Selection Guide

B-Frame

H-Frame

J-Frame

L-Frame

M-Frame

P-Frame

R-Frame

		CHOM Circuit Breakers									QO™ Circuit Breakers																										
																																			
Circuit Breaker Type	**Plug-on**	CHOM		CHOM-CAFI	CHOM-DF	CHOM-GFI		CHOM-EPD		CHOMT	QO			QO-H	QO-VH					QH		QOT	QO-CAFI	QO-VHCAFI	QO-GFI			QO-VHGFI	QO-EPD QO-EPE			QO-DF	QOVH-DF			
	Bolt-on	—	—	—	—	—	—	—	—	—	QOB			QOB-H	—	—	—	QOB-VH		QHB		—	QOB-CAFI	QOB-VCHAFI	QOB-GFI			QOB-VHGFI	QOB-EPD QOB-EPE			—	—			
	Unit Mount	—	—	—	—	—	—	—	—	—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Number of Poles		1	2	1,2	1	1	2	1	2	1	1	2	3	2	1	2	3	1	2, 3 ▲	1,2	3	1	1	1,2	1	2	3	1	1	2	3	1	1	1	1	1
Current Range		15–50	15–200 ◒	15–20	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	15–30	15–60	15–50	15–20	15–20			
Interrupting Ratings																																				
UL/CSA Rating (kA) (50/60 Hz)	120 Vac	10	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	10	10	—	10	22			
	120/240 Vac	10	10	—	—	—	10	—	10	10	10	10	10	10	22	22	22	22	22	65	65	10	—	—	—	10	—	—	—	10	—	—	—			
	208Y/120	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	—	—	—	—	—	—			
	240 Vac ★	—	—	—	—	—	—	—	—	—	—	—	10	10	—	—	22	—	22 ★	—	65	—	—	—	—	—	—	—	—	—	10	—	—			
	277 Vac	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	480Y/277 Vac	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
DC Ratings	48 Vdc	—	—	—	—	—	—	—	—	—	5▼	5 ▼	5 ▼	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	60 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	65 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	125 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	250 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
IEC 60947-2 (50/60 Hz)▼	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	—		—	X	—		X	X			
Other Standard		HACR △ NOM		HACR △							HACR□ NOM			HACR □						—	—	—	HACR □	—	NOM			—	NOM			HACR □	HACR □			
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	X	X	X	—	—			
Alarm Switch ◊		—	—	—	—	—	—	—	—	—	X	X	X	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	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	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 DE3-53 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.
△ 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 C60BP/BPR						CSA C22.2 No. 235/UL1077 C60SP						—		—		—	
Number of Poles		1	2	3	2	2	1	2			3		1		2		3,4	2,3,4	1	2, 3	1	2, 3	1	2, 3
Current Range		10–100	10–125	10–100	50–125	100–225	0.5–35	1–25	30-35	40-63	1–35	40-63	0.5–32	40-63	1–25	32	2–32	40-63	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	14	—	—	—	—	—	14	10	—	—	—	—	25	25	65	65	100	100
	120/240 Vac	10	10	10	22	22	14	—	—	—	—	—	14	10	—	—	—	—	18	25	35	65	65	100
	240 Vac	—	—	10	—	—	14	14	14	10	14	10	14	10	14	14	14	10	18	25	35	65	65	100
	277 Vac	—	—	—	—	—	10	10	10	—	10	—	10	5	10	10	10	5	18	18	35	35	65	65
	377 Vac	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	—	18	—	25	—
	480Y/277 Vac	—	—	—	—	—	—	10	10	—	10	—	—	—	10	10	10	5	—	18	—	35	—	65
	600Y/347 Vac	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	—	18	—	25
DC Ratings	48 Vdc	5■	5■	5■	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60 Vdc	5♦	5♦	5♦	—	—	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	65 Vdc	—	—	—	—	—	—	—	—	—	—	—	10	10	—	—	—	—	—	—	—	—	—	—
	125 Vdc	—	—	—	—	—	—	10	—	—	—	—	—	—	10	—	—	—	—	—	—	—	—	—
	250 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	500 Vdc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
IEC 60947-2 (50/60 Hz) Icu	240 Vac	—	—	—	—	—	10	20	20	20	20	20	10	10	20	20	20	20	20	—	—	—	—	—
	415 Vac	—	—	—	—	—	10	10	10	10	10	10	3	3	10	10	10	10	10	—	—	—	—	—
Special Ratings																								
CCC		X□	X□	X□	—	—	X	X	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	X	—	—	—	—	—	—	X	X	X	X	X	X
Other Standard		HACR ★			—	—	GB	GB	GB	GB	GB	GB	GB	GB	GB	GB	GB	GB	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 ▼	X ▼	X ▼	X ▼
Undervoltage Trip		—	—	—	—	—	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	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▼	X▼	X▼	X▼	X▼
Handle Operators		—	—	—	—	—	X	X	X	X	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	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
Molded Case Switch		—	X	X	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dimensions (1P Unit Mount)																								
Dimensions (1P Unit Mount) in. (mm)	Height	4.05 (103)			5.09 (129)△	5.60 (142)△	4.06 (103)						3.19 (81)						5.66 (144)					
	Width	0.75 (19)			5.00 (127)△	5.07 (129)△	0.71 (18)						0.71 (18)						0.98 (25)					
	Depth	2.92 (74)			3.47 (88)△	3.60 (91)△	2.83(72)						2.83 (72)						4.05 (103)					
Pages		Pages DE3-14			Section DE1		Pages DE3-16 through DE3-18												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.
- □ 15–70 A 1P and 2P, 15–60 A 3P.
- ◊ 100 A maximum at 600Y/347 Vac

Selection Information
Molded Case Circuit Breakers

Class **500, 600, 800**

		PowerPact™ 125 A B-Frame				PowerPact™ 150 A H-Frame					PowerPact 250 A J-Frame				
															
Circuit Breaker Type		BD	BG	BJ	BK	HD	HG	HJ	HL	HR	JD	JG	JJ	JL	JR
Number of Poles		1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2	2, 3	2, 3	2, 3▲	2, 3▲	3	2, 3▲	2, 3▲	2, 3▲	2, 3▲	3
Current Range		15–125 A	15–125 A	15–125 A	15–30 A	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	100	25	65	100	125	200	25	65	100	125	200
	480Y/277 Vac	18	35	65	65	18	35	65	100	200	18	35	65	100	200
	480 Vac	18	35	65	65	18	35	65	100	200	18	35	65	100	200
	600Y/347 Vac	14	18	25	65	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	—	50	—	—	20	—	50	—
IEC AC Rating (kA RMS) (50/60 Hz) Icu/Ics★	220/240 Vac	25	65	100	100	25	65	100	125	150	25	65	100	125	150
	380/415 Vac	18	35	65	65	18	35	65	100	125	18	35	65	100	125
	440/480 Vac	18	35	65	65	18	35	65	100	125	18	18	25	50	125
	500/525 Vac	14	18	25	25	14	18	25	50	75	14	20	20	20	75
	690 Vac	—	—	—	—	—	—	—	—	20	—	—	—	—	20
IEC DC Ratings	250 Vdc	—	—	—	—	—	—	—	—	—	20	20	20	20	—
	500 Vdc	—	—	—	—	—	—	—	—	—	20	20	20	20	—
Special Ratings															
CCC		X	X	X	X	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	X	X	X	X
HACR		X	X	X	X	X	X	X	X	X	X	X	X	X	X
Connections/Terminations															
Unit Mount		X	X	X	X	X	X	X	X	X	X	X	X	X	X
I-Line™		X	X	X	X	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	X	X	X	X
Accessories and Modifications															
Shunt Trip		X	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	X
Auxiliary Switches		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
Motor Operator		—	—	—	—	X▼	X▼	X	X	X	X	X	X	X	X
Handle Operators		X	X	X	X	X▼	X▼	X	X	X	X	X	X	X	X
Mechanical Interlocks (3P)		X	X	X	—	X	X	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
Cylinder Lock (3P)		—	—	—	—	—	—	—	—	—	—	—	—	—	—
Optional GF Protection		—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trip System Type															
Thermal-magnetic		X	X	X	X	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	X	X	X	X
Electronic		—	—	—	—	X△	X△	X△	X△	X△	X△	X△	X△	X△	X△
Enclosures (Pages DE3-55–DE3-57)															
General Purpose (NEMA 1)		—	—	—	—	X	X	X	X	—	X	X	X	X	—
Raintight (NEMA 3R)		—	—	—	—	X	X	X	X	—	X	X	X	X	—
Dust-tight (NEMA 12)		—	—	—	—	X	X	X	X	—	X	X	X	X	—
Watertight (NEMA 4, 4X, 5)		—	—	—	—	X	X	X	X	—	X	X	X	X	—
Explosion Proof (NEMA 7, 9)		—	—	—	—	—	—	—	—	—	X□	X□	—	—	—
Dimensions (3P Unit Mount) in. (mm)	Height	5.4 (137)				6.4 (163)					7.5 (191)				
	Width	3.2 (81)				4.1 (104)					4.1 (104)				
	Depth	3.5 (89)				3.4 (86)					3.4 (86)				
Pages (Unit Mount)/(I-Line)		Page DE3-20 / Section DE5				Pages DE3-21, DE3-22 / Section DE5					Pages DE3-21, DE3-22 / 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.
- □ Not UL Listed due to wire bending space.

		PowerPact 250 A Q-Frame				PowerPact 600 A L-Frame				
										
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♦☆	—	—	—	—	—	20	—	50	—
IEC AC Rating (kA RMS) (50/60 Hz) Icu/Ics★	220/240 Vac	10/5	10/5	10/5	10/5	25	65	100	125	150
	380/415 Vac	10/5	10/5	10/5	10/5	18/18	18	65	100	125
	440/480 Vac	—	—	—	—	18/18	18	65	100	125
	500/525 Vac	—	—	—	—	18/18	14	25	50	125
	690 Vac	—	—	—	—	—	—	—	—	20
IEC DC Ratings	250 Vdc	—	—	—	—	—	—	—	—	—
	500 Vdc	—	—	—	—	—	—	—	—	—
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 (3P△)		—	—	—	—	—	—	—	—	—
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 DE3-55–DE3-57)										
General Purpose (NEMA 1)		X	X	X	X	—	—	—	—	—
Raintight (NEMA 3R)		X	X	X	X	—	—	—	—	—
Dust-tight (NEMA 12)		—	—	—	—	X	X	X	X	X
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 DE3-23/Section DE5				Pages DE3-24/Section De5				

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.
★ 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.

		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	2, 3, 4	2, 3	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 DE3-55–DE3-57)											
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 DE3-25/Section DE5		Page DE3-26, DE3-30, DE3-33/Section DE5				Page DE3-27, DE3-33/Section DE5			

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

▲ Ungrounded UPS systems only. See page DE3-34.
■ 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.

		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 DE3-49 and Catalog 0613CT0001					Page DE3-49 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.

		100 A Frame					
							
Circuit Breaker Type		FA (240 V)	FA		FH	FH■	FH
Number of Poles		1, 2, 3	1	2, 3	1	1	2, 3
Current Range		15–100	15–100	15–100	15–30	35–100	15–100
Interrupting Ratings							
UL/CSA/NOM Rating (kA RMS) (50/60 Hz)	240 Vac	10◒	25◒	25	65	25	65
	480Y/277 Vac	—	18	18	65	25	25
	480 Vac	—	—	18	—	—	25
	600Y/347 Vac	—	—	14	—	—	18
	600 Vac	—	—	14	—	—	18
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
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△
Undervoltage Trip		X△▼	—	X△	—	—	X△
Auxiliary Switches		X△▼	—	X△	—	—	X△
Alarm Switch		X△▼	X △	X△	X△	X△	X△
Motor Operator		—	—	X	—	—	X
Handle Operators		X	—	X	X	X	X
Mechanical Interlocks (3P)		—	—	X	—	—	X
Handle Padlock Attachment		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
Instantaneous-only (MCP)		—	—	X	—	—	X
Molded Case Switch (Automatic)		—	—	—	—	—	X
Electronic		—	—	—	—	—	—
Enclosures (Pages DE3-55–DE3-57)							
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)				
	Width	4.5 (114)	4.5 (114)				
	Depth	4.13 (105)	4.13 (105)				
Pages (Unit Mount)/(I-Line)			DE3-59 / 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

		400 A L-Frame		
				
Circuit Breaker Type		Q4	LA	LH
Number of Poles		2, 3	2, 3	2, 3
Current Range		250–400	125–400	125–400
Interrupting Ratings				
UL/CSA/NOM Rating (kA RMS) (50/60 Hz)	240 Vac	25	42	65
	480Y/277 Vac	—	30	35
	480 Vac	—	30	35
	600Y/347 Vac	—	22	25
	600 Vac	—	22	25
DC Ratings	250 Vdc	—	10	50
	500 Vdc▲	—	—	20
IEC 60947-2 (kA RMS) Icu/Ics■	240 Vac	—	—	—
	415 Vac	—	20/5	20/5
Special Ratings				
CCC		—	—	—
Fed. Specs W-C-375B/GEN		X	X	X
HACR (2P, 3P)		—	X	X
Connections/Terminations				
Unit Mount		X	X	X
I-Line™		X	X	X
Rear Connection		X	X	X
Drawout		—	—	—
Optional Lugs		X	X	X
Accessories and Modifications				
Shunt Trip		X	X	X
Undervoltage Trip		X	X	X
Auxiliary Switches		X	X	X
Alarm Switch		X	X	X
Motor Operator		X	X	X
Handle Operators		X	X	X
Mechanical Interlocks (3P)		—	X♦	X♦
Handle Padlock Attachment		X	X	X
Cylinder Lock (3P)		X	X	X
Optional GF Protection		—	—	—
Trip System Type				
Thermal-magnetic		X	X	X
Instantaneous-only (MCP)		—	X	X
Molded Case Switch (Automatic)		—	—	X
Electronic		—	—	—
Enclosures (Pages DE3-55–DE3-57)				
General Purpose (NEMA 1)		X	X	X
Raintight (NEMA 3R)		X	X	X
Dust-tight (NEMA 12)		X	X	X
Watertight (NEMA 4, 4X, 5)		X	X	X
Explosion Proof (NEMA 7, 9)		—	—	—
Dimensions (3P Unit Mount) in. (mm)	Height	11 (279)		
	Width	6 (152)		
	Depth	5.84 (148)		
Pages (Unit Mount)/(I-Line)		DE3-60 / 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 circuit breaker with WB suffix .

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.

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

Plug-On Circuit Breakers

Amperes Rating ■	1P—120/240 Vac Common Trip	2P—120/240 Vac Common Trip	2P—240 Vac ♦ Common Trip	3P—240 Vac Common Trip
	Cat. No.	Cat. No.	Cat. No.	Cat. No.
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

▲ 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 con 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.

Interrupting Ratings . . . . . Page DE3-2
Accessories . . . . . Page DE3-12
Dimensions. . . . . Page DE3-53

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	5238
35–50 A	3	
70–110 A	2	5273
60–100 A	3	

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
	150–200 A	4–300 Al/Cu
QO 3P	10–30 A	14–8 Al/Cu, (2) 14-10 Cu
	35–70 A	8–2 Al/Cu
	80–125 A	4–2/0 Al/Cu
QOB-VH	110–150 A	4–300 Al/Cu
QOT	15–20 A	12–8 Al 14–8 Cu
QO-AFI, QO-GFI & QO-EPD	15–30 A	12–8 Al 14–8 Cu
	40, 50, 60 A	12–4 Al 14–6 Cu
QO-PL	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 &A 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	QO20303020☆	
30 A & 20 A	—	—

1P
QO-CAFI

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-CAFI

QO Combination Arc Fault Circuit Breakers▲

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

QO Dual Function Circuit Breaker

Circuit Breaker Type	Ampere Rating	1P 120 Vac 10k AIR 1 Space Required	1P 120 Vac 22k AIR 1 Space Required
QO Dual Function Circuit Breaker with Pigtail Neutral	15	QO115DF	QO115VHDF
	20	QO120DF	QO120VHDF
QO Plug-on Neutral Dual Function Circuit Breaker	15	QO115PDF	QO115VHPDF
	20	QO120PDF	QO120VHPDF

QO-GFI Circuit Breakers

Ampere Rating♦ (A)	Qwik-Gard Circuit Breakers With Ground Fault Circuit Interrupter 1P 120 Vac 10 k AIR 1 Space Required Cat. No.	1P 120 Vac 22 k AIR 1 Space Required Cat. No.	2P Common Trip 120/240 Vac 10 k AIR 2 Spaces Required Cat. No.
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♦ (A)	1P 120 Vac 10 k AIR 1 Space Required Cat. No.	2P Common Trip 120/240 Vac 10 k AIR 2 Spaces Required Cat. No.	3P Common Trip 240 Vac 10 k AIR 3 Spaces Required Cat. No.	
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 10 k AIR 2 Spaces Required Cat. No.	3 Wire 120/240 Vac 10 k AIR 3 Spaces Required Cat. No.
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 10 k AIR 1 Space Required Cat. No.	$ Price	2P Common Trip 120/240 Vac 10 k AIR 2 Spaces Required Cat. No.	$ Price	3P Common Trip 240 Vac 10 k AIR 3 Spaces Required 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.
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
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 Cat. No.	3P Cat. No.
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.

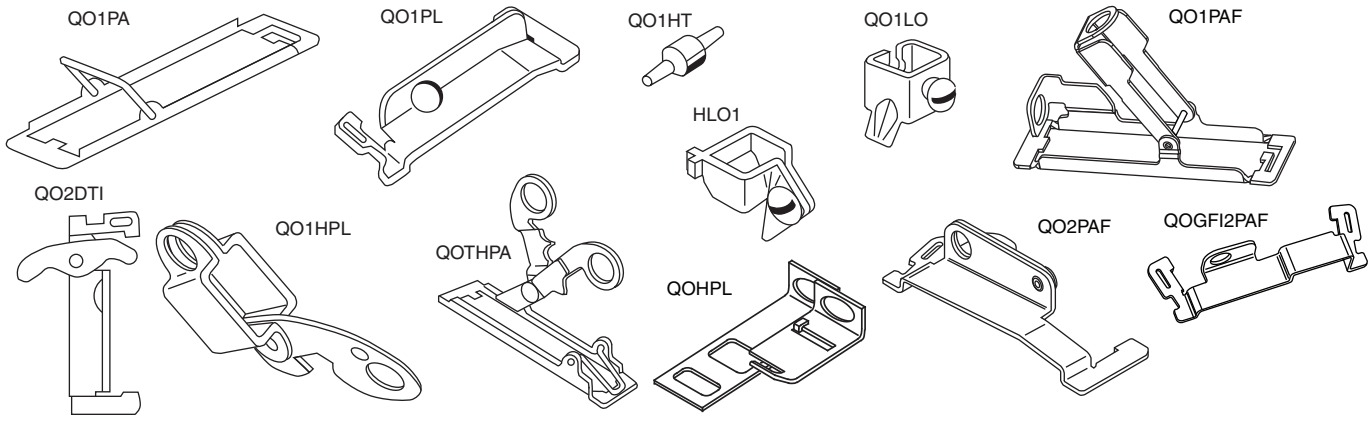
▼ See note in Instruction Bulletin when using in an enclosure with a QO403 or QON prefix.

