

### QUICKLAG — Bolt-On Ground Fault and Equipment Protectors

## Bolt-On Types BAB, QBHW, HBAX, HBAW



QUICKLAG Type BA 1-Pole

## Product Description

- Built and listed to UL 489
- All products UL and CSA listed
- All products 15 – 100A are HACR rated
- Switching duty rated for 120V AC fluorescent light applications
- Dimension Sheets — FRED Index 206

## Product Selection

Table 11-6. Breaker Catalog Numbers

| Contin-<br>uous<br>Ampere<br>Rating<br>@ 40°C                         | 1-Pole            |                  | 2-Pole            |                  |                   |                  | 3-Pole            |                  |
|-----------------------------------------------------------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|                                                                       | 120/240V AC       |                  | 120/240V AC       |                  | 240V AC           |                  | 240V AC           |                  |
|                                                                       | Catalog<br>Number | Price<br>U.S. \$ | Catalog<br>Number | Price<br>U.S. \$ | Catalog<br>Number | Price<br>U.S. \$ | Catalog<br>Number | Price<br>U.S. \$ |
| <b>QUICKLAG Type: BA 10,000 Ampere I.C. Thermal-Magnetic Breakers</b> |                   |                  |                   |                  |                   |                  |                   |                  |
| 10                                                                    | BAB1010           | 27.50            | BAB2010           | 60.50            | BAB2010H          | 156.00           | BAB3010H          | 193.00           |
| 15                                                                    | BAB1015 ①②        | 27.50            | BAB2015           | 60.50            | BAB2015H          | 156.00           | BAB3015H          | 193.00           |
| 20                                                                    | BAB1020 ①②        | 27.50            | BAB2020           | 60.50            | BAB2020H          | 156.00           | BAB3020H          | 193.00           |
| 25                                                                    | BAB1025           | 27.50            | BAB2025           | 60.50            | BAB2025H          | 156.00           | BAB3025H          | 193.00           |
| 30                                                                    | BAB1030           | 27.50            | BAB2030           | 60.50            | BAB2030H          | 156.00           | BAB3030H          | 193.00           |
| 35                                                                    | BAB1035           | 27.50            | BAB2035           | 60.50            | BAB2035H          | 156.00           | BAB3035H          | 193.00           |
| 40                                                                    | BAB1040           | 27.50            | BAB2040           | 60.50            | BAB2040H          | 156.00           | BAB3040H          | 193.00           |
| 45                                                                    | BAB1045           | 27.50            | BAB2045           | 60.50            | BAB2045H          | 156.00           | BAB3045H          | 193.00           |
| 50                                                                    | BAB1050           | 27.50            | BAB2050           | 60.50            | BAB2050H          | 156.00           | BAB3050H          | 193.00           |
| 55                                                                    | BAB1055           | 27.50            | BAB2055           | 60.50            | BAB2055H          | 156.00           | BAB3055H          | 193.00           |
| 60                                                                    | BAB1060           | 27.50            | BAB2060           | 60.50            | BAB2060H          | 156.00           | BAB3060H          | 193.00           |
| 70                                                                    | BAB1070           | 53.50            | BAB2070           | 115.00           | BAB2070H          | 206.00           | BAB3070H          | 240.00           |
| 80                                                                    | —                 | —                | BAB2080           | 156.00           | BAB2080H          | 239.00           | BAB3080H          | 274.00           |
| 90                                                                    | —                 | —                | BAB2090           | 156.00           | BAB2090H          | 239.00           | BAB3090H          | 274.00           |
| 100                                                                   | BAB1100           | 91.00            | BAB2100           | 156.00           | BAB2100H          | 239.00           | BAB3100H          | 274.00           |
| 110                                                                   | —                 | —                | BAB2110           | 332.00           | —                 | —                | —                 | —                |
| 125                                                                   | —                 | —                | BAB2125           | 332.00           | —                 | —                | —                 | —                |

