



## Machine Tool Industrial Control Transformers



The HPS Emperor™ series of machine tool rated industrial control transformers are specifically designed to meet high inrush industrial applications where electromagnetic components such as relays, solenoids and magnetic motor starters are used.

With **11 standard voltage groups**, a VA range from **50VA to 5000VA** and available with **standard secondary and optional primary fuse kits**, the HPS Emperor™ series provides the perfect solution for any application.

The HPS Emperor's unique terminal block design (patent pending) allows for the quick and easy installation of standard secondary or optional primary 13/32" x 1 1/2" midjet/type CC fuse clips on every unit. This is the simplest and most inexpensive fusing installation provided on any industrial control transformer in the market today.

### Key features:

- 600V class, machine tool rated industrial control transformers
- 11 standard multi primary and secondary voltage groups available<sup>1</sup>
- 50/60 Hertz (60Hz on PH\*\*\*AJ & PH\*\*\*AR)
- VA range from up to 50 to 5000<sup>1</sup>
- Standard SEMS washers - supplied on all units up to and including 1500VA<sup>2</sup>
- UL listed
- CE Mark standard on all molded units up to and including 1500VA
- RoHS compliant
- LIFETIME Warranty (Limited)

*For more information, click one of the links below:*

- [HPS Emperor Brochure](#) (ENCCON Control Brochure)
- [HPS Emperor Catalog Information](#) (HTP-08 Catalog Sec. 1)
- [HPS Emperor Wiring Instructions](#) (PHWD1-2 Wiring Instructions)
- [HPS Emperor Wiring Instructions - French](#) (PHWD1-2 Wiring Instructions)
- [HPS Emperor Typical Specification](#) (SPS 19, Rev 01)

<sup>1</sup> special voltage and VA sizes available upon request

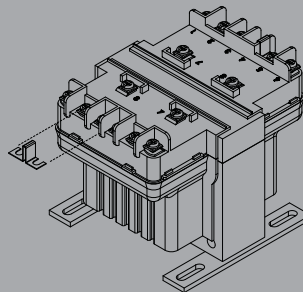
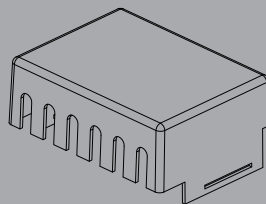
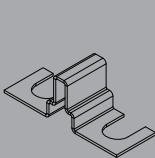
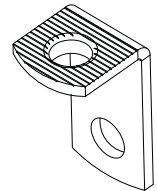
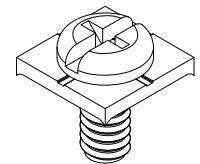
<sup>2</sup> excluding PH750PH, PH1000PG, PH750MLI, PH1000MLI

## FEATURES &amp; BENEFITS

- 600V class, machine tool rated industrial control transformers
- 11 standard multi primary and secondary voltage groups available<sup>1</sup>
- 50/60 Hertz (60Hz on PH\*\*\*AJ & PH\*\*\*AR)
- VA range from 50 to 5000<sup>1</sup>
- Superior insulation system
  - 50-150VA, temperature rise 55°C, insulation class 105°C
  - 250-1500VA, temperature rise 80°C, insulation class 130°C
  - 2000-5000VA, temperature rise 115°C, insulation class 180°C
- Constructed with high quality silicon steel laminations that provide optimum performance and reliability
- Encapsulated coils (up to and including 1500VA) 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.
- Termination: combination slot/Philips #6 screw, complete with SEMS washer (suitable for 18 AWG to 14 AWG solid or 14 AWG stranded wire)
- Standard SEMS washers - supplied on all units up to and including 1500VA<sup>2</sup>
- Standard secondary fuse kits -utilizing 13/32" x 1 1/2" midget/type CC fuse clips (supplied with all standard units up to and including 1500VA)
- Optional primary fuse kits available utilizing 13/32" x 1 1/2" midget/type CC fuse clips (available on all standard units up to and including 1500VA)
- Optional finger safe terminal covers available on all units up to and including 1500VA
- UL Listed (approved for U.S. and Canada)
- CE Mark standard on all molded units up to and including 1500VA (excluding PH\*\*\*AJ & PH\*\*\*AR)
- LIFETIME Warranty (Limited)
- RoHS Compliant