Interrupting Ratings . . . . . Page DE3-2
Accessories . . . . . Page DE3-12
Dimensions . . . . . Page DE3-53

Accessories for Use with QO™ and QOB Miniature Circuit Breakers

Handle Attachments	Description	Cat. No.
Handle Tie:	Converts any two adjacent 120/240 Vac 1P QO circuit breakers to independent trip 2P	QO1HT
	Converts any two adjacent 120/240 Vac 1P side-by-side QOT circuit breakers to independent trip 2P	QOTHT
	Handle tie and lock-off for three 1P QO, QOB circuit breakers	QO3HT
Handle Clamp:	Clamp for holding QO 1P handle in ON or OFF position	QO1LO
	Clamp for holding QO or Q1 1P, 2P or 3P circuit breaker handles in ON or OFF position	HLO1
Handle Padlock Attachment: for Padlocking in ON or OFF position	For padlocking 1P QO circuit breaker in ON or OFF position	
	Loose attachment	QOHPL
	Fixed attachment	QO1PA
	For padlocking 1P side-by-side QOT circuit breaker in ON or OFF position	QOTHPA
	For padlocking 2P and 3P QO-GFI, QO-EPD, and QO-EPE in either ON or OFF position, fixed attachment.	GFI2PA
	For 2P and 3P QO and Q1 standard circuit breakers which require padlocking in either ON or OFF position.	
	Loose attachment	QO1HPL
	Fixed attachment	QO1PL
Handle Padlock Attachment: for Padlocking in OFF position	For padlocking 1P QO circuit breaker in OFF position only, fixed attachment.	QO1PAF
	For padlocking 2P and 3P QO circuit breakers in OFF position only, fixed attachment.	QO2PAF
	For padlocking 1P QO-GFI, QO-AFI, QO-CAFI, and QO-EPD circuit breakers in OFF position only, fixed attachment.	QOGFI1PAF
	For padlocking 2P and 3P QO-GFI, QO-EPD, and QO-EPE circuit breakers in OFF position only, fixed attachment.	QOGFI2PAF
Sub-Feed Lugs	60 A 2P plug-on – 2 spaces required (6–2 Al/Cu)	QO60SL
	125 A 2P plug-on – 2 spaces required (12–2/0 Al/Cu)	QO2125SL
	225 A 2P plug-on – 4 spaces required (4–300 Al/Cu)	QO2225SL▲
	125 A 3P plug-on – 3 spaces required (12–2/0 Al/Cu)	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.

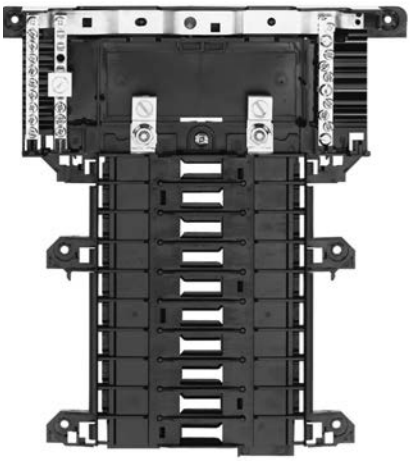
Factory-Installed Accessories

Accessory	Description	Rated Voltage		Coil Burden	Cat. No. Suffix
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	60 VA	-1042
			24	168 VA	
		AC	120	72 VA	-1021
			208	228 VA	
			240	288 VA	

Accessory	Description	Contact Comb.	Max. Voltage	Max. Load	Cat. No. Suffix
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
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 Cat. No.	Main Wire Size AWG/kcmil
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
1Ø3W 240 Vac Max. 10 k AIC	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
	200 A	12	12	QON12L200FTL■	4–250 Cu/Al
	225 A	42	42	QON142L225I	4–300 Cu/Al
3Ø3W 240 Vac Max. 10 k AIC (Without Neutral Assy.)	125 A	12	12	QON312L125	4–2/0 Cu/Al
	200 A	18	18	QON318L200	4–300 Cu/Al
	200 A	24	24	QON324L200	4–300 Cu/Al
	200 A	30	30	QON330L200	4–300 Cu/Al
3Ø4W 240 Vac Max. 10 k AIC	60 A	3	3	QON403L60N	12–6 Cu/Al
	125 A	24	24	QON324L125I	4–2/0 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.

Solid Neutral Assemblies

Main Lug Rating	Number of Branch Neutral Terminals	Cat. No.	$ Price	Main Neutral Lug Wire Size Cu/Al	Branch Neutral Terminal Wire Size Cu	Branch Neutral Terminal Wire Size 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.

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

Description	Poles	Amperes	Length in.	Length mm	Cat. No.
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	200 A	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	200 A	14.4	366	US32420018
	36		19	483	US33620018
	48		23	584	US34820018
	60		27.5	699	US36020018

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

Description	Cat. No.
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.	Cat. No.	Cat. No.▲	$ Price	Cat. No.
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.	Cat. No.	Cat. No.	Cat. No.
15 A	QOU115HM	—	—	—
20 A	QOU120HM	—	—	—

High Ampere QOU

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.

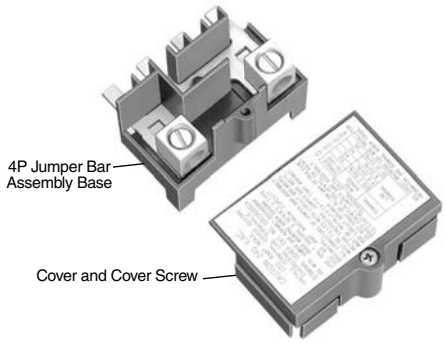
QOU High Ampere Miniature Circuit Breakers (10 k AIR)

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

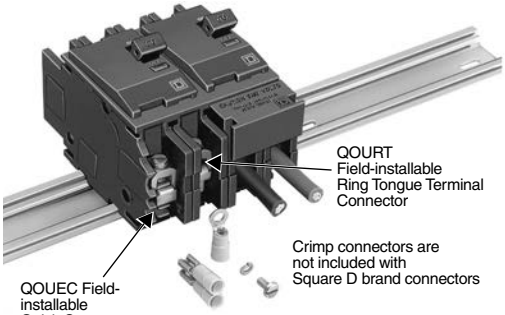
QOU Non-Automatic Switches

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

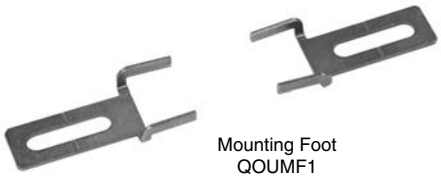
Interrupting Ratings . . . . . Page DE3-3
Accessories . . . . . Page DE3-12, DE3-15
Dimensions . . . . . Page DE3-53



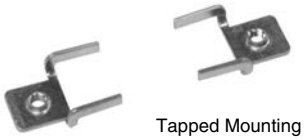
QOU14100JBAF



2P DIN Mounted QOU Circuit Breakers



Mounting Foot
QOUMF1



Tapped Mounting Foot
Suffix–3100

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

Description	Order Qty.	Cat. No.
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		Suffix -3100
Individually packaged	1	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.
Four-Point Quick-Connect Terminals	1	1	Change QOU to QOUQ
	2	1	
	3	1	

Electrical Accessories for QOU . . . . . Page DE3-12

Refer to Catalog **LVCATM9OEM**

UL 489 / CSA C22.2 No 5 / IEC/EN 60947-2 / GB 14048-2

C60BP/BPR are multi-standard miniature circuit breakers and branch circuit protection as defined by UL 489. It combines following functions:

- circuit protection against short-circuit currents
- circuit protection against overload currents
- tripping and fault indication by the addition of auxiliaries
- IP2X ring tongue terminal connection.

DB105727 DB105728 DB405227

C60BP 1P

C60BP 2P

C60BPR 3P

Catalogue numbers

Tunnel terminal connection

Type	UL489 and CSA voltages	1P			2P		3P	
Rating (In)		Curve Z	C	D (=K)	C	D (=K)	C	D (=K)
C60BP								
0.5	480Y/277 V and 240 V	M9F44170	M9F42170	M9F43170	-	-	-	-
1		M9F44101	M9F42101	M9F43101	M9F42201	M9F43201	M9F42301	M9F43301
2		M9F44102	M9F42102	M9F43102	M9F42202	M9F43202	M9F42302	M9F43302
3		M9F44103	M9F42103	M9F43103	M9F42203	M9F43203	M9F43203	M9F43303
4		M9F44104	M9F42104	M9F43104	M9F42204	M9F43204	M9F42304	M9F43304
5		M9F44105	M9F42105	M9F43105	M9F42205	M9F43205	M9F43205	M9F43305
6		M9F44106	M9F42106	M9F43106	M9F42206	M9F43206	M9F42306	M9F43306
8		M9F44108	M9F42108	M9F43108	M9F42208	M9F43208	M9F42308	M9F43308
10		M9F44110	M9F42110	M9F43110	M9F42210	M9F43210	M9F42310	M9F43310
15		M9F44115	M9F42115	M9F43115	M9F42215	M9F43215	M9F42315	M9F43315
20		M9F44120	M9F42120	M9F43120	M9F42220	M9F43220	M9F42320	M9F43320
25		M9F44125	M9F42125	M9F43125	M9F42225	M9F43225	M9F42325	M9F43325
30		M9F44130	M9F42130	M9F43130	M9F42230	M9F43230	M9F42330	M9F43330
35		M9F44135	M9F42135	M9F43135	M9F42235	M9F43235	M9F42335	M9F43335
40	240 V only	M9F44140	M9F42140	M9F43140	M9F42240	M9F43240	M9F42340	M9F43340
45		M9F44145	M9F42145	M9F43145	M9F42245	M9F43245	M9F42345	M9F43345
50		M9F44150	M9F42150	M9F43150	M9F42250	M9F43250	M9F42350	M9F43350
63		M9F44163	M9F42163	M9F43163	M9F42263	M9F43263	M9F42363	M9F43363

Ring tongue terminal connection

Type	UL489 and CSA voltages	1P			2P		3P	
Rating (In)		Curve Z	C	D (=K)	C	D (=K)	C	D (=K)
C60BPR								
1	480Y/277 V and 240 V	M9F54101	M9F52101	M9F53101	M9F52201	M9F53201	M9F52301	M9F53301
2		M9F54102	M9F52102	M9F53102	M9F52202	M9F53202	M9F52302	M9F53302
4		M9F54104	M9F52104	M9F53104	M9F52204	M9F53204	M9F52304	M9F53304
6		M9F54106	M9F52106	M9F53106	M9F52206	M9F53206	M9F52306	M9F53306
8		M9F54108	M9F52108	M9F53108	M9F52208	M9F53208	M9F52308	M9F53308
10		M9F54110	M9F52110	M9F53110	M9F52210	M9F53210	M9F52310	M9F53310
15		M9F54115	M9F52115	M9F53115	M9F52215	M9F53215	M9F52315	M9F53315
20		M9F54120	M9F52120	M9F53120	M9F52220	M9F53220	M9F52320	M9F53320
25		M9F54125	M9F52125	M9F53125	M9F52225	M9F53225	M9F52325	M9F53325
30		M9F54130	M9F52130	M9F53130	M9F52230	M9F53230	M9F52330	M9F53330
35		M9F54135	M9F52135	M9F53135	M9F52235	M9F53235	M9F52335	M9F53335
40	240 V only	M9F54140	M9F52140	M9F53140	M9F52240	M9F53240	M9F52340	M9F53340
45		M9F54145	M9F52145	M9F53145	M9F52245	M9F53245	M9F52345	M9F53345
50		M9F54150	M9F52150	M9F53150	M9F52250	M9F53250	M9F52350	M9F53350
63		M9F54163	M9F52163	M9F53163	M9F52263	M9F53263	M9F52363	M9F53363

Interrupting ratings . . . . . Page DE3-3
Accessories . . . . . Page DE3-18
Dimensions . . . . . Page DE3-53
Mounting Bases . . . . . Page DE3-13

UL 1077 / CSA C22.2 No 2355 / IEC/EN 60947-2 / GB 14048-2

C60SP are multi-standard miniature circuit breakers and supplementary protection as defined by UL 1077. It combines following functions:

- circuit protection against short-circuit currents
- circuit protection against overload currents
- tripping and fault indication by the addition of auxiliaries.

Conformity with product standards

- UL 489 branch circuit protection, document #E215117.
- CSA C22.2 No 5 branch circuit protection, document #E179014.
- IEC/EN 60947-2.
- GB 14048-2.

C60SP 1P

C60SP 2P

C60SP 3P

C60SP 4P

Catalogue numbers

Tunnel terminal connection

Type	1P			2P		
Rating (In)	Curve B	C	D (=K)	B	C	D (=K)
C60SP						
0.5	M9F21170	M9F22170	M9F23170	-	-	-
1	M9F21101	M9F22101	M9F23101	M9F21201	M9F22201	M9F23201
2	M9F21102	M9F22102	M9F23102	M9F21202	M9F22202	M9F23202
3	M9F21103	M9F22103	M9F23103	M9F21203	M9F22203	M9F23203
4	M9F21104	M9F22104	M9F23104	M9F21204	M9F22204	M9F23204
5	M9F21105	M9F22105	M9F23105	M9F21205	M9F22205	M9F23205
6	M9F21106	M9F22106	M9F23106	M9F21206	M9F22206	M9F23206
8	M9F21108	M9F22108	M9F23108	M9F21208	M9F22208	M9F23208
10	M9F21110	M9F22110	M9F23110	M9F21210	M9F22210	M9F23210
13	M9F21113	M9F22113	M9F23113	M9F21213	M9F22213	M9F23213
16	M9F21116	M9F22116	M9F23116	M9F21216	M9F22216	M9F23216
20	M9F21120	M9F22120	M9F23120	M9F21220	M9F22220	M9F23220
25	M9F21125	M9F22125	M9F23125	M9F21225	M9F22225	M9F23225
32	M9F21132	M9F22132	M9F23132	M9F21232	M9F22232	M9F23232
40	M9F21140	M9F22140	M9F23140	M9F21240	M9F22240	M9F23240
45	M9F21145	M9F22145	M9F23145	M9F21245	M9F22245	M9F23245
50	M9F21150	M9F22150	M9F23150	M9F21250	M9F22250	M9F23250
63	M9F21163	M9F22163	M9F23163	M9F21263	M9F22263	M9F23263

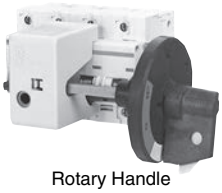
Type	3P			4P		
Ratings (In)	Curve Z	C	D (=K)	Curve C	D (=K)	
C60SP						
0.5	-	-	-	-	-	-
1	-	-	-	-	-	-
2	M9F21302	M9F22302	M9F23302	M9F21402	M9F22402	M9F23402
3	-	-	-	-	-	-
4	-	-	-	-	-	-
5	-	-	-	-	-	-
6	M9F21306	M9F22306	M9F23306	M9F21406	M9F22406	M9F23406
8	M9F21308	M9F22308	M9F23308	M9F21408	M9F22408	M9F23408
10	M9F21310	M9F22310	M9F23310	M9F21410	M9F22410	M9F23410
13	M9F21313	M9F22313	M9F23313	M9F21413	M9F22413	M9F23413
16	M9F21316	M9F22316	M9F23316	M9F21416	M9F22416	M9F23416
20	M9F21320	M9F22320	M9F23320	M9F21420	M9F22420	M9F23420
25	M9F21325	M9F22325	M9F23325	M9F21425	M9F22425	M9F23425
32	M9F21332	M9F22332	M9F23332	M9F21432	M9F22432	M9F23432
40	M9F21340	M9F22340	M9F23340	M9F21440	M9F22440	M9F23440
45	M9F21345	M9F22345	M9F23345	M9F21445	M9F22445	M9F23445
50	M9F21350	M9F22350	M9F23350	M9F21450	M9F22450	M9F23450
63	M9F21363	M9F22363	M9F23363	M9F21463	M9F22463	M9F23463

Interrupting Ratings . . . . . Page DE3-3
Accessories . . . . . Page DE3-18
Dimensions . . . . . Page DE3-53

Ring Tongue Terminal Kit

Spacer

C60 Padlock Attachment (1 per 1P,2P, 3P or 4P)

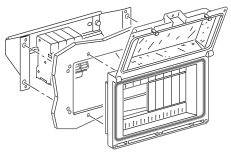


Rotary Handle

Front Mounting Kit for C60 1P, 2P, 3P, 4P (1 per circuit breaker)

MGN26380 Locking Device Left Side Mount

MGN26381 Locking Device Right Side Mount

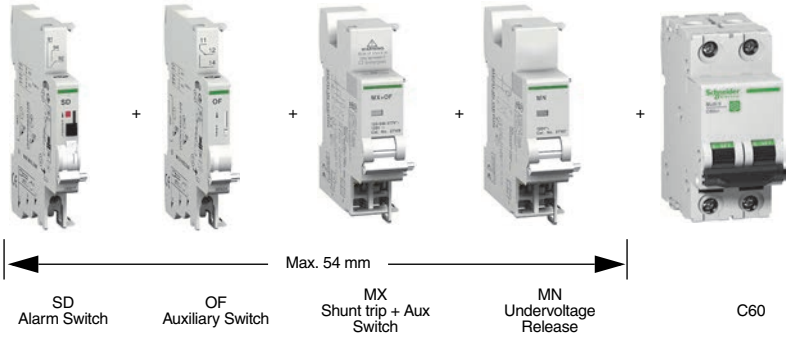


Multi-pole Front Mounting Kit

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.
OF Auxiliary Switch (1a1b)	240-415	24-130	1	M9A26924
SD Alarm Switch (1a1b)	240-415	24-130	1	M9A26927
MX Shunt Trip + OF Auxiliary Switch (1a1b)	12-24	12-24	2	M9A26948
	48	48	2	M9A26947
	100-415	110-130	2	M9A26946
MN Undervoltage Release	24	24	2	M9A27108
	48	48	2	M9A26961
	120	—	2	M9A27107
	220-240	—	2	M9A26960

Multi 9 C60 Mechanical Accessories

Descriptions		C60
		Cat. No.
Ring Lug terminal kit for UL1077 C60SP	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
Terminal Screw Shield (Not UL Recognized) for C60SP only	Bag of two 4P shields	MG26981
Terminal cover (Not CSA/UL Recognized) for C60SP only	1P	MG26975
	2P	MG26976
	3P	MG26975+MG26976
	4P	Obsolete
Tooth Caps for UL Comb Bus Bar, Bag of 20 for C60SP only		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 availablility 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.

