

PROGRESSIVE
Innovative
Solutions



HPS IMPERATOR[®]

Encapsulated Machine Tool
Industrial Control Transformers

- Lifetime Warranty
- Unique Terminal Block
- Innovative Fusing Method
 - Patented Design



Hammond Power
Solutions Inc.

HPS IMPERATOR®

Encapsulated Machine Tool Industrial Control Transformers

OUR COMPANY

Hammond Power Solutions (HPS) was established in 1917 in Guelph, Ontario and has grown from a small family owned business in the short wave radio market, to the industry leader in magnetic transformer design and manufacturing. HPS has 6 manufacturing facilities and currently has 10 regional distribution centers throughout North America.

INNOVATIVE DESIGN

The HPS Imperator® series is a unique innovative and compact design that provides the ideal solution for any industrial control application and will change the way the industrial machine tool industry looks at the control transformer.

The HPS Imperator's unique terminal block design allows for the quick and easy installation of standard secondary or optional primary 13/32" x 1 1/2" midget/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.

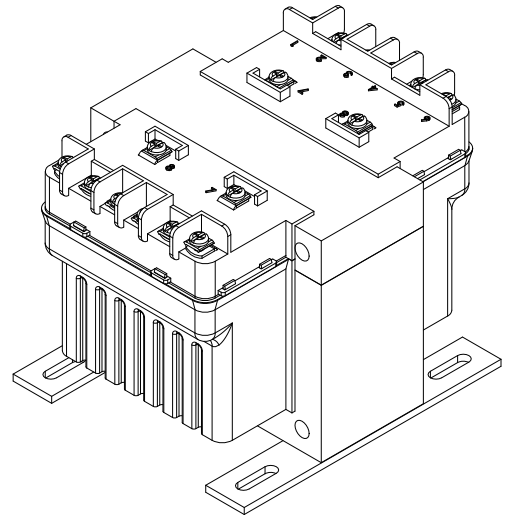
The windings and internal terminations of the HPS Imperator are encapsulated which protects them from moisture, dirt and other airborne contaminants. The custom molded coil covers with their unique 'fin shaped' design combine superior transformer cooling properties with a clean bold look.

The HPS Imperator utilizes custom serrated terminals, in combination with standard SEMS washer screws making assembly easier and quicker to install; and provides superior connection strength when connecting with bare, solid or stranded wire. It also allows for ring or spade termination connectors.

THE PERFECT SOLUTION

The HPS Imperator series of machine tool rated industrial control transformers are specifically designed to meet the 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 1500VA and available with standard secondary and optional primary fuse kits, the HPS Imperator series provides the perfect solution for any application.



ENGINEERING

Precision



APPLICATIONS

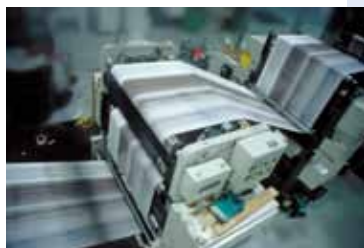
- Automation
- Panel Shops
- Machines
- Panel Boards
- Solenoids
- Control Applications
- Timers



PERFORMANCE
Value
Quality

INDUSTRIES

- Paper Mills
- Printing
- Automotive
- Packaging Systems
- Process Automation



SUPERIOR QUALITY & VALUE

The HPS Imperator series design, utilizing superior insulation systems and being constructed with high quality silicon steel laminations for optimum performance, will meet or exceed UL and CE standards.

Backed by an industry leading LIFETIME warranty, the HPS Imperator industrial control transformer line offers superior performance, quality and value.



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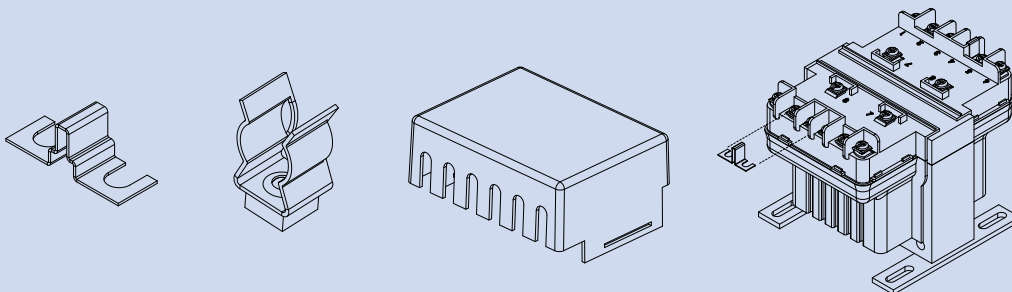
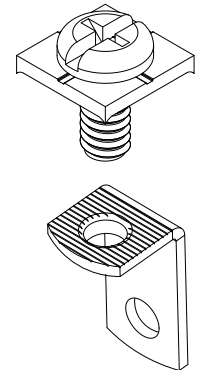
Encapsulated Machine Tool Industrial Control Transformers

FEATURES & BENEFITS

- 600V class, machine tool rated industrial control transformers
- 11 standard multi primary and secondary voltage groups available¹
- 50/60 Hertz (60Hz on PH***AJ & PH***AR)
- VA range from 50 up to 1500¹
- Superior insulation system
 - 50-150VA, temperature rise 55°C, insulation class 105°C
 - 250-1500VA, temperature rise 80°C, insulation class 130°C
- Constructed with high quality silicon steel laminations that provide optimum performance and reliability
- Encapsulated coils encased in a custom injection molded cover, protect 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 units²
- Standard secondary fuse kits -utilizing 13/32" x 1 1/2" midget/type CC fuse clips (supplied with all units)
- 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***AJ & PH***AR)
- LIFETIME Warranty (Limited)
- RoHS Compliant

¹ special voltages and VA sizes available upon request

² excluding PH750PG, PH1000PG, PH750MLI, PH1000MLI



WARRANTY

Lifetime



Terminal connection numbers molded into terminal block and correspond to 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

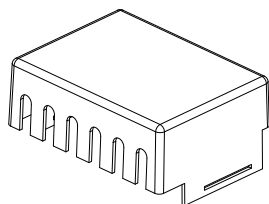


Innovative terminal block design provides for easy hook-up and installation of fuse clips.

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).



Optional removable finger safe terminal covers available on all standard units.



Custom injection molded coil cover with its unique "fin shaped" design combine 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.



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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 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	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
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
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
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
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
350	PH350AJ	B	2.92/1.46	4.50	4.88	4.44	3.75	3.75	0.22 x 0.75	4.94	6.38	8.30	PFK3
500	PH500AJ	B	4.17/2.08	4.75	5.56	4.31	4.06	3.44	0.31 x 0.94	4.81	7.06	11.6	PFK3
750	PH750AJ	B	6.25/3.13	5.13	6.38	4.31	4.38	4.00	0.31 x 0.81	4.81	7.88	16.6	PFK3
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
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

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied standard with transformers.
 Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request.

All dimensions in inches

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 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	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
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
100	PH100AR	A	8.33/4.17	3.25	4.19	3.63	2.63	2.63	0.22 x 0.44	4.44	5.63	4.50	PFK1
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
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
350	PH350AR	B	29.2/14.6	4.50	4.88	4.44	3.75	3.75	0.22 x 0.75	4.94	6.38	8.30	PFK3
500	PH500AR	B	41.7/20.8	4.75	5.56	4.31	4.06	3.44	0.31 x 0.94	4.81	7.06	11.6	PFK3

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied with transformers.
 Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request.

All dimensions in inches



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 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

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied standard with transformers.
 Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request.

All dimensions in inches

Group D

Primary Voltage: **240 x 480** || 230 x 460 || 220 x 440
 Secondary Voltage: **12 x 24** || 11.5 x 23 || 11 x 22



50/60 Hertz

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		Mounting Slot 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	PH50QR	A	4.17/2.08	3.00	4.38	3.19	2.50	2.25	0.22 x 0.44	4.00	5.82	3.50	PFK1
75	PH75QR	A	6.25/3.13	3.25	3.88	3.56	2.63	2.50	0.22 x 0.44	4.37	5.32	3.54	PFK1
100	PH100QR	A	8.33/4.17	3.25	4.19	3.63	2.63	2.63	0.22 x 0.44	4.44	5.63	4.50	PFK1
150	PH150QR	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
250	PH250QR	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
350	PH350QR	B	29.2/14.6	4.50	5.19	4.44	3.75	3.75	0.22 x 0.75	4.94	6.69	10.1	PFK3
500	PH500QR	B	41.7/20.8	4.75	5.94	4.31	4.06	3.81	0.31 x 0.94	4.81	7.44	14.2	PFK3

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied standard with transformers.
 Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request.

All dimensions in inches



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Group E

Primary Voltage: **208 x 416** || 200 x 400 || 190 x 380
 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 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	PH50SP	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	PH75SP	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	PH100SP	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	PH150SP	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	PH250SP	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	PH350SP	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	PH500SP	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	PH750SP	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	PH1000SP	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

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied standard with transformers.
 Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request.

All dimensions in inches

Group F

Primary Voltage: **120 x 240** || 115 x 230 || 110 x 220
 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		Mtg. Slot 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	PH50PP	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	PH75PP	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	PH100PP	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	PH150PP	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	PH250PP	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	PH350PP	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	PH500PP	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	PH750PP	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	PH1000PP	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	PH1500PP	B	12.5/6.25	5.25	8.19	4.94	4.50	6.06	0.38 x 1.0	5.56	9.69	32.0	PFK3

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied standard with transformers.
 Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request.

