

Class 9852 Back Connected Knife Switches Type L With Bus Bar Laminations For Terminations

ORDERING INFORMATION REQUIRED

1. Class, Type Number, and Part Letters (if any) of Switch.
2. Voltage and Ampere Rating.
3. Special direction of laminations of the terminal studs, if other than all horizontal.
4. If special features other than listed in Section L4 of the Price List are desired, order as Class 9852 similar to Type _____, Part # _____, except _____ (clearly describe special feature).

SECTION C

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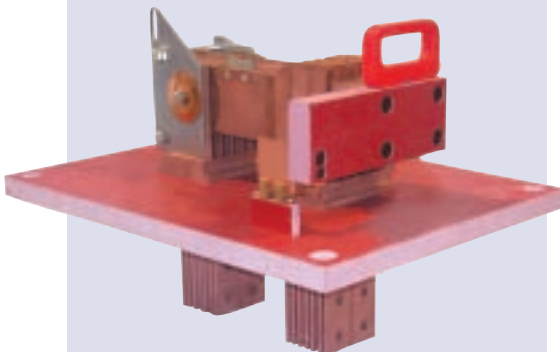
**TYPE L BACK-CONNECTED KNIFE SWITCHES
NON-LOAD BREAK**

L-9355

4000 Ampere, One Pole,
Double-Throw Switch, With
Padlocking Attachment

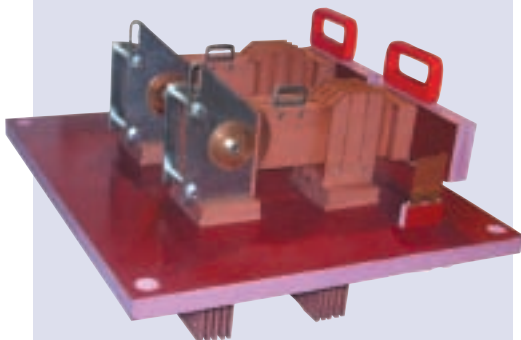


4000 Ampere, Single Pole, Single-Throw
With Padlocking Attachment 90° Stops &
Knife Type auxiliary Switch



Special Design Switch

4000 Ampere, 1500 V,
Two Pole, Single Throw
Switch, Padlocking Feature.



Type L Back-Connected Knife Switches

Type L Laminated Stud Switches are made in capacities of 800 ampere and larger, and are designed as isolation or disconnect switches. Designed for heavy-duty service on switchboards or individual panels, these switches comply with all requirements of the National Electric Code. auxiliary switches can be supplied if required.

For factory mounting on GPO-3 or other insulating panels, prices will be quoted on receipt of panel sizes and full information. Switches available 800 ampere through 6000 ampere on Standard design. Special designs available.

Polarity Reversing Switches

Another version of the Type L Knife Switch is the Polarity Reversing Switch. As shown in the illustration, this switch is two-pole, double throw. The cross-connections are used to provide the reversing action, and are made of copper bus mounted on the back of the switch. Back connections are made to horizontal laminated studs.

Due to the compactness of the switch, the terminals are available only in the horizontal direction. Standard designs for low voltage, while special designs available in higher voltages.

SPARE PARTS

Spare parts are available for all knife switches and fuse clips. Accessories are also available for adding to knife switches.

SPECIAL SWITCHES

Special designs are available. We may already have a design for what you require, if not our engineering department will investigate and inform you if we can build it. Please contact Filnor directly for your special switch requirements.

Standard Knife Switches are designed to Underwriters Laboratories Standard U.L. 363 and are listed as

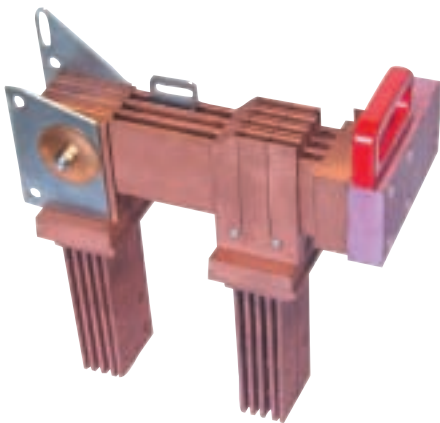


Listed
698R
Knife
Switch

TYPE L BACK-CONNECTED KNIFE SWITCHES Single-Throw, Not Fusible, NON-LOAD BREAK

L-8155 P2E

4000 Ampere, One Pole, Single-Throw Switch, With Padlocking Attachment and Spade Handle



800 and 1200 Ampere 1 1/4"
1600 - 3000 Ampere 1 1/2"
4000 - 6000 Ampere 2"