B-Frame 125 A	H-Frame 150 A	J-Frame 250 A	Q-Frame 250 A	L-Frame 600 A	M-Frame 800 A	P-Frame 1200 A	R-Frame 3000 A

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.
♦ B-Frame K interrupting rating is 100kA at 240 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
B 125 A Frame
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

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

Terminations
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

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

PowerPact B-Frame Circuit Breakers

PowerPact B-Frame 125 A Thermal-Magnetic Circuit Breakers, 600Y/347 Vac with EverLink Lugs

Current Rating @ 40° C	Interupting Rating													
	D				G				J				K	
	1 Pole 347 Vac	2 Pole 600Y/347 Vac	3 Pole 600Y/347 Vac	4 Pole 600Y/347 Vac	1 Pole 347 Vac	2 Pole 600Y/347 Vac	3 Pole 600Y/347 Vac	4 Pole 600Y/347 Vac	1 Pole 347 Vac	2 Pole 600Y/347 Vac	3 Pole 600Y/347 Vac	4 Pole 600Y/347 Vac	1 Pole 347 Vac	2 Pole 600Y/347 Vac
15 A	BDL16015	BDL26015	BDL36015	BDL46015	BGL16015	BGL26015	BGL36015	BGL46015	BJL16015	BJL26015	BJL36015	BJL46015	BKL16015	BKL26015
20 A	BDL16020	BDL26020	BDL36020	BDL46020	BGL16020	BGL26020	BGL36020	BGL46020	BJL16020	BJL26020	BJL36020	BJL46020	BKL16020	BKL26020
25 A	BDL16025	BDL26025	BDL36025	BDL46025	BGL16025	BGL26025	BGL36025	BGL46025	BJL16025	BJL26025	BJL36025	BJL46025	BKL16025	BKL26025
30 A	BDL16030	BDL26030	BDL36030	BDL46030	BGL16030	BGL26030	BGL36030	BGL46030	BJL16030	BJL26030	BJL36030	BJL46030	BKL16030	BKL26030
35 A	BDL16035	BDL26035	BDL36035	BDL46035	BGL16035	BGL26035	BGL36035	BGL46035	BJL16035	BJL26035	BJL36035	BJL46035	—	—
40 A	BDL16040	BDL26040	BDL36040	BDL46040	BGL16040	BGL26040	BGL36040	BGL46040	BJL16040	BJL26040	BJL36040	BJL46040	—	—
45 A	BDL16045	BDL26045	BDL36045	BDL46045	BGL16045	BGL26045	BGL36045	BGL46045	BJL16045	BJL26045	BJL36045	BJL46045	—	—
50 A	BDL16050	BDL26050	BDL36050	BDL46050	BGL16050	BGL26050	BGL36050	BGL46050	BJL16050	BJL26050	BJL36050	BJL46050	—	—
60 A	BDL16060	BDL26060	BDL36060	BDL46060	BGL16060	BGL26060	BGL36060	BGL46060	BJL16060	BJL26060	BJL36060	BJL46060	—	—
70 A	BDL16070	BDL26070	BDL36070	BDL46070	BGL16070	BGL26070	BGL36070	BGL46070	BJL16070	BJL26070	BJL36070	BJL46070	—	—
80 A	BDL16080	BDL26080	BDL36080	BDL46080	BGL16080	BGL26080	BGL36080	BGL46080	BJL16080	BJL26080	BJL36080	BJL46080	—	—
90 A	BDL16090	BDL26090	BDL36090	BDL46090	BGL16090	BGL26090	BGL36090	BGL46090	BJL16090	BJL26090	BJL36090	BJL46090	—	—
100 A	BDL16100	BDL26100	BDL36100	BDL46100	BGL16100	BGL26100	BGL36100	BGL46100	BJL16100	BJL26100	BJL36100	BJL46100	—	—
110 A	BDL16110	BDL26110	BDL36110	BDL46110	BGL16110	BGL26110	BGL36110	BGL46110	BJL16110	BJL26110	BJL36110	BJL46110	—	—
125 A	BDL16125	BDL26125	BDL36125	BDL46125	BGL16125	BGL26125	BGL36125	BGL46125	BJL16125	BJL26125	BJL36125	BJL46125	—	—

B-Frame Termination Options

Termination Letter	
A = I-Line (See Section DE5)	B D L 3 6 1 0 0 For factory-installed termination, letter in the third block of the circuit breaker catalog number.
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	

B-Frame Interupting Ratings

Voltage	Interrupting Ratings			
	D	G	J	K
240 Vac	25 Ka	65 Ka	100 Ka	100 Ka
480Y/277 Vac	18 Ka	35 Ka	65 Ka	65 Ka
480 Vac	18 Ka	35 Ka	65 Ka	65 Ka
600Y/347 Vac	14 Ka	18 Ka	25 Ka	65 Ka
600 Vac	—	—	—	—

Accessories see page DE3-38
Optional Lugs see pageDE3-41
Dimensions see page DE3-54

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 ▲	Catalogue Number ▲	Catalogue Number ▲	Catalogue Number ▲	
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 ▲	Catalogue Number ▲	Catalogue Number ▲	Catalogue Number ▲	Catalogue Number ▲	
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	–	AL250JD #3/0–350 kcmil Al or Cu
225	1125	2250	JDL26225	JGL26225	JJL26225	JLL26225	–	
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	AL250JD #3/0–350 kcmil Al or Cu
225	1125	2250	JDL36225	JGL36225	JJL36225	JLL36225	JRL36225	
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.

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

H- and J-frame Termination Options

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 DE3-44, DE3-40

Plug-in

Drawout

Rear Connected

I-Line®

Accessories - DE3-389
Dimensions - DE3-54
Enclosures - DE3-55

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
				D	G	J▲	L▲	R▲	
				$ Price					
Type	Function	Trip Unit		Catalogue Number♦	Catalogue Number♦	Catalogue Number♦	Catalogue Number♦	Catalogue Number♦	
600 Vac, 50/60 Hz, 3P									
Micrologic Standard	LI	3.2△	60 A 100 A 150 A	**HDL36060U31X** **HDL36100U31X** **HDL36150U31X**	**HGL36060U31X** **HGL36100U31X** **HGL36150U31X**	**HJL36060U31X** **HJL36100U31X** **HJL36150U31X**	**HLL36060U31X** **HLL36100U31X** **HLL36150U31X**	**HRL36060U31X** **HRL36100U31X** **HRL36150U31X**	AL150HD★
			250 A	**JDL36250U31X**	**JGL36250U31X**	**JJL36250U31X**	**JLL36250U31X**	**JRL36250U31X**	AL250JD▼
Micrologic Standard	LSI	3.2S△	60 A 100 A 150 A	**HDL36060U33X** **HDL36100U33X** **HDL36150U33X**	**HGL36060U33X** **HGL36100U33X** **HGL36150U33X**	**HJL36060U33X** **HJL36100U33X** **HJL36150U33X**	**HLL36060U33X** **HLL36100U33X** **HLL36150U33X**	**HRL36060U33X** **HRL36100U33X** **HRL36150U33X**	AL150HD★
			250 A	**JDL36250U33X**	**JGL36250U33X**	**JJL36250U33X**	**JLL36250U33X**	**JRL36250U33X**	AL250JD▼
Micrologic Ammeter	LSI	5.2A	60 A 100 A 150 A	**HDL36060U43X** **HDL36100U43X** **HDL36150U43X**	**HGL36060U43X** **HGL36100U43X** **HGL36150U43X**	**HJL36060U43X** **HJL36100U43X** **HJL36150U43X**	**HLL36060U43X** **HLL36100U43X** **HLL36150U43X**	**HRL36060U43X** **HRL36100U43X** **HRL36150U43X**	AL150HD★
			250 A	**JDL36250U43X**	**JGL36250U43X**	**JJL36250U43X**	**JLL36250U43X**	**JRL36250U43X**	AL250JD▼
Micrologic Energy	LSI	5.2E	60 A 100 A 150 A	**HDL36060U53X** **HDL36100U53X** **HDL36150U53X**	**HGL36060U53X** **HGL36100U53X** **HGL36150U53X**	**HJL36060U53X** **HJL36100U53X** **HJL36150U53X**	**HLL36060U53X** **HLL36100U53X** **HLL36150U53X**	**HRL36060U53X** **HRL36100U53X** **HRL36150U53X**	AL150HD★
			250 A	**JDL36250U53X**	**JGL36250U53X**	**JJL36250U53X**	**JLL36250U53X**	**JRL36250U53X**	AL250JD▼
Micrologic Ammeter	LSIG	6.2A	60 A 100 A 150 A	**HDL36060U44X** **HDL36100U44X** **HDL36150U44X**	**HGL36060U44X** **HGL36100U44X** **HGL36150U44X**	**HJL36060U44X** **HJL36100U44X** **HJL36150U44X**	**HLL36060U44X** **HLL36100U44X** **HLL36150U44X**	**HRL36060U44X** **HRL36100U44X** **HRL36150U44X**	AL150HD★
			250 A	**JDL36250U44X**	**JGL36250U44X**	**JJL36250U44X**	**JLL36250U44X**	**JRL36250U44X**	AL250JD▼
Micrologic Energy	LSIG	6.2E	60 A 100 A 150 A	**HDL36060U54X** **HDL36100U54X** **HDL36150U54X**	**HGL36060U54X** **HGL36100U54X** **HGL36150U54X**	**HJL36060U54X** **HJL36100U54X** **HJL36150U54X**	**HLL36060U54X** **HLL36100U54X** **HLL36150U54X**	**HRL36060U54X** **HRL36100U54X** **HRL36150U54X**	AL150HD★
			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. LSI trip unit has fixed long time and short time delays.
□ For applications requiring communications see page DE3-48.

H-Frame
Micrologic™ Trip Unit

H- and J-Frame Termination Options

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.

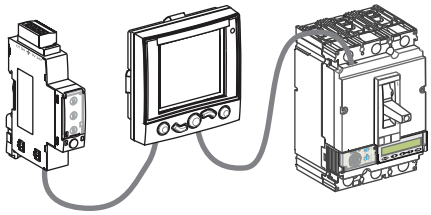
H D L 3 6 0 1 5 T
└Termination Letter

◊ For N and D details, refer to page DE3-44. For S details, refer to page DE3-40.

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

QBL 2P
70–250 A

QBL 3P
70–250 A

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) 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	For factory-installed termination, place termination letter in the third block of the circuit breaker catalog number. **QGL3220** └Termination Letter

– 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 DE3-54
Enclosures DE3-55

PowerPact™ Circuit Breakers

L-Frame Circuit Breakers

Class **611** / Refer to Catalogs: **0611CT1001**

L-Frame 600 A Circuit Breakers with Lugs and Factory-Sealed Electronic Trip Units Suitable for Reverse Connection▲□

Electronic Trip Unit			Sensor Rating	Interrupting Rating (2nd Letter of Catalog Number)					Terminal
				D	G	J ♦	L ♦	R ♦	
Type	Function	Trip Unit		Catalogue Number ■	Catalogue Number ■	Catalogue Number ■	Catalogue Number ■	Catalogue Number ■	
600 Vac, 50/60 Hz, 3P									
Micrologic Standard	LI	3.3★	250 A	**LDL36250U31X**	**LGL36250U31X**	**LJL36250U31X**	**LLL36250U31X**	**LRL36250U31X**	AL400L61K3▼
			400 A 600 A	**LDL36400U31X** **LDL36600U31X**	**LGL36400U31X** **LGL36600U31X**	**LJL36400U31X** **LJL36600U31X**	**LLL36400U31X** **LLL36600U31X**	**LRL36400U31X** **LRL36600U31X**	AL600LS52K3△
Micrologic Standard	LSI	3.3S★	250 A	**LDL36250U33X**	**LGL36250U33X**	**LJL36250U33X**	**LLL36250U33X**	**LRL36250U33X**	AL400L61K3▼
			400 A 600 A	**LDL36400U33X** **LDL36600U33X**	**LGL36400U33X** **LGL36600U33X**	**LJL36400U33X** **LJL36600U33X**	**LLL36400U33X** **LLL36600U33X**	**LRL36400U33X** **LRL36600U33X**	AL600LS52K3△
Micrologic Ammeter	LSI	5.3A	400 A 600 A	**LDL36400U43X** **LDL36600U43X**	**LGL36400U43X** **LGL36600U43X**	**LJL36400U43X** **LJL36600U43X**	**LLL36400U43X** **LLL36600U43X**	**LRL36400U43X** **LRL36600U43X**	AL600LS52K3△
Micrologic Energy	LSI	5.3E	400 A 600 A	**LDL36400U53X** **LDL36600U53X**	**LGL36400U53X** **LGL36600U53X**	**LJL36400U53X** **LJL36600U53X**	**LLL36400U53X** **LLL36600U53X**	**LRL36400U53X** **LRL36600U53X**	
Micrologic Ammeter	LSIG	6.3A	400 A 600 A	**LDL36400U44X** **LDL36600U44X**	**LGL36400U44X** **LGL36600U44X**	**LJL36400U44X** **LJL36600U44X**	**LLL36400U44X** **LLL36600U44X**	**LRL36400U44X** **LRL36600U44X**	
Micrologic Energy	LSIG	6.3E	400 A 600 A	**LDL36400U54X** **LDL36600U54X**	**LGL36400U54X** **LGL36600U54X**	**LJL36400U54X** **LJL36600U54X**	**LLL36400U54X** **LLL36600U54X**	**LRL36400U54X** **LRL36600U54X**	
600 Vac, 50/60 Hz, 4P									
Micrologic Standard	LI	3.3	250 A	**LDL46250U31X**	**LGL46250U31X**	**LJL46250U31X**	**LLL46250U31X**	**LRL46250U31X**	AL400L61K4▼
			400 A 600 A	**LDL46400U31X** **LDL46600U31X**	**LGL46400U31X** **LGL46600U31X**	**LJL46400U31X** **LJL46600U31X**	**LLL46400U31X** **LLL46600U31X**	**LRL46400U31X** **LRL46600U31X**	AL600LS52K4△
Micrologic Standard	LSI	3.3S	250 A	**LDL46250U33X**	**LGL46250U33X**	**LJL46250U33X**	**LLL46250U33X**	**LRL46250U33X**	AL400L61K4▼
			400 A 600 A	**LDL46400U33X** **LDL46600U33X**	**LGL46400U33X** **LGL46600U33X**	**LJL46400U33X** **LJL46600U33X**	**LLL46400U33X** **LLL46600U33X**	**LRL46400U33X** **LRL46600U33X**	AL600LS52K4△
Micrologic Ammeter	LSI	5.3A	400 A 600 A	**LDL46400U43X** **LDL46600U43X**	**LGL46400U43X** **LGL46600U43X**	**LJL46400U43X** **LJL46600U43X**	**LLL46400U43X** **LLL46600U43X**	**LRL46400U43X** **LRL46600U43X**	AL600LS52K4△
Micrologic Energy	LSI	5.3E	400 A 600 A	**LDL46400U53X** **LDL46600U53X**	**LGL46400U53X** **LGL46600U53X**	**LJL46400U53X** **LJL46600U53X**	**LLL46400U53X** **LLL46600U53X**	**LRL46400U53X** **LRL46600U53X**	
Micrologic Ammeter	LSIG	6.3A	400 A 600 A	**LDL46400U44X** **LDL46600U44X**	**LGL46400U44X** **LGL46600U44X**	**LJL46400U44X** **LJL46600U44X**	**LLL46400U44X** **LLL46600U44X**	**LRL46400U44X** **LRL46600U44X**	
Micrologic Energy	LSIG	6.3E	400 A 600 A	**LDL46400U54X** **LDL46600U54X**	**LGL46400U54X** **LGL46600U54X**	**LJL46400U54X** **LJL46600U54X**	**LLL46400U54X** **LLL46600U54X**	**LRL46400U54X** **LRL46600U54X**	

▲ 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. LSI trip unit has fixed long time and short time delays.
▼ 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 communicatins see page DE3-48.

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.

L G L 3 6 6 0 0 U 4 4 X
└Termination Letter

◊ For N and D details, please refer to page DE3-44. For S details, please refer to page DE3-40.