<sup>1</sup> special voltages and VA sizes available upon request

<sup>2</sup> excluding PH750PG, PH1000PG, PH750MLI, PH1000MLI



WARRANTY

Lifetime

## FEATURES &amp; BENEFITS CONTINUED

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

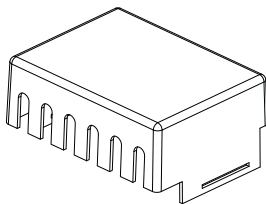


Standard secondary and optional primary fuse kits utilizing 13/32" x 1 1/2" midget/type CC fuse clips provide an economical solution to your fusing requirements (fuses not available).



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

Optional removable finger safe terminal covers available on all units up to and including 1500VA.



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.

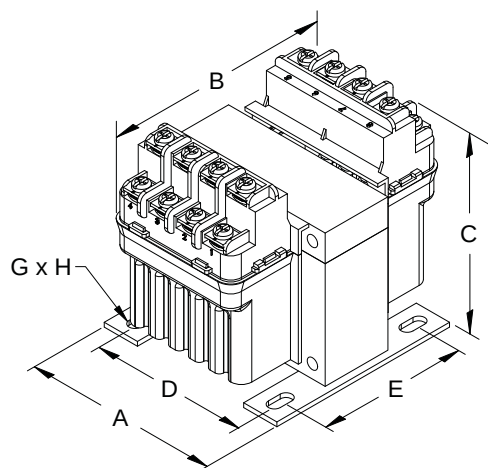


FIGURE A

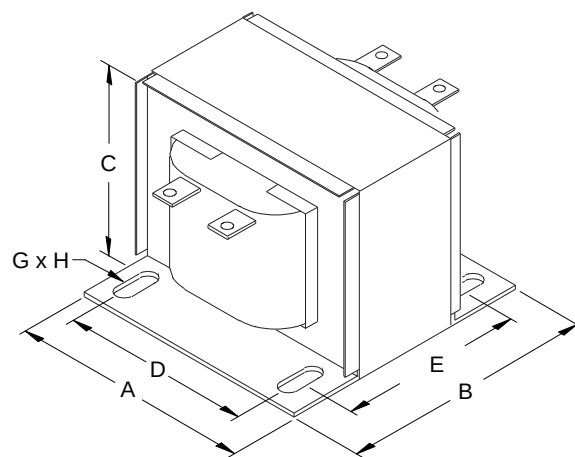


FIGURE C

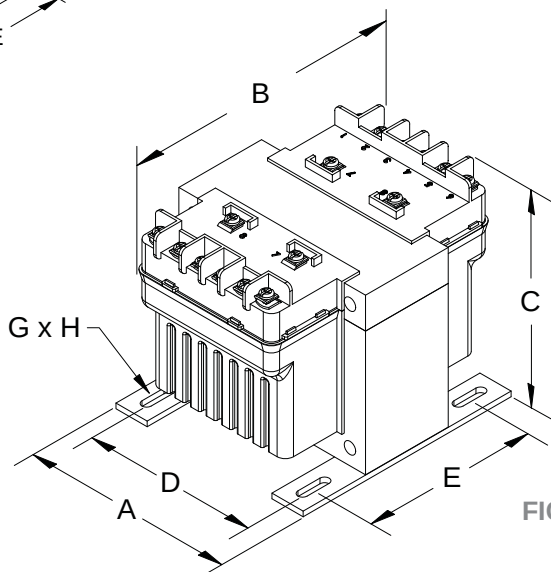


FIGURE B

## Group C

Primary Voltage: 240 x 480 || 230 x 460 || 220 x 440  
 Secondary Voltage: 120 x 240 || 115 x 230 || 110 x 220



