

Series C® K-Frame



Typical Series C K-Frame Circuit Breaker

- All Series C K-frame Circuit Breakers are HACR rated.
- K-frame circuit breakers are available as individual components (Frame, Trip Unit, Terminals), or factory assembled complete breakers. OPTIM circuit breakers are available as factory assembled only.
- K-frame circuit breakers with non-interchangeable trip units are suitable for reverse feed use.

Interrupting Capacity Ratings

NEMA/UL489/CSA Interrupting Capacity Ratings

| Circuit Breaker Type | Number of Poles | Interrupting Capacity (Symmetrical Amperes) (kA) | | | | | Page Number |
|----------------------|-----------------|--|-----|-----|-----|----------|-------------|
| | | Volts Ac (50/60Hz) | | | | Volts Dc | |
| | | 240 | 277 | 480 | 600 | | |
| DK | 2, 3 | 65 | — | — | — | 10 | 47 |
| KDB | 2, 3, 4 | 65 | — | 35 | 25 | 10 | 47 |
| KD | 2, 3, 4 | 65 | — | 35 | 25 | 10 | 45, 46, 49 |
| HKD | 2, 3, 4 | 100 | — | 65 | 35 | 22 | 45, 46, 49 |
| KDC | 2, 3, 4 | 200 | — | 100 | 50 | 22 | 45, 46, 49 |
| CKD | 3 | 65 | — | 35 | 25 | 10 | 48, 50 |
| CHKD | 3 | 100 | — | 65 | 35 | 22 | 48, 50 |

IEC 157-1 (P1) Interrupting Capacity Ratings

| Circuit Breaker Type | Number of Poles | Interrupting Capacity (Symmetrical Amperes) (kA) | | | | | | Page Number |
|----------------------|-----------------|--|-----|-----|-----|-----|-----|-------------|
| | | Volts Ac (50/60Hz) | | | | | | |
| | | 240 | 380 | 415 | 440 | 500 | 600 | |
| DK | 2, 3 | 65 | — | — | — | — | 10 | 47 |
| KDB | 2, 3, 4 | 65 | 40 | 40 | — | — | 10 | 47 |
| KD | 2, 3, 4 | 65 | 40 | 40 | — | — | 10 | 45, 46, 49 |
| HKD | 2, 3, 4 | 100 | 65 | 65 | — | — | 22 | 45, 46, 49 |
| KDC | 2, 3, 4 | 200 | 100 | 100 | — | — | 22 | 45, 46, 49 |

① Weights shown are for thermal magnetic trip units. 3-pole electronic trip units weigh 2.5 lbs. (1.134 kg).
 ② 2-pole circuit breaker or two outside poles of 3-pole circuit breaker.
 ③ Time constant is 3 milliseconds minimum at 10 kA and 8 milliseconds minimum at 22 kA.

Series C® K-Frame

Types DK and KDB Thermal-Magnetic Circuit Breakers with Non-Interchangeable Trip Units

| | | | |
|---|---------------------------------|--------------------------|--|
| Maximum Continuous Ampere Rating @ 40°C | 240 Vac Rated, 250 Vdc | | |
| | Complete Circuit Breaker | | |
| | Without Line and Load Terminals | With Line Terminals Only | With Standard Line and Load Terminals Only |
| | Catalog Number | | |

2-Pole

| | | | |
|-----|---------|---------|--------|
| 100 | - | - | - |
| 125 | - | - | - |
| 150 | - | - | - |
| 175 | - | - | - |
| 200 | - | - | - |
| 225 | - | - | - |
| 250 | DK2250W | DK2250Y | DK2250 |
| 300 | DK2300W | DK2300Y | DK2300 |
| 350 | DK2350W | DK2350Y | DK2350 |
| 400 | DK2400W | DK2400Y | DK2400 |