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

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	Catalogue Number	Price	
2-pole, 600 Vac 50/60 Hz						
300 350 400 450 500 600	600 700 800 900 1000 1200	3000 3500 4000 4500 5000 6000	MGL26300 MGL26350 MGL26400 MGL26450 MGL26500 MGL26600	MJL26300 MJL26350 MJL26400 MJL26450 MJL26500 MJL26600		AL800M23K 3–3/0 through 500 kcmil Al/Cu
700 800	1400 1600	7000 8000	MGL26700 MGL26800	MJL26700 MJL26800		
3-pole, 600 Vac 50/60 Hz						
300 350 400 450 500 600	600 700 800 900 1000 1200	3000 3500 4000 4500 5000 6000	MGL36300 MGL36350 MGL36400 MGL36450 MGL36500 MGL36600	MJL36300 MJL36350 MJL36400 MJL36450 MJL36500 MJL36600		AL800M23K 3–3/0 through 500 kcmil Al/Cu
700 800	1400 1600	7000 8000	MGL36700 MGL36800	MJL36700 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
└ Termination Letter

M-Frame Interrupting Ratings (kA)

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

Accessories . . . . . page DE3-38
Optional Lugs . . . . . page DE3-41
Dimensions . . . . . page DE3-54
Enclosures . . . . . page DE3-56

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. ■	Catalogue Number ■	Catalogue Number ■	Price	Catalogue Number ■	
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
			800 A	PGL36080	PJL36080	PLL34080		PKL36080	
			1000 A	PGL36100	PJL36100	PLL34100		PKL36100	AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			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
			400	PGL36040U31A	PJL36040U31A	PLL34040U31A		PKL36040U31A	
			600	PGL36060U31A	PJL36060U31A	PLL34060U31A		PKL36060U31A	
			800	PGL36080U31A	PJL36080U31A	PLL34080U31A		PKL36080U31A	
			1000	PGL36100U31A	PJL36100U31A	PLL34100U31A		PKL36100U31A	AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			1200	PGL36120U31A	PJL36120U31A	PLL34120U31A		PKL36120U31A	
	LSI	5.0	250	PGL36025U33A	PJL36025U33A	PLL34025U33A		PKL36025U33A	AL800M23K (3) 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	AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			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
			400	PGL36040U41A	PJL36040U41A	PLL34040U41A		PKL36040U41A	
			600	PGL36060U41A	PJL36060U41A	PLL34060U41A		PKL36060U41A	
			800	PGL36080U41A	PJL36080U41A	PLL34080U41A		PKL36080U41A	
			1000	PGL36100U41A	PJL36100U41A	PLL34100U41A		PKL36100U41A	AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			1200	PGL36120U41A	PJL36120U41A	PLL34120U41A		PKL36120U41A	
	LSI	5.0A	250	PGL36025U43A	PJL36025U43A	PLL34025U43A		PKL36025U43A	AL800M23K (3) 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	AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			1200	PGL36120U43A	PJL36120U43A	PLL34120U43A		PKL36120U43A	
	LSIG	6.0A	250	PGL36025U44A	PJL36025U44A	PLL34025U44A		PKL36025U44A	AL800M23K (3) 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	AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			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
			400	PGL36040U63AE1	PJL36040U63AE1	PLL34040U63AE1		PKL36040U63AE1	
			600	PGL36060U63AE1	PJL36060U63AE1	PLL34060U63AE1		PKL36060U63AE1	
			800	PGL36080U63AE1	PJL36080U63AE1	PLL34080U63AE1		PKL36080U63AE1	
			1000	PGL36100U63AE1	PJL36100U63AE1	PLL34100U63AE1		PKL36100U63AE1	AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			1200	PGL36120U63AE1	PJL36120U63AE1	PLL34120U63AE1		PKL36120U63AE1	
	LSIG	6.0P	250	PGL36025U64AE1	PJL36025U64AE1	PLL34025U64AE1		PKL36025U64AE1	AL800M23K (3) 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	AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			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
			400	PGL36040U73AE1	PJL36040U73AE1	PLL34040U73AE1		PKL36040U73AE1	
			600	PGL36060U73AE1	PJL36060U73AE1	PLL34060U73AE1		PKL36060U73AE1	
			800	PGL36080U73AE1	PJL36080U73AE1	PLL34080U73AE1		PKL36080U73AE1	
			1000	PGL36100U73AE1	PJL36100U73AE1	PLL34100U73AE1		PKL36100U73AE1	AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			1200	PGL36120U73AE1	PJL36120U73AE1	PLL34120U73AE1		PKL36120U73AE1	
	LSIG	6.0H	250	PGL36025U74AE1	PJL36025U74AE1	PLL34025U74AE1		PKL36025U74AE1	AL800M23K (3) 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	AL1200P25K (4) 3/0 AWG–500 kcmil Al or Cu
			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 PGL36025**C**U31A. 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.

P G L 3 6 0 4 0 U 4 1 A
└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 DE3-27
Dimensions . . . . . Page DE3-54
Trip Unit Options . . . . . Page DE3-46
Optional Lugs . . . . . Page DE3-41
Alternate Rating Plugs . . . . . Page DE3-47
Enclosure . . . . . Page DE3-56
Accessories . . . . . Page DE3-38

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

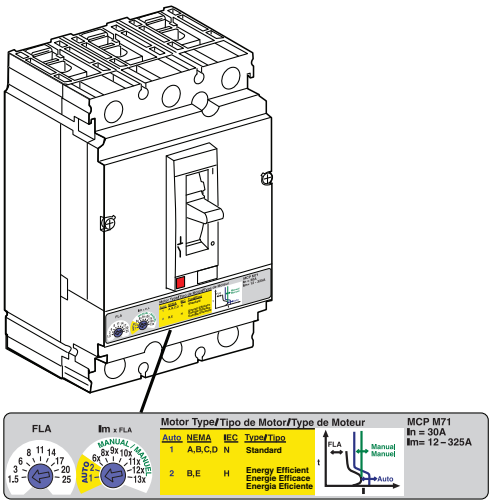
Electronic Trip Unit			Sensor Rating	G Interrupting ♦	J Interrupting ♦	L Interrupting ♦	K Interrupting ♦
Type	Function	Trip Unit		Catalogue Number ■	Catalogue Number ■	Catalogue Number ■	Catalogue Number ■
Basic Electronic Trip Unit (Not Interchangeable)	Fixed long-time, Adjustable Instantaneous	ET1.0I	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
			2500	RGF36250U31A	RJF36250U31A	RLF36250U31A	RKF36250U31A
			3000	RGF36300U31A	RJF36300U31A	RLF36300U31A	RKF36300U31A
	LSI	5.0	600	RGF36060U33A	RJF36060U33A	RLF36060U33A	RKF36060U33A
			800	RGF36080U33A	RJF36080U33A	RLF36080U33A	RKF36080U33A
			1000	RGF36100U33A	RJF36100U33A	RLF36100U33A	RKF36100U33A
			1200	RGF36120U33A	RJF36120U33A	RLF36120U33A	RKF36120U33A
			1600	RGF36160U33A	RJF36160U33A	RLF36160U33A	RKF36160U33A
			2000	RGF36200U33A	RJF36200U33A	RLF36200U33A	RKF36200U33A
			2500	RGF36250U33A	RJF36250U33A	RLF36250U33A	RKF36250U33A
			3000	RGF36300U33A	RJF36300U33A	RLF36300U33A	RKF36300U33A
Micrologic Interchangeable Ammeter Trip Unit	LI	3.0A	600	RGF36060U41A	RJF36060U41A	RLF36060U41A	RKF36060U41A
			800	RGF36080U41A	RJF36080U41A	RLF36080U41A	RKF36080U41A
			1000	RGF36100U41A	RJF36100U41A	RLF36100U41A	RKF36100U41A
			1200	RGF36120U41A	RJF36120U41A	RLF36120U41A	RKF36120U41A
			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
			2500	RGF36250U43A	RJF36250U43A	RLF36250U43A	RKF36250U43A
			3000	RGF36300U43A	RJF36300U43A	RLF36300U43A	RKF36300U43A
	LSIG	6.0A	600	RGF36060U44A	RJF36060U44A	RLF36060U44A	RKF36060U44A
			800	RGF36080U44A	RJF36080U44A	RLF36080U44A	RKF36080U44A
			1000	RGF36100U44A	RJF36100U44A	RLF36100U44A	RKF36100U44A
			1200	RGF36120U44A	RJF36120U44A	RLF36120U44A	RKF36120U44A
			1600	RGF36160U44A	RJF36160U44A	RLF36160U44A	RKF36160U44A
			2000	RGF36200U44A	RJF36200U44A	RLF36200U44A	RKF36200U44A
			2500	RGF36250U44A	RJF36250U44A	RLF36250U44A	RKF36250U44A
			3000	RGF36300U44A	RJF36300U44A	RLF36300U44A	RKF36300U44A
Micrologic Interchangeable Power Trip Unit	LSI	5.0P	600	RGF36060U63AE1	RJF36060U63AE1	RLF36060U63AE1	RKF36060U63AE1
			800	RGF36080U63AE1	RJF36080U63AE1	RLF36080U63AE1	RKF36080U63AE1
			1000	RGF36100U63AE1	RJF36100U63AE1	RLF36100U63AE1	RKF36100U63AE1
			1200	RGF36120U63AE1	RJF36120U63AE1	RLF36120U63AE1	RKF36120U63AE1
			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
			1000	RGF36100U64AE1	RJF36100U64AE1	RLF36100U64AE1	RKF36100U64AE1
			1200	RGF36120U64AE1	RJF36120U64AE1	RLF36120U64AE1	RKF36120U64AE1
			1600	RGF36160U64AE1	RJF36160U64AE1	RLF36160U64AE1	RKF36160U64AE1
			2000	RGF36200U64AE1	RJF36200U64AE1	RLF36200U64AE1	RKF36200U64AE1
			3000	RGF36250U64AE1	RJF36250U64AE1	RLF36250U64AE1	RKF36250U64AE1
			3000	RGF36300U64AE1	RJF36300U64AE1	RLF36300U64AE1	RKF36300U64AE1
Micrologic Interchangeable Harmonic Trip Unit	LSI	5.0H	600	RGF36060U73AE1	RJF36060U73AE1	RLF36060U73AE1	RKF36060U73AE1
			800	RGF36080U73AE1	RJF36080U73AE1	RLF36080U73AE1	RKF36080U73AE1
			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
			2500	RGF36250U74AE1	RJF36250U74AE1	RLF36250U74AE1	RKF36250U74AE1
			3000	RGF36300U74AE1	RJF36300U74AE1	RLF36300U74AE1	RKF36300U74AE1

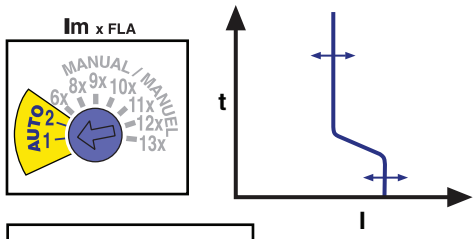
Note: R-frame circuit breakers can be bus- or cable-connected. For cable connections, optional terminal pad kit RLTB or equivalent bus structure is required. Each RLTB kit contains terminal pads for one end of the circuit breaker only and has provisions for mounting a maximum of 8 lugs per phase (9 lugs 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 DE3-41–DE3-43.

▲ 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 RGF36250**C**U31A. 100% ratings are not available for circuit breakers with ET1.0 Trip Units.

♦ See page DE3-26 for interrupting ratings table.





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

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)	R Interrupting (See SCCR Table Below)
					Cat. No.	Cat. No.	Cat. No.
H-frame	30 A	1.5–25 A	9–325 A	M71	HJL36030M71	HLL36030M71	HRL36030M71
	50 A	14–42 A	84–546 A	M72	HJL36050M72	HLL36050M72	HRL36050M72
	100 A	30–80 A	180–1040 A	M73	HJL36100M73	HLL36100M73	HRL36100M73
	150 A	58–130 A	348–1690 A	M74	HJL36150M74	HLL36150M74	HRL36150M74
J-frame	250 A	114–217 A	684–2500 A	M75	JJL36250M75	JLL36250M75	JRL36250M75

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

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			
				1/2	0.9 A		
			1/2		1.1 A		
				3/4	1.3 A		
			3/4	1	1.7 A		
			1		2.1 A		
		1/2			2.2 A		
				1-1/2	2.4 A		
	1/2				2.5 A		
				2	2.7 A		
			1-1/2		3 A		
00		3/4			3.2 A		
			2		3.4 A		
	3/4				3.7 A		
				3	3.9 A		
		1			4.2 A		
	1				4.8 A	HJL36030M71 and HLL36030M71 1/2–10 hp	
			3		4.8 A		
		1-1/2			6 A		
				5	6.1 A		
		2			6.8 A		
	1-1/2				6.9 A		
			5		7.6 A		
					7.8 A		
0	2			7-1/2	9 A		
		3			9.6 A		
	3		7-1/2	10	11 A		
			10		14 A		
		5			15.2 A		
				15	17 A		
1	5		15		17.5 A		
		7-1/2			21 A		
				20	22 A		HJL36050M72 and HLL36050M72 10–25 hp
	7-1/2				25.3 A		
			20	25	27 A		
2		10			28 A		
				30	32 A		
	10				32.2 A		
			25		34 A		
			30		40 A		
				40	41 A		
		15			42 A		
					48.3 A	HJL36100M73 and HLL36100M73 15–50 hp	
	15		40		52 A		
3		20		50	54 A		
				60	62 A		
	20		50		65 A		
		25			68 A		
			60	75	77 A		
	25				78.2 A		
		30			80 A		HJL36150M74 and HLL36150M74 30–100 hp
					92 A		
	30		75		96 A		
4				100	99 A		
		40			104 A		
	40				120 A		
			100		124 A		
				125	125 A		
		50			130 A		
				150	144 A		
	50				150 A	JJL36250M75 and JLL36250M75 50–150 hp	
5		60			154 A		
			125		156 A		
	60				177.1 A		
			150		180 A		
		75		200	192 A		
	75				221 A		
			200		240 A		
		100			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)	250 Vdc Multiplier	Cat. No.
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.	Cat. No.	Cat. No.	Cat. No.
PowerPact L-Frame★	400	1.3 M	500–1200%	LGL36400M37X	LJL36400M37X	LLL36400M37X	LRL36400M37X
	600		500–1200%	LGL36600M37X	LJL36600M37X	LLL36600M37X	LRL36600M37X
PowerPact PJL, 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 solutionss: 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

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.	Cat. No.	Cat. No.	Cat. No.
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		114–217	5-13 x FLA	JGL36250M38X	JJL36250M38X	JLL36250M38X	JRL36250M38X
	L-Frame	400	2.3 M	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.

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

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

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

AWG kcmil	Conduit 3 W	
	THHN THWN XHHW	THW
14	1/2 in.	N/A
12	1/2 in.	N/A
10	1/2 in.	N/A
8	1/2 in.▲	N/A
6	3/4 in.	1 in.
4	1 in.	1 in.
3	1 in.	1-1/4 in.
2	1 in.	1-1/4 in.
1	1-1/4 in.	1-1/2 in.
1/0	1-1/4 in.	1-1/2 in.
2/0	1-1/2 in.	1-1/2 in.
3/0	1-1/2 in.	2 in.
4/0	2 in.	2 in.
250	2 in.	2 in.
300	2 in.	2-1/2 in.
350	2-1/2 in.	2-1/2 in.
500	3 in.	3 in.
(2) 3/0	(2) 2-1/2 in.	(2) 2 in.
(2) 4/0	(2) 2 in.	(2) 2 in.
(2)300	(2) 2 in.	(2) 2-1/2 in.
(2) 350	(2) 2-1/2 in.	(2) 2-1/2 in.
(3) 300	(3) 2 in.	(3) 2-1/2 in.

▲ 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.

J-Frame Switch

L-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.

B-Frame PowerPact™ Automatic Molded Case Switches, 600/347 Vac

Circuit Breaker	Poles	Ampere Rating	D Withstand		G Withstand		J Withstand		Terminal	Wire Range
			Cat. No.	Trip Point	Cat. No.	Trip Point	Cat. No.	Trip Point		
B-Frame	2▲	125 A	BDL26000S12	1625 A	BGL26000S12	1625 A	BJL26000S12	1625 A	LV426973	14–2/0 AWG Cu
	3	125 A	BDL36000S12	1625 A	BGL36000S12	1625 A	BJL36000S12	1625 A	LV426974	14–2/0 AWG Cu

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.	Trip Point	Cat. No.	Trip Point	Cat. No.	Trip Point		
H- and J-Frame	2	150 A	HGL26000S15▲	2250A	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
	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
L-Frame	3	400 A	LGL36000S40X	4800 A	LLL36000S40X	4800 A	LRL36000S40X	4800 A	AL600LS52K3	(2) 2/0 AWG–500 kcmil Al/Cu
		600 A	LGL36000S60X	6600A	LLL36000S60X	6600 A	LRL36000S60X	6600 A	AL600LS52K3	
	4	400 A	LGL46000S40X	4800 A	LLL46000S40X	4800 A	LRL46000S40X	4800 A	AL600LS52K4	(2) 2/0 AWG–500 kcmil Al/Cu
		600 A	LGL46000S60X	6600A	LLL46000S60X	6600 A	LRL46000S60X	6600 A	AL600LS52K4	

▲ 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.	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.	Trip Point	Cat. No.	Trip Point	Cat. No.	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		
		1000 A	PJL36000S10	10 kA	PKL36000S10	24 kA	PLL34000S10♦	10 kA	AL1200P25K	(4) 3/0 AWG–500 kcmil Al or Cu
		1200 A	PJL36000S12	10 kA	PKL36000S12	24 kA	PLL34000S12♦	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 DE3-43.	
		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.

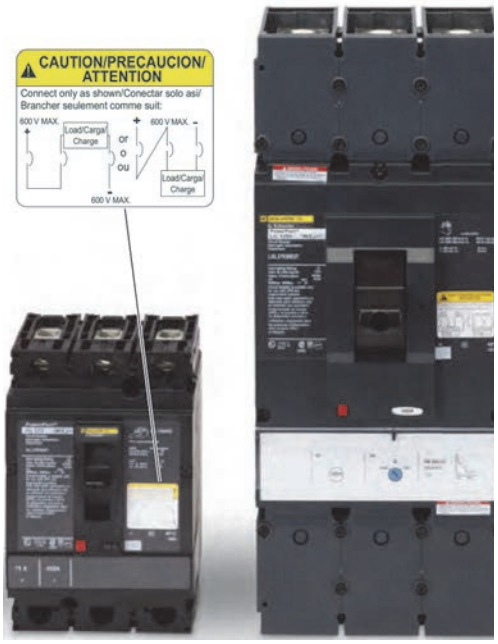
B-**, H-, J-, L- P-, and R-Frame Withstand Ratings▼

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

**' B-Frame withstand rating at 600Y/347Vac



Connection Diagram

Termination Options

Termination Letter	Termination Option
L	Lugs Both Ends
F	No Lugs (bus bar connection)
S	Rear Connection
JGL37125D81 - Place termination letter in third block of circuit breaker catalog number	

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 (uninterruptable power supplies).

This two-level voltage rating allows these circuit breakers to be applied to battery sources having a short-circuit availability of 20,000 amperes or 50,000 amperes for PowerPact H-, J-, and L-Frame DC circuit breakers at 500 Vdc.

PowerPact H-frame DC circuit breakers have a fixed magnetic trip system. PowerPact J- and L-frame DC 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.

PowerPact H- and J-frame 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 figure for example of diagram.)

PowerPact L-frame circuit breakers are CSA/UL Listed for the interrupting ratings shown with two or three poles connected in series (series connection is external to circuit breaker).

