as referenced by NFPA70E
- 800 A to 6000 A frames, fixed and draw-out
- Rated for AC voltage systems through 600 V (635 V ANSI)
- Short-time withstand ratings up to 100 kA
- Cradle position indicator: connected, test and disconnected
- Simple, visual contact wear indicators
- Full complement of field-installable accessories common to all standards
- Four interchangeable Micrologic trip units to choose from
- Available PowerLogic™ based power metering and monitoring capabilities
- Available protective relay functions as defined by ANSI C37.2 and C37.90

The following charts show the Masterpact NW and NT ratings for ANSI and CSA/UL 489. For details, please refer to Catalog 0613CT0001.

Masterpact NW Circuit Breaker Ratings

Standard		ANSI C37 Certified/UL 1066 Listed																		UL 489 Listed													
Frame Rating		800–1600 A						2000 A						3200/4000 A ▲				4000/5000 A				800/1200/1600/2000 A				2500/3000 A				4000/5000/6000 A			
Interrupting Code		N1	H1	H2	H3	L1 □	L1F □	H1	H2	H3	L1 □	L1F □	H1	H2	H3	L1 □	H2	H3	L1 □	N	H	L □	LF □	H	L □	H	L □	H	L □				
Interrupting Current (kA RMS) 50/60 Hz	240 Vac	42	65	85	100	200	200	65	85	100	200	200	65	85	100	200	85	100	200	65	100	200	200	100	200	100	200	100	200				
	480 Vac	42	65	85	100	200	200	65	85	100	200	200	65	85	100	200	85	100	200	65	100	150	150	100	150	100	150	100	150				
	600 Vac	42	65	85	85	130	130	65	85	85	130	130	65	85	85	130	85	85	130	50	85	100	100	85	100	85	100	85	100				
Short-time Withstand Current (kA RMS)		42	65	85	85	30	22	65	85	85	30	22	65	85	85	100	85	85	100	42▲	65▲	30▲■	22	65	65	85	100						
Built-in Instantaneous Override (kA RMS ±10%)		◆	◆	◆	85	35◆	24	—	—	85	35	24	—	—	85	117	—	—	117	40	40	35▲■	24	65	65	75	75						
Close and latch rating (kA RMS)		42	65	40	40	25	22	65	40	40	25	22	65	40	40	40	85	75	40	40	40	25★	22	40	40	40	40						
Tested to show the arc flash hazard risk category as referenced by NFPA70E		—	—	—	—	—	Yes	—	—	—	—	Yes	—	—	—	—	—	—	—	—	—	—	Yes	—	—	—	—						
Breaking time		25–30 ms with no intentional delay (9 ms for L1, L1F, L and LF)																															
Closing time		70 ms																															
Sensor Rating		100–250 A 400–800 A 800–1600 A						1000–2000 A						1600–3200 A				2000–4000 A 2500–5000 A				100–250 A 400–800 A 600–1200 A 800–1600 A 1000–2000 A				1200–2500 A 1600–3000 A				2000–4000 A 2500–5000 A 3000–6000 A			
Endurance Rating (C/O Cycles) With No Maintenance	Mechanical	12,500						10,000						10,000				5,000				12,500▼				10,000				5,000			
	Electrical	2800						1,000						1,000				1,000				2800▼				1,000				1,000			

- ▲ 24 kA RMS for 800 A circuit breaker frame with 100 A or 250 A sensor.
- 65 kA RMS for 2000 A.
- ◆ None except 24 kA RMS for 800 A circuit breaker frame with 100 A or 250 A sensor.
- ★ 40 kA RMS for 2000 A.
- ▼ The endurance rating for 2000 A, N/H/L/LF is 10,000 for mechanical and 1000 for electrical.
- △ 4000 A standard width circuit breaker is not available in L1 interrupting rating code or drawout construction (fixed mounting only).
- Drawout mounted only.

Masterpact NT Circuit Breaker Ratings

Standard		ANSI C37 Certified/UL 1066 Listed						UL 489 Listed													
Frame Rating		800 A						800 A					1200 A					1600 A			
Interrupting Code		N1						N	H	L1	L	LF*	N	H	L1	L	LF*	N	H	L1	L
Interrupting Current (kA RMS) 50/60 Hz	240 Vac	42						50	65	100	200	200	50	65	100	200	200	50	65	100	200
	480 Vac	42						50	50	65	100	100	50	50	65	100	100	50	50	65	100
	600 Vac	—						35	50	—	—	—	35	50	—	—	—	35	50	N/A	N/A
Short-time Withstand Current (kA RMS)		42						35	35	10	10	10	35	35	10	10	10	35	35	10	10
Built-in Instantaneous Override (kA RMS ±10%)		—						40	40	10	10	10	40	40	10	10	10	40	40	10	10
Close and latch rating (kA RMS)		40						25	25	10	10	10	25	25	10	10	10	25	25	10	10
Tested to show the arc flash hazard risk category as referenced by NFPA70E		—						—	—	—	—	Yes	—	—	—	—	Yes	—	—	—	—
Breaking time		25–30 ms with no intentional delay						25–30 ms with no intentional delay (9 ms for L and LF)													
Closing time								< 50 ms													
Sensor Rating		100–250 A 400–800 A						100–250 A 400–800 A					600–1200 A —					800–1600 A			
Endurance Rating (C/O Cycles) With No Maintenance	Mechanical	12,500						12,500					12,500					12,500			
	Electrical	2800						2800					2800					2800			

- ◆ Fixed-mounted only.
- ★ Drawout mounted only.



NWMPRRT

Masterpact NW/NT Circuit Breaker Remote Racking

Description	Cat. No.	\$ Price
Masterpact NW/NT Remote Racking Devices▽	NWNTMPRRT	
Masterpact NW Remote Racking Device▽	NWMPRRT	
Masterpact NT Remote Racking Device▽	NTMPRRT	
Mounting Bracket Kit for NW Remote Racking (contains 10 mounting brackets)●	S47100	
Mounting Bracket Kit for NT Remote Racking (contains 10 mounting brackets)●	S47104	
Control Unit for NW Remote Racking●	S47101	
30 ft Control Cable for NW Remote Racking●	S47102	
Drive Shaft for NW Remote Racking●	S47103	
Drive Shaft for NT Remote Racking●	S47105	

- ▽ Unit comes with 10 mounting brackets included.
- For replacement only.

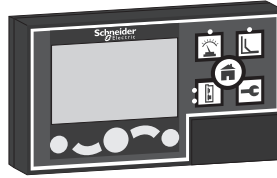
GC-200 Ground-fault Relay System

The GC-200 Ground-fault relay system protects a grounded distribution system from low-level arcing ground faults. The system includes the GC-200 relay, a sensor (current transformer) and optional GC DSP display and is used with a bolted pressure switch or circuit breaker to open a circuit upon detection of a ground fault.



