Section 9
Panelboards


NQ Panelboards


NF Panelboards


I-Line Panelboards


QMB Panelboards

NQ Panelboards

This page contains UL Tested and Certified series combination ratings for panelboards. These ratings apply to either an integral main located in the same enclosure or a remote main located in a separate enclosure.

Table 9.1: NQ Series Connected Circuit Breaker Ratings (RMS Symmetrical)

Maximum System Voltage AC *[1]*	Maximum Short Circuit Current Rating*[2]*	Square D™ Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses*[3][4][5]*	Square D™ Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
			Type*[6][7][8]*	1 Pole	2 Pole	3 Pole
120/240 1P/3W 208Y/120 3P/4W 240/120 3P/4W	18,000	LA / LH	QO (B)	15–30 A	15–30 A	—
	22,000	QO (B) VH, QOB-VH	QO (B)	15–70 A	15–125 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) PL	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
	25,000	QD	QO (B)	15–70 A	15–125 A	—
			QOB-VH	—	150 A	—
			QO (B) PL	15–30 A	15–60 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
		ED	QO (B)	15–70 A	15–125 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
		BD, HD, JD, LD	QO (B)	15–70 A	15–125 A	—
			QOB-VH	—	150 A	—
			QO (B) PL	15–30 A	15–60 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
	42,000	LA	QO (B)	15–30 A	15–30 A	—
	65,000	QG	QO (B)	15–70 A	15–125 A	—
			QO(B) VH	15–70 A	15–125 A	—
			QOB-VH	—	150 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) PL	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
		EG	QO (B)	15–70 A	15–125 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) EPE	—	—	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
		BG, HG, JG, LG	QO (B)	15–70 A	15–125 A	—
			QOB-VH	—	150 A	—
			QO (B) PL	15–30 A	15–60 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
	100,000	QJ	QO (B)	15–70 A	15–125 A	—
			QOB-VH	—	150 A	—
			QO (B) PL	15–30 A	15–60 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—

[1] Series Ratings listed at higher system voltages apply to lower system voltages (Example: 240 3P/3W covers 208Y/120 3P/4W).
[2] Short Circuit tests are conducted at 100–105% of the maximum rated voltage of the panelboard.
[3] Please consult the NQ/NQM Panelboards Information Manual (80043-712-06) for additional information, including series ratings with obsolete circuit breakers.
[4] Where LG is shown, LJ and LL can be used.
[5] Unless otherwise noted, main breakers can be applied at the maximum available amperage rating.
[6] Suffixes HID, SWD, and SWN may also be applied to the applicable branch circuit breakers shown above.
[7] Where QO(B) circuit breakers are shown above, QO(B)H, QO(B)VH, and QH(B) circuit breakers may also be used.
[8] Two-pole CAFI circuit breakers cannot be used on 208Y/120V systems.

Table 9.1 NQ Series Connected Circuit Breaker Ratings (RMS Symmetrical) (cont'd.)

Maximum System Voltage AC *[9]*	Maximum Short Circuit Current Rating*[10]*	Square D™ Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses*[11][12][13]*	Square D™ Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
			Type*[14][15][16]*	1 Pole	2 Pole	3 Pole
		EJ	QO (B)	15–70 A	15–125 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
		BJ, HJ, JJ	QO (B)	15–70 A	15–125 A	—
			QOB-VH	—	150 A	—
			QO (B) PL	15–30 A	15–60 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
		LJ	QO (B)	15–70 A	15–125 A	—
			QOB-VH	—	150 A	—
			QO (B) GFI	—	15–60 A	—
			QO (B) EPD	—	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
	125,000	HL, JL	QO (B)	15–70 A	15–125 A	—
			QOB-VH	—	150 A	—
			QO (B) PL	15–30 A	15–60 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
	200,000	HR, JR	QO (B)	15–70 A	15–125 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
240 1P/2W	25,000	QD, BD, HD, JD, LD	QO (B) H	—	15–100 A	—
	42,000	LA	QDL	—	70–225 A	—
	65,000	QG, BG, HG, JG, LG	QO (B) H	—	15–100 A	—
	100,000	BJ, HJ, JJ, LJ	QO (B) H	—	15–100 A	—
	125,000	HL, JL	QO (B) H	—	15–100 A	—
208Y/120 3P/4W	18,000	LA/LH	QO (B)	—	—	15–30 A
	22,000	QO (B) VH, QOB-VH	QO (B) GFI	—	—	15–50 A
	25,000	QD, ED, BD, HD, JD	QO (B) GFI	—	—	15–50 A
		LD	QO (B) GFI	—	—	15–30 A
	65,000	QG, EG, BG, HG, JG	QO (B) GFI	—	—	15–50 A
		LG	QO (B) GFI	—	—	15–30 A
	100,000	QJ	QO (B)	—	—	15–30 A
			QO (B) VH	—	—	15–100 A
			QOB-VH	—	—	110–150 A
			QO (B) PL	—	—	15–30 A
			QO (B) GFI	—	—	15–50 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
		EJ, BJ, HJ, JJ	QO (B) GFI	—	—	15–50 A
240/120 3P/4W 240 3P/3W	22,000	QO (B) VH	QO (B)	—	—	15–100 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
	25,000	QD	QO (B)	—	—	15–30 A
			QO (B) VH	—	—	15–100 A
			QOB-VH	—	—	110–150 A
			QO (B) PL	—	—	15–30 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
		ED	QO (B)	—	—	15–100 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
		BD, HD, JD	QO (B)	—	—	15–100 A
			QO (B) VH	—	—	110–150 A
			QO (B) PL	—	—	15–30 A

[9] Series Ratings listed at higher system voltages apply to lower system voltages (Example: 240 3P/3W covers 208Y/120 3P/4W).
[10] Short Circuit tests are conducted at 100–105% of the maximum rated voltage of the panelboard.
[11] Please consult the NQ/NQM Panelboards Information Manual (80043-712-06) for additional information, including series ratings with obsolete circuit breakers.
[12] Where LG is shown, LJ and LL can be used.
[13] Unless otherwise noted, main breakers can be applied at the maximum available amperage rating.
[14] Suffixes HID, SWD, and SWN may also be applied to the applicable branch circuit breakers shown above.
[15] Where QO(B) circuit breakers are shown above, QO(B)H, QO(B)VH, and QH(B) circuit breakers may also be used.
[16] Two-pole CAFI circuit breakers cannot be used on 208Y/120V systems.

Table 9.1 NQ Series Connected Circuit Breaker Ratings (RMS Symmetrical) (cont'd.)

Maximum System Voltage AC *[9]*	Maximum Short Circuit Current Rating*[10]*	Square D™ Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses*[11][12][13]*	Square D™ Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
			Type*[14][15][16]*	1 Pole	2 Pole	3 Pole
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
		LD	QO (B) VH	—	—	15–100 A
			QOB-VH	—	—	110–150 A
			QO (B) EPD	—	—	15–30 A
			QO (B) EPE	—	—	15–30 A
	42,000	LA	QDL	—	—	70–225 A
			QO (B) VH	—	—	15–30 A
		MG	QOB-VH	—	—	110-150A
	65,000	QG	QO (B)	—	—	15–30 A
			QO (B) VH	—	—	15–100 A
			QOB-VH	—	—	110–150 A
			QO (B) PL	—	—	15–30 A
		EG, FG	QO (B)	—	—	15–100 A
			QOB-VH	—	—	110–125 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
		BG, HG, JG	QO (B)	—	—	15–100 A
			QOB-VH	—	—	110–150 A
			QO (B) PL	—	—	15–30 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
		LG	QO (B) VH	—	—	15–100 A
			QOB-VH	—	—	110–150 A
			QO (B) EPD	—	—	15–30 A
			QO (B) EPE	—	—	15–30 A
		EJ	QO (B)	—	—	15–100 A
			QOB-VH	—	—	110–125 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
		BJ, HJ, JJ	QO (B)	—	—	15–100 A
			QOB-VH	—	—	110–150 A
			QO (B) PL	—	—	15–30 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
		LJ	QO (B) VH	—	—	15–100 A
			QOB-VH	—	—	110-150A
	125,000	HL, JL	QO (B)	—	—	15–100 A
			QOB-VH	—	—	110-150A
			QO (B) PL	—	—	15–30 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
	200,000	HR, JR	QO (B)	—	—	15–100 A
			QOB-VH	—	—	110-150A
120/240 1P/3W 208Y/120 3P/4W 240/120 3P/4W	42,000	400 A Max. Class T3 Fuses	QO (B) VH	15–70 A	15–125 A	—
	65,000	400 A Max. Class J Fuses	QO (B) VH	15–70 A	15–125 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
		400 A Max. Class T6 Fuses	QO (B) VH	15–70 A	15–125 A	—
			QOB-VH	—	150 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
	100,000	200 A Max. Class T3 Fuses	QO (B)	15–70 A	15–125 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
			QO (B) AFI	15–20 A	—	—
			QO (B) CAFI	15–20 A	15–20 A	—
			QO (B) DF	15–20 A	—	—
	200,000	200 A Max. Class T6 or J Fuses	QO (B)	15–70 A	15–125 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
		400 A Max. Class T3 Fuses	QO (B)	15–70 A	15–125 A	—
			QO (B) GFI	15–30 A	15–60 A	—
			QO (B) EPD	15–30 A	15–60 A	—
208Y/120 3P/4W	65,000	400A Max Class J	QO (B) GFI	—	—	15–50 A
	100,000	200A Max Class T3	QO (B) GFI	—	—	15–50 A
	200,000	200 A Max. Class T6 or J Fuses	QO (B) GFI	—	—	15–50 A
		400 A Max. Class T3 Fuses	QO (B) GFI	—	—	15–50 A

[9] Series Ratings listed at higher system voltages apply to lower system voltages (Example: 240 3P/3W covers 208Y/120 3P/4W).
[10] Short Circuit tests are conducted at 100–105% of the maximum rated voltage of the panelboard.
[11] Please consult the NQ/NQM Panelboards Information Manual (80043-712-06) for additional information, including series ratings with obsolete circuit breakers.
[12] Where LG is shown, LJ and LL can be used.
[13] Unless otherwise noted, main breakers can be applied at the maximum available amperage rating.
[14] Suffixes HID, SWD, and SWN may also be applied to the applicable branch circuit breakers shown above.
[15] Where QO(B) circuit breakers are shown above, QO(B)H, QO(B)VH, and QH(B) circuit breakers may also be used.
[16] Two-pole CAFI circuit breakers cannot be used on 208Y/120V systems.

Table 9.1 NQ Series Connected Circuit Breaker Ratings (RMS Symmetrical) (cont'd.)

Maximum System Voltage AC *[9]*	Maximum Short Circuit Current Rating*[10]*	Square D™ Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses*[11][12][13]*	Square D™ Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
			Type*[14][15][16]*	1 Pole	2 Pole	3 Pole
240/120 3P/4W 240 3P/3W	50,000	600 A Max. Class T3 Fuses	QO (B) VH	—	—	15–30 A
	65,000	400 A Max. Class J Fuses	QO (B) VH	—	—	15–100 A
		400 A Max. Class T6 Fuses	QO (B) VH	—	—	15–100 A
			QOB-VH	—	—	110–150 A
	100,000	200 A Max. Class T3 Fuses	QO (B)	—	—	15–100 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
	200,000	200 A Max. Class T6 or J Fuses	QO (B)	—	—	15–100 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A
		400 A Max. Class T3 Fuses	QO (B)	—	—	15–100 A
			QO (B) EPD	—	—	15–50 A
			QO (B) EPE	—	—	15–50 A

[9] Series Ratings listed at higher system voltages apply to lower system voltages (Example: 240 3P/3W covers 208Y/120 3P/4W).
[10] Short Circuit tests are conducted at 100–105% of the maximum rated voltage of the panelboard.
[11] Please consult the NQ/NQM Panelboards Information Manual (80043-712-06) for additional information, including series ratings with obsolete circuit breakers.
[12] Where LG is shown, LJ and LL can be used.
[13] Unless otherwise noted, main breakers can be applied at the maximum available amperage rating.
[14] Suffixes HID, SWD, and SWN may also be applied to the applicable branch circuit breakers shown above.
[15] Where QO(B) circuit breakers are shown above, QO(B)H, QO(B)VH, and QH(B) circuit breakers may also be used.
[16] Two-pole CAFI circuit breakers cannot be used on 208Y/120V systems.

NF and I-Line™ Panelboards

This page contains UL Tested and Certified series combination ratings for panelboards. These ratings apply to either an integral main located in the same enclosure or a remote main located in a separate enclosure.

Table 9.2: NF Series Connected Circuit Breaker Ratings (RMS Symmetrical)

Maximum System Voltage, AC *[17]*	Max. Short Circuit Current Rating	Square D™ Brand Integral or Remote Main Circuit Breakers and Remote Main Fuses*[18]*	Square D™ Brand Branch Circuit Breaker Catalog Designation and Allowable Ampere Ranges			
			Circuit Breaker Abbreviation*[19]*	1 Pole	2 Pole	3 Pole
120 120/240 240	65,000	EG, BG, HG, JG, LG, LH	EDB	15–70	15–125	15–125
		EG	ECB-G3	15–30	15–30	15–30
	100,000	EJ, BJ, HJ, JJ, LJ	EDB, EGB	15–70	15–125	15–125
		EJ, BJ, HJ, JJ	ECB-G3	15–30	15–30	15–30
	125,000	HL, JL	EDB, EGB, EJB	15–70	15–125	15–125
		HL, JL	ECB-G3	15–30	15–30	15–30
	200,000	HR, JR, LR	EDB, EGB, EJB	15–70	15–125	15–125
		HR, JR	ECB-G3	15–30	15–30	15–30
		Class J or T (600 V) 200 A Max Fuses	ECB-G3	15–30	15–30	15–30
277 480Y/277	35,000	EG, BG, HG, JG, LG, LH	EDB	15–70	15–125	15–125
		EG, BG, HG, JG, LG, LH	EDB-EPD	15–50	—	—
		EG, BG, HG, JG	ECB-G3	15–30	15–30	15–20
	65,000	EJ, BJ, HJ, JJ, LJ	EDB, EPD	15–70	15–125	15–125
		EJ, BJ, HJ, JJ, LJ, LL	EDB-EPD, EGB-EPD	15–50	—	—
		EJ, BJ, HJ, JJ	ECB-G3	15–30	15–30	15–20
	100,000	HL, JL, LL	EDB, EGB, EJB	15–70	15–125	15–125
		HL, JL, LL	EDB-EPD, EGB-EPD, EJB-EPD	15–50	—	—
		Class J or T (600 V) 400 A Max Fuses	EDB, EGB, EJB	15–70	15–125	15–125
		Class J or T (600 V) 400 A Max Fuses	EDB-EPD, EGB-EPD, EJB-EPD	15–50	—	—
	200,000	HR, JR, LR	EDB, EGB, EJB	15–70	15–125	15–125
		HR, JR, LR	EDB-EPD, EGB-EPD, EJB-EPD	15–50	—	—
		HR, JR	ECB-G3	15–30	15–30	15–20
		Class J or T (600 V) 200 A Max Fuses	EDB, EGB, EJB	15–70	15–125	15–125
		Class J or T (600 V) 200 A Max Fuses	EDB-EPD, EGB-EPD, EJB-EPD	15–50	—	—
		Class J or T (600 V) 200 A Max Fuses	ECB-G3	15–30	15–30	15–20
347 600Y/347	18,000	HG, BG, JG, LG	EDB	15–70	15–100	15–100
	25,000	EJ, BJ, HJ, JJ, LJ, LH	EDB, EGB	15–70	15–100	15–100
	50,000	HL, JL, LL	EDB, EGB, EJB	15–70	15–100	15–100
	65,000	HR, JR	EDB, EGB, EJB	15–70	15–100	15–100
		LR	EJB	15–70	15–100	15–100
	200,000	Class J or T (600 V) 200 A Max Fuses	EDB, EGB, EJB	15–70	15–100	15–100

Table 9.3: I-Line Series Connected Circuit Breaker Ratings (RMS Symmetrical)

Maximum System Voltage AC *[20]*	Maximum Short Circuit Current Rating	Square D Brand Integral or Remote 2- or 3-Pole Main Circuit Breaker *[21]*	Square D Brand Branch Circuit Breaker	
			Catalog Designation	Poles
120	42,000	MG	FY	1
	65,000	QG, LH	FA, FD	
		QG, BG6, HG, JG, LG, MG, PG	BD6 (60 A Max.)	
	100,000	FJ, QJ	FD	
		QJ, LC	FA	
		LJ	FH	
		QJ, BJ, HJ, JJ, LJ, MJ, PJ	BD6, BG6 (60 A Max.)	
	125,000	HL, JL, LL	BD6, BG6, BJ (60 A Max.)	
	200,000	LR	FH, FY	
		HR, JR	BD6, BG6, BJ (60 A Max.)	
208Y/120	65,000	QG, BG6, HG, JG, LG, MG, PG	BD6	2, 3
	100,000	QJ	FA, FD	
		QJ, BJ, HJ, JJ, LJ, MJ, PJ	BD6, BG6	
		QJ, PH, PJ, RJ	QD, QG	
240	35,000	MG	FA	1
	42,000	KA	FD	1, 2, 3
		LA, MA	HD, JD, QD	2, 3
	50,000	MG	FA	
		MG	FA (25 A Max.)	1
	65,000	HG, JG	FA, HD	2, 3
		JG	JD, QD	
		QG	FA, FD, QD	
		QG, BG6, HG, JG, LG, MG, PG	BD6	
		LH, MH, PA, PG, RG	HD, JD, QD	
		FG, FH, MH, MX, PJ	FD	1, 2, 3
		FC, KC, KH, LC, LH	FD, FG	
		LH	FA	
		LH	LA	2, 3
		MG	HD, JD, KA	
		DG	FH, HD, JD, KA, LA, MA	
		LG	HD, JD, KA, LA, MA	
		LG	LD	3

[17] Short circuit tests are conducted at 100–105% of the maximum rated voltage of the panelboard.
[18] Please consult the NF/NFOM Panelboards Information Manual (80043-741-03) for additional information, including series ratings with obsolete circuit breakers.
[19] EDB-EPD, EGB-EPD & EJB-EPD suitable for 480Y/277Vac or 277Vac ONLY.
[20] For indicated circuit breakers rated less than this maximum voltage. The indicated short circuit current rating also applies, but at the voltage rating of the circuit breaker.
[21] LD, LG, LJ, and LL are only available in 3-pole configurations.

Table 9.3 I-Line Series Connected Circuit Breaker Ratings (RMS Symmetrical) (cont'd.)

Maximum System Voltage AC *[22]*	Maximum Short Circuit Current Rating	Square D Brand Integral or Remote 2- or 3-Pole Main Circuit Breaker *[23]*	Square D Brand Branch Circuit Breaker	
			Catalog Designation	Poles
	85,000	RL	FH, KH	2, 3
	100,000	FC, KC, LC, LX	FD, FG, FJ	1
		PH, PJ, RJ	QD, QG	2, 3
		QJ	FD	2
		FJ	FD	2, 3
		LJ	HD, HG, JD, JG, FH, KA, LA, MA, MG	
		LJ	LD, LG	3
		FC, KC	FA, FH, FD, FG, FJ	2, 3
		LC, LX	FH, FD, FG, FJ	
		QJ, BJ, HJ, JJ, LJ, MJ, PJ	BD6, BG6	
		KC, LC, LX	KA	
		KC, LC	KH	
		LC	LA, LH, MG	
		LC	FA	1, 2, 3
		HJ, JJ	FA, FH, HD, HG	2, 3
		JJ	JD, JG	
		LC, LX, MJ, PJ, RJ	HD, HG, JD, JG	
		MJ	LA, LH	
		DJ	FH, HD, HG, JD, JG, KA, LA, MA, MG	
		RL	RG	
		HL, JL	HD, HG, HJ, FA, FH	
	125,000	JL	JD, JG, JJ	
		HL, JL, LL	BD6, BG6, BJ	
		PC, PH, PL, RL	HD, HG, JD, JG	
		PC, PL, RL	HJ, JJ	
		FI, KI, LI, LXI	HD, HG, HJ	
		KI, LI, LXI	JD, JG, JJ	
	200,000	FI, KI, LI, LXI	FD, FG, FJ	1
		FI, KI	FA, FH, FC, FD, FG, FJ	2, 3
		LI, LXI	FH, FD, FG, FJ	
		LI	FC	
		HR, JR, LR	BD6, BG6, BJ	
		KI, LI, LXI	KA, QD, QG, QJ	
		LI	KC	
		JR	QD	
		LR	HJ, HL, JJ, JL, FH, LA, LH, QD, QG, QJ	
277	18,000	LD	FY	1
	25,000	FH, KA	FD	
	35,000	FG, KH, LH	FD	
		DG, LG	FH, FY	
		FC, KC	FH	
		BG6, HG, JG, LG, MG, PG	BD6 (60 A Max.)	
	65,000	FJ	FD	
		FC, KC	FA, FY, FD, FG	
		LC, LX (400 A Max.)	FH	
		LC, LX (600 A Max.)	FY, FD, FG	
		DJ	FH, FY	
		LL	FY	
		LJ	FH, FY	
		BJ, HJ, JJ, LJ, MJ, PJ	BD6, BG6 (60 A Max.)	
		FI, KI	FH	
	100,000	DL, LL	FH, FJ	
		HL, JL, LL	BD6, BG6, BJ (60 A Max.)	
	200,000	FI, KI	FA, FY, FD, FG, FJ	
		LI, LXI, (400 A Max.)	FH	
		LI, LXI, (600 A Max.)	FY, FD, FG, FJ	
		HR, JR	BD6, BG6, BJ (60 A Max.)	
480	22,000	MG	FA	2, 3
		MX, PA, PC, PX	FH	
	30,000	KH, LA, MA, PJ	FH	
		LA, MA, PA, PC, PX	KA	
		LA, MA, PA	HD, JD	
		MG	FA (25 A Max.), FH, KA	
		MX, PA	HD, JD	
	35,000	MH	HD, JD	
		HG, JG	FA, HD	
		JG	JD	
		LH, MG, PG, RG	HD, JD	
		BG6, HG, JG, LG, MG, PG	BD6	
		LH	HG, JG	
		DG	FH, HD, JD, KA, LA, MA	
		LG	LD	3
		LG	HD, JD, FH, KA, LA, MA	2, 3
	42,000	MJ	FH (25 A Max.)	2, 3
		RL	RG	
	50,000	MJ	KA, KH	

[22] For indicated circuit breakers rated less than this maximum voltage. The indicated short circuit current rating also applies, but at the voltage rating of the circuit breaker.
[23] LD, LG, LJ, and LL are only available in 3-pole configurations.

Table 9.3 I-Line Series Connected Circuit Breaker Ratings (RMS Symmetrical) (cont'd.)

Maximum System Voltage AC *[22]*	Maximum Short Circuit Current Rating	Square D Brand Integral or Remote 2- or 3-Pole Main Circuit Breaker *[23]*	Square D Brand Branch Circuit Breaker	
			Catalog Designation	Poles
	65,000	FC, KC	FA, FH	
		HJ, JJ	FA, FH, HD, HG	
		BJ, HJ, JJ, LJ, MJ, PJ	BD6, BG6	
		JJ	JD, JG	
		LC, LI, LX, LXI	HD, HG, JD, JG	
		LC, LX, (400 A Max.)	FH	
		KC, LC, LX	KA	
		LC, LX	LA	
		DJ	FH, HD, HG, JD, JG, KA, LA, MA	
		LJ	LD, LG	3
		LJ	HD, HG, JD, JG, FH, KA, LA, MA	2, 3
	100,000	HL, JL	FA, FH, HD, HG, HJ	2, 3
		HL, JL, LL	BD6, BG6, BJ	
		JL	JD, JG, JJ	
		LI, LXI (600 A Max.)	KA	
		PC, PH, PL, RL	HJ, JJ	
		RL	RG	
		DL	FH, HD, HG, HJ, JD, JG, JJ, KA, LA, MA	
		LL	LD, LG, LJ	3
		LL	HD, HG, HJ, JD, JG, JJ, FH, KA, LA, MA	2, 3
		JR	FA	
	200,000	FI, KI	FA, FH, FC, HD, HG, HJ	
		HR, JR	BD6, BG6, BJ	
		KI	JD, JG, JJ, KA	
		LI	FC, KA, KC, LA, HJ, HL, JJ, JL	
		LXI	KA, HJ, HL, JJ, JL	
		HR	FA, HD, HG, HJ, HL	
		JR	HD, HG, HJ, HL, JD, JG, JJ, JL	
		LR	HJ, HL, JJ, JL, FH, LA, LH	
480Y/277	25,000	FH, KA	FD	
	35,000	FG, KH, LH	FD	
		BG6, HG, JG, LG, MG, PG	BD6	
	65,000	FJ	FD	
		BJ, HJ, JJ, LJ, MJ, PJ	BD6, BG6	
		FC, KC	FD, FG	
		LC, LX (600 A Max.)	FD, FG	
	100,000	HL, JL, LL	BD6, BG6, BJ	
	200,000	FI, KI	FD, FG, FJ	
		HR, JR	BD6, BG6, BJ	
		LI, LXI (600 A MAX.)	FD, FG, FJ	
600	18,000	HG, JG	FA, HD	2, 3
		JG	JD	
		MG, PG, RG	HD, JD	
		MG	FA	
		LG	LD	3
		LG	HD, JD	2, 3
	25,000	HJ, JJ	FA, HD, HG	
		JJ	JD	
		PJ, RJ	MG	
		LJ	LD, LG	3
		LJ	JD, JG, HD, HG, MA	2, 3
	35,000	LC	FH, HD, HG, HJ, JD, JG, JJ, LA	
	50,000	HL, JL	FA, HD, HG, HJ	
		JL	JD, JG, JJ	
		PK	HJ, JJ, MJ	
		LL	LD, LG, LJ	3
		LL	HD, HG, HJ, JD, JG, JJ, MA	2, 3
	100,000	FI, KI	HD, HG, HJ	
		KI	JD, JG, JJ	
		HR	FA, HD, HG, HJ, HL	
		JR	FA, HD, HG, HJ, HL, JD, JG, JJ, JL	
		KI, LI	FH	
		LI	LA	
347	18,000	BG6, HG, JG, LG, MG, PG	BD6 (60 A Max.)	1
	25,000	BJ, HJ, JJ, LJ, MJ, PJ	BD6, BG6 (60 A Max.)	
	100,000	HR, JR	BD6, BG6, BJ (60 A Max.)	
600Y/347	18,000	BG6, HG, JG, LG, MG, PG	BD6	3
		MG	FA (25 A Max.)	1
	25,000	BJ, HJ, JJ, LJ, MJ, PJ	BD6, BG6	3
		MJ	FA (25 A Max.)	1
	50,000	HL, JL, LL	BD6, BG6, BJ	3
		HL, JL	FJ	1
	100,000	HR, JR	BD6, BG6, BJ	3

[22] For indicated circuit breakers rated less than this maximum voltage. The indicated short circuit current rating also applies, but at the voltage rating of the circuit breaker.
[23] LD, LG, LJ, and LL are only available in 3-pole configurations.

I-Line Panelboards

Table 9.4: Fuse/I-Line Circuit Breaker Series Connected Ratings

Maximum System Voltage AC *[22]*	Maximum Short Circuit Current Rating	Remote Main Fuse		Square D Brand Branch Circuit Breaker Catalog Designation (2- or 3-Pole) Unless Otherwise Stated
		Max A	Class	
120/240 1Ø 208Y/120	100,000	1200 A	L, T (300 V)	QD, QG
		800 A	T (600 V)	
		600 A	J, RK5	
240	65,000	1200 A	L, T (300 V)	QD
		800 A	T (600 V)	
		600 A	J, RK5	
	100,000	1200 A	L, T (300 V)	QD, QG (2-Pole)
		800 A	T (600 V)	
		600 A	J, RK5	
			J, T (600 V)	FA, FH, KA, KH, KC, LA, LH, MA, MH, MX, PG
			RK5	FH, KA, KH, LA, LH, MA, MH, MX, PG, HD, HG, HJ, HL, JD, JG, JJ, JL
			J	HD, HG, HJ, HL, JD, JG, JJ, JL
		800 A	T (600 V)	FH, KA, KH, LA, LH, MA, MH, MX, PG
			T (300 V)	PG
			L	FH, KA, KH, LA, LH, MA, MH, MX, PG
		1200 A	L	FH, KH, LA, LH, MA, MH, MX, PG
			T (600 V)	HD, HG, HJ, HL, JD, JG, JJ, JL
	200,000	600 A	J, T (600 V)	FA (3-pole only) FH, FC, KH, KC, LA, LH, LC, MA, MH, MX, NA, NC, NX, PG, PJ, PL
			RK5	FH, FC, HD, HG, HJ, HL, JD, JG, JJ, JL, KH, KC, LA, LH, LC, MA, MH, MX, NC, NX, PG,PJ, PL
			J	HD, HG, HJ, HL, JD, JG, JJ, JL
		800 A	T (600 V)	FH, FC, KA, KH, KC, LA, LH, LC, MA, MH, MX, NA, NC, NX, PG, PJ, PL
			T (300 V)	PG, PJ, PL
			L	FH, FC, KH, KC, LA, LH, LC, MA, MH, MX, NA, NC, NX, PG, PJ, PL
		1200 A	L	FC, KH, KC, LC, MA, MH, MX, NA, NC, NX, PG, PJ, PL
			T (600 V)	HD, HG, HJ, HL, JD, JG, JJ, JL
480	100,000	400 A	J, T(600 V)	HD, HG, HJ, HL, JD, JG, JJ, JL
		600 A	J, RK5	HJ, HL, JJ, JL
			J, T (600 V)	FC, KA, KH, KC, LA, LH, LC, MA, MH, MX, NA, PG, PJ
			RK5	FC, KA, KH, KC, LA, LH, LC, MA, MH, MX, NA, PG, PJ
		800 A	L, T(600V)	FC, KA, KH, KC, LA, LH, LC, MA, MH, MX, NA, PG, PJ
		1200 A	L	FC, KH, KC, LA, LH, LC, MA, MH, MX, NA, PG, PJ
			T (600 V)	HJ, HL, JJ, JL
	200,000	200 A	RK5	HJ, HL
		400 A	J	FA, FH, FC, HJ, HL, JJ, JL, KA, KH, KC, LA, LH, LC, MA, MH, MX, NA, NC, NX, PG, PJ, PL
			T (600 V)	FA, FH, FC, HJ, HL, JJ, JL, KA, KH, KC, LA, LH, MA, MH, MX, NA, NC, NX
		600 A	J	FC, KA, KH, KC, LA, LH, LC, MA, MH, MX, MG, MJ, NA, NC, NX, PG, PJ, PL
			T(600 V)	KA, KH, KC, LA, LH, MA, MH, MX, NA, NC, NX
			RK5	KC, LA, LH, LC, MA, MH, MX, MG, MJ, NC, NX, PG, PJ
		800 A	T(300 V)	PG, PJ, PL
			T(600 V)	KA, KH, KC, LA, LH, MA, MH, MX, MG, MJ, NA, NC, NX, PG, PJ, PL
			L	KC, LA, LH, LC, MA, MH, MX, NA, NC, NX, PG, PJ, PL
		1200 A	L	KC, LC, MA, MH, MX, MG, MJ, NA, NC, NX, PG, PJ, PL
600	100,000	30 A	CC	HG, JG (Molded Case Switches)
		200 A	J	HD, HG, HJ, HL, JD, JG, JJ, JL
		400 A	J, T (600 V)	HJ, HL, JJ, JL

- The fuse used in this UL test is an envelope (umbrella) fuse. This fuse is designed as a “worst case’’ fuse. Thus, no matter what manufacturer’s fuse is used, the Square D™ brand circuit breaker is protected.
- The line side fused switch may be in a separate enclosure or in the same enclosure as the loadside breaker. A line side fused switch may be a submain, integral main, or remote main. A load side breaker may be a branch, submain, or an integral main used on the load side of a remote main. This series combination short circuit current rating shall not exceed that of the line side fused switch. The charts apply to Square D™ brand load side breakers only. However, the line side fuse ratings are independent of the fuse manufacturer.
- Not applicable to Corner Grounded Systems.
- Limiters used in Square D™ brand DSL and DSL II fused power circuit breakers are not class L fuses and do not have series ratings.