All dimensions in inches



Group G

Primary Voltage: **120 x 240** || **115 x 230** || **110 x 220**
 Secondary Voltage: **12 x 24** || **11.5 x 23** || **11 x 22**



50/60 Hertz

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		Mounting Slot	Height with Finger Guard	Depth with Finger Guard	Approx. Ship Weight Lbs.	Optional Primary Fuse Kit P/N
				A	B	C	D	E					
50	PH50PG	A	4.17/2.08	3.00	4.38	3.19	2.50	2.25	0.22 x 0.44	4.00	5.82	3.50	PFK1
75	PH75PG	A	6.25/3.13	3.25	3.88	3.56	2.63	2.50	0.22 x 0.44	4.37	5.32	3.54	PFK1
100	PH100PG	A	8.33/4.17	3.25	4.19	3.63	2.63	2.63	0.22 x 0.44	4.44	5.63	4.50	PFK1
150	PH150PG	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
250	PH250PG	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
350	PH350PG	B	29.2/14.6	4.50	5.19	4.44	3.75	3.75	0.22 x 0.75	4.94	6.69	10.1	PFK3
500	PH500PG	B	41.7/20.8	4.75	5.94	4.31	4.06	3.81	0.31 x 0.94	4.81	7.44	14.2	PFK3
750	PH750PG	C	62.5/31.3	5.13	6.69	4.31	4.38	4.31	0.31 x 0.81	4.81	8.19	16.6	PFK3
1000	PH1000PG	C	83.3/41.7	5.25	6.81	4.94	4.50	4.44	0.31 x 0.81	5.56	8.31	23.6	PFK3

Secondary fuse clips and fuse clip mounting screws supplied standard with transformers up to and including 500VA. Primary and secondary voltage links/jumpers supplied standard with transformers. Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request. All dimensions in inches

Group H

Primary Voltage: **600/480/240** || **575/460/230** || **550/440/220**
 Secondary Voltage: **120/100** || **115/95** || **110/90**



50/60 Hertz

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		Mounting Slot	Height with Finger Guard	Depth with Finger Guard	Approx. Ship Weight Lbs.	Optional Primary Fuse Kit P/N
				A	B	C	D	E					
50	PH50MBMH	A	0.43	3.25	4.06	3.63	2.63	2.63	0.22 x 0.44	4.44	5.50	4.10	PFK4
75	PH75MBMH	A	0.65	3.25	4.19	3.63	2.63	2.63	0.22 x 0.44	4.44	5.63	4.50	PFK5
100	PH100MBMH	B	0.87	4.00	4.63	3.81	3.38	2.75	0.22 x 0.75	4.50	6.13	4.90	PFK6
150	PH150MBMH	B	1.30	4.00	5.44	3.81	3.38	2.75	0.22 x 0.75	4.50	6.94	7.60	PFK6
250	PH250MBMH	B	2.17	4.50	5.19	4.44	3.75	3.75	0.22 x 0.75	4.94	6.69	10.1	PFK6
350	PH350MBMH	B	3.04	4.50	5.56	4.44	3.75	3.75	0.22 x 0.75	4.94	7.06	11.0	PFK7
500	PH500MBMH	B	4.35	4.75	6.69	4.31	4.06	4.50	0.31 x 0.94	4.81	8.19	16.3	PFK7
750	PH750MBMH	B	6.52	5.25	6.81	4.94	4.50	4.44	0.31 x 0.81	5.56	8.31	23.6	PFK7
1000	PH1000MBMH	B	8.70	5.25	8.19	4.94	4.50	5.81	0.31 x 0.81	5.56	9.69	31.2	PFK7
1500	PH1500MBMH	B	13.0	5.25	8.19	4.94	4.50	6.06	0.38 x 1.0	5.56	9.69	32.0	PFK7

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied standard with transformers. Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request.

All dimensions in inches



Hammond Power Solutions Inc.

HPS IMPERATOR®

Encapsulated Machine Tool Industrial Control Transformers

Group I

Primary Voltage: 480/240 || **460/230/208** || 440/220/200
 Secondary Voltage: 120/25 || **115/24** || 110/23



50/60 Hertz

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		Mounting Slot G X H	Height with Finger Guard	Depth with Finger Guard	Approx. Ship Weight Lbs.s	Optional Primary Fuse Kit P/N
				A	B	C	D	E					
50	PH50MLI	A	0.43/2.08	3.25	4.06	3.56	2.63	2.50	0.22 x 0.44	4.37	5.50	4.00	PFK5
75	PH75MLI	A	0.65/3.13	3.25	4.25	3.56	2.63	2.50	0.22 x 0.44	4.37	5.69	4.60	PFK5
100	PH100MLI	A	0.87/4.17	3.25	4.69	3.63	2.63	2.63	0.22 x 0.44	4.44	6.13	5.20	PFK5
150	PH150MLI	B	1.30/6.25	4.00	5.44	3.81	3.38	2.75	0.22 x 0.75	4.50	6.94	7.60	PFK6
250	PH250MLI	B	2.17/10.42	4.50	5.19	4.44	3.75	3.75	0.22 x 0.75	4.94	6.69	10.1	PFK6
350	PH350MLI	B	3.04/14.58	4.50	5.56	4.44	3.75	3.75	0.22 x 0.75	4.94	7.06	11.0	PFK7
500	PH500MLI	B	4.35/20.83	4.75	6.69	4.31	4.06	4.50	0.31 x 0.94	4.81	8.19	16.3	PFK7
750	PH750MLI	C	6.52/31.25	5.25	6.50	4.94	4.50	4.13	0.31 x 0.81	5.56	8.00	21.0	PFK7
1000	PH1000MLI	C	8.70/41.67	5.25	8.19	4.94	4.50	5.81	0.31 x 0.81	5.56	9.69	31.2	PFK7

Secondary fuse clips and fuse clip mounting screws supplied standard with transformers up to and including 500VA. Primary and secondary voltage links/jumpers supplied standard with transformers. Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request.

All dimensions in inches

Group J

Primary Voltage: **415/400/380**
 Secondary Voltage: **110 x 220**



50/60 Hertz

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		Mounting Slot 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	PH50MEMX	A	0.45/0.23	3.00	4.38	3.19	2.50	2.25	0.22 x 0.44	4.00	5.82	3.50	PFK4
75	PH75MEMX	A	0.68/0.34	3.25	4.06	3.63	2.63	2.63	0.22 x 0.44	4.44	5.50	4.10	PFK5
100	PH100MEMX	A	0.91/0.45	3.25	4.19	3.63	2.63	2.63	0.22 x 0.44	4.44	5.63	4.50	PFK5
150	PH150MEMX	B	1.36/0.68	4.00	4.94	3.81	3.38	2.75	0.22 x 0.75	4.50	6.44	5.70	PFK6
250	PH250MEMX	B	2.27/1.14	4.50	5.44	3.81	3.75	3.13	0.22 x 0.75	4.50	6.94	7.50	PFK6
350	PH350MEMX	B	3.18/1.59	4.50	5.19	4.44	3.75	3.75	0.22 x 0.75	4.94	6.69	10.1	PFK7
500	PH500MEMX	B	4.55/2.27	4.75	5.94	4.31	4.06	3.81	0.31 x 0.94	4.81	7.44	14.2	PFK7
750	PH750MEMX	B	6.82/3.41	5.25	6.50	4.94	4.50	4.13	0.31 x 0.81	5.56	8.00	21.0	PFK7
1000	PH1000MEMX	B	9.09/4.55	5.25	6.81	4.94	4.50	4.44	0.31 x 0.81	5.56	8.31	23.6	PFK7

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied with transformers. Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request.

All dimensions in inches



Group K

Primary Voltage: **380/277/208**

Secondary Voltage: **120 x 240**



50/60 Hertz

VA Rating	Catalog Number	Mtg. Fig.	Output Amps	Overall Dimensions			Mounting Centers		Mounting Slot 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	PH50MGJ	A	0.42/0.21	3.25	3.88	3.56	2.63	2.50	0.22 x 0.44	4.37	5.32	3.54	PFK4
75	PH75MGJ	A	0.63/0.31	3.25	4.19	3.63	2.63	2.63	0.22 x 0.44	4.44	5.63	4.50	PFK5
100	PH100MGJ	A	0.83/0.42	3.25	4.69	3.63	2.63	2.63	0.22 x 0.44	4.44	6.13	5.20	PFK5
150	PH150MGJ	B	1.25/0.63	4.00	5.44	3.81	3.38	2.75	0.22 x 0.75	4.50	6.94	7.60	PFK6
250	PH250MGJ	B	2.08/1.04	4.50	4.88	4.44	3.75	3.75	0.22 x 0.75	4.94	6.38	8.30	PFK6
350	PH350MGJ	B	2.92/1.46	4.50	5.56	4.44	3.75	3.75	0.22 x 0.75	4.94	7.06	11.0	PFK7
500	PH500MGJ	B	4.17/2.08	4.75	6.69	4.31	4.06	4.50	0.31 x 0.94	4.81	8.19	16.3	PFK7
750	PH750MGJ	B	6.25/3.13	5.25	6.81	4.94	4.50	4.44	0.31 x 0.81	5.56	8.31	23.6	PFK7
1000	PH1000MGJ	B	8.33/4.17	5.25	7.25	4.94	4.50	4.83	0.31 x 0.81	5.44	8.75	25.5	PFK7

Secondary fuse clips, fuse clip mounting screws and primary and secondary voltage links/jumpers supplied with transformers.
Please refer to page 14 for dimensional drawings. Special voltages and VA sizes available upon request.