GC-200 Relays Features

- Five models with sensitivities suitable for main, feeder or branch circuits
- Adjustable Pickup and Time Delay settings
- I2t -- Inverse Time Characteristics
- ZSI -- Zone Selective Interlocking
- ZSI Push-to-Test with Signal Indication
- Two sets of Contacts (1 Form A :10A@ 120Vac. and 1 Form C: 5A@ 120Vac.N/O, 1 N/C)
- Auxiliary Trip Input Terminals
- External Battery Backup Connection
- Small non-metallic enclosure mounts on DIN rail



GC DSP Display (Optional) Features

- LCD Back Lit Display
- Surface (Panel) Mounted
- Local Display of System Parameters
- "Fine tuning" Adjustment of Ground Fault Relay Settings
- Remote Testing of Ground Fault Relay
- Remote Resetting of Ground Fault Relay

Sensors

- Zero sequence sensing current transformers for all phases and neutral
- Several sizes of toroids and rectangular CTs
- Many are split-core or open frame for ease of installation.

Catalogue Number	Pickup Settings									
GC-200C	3.0	6.0	9.0	12.0	15.0	18.0	21.0	24.0	27.0	30.0
GC-200D	30A	90A	90A	120A	150A	180A	210A	240A	270A	300A
GC-200E	120A	240A	360A	480A	600A	720A	840A	960A	1080A	1200A

Catalogue Number	Time Delay Settings (Sec)				
All Types	Inst.	0.10	0.20	0.30	0.40

Catalogue Number	Description	Price
GC-200C	3.0 - 30A Relay	
GC-200D	30A - 300A Relay	
GC-200E	120A - 1200A Relay	
GC2 DSP**	GC-200 Display	
VW3A1104R10	1m display cable	
VW3A1104R30	3m display cable	
VW3A1104R5	5m display cable	
VW3A1104R100	10m display cable	

** Note: GC12 12' cable shipped standard with GC DSP display units.



T3B Toroid Sensor



GT912 Rectangular Sensor

Relay Catalogue Number	Sensor Catalogue Number	Type	CT Ratio	Window Dimensions		Price
				IN	mm	
GC200C GC200D	T2A T3A T3AS T6A T6AS T9A	Toroid Toroid Toroid, split-core Toroid Toroid, split-core Toroid	1000:1	1.875 dia. 2.75 dia. 2.625 dia. 5.75 dia. 5.75 dia. 8.75 dia.	48 dia. 70 dia. 67 dia. 146 dia. 146 dia. 222 dia.	
	R713A R417A R826A	Rectangular		7.5 x 13.5 4.25 x 17.625 8 x 26.5	191 x 343 108 x 448 203 x 674	
All "A" type sensors above, plus:						
GC200E	RZ511 RZ521 RZ531 RZ535	Rectangular, Open Frame	1000:1 1000:1 1000:1 1000:1	4.5 x 11 4.5 x 21 4.5 x 31 4.5 x 35	114 x 280 114 x 534 114 x 788 114 x 890	
	RZ1011 RZ1021 RZ1031	Rectangular, Open Frame	1000:1 1000:1 1000:1	10.5 x 11 10.5 x 21 10.5 x 31	267 x 280 267 x 514 114 x 788	
	GT912 GT918 GT930	Rectangular, Open Frame	600:1 600:1 600:1	5.5 x 8.5 5.5 x 14.5 5.5 x 26.5	140 x 216 140 x 368 140 x 673	
	GT1218 GT1224 GT1230	Rectangular, Open Frame	600:1 600:1 600:1	8.5 x 14.5 8.5 x 20.5 8.5 x 26.5	216 x 368 216 x 521 292 x 673	
	GT1327 GT1330	Rectangular, Open Frame	600:1 600:1	9.5 x 24 9.5 x 27	241 x 610 241 x 686	
	GT1530	Rectangular, Open Frame	600:1	11.5 x 26.5	292 x 673	



RH99M



RH99P



PA50



SA200

Vigirex™ Ground-Fault Relay System

The Vigirex ground-fault relays, with associated sensors (current transformers), measure the residual current in an electrical installation to detect levels which may be damaging. When used for protection, they cause an associated circuit breaker or switch to interrupt the supply of power to the protected system. They may also be used for monitoring only, with output to an alarm. The product line includes fixed sensitivities from 30 mA to 1 A and adjustable sensitivities up to 30 A.

The Vigirex relays may be easily mounted on DIN rail or may be panel mounted in a meter cutout. Sensors for conductors range from a little more than an inch diameter toroids, to large rectangular sensors measuring 6 x 18 inches. The compact size of the relay and its sensor make it ideal for protection of OEM equipment as well as branch circuits.

Vigirex Ground-Fault Relays (UL 1053 Listed)

Model	Delay	Reset	Control Voltage	Sensitivity	Catalogue No.	Price
DIN Rail Mounted						
RH10M	Instantaneous	Manual	12–24 Vac/12–48 Vdc	30 mA 100 mA 300 mA 500 mA 1 A	56300 56302 56305 56306 56307	
			110–130 Vac	30 mA 100 mA 300 mA 500 mA 1 A	56320 56322 56325 56326 56327	
			220–240 Vac	30 mA 100 mA 300 mA 500 mA 1 A	56330 56332 56335 56336 56337	
RH21M	Instantaneous or 60 mSec (2 settings)	Manual	12–24 Vac/12–48 Vdc 110–130 Vac 220–240 Vac	30 mA or 300 mA (2 settings)	56360 56362 56363	
RH99M	Adjustable (9 settings): 0, 0.06, 0.15, 0.23, 0.31, 0.5, 0.8, 1.0, 4.5 sec	Manual	12–24 Vac/12–48 Vdc 110–130 Vac 220–240 Vac	Adjustable (9 settings): 0.03, 0.1, 0.3, 0.5, 1, 3, 5, 10, 30 A	56370TD 56372TD 56373TD	
		Automatic	12–24 Vac/12–48 Vdc 110–130 Vac 220–240 Vac		56390TD 56392TD 56393TD	
Panel Mounted						
RH10P	Instantaneous	Manual	12–24 Vac/12–48 Vdc	30 mA 100 mA 300 mA 500 mA 1 Amp	56400 56402 56405 56406 56407	
			110–130 Vac	30 mA 100 mA 300 mA 500 mA 1 Amp	56420 56422 56425 56426 56427	
			220–240 Vac	30 mA 100 mA 300 mA 500 mA 1 A	56430 56432 56435 56436 56437	
RH21P	Instantaneous or 60 mSec (2 settings)	Manual	12–24 Vac/12–48 Vdc 110–130 Vac 220–240 Vac	30 mA or 300 mA (2 settings)	56460 56462 56463	
RH99P	Adjustable (9 settings): 0, 0.06, 0.15, 0.23, 0.31, 0.5, 0.8, 1.0, 4.5 sec	Manual	12–24 Vac/12–48 Vdc 110–130 Vac 220–240 Vac	Adjustable (9 settings): 0.03, 0.1, 0.3, 0.5, 1, 3, 5, 10, 30 A	56470TD 56472TD 56473TD	
		Automatic	12–24 Vac/12–48 Vdc 110–130 Vac 220–240 Vac		56490TD 56492TD 56493TD	

Sensors for Vigirex Ground-Fault Relays

Sensors	Type	Inside Diameter		Catalogue No.	Price
		IN	mm		
Closed Toroids, type A	TA30	1.18	30	50437	
	PA50	1.97	50	50438	
	IA80	3.15	80	50439	
	MA120	4.72	120	50440	
	SA200	7.87	200	50441	
	GA300	11.81	300	50442	
Split toroids, type OA	POA▲	1.81	46	50485	
	GOA▲	4.33	110	50486	
Rectangular sensors	280 x 115	11.02 x 4.53	280 x 115	56053	
	470 x 160	18.50 x 6.30	470 x 160	56054	

▲ POA and GOA are not UL recognized



The Micrologic ground-fault module (GFM) is a CSA certified and UL Listed circuit breaker accessory for equipment protection. It is a combination ground-fault relay and ground-fault sensing device.