50/60 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 |
|-----------|----------------|-----------|-------------|--------------------|-------|------|------------------|------|------------------------|--------------------------|-------------------------|--------------------------|-------------------------------|
|           |                |           |             | A                  | B     | C    | D                | E    |                        |                          |                         |                          |                               |
| 50        | PH50MQMJ       | A         | 0.42/0.21   | 3.00               | 4.38  | 3.19 | 2.50             | 2.25 | 0.22 x 0.44            | 4.00                     | 5.82                    | 3.50                     | PFK1                          |
| 75        | PH75MQMJ       | A         | 0.63/0.31   | 3.25               | 3.88  | 3.56 | 2.63             | 2.50 | 0.22 x 0.44            | 4.37                     | 5.32                    | 3.54                     | PFK1                          |
| 100       | PH100MQMJ      | A         | 0.83/0.42   | 3.25               | 4.19  | 3.63 | 2.63             | 2.63 | 0.22 x 0.44            | 4.44                     | 5.63                    | 4.50                     | PFK1                          |
| 150       | PH150MQMJ      | B         | 1.25/0.63   | 4.00               | 4.94  | 3.81 | 3.38             | 2.75 | 0.22 x 0.75            | 4.50                     | 6.44                    | 5.70                     | PFK2                          |
| 250       | PH250MQMJ      | B         | 2.08/1.04   | 4.50               | 5.44  | 3.81 | 3.75             | 3.13 | 0.22 x 0.75            | 4.50                     | 6.94                    | 7.50                     | PFK2                          |
| 350       | PH350MQMJ      | B         | 2.92/1.46   | 4.50               | 5.19  | 4.44 | 3.75             | 3.75 | 0.22 x 0.75            | 4.94                     | 6.69                    | 10.1                     | PFK3                          |
| 500       | PH500MQMJ      | B         | 4.17/2.08   | 4.75               | 5.94  | 4.31 | 4.06             | 3.81 | 0.31 x 0.94            | 4.81                     | 7.44                    | 14.2                     | PFK3                          |
| 750       | PH750MQMJ      | B         | 6.25/3.13   | 5.13               | 6.69  | 4.31 | 4.38             | 4.31 | 0.31 x 0.81            | 4.81                     | 8.19                    | 16.6                     | PFK3                          |
| 1000      | PH1000MQMJ     | B         | 8.33/4.17   | 5.25               | 6.81  | 4.94 | 4.50             | 4.44 | 0.31 x 0.81            | 5.56                     | 8.31                    | 23.6                     | PFK3                          |
| 1500      | PH1500MQMJ     | B         | 12.5/6.25   | 5.25               | 8.19  | 4.94 | 4.50             | 6.06 | 0.38 x 1.00            | 5.56                     | 9.69                    | 32.0                     | PFK3                          |
| 2000      | PH2000MQMJ     | C         | 16.7/8.33   | 6.38               | 7.50  | 5.50 | 4.38/5.31        | 6.00 | 0.31 x 1.13            | N/A                      | N/A                     | 45.4                     | N/A                           |
| 3000      | PH3000MQMJ     | C         | 25.0/12.5   | 7.50               | 10.00 | 6.25 | 4.50/6.00        | 7.00 | 0.38 x 1.00            | N/A                      | N/A                     | 76.7                     | N/A                           |
| 5000      | PH5000MQMJ     | C         | 41.7/20.8   | 9.00               | 11.00 | 7.63 | 5.25/7.00        | 7.00 | 0.44 x 1.00            | N/A                      | N/A                     | 121.2                    | N/A                           |

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied standard with transformers up to and including 1500VA. Refer to page 54 for wiring schematic drawing. Special voltages and VA sizes available upon request.

All dimensions in inches

Units over 1500VA are UL approved and CSA certified, but do not carry the CE mark.

