

TYPE BPA

The BPA is a heavy duty power fuse with voltage ratings from 7.2 kV through 69 kV, and maximum current ratings of either 100 or 200 amperes, with interrupting capacities as high as 934,000 kVA, 3 phase symmetrical at 69 kV. Mountings are available for vertical, horizontal underhung, and 45° underhung orientations. 45° VEE orientations are available from 34.5kV to 69 kV at 100 and 200 continuous amperes.

TYPE HPA

The HPA is an extra-heavy duty power fuse with voltage ratings from 7.2 kV through 161 kV, maximum current ratings of 100, 200, 300, or 400 amperes, and interrupting capacities as high as 3,480,000 kVA, 3-phase symmetrical at 161 kV. Mountings are available for vertical, horizontal underhung, and 45° underhung, orientations. For 34.5 kV through 69 kV (*100 and 200 continuous amperes*), 45° VEE orientations are also available.

The HPA should be selected when interrupting capabilities above those of the BPA are required, when continuous currents are above 200 amperes, or when additional capacities are anticipated. The fuse mounting has a 400 amp continuous rating.

A variety of fuse holders are available in 100, 200, and 300 ampere current ratings. The fuse holder should be selected on the basis of interrupting capacity required and the continuous current rating of the largest size of fuse link to be used.

Both the BPA and the HPA are highly economical to use: To replace the fuse in service after an interruption requires only an inexpensive fuse link – not an entire fuse holder. (See Page 3).

The equipment described in this bulletin performs in accordance with NEMA standards publication SG2-1954, paragraphs SG2-5, SG2-5.10, and SG2-5.11.

Power Fuses

7.2 - 161 kV 100-200-300 400 AMPS

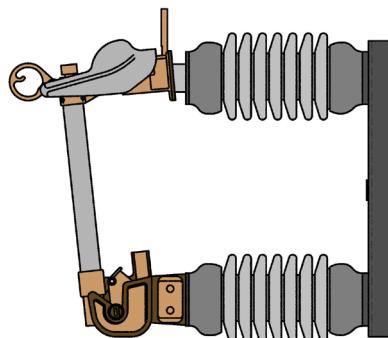


FIGURE 1
BPA 23 kV
200 Amp

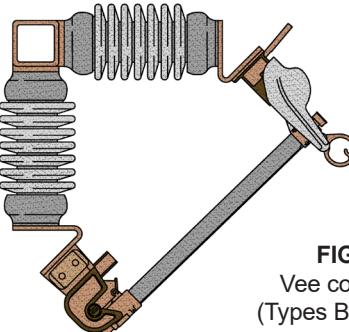


FIGURE 2
Vee configuration
(Types BPA and HPA)

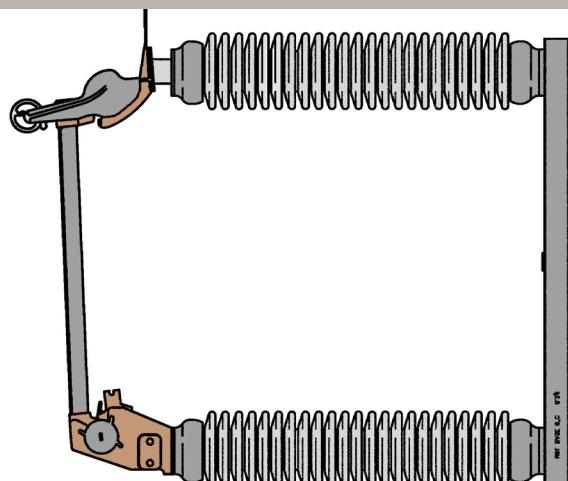


FIGURE 3
HPA 69 kV 200 AMP

OPERATION

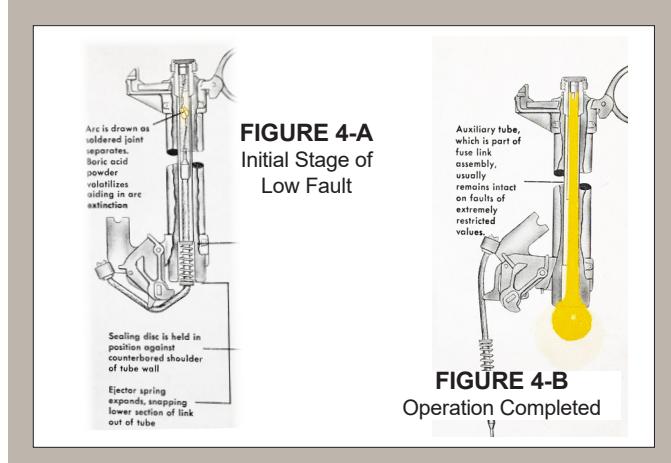
Southern States BPA and HPA will interrupt a full range of fault currents, from those just high enough to melt the fusible element to those at the maximum rating of the fuse. Using a combination of boric acid-filled auxiliary fuse tube and horn fiber lined fuse holder with expendable cap plus ejector spring. These fuses handle both low and high faults with equal ease.

LOW CURRENT FAULTS

The drawings at right illustrate the interruption of a low current fault.

In figure 4-A, the fusible element melts, causing an arc in the mass of boric powder packed in the auxiliary fuse tube. The boric acid instantly volatilizes into steam, which cools and extinguishes the arc. Although of relatively small volume, the gas is confined by the cap at the top of the tube, and momentarily, by the sealing disc at the bottom, allowing a relatively high pressure to build up.

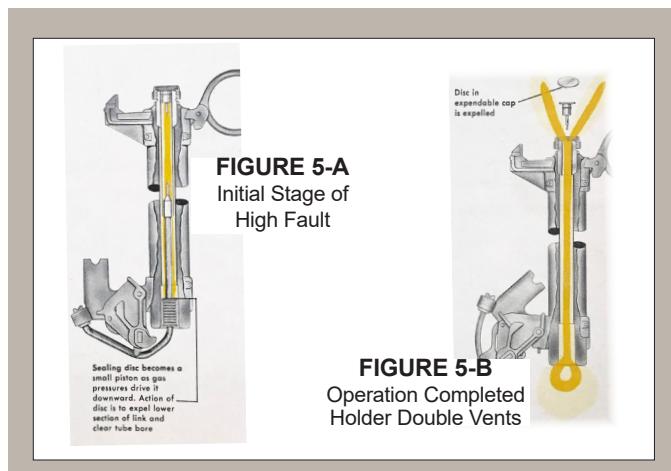
The ejector springs snaps the link out of the fuse tube, and the fuse holder drops out to the open position. Fault interruption is quick and efficient.