Micrologic Add-on Ground-fault Module Features:

- A shunt trip may be field-installed in the HD, HG, HJ, HL, JD, JG, JJ and JL circuit breakers.
- Shunt trip S29382 (12 Vdc) for circuit breaker may be factory-installed (suffix SN) or field-installed
- Adjustable ground-fault pickup levels
- Adjustable ground-fault time delays
- Integral ground fault push-to-test feature and ground-fault indicator
- All GFMs are supplied for I-Line[®] mounting, easily convertible to unit mount by removing the I-Line brackets
- Optional neutral current transformer for 3-phase 4-wire applications. Refer to instructions for proper installation
- Zone-selective interlocking capability is standard with upstream Micrologic trip system circuit breakers. The GFM can also be zone interlocked with the GC ground-fault system by using a restraint interface module.
- 120 Vac control power is required for integral test feature.

NOTE: Ground-fault modules cannot be reverse fed.

Module/Enclosure Selection Chart ▲

Companion Circuit Breaker Prefix	Catalogue Number	Enclosure Space Required	Ground-fault Pickup Adjustment Range	GFM Price
		I-Line Switchboard		
HD, HG, HJ, HL	GFM150HD	LA	20–100 A	
JD, JG, JJ, JL	GFM250JD	LA	40–200 A	

Accessories

H & J	GFM25CT	Optional Neutral Current Transformer (required for 4-wire systems)
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▲ See below for additional GFMs.

■ At 250 A, the GFM250JD can be used with 80% rated circuit breakers only.

Earth Leakage Module (ELM) for PowerPact H- and J-Frame MCCBs

The Earth Leakage Module (ELM) is an add-on module which, when connected to a PowerPact H- or J-frame MCCB, provides low-level ground-fault sensing and ground-fault relay functions.

Because these ELMs are highly sensitive (30 mA to 3 A), they provide much greater protection than GFMs (20 Amps to 200 Amps sensitivity). The ELMs provide greater protection of control circuits and other sensitive equipment. The associated circuit breaker must have a 48 Vdc shunt trip, which may be field-installed (kit S29392) or factory-installed (suffix –SP) in the H- or J-Frame circuit breaker.

Add-on Earth Leakage Module (ELM) Features:

- Adjustable ground-fault pickup levels as low as 30 mA
- Adjustable ground-fault time delays from instantaneous to 500 msec (Time delay can be applied to the 30 mA setting)
- Integral ground fault push-to-test feature
- Ground-fault indicator (LED for local status; contacts for remote indication)
- All ELMs are supplied for I-Line[™] mounting and are easily convertible to unit-mount by removing the I-Line brackets
- Three poles; 240 to 600 Vac maximum: 3-wire applications only (no neutral)
- Line-power obtained through internal bus to provide power for electronics, shunt trip, and integral test feature.
- A shunt trip is required in the circuit breaker; it may be field-installed or factory-installed in the PowerPact H and J circuit breakers.
- UL 1053 – Ground-fault Sensing and Relaying Equipment

ELM Selection Chart◆

Companion Circuit Breaker★		Enclosure Space Required I-Line Switchboard	Pick-Up Adjustment Range	Catalog Number	\$ Price
Prefix	Size				
HD, HG, HJ, HL	15–150 A	LA	30 mA–3 A	ELM150HD	
JD, JG, JJ, JL	150–250 A	LA	30 mA–3 A	ELM250JD	

◆ At 250 A, the ELM250JD can be used with 80% rated circuit breakers only.

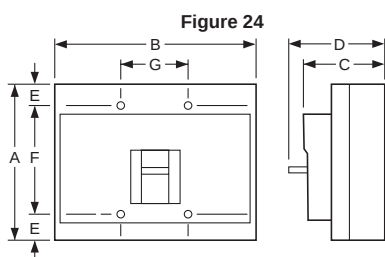
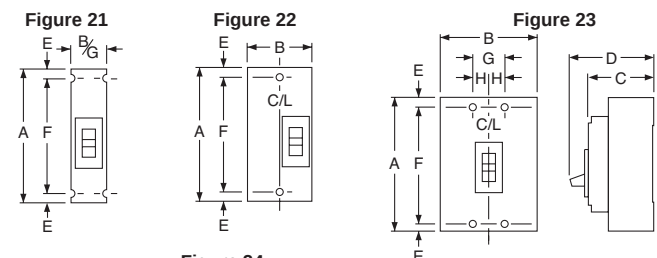
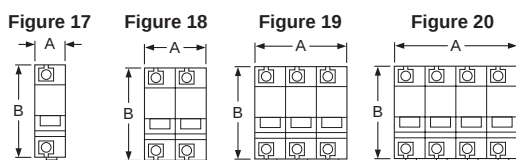
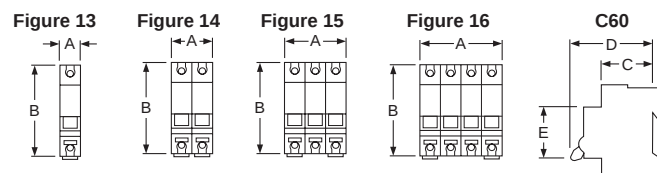
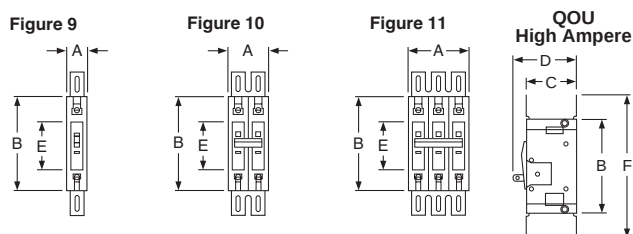
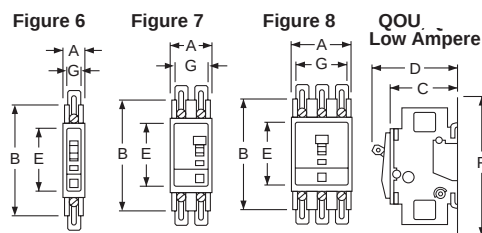
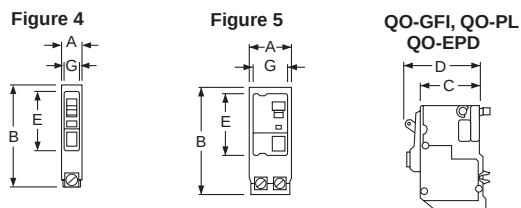
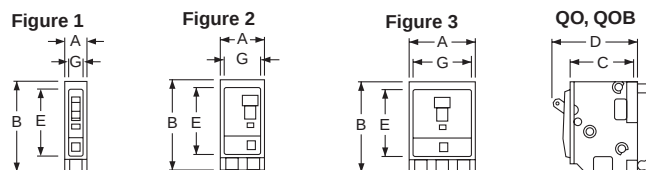
★ For Factory Installation of ELM Module: For termination designation (3rd letter of catalog number) use ONLY "M". Add factory installed 48 Vdc shunt trip (suffix SP) to breaker plus suffix VL or VM. Use VL for H frame. Use VM for J frame.