[22] For indicated circuit breakers rated less than this maximum voltage. The indicated short circuit current rating also applies, but at the voltage rating of the circuit breaker.

Selection Procedure for NQ Merchandised Panelboards

1. Review maximum electrical system voltage, ampacity, and available fault current, and determine the type of panelboard is desired (see tables Table 9.1–Table 9.4).
2. Identify type (plug-on or bolt-on) and total quantity of branch circuit breaker poles and panel spaces required (see Digest sections 7 and 9 for catalog numbers).
3. Select proper main lug interior (from Table 9.5 or Table 9.7) or:
   - Select main circuit breaker interior and main circuit breaker adapter kit (from tables 9.6 NQ Main Circuit Breaker Interiors, page 9-12 or Table 9.8 NQ 14-inch-wide Main Circuit Breaker Interiors, page 9-13), based upon the equivalent number of poles and ampere rating.
     NOTE: Interiors include solid neutral and are field convertible to top-feed.
   - If a main circuit breaker interior was selected, select a main circuit breaker (or fuse) from pages page 7-2, page 7-6, page 7-7, or page 7-11.
4. Select ground bars from tables Table 9.9 or any non-standard neutral bars (i.e., 200% neutral for non-linear loads) from table Table 9.38.
5. Select any required sub-feed circuit breakers, sub-feed lugs (SFL), or feed-through lugs (FTL) kits:
   - Sub-feed lugs (SFL) or feed-through lugs (FTL) kits: tables Table 9.39 in the NQ Accessories sections.
   - Any subfeed circuit breakers: Table 7.1 or tables Table 9.10–Table 9.14.
6. Determine the total mounting inches required by adding requirements from interior, main circuit breaker, neutrals and ground bars, SFL, FTL, or sub-feed circuit breaker.
7. Select enclosure from the tables Table 9.5–Table 9.9, Table 9.38–Table 9.42, Table 9.19, Table 9.21, and Table 9.23.
   NEMA Type 1—select box and front (cover) catalog number corresponding to interior catalog number.
   NEMA Type 3R, 5, 12—select enclosure. Cover for Type 3R, 5, 12 is included with the enclosure.
8. Select the branch circuit breakers to be installed in the panel.
   For NQ panelboards use QO circuit breakers from tables Table 7.1, page 7-13–page 7-14, or QOB circuit breakers from Table 9.10–Table 9.14.
9. Select options and accessories from tables Table 9.7–Table 9.43.
   NOTE: Additional NF and NQ options may be found in the Supplemental and Obsolescence Digest, Section 4.

NQ Merchandised Selection Example
208Y/120 Vac, 3Ø4W, 10 kA SCCR, 225 A, MLO, NEMA Type-1, surface-mount, bolt-on, branch circuit breakers, main sub-feed lugs

Branches	Table No.	Catalog Number	Spaces
(20) 20/1	Table 9.11	(20) QOB120	20
two 40/2	Table 9.11	two QOB240	4
two 30/3	Table 9.11	two QOB330	6
			Total 30 spaces

			Min. Box Height
225 A MLO Interior	Table 9.5	NQ430L2	32 inches
Enclosure (Box)	Table 9.5	MH38	—
Front (Cover)	Table 9.5	NC382S	—
Sub-feed Lugs	Table 9.39 and Table 9.40	NQSFL2	6 inches
			Total 38 inches

NQ Main Lug Interiors—240 Vac, 48 Vdc

Table 9.5: Main Lug Interiors—Accepts plug-on and bolt-on circuit breakers

Circuit Breaker Pole Spaces	Mains Rating	Interior Only (Order Branch Circuit Breakers Separately) *[1]*	NEMA Type 1 Enclosure			NEMA Type 3R, 5, 12 Enclosure *[2]*	Height (In.)
			Box 20 in. W x 5.75 in. D *[3]*	Mono-Flat™ Front *[4]*	Hinged Front	Enclosure 21 in. W x 6.5 in. D	
		Catalog No. *[5]*	Catalog No.	Catalog No.	Catalog No.	Catalog No.	
20-inch-wide Cabinet —Single Phase 3-Wire							
18	100	NQ18L1	MH26	NC26 ( )	NC26( )HR	MH26WP	26
		NQ18L1C					
30		NQ30L1	MH32	NC32 ( )	NC32( )HR	MH32WP	32
		NQ30L1C					
30	225	NQ30L2	MH32	NC32 ( )	NC32( )HR	MH32WP	32
		NQ30L2C					
42		NQ42L2	MH38	NC38 ( )	NC38( )HR	MH38WP	38
		NQ42L2C					
72*[6]*		NQ72L2	MH44	NC44 ( )	NC44( )HR	MH44WP	44
		NQ72L2C					
84*[6]*		NQ84L2	MH50	NC50 ( )	NC50( )HR	MH50WP	50
		NQ84L2C					
30	400	NQ30L4	MH50	NC50V ( )	NC50V( )HR	MH50WP	50
		NQ30L4C					
42		NQ42L4					
		NQ42L4C					
54		NQ54L4	MH56	NC56V( )	NC56V( )HR	MH56WP	56
		NQ54L4C					
84*[6]*		NQ84L4C	MH68	NC68V ( )	NC68V( )HR	MH68WP	68
30	600	NQ30L6C	MH50	NC50V ( )	NC50V( )HR	MH62WP*[7]*	50/62
42		NQ42L6C					
54		NQ54L6C	MH56	NC56V( )	NC56V( )HR	MH56WP	56
84*[6]*		NQ84L6C	MH68	NC68V ( )	NC68V( )HR	MH80WP*[7]*	68/80
20-inch-wide Cabinet —Three Phase 4-Wire							
18	100	NQ418L1	MH26	NC26 ( )	NC26( )HR	MH26WP	26
		NQ418L1C					
30		NQ430L1	MH32	NC32 ( )	NC32( )HR	MH32WP	32
		NQ430L1C					
30	225	NQ430L2	MH32	NC32 ( )	NC32( )HR	MH32WP	32
		NQ430L2C					
42		NQ442L2	MH38	NC38 ( )	NC38( )HR	MH38WP	38
		NQ442L2C					
54		NQ454L2					
		NQ454L2C					
72*[6]*		NQ472L2	MH44	NC44 ( )	NC44( )HR	MH44WP	44
		NQ472L2C					
84*[6]*		NQ484L2	MH50	NC50 ( )	NC50( )HR	MH50WP	50
		NQ484L2C					
30	400	NQ430L4	MH50	NC50V ( )	NC50V( )HR	MH50WP	50
		NQ430L4C					
42		NQ442L4					
		NQ442L4C					
54		NQ454L4	MH56	NC56V( )	NC56V( )HR	MH56WP	56
		NQ454L4C					
72*[6]*		NQ472L4	MH62	NC62V ( )	NC62V( )HR	MH62WP	62
		NQ472L4C					
84*[6]*		NQ484L4C	MH68	NC68V ( )	NC68V( )HR	MH68WP	68
30	600	NQ430L6C	MH50	NC50V ( )	NC50V( )HR	MH62WP*[7]*	50/62
42		NQ442L6C					
54		NQ454L6C	MH56	NC56V( )	NC56V( )HR	MH56WP	56
84*[6]*		NQ484L6C	MH68	NC68V ( )	NC68V( )HR	MH80WP*[7]*	68/80

Note: All NQ Merchandised Panelboard interiors include the following: a NQFP15 bag of blank filler plates; a neutral bonding strap; an NQ information manual; a NEMA instruction booklet; and a roll of circuit numbers.

[1] Accepts all QO(B) shown in Tables in Sections 7 and 9.
[2] Enclosure includes trim kit.
[3] Embossed mounting holes add a 0.25-inch standoff to back of MH box.
[4] Add "F" for flush mount, "S" for surface mount.
[5] "C" suffix indicates copper bussing.
[6] Use only if the Local Jurisdiction where this panelboard interior is being applied has adopted the 2008 NEC, which allows single panelboard interiors greater than 42 circuits.
[7] When NEMA 3R, 5, or 12 enclosures are selected, an NQ12RDE kit should also be selected. See NQ Merchandised Accessories, page 9-20.

NQ Main Circuit Breaker Interiors—240 Vac, 48 Vdc

Table 9.6: Main Circuit Breaker Interiors—Will accept plug-on and bolt-on circuit breakers

Circuit Breaker Pole Spaces	Mains Rating	Interior Only (Order Branch Circuit Breakers Separately) *[8]*	Main Circuit Breaker Adapter Kit (Less Circuit Breaker)		NEMA Type 1 Enclosure			NEMA Type 3R, 5, 12 Enclosure *[9]*	
					Box 20 in. W x 5.75 in. D *[10]*	Mono-Flat™ Front	Hinged Front	Enclosure 21 in. W x 6.5in. D	Height (In.)
		Catalog No. *[11]*	Catalog No.	Circuit Breaker Frame Size *[12]*	Catalog No.	Catalog No. *[13]*	Catalog No.	Catalog No.	
20-inch-wide Cabinet *[14]*—Single Phase 3-Wire									
16*[15]*	100 back-fed	NQ18L1	—	Select QOB 2-pole or QOB-VH*[16]*	MH26	NC26 ( )	NC26( )HR	MH26WP	26
		NQ18L1C	—						
28*[15]*		NQ30L1	—		MH32	NC32 ( )	NC32( )HR	MH32WP	32
		NQ30L1C	—						
18	100	NQ18L1	NQMB2HJ	HD, HG, HJ, HL*[17]* 100 A maximum	MH38	NC38 ( )	NC38( )HR	MH38WP	38
		NQ18L1C							
30	100	NQ30L1			MH44	NC44 ( )	NC44( )HR	MH44WP	44
		NQ30L1C							
30	225	NQ30L2	NQMB2HJ NQMB2Q	HD, HG, HJ, HL*[17]* or JD, JG, JJ, JL QB,QD,QG,QJ	MH44	NC44 ( )	NC44( )HR	MH44WP	44
		NQ30L2C							
42	225	NQ42L2			MH50	NC50 ( )	NC50( )HR	MH50WP	50
		NQ42L2C							
72*[18]*	225	NQ72L2			MH56	NC56 ( )	NC56( )HR	MH56WP	56
		NQ72L2C							
84*[18]*	225	NQ84L2			MH62	NC62 ( )	NC62( )HR	MH62WP	62
		NQ84L2C							
30	400	NQ30L4	NQMB4LA	LA/LH*[19]*	MH62	NC62V ( )	NC62V( )HR	MH62WP	62
		NQ30L4C							
42	400	NQ42L4	NQMB4LA	LA/LH*[19]*	MH62	NC62V ( )	NC62V( )HR	MH62WP	62
		NQ42L4C							
54	400	NQ54L4	NQMB4LA	LA/LH*[19]*	MH68	NC68V ( )	NC68V( )HR	MH68WP	68
		NQ54L4C							
84*[18]*	400	NQ84L4C	NQMB4LA	LA/LH*[19]*	MH80	NC80V ( )	NC80V( )HR	MH80WP	80
20-inch-wide Cabinet *[14]*—Three Phase 4-Wire									
15*[15]*	100 back-fed	NQ418L1	—	Select QOB 3-pole or QOB-VH*[16]*	MH26	NC26 ( )	NC26( )HR	MH26WP	26
		NQ418L1C	—						
27*[15]*		NQ430L1	—		MH32	NC32 ( )	NC32( )HR	MH32WP	32
		NQ430L1C	—						
18	100	NQ418L1	NQMB2HJ	HD, HG, HJ, HL 100 A maximum	MH38	NC38 ( )	NC38( )HR	MH38WP	38
		NQ418L1C							
30		NQ430L1			MH44	NC44 ( )	NC44( )HR	MH44WP	44
		NQ430L1C							
30	225	NQ430L2	NQMB2HJ NQMB2Q	HD, HG, HJ, HL or JD, JG, JJ, JL QB,QD,QG,QJ	MH44	NC44 ( )	NC44( )HR	MH44WP	44
		NQ430L2C							
42		NQ442L2			MH50	NC50 ( )	NC50( )HR	MH50WP	50
		NQ442L2C							
54		NQ454L2							
		NQ454L2C							
72		NQ472L2			MH56	NC56 ( )	NC56( )HR	MH56WP	56
		NQ472L2C							
84		NQ484L2			MH62	NC62 ( )	NC62( )HR	MH62WP	62
		NQ484L2C							
30	400	NQ430L4	NQMB4LA	LA/LH*[19]*	MH62	NC62V ( )	NC62V( )HR	MH62WP	62
		NQ430L4C							
42		NQ442L4							
		NQ442L4C							
54		NQ454L4	NQMB4LA	LA/LH*[19]*	MH68	NC68V ( )	NC68V( )HR	MH68WP	68
		NQ454L4C							
72*[18]*		NQ472L4	NQMB4LA	LA/LH*[19]*	MH74	NC74V ( )	NC74V( )HR	MH74WP	74
		NQ472L4C							
84*[18]*		NQ484L4C	NQMB4LA	LA/LH*[19]*	MH80	NC80V ( )	NC80V( )HR	MH80WP	80

Note: All NQ Merchandised Panelboard interiors include the following: a NQFP15 bag of blank filler plates; a neutral bonding strap; an NQ information manual; a NEMA instruction booklet; and a roll of circuit numbers.

[8] Accepts all QO(B) shown in Tables in Sections 7 and 9.
[9] Enclosure includes trim kit.
[10] Embossed mounting holes add a 0.25 inch standoff to back of MH box.
[11] "C" suffix indicates copper bussing.
[12] Circuit breaker interrupt ratings, see the tables starting on Table 7.46 PowerPact Interrupting Ratings, page 7-30.
[13] Add "F" for flush mount, "S" for surface mount.
[14] For the NQ14-inch-wide panelboard offer, See NQ 14-inch-wide—240 Vac, 48 Vdc, page 9-13.
[15] Pole spaces shown are available for branch circuits, with spaces deducted for the back fed main breaker.
[16] QOB2150VH takes four pole spaces; all other QOB two pole circuit breakers take two pole spaces.
NOTE: Do not select a back-fed main for panels to be "Suitable for use as UL service equipment."
[17] For single phase applications, order a 3-pole breaker. Example: HDL36100.
[18] Use only if the Local Jurisdiction where this panelboard interior is being applied has adopted the 2008 NEC, which allows single panelboard interiors greater than 42 circuits.
[19] For 250 A–400 A applications, order short handle circuit breaker (i.e., LAL36400MB).

14–inch wide NQ Panelboard Main Lug

Main Circuit Breaker Panelboard

Main Lug Panelboard

NQ 14-inch-wide—240 Vac, 48 Vdc

Features

14-inch-wide NQ panelboards are now available for those customers whose equipment space is limited. Developed with customer input, Square D™ brand NQ panelboards are built to last, featuring innovations for ease of installation and durability.

- 240 Vac, 48 Vdc maximum
- 225 A maximum main circuit breaker or main lugs
- 60 A maximum branch circuit breakers
- Visi-Trip™ indication on branch circuit breakers
- 10,000–65,000 A Short Circuit Current Rating (SCCR)
- Interiors supplied with tin plated copper bus as standard
- Interiors accept bolt-on and plug-on branch circuit breakers
- Three-phase, four-wire, and single-phase, three-wire interiors available
- Panelboards available with Mono-Flat™ front
- Suitable for use as service entrance equipment
- Branch circuit filler plates provide fast and easy installation
- Both fully and series-rated systems are available

Table 9.7: Main Lug Interiors—Accepts Plug-On and Bolt-On Branch Breakers

Max. Number of Breakers	Main Ratings	Interior Only (Order Branch Circuit Breakers Seperately)	NEMA Type 1 Enclosure		
			Box 14"W x 5.75" Db	Mono Flat Front	Hinged Front
		Cat. No.	Cat. No.	Cat. No. *[20]*	Cat. No.
14-inch-wide Cabinet—Single Phase 3-Wire					
18	100 A	NQ18L1C14	NQB532	NQC32 ( )	N/A
30		NQ30L1C14	NQB532	NQC32 ( )	N/A
30	225 A	NQ30L2C14	NQB532	NQC32 ( )	N/A
42		NQ42L2C14	NQB538	NQC38 ( )	N/A
14-inch-wide Cabinet—Three Phase 4-Wire					
18	100 A	NQ418L1C14	NQB532	NQC32 ( )	N/A
30		NQ430L1C14	NQB532	NQC32 ( )	N/A
30	225 A	NQ430L2C14	NQB532	NQC32 ( )	N/A
42		NQ442L2C14	NQB538	NQC38 ( )	N/A

Table 9.8: Main Circuit Breaker Interiors—Accepts Plug-On and Bolt-On Branch Breakers

Max. Number of Breakers	Main Ratings	Interior Only (Order Branch Circuit Breakers Seperately)	Main Circuit Breaker Adapter Kit (Less Circuit Breaker)		NEMA Type 1 Enclosure		
					Box 14"W x 5.75" Db	Mono Flat Front	Hinged Front
		Cat. No.	Cat. No	Cat. No	Cat. No. *[21]*	Cat. No. *[20]*	Cat. No.
14-inch-wide Cabinet—Single Phase 3-Wire							
16 *[22]*	100	NQ18L1C14	—	Select QOB 2-pole or QOB-VH*[23]*	NQB532	NQC32 ( )	N/A
28 *[22]*		NQ30L1C14	—		NQB532	NQC32 ( )	N/A
30	225	NQ30L2C14	NQMB2HJ14 or NQMB2Q14	HD, HG, HJ, HL, HR JD, JG, JJ, JL, QB , QD, QG, QJ	NQB544	NQC44 ( )	N/A
42		NQ42L2C14			NQB550	NQC50 ( )	N/A
14-inch-wide Cabinet—Three Phase 4-Wire							
15 *[22]*	100	NQ418L1C14	—	Select QOB 3-pole or QOB-VH*[23]*	NQB532	NQC32 ( )	N/A
27 *[22]*		NQ430L1C14	—		NQB532	NQC32 ( )	N/A
30	225	NQ430L2C14	NQMB2HJ14 or NQMB2Q14	HD, HG, HJ, HL, HR JD, JG, JJ, JL, QB , QD, QG, QJ	NQB544	NQC44 ( )	N/A
42		NQ442L2C14			NQB550	NQC50 ( )	N/A

Table 9.9: NQ Accessories

Description	Catalog No.
Equipment Ground Bars	
Aluminum (twenty seven terminations #14 to #4 AWG)	PK27GTA
PK23GTA+ #1 to #4/0 Al or Cu lug	PK23GTAL
Copper (twenty seven terminations #14 to #4 AWG)	PK27GTACU
Ground Bar Insulator Kit	PKGTAB
Filler plate (15 per package)	NQFP15
Handle Attachments—Branch Circuit Breakers	
Handle lock-off	HLO1
Handle tie - (QO and QOB only)	QO1HT
Handle padlock attachment—1-pole	QO1PA
2- and 3-pole	QO1PL
Handle tie and lock-off for three 1-pole (QO, QOB)	QO3HT

[20] Add “F” for flush mount, “S” for surface mount.
[21] All 14” W boxes come with blank endwalls.
[22] Pole spaces shown are available for branch circuits, with spaces deducted for the back-fed main breaker.
[23] Select a Q or H frame circuit breaker (and associated main circuit breaker kit) from the list for 225 interiors, for panels to be "Suitable for use as UL service equipment."

QOB Bolt-On Circuit Breakers with Visi-Trip™ Indicator for NQ Panelboards

NOTE: For QO plug-on circuit breakers, see the tables in Digest topic: Plug-on Circuit Breakers.*[24]*

Table 9.10: QOB-GFI, QOB-EPD, and QOB-EPE Circuit Breakers

Ampere Rating *[25]*	One-pole	Two-pole—Common Trip	Three-pole—Common Trip	
	Catalog No.	Catalog No.	Catalog No.	Catalog No.
QOB-GFI—QOB Qwik-Gard™ Circuit Breaker With Ground Fault Circuit Interrupter—UL Class A 4–6 mA People Protection. *[26]*				
	120 Vac—10 k AIR*[27]*	120/240 Vac—10 k AIR*[27]*	208Y/120 Vac—10 k AIR	
15 A	QOB115GFI	QOB215GFI	QOB315GFI	
20 A	QOB120GFI	QOB220GFI	QOB320GFI	
25 A	QOB125GFI	QOB225GFI	—	
30 A	QOB130GFI	QOB230GFI	QOB330GFI	
40 A	—	QOB240GFI	QOB340GFI	
50 A	—	QOB250GFI	QOB350GFI	
60 A	—	QOB260GFI *[28]*	—	
QOB-VHGFI *[29]*				
	120 Vac—22 k AIR*[27]*			
15 A	QOB115VHGFI			
20 A	QOB120VHGFI			
25 A	QOB125VHGFI			
30 A	QOB130VHGFI			
QOB-EPD—QOB Equipment protection circuit breakers with UL Listed 30 mA (EPD) or 100 mA (EPE) equipment protection.				
	120 Vac—10 k AIR*[27]*	120/240 Vac—10 k AIR*[27]*	240 Vac—10 k AIR*[27]*	
15 A	QOB115EPD	QOB215EPD	QOB315EPD*[30]*	QOB315EPE*[30]*
20 A	QOB120EPD	QOB220EPD	QOB320EPD*[30]*	QOB320EPE
25 A	QOB125EPD	QOB225EPD	—	—
30 A	QOB130EPD	QOB230EPD	QOB330EPD*[30]*	QOB330EPE*[30]*
40 A	—	QOB240EPD	QOB340EPD*[30]*	QOB340EPE*[30]*
50 A	—	QOB250EPD	QOB350EPD*[30]*	QOB350EPE*[30]*
60 A	—	QOB260EPD	—	—
QOB-VHEPD				
	120 Vac—22 k AIR*[27]*			
15 A	QOB115VHEPD			
20 A	QOB120VHEPD			
25 A	QOB125VHEPD			
30 A	QOB130VHEPD			
QOB-HM—High magnetic trip circuit breakers				
15 A	QOB115HM*[31]*			
20 A	QOB120HM*[31]*			
QOB-K—Key operated QOB circuit breakers *[32]*				
	120 Vac—10 k AIR*[27]*			
10 A	QOB110K			
15 A	QOB115K			
20 A	QOB120K			
25 A	QOB125K			
30 A	QOB130K			

Table 9.11: Standard Interrupting QOB 10,000 AIR Circuit Breakers

Ampere Rating *[33]*	One-pole	Two-pole—Common Trip	Two-pole—Common Trip *[34]*	Three-pole—Common Trip
	Catalog No.	Catalog No.	Catalog No.	Catalog No.
QOB Bolt-On				
	120 Vac—10 k AIR 48 Vdc—5 k AIR*[27]*	120/240 Vac—10 k AIR 48 Vdc—5 k AIR *[35]* *[27]*	240 Vac—10 k AIR*[27]*	240 Vac—10 k AIR 48 Vdc—5 k AIR *[35]* *[27]*
10 A	QOB110	QOB210	—	QOB310
15 A	QOB115*[31]*[36]	QOB215*[36]*	QOB215H	QOB315*[36]*
20 A	QOB120*[31]*[36]	QOB220*[36]*	QOB220H	QOB320*[36]*
25 A	QOB125*[36]*	QOB225 *[36]*	QOB225H	QOB325*[36]*
30 A	QOB130*[36]*	QOB230*[36]*	QOB230H	QOB330*[36]*
35 A	QOB135*[36]*	QOB235*[36]*	—	QOB335*[36]*

[24] For QO plug-on circuit breakers, see the tables starting on Digest page 7-11.
[25] 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.
[26] Do not connect to more than 250 feet of load conductor for the total one-way run to prevent nuisance tripping.
[27] May be applied in 208Y/120 Vac systems.
[28] Suitable only for feeding 240 Vac and 208 Vac two-wire loads. Does not contain load neutral connection.
[29] Recommended for applications where high initial inrush may occur and for individual dimmer applications.
[30] See note in Instruction Bulletin when using in an enclosure with a QO403 or QON prefix.
[31] UL Listed as SWD (switching duty) rated suitable for switching 120 Vac fluorescent lighting loads.
[32] Available in single pole construction and can be mounted in any single pole space which will accept a standard QOB. These circuit breakers can be turned ON or OFF or RESET with a special key (Catalog No. QOK10) included with the circuit breaker. These circuit breakers are UL Listed and available as shown in the table.
[33] 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.
[34] UL Listed 5,000 AIR on 3Ø corner grounded delta systems.
[35] DC Rating is not available on indicated products.
[36] 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.

Table 9.11 Standard Interrupting QOB 10,000 AIR Circuit Breakers (cont'd.)

Ampere Rating *[37]*	One-pole	Two-pole—Common Trip	Two-pole—Common Trip *[38]*	Three-pole—Common Trip
	Catalog No.	Catalog No.	Catalog No.	Catalog No.
40 A	QOB140*[39]*	QOB240*[39]*	QOB240H	QOB340*[39]*
45 A	QOB145*[39]*	QOB245*[39]*	—	QOB345*[39]*
50 A	QOB150*[39]*	QOB250*[39]*	QOB250H	QOB350*[39]*
60 A	QOB160*[39]*	QOB260*[39]*	QOB260H	QOB360*[39]*
70 A	QOB170*[39]*	QOB270*[39]*	QOB270H	QOB370*[39]*[40]
80 A	—	QOB280*[39]* *[40]*	QOB280H	QOB380*[39]*[40]
90 A	—	QOB290*[39]* *[40]*	QOB290H	QOB390*[39]* *[40]*
100 A	—	QOB2100*[39]* *[40]*	QOB2100H	QOB3100*[39]* *[40]*
110 A	—	QOB2110*[39]* *[40]*	—	—
125 A	—	QOB2125*[39]* *[40]*	—	—
Molded Case Switch 60 A max—240 Vac		QOB200	—	QOB300
Molded Case Switch 100 A max—240 Vac		QOB2000	—	QOB3000

Table 9.12: High Interrupting QOB and Specialty Circuit Breakers *[37]*

Ampere Rating *[37]*	One-pole	Two-pole—Common Trip	Three-pole—Common Trip
	Catalog No.	Catalog No.	Catalog No.
QOB-VH			
	120 Vac—22 k AIR*[41]*	120/240 Vac —22 k AIR*[41]*	240 Vac—22 k AIR*[41]*
15 A	QOB115VH *[42]*[39]	QOB215VH*[39]*	QOB315VH*[39]*
20 A	QOB120VH *[42]*[39]	QOB220VH*[39]*	QOB320VH*[39]*
25 A	QOB125VH*[39]*	QOB225VH*[39]*	QOB325VH*[39]*
30 A	QOB130VH*[39]*	QOB230VH*[39]*	QOB330VH*[39]*
40 A	QOB140VH	QOB240VH*[39]*	QOB340VH*[39]*
50 A	QOB150VH	QOB250VH*[39]*	QOB350VH*[39]*
60 A	QOB160VH	QOB260VH*[39]*	QOB360VH*[39]*
70 A	QOB170VH	QOB270VH*[39]*	QOB370VH*[39]*
80 A	—	QOB280VH*[39]*	QOB380VH*[39]*
90 A	—	QOB290VH*[39]*	QOB390VH*[39]*
100 A	—	QOB2100VH*[39]*	QOB3100VH*[39]*
110 A	—	QOB2110VH*[39]*	QOB3110VH *[43]*
125 A	—	QOB2125VH*[39]*	QOB3125VH *[43]*
150 A	—	QOB2150VH *[43]*	QOB3150VH *[43]*
QHB			
	120 Vac—65 k AIR*[41]*	120 Vac/240 Vac—65 k AIR *[41]*	240 Vac—65 k AIR*[41]*
15 A	QHB115 *[42]*	QHB215*[39]*	QHB315*[39]*
20 A	QHB120 *[42]*	QHB220*[39]*	QHB320*[39]*
25 A	QHB125*[39]*	QHB225*[39]*	QHB325*[39]*
30 A	QHB130*[39]*	QHB230*[39]*	QHB330*[39]*
QOB-HID—**HID circuit breakers** *[44]*			
	120 Vac—10 k AIR*[41]*	120/240 Vac—10 k AIR*[41]*	240 Vac—10 k AIR*[41]*
15 A	QOB115HID *[42]*	QOB215HID	QOB315HID
20 A	QOB120HID *[42]*	QOB220HID	QOB320HID
25 A	QOB125HID	QOB225HID	QOB325HID
30 A	QOB130HID	QOB230HID	QOB330HID
40 A	QOB140HID	QOB240HID	—
50 A	QOB150HID	QOB250HID	—
QOB-SWN—**Switch Neutral—Common Trip—NEC 514.11**			
		1-pole—2-Wire 2 Spaces —120 Vac*[41]*	2-pole—3-Wire 3 Spaces—120/240 Vac*[41]*
10 A	—	QOB210SWN	QOB310SWN
15 A	—	QOB215SWN	QOB315SWN
20 A	—	QOB220SWN	QOB320SWN
25 A	—	QOB225SWN	QOB325SWN
30 A	—	QOB230SWN	QOB330SWN
40 A	—	QOB240SWN	QOB340SWN
50 A	—	QOB250SWN	QOB350SWN

Table 9.13: QO/QOB Circuit Breaker Wire Sizes

Breaker Type	Ampere Rating	Wire Size (AWG)	
		Al	Cu
QOB 1-pole	10–30 A	#14–8	#14–8
	10–30 A	—	two #14–10
	35–70 A	#8–2	#8–2
QOB 2-pole	10–30 A	#14–8	#14–8
	10–30 A	—	two #14–10
	35–70 A	#8–2	#8–2
	80–125 A	#4–2/0	#4–2/0
	150–200 A	#4–300 kcmil	#4–300 kcmil
QOB 3-pole	10–30 A	#14–8	#14–8
	35–70 A	#8–2	#8–2

[37] 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.
[38] UL Listed 5,000 AIR on 3Ø corner grounded delta systems.
[39] 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.
[40] DC Rating is not available on indicated products.
[41] May be applied in 208Y/120 Vac systems.
[42] UL Listed as SWD (switching duty) rated suitable for switching 120 Vac fluorescent lighting loads.
[43] QOB2150VH uses 4 pole spaces. QOB3110VH, QOB3125VH, and QOB3150VH each use 6 pole spaces. 40A maximum circuit breaker mounted opposite. Use with 75 °C wire only.
[44] UL Listed for use on circuit 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 QOB circuit breakers.

Table 9.13 QO/QOB Circuit Breaker Wire Sizes (cont'd.)

Breaker Type	Ampere Rating	Wire Size (AWG)	
		Al	Cu
	80–125 A	#4–2/0	#4–2/0
QOB-VH	110–150 A	#4–300 kcmil	#4–300 kcmil
QOB-GFI and QOB-EPD	15–30 A	#12–8	#14–8
	40, 50, or 60 A	#12–4	#14–6

Table 9.14: QO™ Arc-Fault and Dual Function Circuit Breakers *[45][46][47]*

Circuit Breaker Type	Ampere Rating *[47]*	1P 120 Vac 10 kAIR 1 Space Required	1P 120 Vac 22 kAIR 1 Space Required	2P 240 Vac 10 kAIR 2 Space Required	2P 240 Vac 22 kAIR 2 Space Required
		Catalog Number	Catalog Number	Catalog Number	Catalog Number
Combination Arc-Fault Interupter	15 A	QOB115CAFI	QOB115VHCAFI	QOB215CAFI	QOB215VHCAFI
	20 A	QOB120CAFI	QOB120VHCAFI	QOB220CAFI	QOB220VHCAFI
Dual Function: Arc-Fault and Ground Fault	15 A	QOB115DF	QOB115VHDF	Use plug-on QO 2–pole dual function MCBs	
	20 A	QOB120DF	QOB120VHDF		

NOTE: For accessories, see Accessories for QO/QOB Circuit Breakers, page 7-16.

