# 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<br>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.

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|---|---|---|---|---|---|---|
| | | | Type*[14][15][16]* | 1 Pole | 2 Pole | 3 Pole |
| 240/120 3P/4W<br>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.
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*[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<br>120/240<br>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<br>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<br>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 |
| | | 600 A | 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 7-31.
*[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 7-31 and Table 7.47 Common Catalog Numbering System, page 7-31)**

| 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 7-31 and Table 7.47 Common Catalog Numbering System, page 7-31 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 7-31 and Table 7.47 Common Catalog Numbering System, page 7-31)**

| 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 7-31 and Table 7.47 Common Catalog Numbering System, page 7-31

**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]* | |
| | Aluminum | Copper | Aluminum | Copper | Aluminum | Copper | Aluminum | Copper |
| 100 A | Standard | NQN1-CU | NQNL1 | Factory Assembled Only | Standard | NQN1-CU | NQNL1 | Factory Assembled 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 Available | Not Available | | | Not Available | Not Available |

### 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<br>(4) 250 kcmil Al<br>(2) 600 kcmil Cu<br>(2) 750 kcmil Al | (2) 1/0-300 kcmil or<br>(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<br>two 1/0–350 kcmil | NQCUV4 | one 400–700 kcmil |
| 600 | NQALV6 | two 2/0–500 kcmil | NQCUM6 | one 1/0–750 kcmil<br>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 |

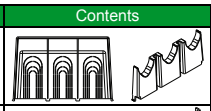
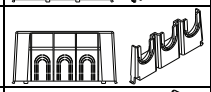
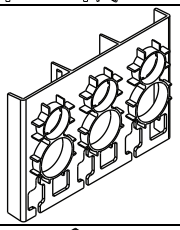
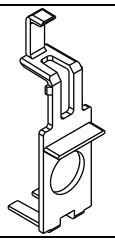
**Table 9.44: NQ SurgeLogic SurgeLoc Plug-on SPD** *[64][65]*

| Voltage | Surge Current Rating | Part Number |
|---|---|---|
| 120 / 240 V | 80 kA | SSP01SBA08D |
| | 100 kA | SSP01SBA10D |
| | 120 kA | SSP01SBA12D |
| | 160 kA | SSP01SBA16D |
| | 200 kA | SSP01SBA20D |
| | 240 kA | SSP01SBA24D |
| 208 Y / 120 V | 80 kA | SSP02SBA08D |
| | 100 kA | SSP02SBA10D |
| | 120 kA | SSP02SBA12D |
| | 160 kA | SSP02SBA16D |
| | 200 kA | SSP02SBA20D |
| | 240 kA | SSP02SBA24D |
| 240 / 120 Vac High Leg Delta **(coming 2H21)** | 80 kA | SSP03SBA08D |
| | 100 kA | SSP03SBA10D |
| | 120 kA | SSP03SBA12D |
| | 160 kA | SSP03SBA16D |
| | 200 kA | SSP03SBA20D |
| | 240 kA | SSP03SBA24D |