I-Line[™] J-Frame with ELM installed

Dimensions and Shipping Weights

Miniature and Molded Case Circuit Breakers



QO™, QOU, Multi 9™ Circuit Breakers

Circuit Breaker Catalogue 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 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	9	0.75	4.45	2.37	2.96	2.25	6.78	...
	2	10	1.50	4.45	2.37	2.96	2.25	6.78	...
	3	11	2.25	4.45	2.37	2.96	2.25	6.78	...
Multi 9™ C60	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	—	—

- ▲ 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, KI, LA, LH Circuit Breakers

Circuit Breaker Catalogue 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	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, 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	1.00

- Dimensions E are 1.59 in at ON end and 0.63 in at OFF end.

Shipping Weights ♦

Frame Size	Approx. Shipping Weight (Lbs.)	Frame Size	Approx. Shipping Weight (Lbs.)
FAL, FHL 1P	2	KIL	9
FAL, FHL 2P	3	LAL, LHL	15
FAL, FHL 3P	5	LIL LXIL	25
FIL	8	Q4L	15
QB, QD, QG, QJ	4		

- ♦ All weights are for 3P circuit breakers unless otherwise noted.

Dimensions and Shipping Weights

Molded Case Circuit Breakers

Figure 25

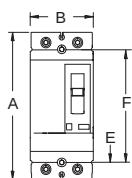


Figure 26

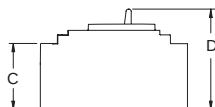
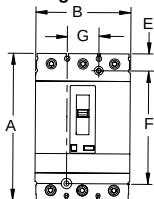


Figure 27

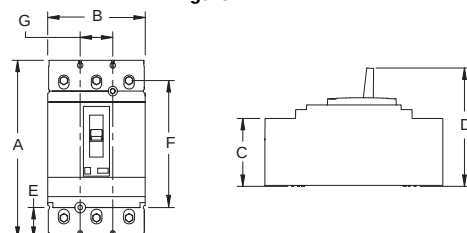


Figure 28

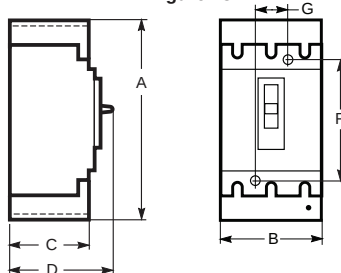


Figure 29

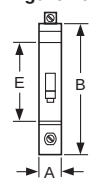


Figure 30

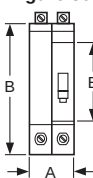


Figure 31

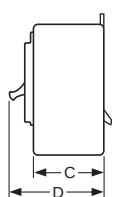
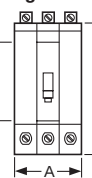


Figure 32

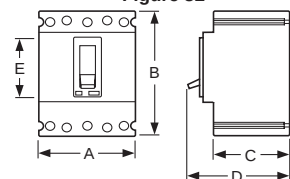


Figure 33

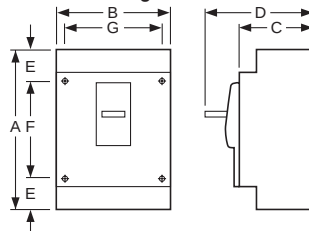
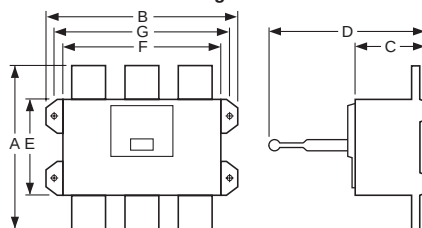


Figure 34



HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR, LG, LJ, LL, and LR Circuit Breakers

Circuit Breaker Cat. No. Prefix	No. of Poles	Fig. No.	Dimensions — Inches						
			A	B	C	D	E	F	G
HD, HG, HJ*, HL*, HR	2	25	6.40	2.74	2.87	4.36	0.74	4.92	—
JD*, JG*, JJ*, JL*, JR	3	26	6.40	4.12	2.87	4.36	0.74	4.92	1.38
JD*, JG*, JJ*, JL*, JR	3	27	7.52	4.12	2.87	5.00	1.30	4.92	1.38
LG, LJ, LL, LR	3	28	13.38	5.51	3.75	6.61	2.22	8.93	1.77

* - The HJ, HL and the J-Frame 2P breakers are 3P modules

ED, EG and EJ Circuit Breakers

Circuit Breaker Catalogue No. Prefix	No. of Poles	Fig. No.	Dimensions — Inches				
			A	B	C	D	E
ED, EG, EJ	1	29	0.98	5.66	3.09	4.05	3.32
	2	30	1.96	5.66	3.09	4.05	3.32
	3	30	2.94	5.66	3.09	4.05	3.32
GJ	3	32	3.54	4.72	2.76	3.94	2.20

MG, MJ, PG, PJ, PL, RG, RJ and RL Circuit Breakers

Circuit Breaker Cat. No. Prefix	No. of Poles	Fig. No.	Dimensions — Inches						
			A	B	C	D	E	F	G
MG, MJ (800 A and below)	2, 3	33	12.86	8.27	5.77	8.05	2.49	7.87	7.83
PG, PJ, PK, PL (1000–1200 A)	2, 3	33	16.16	8.27	5.77	8.05	4.19	7.87	7.83
RG, RJ, RL	2, 3	34	16.24	16.54	6.63	14.49	8.73	14.25	15.35

Shipping Weights▲

Frame Size	Approx. Shipping Weight (Lbs.)	Frame Size	Approx. Shipping Weight (Lbs.)
HD, HG, HJ, HL 2P	4	JD, JG, JJ, JL, JR	5
HD, HG, HJ, HL, HR 3P	5	LD, LG, LJ, LL, LR	14
ED, EG, EJ 1P	2	MG, MJ	29
ED, EG, EJ 2P	3	PG, PJ, PK, PL	32
ED, EG, EJ 3P	4	RG, RJ, RK, RL (Without RLTB)	52

▲ All weights are for 3P circuit breakers unless otherwise noted.

