

# Panelboards

## Unassembled

Reference

### Catalog Numbering System

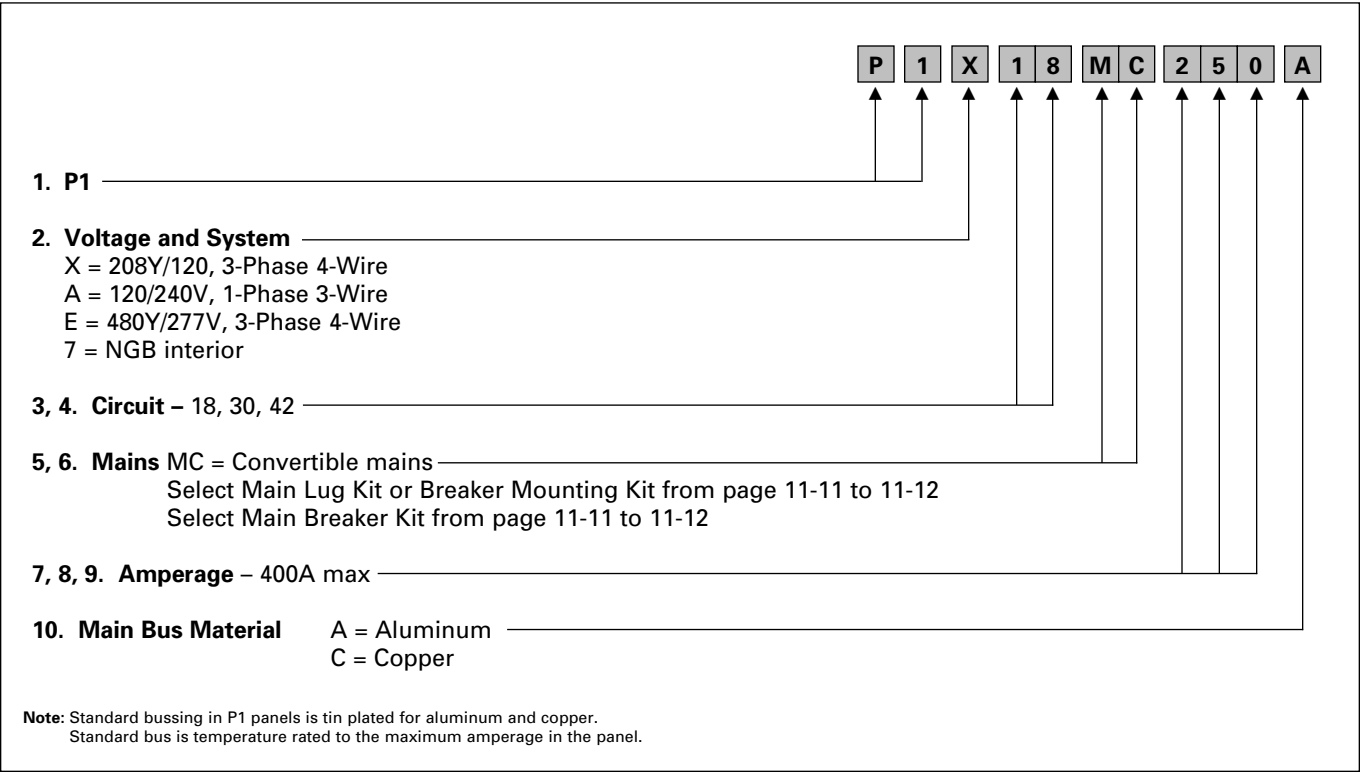
Type P1 unassembled panelboards are completely convertible from main lug to main breaker and vice-versa. Additionally feed-thru lugs, or a subfeed circuit breaker up to 400 amperes can be added without increasing the box height. Follow these easy steps to select and price the proper P1 panel from stock:

1. Compute total number of poles to determine interior catalog number.

2. List catalog number and price of interior, box and front.

3. Select main lug kit or main breaker kit from appropriate tables. **Note:** Main/Subfeed Breaker mounting kits may be ordered with or without breakers included, see page 11-11 and 11-12 for selection.
4. List required branch circuit breakers and filler plates to cover any unused positions.

5. Select any modifications or accessories.



### Branch Breakers

| Panel Type | Voltage (Max.) | Breaker Type           | Speedfax Page |
|------------|----------------|------------------------|---------------|
| P1         | 240            | BI, BLH, HBL, BQD, NGB | See section 7 |
|            | 480/277        | BQD, NGB               |               |
|            | 600/347        | BQD                    |               |

© Consult sales office for availability of CSA.

# Panelboards

## Distributor Stock

## Selection

### Pricing An Unassembled Panel

#### 400A Max. — 20" Wide x 5.75" Deep

1. Choose the appropriate Interior from the table below.
2. Choose and price the Main Device: Main Lugs from pages 11-11, Main Breaker Kit from page 11-13 and Main Breakers from Section 7.

3. Choose and price Branch Breakers. BL, BOD and NGB breakers from Section 7.
4. Choose and price Feed-Thru Lugs or Subfeed Breaker Feed-Thru Lugs from page 11-11, Subfeed Breaker Kit from page 11-11, and Subfeed Breaker from Section 7.