Type L Laminated Stud Switches are made in capacities of 800 ampere and larger, and are designed as isolation or disconnect switches. Designed for heavy-duty service on switchboards or individual panels, these switches comply with all requirements of the National Electric Code.

Ampere ratings are based on a temperature rise of not over 30° C above an ambient of 40° C. Current carrying parts of rugged milled construction are made from hard drawn copper of 98% conductivity. Hinge clips and stud leaves are solidly pinned and soldered into slots milled in the base blocks.

All Type L switches are furnished unmounted as standard, but are shipped on throw away bases with all contacts fitted. When mounting on permanent panels, the parts must be carefully aligned to secure best performance. For factory mounting on GPO-3 or other insulating panels, prices will be quoted on receipt of panel sizes and full information.

Horizontal laminations of the studs are furnished as standard on the switches listed on this page. Direction of laminations can be furnished all vertical or part vertical and part horizontal to suit

customers' bus or cable arrangements. Assuming the switch to be mounted with the blades vertical, the direction of the laminated terminals must be specified for both single and double-throw switches, if other than all horizontal.

The customer's bus structure must be designed with adequate capacity to prevent feeding heat into the switch. On AC bus allowance must be made for skin effect, inductive heating and magnetic effects on nearby ferrous metal parts. When mounting in enclosures, adequate ventilation must be provided.

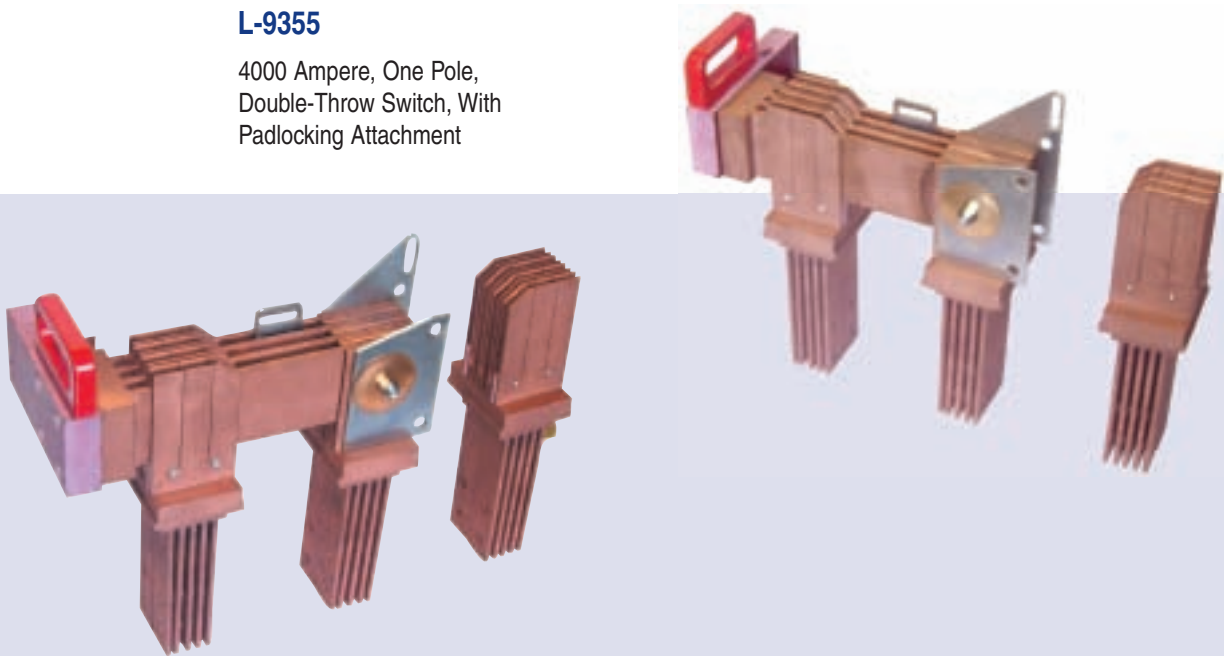
Switches listed below are manufactured to be mounted on customers' panel of the following thickness.