Circuit Breaker Enclosures

Enclosures

Class 610



FA100S



FA100RB



FA100DS

DE3 CIRCUIT BREAKERS

Circuit breaker enclosures are UL Listed, CSA Certified and are suitable for use as service entrance equipment, except as footnoted. The short circuit current rating of an enclosed circuit breaker is equal to the interrupting rating at the supply voltage marked on the circuit breaker installed, except as footnoted. Exceptions and restrictions are footnoted. Breakers are ordered and shipped separately for field installation. For enclosure accessories, refer to page DE3-58.

Circuit Breaker Enclosures

Circuit Breaker			Enclosure					
Cat. No. Prefix	Rating	Poles	Cat. No.	\$ Price	Cat. No.	\$ Price	Cat. No.	\$ Price
			NEMA 1 Flush		NEMA 1 Surface		NEMA 3R▲	
FAL, FHL, FCL	15-100	1, 2, 3	FA100F		FA100S		FA100RB	
QBL, QDL, QGL, QJL	100-225	2, 3	Q23225NFC■		Q23225NSC■		Q23225NRBC■	
HDL, HGL, HJL, HLL	15-150		J250F◆★▼		J250S◆★▼		J250R◆★▼	
JDL, JGL, JJL, JLL	150-250	3	—		HD100S△□◆▼☆		—	
HDL	15-100 A		—		JD250S★□△◆▼		—	
JDL	150-250 A	3	—		LA400S		LA400R	
LAL, LHL, Q4L	125-400	2, 3	LA400F		—		—	
LAL	125-400 A	3	—		LA400LS□★▼		—	
MGL, MJL, PGL, PJL, PKL, PLL	300-800	2, 3			M800S▽◊		M800R▽◊	
PGL, PJL, PKL, PLL	600-1200	2, 3			P1200S◊		P1200R◊	
			NEMA 4, 4X, 5, 3, 3R Stainless Steel		NEMA 12/3R, 12K			
					With Knockouts (NEMA 12K)		Without Knockouts◊ (NEMA 12/3R, 5)	
FAL, FHL, FCL	15-100	1, 2, 3	FA100DS		FA100AWK			
HDL, HGL, HJL, HLL	15-150	2, 3	J250DS◆★▼		J250AWK◆★▼			
JDL, JGL, JJL, JLL	150-250		IK250DS		IK250AWK			
KIL◊	110-250	3	LA400DS		LA400AWK			
LAL, LHL, Q4L	125-400				LX600AWK			
LXIL	100-600	3			LX600AWK			
LCL, LIL	300-600	2, 3	M800DS◊		M800AWK◊			
MGL, MJL, PGL, PJL, PKL, PLL	300-800				P1200AWK◊			
PGL, PJL, PKL, PLL	600-1200							
			Nema 7† Cast Aluminum		Nema 9‡ Cast Aluminum			
JDL, JGL†◆▼	150-250 A	2, 3	J225X		J225Y			

- ▲ Enclosures with NRB or RB suffix have provisions for 3/4" through 2-1/2" bolt-on hubs in top endwall. Enclosures with R suffix have blank endwalls and require field cut opening.
- Factory installed groundable neutral assembly includes (2) ground lugs and (2) neutral lugs. Equipment ground kit is also included.
- ◆ Accepts standard rated 80% breakers. Not rated at 100%.
- ★ Maximum short circuit rating is 25 kAIR at 600 Vac, 65 kAIR at 480 Vac, 125 kAIR at 240 Vac.
- ▼ Earth Leakage Module and Ground Fault Module are not compatible with these enclosures.
- △ Maximum short circuit rating is 25 kAIR, 240 Vac.
- Order service ground kit PKOGTA2 if required.
- ◊ Maximum short circuit rating is 18 kAIR, 480 Vac and 240 Vac.
- ☆ Copper wire only.
- ▽ When using a CT in the M800S and R enclosure the unit will no longer accommodate a 200% neutral solution.
- ◊ CE certified per IEC60439-1, IP20D, PE type TN-C or TN-S
- * Accepts MGL or MJL standard rated (80%) breakers. Accepts PGL, PJL or PLL circuit breakers rated 80% (1200 A maximum) or 100% rated breakers, (800A maximum).
- ◆ CE certified per IEC60439-1, IP24D, PE type TN-C or TN-S
- ◊ Suitable for rainproof Type 3R application by removing drain screw from bottom endwall.
- ◊ CE certified per IEC60439-1, IP56, PE type TN-C or TN-S
- ☑ LEL 100% rated circuit breaker except for 600 Amp frame.
- ◆ Short circuit rating is 100,000 AIR at 480Vac maximum.
- ‡ NEMA 7—Indoor Hazardous Locations—Division 1 and 2, Class I, Groups C and D; Class II, Groups E, F, and G; Class III.
- † 80% rated circuit breakers only; SCCR 65 kA @ 240 Vac, 25 kA @ 480 Vac, 18 kA @ 600 Vac.
- Not UL Listed due to wire bending space.
- ‡ NEMA 9—Indoor Hazardous Locations—Division 1 and 2, Class II, Groups E, F, and G; Class III.
- ▼ Has a tapped 2-1/2 in. conduit opening on top and bottom end wall
- ▼ Short circuit current rating is 30 k AIR at 480 Vac.

Accessories Page DE3-58
Dimensions Page DE3-58



FA100X



FA100Y

Circuit Breaker			Type 7 * Cast Aluminum		Type 9 ■ Cast Aluminum	
Catalogue Number Prefix	Ampere Rating	Number of Poles	Enclosure Catalogue No.	Price	Enclosure Catalogue No.	Price
FAL, FHL▲	15-60	1, 2, 3	FA060X▼		FA060Y①	
	15-100	1, 2, 3	FA100X▼		FA100Y①	

- * NEMA Type 7 – Indoor Hazardous Locations – Class I, Groups C and/or D, Divisions 1 or 2.
■ NEMA Type 9 – Indoor Hazardous Locations – Class II, Groups E and/or G, Class III, Divisions 1 or 2.
▼ Suitable for rainproof applications—includes PKDB-1 breather and drain kit.
▲ Use 75° C Cu conductors only.
① Not CSA certified.

Note: Circuit breaker enclosures not to be used with MAG-GARD breakers.