All dimensions in inches

Accessory Kits Available

The HPS Imperator series of machine tool rated industrial control transformers are supplied with standard secondary fuse kits or optional accessories such as primary fuse kits and finger guards.

Standard Secondary Fuse Kits

All HPS Imperator control transformers are supplied with standard secondary fuse kits which include: 13/32" x 1 1/2" midget/type CC fuse clips, fuse clip mounting screws, primary and secondary voltage links and the PHAK1 instruction sheet (note: secondary fuse clips and fuse clip mounting screws not supplied on the PH750PG, PH1000PG, PH750MLI and PH1000MLI). Please consult the HPS Transformer Products catalog for additional details.

Optional Primary Fuse Kits

Kit Part Number	Applicable Transformer Part Number Suffix's	Applicable VA Sizes	Parts Included in Kit
PFK1 PFK2 PFK3 PFK4 PFK5 PFK6 PFK7	<i>Refer to Specification Tables on Pages 5 to 10</i>	<i>Refer to Specification Tables on Pages 5 to 10</i>	4 fuse clips, 4 mtg. screws, PHAK1 instruction sheet 4 fuse clips, 4 mtg. screws, PHAK1 instruction sheet 4 fuse clips, 4 mtg. screws, PHAK1 instruction sheet 4 fuse clips, 4 mtg. screws, 1 jumper, 1 finger guard, PHAK1 instruction sheet 4 fuse clips, 4 mtg. screws, 1 jumper, 1 finger guard, PHAK1 instruction sheet 4 fuse clips, 4 mtg. screws, 1 jumper wire, PHAK1 instruction sheet 4 fuse clips, 4 mtg. screws, 1 jumper wire, PHAK1 instruction sheet

Note: Maximum allowable current rating on all primary and secondary fuse kits is 30 amps.



Hammond Power Solutions Inc.

HPS IMPERATOR®

Encapsulated Machine Tool Industrial Control Transformers

Factory Installed Primary and Secondary Fuse Kits

HPS now stocks some HPS Imperator series voltage groups with FACTORY INSTALLED primary and secondary fuse clips. To order, just add the suffix “-FK” to the end of the standard part number.

Factory installed primary and secondary fuse clips are only available on the following voltage groups:

Group C (p/n: PH*MQMJ-FK) | Group G (p/n: PH***PG-FK) | Group I (p/n: PH***MLI-FK)**

On PH750PG-FK, PH1000PG-FK, PH750MLI-FK, and PH1000MLI-FK, only primary fuse clips are included on factory installed units. Secondary fuse clips are not included or available on these units.

***Note:** All factory installed fuse kits are pre-wired at the transformers highest primary voltage and the lowest secondary voltage. To hook up at a different primary or secondary voltage, please refer to the wiring instruction sheet included with the transformer.*

Optional Unfused Finger Guard Kits

Kit Part Number	Applicable Transformer Part Number Suffix's	Applicable VA Sizes	Parts Included in Kit
FG1	AJ, AR, MQMJ, MEMX, QR, SP, PG, PP	50	1 finger guard (unfused), PHAK1 instruction sheet
FG2	MBMH, MGJ, MLI	50	1 finger guard (unfused), PHAK1 instruction sheet
FG2	All	75	1 finger guard (unfused), PHAK1 instruction sheet
FG2	All (excluding PH100MBMH) refer to FG3, FG4 or FG5 below	100 150 to 1500	1 finger guard (unfused), PHAK1 instruction sheet

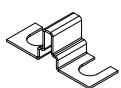
Optional Fused Finger Guard Kits

FGF1	AJ, AR, MQMJ, MEMX, QR, SP, PG, PP	50	1 finger guard (fused), PHAK1 instruction sheet
FGF2	MBMH, MGJ, MLI	50	1 finger guard (fused), PHAK1 instruction sheet
FGF2	All	75	1 finger guard (fused), PHAK1 instruction sheet
FGF2	All (excluding PH100MBMH)	100	1 finger guard (fused), PHAK1 instruction sheet
FG3	MBMH	100	1 finger guard, PHAK1 instruction sheet
FG3	All	150	1 finger guard, PHAK1 instruction sheet
FG3	AJ, AR, MQMJ, MEMX, QR, SP, PG, PP	250	1 finger guard, PHAK1 instruction sheet
FG4	MBMH, MGJ, MLI	250	1 finger guard, PHAK1 instruction sheet
FG4	All	350, 500	1 finger guard, PHAK1 instruction sheet
FG4	AJ, AR, MQMJ, QR, SP, PP	750	1 finger guard, PHAK1 instruction sheet
FG5	MBMH, MEMX, MGJ, MLI, PG	750	1 finger guard, PHAK1 instruction sheet
FG5	All	1000, 1500	1 finger guard, PHAK1 instruction sheet

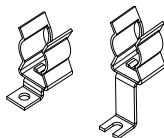
Note: Each finger guard kit supplies either the primary or secondary side.



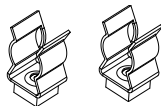
Sample Accessory Drawings



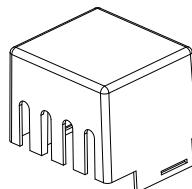
Voltage Link



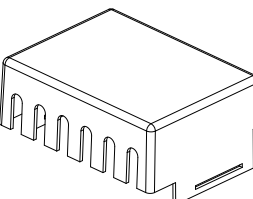
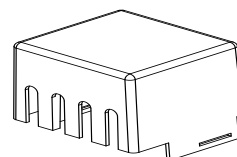
Fuse Clips
(for 50, 75 and 100VA)



Fuse Clips
(for 150VA to 1500VA)

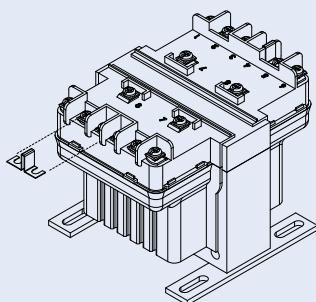


Fused & Unfused Finger Guard
(for 50, 75 and 100VA)

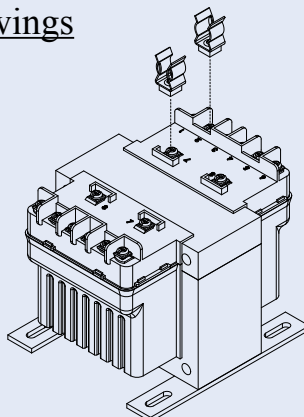


Finger Guard
(for 150VA to 1500VA)

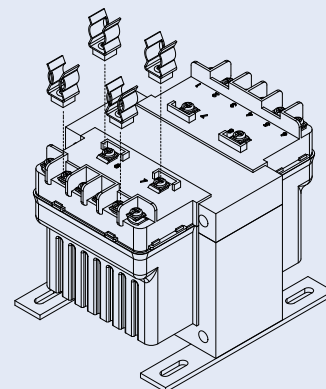
Sample Accessory Assembly Drawings



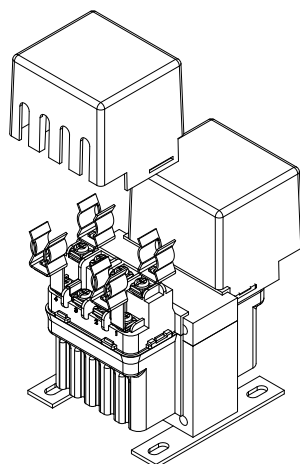
**Sample Assembly Drawing for
Voltage Link Installation**



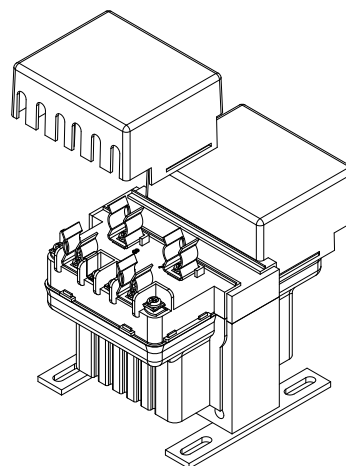
**Sample Assembly Drawing for
Secondary Fuse Clip Installation**
(for 150VA to 1500VA)



**Sample Assembly Drawing for
Primary Fuse Clip Installation**
(for 150VA to 1500VA)



**Sample Assembly Drawing for
Finger Guard Installation**
(for 50, 75 and 100VA)



**Sample Assembly Drawing for
Finger Guard Installation**
(for 150VA to 1500VA)



HPS IMPERATOR®

Encapsulated Machine Tool Industrial Control Transformers

Overcurrent Protection

Secondary

The overcurrent protection listed below, in amperes, is 125% of the rated current of the transformer. Choose the next higher fuse rating if these numbers do not correspond with standard fuse selections.