HIGH CURRENT FAULTS

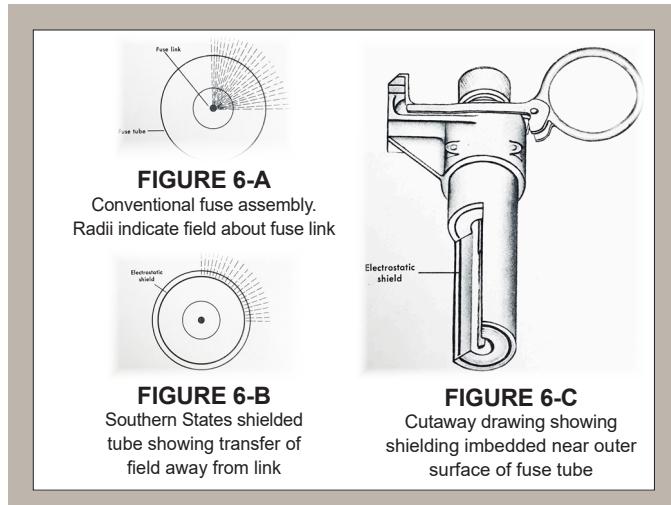
The method of interrupting a high current fault is, in some ways, the opposite of a low current fault, in that rather than containing a small amount of gas, large volumes of it must be vented quickly. Also, the hardware must be protected from the shock of the operation. The best way to accomplish this is to vent the fuse tube from both ends; this dissipates the pressure and, at the same time eliminates the "rocket effect" by allowing the exhaust forces to cancel each other.

In the drawings at right, figure 5-A shows the initial stage in which the sealing disc begins to clear the bore of the link. Figure 5-B shows the expulsion of the cap and the free venting from both ends of the fuse tube. The circuit is interrupted, the fuse holder swings to the open position, and the unit is ready to be re-fused.



CORONA

Above certain voltages, corona causes the formation of acid (from ozone and atmospheric nitrogen), and thus corrosion to the fuse link and fuse tube lining. To protect these parts from damage, the BPA and the HPA use a conductive shield within the fuse tube that transfers the high potential gradient from the link to the surface of the fuse tube itself. This reduces the dielectric stress to levels below which corona is initiated. The electrostatic shield is used on ratings of 46 kV and above (where corona becomes significant) and wish no impairment of any performance criteria.



ECONOMY – AFTER FAULT INTERRUPTION YOU REPLACE ONLY THE LINK.

TYPES BPA AND HPA - VERTICAL, UNDERHUNG, AND 45° UNDERHUNG MOUNTED POWER FUSES

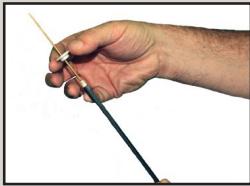
One of the significant advantages associated with the BPA and HPA power fuses is the low cost of restoring these units to service after an operation. A special fuse kit, developed by Southern States, makes them easy and inexpensive to re-fuse. The fuse kit consists of an expendable cap, fuse link assembly, and disposable re-fusing tool. No other parts are required. The fuse kits are available in four speed ratios: PF (slow speed), PM (medium speed), PX (fast speed) and the EEI-NEMA Type PE. Time-current characteristic curves are available. It is recommended that links be applied in fuse holders in accordance with the coordination chart at right.

| LINK-HOLDER COORDINATION | |
|--------------------------|----------------------------|
| LINK RATING AMPERES | FUSE HOLDER RATING AMPERES |
| 1 - 100 | 100 |
| 125 - 200 | 200 |
| 250 - 300 | 300 |
| 350 - 400 | 400 |

NOTICE: Buttonhead MUST be solidly tightened against collar; however, be careful not to twist fuse elements during installation.

STANDARD RE-FUSING PROCEDURE

FOR FUSES RATED 100 AMPERES

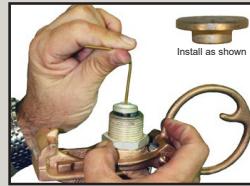


STEP 1: Install re-fusing tool in fuse link and remove buttonhead if necessary.

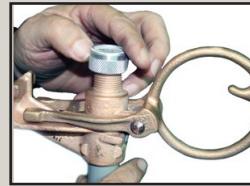
Note: Re-Fusing tool has left-hand thread.



STEP 2: Insert tip of re-fusing tool into lower end of fuse tube. Push link through tube until ejector spring seats on counterbored shoulder inside fuse tube.

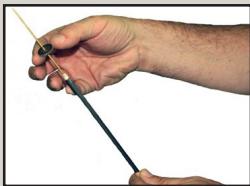


STEP 3: Pull re-fusing tool, compressing ejector spring. Screw buttonhead onto threaded ferrule. Remove and discard re-fusing tool.



STEP 4: Screw expandable cap into place.

FOR FUSES RATED 200-300-400 AMPERES

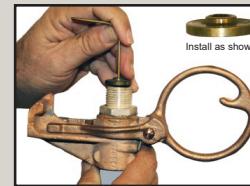


STEP 1: Install re-fusing tool in fuse link and remove buttonhead if necessary.

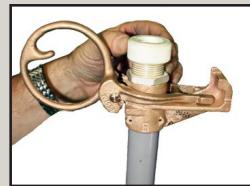
Note: Re-Fusing tool has left-hand thread.



STEP 2: Insert tip of re-fusing tool into lower end of fuse tube. Push link through tube until ejector spring seats on counterbored shoulder inside fuse tube.

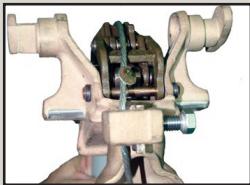


STEP 3: Pull re-fusing tool, compressing ejector spring.
Special Note: Screw buttonhead onto threaded ferrule in position shown. Remove and discard re-fusing.

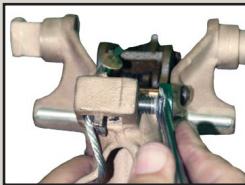


STEP 4: Screw expandable cap into place, taking care not to remove silicone sealing compound applied inside cap.

PROCEDURE FOR TERMINATING LOWER CABLE ON FUSES OF ALL RATINGS



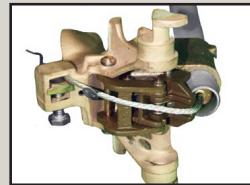
STEP 1: Insert lower end of cable under keeper in bottom fuse holder assembly. Hold link ejector in position shown.