QUICKLAG Type: QBHW 22,000 Ampere I.C. Thermal-Magnetic Breakers

|     |            |       |          |        |           |        |           |        |
|-----|------------|-------|----------|--------|-----------|--------|-----------|--------|
| 15  | QBHW1015 ① | 54.50 | QBHW2015 | 117.00 | QBHW2015H | 215.00 | QBHW3015H | 289.00 |
| 20  | QBHW1020 ① | 54.50 | QBHW2020 | 117.00 | QBHW2020H | 215.00 | QBHW3020H | 289.00 |
| 25  | QBHW1025   | 54.50 | QBHW2025 | 117.00 | QBHW2025H | 215.00 | QBHW3025H | 289.00 |
| 30  | QBHW1030   | 54.50 | QBHW2030 | 117.00 | QBHW2030H | 215.00 | QBHW3030H | 289.00 |
| 35  | QBHW1035   | 54.50 | QBHW2035 | 111.00 | QBHW2035H | 215.00 | QBHW3035H | 289.00 |
| 40  | QBHW1040   | 54.50 | QBHW2040 | 117.00 | QBHW2040H | 215.00 | QBHW3040H | 289.00 |
| 45  | QBHW1045   | 54.50 | QBHW2045 | 117.00 | QBHW2045H | 215.00 | QBHW3045H | 289.00 |
| 50  | QBHW1050   | 54.50 | QBHW2050 | 117.00 | QBHW2050H | 215.00 | QBHW3050H | 289.00 |
| 55  | QBHW1055   | 54.50 | QBHW2055 | 117.00 | QBHW2055H | 215.00 | QBHW3055H | 289.00 |
| 60  | QBHW1060   | 54.50 | QBHW2060 | 117.00 | QBHW2060H | 215.00 | QBHW3060H | 289.00 |
| 70  | QBHW1070   | 72.50 | QBHW2070 | 170.00 | QBHW2070H | 257.00 | QBHW3070H | 418.00 |
| 80  | —          | —     | QBHW2080 | 253.00 | QBHW2080H | 290.00 | QBHW3080H | 418.00 |
| 90  | —          | —     | QBHW2090 | 253.00 | QBHW2090H | 290.00 | QBHW3090H | 418.00 |
| 100 | —          | —     | QBHW2100 | 253.00 | QBHW2100H | 290.00 | QBHW3100H | 448.00 |
| 110 | —          | —     | QBHW2110 | 735.00 | —         | —      | —         | —      |
| 125 | —          | —     | QBHW2125 | 735.00 | —         | —      | —         | —      |

QUICKLAG Type: HBAX 42,000 Ampere I.C. Thermal-Magnetic Breakers

|     |            |        |          |        |   |   |           |        |
|-----|------------|--------|----------|--------|---|---|-----------|--------|
| 15  | HBAX1015 ① | 77.00  | HBAX2015 | 139.00 | — | — | HBAX3015H | 347.00 |
| 20  | HBAX1020 ① | 77.00  | HBAX2020 | 139.00 | — | — | HBAX3020H | 347.00 |
| 25  | HBAX1025   | 77.00  | HBAX2025 | 139.00 | — | — | HBAX3025H | 347.00 |
| 30  | HBAX1030   | 77.00  | HBAX2030 | 139.00 | — | — | HBAX3030H | 347.00 |
| 35  | HBAX1035   | 77.00  | HBAX2035 | 139.00 | — | — | HBAX3035H | 347.00 |
| 40  | HBAX1040   | 77.00  | HBAX2040 | 139.00 | — | — | HBAX3040H | 347.00 |
| 45  | HBAX1045   | 77.00  | HBAX2045 | 139.00 | — | — | HBAX3045H | 347.00 |
| 50  | HBAX1050   | 77.00  | HBAX2050 | 139.00 | — | — | HBAX3050H | 347.00 |
| 55  | HBAX1055   | 77.00  | HBAX2055 | 139.00 | — | — | HBAX3055H | 347.00 |
| 60  | HBAX1060   | 77.00  | HBAX2060 | 139.00 | — | — | HBAX3060H | 347.00 |
| 70  | HBAX1070   | 124.00 | HBAX2070 | 211.00 | — | — | HBAX3070H | 424.00 |
| 80  | —          | —      | HBAX2080 | 295.00 | — | — | HBAX3080H | 590.00 |
| 90  | —          | —      | HBAX2090 | 295.00 | — | — | HBAX3090H | 590.00 |
| 100 | —          | —      | HBAX2100 | 295.00 | — | — | HBAX3100H | 530.00 |

QUICKLAG Type: HBAW 65,000 Ampere I.C. Thermal-Magnetic Breakers

|    |            |       |          |        |   |   |           |        |
|----|------------|-------|----------|--------|---|---|-----------|--------|
| 15 | HBAW1015 ① | 87.50 | HBAW2015 | 200.00 | — | — | HBAW3015H | 350.00 |
| 20 | HBAW1020 ① | 87.50 | HBAW2020 | 200.00 | — | — | HBAW3020H | 350.00 |
| 25 | HBAW1025   | 87.50 | HBAW2025 | 200.00 | — | — | —         | —      |
| 30 | HBAW1030   | 87.50 | HBAW2030 | 200.00 | — | — | —         | —      |

- ① Switching duty rated for 120V AC fluorescent light applications.  
② For special low-magnetic breaker order BAB1015L1 or BAB1020L1.