### Type P1 Unassembled Panelboards

| Interiors Only—Less Branch Breakers                 |                  |             | Boxes           |        |                         | Fronts           |       |
|-----------------------------------------------------|------------------|-------------|-----------------|--------|-------------------------|------------------|-------|
| Amperes Rating Mains                                | Max. No of Poles | Interiors   | Height (inches) | Type 1 | Type 3R/12 <sup>①</sup> | Surface          | Flush |
| <b>Convertible Mains — 1-Phase, 3-Wire</b>          |                  |             |                 |        |                         | <b>120/240V</b>  |       |
| 250                                                 | 18               | P1A18MC250A | 32              | B32    | WP32                    | S32B             | F32B  |
|                                                     | 30               | P1A30MC250A | 38              | B38    | WP38                    | S38B             | F38B  |
|                                                     | 42               | P1A42MC250A | 44              | B44    | WP44                    | S44B             | F44B  |
| 400                                                 | 18               | P1A18MC400A | 56              | B56    | WP56                    | S56B             | F56B  |
|                                                     | 30               | P1A30MC400A | 62              | B62    | WP62                    | S62B             | F62B  |
|                                                     | 42               | P1A42MC400A | 68              | B68    | WP68                    | S68B             | F68B  |
| 250                                                 | 18               | P1A18MC250C | 32              | B32    | WP32                    | S32B             | F32B  |
|                                                     | 30               | P1A30MC250C | 38              | B38    | WP38                    | S38B             | F38B  |
|                                                     | 42               | P1A42MC250C | 44              | B44    | WP44                    | S44B             | F44B  |
| 400                                                 | 18               | P1A18MC400C | 56              | B56    | WP56                    | S56B             | F56B  |
|                                                     | 30               | P1A30MC400C | 62              | B62    | WP62                    | S62B             | F62B  |
|                                                     | 42               | P1A42MC400C | 68              | B68    | WP68                    | S68B             | F68B  |
| <b>Convertible Mains — 3-Phase, 4-Wire</b>          |                  |             |                 |        |                         | <b>208Y/120V</b> |       |
| 250                                                 | 18               | P1X18MC250A | 32              | B32    | WP32                    | S32B             | F32B  |
|                                                     | 30               | P1X30MC250A | 38              | B38    | WP38                    | S38B             | F38B  |
|                                                     | 42               | P1X42MC250A | 44              | B44    | WP44                    | S44B             | F44B  |
| 400                                                 | 18               | P1X18MC400A | 56              | B56    | WP56                    | S56B             | F56B  |
|                                                     | 30               | P1X30MC400A | 62              | B62    | WP62                    | S62B             | F62B  |
|                                                     | 42               | P1X42MC400A | 68              | B68    | WP68                    | S68B             | F68B  |
| 250                                                 | 18               | P1X18MC250C | 32              | B32    | WP32                    | S32B             | F32B  |
|                                                     | 30               | P1X30MC250C | 38              | B38    | WP38                    | S38B             | F38B  |
|                                                     | 42               | P1X42MC250C | 44              | B44    | WP44                    | S44B             | F44B  |
| 400                                                 | 18               | P1X18MC400C | 56              | B56    | WP56                    | S56B             | F56B  |
|                                                     | 30               | P1X30MC400C | 62              | B62    | WP62                    | S62B             | F62B  |
|                                                     | 42               | P1X42MC400C | 68              | B68    | WP68                    | S68B             | F68B  |
| <b>Convertible Mains — 3-Phase, 4-Wire</b>          |                  |             |                 |        |                         | <b>480Y/277V</b> |       |
| 250                                                 | 18               | P1E18MC250A | 32              | B32    | WP32                    | S32B             | F32B  |
|                                                     | 30               | P1E30MC250A | 38              | B38    | WP38                    | S38B             | F38B  |
|                                                     | 42               | P1E42MC250A | 44              | B44    | WP44                    | S44B             | F44B  |
| 400                                                 | 18               | P1E18MC400A | 46              | B56    | WP56                    | S56B             | F56B  |
|                                                     | 30               | P1E30MC400A | 62              | B62    | WP62                    | S62B             | F62B  |
|                                                     | 42               | P1E42MC400A | 68              | B68    | WP68                    | S68B             | F68B  |
| 250                                                 | 18               | P1E18MC250C | 32              | B32    | WP32                    | S32B             | F32B  |
|                                                     | 30               | P1E30MC250C | 38              | B38    | WP38                    | S38B             | F38B  |
|                                                     | 42               | P1E42MC250C | 44              | B44    | WP44                    | S44B             | F44B  |
| 400                                                 | 18               | P1E18MC400C | 56              | B56    | WP56                    | S56B             | F56B  |
|                                                     | 30               | P1E30MC400C | 62              | B62    | WP62                    | S62B             | F62B  |
|                                                     | 42               | P1E42MC400C | 68              | B68    | WP68                    | S68B             | F68B  |
| <b>Interiors for NGB Breakers — 3-Phase, 4-Wire</b> |                  |             |                 |        |                         | <b>480Y/277V</b> |       |
| 250                                                 | 18               | P1718MC250A | 32              | B32    | WP32                    | S32B             | F32B  |
|                                                     | 30               | P1730MC250A | 38              | B38    | WP38                    | S38B             | F38B  |
|                                                     | 42               | P1742MC250A | 44              | B44    | WP44                    | S44B             | F44B  |
| 400                                                 | 18               | P1718MC400A | 46              | B56    | WP56                    | S56B             | F56B  |
|                                                     | 30               | P1730MC400A | 62              | B62    | WP62                    | S62B             | F62B  |
|                                                     | 42               | P1742MC400A | 68              | B68    | WP68                    | S68B             | F68B  |
| 250                                                 | 18               | P1718MC250C | 32              | B32    | WP32                    | S32B             | F32B  |
|                                                     | 30               | P1730MC250C | 38              | B38    | WP38                    | S38B             | F38B  |
|                                                     | 42               | P1742MC250C | 44              | B44    | WP44                    | S44B             | F44B  |
| 400                                                 | 18               | P1718MC400C | 56              | B56    | WP56                    | S56B             | F56B  |
|                                                     | 30               | P1730MC400C | 62              | B62    | WP62                    | S62B             | F62B  |
|                                                     | 42               | P1742MC400C | 68              | B68    | WP68                    | S68B             | F68B  |

① Front included in NEMA 3R Box.