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

DC Molded Case Circuit Breakers

Ampere Rating	Circuit Breaker Cat. No.	Fixed Magnetic Trip —DC Amperes	Adjustable Magnetic Trip Range—DC Amperes▲		Interrupting Rating @ 500 Vdc
			Low	High	
30 A	HGL37030D87	450	—	—	20 k AIR
50 A	HGL37050D87	450	—	—	
70 A	HGL37070D87	450	—	—	
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	
250 A	JGL37250D82	—	500	850	20 k AIR
300 A	LGL37030D27	—	750	1500	20 k AIR
350 A	LGL37035D29	—	875	1750	
400 A	LGL37040D30	—	1000	2000	
450 A	LGL37045D31	—	1125	2250	
500 A	LGL37050D32	—	1250	2500	
600 A	LGL37060D33	—	1500	3000	
700 A	LGL47070D35	—	1750	3500	
800 A	LGL47080D36	—	2000	4000	
900 A	LGL47090D86	—	2250	4500	
1000 A	LGL47100D40	—	2500	5000	
1200 A	LGL47120D42	—	3000	6000	
30 A	HLL37030D87	450	—	—	50 k AIR
50 A	HLL37050D7	450	—	—	
70 A	HLL37070D87	450	—	—	
100 A	JLL37100D81	—	400	600	50 k AIR
125 A	JLL37125D81	—	400	600	
150 A	JLL37150D81	—	400	600	
175 A	JLL37175D81	—	400	600	
200 A	JLL37200D82	—	500	850	
225 A	JLL37225D82	—	500	850	
250 A	JLL37250D82	—	500	850	
300 A	LLL37030D27	—	750	1500	50 k AIR
350 A	LLL37035D29	—	875	1750	
400 A	LLL37040D30	—	1000	2000	
450 A	LLL37045D31	—	1125	2250	
500 A	LLL37050D32	—	1250	2500	
600 A	LLL37060D33	—	1500	3000	
700 A	LLL47070D35	—	1750	3500	
800 A	LLL47080D36	—	2000	4000	
900 A	LLL47090D86	—	2250	4500	
1000 A	LLL47100D40	—	2500	5000	
1200 A	LLL47120D42	—	3000	6000	

▲ 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.

Accessories . . . . . Page DE3-38
Optional Lugs . . . . . Page DE3-41
Dimensions . . . . . .Pages DE3-53 and DE3-54
Enclosures . . . . . .Pages DE3-55–DE3-57

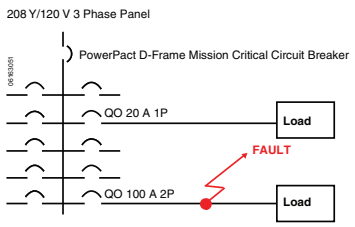
Masterpact NW DC Circuit Breaker

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 Breakers

Ampere Rating	Circuit Breaker Cat. No.	Interrupting Rating 500 Vdc (max 600 Vdc unloaded)
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.

The PowerPact™ J- and L-Frame Mission Critical circuit breakers deliver high levels of selective coordination in a flexible design that can be easily configured for a variety of applications. Tested to be selectively coordinated with the QO™ family of miniature circuit breakers and the ED, EG, and EJ circuit breakers, this solution provides peace of mind when power availability is critical.

An electronic trip unit provides adjustable long-time settings in four sensor sizes, allowing coverage from 70 A through 600 A on a 120–240, 208Y/120, 240, 480Y/277, and 480 V systems.

PowerPact J- and L-Frame Mission Critical Circuit Breakers

Ratings	Available Configurations
UL 489 Listed CSA Certified Voltage: 480 V	I-Line mounting Main circuit breaker in NQ and NF panelboards Unit mount for OEM users Plug-in base for OEM users Drawout base ofr OEM users

J-Frame 250 A Electronic Trip Mission Critical Circuit Breakers (480/277 Vac) with Factory Sealed Trip Units Suitable for Reverse Connection▲

Electronic Trip Unit Type	Trip Function	Trip Unit	Continuous Current	D Interrupting	G Interrupting	J Interrupting	L Interrupting	Terminal
				Cat. No.	Cat. No.	Cat. No.	Cat. No.	
Standard	LI	3.2 W	250	JDL34250WU31X	JGL34250WU31X	JJL34250WU31X	JLL34250WU31X	AL250JD■
Standard	LSI	3.2S-W	250	JDL34250WU33X	JGL34250WU33X	JJL34250WU33X	JLL34250WU33X	AL250JD■
High Perf. Ammerter	LSI	5.2A-W	250	JDL34250WU43X	JGL34250WU43X	JJL34250WU43X	JJLL34250WU43X	AL250JD■
High Perf. Energy	LSI	5.2E-W	250	JDL34250WU53X	JGL34250WU53X	JJL34250WU53X	JLL34250WU53X	AL250JD■
High Perf. Ammerter	LSIG	6.2A-W	250	JDL34250WU44X	JGL34250WU44X	JJL34250WU44X	JLL34250WU44X	AL250JD■
High Perf. Energy	LSIG	6.2E-W	250	JDL34250WU54X	JGL34250WU54X	JJL34250WU54X	JLL34250WU54X	AL250JD■

▲ Standard rated (80%). Not available in 100% rated.
■ AL250JD terminal wire range is (1) 3/0 AWG–350 kcmil Al or Cu.

L-Frame 600 A Electronic Trip Mission Critical Circuit Breakers (480/277 Vac) with Factory Sealed Trip Units Suitable for Reverse Connection▲

Electronic Trip Unit Type	Trip Function	Trip Unit	Continuous Current	D Interrupting Cat. No.	G Interrupting Cat. No.	J Interrupting Cat. No.	L Interrupting Cat. No.	Terminal
480/277 Vac, 50/60 Hz, 3P								
Standard	LI	3.3 W	250	LDL34250WU31X	LGL34250WU31X	LJL34250WU31X	LLL34250WU31X	AL400L61K3■
			400 600	LDL34400WU31X LDL34600WU31X	LGL34400WU31X LGL34600WU31X	LJL34400WU31X LJL34600WU31X	LLL34400WU31X LLL34300WU31X	AL600LS52K3♦
Standard	LSI	3.3S-W	250	LDL34250WU33X	LGL34250WU33X	LJL34250WU33X	LLL34250WU33X	AL400L61K3■
			400 600	LDL34400WU33X LDL34600WU33X	LGL34400WU33X LGL34600WU33X	LJL34400WU33X LJL34600WU33X	LLL34400WU33X LLL34300WU33X	AL600LS52K3♦
High Perf. Ammeter	LSI	5.3A-W	400 600	LDL34400WU43X LDL34600WU43X	LGL34400WU43X LGL34600WU43X	LJL34400WU43X LJL34600WU43X	LLL34400WU43X LLL34300WU43X	AL600LS52K3♦
High Perf. Energy	LSI	5.3E-W	400 600	LDL34400WU53X LDL34600WU53X	LGL34400WU53X LGL34600WU53X	LJL34400WU53X LJL34600WU53X	LLL34400WU53X LLL34300WU53X	AL600LS52K3♦
High Perf. Ammeter	LSIG	6.3A-W	400 600	LDL34400WU44X LDL34600WU44X	LGL34400WU44X LGL34600WU44X	LJL34400WU44X LJL34600WU44X	LLL34400WU44X LLL34300WU44X	AL600LS52K3♦
High Perf. Energy	LSIG	6.3E-W	400 600	LDL34400WU54X LDL34600WU54X	LGL34400WU54X LGL34600WU54X	LJL34400WU54X LJL34600WU54X	LLL34400WU54X LLL34300WU54X	AL600LS52K3♦
480/277 Vac, 50/60 Hz, 4P								
Standard	LI	3.3 W	250	LDL44250WU31X	LGL44250WU31X	LJL44250WU31X	LLL44250WU31X	AL400L61K4■
			400 600	LDL44400WU31X LDL44600WU31X	LGL44400WU31X LGL44600WU31X	LJL44400WU31X LJL44600WU31X	LLL44400WU31X LLL44300WU31X	AL600LS52K4♦
Standard	LSI	3.3S-W	250	LDL44250WU33X	LGL44250WU33X	LJL44250WU33X	LLL44250WU33X	AL400L61K4■
			400 600	LDL44400WU33X LDL44600WU33X	LGL44400WU33X LGL44600WU33X	LJL44400WU33X LJL44600WU33X	LLL44400WU33X LLL44300WU33X	AL600LS52K4♦
High Perf. Ammeter	LSI	5.3A-W	400 600	LDL44400WU43X LDL44600WU43X	LGL44400WU43X LGL44600WU43X	LJL44400WU43X LJL44600WU43X	LLL44400WU43X LLL44300WU43X	AL600LS52K4♦
High Perf. Energy	LSI	5.3E-W	400 600	LDL44400WU53X LDL44600WU53X	LGL44400WU53X LGL44600WU53X	LJL44400WU53X LJL44600WU53X	LLL44400WU53X LLL44300WU53X	AL600LS52K4♦
High Perf. Ammeter	LSIG	6.3A-W	400 600	LDL44400WU44X LDL44600WU44X	LGL44400WU44X LGL44600WU44X	LJL44400WU44X LJL44600WU44X	LLL44400WU44X LLL44300WU44X	AL600LS52K4♦
High Perf. Energy	LSIG	6.3E-W	400 600	LDL44400WU54X LDL44600WU54X	LGL44400WU54X LGL44600WU54X	LJL44400WU54X LJL44600WU54X	LLL44400WU54X LLL44300WU54X	AL600LS52K4♦

▲ 250A and 400A MCCB are 100% rated. 600A MCCB are standard (80%) rated.
■ AL400L61K3 terminal wire ranges are (1) #2 AWG–500 kcmil Al or (1) #2 AWG–600 kcmil Cu.
♦ AL600LS52K3 terminal wire ranges are (2) 2/0 AWG–500 kcmil Al or Cu.

J- and L-Frame Termination Options

Termination Letter

A = I-Line (See Section 9)
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.

J G L 3 6 2 5 0
└Termination Letter


Plug-in


Drawout


Rear Connected

▲ Add TS suffix for circuit breaker without terminal nut kit.
■ For N and D termination please refer to page DE3-44. For S termination please refer to page DE3-40.

J- and L-Frame Interrupting Ratings

Voltage	Interrupting Rating			
	D	G	J	L
240 Vac	25 kA	65 kA	100 kA	125 kA
480 Vac	18 kA	35 kA	65 kA	100 kA

Electrical Accessories

Accessory	Description		Rated Voltage		B-, H-, J-, and L-Frame: Factory-Installed Cat. Suffix	B-Frame: Field-Installable Cat. No.	B-Frame: Field-Installable Pre-Wired Cat. No.	H- and J-Frame: Field-Installable Cat. No.	L-Frame: Field-Installable Cat. No.	M-, P-, and R-Frame: Factory Installed Cat. Suffix	M-, P-, and R-Frame: Field-Installable Cat. No.
Auxiliary and Alarm Switches (OF, SD, SDE)   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	LV426950	LV426951	S29450	S29450	AA	S29450
			2 auxiliary switch (OF) 2a2b		AB	—	—	2x S29450	2x S29450	AB	2x S29450
			3 auxiliary switch (OF) 3a3b		AC	—	—	—	3x S29450	AC	3x S29450
			Alarm Switch (SD) 1a1b		BC	LV426950	LV426952	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	—	—	—
Shunt Trip (MX)  B-Frame  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	LV426841	LV426861	S29384	S29384	SK	S33659
			48		SL	LV426842	LV426862	S29385	S29385	SL	S33660
			110-130		SA	LV426843	LV426863	S29386	S29386	SA	S33661
			220-240		—	—	—	—	—	SC	S33662
			208-277		SD	LV426844	LV426864	S29387	S29387	SD	S33663
			380-480		SH	LV426846	LV426866	S29388	S29388	SH	S33664
			525-600		SJ	—	—	S29389	S29389	—	—
		DC	12		SN	—	—	S29382	S29382	SN	S33658
			24		SO	LV426841	LV426861	S29390	S29390	SK	S33659
			30		SU	—	—	S29391	S29391	SK	S33659
			48		SP	LV426842	LV426862	S29392	S29392	SL	S33660
			60		SV	—	—	S29383	S29383	SL	S33660
			125		SR	LV426843	LV426863	S29393	S29393	SA	S33661
			250		SS	LV426844	LV426864	S29394	S29394	SC	S33662
Undervoltage Trip (MN)  H-, J-, and L-Frame	Instantaneously opens the circuit breaker when the under-voltage trip supply voltage drops to a value between 35% and 70% of its rated voltage. Closing is allowed when the supply voltage of the undervoltage trip reaches 85% of rated voltage.	AC	24		UK	LV426801	LV426821	S29404	S29404	UK	S33668
			48		UL	LV426802	LV426822	S29405	S29405	UL	S33669
			110-130		UA	LV426803	LV426823	S29406	S29406	UA	S33670
			220-240		—	LV426804	LV426824	—	—	UC	S33671
			208-277		UD	LV426805	LV426825	S29407	S29407	—	—
			380-415		UF	LV426806	LV426826	—	—	—	—
			380-480		UH	LV426807	LV426827	S29408	S29408	UH	S33673
			525-600		UJ	—	—	S29409	S29409	—	—
		DC	12		UN	—	—	S29402	S29402	—	—
			24		UO	LV426801	LV426821	S29410	S29410	UK	S33668
			30		UU	—	—	S29411	S29411	UK	S33668
			48		UP	LV426802	LV426822	S29412	S29412	UL	S33669
			60		UV	—	—	S29403	S29403	UL	S33669
			125		UR	LV426803	LV426823	S29413	S29413	UA	S33670
			250		US	LV426815	LV426835	S29414	S29414	UC	S33671
Time Delay Unit 	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▲	S33680▲	—	S33680▲
			100-130		—	S33681▲	—	S33681▲	S33681▲	—	S33681▲
			220-250		—	S33682▲	—	S33682▲	S33682▲	—	S33682▲
			380-480		—	—	—	—	—	—	S33683▲
	Undervoltage trip with externally mounted non-adjustable time delay unit of 0.25 sec before circuit breaker trips.	AC/DC	48		—	S29426▲	—	S29426▲	S29426▲	—	—
			100-130		—	—	—	—	—	—	S33684▲
			200-250		—	—	—	—	—	—	S33685▲
			220-240		—	S29427▲	—	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.
★ Not available on electrically operated P-frame.

PowerPact™ Circuit Breaker Accessories

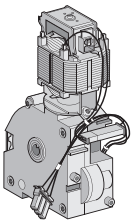
Motor Operators and Rotary Handles

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

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

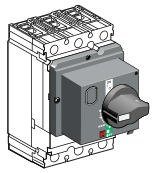
Description		Rated Voltage		Factory Installed Cat. No. Suffix	Field–Installable Kit		
					H-Frame▲	J-Frame	L-Frame 600 A
					Cat. No.	Cat. No.	Cat. No.
 Motor Operator	Standard motor for electrically-operated circuit breakers■	AC	48-60	ML	S29440	S31548	S432639
			110-130	MA	S29433	S31540	S432640
			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
	Communicating motor for electrically-operated circuit breakers♦	AC	220-240	NC	S429441	S431549	S432652
	Locking device	Mounting hardware		—	—	—	S32649
		Ronis lock		—	S41940	S41940	S41940
		Profalux lock		—	S42888	S42888	S42888
		Mounting hardware plus Ronis lock		—	S429449	S429449	—
	Operations counter			—	—	—	S32648
	Adapter for I-Line circuit breaker			—	S37420	S37420	—

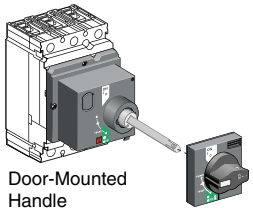
Spring-Charging Motors for Electrically-Operated P-Frame Circuit Breakers

Description		Rated Voltage		Factory Installed	P-Frame (For Field-replacement Only)	Replacement Coils
				Cat. No. Suffix	Spring Charging Motor Cat. No.	Opening/Closing Coil Cat. No.
 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
		DC	24-30	MO	S47390	S33659
			48-60	MV	S47391	S33660
			110-130	MR	S47392	S33661
			200-250	MS	S47393	S33662
	Communicating motor mechanism for electrically operated circuit breakers. Factory-installed includes motor and opening/closing coils.	AC	48	NL	S47391	S33034
			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	B-Frame		H- and J-Frame▲		L-Frame		P-Frame
			Factory Installed Cat. No. Suffix	Field Installable Cat. No.	Factory Installed Cat. No. Suffix	Field Installable Cat. No.	Factory Installed Cat. No. Suffix	Field nstallable Cat. No.	Factory Installed Cat. No. Suffix
Direct Mounted	Standard black handle	Operating mechanism kit	RD10	LV426930	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	RD12	S32597 +S32605	—
		Two early-make switches	—	—	RD13	S29337 +S29346	RD13	S32597 +S29346	—
	Red handle on yellow bezel	Operating mechanism kit	RD20	LV426931	RD20	S29339	RD20	S32599	—
		One early-break switch	—	—	RD22	S29339 +S29345	RD22	S32599 +S32605	—
		Two early-make switches	—	—	RD23	S29339 +S29346	RD23	S32599 +S29346	—
	MCC conversion accessory		—		—	S429341	—	S32606	—
	CNOMO conversion accessory		—	—	—	—	—	S32602	—
Door Mounted	Standard black handle	Operating mechanism kit	RE10	LV426932	RE10	S29338	RE10	S32598	RE10
	Standard black handle with:	Two early-break and two early make switches	—	—	—	—	—	—	RE16
		Two early make switches		—	RE13	S29338 +S29346	RE13	S32598 +S29346	—
	Red handle on yellow bezel	Operating mechanism kit	RE20	LV426933	RE20	S29340	RE20	S32600	—
Rotary Handle Replacement Kit			—	—	—	—	—	—	S33875
Telescoping			—	—	RT10	S29343	RT10	S32603	—
Accessories	Key lock adapter		—	—	—	S429344	—	S32604	—
	Key locks	Ronis 1351.500	—	—	—	S41940	—	S41940	—
		Profalux KS5 B24 D4Z	—	—	—	S42888	—	S42888	—
		2 Ronis keylocks with 1 key	—	—	—	S41950	—	S41950	—
		2 Profalux keylocks with 1 key	—	—	—	S42878	—	S42878	—
	Indication Auxiliary Switch	One early-break switch	—	—	—	S29445	—	S32605	—
		Two early-make switches	—	—	—	S29346	—	S29346	—


Direct-Mounted handle


Door-Mounted Handle

▲ 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 DE3-48 for ordering information.