## Technical Data and Specifications

Table 11-7. Shipping Data

| Number of Poles | Carton Quantity | Approximate Weight Lbs. (Kg) | Dimensions in Inches (mm)                   | Time/Current Curves |
|-----------------|-----------------|------------------------------|---------------------------------------------|---------------------|
| 1               | 24              | 9.00 (4.1)                   | 12.50 x 7.50 x 5.00 (317.5 x 190.5 x 127.0) | FRED 350077         |
| 2               | 12              | 9.00 (4.1)                   | 12.50 x 7.50 x 5.00 (317.5 x 190.5 x 127.0) | FRED 350177         |
| 3               | 8               | 9.00 (4.1)                   | 12.50 x 7.50 x 5.00 (317.5 x 190.5 x 127.0) | FRED 350277         |

Note: Dimension Sheets — FRED Index 206

Discount Symbol ..... CB-1

## QUICKLAG®

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### Quick Reference

Table 11-1. QUICKLAG Industrial Circuit Breakers ① Plug-In, Bolt-On, Cable-In/Cable-Out

| Circuit Breaker Type | Circuit Breaker Type Code | Continuous Ampere Rating @ 40°C | Number of Poles | Volts   |              | Federal Spec. W-C-375b | Interrupting Ratings rms Symmetrical Amperes |         |        |       |       |       | Page Number |
|----------------------|---------------------------|---------------------------------|-----------------|---------|--------------|------------------------|----------------------------------------------|---------|--------|-------|-------|-------|-------------|
|                      |                           |                                 |                 | AC      | DC           |                        | AC Ratings Volts                             |         |        | DC ②  |       |       |             |
|                      |                           |                                 |                 |         |              |                        | 120                                          | 120/240 | 240    | 24-48 | 62.5  | 80    |             |
| HQP                  | P                         | 10 – 70                         | 1               | 120/240 | 24, 48, 62.5 | 10a, 11a, 12a          | —                                            | 10,000  | —      | 5,000 | ③     | —     | 11-4        |
| HQP                  |                           | 10 – 125                        | 2               | 120/240 | 24, 48, 80   | 10a, 12a               | —                                            | 10,000  | —      | 5,000 | 5,000 | 5,000 | 11-4        |
| HQP                  |                           | 10 – 100                        | 2, 3            | 240     | —            | 10b, 11b, 12b          | —                                            | —       | 10,000 | —     | —     | —     | 11-4        |
| QPHW                 | P                         | 15 – 70                         | 1               | 120/240 | 24, 48, 62.5 | 14a                    | —                                            | 22,000  | —      | 5,000 | ③     | —     | 11-4        |
| QPHW                 |                           | 15 – 125                        | 2               | 120/240 | 24, 48, 80   | 14a                    | —                                            | 22,000  | —      | 5,000 | 5,000 | 5,000 | 11-4        |
| QPHW                 |                           | 15 – 100                        | 2, 3            | 240     | —            | 14b                    | —                                            | —       | 22,000 | —     | —     | —     | 11-4        |
| QHPX                 | P                         | 15 – 70                         | 1               | 120/240 | 24, 48, 62.5 | —                      | —                                            | 42,000  | —      | 5,000 | ③     | —     | 11-4        |
| QHPX                 |                           | 15 – 100                        | 2               | 120/240 | 24, 48, 80   | —                      | —                                            | 42,000  | —      | 5,000 | 5,000 | 5,000 | 11-4        |
| QHPX                 |                           | 15 – 100                        | 3               | 240     | —            | —                      | —                                            | —       | 42,000 | —     | —     | —     | 11-4        |
| QHPW                 | P                         | 15 – 30                         | 1               | 120/240 | 24, 48, 62.5 | 15a                    | —                                            | 65,000  | —      | 5,000 | ③     | —     | 11-4        |
| QHPW                 |                           | 15 – 30                         | 2               | 120/240 | 24, 48, 80   | 15a                    | —                                            | 65,000  | —      | 5,000 | 5,000 | 5,000 | 11-4        |
| QHPW                 |                           | 15 – 20                         | 3               | 240     | —            | 15b                    | —                                            | —       | 65,000 | —     | —     | —     | 11-4        |
| QPGF                 | P, GF                     | 15 – 40                         | 1               | 120     | —            | 10a, 11a, 12a          | 10,000                                       | —       | —      | —     | —     | —     | 11-5        |
| QPGF                 |                           | 15 – 50                         | 2               | 120/240 | —            | 10a, 11a, 12a          | —                                            | 10,000  | —      | —     | —     | —     | 11-5        |
| QPHGF                | P, GF                     | 15 – 30                         | 1               | 120     | —            | 10a, 11a, 12a          | 22,000                                       | —       | —      | —     | —     | —     | 11-5        |
| QPHGF                |                           | 15 – 50                         | 2               | 120/240 | —            | 10a, 11a, 12a          | —                                            | 22,000  | —      | —     | —     | —     | 11-5        |
| QPGFEP               | P, GFEP                   | 15 – 40                         | 1               | 120     | —            | —                      | 10,000                                       | —       | —      | —     | —     | —     | 11-5        |
| QPGFEP               |                           | 15 – 50                         | 2               | 120/240 | —            | —                      | —                                            | 10,000  | —      | —     | —     | —     | 11-5        |
| QPHGFEP              | P, GFEP                   | 15 – 30                         | 1               | 120     | —            | —                      | 22,000                                       | —       | —      | —     | —     | —     | 11-5        |
| QPHGFEP              |                           | 15 – 30                         | 2               | 120/240 | —            | —                      | —                                            | 22,000  | 22,000 | —     | —     | —     | 11-5        |