[45] 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.
[46] QO arc-fault circuit breakers provide branch feeder protection (for example, QO115AFI) or combination protection (for example, QO115CAFI) as required by the NEC and local code adoption, and comply with UL 1699.
[47] 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.

Factory Assembled Main Circuit Breakers

400 A and 600 A panelboards, 1Ø or 3Ø

Table 9.15: NQ Panelboard Factory Assembled Interiors - 240 Vac / 48 Vdc Max

Single Phase or Three Phase						
Mains Rating (Amps)			Max. Number of One-Pole Circuit Breakers	Bus Material	Min. Box Depth	
Main Lugs Only	Main Circuit Breaker*[48]*	Main Switch *[48]*			Main Lugs Only	Main Circuit Breaker / Switch
100 Max	15–100	70–100	18, 30	Al, Cu	5.75 in.	5.75 in.
225 Max	15–250	110–250	30, 42, 54, 72, 84	Al, Cu	5.75 in.	5.75 in.
400 Max	125–400	300–400	30, 42, 54, 72 *[49]*, 84*[50]*	Al, Cu	5.75 in.	5.75 in. / 8.75 in.*[51]*
600 Max	125–600	450–600	30, 42, 54, 72 *[49]*, 84	Cu	5.75 in.	8.75 in.*[51]*

Table 9.16: Main Circuit Breaker (PowerPact L-frame - see Tables Table 7.46 PowerPact Interrupting Ratings, page 7-30 and Table 7.47 Common Catalog Numbering System, page 7-30)

Number of Poles	Trip Unit Options	Frame Sizes	Ampacity
3	LI, LSI, Switch	LD, LG, LJ, LL	70–600 A

LA/LH PowerPact H, J, and Q-frame circuit breakers are also available - see Tables Table 7.46 PowerPact Interrupting Ratings, page 7-30 and Table 7.47 Common Catalog Numbering System, page 7-30 and Supplemental Digest Section 3.

Table 9.17: PowerPact L Main Circuit Breaker Cabinet Data

Max. No. of Branch Spaces (Does not include sub-feed circuit breaker spaces)	Box Height (20 in. W x 8.75 in. D)	
	400 A	600 A*[52]*
30	62	62
42	62	62
54	68	68
84	80	80

Sub-feed Circuit Breakers

Main lugs or main circuit breaker interior—1Ø or 3Ø.
Maximum 1 circuit breaker per 225 A main lug or 250 A main circuit breaker panelboard, 2 circuit breakers per 400–600 A panelboard.

Table 9.18: Sub-feed Circuit Breaker (PowerPact Q-frame - see Tables Table 7.46 PowerPact Interrupting Ratings, page 7-30 and Table 7.47 Common Catalog Numbering System, page 7-30)

No. of Poles	Ampacity
2	110–225 A
3	110–225 A
Space Only	110–225 A

PowerPact H, J, & L frame circuit breakers are also available - see Tables Table 7.46 PowerPact Interrupting Ratings, page 7-30 and Table 7.47 Common Catalog Numbering System, page 7-30

Table 9.19: Sub-feed Circuit Breaker Cabinet Data

Max. No. of Branch Spaces (Does not include sub-feed circuit breaker spaces)	Box Height (20 in. W x 5.75 in. D)					
	225 A	250 A	400 A		600 A	
	Main Lug	Main Circuit Breaker	Main Lug	Main Circuit Breaker	Main Lug	Main Circuit Breaker
30	50	62	74	86	74	Not available with MCB
42	56	68	74	86	80	
54	56	68	80	—	80	
72	62	74	86	—	86	
84	68	80	—	—	—	

Not Available in Type 3R, 5, 12 if subfeed breaker is over 150 A.

Sub-feed Lugs

NOTE: Available on main lug interiors only, 1Ø or 3Ø.

Table 9.20: Sub-feed Wire Range Per Phase

Mains Rating	Incoming	Outgoing
100	one #6-2/0 Al or Cu	one #6-2/0 Al or Cu
225	one 1/0-350 kcmil Al or Cu	one 1/0-350 kcmil Al or Cu
400	one 1/0-750 kcmil Cu only	one 1/0-750 kcmil Cu only

Table 9.21: Sub-feed Lug Cabinet Data

Max. No. of Branch Spaces	Box Height (20 in. W x 5.75 in. D)		
	100 A	225 A	400 A
18	MH26	—	—
30	MH32	MH38	MH50
42	—	MH44	MH50
54	—	MH44	MH50
72	—	MH50	MH62
84	—	MH56	MH68

[48] Factory Assembled Interiors are rated for trip current of Main Breaker / Switch.
[49] Three Phase only.
[50] Copper only.
[51] Deep Box required for PowerPact L Main Circuit Breaker or Switch.
[52] 600 A PowerPact L not available in non-vented (NEMA Type 3R, 5, 12, or 4/4X) applications

Feed-through Lugs

Table 9.22: Feed-through Lugs

Mains Rating	Feed-Through Wire Range Per Phase
100 A	one #6-2/0 Al or Cu
225 A	one #6–350 kcmil Al or Cu
400 A	one 1/0–750 kcmil or two 1/0–350 kcmil Al or Cu
600 A	two 1/0–750 kcmil Al or Cu

Table 9.23: Feed-through Lug Cabinet Data

Max. No. of Branch Spaces	Box Height (20 in. W x 5.75 in. D)					
	225 A	250 A	400 A		600 A	
	Main Lugs	Main Circuit Breaker	Main Lugs	Main Circuit Breaker	Main Lugs	Main Circuit Breaker *[53]*
30	38	50	50	62	62	68
42	38	50	56	68	62	80
72	50	62	68	80	74	—
84	56	68	68	80	80	—

Table 9.24: Ground Bars

Ground Bars
Equipment Ground Bar
Copper Ground Bar
Insulated/Isolated Ground Bar

Table 9.25: Name Plates

Name Plates
Standard white face/black letter laminated bakelite, 1 in. x 3.5 in., adhesive backed or screw mountable with screws in a bag assembly

Table 9.26: Copper Bus Bars

Copper Bus Bars
100 A, 225 A, 250 A
400 A
600 A

Table 9.27: NQ Panelboard Neutral Assembly Options

Interior Rating	Without Sub-Feed or Thru-Feed Lugs				With Sub-Feed or Thru-Feed Lugs			
	100% Neutrals		200% Neutrals *[54]*		100% Neutrals		200% Neutrals *[54]*	
	Alumi-num	Cop-per	Alumi-num	Cop-per	Alumi-num	Cop-per	Alumi-num	Cop-per
100 A	Stand-ard	NQN1-CU	NQNL1	Factory Assem-bled Only	Stand-ard	NQN1-CU	NQNL1	Factory Assem-bled Only
225 A		NQN2-CU	NQNL2			NQN2-CU	NQN-L2AC-CY	
400 A		NQN6-CU	NQNL4			NQN6-CU	FA Only *[55]*	
600 A [3]			Not Availa-ble	Not Availa-ble			Not Availa-ble	Not Availa-ble

Table 9.28: 200% Rated Neutrals

Panelboards with 200% rated neutrals are not available with 250 A J- and K-frame main circuit breakers or integral lighting contactors	
100 A *[56]*	one #6-2/0 kcmil Al or Cu per lug
225 A *[56]*	one #6-350 kcmil Al or Cu per lug
400 A *[56]*	one #1/0-750 kcmil Al or Cu per lug or two 1/0-300 kcmil per lug

Table 9.29: NQ Main Neutral Conductors—Required Size and Quantity

Panelboard Ampacity	Neutral Conductors Required	Actual Lug Wire Range
100/125	(2) 1/0 Cu or Al	(2) #4-300kcmil
225	(2) 4/0 Cu or (2) 300 kcmil Al	(2) #4-300 kcmil
400 A	(4) 3/0 Cu or (4) 250 kcmil Al (2) 600 kcmil Cu (2) 750 kcmil Al	(2) 1/0-300 kcmil or (1) 750 kcmil

NOTE: Neutral conductors must be of size and quantity per table above.

Table 9.30: Metal Directory Frames

Metal Directory Frame
Replaces standard plastic stick-on directory pouch, add "WMD" suffix to NC Trim catalog number.

Table 9.31: NQ Equipment Ground Bar Kits *[57]*

Interior Rating	Aluminum	Copper	Ground Bar Insulator Kit
100 A / 225 A	PK12GTA, PK18GTA, PK23GTA, or PK27GTA	PK27GTACU	PKGTAB
400 A / 600 A	PK12GTA, PK27GTA	PK27GTACU	PKGTAB

Table 9.32: Hinged Door-in-Door Trims

Hinged Door-in-Door Trim
Hinged Door-in-Door Trim has piano hinge down one side. Inner door has a lock, outer door is retained with screws
Hinged Door-in-Door with Outer Door Lock in place of screws

Table 9.33: Weatherproof or Dusttight Cabinets—Type 3R, 5, 12

Weatherproof or Dusttight Cabinets

NOTE: 600 A L-Frame main circuit breaker NQ panelboards are not available with a weatherproof enclosure (Use I-Line)

400 and 600 A NQ panelboards with sub-feed circuit breakers are not available with a weatherproof enclosure (Use I-Line).

400 A NQ panelboards are available with a subfeed breaker up to 150 A. See Table 9.19 Sub-feed Circuit Breaker Cabinet Data, page 9-17.

Table 9.34: Optional Factory Assembled Lugs for Main Lug Interiors

Main Lug Interiors
Aluminum Compression Lugs
Copper Mechanical Lugs
Copper Compression Lugs

[53] 8.75 in. deep box, ship fully assembled only.
[54] 200% Neutrals not available on Column Width interiors
[55] FA - Factory Assembled Panelboards
[56] Two incoming neutral lugs per panel
[57] Two (2) PK kits supplied when ground bar is specified. Four (4) PK kits supplied when "extra" ground bar is ordered. "Extra" ground bar kits not available in NEMA 4/4X SS enclosures.

Table 9.35: Optional Factory Assembled Lugs for Main Circuit Breaker Interiors

Main Circuit Breaker Interiors:
Aluminum Compression Lugs
Copper Mechanical Lugs
Copper Compression Lugs

NOTE: Optional lugs are not available for Q frame main or QOB circuit breakers

Table 9.36: Surgelogic™ SurgeLoc Plug-On SPD *[58]*

Surge Current Rating kA
80 kA
100 kA
120 kA
160 kA
200 kA
240 kA

Table 9.37: Surgelogic SPD Options

Description
Surge Counter
Dry Contacts
Remote Monitor

NOTE: Additional factory modifications, see Modifications For Factory Assembled Panelboards, page 9-64.

[58] SurgeLogic units occupy 12 circuit positions (6 adjacent mounting spaces per side.)

NQ Merchandised Accessories

Table 9.38: NQ Merchandised Neutrals

Mains Ampacity	200% Neutral Kit			Copper 100% Neutral Kit		
	Catalog No.	Box Add	Schedule	Catalog No.	Box Add	Schedule
100	NQNL1	no adder	PE-1A	NQN1CU	no adder	PE-1A
225	NQNL2 or NQNL2ACCY*[59]*			NQN2CU		
400	NQNL4*[60]*	no adder	PE-1A	NQN6CU	no adder	PE-1A
600	Not Available			NQN6CU		

Table 9.39: NQ Merchandised Sub-feed Lugs, Feed-through Lugs and Sub-feed Breakers

Mains Ampacity	Sub-feed Lugs (N/A in Main Circuit Breaker Interiors)		Feed-through Lugs		Sub-feed Circuit Breaker Kits (breaker not incl.)			
					Single SFB		Two SFB	
	Catalog No.	Schedule	Catalog No.	Schedule	Catalog No.	Schedule	Catalog No.	Schedule
100 A	NQSFL1	PE-1A	100 A not available; use 225 A interior	—	—	—	—	—
225 A	NQSFL2	PE-1A	NQFTL2L*[61]*	PE-1A	NQSFB2Q or NQSFB2HJ	PE-1A	—	—
			NQFTL2H*[62]*					
400 A	NQSFL4	PE-1A	NQFTL4L*[61]*	PE-1A	Use the 2 SFB kit	—	NQSFB4Q or NQSFB4HJ	PE-1A
			NQFTL4H*[62]*					
600 A	Use FTL		Factory Assembled Only					

NOTE: See Table 9.40 and Table 9.41.

Table 9.40: Box Selection Table: Merchandised NQ Main Lug Panelboards with Accessories

Feature Circuits	Sub-feed Lugs				Feed-through Lugs				Sub-feed Circuit Breakers			
	100 A	225 A	400 A	600 A	100 A	225 A	400 A	600 A	100 A	225 A (one)	400 A (two)	600 A (two)
18	MH26	—	—	Use FTL	—	—	—	Factory Asssembled Only	—	—	—	Factory Asssembled Only
30	MH32	MH38	MH50	Use FTL	Use 225A Interior	MH38	MH50		—	MH50	MH74	
42	—	MH44	MH50	Use FTL		MH38	MH56		—	MH56	MH74	
72	—	MH50	MH62	Use FTL		MH50	MH68		—	MH62	MH86	
84	—	MH56	MH68	Use FTL		MH56	MH68		—	MH68	*[63]*	

Table 9.41: Box Selection Table: Merchandised NQ Vertically Mounted Main Breaker Panelboards w/ Accessories

Feature Circuits	Feed-through Lugs				Sub-feed Circuit Breakers			
	100 A	225 A	400 A	600 A	100 A	225 A (one)	400 A (two)	600 A (two)
18	—	—	—	Factory Asssembled Only	—	—	—	Factory Asssembled Only
30	—	MH50	MH62		—	MH62	MH86	
42	—		MH68		—	MH68	MH86	
72	—	MH62	MH80		—	MH74	*[63]*	
84	—	MH68	MH80		—	MH80	*[63]*	

NOTE: See Table 9.44 NQ SurgeLogic SurgeLoc Plug-on SPD, page 9-22

Table 9.42: NQ Optional Lugs

Ampacity	AL Compression Lug Kit		CU Mechanical Lug Kit		CU Compression Kit	
	Catalog No.	Lug Wire Range	Catalog No.	Lug Wire Range	Catalog No.	Lug Wire Range
100	NQALV1	one #8–1/0 AWG	NQCUM1	one #6–2/0 AWG	NQCUV1	one #6–1/0 AWG
225	NQALV2	one #4–300 kcmil	NQCUM2	one #6–250 kcmil	NQCUV2	one 2/0–300 kcmil
400	NQALV4	two 2/0–500 kcmil	NQCUM4	one 1/0–750 kcmil two 1/0–350 kcmil	NQCUV4	one 400–700 kcmil
600	NQALV6	two 2/0–500 kcmil	NQCUM6	one 1/0–750 kcmil two 1/0–350 kcmil	NQCUV6	two 250–500 kcmil

[59] For 225A panel with SFL, FTL, or SFB, use NQNL2ACCY (enclosure size increases by 6 inches). Otherwise, use NQNL2.
[60] Not to be used with SFL, FTL, or SFB. These combinations are factory assembled only.
[61] The final character L indicates the kit is used for Low circuit count interiors 30 and 42.
[62] The final character H indicates the kit is used for High circuit count interiors 54, 72, and 84.
[63] Requires box longer than available box offer.

Table 9.43: NQ Accessories

Description		Catalog No.
Sub-feed (Bolt-on)		
2-pole		QOB2125SL
3-pole		QOB3125SL
Equipment Ground Bars		
Aluminum (#6 to 2/0 Cu or Al lug , #14–#4 Cu or #12–#4 Al terminals)		PK27GTA
PK23GTA+ #1 to #4/0 Al or Cu lug		PK23GTAL
Copper (#14 to #1 Cu lug, #14-#4 Cu terminals)		PK27GTACU
Ground Bar Insulator Kit		PKGTAB
Filler plate (15 per package)		NQFP15
Circuit I.D. Number Strips		
1–102 odd/even (left side numbered 1,3,5 ...101)		NQ102OE
103–204 odd/even (left side numbered 103,105,107 ... 203)		NQ204OE
1–102 sequential (left side numbered 1,2,3 ... 102)		NQ102S
103–204 sequential (left side numbered 103,104,105 ... 204)		NQ204S
Rail and Deadfront Extensions	6 in. Extension	NQ6RDE
	12 in. Extension	NQ12RDE
	18 in. Extension	NQ18RDE
	24 in. Extension	NQ24RDE
Touch-up paint USAS #49 Gray (Aerosol can)		PK49SP
Handle Attachments—Branch Circuit Breakers		
Handle lock-off		HLO1
Handle tie - (QO and QOB only)		QO1HT
Handle padlock attachment—1-pole		QO1PA
2- and 3-pole		QO1PL
Handle tie and lock-off for three 1-pole (QO, QOB)		QO3HT
Handle tie for two 10–30 A single pole QO(B) circuit breaker		QOHT2
Handle tie for three 10–30 A single pole QO(B) circuit breaker		QOHT3
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 breaker 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 QO-GFI and QO-EPD circuit breakers in OFF position only, fixed attachment		QOGFI2PAF
Neutral or Ground Lugs		
#10 to #2 Al or #14 to #4 Cu		QO70AN
#4 to #1/0 Al or Cu		Q1100AN
#1 to #4/0 Al or Cu		Q1150AN
NQ 400/ 600A Neutral Plate Assembly (for interiors with FTL, SFL, or SFB)		NQNLEP
Endwalls for MH Enclosures		
Blank (one per package)		MHBE20
With Knockouts (one per package)		MHKE20
NF NQ RECT. Cutout Endwall Kit for 20" Wide NEMA 1 Encl.		MHCO20
Blank 26" wide (one per package)		MHBE26
Replacement Part Kits		
NQ NF 400 / 600A AL Replacement Compression Lug Kit (2/0 - 500 MCM)		NQNFRPLALV46
NQ NF 400A AL Replacement Panelboard Mechanical Lug Kit		NQNFRPLALM4
NQ NF 100/125A AL Dual Mechanical Lug Kit		NQNFRPLALM1
NQ NF Replacement Dead Front Cover 1.65" Long		NQNFRPL05601
NQ NF Replacement Dead Front Cover 7.58" Long		NQNFRPL05603
NQ NF 400A 600A FTL Replacement Dead Front Kit		NQNFRPL05603
NQ NF Panel Kit DANGER Label and WARNING Label		PKDGWG
NF NQ Panelboard Screw		PKDFSCREW
NQ 100A AL Replacement Compression Lug Kit		NQRPLAV1
NQ 225A AL Replacement Compression Lug Kit		NQRPLAV2
NQ Bonding Strap 100 / 225 AMP		NQBOND12
NQ Bonding Strap 400 / 600 AMP		NQBOND46
NQ 600A AL ACC Mechanical Lug Kit		NQRPLALM6A
NQ 400A AL Neutral EXP Mechanical Lug Kit		NQRPLSFBALN
NQ PowerPact L (600A) Replacment Main Breaker Deadfront Kit		NQRPLMB6PPL

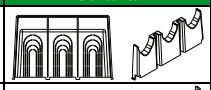
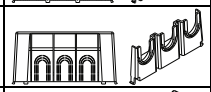
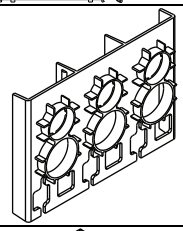
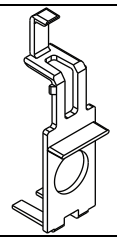
Table 9.44: NQ SurgeLogic SurgeLoc Plug-on SPD *[64][65]*

Voltage	Surge Current Rating	Part Number	Poles Occupied
120 / 240 V	80 kA	SSP01BIA08PBQ1	12
	100 kA	SSP01BIA10PBQ1	
	120 kA	SSP01BIA12PBQ1	
	160 kA	SSP01BIA16PBQ1	
	200 kA	SSP01BIA20PBQ1	
	240 kA	SSP01BIA24PBQ1	
208 Y / 120 V	80 kA	SSP02BIA08PBQ1	12
	100 kA	SSP02BIA10PBQ1	
	120 kA	SSP02BIA12PBQ1	
	160 kA	SSP02BIA16PBQ1	
	200 kA	SSP02BIA20PBQ1	
	240 kA	SSP02BIA24PBQ1	
240 / 120 High Leg Delta	80 kA	SSP03BIA08PBQ1	12
	100 kA	SSP03BIA10PBQ1	
	120 kA	SSP03BIA12PBQ1	
	160 kA	SSP03BIA16PBQ1	
	200 kA	SSP03BIA20PBQ1	
	240 kA	SSP03BIA24PBQ1	

Lug Cover Kits for U.S. Service Entrance

Panelboards intended for use as service equipment, require a barrier over live field connected load terminals. Please select the appropriate barrier from the table below, based upon the main circuit breaker.

Table 9.45: US Service Entrance Barriers (required by NEC 2017)

Catalog Number	Contents	Description	Applicable Panelboards
LALLC		LA/LH Line Lug Cover	NQ, NF, I-Line *[66]*
HJQLLC		H/J/Q Line Lug Cover	NQ, NF
PPLLC		PowerPact L Line Lug Cover	NQ, NF, I-Line *[66][67]*
EDBS		E Frame Line Lug Cover	NF *[68]*

[64] When selecting a panelboard with SurgeLoc SPD, an additional 12 circuit positions (6 adjacent mounting spaces per side) are occupied. For example, if the desired number of circuits is 30, refer to page 9-11 and page 9-12 to select the NQ442L2/NQ442L2C interior and corresponding Box and Trim.
[65] 96 space interiors are available factory assembled when SurgeLoc SPDs are to be installed in 84 circuit NQ panelboards.
[66] For I-Line applications, only to be used on vertical main circuit breakers. Not to be used on backfeed main circuit breakers.
[67] For I-Line applications, requires the use of the Medium Terminal Shield LTSM3P Installed on circuit breaker, not included in these kits.
[68] Order 1 kit for each 3 pole breaker required (each kit contains three one pole covers).

Factory-installed IP2X barriers for NQ Panelboards reduce the risk of accidental contact with energized components if a cover is removed.

Features

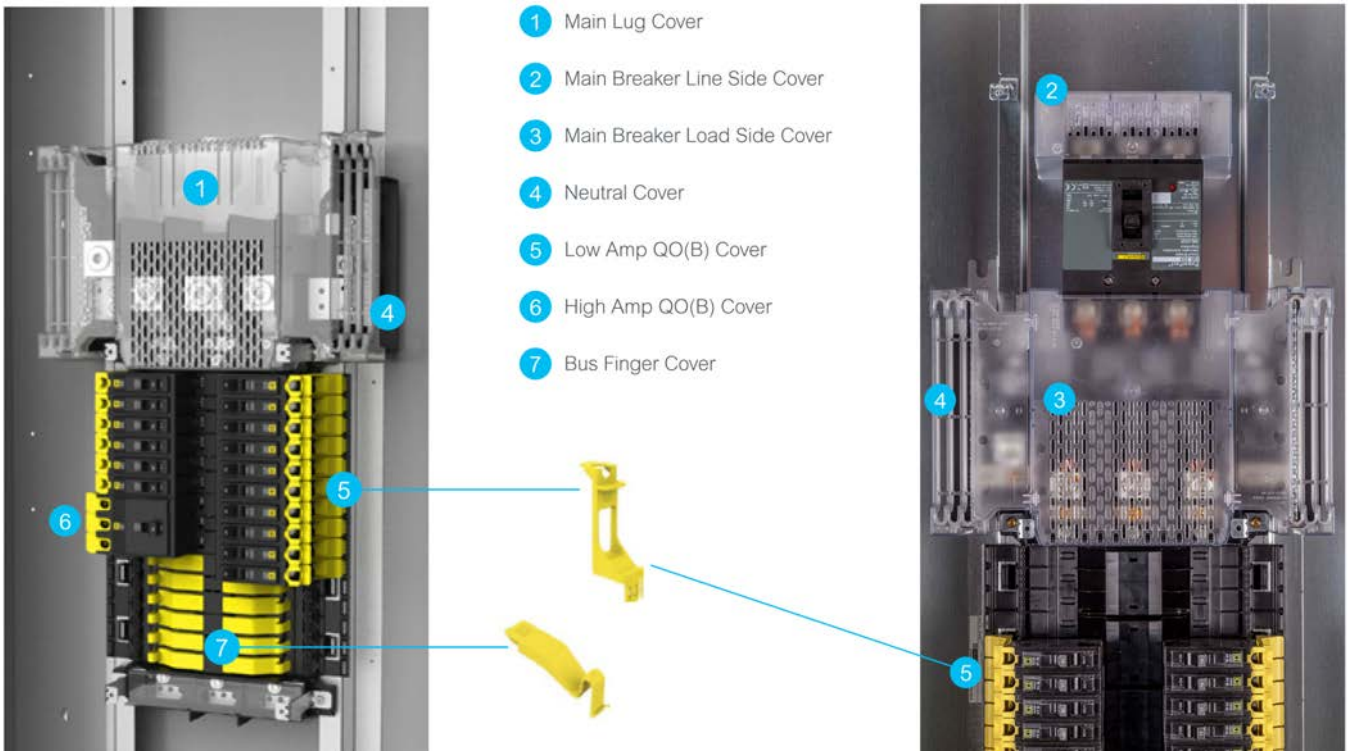
- Plastic barriers cover Mains (lugs or circuit breaker), copper bus, and branch circuit breakers
  - IP2X per IEC 60529 on all ungrounded parts
- 240 Vac maximum
- Three phase (Wye and Delta)
  NEMA 1, 2, 3R, 4/4X, 5, or 12 (up to 225 A)
  - NEMA 1 panelboards up to 400 A
- Branch circuits up to 100 A: 1-, 2-, and 3-pole
- Selectively coordinated up to 30k AIC
- Available with main lugs, or PowerPact Q-, H-, J-frame, and LA/LH main circuit breakers
- Series rated up to 200 kAIC with integral main circuit breaker—fully rated up to 65 kAIC
- Sub feed lugs up to 225 A
- cULus Listed to UL 67 and CSA C22.2, No. 29

New Enhanced IP2X design meets IEC 60529 with or without a branch circuit breaker installed.

- Unique jaw kit allows QOB branch circuit breakers to plug onto NQ interior with IP2X barriers

Two factory-assembled constructions (refer to Data Bulletin 1640BR1701 for additional information):

Standard IP2X per IEC 60529
(Bus Finger Covers Empty Spaces)



Enhanced IP2X per IEC 6052
(Bus Covered Without Branch Circuit Breaker)

Fingersafe IP2X per IEC 60529 Barriers for NQ Panelboards

Refer to NQ Panelboards

Specifications

NQ Fingersafe Bus Ratings, Enclosures, and Circuit Counts								
IP2X Design	Mains rating	Enclo-sures: NEMA types	Circuit Count					
			18	30	42	54	72	84
Standard	100	1, 2, 3R, 4/4X, 5, 12	X	X	—	—	—	—
	225		—	X	X	X	X	X
	400	1	—	X	X	—	X	X
Enhanced	225	1, 2, 3R, 4/4X, 5, 12	—	—	X	—	—	—
	400	1	—	—	X	—	—	—

QO(B) Branch Circuit Breaker Ratings*[69]*				
Branch Circuit Breaker	Amperes	1–Pole	1–Pole	3–Pole
QO / QOB	10–60	L	L	L
	70	L	L	H
	80–100	—	H	H
QO-H / QOB-H	15–30	—	L	—
	40–100	—	H	—
QO-HID / QOB-HID	15–30	L	L	L
	40–50	L	L	—
QO-HM / QOB-HM	15–20	L	—	—
QO- VH / QOB-VH	15–30	—	L	L
	15–70	L	—	—
	40–100	—	H	H
QOH*[70]*	40–100	—	H	—
QHB*[70]*	15–30	L	L	—
IP2X QO(B) Lug Covers:	**L** (Low Amp) - **QOFSLALB** **H** (High Amp) - **QOFSHALB**			

Replacement Parts

Replacement Parts		
Catalog Number	Quantity Per Package	Description
QOFSBF12	12	NQ IP2X Bus Finger Filler*[71]*
QOFSLALB12	12	NQ IP2X QO(B) Lug Cover Low Amp
QOFSHALB12	12	NQ IP2X QO(B) Lug Cover High Amp
HJQLLC	1	HJQ Main Breaker IP2X Line Lug Cover
LALLC	1	LA/LH Main Breaker IP2X Line Lug Cover
NQHJLSC	1	HJ Main Breaker IP2X Load Side Cover
NQQLSC	1	Q Main Breaker IP2x Load Side Cover
NQLALHLSC	1	LA/LH Main Breaker IP2X Load Side Cover
NQMLLSC	1	Main Lugs IP2X Cover
NQNCC	1	NQ IP2X Neutral Cover
QO1PJ15	15	QOB Jaw Kit*[72]*

[69] QOB circuit breakers and jaw kits required for Enhanced IP2X design.
[70] Available only in standard IP2X design
[71] Used only with Standard IP2X design.
[72] Used only with Enhanced IP2X design.

Selection Procedure for NF Merchandised Panelboards

1. Review maximum electrical system voltage, ampacity, and available fault current, and determine the type of panelboard is desired (see NF and I-Line™ Panelboards, page 9-6).
2. Identify type (plug-on or bolt-on) and total quantity of branch circuit breaker poles and panel spaces required (see Digest sections 7 and 9 for catalog numbers).
3. Select proper main lug interior from NF Main Lug Interiors, page 9-26or:
   - Select main circuit breaker interior and main circuit breaker adapter kit from NF Main Circuit Breaker Interiors - 600Y/347 Vac Max. , page 9-27 based upon the equivalent number of poles and ampere rating.
     NOTE: Interiors include solid neutral and are field convertible to top-feed.
   - If a main circuit breaker interior was selected, select a main circuit breaker (or fuse) from pages , page 7-6, page 7-7, page 9-28.
4. Select ground bars from tables Table 9.81 and any non-standard neutral bars (i.e., 200% neutral for non-linear loads) from Table 9.76.
5. Select any required sub-feed circuit breakers, sub-feed lugs (SFL), or feed-through lugs (FTL) kits:
   - Sub-feed lugs (SFL) or feed-through lugs (FTL) kits: Table 9.77 in the NF Accessories sections.
   - Any subfeed circuit breakers: Table 9.48–Table 9.62.
6. Determine the total mounting inches required by adding requirements from interior, main circuit breaker, neutrals and ground bars, SFL, FTL, or sub-feed circuit breaker.
7. Select enclosure from the tables Table 9.75, Table 9.78, and Table 9.79.
   NEMA Type 1—select box and front (cover) catalog number corresponding to interior catalog number.
   NEMA Type 3R, 5, 12—select enclosure. Cover for Type 3R, 5, 12 is included with the enclosure.
8. Select the branch circuit breakers to be installed in the panel.
   For NF panelboards, use E-frame circuit breakers from Table 9.48.
9. Select options and accessories from tables Table 9.76–Table 9.81.
   NOTE: Additional NF and NQ options may be found in the Supplemental and Obsolescence Digest, Section 4.