3-Pole

| | | | |
|-----|---------|---------|--------|
| 100 | - | - | - |
| 125 | - | - | - |
| 150 | - | - | - |
| 175 | - | - | - |
| 200 | - | - | - |
| 225 | - | - | - |
| 250 | DK3250W | DK3250Y | DK3250 |
| 300 | DK3300W | DK3300Y | DK3300 |
| 350 | DK3350W | DK3350Y | DK3350 |
| 400 | DK3400W | DK3400Y | DK3400 |

| | | |
|---|---------------------------------|---------------------------------------|
| Maximum Continuous Ampere Rating @ 40°C | 600 Vac Rated, 250 Vdc | |
| | Complete Circuit Breaker | |
| | Without Line and Load Terminals | With Standard Line and Load Terminals |
| | Catalog Number | |

2-Pole

| | | |
|-----|----------|---------|
| 100 | KDB2100W | KDB2100 |
| 125 | KDB2125W | KDB2125 |
| 150 | KDB2150W | KDB2150 |
| 175 | KDB2175W | KDB2175 |
| 200 | KDB2200W | KDB2200 |
| 225 | KDB2225W | KDB2225 |
| 250 | KDB2250W | KDB2250 |
| 300 | KDB2300W | KDB2300 |
| 350 | KDB2350W | KDB2350 |
| 400 | KDB2400W | KDB2400 |

3-Pole

| | | |
|-----|----------|---------|
| 100 | KDB3100W | KDB3100 |
| 125 | KDB3125W | KDB3125 |
| 150 | KDB3150W | KDB3150 |
| 175 | KDB3175W | KDB3175 |
| 200 | KDB3200W | KDB3200 |
| 225 | KDB3225W | KDB3225 |
| 250 | KDB3250W | KDB3250 |
| 300 | KDB3300W | KDB3300 |
| 350 | KDB3350W | KDB3350 |
| 400 | KDB3400W | KDB3400 |



Instruction Leaflet/FRED Number 29C104

Molded Case Switches

Molded case switches are used as compact switches in applications requiring high current switching capabilities. Molded case switches are constructed of circuit breaker components and are of the high instantaneous automatic type. Molded case switches are listed in accordance with Underwriters Laboratories, Inc., Standard UL 1087.

| | | | |
|---|--|--|---|
| Maximum Continuous Ampere Rating @ 40°C | 240 Vac Maximum, 250 Vdc | 600 Vac Maximum, 250 Vdc | 600 Vac Maximum, 250 Vdc |
| | Complete Circuit Breaker with Standard Line and Load Terminals | Complete Circuit Breaker with Standard Line and Load Terminals | Complete Circuit Breaker with Standard Line and Load Terminals. Suitable for Reverse Feed Use |
| | Catalog Number | | |

2-Pole

| | | | |
|-----|---------|---------|----------|
| 400 | DK2400K | KD2400K | KDB2400K |
|-----|---------|---------|----------|

3-Pole

| | | | |
|-----|---------|---------|----------|
| 400 | DK3400K | KD3400K | KDB3400K |
|-----|---------|---------|----------|

4-Pole

| | | | |
|-----|---|---------|---|
| 400 | - | KD4400K | - |
|-----|---|---------|---|

Note: Molded case switches may open above 4000 amperes.

Instruction Leaflet/FRED Number 29C104

Series C® K-Frame

Line and Load Terminals

Line and load terminals provide wire connecting capabilities for specific ranges of continuous current ratings and wire types. All terminals comply with Underwriters Laboratories, Inc., Standards UL486A and UL486B

and CSA Standard C22.2 No. 65, or Electrical Bulletin 1165. Unless otherwise specified, K-frame circuit breaker line and load terminals are shipped separately for field installation.

Ordering Information

K-frame circuit breakers use Cu/Al terminals as standard. When optional copper or Cu/Al terminals are required, order by catalog number. Specify if factory installation is required.

