

# SECTION 1

## TRANSFORMER QUICK SELECTION CHARTS

### HPS Imperator®

| Pri. Volts                            | Sec. Volts                      | Group | Part No.  | Page |
|---------------------------------------|---------------------------------|-------|-----------|------|
| 600, 575, 550                         | 120 x 240, 115 x 230, 110 x 220 | A     | PH***AJ   | 36   |
| 600, 575, 550                         | 12 x 24, 11.5 x 23, 11 x 22     | B     | PH***AR   | 36   |
| 240 x 480, 230 x 460, 220 x 440       | 120 x 240, 115 x 230, 110 x 220 | C     | PH***MQMJ | 37   |
| 240 x 480, 230 x 460, 220 x 440       | 12 x 24, 11.5 x 23, 11 x 22     | D     | PH***QR   | 37   |
| 208 x 416, 200 x 400, 190 x 380       | 120 x 240, 115 x 230, 110 x 220 | E     | PH***SP   | 38   |
| 120 x 240, 115 x 230, 110 x 220       | 120 x 240, 115 x 230, 110 x 220 | F     | PH***PP   | 38   |
| 120 x 240, 115 x 230, 110 x 220       | 12 x 24, 11.5 x 23, 11 x 22     | G     | PH***PG   | 39   |
| 600/480/240, 575/460/230, 550/440/220 | 120/100, 115/95, 110/90         | H     | PH***MBMH | 39   |
| 480/240, 460/230/208, 440/220/200     | 120/25, 115/24, 110/23          | I     | PH***MLI  | 40   |
| 415/400/380                           | 110 x 220                       | J     | PH***MEMX | 40   |
| 380/277/208                           | 120 x 240                       | K     | PH***MGJ  | 41   |

### HPS Spartan®

| Pri. Volts                      | Sec. Volts                      | Group | Part No.  | Page |
|---------------------------------|---------------------------------|-------|-----------|------|
| 600/480, 575/460, 550/440       | 120 x 240, 115 x 230, 110 x 220 | A     | SP***ACP  | 47   |
| 600, 575, 550                   | 12 x 24, 11.5 x 23, 11 x 22     | B     | SP***AR   | 47   |
| 240 x 480, 230 x 460, 220 x 440 | 120 x 240, 115 x 230, 110 x 220 | C     | SP***MQMJ | 48   |
| 240 x 480, 230 x 460, 220 x 440 | 12 x 24, 11.5 x 23, 11 x 22     | D     | SP***QR   | 48   |
| 347/380                         | 120 x 240                       | E     | SP***KHP  | 49   |
| 347/380                         | 12 x 24                         | F     | SP***KHR  | 49   |
| 277                             | 120                             | G     | SP***NJ   | 50   |
| 120 x 240, 115 x 230, 110 x 220 | 12 x 24, 11.5 x 23, 11 x 22     | H     | SP***PR   | 50   |
| 208 x 416, 200 x 400, 190 x 380 | 120 x 240, 115 x 230, 110 x 220 | I     | SP***SP   | 51   |
| 208 x 416, 200 x 400, 190 x 380 | 12 x 24, 11.5 x 23, 11 x 22     | J     | SP***SR   | 51   |

### HPS Fusion™

| Pri. Volts                      | Sec. Volts                      | Group | Part No.  | Page |
|---------------------------------|---------------------------------|-------|-----------|------|
| 600/480, 575/460, 550/440       | 120 x 240, 115 x 230, 110 x 220 | A     | FS***ACP  | 55   |
| 600, 575, 550                   | 12 x 24, 11.5 x 23, 11 x 22     | B     | FS***AR   | 55   |
| 240 x 480, 230 x 460, 220 x 440 | 120 x 240, 115 x 230, 110 x 220 | C     | FS***MQMJ | 56   |
| 240 x 480, 230 x 460, 220 x 440 | 12 x 24, 11.5 x 23, 11 x 22     | D     | FS***QR   | 56   |
| 347/380                         | 120 x 240                       | E     | FS***KHP  | 57   |
| 347/380                         | 12 x 24                         | F     | FS***KHR  | 57   |
| 277                             | 120                             | G     | FS***NJ   | 58   |
| 120 x 240, 115 x 230, 110 x 220 | 12 x 24, 11.5 x 23, 11 x 22     | H     | FS***PR   | 58   |
| 208 x 416, 200 x 400, 190 x 380 | 120 x 240, 115 x 230, 110 x 220 | I     | FS***SP   | 59   |
| 208 x 416, 200 x 400, 190 x 380 | 12 x 24, 11.5 x 23, 11 x 22     | J     | FS***SR   | 59   |