① QUICKLAG circuit breakers are suitable for application in relative humidity 0 – 95% non-condensating.

② Two-pole DC interrupting ratings based on 2 poles connected in series.

③ 62.5V AC interrupting rating is 3800 AIC 10 – 50 amperes and 2500 AIC 55 – 100 amperes continuous.

Circuit Breaker Type Codes: **P** Plug-In; **B** Bolt-On; **C** Cable-In/Cable-Out; **GF** Ground Fault, 5 mA; **GFEP** Ground Fault, 30 mA.

For Types GHBS, GBHS and BABR Solenoid-Operated, Remote-Controlled Circuit Breakers, see **Pages 11-14 – 11-15**.

For Types WMS and SPHM Supplementary Protectors, see **Pages 11-23 and 11-34**.

**QUICKLAG****Quick Reference****Tables 11-1. QUICKLAG Industrial Circuit Breakers ① Plug-In, Bolt-On, Cable-In/Cable-Out (Continued)**

| Circuit Breaker Type                   | Circuit Breaker Type Code | Continuous Ampere Rating @ 40°C                                | Number of Poles                              | Volts                                                  |                                                                                              | Federal Spec. W-C-375b                     | Interrupting Ratings rms Symmetrical Amperes   |                                                |                            |                                                    |                                                |                            | Page Number                                        |
|----------------------------------------|---------------------------|----------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------|------------------------------------------------|----------------------------|----------------------------------------------------|------------------------------------------------|----------------------------|----------------------------------------------------|
|                                        |                           |                                                                |                                              | AC                                                     | DC                                                                                           |                                            | AC Ratings Volts                               |                                                |                            | DC ②                                               |                                                |                            |                                                    |
|                                        |                           |                                                                |                                              |                                                        |                                                                                              |                                            | 120                                            | 120/240                                        | 240                        | 24-48                                              | 62.5                                           | 80                         |                                                    |
| BAB<br>BAB<br>BAB                      | B                         | 10 – 70<br>10 – 125<br>10 – 100                                | 1<br>2<br>2, 3                               | 120/240<br>120/240<br>240                              | 24, 48, 62.5<br>24, 48, 80<br>—                                                              | 10a, 11a, 12a<br>10a, 12a<br>10b, 11b, 12b | —<br>—<br>—                                    | 10,000<br>10,000<br>—                          | —<br>—<br>10,000           | 5,000<br>5,000<br>—                                | ③<br>5,000<br>—                                | —<br>5,000<br>—            | 11-6<br>11-6<br>11-6                               |
| BABR<br>BABR                           | B                         | 15 – 30<br>15 – 30                                             | 1<br>2                                       | 120<br>120/240                                         | —<br>—                                                                                       | —<br>—                                     | 10,000<br>—                                    | —<br>10,000                                    | —<br>—                     | —<br>—                                             | —<br>—                                         | —<br>—                     | 11-13<br>11-13                                     |
| QBHW<br>QBHW<br>QBHW                   | B                         | 15 – 70<br>15 – 125<br>15 – 100                                | 1<br>2<br>2, 3                               | 120/240<br>120/240<br>240                              | 24, 48, 62.5<br>24, 48, 80<br>—                                                              | 14a<br>14a<br>14b                          | —<br>—<br>—                                    | 22,000<br>22,000<br>—                          | —<br>—<br>22,000           | 5,000<br>5,000<br>—                                | ③<br>5,000<br>—                                | —<br>5,000<br>—            | 11-6<br>11-6<br>11-6                               |