Line and Load Terminals

| Maximum Breaker Amperes | Terminal Body Material | Wire Type | AWG Wire Range/ No. Conductors | Metric Wire Range mm ² | Terminal Catalog Number | Figure | Terminals with Control Wire Termination Catalog Number | Figure |
|--|------------------------|-----------|-----------------------------------|-----------------------------------|-------------------------|--------|--|--------|
| Standard Cu/Al Pressure Terminals | | | | | | | | |
| 225 | Aluminum | Cu/Al | 3-350/(1) | 35-185 | TA300K ^① | 4 | — | — |
| 350 | Aluminum | Cu/Al | 250-500/(1) | 120-240 | TA350K ^① | 3 | — | — |
| 400 | Aluminum | Cu/Al | 3/0-250/(2) | 95-120 | 2TA400K ^④ | 2 | 2TA400KCW ^④ | 5 |
| | | | | | 3TA400K ^⑤ | 2 | 3TA400KCW ^⑤ | 5 |
| | | | | | 4TA400K ^⑥ | 2 | 4TA400KCW ^⑥ | 5 |

Optional Copper and Cu/Al Pressure Type Terminals

| | | | | | | | | |
|-----|----------|-------|-------------|---------|----------------------|---|------------------------|---|
| 225 | Copper | Cu | 3-350/(1) | 35-185 | T300K ^① | 4 | — | — |
| 350 | Copper | Cu | 250-500/(1) | 120-240 | T350K ^① | 3 | — | — |
| 400 | Copper | Cu | 3/0-250/(2) | 95-120 | 2T400K ^④ | 2 | 2T400KCW ^④ | 5 |
| | | | | | 3T400K ^⑤ | 2 | 3T400KCW ^⑤ | 5 |
| | | | | | 4T400K ^⑥ | 2 | 4T400KCW ^⑥ | 5 |
| 400 | Aluminum | Cu/Al | 2/0-250/(2) | 70-120 | 2TA401K ^④ | 1 | 2TA401KCW ^④ | 5 |
| | | | or | 70-240 | 3TA401K ^⑤ | 1 | 3TA401KCW ^⑤ | 5 |
| | | | 2/0-500/(1) | 70-240 | 4TA401K ^⑥ | 1 | 4TA401KCW ^⑥ | 5 |
| 400 | Aluminum | Cu/Al | 500-750/(1) | 300-400 | TA402K | 6 | — | — |