STEP 2: Pull link tight and tighten bolt.



STEP 3: Clip off excess cable.



STEP 4: Fuse holder is now ready for service.

BPA

Voltage: 7.2 – 69 kV

Max Current Rating: 100 and 200 Amperes

Fuse Mountings Available:

Vertical, 45° Underhung, Horizontal Underhung, or 45° VEE

1. Extra large operating eye for convenience.
2. All fuse tubes are high strength fiberglass. Within type and voltage rating, all fuse holders are interchangeable.
3. Self-locking hinge assembly with snubber
4. Terminal connectors available at extra cost (Refer to factory). Terminal pads have two 9/16" holes on 1-3/4" centers. Lower terminal connectors can be bolted to either side of hinge.
5. NEMA post insulators as specified.
6. Galvanized steel channel base unless otherwise specified.
7. Socket for removing fuse holder will accommodate standard hooksticks, but due to increased control when lifting, Southern States recommends its bayonet head hookstick.
8. Sleet hood fully encloses upper contacts, enhances operation in ice. Widely flared guides insure perfect closing, even when the lineman stands well to one side.

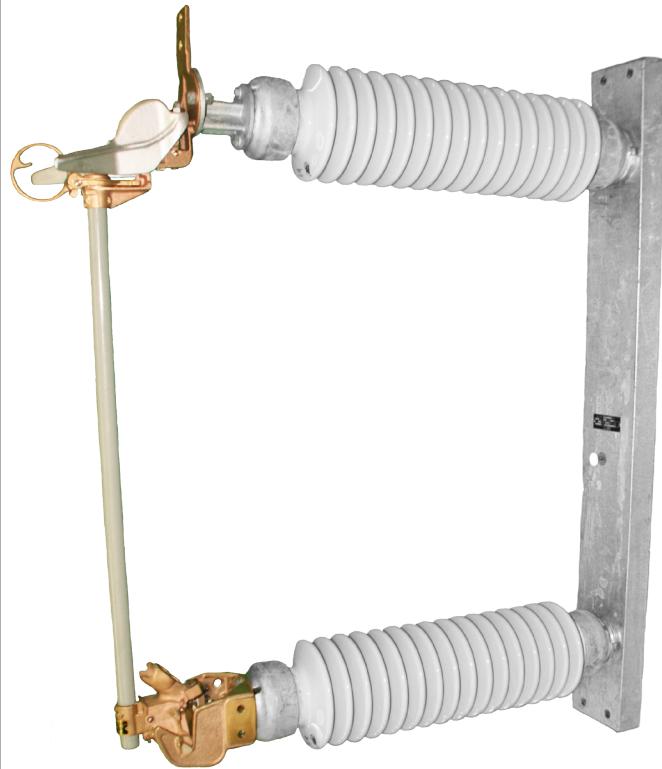
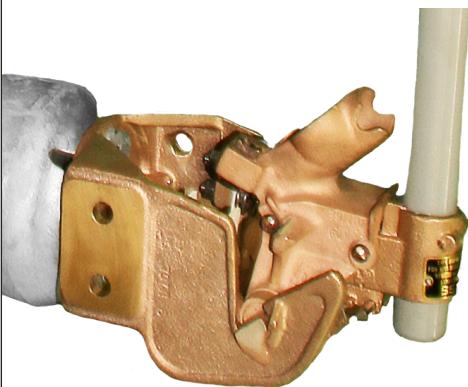


FIGURE 10

Fuse illustrated is a BPA 69 kV, 100 amp.

FIGURE 11



HINGE - The hinge on both the BPA and the HPA is self-locking to insure that interrupting shocks are carried by the hinge hardware. It also retains the holder in the hinge throughout its operation. A hookstick socket makes removal of the fuse holder easy.

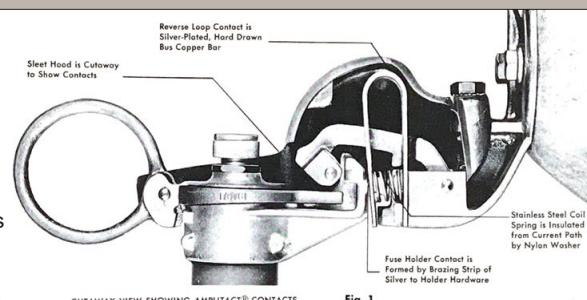
FIGURE 12

CONTACTS

Amplitact® reverse loop contacts are used on both the jaw and the hinge. Basically the same as the highly successful design used on Southern States high voltage air switches, the contacts take advantage of the EMF generated during faults to increase the pressure across the current transfer points, greatly adding to contact security. All Southern States power fuse contacts are silver-to-silver.

The upper contacts are enclosed to enhance operation in ice, and widely flared guides insure precise, positive latching by the lineman when closing the fuse.

The cutaway view illustrates the upper contact member. This configuration is common to both the power fuses, with the HPA differing from the BPA only in the use of dual contact leaves and heavier construction. When closed, the power fuse is positively latched, and only an interruption or a pull on the operating eye can open it. The operating eye is extra large for convenient hookstick operation.



HPA

Voltage: 7.2 – 161 kV

Continuous Current: 100, 200, 300 and 400 Amps

Fuse Mountings Available:

Vertical, 45° Underhung, or Horizontal Underhung

For ratings up to 69 kV (200A), 45° VEE mounting is available

1. Extra large operating eye for convenience.
2. All fuse tubes re high strength fiberglass. Within type and voltage rating, all fuse holders are interchangeable.
3. Self-locking hinge assembly with snubber
4. Terminal connectors available at extra cost (Refer to factory). Terminal pads have two 9/16" holes on 1-3/4" centers. Lower terminal connectors can be bolted to either side of hinge.
5. NEMA post insulators as specified.
6. Galvanized steel channel base unless otherwise specified.
7. Socket for removing fuse holder will accommodate standard hooksticks, but due to increased control when lifting, Southern States recommends its bayonet head hookstick.
8. Sleet hood fully encloses upper contacts, enhances operation in ice. Widely flared guides insure perfect closing, even when the lineman stands well to one side.