| Ampere Rating | | One Pole | | | Two Pole | | | Three Pole | | |
|---|------|----------|--------|------------------------------|----------|--------|------------------------------|------------|--------|------------------------------|
| DC | AC | Type | Weight | Drawing | Type | Weight | Drawing | Type | Weight | Drawing |
| 250 VOLT DC & 480 VOLT AC SINGLE-THROW | | | | | | | | | | |
| 800 | 800 | L-8317 | 10 | Refer to Section E Figure 20 | L-8327 | 21 | Refer to Section E Figure 20 | L-8337 | 32 | Refer to Section E Figure 20 |
| 1200 | 1200 | L-8319 | 15 | | L-8329 | 32 | | L-8339 | 48 | |
| 1600 | 1600 | L-8151 | 22 | | L-8161 | 43 | | L-8171 | 63 | |
| 2000 | 1900 | L-8152 | 35 | | L-8162 | 67 | | L-8172 | 92 | |
| 2500 | 2300 | L-8153 | 64 | | L-8163 | 105 | | L-8173 | 160 | |
| 3000 | 2700 | L-8154 | 68 | | L-8164 | 115 | | L-8174 | 180 | |
| 4000 | 3000 | L-8155 | 86 | | L-8165 | 142 | | L-8175 | 210 | |
| 5000 | - | L-8156 | 99 | | L-8166 | 198 | | L-8176 | 250 | |
| 6000 | - | L-8157 | 115 | | L-8167 | 230 | | L-8177 | 340 | |
| 600 VOLT DC & AC SINGLE-THROW | | | | | | | | | | |
| 800 | 800 | L-8358 | 11 | Refer to Section E Figure 20 | L-8368 | 23 | Refer to Section E Figure 20 | L-8378 | 35 | Refer to Section E Figure 20 |
| 1200 | 1200 | L-8359 | 16 | | L-8369 | 34 | | L-8379 | 52 | |
| 1600 | 1600 | L-8351 | 23 | | L-8361 | 47 | | L-8371 | 71 | |
| 2000 | 1900 | L-8352 | 37 | | L-8362 | 76 | | L-8372 | 115 | |
| 2500 | 2300 | L-8353 | 66 | | L-8363 | 134 | | L-8373 | 202 | |
| 3000 | 2700 | L-8354 | 70 | | L-8364 | 142 | | L-8374 | 214 | |
| 4000 | 3000 | L-8355 | 89 | | L-8365 | 180 | | L-8375 | 271 | |
| 5000 | - | L-8356 | 103 | | L-8366 | 208 | | L-8376 | 313 | |
| 6000 | - | L-8357 | 120 | | L-8367 | 242 | | L-8377 | 362 | |