Figure 1. TA401K

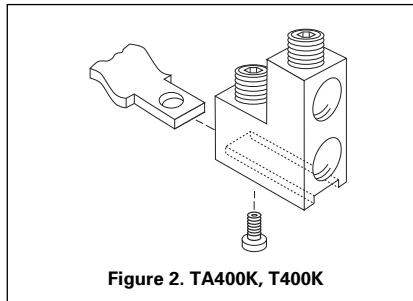


Figure 2. TA400K, T400K

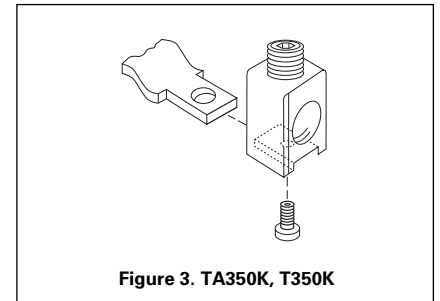


Figure 3. TA350K, T350K

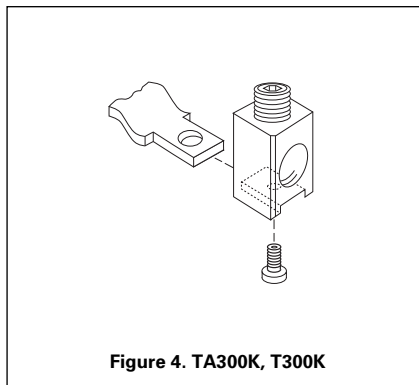


Figure 4. TA300K, T300K

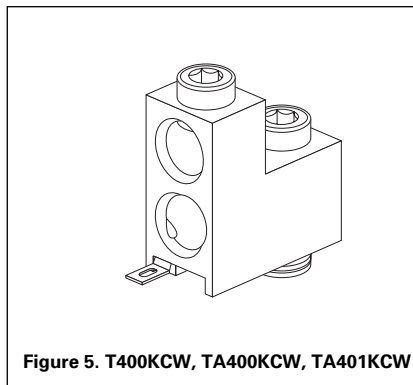


Figure 5. T400KCW, TA400KCW, TA401KCW

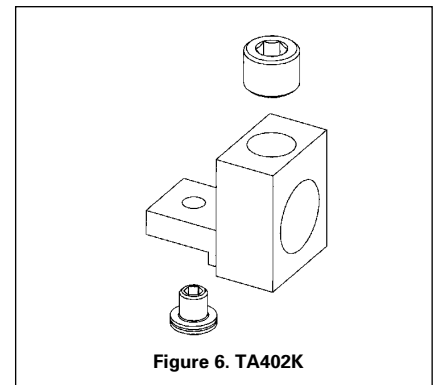


Figure 6. TA402K

See page 53 for other termination accessories.

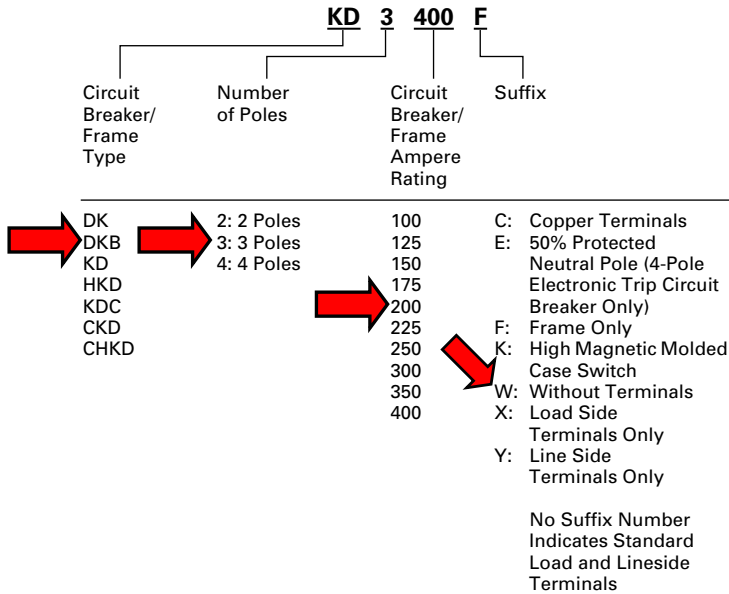
- ① Individually packed.
- ② Terminal kits contain one terminal for each pole and one terminal cover.
- ③ Terminal kits contain one terminal for each pole and three interphase barriers.

- ④ 2-Pole Kit.
- ⑤ 3-Pole Kit.
- ⑥ 4-Pole Kit.