| HBAX<br>HBAX<br>HBAX                   | B                         | 15 – 70<br>15 – 100<br>15 – 100                                | 1<br>2<br>3                                  | 120/240<br>120/240<br>240                              | 24, 48, 62.5<br>24, 48, 80<br>—                                                              | —<br>—<br>—                                | —<br>—<br>—                                    | 42,000<br>42,000<br>—                          | —<br>—<br>42,000           | 5,000<br>5,000<br>—                                | ③<br>5,000<br>—                                | —<br>5,000<br>—            | 11-6<br>11-6<br>11-6                               |
| HBAW<br>HBAW<br>HBAW                   | B                         | 15 – 30<br>15 – 30<br>15 – 20                                  | 1<br>2<br>3                                  | 120/240<br>120/240<br>240                              | 24, 48, 62.5<br>24, 48, 80<br>—                                                              | 15a<br>15a<br>15b                          | —<br>—<br>—                                    | 65,000<br>65,000<br>—                          | —<br>—<br>65,000           | 5,000<br>5,000<br>—                                | ③<br>5,000<br>—                                | —<br>5,000<br>—            | 11-6<br>11-6<br>11-6                               |
| QBGf<br>QBGf                           | B, GF                     | 15 – 40<br>15 – 50                                             | 1<br>2                                       | 120<br>120/240                                         | —<br>—                                                                                       | 10a, 11a, 12a<br>10a, 11a, 12a             | 10,000<br>—                                    | —<br>10,000                                    | —<br>—                     | —<br>—                                             | —<br>—                                         | —<br>—                     | 11-7<br>11-7                                       |
| QBHGf<br>QBHGf                         | B, GF                     | 15 – 30<br>15 – 30                                             | 1<br>2                                       | 120<br>120/240                                         | —<br>—                                                                                       | 10a, 11a, 12a<br>10a, 11a, 12a             | 22,000<br>—                                    | —<br>22,000                                    | —<br>—                     | —<br>—                                             | —<br>—                                         | —<br>—                     | 11-7<br>11-7                                       |
| QBGfEP<br>QBGfEP                       | B, GFEP                   | 15 – 40<br>15 – 50                                             | 1<br>2                                       | 120<br>120/240                                         | —<br>—                                                                                       | —<br>—                                     | 10,000<br>—                                    | —<br>10,000                                    | —<br>—                     | —<br>—                                             | —<br>—                                         | —<br>—                     | 11-7<br>11-7                                       |
| QBHGfEP<br>QBHGfEP                     | B, GFEP                   | 15 – 30<br>15 – 30                                             | 1<br>2                                       | 120<br>120/240                                         | —<br>—                                                                                       | —<br>—                                     | 22,000<br>22,000                               | —<br>22,000                                    | —<br>—                     | —<br>—                                             | —<br>—                                         | —<br>—                     | 11-7<br>11-7                                       |
| QC<br>QC<br>QC                         | C                         | 10 – 70<br>10 – 100<br>10 – 100                                | 1<br>2<br>2, 3, 4                            | 120/240<br>120/240<br>240                              | 24, 48, 62.5<br>24, 48, 80<br>—                                                              | 10a, 11a, 12a<br>10a, 12a<br>10b, 11b, 12b | —<br>—<br>—                                    | 10,000<br>10,000<br>—                          | —<br>—<br>10,000           | 5,000<br>5,000<br>—                                | ③<br>5,000<br>—                                | —<br>5,000<br>—            | 11-9<br>11-9<br>11-9                               |