Sec. Voltage	VA Rating															
	25	50	75	100	150	200	250	300	350	500	750	1000	1500	2000	3000	5000
12	2.7	5.3	7.9	11	16	21	27	-	-	-	-	-	-	-	-	-
24	1.4	2.7	4.0	5.3	7.9	11	14	16	19	27	-	-	-	-	-	-
90	0.4	0.7	1.1	1.4	2.1	2.8	3.5	4.2	4.9	7.0	11	14	21	28	-	-
95	0.4	0.7	1.0	1.4	2.0	2.7	3.3	4.0	4.7	6.6	9.9	14	20	27	-	-
100	0.4	0.7	1.0	1.3	1.9	2.5	3.2	3.8	4.4	6.3	9.4	13	19	25	-	-
110	0.3	0.6	0.9	1.2	1.8	2.3	2.9	3.5	4.0	5.7	8.6	12	18	23	-	-
115	0.3	0.6	0.9	1.1	1.7	2.2	2.8	3.3	3.9	5.5	8.2	11	17	22	-	-
120	0.3	0.6	0.8	1.1	1.6	2.1	2.7	3.2	3.7	5.3	7.9	11	16	21	-	-
220	0.15	0.3	0.5	0.6	0.9	1.2	1.5	1.8	2.0	2.9	4.3	5.7	8.6	12	18	29
230	0.14	0.3	0.5	0.6	0.9	1.1	1.4	1.7	2.0	2.8	4.1	5.5	8.2	11	17	28
240	0.14	0.3	0.4	0.6	0.8	1.1	1.4	1.6	1.9	2.7	4.0	5.3	7.9	11	16	27

Primary

To assist in the selection of fuses, the following chart recommends the maximum primary fuse rating in amperes. The number shown is the maximum overcurrent protection when the primary current is less than 2 amps and the overcurrent protection device is rated for 300%. Choose the next higher fuse rating if these numbers do not correspond with standard fuse selections.

Pri. Volt	VA Rating																
	25	50	75	100	150	200	250	300	350	500	750	1000	1500	2000	3000	5000	7500
115	0.6	1.25	1.8	2.5	3.5	5	4	5	5	8	10	15	20	25	-	-	-
120	0.6	1.25	1.8	2.25	3.5	5	4	5	5	8	10	15	15	20	-	-	-
200	0.3	0.75	1.125	1.5	2.25	3	3.5	4.5	5	4.5	7	9	15	15	20	-	-
208	0.3	0.6	1	1.4	2	2.8	3.5	4	5	4	6	8	12	15	20	30	-
220	0.3	0.6	1	1.25	2	2.5	3.2	4	4.5	4	6	8	12	15	20	30	-
230	0.3	0.6	0.8	1.25	1.8	2.5	3.2	3.5	4.5	4	6	8	10	15	20	30	-
240	0.3	0.6	0.8	1.25	1.8	2.25	3	3.5	4	3.5	5	7	10	15	15	30	-
277	0.25	0.5	0.8	1	1.6	2	2.5	3.2	3.5	5	5	6	9	12	15	25	-
347	0.25	0.5	0.8	1	1.6	2	2.5	3.2	3.5	5	6.25	5	7.5	10	15	20	30
380	0.1875	0.3	0.5	0.75	1.125	1.5	1.8	2.25	2.5	3.5	5.6	4.5	6.25	9	15	20	25
400	0.1875	0.3	0.5	0.75	1.125	1.5	1.8	2.25	2.5	3.5	5.6	4.5	6.25	9	12	15	20
416	0.15	0.3	0.5	0.6	1	1.4	1.8	2	2.5	3.5	5	4	6	8	12	15	20
440	0.15	0.3	0.5	0.6	1	1.25	1.6	2	2.25	3.2	5	4	6	8	12	15	20
460	0.15	0.3	0.4	0.6	0.8	1.25	1.6	1.8	2.25	3.2	4.5	3.5	6	8	12	15	20
480	0.15	0.3	0.4	0.6	0.8	1.25	1.5	1.8	2	3	4.5	3.5	5	7	10	15	20
550	0.125	0.25	0.4	0.5	0.8	1	1.25	1.6	1.8	2.5	4	5	4.5	6	9	15	15
575	0.125	0.25	0.3	0.5	0.75	1	1.25	1.5	1.8	2.5	3.5	5	4.5	6	9	15	15
600	0.125	0.2	0.3	0.5	0.75	0.8	1.25	1.5	1.6	2.25	3.5	5	4	6	9	15	15



Dimensional Drawings

Some actual transformer units may differ from dimensional drawings shown below.

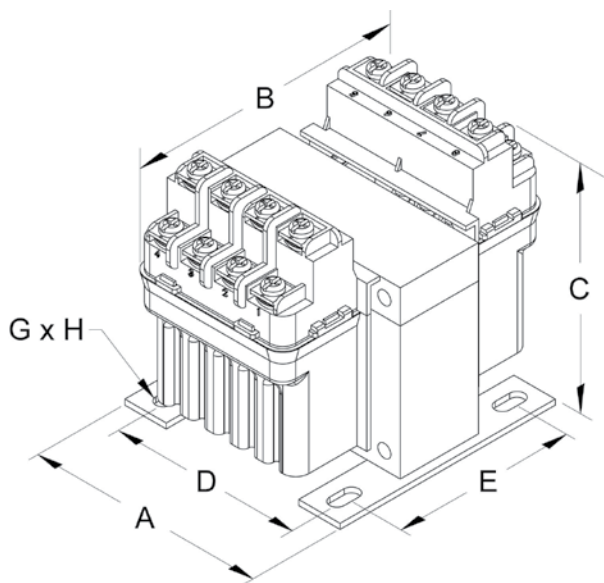


FIGURE A (100 VA and less)

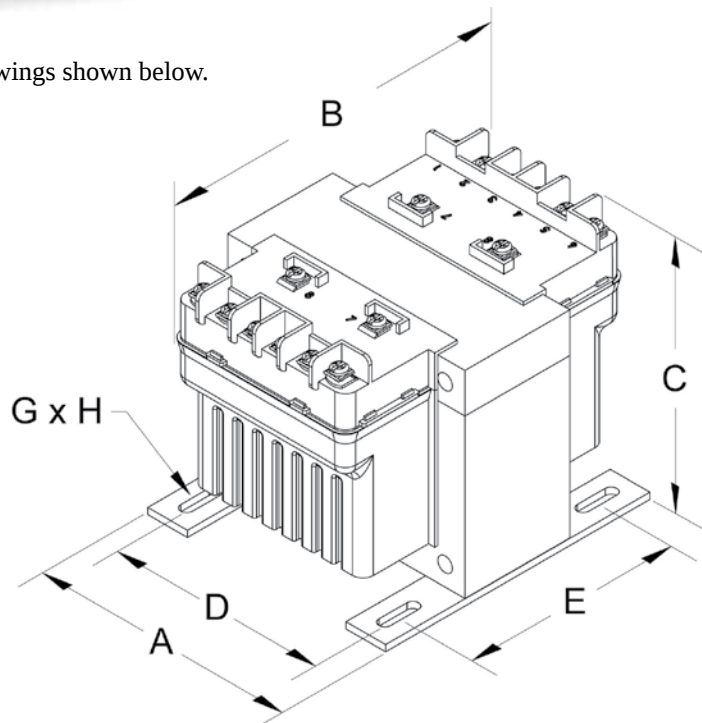


FIGURE B (150 VA to 1500 VA)

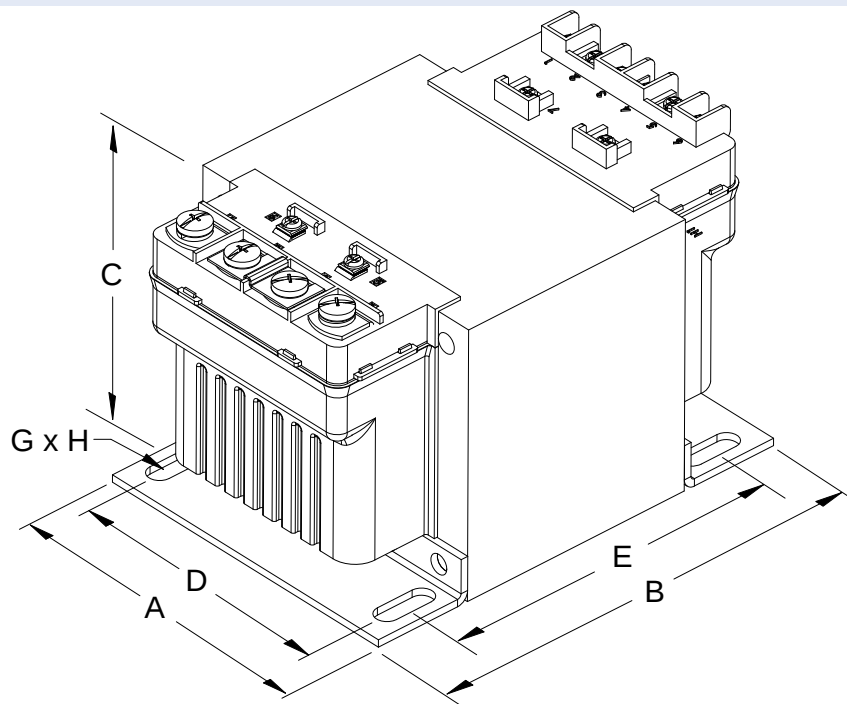
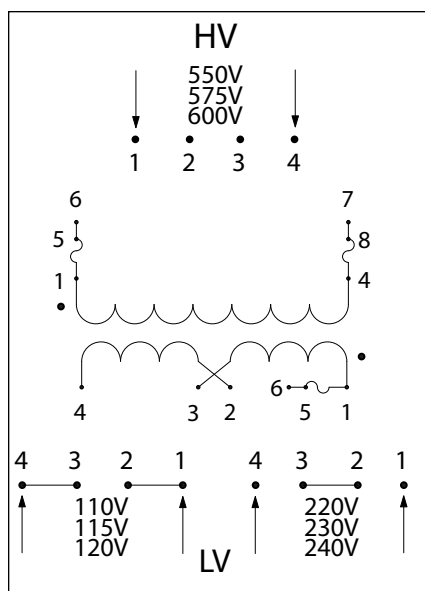


FIGURE C (For PH750PG, PH1000PG, PH750MLI & PH1000MLI)



The **HPS IMPERATOR®** series of machine tool industrial molded control transformers are available in many standard offerings. This wiring hook-up instruction sheet refers to all standard **HPS IMPERATOR®** series part number suffixes. (Note: standard secondary fuse kits (not installed) supplied with each transformer unless otherwise indicated; field installed primary fuse kits sold separately; fuses not available from HPS.) If you have any questions regarding these wiring diagrams or are having any difficulty correctly installing our transformers, please contact HPS customer service or technical support in the U.S. at 1-866-705-4684 or in Canada at 1-888-798-8882.