NF Merchandised Selection Example
480Y/277 Vac, 3Ø4W, 25 kA SCCR, fully rated, copper bus, 100 A, main circuit breaker, Type 1, flush-mount, bolt-on, branch circuit breakers

Branches	Table No.	Catalog Number	Spaces
(13) 20/1	Table 9.48	EGB14020	13
one 40/2	Table 9.48	EGB24040	2
one 50/3	Table 9.48	EGB34050	3
			Total 18 spaces

			Min. Box Height
125 A MLO Cu Bus Interior	page 9-26	NF418L1C	—
With Main Circuit Breaker Adapter Kit	page 9-27	N150MH	38 inches
Main Circuit Breaker	Section 7	HGL36100	—
Enclosure (Box)	page 9-27	MH38	—
Front (Cover)	page 9-27	NC38F	—
			Total 38 inches

NF Main Lug Interiors - 600Y/347 Vac Max

Table 9.46: NF Main Lug Interiors - Use I-Line Panelboard for 3Ø3W applications above 240 Vac

Max No. of Single Pole E-frame Circuit Breakers *[1]*	Mains Rating	Interior Only *[2]*	NEMA 1 Enclosure			NEMA 3R, 5, 12 Enclosure *[3]*	
			Box 20 in. W x 5.75 in. D *[4]*	Mono-Flat™ Front *[5]*	Hinged Front	Enclosure 21 in. W x 6.5 in. D	Height (In.)
		Catalog No. *[6]*	Catalog No.	Catalog No.	Catalog No.	Catalog No.	
(Single Phase 3-Wire: Factory Assembled Only) Three Phase 4-Wire *[7]*							
18	125	NF418L1	MH26	NC26S / NC26F	NC26( )HR	MH26WP	26
		NF418L1C	MH26	NC26S / NC26F	NC26( )HR	MH26WP	
30	125	NF430L1	MH32	NC32S / NC32F	NC32( )HR	MH32WP	32
		NF430L1C	MH32	NC32S / NC32F	NC32( )HR	MH32WP	
42	125	NF442L1C	MH38	NC38S / NC38F	NC38( )HR	MH38WP	38
30	250	NF430L2	MH38	NC38S / NC38F	NC38( )HR	MH38WP	38
		NF430L2C	MH38	NC38S / NC38F	NC38( )HR	MH38WP	
42	250	NF442L2	MH44	NC44S / NC44F	NC44( )HR	MH44WP	44
		NF442L2C	MH44	NC44S / NC44F	NC44( )HR	MH44WP	
54	250	NF454L2	MH50	NC50S / NC50F	NC50( )HR	MH50WP	56
		NF454L2C	MH50	NC50S / NC50F	NC50( )HR	MH50WP	
66 *[8]*	250	NF466L2	MH62	NC62S / NC62F	NC62( )HR	MH62WP	62
		NF466L2C	MH62	NC62S / NC62F	NC62( )HR	MH62WP	
30	400	NF430L4	MH50	NC50VS / NC50VF	NC50V( )HR	MH50WP	50
		NF430L4C	MH50	NC50VS / NC50VF	NC50V( )HR	MH50WP	
42	400	NF442L4	MH56	NC56VS / NC56VF	NC56V( )HR	MH56WP	56
		NF442L4C	MH56	NC56VS / NC56VF	NC56V( )HR	MH56WP	
66 *[8]*	400	NF466L4	MH74	NC74VS / NC74VF	NC74V( )HR	MH74WP	74
		NF466L4C	MH74	NC74VS / NC74VF	NC74V( )HR	MH74WP	
84 *[8]*	400	NF484L4	MH86	NC86VS / NC86VF	NC86V( )HR	MH86WP	86
		NF484L4C	MH86	NC86VS / NC86VF	NC86V( )HR	MH86WP	
30	600	NF430L6C	MH50	NC50VS / NC50VF	NC50V( )HR	Factory Assembled Only	50
42	600	NF442L6C	MH56	NC56VS / NC56VF	NC56V( )HR		56
66 *[8]*	600	NF466L6C	MH74	NC74VS / NC74VF	NC74V( )HR		74
84 *[8]*	600	NF484L6C	MH86	NC86VS / NC86VF	NC86V( )HR	—	—
	800	Factory Assembled Only *[9]*					

Note: All NF Merchandised Panelboard interiors include the following: a NFFP15 bag of blank filler plates; a neutral bonding strap; an NF information manual; a NEMA instruction booklet; and a roll of circuit numbers.

[1] NF panelboards without neutral connections may be applied in 3-phase, 4-wire grounded Wye systems, except at the Service Entrance.
[2] Order EDB, EGB, or EJB branch circuit breakers separately. Maximum allowable branch circuit breaker pair combination is 170 A.
[3] Enclosure includes trim kit.
[4] Embossed mounting holes add a 0.31-inch standoff to back of MH box.
[5] Add “F” for flush mount, “S” for surface mount.
[6] “C” suffix indicates copper bussing.
[7] NF panelboards without neutral connections may be applied to 3 phase, 4 wire grounded Wye systems, except at the Service Entrance.
[8] Use only if the Local Jurisdiction where this panelboard interior is being applied has adopted the 2008 NEC, which allows single panelboard interiors greater than 42 circuits.
[9] 800 A interiors and 600 A interiors with main circuit breaker require 8.75 inch deep, 26 inch wide enclosures.

NF Main Circuit Breaker Interiors - 600Y/347 Vac Max.

Table 9.47: NF Main Circuit Breaker Interiors - Use I-Line Panelboard for 3Ø3W applications above 240 Vac

Max. No. of One-pole E-frame Circuit Breakers *[10]*	Mains Rating	Main Circuit Breaker Adapter Kit	Main Circuit Breaker Frame	Interior Only *[11]*	NEMA 1 Enclosure			NEMA 3R, 5, 12 Enclosure *[12]*	Height (In.)
					Box 20 in. W x 5.75in. D *[13]*	Mono-Flat™ Front *[14]*	Hinged Front	Enclosure 21 in. W x 6.5 in. D	
				Catalog No. *[15]*	Catalog No.	Catalog No.	Catalog No.	Catalog No.	
(Single Phase 3-Wire: Factory Assembled Only) Three Phase 4-Wire *[16]*									
15	125	Back-fed Main Breaker*[17]*	EDB, EGB or EJB	NF418L1	MH26	NC26( )	NC26( )HR	MH26WP	26
				NF418L1C	MH26	NC26( )	NC26( )HR	MH26WP	
27	125			NF430L1	MH32	NC32( )	NC32( )HR	MH32WP	32
				NF430L1C	MH32	NC32( )	NC32( )HR	MH32WP	
18	125	N150MH *[18]*	HD/HG/ HJ/HL	NF418L1	MH38	NC38( )	NC38( )HR	MH38WP	38
				NF418L1C	MH38	NC38( )	NC38( )HR	MH38WP	
30	125			NF430L1	MH44	NC44( )	NC44( )HR	MH44WP	44
				NF430L1C	MH44	NC44( )	NC44( )HR	MH44WP	
42	125			NF442L1C	MH50	NC50( )	NC50( )HR	MH50WP	50
30	250	N250MJ *[18]*	JD/JG/ JJ/JL	NF430L2	MH50	NC50( )	NC50( )HR	MH50WP	50
				NF430L2C	MH50	NC50( )	NC50( )HR	MH50WP	
42	250			NF442L2	MH56	NC56( )	NC56( )HR	MH56WP	56
				NF442L2C	MH56	NC56( )	NC56( )HR	MH56WP	
54	250			NF454L2	MH62	NC62( )	NC62( )HR	MH62WP	56
				NF454L2C	MH62	NC62( )	NC62( )HR	MH62WP	
66 *[19]*	250			NF466L2	MH74	NC74( )	NC74( )HR	MH74WP	74
				NF466L2C	MH74	NC74( )	NC74( )HR	MH74WP	
30	400	N400M*[18]*	LA/LH	NF430L4	MH62	NC62V( )	NC62V( )HR	MH62WP	62
				NF430L4C	MH62	NC62V( )	NC62V( )HR	MH62WP	
42	400	N400M*[18]*		NF442L4	MH68	NC68V( )	NC68V( )HR	MH68WP	68
				NF442L4C	MH68	NC68V( )	NC68V( )HR	MH68WP	
66 *[19]*	400	N400M*[18]*		NF466L4	MH86	NC86V( )	NC86V( )HR	MH86WP	86
				NF466L4C	MH86	NC86V( )	NC86V( )HR	MH86WP	

[10] NF panelboards without neutral connections may be applied in 3-phase, 4-wire grounded Wye systems, except at the Service Entrance.
[11] Order EDB, EGB, or EJB branch circuit breakers separately. Maximum allowable branch circuit breaker pair combination is 170 A.
[12] Enclosure includes trim kit.
[13] Embossed mounting holes add a 0.31-inch standoff to back of MH box.
[14] Add “F” for flush mount, “S” for surface mount.
[15] “C” suffix indicates copper bussing.
[16] NF panelboards without neutral connections may be applied to 3 phase, 4 wire grounded Wye systems, except at the Service Entrance.
[17] Back-fed EDB 125 A 3 pole main circuit breaker must be ordered separately and field installed. Maximum breaker rating opposite is 20 A.
[18] Select the appropriate main circuit breaker from pages starting on The PowerPact Advantage, page 7-30.
[19] Use only if the Local Jurisdiction where this panelboard interior is being applied has adopted the 2008 NEC, which allows single panelboard interiors greater than 42 circuits.

EDB, EGB, EJB
1–pole
15–70 A

EDB, EGB, EJB
2–pole
15–125 A

EDB, EGB, EJB
3–pole
15–125 A

EDB, EPD
1-pole with alarm switch

E-frame Circuit Breakers for NF Merchandised Panelboards

Table 9.48: E-frame Thermal-magnetic (480Y/277 Vac Max) *[20][21]*

Ampere Rating	ED, EG, EJ (480Y/277 Vac)		"D" Interrupting Level 18 kA @ 480Y/277 Vac	"G" Interrupting Level 35 kA @ 480Y/277 Vac	"J" Interrupting Level 65 kA @ 480Y/277 Vac	Terminal Wire Range
	Hold	Trip	Catalog Number	Catalog Number	Catalog Number	
1-pole, 277 Vac						
15 A	270	875	EDB14015*[22][23]*	EGB14015*[22][23]*	EJB14015*[22][23]*	AL30FD #14–#6 Al or Cu
20 A			EDB14020*[22][23]*	EGB14020*[22][23]*	EJB14020*[22][23]*	
25 A			EDB14025*[23]*	EGB14025*[23]*	EJB14025*[23]*	
30 A			EDB14030*[23]*	EGB14030*[23]*	EJB14030*[23]*	
35 A	630	1800	EDB14035*[23]*	EGB14035*[23]*	EJB14035*[23]*	AL100FD #14–2/0 Al or Cu
40 A			EDB14040*[23]*	EGB14040*[23]*	EJB14040*[23]*	
45 A			EDB14045*[23]*	EGB14045*[23]*	EJB14045*[23]*	
50 A			EDB14050*[23]*	EGB14050*[23]*	EJB14050*[23]*	
60 A			EDB14060	EGB14060	EJB14060	
70 A			EDB14070	EGB14070	EJB14070	
2-pole, 480Y/277 Vac *[24]*						
15 A	270	875	EDB24015*[23]*	EGB24015*[23]*	EJB24015*[23]*	AL30FD #14–#6 Al or Cu
20 A			EDB24020*[23]*	EGB24020*[23]*	EJB24020*[23]*	
25 A			EDB24025*[23]*	EGB24025*[23]*	EJB24025*[23]*	
30 A			EDB24030*[23]*	EGB24030*[23]*	EJB24030*[23]*	
35 A	630	1800	EDB24035*[23]*	EGB24035*[23]*	EJB24035*[23]*	AL100FD #14–2/0 Al or Cu
40 A			EDB24040*[23]*	EGB24040*[23]*	EJB24040*[23]*	
45 A			EDB24045*[23]*	EGB24045*[23]*	EJB24045*[23]*	
50 A			EDB24050*[23]*	EGB24050*[23]*	EJB24050*[23]*	
60 A			EDB24060	EGB24060	EJB24060	
70 A			EDB24070	EGB24070	EJB24070	
80 A	1000	2300	EDB24080	EGB24080	EJB24080	AL100FD #14–2/0 Al or Cu
90 A			EDB24090	EGB24090	EJB24090	
100 A			EDB24100	EGB24100	EJB24100	
110 A			EDB24110	EGB24110	EJB24110	
125 A			EDB24125	EGB24125	EJB24125	
3-pole, 480Y/277 Vac						
15 A	270	875	EDB34015*[23]*	EGB34015*[23]*	EJB34015*[23]*	AL30FD #14–#6 Al or Cu
20 A			EDB34020*[23]*	EGB34020*[23]*	EJB34020*[23]*	
25 A			EDB34025*[23]*	EGB34025*[23]*	EJB34025*[23]*	
30 A			EDB34030*[23]*	EGB34030*[23]*	EJB34030*[23]*	
35 A	630	1800	EDB34035*[23]*	EGB34035*[23]*	EJB34035*[23]*	AL100FD #14–2/0 Al or Cu
40 A			EDB34040*[23]*	EGB34040*[23]*	EJB34040*[23]*	
45 A			EDB34045*[23]*	EGB34045*[23]*	EJB34045*[23]*	
50 A			EDB34050*[23]*	EGB34050*[23]*	EJB34050*[23]*	
60 A			EDB34060	EGB34060	EJB34060	
70 A			EDB34070	EGB34070	EJB34070	
80 A	1000	2300	EDB34080	EGB34080	EJB34080	AL100FD #14–2/0 Al or Cu
90 A			EDB34090	EGB34090	EJB34090	
100 A			EDB34100	EGB34100	EJB34100	
110 A			EDB34110	EGB34110	EJB34110	
125 A			EDB34125	EGB34125	EJB34125	
EPDs (Equipment Protection Devices), 1-pole, 277 Vac, Thermal-magnetic with 30 mA ground-fault protection *[25]*						
15 A	270	875	EDB14015EPD*[22][23]*	EGB14015EPD*[22][23]*	EJB14015EPD*[22][23]*	#14–#6 Cu or #12–#4 Al
20 A			EDB14020EPD*[22][23]*	EGB14020EPD*[22][23]*	EJB14020EPD*[22][23]*	
30 A			EDB14030EPD*[23]*	EGB14030EPD*[23]*	EJB14030EPD*[23]*	
40 A	630	1800	EDB14040EPD*[23]*	EGB14040EPD*[23]*	EJB14040EPD*[23]*	
50 A			EDB14050EPD*[23]*	EGB14050EPD*[23]*	EJB14050EPD*[23]*	

NOTE: All EDB, EGB, and EJB circuit breakers are UL Listed as HACR Type. For 50° C calibration, use a CA suffix. NF branch circuit breakers are fungus proof as standard.

[20] Maximum allowable branch breaker pair combination = 170 A.
[21] 100 A Maximum at 600Y/347 Vac
[22] UL Listed as SWD (Switching duty rated).
[23] UL Listed as HID (High Intensity Discharge rated).
[24] UL Listed for use on 240 V Corner-grounded Delta Systems (Grounded B Phase). See data bulletin 2700DB0202.
[25] All EPDs occupy two spaces, with or without Alarm Switch option. For alarm switch, add 158 list Price and the suffix BA.

Table 9.49: Factory installed Electrical Accessories

Auxiliary Switch (1A/1B)	Alarm Switch (NO)	Coil Burden Max. (VA)	Minimum Recommended Supply Transformer (VA)
		288	50
Monitors circuit breaker contact status and provides a remote signal indicating the circuit breaker contacts are OPEN or CLOSED. **Application** Max Load = 10 A @ 120 Vac 50/60 Hz Terminals for #14 AWG Cu wire	Used with control circuits and is actuated only when the circuit breaker has tripped. **Application** Max Load = 7 A @ 120 Vac 50/60 Hz Terminals for #14 AWG Cu wire.	Shunt Trip—Trips the circuit breaker from a remote location by means of a coil energized from a separate circuit. A 120 V shunt trip will operate at 55% or more of rated voltage. **Application** For use with momentary or maintained push button. 120 Vac 50/60 Hz Terminals for #14 AWG Cu wire.	

Table 9.50: Factory Installed Electrical Accessory Packages for ED, EG, EJ Circuit Breakers

Accessory Package	Suffix
[26][27]	AABA
Shunt Trip Package*[26][27]*	SA
Auxiliary Switch/Alarm Switch/Shunt Trip Package*[26][27]*	AABASA
Alarm Switch (N.O.) Package for EPDs only	BA

Table 9.51: Terminal Nut Insert Kit

Circuit Breaker Type	Qty. per Kit	Catalog No.
ED, EG, EJ	3	TIKFD

Table 9.52: Handle Accessories

Circuit Breaker Type	No. of Poles	Catalog No.
EXB Fixed Padlock Attachment, Lock ON/OFF		
ED, EG, EJ	1, 2, or 3	EDPA
EXB Fixed padlock attachment, Lock OFF only		
ED, EG, EJ	1, 2, or 3	EDPAF
EXB Removable padlock attachment, Lock OFF only		
ED, EG, EJ	1, 2, or 3	HPAFD
EXB Handle Ties		
ED, EG, EJ	Ties 2 – 1P	ECB2HT
	Ties 3 – 1P	ECB3HT

Table 9.53: NF Panelboard Factory Assembled Interiors—600Y/347 Vac Max

Single Phase 3-Wire (1P/3W), or Three Phase 4-Wire (3P/4W)						
Mains Rating (Amps)			Max. Number of One-Pole Circuit Breakers	Bus Material	Min. Box Depth	
Main Lugs Only	Main Breaker *[28]*	Main Switch *[28]*			Main Lugs Only	Main Breaker / Switch
125 Max	15–125	110–125	18, 30, 42*[29]*, 54*[29]*	Al, Cu	5.75 in.	5.75 in.
250 Max	150–250	150–250	30, 42, 54, 66 *[30]*	Al, Cu	5.75 in.	5.75 in.
400 Max	125–400	300–400	30, 42, 54, 66 *[30]*, 84	Al, Cu	5.75 in.	5.75 in. / 8.75 in.*[31]*
600 Max	125–600	450–600	30, 42, 54, 66, 84	Cu	5.75 in.	8.75 in.*[31]*
800 Max	—	—	30, 42, 54	Cu	8.75 in.	—

Table 9.54: Interrupt Ratings (kA)

	EDB	EGB	EJB
120 V	25	65	100
240 V	18 (1P), 25	35 (1P), 65	65 (1P), 100
480Y/277 V	18	35	65
600Y/347 V*[32]*	14	18	25

Table 9.55: Mechanical Lug Kit Information (Al lugs for use with Al or Cu wire)*[27]*

Circuit Breaker Application				Number of Wires Per Lug and Wire Range	Catalog Number	Lugs Per Kit
Standard	Ampere Rating	Optional	Ampere Rating			
EDB, EGB, EJB	15–30 A	—	—	one #12—#6 AWG Al or one #14—#6 AWG Cu	AL30FD	3
	35–125 A	EDB, EGB, EJB	15–30 A *[33]*	one #12—2/0 AWG Al or one #14—2/0 AWG Cu	AL100FD	3
—	—	EDB, EGB, EJB	15–125 A	one #14—1/0 AWG Cu	CU100FD	3

E-frame dimensions Table 7.164 ED, EG, EJ, and GJ Circuit Breakers, page 7-86.

[26] Accessory package takes an additional pole space.
[27] Not available for EPD.
[28] Factory Assembled Interiors are rated for trip current of Main Breaker / Switch.
[29] Three Phase Copper only.
[30] Three Phase only.
[31] Deep Box required for PowerPact L Main Breaker or Switch.
[32] Requires use of ExBx6xxx circuit breakers, i.e. EDB16015 for a 1P, 15A circuit.
[33] Factory installed only. Use suffix "LH"

Factory Assembled Main Circuit Breakers (600Y/347 Vac maximum)

NOTE: Factory Assembled Main Circuit Breakers (600Y/347 Vac maximum). requires use of ExBx6xxx branch circuit breakers, i.e. EDB16015 for a 1P, 15A circuit.*[34]*

400 A and 600 A panelboards, 1Ø or 3Ø

PowerPact L-frame - see Tables Table 7.46 and Table 7.47

Table 9.56: Main Circuit Breaker

No. of Poles	Trip Unit Options	Frame Sizes	Ampacity
3	LI, LSI, Switch	LD, LG, LJ, LL, LR	70–600 A

LA/LH, PowerPact H and J-frame circuit breakers are also available—see Tables Table 7.46 and Table 7.47 and Supplemental Digest Section 3.

Table 9.57: PowerPact L Main Circuit Breaker Cabinet Data

Max. No. of Branch Spaces (Does not include sub-feed circuit breaker spaces)	Box Height (20 in. W x 8.75 in. D)	
	400 A	600 A*[35]*
30	68	68
42	74	74
66	92	92

Table 9.58: NF Sub-FeedCircuit Breakers (available on 1Ø or 3Ø, 250 A–800 A main lugs or 250 A–600 A main circuit breaker interiors)

Interior Rating	PowerPact H or J	LA or LH	LA/LH (1) and PowerPact J (1)
250 A	1	—	—
400 A	1 or 2	—	—
600 A	1 or 2	1	1
800 A	1 or 2	1	1

[34] Requires use of ExBx6xxx branch circuit breakers, i.e. EDB16015 for a 1P, 15A circuit.
[35] 600 A PowerPact L not available in non-vented (NEMA Type 3R, 5, 12, or 4/4X) applications

Common Features

Table 9.59: Sub-feed (Double) Lugs (Standard Aluminum Mechanical Lugs)

Mains Rating	Sub-feed Wire Range Wire Bending Space per NEC Table 373-6
125 A	two #6–2/0 Al or Cu
250 A	two 1/0–350 kcmil Al or Cu
400 A	two 1/0–600 kcmil Cu
600 A	(4) 4/0–500 kcmil Al or Cu
800 A	(6) 3/0–500 kcmil Al or Cu

Sub-feed (Double) Lugs (Standard Aluminum Mechanical Lugs): An additional mains and termination point that can be used to feed out to another panelboard or device from the incoming service lines.
Available on main lug interiors only.

Table 9.60: Sub-feed Lug Cabinet Data (Standard Aluminum Mechanical Lugs)

Max. No. of Branch Spaces	Main Lugs Box Height in Inches (20 in. W x 5.75 in. D)				
	125 A	250 A	400 A	600 A	800 A *[36]*
18	26	—	—	—	—
30	32	38	50	74	74
42	—	44	56	80	80
54	—	50	62	86	86

Table 9.61: Feed-through Lugs (Standard Aluminum Mechanical Lugs)

Mains Rating	Feed-through Wire Range Wire Bending Space per NEC Table 373-6
125 A	one #6–2/0 kcmil Al or Cu
250 A	one #6–350 kcmil Al or Cu
400 A	one 1/0–750 kcmil or two 1/0–350 kcmil Al or Cu
600 A	two 1/0–600 kcmil Al or Cu

Feed-through Lugs (Standard Aluminum Mechanical Lugs): A second set of lugs assembled at the opposite end from the mains of the panelboard. Often used to connect another panelboard or device to the incoming lines.
Available on main lugs and main circuit breaker panelboards.

Table 9.62: Feed-through Lug Cabinet Data (Standard Aluminum Mechanical Lugs)

Max. No. of Branch Spaces	Box Height in Inches (20 in. W x 5.75 in. D)									
	125 A	100/125 A		250 A		400 A LA/LH		600 A		800 A
	Main Breaker (back-fed only)	Main Lugs	Main Breaker	Main Lugs	Main Breaker	Main Lugs	Main Breaker	Main Lugs	Main Breaker *[37]*	Main Lugs *[36]*
18	38	32	44	—	—	—	—	—	—	—
30	44	38	50	50	62	56	68	62	74	56
42	50	—	—	56	68	62	74	68	80	62
54	—	—	—	62	74	68	80	74	86	68

Table 9.63: NF Equipment Ground Bar Kits *[38]*

Interior Rating	Aluminum	Copper	Ground Bar Insulator Kit
125 A / 250 A	PK12GTA, PK18GTA, PK23GTA, or PK27GTA	PK27GTACU or Factory Assembled	PKBTAG
400 A / 600 A	PK27GTA	PK27GTACU	PKBTAG
800 A	FA only	FA only	FA only

Table 9.64: Name Plates

Name Plates
Standard white face/black letter laminated bakelite, 1 in. x 3.5 in., adhesive-backed or screw mountable with screws in a bag assembly

Table 9.65: NF Panelboard Neutral Assembly Options

Interior Rating	Without Sub-Feed or Thru-Feed Lugs				With Sub-Feed or Thru-Feed Lugs			
	100% Neutrals		200% Neutrals *[39]*		100% Neutrals		200% Neutrals *[39]*	
	Alumi-num	Copper	Alumi-num	Copper	Alumi-num	Copper	Alumi-num	Copper
125A	Standard	NFN1CU	NFNL1	FA Only *[40]*	Std	NFN1CU	NFNL1	FA Only *[40]*
250A		NFN2CU	NFNL2	FA Only *[40]*	Std	NFN2CU	NFNL2	FA Only *[40]*
400A		NFN6CU	NFNL4	FA Only *[40]*	Std	NFN6CU	FA Only *[40]*	FA Only *[40]*
600A[3]			FA Only *[40]*	FA Only *[40]*	FA Only *[40]*	FA Only *[40]*	FA Only *[40]*	FA Only *[40]*
800A[4]	FA Only *[40]*	FA Only *[40]*	FA Only *[40]*	FA Only *[40]*	FA Only *[40]*	FA Only *[40]*	FA Only *[40]*	FA Only *[40]*

Table 9.66: NF Main Neutral Conductors—Required Size and Quantity

Panelboard Ampacity	Neutral Conductors Required	Actual Lug Wire Range
125	(2) 1/0 Cu or (2) 1/0 Al	(2) #6-2/0
250	(2) 4/0 Cu or (2) 300 kcmil Al	(2) #6-350 kcmil

[36] 800 A main lug panelboards require an 8.75 in. deep and 26 in. wide box.
[37] 600 A main circuit breaker panelboards require an 8.75 in. deep, 26 in. wide box.
[38] Two (2) PK kits supplied when ground bar is specified. Four (4) PK kits supplied when "extra" ground bar is ordered. "Extra" ground bar kits not available in NEMA 4/4X SS enclosures.
[39] 200% Neutrals not available on Column Width interiors
[40] FA - Factory Assembled Panelboards

Table 9.66 NF Main Neutral Conductors—Required Size and Quantity (cont'd.)

Panelboard Ampacity	Neutral Conductors Required	Actual Lug Wire Range
400 A	(4) 250 kcmil Al or (4) 3/0 Cuor (2) 600 kcmil Al	(2) 1/0-300 kcmil or (1) 1/0-750 kcmil
600	(4) 500 kcmil Al or (4) 350 kcmil Cu	(2) 1/0-750 kcmil

NOTE: Neutral conductors must be of size and quantity per table above.

Table 9.67: Metal Directory Frame

Metal Directory Frame
Not available with PowerPact L main circuit breaker (Replaces standard plastic stick-on directory pouch)

Table 9.68: Hinged Door-in-Door Trim

Hinged Door-in-Door Trim
Hinged Door-in-Door Trim has piano hinge down one side. Inner door has a lock, outer door is retained with screws
Hinged Door-in-Door with Outer Door Lock in place of screws

Table 9.69: Weatherproof or Dusttight Cabinets (Type 3R, 5, 12)

Weatherproof or Dusttight Cabinets —Type 3R, 5, 12
(Not available with panelboards having PowerPact L main circuit breakers)

Table 9.70: Optional Factory Assembled Lugs for Main Lug Interiors

Main Lug Interiors
Aluminum Compression Lugs
Copper Mechanical Lugs
Copper Compression Lugs

Table 9.71: Optional Factory Assembled Lugs for Main Circuit Breaker Interiors

Main Circuit Breaker Interiors
Aluminum Compression Lugs
Copper Mechanical Lugs
Copper Compression Lugs

Table 9.72: Surgelogic™ Hard Bus SPD—Model IMA *[41]*

Surge Current Rating kA
100
120
160
200
240

Table 9.73: Surgelogic SPD Options

Surgelogic SPD Options
Surge Counter
Dry Contacts
Remote Monitor

NOTE: For additional factory modifications, see Modifications For Factory Assembled Panelboards, page 9-64.

Table 9.74: NQ and NF Lighting Contactors—Mechanically Held

(Furnish a one-line power and control voltage connection diagram.)		
Square D® Class 8903 Type PB (or ASCO equivalent)		
Ampacity	2-Pole	3-Pole
30	Y	Y
60	Y	Y
75	Y	Y
100	Y	Y
150	Y	Y
225	Y	Y

NOTE: Lighting Contactors increase box & trim length by 18 in. (457 mm)

[41] Panelboard box height with SPD unit—Contact your local Schneider Electric representative or distributor.

NF Merchandised Accessories

Table 9.75: NF Merchandised Interiors with Surge Protection Devices (SPD)

Available Pole Spaces	Main Rating	Main Circuit Breaker Adapter Kit	Main Circuit Breaker Frame	Interior Only Catalog No. *[42]*	Surge Current Rating	NEMA 1 Enclosure			NEMA 3R, 5, 12 Enclosure
						Box	Mono-Flat Front	Hinged Front	
42	250	Main Lug Only		NF442L2TVS416C	160 kA	MH56	NC56( )	NC56( )HR	MHWP56
		N250MJ *[43]*	JD/JG/JJ/JL			MH68	NC68( )	NC68( )HR	MHWP68
	400	Main Lug Only		NF442L4TVS416C		MH68	NC68V( )	NC68V( )HR	MHWP68
		N400M*[44]*	LA/LH			MH80	NC80V( )	NC80V( )HR	MHWP80

Accessories

Table 9.76: NF Merchandised Neutrals

Mains Ampacity	200% Neutral Kit	Copper 100% Neutral Kit
	Catalog No.	Catalog No.
125	NFNL1	NFN1CU
250	NFNL2	NFN2CU
400	NFNL4*[45]*	NFN6CU
600	Factory Assembled Only	NFN6CU*[45]*

Table 9.77: NF Merchandised Interior Modification Kits

Mains Ampacity	Sub-feed Lugs *[46] [47]*	Feed-through Lugs *[46] [47]*
	Catalog No.	Catalog No.
125	NF125SFL	NF125FTL
250	NF250SFL	NF250FTL
400	NF400SFL *[49]*	NF400FTL
600	*[50]*	*[50]*
800		

Mains Ampacity	Sub-feed Circuit Breaker Kits *[46]* (circuit breaker not included) *[48]*	
	Single Sub-feed Circuit Breaker	Twin Sub-feed Circuit Breakers
	Catalog No.	Catalog No.
250	NF250SFBH/NF250SFBJ	—
400	—	NF600SFBH
	—	NF600SFBJ
600	FACTORY ASSEMBLED ONLY	
800	FACTORY ASSEMBLED ONLY	

NOTE: NF250SFBH and NF600SFBH are for use with HDL, HGL, HJL, HLL, and HRL circuit breakers. NF600SFBJ are for use with JDL, JGL, JJL, JLL, and JRL circuit breakers.