TYPE L BACK-CONNECTED KNIFE SWITCHES
Double-Throw, Not Fusible, NON-LOAD BREAK

L-9355

4000 Ampere, One Pole,
 Double-Throw Switch, With
 Padlocking Attachment



| Ampere Rating | | One Pole | | | Two Pole | | | Three Pole | | |
|---|------|----------|--------|---------------------------------|----------|--------|---------------------------------|------------|--------|---------------------------------|
| DC | AC | Type | Weight | Drawing | Type | Weight | Drawing | Type | Weight | Drawing |
| 250 VOLT DC & 480 VOLT AC DOUBLE-THROW | | | | | | | | | | |
| 800 | 800 | L-9317 | 14 | Refer to Section E Figure 20 | L-9327 | 29 | Refer to Section E Figure 20 | L-9337 | 45 | Refer to Section E Figure 20 |
| 1200 | 1200 | L-9319 | 22 | | L-9329 | 46 | | L-9339 | 70 | |
| 1600 | 1600 | L-9151 | 34 | | L-9161 | 80 | | L-9171 | 96 | |
| 2000 | 1900 | L-9152 | 53 | | L-9162 | 110 | | L-9172 | 140 | |
| 2500 | 2300 | L-9153 | 90 | | L-9163 | 170 | | L-9173 | 240 | |
| 3000 | 2700 | L-9154 | 98 | | L-9164 | 188 | | L-9174 | 265 | |
| 4000 | 3000 | L-9155 | 120 | | L-9165 | 216 | | L-9175 | 300 | |
| 5000 | - | L-9156 | 150 | | L-9166 | 280 | | L-9176 | 360 | |
| 6000 | - | L-9157 | 172 | | L-9167 | 345 | | L-9177 | 520 | |
| 600 VOLT DC & AC DOUBLE-THROW | | | | | | | | | | |
| 800 | 800 | L-9318 | 15 | Refer to Section E Figure 20 | L-9328 | 31 | Refer to Section E Figure 20 | L-9338 | 48 | Refer to Section E Figure 20 |
| 1200 | 1200 | L-9320 | 23 | | L-9330 | 48 | | L-9340 | 74 | |
| 1600 | 1600 | L-9351 | 35 | | L-9361 | 72 | | L-9371 | 107 | |
| 2000 | 1900 | L-9352 | 55 | | L-9362 | 114 | | L-9372 | 167 | |
| 2500 | 2300 | L-9353 | 92 | | L-9363 | 175 | | L-9373 | 280 | |
| 3000 | 2700 | L-9354 | 100 | | L-9364 | 193 | | L-9374 | 302 | |
| 4000 | 3000 | L-9355 | 123 | | L-9365 | 248 | | L-9375 | 371 | |
| 5000 | - | L-9356 | 154 | | L-9366 | 310 | | L-9376 | 466 | |
| 6000 | - | L-9357 | 177 | | L-9367 | 365 | | L-9377 | 536 | |

TYPE L BACK-CONNECTED KNIFE SWITCHES NON-LOAD BREAK

L-2165

1600 Ampere, Two Pole,
Polarity Reversing Switch



Polarity Reversing Switches

Another version of the Type L Knife switch is the polarity reversing switch. As shown in the image to the left, the switch is two pole, double-throw. The cross connections used to give the reversing action are made of copper bus mounted on the back of the switch.

Back connections are made to horizontal laminated studs. Due to the compactness of the switch, the terminals are available only in the horizontal direction.

| Ampere Rating | Type | Base Size (HxW) |
|---------------|--------|------------------|
| 800 | L-2160 | 27 x 18 x 1 1/4" |
| 1200 | L-2161 | 24 x 20 x 1 1/4" |
| 1600 | L-2162 | 28 x 20 x 1 1/2" |
| 2000 | L-2163 | 35 x 20 x 1 1/2" |
| 2500 | L-2164 | 36 x 24 x 1 1/2" |
| 3000 | L-2165 | 36 x 24 x 1 1/2" |
| 4000 | L-2166 | 36 x 24 x 2" |
| 5000 | L-2167 | 38 x 24 x 2" |
| 6000 | L-2168 | 38 x 24 x 2" |