| QCF<br>QCF<br>QCF<br>QCR<br>QCR<br>QCR | C                         | 10 – 60<br>15 – 20<br>15 – 30<br>10 – 60<br>15 – 20<br>15 – 30 | 1, 2<br>1, 2<br>2, 3<br>1, 2<br>1, 2<br>2, 3 | 120/240<br>120/240<br>240<br>120/240<br>120/240<br>240 | 24, 48, 62.5<br>24, 48, 62.5<br>24, 48, 62.5<br>24, 48, 62.5<br>24, 48, 62.5<br>24, 48, 62.5 | —<br>—<br>—<br>—<br>—<br>—                 | 10,000<br>22,000<br>—<br>10,000<br>22,000<br>— | 10,000<br>—<br>10,000<br>10,000<br>—<br>10,000 | —<br>—<br>—<br>—<br>—<br>— | 3,000<br>3,000<br>3,000<br>3,000<br>3,000<br>3,000 | ③<br>3,000<br>3,000<br>2,000<br>3,000<br>3,000 | —<br>—<br>—<br>—<br>—<br>— | 11-10<br>11-10<br>11-10<br>11-10<br>11-10<br>11-10 |
| QCHW<br>QCHW<br>QCHW                   | C                         | 15 – 70<br>15 – 100<br>15 – 100                                | 1<br>2<br>2, 3                               | 120/240<br>120/240<br>240                              | 24, 48, 62.5<br>24, 48, 80<br>—                                                              | 14a<br>14a<br>14b                          | —<br>—<br>—                                    | 22,000<br>22,000<br>—                          | —<br>—<br>22,000           | 5,000<br>5,000<br>—                                | ③<br>5,000<br>—                                | —<br>5,000<br>—            | 11-9<br>11-9<br>11-9                               |
| QHCX<br>QHCX<br>QHCX                   | C                         | 15 – 70<br>15 – 100<br>15 – 100                                | 1<br>2<br>3                                  | 120/240<br>120/240<br>240                              | 24, 48, 62.5<br>24, 48, 80<br>—                                                              | —<br>—<br>—                                | —<br>—<br>—                                    | 42,000<br>42,000<br>—                          | —<br>—<br>42,000           | 5,000<br>5,000<br>—                                | ③<br>5,000<br>—                                | —<br>5,000<br>—            | 11-9<br>11-9<br>11-9                               |
| QHCW<br>QHCW<br>QHCW                   | C                         | 15 – 30<br>15 – 30<br>15 – 20                                  | 1<br>2<br>3                                  | 120/240<br>120/240<br>240                              | 24, 48, 62.5<br>24, 48, 80<br>—                                                              | 15a<br>15a<br>15b                          | —<br>—<br>—                                    | 65,000<br>65,000<br>—                          | —<br>—<br>65,000           | 5,000<br>5,000<br>—                                | ③<br>5,000<br>—                                | —<br>5,000<br>—            | 11-9<br>11-9<br>11-9                               |
| QCGf<br>QCGf                           | C, GF                     | 15 – 40<br>15 – 50                                             | 1<br>2                                       | 120<br>120/240                                         | —<br>—                                                                                       | —<br>—                                     | 10,000<br>—                                    | —<br>10,000                                    | —<br>—                     | —<br>—                                             | —<br>—                                         | —<br>—                     | 11-13<br>11-13                                     |
| QCHGf<br>QCHGf                         | C, GF                     | 15 – 30<br>15 – 30                                             | 1<br>2                                       | 120<br>120/240                                         | —<br>—                                                                                       | —<br>—                                     | 22,000<br>—                                    | —<br>22,000                                    | —<br>—                     | —<br>—                                             | —<br>—                                         | —<br>—                     | 11-13<br>11-13                                     |
| QCGfEP<br>QCGfEP                       | C, GFEP                   | 15 – 40<br>15 – 50                                             | 1<br>2                                       | 120<br>120/240                                         | —<br>—                                                                                       | —<br>—                                     | 10,000<br>—                                    | —<br>10,000                                    | —<br>—                     | —<br>—                                             | —<br>—                                         | —<br>—                     | 11-13<br>11-13                                     |
| QCHGfEP<br>QCHGfEP                     | C, GFEP                   | 15 – 30<br>15 – 30                                             | 1<br>2                                       | 120<br>120/240                                         | —<br>—                                                                                       | —<br>—                                     | 22,000<br>—                                    | —<br>22,000                                    | —<br>—                     | —<br>—                                             | —<br>—                                         | —<br>—                     | 11-13<br>11-13                                     |