Circuit Breaker Enclosures

Enclosure Accessories and Dimensions

Class 610

Accessories

Insulated Groundable Neutral Assembly

Circuit Breaker		Neutral Assembly For Use With						Terminal Lug Data—Total Available (Line plus Load) AWG/kcmil
Cat. No. Prefix	Ampere Rating	NEMA 1 & 3R		NEMA 4, 4X, 5, 12 & 12K		NEMA 7 & 9		
		Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	
FAL, FHL, FCL FAL, FHL, FIL	100 100	SN100FA —		SN100FA —		— 100SNA		(4) 14–1/0 Cu or (4) 12–1/0 Al FA060X/Y—(1) 14–6 Cu, plus (1) 14–4 Cu FA100X/Y—(1) 14–3 Cu, plus (1) 14–4 Cu
HDL,HGL,HJL,HLL HDL,HGL,HJL,HLL JDL,JGL,JJL,JLL	15–100 125-150 150–250	SN100FA SN400LA SN400LA		SN100FA SN400LA SN400LA		— 225SNA —		(4) 14–1/0 Cu or (4) 12–1/0 Al (2) 1–600 or (4) 1–250 Al/Cu, plus (2) 4–300 Al/Cu (2) 1–600 or (4) 1–250 Al/Cu, plus (2) 4–300 Al/Cu
KIL KIL KIL KIL	225 225 225 250	SN225KA — — —		— SN225KA — SN400LA		— — — —		(2) 4–300 Al/Cu, plus (2) 14–1/0 Al/Cu (2) 4–300 Al/Cu, plus (2) 14–1/0 Al/Cu (4) 6–300 Cu (2) 1–600 or (4) 1–250 Al/Cu, plus (2) 4–300 Al/Cu
LAL, LHL, Q4L LAL, LHL, Q4L, LCL, LIL LXL, LXIL	400 400	400SN —		— SN400LA		— —		(2) 1–600 or (4) 1–250 Al/Cu, plus (2) 4–300 Al/Cu (2) 1–600 or (4) 1–250 Al/Cu, plus (2) 4–300 Al/Cu
LCL, LIL, LXL ■, LXIL ■	400	—		SNC400LX ◆		—		(2) 2–600 Cu, plus (2) 6–250 Cu
LCL, LXL LIL, LXIL, LEL	600	—		SNC800LX ◆		—		(4) 2–600 Cu, plus (1) 2–4/0 Cu
MGL, MJL ▼	300–800 A	AL800SN		AL800SN		AL800SN		(6) 3/0–500 Al/Cu, plus (2) 6–250 Al/Cu
PG, PJL, PKL, PLL □	600–1200 A	SN1200		SN1200		—		(8) 750 Max. Al/Cu, plus (2) 350 Max. Al/Cu

■ When using LXL, LEL or LXIL circuit breaker with integral ground fault protection on a 3Ø4W system, neutral assembly SN1000MA or SNC800LX must be used for neutral CT.

Order neutral CT separately.

◆ All Cu neutral assembly.

▼ For 200% neutral applications order Jumper kit SN800SNI and 2 of kit SN1200.

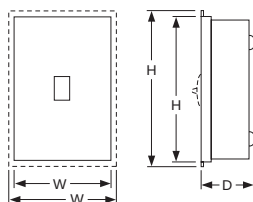
□ For applications with integral ground fault protection order Neutral Mounting Kit S33576MK and Neutral CT S33576 (400–1200A only).

Equipment Ground Kits

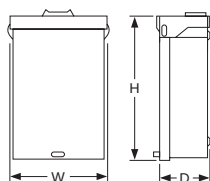
Circuit Breaker Cat. No. Prefix	Ground Bar Cat. No.	Number of Terminals	Conductors Per Terminal	Wire Range AWG/kcmil	Price
QBL, QDL, QGL, QJL FAL, FHL, FIL, KIL, LAL, LHL, Q4L	PK0GTA2	2	1	10–2/0 Cu or 6–2/0 Al	
HDL,HGL,HJL,HLL,JDL,JGL,JJL,JLL	PK0GTJ250	2	1	6–300 Al/Cu	
LCL, LEL, LIL, LXL, LXIL MGL, MJL PGL, PJL, PKL, PLL	PK0GTA4	4	1	6–250 Al or Cu	

Dimensions (inches)

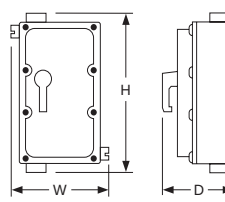
Cat. No.	Series	Approximate Dimension					
		H		W		D	
		in.	mm	in.	mm	in.	mm
FA060X	E1	16.00	406	9.88	251	7.00	178
FA060Y	E1	16.00	406	9.88	251	7.00	178
FA100AWK	E2	19.50	495	9.13	232	4.88	124
FA100DS	E2	19.50	495	9.13	232	4.88	124
FA100F	E2	19.50	495	9.88	251	4.13	105
FA100RB	E2	18.00	457	8.88	226	4.88	124
FA100S	E2	18.13	461	8.63	219	4.13	105
FA100X	E1	16.00	406	9.88	251	7.00	178
FA100Y	E1	16.00	406	9.88	251	7.00	178
IK250AWK	E2	42.25	1073	13.88	353	7.50	191
IK250DS	E2	42.25	1073	13.88	353	7.50	191
J250F	A01	32.40	823	15.40	391	6.00	152
J250S	A01	31.36	797	14.36	365	6.00	152
J250R	A01	31.05	789	14.47	368	6.28	160
J250DS	A01	32.26	819	9.72	247	7.94	202
J250AWK	A01	32.26	819	9.72	247	7.94	202
LA400AWK	E2	42.25	1073	13.75	349	7.25	184
LA400DS	E2	42.25	1073	13.75	349	7.25	184
LA400F	E2	45.63	1159	16.50	419	6.50	165
LA400R	E2	44.00	1118	15.38	391	7.88	200
LA400S	E2	44.50	1130	15.38	391	6.50	165
LX600AWK	E3	57.50	1461	20.38	518	8.25	210
M800S	A1	40-3/8	1025.52	21	533.4	9-3/4	247.65
M800R	A1	40-3/8	1025.52	21	533.4	9-3/4	247.65
M800DS	A1	40-7/8	1036.96	20-3/4	527.05	9-1/2	241.3
M800AWK	A1	40-7/8	1036.96	20-3/4	527.05	9-1/2	241.3
P1200S	A1	52-1/8	1323.98	21	533.4	9-3/4	247.65
P1200R	A1	52-1/8	1323.98	21	533.4	9-3/4	247.65
P1200AWK	A1	53	1346.20	20-3/4	527.05	9-1/2	241.3
Q23225NFC	E3	26.25	667	9.88	251	4.75	121
Q23225NRBC	E3	26.25	667	9.88	251	5.50	140
Q23225NSC	E3	26.25	667	9.88	251	4.75	121



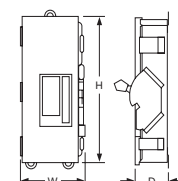
Type 1
Q2, FA, J, LA, MG, PG



Type 3r
Q2, FA, J, LA, MG, PG



Type 7, Type 9
FA



Type 4, 4X, 5, 12, 12K
Ik, FA, J, LA, LX, MG, PG

Moulded Case Circuit Breaker

F-Frame Thermal-Magnetic Circuit Breakers

Thermal-magnetic moulded case circuit breakers shown here are permanent trip CSA certified, UL listed, IEC rated. For I-LINE moulded case circuit breakers, see Section DE-5.