PowerPact™ Circuit Breaker Accessories

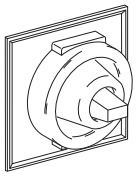
Locks, Installation Accessories, and Rear Connections

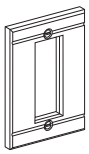
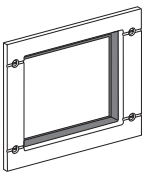
Class **0611, 612** /
Refer to Catalogs **0611CT1001**, **0612CT0101**

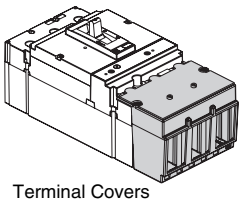
Locks, Interlocking

Device	Description		B-Frame		H- and J-Frame		Q-Frame		L-Frame		M- and P-Frame		R-Frame	
			Factory Installed Cat. No. Suffix	Field-Installed Cat. No.	Factory Installed Cat. No. Suffix	Field-Installed Cat. No.	Factory Installed Cat. No. Suffix	Field-Installed Cat. No.	Factory Installed Cat. No. Suffix	Field-Installed Cat. No.	Factory Installed Cat. No. Suffix	Field-Installed Cat. No.	Factory Installed Cat. No. Suffix	Field-Installed Cat. No.
Handle Padlocking Device	Removable (lock OFF only)		—	S29370	—	S29370	—		—	S29370	—	S44936	—	S33996
	Fixed (lock OFF or ON)		YP	LV426905 LV426907 (I-Line)	YP	S29371▲	YP	QBPA	YP	S32631	YP	S32631	YP	S32631
	Fixed (lock OFF only)-2P		—	—	YQ	H2PHLA	YQ	—	—	—	—	—	—	—
	Fixed (lock OFF only)▲		YQ	LV426906 LV426908 (I-Line)	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	—	—	—	—	—	—	—	—	JA	—		—
	Provisions only, vertical mounting one key interlock including padlock provision, open position only.	Kirk	—	—	—	—	—	—	—	—	JE▲♦	—	JE♦	—
	Provision only, horizontal mount 1 lock, M- and P-frame 1 or 2 locks, R-frame	Kirk	—	—	—	—	—	—	—	—	JK	—	JK	—
		Ronis	—	—	—	—	—	—	—	—	JB★	—	JB	—
		Profalux	—	—	—	—	—	—	—	—	JD★	—	JD	—
	Provision and 1 lock, vertical mount	Kirk	—	—	—	—	—	—	—	—	JG	—	—	—
	Provision and 1 lock, horizontal mount	Kirk	—	—	—	—	—	—	—	—	JL	—	JL	—
		Ronis	—	—	—	—	—	—	—	—	JC★	—	JC	—
		Profalux	—	—	—	—	—	—	—	—	JF★	—	JF	—
	Provision and 2 locks keyed alike	Kirk	—	—	—	—	—	—	—	—	JN	—	JN	—
	Provision and 2 locks keyed differently	Kirk	—	—	—	—	—	—	—	—	JP	—	JP	—

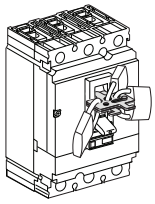
▲ Not available in M frame or HD and HG 2P modules.
■ Not available for M, P or P frame drawout. Only available on P frame electronic.
♦ Not available on I-Line

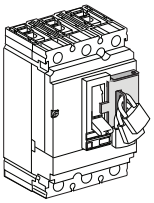

Handle Rubber Boot



Door Escutcheon


Terminal Covers


Rear Connection


Removable Padlock Attachment


Fixed Padlock Attachment

Installation Accessories for B-, H-, J-, and L-Frame Circuit Breakers

Description	Field- Installed Cat. No.		
	B-Frame	H- and J-Frame	L-Frame
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)	LV426920	S29329	32570
Handle Rubber Boot★	—	S29319	S32560
Sealing Accessories (for front cover screws)	S29375	S29375	S29375
DIN rail mounting kit (requires 15 mm depth on a 35 mm DIN rail)★	Standard	S29305	—
DIN rail adapter	Standard	—	—
Handle Extensions (set of 5)	—	S29313	S432553
Rear Insulation Kit (2P)	LV426921	—	—
Rear Insulation Kit (3P)	LV426922	—	—
Rear Insulation Kit (4P)	LV426923	—	—
Terminal Extentions-Spreaders (3P)	LV426940	—	—
Terminal Extentions-Spreaders (4P)	LV426941	—	—
5 N-m Torque Limiting Bit, Set of 6	LV426992	—	—
5 N-m Torque Limiting Bit, Set of 8	LV426993	—	—
9 N-m Torque Limiting Bit, Set of 6	LV426990	—	—
9 N-m Torque Limiting Bit, Set of 8	LV426991	—	—

★ Not available in HD and HG 2P modules.

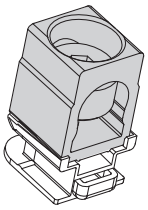
Installation Accessories for M-, P-, and R-Frame Circuit Breakers

Description		Frame	Field-Installed Cat. No.
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

Device	Description	H-Frame			J-Frame			L-Frame		
		Poles	Factory-Installed Termination No.	Field-Installable Cat. No.	Poles	Factory-Installed Termination No.	Field-Installed Cat. No.	Poles	Factory-Installed Termination No.	Field-Installed Cat. No.
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

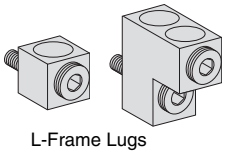
Mechanical Lug Kits for B-Frame Circuit Breakers▲

Description	Circuit Breaker Application			Ampere Rating	Number of Wires Per Lug and Wire Range	Factory-Installed Cat. Suffix	Field-Installable Cat. No.	Qty Per Kit
	Standard	Ampere Rating	Optional					
Al Lugs for Use with Al or Cu Wire			BD BG BJ	15 - 125 A	(1) 14-2/0 AWG Al or Cu	LH	LV426966	2
			BD BG BJ	15 - 125 A	(1) 14-2/0 AWG Al or Cu	LH	LV426967	3
Cu Lugs for Use with Cu Wire Only			BD BG BJ	15 - 125 A	(1) 14-1/0 AWG Cu	LC	LV426964	2
			BD BG BJ	15 - 125 A	(1) 14-1/0 AWG Cu	LC	LV426965	3
EverLink Lug	BD BG BJ (1P)	15 - 125 A			(1) 14-2/0 AWG Cu	—	LV426972	1
	BD BG BJ (2P)	15 - 125 A			(1) 14-2/0 AWG Cu	—	—	—
	BD BG BJ (3P)	15 - 125 A			(1) 14-2/0 AWG Cu	—	—	—
	BD BG BJ (4P)	15 - 125 A			(1) 14-2/0 AWG Cu	—	—	—
EverLink Lug with Control Wire Tap		15 - 125 A	BD BG BJ (2P)		(1) 14-2/0 AWG Cu	LU, LV or LW◊	LV426973	1
		15 - 125 A	BD BG BJ (3P)		(1) 14-2/0 AWG Cu	LU, LV or LW◊	LV426974	1
		15 - 125 A	BD BG BJ (4P)		(1) 14-2/0 AWG Cu	LU, LV or LW◊	LV426975	1

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

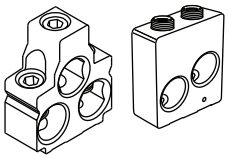
Description	Circuit Breaker Application			Ampere Rating	Number of Wires Per Lug and Wire Range	Kit Cat. No.	Qty Per Kit
	Standard	Ampere Rating	Optional				
Al Lugs for Use with Al or Cu Wire	HD, HG, HJ, HL	15–150 A			(1) 14–3/0 AWG Al or Cu	AL150HD	3
	JD, JG, JJ, JL	150–175 A			(1) 4-4/0 AWG Al or Cu	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

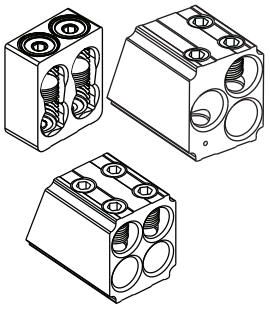
▲ See page DE3-43 for terminal nuts/bus bar connections.


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
	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 (1) 2 AWG–600 kcmil Cu	AL400L61K3	3
		4	X	—		AL400L61K4	4
	400/600	3	X	—	(2) 2/0 AWG–500 kcmil Al or Cu	AL600LS52K3	3
		4	X	—		AL600LS52K4	4
	400/600	3	X	X	(2) 3/0 AWG–500 kcmil Al or Cu	AL600LF52K3	3
Cu Lugs for Use with Cu Wire Only	250/400	3	X	X	(1) 2 AWG–600 kcmil Cu	CU400L61K3	3
		4	X	—		CU400L61K4	4
	400/600	3	X	—	(2) 2/0 AWG–500 kcmil Cu	CU600LS52K3	3
		4	X	—		CU600LS52K4	4
	400/600	3	X	X	(2) 3/0 AWG–500 kcmil Cu	CU600LF52K3	3


M- and P-Frame Lugs (800 A and below)

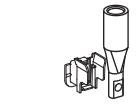

P-Frame Lugs (Above 800 A)

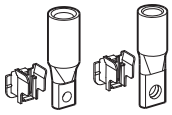
Mechanical Lug Kits for M-Frame, P-Frame and R-Frame Circuit Breakers▼

Description	Circuit Breaker Application				Wires per Lug and Wire Range	Cat. No.	Lugs Per Kit
	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
						AL800P6K4■	4
		—	PG, PJ, PL, MG, MJ	800 A	(2) 3/0 AWG-750 kcmil 750 kcmil: compact AL only	AL800P7K■	3
						AL800P7K4■	4
	P-Frame	1200 A	PG ,PJ, PL	800 A	(4) 3/0 AWG-500 kcmil	AL1200P25K♦	3
						AL1200P25K4♦	4
		—	PG, PJ,P L	800–1200 A	(3) 350-600 kcmil	AL1200P6KU♦	3
						AL1200P6KU4♦	4
	PG,PJ,PL	—	PG, PJ, PL	1200 A	(3) 3/0 AWG-750 kcmil 750 kcmil: compact AL only	AL1200P7KU♦	3
						AL1200P7KU4♦	4
	R-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
Cu Lugs for Cu Wire Only□	M-, P-Frame	—	PJ	100–150 A	(1) 1-1/0 AWG	CU250P1K△	3
		800 A	MG, MJ, PG, PJ, PL	—	(3) 3/0 AWG-500 kcmil	CU800M23K	3
						CU800M23K4	4
		1200 A	MG, MJ, PG, PJ, PL	800–1200 A	(4) 3/0 AWG-500 kcmil	CU1200P24K■	1
	P-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 DE3-43.
▼ 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.
□ Not available with tapped hole for control wire.
◊ LU = ON end only, LV = OFF end only, LW = BOTH ends

PowerPact™ Circuit Breaker Accessories
Compression Lugs and Power Distribution Connectors (PDC)

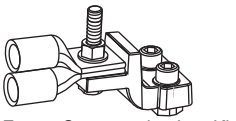




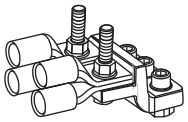
J-Frame Compression Lugs

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
Compression Lug Kits for B-Frame Circuit Breakers								
Aluminum Compression Lug Kits	B-frame	125 A	8–1/0 AWG Al or Cu	Unit	1.3	1	LV426988	2
		125 A	8–1/0 AWG Al or Cu		1.3	1	LV426989	3
Copper Compression Lug Kits	B-frame	125 A	6–1/0 AWG Cu		1.4	1	LV426986	2
		125 A	6–1/0 AWG Cu		1.4	1	LV426987	3
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	Unit	▲	8	YA2000R3	2
		2000 A	4/0-500 kcmil		▲	8	YA2000R5	2
		2500 A	500-750 kcmil		▲	8■	YA2500R7	2
Copper Compression Lug Kits	M-, P-frame♦	400 A	4/0-500 kcmil	Unit	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



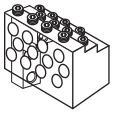
P-Frame Compression Lug Kit



R-Frame Compression Lug Kit

PDC6HD6

PDC6JD4



PDC12P4

PDC6P20

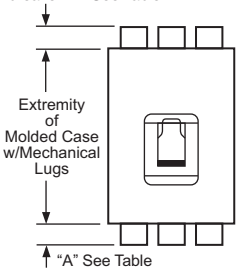
▲ All unit-mount R-frame circuit breakers require terminal pads for mounting lugs of any type. See page DE3-43.
■ 9 lugs for 3000 A circuit breakers
♦ Not for use on I-Line™ circuit breakers unless wire bending space is adequate.

Power Distribution Connectors for B-Frame, 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
BD, BG, BJ	125	(3) 14–2 AWG	1.2	PDC3BD2	3
	125	(6) 14–6 AWG	1	PDC6BD6	3
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	1.28△	PDC5DG20L3	3
	150–600	(12) 14–4 AWG	1.31△	PDC12DG4L3	3

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

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

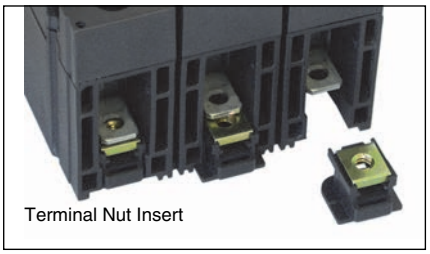


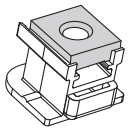
Power Distribution Connectors for M-Frame and P-Frame Circuit Breakers▾

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


Terminal Nut Insert

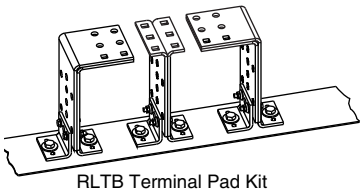

H-Frame Lug With Terminal Nut

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

Description	Frame	Tap	Cat. No.	Qty Per Kit
B-FrameTerminal Nut Insert-Metric	BD/BG/BJ (2P)	M6	LV426962	2
B-FrameTerminal Nut Insert-Metric	BD/BG/BJ (3P)	M6	LV426963	3
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

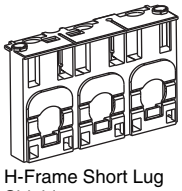
Frame	Description	Term. No.	Poles	Cat. No.
L-Frame	Set of 4 terminal screws and washers for one side	F	4	S36967
M- and P-Frame	Bus Connector Kit for one pole, one end		1	S33928

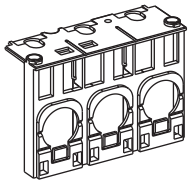

RLTB Terminal Pad Kit

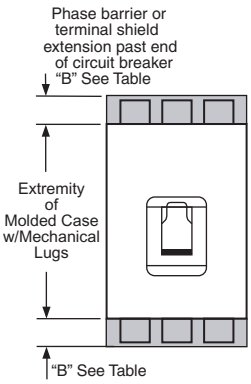
Terminal Pad Kits for R-Frame Circuit Breakers

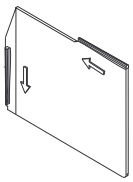
R-Frame Circuit Breaker	Terminal Pad Kit		Field-Installable Kits	
	Usage	Lugs per Phase	3P Kit (One End Only)	4P Kit (One End Only)
			Cat. No.	Cat. No.
3000 A, 100% Rated	Required for cable or bus	9	RL3TB	RL3TB4
3000 A, Standard (80% Rated)	Required for cable or bus	8	RLTB	RLTB4
2500 A, 100% Rated	Required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

For cable connection to RLTB, use AL2500RK lug. See page DE3-42.


H-Frame Short Lug Shield


J-Frame Short Lug Shield




R-Frame Phase Barrier

Terminal Shields and Phase Barriers

Used With	Description				Dimension B (in.)	Cat. No.	Qty Per Kit
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
B-, H- and J-Frame Power Distribution Connectors and Compression Lugs		Compatible with:					
		PDC	Compression Lugs				
			Aluminum	Copper			
	B-Frame Long Lug Shield	PDC6BD2	LV426988	LV426986	1.9	LV426911 (2P) LV426912 (3P) LV426913 (4P)	1
		PDC6BD6	LV426989	LV426987			
	H-Frame Long Lug Shield	PDC6HD6	YA060HD	CYA060HD	2.24	S37449	1
		PDC3HD2	YA150HD	CYA150HD			
	J-Frame Long Lug Shield	PDC6JD4	YA150JD	CYA150JD	1.68	S37450	1
		PDC3JD2	■	CYA250J3			
L-Frame	3P Short Terminal Shield					LTSS3P	1
	3P MediumTerminal Shield					LTSM3P	1
	3P Long Terminal Shield					LTSL3P	1
	4P Medium Terminal Shield					LTSM4P	1
	4P longTerminal Shield					LTSL4P	1
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,
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

Plug-In and Drawout Mountings

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

H-Frame and J-Frame Plug-in Mounting

H-Frame and J-Frame Drawout Mounting

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.
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		S29278
	Drawout Cradle	Circuit breaker only	HJ00	
		Plug-in base kit		S29278
		Cradle side plates (fixed part of chassis)		S29282
		Circuit breaker side plates (moving part of chassis)		S29283
Accessories for Plug-In and Drawout	H-Frame Shutter Kit (set of two)			S37442
	J-Frame Shutter Kit (set of two)			S37443
	Secondary Disconnect Blocks	Fixed part 9-wire connector (mounted on base)		S29273
		Moving part 9-wire connector (mounted on circuit breaker)		S29274
		Support for 2-moving connectors		S29275
	Extended escutcheon with extended toggle handle			S29284
	Two position indicating switches (connected/disconnected)			S29287
	H-Frame Short Terminal Cover (3P)			S37436
	J-Frame Short Terminal Cover (3P)			S37440

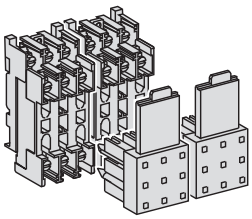
L-Frame Plug-In Mounting

L-Frame Drawout Mounting

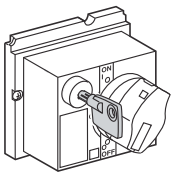
Plug-In and Drawout Mountings for L-Frame Circuit Breakers

Description		Poles	Plug-in Mounting		Drawout Mounting	
			Factory Installed Cat. No.	Field-Installed Cat. No.	Factory Installed Cat. No.	Field-Installed Cat. No.
Kit (stationary and moving parts)		3	N		D	
		4	N		D	
Stationary Part	Plug-in base	3		S32514		S32514
		4		S32515		S32515
	Fixed part of chassis					S32532
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.