① QUICKLAG circuit breakers are suitable for application in relative humidity 0 – 95% non-condensating.

② Two-pole DC interrupting ratings based on 2 poles connected in series.

③ 62.5V AC interrupting rating is 3800 AIC 10 – 50 amperes and 2500 AIC 55 – 100 amperes continuous.

Circuit Breaker Type Codes: **P** Plug-In; **B** Bolt-On; **C** Cable-In/Cable-Out; **GF** Ground Fault, 5 mA; **GFEP** Ground Fault, 30 mA.For Types GHBS, GBHS and BABR Solenoid-Operated, Remote-Controlled Circuit Breakers, see **Pages 11-14 – 11-15**.For Types WMS and SPHM Supplementary Protectors, see **Pages 11-23 and 11-34**.

## QUICKLAG — Factory Modifications and Installed Terminals

### Factory Modifications and Installed Terminals

Table 11-29. Factory Modifications ①

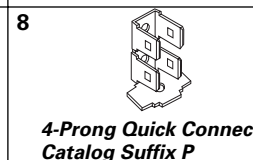
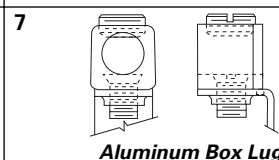
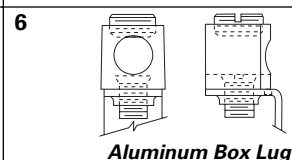
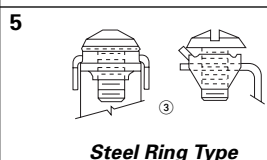
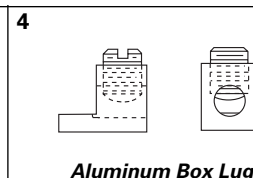
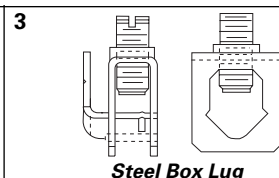
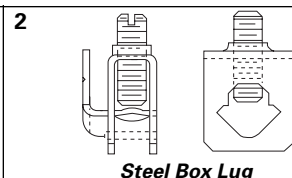
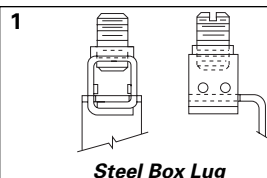
| Type of Modification                                                                                                                          | Breaker Types                                                                                                                                   | Catalog Suffix                                                         | Adder U.S. \$                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------|
| Shunt Trip (Requires 1 extra pole space on right side)<br>120, 208, 240V AC<br>12, 24, 48V AC/DC<br>Draws 2.6A at 120V<br>Draws 11A at 24V DC | QUICKLAG Types P, B and C<br>QUICKLAG Types P, B and C                                                                                          | <b>S</b><br><b>S1</b>                                                  | 138.00                            |
| Special Calibration (50°C)<br>Shock Testing<br>Freeze Testing                                                                                 | QUICKLAG Types P, B and C<br>QUICKLAG Types P, B and C<br>QUICKLAG Types P, B and C                                                             | <b>V</b><br><b>L</b><br><b>Y</b>                                       | 20%<br>30%<br>30%                 |
| Moisture-Fungus Treatment<br>Marine Duty<br>Naval Duty<br>400 Hz Calibration<br>Specific DC Ratings (Breaker marked with a Max VDC rating)    | QUICKLAG Types P, B, C and Ground Fault<br>QUICKLAG Types P, B, C<br>QUICKLAG Types P, B, C<br>QUICKLAG Types P, B, C<br>QUICKLAG Types P, B, C | <b>F</b><br><b>H08</b><br><b>H09</b><br><b>G</b><br><b>Q thru Q9</b> ② | 15.00<br>10%<br>10%<br>20%<br>20% |

① Contact Cutler-Hammer for factory modifications available for QCR and QCF breakers.