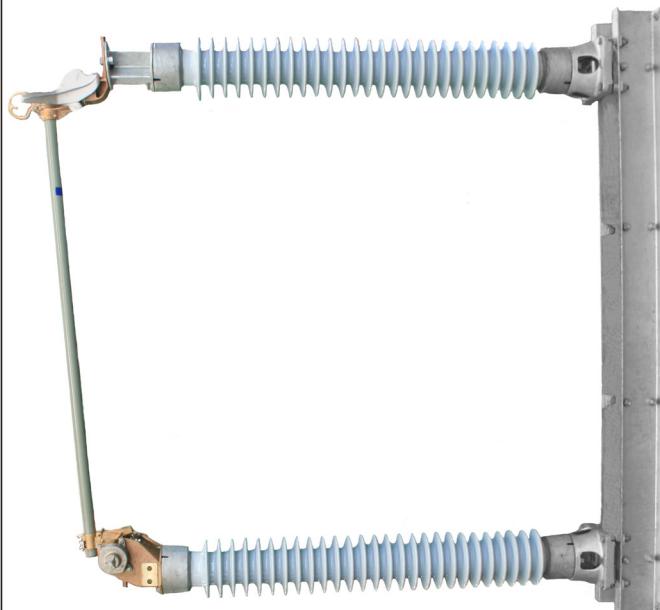


FIGURE 13
Fuse illustrated is a HPA 69 kV, 200 amp.

FIGURE 14

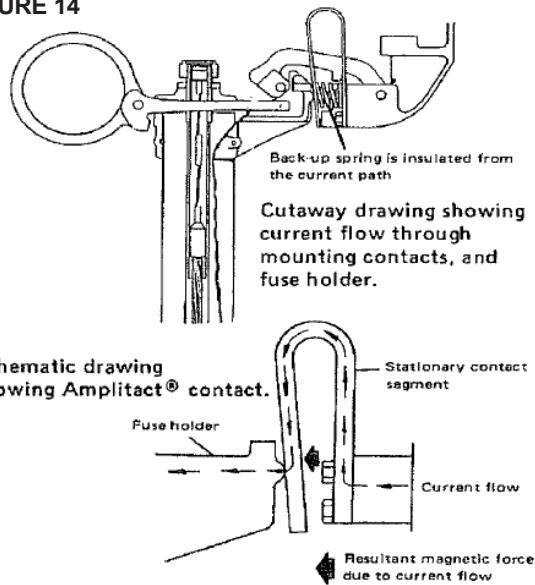
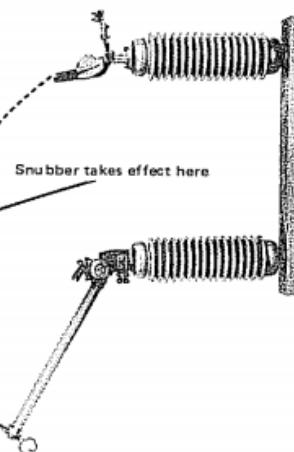
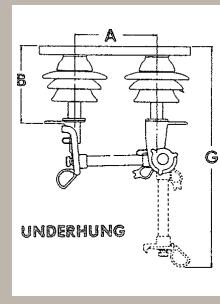
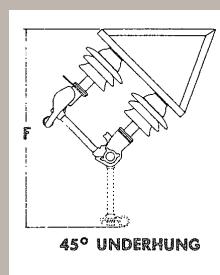
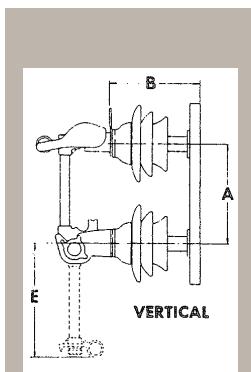


FIGURE 15

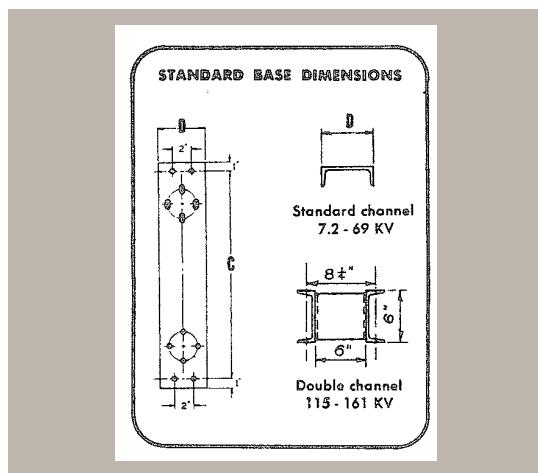


SNUBBER - Both the BPA and the HPA have a snubber to cushion the shock on the fuse hardware and insulator when the adjustable in the field, takes effect only after the upper contacts have moved well beyond the restrike distance.



| kV | A | | B | | C | | D | | E | | F | | G | | H | |
|------|-----|-----|--------|--------|--------|-----|--------|-----|-----|-----|--------|--------|---------|--------|---------|---------|
| | BPA | HPA | BPA | HPA | BPA | HPA | BPA | HPA | BPA | HPA | BPA | HPA | BPA | HPA | BPA | HPA |
| 7.2 | 13 | 13 | 9-1/2 | 9-5/3 | 18 | 18 | 4 | 4 | 17 | 17 | 38-1/8 | 38-7/8 | 34-1/8 | 38-7/8 | | |
| 14.4 | 15 | 15 | 12 | 12-1/8 | 21 | 21 | 4 | 4 | 19 | 19 | 43-3/4 | 44-1/2 | 43-3/4 | 44-1/2 | | |
| 23 | 18 | 18 | 14 | 14-1/8 | 24 | 24 | 4 | 4 | 22 | 22 | 50-1/4 | 51 | 50-1/4 | 51 | | |
| 34.5 | 24 | 24 | 17-1/8 | 14-1/4 | 30 | 30 | 5 | 5 | 28 | 28 | 62-5/0 | 63-3/8 | 62-5/8 | 63-3/8 | 47-3/4 | |
| 46 | 30 | 30 | 20-1/8 | 20-1/4 | 39 | 39 | 5 | 5 | 34 | 34 | 75 | 75-3/4 | 75 | 75-3/4 | 55-5/8 | |
| 69 | 39 | 39 | 32 | 32-1/8 | 51 | 51 | 5 | 5 | 40 | 40 | 96-7/8 | 97-5/8 | 96-7/8 | 97-5/8 | 74-1/8 | |
| 115 | | | | | 55 | | 66 | | | | 52-5/8 | | 141-1/4 | | 141-1/4 | 113 |
| 130 | | | | | 50-1/2 | | 78 | | | | 58-5/8 | | 155-3/8 | | 155-3/8 | 124-1/2 |
| 161 | | | | | 50-1/2 | | 74-3/4 | | | | 60-5/8 | | 165-1/4 | | 165-1/4 | 135-1/2 |