Table 9.78: NF Special Features Box Selection Table—Standard Mechanical Lugs Only

	Main Lugs Only													
Feature	Sub-feed Lugs					Feed-through Lugs					Sub-feed Circuit Breaker			
Interior Rating	125 A	250 A	400 A	600 A	800 A	125 A	250 A	400 A	600 A	800 A4	250 A	400 A	600 A	800 A
No. of Circuits	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.	Box Cat. No.
18	MH26	—	—	—	—	MH32	—	—	—	—	—	—	—	—
30	MH32	MH38	MH50	*[50]*		MH38	MH50	MH56	*[50]*		MH56	MH68	*[50]*	
42	—	MH44	MH56			—	MH56	MH74			MH62	MH74		
66	—	MH62	MH74			—	MH74	MH80			MH80	—		
84	—	—	MH86			—	—	MH92			—	—		

Table 9.79: Special Features Box Selection Table—Standard Mechanical Lugs Only *(continued)*

	Vertical Main Circuit Breaker *[51]*								Back-fed Main Circuit Breaker	
	Sub-feed Circuit Breaker				Feed-through Lugs				Feed-through Lugs	
No. of Circuits	125 A	250 A	400 A	600 A	125 A	250 A	400 A*[51]*	600 A	125 A	250 A
Ampacity	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
18	—	—	—	—	MH44	—	—	—	MH32	MH38
30	—	MH68	—	*[50]*	MH50	MH62	MH68	*[50]*	MH38	MH44
42	—	MH74	—		—	MH68	MH74		—	—
66	—	—	—		—	MH86	MH92		—	—

Table 9.80: Optional Main Lug Kits for Main Lug Panelboards

Ampacity	AL Compression Lug Kit		CU Mechanical Lug Kit		CU Compression Lug Kit *[49]*	
	Catalog No.	Lug Wire Range	Catalog No.	Lug Wire Range	Catalog No.	Lug Wire Range
125	NFALV1 *[52]*	one #4–300 kcmil	NFCUM1	#6–2/0 AWG	NFCUV1 *[53]*	one #6–1/0
250	NFALV2	one 250–350 kcmil	NFCUM2	#6–250 kcmil	NFCUV2 *[53]*	one 2/0–300 kcmil
400	NFALV4	two 2/0–500 kcmil	NFCUM4	one 1/0–750 kcmil, two 1/0–350 kcmil	NFCUV4	one 400–750 kcmil
600	NFALV6	two 2/0–500 kcmil	NFCUM6	two 1/0–750 kcmil	NFCUV6	two 250–500 kcmil
800	Contact your local Schneider Electric representative or distributor.					

[42] Order branch circuit breakers separately.
[43] Select the appropriate main circuit breaker from pages starting on The PowerPact Advantage, page 7-30.
[44] Select an appropriate L-Frame Thermal-Magnetic Circuit Breaker from Section 3 of the Supplemental Digest.
[45] Not to be used with SFL, FTL, or SFB. These combinations are factory assembled only.
[46] Available factory assembled only on non-linear panelboards.
[47] Select box from the Box Selection Table.
[48] Order appropriate circuit breaker.
[49] Use copper wire only.
[50] Available factory assembled only.
[51] 400 A dimension for LA/LH main circuit breakers only.
[52] Use of this kit requires an additional 6 in. added to box height.
[53] Use of this kit to terminate larger than standard wire size requires an additional 6 in. added to box height.

Table 9.81: NF Accessories

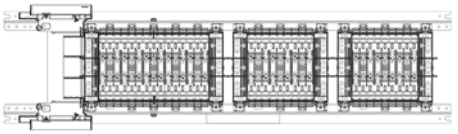
Description	Catalog No.
Aluminum Equipment Ground Bar	PK27GTA
Copper Equipment Ground Bar	PK27GTACU
Large Aluminum Lug for Equipment Ground Bar	PK23GTAL
Equipment Ground Bar Insulator Kit	PKGTAB
Circuit I.D. number strips	
1–102 odd/even (left side numbered 1, 3, 5...101)	NF102OE
103–204 odd/even (left side numbered 103, 105, 107...203)	NF204OE
1–102 sequential (left side numbered 1, 2, 3 ...102)	NF102S
103–204 sequential (left side numbered 103, 104, 105... 204)	NF204S
Rail and Deadfront Extensions	
6 in. Extension	NF6RDE
12 in. Extension	NF12RDE
18 in. Extension	NF18RDE
Replacement Part Kits	
NF 125A AL Replacement Compression Lug Kit (300 MCM)	NFRPLAV1
NF Factory Assembled Replacement Bonding Strap High Amp	NFBOND468

Description	Catalog No.
Filler plate (15 per package)	NFFP15
EXB Fixed padlock attachment, Lock ON/OFF for ED, EG, and EJ Circuit Breakers 1, 2, or 3 poles	EDPA
EXB Fixed padlock attachment, Lock OFF only for ED, EG, and EJ Circuit Breakers 1, 2, or 3 poles	EDPAF
Oversized Lugs for Neutral or Ground Bar	
#10 to #2 Al or #14 to #4 Cu	QO70AN
#4 to #1/0 Al or Cu	Q1100AN
#1 to #4/0 Al or Cu	Q1150AN
Drip Hood for 20 in. wide enclosures	MHT2DH20

Separated Distribution and Split Bus NF and NQ Panelboards

Square D Separated Distribution and Split Bus Panelboards provide compact, affordable options to protect lighting, HVAC, renewable energy, and appliance circuits in buildings.
Separated Distribution Panelboards facilitate Separation of Electrical Circuits for Electrical Energy Monitoring to simplify compliance with Section 130.5-B of California's 2016 Building Energy Efficiency Standards.
NOTE: Refer to Data Bulletin 1600HO1701 for more information.

Special lug pad adaptors allow field removal of cables, for easy field installation of solid core or split CTs for electrical energy measurement, by load type.



Split Bus panelboards enable configurations of two or three back fed main circuit breakers, with independent branch distribution sections, in a single enclosure.

Table 9.82: Separated Distribution Interiors (Cabled Between Sections)

Separated Distribution Interiors (cabled between sections)			Max. No. of Available Pole Spaces			Box Height (in.)	
Product Family	Main Ampacity MLO	Voltage Phases	Main	Split	Split 2	Main Lug Only	Main Circuit Breaker
NQ	225 A	3 Ph	30	18	18	62	74
			18	18	18	62	74
	400 A		30	18	18	80	92
			18	18	18	80	92
NF	250 A	3 Ph	30	18	18	80	92
			18	18	18	74	92

Table 9.83: Bus Bar Interiors (125 A Max. Split Amps)

Split Bus Bar Interiors (125 A Max. Split Amps)			Max. No. of Available Pole Spaces			Box Height (in.)	
Product Family	Main Ampacity MLO	Voltage Phases	Main	Split	Split 2	Main Lug Only	Main Circuit Breaker
NQ	225 A	1, 3 Ph	18	30	—	44	56
		1, 3 Ph	30	18	—	44	56
		1, 3 Ph	30	30	—	44	56
		3 Ph	30	18	18	50	62
NF	250 A	3 Ph	18	30	—	56	68
		1, 3 Ph	30	18	—	56	68
		1, 3 Ph	30	30	—	62	74
		3 Ph	30	18	18	74	86

Square D NF and NQ Separated Distribution and Split Bus Panelboards come Factory Assembled with copper bus, with or without an integral Main Circuit Breaker. A wide variety of configurations may be submitted for quotation via Square D QuoteFAST, and may be quoted or ordered by Authorized Distributors using SE Advantage or E-Way Quote Management.

Features:

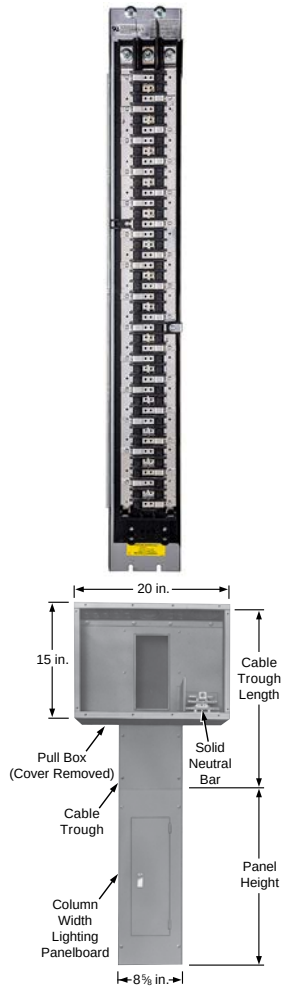
- Multiple branch section configurations (pole spaces per section):
  - Split Bus: 18-30; 30-18; 30-30; 30-18-18
  - Separated Distribution: 30-18-18; 18-18-18
- Up to 400A Mains rating for NQ; up to 250A Main in NF panelboards

Notes:

Enclosure width / depth: 20” / 5.75” minimum.

Subfeed breaker or lugs, feed through lugs not available at top or bottom ends of panel.

- Split Bus - feeder breaker (125A max.) in downstream split section back-fed from feeder breaker in upstream main or split section.
- Segregated Distribution - cables may be removed in the field. Downstream Split section may have same rating as Main.



(60 A Max. Branch Circuit Breaker) NQ Application Data

Application: For use on ac only. Meet Federal Specification W-P-115c, Type 1, Class 1. UL Listed.
Service: 1Ø3W, 3Ø3W, 3Ø4W, 3 Grd. "B" Ø—240 Vac max.
AIR: See the tables starting on page 7-1.
Mains: Type NQ—Bolt-on main lugs: 100 A, 225 A

- Main circuit breaker: 100 A—QOU, 225 A—QB
- See the tables starting on page 7-1 for main circuit breaker interrupt ratings. See catalog for terminal lug data.
- Main circuit breakers with higher interrupt ratings are available as factory assembled panelboards.

Branches: Bolt-on QOB, 60 A maximum. QOB 10-60 A 1-, 2- and 3-pole. See QOB Circuit Breakers for NQ Panelboards, page 9-14 and NQ Factory Assembled Panelboards, page 9-17 for branch circuit breaker terminal data. QOB-VH and QHB branch circuit breakers are also available as factory assembled.

Cabinet: Front—Screw cover. Box—galvanized steel with removable endwalls.

Gutters:

- 100 A—4 in. min. mains end, 3 in. min. opposite mains
- 225 A—10 in. min. mains end, 5 in. min. opposite mains

Table 9.84: NQ Single-Row (Column-width)—240 Vac Bolt-on *[1]*

Max. No. of Poles	Mains Rating	Box and Interior with Solid Neutral (8.625 in. W. x 5 in. D.) (Order branch circuit breakers separately)		Front (Surface Mount)
		Catalog Number	Box Height (In.)	Catalog Number
1 Phase 3-Wire Main Lugs Only				
30	225	NQ830L2C	45	LX45TS
Main Circuit Breaker—2-pole				
20	100	NQ820B1C	40	LX40TS
3 Phase 4-Wire Main Lugs Only				
30	100	NQ8430L1C	40	LX40TS
42	225	NQ8442L2C	58	LX58TS
Main Circuit Breaker—3-pole				
30	100	NQ8430B1C	45	LX45TS
42	225	NQ8442B2C	62	LX62TS

Table 9.85: Cable Troughs and Pull Boxes

Cable Troughs (L=Length) *[2]*		Pull Boxes with Solid Neutral	
L (In.)	8.625 in. x 5 in. Catalog Number	S/N Terminals	Catalog Number
36	MTX836	42	MPX81542
48	MTX848		
56	MTX856		
66	MTX866		

[1] 60 A Maximum Branch—Copper Bus Standard.
[2] Cable troughs are standard with a trough barrier.

(60 A Max. Branch Circuit Breaker) NF Application Data

Application: For use on ac only. Meet Federal Specification W-P-115c, Type 1, Class 1. UL Listed.

Service: 480Y/277 Vac, 3Ø4W

AIR: See the tables starting on page 7-1.

Mains: Type NF–Bolt-on main lugs: 125 A, 225 A

- Main circuit breaker: 100 A—HD, 225 A—JD. See the tables starting on page 7-1 for main circuit breaker interrupt rating. See the catalog section for terminal lug data.
- Main circuit breakers with higher interrupt ratings are available as factory assembled panelboards.

Branches: EDB, EDG, or EDJ, 60 A maximum. See Table 9.48 E-frame Thermal-magnetic (480Y/277 Vac Max), page 9-28 for branch circuit breaker catalog numbers and terminal data.

Cabinet: Front—Screw cover. Box—galvanized steel with removable endwalls.

Gutters:

- 100 A—4 in. min. mains end, 3 in. min.opposite mains
- 225 A—10 in. min. mains end, 5 in. min. opposite mains

Table 9.86: NF Single-Row (Column-width)—480Y/277 Vac Bolt-on

Max. No. of Poles	Mains Rating	Box and Interior with S/N (8.625 in. W. x 5.625 in. D.)		Front (Surface Mount)
		Catalog Number	Box Height (In.)	Catalog Number
Main Lugs Only—3 Phase 4-Wire				
30	125	NF8430L1C	59	NC59TS
42	225	NF8442L2C	71	NC71TS
Main Circuit Breaker—3-pole				
30	100	NF8430M1C NF8430M1HDC	65	NC65TS
42	225	NF8442M2JDC	85	NC85TS

Table 9.87: Cable Troughs and Pull Boxes

Cable Troughs (L=Length) *[3]*		Pull Boxes with Solid Neutral	
L (In.)	8.625 in. x 5.625 in. Catalog Number *[4]*	S/N Terminals	Catalog Number
36	NTX836	42	MPX81542
48	NTX848		
56	NTX856		
66	NTX866		

[3] Cable troughs are standard with a trough barrier.
[4] Box width = 8.625 in.; width at front, including flange, is 9.625 in..

Powerlink available in column width design

Powerlink™ Intelligent Lighting Control Systems

Powerlink intelligent lighting control systems are ideally suited for controlling lighting and other loads in commercial, institutional, and industrial facilities. Such systems are typically used to lower utility cost by switching branch circuits OFF during non-occupied periods when lighting is unnecessary or during peak demand periods when a partial reduction in load can save significant money.

These systems utilize remotely operated circuit breakers to switch branch circuits ON and OFF via a time schedule or by an externally generated signal (typically a low voltage wall switch, photocell, access system, fire alarm or building management system). All Powerlink components mount inside a standard lighting panelboard to provide a compact, space saving installation.

Powerlink intelligent lighting control systems feature a powerful microprocessor based controller that provides system intelligence for 168 remotely operated branch circuits. Master panelboards contain the control electronics, power supply, and control bus strips for up to 42 branch circuit breakers. Sub-panels extend the capability of the system by allowing remotely operated branch circuit breakers to be operated from the master controller via a simple, 4-wire, sub-net connection.

Powerlink panels systems have the capability of being networked together and operated from a central workstation or via a remote modem connection. Powerlink software allows users to remotely configure the system, change time schedules, monitor circuit breaker or input status, and override zones and breakers.

BACnet Capability

The Building Automation and Control network (BACnet) communication protocol is incorporated into the Powerlink™ controller design. The addition of the BACnet protocol allows Powerlink panels to be easily integrated into a Building Automation System (BAS) employing this open communication standard without the need for communication bridges or gateways.

Controller Models

The following Powerlink controller models support ‘native’ BACnet communications:

- NF2000G3 — Ethernet communications, shared remote inputs, network time synchronization
- NF3000G3 — Email upon alarm, onboard web pages for status/control/configuration
- NF3500G4 — Embedded web server, 256 communication inputs available

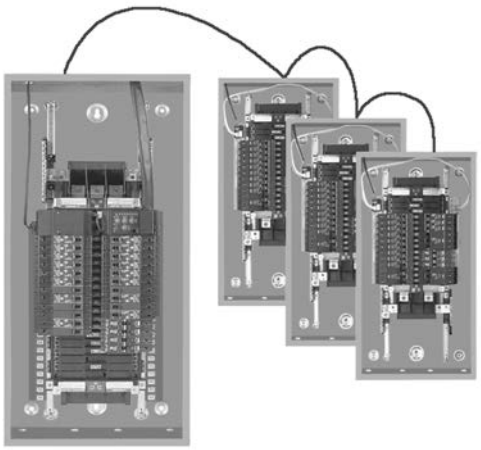
Factory Assembled System

The following factory engineered pricing procedure may be used to price either 240 V or 480Y/277 V Powerlink intelligent lighting control systems:

- Select system type and interior size from Table 9.88 , page 9-39. All Powerlink panels are furnished with either 1 or 2 control bus strips.
- All Powerlink panels use NF type panelboard interiors, boxes, and trims and are suitable for either 240 V or 480Y/277 V systems.
- Select branch circuit breaker requirements. Powerlink panels can accommodate both ECB-G3 remotely operated circuit breakers and EDB, EGB and EJB standard branch circuit breakers.
- Refer to panelboard section for additional panelboard accessories.
- For complete price, order by description.
- Apply appropriate discount schedule.

240 V Factory Assembled System Example:

500 level system with 225 A MLO panelboard rated for 208Y/120 V, 3Ø4W, 10kAIR, Type 1, surface mount with ground bar and (12) 20 A 1-pole bolt-on remote operated circuit breakers.



Up to eight panels can be controlled from a single controller.

Table 9.88:

Item	Page No.
System Type: 500 controller with 12 ckt bus	page 9-40
Panel type: 250 A MLO	page 9-26
Branch circuit breakers: (12) 20 A 1-pole	page 9-39
Ground bar	page 9-31

Table 9.89:

Feature	System Level				
	500	1000	2000	3000	3500
Inputs					
2 - wire	8	16	16	16	16
2 - wire with status feedback[1]	8	8	8	8	8
3 - wire	8	8	8	8	8
Time Scheduler					
Independent schedules	—	16	16	16	64
ON-OFF periods/schedule	—	24	24	24	999
Special events/holiday periods	—	32	32	32	64
Automatic daylight savings	—	X	X	X	X
Sunrise/sunset tracking	—	X	X	X	X
Network Variables					
Communications inputs accessible	64	64	64	64	256
Remote sources (per controller)	—	—	32	32	128
Maximum subscriptions	—	—	256	256	256
Zones					
Maximum number	64	64	64	64	256
Maximum number of sources per zone	1	1	4	4	4
Maximum number of remotely operated circuit breakers (per subnet)	168	168	168	168	168
Networking					
RS-232 port/RS-485 port	X	X	X	X	X
Ethernet (100BaseT port)	—	—	X	X	X
Protocols					
Modbus™ ASCII/RTU	X	X	X	X	X
Modbus TCP	—	—	X	X	X
BACnet/IP, BACnet MS/TP	—	—	X	X	X
DMX512	—	X	X	X	X

Powerlink™ ECB-G3 Circuit Breakers

Table 9.90: ECB-G3 Circuit Breakers Bolt-On Remotely Operated

Ampere Rating	One-Pole 27 7 Vac – 14,000 AIR 120 Vac – 65,000 AIR	Two-Pole 480Y/277 Vac – 14,000 AIR 120/240 Vac – 65,000 AIR 240 Vac – 14,000 AIR Ground B Phase	Three-Pole 480Y/277 Vac – 14,000 AIR 240 Vac – 42,000 AIR
15	ECB14015G3[2]	ECB24015G3[2]	ECB34015G3[2]
20	ECB14020G3[2]	ECB24020G3[2]	ECB34020G3[2]
30	ECB14030G3	ECB24030G3	ECB32030G3[3]

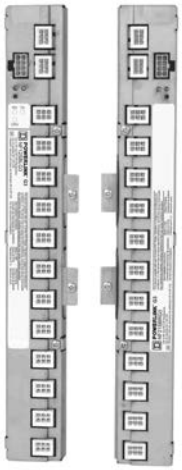
ECB-G3 Circuit Breakers

Table 9.91: ECB-G3 Circuit Breakers for Emergency Lighting (requires 2-pole spaces)

Ampere Rating	One-Pole 480 Y/277 – 14,000 AIR 240 V – 65,000 AIR
20	ECB142020G3EL

NOTE: All are 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. UL listed as HID rated for use with high intensity discharge lighting systems. (1) #12–8 Al or (1) #10–8 Cu. Suitable for use with 75°C conductors.

[1] 7.5 mA maximum load per input terminal.
[2] UL listed as SWD (switching duty) rated.
[3] Rated for 240 Vac only – 42,000 AIR



Control Bus

Power Supply

NF3500G4 Controller

Powerlink Software

Powerlink™ Accessories

Table 9.92: Control Bus

Max. No. of Control Circuits	Required Interior Size	Panel Orientation	Catalog No.
12	30	Left	NF12SBLG3
12	30	Right	NF12SBRG3
18	42	Left	NF18SBLG3
18	42	Right	NF18SBRG3
21	54	Left	NF21SBLG3
21	54	Right	NF21SBRG3

Table 9.93: Power Supply

Voltage	Primary Source	Catalog No.
120 V	Panel Bus	NF120PSG3
240 V	Panel Bus	NF240PSG3
277 V	Panel Bus	NF277PSG3
120 V	External	NF120PSG3L
240 V	External	NF240PSG3L
277 V	External	NF277PSG3L

Table 9.94: Controller

Description	Catalog No.
500	NF500G3
1000	NF1000G3
2000	NF2000G3
3000	NF3000G3
3500	NF3500G4

Table 9.95: Remote Source Controller (for additional inputs)—

Voltage	Catalog No.
120 V	RSC16G3120
240 V	RSC16G3240
277 V	RSC16G3277

Table 9.96: Cables & Accessories

Description	Catalog No.
Control bus cables	
Harness standard panel	NF2HG3
Sub-net accessories & cables	
Sub-panel address selector*[4]*	NFSELG3
6' sub-net cable	NFSN06
10' sub-net cable	NFSN10
25' sub-net cable	NFSN25
50' sub-net cable	NFSN50
Serial cables	
Controller front panel cable	NFFPCG3

Table 9.97: Miscellaneous Hardware

Description	Catalog No.
Circuit Breaker Handle Padlock (Lock On or Off)	HPAFD
Fixed Barrier	NFASBKG3
Remote Mounting Adapter	NFADAPTERG3

Table 9.98: Software

Description	Catalog No.
LCSV2 Software*[5]*	LCSV2

[4] One address selector required for each sub-panel.
[5] Required for G4 controllers (NF3500G4). Will also support G3 controllers.

Remote Mount Controller

Remote Mount Controller

Table 9.99: Remote Mount Controller (for externally mounted electronics) Includes NEMA 1 enclosure, controller, and power supply

Voltage	Catalog No.	Controller Type
120 V	RMC500G3120	NF500G3
240 V	RMC500G3240	NF500G3
277 V	RMC500G3277	NF500G3
120 V	RMC1000N2G3120	NF1000N2G3
240 V	RMC1000N2G3240	NF1000N2G3
277 V	RMC1000N2G3277	NF1000N2G3
120 V	RMC1000G3120	NF1000G3
240 V	RMC1000G3240	NF1000G3
277 V	RMC1000G3277	NF1000G3
120 V	RMC2000G3120	NF2000G3
240 V	RMC2000G3240	NF2000G3
277 V	RMC2000G3277	NF2000G3
120 V	RMC3000G3120	NF3000G3
240 V	RMC3000G3240	NF3000G3
277 V	RMC3000G3277	NF3000G3
120 V	RMC3000G3C120	NF3000G3C
240 V	RMC3000G3C240	NF3000G3C
277 V	RMC3000G3C277	NF3000G3C

Powerlink Network Accessories

Table 9.100: Powerlink Network Accessories

Description	Catalog No.
RS232/485 Converter	6382RS485G3KIT

Table 9.101: Powerlink Remote Modem Support *[6]*

Description	Catalog No.
Modem Kit (for G3 Controllers)	6382G3MODEM

NF Panelboards 240 V and 480Y/277 V Factory Assembled Systems—Max. Voltage 480Y/277 Vac

Table 9.102: Branch Circuit Breaker

Powerlink G3—ECB Bolt-On 65 kA AIR@240 Vac, 14 kA AIR@480 Y/277		Standard Breakers—EDB Bolt-On 18 kA AIR 1-pole, 25 kA AIR 2 & 3-pole @ 240 V, 18 kA AIR@480 Y/277		Standard Breakers HIC—EGB Bolt-On 65 kA AIR@240 Vac, 35 kA AIR@480 Y/277		Standard Breakers Extra HIC—EJB Bolt-On 100 kA AIR@240 Vac, 65 kA AIR@480 Y/277	
Voltage	Ampere Rating	Voltage	Ampere Rating	Voltage	Ampere Rating	Voltage	Ampere Rating
240 Vac	15–20	480Y/277 Vac	15–60	480Y/277 Vac	15–60	480Y/277 Vac	15–60
	30		70		70		70
480Y/277 Vac	15–20		80–100		80–100		80–100
	30		110–125		110–125		110–125
Space Only			Space Only		Space Only		Space Only

NOTE: All EC, ED, EG and EJ branch circuit breakers are UL Listed as HACR type.

Table 9.103: Sub-Feed Breaker Cabinet Data

Max. No. of Branch Spaces (Does not include sub-feed breaker spaces)	Box Height (20" W x 5.75" D)						
	250 A		400 A LA/LH		600 A		800 A
	Main Lugs	Main Circuit Breaker	Main Lugs	Main Circuit Breaker	Main Lugs *[8]*	Main Circuit Breaker *[9][10]*	Main Lugs *[11]*
30	56	68	68	80	68	80	68
42	62	74	74	86	74	86	74
54	68	80	80	92	80	92	80

- Available on 1Ø or 3Ø, 125–800 A main lugs or 125–600 A main circuit breaker interiors
- One sub-feed JD, JG, JJ or JL circuit breaker per 250 A panelboard
- Two sub-feed JD, JG, JJ or JL circuit breakers per 400 A panelboard *[7]*

- PowerLogic™ metering
- Customer equipment space
- Increased box depth
- Box extensions top, bottom and side
- Drip hoods
- Non-standard paint
- NEMA 1 gasketed
- NEMA 4 Stainless steel enclosure
- NEMA 4X Fiberglass enclosure (NQ and NF)
- Stainless steel trim front (NQ, NF and I-LINE)
- Padlockable hasp
- Special locks (Corbin, Yale, Best)
- Equal height boxes
- Common trip to cover two equal height boxes
- Panelboard skirthides conduits feeding a panelboard
- Panelboard wireway for terminating conduit in wireway endwall
- Panelboard interiors and special fronts to fit existing boxes

[6] Requires 2000 and 3000 controller and either Analog or Ethernet modem connection to each master panel.
[7] LC and JJ may not be combined.
[8] 600 A main lug panelboards require an 8.75" deep box.
[9] Dimensions also for 400 A PowerPact L main circuit breaker panels.
[10] 600 A main lug panelboards require an 8" deep, 26" wide box.
[11] 800 A main lug panelboards require an 8.75" deep, 26" wide box.

Lighting Control System, Relay Panels, and Switches

Energy Management (EM) Lighting Control System

The Powerlink Energy Management (EM) Lighting Control System incorporates the same features found in the Powerlink 3000 level system, in addition to integral branch circuit and optional main metering for energy monitoring and verification of the lighting system. Integral metering is accomplished using the PowerLogic™ Branch Circuit Power Meter (BCPM), which is a highly accurate, full-featured multi-branch circuit power meter that provides unrivalled low-current monitoring.

The Powerlink system reduces electrical energy consumption associated with lighting and other loads by automatically switching loads off during non-occupied periods. The Powerlink system is often ideal for reducing th epeak demand by switching unnecessary lights off in response to an automated response signal or when high time-of-day energy tariffs occur.

Powerlink Energy Management (EM) Lighting Control System

- Integral individual and optional mains metering to provide utmost flexibility in assurng a sustainable metering and verification program
- Monitors current, voltage, energy consumption, demand, and power factor for complete energy profiling
- Accumulated metering information transmitted via Modbus communications interface
- Data updates occurring within seconds to provide timely preventative maintenance information
- Optional EGX web interface for storing and reporting data via standard web browser (suggested for applications without Energy Management System [EMS] software)
- Alarm indication when parameters approach user-configured thresholds
- 16 hard-wired inputs available for connection to devices with physical dry-contacts
- 64 communication inputs available for network connection
- 16 independent time schedules, each can be configured into 24 distinct periods
- 7-day repeating clock with changeable automatic daylight savings time
- Automatic sunrise/sunset tracking with offsets
- 32 special event periods
- 32 remote sources for sharing input status, time schedules, or zone status between controllers
- Full custom logic capabilities, including full Boolean functions and synchronization services
- RS232 and RS485
- Serial communications using Modbus ASCII/RTU, BACnet MS/TP and DMX512 protocols (metering Modbus only)
- Ethernet 10BaseT communications using Modbus TCP and BACnet/IP protocols

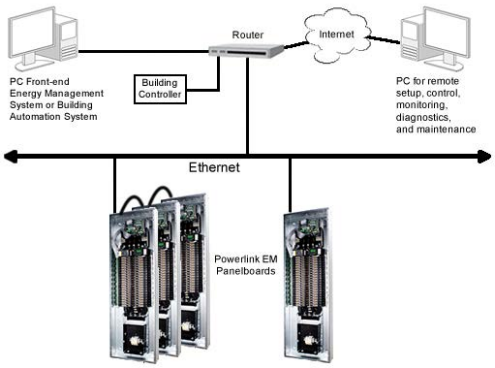


Table 9.104: Characteristics, Standards Compliance, and BCPM Specifications

Characteristics	
Operating Temperature	-5° to 40°C (23° to 104°F) (95%RH, non-condensing)
Storage Temperature	-20° to 85°C (-4° to 185°F) (<95%RH, non-condensing)

Regulatory/Standards Compliance

- UL Listed 916, Energy Management Equip
- FCC Part 15, Class A
- NEC Class 1 and Class 2 Control Circuits
- ESD Immunity: IEC 1000, level 4
- RF Susceptibility: IEC 1000, level 3
- Electrical Fast Transient Susceptibility: IEC 1000, level 3
- Electrical Surge Susceptibility: IEC 1000, level 4 (power line)
- Electrical Fast Transient Susceptibility: IEC 1000, level 3 (interconnection lines)

BCPM Specifications	
General	
Control Power	90–277 Vac
Frequency	50/60 Hz
Sampling Frequency	2560 Hz
Update Rate	1.6 seconds per panelboard
Overload Capability	10 kAIC
Ribbon Cable Support	Up to 20 ft.
Operating Temperature	0° to 60°C (32°C to 122°F) (<95%RH, non-condensing)
Storage Temperature	-40° to 70°C (-40° to 158°F)
Accurancy	
Current Monitoring	0.25 A to 100A: 3% of reading from 0.25 A to 2 A; 2% of reading from 2 A to 100 A
Auxiliary Inputs	2% of reading from 1% to 10% of rated current; 1% of reading from 10% to 100% of rated current (0 to 0.333 Vac)
Voltage Input	90–277 Vac; 1% of reading from 90–277 L-N (models BCPMA and BCPMB only)
Power	4% of reading from 0.25 A to 2 A; 3% of reading 2 A to 100 A*[12]* (models BCPMA and BCPM only)
Network Communications	
Serial	Modbus™ RTU
Ethernet	TCP/IP

[12] Recommended for application where EMS software monitoring is not provided.