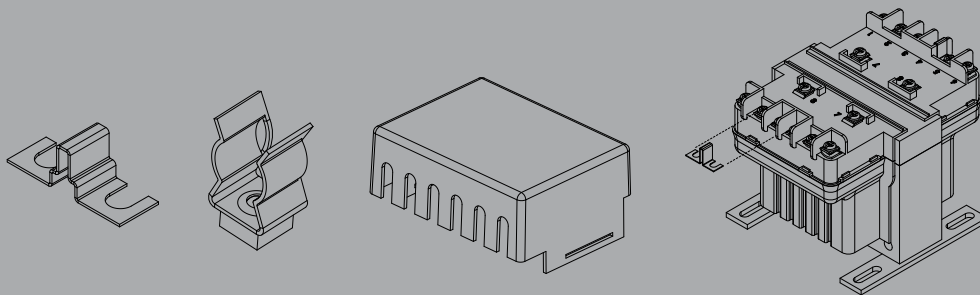
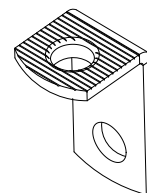
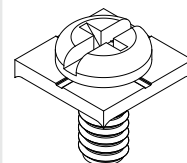
### Q Series

| Pri. Volts | Sec. Volts | Part No. | Page |
|------------|------------|----------|------|
| 600        | 12/24      | Q***PRC* | 62   |



## FEATURES & BENEFITS

- 600V class, machine tool rated industrial control transformers
- Multi-voltage primary and secondary models increase range of application per unit
- 50/60 Hertz (60Hz on PH\*\*\*AJ & PH\*\*\*AR)
- Termination: standard combination screw connection (including SEMS washers)
- Constructed with high quality silicon steel laminations that provide optimum performance and reliability
- Encapsulated copper wound coils encased in a custom injection molded cover, protects coils and terminations from moisture, dirt and other industrial airborne contaminants
- Mounting Feet: made of heavy steel and welded or bolted to the core, these mounting feet provide superior strength in a compact design.
- Superior insulating materials:
  - 105°C (55°C rise) 50 VA to 150 VA
  - 130°C (80°C rise) 250 VA to 1500 VA
 (Note: Temperature rise based on 25°C ambient)
- Seismically certified in accordance with IBC 2009; Section 1613 Earthquake Loads, for  $S_{DS} \leq 2.00g$ ,  $z/h = 1.0$ , and  $I_p = 1.5$
- Standard secondary fuse kits - utilizing 13/32" x 1 1/2" midget/type CC fuse clips
- Optional primary fuse kits available utilizing 13/32" x 1 1/2" midget/type CC fuse clips
- Optional finger safe terminal covers available on all units
- UL Listed (approved for U.S. and Canada)
- CE Mark standard on all units (excluding PH\*AR and PH\*AJ)
- RoHS Compliant
- **LIFETIME Warranty (Limited)**

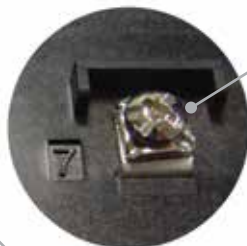


Warranty

Lifetime

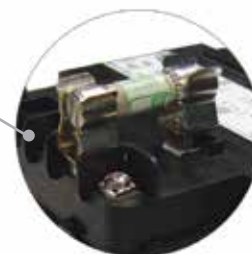
## FEATURES & BENEFITS CONTINUED

Terminal connection numbers molded into the terminal block and correspond to the nameplate and wiring diagrams, make connecting the HPS Imperator quick and simple.