HPS IMPERATOR® Series - Wiring Schematic Drawings



PH***AJ Schematic for 50, 75 and 100VA Units

High Voltage (HV) (Primary Volts)

600	575	550
600	575	550

Install Supplied Jumpers/ Links Between Terminals

None
None

Supply Lines Connect To

1, 4
6, 7

Install Fuse Clips To

Unfused
1-5, 4-8

Low Voltage (LV) (Secondary Volts)

120	115	110
240	230	220
120	115	110
240	230	220

Install Supplied Links Between Terminals

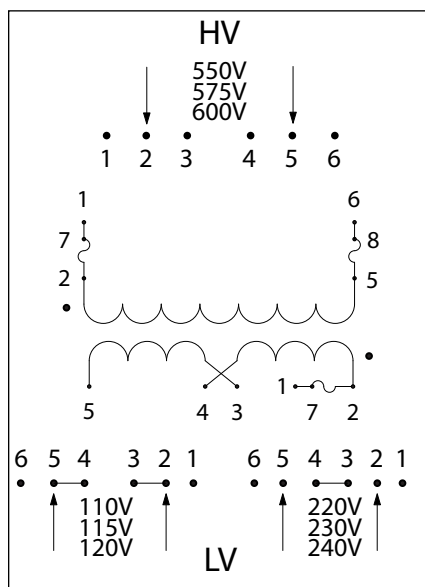
3-4, 1-2
2-3
3-4, 1-2
2-3

Load Lines Connect To

1, 4
1, 4
4, 6
4, 6

Install Fuse Clips To

Unfused
Unfused
1-5
1-5



PH***AJ Schematic for 150VA to 1500VA Units

High Voltage (HV) (Primary Volts)

600	575	550
600	575	550

Install Supplied Jumpers/ Links Between Terminals

None
None

Supply Lines Connect To

2, 5
1, 6

Install Fuse Clips To

Unfused
2-7, 5-8

Low Voltage (LV) (Secondary Volts)