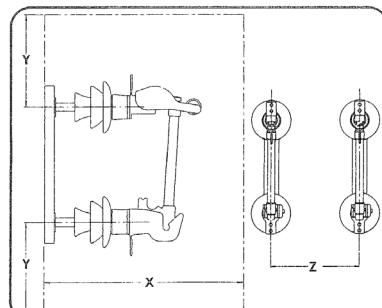
| kV | A | | B | | C | | D | | E | | F | | G | | H | |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | BPA | HPA |
| 72.5 | 0.333 | 0.333 | 0.241 | 0.244 | 0.457 | 0.457 | 0.102 | 0.102 | 0.432 | 0.432 | 0.968 | 0.987 | 0.803 | 0.826 | | |
| 14.4 | 0.381 | 0.381 | 0.305 | 0.308 | 0.533 | 0.533 | 0.102 | 0.102 | 0.483 | 0.483 | 1.111 | 1.130 | 1.111 | 1.130 | | |
| 23 | 0.457 | 0.457 | 0.356 | 0.359 | 0.610 | 0.610 | 0.102 | 0.102 | 0.559 | 0.559 | 1.045 | 1.067 | 1.045 | 1.067 | | |
| 34.5 | 0.610 | 0.610 | 0.435 | 0.436 | 0.762 | 0.762 | 0.127 | 0.127 | 0.711 | 0.711 | 0.711 | 0.711 | 1.273 | 1.295 | | 1.213 |
| 46 | 0.762 | 0.762 | 0.511 | 0.514 | 0.991 | 0.991 | 0.127 | 0.127 | 0.864 | 0.864 | 0.864 | 0.864 | 1.505 | 1.527 | | 1.438 |
| 69 | 0.991 | 0.991 | 0.013 | 0.816 | 1.295 | 1.295 | 0.152 | 0.152 | 1.016 | 1.016 | 1.016 | 1.016 | 1.960 | 1.978 | | 1.883 |
| 115 | | | 1.499 | | 1.397 | | | | | | 1.337 | | 2.065 | | 2.870 | |
| 138 | | | 1.661 | | 1.537 | | | | | | 1.489 | | 3.258 | | 3.162 | |
| 161 | | | 1.702 | | 1.765 | | | | | | 1.530 | | 3.537 | | 3.442 | |



| kV | Continuous Ratings Amperes | POUNDS | | | KILOGRAMS | | |
|----------|----------------------------|--------|------|--------|-----------|-------|--------|
| | | Net | Ship | Holder | Net | Ship | Holder |
| 7.2 | 100-200 | 61 | 81 | 8 | 27.7 | 36.7 | 3.7 |
| 14.4 | 100-200 | 74 | 94 | 8 | 33.6 | 42.7 | 3.7 |
| 23 | 100-200 | 92 | 112 | 8 | 41.8 | 50.8 | 3.7 |
| 34.54 | 100-200 | 127 | 152 | 9 | 57.6 | 68.9 | 4.1 |
| 46 | 100-200 | 160 | 195 | 9 | 72.6 | 88.4 | 4.1 |
| 69 | 100-200 | 267 | 317 | 9 | 121.1 | 143.8 | 4.1 |
| TYPE HPA | | | | | | | |
| 7.2 | 100-200-300 | 67 | 87 | 10 | 30.3 | 39.4 | 4.5 |
| 7.2 | 400 | 69 | 89 | 12 | 31.2 | 40.3 | 5.4 |
| 14.4 | 100-200-300 | 80 | 100 | 10 | 36.2 | 45.3 | 4.5 |
| 14.4 | 400 | 82 | 102 | 12 | 37.1 | 46.2 | 5.4 |
| 23 | 100-200-300 | 98 | 118 | 10 | 44.4 | 53.5 | 4.5 |
| 23 | 400 | 101 | 121 | 13 | 45.8 | 54.9 | 5.9 |
| 34.5 | 100-200-300 | 133 | 158 | 11 | 60.3 | 71.7 | 4.9 |
| 34.5 | 400 | 136 | 161 | 14 | 61.7 | 73.1 | 6.3 |
| 46 | 100-200-300 | 169 | 199 | 14 | 76.7 | 90.2 | 6.3 |
| 46 | 400 | 171 | 201 | 16 | 77.6 | 91.1 | 7.2 |
| 69 | 100-200-300 | 276 | 328 | 16 | 125.1 | 148.8 | 7.2 |
| 69 | 400 | 280 | 330 | 17 | 126.9 | 149.7 | 7.7 |
| 115 | 100-200 | 642 | 692 | 20 | 291.1 | 313.8 | 9.8 |
| 138 | 100-200 | 687 | 737 | 22 | 311.6 | 334.2 | 9.9 |
| 161 | 100-200 | 836 | 911 | 25 | 379.1 | 413.1 | 11.3 |

DIMENSIONS AND WEIGHTS

| kV Rating | INCHES | | | METERS | | |
|-----------|--------|----|-----|--------|------|------|
| | X | Y | Z | X | Y | Z |
| 7.2 | 40 | 44 | 36 | 1.02 | 1.12 | 0.91 |
| 14.4 | 47 | 46 | 36 | 1.19 | 1.17 | 0.91 |
| 23 | 56 | 48 | 48 | 1.42 | 1.22 | 1.22 |
| 34.5 | 66 | 51 | 60 | 1.68 | 1.3 | 1.52 |
| 46 | 78 | 54 | 72 | 1.98 | 1.37 | 1.83 |
| 69 | 106 | 65 | 84 | 2.69 | 1.65 | 2.13 |
| 115 | 160 | 80 | 120 | 4.06 | 2.03 | 3.05 |
| 138 | 190 | 88 | 145 | 4.83 | 2.24 | 3.68 |
| 161 | 207 | 94 | 168 | 5.26 | 2.39 | 4.27 |



| Height* of Mounted Fuse | Underhung Mounted Fuses (kV) | | | | Vertically Mounted Fuses (kV) | | | | 45° Underhung Mounted Fuses (kV) | | | | |
|-------------------------|------------------------------|-------|-----|---------|-------------------------------|------------|----------|------------|----------------------------------|-----|-----|-----|-----|
| | 7.5-15 | 23-46 | 69 | 115-138 | 161 | 7.5' - 69' | 115-161' | 7.5 - 34.5 | 46 | 69 | 115 | 138 | 161 |
| 12' | 8' | | | | | 10' | | | | | | | |
| 14' | 10' | 10' | | | | 12' | 14' | 10' | | | | | |
| 16' | 12' | 12' | 10' | | | 14' | 16' | 12' | 10' | | | | |
| 18' | 14' | 14' | 12' | | | 16' | 18' | 14' | 12' | 12' | | | |
| 20' | | | 14' | 12' | | | | 16' | 14' | 14' | | | |
| 22' | | | | 14' | 14' | | | | 18' | 16' | 14' | | |
| 24' | | | | | 16' | 16' | | | | 16' | 14' | | |
| 28' | | | | | | | | | | 16' | 18' | | |