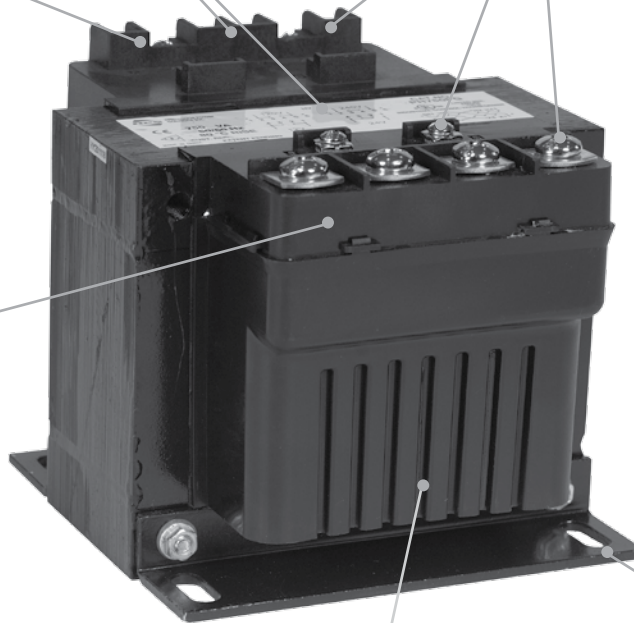
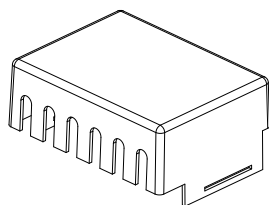
SEMS washer allows for easy connection of supply or load wires with or without terminal connectors.

Standard secondary and optional primary fuse kits utilizing 13/32" x 1 1/2" midget/type CC fuse clips provide an economical solution to your fusing requirements (fuses not available).



Innovative terminal block design provides for easy hook-up and installation of fuse clips.

Optional removable finger safe terminal covers available on all units.



Custom injection molded coil cover with its unique "fin shaped" design combines superior cooling properties with a clean, bold look.

Made of heavy steel and welded or bolted to the core, these mounting feet provide superior strength in a compact design.

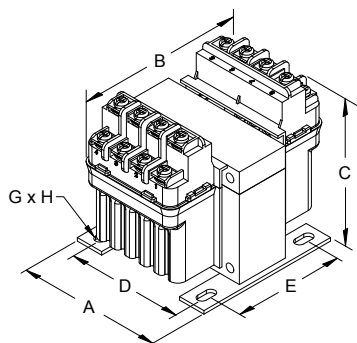


FIGURE A

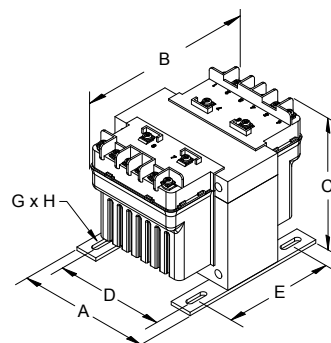


FIGURE B

## Group A

Primary Voltage: 600 || 575 || 550  
 Secondary Voltage: 120 X 240 || 115 X 230 || 110 X 220



60 Hertz

| VA Rating | Catalog Number | Mtg. Fig. | Output Amps | Overall Dimensions |      |      | Mounting Centers |      | Mounting Slot<br>G X H | Height with Finger Guard | Depth with Finger Guard | Approx. Ship Weight Lbs. | Optional Primary Fuse Kit P/N | Optional Unfused and Fused Finger Guard Kit P/N |
|-----------|----------------|-----------|-------------|--------------------|------|------|------------------|------|------------------------|--------------------------|-------------------------|--------------------------|-------------------------------|-------------------------------------------------|
|           |                |           |             | A                  | B    | C    | D                | E    |                        |                          |                         |                          |                               |                                                 |
| 50        | PH50AJ         | A         | 0.42/0.21   | 3.00               | 3.81 | 3.19 | 2.50             | 2.25 | 0.22 x 0.44            | 4.00                     | 5.25                    | 2.70                     | PFK1                          | FG1*/FGF1                                       |
| 75        | PH75AJ         | A         | 0.63/0.31   | 3.25               | 3.69 | 3.56 | 2.63             | 2.50 | 0.22 x 0.44            | 4.37                     | 5.13                    | 2.80                     | PFK1                          | FG2*/FGF2                                       |
| 100       | PH100AJ        | A         | 0.83/0.42   | 3.25               | 4.06 | 3.63 | 2.63             | 2.63 | 0.22 x 0.44            | 4.44                     | 5.50                    | 4.10                     | PFK1                          | FG2*/FGF2                                       |
| 150       | PH150AJ        | B         | 1.25/0.63   | 4.00               | 4.63 | 3.81 | 3.38             | 2.75 | 0.22 x 0.75            | 4.50                     | 6.13                    | 4.90                     | PFK2                          | FG3                                             |
| 250       | PH250AJ        | B         | 2.08/1.04   | 4.50               | 5.25 | 3.81 | 3.75             | 3.13 | 0.22 x 0.75            | 4.50                     | 6.75                    | 6.97                     | PFK2                          | FG3                                             |
| 350       | PH350AJ        | B         | 2.92/1.46   | 4.50               | 4.88 | 4.44 | 3.75             | 3.75 | 0.22 x 0.75            | 5.18                     | 6.38                    | 8.30                     | PFK3                          | FG4                                             |
| 500       | PH500AJ        | B         | 4.17/2.08   | 4.75               | 5.56 | 4.31 | 4.06             | 3.44 | 0.31 x 0.94            | 5.13                     | 7.06                    | 11.6                     | PFK3                          | FG4                                             |
| 750       | PH750AJ        | B         | 6.25/3.13   | 5.13               | 6.38 | 4.31 | 4.38             | 4.00 | 0.31 x 0.81            | 5.13                     | 8.13                    | 16.6                     | PFK3                          | FG4                                             |
| 1000      | PH1000AJ       | B         | 8.33/4.17   | 5.25               | 6.50 | 4.94 | 4.50             | 4.09 | 0.31 x 0.81            | 5.56                     | 8.00                    | 21.0                     | PFK3                          | FG5                                             |
| 1500      | PH1500AJ       | B         | 12.5/6.25   | 5.25               | 7.56 | 4.94 | 4.50             | 5.44 | 0.38 x 1.00            | 5.56                     | 9.06                    | 30.0                     | PFK3                          | FG5                                             |