15 Volts DC maximum.

FOR MODIFICATIONS AND SPECIAL FEATURES REFER TO SECTION L-4 OF PRICE LIST

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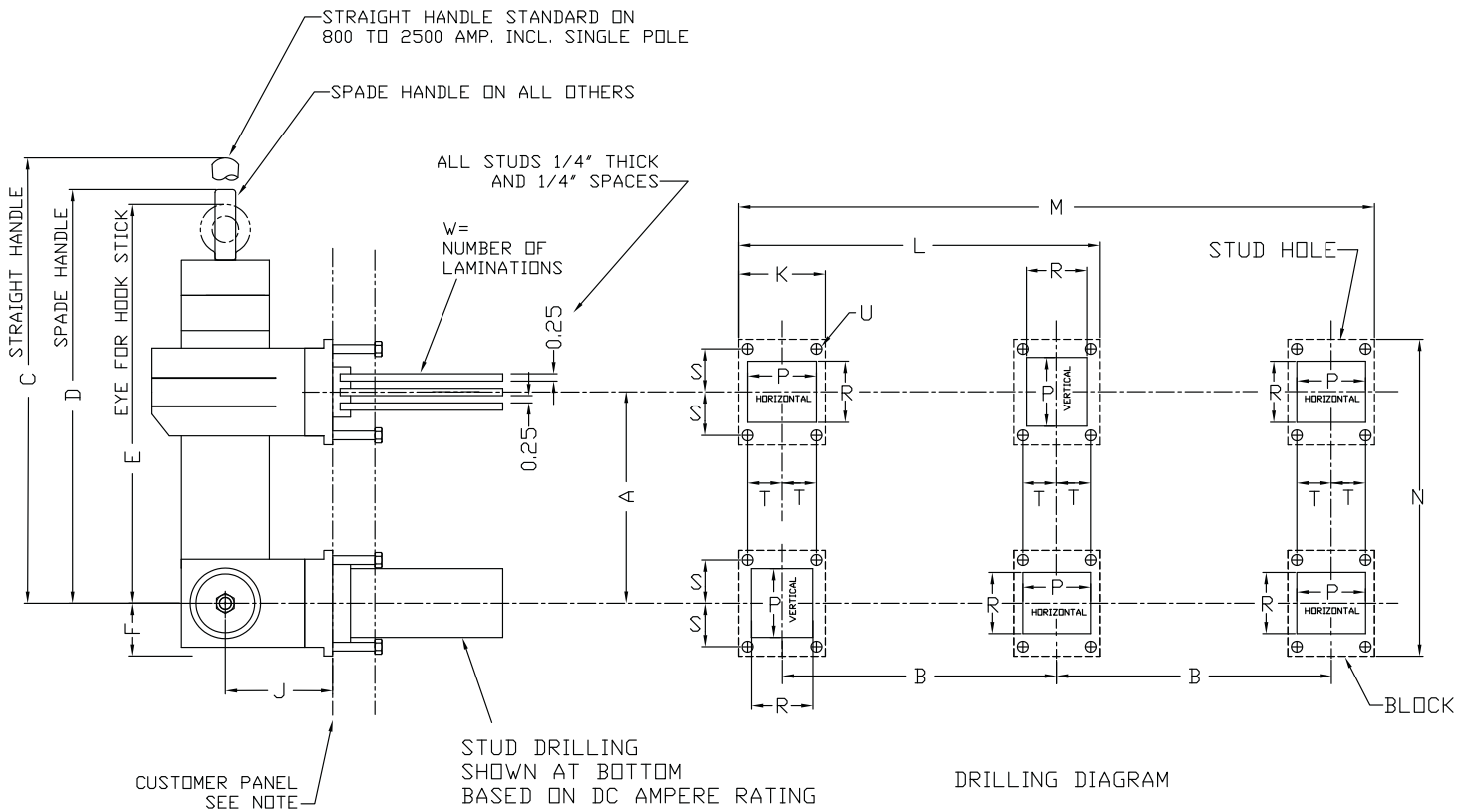
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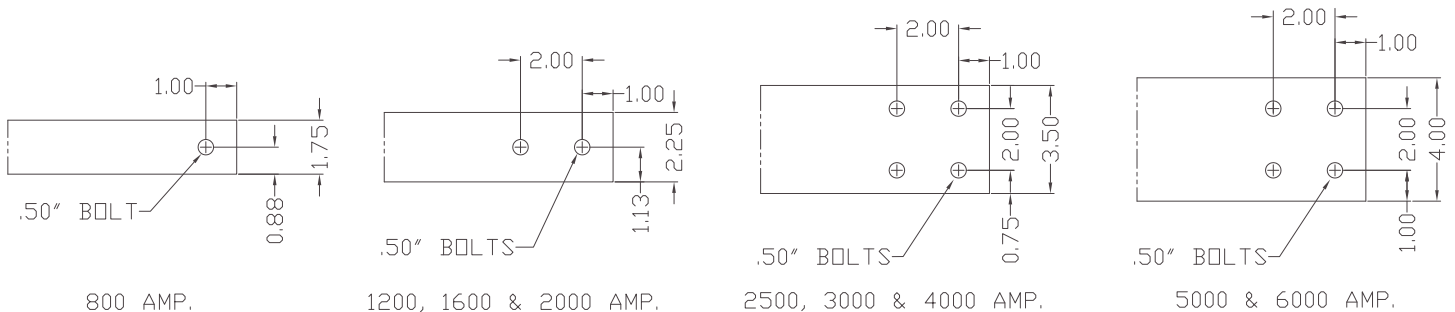
TYPE L BACK-CONNECTED KNIFE SWITCHES