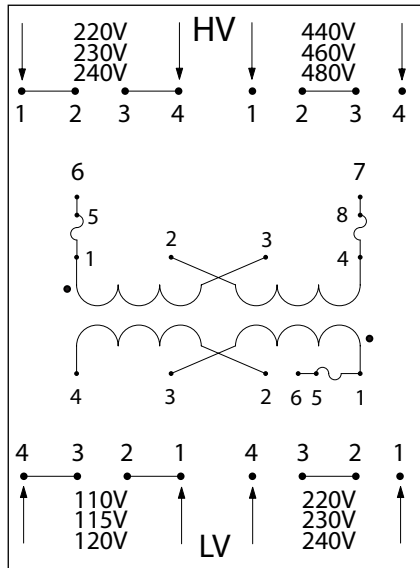
\*\*\* Available with FACTORY INSTALLED Primary and Secondary Fuse Kits up to 1500VA. To order, add the suffix "-FK" to the above part number. Refer to page 49 for details. \*\*\*



## HPS IMPERATOR Series - Wiring Schematic Drawings continued

### Group C

SECTION 1

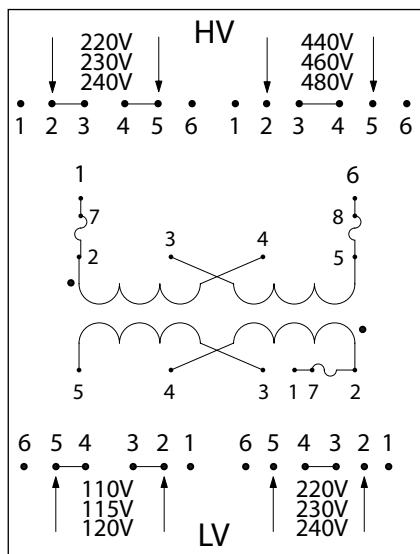


### PH\*\*\*MQMJ Schematic for 50, 75 and 100VA Units

| High Voltage (HV)<br>(Primary Volts) | Install Supplied Links<br>Between Terminals | Supply Lines<br>Connect To | Install Fuse<br>Clips To |
|--------------------------------------|---------------------------------------------|----------------------------|--------------------------|
| 240 230 220                          | 1-2, 3-4                                    | 1, 4                       | Unfused                  |
| 480 460 440                          | 2-3                                         | 1, 4                       | Unfused                  |
| 240 230 220                          | 1-2, 3-4                                    | 6, 7                       | 1-5, 4-8                 |
| 480 460 440                          | 2-3                                         | 6, 7                       | 1-5, 4-8                 |

| Low Voltage (LV)<br>(Secondary Volts) | Install Supplied Links<br>Between Terminals | Load Lines<br>Connect To | Install Fuse<br>Clips To |
|---------------------------------------|---------------------------------------------|--------------------------|--------------------------|
| 120 115 110                           | 3-4, 1-2                                    | 1, 4                     | Unfused                  |
| 240 230 220                           | 2-3                                         | 1, 4                     | Unfused                  |
| 120 115 110                           | 3-4, 1-2                                    | 4, 6                     | 1-5                      |
| 240 230 220                           | 2-3                                         | 4, 6                     | 1-5                      |



### PH\*\*\*MQMJ Schematic for 150VA to 1500VA Units

| High Voltage (HV)<br>(Primary Volts) | Install Supplied Links<br>Between Terminals | Supply Lines<br>Connect To | Install Fuse<br>Clips To |
|--------------------------------------|---------------------------------------------|----------------------------|--------------------------|
| 240 230 220                          | 2-3, 4-5                                    | 2, 5                       | Unfused                  |
| 480 460 440                          | 3-4                                         | 2, 5                       | Unfused                  |
| 240 230 220                          | 2-3, 4-5                                    | 1, 6                       | 2-7, 5-8                 |
| 480 460 440                          | 3-4                                         | 1, 6                       | 2-7, 5-8                 |

| Low Voltage (LV)<br>(Secondary Volts) | Install Supplied Links<br>Between Terminals | Load Lines<br>Connect To | Install Fuse<br>Clips To |
|---------------------------------------|---------------------------------------------|--------------------------|--------------------------|
| 120 115 110                           | 4-5, 2-3                                    | 2, 5                     | Unfused                  |
| 240 230 220                           | 3-4                                         | 2, 5                     | Unfused                  |
| 120 115 110                           | 4-5, 2-3                                    | 1, 5                     | 2-7                      |
| 240 230 220                           | 3-4                                         | 1, 5                     | 2-7                      |