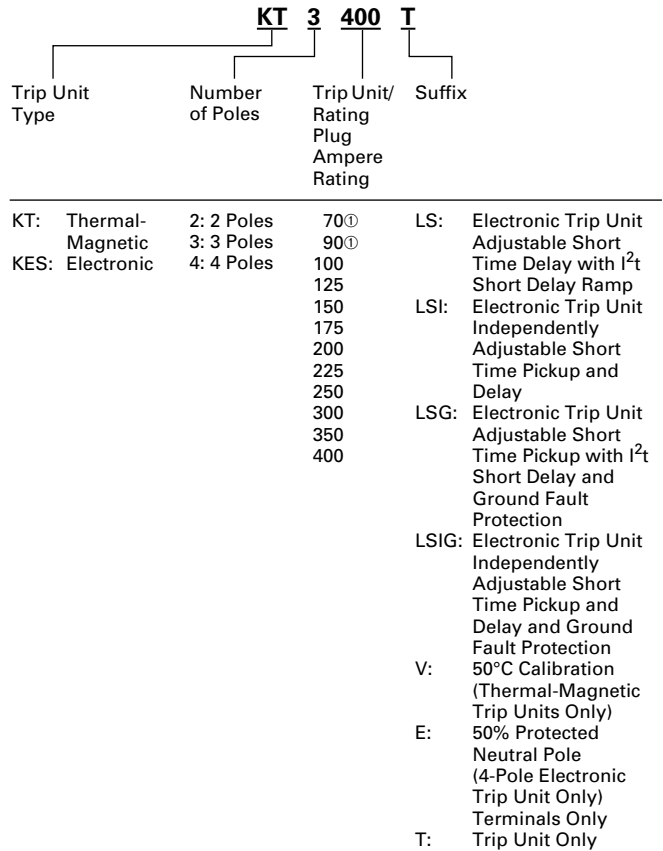
Catalog Numbering System

This information is presented only as an aid to understanding catalog numbers. It is not to be used to build catalog numbers for circuit breakers or trip units.

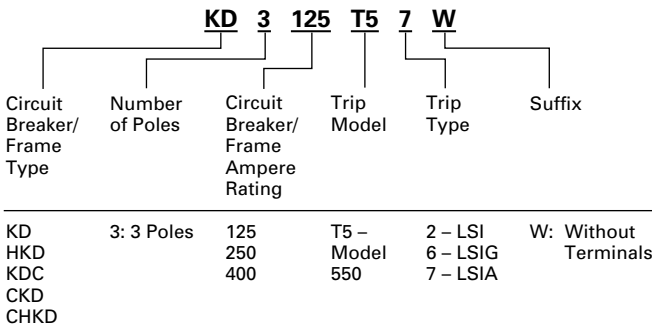
Circuit Breaker/Frame Catalog Number



Trip Unit Catalog Number



OPTIM Circuit Breaker/Frame Catalog Number



Dimensions/Weights

Dimensions, Inches (mm)

| Number of Poles | Width | Height | Depth |
|-----------------|-------------|--------------|-------------|
| 2, 3 | 5.5 (140) | 10.125 (257) | 4.063 (103) |
| 4 | 7.219 (183) | 10.125 (257) | 4.063 (103) |

Approximate Shipping Weight, Lbs. (kg)

| Breaker Type | Complete Breaker | | Frame Only | | Trip Unit① | |
|--------------|------------------|--------------|-------------|-------------|------------|------------|
| | Number of Poles | | | | | |
| | 2 | 3 | 2 | 3 | 2 | 3 |
| DK | 10 (4.536) | 11.5 (5.216) | – | – | – | – |
| KDB | 10 (4.536) | 11.5 (5.216) | – | – | – | – |
| KD | 10 (4.536) | 11.5 (5.216) | 7.5 (3.402) | 8.5 (3.856) | 1.5 (.680) | 1.5 (.680) |
| HKD | 10 (4.536) | 11.5 (5.216) | 7.5 (3.402) | 8.5 (3.856) | 1.5 (.680) | 1.5 (.680) |
| KDC | 10 (4.536) | 11.5 (5.216) | 7.5 (3.402) | 8.5 (3.856) | 1.5 (.680) | 1.5 (.680) |

① Ampere rating available with electronic trip unit only.

Allowable Accessory Combinations

Different combinations of accessories can be supplied, depending on the types of accessories and the number of poles in the circuit breaker.

| | Reference Page | 2-Pole ^① | | 3-Pole | | | 4-Pole | | | |
|--|----------------|---------------------|-------|--------|--------|-------|--------|--------|-------|------|
| | | Left | Right | Left | Center | Right | Left | Center | Right | Neu. |
| Internal Accessories (Only One Internal Accessory Per Pole) | | | | | | | | | | |
| Alarm Lockout (Make/Break) | 140 | | ■ | □ | | □ | | ■ | | |
| Alarm Lockout (2Make/2Break) | 140 | | | □ | | □ | | ■ | | |
| Auxiliary Switch (1A, 1B) | 143 | | ■ | ■ | | ■ | | ■ | | ■ |
| Auxiliary Switch (2A, 2B) | 143 | | | ■ | | ■ | | ■ | | ■ |
| Auxiliary Switch (3A, 3B) | 143 | | | ■ | | ■ | | ■ | | ■ |
| Auxiliary Switch and Alarm Switch Combination | 145 | | | □ | | □ | | □ | | □ |
| Shunt Trip – Standard | 149 | | ■ | ■ | | ■ | | ■ | | ■ |
| Shunt Trip – Low Energy | 152 | | | ■ | | ■ | | ■ | | |
| Undervoltage Release Mechanism | 156 | | ■ | ■ | | ■ | | ■ | | |
| Cutler-Hammer PowerNet Communications Kit (OPTIM 550) | 160 | | | | | ■ | | | | |