## 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

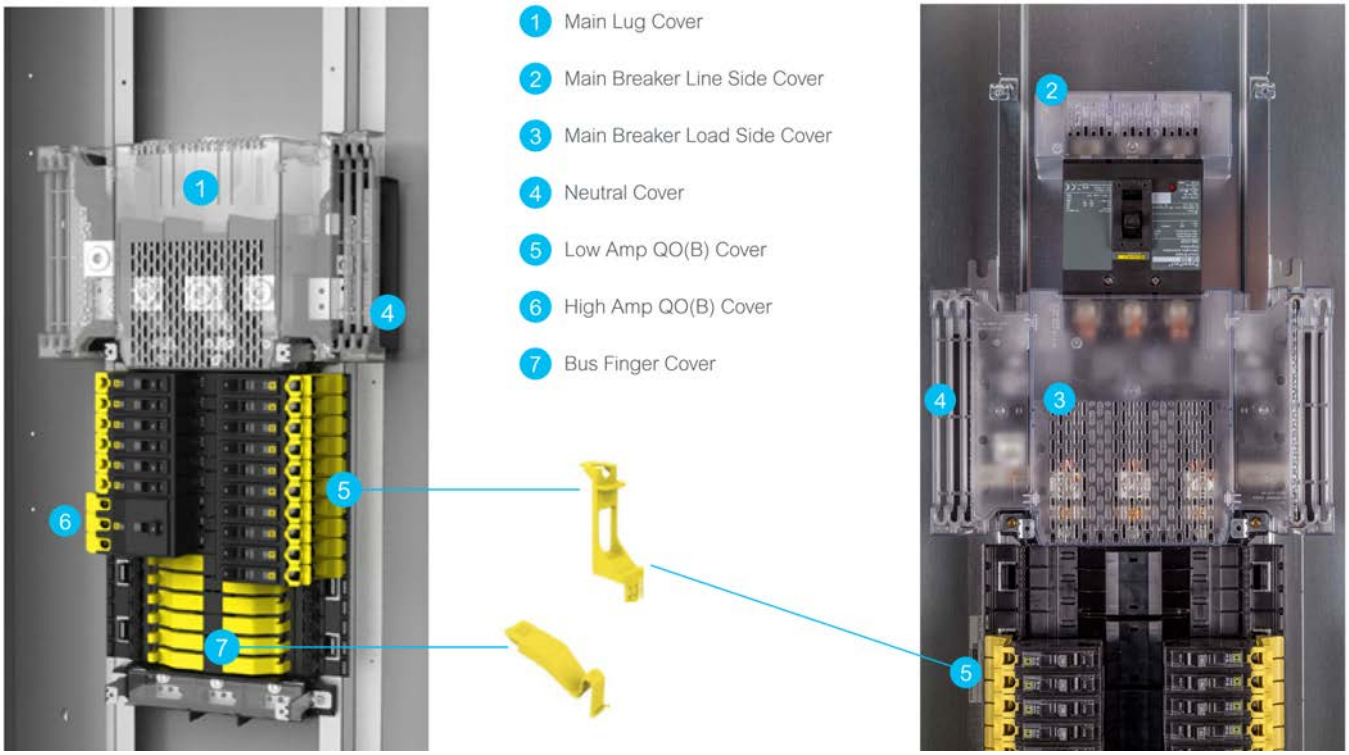
- Plastic barriers cover Mains (lugs or circuit breaker), copper bus, and branch circuit breakers
  - IP2X per IEC 60529 on all ungrounded parts
- 240 Vac maximum
- Three phase (Wye and Delta)
  NEMA 1, 2, 3R, 4/4X, 5, or 12 (up to 225 A)
  - NEMA 1 panelboards up to 400 A
- Branch circuits up to 100 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**<br>**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 7-31.
*[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.<br>**Application**<br>Max Load = 10 A @ 120 Vac 50/60 Hz<br>Terminals for #14 AWG Cu wire | Used with control circuits and is actuated only when the circuit breaker has tripped.<br>**Application**<br>Max Load = 7 A @ 120 Vac 50/60 Hz<br>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.<br>**Application**<br>For use with momentary or maintained push button. 120 Vac 50/60 Hz<br>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 7.166 ED, EG, EJ, and GJ Circuit Breakers, page 7-85.

*[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<br>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<br>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 | | | FA Only *[40]* | FA Only *[40]* | FA Only *[40]* | FA Only *[40]* | FA Only *[40]* | FA Only *[40]* |
| 800A | 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 | (4) 250 kcmil Al or<br>(4) 3/0 Cuor (2) 600 kcmil Al | (2) 1/0-300 kcmil or<br>(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<br>(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.<br>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<br>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 7-31.
*[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**

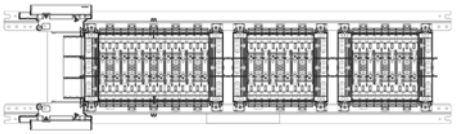
| Description | Catalog No. |
|---|---|
| Aluminum Equipment Ground Bar | PK27GTA |
| Copper Equipment Ground Bar | PK27GTACU |
| Large Aluminum Lug for Equipment Ground Bar | PK23GTAL |
| Equipment Ground Bar Insulator Kit | PKGTAB |
| Circuit I.D. number strips | |
| 1–102 odd/even (left side numbered 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:**