* Underhung and 45° underhung: Distance from ground to mounting surface. Vertical: Ground to center line of lower insulator



Suggested Hotstick Length

CATALOG NUMBERS AND RATINGS FOR BPA AND HPA POWER FUSES

| Catalog Number = | Fuse Type | + | Orientation | + | Voltage | + | Current | + | Int Rating (kA Assym) | + | Description |
|------------------|-----------|---|--------------------|---|---------|---|---------|---|-----------------------|---|-----------------------|
| | BPA | | V - Vertical | | 7-7.2 | | 100 | | 8 | | Blank - Complete Fuse |
| | BPA | | 45 - 45° Underhung | | 14-14.4 | | 200 | | 12.5 | | H - Fuseholder ONLY |
| | HPA | | I - Underhung | | etc. | | 400 | | 16 | | LP - Live Parts ONLY |
| | | | VEE - 45° VEE* | | | | | | 20 | | |
| | | | | | | | | | 25 | | |
| | | | | | | | | | 31.5 | | |

*only available from 34.5kV - 69kV (100 / 200 A)

Example: 34 kV Vertical BPA w/ 200A, 20kA Assym. Fuseholder Only = BPA-V-34-200-20H (Part #: 42010426)

Type BPA Power Fuses

| Nominal Voltage Rating | Continuous Current Rating | Interrupting Capacity Amps Asymmetrical | Interrupting Capacity Amps Symmetrical | Vertical Mounting | | 45 Degree Underhung Mounting | | Horizontal Underhung Mounting | |
|------------------------|---------------------------|---|--|------------------------|------------------|------------------------------|------------------|-------------------------------|------------------|
| | | | | Complete Fuse Assembly | Fuse Holder Only | Complete Fuse Assembly | Fuse Holder Only | Complete Fuse Assembly | Fuse Holder Only |
| 7.2 kV | 100 Amps | 20,000 | 12,500 | 41010312 | 42010312 | 41011712 | 42011712 | 41012712 | 42012712 |
| 7.2 kV | 200 Amps | 20,000 | 12,500 | 41010423 | 42010423 | 41011823 | 42011823 | 41012823 | 42012823 |
| 14.4 kV | 100 Amps | 16,000 | 10,000 | 41010313 | 42010313 | 41011713 | 42011713 | 41012713 | 42012713 |
| 14.4 kV | 100 Amps | 25,000 | 15,625 | 41010413 | 42010413 | 41011813 | 42011813 | 41012813 | 42012813 |
| 14.4 kV | 200 Amps | 25,000 | 15,625 | 41010424 | 42010424 | 41011824 | 42011824 | 41012824 | 42012824 |
| 23 kV | 100 Amps | 12,500 | 7,813 | 41010314 | 42010314 | 41011714 | 42011714 | 41012714 | 42012714 |
| 23 kV | 100 Amps | 25,000 | 15,625 | 41010414 | 42010414 | 41011814 | 42011814 | 41012814 | 42012814 |
| 23 kV | 200 Amps | 25,000 | 15,625 | 41010425 | 42010425 | 41011825 | 42011825 | 41012825 | 42012825 |
| 34.5 kV | 100 Amps | 10,000 | 6,250 | 41010315 | 42010315 | 41011715 | 42011715 | 41012715 | 42012715 |
| 34.5 kV | 100 Amps | 20,000 | 12,500 | 41010415 | 42010415 | 41011815 | 42011815 | 41012815 | 42012815 |
| 34.5 kV | 200 Amps | 20,000 | 12,500 | 41010426 | 42010426 | 41011826 | 42011826 | 41012826 | 42012826 |
| 46 kV | 100 Amps | 8,000 | 5,000 | 41010316 | 42010316 | 41011716 | 42011716 | 41012716 | 42012716 |
| 46 kV | 100 Amps | 16,000 | 10,000 | 41010416 | 42010416 | 41011816 | 42011816 | 41012816 | 42012816 |
| 46 kV | 200 Amps | 16,000 | 10,000 | 41010427 | 42010427 | 41011827 | 42011827 | 41012827 | 42012827 |
| 69 kV | 100 Amps | 12,500 | 7,813 | 41010417 | 42010417 | 41011817 | 42011817 | 41012817 | 42012817 |
| 69 kV | 200 Amps | 12,500 | 7,813 | 41010428 | 42010428 | 41011828 | 42011828 | 41012828 | 42012828 |

Note: if there is no part number shown for a specific mounting this mounting is not available for this type power fuse.