Ampere Rating	AC Magnetic Trip Settings Amperes	One Pole		Two Pole		Three Pole		Standard Lug Kit Wire Range
		Catalogue No.	Price	Catalogue No.	Price	Catalogue No.	Price	

100 Ampere Frame

FAL Standard Interrupting 120/240Volt

	Hold	Trip	120Vac	240Vac	240Vac	
15	275	600	FAL12015	FAL22015	FAL32015	AL50FA
20	275	600	FAL12020	FAL22020	FAL32020	#14-#4 Cu or
25	275	600	FAL12025	FAL22025	FAL32025	#12-#4 Al
30	275	600	FAL12030	FAL22030	FAL32030	
35	400	850	FAL12035	FAL22035	FAL32035	AL100FA
40	400	850	FAL12040	FAL22040	FAL32040	#14-#1/0 Cu or
45	400	850	FAL12045	FAL22045	FAL32045	#12-#1/0 Al
50	400	850	FAL12050	FAL22050	FAL32050	
60	800	1450	FAL12060	FAL22060	FAL32060	
70	800	1450	FAL12070	FAL22070	FAL32070	
80	800	1450	FAL12080	FAL22080	FAL32080	
90	900	1700	FAL12090	FAL22090	FAL32090	
100	900	1700	FAL12100	FAL22100	FAL32100	

FAL Standard Interrupting 277/480 Volt

	Hold	Trip	277Vac,125Vdc	480Vac,250Vdc	480Vac,250Vdc	
15	275	600	FAL14015	FAL24015	FAL34015	AL50FA
20	275	600	FAL14020	FAL24020	FAL34020	#14-#4 Cu or
25	275	600	FAL14025	FAL24025	FAL34025	#12-#4 Al
30	275	600	FAL14030	FAL24030	FAL34030	
35	400	850	FAL14035	FAL24035	FAL34035	AL100FA
40	400	850	FAL14040	FAL24040	FAL34040	#14-#1/0 Cu or
45	400	850	FAL14045	FAL24045	FAL34045	#12-#1/0 Al
50	400	850	FAL14050	FAL24050	FAL34050	
60	800	1450	FAL14060	FAL24060	FAL34060	
70	800	1450	FAL14070	FAL24070	FAL34070	
80	800	1450	FAL14080	FAL24080	FAL34080	
90	900	1700	FAL14090	FAL24090	FAL34090	
100	900	1700	FAL14100	FAL24100	FAL34100	

FAL Standard Interrupting 347/600 Volt

	Hold	Trip	347Vac,125Vdc	600Vac,250Vdc	600Vac,250Vdc	
15	275	600	FAL17015	FAL26015	FAL36015	AL50FA
20	275	600	FAL17020	FAL26020	FAL36020	#14-#4 Cu or
25	275	600	FAL17025	FAL26025	FAL36025	#12-#4 Al
30	275	600	FAL17030	FAL26030	FAL36030	
35	400	850	FAL17035	FAL26035	FAL36035	AL100FA
40	400	850	FAL17040	FAL26040	FAL36040	#14-#1/0 Cu or
45	400	850	FAL17045	FAL26045	FAL36045	#12-#1/0 Al
50	400	850	FAL17050	FAL26050	FAL36050	
60	800	1450	FAL17060	FAL26060	FAL36060	
70	800	1450	FAL17070	FAL26070	FAL36070	
80	800	1450	FAL17080	FAL26080	FAL36080	
90	900	1700	FAL17090	FAL26090	FAL36090	
100	900	1700	FAL17100	FAL26100	FAL36100	

FHL High Interrupting 347/600 Volt

	Hold	Trip	347Vac,125Vdc	600Vac,250Vdc	600Vac,250Vdc	
15	275	600	FHL17015	FHL26015	FHL36015	AL50FA
20	275	600	FHL17020	FHL26020	FHL36020	#14-#4 Cu or
25	275	600	FHL17025	FHL26025	FHL36025	#12-#4 Al
30	275	600	FHL17030	FHL26030	FHL36030	
35	400	850	FHL17035	FHL26035	FHL36035	AL100FA
40	400	850	FHL17040	FHL26040	FHL36040	#14-#1/0 Cu or
45	400	850	FHL17045	FHL26045	FHL36045	#12-#1/0 Al
50	400	850	FHL17050	FHL26050	FHL36050	
60	800	1450	FHL17060	FHL26060	FHL36060	
70	800	1450	FHL17070	FHL26070	FHL36070	
80	800	1450	FHL17080	FHL26080	FHL36080	
90	900	1700	FHL17090	FHL26090	FHL36090	
100	900	1700	FHL17100	FHL26100	FHL36100	



FAL/FHL
One Pole
15-100 Ampere



FAF/FHL
Two Pole
15-100Ampere



FAL/FHL
Three Pole
15-100Ampere

CSA Certified Interrupting Rating RMS Symmetrical Amperes

Breaker Catalogue No. Prefix	System Voltage AC					DC
	120/240	277/480	347/600	125	250	
FAL (240V.)						
1-Pole	10k			5k		
2, 3-Pole	10k			5k	5k	
FAL (480V.)						
1-Pole	18k	18k		10k		
2, 3-Pole	25k	18k		10k	10k	
FAL (600V.)						
1-Pole	25k	18k	14k	10k		
2, 3-Pole	25k	18k	14k	10k	10k	
FHL						
1-Pole						
15-30	65k	65k	18k	10k		
35-100	65k	25k	18k	10k		
2, 3-Pole	65k	25k	18k	50k	50k	

Dimensions-DE3-54
Enclosures -DE3-56

Moulded Case Circuit Breakers

Q4L - LAL - LHL



KAL/KHL
Two & Three Pole
70-250 Ampere

CSA Certified Interrupting Rating RMS Symmetrical Amperes

Breaker Cat. No. Prefix	System Voltage AC			DC	
	240	480	600	125	250
Q4L	25k				
LAL	42k	30k	22k	10k	10k
LHL	65k	35k	25k	50k	50k

Enclosures - DE3-56
Dimensions - DE3-54

Ampere Rating	AC Magnetic Trip Settings Amperes	Two Pole		Three Pole		Standard Lug Kit Wire Range
		Catalogue No.	Price	Catalogue No.	Price	

400 Ampere Frame Q4L Standard Interrupting

	Low	High	240Vac		240Vac		
250	1250	2500	Q4L2250		Q4L3250		AL400LA
300	1500	3000	Q4L2300		Q4L3300		1-#1-600 kcmil or
350	1750	3500	Q4L2350		Q4L3350		2-#1-250 kcmil
400	2000	4000	Q4L2400		Q4L3400		AL400LA