120	115	110
240	230	220
120	115	110
240	230	220

Install Supplied Links Between Terminals

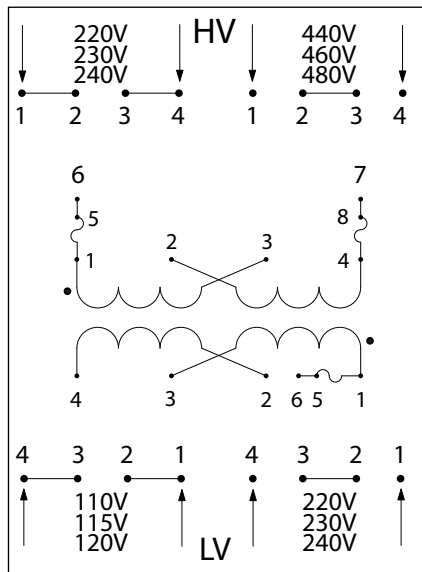
4-5, 2-3
3-4
4-5, 2-3
3-4

Load Lines Connect To

2, 5
2, 5
1, 5
1, 5

Install Fuse Clips To

Unfused
Unfused
2-7
2-7



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

**High Voltage (HV)
(Primary Volts)**

240	230	220
480	460	440
240	230	220
480	460	440

**Install Supplied Links
Between Terminals**

1-2, 3-4
2-3
1-2, 3-4
2-3

**Supply Lines
Connect To**

1, 4
1, 4
6, 7
6, 7

**Install Fuse
Clips To**

Unfused
Unfused
1-5, 4-8
1-5, 4-8

**Low Voltage (LV)
(Secondary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

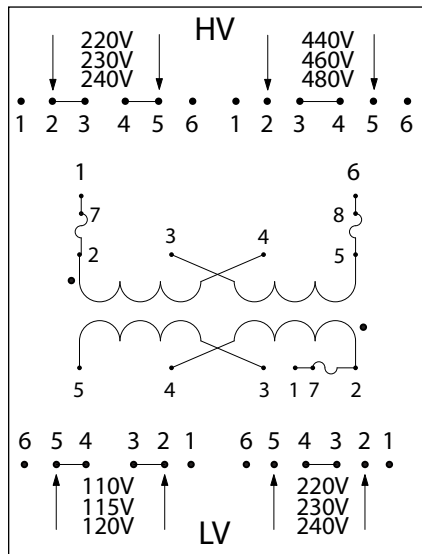
3-4, 1-2
2-3
3-4, 1-2
2-3

**Load Lines
Connect To**

1, 4
1, 4
4, 6
4, 6

**Install Fuse
Clips To**

Unfused
Unfused
1-5
1-5



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

**High Voltage (HV)
(Primary Volts)**

240	230	220
480	460	440
240	230	220
480	460	440

**Install Supplied Links
Between Terminals**

2-3, 4-5
3-4
2-3, 4-5
3-4

**Supply Lines
Connect To**

2, 5
2, 5
1, 6
1, 6

**Install Fuse
Clips To**

Unfused
Unfused
2-7, 5-8
2-7, 5-8

**Low Voltage (LV)
(Secondary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

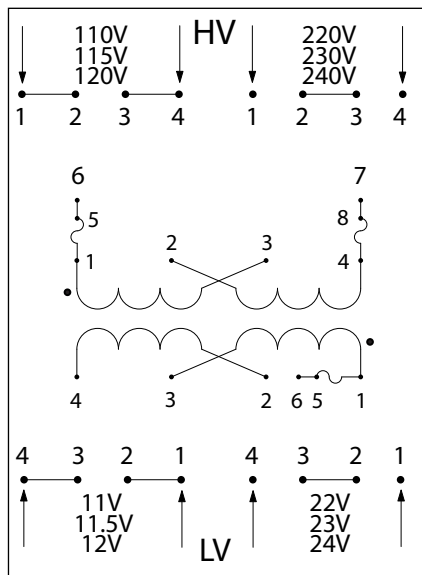
4-5, 2-3
3-4
4-5, 2-3
3-4

**Load Lines
Connect To**

2, 5
2, 5
1, 5
1, 5

**Install Fuse
Clips To**

Unfused
Unfused
2-7
2-7



PH*PG Schematic for 50, 75 and 100VA Units**

**High Voltage (HV)
(Primary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

1-2, 3-4
2-3
1-2, 3-4
2-3

**Supply Lines
Connect To**

1, 4
1, 4
6, 7
6, 7

**Install Fuse
Clips To**

Unfused
Unfused
1-5, 4-8
1-5, 4-8

**Low Voltage (LV)
(Secondary Volts)**

12	11.5	11
24	23	22
12	11.5	11
24	23	22

**Install Supplied Links
Between Terminals**

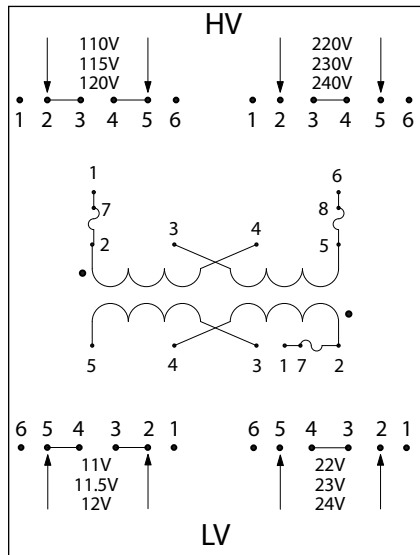
3-4, 1-2
2-3
3-4, 1-2
2-3

**Load Lines
Connect To**

1, 4
1, 4
4, 6
4, 6

**Install Fuse
Clips To**

Unfused
Unfused
1-5
1-5



PH*PG Schematic for 150VA to 500VA Units**

**High Voltage (HV)
(Primary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

2-3, 4-5
3-4
2-3, 4-5
3-4

**Supply Lines
Connect To**

2, 5
2, 5
1, 6
1, 6

**Install Fuse
Clips To**

Unfused
Unfused
2-7, 5-8
2-7, 5-8

**Low Voltage (LV)
(Secondary Volts)**

12	11.5	11
24	23	22
12	11.5	11
24	23	22

**Install Supplied Links
Between Terminals**

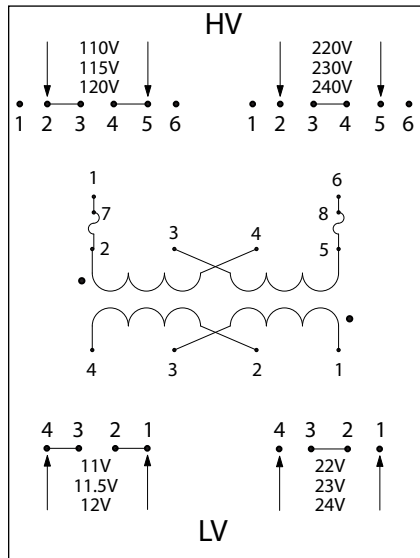
4-5, 2-3
3-4
4-5, 2-3
3-4

**Load Lines
Connect To**

2, 5
2, 5
1, 5
1, 5

**Install Fuse
Clips To**

Unfused
Unfused
2-7
2-7



PH*PG Schematic for 750VA and 1000VA Units**

**High Voltage (HV)
(Primary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

2-3, 4-5
3-4
2-3, 4-5
3-4

**Supply Lines
Connect To**

2, 5
2, 5
1, 6
1, 6

**Install Fuse
Clips To**

Unfused
Unfused
2-7, 5-8
2-7, 5-8

**Low Voltage (LV)
(Secondary Volts)**

12	11.5	11
24	23	22

**Install Supplied Links
Between Terminals**

3-4, 1-2
2-3

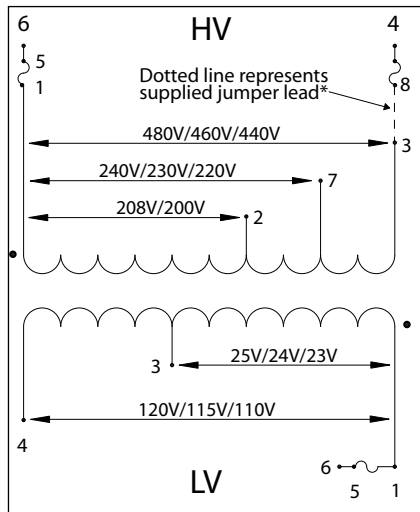
**Load Lines
Connect To**

1, 4
1, 4

**Install Fuse
Clips To**

Unfused
Unfused

Note: secondary fuse clips not available on PH750PG or PH1000PG.



PH*MLI Schematic for 50, 75 and 100VA Units**

**High Voltage (HV)
(Primary Volts)**

480	460	440
240	230	220
	208	200
480	460	440
240	230	220
	208	200

**Install Supplied Jumpers
Between Terminals**

None
None
None
3-8
8-7
2-8

**Supply Lines
Connect To**

1, 3
1, 7
1, 2
6, 4
6, 4
6, 4

**Install Fuse
Clips To**

Unfused
Unfused
Unfused
1-5, 4-8
1-5, 4-8
1-5, 4-8

**Low Voltage (LV)
(Secondary Volts)**

120	115	110
25	24	23
120	115	110
25	24	23

**Install Supplied Jumpers
Between Terminals**

None
None
None
None

**Load Lines
Connect To**

1, 4
1, 3
4, 6
3, 6

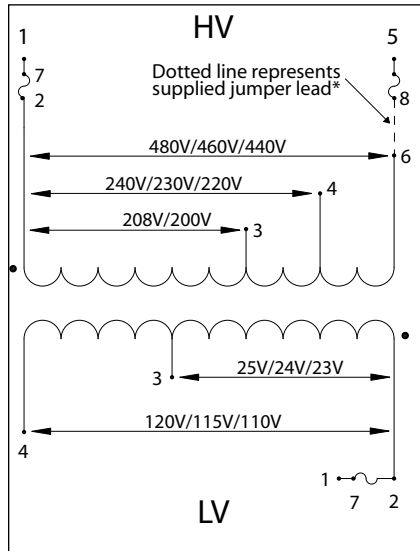
**Install Fuse
Clips To**

Unfused
Unfused
1-5
1-5

*This primary fuse jumper is supplied with the primary fuse kit only.



PH*MLI Schematic for 150VA to 500VA Units**

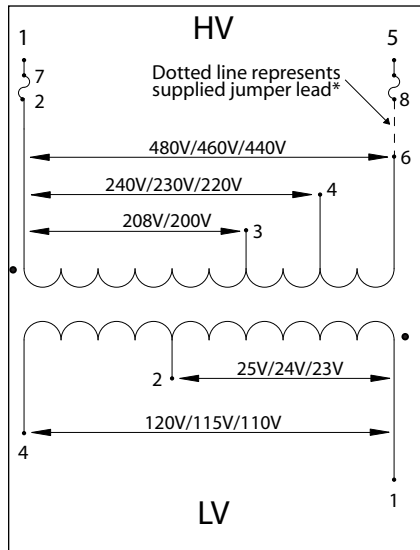


High Voltage (HV) (Primary Volts)	Install Supplied Jumpers Between Terminals	Supply Lines Connect To	Install Fuse Clips To
480 460 440	None	2, 6	Unfused
240 230 220	None	2, 4	Unfused
208 200	None	2, 3	Unfused
480 460 440	8-6	1, 5	2-7, 5-8
240 230 220	4-8	1, 5	2-7, 5-8
208 200	3-8	1, 5	2-7, 5-8

Low Voltage (LV) (Secondary Volts)	Install Supplied Jumpers Between Terminals	Load Lines Connect To	Install Fuse Clips To
120 115 110	None	2, 4	Unfused
25 24 23	None	2, 3	Unfused
120 115 110	None	1, 4	2-7
25 24 23	None	1, 3	2-7

*This primary fuse jumper is supplied with the primary fuse kit only.

PH*MLI Schematic for 750VA and 1000VA Units**

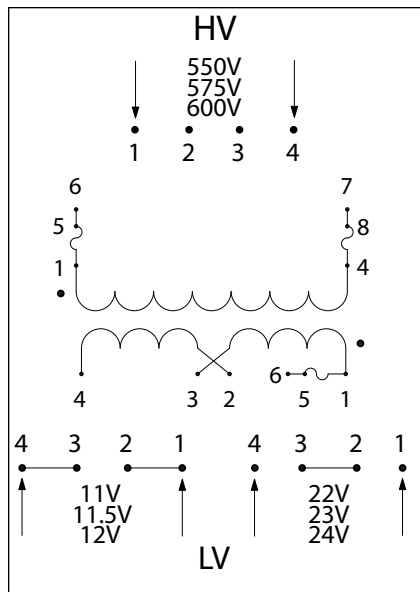


High Voltage (HV) (Primary Volts)	Install Supplied Jumpers Between Terminals	Supply Lines Connect To	Install Fuse Clips To
480 460 440	None	2, 6	Unfused
240 230 220	None	2, 4	Unfused
208 200	None	2, 3	Unfused
480 460 440	8-6	1, 5	2-7, 5-8
240 230 220	4-8	1, 5	2-7, 5-8
208 200	3-8	1, 5	2-7, 5-8

Low Voltage (LV) (Secondary Volts)	Install Supplied Jumpers Between Terminals	Load Lines Connect To	Install Fuse Clips To
120 115 110	None	1, 4	Unfused
25 24 23	None	1, 2	Unfused

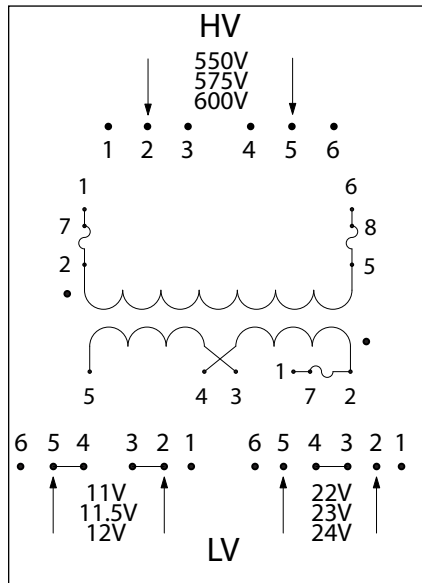
Note: secondary fuse clips for 24V tap not available on the PH750MLI or PH1000MLI units.

PH*AR Schematic for 50, 75 and 100VA Units**



High Voltage (HV) (Primary Volts)	Install Supplied Jumpers/ Links Between Terminals	Supply Lines Connect To	Install Fuse Clips To
600 575 550	None	1, 4	Unfused
600 575 550	None	6, 7	1-5, 4-8

Low Voltage (LV) (Secondary Volts)	Install Supplied Links Between Terminals	Load Lines Connect To	Install Fuse Clips To
12 11.5 11	3-4, 1-2	1, 4	Unfused
24 23 22	2-3	1, 4	Unfused
12 11.5 11	3-4, 1-2	4, 6	1-5
24 23 22	2-3	4, 6	1-5