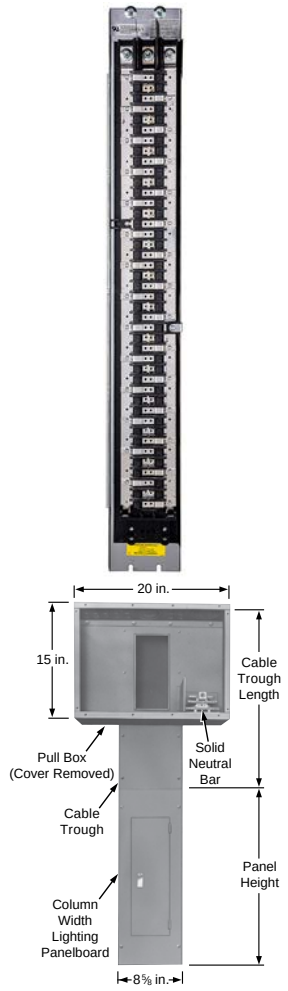
- Multiple branch section configurations (pole spaces per section):
  - Split Bus: 18-30; 30-18; 30-30; 30-18-18
  - Separated Distribution: 30-18-18; 18-18-18
- Up to 400A Mains rating for NQ; up to 250A Main in NF panelboards

**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<br>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

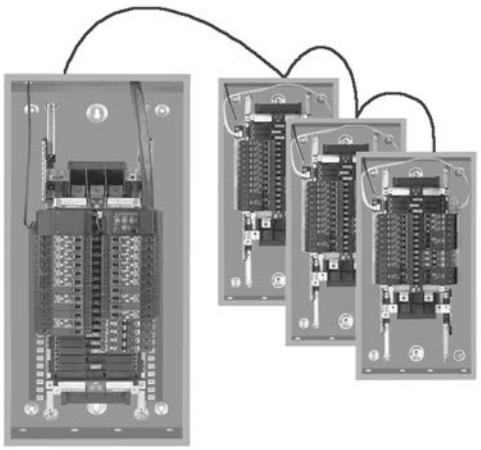
### Factory Assembled System

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] |

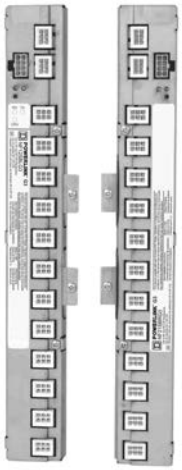
ECB-G3 Circuit Breakers

**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**

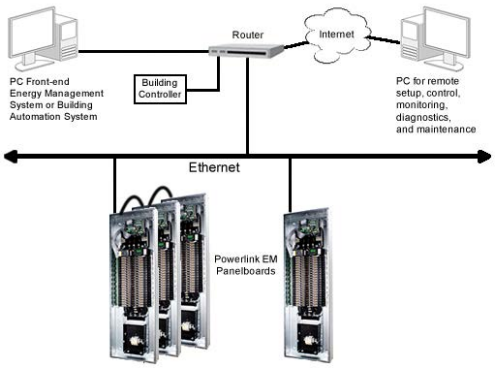
| Max. No. of Branch Spaces (Does not include sub-feed breaker spaces) | Box Height (20" W x 5.75" D) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 250 A | | 400 A LA/LH | | 600 A | | 800 A |
| | Main Lugs | Main Circuit Breaker | Main Lugs | Main Circuit Breaker | Main Lugs *[8]* | Main Circuit 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.

Powerlink Energy Management (EM) Lighting Control System




## 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.

- 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 |

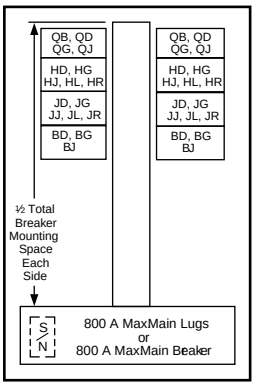
*[1]* B denotes a blank space on the right hand side of a duplex panel for future expansion

**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 |

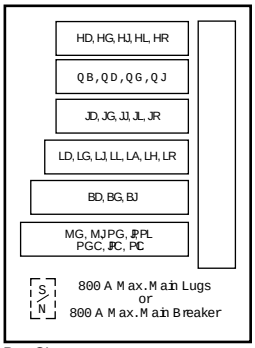
## I-Line Panelboard

**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) | Front *[4]* | | Box *[5]* | | Box Height (In.) |
|---|---|---|---|---|---|---|---|
| | | | 4 Piece Trim Without Door | Trim With Door *[6]* | Type 1 | NEMA 3R/5/12 *[7]* (Includes Front) | |
| | | Catalog Number | Catalog Number | Catalog Number | Catalog Number | Catalog Number | |
| 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**