LAL Standard Interrupting

	Low	High	600Vac, 250Vdc		600Vac, 250Vdc		
125	625	1250	LAL26125		LAL36125		AL400LA 1-#1-600 kcmil or 2-#1-250 kcmil
150	750	1500	LAL26150		LAL36150		
175	875	1750	LAL26175		LAL36175		
200	1000	2000	LAL26200		LAL36200		
225	1125	2250	LAL26225		LAL36225		
250	1250	2500	LAL26250		LAL36250		
300	1500	3000	LAL26300		LAL36300		
350	1750	3500	LAL26350		LAL36350		
400	2000	4000	LAL26400		LAL36400		

LHL High Interrupting

	Low	High	600Vac, 250Vdc		600Vac, 250Vdc		
125	625	1250	LHL26125		LHL36125		AL400LA 1-#1-600 kcmil or 2-#1-250 kcmil
150	750	1500	LHL26150		LHL36150		
175	875	1750	LHL26175		LHL36175		
200	1000	2000	LHL26200		LHL36200		
225	1125	2250	LHL26225		LHL36225		
250	1250	2500	LHL26250		LHL36250		
300	1500	3000	LHL26300		LHL36300		
350	1750	3500	LHL26350		LHL36350		
400	2000	4000	LHL26400		LHL36400		



LAL/LHL
Two and Three Pole
125-400 Amperes

Moulded Case Circuit Breaker

FIL - KIL - LIL

Ampere Rating	AC Magnetic Trip Settings Amperes	Two Pole		Three Pole		Standard Lug Kit Wire Range
		Catalogue No.	Price	Catalogue No.	Price	

100 Ampere Frame

FIL Current Limiting I-Limiter

	Hold	Trip	600Vac		600Vac		
20	275	600	FIL26020		FIL36020		AL50FA
30	275	600	FIL26030		FIL36030		1-#14-#4 Cu or 1-#12-#4 Al
40	400	850	FIL26040		FIL36040		AL100FA 1-#14-1/0 Cu or 1-#12-1/0 Al
50	400	850	FIL26050		FIL36050		
60	800	1450	FIL26060		FIL36060		
70	800	1450	FIL26070		FIL36070		
80	800	1450	FIL26080		FIL36080		
90	900	1700	FIL26090		FIL36090		
100	900	1700	FIL26100		FIL36100		

250 Ampere Frame

KIL Current Limiting I-Limiter

	Low	High	600Vac		600Vac		
110	550	1100	KIL26110		KIL36110		AL250KA 1-#4-350 kcmil
125	625	1250	KIL26125		KIL36125		
150	750	1500	KIL26150		KIL36150		
175	875	1750	KIL26175		KIL36175		
200	1000	2000	KIL26200		KIL36200		AL250KI 1-1/0-350 kcmil
225	1125	2250	KIL26225		KIL36225		
250	1250	2500	KIL26250		KIL36250		

400 Ampere Frame

LIL Current Limiting I-Limiter

	Low	High	600Vac		600Vac		
300	1500	3200	LIL26300		LIL36300		AL600LI5 2-4/0-500 kcmil
350	1750	3200	LIL26350		LIL36350		
400	2000	3200	LIL26400		LIL36400		

600 Ampere Frame

LIL Current Limiting I-Limiter

	Low	High	600Vac		600Vac		
450	2250	4200	LIL26450		LIL36450		AL600LI5 2-4/0-500 kcmil
500	2500	4200	LIL26500		LIL36500		
600	3000	4200	LIL26600		LIL36600		

CSA Certified Interrupting Rating
RMS Symmetrical Amperes

Breaker Cat. No. Prefix	System Voltage AC		
	240	480	600
FIL	200k	200k	100k
KIL	200k	200k	100k
LIL	200k	200k	100k

Enclosures - DE3-56
Dimensions - DE3-54



FIL36100



KIL36250



LIL36600

Moulded Case Circuit Breakers

CDP Breaker Cross to Square D

CDP Connector Kits

The CDP connector kits are used to install Square D breakers into existing Federal Pioneer CDP panels and Switchboard distribution interiors that originally used branch breakers from the Horizon family. Please note that these connector kits are designed to be applied on CDP interiors with Extruded Bus only, (except HDCMH and JDCMH that can be also used on CDP interiors with Flat Bus).

Retrofitting of Square D Breakers into CDP Interiors

Federal Pioneer Horizon Breaker	Amperage	Square D Replacement Breaker	Connector Mounting Hardware
CE Breaker	15A – 150A	15A – 150A Powerpact H ■	HDCMH
	150A – 250A	150A – 225A Powerpact J ■	JDCMH
CJM Breaker	300A – 600A	LC/LI/LX/LE/LXI □	LCCMH

- Need to be replaced in pairs, can not mount a CE breaker back to back with a PowerPact breaker. Connector kit is designed to be applied on CDP interiors with Flat or Extruded Bus.
- The LC/LI/LX/LE/LXI breaker has an overall height of 7-1/2" but will be fitted with a Cover plate to fill the existing branch circuit space of 8-1/4" and used with the LCCMH breaker mounting kit. Connector kit is designed to be applied on CDP interiors with Extruded Bus only.

Adding new Square D Breakers into CDP Interiors

Federal Pioneer Horizon Breaker	Amperage	Alternate Square D Breaker	Connector Mounting Hardware
CE Breaker	15A – 100A	15A – 100A Powerpact H ■	HDCMH
	150A – 250A	150A – 225A Powerpact J ■	JDCMH
CJL Breaker	100A – 400A	LA/LH ●	LACMH
CJM Breaker	300A – 600A	LC/LI/LX/LE/LXI ● □	LCCMH
CK	250A – 1200A	Powerpact P ◆	PCDPCMH

- Need to be replaced in pairs, can not mount a CE breaker back to back with a PowerPact breaker. Connector kit is designed to be applied on CDP interiors with Flat or Extruded Bus.
- The LC/LI/LX/LE/LXI breaker has an overall height of 7-1/2" but will be fitted with a Cover plate to fill the existing branch circuit space of 8-1/4" and used with the LCCMH breaker mounting kit. Connector kit is designed to be applied on CDP interiors with Extruded Bus only.
- Available only as single mount option. This application will no longer be available as a double mount or Back to back mount due to dimensional constraints. Connector kit is designed to be applied on CDP interiors with Extruded Bus only.
 - Condition 1: Panel with all single row branch circuits.*
A minimum branch circuit height of 8-1/4" is required and a Square D LA/LH breaker may be installed together with the required connector kit, LACMH.
 - Condition 2: Panel with all double row branch circuits.*
This will require a modification to the trim to remove a section of the trim centre strip in the location where the new breaker is to be installed. A minimum branch circuit height of 9-5/8" is required and the breaker should be located where the centre strip ends. (This space includes one 1 -3/8" wide filler to support the center strip).
If the breaker must be located between two sections of a double row trim then the minimum branch circuit height required is 11". (This space includes two 1-3/8" wide fillers to support both ends of the centre strips)
- ◆ Available only for single mount. The CK breaker can not be replaced in existing 12X of branch circuit height, the Square D PowerPact breaker requires space with a 16X branch nominal height. Contact Schneider Services for installation of PowerPact P breaker and mounting hardware.