New! I-Line Combo Panelboard

Table 9.105: Interior Boxes and Fronts — Includes Solid Neutral

I-Line Mounting Space	Part Number	Panelboard Ampacity	Single/ Duplex	Lighting Section Type	Lighting Section Amperage	Lighting Section Circuits	Bussing	Phase	Ground Bar	Box	4 Piece Trim Without Door	Trim with Door	NEMA 3R/5/12 (Includes Front)
18	CP18864N3Q2C	400	S	NQ	225	30	Cu	3	PK32DGTACU	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18864N3Q2	400	S	NQ	225	30	Al	3	PK32DGTA	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18864N4Q2C	400	S	NQ	225	42	Cu	3	PK32DGTACU	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18864N4Q2	400	S	NQ	225	42	Al	3	PK32DGTA	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18864N3F2C	400	S	NF	250	30	Cu	3	PK32DGTACU	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18864N3F2	400	S	NF	250	30	Al	3	PK32DGTA	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18864N4F2C	400	S	NF	250	42	Cu	3	PK32DGTACU	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18864N4F2	400	S	NF	250	42	Al	3	PK32DGTA	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP118864N4Q4C	400	S	NQ	400	42	Cu	1	PK32DGTACU	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18866N3Q4C	600	S	NQ	400	30	Cu	3	PK32DGTACU	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18866N4Q4C	600	S	NQ	400	42	Cu	3	PK32DGTACU	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP118866N4Q6C	600	S	NQ	600	42	Cu	1	PK32DGTACU	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18866N3F4C	600	S	NF	400	30	Cu	3	PK32DGTACU	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
18	CP18866N4F4C	600	S	NF	400	42	Cu	3	PK32DGTACU	HC2686DB	HC2686T( ) 4P	HC2686T( ) HR	HC2686WP
22.5	CP23734N3Q2C	400	S	NQ	225	30	Cu	3	PK32DGTACU	HC3273DB9	HCM73T( )V	HCM73T( )VD	N/A
22.5	CP23734N3Q2	400	S	NQ	225	30	AL	3	PK32DGTA	HC3273DB9	HCM73T( )V	HCM73T( )VD	N/A
22.5	CP123734N3Q4C	400	S	NQ	400	30	Cu	1	PK32DGTACU	HC3273DB9	HCM73T( )V	HCM73T( )VD	N/A
22.5	CP23734N3F2C	400	S	NF	250	30	Cu	3	PK32DGTACU	HC3273DB9	HCM73T( )V	HCM73T( )VD	N/A
22.5	CP23734N3F2	400	S	NF	250	30	AL	3	PK32DGTA	HC3273DB9	HCM73T( )V	HCM73T( )VD	N/A
22.5	CP23736N3Q4C	600	S	NQ	400	30	Cu	3	PK32DGTACU	HC3273DB9	HCM73T( )V	HCM73T( )VD	N/A
22.5	CP23736N3F4C	600	S	NF	400	30	Cu	3	PK32DGTA	HC3273DB9	HCM73T( )V	HCM73T( )VD	N/A
22.5	CP23914N4Q2C	400	S	NQ	225	42	Cu	3	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23914N4Q2	400	S	NQ	225	42	Al	3	PK32DGTA	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23914N5Q2C	400	S	NQ	225	54	Cu	3	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23914N5Q2	400	S	NQ	225	54	Al	3	PK32DGTA	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23914N4F2C	400	S	NF	250	42	Cu	3	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23914N4F2	400	S	NF	250	42	Al	3	PK32DGTA	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23914N5F2C	400	S	NF	250	54	Cu	3	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23914N5F2	400	S	NF	250	54	Al	3	PK32DGTA	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23916N4Q4C	600	S	NQ	400	42	Cu	3	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23916N5Q4C	600	S	NQ	400	54	Cu	3	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP123916N5Q4C	600	S	NQ	400	54	Cu	1	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23916N4F4C	600	S	NF	400	42	Cu	3	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23916N5F4C	600	S	NF	400	54	Cu	3	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP123916N5Q6C	600	S	NQ	600	54	CU	1	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23916N44Q4C	600	D	NQ	400	42/42	Cu	3	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP123916N44Q4C	600	D	NQ	400	42/42	Cu	1	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
22.5	CP23916N53Q4C	600	D	NQ	400	54/30	Cu	3	PK32DGTACU	HC3291DB9	HCM91T( )V	HCM91T( )VD	N/A
31.5	CP32866N44Q4C	600	D	NQ	400	42/42	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32866N53Q4C	600	D	NQ	400	54/30	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32866N4BQ4C	600	D	NQ	400	42/B*	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP132866N44Q6C	600	D	NQ	600	42/42	Cu	1	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32866N44F4C	600	D	NF	400	42/42	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32866N53F4C	600	D	NF	400	54/30	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32866N4BF4C	600	D	NF	400	42/B*	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32868N44Q6C	800	D	NQ	600	42/42	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP132868N44Q6C	800	D	NQ	600	42/42	Cu	1	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32868N53Q6C	800	D	NQ	600	54/30	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32868N3BQ6C	800	D	NQ	600	30/B[1]	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32868N4BQ6C	800	D	NQ	600	42/B[1]	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP132868N4BQ6C	800	D	NQ	600	42/B[1]	Cu	1	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32868N5BQ6C	800	D	NQ	600	54/B[1]	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32868N44F6C	800	D	NF	600	42/42	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32868N53F6C	800	D	NF	600	54/30	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32868N3BF6C	800	D	NF	600	30/B[1]	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32868N4BF6C	800	D	NF	600	42/B[1]	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP
31.5	CP32868N5BF6C	800	D	NF	600	54/B[1]	Cu	3	PK32DGTACU	HC4486DB	HCR86T( )	HCR86T( )D	HC4486WP

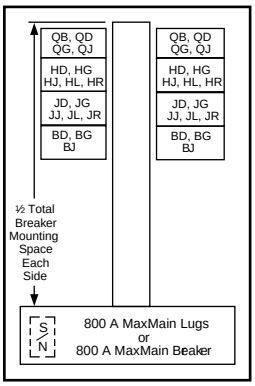
[1] B denotes a blank space on the right hand side of a duplex panel for future expansion

Table 9.106: RTI Cabled Lighting Section Kit for I-Line Combo Panelboard

Part Number	Description	MLO Panelboard Ampacity	Lighting Section Type	Lighting Section Circuits
NFICRT418L1C	NF Lighting Section Kit	125	NF	18 dual
NFICRT442L2C	NF Lighting Section Kit	250	NF	42
NFICRT442L4C	NF Lighting Section Kit	400	NF	42
NFICRT442L6C	NF Lighting Section Kit	600	NF	42
NQICRT418L1C	NQ Lighting Section Kit	100	NQ	18 dual
NQICRT442L2C	NQ Lighting Section Kit	225	NQ	42
NQICRT442L4C	NQ Lighting Section Kit	400	NQ	42
NQICRT442L6C	NQ Lighting Section Kit	600	NQ	42
NQICRT418C1C	Contactor with 18 Circuit NQ Lighting Section Kit	100	NQ	18
NFICRT418C1C	Contactor with 18 Circuit NF Lighting Section Kit	125	NF	18

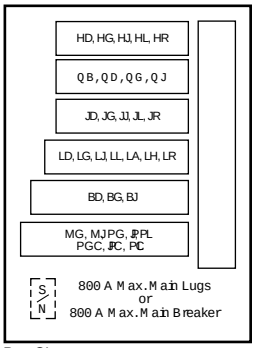
I-Line Panelboard

TYPE HCM
250 A max. branch circuit breaker
BD, BG, BJ, QB, QD, QG, QJ, HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR



Box Size:
32 in. Wide, 8.25 in. Deep

TYPE HCP-SU *[2]*
800 A max. main circuit breaker
600 A max. branch circuit breaker
BD, BG, BJ, LA, LD, LG, LJ, LL, LH, LR, MG, MJ, PG, PJ, PL, PGC, PJC, PLC *[3]*, QB, QD, QG, QJ, HD, HG, HJ, HL, JD, JG, JJ, JL



Box Size:
26 in. Wide, 9.5 in. Deep

Table 9.107: Interiors, Boxes and Fronts (PENDING OBSOLESCENCE)

Note: HCM pending obsolescence and replaced by HCJ

Total Circuit Breaker Mounting Space (In.)	Mains Ampere Rating	Interior Assembly (Less Branch Circuit Breakers) Catalog Number	Front *[4]* 4 Piece Trim Without Door Catalog Number	Front *[4]* Trim With Door *[6]* Catalog Number	Box *[5]* Type 1 Catalog Number	Box *[5]* NEMA 3R/5/12 *[7]* (Includes Front) Catalog Number	Box Height (In.)
HCM **Main Lugs Only** **3-pole—Suitable for use as service equipment when provided with a main circuit breaker.** *[8]*							
27	225 A	HCM14482N	HCM48T( )	HCM48T( )D	HC3248B	HC3248WP	48
	400 A	HCM14484					
	600 A	HCM14486					
	800 A	HCM14488					
45	225 A	HCM23642N	HCM64T( )	HCM64T( )D	HC3264B	HC3264WP	64
	400 A	HCM23644					
	600 A	HCM23646					
	800 A	HCM23648					
63	225 A	HCM32732N	HCM73T( )	HCM73T( )D	HC3273B	HC3273WP	73
	400 A	HCM32734					
	600 A	HCM32736					
	800 A	HCM32738					
99	225 A	HCM50912N	HCM91T( )	HCM91T( )D	HC3291B	HC3291WP	91
	400 A	HCM50914					
	600 A	HCM50916					
	800 A	HCM50918					

[2] For main circuit breaker panel, order plug-on I-Line type PG, PJ, PL, MG, or MJ circuit breakers from 9–47 through 9–48 and backfeed as the main breaker (order solid neutral from 9–37).
[3] PG, PJ, PL circuit breakers are available with both thermal-magnetic equivalent and MicroLogic trip. The MicroLogic circuit breakers are available 80% and 100% rated. “C” suffix denotes a 100% rating.
[4] Add “F” for flush mount, “S” for surface mount.
[5] For Type 1 applications, order interior, front, and box. For Type 3R/5/12 applications, order interior and box only. The front is included with the box.
[6] For Type 1 applications order interior, trim and box. For type 3R/5/12, order interior and box only.
[7] Remove drain screws for Type 3R rating.
[8] Suitable for use as service equipment if equipped with an integral main circuit breaker or when not more than six main disconnecting means are provided and the panelboard is not used as a lighting and appliance branch circuit panelboard.

Table 9.107 Interiors, Boxes and Fronts (PENDING OBSOLESCENCE) (cont'd.)

Note: HCM pending obsolescence and replaced by HCJ

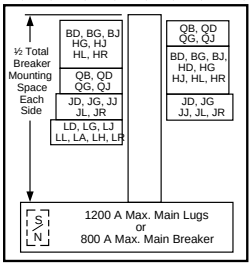
Total Circuit Breaker Mounting Space (In.)	Mains Ampere Rating	Interior Assembly (Less Branch Circuit Breakers)	Front *[9]*		Box *[10]*		Box Height (In.)
			4 Piece Trim Without Door	Trim With Door*[11]*	Type 1	NEMA 3R/5/12 *[12]* (Includes Front)	
		Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	
HCM Main Circuit Breaker *[13] [14]* **Includes 3-pole, vertically mounted main circuit breaker—Suitable for use as service equipment.**							
27	400 A	HCM14644M	HCM64T( )	HCM64T( )D	HC3264B	HC3264WP	64
36	225 A	HCM18642MN					
	600 A	HCM18736MP	HCM73T( )	HCM73T( )D	HC3273DB9*[15]*	Use HCP	—
	800 A	HCM18738MP					
45	400 A	HCM23734M	HCM73T( )	HCM73T( )D	HC3273B	HC3273WP	73
54	225 A	HCM27732MN					
72	600 A	HCM36916MP	HCM91T( )	HCM91T( )D	HC3291DB9*[15]*	Use HCP	—
	800 A	HCM36918MP					
81	400 A	HCM41914M	HCM91T( )	HCM91T( )D	HC3291B	HC3291WP	91
HCP-SU *[16]* **Universal Single Row Main Lugs or Main Circuit Breaker** *[14]* **3-pole—Suitable for use as service equipment when provided with a main circuit breaker.** *[17]*							
54	800	HCP54868SU	**HC2686T( )4P**	**HC2686T( )HR***[18]*	HC2686DB	HC2886WP	86

Table 9.108: Interiors, Boxes and Fronts

Total Circuit Breaker Mounting Space (In.)	Mains Ampere Rating	Interior Assembly (Less Branch Circuit Breakers)	Front *[9]*		Box *[10]*		Box Height (In.)
			4 Piece Trim Without Door	Trim With Door*[11]*	Type 1	NEMA 3R/5/12 *[12]* (Includes Front)	
		Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	
HCJ Main Lugs Only **3-pole—Suitable for use as service equipment when provided with a main circuit breaker and service barrier kit.** *[17]*							
27	400 A	HCJ14484	HCM48T( )	HCM48T( )D	HC3248DB9	HCJ3248WP	48
		HCJ14484CU					
	600 A	HCJ14486					
		HCJ14486CU					
	800 A	HCJ14488					
45	400 A	HCJ23734	HCM73T( )	HCM73T( )D	HC3273DB9	HCJ3273WP	73
	600 A	HCJ23736					
	800 A	HCJ23738					
63	400 A	HCJ32734					
		HCJ32734CU					
	600 A	HCJ32736					
		HCJ32736CU					
	800 A	HCJ32738					
99	400 A	HCJ50914	HCM91T( )	HCM91T( )D	HC3291DB9	HCJ3291WP	91
	600 A	HCJ50916					
	800 A	HCJ50918					
HCJ Main Circuit Breaker *[13] [14]* **Includes 3-pole, vertically mounted main circuit breaker—Suitable for use as service equipment with service barrier kit.**							
27	400 A	HCJ14734M	HCM73T( )	HCM73T( )D	HC3273DB9 *[15]*	HCJ3273WP	73
36	600 A	HCJ18736MP					
	800 A	HCJ18738MP					
45	400 A	HCJ23734M					
72	600 A	HCJ36916MP	HCM91T( )	HCM91T( )D	HC3291DB9 *[15]*	HCJ3291WP	91
81	400 A	HCJ36918MP					
	400 A	HCJ41914MCU					

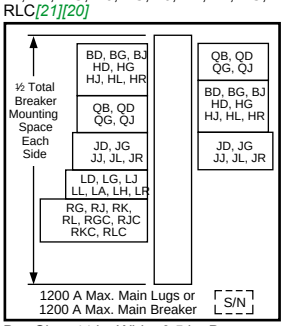
[9] Add “F” for flush mount, “S” for surface mount.
[10] For Type 1 applications, order interior, front, and box. For Type 3R/5/12 applications, order interior and box only. The front is included with the box.
[11] For Type 1 applications order interior, trim and box. For type 3R/5/12, order interior and box only.
[12] Remove drain screws for Type 3R rating.
[13] Bottom feed standard.
[14] Circuit breaker interrupt ratings, see the tables starting on Table 7.46 PowerPact Interrupting Ratings, page 7-30.
[15] DB9 box is 9.5 inches deep.
[16] For main lugs panel, order sub-feed lug kit and back-feed as main lugs.
[17] Suitable for use as service equipment if equipped with an integral main circuit breaker or when not more than six main disconnecting means are provided and the panelboard is not used as a lighting and appliance branch circuit panelboard.
[18] Hinged trim with door.

TYPE HCP
800 A max. branch circuit breaker
BD, BG, BJ, QB, QD, QG, QJ, HD, HG, HJ, HL, HR, JD*[19]*, JG, JJ, JL, JR, LA, LH, LD, LG, LJ, LL, LR, MG, MJ, PG, PJ, PL, PGC, PJC, PLC *[20]*



Box Size: 42 in. Wide, 9.5 in. Deep

TYPE HCR-U Universal Mains
1200 A max. branch circuit breaker
BD, BG, BJ, QB, QD, QG, QJ, HD, HG, HJ, HL, HR, JD*[19]*, JG, JJ, JL, JR, LA, LH, LD, LG, LJ, LL, LR, MG, MJ, PG, PJ, PK, PL, RG, RJ, RK, RL, PGC, PJC, PKC, PLC, RGC, RJC, RKC, RLC*[21][20]*



Box Size: 44 in. Wide, 9.5 in. Deep

Table 9.109: Circuit Breaker / Sub-feed Lug Kit Mounting Space Requirement

Type of Circuit Breaker	Maximum Ampacity	No. of Poles	Inch Mounting Requirements
BD, BG, BJ	125	1	1.5
BD, BG, BJ		2	3
BD, BG, BJ		3	4.5
HD, HG	150	2	3
HD, HG		3	4.5
HJ, HL, HR		2, 3	4.5
QB, QD, QG, QJ	225	2	3
QB, QD, QG, QJ	225	3	4.5
JD, JG, JJ, JL, JR, SL250	250	2, 3	4.5
LA, LH, SL400	400		6
LD, LG, LJ, LL, LR	600		6
Smart Cell			6
MG, MJ, SL800, PGC, PJC, PLC	800		9
PG, PJ, PL, S33931	1200		9
RG, RJ, RL, RGC, RJC, RLC, S33930			15

[19] JDA circuit breakers with field installable ground fault kits may be mounted in type HCP, HCP-SU, and HCR-U panelboards as shown, and require L-frame mounting space.

[20] PG, PJ, and PL circuit breakers are available with both thermal-magnetic equivalent and MicroLogic trip. The MicroLogic circuit breakers are available 80% and 100% rated. “C” suffix denotes a 100% rating.

[21] When RL main circuit breakers with equipment ground fault are applied on a 3Ø4W system, order solid neutral catalog number HCR12SNCT. The HCR12SNCT includes a neutral current transformer.

Table 9.110: (1200 A Interiors Include solid neutral, all others without solid neutral) *[22]*

Total Circuit Breaker Mtg. Space (In.)	Mains Amp. Rating	Max. No. of LC, MJ, PL, RL Circuit Breakers	Interior Assembly (Less Branch Circuit Breakers)	Front *[23]*		Box *[24]*	Box Height (In.)
				4 Piece Trim Without Door *[25]*	Trim With Door		
			Catalog Number	Catalog Number	Catalog Number	Catalog Number	
HCP **Main Lugs Only—3-pole** Suitable for use as service equipment when provided with a main circuit breaker. *[26]*							
27	400	1PL	HCP14504	HCW50T( )	HCW50T( )D	HC4250DB	50
	600		HCP14506				
	800		HCP14508				
	1200		HCP145012N				
45	400	2PL	HCP23594	HCW59T( )	HCW59T( )D	HC4259DB	59
	600		HCP23596				
	800		HCP23598				
	1200		HCP235912N				
63	400	3PL	HCP32684	HCW68T( )	HCW68T( )D	HC4268DB	68
	600		HCP32686				
	800		HCP32688				
	1200		HCP326812N				
99	400	5PL	HCP50864	HCW86T( )	HCW86T( )D	HC4286DB	86
	600		HCP50866				
	800		HCP50868				
	1200		HCP508612N				
HCP **Main Circuit Breaker***[27]*—Includes 3-pole Vertically mounted main circuit breaker—Suitable for use as service equipment.							
36	600	2LC	HCP18686M	HCW68T( )	HCW68T( )D	HC4268DB	68
	800		HCP18688M				
72	600	4LC	HCP36866M	HCW86T( )	HCW86T( )D	HC4286DB	86
	800		HCP36868M				
HCR-U **Universal Main Lugs or Main Circuit Breaker** *[23]* **—3-pole** Suitable for use as service equipment when provided with a main circuit breaker. For Main Lugs panel, order sub-feed lug kit catalog number S33930 and back feed as main lugs. For Main Circuit Breaker panel, order plug-on I-Line type PG, PJ, PL, RGC, RJC, or RLC *[28]* circuit breakers from page 9-51, and back feed as the main circuit breaker. (Order solid neutral separately)							
108 *[29]*	1200	6PL or 3RLC	HCR548612U	HCR86T( ) *[30]*	HCR86T( )D	HC4486DB	86

Table 9.111: Main Circuit Breaker Interiors —Standard Frame Types *[27]*

Main Circuit Breaker Ampacity	Panelboard Type	Factory Supplied Main Circuit Breaker
225	HCM	JDA36225
400	HCM	LAP36400MB
600 or 800	HCM, HCP	MGP36600 or MGP36800

Table 9.112: Standard Copper Bus Interiors

Type	Main Ampacity
HCM, HCP-SU	800
HCP, HCR-U	800 and Above

NOTE: Merchandised copper interiors are not available in all ampacities.

[22] Order solid neutral from Table 9.113 I-Line Merchandised Panelboard Accessories, page 9-48.
[23] Add “F” for flush mount, “S” for surface mount.
[24] For 42 in. wide weatherproof enclosures, see Table 9.119 Type 3R/5/12 Enclosures, page 9-49
[25] Add-on door kit available. Example: For HCW50TS trim kit, order HCW50D door kit.
[26] Suitable for use as service equipment if equipped with an integral main circuit breaker or when not more than six main disconnecting means are provided and the panelboard is not used as a lighting and appliance branch circuit panelboard.
[27] Circuit breaker interrupt ratings, see the tables starting on Table 7.46 PowerPact Interrupting Ratings, page 7-30.
[28] When RL main circuit breakers with equipment ground fault are applied on a 3Ø4W system, order solid neutral catalog number HCR12SNCT. The HCR12SNCT includes a neutral current transformer.
[29] 15 in. of mounting space is taken up by the back fed main lug kit or RG, RJ, RL main circuit breaker, leaving 93 in. of branch circuit breaker mounting space.
[30] Add-on door kit available. Example: For HCR86TS trim kit, order HCW86D door kit.

Accessories

Blank Fillers Equipment Ground Bar Solid Neutral

Table 9.113: I-Line Merchandised Panelboard Accessories

	Description	Catalog No.
Blank Filler Kit—1.5 in. *[31]* (One kit contains quantity of 3 blank fillers.)		HNM1BL
Blank Filler Kit—4.5 in. *[31]* (One kit contains quantity of 5 blank fillers.)		HNM4BL
Solid Neutral Assemblies		
	225 A	HC2SN
	400 A	HC4SN *[32]*, HCW4SN *[33]*
	600 A	HC6SN *[32]*, HCW6SN *[33]*
	800 A	HC8SN *[32]*, HCW8SN *[33]*
		HCPSU8SN *[34]*
		HCPSU8SNCW *[34]*
	1200 A	HCW12SN *[33]*
	1200 A, for use with HCR-U universal panel only	HCWM12SN *[35]*
	1200 A, including neutral Current Transformer (CT) for 3Ø4W systems	HCR12SNCTW *[35]*
Equipment Ground Bar Kits—HCJ, HCM, HCP, HCP-SU (single row), HCR-U		PK32DGTA
Blank Extensions (For replacement purposes)		
 Blank Extensions	1.5 in. for mounting on wide side of I-Line panelboard used with HNM1BL and HNM4BL as a filler plate on the wide side of the panel (HCP, HCP-SU and HCRU). Do not use with MicroLogic trip unit as this filler will cover the trip unit. *[31]*	HLW1BL (Kit contains quantity of 3.)
	4.5 in. for mounting on wide side of I-Line panelboard used with HNM1BL and HNM4BL as a filler plate on the wide side of the panel (HCP, HCP-SU and HCRU). Do not use with MicroLogic trip unit as this filler will cover the trip unit. *[31]*	HLW4BL (Kit contains quantity of 5.)
	1.5 in. for mounting on narrow side of I-Line panelboard used with HNM1BL and HNM4BL as a filler plate on the narrow side of the panel. Do not use with MicroLogic trip unit as this filler will cover the trip unit. *[31]*	HLN1BL (Kit contains quantity of 3.)
	4.5 in. for mounting on narrow side of I-Line panelboard used with HNM1BL and HNM4BL as a filler plate on the narrow side of the panel. Do not use with MicroLogic trip unit as this filler will cover the trip unit. *[31]*	HLN4BL (Kit contains quantity of 5.)
	4.5 in. for mounting on wide side of I-Line panelboard. For use with PowerPact H and J circuit breakers mounted on the wide side of the panel so that electronic trip unit can be accessed. *[31]*	HLW4EBL (Kit contains quantity of 5.)
	4.5 in. for mounting on narrow side of I-Line panelboard. For use with PowerPact H and J circuit breakers mounted on the narrow side of the panel so that electronic trip unit can be accessed. *[31]*	HLN4EBL (Kit contains quantity of 5.)

Table 9.114: Blank Extensions

Application	Circuit Breaker Mounting Ht.	Branch Circuit Side	Catalog Number
All applications, except Powerpact H/J with MicroLogic trip unit 3, 5 and 6	1.5 in.	Wide Side	HLW1BL
	4.5 in.		HLW4BL
All applications, except Powerpact H/J with MicroLogic trip unit 3, 5 and 6	1.5 in.	Narrow Side	HLN1BL
	4.5 in.		HLN4BL
Only Powerpact H/J circuit breakers with MicroLogic trip unit 3, 5 and 6	4.5 in.	Narrow Side	HLN4EBL
Only Powerpact H/J circuit breakers with MicroLogic trip unit 3, 5 and 6	4.5 in.	Wide Side	HLW4EBL

[31] Blank extension and blank filler pricing is per kit. See note on kit number for number included in each kit.
[32] Used on Type HCJ, HCN, HCM.
[33] Used on 400 A, 600 A, 800 A, and 1200 A HCP (main lugs), and 600 A and 800 A (main circuit breaker).
[34] Used on Type HCP-SU (single row).
[35] Used on Type HCR-U.

Table 9.115: UL Service Entrance Barriers for I-Line Panelboards with Backfeed Main Circuit Breaker

I-Line Panelboard Type	Backfeed Main Circuit Breaker	Catalog Number *[36]*
HCM/HCJ	H, J	ILBFMHCJHULC
HCP	H, J	ILBFMHCPHJULC
	LA, LH, PowerPact L	ILBFMHCPLULC
	M, P	ILBFMHCPMPULC
HCR	LA, LH, PowerPact L	ILBFMHCRLULC
	M	ILBFMHCRMULC
	P	ILBFMHCRPULC
	R	ILBFMHCRRULC

(NOTE: Barriers are required by 2017 version of NFPA70—National Electric Code. Both the 2017 UL67 and 2017 NFPA70 allow an exception for service entrance panelboards with more than one disconnect.)

Table 9.116: UL Service Entrance Barrier Kits for I-Line Vertical Mounted Mains

Main Circuit Breaker	Determining Factors	Catalog Number *[36]*
MG, MJ	4 wires per phase (for breakers with AL1200P24K or CU1200P24K lug kit)	ILMLC4W
	3 wires per phase (for breakers with AL80023K or CU80023K lug kit)	ILMLC3W
	2 wires per phase (for breakers with AL800P6K or AL800P7K lug kit)	ILMLC2W
PowerPact L	All instances	PPLLC
LA/LH	All instances	LALLC

(NOTE: Barriers are required by 2017 version of NFPA70—National Electric Code)

Table 9.117: Solid Neutral Lug Quantities and Sizes

Solid Neutral Assembly	Terminal Wire Range
HC2SN	(1) 6 - 300, (9) #1/0 - 14, (45) #4 - 14
HC4SN	(7) 6 - 350, (45) #4 - 14
HC6SN	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HC8SN	(7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCPSU8SN	(4) 3/0 - 600, (7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14,
HCW4SN	(2) 4 - 600, (7) 6 - 350, (45) #4 - 14
HCW6SN	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCW8SN	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCW12SN	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCWM12SN	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HC6SNALCU	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HC8SNALCU	(7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCPSU8SNALCU	(4) 3/0 - 600, (7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCP4SNALCU	(2) 4 - 600, (7) 6 - 350, (45) #4 - 14
HCP6SNALCU	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCP8SNALCU	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCP12SNALCU	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCR12SNALCU	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HC6SNCU	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HC8SNCU	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCPSU8SNCU	(4) 3/0 - 600, (7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14,
HCW4SNCU	(2) 2 - 600, (7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCW6SNCU	(2) 2 - 600, (7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCW8SNCU	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCP12SNCU	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCW12SNCU	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCR12SNCU	(4) 3/0 - 750, (7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCR2SNCTW	(7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCR2SNCTWALCU	(7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCR2SNCTWCU	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCR12SNCTW	(7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCR12SNCTWALCU	(7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCR12SNCTWCU	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCPSU2SNCTW	(7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCPSU2SNCTWALCU	(7) 6 - 350, (9) #1/0 - 14, (34) #4 - 14
HCPSU2SNCTWCU	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCPSU8SNCW	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCPSU12SNCTWALCU	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCPSU12SNCTWCU	(7) 6 - 350, (9) #1/0 - 14, (28) #4 - 14
HCP16NALCU	(35) 350, (9) #1/0 - 14, (17) #4 - 14
HCR24NALCU	(8) 750, (21) 350, (9) #1/0 - 14, (17) #4 - 14
HCPSU16NALCU	(8) 750, (21) 350, (9) #1/0 - 14, (17) #4 - 14

Table 9.118: Panelboard Adapter Kits

Crimp Lug Adapter Kits *[37]*	I-Line Panelboard Type	
	HCM	HCP, HCR-U *[38]*
400 A	HCM400VCA	HCW400VCA
600 A	HCM600VCA	HCW600VCA
800 A	HCM800VCA	HCW800VCA
1200 A	—	HCW1200VCA

Table 9.119: Type 3R/5/12 Enclosures

Catalog Number	Interior Type	Dimensions (In.)		
		H	W	D
HC4250WP	HCP	50	42	12.95
HC4259WP	HCP	59	42	12.95
HC4268WP	HCP	68	42	12.95
HC4286WP	HCP	86	42	12.95
HC4486WP	HCR-U	86	44	14.50

[36] For panelboards manufactured after 1 January 2017.
[37] For use with MLO panel, order VCEL lugs seperately.
[38] Not for use with P- or R-frame circuit breakers or sub-feed kits S33930 or S33931.

Table 9.120: Box Extensions

	Catalog Number	Interior Type	Extension
	HC2609DEX (F or S)	HCP-SU	9 in.
	HC3209EX (F or S)	HCM	9 in.
	HC4212DEX (F or S)	HCP	12 in.
	HC4406DEX (F or S)	HCR-U	6 in.
	HC4412DEX (F or S)	HCR-U	12 in.

Sub-feed Lug Kits

Table 9.121: Sub-feed Lug Kits *[39][40][41]*

Ampere Rating	Height		Catalog Number	Max. Short Circuit System Ratings RMS Symmetrical Amperes			Protected by Circuit Breaker	For Use in I-Line Panelboard Types
	In.	(mm)		240 Vac	480 Vac	600 Vac		
250 A	4.5	114	SL250	200,000	200,000	100,000	FA, FD, FG, FH, FJ, HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR, KI	HCM, HCP, HCP-SU, HCR-U
400 A	6	152	SL400 *[41]*	200,000	200,000	100,000	HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR, LA, LH,, DG, DJ, DL, LD, LG, LJ, LL, LR ("L" & "D" FRAME 400 A MAX.)	HCP, HCP-SU, HCR-U (wide side only)
800 A	9	229	SL800	200,000	100,000	50,000	HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR, LA, LH, LC, LI, MA, MH, MX, DG, DJ, DL, LD, LG, LJ, LL, LR	HCM, HCP, HCP-SU, HCR-U
800 A	9	229	SL800M5	125,000	100,000	25,000	FA, FD, FG, FH, FJ, KA, KH, KC, KI, HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR, MA, MH, MX, MG, PG, MJ, PJ, PK, PL, DG, DJ, DL, LD, LG, LJ, LL, LR	HCM, HCP, HCP-SU, HCR-U
1200 A	9	229	S33931	125,000	100,000	50,000	FA, FD, FG, FH, FJ, KA, KH, KC, KI, HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR, LA, LH, LC, LI, MA, MH, MX, MG, PG, MJ, PJ, PK, PL, DG, DJ, DL, LD, LG, LJ, LL, LR	HCP, HCP-SU, HCR-U
1200 A	15	381	S33930	125,000	100,000	50,000	FA, FD, FG, FH, FJ, KA, KH, KC, KI, HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR, LA, LH, LC, LI, MA, MH, MX, NA, NC, NX, MG, PG, MJ, PJ, PK, PL, RG, RJ, RL, RK, DG, DJ, DL, LD, LG, LJ, LL, LR	HCR-U
1200 A	9	229	SL1200P5, SL1200P6, SL1200P7	125,000	100,000	50,000	FA, FD, FG, FH, FJ, KA, KH, KC, KI, HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR, MG, PG, MJ, PJ, PK, PL, RG, RJ, RL, RK, DG, DJ, DL, LD, LG, LJ, LL, LR	HCP, HCP-SU, HCR-U

NOTE: S33930, S33931, SL1200P5, SL1200P6, SL1200P7, SL Kits are rated 1200 A and may be applied to 1200 ampere loads when installed into HCRU panelboards. However, when installed into HCP and HCPSU panelboards they are only rated 800 amperes maximum due to restricted wire bending space.

For Surgelogic™ I-Line plug-on SPD information, starting on Digest page 6-2.For field-installable I-Line door kits, see the Supplemental and Obsolescence Digest, Section 4.