# Panelboards

## Distributor Stock

### Type P1 Panelboards

#### Lug Kits — Main or Feed Thru

| Ampere Rating | Material | Wire Range                       | Service | Catalog Number |
|---------------|----------|----------------------------------|---------|----------------|
| 250           | Al       | (1) #6 AWG–350 kcmil<br>Cu or Al | 1-Phase | <b>MLKA1</b>   |
|               |          | (1) #6 AWG–350 kcmil<br>Cu or Al | 3-Phase | <b>MLKA3</b>   |
|               | Cu       | (1) #6 AWG–350 kcmil<br>Cu or Al | 1-Phase | <b>MLKC1</b>   |
|               |          | (1) #6 AWG–350 kcmil<br>Cu or Al | 3-Phase | <b>MLKC3</b>   |
| 400           | Al       | (2) 3/0 250 or<br>(1) 600 kcmil  | 1-Phase | <b>4MLKA1</b>  |
|               |          | (1) 600 kcmil                    | 3-Phase | <b>4MLKA3</b>  |
|               | Cu       | (2) 3/0 250 or<br>(1) 600 kcmil  | 1-Phase | <b>4MLKC1</b>  |
|               |          | (1) 600 kcmil                    | 3-Phase | <b>4MLKC3</b>  |

#### Copper Neutral Lug Kits — 250A

| Number of Circuits | Description                                           | Catalog Number |
|--------------------|-------------------------------------------------------|----------------|
| 18                 | 2 Branch Neutral Strips, 1 Main Neutral Lug, Hardware | <b>CNLK18</b>  |
| 30                 | 2 Branch Neutral Strips, 1 Main Neutral Lug, Hardware | <b>CNLK30</b>  |
| 42                 | 2 Branch Neutral Strips, 1 Main Neutral Lug, Hardware | <b>CNLK42</b>  |

#### 200% Neutral Lug Kits/250A

|    |                                                       |               |
|----|-------------------------------------------------------|---------------|
| 18 | 2 Branch Neutral Strips, 2 Main Neutral Lug, Hardware | <b>2NLK18</b> |
| 30 | 2 Branch Neutral Strips, 2 Main Neutral Lug, Hardware | <b>2NLK30</b> |
| 42 | 2 Branch Neutral Strips, 2 Main Neutral Lug, Hardware | <b>2NLK42</b> |

#### 200% Neutral Lug Kits/400A

|    |                                                                 |                |
|----|-----------------------------------------------------------------|----------------|
| 18 | 2 Branch Neutral Strips, 1 Main 600MCM<br>Neutral Lug, Hardware | <b>42NLK18</b> |
| 30 |                                                                 | <b>42NLK30</b> |
| 42 |                                                                 | <b>42NLK42</b> |

#### Miscellaneous Parts and Accessories

| Catalog Number    | Description                                    |
|-------------------|------------------------------------------------|
| <b>EGK</b>        | Al Ground Bus 44 Connections                   |
| <b>BK1</b>        | Bonding kit for 250A max. and all P1 panels    |
| <b>BK2</b>        | Bonding kit for S1/S2 400 & 600                |
| <b>BK3</b>        | Bonding kit                                    |
| <b>IMK1</b>       | Interior Adjusting Kit                         |
| <b>11-1824-01</b> | Directory Card Holder                          |
| <b>12-1110-01</b> | Directory Card                                 |
| <b>11-1056-01</b> | NEMA Instruction Book                          |
| <b>NBK03</b>      | Number Strips 1–42                             |
| <b>NBK04</b>      | Number Strips 43–84                            |
| <b>NBK05</b>      | Number Strips 85–126                           |
| <b>NBK06</b>      | Number Strips 127–168                          |
| <b>ECGK</b>       | Cu Ground Bus 44 Connections                   |
| <b>IGK</b>        | Insulated Al Ground Bus                        |
| <b>ICGK</b>       | Insulated Cu Ground Bus                        |
| <b>EWK1</b>       | End Wall Kit with Knockouts (20" W x 5.75" DP) |
| <b>EWK2</b>       | End Wall Kit with Knockouts (24" W x 7.75" DP) |
| <b>QF3</b>        | Filler Plate                                   |
| <b>EBF1</b>       | NEB/HEB Filler Plate                           |

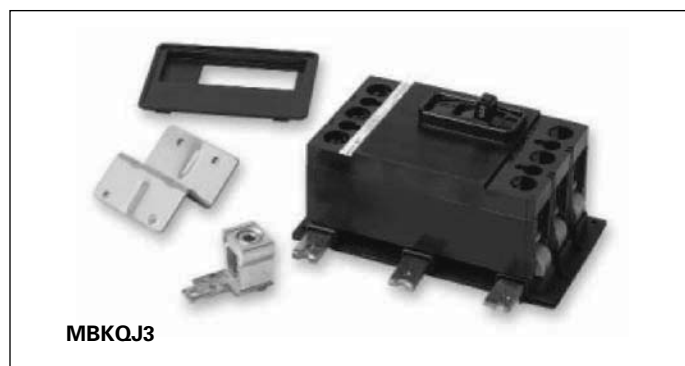
## Selection

### Type P1 Panelboards

#### Breaker Mounting Kits 250A Max. — Main or Subfeed w/o Breaker

| Ampere Rating     | Breaker Types                | Service | Catalog Number |
|-------------------|------------------------------|---------|----------------|
| 100A              | BQD                          | 3-Phase | <b>MBKBC3</b>  |
| 100A              | BL, BLH, HBL                 | 1-Phase | <b>MBKBL1</b>  |
|                   |                              | 3-Phase | <b>MBKBL3</b>  |
| 125A              | NGB                          | 1-Phase | <b>MBKNB1</b>  |
| 125A              | ED4, ED6, HED4, HED6         | 3-Phase | <b>MBKNB3</b>  |
|                   |                              | 1-Phase | <b>MBKED1</b>  |
| 125A              | ED4, ED6, HED4, HED6         | 3-Phase | <b>MBKED3</b>  |
|                   |                              | 1-Phase | <b>MBKQJ1</b>  |
| 225A              | QJ2, QJH2, QJ2-H             | 3-Phase | <b>MBKQJ3</b>  |
|                   |                              | 1-Phase | <b>MBKFD1</b>  |
| 250A              | FXD6, FD6, HFD6              | 3-Phase | <b>MBKFD3</b>  |
|                   |                              | 1-Phase | <b>MBKJD1</b>  |
| 400A <sup>①</sup> | JXD2, JD6, JXD6, HJD6, HJXD6 | 3-Phase | <b>MBKJD3</b>  |
|                   |                              | 1-Phase |                |

① 400 amp kit is for main—only not allowed for subfeed breaker.