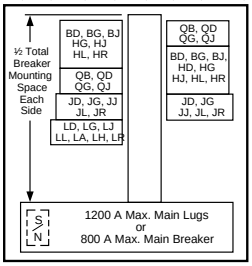
| Total Circuit Breaker Mounting Space (In.) | Mains Ampere Rating | Interior Assembly (Less Branch Circuit Breakers) | Front *[9]* | | Box *[10]* | | Box Height (In.) |
|---|---|---|---|---|---|---|---|
| | | | 4 Piece Trim Without Door | Trim With Door*[11]* | Type 1 | NEMA 3R/5/12 *[12]* (Includes 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 | | | | | |

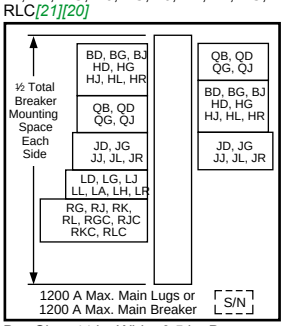
*[9]* Add “F” for flush mount, “S” for surface mount.
*[10]* For Type 1 applications, order interior, front, and box. For Type 3R/5/12 applications, order interior and box only. The front is included with the box.
*[11]* For Type 1 applications order interior, trim and box. For type 3R/5/12, order interior 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 7-31.
*[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**<br>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<br>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**<br>Suitable for use as service equipment when provided with a main circuit breaker.<br>For Main Lugs panel, order sub-feed lug kit catalog number S33930 and back feed as main lugs.<br>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 7-31.
*[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 .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 7-52.**

**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 | — |

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

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

**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 |

## 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 7-62.
*[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 7-52.
H-, J-, and L-frame dimensions starting on Molded Case Circuit Breaker Dimensions, page 7-85.
H-, J-, and L-frame optional lugs Mechanical Lugs, page 7-57.

**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 7-85

LA optional lugs Mechanical Lugs, page 7-57.

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<br>600 A | L( )A36400U31X<br>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<br>600 A | L( )A36400U33X<br>L( )A36600U33X | AL600LF52K3 (2) 3/0–500 kcmil Al or Cu. |
| MicroLogic Ammeter | LSI | 5.3A | 400 A<br>600 A | L( )A36400U43X<br>L( )A36600U43X | |
| MicroLogic Energy | LSI | 5.3E | 400 A<br>600 A | L( )A36400U53X<br>L( )A36600U53X | |
| MicroLogic Ammeter | LSIG | 6.3A | 400 A<br>600 A | L( )A36400U44X<br>L( )A36600U44X | |
| MicroLogic Energy | LSIG | 6.3E | 400 A<br>600 A | L( )A36400U54X<br>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 7-85.
L-frame optional lugs, page 7-57.

M-frame accessories, page 7-52.
M-frame dimensions, page 7-85.
M-frame optional lugs, page 7-57.

**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 7-52.
P- and R-frame dimensions, page 7-85.
P- and R-frame optional lugs, page 7-57.



## 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 7-57.

P- and R-frame dimensions, Molded Case Circuit Breaker Dimensions, page 7-85.

P- and R-frame trip unit options, MicroLogic™ Electronic Trip Units, page 7-62.

P- and R-frame optional lugs, Mechanical Lugs, page 7-57.

P- and R-frame alternate rating plugs, MicroLogic™ Electronic Trip Units, page 7-62.

*[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 | QMB300EK (1 or 2) | 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<br>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

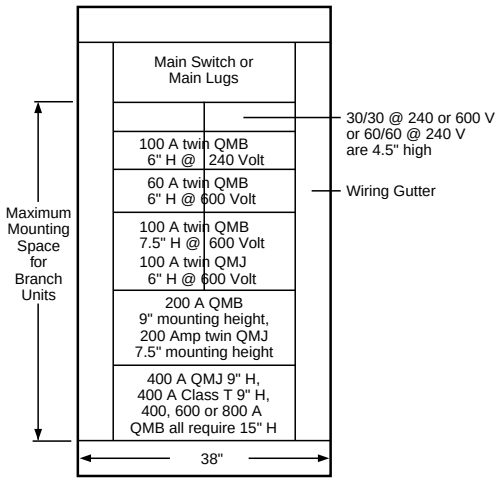
| |
|---|
| **Electrical Interlocks** |
| 1 NO and 1NC Electrical Interlocks on Main Switches |
| 2NO and 2NC Electrical Interlocks on Main Switchs |
| **Equipment Ground Bars** |
| Standard Ground Bar |
| Copper Ground Bar |
| Insulated/Isolated Ground Bar |
| **Name Plates** |
| **Copper Neutral** |
| 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.

Refer to 2110CT9701, 1640CT0801, 4620CT9601



## 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 7-49.

## 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<br>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.