② Q = 32V DC; Q1 = 32 – 40V DC; Q2 = 37.5V DC; Q3 = 45V DC; Q4 = 48V DC; Q5 = 50V DC; Q6 = 62V DC; Q7 = 75V DC (2P); Q8 = 80V DC (2P); Q9 = 125V DC (QCR 2P)

Table 11-30. Factory Installed Breaker Terminals

| Breaker Type                                          | Continuous Ampere Rating          | Standard Line Terminal                             |                         |                               | Standard Load Terminal               |                         |                              | Optional Terminals (20% List Price Adder) |                                  |
|-------------------------------------------------------|-----------------------------------|----------------------------------------------------|-------------------------|-------------------------------|--------------------------------------|-------------------------|------------------------------|-------------------------------------------|----------------------------------|
|                                                       |                                   | Term Type                                          | Wire Type               | Wire Range (AWG)              | Term Type                            | Wire Type               | Wire Range (AWG)             | Line                                      | Load                             |
| QUICKLAG Type P<br>HQP, QPHW, QHPX, QHPW              | 10 to 30<br>35 to 50<br>55 to 125 | Plug-on female clips which mate with the bus stabs |                         |                               | 1<br>2<br>3                          | Cu/Al<br>Cu/Al<br>Cu/Al | 14 – 4<br>14 – 4<br>8 – 1/0  | N/A                                       | 3<br>3<br>—                      |
| QUICKLAG Ground Fault<br>QPGF, QPHGF, QPGFEP, QPHGFEP | 10 to 30<br>40                    | Plug-on female clips which mate with the bus stabs |                         |                               | 1 (1-pole)<br>4 (2-pole)<br>4        | Cu/Al<br>Cu/Al<br>Cu    | 14 – 4<br>14 – 8<br>14 – 8   | N/A                                       | 3<br>3<br>—                      |
| QUICKLAG Type B<br>BAB, QBHW, HBAX, HBAW              | 10 to 30<br>35 to 50<br>55 to 125 | Extended tangs which bolt directly to the bus      |                         |                               | 1 (1- and 2-pole)<br>2 (3-pole)<br>3 | Cu/Al<br>Cu/Al<br>Cu/Al | 14 – 4<br>14 – 4<br>8 – 1/0  | N/A                                       | 3<br>3<br>—                      |
| QUICKLAG Ground Fault<br>QBGF, QBHGF, QBGFEP, QBHGFEP | 10 to 30<br>40                    | Extended tangs which bolt directly to the bus      |                         |                               | 1 (1-pole)<br>4 (2-pole)<br>4        | Cu/Al<br>Cu/Al<br>Cu    | 14 – 4<br>14 – 8<br>14 – 8   | N/A                                       | N/A                              |
| QUICKLAG Type C<br>QC, QCHW, QHCX, QHCW               | 10 to 20<br>25 to 60<br>70 to 100 | 5<br>6<br>7                                        | Cu/Al<br>Cu/Al<br>Cu/Al | 14 – 10<br>14 – 10<br>14 – 10 | 5<br>2<br>3                          | Cu/Al<br>Cu/Al<br>Cu/Al | 14 – 10<br>14 – 4<br>8 – 1/0 | 6, 7<br>5, 7<br>5                         | 6, 7, 8<br>5, 6, 7, 8<br>5, 7, 8 |
| QUICKLAG<br>QCR, QCF                                  | 10 to 55<br>60                    | 1<br>1                                             | Cu/Al<br>Cu             | 14 – 4<br>14 – 4              | 1<br>1                               | Cu/Al<br>Cu             | 14 – 4<br>14 – 4             | N/A                                       | N/A                              |
| QUICKLAG Ground Fault<br>QCGF, QCHGF, QCGFEP, QCHGFEP | 10 to 20<br>25 to 50              | 5<br>6                                             | Cu/Al<br>Cu/Al          | 14 – 10<br>14 – 10            | 1<br>1                               | Cu/Al<br>Cu/Al          | 14 – 4<br>14 – 4             | 6, 7<br>5, 7                              | 5<br>5                           |



③ Clamp on line side only.

Table 11-31. Spare Terminal Hardware Screws (Lugs not Included)

| Terminal Type | Description                                    | Order in Multiples of | Catalog Number | Price U.S. \$ |
|---------------|------------------------------------------------|-----------------------|----------------|---------------|
| 1             | QUICKLAG Terminal Screw                        | 10                    | QLD TSA        | .21           |
| 2             | QUICKLAG Terminal Screw                        | 10                    | QLD TSB        | .21           |
| 3             | QUICKLAG Terminal Screw                        | 10                    | QLD TSC        | 2.80          |
| 5             | QUICKLAG Binding Head Terminal Screw and Clamp | 10                    | QLB HTSE       | 2.80          |
| 6 and 7       | QUICKLAG Terminal Screw                        | 10                    | QLL NTSFG      | 2.80          |

Discount Symbol ..... **CB-1**