PHAR Schematic for 150VA to 500VA Units**

**High Voltage (HV)
(Primary Volts)**

600	575	550
600	575	550

**Install Supplied Jumpers/
Links Between Terminals**

None
None

**Supply Lines
Connect To**

2, 5
1, 6

**Install Fuse
Clips To**

Unfused
2-7, 5-8

**Low Voltage (LV)
(Secondary Volts)**

12	11.5	11
24	23	22
12	11.5	11
24	23	22

**Install Supplied Links
Between Terminals**

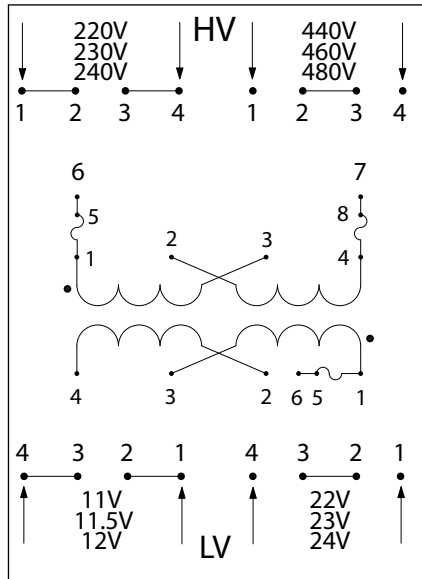
4-5, 2-3
3-4
4-5, 2-3
3-4

**Load Lines
Connect To**

2, 5
2, 5
1, 5
1, 5

**Install Fuse
Clips To**

Unfused
Unfused
2-7
2-7



PHQR Schematic for 50, 75 and 100VA Units**

**High Voltage (HV)
(Primary Volts)**

240	230	220
480	460	440
240	230	220
480	460	440

**Install Supplied Links
Between Terminals**

1-2, 3-4
2-3
1-2, 3-4
2-3

**Supply Lines
Connect To**

1, 4
1, 4
6, 7
6, 7

**Install Fuse
Clips To**

Unfused
Unfused
1-5, 4-8
1-5, 4-8

**Low Voltage (LV)
(Secondary Volts)**

12	11.5	11
24	23	22
12	11.5	11
24	23	22

**Install Supplied Links
Between Terminals**

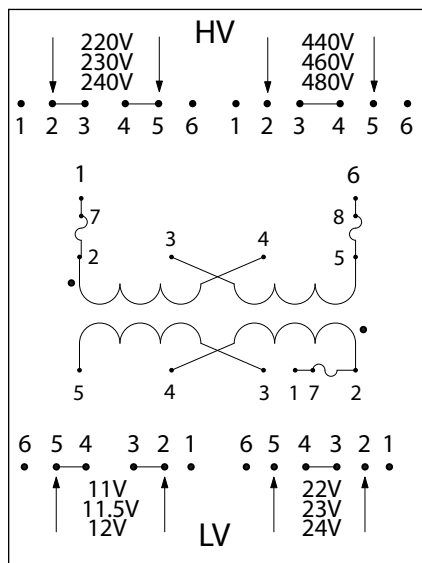
3-4, 1-2
2-3
3-4, 1-2
2-3

**Load Lines
Connect To**

1, 4
1, 4
4, 6
4, 6

**Install Fuse
Clips To**

Unfused
Unfused
1-5
1-5



PHQR Schematic for 150VA to 500VA Units**

**High Voltage (HV)
(Primary Volts)**

240	230	220
480	460	440
240	230	220
480	460	440

**Install Supplied Links
Between Terminals**

2-3, 4-5
3-4
2-3, 4-5
3-4

**Supply Lines
Connect To**

2, 5
2, 5
1, 6
1, 6

**Install Fuse
Clips To**

Unfused
Unfused
2-7, 5-8
2-7, 5-8

**Low Voltage (LV)
(Secondary Volts)**

12	11.5	11
24	23	22
12	11.5	11
24	23	22

**Install Supplied Links
Between Terminals**

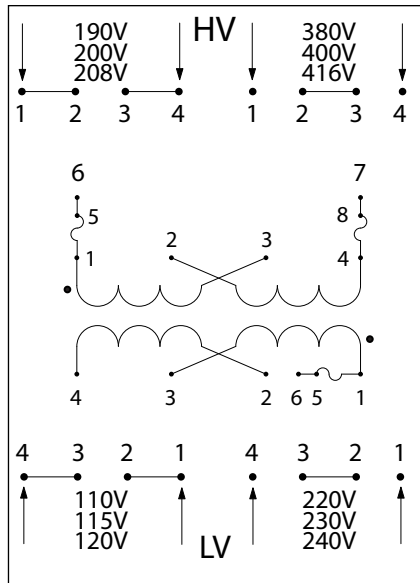
4-5, 2-3
3-4
4-5, 2-3
3-4

**Load Lines
Connect To**

2, 5
2, 5
1, 5
1, 5

**Install Fuse
Clips To**

Unfused
Unfused
2-7
2-7



PH*SP Schematic for 50, 75 and 100VA Units**

**High Voltage (HV)
(Primary Volts)**

208	200	190
416	400	380
208	200	190
416	400	380

**Install Supplied Links
Between Terminals**

1-2, 3-4
2-3
1-2, 3-4
2-3

**Supply Lines
Connect To**

1, 4
1, 4
6, 7
6, 7

**Install Fuse
Clips To**

Unfused
Unfused
1-5, 4-8
1-5, 4-8

**Low Voltage (LV)
(Secondary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

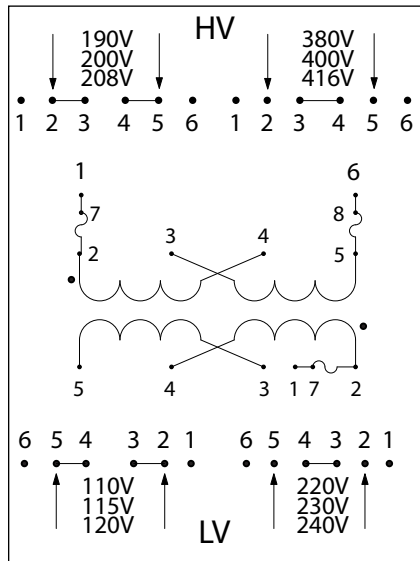
3-4, 1-2
2-3
3-4, 1-2
2-3

**Load Lines
Connect To**

1, 4
1, 4
4, 6
4, 6

**Install Fuse
Clips To**

Unfused
Unfused
1-5
1-5



PH*SP Schematic for 150VA to 1000VA Units**

**High Voltage (HV)
(Primary Volts)**

208	200	190
416	400	380
208	200	190
416	400	380

**Install Supplied Links
Between Terminals**

2-3, 4-5
3-4
2-3, 4-5
3-4

**Supply Lines
Connect To**

2, 5
2, 5
1, 6
1, 6

**Install Fuse
Clips To**

Unfused
Unfused
2-7, 5-8
2-7, 5-8

**Low Voltage (LV)
(Secondary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

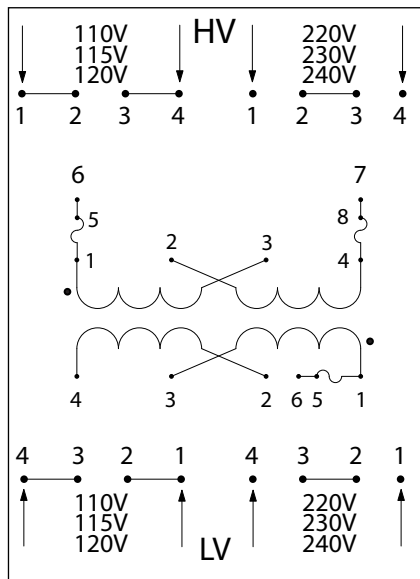
4-5, 2-3
3-4
4-5, 2-3
3-4

**Load Lines
Connect To**

2, 5
2, 5
1, 5
1, 5

**Install Fuse
Clips To**

Unfused
Unfused
2-7
2-7



PH*PP Schematic for 50, 75 and 100VA Units**

**High Voltage (HV)
(Primary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

1-2, 3-4
2-3
1-2, 3-4
2-3

**Supply Lines
Connect To**

1, 4
1, 4
6, 7
6, 7

**Install Fuse
Clips To**

Unfused
Unfused
1-5, 4-8
1-5, 4-8

**Low Voltage (LV)
(Secondary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

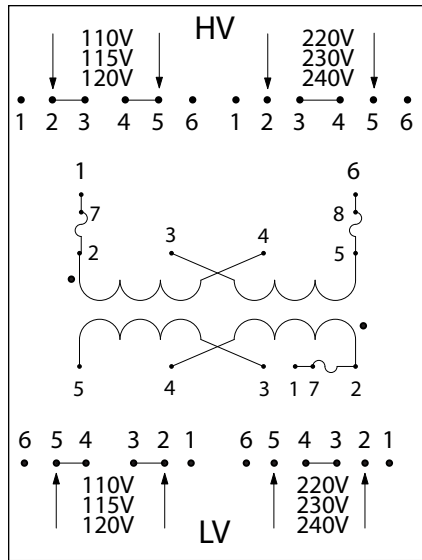
3-4, 1-2
2-3
3-4, 1-2
2-3

**Load Lines
Connect To**

1, 4
1, 4
4, 6
4, 6

**Install Fuse
Clips To**

Unfused
Unfused
1-5
1-5



PH*PP Schematic for 150VA to 1500VA Units**

**High Voltage (HV)
(Primary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

2-3, 4-5
3-4
2-3, 4-5
3-4

**Supply Lines
Connect To**

2, 5
2, 5
1, 6
1, 6

**Install Fuse
Clips To**

Unfused
Unfused
2-7, 5-8
2-7, 5-8

**Low Voltage (LV)
(Secondary Volts)**

120	115	110
240	230	220
120	115	110
240	230	220

**Install Supplied Links
Between Terminals**

4-5, 2-3
3-4
4-5, 2-3
3-4

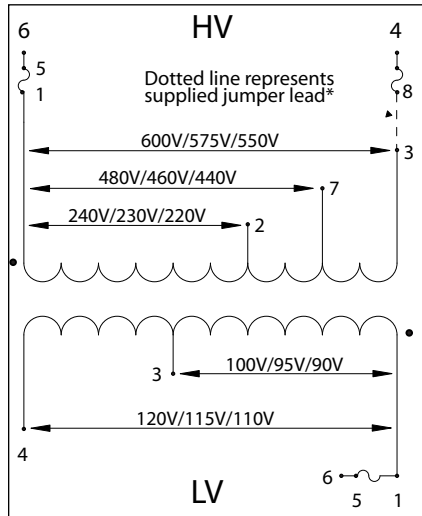
**Load Lines
Connect To**

2, 5
2, 5
1, 5
1, 5

**Install Fuse
Clips To**