Table 9.122: Sub-feed Lug kit terminal data

Catalog No. (Prefix)	No. Poles	Ampere Rating	Standard Lug Wire Size *[42]*
SL100	3	100	#14–1/0 AWG Cu or #12–1/0 AWG Al
SL250	3	250	1– #4 AWG–300 kcmil
SL400	3	400	1– #1 AWG–600 kcmil or 2– #1 AWG–250 kcmil
SL800	3	800	3– #3/0 AWG–500 kcmil
SL800M5	3	800	3– #3/0 AWG–500 kcmil
S33931	3	1200	4– #3/0 AWG–500 kcmil
S33930	3	1200	4– #3/0 AWG–600 kcmil
SL1200P5	3	1200	4– #3/0 AWG–500 kcmil
SL1200P6	3	1200	3– 350–600 kcmil
SL1200P7	3	1200	3– #3/0 AWG–750 kcmil

[39] Plug-on in same manner as a branch circuit breaker
[40] For other ratings, see the latest edition of I-Line Information Manual, #80043-309-xx.
[41] SL400 cannot be used in HCM panelboards due to inadequate wire bending space.
[42] Unless otherwise specified, wire sizes apply to both aluminum and copper conductors.

PowerPact™ B-frame

Accessories are located in Section 7 PowerPact Accessories, page 7-50.

Table 9.123: B-frame Interrupting Rating

D - SCCR	Interrupting Rating			
	D	G	J	K
240 Vac	25 kA	65 kA	100 kA	100 kA
480/277 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
1P 125 Vdc	10 kA	20 kA	50 kA	—
2–3P 250 Vdc	10 kA	20 kA	50 kA	—

Table 9.124: PowerPact B-frame, 125A max, Thermal Magnetic UL Circuit Breaker (PowerPact B-frame 1–pole branch circuit breakers utilize 1.5" of I-Line mounting space, 2–pole branch circuit breakers utilize 3" of I-Line mounting space and 3–pole B-frame circuit breakers utilize 4.5" of I-Line mounting space.)

D - SCCR					
480Y/277 Vac	1-pole	2-pole	3-pole	Fixed AC Magnetic Trip	
Amps	277 Vac	480/277 Vac	480/277 Vac	Hold	Trip
15	BDA14015	BDA24015Y	BDA34015Y	400 A	600 A
20	BDA14020	BDA24020Y	BDA34020Y	400 A	600 A
25	BDA14025	BDA24025Y	BDA34025Y	400 A	600 A
30	BDA14030	BDA24030Y	BDA34030Y	400 A	600 A
35	BDA14035	BDA24035Y	BDA34035Y	400 A	600 A
40	BDA14040	BDA24040Y	BDA34040Y	400 A	600 A
45	BDA14045	BDA24045Y	BDA34045Y	400 A	600 A
50	BDA14050	BDA24050Y	BDA34050Y	480 A	720 A
60	BDA14060	BDA24060Y	BDA34060Y	640 A	960 A
70	BDA14070	BDA24070Y	BDA34070Y	640 A	960 A
80	BDA14080	BDA24080Y	BDA34080Y	800 A	1200 A
90	BDA14090	BDA24090Y	BDA34090Y	1000 A	1500 A
100	BDA14100	BDA24100Y	BDA34100Y	1000 A	1500 A
110	BDA14110	BDA24110Y	BDA34110Y	1000 A	1500 A
125	BDA14125	BDA24125Y	BDA34125Y	1000 A	1500 A
G - SCCR					
480Y/277 Vac	1-pole	2-pole	3-pole	Fixed AC Magnetic Trip	
Amps	277 Vac	480/277 Vac	480/277 Vac	Hold	Trip
15	BGA14015	BGA24015Y	BGA34015Y	400 A	600 A
20	BGA14020	BGA24020Y	BGA34020Y	400 A	600 A
25	BGA14025	BGA24025Y	BGA34025Y	400 A	600 A
30	BGA14030	BGA24030Y	BGA34030Y	400 A	600 A
35	BGA14035	BGA24035Y	BGA34035Y	400 A	600 A
40	BGA14040	BGA24040Y	BGA34040Y	400 A	600 A
45	BGA14045	BGA24045Y	BGA34045Y	400 A	600 A
50	BGA14050	BGA24050Y	BGA34050Y	480 A	720 A
60	BGA14060	BGA24060Y	BGA34060Y	640 A	960 A
70	BGA14070	BGA24070Y	BGA34070Y	640 A	960 A
80	BGA14080	BGA24080Y	BGA34080Y	800 A	1200 A
90	BGA14090	BGA24090Y	BGA34090Y	1000 A	1500 A
100	BGA14100	BGA24100Y	BGA34100Y	1000 A	1500 A
110	BGA14110	BGA24110Y	BGA34110Y	1000 A	1500 A
125	BGA14125	BGA24125Y	BGA34125Y	1000 A	1500 A
J - SCCR					
600Y/347 Vac	1-pole	2-pole	3-pole	Fixed AC Magnetic Trip	
Amps	347 Vac	600Y/347 Vac	600Y/347 Vac	Hold	Trip
15	BJA16015	BJA26015	BJA36015	400 A	600 A
20	BJA16020	BJA26020	BJA36020	400 A	600 A
25	BJA16025	BJA26025	BJA36025	400 A	600 A
30	BJA16030	BJA26030	BJA36030	400 A	600 A
35	BJA16035	BJA26035	BJA36035	400 A	600 A
40	BJA16040	BJA26040	BJA36040	400 A	600 A
45	BJA16045	BJA26045	BJA36045	400 A	600 A
50	BJA16050	BJA26050	BJA36050	480 A	720 A
60	BJA16060	BJA26060	BJA36060	640 A	960 A
70	BJA16070	BJA26070	BJA36070	640 A	960 A
80	BJA16080	BJA26080	BJA36080	800 A	1200 A
90	BJA16090	BJA26090	BJA36090	1000 A	1500 A
100	BJA16100	BJA26100	BJA36100	1000 A	1500 A
110	BJA16110	BJA26110	BJA36110	1000 A	1500 A
125	BJA16125	BJA26125	BJA36125	1000 A	1500 A

2-pole, 3 in. (6 mm) Mounting Height

3-pole, 4.5 in. (114 mm) Mounting Height

I-Line HQO Accessory

For phase option information see Table 9.126.

Table 9.125: QO™ Distribution Panel—240 Vac Max. Only Mounts in Type HCM, HCP, HCP-SU, or HCR-U I-Line panelboards, 30 A max. branch circuit breaker.

Maximum No. 1-pole QO Circuit Breakers	Phase Connection	Mounting Height		2-pole Catalog Number	3-pole Catalog Number
		In.	mm		
6	AB	4.5	114	HQO206AB	—
6	BC	4.5	114	HQO206BC	—
6	AC	4.5	114	HQO206AC	—
6	ABC	4.5	114	—	HQO306
6	CBA	4.5	114	—	HQO306CBA

Table 9.126: Example: BD, 20 A 1-Pole, 277 Vac and 90 A 2- and 3- Pole BD 240 Vac. Use phase option number for BD, BG, BJ, HD, HG, HJ, HL, HR, JD, JG, JJ, JL, JR, MG, and MJ.

Phase Option Number	Phase Connection	1-pole	2-pole	3-pole
1	A	FJA140201	—	—
3	B	FJA140203	—	—
5	C	FJA140205	—	—
1	AB	—	QBA220701	—
2	AC	—	QBA220702	—
3	BA	—	QBA220703	—
4	BC	—	QBA220704	—
5	CA	—	QBA220705	—
6	CB	—	QBA220706	—
Standard *[43]*	ABC	—	—	QBA32070
6	CBA	—	—	QBA320706

[43] The absence of a phase option number after a 3-pole catalog number will result in an ABC phase connection.

PowerPact Q-frame for I-Line™ Panelboards and Switchboards

QB/QO/QG/QJ
Mounting Height
2–pole 3 in. [76 mm]
3–pole 4.5 in [114 mm]

Table 9.127: PowerPact™ Q-frame— 225 A, Thermal-magnetic (240 Vac) (PowerPact Q-frame 2–pole branch circuit breakers utilize 3" of I-Line mounting space and 3–pole Q-frame circuit breakers utilize 4.5" of I-Line mounting space.)

Ampere Rating	AC Magnetic Trip Settings		"B" Interrupting	"D" Interrupting	"G" Interrupting	"J" Interrupting
	Hold	Trip	Catalog Number	Catalog Number	Catalog Number	Catalog Number
2-pole, 240 Vac *[44].*						
70 A	1000	1800	QBA22070( )	QDA22070( )	QGA22070( )	QJA22070( )
80 A			QBA22080( )	QDA22080( )	QGA22080( )	QJA22080( )
90 A			QBA22090( )	QDA22090( )	QGA22090( )	QJA22090( )
100 A	1200	2400	QBA22100( )	QDA22100( )	QGA22100( )	QJA22100( )
110 A			QBA22110( )	QDA22110( )	QGA22110( )	QJA22110( )
125 A			QBA22125( )	QDA22125( )	QGA22125( )	QJA22125( )
150 A			QBA22150( )	QDA22150( )	QGA22150( )	QJA22150( )
175 A			QBA22175( )	QDA22175( )	QGA22175( )	QJA22175( )
200 A			QBA22200( )	QDA22200( )	QGA22200( )	QJA22200( )
225 A			QBA22225( )	QDA22225( )	QGA22225( )	QJA22225( )
3-pole, 240 Vac *[45]*						
70 A	1000	1800	QBA32070( )	QDA32070( )	QGA32070( )	QJA32070( )
80 A			QBA32080( )	QDA32080( )	QGA32080( )	QJA32080( )
90 A			QBA32090( )	QDA32090( )	QGA32090( )	QJA32090( )
100 A	1200	2400	QBA32100( )	QDA32100( )	QGA32100( )	QJA32100( )
110 A			QBA32110( )	QDA32110( )	QGA32110( )	QJA32110( )
125 A			QBA32125( )	QDA32125( )	QGA32125( )	QJA32125( )
150 A			QBA32150( )	QDA32150( )	QGA32150( )	QJA32150( )
175 A			QBA32175( )	QDA32175( )	QGA32175( )	QJA32175( )
200 A			QBA32200( )	QDA32200( )	QGA32200( )	QJA32200( )
225 A			QBA32225( )	QDA32225( )	QGA32225( )	QJA32225( )
See *[46]* below.						

Table 9.128: Interrupt Ratings (kA)

	FA	FH	FI	QB	QD	QG	QJ- *[47]*	HD/JD	HG/JG	HI/JJ	HL/JL
240 V	25	25 (1P 35–100 A), 65 (1P 15–30 A, 2P, 3P)	200	10	25	65	100	25	65	100	125
480 V	18	25 (2, 3P)		—	—	—	—	18	35	65	100
600 V	14	18 (2, 3P)	100	—	—	—	—	14	18	25	50

F-frame, see Supplemental Digest Section 11.
Padlock attachments for Q-frame are available.

[44] 2-pole QB, QD, QG, and QJ circuit breakers are completed by adding the required phasing numbers as indicated in the parentheses, see F-frame, page 9-52
[45] 3-pole QB, QD, QG, and QJ circuit breakers for ABC phasing are complete without additional phasing number. For CBA phasing, complete the catalog number by inserting the number “6” in the parentheses.
[46] Replacement lugs are not available on QB, QD, QG, or QJ circuit breakers. Lugs for QB, QD, QG, or QJ circuit breakers accept one #4 AWG–300 kcmil. No accessories are available for PowerPact Q Frame breakers.
[47] 3-pole QJ circuit breakers are rated at 208Y/120 Vac only.

HD/HG/HJ/HL/HR
2- and 3-pole Circuit Breaker

JD/JG/JJ/JL/JR
2- and 3-pole
Thermal-Magnetic Trip Unit

Table 9.130: Interrupting Ratings Codes (kA)

Voltage	D	G	J	L	R
240 V	25	65	100	125	200
480Y/277	18	35	65	100	200
480 V	18	35	65	100	200
600Y/347	14	18	25	50	100
600 V	14	18	25	50	100

H- and J-frame for I-Line™ Panelboards and Switchboards

Table 9.129: H-frame 150 A Thermal-Magnetic UL Current-Limiting*[48]* Circuit Breakers (600 Vac, 250 Vdc) With Factory Sealed Trip Unit*[49]* Suitable for Reverse Connection*[49]*

(PowerPact HD and HG 2–pole circuit breakers utilize 3" of I-Line mounting space, HJ and HL 2–pole circuit breakers utilize 4.5" of I-Line mounting space, all 3–pole H and J-frame circuit breakers utilize 4.5" of I-Line mounting space.)

Current Rating @ 40° C	Fixed AC Magnetic Trip		Cat. No. *[50]*	Terminal Wire Range
	Hold	Trip		
H-frame, 150A 2P, 600 Vac 50/60 Hz, 250 Vdc*[51]*				
15 A	350 A	750 A	H( )A26015( )	AL150HD 14–3/0 AWG Al or Cu
20 A	350 A	750 A	H( )A26020( )	
25 A	350 A	750 A	H( )A26025( )	
30 A	350 A	750 A	H( )A26030( )	
35 A	400 A	850 A	H( )A26035( )	
40 A	400 A	850 A	H( )A26040( )	
45 A	400 A	850 A	H( )A26045( )	
50 A	400 A	850 A	H( )A26050( )	
60 A	800 A	1450 A	H( )A26060( )	
70 A	800 A	1450 A	H( )A26070( )	
80 A	800 A	1450 A	H( )A26080( )	
90 A	800 A	1450 A	H( )A26090( )	
100 A	800 A	1700 A	H( )A26100( )	
110 A	900 A	1700 A	H( )A26110( )	
125 A	900 A	1700 A	H( )A26125( )	
150 A	900 A	1700 A	H( )A26150( )	
H-frame 150A 3P, 600 Vac 50/60 Hz, 250 Vdc				
15 A	350 A	750 A	H( )A36015	AL150HD 14–3/0 AWG Al or Cu
20 A	350 A	750 A	H( )A36020	
25 A	350 A	750 A	H( )A36025	
30 A	350 A	750 A	H( )A36030	
35 A	400 A	850 A	H( )A36035	
40 A	400 A	850 A	H( )A36040	
45 A	400 A	850 A	H( )A36045	
50 A	400 A	850 A	H( )A36050	
60 A	800 A	1450 A	H( )A36060	
70 A	800 A	1450 A	H( )A36070	
80 A	800 A	1450 A	H( )A36080	
90 A	800 A	1450 A	H( )A36090	
100 A	800 A	1700 A	H( )A36100	
110 A	900 A	1700 A	H( )A36110	
125 A	900 A	1700 A	H( )A36125	
150 A	900 A	1700 A	H( )A36150	

Table 9.131: J-frame 250 A Thermal-Magnetic UL Current-Limiting*[52]*Circuit Breakers (600 Vac, 250 Vdc) With Factory Sealed Trip Unit*[49]* Suitable for Reverse Connection*[49]*

(All PowerPact J-frame circuit breakers, both 2– and 3–pole, utilize 4.5" of I-Line mounting space.)

Current Rating @ 40°C	Adjustable AC Magnetic Trip		Cat. No.*[50]*	Terminal Wire Range
	Low	High		
J-frame 250A 2P, 600 Vac 50/60 Hz, 250 Vdc*[51]*				
150 A	750 A	1500 A	J( )A26150( )	AL175JD 4–4/0 AWG Al or Cu
175 A	875 A	1750 A	J( )A26175( )	
200 A	1000 A	2000 A	J( )A26200( )	AL250JD 3/0 AWG–350 kcmil Al or Cu
225 A	1125 A	2250 A	J( )A26225( )	
250 A	1250 A	2500 A	J( )A26250( )	
J-frame 250A 3P, 600 Vac 50/60 Hz, 250 Vdc				
150 A	750 A	1500 A	J( )A36150	AL175JD 4–4/0 AWG Al or Cu
175 A	875 A	1750 A	J( )A36175	
200 A	1000 A	2000 A	J( )A36200	AL250JD 3/0 AWG–350 kcmil Al or Cu
225 A	1125 A	2250 A	J( )A36225	
250 A	1250 A	2500 A	J( )A36250	

[48] Circuit breakers with J and L interrupting ratings are UL certified as current limiting.
[49] See Supplemental Digest Section 3 for circuit breakers with field-interchangeable trip units.
[50] To complete catalog number, replace the blank with the appropriate interrupting rating (D, G, J, L).
[51] 2 pole circuit breaker catalog numbers are completed by adding the required phase connection number as a suffix see Table 9.128, page 9-56.
[52] Circuit breakers with J, L, and R interrupting ratings are UL certified as current limiting.

HDA36250U33X
2- and 3-pole
MicroLogic Electronic Trip Unit

JDA36250U44X
2- and 3-pole
MicroLogic Electronic Trip Unit

Table 9.132: H-frame 150 A and J-frame 250 A MicroLogic Electronic Trip UL Current-Limiting[53]Circuit Breakers (600 Vac) With Factory Sealed Trip Unit[54] Suitable for Reverse Connection [55] (PowerPact Electronic Trip H- and J-frame circuit breakers utilize 4.5" of I-Line mounting space.)

Electronic Trip Unit			Sensor Rating	Cat. No.[56]	Terminal
Type	Function	Trip Unit			
600 Vac, 50/60 Hz, 3P					
MicroLogic Standard	LI	3.2[57]	60 A	H( )A36060U31X	AL150HD[58]
			100 A	H( )A36100U31X	
			150 A	H( )A36150U31X	
			250 A	J( )A36250U31X	AL250JD[59]
	LSI	3.2S[57]	60 A	H( )A36060U33X	AL150HD[58]
			100 A	H( )A36100U33X	
			150 A	H( )A36150U33X	
			250 A	J( )A36250U33X	AL250JD[59]
MicroLogic Ammeter	LSI	5.2A	60 A	H( )A36060U43X	AL150HD[58]
			100 A	H( )A36100U43X	
			150 A	H( )A36150U43X	
			250 A	J( )A36250U43X	AL250JD[59]
MicroLogic Energy	LSI	5.2E	60 A	H( )A36060U53X	AL150HD[58]
			100 A	H( )A36100U53X	
			150 A	H( )A36150U53X	
			250 A	J( )A36250U53X	AL250JD[59]
MicroLogic Ammeter	LSIG	6.2A	60 A	H( )A36060U44X	AL150HD[58]
			100 A	H( )A36100U44X	
			150 A	H( )A36150U44X	
			250 A	J( )A36250U44X	AL250JD[59]
MicroLogic Energy	LSIG	6.2E	60 A	H( )A36060U54X	AL150HD[58]
			100 A	H( )A36100U54X	
			150 A	H( )A36150U54X	
			250 A	J( )A36250U54X	AL250JD[59]

Table 9.133: 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

[53] Circuit breakers with J, L, and R interrupting ratings are UL certified as current limiting.
[54] See Supplemental Digest Section 3 for circuit breakers with field-interchangeable trip units.
[55] For applications requiring communications, see page 7-60.
[56] To complete catalog number, replace the blank with the appropriate interrupting rating (D, G, J, L).
[57] 3P circuit breakers with this trip unit can be used for 2P applications.
[58] AL150HD wire range is 14–3/0 AWG Al or Cu.
[59] 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.

J-frame Mission Critical Circuit Breaker

Table 9.134: J-frame 250 A MicroLogic Electronic Trip Mission Critical Circuit Breakers (480/277 Vac) With Factory Sealted Trip Units Suitable for Reverse Connection *[60]*

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	JDA34250WU31X	JGA34250WU31X	JJA34250WU31X	JLA34250WU31X	AL250JD *[61]*
Standard	LSI	3.2S-W	250	JDA34250WU33X	JGA34250WU33X	JJA34250WU33X	JLA34250WU33X	AL250JD *[61]*
High Perf. Ammerter	LSI	5.2A-W	250	JDA34250WU43X	JGA34250WU43X	JJA34250WU43X	JLA34250WU43X	AL250JD *[61]*
High Perf. Energy	LSI	5.2E-W	250	JDA34250WU53X	JGA34250WU53X	JJA34250WU53X	JLA34250WU53X	AL250JD *[61]*
High perf. Ammerter	LSIG	6.2A-W	250	JDA34250WU44X	JGA34250WU44X	JJA34250WU44X	JLA34250WU44X	AL250JD *[61]*
High Perf. Energy	LSIG	6.2E-W	250	JDA34250WU54X	JGA34250WU54X	JJA34250WU54X	JLA34250WU54X	AL250JD *[61]*

L-frame Mission Critical Circuit Breaker

Table 9.135: L-frame 600 A MicroLogic Electronic Trip Mission Critical Circuit Breakers (480/277 Vac) With Factory Sealed Trip Units Suitable for Reverse Connection *[60]*

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	3.3 W	250	LDA34250WU31X	LGA34250WU31X	LJA34250WU31X	LLA34250WU31X	AL400L61K3 *[62]*
			400	LDA34400WU31X	LGA34400WU31X	LJA34400WU31X	LLA34400WU31X	AL600LF52K3 *[63]*
			600	LDA34600WU31X	LGA34600WU31X	LJA34600WU31X	LLA34600WU31X	
Standard	LSI	3.3S-W	250	LDA34250WU33X	LGA34250WU33X	LJA34250WU33X	LLA34250WU33X	AL400L61K3 *[62]*
			400	LDA34400WU33X	LGA34400WU33X	LJA34400WU33X	LLA34400WU33X	AL600LF52K3 *[63]*
			600	LDA34600WU33X	LGA34600WU33X	LJA34600WU33X	LLA34600WU33X	
High Perf. Ammeter	LSI	5.3A-W	400	LDA34400WU43X	LGA34400WU43X	LJA34400WU43X	LLA34400WU43X	AL600LF52K3 *[63]*
			600	LDA34600WU43X	LGA34600WU43X	LJA34600WU43X	LLA34600WU43X	
High Perf. Energy	LSI	5.3E-W	400	LDA34400WU53X	LGA34400WU53X	LJA34400WU53X	LLA34400WU53X	AL600LF52K3 *[63]*
			600	LDA34600WU53X	LGA34600WU53X	LJA34600WU53X	LLA34600WU53X	
High Perf. Ammeter	LSIG	6.3A-W	400	LDA34400WU44X	LGA34400WU44X	LJA34400WU44X	LLA34400WU44X	AL600LF52K3 *[63]*
			600	LDA34600WU44X	LGA34600WU44X	LJA34600WU44X	LLA34600WU44X	
High Perf. Energy	LSIG	6.3E-W	400	LDA34400WU54X	LGA34400WU54X	LJA34400WU54X	LLA34400WU54X	AL600LF52K3 *[63]*
			600	LDA34600WU54X	LGA34600WU54X	LJA34600WU54X	LLA34600WU54X	

Table 9.136: PowerPact™ H-, J-, and L-frame 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-frame J-frame	2 *[64]*	150 A	HGA26000S15( )	2250 A	HLA26000S15	2250 A	—	—	—	—
		175 A	JGA26000S17( )	3125 A	JLA26000S17	3125 A	—	—	—	—
		250 A	JGA26000S25( )	3125 A	JLA26000S25	3125 A	—	—	—	—
	3	150 A	HGA36000S15	2250 A	HLA36000S15	2250 A	HRA36000S15	2250 A	AL150HD	14 AWG–3/0 AWG Al/Cu
		175 A	JGA36000S17	3125 A	JLA36000S17	3125 A	JRA36000S17	3125 A	AL175JD	4–4/0 AWG Al/Cu
		250 A	JGA36000S25	3125 A	JLA36000S25	3125 A	JRA36000S25	3125 A	AL250JD	3/0 AWG–350 kcmil Al/Cu
L-frame	3	400 A	LGA36000S40X	4800 A	LLA36000S40X	4800 A	LRA36000S40X	4800 A	AL150HD	AL600LS52K3 (2) 2/0 AWG–500 kcmil Al/Cu
		600 A	LGA36000S60X	6600 A	LLA36000S60X	6600 A	LRA36000S60X	6600 A	AL250JD	

K-frame accessories starting on Supplemental Digest Section 3.
K-frame dimensions Supplemental Digest Section 3.
K-frame optional lugs Supplemental Digest Section 3.
H-, J-, and L-frame accessories starting on PowerPact Accessories, page 7-50.
H-, J-, and L-frame dimensions starting on Molded Case Circuit Breaker Dimensions, page 7-86.
H-, J-, and L-frame optional lugs Mechanical Lugs, page 7-55.

Table 9.137: Interrupting Ratings Codes (kA)

Voltage	D	G	J	L	R
240 V	25	65	100	125	200
480Y/277	18	35	65	100	200
480 V	18	35	65	100	200
600Y/347	14	18	25	50	100
600 V	14	18	25	50	100

Table 9.138: Phase Options—Example HDA26150( )

Phase Option Number	Phase Connection	2-pole	3-pole
1	AB	HDA261501	—
2	AC	HDA261502	—
3	BA	HDA261503	—
4	BC	HDA261504	—
5	CA	HDA261505	—
6	CB	HDA261506	—
Standard	ABC	—	JDA34250WU31X
6	CBA	—	JDA34250WU31X6

[60] Standard rated (80%). Not available in 100% rated.
[61] AL250JD terminal wire range is (1) 3/0 AWG–350 kcmil Al or Cu.
[62] AL400L61K3 terminal wire range is (1) #2 AWG–500 kcmil Al or #2 AWG–600 kcmil Cu..
[63] AL600LF52K3 terminal wire range is (2) #3/0 AWG–500 kcmil Al or Cu.
[64] 2-pole circuit breaker catalog numbers are completed by adding the required phase connection number as a suffix, see Table 9.128, page 9-56.

LA36400 2- and 3-pole Circuit Breaker

LA Circuit Breakers

Table 9.139: L-frame—400 A, Thermal-magnetic (600 Vac)

Ampere Rating	AC Magnetic Trip Settings		Standard Interrupting	High Interrupting	Terminal Wire Range
	Low	High	Catalog Number	Catalog Number	
2-pole, 600 Vac, 250 Vdc *[65]*					
125 A	625	1250	LA26125( )	LH26125( )	AL400LA one #1 AWG–600 kcmil or two #1 AWG–250 kcmil AL or Cu
150 A	750	1500	LA26150( )	LH26150( )	
175 A	875	1750	LA26175( )	LH26175( )	
200 A	1000	2000	LA26200( )	LH26200( )	
225 A	1125	2250	LA26225( )	LH26225( )	
250 A	1250	2500	LA26250( )	LH26250( )	
300 A	1500	3000	LA26300( )	LH26300( )	
350 A	1750	3500	LA26350( )	LH26350( )	
400 A	2000	4000	LA26400( )	LH26400( )	
3-pole, 600 Vac, 250 Vdc					
125 A	625	1250	LA36125	LH36125	AL400LA one #1 AWG–600 kcmil or two #1 AWG–250 kcmil AL or Cu
150 A	750	1500	LA36150	LH36150	
175 A	875	1750	LA36175	LH36175	
200 A	1000	2000	LA36200	LH36200	
225 A	1125	2250	LA36225	LH36225	
250 A	1250	2500	LA36250	LH36250	
300 A	1500	3000	LA36300	LH36300	
350 A	1750	3500	LA36350	LH36350	
400 A	2000	4000	LA36400	LH36400	

LA acccessories starting on Supplemental Digest Section 3.

LA dimensions Molded Case Circuit Breaker Dimensions, page 7-86

LA optional lugs Mechanical Lugs, page 7-55.

K-frame accessories starting on Supplemental Digest Section 3.

Table 9.140: Interrupt Ratings (kA)

	LA
240 V	42
480 V	30
600 V	22

PowerPact L-Frame
LG/LJ/LL/LR
2- and 3-pole
4.5 in. (114 mm)

PowerPact L- and M-frame for I-Line™ Panelboards and Switchboards

Table 9.141: L-frame 600 A Circuit Breakers with Lugs and Factory-Sealed Electronic Trip Units Suitable for Reverse Connection *[66]*
(L-frame circuit breaker utilizes 6" of available I-Line bus)

Electronic Trip Unit			Sensor Rating	Catalog Number *[67]*	Terminal
Type	Function	Trip Unit			
600 Vac, 53/60 Hz, 3P					
MicroLogic Standard	LI	3.3 *[68]*	250 A	L( )A36250U31X	AL400L61K3 *[69]*
			400 A 600 A	L( )A36400U31X L( )A36600U31X	AL600LF52K3 *[70]* (2) 3/0–500 kcmil Al or Cu.
MicroLogic Standard	LSI	3.3S *[68]*	250 A	L( )A36250U33X	AL400L61K3 *[69]*
			400 A 600 A	L( )A36400U33X L( )A36600U33X	AL600LF52K3 (2) 3/0–500 kcmil Al or Cu.
MicroLogic Ammeter	LSI	5.3A	400 A 600 A	L( )A36400U43X L( )A36600U43X	
MicroLogic Energy	LSI	5.3E	400 A 600 A	L( )A36400U53X L( )A36600U53X	
MicroLogic Ammeter	LSIG	6.3A	400 A 600 A	L( )A36400U44X L( )A36600U44X	
MicroLogic Energy	LSIG	6.3E	400 A 600 A	L( )A36400U54X L( )A36600U54X	

Table 9.142: Interrupt Ratings (kA) for PowerPact L and M Frames

	G	J	L *[71]*	R
240 V	65	100	125	200
480 V	35	65	100	200
600 V *[72]*	18	25	50	100

[65] 2-pole circuit breaker catalog numbers are completed by adding required phase connection letters as suffix to catalog number. See page 9-52.
[66] See Supplemental Digest page 3-4 for circuit breakers with field-interchangeable trip units.
[67] For 100% rated circuit breakers (250 A and 400 A only), add a “C” in the 9th character place (for example, LRA36400CU31X).
[68] 3P circuit breakers with this trip unit can be used for 2P applications.
[69] AL400L61K3 terminal wire ranges are (1) 2 AWG–600 kcmil Cu or (1) 2 AWG–500 kcmil Al.
[70] AL600LFS52K3 terminal wire range is (2) 3/0 –500 kcmil.
[71] L interrupting rating is not available in M-frame.
[72] 600 V interrupt ratings not available for D-frame.

Table 9.143: PowerPact M-frame: with ET1.0 Factory – sealed trip unit (not field adjustable)—800 A *[73]*
(PowerPact M-frame circuit breakers utilize 9" of the available I-Line bussing.)

	Ampere Rating	Adjustable Instantaneous Trip Range *[74]*		G Interrupting	J Interrupting	Terminal Wire Range
		Low	High	Catalog Number *[75]*	Catalog Number *[75]*	
2-pole, 600 Vac, 50/60 Hz	300 A	600	3000	MGA26300( )	MJA26300( )	3–3/0 through 500 kcmil Al or Cu
	350 A	700	3500	MGA26350( )	MJA26350( )	
	400 A	800	4000	MGA26400( )	MJA26400( )	
	450 A	900	4500	MGA26450( )	MJA26450( )	
	500 A	1000	5000	MGA26500( )	MJA26500( )	
	600 A	1200	6000	MGA26600( )	MJA26600( )	
	700 A	1400	7000	MGA26700( )	MJA26700( )	
	800 A	1600	8000	MGA26800( )	MJA26800( )	
3-pole, 600 Vac, 50/60 Hz	300 A	600	3000	MGA36300	MJA36300	3–3/0 through 500 kcmil Al or Cu
	350 A	700	3500	MGA36350	MJA36350	
	400 A	800	4000	MGA36400	MJA36400	
	450 A	900	4500	MGA36450	MJA36450	
	500 A	1000	5000	MGA36500	MJA36500	
	600 A	1200	6000	MGA36600	MJA36600	
	700 A	1400	7000	MGA36700	MJA36700	
	800 A	1600	8000	MGA36800	MJA36800	

L-frame accessories, see Supplemental Digest Section 3.
L-frame dimensions, page 7-86.
L-frame optional lugs, page 7-55.