L-Frame Disconnecting Blocks



L-Frame Locking Device

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

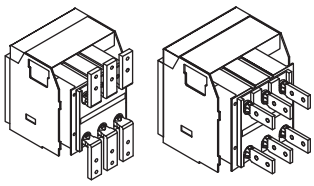
Description			Field-Installed Cat. No.
Secondary Disconnecting Blocks	Fixed Part	9-wire connector	S29273
	Moving Part	9-wire connector	S32523
		Support for 3 moving connectors	S32525
	Fixed + Moving	9-wire manual auxiliary connector	S29272
Shutters	Two shutters for plug-in base		32521
Chassis Accessories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

Termination Options

Termination Letter
N = Plug-in
D = Drawout

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

L G L 3 6 4 0 0 U31X
└Termination No.



P-Frame Drawout Cradle Connections

Drawout Cradle and Accessories for P-Frame Circuit Breakers

Description		Cat. No.
Drawout Cradle		Product Selector
Cradle Connectors	Front Connected Flat (FCF)	SFCF12■
	Rear Connected T Horizontal/Vertical (RCTH/RCTV)	SRCTV12■
Cradle Accessories	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
	Push-in terminal kit (6 wires)	S33099
	Finger cluster	S33166
	Cluster grease (12 oz. tube)	S48899

■ Needs 2 kits per cradle.

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 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 is only OUT. 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
	LSI	3.2S	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
Ammeter	LSI	5.2A	15–60 35–100 50–150 70–250
	LSIG	6.2A	15–60 35–100 50–150 70–250
Energy	LSI	5.2E	15–60 35–100 50–150 70–250
	LSIG	6.2E	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
	LSI	3.3S	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
Ammeter	LSI	5.3A	125–400 200–600
	LSIG	6.3A	125–400 200–600
Energy	LSI	5.3E	125–400 200–600
	LSIG	6.3E	125–400 200–600

Standard Trip Unit | Ammeter Trip Unit | Power Trip Unit | Harmonic Trip Unit | Adjustable Rating Plug

Powerpact® 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:

- LSIG 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—PwerLogic® 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
- LSIG (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 (Ir X In) 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	.45	.40
B	1.0	.95	.88	.75	.63	.56	.50	.44	.40
C	1.0	.95	.83	.75	.67	.56	.53	.50	.42
D	1.0	.95	.93	.90	.80	.70	.64	.48	.40
E	1.0	.95	.93	.90	.85	.80	.75	.70	.60
F	1.0	.98	.96	.94	.92	.90	.88	.86	.84
G	.82	.80	.78	.76	.74	.72	.70	.68	.66
H	.64	.62	.60	.58	.56	.54	.52	.50	.48

Micrologic Trip Units ✓ – Standard Feature o – 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			o	o	o	✓	✓	✓	✓
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 3Ø4W 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 DE3-47 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.

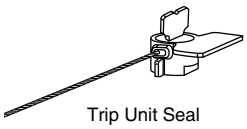
★ When replacing a standard trip unit with Type A (Ammeter), P (Power metering) or H (Harmonic analysis) trip unit, order the 12-pin connector kit S33101 for the Masterpact NW and NT and the PowerPact P-frame drawout circuit breakers or kit S33100 for PowerPact P-frame and R-frame unit-mount and I-Line circuit breakers. See page DE3-47.

▼ Requires Circuit Breaker Communications Module.

Special Options

Description	Factory-Installed Suffix	Field-Installable Cat. No.
Ship circuit breaker in closed position	YK	N/A
CT Characterization (Calibrated trip system)	Q	N/A
Alternate Maintenance Setting (AMS) kit (use with 5.0/6.0 A, P or H and 5.3/6.3 a or E Micrologic trip units)	—	84957
Energy Reduction Maintenance Setting (ERMS) kit (use with 5.0/6.0 P or H Micrologic trip units)	—	84956

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	Cat. No.
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 (Ir) = 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
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.
Pocket Tester	H/J/L	S434206
UTA Tester		STRV00910
Spare UTA Tester		STRV00911
BLuetooth/Modbus for UTA Tester		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	P/R	S33594
Primary Injection Test Adaptor		S33937
Full-function Adapter Kit		S48981
Full-function Test Kit		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▼	P/R	S48856
120 Vac Filtered Power Cord▼		S48855
Trip Unit Battery for Trip Indicator Lights		S33593
Power supply with:	H/J/L/P/R	
24–30 Vdc input		685823
48/60 Vdc input		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	P/R	S33101
12-pin Trip Unit Connector for P- and R-Frame Circuit Breakers		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								
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
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	X	X					
	800 A	S33092		X	X	X	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 DE3-48.

Micrologic™ Electronic Trip Unit

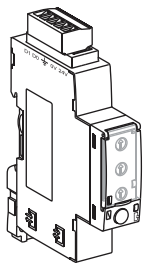
Micrologic™ Trip Unit Accessories

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

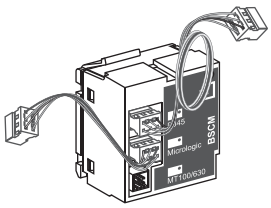
Trip Unit Field-Installable Accessories for P- and R-Frame Circuit Breakers

Description	Factory-Installed Cat. No.	Field-Installable Kit Cat. No.						
		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

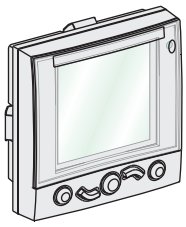
New!



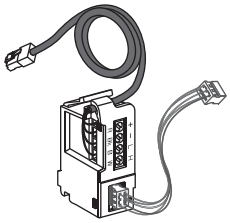
Modbus Interface Module (IFM)



Breaker Status and Control Module (BSCM)

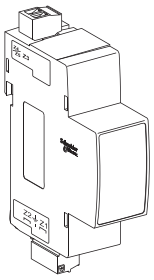


Front Display Module (FDM)

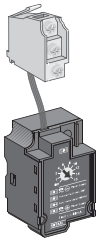


NSX Cord for Modbus Communications

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 Accessories

Description		Factory-Installed Cat. No. Suffix	Field-Installable Kit Cat. No.
External Accessories			
Modbus Interface Module IFM▲		—	STRV00210
Stacking Connections for IFM (10)		—	TRV00217
IFE Interface (Ethernet Module)		—	LV434010
IFE Interface + Gateway (Ethernet and ModbuGateway)		—	LV434011
I/O Module (Input/Output ProgrammableModule)		—	LV434063
Circuit Breaker ULP Cord–BCM to COMS	L = 0.35 m (1.15 ft)	—	LV434195
	L = 1.3 m (4.27 ft)	—	LV434196
	L = 3 m (9.24ft)	—	LV434197
ULP Cable, 10 Cables (Male to Male RJ45)	L = 0.3 m (0.98ft)	—	TRV00803
	L = 0.6 m (1.97 ft)	—	TRV00806
ULP Cable, 5 Cables (Male to Male RJ45)	L = 1 m (3.28 ft)	—	TRV00810
	L = 2 m (6.56 ft)	—	TRV00820
	L = 3 m (9.84 ft)	—	TRV00830
ULP Cable, 1 Cable (Male to Male RJ45)	L = 5 m (16.40 ft)	—	TRV00850
RJ45 Female/Female Connector, 10 Connectors		—	TRV00870
ULP Line Terminator, 10 Terminators		—	TRV00880
Insulated ULP Module and Circuit Breaker Cord (for System Voltage Greater than 480 Vac) (Cord with Female	L = 1 m (3.28 ft)	—	S434204
	L = 3 m (9.84 ft)	—	S434303
Two-Wire RS 485 Isolated Repeater Module			STRV00211
Modbus Line Terminator, 2 Terminators		—	VW3A8306DRC
Front Display Module FDM121▲		—	STRV00121
FDM Mounting Accessory (Dia. 22 mm)		—	TRV00128
FDM128 (8 Circuit Breakers to 1 Front Display)			LV434128
Isolated Modbus Repeater Module		—	STRV00211
ZSI Interface Module		—	S434212
Internal Accessories			
NSX Cord ■ (for Modbus Communication)	L = 1.3 m	EA	S434201
	L = 3 m	EB	S434202
BSCM (Breaker Status and Control Module) with NSX Cord■	L = 1.3 m	EG△	S434201BS
	L = 3 m	EH△	S434202BS
Replacement BSCM		—	S434205
NSX Cord for V > 480 Vac■	L = 1.3 m	ED	S434204
	L = 3 m	EE	S434303
BSCM with NSX Cord for V > 480 Vac■	L = 1.3 m	EK△	S434204BS
	L = 3 m	EL△	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 or ULP 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.
△ If using with motor operator requires communicating motor operator (suffix NC).

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

Description		Factory-Installed Cat. No. Suffix	Field-Installable Kit Cat. No.
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	—	TRV00803
	L = 0.6 m	—	TRV00806
5 RJ45/RJ45 Male Cords	L = 1 m	—	TRV00810
	L = 2 m	—	TRV00820
	L = 3m	—	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 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□
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
	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
	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
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			5k	5,000			12,500▼				10,000		5,000	
	Electrical	2800						1,000					1,000			1k	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.
Masterpact NW/NT Remote Racking Devices▽	NWNTMPRRT
Masterpact NW Remote Racking Device▽	NWMPRRT
Masterpact NT Remote Rackign Device▽	NTMPRRT
Mounting Bracket Kit for NW Remote Racking (contains 10 mounting brackets)◒	S47100
Mounting Bracket Kit for NT Remove 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.

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.

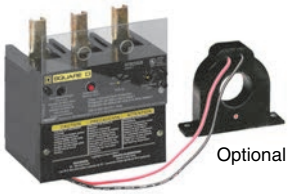
The Vigirex relays may be easily mounted on DIN rail or may be panel mounted in a meter cutout. Sensors for conductors range from a little more than an inch diameter toroids, to large rectangular sensors measuring 6 x 18 inches. The compact size of the relay and its sensor make it ideal for protection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

Vigirex Ground-Fault Relays (cUL Listed)

Model	Delay	Reset	Control Voltage	Sensitivity	Catalogue No.
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	Maximum Current	Inside Diameter		Catalogue No.
			IN	mm	
Closed Toroids, type A	TA30	65 A	1.18	30	50437
	PA50	85 A	1.97	50	50438
	IA80	160 A	3.15	80	50439
	MA120	250 A	4.72	120	50440
	SA200	400 A	7.87	200	50441
	GA300	630 A	11.81	300	50442
Vigirex Sensor Iron Rings (Optional)	TA30	65 A	0.79	20	56055
	PA50	85 A	1.58	40	56056
	IA8	160 A	2.76	70	56057
	MA120	250 A	4.33	110	56058
Split toroids, type TOA	TOA80	160 A	3.15	80	50420
	TOA120	250 A	4.73	120	50421
Rectangular sensors	280 x 115	1600 A	11.02 x 4.53	280 x 115	56053
	470 x 160	3200 A	18.50 x 6.30	470 x 160	56054



Optional GFM25CT

GFM250

The Micrologic ground-fault module (GFM) is a CSA certified and UL Listed circuit breaker accessory which protects equipment from damage caused by ground faults. It is an add-on module which, when connected to a PowerPact H- or J-frame thermal-magnetic circuit breaker only, provides ground-fault sensing and ground-fault relay functions.

HD/JD Add-on Ground-fault Module Features:

- 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
- Fault-powered (through the sensing current transformer) for electronics, shunt trip, and integral test feature.
- Optional neutral current transformer GFM25CT for 3-phase 4-wire applications. Refer to instructions for proper installation
- Shunt trip S29382 (12 Vdc): is required for circuit breaker. This may be factory-installed (suffix SN) or field-installed

NOTE: *Ground-fault modules cannot be used for alarming only.*

Module/Enclosure Selection Chart ▲

Companion Circuit Breaker Prefix	Catalogue Number ▲	Enclosure Space Required I-Line Switchboard	Ground-fault Pickup Adjustment Range
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)	

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

H-Frame with ELM installed

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
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.

Figure 1

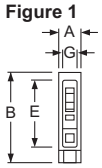


Figure 2

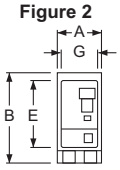
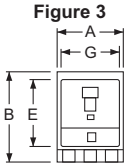


Figure 3



QO, QOB

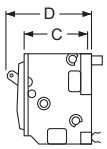


Figure 4

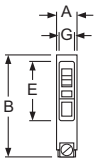
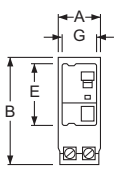


Figure 5



QO-GFI, QO-PL
QO-EPD

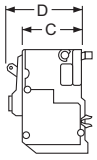


Figure 6

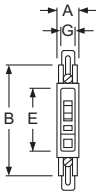


Figure 7

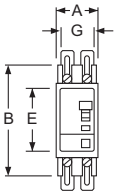
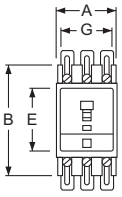


Figure 8



QOU
Low Ampere

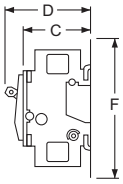


Figure 9

Figure 10

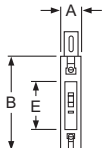


Figure 10

Figure 11

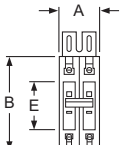
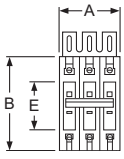


Figure 11

Figure 12



QOU
High Ampere

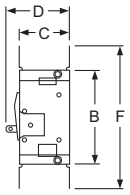


Figure 13

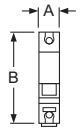


Figure 14

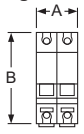


Figure 15

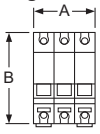
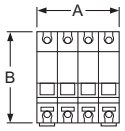


Figure 16



C60

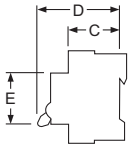


Figure 17

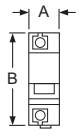


Figure 18

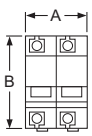


Figure 19

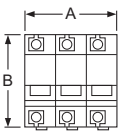


Figure 20

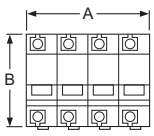
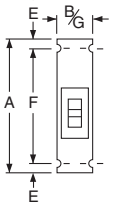


Figure 1



Figure

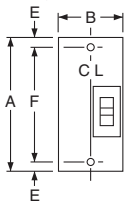


Figure 3

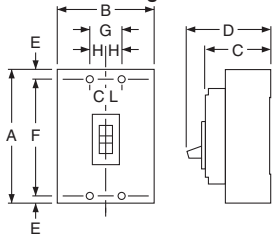
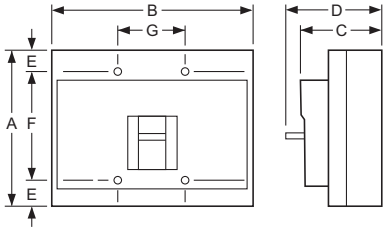


Figure 24



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™ C60BP	1	13	0.71	4.06	1.89	2.83	1.77	—	—
	2	14	1.42	4.06	1.89	2.83	1.77	—	—
	3	15	2.13	4.06	1.89	2.83	1.77		—
Multi 9™ C6BPR	1	13	0.71	5	1.89	2.83	1.77	—	—
	2	14	1.42	5	1.89	2.83	1.77	—	—
	3	15	2.13	5	1.89	2.83	1.77	—	—
Multi 9™ C60SP	1	13	0.71	3.19	1.73	2.83	1.77	—	—
	2	14	1.42	3.19	1.73	2.83	1.77	—	—
	3	15	2.13	3.19	1.73	2.83	1.77	—	—
	4	16	2.83	3.19	1.73	2.83	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
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		
FAL, FHL 2P	3	LAL, LHL	15
FAL, FHL 3P	5		
		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

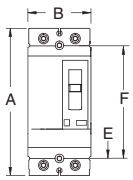


Figure 26

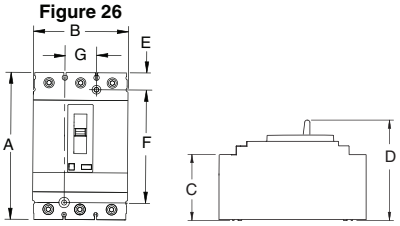


Figure 27

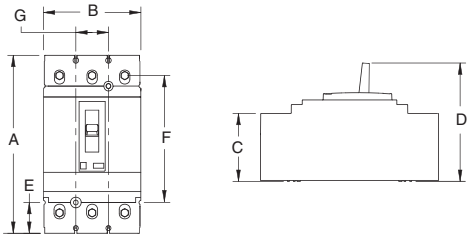


Figure 28

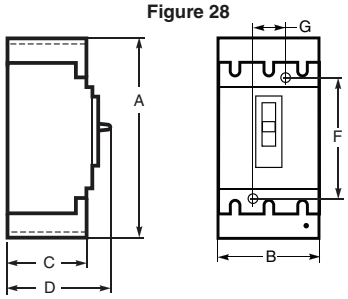


Figure 29

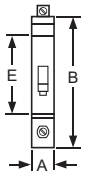


Figure 30

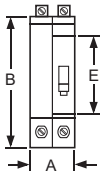
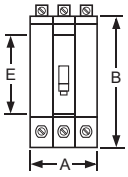


Figure 31



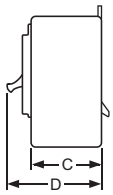


Figure 32

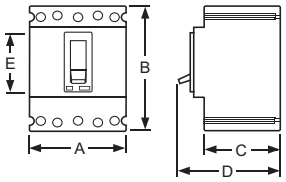


Figure 33

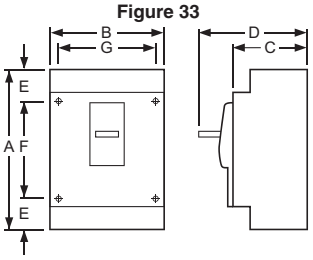
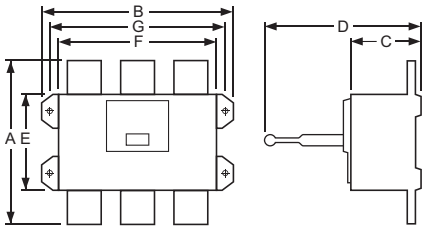


Figure 34



PowerPact B-, H-, J- and L-Frame Circuit Breakers

Circuit Breaker Cat. No. Prefix	No. of Poles	Fig. No.	Dimensions — Inches							
			A	B	C	D	E	F	G	H
B-Frame	1	35	6.79	1.06	3.15	4.01	0.20	6.33	—	5.39
	2	36	6.22	2.12	3.15	4.01	0.86	4.48	—	5.39
	3	37	6.22	3.18	3.15	4.01	0.86	4.48	1.06	5.39
	4	38	6.22	4.25	3.15	4.01	0.86	4.48	2.12	5.39
HD, HG, HJ, HL, HR	2*	25	6.40	2.74	2.87	4.36	0.74	4.92	—	—
	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	7.87	1.77	—

* - Only HD and HG are in 2P module. The HJ, HL and HR 2P breakers are in 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.