# Panelboards

## Panelboard Replacement, Modification, and Additions

*Selection*

S1/S2 Panels—All the P1 panel kits for 250 amp and below panels will work for 250 amp maximum S1/S2 panels.

### 400/600 Amp S1/S2 and All SE Panels

#### Lug Kits — Main or Feed Thru

| Ampere Rating | Material | Wire Range                               | Service | Catalog Number |
|---------------|----------|------------------------------------------|---------|----------------|
| 125A/250A     | Al/Cu    | (2) 1/0–250 kcmil                        | 1-Phase | <b>MLKA1</b>   |
| 125A/250A     | Al/Cu    | (2) 1/0–250 kcmil                        | 3-Phase | <b>MLKA3</b>   |
| 400A/600A     | Al/Cu    | (2) #4–250 kcmil or<br>(1) 3/0–500 kcmil | 1-Phase | <b>SMLKA1</b>  |
| 400A/600A     | Al/Cu    | (2) #4–250 kcmil or<br>(1) 3/0–500 kcmil | 3-Phase | <b>SMLKA3</b>  |

#### Breaker Mounting Kits

| Ampere Rating | Breaker Types                    | Service | Catalog Number |
|---------------|----------------------------------|---------|----------------|
| 125A          | ED2, ED4, ED6, HED4, HED6, HHED6 | 1-Phase | <b>SMBKED1</b> |
| 225A          | ED2, ED4, ED6, HED4, HED6, HHED6 | 3-Phase | <b>SMBKED3</b> |
| 225A          | QJ2, HQJ2, HQJ2H <sup>Ⓢ</sup>    | 1-Phase | <b>SMBKQJ1</b> |
| 225A          | QJ2, HQJ2, HQJ2H <sup>Ⓢ</sup>    | 3-Phase | <b>SMBKQJ3</b> |
| 250A          | FXD6, FD6, HFXD6, HFD6           | 1-Phase | <b>SMBKFD1</b> |
| 250A          | FXD6, FD6, HFXD6, HFD6           | 3-Phase | <b>SMBKFD3</b> |
| 400A          | JD6, JXD6, HJD6, HJXD6           | 1-Phase | <b>SMBKJD1</b> |
| 400A          | JD6, JXD6, HJD6, HJXD6           | 3-Phase | <b>SMBKJD3</b> |
| 600A          | LD6, LXD6, HLD6, HLXD6           | 1-Phase | <b>SMBKLD1</b> |
| 600A          | LD6, LXD6, HLD6, HLXD6           | 3-Phase | <b>SMBKLD3</b> |

#### Neutral Kits

| Ampere Rating | Description                    | Catalog Number |
|---------------|--------------------------------|----------------|
| 250A max.     | 30/42 circuit 200% neutral kit | <b>2NLK2</b>   |
| 400/600A max. | 42 circuit 200% neutral kit    | <b>2NLK1</b>   |

Other applications:

For P4/S4 and 10" deep SPP panels see page 11-51 for branch breaker mounting kits.

For P5/S5 and 12.75" deep SPP panels see page 11-63 for branch breaker mounting kits.

For P4/F1 and 10" deep FPP panels see page 11-51 for branch fusible switch mounting kits.

For P5/F2 and 12.75" deep FPP panels see page 11-63 for branch fusible switch mounting kits.

For Series 5, Series 6, CDP6 and VB 6 panels as well as FC20, FCI, FCII, SB1, SB2 and SB3

distribution switchboards, see page 12-32 for branch device mounting kits.

<sup>Ⓢ</sup> QJ mounting kit is for subfeed breakers only, not main breaker.  
The kit contains mountings for (2) breakers.

# Panelboards

## Warehouse Stock/Unassembled

## Selection

### Main Breaker Mounting Kits w/Breakers for P1 panels

| Catalog Number         | Description                    | Ratings |      |
|------------------------|--------------------------------|---------|------|
|                        |                                | 240V    | 480V |
| MBKED3100              | Kit w/3-pole ED4 100A breaker  | 65KA    | 18KA |
| MBKED3125              | Kit w/3-pole ED4 125A breaker  | 65KA    | 18KA |
| MBKQJ1125              | Kit w/2-pole QJ2 125A breaker  | 10KA    | —    |
| MBKQJ1150              | Kit w/2-pole QJ2 150A breaker  | 10KA    | —    |
| MBKQJ1175              | Kit w/2-pole QJ2 175A breaker  | 10KA    | —    |
| MBKQJ1200              | Kit w/2-pole QJ2 200A breaker  | 10KA    | —    |
| MBKQJ1225              | Kit w/2-pole QJ2 225A breaker  | 10KA    | —    |
| MBKQJ3125              | Kit w/3-pole QJ2 125A breaker  | 10KA    | —    |
| MBKQJ3150              | Kit w/3-pole QJ2 150A breaker  | 10KA    | —    |
| MBKQJ3175              | Kit w/3-pole QJ2 175A breaker  | 10KA    | —    |
| MBKQJ3200              | Kit w/3-pole QJ2 200A breaker  | 10KA    | —    |
| MBKQJ3225              | Kit w/3-pole QJ2 225A breaker  | 10KA    | —    |
| MBKQJ1125H             | Kit w/2-pole QJ2H 125A breaker | 42KA    | —    |
| MBKQJ1150H             | Kit w/2-pole QJ2H 150A breaker | 42KA    | —    |
| MBKQJ1175H             | Kit w/2-pole QJ2H 175A breaker | 42KA    | —    |
| MBKQJ1200H             | Kit w/2-pole QJ2H 200A breaker | 42KA    | —    |
| MBKQJ1225H             | Kit w/2-pole QJ2H 225A breaker | 42KA    | —    |
| MBKQJ3125H             | Kit w/3-pole QJ2H 125A breaker | 42KA    | —    |
| MBKQJ3150H             | Kit w/3-pole QJ2H 150A breaker | 42KA    | —    |
| MBKQJ3175H             | Kit w/3-pole QJ2H 175A breaker | 42KA    | —    |
| MBKQJ3200H             | Kit w/3-pole QJ2H 200A breaker | 42KA    | —    |
| MBKQJ3225H             | Kit w/3-pole QJ2H 225A breaker | 42KA    | —    |
| MBKFD3150              | Kit w/3-pole FXD6 150A breaker | 65KA    | 35KA |
| MBKFD3175              | Kit w/3-pole FXD6 175A breaker | 65KA    | 35KA |
| MBKFD3200              | Kit w/3-pole FXD6 200A breaker | 65KA    | 35KA |
| MBKFD3225              | Kit w/3-pole FXD6 225A breaker | 65KA    | 35KA |
| MBKFD3250              | Kit w/3-pole FXD6 250A breaker | 65KA    | 35KA |
| MBKJD1300              | Kit w/2-pole JXD6 300A breaker | 65KA    | —    |
| MBKJD3300              | Kit w/3-pole JXD6 300A breaker | 65KA    | 35KA |
| MBKJD1400 <sup>①</sup> | Kit w/2-pole JXD6 400A breaker | 65KA    | 35KA |
| MBKJD3400 <sup>①</sup> | Kit w/3-pole JXD6 400A breaker | 65KA    | 35KA |