Type HPA Power Fuses

| Nominal Voltage Rating | Continuous Current Rating | Interrupting Capacity Amps Asymmetrical | Interrupting Capacity Amps Symmetrical | Vertical Mounting | | 45 Degree Underhung Mounting | | Horizontal Underhung Mounting | |
|------------------------|---------------------------|---|--|------------------------|------------------|------------------------------|------------------|-------------------------------|------------------|
| | | | | Complete Fuse Assembly | Fuse Holder Only | Complete Fuse Assembly | Fuse Holder Only | Complete Fuse Assembly | Fuse Holder Only |
| 7.2 kV | 100 Amps | 20,000 | 12,500 | 41100312 | 42100312 | 41101712 | 42101712 | 41102712 | 42102712 |
| 7.2 kV | 200 Amps | 20,000 | 12,500 | 41100323 | 42100323 | 41101723 | 42101723 | 41102723 | 42102723 |
| 7.2 kV | 300 Amps | 20,000 | 12,500 | 41100334 | 42100334 | 41101734 | 42101734 | 41102734 | 42102734 |
| 7.2 kV | 400 Amps | 20,000 | 12,500 | 41100445 | 42100445 | 41101845 | 42101845 | 41102845 | 42102845 |
| 14.4 kV | 100 Amps | 25,000 | 15,625 | 41100313 | 42100313 | 41101713 | 42101713 | 41102713 | 42102713 |
| 14.4 kV | 200 Amps | 25,000 | 15,625 | 41100324 | 42100324 | 41101724 | 42101724 | 41102724 | 42102724 |
| 14.4 kV | 300 Amps | 25,000 | 15,625 | 41100335 | 42100335 | 41101735 | 42101735 | 41102735 | 42102735 |
| 14.4 kV | 400 Amps | 25,000 | 15,625 | 41100446 | 42100446 | 41101846 | 42101846 | 41102846 | 42102846 |
| 23 kV | 100 Amps | 31,500 | 19,688 | 41100314 | 42100314 | 41101714 | 42101714 | 41102714 | 42102714 |
| 23 kV | 200 Amps | 31,500 | 19,688 | 41100325 | 42100325 | 41101725 | 42101725 | 41102725 | 42102725 |
| 23 kV | 300 Amps | 31,500 | 19,688 | 41100336 | 42100336 | 41101736 | 42101736 | 41102736 | 42102736 |
| 23 kV | 400 Amps | 31,500 | 19,688 | 41100447 | 42100447 | 41101847 | 42101847 | 41102847 | 42102847 |
| 34.5 kV | 100 Amps | 31,500 | 19,688 | 41100315 | 42100315 | 41101715 | 42101715 | 41102715 | 42102715 |
| 34.5 kV | 200 Amps | 31,500 | 19,688 | 41100326 | 42100326 | 41101726 | 42101726 | 41102726 | 42102726 |
| 34.5 kV | 300 Amps | 31,500 | 19,688 | 41100337 | 42100337 | 41101737 | 42101737 | 41102737 | 42102737 |
| 34.5 kV | 400 Amps | 31,500 | 19,688 | 41100448 | 42100448 | 41101848 | 42101848 | 41102848 | 42102848 |
| 46 kV | 100 Amps | 25,000 | 15,625 | 41100316 | 42100316 | 41101716 | 42101716 | 41102716 | 42102716 |
| 46 kV | 100 Amps | 40,000 | 25,000 | 41100416 | 42100416 | 41101816 | 42101816 | 41102816 | 42102816 |
| 46 kV | 200 Amps | 25,000 | 15,625 | 41100327 | 42100327 | 41101727 | 42101727 | 41102727 | 42102727 |
| 46 kV | 200 Amps | 40,000 | 25,000 | 41100427 | 42100427 | 41101827 | 42101827 | 41102827 | 42102827 |
| 46 kV | 300 Amps | 25,000 | 15,625 | 41100338 | 42100338 | 41101738 | 42101738 | 41102738 | 42102738 |
| 46 kV | 300 Amps | 40,000 | 25,000 | 41100438 | 42100438 | 41101838 | 42101838 | 41102838 | 42102838 |
| 46 kV | 400 Amps | 40,000 | 25,000 | 41100449 | 42100449 | 41101849 | 42101849 | 41102849 | 42102849 |
| 69 kV | 100 Amps | 20,000 | 12,500 | 41100317 | 42100317 | 41101717 | 42101717 | 41102717 | 42102717 |
| 69 kV | 100 Amps | 31,500 | 19,688 | 41100417 | 42100417 | 41101817 | 42101817 | 41102817 | 42102817 |
| 69 kV | 200 Amps | 20,000 | 12,500 | 41100328 | 42100328 | 41101728 | 42101728 | 41102728 | 42102728 |
| 69 kV | 200 Amps | 31,500 | 19,688 | 41100428 | 42100428 | 41101828 | 42101828 | 41102828 | 42102828 |
| 69 kV | 300 Amps | 20,000 | 12,500 | 41100339 | 42100339 | 41101739 | 42101739 | 41102739 | 42102739 |
| 69 kV | 300 Amps | 31,500 | 19,688 | 41100439 | 42100439 | 41101839 | 42101839 | 41102839 | 42102839 |
| 69 kV | 400 Amps | 31,500 | 19,688 | 41100450 | 42100450 | 41101850 | 42101850 | 41102850 | 42102850 |
| 115 kV | 100 Amps | 16,000 | 10,000 | 41100318 | 42100318 | 41105518 | 42101718 | 41103118 | 42102718 |
| 115 kV | 100 Amps | 25,000 | 15,625 | 41100418 | 42100418 | 41105618 | 42101818 | 41103218 | 42102818 |
| 115 kV | 200 Amps | 16,000 | 10,000 | 41100329 | 42100329 | 41105529 | 42101729 | 41103129 | 42102729 |
| 115 kV | 200 Amps | 25,000 | 15,625 | 41100429 | 42100429 | 41105629 | 42101829 | 41103229 | 42102829 |
| 138 kV | 100 Amps | 12,500 | 7,813 | 41100319 | 42100319 | 41105519 | 42101719 | 41103119 | 42102719 |
| 138 kV | 100 Amps | 20,000 | 12,500 | 41100419 | 42100419 | 41105619 | 42101819 | 41103219 | 42102819 |
| 138 kV | 200 Amps | 12,500 | 7,813 | 41100330 | 42100330 | 41105530 | 42101730 | 41103130 | 42102730 |
| 138 kV | 200 Amps | 20,000 | 12,500 | 41100430 | 42100430 | 41105630 | 42101830 | 41103230 | 42102830 |
| 161 kV | 100 Amps | 12,500 | 7,813 | 41100320 | 42100320 | 41105520 | 42101720 | 41103120 | 42102720 |
| 161 kV | 100 Amps | 20,000 | 12,500 | 41100420 | 42100420 | 41105620 | 42101820 | 41103220 | 42102820 |
| 161 kV | 200 Amps | 12,500 | 7,813 | 41100331 | 42100331 | 41105531 | 42101731 | 41103131 | 42102731 |
| 161 kV | 200 Amps | 20,000 | 12,500 | 41100431 | 42100431 | 41105631 | 42101831 | 41103231 | 42102831 |

Note: Southern States can supply live part adapter kits (jaw assembly, hinge assembly, fuse holder) to replace existing competitor's power fuses, allowing the existing insulators and base to be reused. These Southern States power fuse live parts would then offer the same advantages as a complete new installation of a Southern States power fuse assembly, i.e. the capability for the fuse holder to accommodate 3 full fault operations prior to fuse holder replacement (vs. replacing the fuse holder after every fault as is required on the competition's power fuses).