Figure 35

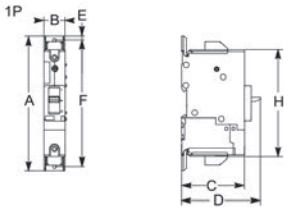


Figure 36

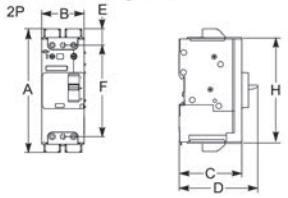


Figure 37

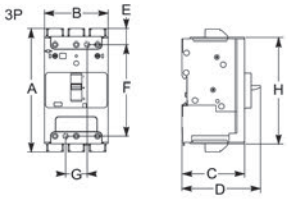
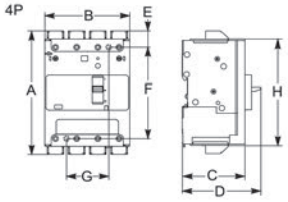


Figure 38



PowerPact Circuit Breaker Enclosures

The enclosures for the family of PowerPact circuit breakers H- through Q-frame are cULus listed unless otherwise noted. The short circuit current rating of the enclosed circuit breakers is equal to the rating of the circuit breaker installed unless otherwise noted. All enclosures will accept 100% rated circuit breakers unless otherwise noted.

PowerPact H- and J-Frame Circuit Breaker Enclosures

The enclosures' maximum short circuit ratings are 25 kAIR at 600 Vac, 65 kAIR at 480 Vac, 125 kAIR at 240 Vac and 20 kA at 250 Vdc unless otherwise noted. Enclosures accept 100% rated circuit breakers▲. The enclosures are not compatible with motor operator, earthleakage or ground-fault modules.

PowerPact H- and J-Frame Circuit Breaker Enclosures

Circuit Breaker			Enclosure Cat. No.			Neutral Assembly Kit Cat. No.	Service Ground Kit Cat. No.
Cat. No. Prefix	Rating	Poles	NEMA 1 Flush	NEMA 1 Surface	NEMA 3R▲		
HDL	15-100 A	3	—	HD100S■♦★	—	SN100FA	PKOGTA2
HDL, JDL	125-225 A	3	—	JD250S♦★▼	—	SN225KA	PKOGTA2
	125-250 A					SN400LA	
HDL, HGL	15-100 A	2	H150F	H150S	H150R△	SN100FA	PKOGTH150
	125-150 A	2				SN400LA	
HJL, HLL	15-100 A	2	J250F	J250S□	J250R△◊	SN100FA	PKOGTH150
HDL, HGL, HJL, HLL	15-100 A	3					
	125-150 A	3				SN400LA☆	
JDL, JGL, JJL, JLL	150-250 A	2, 3					PKOGTJ250
			NEMA 4, 4X, 5, Type 304 Stainless Steel	NEMA 4, 4X, 5, Type 316 Stainless Steel	NEMA 12/3R Without Knockouts		
HDL, HGL, HJL, HLL	15-100 A	2, 3	J250DS✱	J250SS✱	J250AWK✱	SN100FA	PKOGTH150
	125-150 A	2, 3				SN400LA☆	
JDL, JGL, JJL, JLL	150-250 A	2, 3					PKOGTJ250

PowerPact L-Frame Circuit Breaker and Molded Case Switch Enclosures

All enclosures accept 80% rated circuit breakers. The enclosures will also accept 100% rated circuit breakers to 400 amps. The enclosures have a blank top end wall and require field-cut openings.

PowerPact L-Frame Circuit Breaker Enclosures

Circuit Breaker				Enclosure Cat. No.		
Cat. No. Prefix	Rating	Poles	NEMA 12/3R Enclosures Without Knockouts	Neutral Assembly Kit	Copper Only Neutral Assembly Kit	Service Ground Kit
LDL, LGL, LJL, LLL, LRL	250-400 A	3	L600AWK◒✱♦	SN400LA	SNC400LX	PKOGTA4
	400-600 A			SN1000MA	SNC800LX	
LGL, LLL, LRL	250-400 A	3	L600AWKMC◒◑	SN400LA	SNC400LX	PKOGTA4
	400-600 A			SN1000MA	SNC800LX	

PowerPact Q-Frame Circuit Breaker Enclosures

The enclosures for the PowerPact Q Frame Circuit Breaker are cUL listed. The short circuit ratings of these enclosed circuit breakers are equal to the interrupter ratings, at the supply voltage marked on the circuit breaker installed, unless otherwise noted.

PowerPact Q-Frame Circuit Breaker Enclosures

Circuit Breaker			Enclosure Cat. No.			Neutral Assembly Kit Cat. No.	Service Ground Kit Cat. No.
Cat. No. Prefix	Rating	Poles	NEMA 1 Flush	NEMA 1 Surface	NEMA 3R		
QBL, QDL, QGL, QJL✪	70-225 A	2, 3	Q23225NFC	Q23225NSC	Q23225NRBC	—	PKOGTA2

▲ Use only 90°C (minimum) rated wire sized per ampacity of 75°C rated conductors for 100% rated circuit breakers.
■ Rated for 240 Vac maximum. Short circuit current rating is 25 kAIR at 240 Vac.
♦ Accepts standard 80% rated circuit breakers only. Not rated for 100% rated circuit breakers.
★ Use copper conductors only
▼ Rated 480 Vac maximum. Short circuit current rating is 18 kAIR at 480 V.
△ For conduit entry through the top end wall use one of the following Square D conduit hubs: A200L for 2.00 in., A250L for 2.50 in., A300L for 3.00 in., A350L for 3.50 in. or A400L for 4.00 in. For enclosure suitable for use as Service Equipment use Cat. No. CJ250NR.
□ Add suffix BE if no knockouts are required on the end walls. For enclosure suitable for use as Service Equipment use Cat. No. CJ250NS.
◊ For access to the circuit breaker's standard, ammeter or energy trip unit, add suffix T.
☆ For 200% neutral use copper wire only.
▽ Complete rating is NEMA 3, 3R, 4, 4X, 5, and 12.
◒ For NEMA 3R applications, remove drain screw from bottom endwall.
✱ Add suffix VW for visibility to the standard, ammeter or energy trip unit of the PowerPact circuit breaker. For enclosure suitable for use as Service Equipment use Cat. No.with prefix "C" and suffix "N" (CJ250NAWK for J-Frame, CL600NAWK for PowerPact L-Frame) (neutrals will be factory installed and bonded).
♦ Will accept PowerPact L-frame circuit breakers and Motor Protectors with suffixes M38X
◑ Will accept PowerPact L-frame Molded Case Switches.
✪ When the QJL circuit breaker is installed in the enclosure, the enclosure is limited to Short Circuit Current ratings of 65 kAIR at 240 V and 100 kAIR at 208 V.

PowerPact M- and P-Frame Circuit Breaker Enclosures

All enclosures will accept 80% rated circuit breakers. The P1200 enclosures will accept 100% rated circuit breakers to 800 A. If a CT neutral is required, the enclosure will no longer accept a 200% neutral. The M800R and the P1200R enclosures have a blank top end wall and require field-cut openings**.**

PowerPact M- and P-Frame Circuit Breaker Enclosures

Circuit Breaker			Enclosure Cat. No.						
Cat. No. Prefix	Rating	Poles	Enclosure			Neutral Assembly Kit	200& Neutral Kit	CT Neutral Kit ▲■	Service Ground Kit
			NEMA 1 Flush	NEMA 1 Surface	NEMA 3R				
MGL, MJL, PGL, PJL, PKL, PLL	300-800 A	2, 3	—	M800S	M800R	AL800SN	SN800SNI and 2 each SN1200	S33576MK	PKOGTA4
PGL, PJL, PKL, PLL	250-1200 A	2, 3	—	P1200S	P1200R	SN1200		S33576MK	PKOGTA4
			NEMA 4, 4X, 5♦ Type 304 Stainless Steel★	NEMA 4, 4X, 5♦ Type 316 Stainless Steel★	NEMA 12/3R Without Knockouts★				
MGL, MJL, PGL, PJL, PKL, PLL	300-800 A	2, 3	M800DS	M800SS	M800AWK	AL800SN	—	S33576MK	PKOGTA4
PGL, PJL, PKL, PLL	250-1200 A	2, 3	—	—	P1200AWK	SN1200	—	S33576MK	PKOGTA4

▲ Order current transformer kit S33576 seperately.
■ Current transformers applicable only on PowerPact P circuit breakers. Current limitations are 400–800 A and 400–1200 A respectively for the M800 and P1200 family of enclosures.
♦ Complete rating is NEMA 3, 3R, 4, 4X, 5, and 12.
★ For NEMA 3R applications, remove drain screw from bottom endwall.

PowerPact L-Frame 500 Vdc Circuit Breaker Enclosures

The PowerPact L-frame circuit breaker enclosure's maximum short circuit rating is 20 kAIR at 250 Vdc and 50 kAIR at 500 Vdc.
Listed for use ONLY on UPS systems.

DC CIrcuit Breaker Enclosures for LG and LL DC-Rated Circuit Breakers

Circuit Breaker▼			NEMA 1 Surface Enclosure	Replacement Ground Lugs	Service Ground Kit
Cat. No. Prefix	Ampere Rating	Poles	Cat. No.	Cat. No.	Cat. No.
LGL, LLL	300-600 A	3	L1200S	8010440301	Standard
	700-1200 A	4	L1200S		

▼ Use 500 Vdc or 250 Vdc rated circuit breakers only.

Circuit Breaker Enclosures

F- and L–Frame Thermal-Magnetic Circuit Breaker Enclosures

The enclosures for the F- and L-Frame thermal-magnetic circuit breakers are UL listed and CSA certified. The enclosures are suitable for service entrance equipment when neutral assembly is installed. The short circuit ratings of these enclosed circuit breakers are equal to the interrupting rating, at the supply voltage marked on the circuit breaker installed.

F-Frame Thermal-Magnetic Circuit Breaker Enclosures

The FA100RB enclosure has a provision of 3/4 through 2 1/2 inch B-Type bolt-on hubs in the top end wall.

FA100S FA100RB FA100DS

F-Frame Thermal-Magnetic Circuit Breaker Enclosures

Circuit Breaker			Enclosure Cat. No.			Neutral Assembly Kit Cat. No.	Service Ground Kit Cat. No.
Cat. No. Prefix	Rating	Poles					
			NEMA 1 Flush	NEMA 1 Surface	NEMA 3R		
FAL, FHL	15-100 A	1, 2, 3	FA100F	FA100S	FA100RB	SN100FA	PKOGTA2
			NEMA 4, 4X, 5, ▲Type 304 Stainless Steel■	NEMA 4, 4X, 5, Type 316 Stainless Steel■	NEMA 12/3R Without Knockouts■		
FAL, FHL	15-100 A	1, 2, 3	FA100DS	—	FA100AWK	SN100FA	PKOGTA2

▲ Complete rating is NEMA 3, 3R, 4, 4X, 5, and 12.
■ For NEMA 3R applications, remove drain screw from bottom endwall.

FA100X FA100Y

Circuit Breaker			Type 7 ✷ Cast Aluminum	Type 9 ■ Cast Aluminum
Catalogue Number Prefix	Ampere Rating	Number of Poles	Enclosure Catalogue No.	Enclosure Catalogue No.
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.

L-Frame Thermal-Magnetic Circuit Breaker Enclosures

The LA400R enclosure has a blank top end wall and requires field cut openings.

L-Frame Thermal-Magnetic Circuit Breaker Enclosures

Circuit Breaker			Enclosure Cat. No.			Neutral Assembly Kit Cat. No.	Service Ground Kit Cat. No.
Cat. No. Prefix	Rating	Poles					
			NEMA 1 Flush	NEMA 1 Surface	NEMA 3R		
LAL, LHL, Q4L	125-225 A	2, 3	LA400F	LA400S	LA400R	SN225KA	PKOGTA2
	225-400 A					400SN	
LAL	125-400 A	3	—	LA400LS♦★	—	SN400LA	
			NEMA 4, 4X, 5, ▲Type 304 Stainless Steel■	NEMA 4, 4X, 5, Type 316 Stainless Steel■	NEMA 12/3R Without Knockouts■		
LAL, LHL, Q4L	125-225 A	1, 2, 3	LA400DS	—	LA400AWK	SN225KA	PKOGTA2
	225-400 A					SN400LA	

▲ Complete rating is NEMA 3, 3R, 4, 4X, 5, and 12..
■ For NEMA 3R applications, remove drain screw from bottom endwall.
♦ Use copper conductors only.
★ Maximum short circuit and voltage is 30 kAIR at 480 Vac..

Enclosure Accessories

Neutral Kit Terminal Data

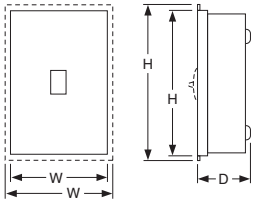
Neutral Kit Catalog Number	Terminal Lug Data - Total Available (Line plus Load) AWG/kcmil AL/CU	All Copper Neutral Terminal Lug Data - Total Available (Line plus Load) AWG/kcmil
100SNA	(2) 14-1/0 Cu or (2) 12-1/0 Al plus (1) 14-4 Cu	—
SN100FA	(4) 14-1/0 Cu or (4) 12-1/0 Al	—
SN225KA	(2) 4-300 Al/Cu, plus (2) 14-1/0 Al/Cu	—
225SNA	(4) 6-350 Al/Cu	—
400SN	(2) 1-600 or (4) 1-250 Al/Cu, plus (2) 4-300 Al/Cu	—
SN400LA	(2) 1-600 or (4) 1-250 Al/Cu, plus (2) 4-300 Al/Cu	—
SN1000MA	(6) 3/0-500 Al/Cu, plus (1) 1-4/0 Al/Cu	—
SNC400LX	—	(2) 2-600 Cu, plus (2) 6-250 Cu
SNC800LX	—	(4) 2-600 Cu, plus (1) 2-4/0 Cu
AL800SN	(6) 3/0-500 Al/Cu, plus (2) 6-350 Al/Cu	—
SN1200	(8) 3/0-750 Al/Cu, plus (2) 6-350 Al/Cu	—
S33576MK	(8) 3/0-500 Al/Cu, plus (2) 4-300 Al/Cu	—

Service Ground Terminal Data

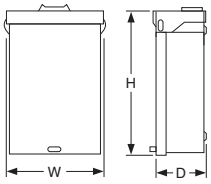
Service Ground Kit Catalog Number	Terminal Data AWG/kcmil	Lugs per kit
PKOGTA2	10-2/0 Cu or 6-2/0 Al	2
PKOGTH150	14-2 Al/Cu	1
PKOGTJ250	6-300 Al/Cu	2
PKOGTA4	6-250 Al/Cu	4

Dimensions (inches)

Cat. No.	Approximate Dimension						
	Series	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
HD100S	A01	17.00	431.8	7.90	200.7	4.75	120.7
H150F	A01	32.40	823	15.40	391	6.00	152
H150R	A01	31.05	789	14.47	368	6.28	160
H150S	A01	31.36	797	14.36	365	6.00	152
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, J250SS	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
L600AWK	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, M800SS	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

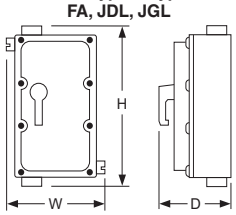


Type 1
Q2, FA, J, LA, MG, PG



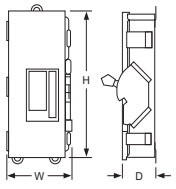
Type 3r
Q2, FA, J, LA, MG, PG

NEMA Type 7, Type 9
FA, JDL, JGL



Type 7, Type 9
FA

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



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

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		

Accessories: Handle Padlock Attached (locks ON or OFF) Cat. No. HPAFK

FAL/FHL
One Pole
15-100 Ampere

FAF/FHL
Two 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-DE3-53
Enclosures -DE3-57

Moulded Case Circuit Breakers
Q4L - LAL - LHL

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		
150	750	1500	LAL26150		LAL36150		
175	875	1750	LAL26175		LAL36175		
200	1000	2000	LAL26200		LAL36200		AL400LA
225	1125	2250	LAL26225		LAL36225		1-#1-600 kcmil or
250	1250	2500	LAL26250		LAL36250		2-#1-250 kcmil
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		
150	750	1500	LHL26150		LHL36150		
175	875	1750	LHL26175		LHL36175		
200	1000	2000	LHL26200		LHL36200		AL400LA
225	1125	2250	LHL26225		LHL36225		1-#1-600 kcmil or
250	1250	2500	LHL26250		LHL36250		2-#1-250 kcmil
300	1500	3000	LHL26300		LHL36300		
350	1750	3500	LHL26350		LHL36350		
400	2000	4000	LHL26400		LHL36400		

LAL/LHL
Two and Three Pole
125-400 Amperes

Accessories:
Optional Mechanical Lug Kit for (1) 350-750 kcmil wire Cat. No. AL400LH7
Handle Padlock Attachment (locks ON or OFF) Cat. No. HPALM

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 - DE3-57
Dimensions - DE3-53

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, JDCMH, and LDCMH that can be also used on CDP interiors with Flat Bus).
Please refer to installation bulletins for detailed information on these kits.

Retrofitting or 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	400A-600A PowerPact L● ❑	LDCMH
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. Not suitable for 100% rated and type HR, JR MCCBs.

● Available only as single mount option. Not available as a double mount or Back to back mount due to dimensional constraints.

Condition 1: Panel with all single row branch circuits.
A minimum branch circuit height of 8-1/4” is required.
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)

❑ The PowerPact L-Frame breaker has an overall height of 5-1/2” but will be fitted with a Cover plate to fill the existing branch circuit space of 8-1/4”.

◆ 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.

* PowerPact L-Frame can also be used to replace Square D LC/LI/LX/LE/LXI installed in CDP panels as a replacement of CJM breakers.

Intentionally left blank