### Branch Breakers Selection for P1

#### Selection Guide

1. Select breaker type.
2. Select required amperage.
3. Select number of poles.
4. Select branch breaker catalog numbers.
5. Select ground bar and filler plates. (See replacement parts & accessories on Page 11-11.)

### AFCI – Combination Type Arc Fault Circuit Interrupter

| Breaker Type    | Ampere Rating | Catalog Number | Interrupting Ratings (kA)<br>RMS Symmetrical Amperes |         |     |
|-----------------|---------------|----------------|------------------------------------------------------|---------|-----|
|                 |               |                | Volts AC                                             |         |     |
|                 |               |                | 120                                                  | 120/240 | 240 |
| BAFC<br>1-pole  | 15            | B115AFC        | 10                                                   | —       | —   |
|                 | 20            | B120AFC        | 10                                                   | —       | —   |
| BAFCH<br>1-pole | 15            | B115AFCH       | 22                                                   | —       | —   |
|                 | 20            | B120AFCH       | 22                                                   | —       | —   |

### AFCI – Branch Feeder Type Arc Fault Circuit Interrupter

| Breaker Type   | Ampere Rating | Catalog Number | Interrupting Ratings (kA)<br>RMS Symmetrical Amperes |         |     |
|----------------|---------------|----------------|------------------------------------------------------|---------|-----|
|                |               |                | Volts AC                                             |         |     |
|                |               |                | 120                                                  | 120/240 | 240 |
| BAF<br>1-Pole  | 15            | B115AF         | 10                                                   | —       | —   |
|                | 20            | B120AF         | 10                                                   | —       | —   |
| BAFH<br>1-Pole | 15            | B115AFH        | 22                                                   | —       | —   |
|                | 20            | B120AFH        | 22                                                   | —       | —   |

### Switching Neutrals

| Breaker Type                | Ampere Rating | Catalog Number | Interrupting Ratings (kA)<br>RMS Symmetrical Amperes |         |     |
|-----------------------------|---------------|----------------|------------------------------------------------------|---------|-----|
|                             |               |                | Volts AC                                             |         |     |
|                             |               |                | 120                                                  | 120/240 | 240 |
| BG<br>2-Wire<br>Common Trip | 15            | BG215■         | 10                                                   | —       | —   |
|                             | 20            | BG220■         | 10                                                   | —       | —   |
|                             | 30            | BG230■         | 10                                                   | —       | —   |
| BG<br>3-Wire<br>Common Trip | 15            | BG315■         | —                                                    | 10      | —   |
|                             | 20            | BG320■         | —                                                    | 10      | —   |
|                             | 30            | BG330■         | —                                                    | 10      | —   |

■ Built to order.

① 400 Amp Kit used as Main and for top feed application only. For bottom feed, order breaker, bracket and lugs separately.

# Panelboards

## Warehouse Stock/Unassembled

*Selection*

### Branch Breakers Selection for P1

#### Selection Guide

1. Select breaker type.
2. Select required amperage.
3. Select number of poles.
4. Select branch breaker catalog numbers.
5. Select ground bar and filler plates. (See replacement parts & accessories on Page 11-11.)

#### BL Branch Breakers – 10,000A IR<sup>②</sup>

| Amp Rating | 1-Pole 120/240V | 2-Pole 120/240V | 2-Pole 240V | 3-Pole 240V |
|------------|-----------------|-----------------|-------------|-------------|
| 15         | B115            | B215            | B215R       | B315        |
| 20         | B120            | B220            | B220R       | B320        |
| 25         | B125            | B225            | B225R       | B325        |
| 30         | B130            | B230            | B230R       | B330        |
| 35         | B135            | B235            | B235R       | B335        |
| 40         | B140            | B240            | B240R       | B340        |
| 45         | B145            | B245            | B245R       | B345        |
| 50         | B150            | B250            | B250R       | B350        |
| 55         | B155            | —               | —           | —           |
| 60         | B160            | B260            | B260R       | B360        |
| 70         | B170            | B270            | B270R       | B370        |
| 80         | —               | B280            | B280R       | B380        |
| 90         | —               | B290            | B290R       | B390        |
| 100        | —               | B2100           | B2100R      | B3100       |
| 110        | —               | B2110           | —           | —           |
| 125        | —               | B2125           | —           | —           |