AVAILABLE FUSE KITS BY SPEED RATIO AND AMPERAGE FOR SOUTHERN STATES

Type BPA and HPA Power Fuses

Note: If there is a blank space under a specific speed and amperage rating this indicates that speed ratio, amperage rating combination is not available.

Catalog Number =

| Speed Ratio | + | Voltage | + | Amperage (3 Digit #) | | | | | |
|-------------|-------|---------|-------|----------------------|-------|-------|-------|-------|--------------------------------|
| PF | → PFA | 7.2 | → 69 | 003 | → 015 | → 050 | → 100 | → 300 | Example: |
| PM | → PMA | 15 | → 115 | 005 | → 020 | → 060 | → 125 | → 350 | 23 kV, 10A NEMA Standard Speed |
| PX | → PXA | 23 | → 138 | 007 | → 025 | → 065 | → 150 | → 400 | = PE23010 |
| PE | → PEA | 34 | → 161 | 010 | → 030 | → 075 | → 200 | | |
| | | 46 | | 012.5 | → 040 | → 080 | → 250 | | |

| Fuse Kit Types Available in Amp Ratings Shown | | | | Catalog Code Numbers | | | | | |
|---|------|------|-----|----------------------|---------|---------|---------|---------|---------|
| PF | PM | PX | PE | 7.2 kV | 14.4 kV | 23 kV | 34.5 kV | 46 kV | 69 kV |
| 3 | 3 | 3 | 3 | 72003 | 15003 | 23003 | 34003 | 46003 | 69003 |
| 5 | 5 | 5 | 5 | 72005 | 15005 | 23005 | 34005 | 46005 | 69005 |
| | | | 7 | 72007 | 15007 | 23007 | 34007 | 46007 | 69007 |
| | | 8 | 8 | 72008 | 15008 | 23008 | 34008 | 46008 | 69008 |
| 10 | 10 | 10 | 10 | 75010 | 15010 | 23010 | 34010 | 46010 | 69010 |
| | 12.5 | 12.5 | | 72012.5 | 15012.5 | 23012.5 | 34012.5 | 46012.5 | 69012.5 |
| 15 | 15 | 15 | 15 | 72015 | 15015 | 23015 | 34015 | 46015 | 69015 |
| 20 | 20 | 20 | 20 | 72020 | 15020 | 23020 | 34020 | 46020 | 69020 |
| | 25 | 25 | 25 | 72025 | 15025 | 23025 | 34025 | 46025 | 69025 |
| 30 | 30 | 30 | 30 | 72030 | 15030 | 23030 | 34030 | 46030 | 69030 |
| 40 | 40 | 40 | 40 | 72040 | 15040 | 23040 | 34040 | 46040 | 69040 |
| 50 | 50 | 50 | 50 | 72050 | 15050 | 23050 | 34050 | 46050 | 69050 |
| 60 | 60 | 60 | | 72060 | 15060 | 23060 | 34060 | 46060 | 69060 |
| | | | 65 | 72065 | 15065 | 23065 | 34065 | 46065 | 69065 |
| 75 | 75 | 75 | | 72075 | 15075 | 23075 | 34075 | 46075 | 69075 |
| | | | 80 | 72080 | 15080 | 23080 | 34080 | 46080 | 69080 |
| 100 | 100 | 100 | 100 | 72100 | 15100 | 23100 | 34100 | 46100 | 69100 |
| 125 | 125 | 125 | 125 | 72125 | 15125 | 23125 | 34125 | 46425 | 69125 |
| 200 | 200 | 200 | 200 | 72200 | 15200 | 23200 | 34200 | 46200 | 69200 |
| 250 | 250 | 250 | | 72250 | 15250 | 23250 | 34250 | 46250 | 69250 |
| 300 | 300 | 300 | | 72300 | 15300 | 23300 | 34300 | 46300 | 69300 |
| | 350 | | | 72350 | 15350 | 23350 | 34350 | 45350 | 69350 |
| | 400 | | | 72400 | 15400 | 23400 | 34400 | 45400 | 69400 |

| Fuse Kit Types Available in Amp Ratings Shown | | | | Catalog Code Numbers | | |
|---|------|------|-----|----------------------|----------|----------|
| PFA | PMA | PXA | PEA | 115 kV | 138 kV | 161 kV |
| 3 | 3 | 3 | 3 | 115003 | 138003 | 161003 |
| 5 | 5 | 5 | 5 | 115005 | 138005 | 161005 |
| | | | 7 | 115007 | 138007 | 161007 |
| | | 8 | 8 | 115008 | 138008 | 161008 |
| 10 | 10 | 10 | 10 | 115010 | 138010 | 161010 |
| | 12.5 | 12.5 | | 115012.5 | 138012.5 | 161012.5 |
| 15 | 15 | 15 | 15 | 115015 | 138015 | 161015 |
| 20 | 20 | 20 | 20 | 115020 | 138020 | 161020 |
| | 25 | 25 | 25 | 115025 | 138025 | 161025 |
| 30 | 30 | 30 | 30 | 115030 | 138030 | 161030 |
| 40 | 40 | 40 | 40 | 115040 | 138040 | 161040 |
| 50 | 50 | 50 | 50 | 115050 | 138050 | 161050 |
| 60 | 60 | 60 | | 115060 | 138060 | 161060 |
| | | | 65 | 115065 | 138065 | 161065 |
| 75 | 75 | 75 | | 115075 | 138075 | 161075 |
| | | | 80 | 115080 | 138080 | 161080 |
| 100 | 100 | 100 | 100 | 115100 | 138100 | 161100 |
| 125 | 125 | 125 | 125 | 115125 | 138125 | 161125 |
| 200 | 200 | 200 | 200 | 115200 | 138200 | 161200 |

= Not Available

PF and PFA = slow speed

PM and PMA = medium speed

PX and PXA = fast speed

PE and PEA = NEMA-EEI standard speed

POWER FUSE KIT - POWER FUSE HOLDER COORDINATION CHART

| Power Fuse Ratings (Amperes) | Fuse Holder Rating (Amperes) |
|---|------------------------------|
| 3, 5, 7, 8, 10, 12.5, 15, 20, 30, 40, 50, 60, 65, 75, 80, 100 | 100 |
| 125, 150, & 200 | 200 |
| 250 & 300 | 300 |
| 350 & 400 | 400 |

Southern
States

The Quality Name in High Voltage Switching

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