Single or Double-Throw, Not Fusible, NON-LOAD BREAK

NOT FOR CONSTRUCTION UNLESS ENDORSED



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KNIFE SWITCHES

TYPE L BACK-CONNECTED KNIFE SWITCHES

Single or Double-Throw, Not Fusible, NON-LOAD BREAK

NOT FOR CONSTRUCTION UNLESS ENDORSED

| 250 VOLT DC & 480 VOLT AC | | | | | | | | | | | | | | | | | | | | |
|---------------------------|------|-------|-------|--------|--------|--------|--------|--------|-------|---------|-------|--------|--------|--------|-------|-------|--------|--------|------|---|
| Ampere Rating | | A | B | C* | D | E* | F | G | H | J | K | L | M | N | P | R | S | T | U | W |
| DC | AC | | | | | | | | | | | | | | | | | | | |
| 800 | 800 | 5 5/8 | 5 3/8 | 12 5/8 | 13 1/8 | 10 1/2 | 1 3/8 | 4 7/8 | 6 | 3 | 2 1/8 | 7 1/2 | 12 7/8 | 8 3/8 | 1 7/8 | 1 1/4 | 1 | 3/4 | 3/8 | 2 |
| 1200 | 1200 | 5 1/8 | 6 3/8 | 11 1/2 | 11 3/4 | 9 3/8 | 1 1/16 | 4 1/16 | 7 | 2 11/16 | 3 1/8 | 9 1/2 | 15 7/8 | 7 1/4 | 1 7/8 | 1 7/8 | 11/16 | 1 1/4 | 3/8 | 3 |
| 1600 | 1600 | 5 5/8 | 6 3/8 | 13 3/8 | 13 1/2 | 10 3/4 | 1 3/8 | 5 1/8 | 8 | 3 1/4 | 3 1/8 | 9 1/2 | 15 7/8 | 8 3/8 | 2 3/8 | 1 7/8 | 1 1/16 | 1 1/4 | 3/8 | 3 |
| 2000 | 1900 | 7 | 6 1/2 | 15 3/4 | 16 1/4 | 13 1/8 | 1 7/8 | 7 1/8 | 8 1/2 | 4 1/2 | 3 | 9 1/2 | 16 | 10 3/4 | 2 3/8 | 2 3/8 | 1 1/2 | 1 3/16 | 3/8 | 4 |
| 2500 | 2300 | 7 1/4 | 6 1/2 | 16 1/4 | 16 3/4 | 14 1/8 | 2 | 7 3/16 | 8 1/2 | 4 9/16 | 4 | 11 1/2 | 19 | 11 1/4 | 3 5/8 | 2 1/8 | 1 1/2 | 1 1/2 | 7/16 | 3 |
| 3000 | 2700 | 7 1/4 | 7 1/2 | 16 1/4 | 16 3/4 | 14 1/8 | 2 | 7 3/16 | 8 1/2 | 4 9/16 | 4 | 11 1/2 | 19 | 11 1/4 | 3 5/8 | 2 5/8 | 1 9/16 | 1 9/16 | 7/16 | 4 |
| 4000 | 3000 | 7 1/4 | 8 1/4 | 16 3/4 | 17 1/4 | 14 3/8 | 2 | 7 3/16 | 8 1/2 | 4 9/16 | 4 3/4 | 13 | 21 1/4 | 11 1/4 | 3 5/8 | 3 1/8 | 1 1/2 | 2 1/16 | 7/16 | 5 |
| 5000 | - | 7 3/4 | 9 3/8 | 18 1/4 | 17 3/4 | 15 1/4 | 2 1/4 | 7 3/16 | 8 1/2 | 4 9/16 | 5 7/8 | 15 1/4 | 24 5/8 | 12 1/4 | 4 1/8 | 3 5/8 | 1 1/2 | 2 9/16 | 9/16 | 6 |
| 6000 | - | 7 3/4 | 9 3/8 | 18 1/4 | 17 3/4 | 15 1/4 | 2 1/4 | 7 3/16 | 8 1/2 | 4 9/16 | 5 7/8 | 15 1/4 | 24 5/8 | 12 1/4 | 4 1/8 | 4 1/8 | 1 1/2 | 2 9/16 | 9/16 | 7 |