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied standard with transformers.

All dimensions in inches

\*Note: Unfused finger guard kits are marked with an asterisk, for more information refer to page 43.  
 Refer to page 63 for wiring schematic drawing. Custom voltage and VA sizes available upon request.

## Group B

Primary Voltage: 600 || 575 || 550  
 Secondary Voltage: 12 X 24 || 11.5 X 23 || 11 X 22



60 Hertz

| VA Rating | Catalog Number | Mtg. Fig. | Output Amps | Overall Dimensions |      |      | Mounting Centers |      | Mounting Slot<br>G X H | Height with Finger Guard | Depth with Finger Guard | Approx. Ship Weight Lbs. | Optional Primary Fuse Kit P/N | Optional Unfused and Fused Finger Guard Kit P/N |
|-----------|----------------|-----------|-------------|--------------------|------|------|------------------|------|------------------------|--------------------------|-------------------------|--------------------------|-------------------------------|-------------------------------------------------|
|           |                |           |             | A                  | B    | C    | D                | E    |                        |                          |                         |                          |                               |                                                 |
| 50        | PH50AR         | A         | 4.17/2.08   | 3.00               | 3.81 | 3.19 | 2.50             | 2.25 | 0.22 x 0.44            | 4.00                     | 5.25                    | 2.70                     | PFK1                          | FG1*/FGF1                                       |
| 75        | PH75AR         | A         | 6.25/3.13   | 3.25               | 3.69 | 3.56 | 2.63             | 2.50 | 0.22 x 0.44            | 4.37                     | 5.13                    | 2.80                     | PFK1                          | FG2*/FGF2                                       |
| 100       | PH100AR        | A         | 8.33/4.17   | 3.25               | 4.19 | 3.63 | 2.63             | 2.63 | 0.22 x 0.44            | 4.50                     | 5.63                    | 4.50                     | PFK1                          | FG2*/FGF2                                       |
| 150       | PH150AR        | B         | 12.5/6.25   | 4.00               | 4.94 | 3.81 | 3.38             | 2.75 | 0.22 x 0.75            | 4.50                     | 6.44                    | 5.70                     | PFK2                          | FG3                                             |
| 250       | PH250AR        | B         | 20.8/10.4   | 4.50               | 5.44 | 3.81 | 3.75             | 3.13 | 0.22 x 0.75            | 4.50                     | 6.94                    | 7.50                     | PFK2                          | FG3                                             |
| 350       | PH350AR        | B         | 29.2/14.6   | 4.50               | 4.88 | 4.44 | 3.75             | 3.75 | 0.22 x 0.75            | 5.18                     | 6.38                    | 8.30                     | PFK3                          | FG4                                             |
| 500       | PH500AR        | B         | 41.7/20.8   | 4.75               | 5.56 | 4.31 | 4.06             | 3.44 | 0.31 x 0.94            | 5.13                     | 7.06                    | 11.6                     | PFK3                          | FG4                                             |

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied with transformers.

All dimensions in inches

\*Note: Unfused finger guard kits are marked with an asterisk, for more information refer to page 43.  
 Refer to page 64 for wiring schematic drawing. Custom voltages and VA sizes available upon request.