#### BLH Branch Breakers – 22,000A IR<sup>②</sup>

| Amp Rating | 1-Pole 120/240V | 2-Pole 120/240V | 3-Pole 240V |
|------------|-----------------|-----------------|-------------|
| 15         | B115H           | B215H           | B315H       |
| 20         | B120H           | B220H           | B320H       |
| 25         | B125H           | B225H           | B325H       |
| 30         | B130H           | B230H           | B330H       |
| 40         | B140H           | B240H           | B340H       |
| 50         | B150H           | B250H           | B350H       |
| 55         | B155H           | —               | —           |
| 60         | B160H           | B260H           | B360H       |
| 70         | B170H           | B270H           | B370H       |
| 80         | —               | B280H           | B380H       |
| 90         | —               | B290H           | B390H       |
| 100        | —               | B2100H          | B3100H      |

#### BQD Branch Breakers – 14,000A IR Max. @ 480/277 Vac / 65,000A IR max. @ 240 Vac<sup>③</sup>

| Amp Rating | 1-Pole 277V | 2-Pole 480Y/277V | 3-Pole 480Y/277V |
|------------|-------------|------------------|------------------|
| 15         | BQD115      | BQD215           | BQD315           |
| 20         | BQD120      | BQD220           | BQD320           |
| 25         | BQD125      | BQD225           | BQD325           |
| 30         | BQD130      | BQD230           | BQD330           |
| 35         | BQD135      | BQD235           | BQD335           |
| 40         | BQD140      | BQD240           | BQD340           |
| 45         | BQD145      | BQD245           | BQD345           |
| 50         | BQD150      | BQD250           | BQD350           |
| 60         | BQD160      | BQD260           | BQD360           |
| 70         | BQD170      | BQD270           | BQD370           |
| 80         | BQD180      | BQD280           | BQD380           |
| 90         | BQD190      | BQD290           | BQD390           |
| 100        | BQD1100     | BQD2100          | BQD3100          |

#### HBL Branch Breakers – 65,000A IR<sup>②</sup>

| Amp Rating | 1-Pole 120/240V | 2-Pole 120/240V | 3-Pole 240V |
|------------|-----------------|-----------------|-------------|
| 15         | B115HH          | B215HH          | B315HH      |
| 20         | B120HH          | B220HH          | B320HH      |
| 30         | B130HH          | B230HH          | B330HH      |
| 40         | B140HH          | B240HH          | B340HH      |
| 50         | B150HH          | B250HH          | B350HH      |
| 60         | —               | B260HH          | B360HH      |
| 70         | —               | B270HH          | B370HH      |
| 80         | —               | B280HH          | B380HH      |
| 90         | —               | B290HH          | B390HH      |
| 100        | —               | B2100HH         | B3100HH     |

#### GFCI Personnel Protection (5MA)

| Breaker Type | Ampere Rating | Catalog Number | Interrupting Ratings (kA) RMS Symmetrical Amperes |         |     |
|--------------|---------------|----------------|---------------------------------------------------|---------|-----|
|              |               |                | Volts AC                                          |         |     |
|              |               |                | 120                                               | 120/240 | 240 |
| BLF 1-Pole   | 15            | BF115          | 10                                                | —       | —   |
|              | 20            | BF120          | 10                                                | —       | —   |
|              | 25            | BF125■         | 10                                                | —       | —   |
|              | 30            | BF130          | 10                                                | —       | —   |
| BLF 2-Pole   | 15            | BF215          | —                                                 | 10      | —   |
|              | 20            | BF220          | —                                                 | 10      | —   |
|              | 30            | BF230          | —                                                 | 10      | —   |
|              | 40            | BF240■         | —                                                 | 10      | —   |
|              | 50            | BF250■         | —                                                 | 10      | —   |
|              | 60            | BF260■         | —                                                 | 10      | —   |
| BLHF 1-Pole  | 15            | BF115H         | 22                                                | —       | —   |
|              | 20            | BF120H         | 22                                                | —       | —   |
|              | 30            | BF130H■        | 22                                                | —       | —   |
| BLHF 2-Pole  | 15            | BF215H■        | —                                                 | 22      | —   |
|              | 20            | BF220H■        | —                                                 | 22      | —   |
|              | 30            | BF230H■        | —                                                 | 22      | —   |
|              | 40            | BF240H■        | —                                                 | 22      | —   |
|              | 50            | BF250H■        | —                                                 | 22      | —   |
|              | 60            | BF260H■        | —                                                 | 22      | —   |

#### NGB Branch Breakers – 25,000 A IR Max. @ 480/277V AC / 100,000 A IR @ 240V AC

| Amp Rating | 1-pole 277V | 2-pole 480Y/277V | 3-pole 480Y/277V |
|------------|-------------|------------------|------------------|
| 15         | NGB1B015B   | NGB2B015B        | NGB3B015B        |
| 20         | NGB1B020B   | NGB2B020B        | NGB3B020B        |
| 25         | NGB1B025B   | NGB2B025B        | NGB3B025B        |
| 30         | NGB1B030B   | NGB2B030B        | NGB3B030B        |
| 35         | NGB1B035B   | NGB2B035B        | NGB3B035B        |
| 40         | NGB1B040B   | NGB2B040B        | NGB3B040B        |
| 45         | NGB1B045B   | NGB2B045B        | NGB3B045B        |
| 50         | NGB1B050B   | NGB2B050B        | NGB3B050B        |
| 60         | NGB1B060B   | NGB2B060B        | NGB3B060B        |
| 70         | NGB1B070B   | NGB2B070B        | NGB3B070B        |
| 80         | NGB1B080B   | NGB2B080B        | NGB3B080B        |
| 90         | NGB1B090B   | NGB2B090B        | NGB3B090B        |
| 100        | NGB1B100B   | NGB2B100B        | NGB3B100B        |
| 110        | NGB1B110B   | NGB2B110B        | NGB3B110B        |
| 125        | NGB1B125B   | NGB2B125B        | NGB3B125B        |

■ Built to order. Allow 2-3 weeks for delivery.  
① HACR rated.