M-frame accessories, page 7-50.
M-frame dimensions, page 7-86.
M-frame optional lugs, page 7-55.

Table 9.144: Automatic Molded Case Switches—600 Vac, 50/60 Hz

Ampere Rating	2-pole	3-pole	Withstand Rating *[76]*			Trip Point Amperes	Terminal Wire Range
	Catalog Number *[77]*	Catalog Number	240 Vac	480 Vac	600 Vac	AC	
600 A	PJA26000S60( )	PJA36000S60	100	65	25	10000	3–3/0 through 500 kcmil Al or Cu
800 A	PJA26000S80( )	PJA36000S80	100	65	25	10000	
1000 A	PJA26000S10( )	PJA36000S10	100	65	25	10000	4–3/0 through 500 kcmil Al or Cu
1200 A	PJA26000S12( )	PJA36000S12	100	65	25	10000	

[73] The ET 1.0 trip unit cannot be field replaced, nor does it allow adjustment of the long-time trip point setting. It is considered an electronic equivalent of a thermal-magnet circuit breaker.
[74] UL magnetic trip setting tolerances are ±10% from the nominal values shown.
[75] Fill in parentheses with the following phase connection options: (2) for AC and (5) for CA.
[76] 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 ampere rating.
[77] Fill in parentheses with the following phase connection options: (2) for AC or (5) for CA.

PG/PJ/PK/PL
2– and 3–pole

RG/RJ/RK/RL
2– and 3–pole

Table 9.145: PowerPact P- and R-frame Interrupt Ratings

Voltage	P-frame Interrupt Rating				R-frame Interrupt 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	25 kA	18 kA	25 kA	65 kA	50 kA

P- and R-frame accessories, page 7-50.
P- and R-frame dimensions, page 7-86.
P- and R-frame optional lugs, page 7-55.

PowerPact P- and R-frame for I-Line™ Panelboards and Switchboards

Table 9.146: PowerPact P-frame 1200 A (600 Vac, 50/60 Hz) 3P Circuit Breaker with Electronic Trip Unit (PowerPact P-frame circuit breakers utilize 9" of the available I-Line bussing.)

Electronic Trip Unit			Sensor Rating	Cat. No.*[78][79][80][81]*	Terminal Wire Range
Type	Function	Code			
Basic Electronic Trip Unit (Not Interchangeable)	Fixed long-time, Adjustable Instantaneous	ET1.0I	600 A	P( )A36060	(3) 3/0 AWG–500 kcmil Al or Cu AL800M23K
			800 A	P( )A36080	
			1000 A	P( )A36100	(4) 3/0 AWG–500 kcmil Al or Cu AL1200P24K
			1200 A	P( )A36120	
MicroLogic Interchangeable Standard Trip Unit	LI	3.0	250 A	P( )A36025(C)U31A	(3) 3/0 AWG–500 kcmil Al or Cu AL800M23K
			400 A	P( )A36040(C)U31A	
			600 A	P( )A36060(C)U31A	
			800 A	P( )A36080(C)U31A	
			1000 A	P( )A36100U31A	(4) 3/0 AWG–500 kcmil Al or Cu AL1200P24K
			1200 A	P( )A36120U31A	
	LSI	5.0	250 A	P( )A36025(C)U33A	(3) 3/0 AWG–500 kcmil Al or Cu AL800M23K
			400 A	P( )A36040(C)U33A	
			600 A	P( )A36060(C)U33A	
			800 A	P( )A36080(C)U33A	
			1000 A	P( )A36100U33A	(4) 3/0 AWG–500 kcmil Al or Cu AL1200P24K
			1200 A	P( )A36120U33A	
MicroLogic Interchangeable Ammeter Trip Unit	LI	3.0A	250 A	P( )A36025(C)U41A	(3) 3/0 AWG–500 kcmil Al or Cu AL800M23K
			400 A	P( )A36040(C)U41A	
			600 A	P( )A36060(C)U41A	
			800 A	P( )A36080(C)U41A	
			1000 A	P( )A36100U41A	(4) 3/0 AWG–500 kcmil Al or Cu AL1200P24K
			1200 A	P( )A36120U41A	
	LSI	5.0A	250 A	P( )A36025(C)U43A	(3) 3/0 AWG–500 kcmil Al or Cu AL800M23K
			400 A	P( )A36040(C)U43A	
			600 A	P( )A36060(C)U43A	
			800 A	P( )A36080(C)U43A	
			1000 A	P( )A36100U43A	(4) 3/0 AWG–500 kcmil Al or Cu AL1200P24K
			1200 A	P( )A36120U43A	
	LSIG	6.0A	250 A	P( )A36025(C)U44A	(3) 3/0 AWG–500 kcmil Al or Cu AL800M23K
			400 A	P( )A36040(C)U44A	
			600 A	P( )A36060(C)U44A	
			800 A	P( )A36080(C)U44A	
			1000 A	P( )A36100U44A	(4) 3/0 AWG–500 kcmil Al or Cu AL1200P24K
			1200 A	P( )A36120U44A	
MicroLogic Interchangeable Power Trip Unit	LSI	5.0P	250 A	P( )A36025(C)U63AE1	(3) 3/0 AWG–500 kcmil Al or Cu AL800M23K
			400 A	P( )A36040(C)U63AE1	
			600 A	P( )A36060(C)U63AE1	
			800 A	P( )A36080(C)U63AE1	
			1000 A	P( )A36100U63AE1	(4) 3/0 AWG–500 kcmil Al or Cu AL1200P24K
			1200 A	P( )A36120U63AE1	
	LSIG	6.0P	250 A	P( )A36025(C)U64AE1	(3) 3/0 AWG–500 kcmil Al or Cu AL800M23K
			400 A	P( )A36040(C)U64AE1	
			600 A	P( )A36060(C)U64AE1	
			800 A	P( )A36080(C)U64AE1	
			1000 A	P( )A36100U64AE1	(4) 3/0 AWG–500 kcmil Al or Cu AL1200P24K
			1200 A	P( )A36120U64AE1	
MicroLogic Interchangeable Harmonic Trip Unit	LSI	5.0H	250 A	P( )A36025(C)U73AE1	(3) 3/0 AWG–500 kcmil Al or Cu AL800M23K
			400 A	P( )A36040(C)U73AE1	
			600 A	P( )A36060(C)U73AE1	
			800 A	P( )A36080(C)U73AE1	
			1000 A	P( )A36100U73AE1	(4) 3/0 AWG–500 kcmil Al or Cu AL1200P24K
			1200 A	P( )A36120U73AE1	

[78] To complete the catalog number, replace the blank ( ) with the appropriate interrupt rating (G, J, K, or L).
[79] For 100% rated circuit breakers add a “C” in the 9th character place. For example, the catalog number for a 100% standard-type trip unit with LI trip functions at 250 A would be PGA36025CU31A.
[80] The L interrupt rating is supplied in 480 V only. Change the 5th character (voltage rating) from a 6 (600 V) to a 4 (480 V); for example, PLA34025U31A.
[81] See Table 9.145 PowerPact P- and R-frame Interrupt Ratings, page 9-59 for interrupt ratings.

Table 9.146 PowerPact P-frame 1200 A (600 Vac, 50/60 Hz) 3P Circuit Breaker with Electronic Trip Unit(PowerPact P-frame circuit breakers utilize 9" of the available I-Line bussing.) (cont'd.)

Electronic Trip Unit			Sensor Rating	Cat. No.*[82][83][84][85]*	Terminal Wire Range
Type	Function	Code			
	LSIG	6.0H	250 A	P( )A36025(C)U74AE1	(3) 3/0 AWG–500 kcmil Al or Cu AL800M23K
			400 A	P( )A36040(C)U74AE1	
			600 A	P( )A36060(C)U74AE1	
			800 A	P( )A36080(C)U74AE1	
			1000 A	P( )A36100U74AE1	(4) 3/0 AWG–500 kcmil Al or Cu AL1200P24K
			1200 A	P( )A36120U74AE1	

Table 9.147: PowerPact R-frame 1200 A (600 Vac, 50/60 Hz) 3P Circuit Breaker with Electronic Trip Unit

Electronic Trip Unit			Sensor Rating	Cat. No. *[82][83][84][85]*	Terminal Wire Range
Type	Function	Code			
Basic Electronic Trip Unit (Not Interchangeable)	Fixed Long-Time, Adjustable Instantaneous	ET1.01	1200 A	R( )A36120	AL1200R53K (4) 3/0-600 kcmil Al or Cu
MicroLogic Interchangeable Standard Trip Unit	LI	3.0	1000 A	R( )A36100CU31A	
			1200 A	R( )A36120CU31A	
	LSI	5.0	1000 A	R( )A36100CU33A	
			1200 A	R( )A36120CU33A	
MicroLogic Interchangeable Ammeter Trip Unit	LI	3.0A	1000 A	R( )A36100CU41A	
			1200 A	R( )A36120CU41A	
	LSI	5.0A	1000 A	R( )A36100CU43A	
			1200 A	R( )A36120CU43A	
	LSI	6.0A	1000 A	R( )A36100CU44A	
			1200 A	R( )A36120CU44A	
MicroLogic Interchangeable Power Trip Unit	LSI	5.0P	1000 A	R( )A36100CU63AE1	
			1200 A	R( )A36120CU63AE1	
	LSIG	6.0P	1000 A	R( )A36100CU64AE1	
			1200 A	R( )A36120CU64AE1	
MicroLogic Interchangeable Harmonic Trip Unit	LSI	5.0H	1000 A	R( )A36100CU73AE1	
			1200 A	R( )A36120CU73AE1	
	LSIG	6.0H	1000 A	R( )A36100CU74AE1	
			1200 A	R( )A36120CU74AE1	

P- and R-frame accessories, Mechanical Lugs, page 7-55.
P- and R-frame dimensions, Molded Case Circuit Breaker Dimensions, page 7-86.
P- and R-frame trip unit options, MicroLogic™ Electronic Trip Units, page 7-60.
P- and R-frame optional lugs, Mechanical Lugs, page 7-55.
P- and R-frame alternate rating plugs, MicroLogic™ Electronic Trip Units, page 7-60.

[82] To complete the catalog number, replace the blank ( ) with the appropriate interrupt rating (G, J, K, or L).
[83] For 100% rated circuit breakers add a “C” in the 9th character place. For example, the catalog number for a 100% standard-type trip unit with LI trip functions at 250 A would be PGA36025CU31A.
[84] The L interrupt rating is supplied in 480 V only. Change the 5th character (voltage rating) from a 6 (600 V) to a 4 (480 V); for example, PLA34025U31A.
[85] See Table 9.145 PowerPact P- and R-frame Interrupt Ratings, page 9-59 for interrupt ratings.

I-Line™ Factory Assembled Panelboards

Table 9.148: I-Line 200% Rated Neutral—Standard Terminal Configuration

Panel Type	Ampacity	Type	Branch Space		Neutral Terminals Quantity and Size		Type 1 Enclosure					
							H		W		D	
			In.	mm	Main	Branch	In.	mm	In.	mm	In.	mm
HCM	600 A	MLO	72	1829	(8) 750 kcmil	(35) 350 kcmil, (9)#14-1/0, (17)#14-#4	91	2311	32	813	8.25	210
	600 A (MG, MJ)	M/B	72	1829	(8) 750 kcmil		91	2311	32	813	9.50	241
	800 A	MLO	72	1829	(8) 750 kcmil		91	2311	32	813	8.25	210
	800 A (MG, MJ)	M/B	72	1829	(8) 750 kcmil		91	2311	32	813	9.50	241
HCR-U *[82]*	1200A	M/B, MLO	108	2743	(8) 750 kcmil	(8) 600 kcmil, (15) 350 kcmil (9) #14-1/0, (17)#14-#4	86	2184	44	1118	9.50	241
HCP	600A	M/B, MLO	63	1600	(8) 750 kcmil	(35) 350 kcmil, (9)#14-1/0, (17)#14-#4	68	1727	42	1067	9.50	241
	800A	M/B, MLO	99	2515	(8) 750 kcmil	(35) 350 kcmil, (9)#14-1/0, (17)#14-#4	86	2184	42	1067	9.50	241
HCP-SU *[83]*	800A	M/B, MLO	54	1371	(8) 750 kcmil	(8) 750 kcmil, (21) 350 kcmil, (9) #14-1/0, (17) #14-#4	86	2184	26	660	9.5	241

[82] 6 in. enclosure extension is required for HCRU I-Line panelboard.
[83] 9 in. enclosure extension is required for HCP-SU I-Line panelboard.

For QMB/QMJ Panelboards and Switchboards

Table 9.149: QMB Branch Switch Units

Unit Ampere Rating	Unit Height (In.)	Catalog Number	Class R Fuse Kits		Electrical Interlock Kit	Horsepower Ratings [1]												250 Vdc
			No. Kits Req'd.	Catalog Number	Catalog Number [2]	240 Vac				480 Vac				600 Vac				
						Std.		Max.		Std.		Max.		Std.		Max.		
						1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	
2-pole, 240 Vac, 250 Vdc																		
30 A-30 A	4.5	QMB221TW	2	HRK30	QMB300EK (1 or 2)	1.5	3	3	7.5	—	—	—	—	—	—	—	—	5
30 A-Blank		QMB221HW [3]	1							—	—	—	—	—	—	—	—	5
60 A-60 A		QMB222TW		QMB36R		3	7.5	10	15	—	—	—	—	—	—	—	—	10
60 A-Blank		QMB222HW [3]								—	—	—	—	—	—	—	—	10
100 A-100 A	6	QMB223TW		QMB100R	QMB610EK (1 or 2)	7.5	15	15	30	—	—	—	—	—	—	—	—	20
100 A-Blank		QMB223HW [3]								—	—	—	—	—	—	—	—	
200 A	9	QMB224W		HRK1020	QMB200EK (1 or 2)	—	25	15	60	—	—	—	—	—	—	—	—	40
400 A	15	QMB225W		QMB4060R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	9	QMB225WT3 [4]		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
600 A	Use 3-pole devices for 2-pole application.					—	—	—	—	—	—	—	—	—	—	—	—	—
3-pole, 240 Vac																		
30 A-30 A	4.5	QMB321TW	2	HRK30	QMB300EK (1 or 2)	—	3	—	7.5	—	—	—	—	—	—	—	—	—
30 A-Blank		QMB321HW [3]	1			—		—		—	—	—	—	—	—	—	—	—
60 A-60 A		QMB322TW		QMB36R		—	7.5	—	15	—	—	—	—	—	—	—	—	—
60 A-Blank		QMB322HW [3]				—		—		—	—	—	—	—	—	—	—	—
100 A-100 A	6	QMB323TW		QMB100R	QMB610EK (1 or 2)	—	15	—	30	—	—	—	—	—	—	—	—	—
100 A-Blank		QMB323HW [3]				—		—		—	—	—	—	—	—	—	—	—
200 A	9	QMB324W		HRK1020	QMB200EK (1 or 2)	—	25	—	60	—	—	—	—	—	—	—	—	—
400 A	15	QMB325W		QMB4060R	—	—	50	—	125	—	—	—	—	—	—	—	—	—
	9	QMB325WT3 [4]	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—
600 A	15	QMB326W	1	QMB4060R	—	—	75	—	150	—	—	—	—	—	—	—	—	—
		QMB326WT3 [4]	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—
800 A		QMB327WT3 [4]	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—
2-pole, 600 Vac, 250 Vdc [5]																		
30 A-30 A	4.5	QMB261TW	1	QMB36R	QMB300EK (1 or 2)	1.5	—	3	—	3	5	7.5	15	3	—	10	—	5
30 A-Blank		QMB261HW [3]					—		—						—		—	
60 A-60 A		QMB262TW		QMB60R	QMB610EK (1 or 2)	3	—	10	—	5	15	20	30	10	—	25	—	10
60 A-Blank		QMB262HW [3]					—		—						—		—	
100 A-100 A	6	QMB263TW	2	HRK1020		7.5	—	15	—	10	25	30	60	15	—	40	—	20
100 A-Blank		QMB263HW [3]	1				—		—			—	—	—	—	—	—	
200 A	9	QMB264W		HRK1020	QMB200EK (1 or 2)	15	—	—	—	25	50	50	125	30	—	50	—	40
400 A 600 A	Use 3-pole devices for 2-pole application.				—	—	—	—	—	—	—	—	—	—	—	—	—	—
3-pole, 600 Vac, 250 Vdc [5]																		
30 A-30 A	4.5	QMB361TW	1	QMB36R	QMB300EK (1 or 2)	—	3	—	7.5	—	5	—	15	—	7.5	—	20	—
		QMJ361T	—	—		—	—	—	—	—	—	—	—	—	—	—	20	5
30 A-Blank		QMB361HW [3]	1	QMB36R		—	3	—	7.5	—	5	—	15	—	7.5	—	20	—
60 A-60 A	6	QMB362TW		QMB60R	QMB610EK (1 or 2)	—	7.5	—	15	—	15	—	30	—	15	—	50	—
		QMJ362T	—	—		—	—	—	—	—	—	—	—	—	—	—	—	10
60 A-Blank		QMB362HW [3]	1	QMB60R		—	7.5	—	15	—	15	—	30	—	15	—	50	—
60 A-30 A		QMB362T21W		QMB60R and QMB36R		—	—	—	—	—	—	—	—	—	—	—	—	—
100 A-100 A	7.5	QMB363TW	2	HRK1020		—	15	—	30	—	25	—	60	—	30	—	75	—
	6	QMJ363T	—	—		—	—	—	—	—	—	—	—	—	—	—	—	20
100 A-Blank	7.5	QMB363HW [3]	1	HRK1020		—	15	—	30	—	25	—	60	—	30	—	75	—
	6	QMJ363H [3]	—	—		—	—	—	—	—	—	—	—	—	—	—	—	20
100 A-30 A	7.5	QMB363T31W	1	QMB36R		—	—	—	—	—	—	—	—	—	—	—	—	—
100 A-60 A		QMB363T32W		QMB60R														
200 A	9	QMB364W	1	HRK1020	QMB200EK (1 or 2)	—	25	—	60	—	50	—	125	—	60	—	150	—
200 A-200 A	7.5	QMJ364T	—	—	QMB610EK (1 or 2)	—	25	—	60	—	50	—	125	—	60	—	150	40
200 A-Blank		QMJ364H [3]		—		—	—	—	—	—	—	—	—	—	—	—	—	—
400 A [6]	15	QMB365W	1	QMB4060R	—	—	—	—	—	—	100	—	250	—	125	—	350	50
400 A	9	QMJ365	—	—	QMB200EK (1 or 2)	—	50	—	125	—	100	—	250	—	125	—	350	50
400 A [6]		QMB365WT6 [7]		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
600 A [6]	15	QMB366W	1	QMB4060R	—	—	—	—	—	—	150	—	400	—	250	—	500	—
600 A		QMJ366	—	—	—	—	75	—	150	—	—	—	—	—	—	—	—	—
800 A		QMB367W		—	—	—	—	—	—	—	150	—	400	—	250	—	500	—

NOTE: See the Supplemental Digest for merchandised motor starter units, QMB RTI panelboards, and replacement switches for Series 1–4 and D2 QMB panelboards.

NOTE: For series E1 and E2, QMJ switches may be used in 400 A–1200 A interiors in a NEMA 1 without door only. QMJ switches cannot be used in series E1 and E2, 225 A panelboards. QMJ switches cannot be used in NEMA 1 with door or any NEMA 3R/12 enclosure.

[1] Horsepower rating applicable to 480Y/277 V system only.
[2] "1" indicates one normally open and one normally closed contact.
"2" indicates two normally open and two normally closed contacts.
[3] Blank units cannot be modified to accept a switch interior.
[4] Use 300 Vac Class T fuses only.
[5] Class J fuse provisions—to field modify switch, move load side fuse base to position indicated in switch. Not available on 100-30, 100-60, or 800 A switch units.
[6] 250 Vdc rating.
[7] Use 600 Vac Class T fuses only.

Fusible—600 Vac, 250 Vdc

Table 9.150: Available QMB Accessories

Electrical Interlocks
1 NO and 1NC Electrical Interlocks on Main Switches
2NO and 2NC Electrical Interlocks on Main Switchs
Equipment Ground Bars
Standard Ground Bar
Copper Ground Bar
Insulated/Isolated Ground Bar
Name Plates
Copper Neutral
Copper Neutral
125-400A
600A
800A
Enclsoure Modifications
Hinged Trim
Weatherproof - NEMA 3R
Lugs
Mechanical Lugs - Standard
Copper Mechanical Lugs
Copper Compression Lugs
Aluminum Compression Lugs
VCEL Lugs

UL Listed Short Circuit Ratings for QMB Starters		
Starter Size	**Fusible switch-600V Max. (with Class R or J Fuses) RMS Sym. Amps**	**Thermal-Magnetic Bircuit Breaker 600V Max. Rms Sym. Amps**
0	100,000	5,000
1	100,000	5,000
2	100,000	5,000
3	100,000	5,000

Common Features

QMB Layout Information

To maximize the quantity of branch switches, use QMJ switches from page 9-62. Class J fuses are available in time delay construction suitable for motor and transformer loads.

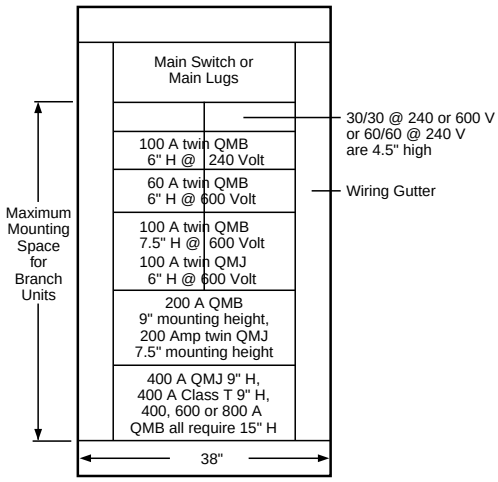


Table 9.151: I-Line™ Panelboard Split Bus Bars

Ampacity MLO	Additional Mounting Height Required On Split Bus Section *[8]*
	Split Bus
225 A	7.5 in.
400 A	9 in.
600 A	12 in.
800 A	12 in.
1200 A	18 in.

NOTE: For applications with main circuit breaker panelboards, contact your local Schneider Electric representative or distributor.

[8] For I-Line panelboards, dimension includes height of “SL” sub-feed lug kit from Digest, plus 3 in. from available branch mounting space.

Main Circuit Breaker Without Overload Trip
(Automatic Molded Case Switch)

- (Not UL Listed)

Shunt Trip Circuit Breakers

- NOTE: For molded case switch and automatic molded case switch short circuit current ratings, see Short Circuit Current Ratings (SCCR), page 7-47.

Special Features

For information on the following special features, please see the Supplemental and Obsolescence Digest.

- Powerlogic™ metering *[1]*
- Customer equipment space (NQ and NF) *[1]*
- Increased box depth *[1]*
- Increased gutters–top, bottom, and sides *[1]*
- Non-standard paint *[1]*
- Welded base channel *[1]*
- Type 1 gasketed *[1]*
- Type 2 drip hood *[1]*
- Type 3R/4/4X/5/12 stainless steel enclosure *[1]*
- Type 4X fiberglass enclosure *[1]*
- Stainless steel trim front *[1]*
- Padlockable hasp *[1]*
- Special locks (Corbin, Yale, Best) *[1]*
- Equal height boxes *[1]*
- Common trim to cover two equal height boxes *[1]*
- Panelboard skirt—hides conduits feeding a panelboard *[1]*
- Panelboard wireway—for terminating conduit in wireway endwall *[1]*
- Keyed mechanical interlocking of two or more circuit breakers (I-Line and QMB) *[1]*
- Motor operators (I-Line only)
- Panelboard interiors and special fronts to fit existing boxes
- A standard panelboard box has one blank endwall and one with knockouts. Blank endwalls or knockouts in both endwalls are also available *[1]*

[1] Supported by the Panelboard Product Selector.

NQ and NF Terminal Data

Table 9.152: NQ Standard Aluminum Mechanical Lugs—Main Lugs

Panel Type	Ampere Rating	Part Number	Lug Wire Range
NQ	100 A	NQALM1	one #6-2/0 Al or Cu
	225 A	NQALM2	one #6-350 kcmil Al or Cu
	400 A	NQALM4	one 1/0-750 kcmil Al or Cu or two 1/0-350 kcmil Al or Cu
	600 A	NQALM6	two 1/0-750 kcmil Al or Cu
		NQALM6A	one 1/0-750 kcmil Al or Cu or three 250 kcmil Al-Cu

Table 9.153: NQ Standard Aluminum Mechanical Lugs—Main Circuit Breaker

Panel Type	Ampere Rating	Circuit Breaker Type	Lug Wire Range *[2]*
NQ	100 A	QOB	one #4–#2/0 Al or Cu
	150 A	HD, HG, HJ, HL	one #14–#3/0 Al or Cu
	225 A	QB, QD, QG, QJ	one #4-300 kcmil Al or Cu
	250 A	JD, JG, JJ, JL	one #3/0–350 kcmil Al or Cu *[2]*
	400 A	LA, LH	one #1–600 kcmil Al or Cu or two #1–250 kcmil Al or Cu
	600 A	LD, LG, LJ, LL	two #4/0-500 kcmil Al or Cu

Table 9.154: NF Standard Mechanical Lugs—Main Lugs

Panel Type	Ampere Rating	Part Number	Lug Wire Range
NF	125 A	NFALM1	one #6–2/0 Al or Cu
	250 A	NFALM2	one #6–350 kcmil Al or Cu
	400 A	NFALM4	one #1/0–750 kcmil or two #1/0–350 kcmil Al or Cu
	600 A	NFALM6	two 1/0-750 kcmil Al or Cu
	800 A	NFALM8	three 1/0-750 kcmil Al or Cu

Table 9.155: NF Standard Mechanical Lugs—Main Circuit Breaker

Panel Type	Ampere Rating	Circuit Breaker Type	Lug Wire Range *[2]*
NF	125 A	ED, EG, EJ	one #14–#2/0 Al or Cu
	150 A	HD, HG, HJ, HL	one #14–#3/0 Al or Cu
	250 A	JD, JG, JJ, JL	one #3/0–350 kcmil Al or Cu *[2]*
		DJ	one #2–600 Cu or #2–500 Al
	400 A	LA, LH	one #1–600 kcmil or two #1–250 kcmil Al or Cu
	600 A	LD, LG, LJ, LL, LR	two #4/0–500 kcmil Al or Cu

Terminal Data

Table 9.156: Standard Mechanical Lugs—Main Lugs

Panel Type	Ampere Rating	Lug Wire Range *[3]*	Wire Range Wire Bending Space per NEC Table 312-6 *[3]*
I-Line	100 A	—	—
	225 A	one #6–300 kcmil Al or Cu	one #6–300 kcmil Al or Cu
	400 A	two #2–600 kcmil Al or Cu	one #2–600 kcmil Al or Cu two #2–500 kcmil Al or Cu
	600 A	two #2–600 kcmil Al or Cu	two #2–500 kcmil Al or Cu
	800 A	(4) 3/0–750 kcmil Al or Cu	(3) 3/0–500 kcmil Al or Cu
	1200 A	(4) 3/0–750 kcmil Al or Cu	(4) 3/0–500 kcmil Al or Cu

Table 9.157: Standard Mechanical Lugs—Main Circuit Breaker

Panel Type	Ampere Rating	Circuit Breaker Type	Lug Wire Range *[3]*	Wire Range Wire Bending Space per NEC Table 312-6 *[3]*
I-Line	125 A	BD, BG, BJ	one #14-#2/0 AWG Al or Cu	one #14-#2/0 AWG Al or Cu
	150 A	HD, HG, HJ, HL	one #14-3/0 Al or Cu	one #14-3/0 Al or Cu
	250 A	JD, JG, JJ, JL	one #1/0-#4/0 Al or Cu	one #1/0-300 kcmil Al or Cu
	400 A	LA, LH	one #1-600 or two #1-250 kcmil Al or Cu	one #1-600 kcmil Al or Cu
	800 A	MG, MJ, PG, PJ, PL	three 3/0-500 kcmil Al or Cu	three 3/0-500 kcmil Al or Cu
	1200 A	PG, PJ, PL, RGC, RJC, RLC	four 3/0-500 kcmil Al or Cu	four 3/0-500 kcmil Al or Cu

Table 9.158: Standard Mechanical Lugs—Main Lugs

Panel Type	Mains Ampere Rating	Lug Wire Range *[3]*	Wire Range Wire Bending Space per NEC Table 312-6 *[3]*
QMB	225 A	one #6–300 kcmil Al or Cu	one #6–300 kcmil Al or Cu
	400 A	one 3/0-500 kcmil Al or CU and, one 3/0–750 kcmil Al or Cu	one 3/0-500 kcmil Al or CU and, one 3/0–750 kcmil Al or Cu
	600 A	two 3/0–500 kcmil Al or Cu	two 3/0–500 kcmil Al or Cu
	800 A	(4) 3/0–750 kcmil Al or Cu	(3) 3/0–500 kcmil Al or Cu or two 3/0–750 kcmil Al or Cu
	1200 A	(4) 3/0–750 kcmil Al or Cu	(4) 3/0–500 kcmil Al or Cu or (4) 3/0–750 kcmil Al or Cu
	1600 A	VCEL compression lugs Standard.	

Table 9.159: Standard Mechanical Lugs—Main Switch

Panel Type	Mains Ampere Rating	Lug Wire Range *[3]*	Wire Range Wire Bending Space per NEC Table 312-6 *[3]*
QMB	200 A	#4–300 kcmil Al or Cu	one #4–300 kcmil Al or Cu
	400 A	3/0–600 kcmil Al or Cu	3/0–600 kcmil Al or Cu
	600 A	3/0–600 kcmil Al or Cu	two 3/0–600 kcmil Al or Cu
	800 A	3/0–600 kcmil Al or Cu	(3) 3/0–500 kcmil Al or Cu

Table 9.160: Standard Mechanical Lugs—QMB Branch Switch Units

Panel Type	Switch Ampere Rating	Lug Wire Range *[3]*	Wire Range Wire Bending Space per NEC Table 312-6 *[3]*
QMB	30 A	one #14–#2 Al or Cu	one #14–#2 Al or Cu
	60 A	one #14–#2 Al or Cu	one #14–#2 Al or Cu
	100 A	one #14–1/0 Al or Cu	one #14–1/0 Al or Cu
	200 A	one #4–300 kcmil Al or Cu	one #4–300 kcmil Al or Cu
	400 A	two 3/0–600 kcmil Al or Cu	two 3/0–500 kcmil Al or Cu
	600 A	two 3/0–600 kcmil Al or Cu	two 3/0–500 kcmil Al or Cu
	800 A	(3) 3/0–600 kcmil Al or Cu	(3) 3/0–500 kcmil Al or Cu

Table 9.161: Standard Mechanical Lugs—QMJ Branch Switch Units *[4]*

Panel Type	Switch Ampere Rating	Lug Wire Range *[3]*	Wire Range Wire Bending Space per NEC Table 312-6 *[3]*
QMJ	30 A	one #14–#2 Al or Cu	one #14–#2 Al or Cu
	60 A	one #14–#2 Al or Cu	one #14–#2 Al or Cu
	100 A	one #14–1/0 Al or Cu	one #14–1/0 Al or Cu
	200 A	one #6–300 kcmil Al or Cu	one #6–300 kcmil Al or Cu
	400 A	one 1/0–750 kcmil Al or Cu	one 1/0–750 kcmil Al or Cu
	600 A	two 3/0–600 kcmil Al or Cu	two 3/0–600 kcmil Al or Cu

[2] The lug range shown is for the highest amperage of the circuit breaker frame shown in the table.
[3] (#) = Number of conductors per phase.
[4] Use only 90 ◦C insulated conductors based on an ampacity of 75 ◦C conductors.