Unfused
Unfused
2-7
2-7

PH*MBMH Schematic for 50 and 75VA Units**



**High Voltage (HV)
(Primary Volts)**

600	575	550
480	460	440
240	230	220
600	575	550
480	460	440
240	230	220

**Install Supplied Jumpers
Between Terminals**

None
None
None
3-8
8-7
2-8

**Supply Lines
Connect To**

1, 3
1, 7
1, 2
6, 4
6, 4
6, 4

**Install Fuse
Clips To**

Unfused
Unfused
Unfused
1-5, 4-8
1-5, 4-8
1-5, 4-8

**Low Voltage (LV)
(Secondary Volts)**

120	115	110
100	95	90
120	115	110
100	95	90

**Install Supplied Jumpers/
Links Between Terminals**

None
None
None
None

**Load Lines
Connect To**

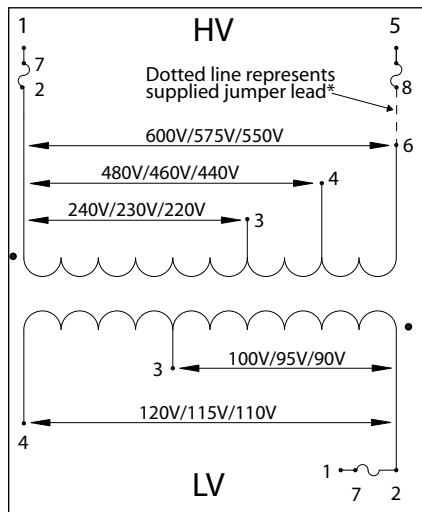
1, 4
1, 3
4, 6
3, 6

**Install Fuse
Clips To**

Unfused
Unfused
1-5
1-5

*This primary fuse jumper is supplied with the primary fuse kit only.

PH*MBMH Schematic for 100VA to 1500VA Units**



**High Voltage (HV)
(Primary Volts)**

600	575	550
480	460	440
240	230	220
600	575	550
480	460	440
240	230	220

**Install Supplied Jumpers
Between Terminals**

None
None
None
8-6
4-8
3-8

**Supply Lines
Connect To**

2, 6
2, 4
2, 3
1, 5
1, 5
1, 5

**Install Fuse
Clips To**

Unfused
Unfused
Unfused
2-7, 5-8
2-7, 5-8
2-7, 5-8

**Low Voltage (LV)
(Secondary Volts)**

120	115	110
100	95	90
120	115	110
100	95	90

**Install Supplied Jumpers/
Links Between Terminals**

None
None
None
None

**Load Lines
Connect To**

2, 4
2, 3
1, 4
1, 3

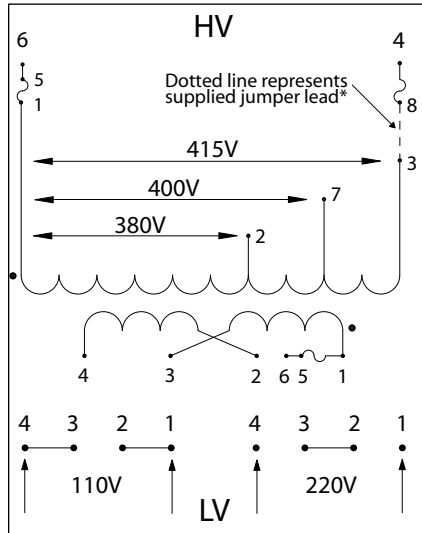
**Install Fuse
Clips To**

Unfused
Unfused
2-7
2-7

*This primary fuse jumper is supplied with the primary fuse kit only.



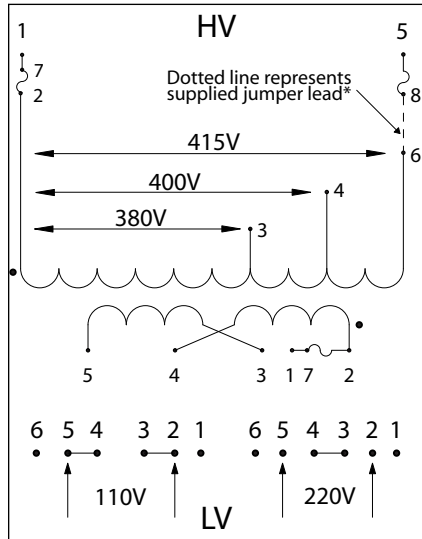
PH*MEMX Schematic for 50, 75 and 100VA Units**



*This primary fuse jumper is supplied with the primary fuse kit only.

High Voltage (HV) (Primary Volts)	Install Supplied Jumpers Between Terminals	Supply Lines Connect To	Install Fuse Clips To
415	None	1, 3	Unfused
400	None	1, 7	Unfused
380	None	1, 2	Unfused
415	3-8	6, 4	1-5, 4-8
400	8-7	6, 4	1-5, 4-8
380	2-8	6, 4	1-5, 4-8
Low Voltage (LV) (Secondary Volts)	Install Supplied Links Between Terminals	Load Lines Connect To	Install Fuse Clips To
110	3-4, 1-2	1, 4	Unfused
220	2-3	1, 4	Unfused
110	3-4, 1-2	4, 6	1-5
220	2-3	4, 6	1-5

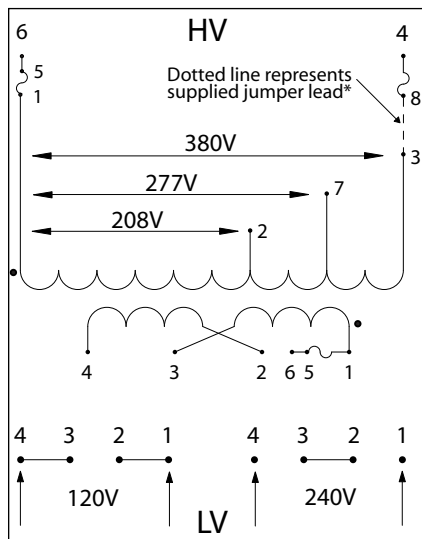
PH*MEMX Schematic for 150VA to 1000VA Units**



*This primary fuse jumper is supplied with the primary fuse kit only.

High Voltage (HV) (Primary Volts)	Install Supplied Jumpers Between Terminals	Supply Lines Connect To	Install Fuse Clips To
415	None	2, 6	Unfused
400	None	2, 4	Unfused
380	None	2, 3	Unfused
415	8-6	1, 5	2-7, 5-8
400	4-8	1, 5	2-7, 5-8
380	3-8	1, 5	2-7, 5-8
Low Voltage (LV) (Secondary Volts)	Install Supplied Links Between Terminals	Load Lines Connect To	Install Fuse Clips To
110	4-5, 2-3	2, 5	Unfused
220	3-4	2, 5	Unfused
110	4-5, 2-3	1, 5	2-7
220	3-4	1, 5	2-7

PH*MGJ Schematic for 50, 75 and 100VA Units**

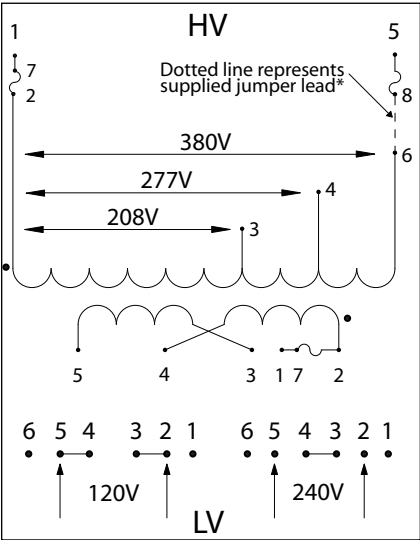


*This primary fuse jumper is supplied with the primary fuse kit only.

High Voltage (HV) (Primary Volts)	Install Supplied Jumpers Between Terminals	Supply Lines Connect To	Install Fuse Clips To
380	None	1, 3	Unfused
277	None	1, 7	Unfused
208	None	1, 2	Unfused
380	3-8	6, 4	1-5, 4-8
277	8-7	6, 4	1-5, 4-8
208	2-8	6, 4	1-5, 4-8
Low Voltage (LV) (Secondary Volts)	Install Supplied Links Between Terminals	Load Lines Connect To	Install Fuse Clips To
120	3-4, 1-2	1, 4	Unfused
240	2-3	1, 4	Unfused
120	3-4, 1-2	4, 6	1-5
240	2-3	4, 6	1-5



PH***MGJ Schematic for 150VA to 1000VA Units



*This primary fuse jumper is supplied with the primary fuse kit only.

High Voltage (HV) (Primary Volts)	Install Supplied Jumpers Between Terminals	Supply Lines Connect To	Install Fuse Clips To
380	None	2, 6	Unfused
277	None	2, 4	Unfused
208	None	2, 3	Unfused
380	8-6	1, 5	2-7, 5-8
277	4-8	1, 5	2-7, 5-8
208	3-8	1, 5	2-7, 5-8

Low Voltage (LV) (Secondary Volts)	Install Supplied Links Between Terminals	Load Lines Connect To	Install Fuse Clips To
120	4-5, 2-3	2, 5	Unfused
240	3-4	2, 5	Unfused
120	4-5, 2-3	1, 5	2-7
240	3-4	1, 5	2-7