② To add shunt trip to BL breakers, see page 7-29 Accessories.

③ To add shunt trip to BQD breakers, see page 7-36 Accessories.

# Panelboards

## Factory Assembled

• Revised •

06/18/13

## Selection

### Catalog Numbering System

#### Type of Panel

P1, P2, P3, P4, P5

#### Voltage and System\*

C = 208Y/120 3Ø 4 W Wye AC - All  
E = 480Y/277 3Ø 4 W Wye AC - All  
D = 240 3Ø 3 W Delta AC - All  
F = 480 3Ø 3 W Delta AC - All  
G = 600 3Ø 3 W Delta AC - P2, P3, P4, P5  
I = 347 3Ø 3 W Delta AC P2, P3, P4, P5  
B = 240/120 3Ø 4 W Delta BØ High Leg AC - All  
Q = 240/120 3Ø 4 W Delta CØ High Leg AC - All  
A = 120/240 1Ø 3 W Grounded Neutral AC (2) - All  
H = 120 1Ø 2 W Grounded Neutral AC (2) - All  
J = 240 1Ø 2 W No Neutral AC (3) - All  
Y = 125 1Ø 2 W Grounded Neutral AC (2) - P2, P3, P4, P5  
Z = 500 2W DC - P2, P3, P4, P5  
K = 220/127 3Ø 4 W Wye AC - All  
M = 380/220 3Ø 4 W Wye AC - All  
R = 415/240 3Ø 4 W Wye AC - All  
S = 440/250 3Ø 4 W Wye AC - All  
L = 600/347 3Ø 4 W Wye AC - All  
T = 230 3Ø 3 W Delta AC - All  
W = 380 3Ø 3 W Delta AC - P2, P3, P4, P5  
1 = 24V DC 1-Pole Branches Only (3) - All  
2 = 24V DC 2-Pole Branches Only (3) - All  
3 = 48V DC 1-Pole Branches Only (3) - All  
4 = 48V DC 2-Pole Branches Only (3) - All  
5 = 125V DC 1-Pole Branches Only (3) - All  
N = 125V DC 2-Pole Branches Only - All  
O = 125/250V DC 2-Pole Branches Only - All  
P = 125/250V DC 2 & 3-Pole Branches - All  
U = 120V AC 3Ø3W - All  
V = 240V 3Ø3W Grounded B Phase - All

\*For any voltage system not listed, check with sales for availability.

#### Circuits

or

#### Enclosure Height

P1 – 18, 30, 42

P2 – 18, 30, 42, 54, 66, 78, 90.①

P3 – 56, 62, 68, 74, 80

P4, P5 – 60, 75, 90

#### Main Lug (ML), Main Breaker

(See Main Breaker Table coding below), Main Switch (MS)

#### Amperage

100–400A = P1

250–800A = P3

100–600A = P2

400–1200A = P4, P5

#### Bus Material

Temp rated Al.

750A/sq. in. Al.

Temp rated Cu.

Temp rated Cu.

1000A/sq. in. Cu.

1000A/sq. in. Cu.

#### Bus Plating

Tin-Plated

Tin-Plated

Tin-Plated

Silver-Plated

Tin-Plated

Silver-Plated

#### Letter

A

B

C

E

F

G

H

| Bus Code | P1① | P2       | P3       | P4       | P5       |
|----------|-----|----------|----------|----------|----------|
| A        | •   | •        | •        | •        | •        |
| B        | n/a | •        | •        | •        | •        |
| C        | •   | •        | •        | n/a      | n/a      |
| F        | n/a | •        | •        | •        | •        |
| E        | n/a | optional | optional | •        | •        |
| G        | n/a | •        | •        | optional | optional |
| H        | n/a | optional | optional | •        | •        |

• Indicates default for this bus type.

#### Feed Location

T = Top

B = Bottom

#### Mounting

S = Surface

F = Flush. Flush trims extend 1 1/2" beyond the base box dimensions on P1, P2 and P3 and 2" on P4 and P5 panels.

### Main Breaker Coding

#### (Breaker Type) Code

(BAF) BA, (BAFH) BF, (BQD) BQ, (BQD6) B6, (BL) BL, (BLEH) BE, (BLH) BH, (BLR) BR, (HBL) HB, (BGL-SWI) B1, (BLE-GFCI) BG, (BLF-GFCI) BC, (CED6) CE, (ED2) ED, (ED4) E4, (ED6) E6, (HED4) H4, (HHED6) HA, (BLHF-GFCI) B4, (BL-HID) B2, (NGB) NB, (HQP) HQ, (QP) QP, (QPH) PQ, (CEG) C4, (QJ2) QJ, (QJ2H) Q2, (QJH2) QH, HQJ2H (Q3), (CFD6) CF, (FD6) FD, (FXD6) FX, (HFD6) HF, (HFXD6) H2, (HHFD6) H1, (HHFXD6) H3, (CJD6) CJ, (HHJD6) H4, (HHJXD6) H9, (HJD6) H6, (HJXD6) H5, (HJXD6H) H7, (JD6) J6, (JXD2) JD, (JXD2H) J2, (JXD6) JX, (JXD6H) JH, (NJX) J1, (HJX) J7, (LJX) J3, (NJY) J4, (SJD6H) SH, (SJD6) SJ, (SHJD6) SX, (SHJD6H) SY, (SCJD6) SC, (HJY) J5, (LJY) J8, (CLD6) CL, (HHL6) HH, (HHLXD6) XH, (HLD6) HL, (HLXD6) HO, (HLXD6H) HP, (LD6) L6, (LXD6) LX, (LXD6H) LH, (NLX) L7, (HLX) L2, (LLX) L3, (SLD6) SL, (SHLD6) S2, (SCLD6) S1, (HLMXD6) HJ, (HLMXD6) HK, (LMD6) L1, (LMXD6) LM, (CMD) CM, (CMD6H) CH, (HMD6) HM, (HMXD6) HR, (HMXD6H) HS, (MD6) MD, (MXD6) MX, (MXD6H) MH, (NMX) M1, (HMX) M2, (LMX) M3, SCMD6 (SO), SCMD6H (SQ), SMD6 (SM), SMD6H (AX), SHMD6 (S5), SHMD6H (S6) (CND6) CN, (CND6H) C6, (HND6) HN, (HNXD6) HT, (HNXD6H) HX, (ND6) ND, (NXD6) NX, (NXD6H) NT, (NNX) N1, (HNX) N2, (LNX) N3, (NNY) N4, (HNY) N5, (LNY) N6, (SCND6) SR, (SCND6H) ST, (SND6) SN, (SHND6) AD, (SND6H) AY