| 600 VOLT DC & AC | | | | | | | | | | | | | | | | | | | | |
|------------------|------|-------|--------|--------|--------|--------|--------|--------|-------|---------|-------|--------|--------|--------|-------|-------|--------|--------|------|---|
| Ampere Rating | | A | B | C* | D | E* | F | G | H | J | K | L | M | N | P | R | S | T | U | W |
| DC | AC | | | | | | | | | | | | | | | | | | | |
| 800 | 800 | 6 7/8 | 6 7/8 | 13 7/8 | 14 3/8 | 11 3/4 | 1 3/8 | 4 7/8 | 6 | 3 | 2 1/8 | 9 | 15 7/8 | 9 5/8 | 1 7/8 | 1 1/4 | 1 | 3/4 | 3/8 | 2 |
| 1200 | 1200 | 6 3/8 | 7 7/8 | 12 3/4 | 13 | 10 | 1 1/16 | 4 1/16 | 7 | 2 11/16 | 3 1/8 | 11 | 18 7/8 | 8 1/2 | 1 7/8 | 1 7/8 | 11/16 | 1 1/4 | 3/8 | 3 |
| 1600 | 1600 | 6 7/8 | 7 7/8 | 14 5/8 | 14 3/4 | 12 | 1 3/8 | 5 1/8 | 8 | 3 1/4 | 3 1/8 | 11 | 18 7/8 | 9 5/8 | 2 3/8 | 1 7/8 | 1 1/16 | 1 1/4 | 3/8 | 3 |
| 2000 | 1900 | 8 1/4 | 8 | 17 | 17 1/2 | 14 3/8 | 1 7/8 | 7 1/8 | 8 1/2 | 4 1/2 | 3 | 11 | 19 | 12 | 2 3/8 | 2 3/8 | 1 1/2 | 1 3/16 | 3/8 | 4 |
| 2500 | 2300 | 8 1/2 | 9 | 17 1/2 | 18 | 15 3/8 | 2 | 7 3/16 | 8 1/2 | 4 9/16 | 4 | 13 | 22 | 12 1/2 | 3 5/8 | 2 1/8 | 1 1/2 | 1 1/2 | 7/16 | 3 |
| 3000 | 2700 | 8 1/2 | 9 | 17 1/2 | 18 | 15 3/8 | 2 | 7 3/16 | 8 1/2 | 4 9/16 | 4 | 13 | 22 | 12 1/2 | 3 5/8 | 2 5/8 | 1 9/16 | 1 9/16 | 7/16 | 4 |
| 4000 | 3000 | 8 1/2 | 9 3/4 | 18 | 18 1/2 | 15 5/8 | 2 | 7 3/16 | 8 1/2 | 4 9/16 | 4 3/4 | 14 1/2 | 24 1/4 | 12 1/2 | 3 5/8 | 3 1/8 | 1 1/2 | 2 1/16 | 7/16 | 5 |
| 5000 | - | 9 | 10 7/8 | 19 1/2 | 19 | 16 1/2 | 2 1/4 | 7 3/16 | 8 1/2 | 4 9/16 | 5 7/8 | 16 3/4 | 27 5/8 | 13 1/2 | 4 1/8 | 3 5/8 | 1 1/2 | 2 9/16 | 9/16 | 6 |
| 6000 | - | 9 | 10 7/8 | 19 1/2 | 19 | 16 1/2 | 2 1/4 | 7 3/16 | 8 1/2 | 4 9/16 | 5 7/8 | 16 3/4 | 27 5/8 | 13 1/2 | 4 1/8 | 4 1/8 | 1 1/2 | 2 9/16 | 9/16 | 7 |

*C and *E dimensions are for Single Pole only.

NOTE: Switches are manufactured to be mounted on customers' panels of the following thickness:

- 800 and 1200 Ampere 1 1/4"
- 1600 - 3000 Ampere 1 1/2"
- 4000 - 6000 Ampere 2"

FOR MODIFICATIONS AND SPECIAL FEATURES REFER TO SECTION L-4 OF PRICE LIST

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