External Accessories

| | | | | | | | | | | |
|--|-----|---|---|---|--|---|--|---|---|---|
| End Cap Kit | 161 | | ● | | | ● | | | | ● |
| Keeper Nut | 161 | | ● | | | ● | | | | ● |
| Control Wire Terminal Kit | 162 | | ● | | | ● | | | | ● |
| Multewire Connectors | 162 | | ● | | | ● | | | | ● |
| Base Mounting Hardware | 163 | | ● | | | ● | | | | ● |
| Terminal Shields | 165 | | ● | | | ● | | | | ● |
| Interphase Barriers | 166 | | ● | | | ● | | | | ● |
| Non-Padlockable Handle Block | 168 | ■ | | | | ■ | | | ■ | |
| Padlockable Handle Block | 168 | | | | | ■ | | | | |
| Padlockable Handle Lock Hasp | 169 | | ■ | □ | | □ | | □ | | □ |
| Cylinder Lock | 169 | □ | □ | □ | | □ | | | | |
| Key Interlock Kit | 170 | ■ | □ | □ | | □ | | □ | | □ |
| Sliding Bar Interlock – Requires Two Breakers | 171 | | | | | ● | | | | |
| Walking Beam Interlock – Requires Two Breakers | 171 | | | | | ● | | | | ● |
| Electrical (Solenoid) Operator | 172 | | | | | ● | | | | ● |
| Plug-in Adapters | 174 | | ● | | | ● | | | | ● |
| Rear Connecting Studs | 176 | | ● | | | ● | | | | ● |
| Panelboard Connecting Straps | 177 | | ● | | | ● | | | | ● |
| Handle Mechanisms | 178 | | ● | | | ● | | | | ● |
| Door Hardware/Accessories | 182 | | ● | | | ● | | | | ● |
| Handle Extension | 182 | | ● | | | ● | | | | ● |
| IQ Energy Sentinel | 184 | | | | | ● | | | | ● |
| Solid-State (Electronic) Portable Test Kit | 184 | | ● | | | ● | | | | ● |

OPTIM System Components 3-Poles

| | | | | | | | | | | |
|---------------------------------|-----|--|--|--|--|--|--|--|--|--|
| Breaker Interface Module (BIM) | 185 | | | | | | | | | |
| Digitrip OPTImizer | 185 | | | | | | | | | |
| Auxiliary Power Module | 185 | | | | | | | | | |
| Cutler-Hammer PowerNet Software | 185 | | | | | | | | | |

Modifications (Refer to Cutler-Hammer)

| | | | | | | | | | | |
|--------------------------------|-----|--|---|--|--|---|--|--|--|---|
| Special Calibration | 186 | | ● | | | ● | | | | ● |
| Moisture Fungus Treatment | 186 | | ● | | | ● | | | | ● |
| Freeze-Tested Circuit Breakers | 186 | | ● | | | ● | | | | ● |
| Marine Application | 186 | | ● | | | ● | | | | ● |

■ Applicable in indicated pole position

□ May be mounted on left or right pole – not both

● Accessory available/Modification available

① 2-pole breaker supplied in 3-pole frame. Current carrying parts omitted from center pole.



AB DE-ION Circuit Breakers

Types KDB, KD, HKD Equipped with Type KT Thermal-Magnetic Trip Unit