① Panel must not be a lighting and appliance panel. See NEC article 408.34 for areas on NEC 2008 or earlier.

② Standard bussing in P1, P2 and P3 panels is tin-plated for aluminum and copper. Standard bus is temperature rated to the maximum amperage in the panel.

# Panelboards

## Circuit Breaker / Lighting and Distribution

**Pricing**

### Types P1

- 1) To specify a particular panelboard; list panel catalog number, branches, modifications, and price on an Estimate Sheet. Price includes interior with provisions, box, ground bar, and trim. See Example No. 1.
- 2) When more than 42 circuits are specified for P1 a two section panel will be required. Feed-thru lugs must be priced in one section from the modifications on pages 11-20.

Example No. 2 is a two section panel, each having 42 circuits. Section One will contain 1-225/3 QJ2 main breaker (top feed), 250A feed-thru lugs and 21" of unit space. Section Two will contain 250A main lugs only (bottom feed) and 21" of unit space. Sections will be 44" in height.

- 3) Standard main breakers are indicated by the 6th and 7th positions in the catalog number. If any other main breaker type is required, replace with the appropriate code from page 11-18. See Example No. 3.
- 4) All panel modifications must be listed and priced separately.
- 5) If the boxes are to be sized the same then each panel must have the same amount of unit space.

| Panel LPA         |          |  |              |
|-------------------|----------|--|--------------|
| 1 — P1C30QJ225ATS |          |  | 2540.        |
| 10-20/1           | 25. ea.  |  | 250.         |
| 4-30/3            | 140. ea. |  | 560.         |
|                   |          |  | <b>3350.</b> |

Example No. 1

| Panel LPB          |  |  |              |
|--------------------|--|--|--------------|
| 1 — P1C42QJ225ATS  |  |  | 2760.        |
| 1 — P1C42ML250ATS  |  |  | 1330.        |
| 1 — Feed-Thru Lugs |  |  | 190.         |
|                    |  |  | <b>4280.</b> |

Example No. 2

| Panel LPC         |         |  |              |
|-------------------|---------|--|--------------|
| 1 — P1C42HF250CTS |         |  | 3160.        |
| HFD6 Main         |         |  | 1900.        |
| 42-20/1 BLH       | 35. ea. |  | 1470.        |
| Cu Bus            |         |  | 255.         |
| Type 3R           |         |  | 860.         |
|                   |         |  | <b>7645.</b> |

Example No. 3

### Type P2

Type P2 panelboards are priced the same as Type P1 described above except for two section panels.

- 1) When more than 42 circuits are specified for P2, a two section panel will be assumed. Main breaker codes in the 5th and 6th positions will dictate the use of feed-thru lugs. An "ML" in the fifth and sixth positions will dictate the use of subfeed lugs for 125A and 250A and feed-thru lugs for 400A and 600A.

Boxes will be sized the same for two section panels.

Base price includes all provisions. Subfeed or feed-thru lugs as required must be priced from page 11-29.

Example No. 4 is a two section panel, each having 42 circuits. Section One will contain 1-400/3 JXD6 main breaker (top feed), 225A feed-thru lugs, and 21" of unit space. Section Two will contain 400A main

lugs only (bottom feed) and 21" of unit space. Sections will be 53" in height.

### Types P3, P4 and P5

- 1) To specify a particular panelboard, first determine voltage, system, amperage and type of main, amperage and type of branch devices, and modifications if any. (Step 1)

- 2) List branch devices and modifications requiring space additions. List unit space requirements of each.

Note: Some units are twin mounted meaning two breakers occupy the same unit space.

Select appropriate enclosure height from selection chart on pages 11-35, 11-45, or 11-57, based on unit space requirements. (Step 2)

- 3) Select panelboard catalog number from appropriate table based upon voltage, system, amperage and unit space requirements. (Step 3)

#### Step #1

|              |                           |
|--------------|---------------------------|
| Amperage     | 400                       |
| Voltage      | 208Y/120                  |
| System       | 3-phase 4-wire            |
| Main         | Main Breaker              |
| Branches     | 5-125/3, 2-225/3, 1-250/3 |
| Modification | None                      |
| Feed         | Top                       |
| Mounting     | Surface                   |

#### Step #2 Unit Space Calculation

|                                                                                       |            |
|---------------------------------------------------------------------------------------|------------|
| 5-125/3 QJ2                                                                           | 5" = 15"   |
| 5-225/3 QJ2                                                                           | 5" = 5"    |
| 1-250/3 FXD6                                                                          | 5" = 5"    |
|                                                                                       | <u>25"</u> |
| Enclosure is B275 from Selection Chart on page 11-42. (32" wide, 75" high, 10" deep). |            |

#### Step #3

|                   |       |  |               |
|-------------------|-------|--|---------------|
| 1 — P4C75JX400ATS |       |  | \$ 4210.      |
| 5-125/3 QJ2       | 940.  |  | 4700.         |
| 2-225/3 QJ2       | 940.  |  | 1880.         |
| 1-250/3 FXD6      | 2700. |  | 2700.         |
|                   |       |  | <b>13490.</b> |